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DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT

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THOMAS O. MINEO, P.E.
*County Engineer,
Director, Division of
Engineering*

MEMO TO: TO ALL POTENTIAL BIDDERS

FROM: Thomas O. Mineo, P.E.
County Engineer

DATE: October 13, 2015

RE: CLARIFICATION NUMBER 3
**Union County Justice Complex Renovations Phase III
Elevator Modernization and Roof Replacement
City of Elizabeth, County of Union, New Jersey
BA#30-2015; UC Engineering Project #2010-035C**

The following is a response to a question received for the above referenced project:

Q.1: I am in receipt of your clarification #2 and it does not clarify question #16. The question was asked if this HVAC work was part of the contract and you replied that the existing HVAC system will be re-used and refurbished. But by who? The GC or the Owner.

R.1: *All work including HVAC is the responsibility of the GC.*

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Q 1 I am in receipt of your clarification #2 and it does not clarify question #16. The question was asked if this HVAC work was part of the contract and you replied that the existing HVAC system will be re-used and refurbished. But by who? The GC or the Owner.

R: All work including HVAC is the responsibility of the GC.



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Joseph A. Graziano Sr., Director

MEMO TO: TO ALL POTENTIAL BIDDERS

FROM: Thomas O. Mineo, P.E.
County Engineer

DATE: October 13, 2015

RE: **CLARIFICATION NUMBER 2**
Union County Justice Complex Renovations Phase III
Elevator Modernization and Roof Replacement
City of Elizabeth, County of Union, New Jersey
BA#30-2015; UC Engineering Project #2010-035C

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County Engineer,
Director, Division of
Engineering

The following are responses to questions received for the above referenced project:

Q. 1: In Section 01100-3, Paragraph 1.6.6. Allowance #2 is \$ 250,000.00.
In Section 01210-1 Paragraph 1.2 B. 2 the allowance is \$ 150,000.00.
Please advise which is correct?

R: ***The \$250,000.00 is the Allowance amount to be included as stated in section 01100-3, paragraph 1.6.6 and as is clearly stated on the Bid Form in the same amount of \$250,000.00***

Q. 2: Bid Document Submission Check List, pg. B-2, refers "Contractor's Certification Compliance – NJ Prevailing Wage Act"...no form provided in bid package. Please provide or clarify.

R: ***The form is provided, see Page B-33.***

Q. 3: Time of Completion – Bid Form pg. B-38 refers to 630 calendar days...however, Special Conditions, pg. SC-7 refers to 660 days. Please clarify.

R: ***Bid Form Sheet Page B-38 – Time of Completion – 630 calendar days.***

Q. 4: Who is responsible for providing identification tags for all personnel as specified in 011000-2 (1.6F). Please clarify.

R: ***Corrections/Sheriff's Department will provide background checks for all personnel requiring access to the Jail. Upon approval of background check, Corrections will issue identification badges to all approved personnel.***

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*County Engineer,
Director, Division of
Engineering*

Q. 5: Who is responsible for providing Employee screening charges/fees for all personnel as specified in 011000-2 (1.6F). Please clarify.

R: ***Corrections/Sheriff's Department will incur all applicable costs for the issuance of badges. Contractor/subcontractor is responsible for filling out the background check for their employees and picture by Corrections.***

Q. 6: Allowances 012100-2 (1.7-B) calls for cost for receiving, handling at project site, Labor installation, and similar costs related to products & materials to be included in the contract sum. Please reconsider to include as part of allowances as it is unknown items.

R: ***Upon delivery of any allowance materials to the Jail, upon delivery to the loading dock, Contractor shall assume up to 2 hours for each delivery of required materials in the elevator to be lifted up to the applicable floors requiring allowance items installation. All other costs noted in items 01200-2 (1.7B) still apply to Contractor***

Q. 7: Spec 014000-1 (1.2-C) calls for testing and inspection allowances. None found. Please confirm.

R: ***Contractor is only responsible for Permitting and State elevator Inspection costs. No laboratory / field testing is required.***

Q. 8: Please clarify the itemized testing responsibility clearly for GC and Owner per 014000-5 (1.9A, B).

R: ***No laboratory or field testing is required. If Owner chooses to, they will incur costs.***

Q. 9: Spec 01200-2 (2.2A) calls for common use field office. Please provide details including furniture, equipment and consumables if any required.

R: ***Contractor shall assume desk/chair, file cabinet, copier, fax, conference table/chairs, bottled water service, telephone line and internet cable to be provided for the project duration. Owner will provide office space to be located across the street from the Jail for CM/Architect use and Project Meetings.***

Q. 10 Spec 015000-3 (3.2C) says use of existing elevators will be permitted. Please confirm with time to use.

R: ***Inmate elevators can be utilized by Contractor during the hours of 10pm-6am for work to be performed.***

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Q. 11: Please confirm there are no asbestos or any hazardous material removal required by this contract.

R: ***No asbestos or hazardous materials exist within the specified work area.***

Q. 12 Would you be able to tell me who the Fire Alarm System vendor is? Or can you direct me to someone who will know?

R: ***The fire alarm system vendor is Simplex Grinnell. The contact person at Simplex Grinnell is Michael Hudson (973) 296-6010 / mihudson2@simplexgrinnell.com.***

Q. 13 Spec 142123-8 (2.2-1a) calls for Allowances of \$60,000 found which are not listed under Allowances spec 012100. Please confirm that GC has to carry in their bid.

R: ***This is the cab enclosure allowance; this allowance is carried by the Elevator Contractor. These Allowances are part of and included in the Specifications section 012100 "Allowances".***

Q. 14 Please provide name of the manufacturer for existing 3 elevators to be modernized.

R: ***It depends which component or assembly is being asked about. Elevators are a combination of various manufacturers.***

- ***Controllers: - O Thompson (Microflite Ultra 2000)***
- ***Machine: Astor (MB 92)***
- ***Motor: Imperial Electric***
- ***Counterweight and Safety: Hollister Whitney***
- ***Buffers: Serge Elevator***
- ***Door Operator: GAL***

Q. 15 Spec 142123-32 (7.3-2) calls for furnish & install machine room slabs, elevator pits etc. Please confirm it is existing end not by this contract. Please clarify in detail if any scope related to concrete/masonry required.

R: ***Yes, these are existing, but with the installation of new overhead geared traction machines this may require some patching around the new machines or possibly with the buffers. Patching only.***

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*County Engineer,
Director, Division of
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Q. 16 Spec 142123-32 (7.4) calls for HVAC System work, please confirm these are part of this contract as there are no drawing & specs available separately.

R: *The existing HVAC system will be re-used and refurbished.*

Q. 17 Spec 142123-39 (7.10-1) calls for Hoist way overhead weatherproofing, as necessary. Please provide detailed info for pricing, if any applicable.

R: *Only patching if required at all.*

Q. 18 Spec 142123-39 (7.11-3) calls for sign requirement- "In Fire Emergencies, Do Not Use Elevator. Use Existing Stairs" Please provide specs if applicable.

R: *Signs to comply with IBC 2009 NJ edition and the DOC requirements.*

Q. 19 Spec 142123-30 (7.2-2) indicates diagram which are not clearly readable. Please provide indicating scope by this contract.

R: *You require a 2-hour fire rated separation around any non-elevator related piping*

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*County Engineer,
Director, Division of
Engineering*

MEMO TO: TO ALL POTENTIAL BIDDERS

FROM: Thomas O. Mineo, P.E.
County Engineer

DATE: October 6, 2015

RE: CLARIFICATION NUMBER 1
Union County Justice Complex Renovations Phase III
Elevator Modernization and Roof Replacement
City of Elizabeth, County of Union, New Jersey
BA#30-2015; UC Engineering Project #2010-035C

The following are responses received for the above referenced project:

Q 1. Item 2.7 #2 States there are no car stations however in item 3 a description of a car station is given. Is this a description of the "control room car station"? Please clarify.

R: ***YES, see section 142123 paragraph 2.7-3.a. Item 3.a is referring to the central security station only ("car stations" but installed in the Central Security rather than inside the elevator)***

Q 2. Item 3.3.5 We interpret this to mean the three operations described are only to be activated from the master control panel in the control room. There are no buttons in the elevator cab. Please confirm.

R: ***YES, your understanding of section 142123 paragraph 3.3.5 is correct. The Jail Elevator Service system shall be modified to reflect only hall buttons being installed and the "car stations" are located in Central Security rather than inside the elevator this service will require adjustment to address this operational situation.***

Q 3. 3.3.5.c Where are the "Mode Indicators located"? Are they in the master control panel in the control room? Are all of these functions controlled from the master control panel? Most of these functions are not possible with our car and hall calls.

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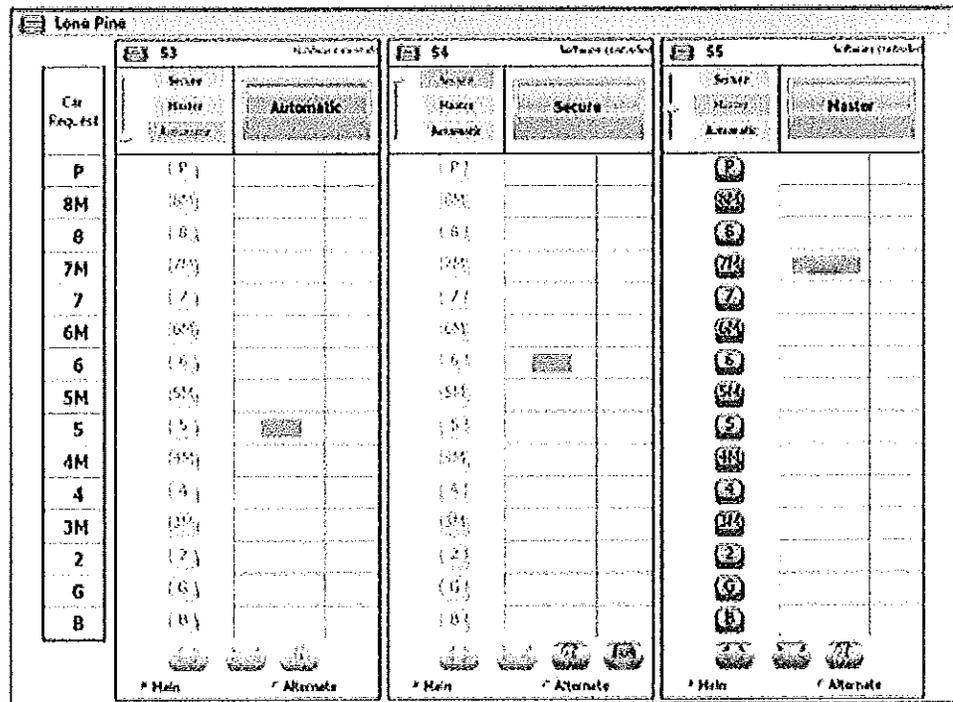
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County Engineer,
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R: *Regarding section 142123, paragraph 3.3.5c: This is shown on the included monitor, one of the approved controller manufacturers offer a Jail Elevator Service operation that is Windows based software that allows the elevators to be operated remotely by security personnel in visual and audible contact with elevator passengers. (As shown in the attached example the box at the top of the screen for each elevator would change between the different modes – green/orange/yellow/gray/red/blue)*

Figure 1. Typical Operating Screen



Q 4. 7.8 General Trade Work. Slade will supply contacts for the alarm installer to connect the alarm system to the elevator controller. What is the alternate floor designation for the fire service? Assuming there is an elevator with inmates in it and the fire alarm is activated how does fire recall work?

R: *The alternate floor shall be programmable in the field as directed by the Union County Sheriff's Office or Fire Alarm*

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DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT
Joseph A. Graziano Sr., Director

Representative. (See section 142123, paragraph 7.8)

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*County Engineer,
Director, Division of
Engineering*

Q.5. On drawing A.102, the details refer to drawing A2.03. This drawing does not exist. Can we assume that drawing A.103 is the one?

R: **Yes. The detail sheet is A-103.**

Q 6 "Addendum No. 1 dated 10/1/15, Question No. 17 stated: 'Please confirm or deny that the only subcontractor to be identified on the Subcontractor Identification Statement is the Electrical Subcontractor. There isn't a scope of work for HVACR, Plumbing or Structural Steel Contractors on this project.'

Addendum No. 1 dated 10/1/15, Response No. 17 stated: 'Only the electrical subcontractor is required to be listed. No other NJ prime contractors are applicable for this bid submission'."

Does this mean "only" electrical subcontractors are valid for bidding on this project?

R: **This bid is required to be submitted by a General Construction Contractor classified as C009 - General Construction/Alterations and Additions as per specifications. The Electrical subcontractor is required to be listed within the bid**

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COUNTY OF UNION

DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT

Joseph A. Graziano Sr., Director

MEMO TO: TO ALL POTENTIAL BIDDERS

FROM: Thomas O. Mineo, P.E.
County Engineer

DATE: October 1, 2015

RE: ADDENDUM NUMBER 1
Union County Justice Complex Renovations Phase III
Elevator Modernization and Roof Replacement
City of Elizabeth, County of Union, New Jersey
BA#30-2015; UC Engineering Project #2010-035C

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*County Engineer,
Director, Division of
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Attached is Addendum No. 1 for the above referenced project. Please sign the Acknowledgement of Addendum form and include it in your bid packet submission.

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fax(908)789-3674

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Bidder's Name: _____

ACKNOWLEDGMENT OF ADDENDUM

**COUNTY OF UNION
ADDENDUM NUMBER 1
OCTOBER 1, 2015**

**Union County Justice Complex Renovations Phase III
Elevator Modernization and Roof Replacement
City of Elizabeth, County of Union, New Jersey
Union County Engineering Project #2010-035C**

BA#30-2015

(Name of Construction /Public Works Project)

(Project or Bid Number)

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

Local Unit Reference Number or Title of Addendum/Revision	How Received (mail, fax, pick-up, etc.)	Date Received
<u>ADDENDUM NO. 1:</u> Issued October 1, 2015 1. Responses from RFI's (3 pages) 2. Add Section 264113 Lightning Protection (3 pages) 3. Attached is Pre-Bid Meeting Attendance Sheet		

ACKNOWLEDGMENT BY BIDDER:

NAME OF BIDDER: _____

ORIGINAL SIGNATURE: _____

PRINTED NAME AND TITLE: _____

DATE: _____

ADDENDUM NO 1 – OCTOBER 1, 2015
Union County Justice Complex Renovations Phase III
Elevator Modernization & Roof Replacement Project
City of Elizabeth, County of Union, New Jersey
BA #30-2015 Union county engineering Project # 2010-35C

The following are responses received for the above referenced project:

Q.1 The Project Manual contains 2 Div 1's. One in each volume. Please clarify.

R: **Delete Volume #2, Division #1**

DIVISION 01 - GENERAL REQUIREMENTS	
011000	SUMMARY
012100	ALLOWANCES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013300	SUBMITTAL PROCEDURES
014000	QUALITY REQUIREMENTS
015000	TEMPORARY FACILITIES AND CONTROLS
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017700	CLOSEOUT PROCEDURES
017839	PROJECT RECORD DOCUMENTS

Q. 2 Sec. 264113 Lightning Protection is listed in the Table of Contents but not included in the Project Manual. Please advise.

R: ***Specification Section #264113 "Lightning Protection," total of 3 pages, has been added. See Attached***

Q. 3 Please provide a copy of the sign-in sheet and any Meeting Agenda from the Pre-Bid Meeting. We were unable to attend.

R: ***Sign-In sheet is provided (See Attached). No meeting agenda was issued.***

- Q. 4 Please advise if there will be another walk-thru of the site for subcontractors. If so, please provide contact information.
- R: ***Another walk-thru is scheduled for Wednesday, October 7, 2015 at 2:00pm. Meeting will commence in front of the Ralph Oriscello Correctional Facility, 15 Elizabethtown Plaza, Elizabeth, NJ 07202.***
- Q. 5 Who will be inspecting the project? Local Building Dept. or DCA?
- R: ***City of Elizabeth will issue the Permit and conduct inspections.***
- Q.6 Have the Plans been reviewed by the respective agency?
- R: ***The Plans have not been reviewed by the Authority having jurisdiction. Permit will be submitted once the contract is awarded and a GC is selected.***
- Q 7 Will the temporary freight elevator be moved?
- R: ***During the walk-thru we discovered that the location of the Temporary Freight Elevator interfered with exit doors and will be relocated to an alternate location at the rear of the building that will be coordinated with the Owner and the Construction Manager.***
- Q 8 There are two Specification Sections for Selective Demolition. Vol 1, Div 1, Specification section 01732 and Vol 2, Division 2, Section 024119. Please clarify.
- R: ***Please delete Specification Section 01732 Selective Demolition from the Front End (Division 0 and 1). Under Volume 2, Division 02, Section 024119 Selective Demolition shall be followed in lieu of Section 01732***
- Q 9 Are background checks required?
- R: ***Yes, all individuals accessing the jail will require background checks.***
- Q 10 At what time is the jail available to begin work?
- R: ***All roofing work is to be performed between 7:00am-3:30pm. All elevator work is required to be performed on third shift, 10:00pm-6:00am. Note: Only one elevator can be worked on at a time. The freight elevator is to be done last, 3 of 3.***
- Q 11. Who is responsible for service and maintenance of the 3 elevators during the modernization and after the modernization is complete?
- R: ***The County is responsible for service and repair of the 3 elevators during the modernization project. Once each of the elevators are completed for re-use, the one year maintenance and warranty period will be in effect as per contract.***
- Q 12. Are service and maintenance costs to be included in the elevator modernization price?
- R: ***No, the County is responsible for service and maintenance at the 3 elevators during the project. Until such time the 1 year contractor maintenance & warranty is in effect.***

Q 13. Who is responsible for service and maintenance of the 2 elevators not being modernized during the construction and after the construction is complete?

R: *See Above.*

Q 14. Please confirm that the elevators are or are not to have car operating panels with buttons for normal elevator functions? Are the car operating panels to be behind locked doors? It is not clear in the specs.

R: *Elevator car operating panels are not to be provided in the cabs. Elevators are to be controlled by new panels inside the adjacent 1st floor control room.*

Q 15. Can the elevator people, after award, bring their surveyors, engineers, superintendents, etc. access the building during normal hours to do surveys, drawings, plan the project, etc.? The elevators would be out for 10-20 minutes each during these time periods

R: *Yes, upon award.*

Q 16 Page B-2 of the Bid Document Submission Checklist is looking for an acknowledgement that the bidder "visited the site and attended the Mandatory Pre-Bid Meeting." The Bid advertisement states that the Pre-Bid Meeting and Site Visit was voluntary but recommended. Please clarify.

R: *The pre-bid meeting and project walk-thru is not mandatory.*

Q 17 Please confirm or deny that the only subcontractor to be identified on the Subcontractor Identification Statement is the Electrical Subcontractor. There isn't a scope of work for HVACR, Plumbing or Structural Steel Contractors on this project.

R: *Only the electrical subcontractor is required to be listed. No other NJ prime contractors are applicable for this bid submission.*

SECTION 264113 - LIGHTNING PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Lightning protection for buildings and building elements.

1.3 DEFINITIONS

- A. LPI: Lightning Protection Institute.
- B. NRTL: National recognized testing laboratory.

1.4 SUBMITTALS

- A. Product Data: For air terminals and mounting accessories.
- B. Shop Drawings: Detail lightning protection system, including air-terminal locations, conductor routing and connections, and bonding and grounding provisions. Include indications for use of raceway, data on how concealment requirements will be met, and calculations required by NFPA 780 for bonding of grounded and isolated metal bodies.
- C. Qualification data for firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include data on listing or certification by an NRTL or LPI.
- D. Certification, signed by Contractor, that roof adhesive for air terminals is approved by manufacturers of both the terminal assembly and the single-ply membrane roofing material.
- E. Field inspection reports indicating compliance with specified requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who is an NRTL or who is certified by LPI as a Master Installer/Designer.
- B. Listing and Labeling: As defined in NFPA 780, "Definitions" Article.

1.6 COORDINATION

- A. Coordinate installation of lightning protection with installation of other building systems and components, including electrical wiring, supporting structures and building materials, metal bodies requiring bonding to lightning protection components, and building finishes.
- B. Coordinate installation of air terminals attached to roof systems with roofing manufacturer and Installer.
- C. Coordinate with installation of perimeter security fencing.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Approved Supplier / Vendor: Subject to compliance with requirements, the approved supplier / vendor offering products that may be incorporated into the Work include, but are not necessarily limited to, the following:
 - 1. Electrical Applications, Inc., 289 West Clay Avenue, Roselle Park, NJ

2.2 LIGHTNING PROTECTION SYSTEM COMPONENTS

- A. Comply with UL 96.
- B. Roof-Mounting Air Terminals: NFPA Class I, copper, unless otherwise indicated.
 - 1. Single-Membrane, Roof-Mounting Air Terminals: Designed for single-membrane roof materials.
- C. Stack-Mounting Air Terminals: Solid copper.
- D. Ground Rods: Copper clad steel, sectional type; ¾ inch in diameter; 10 feet long.
- E. Ground Loop Conductors: Same size and thickness as main conductor, except tinned.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install lightning protection components and systems according to UL 96A and NFPA 780.
- B. Install conductors with direct paths from air terminals to ground connections. Avoid sharp bends and narrow loops.
- C. Conceal the following conductors:
 - 1. System conductors.
 - 2. Down conductors.
 - 3. Interior conductors.
 - 4. Conductors within normal view from exterior locations at grade within 200 feet of building.

- D. Cable Connections: Use approved exothermic-welded connections for all conductor splices and connections between conductors and other components, except those above single-ply membrane roofing.
- E. Air Terminals on Single-Ply Membrane Roofing: Comply with adhesive manufacturer's written instructions.
- F. Bond extremities of vertical metal bodies exceeding 60 feet in length to lightning protection components.
- G. Bond lightning protection components with intermediate-level interconnection loop conductors to grounded metal bodies of building at 60-foot intervals.

3.2 CORROSION PROTECTION

- A. Do not combine materials that can form an electrolytic couple that will accelerate corrosion in the presence of moisture unless moisture is permanently excluded from junction of such materials.
- B. Use conductors with protective coatings where conditions would cause deterioration or corrosion of conductors.

3.3 FIELD QUALITY CONTROL

- A. UL Inspection: Provide inspections as required to obtain a UL Master Label for system.

END OF SECTION 13100



Consulting & Construction Services

UNION COUNTY JUSTICE COMPLEX PHASE II

Date: September 23, 2015

Meeting Date: September 23, 2015 Time: 3:30 PM

Project No: 2010-035C

UCJC Renovations Phase III Elevator Modernization and Roof Replacement Pre-bid Meeting/Walk through

Project Name: Union County Justice Complex Phase III

Meeting No.: _____ Location: Prosecutor's Conference Room

CM: Pinnacle Consulting & Construction Services

Topic: Pre-Bid Meeting

ATTENDEES: (For Attendance Please Sign and update if necessary)

	NAME	TITLE	COMPANY	SIGNATURE	TELEPHONE NO.	CELL NO.	EMAIL ADDRESS
1	Bob Pasqual	Sr. Project Manager	Pinnacle Consulting	<i>[Signature]</i>		609-651-5393	bobp@pinnacleconsult.net
2	PETE D'AMBINO	PRJ. MGR	3R CONTRACTING	<i>[Signature]</i>	732-775-4369	848-482-0400	3rpete@gmail.com
3	Bob Dockers		GPC Inc.	<i>[Signature]</i>	973 576 6116		bob@gsps.net
4	Joe Cassisa	Sales manager	B&B Lightning Pro.	<i>[Signature]</i>	(609) 888 1929		Jcassisa@BBlightning.com
5	STEVEN JONES	SUPR	BENNETT CO.	<i>[Signature]</i>	973-272-1578	973-332-6654	FGBENNY@AGL.com
6	Mike Ciccarelli	Proj. Mgr.	Neie Cart Ue	<i>[Signature]</i>	973-537-3600	973-534-2003	ADESANTIS@AVALAN.US
7	Mikh Favorito	Proj. Man.	PRAVCO INC	<i>[Signature]</i>	732-388-0800	732-221-5930	mfavorito@pravco.net
8	Bob Alviggi	SALES	SLADE ELEVATOR	<i>[Signature]</i>	908-654-5350	908-654-0836	QALVIGGI@SLADE.COM
9	Arnold Mira Jr		Three Sons Restoration	<i>[Signature]</i>	908-258-7247	201-320-6237	Arnold@threesonsrestoration.com
10	Willie Seiz	Mod Manager	Slade Elevator	<i>[Signature]</i>	347 582 6366		wseiz@slade-elevator.com
11	RYAN HALL	PM	HALL CONSTRUCTION	<i>[Signature]</i>	732-938-4255		PEGAN@HALLGC.COM
12	Joseph Manti		M+M Const	<i>[Signature]</i>	908-351-1177		bids@m-mj.com
13	JOE MANTI	M+M	M+M	<i>[Signature]</i>	" "		" "



Consulting & Construction Services

UNION COUNTY JUSTICE COMPLEX PHASE II

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2

	NAME	TITLE	COMPANY	SIGNATURE	TELEPHONE NO.	FAX NO.	EMAIL ADDRESS
15	TONY PEREZ	Project mgr	S/R Roof Products	T. Perez	609 760 1161		TPEREZ@ZSIGNS.NET
16	TIM LANDEVIN	PROJECT MGR.	VFC LIGHTING	T. Landevin	609-707-0125		VFC@TIM.LANDEVIN.COM
17	HUMANUN MIAN		PAUL OTTO BUILDINGS	H. Mian	908 709 9500	908 709 9501	HMIAN@PULOTTOS.COM
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SPECIFICATIONS

MANUAL 1 OF 2

FOR

UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT

CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY

BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C

SEPTEMBER 2015

**UNION COUNTY OFFICIALS
BOARD OF CHOSEN FREEHOLDERS**

Mohamed S. Jalloh, Chairman
Bruce H. Bergen, Vice Chairman
Linda Carter, Freeholder
Angel G. Estrada, Freeholder
Sergio Granados, Freeholder
Christopher Hudak, Freeholder
Bette Jane Kowalski, Freeholder
Alexander Mirabella, Freeholder
Vernell Wright, Freeholder

CLERK OF THE BOARD

James E. Pellettiere, RMC

COUNTY MANAGER

Alfred J. Faella

**DEPUTY COUNTY MANAGER
DIRECTOR OF ECONOMIC DEVELOPMENT**

William Reyes, Jr.

**DEPARTMENT OF ENGINEERING, PUBLIC WORKS AND
FACILITIES MANAGEMENT**

Joseph A. Graziano, Sr., CPWM, Director

**COUNTY ENGINEER
DIVISION OF ENGINEERING**

Thomas O. Mineo, P.E.
2325 South Avenue
Scotch Plains, New Jersey 07076
Telephone: (908) 789-3675
Fax: (908) 789-3674

PREPARED BY:

Netta Architects

1084 Route 22 West

Mountainside, New Jersey 07092

T: 973-379-0006

F: 973-379-1061

**UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; Union County Engineering Project # 2010-035C**

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COUNTY OF UNION
NOTICE TO BIDDERS

Sealed bids will be received by the director of the Division of Purchasing, or his designee, at the County of Union, New Jersey on October 14, 2015 at 2:30 p.m., prevailing time, in the 3rd Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C**

Bid Packages may be obtained at no charge by registering and downloading at <http://ucnj.org/bid-specs>. Bid Packages may also be obtained in person from the Division of Engineering at 2325 South Avenue, Scotch Plains, New Jersey 07076 between 8:30 a.m. and 4:00 p.m. weekdays upon payment of a non-refundable money order or bank check in the amount of \$275.00 made payable to the County of Union. No Personal / Company checks will be accepted. Requests for mailing of specifications will not be honored. For further information please call 908-789-3675.

A **pre-bid meeting** will be held on September 23, 2015 at 3:30 p.m. The meeting will be located at the Office of the Prosecutor's Conference Room, 32 Rahway Avenue, Elizabeth New Jersey 07207. **Attendance is strongly urged as it will include a walk-through of the project site.**

Bidders on this project are required to be classified by the State of NJ, Division of Property Management and Construction (DPMC) under classification # C009 - General Construction/Alterations and Additions, as well as other documentary requirements as set forth in the INSTRUCTION TO BIDDERS found in the bid specifications. If the Bidder himself does not have the required classification(s) as stated above, the Bidder must include and identify a subcontractor(s) who has the required classification(s) in the List of Subcontractors.

This bid proposal addresses Phase 3 of 3, Union County Justice Complex Renovations Phase III and said Project will exceed \$5 Million; therefore a PROJECT LABOR AGREEMENT will be applicable to this bid. The form of same shall be provided in the bid package.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid.

Bids shall be submitted in a sealed envelope and clearly marked with the subject of the bid, name and address of the bidder, phone & fax number, and date of the bid opening. Each bid must be delivered to reach the Division of Purchasing prior to the stated time of the opening of the bids. The County will not be responsible for late delivery by the U.S. Mail or any other carrier. If hand delivered, please note that parking and security access at the County Complex may cause delays and bidders should take them into consideration in order to submit a timely bid. **No** late bids will be accepted.

Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.S.A.C. 17:27.

MICHAEL M. YUSKA – DIRECTOR OF PURCHASING

**UNION COUNTY BOARD
OF CHOSEN FREEHOLDERS**

We're Connected to You!

NB-1

**UNION COUNTY BOARD OF CHOSEN FREEHOLDERS
INSTRUCTIONS TO BIDDERS AND FORMS**

DEFINITIONS

Wherever reference is made to the County, Title of Project, Bidder, or Vendor/Contractor they shall be as follows:

OWNER/COUNTY:

Union County Board of Chosen Freeholders
UC Administration Building, 6th Floor
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

ADDRESS BIDS AND SUBMIT TO:

Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Michael Yuska, QPA, Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548

**TITLE OF PROJECT: PHASE 3 OF 3 – Union County Justice Complex Renovations
Ralph Oriscello Jail – Elevator Modernization and Roof
Replacement Project
City of Elizabeth, County of Union, New Jersey
BA#30-2015; Union County Engineering Project #2010-035C**

BIDDER: Bidder shall be a single overall contract bidder

ENGINEER / ARCHITECT: Netta Architects
1084 Route 22 West
Mountainside, New Jersey 07092

COUNTY ENGINEER AND/OR CONSTRUCTION MANAGER (as applicable):

COUNTY ENGINEER:

Thomas O. Mineo, P.E.
Union County
Division of Engineering
2325 South Avenue
Scotch Plains, NJ 07076
Office: (908) 789-3675
Facsimile: (908) 789-3674
Email: tmineo@ucnj.org

CONSTRUCTION MANAGER: Bob Pasqual
Pinnacle Consulting & Construction Services, Inc.
One Gateway Center, Suite 2600
Newark, New Jersey 07102
Office: (973) 353-6218
Facsimile: (973) 622-3423
Mobile: (609) 651-5393
Email: bobp@pinnacleconsult.net

GENERAL SPECIFICATIONS

1. BID FORM

Bids for this Work will be enclosed in a sealed envelope addressed to the Purchasing Division, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207, with the full name of the Project clearly marked on the outside. Refer to the sheet marked "Notice of Bid (Advertisement)" for the correct name of the Project. Bidders must submit their bids on the attached pricing sheet (Bid Form), in a sealed envelope addressed to the County and bearing on the outside: the name of the Bidder, Bidder's business address, and the title of the Project.

The Division of Purchasing will receive the bids for this Work at the Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey on the date and time noted on the sheet marked "**Notice of Bid (Advertisement)**".

The County will not assume responsibility for bids forwarded by mail. It is the individual's responsibility to see that the bids are presented to the Purchasing Division at the time and at the place designated.

Bids will be accepted only on the Bid Form supplied. Bids on forms other than the original supplied herein will be rejected. The "complete" Bid Documents includes the Bid Bond, Bid Form, Bidder's Checklist, Consent of Surety, Ownership Disclosure Certification, Non-Collusion Affidavit, and any other documents noted in these Instructions to Bidders or Contract Document to be submitted with this Bid. (See AIA Owner/Contractor Agreement & General Conditions attached.)

The bidder will state in the bidding sheet the price per unit of measure for each scheduled Item of Work for which he will agree to carry out the Work, and the Total Bid Price for the construction of the Project.

The prices in the Bid Form shall be typed or written in pen and ink. Erasures or alterations must be initialed by the bidder in ink.

The bidding sheet for this Project may include a fixed amount as a Bid Allowance. If applicable, all bidders are required to add this fixed amount to their base bid and to include this additional amount in their Bid Bond. This sum will be included in the Contract as well as the performance, labor and materials bond. Payment by the County will be made to the Contractor from these funds only upon the completion of extra Work pursuant to a written Change Order(s) signed by the County's Engineer or his designee and the Contractor, prior to the commencement of such Work. Work commenced prior to written approval by the County shall be done at Contractor's risk. Such payment will only be in the amount agreed to by the parties, in writing in the Change Order(s). See Section 38, Change Orders, of these general specifications for further details.

Refer to Bid Document Submission Checklist for all required documents.

In the event there is a discrepancy between the unit price given and the extended total, the unit price will govern. Any discrepancies will be mathematically adjusted.

Insert applicable alternates, if any have been specified, applicable to the Bidder's Work. All alternates MUST be bid upon. Any Bidder's failure to do so will be deemed a material, non-waivable defect and shall render the bid nonresponsive. The Bidder shall clearly designate whether the change in price is an addition or subtraction, by using either a "+" sign or the word "addition", or in the alternative, a "-" sign or the word "minus". If there is no other change in price, the Bidder shall insert "NC" or "No Charge".

When two or more low bids are equal in all respects, awards will be made according to the provisions of N.J.S.A. 40A:11-6.1(d).

Where unit prices have already been established by the Contract Documents, the Bidder agrees that such unit prices shall prevail. All unit prices, whether filled in by the Bidder or established by the Contract Documents, shall become part of the Contract. No bid will be considered or award made, unless applicable unit prices, as required, are filled in.

The County reserves the right to reject any or all bids and also reserves the right to waive any informality in the bids received so long as said waiver is not of a response which is considered to be material and non-waivable pursuant to law.

The County of Union has the right to reject any and all bids from any bidder that is in, or contemplates bankruptcy of any chapter of nature. Said bidder shall notify the County, in writing, of any condition or knowledge of the same.

Conditional bids will not be accepted. Bids may be withdrawn prior to the advertised time for the opening of bids or authorized postponement thereof or in accordance with the provisions of N.J.S.A. 40A:11-23.3 discussed below. Bids received after the advertised time shall not be considered. Bidders shall be solely responsible for premature opening or late delivery of bids not properly marked, addressed, or directed.

2. WITHDRAWAL OF BID DUE TO MISTAKE

N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a public works bid due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to Michael M. Yuska, QPA, Director, Division of Purchasing, County of Union, New Jersey, Union County

Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207. The bidder must request withdrawal of a bid due to a mistake, as defined by the law, within five business days after the receipt and opening of the bids. Since the bid withdrawal request shall be effective as of the postmark of the certified or registered mailing, Michael M. Yuska, QPA, Director of the Division of Purchasing or his designee may contact all bidders, after bids are opened, to ascertain if any bidders wish to, or already have exercised a request to withdraw their bid pursuant to N.J.S.A. 40A:11-23.3.

A bidder's request to withdraw the bid **shall** contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information shall be reviewed and evaluated by the County's designated staff pursuant to the statutory criteria of N.J.S.A. 40A:11-23.3.

The County will not consider any written request for a bid withdrawal for a mistake, as defined by N.J.S.A. 40A:11-2(42), by a bidder in the preparation of a bid proposal unless the postmark of the certified or registered mailing is within the five business days following the opening of bids.

3. QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS

The County may make such investigation as it deems necessary to determine the ability of the Bidders to perform the Work, which includes investigation of any and all subcontractors listed with the bid. The Bidder shall furnish any information and data for this purpose as the County may request.

4. INTERPRETATIONS AND ADDENDA

Any explanation desired by a bidder regarding the meaning or interpretation of the Contract Documents must be requested in writing to the County Engineer or Design Professional as the case may be and with reasonable time allowed for a reply to reach bidders before submission of their bids. Any interpretation or instruction made by the County Engineer will be in the form of an addendum to the Contract Documents or clarification and will be furnished to all prospective bidders. Oral explanations or instructions given before the award of the Contract will not be binding. Bidders are required to bring to the attention of the County Engineer, the discovery of any apparent ambiguity, inconsistency, error, discrepancy, omission in the Contract Documents for interpretation and correction at least ten (10) working days before opening of bids with the exception of Saturdays, Sundays and holidays.

All Addenda issued through the Offices of the County Engineer are amendments to the Contract Documents and shall be considered in preparing bids. Same shall become part of the Contract Documents.

Addenda take precedence over all earlier documents and over each other according to the latest date. Addenda unless themselves interpretive remain subject to interpretation the same as any other document incorporated in the Contract.

Addenda may be issued by the County Engineer up to seven (7) working days prior to the opening of bids. Failure of any bidder to receive an addendum shall not relieve such bidder from the obligation imposed by such addendum. Bidders are to keep themselves currently acquainted with the Contract Documents during the entire bidding period and make inquiry on their own initiative as to issuance of any Addenda. Receipts of all Addenda shall be acknowledged on the “*Acknowledgement of Receipt of Changes*” included in the bid package and must be submitted with the bid.

5. OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS

At the time of the opening of bids, each Bidder will be presumed to have inspected the site(s) and to have read, and be thoroughly familiar with the Contract Documents. The failure or neglect of any Bidder to receive or examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to its bid.

The Bidder shall examine the contents of the Project Manual and the set of Drawings and assure itself that all pages of the Specifications, Drawings, and other Contract Documents are included in the documents obtained for bidding purposes. Should the Specifications, Drawings, and other Contract Documents be incomplete, the Bidder shall notify the County Engineer in writing, who will supply the Bidder with any missing pages of Specifications, Drawings, or other Contract Documents. The lack of such written notification by the Bidder will be construed as evidence that the Specifications, Drawings, or other Contract Documents supplied it for bidding purposes are full and complete and as a waiver of any subsequent claim to the contrary.

6. BID AND PERFORMANCE GUARANTEE

Each bidder must furnish a Bid Bond, Certified Check or Bank Cashier’s Check in the amount of ten percent (10%) of the Bid. Checks shall be drawn to the order of the County of Union, New Jersey, not to exceed \$20,000.

Each bidder must furnish with the bid a certificate from a Surety Company, i.e. Consent of Surety, stating that in the event of the contract being awarded to said bidder, such Surety Company will provide the Contractor with Bonds guaranteeing the faithful performance of the Work in accordance with the plans and specifications, and the payment for labor, materials, and all other indebtedness which may accrue on the account of this Work. A Performance, Labor and Materials bond will be furnished by the Contractor upon an award of Contract, and will be in the amount of 100% of the contract price.

A one-year Maintenance Bond will be required upon acceptance of the Project by the County in the amount as stated in Section 17 of the General Specifications. Bonds will be written by a firm authorized to issue the bonds under the laws of the State of New Jersey and be in a form acceptable to the County Counsel.

N.J.S.A. 40A:11-1.1 et. seq. allows the prime Contractor to furnish the Performance Security for his Subcontractors. The County of Union requires Performance Security to be furnished by the prime contractor for the entire job in the total amount of the contract.

The County of Union shall award the contract or reject all bids within sixty (60) days; except that the bids of any bidders who consent thereto may, at the request of the County be held for consideration for such longer periods as may be agreed.

The County will return all certified checks or cashier's checks after the proposals have been opened, read, tabulated and checked except those of the three (3) bidders who have bid the lowest total price for carrying out the Project. The County will return the checks of these bidders when a contract is awarded to the successful bidder within ten (10) days after the award of the contract.

If the successful bidder refuses or neglects to sign the said Agreement and furnish the required bonds, the Bid Bond will be held and used by the County to offset any damages for such refusal or neglect.

7. COMMENCEMENT AND COMPLETION

Work will not commence until a Notice to Proceed is received from the County Engineer.

Upon substantial completion of the Project, the Contractor must request a joint inspection with the County Engineer. Upon completion of this inspection, the County Engineer will prepare a list of incomplete or incorrect items (punch list) and have Contractor initial and date same. The Contractor shall rectify all deficiencies noted on the punch list within 30 calendar days of receipt of the list. The County Engineer may approve extensions for extenuating circumstances.

8. BIDDER AFFIDAVIT

All Bidders are required to complete, sign, and submit with their Bid, the attached "Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders". (See form enclosed)

9. CLASSIFICATION AND QUALIFICATION OF BIDDERS

Pursuant to Ordinance Number 557-2002 as adopted by the County on September 5, 2002, all bidders on contracts for public works shall be classified and qualified in accordance with NJSA 40A:11-25 as well as NJSA 52:35-1 et. seq. (See Section 52 of the General Specifications)

This provision shall not apply to subcontractors.

10. UNCOMPLETED CONTRACTS (BUILDING PROJECTS ONLY)

The Bidder shall submit a current Classification/Prequalification Certificate and accompanying form(s) indicating the dollar amount of uncompleted contracts, and a notarized and itemized list of these uncompleted contracts in the form provided, with their bid. (See form enclosed)

11. BID SECURITY

All Bidders are required to submit a form of Bid Security with their bids.
(Bid Bond or Certified Funds)

The Bid Security shall be in the amount of ten percent (10%) of the Bid, but not in excess of Twenty Thousand Dollars (\$20,000.00), and payable to the order of the "County of Union."

12. LABOR AND MATERIALS

The prices will cover all costs of any nature incident to and growing out of the Work, including all labor, material, equipment, transportation, loss by damage or destruction of the Project, settlement of damages, and for replacement of defective work or materials. N.J.S.A. 54:32B-1 et seq. exempts all materials sold to the County of Union from sales or use taxes and should not be included in the prices provided on the Bidding Sheet.

13. INSURANCE REQUIREMENTS

The County of Union requires all contractors to be able to comply with the following insurance requirements. In the event a bid is accepted by the County, the contractor must accept the applicable insurance requirements, as set forth below, as part of any contract awarded to it by the County.

Contractor shall carry and maintain at all times while the contract is in full force and effect, the following insurance coverage with an insurance company or companies acceptable to the County, with limits not less than those shown below. A Certificate of Insurance, shall be filed with the County prior to commencement of any Work indicating the following:

- a) Commercial General Liability (CGL): Coverage for all operations including, but not limited to, contractual, products and completed operations, and personal injury with limits no less than \$5,000,000 per occurrence/\$10,000,000 aggregate. The County of Union, its Board of Chosen Freeholders, officers, employees, agents and servants shall be included as an additional insured. Coverage is provided on a primary and non-contributory basis to the County of Union, et al.

- b) Automobile Liability: Coverage for all owned, non-owned and hired vehicles with limits not less than \$5,000,000 per occurrence, combined single limits (CSL) or its equivalent.
- c) Workers Compensation: As required by the State of New Jersey and Employers Liability with limits not less than \$1,000,000 per accident for bodily injury or disease.
- d) Professional Liability (if design/build): Coverage with limits not less than \$1,000,000 per occurrence or claim, \$2,000,000 aggregate
- e) Contractor's Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors & Omissions (if project involves environmental hazards): Coverage with limits no less than \$1,000,000 per occurrence or claim/\$2,000,000 aggregate.
- f) Builders Risk (for major renovations): During the course of construction utilizing an "All Risk" coverage form with limits equal to the completed value of the project and no coinsurance penalty provisions.

Where applicable, a waiver of subrogation in favor of the County of Union, its Board of Chosen Freeholders, officers, employees, agents, servants and the State of New Jersey is to be included in those policies of insurance where permitted by law.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the Entity.

Special Risks or Circumstances: The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

14. INDEMNIFICATION REQUIREMENTS

The County of Union requires all bidders to accept the following indemnification requirements in the event the County accepts their bid. The Contract awarded by the County to the successful bidder will contain the following provision:

"To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the owner and the owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses arising out of or resulting from the performance of the Contractor's work under this contract, provided that such claim, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Contractor, anyone directly or indirectly employed or retained by the Contractor, or anyone for whose acts the Contractor may be liable regardless of whether

caused in part by the negligent act or omission of a party indemnified hereunder provided it is not caused by the sole negligence of a party indemnified hereunder. Contractor shall further indemnify and hold harmless the County and the County's consultants, agents, representative, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses, arising out of or resulting from performance of the work, provided that such claim, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the County or the County's consultants, agents, representatives, or employees and arises out of this project and provided such claim, damage, loss, cost, or expense is not caused by the sole negligence of a party indemnified hereunder."

15. ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall hold the County harmless from loss on account thereof.

16. PLANS AND SPECIFICATIONS

In carrying out the Work, the plan(s) and the specifications will be followed by the Contractor. Minor alterations in the plan may be made or permitted by the County Engineer from time to time and, if no additional Work is necessary, there will be no additional charge for carrying out such minor alterations.

The Contractor shall provide the County Engineer a set of reproducible as-built drawings upon completion of the Project. The Contractor shall maintain an updated construction progress plan in the Project field office at all times.

When applicable, The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, as amended, and Supplemental Specifications for State Aid Projects, herein after referred to as the "Standard Specifications", are made a part of these specifications and contract for the improvements, and will govern the construction of this Project, the material used and the execution of this Project, except as revised and modified herein. The references to these specifications are given herein for the purpose of aiding in the rapid location of the description of the various items herein specified. The entire Work must be carried on and completed to the satisfaction of the County. The Standard Specifications are amended as follows:

"Any reference to the Commissioner, Department, Department Laboratory, Engineer or Inspector should be redefined to be the County of Union".

17. GUARANTEE AGAINST DEFECTIVE WORK

Prior to final payment being made or before the release of the performance security required by Section 3 above, the Contractor and Surety shall execute and deliver to the County an original Maintenance Bond with an original signature and seal having a penal sum equal to:

- A) One hundred percent (100%) of the final adjusted Contract amount, if such amount is \$50,000.00 or less;
- B) Fifty percent (50%) of the final adjusted Contract amount, if such amount be greater than \$50,000.00 but less than \$250,000.00; and,
- C) Twenty-five percent (25%) of the final adjusted contract amount, if such amount is \$250,000.00 or more.

The Bond and Surety shall be satisfactory to the Union County Counsel. The Surety shall hold a Certificate of Authorization to do business in the State of New Jersey and shall conform to P.L. 1995 c.384, codified as N.J.S.A. 2A:44-143, 144. The Surety Disclosure Statement and Certification required by N.J.S.A. 2A: 44-143, 144, shall be attached to the Bond. Such Maintenance Bond shall remain in full force and effect for a period of one (1) year from the date of Final Completion. Such Maintenance Bond shall also provide that the Contractor and the Surety guarantee to replace for the said period of one (1) year from the date of Final Completion, all Work performed and/or all materials furnished that were not performed or were not furnished in accordance to the terms and performance requirements of the Contract Documents, and will make good any defects thereof which become apparent before the expiration of one (1) year. If, during that period, any part of the Project, in the judgment of the Engineer, is found defective, the Contractor will repair or replace same within five (5) days of receipt of notice from the County Engineer. If the Contractor refuses or neglects to do such Work in the time specified, the County Engineer may have the Work done by others and the Contractor or his Surety thereof will pay the cost.

The Contractor will furnish the County a Maintenance Bond for a percentage of the final adjusted contract price, as stated above. The one (1) year period will start the day of Final Completion of Project by the County. Final payment is conditional on the receipt of a maintenance bond in a form acceptable to County Counsel.

18. TRAFFIC AND STREET MAINTENANCE

The Work must be started and performed by the Contractor in such a manner as to minimize delays to the traveling public. It must be completed in a timely fashion, with little or no inconvenience to traffic and pedestrians, where such inconvenience may be avoided.

All municipal, county, and state roadways shall remain open to traffic unless otherwise provided for in the technical specifications.

If modified traffic patterns are authorized in order to provide a safe working or traveling environment, the Contractor is responsible for providing all equipment, barrels, cones, signs, and barricades to implement the work zone and detours, unless otherwise specified in the technical specifications. All work zones and detours shall be established in accordance with the technical plans and specifications if provided or in strict compliance with the current version of the Manual for Uniform Traffic Control Devices (MUTCD). The Contractor shall obtain approval for these work zones and detour plans from the Municipal Police or applicable police agency and the Union County Bureau of Traffic Maintenance prior to implementation.

All traffic control plans shall provide for safe movement of vehicular, bicycle, and pedestrian traffic. Particular attention shall be given to requirements of the Americans with Disabilities Act.

No portion of any street or alleyway may be used for the storage of any materials or equipment without the approval of the Municipal Police or other applicable police agency. Sidewalks, gutters, drains, fire hydrants and private drives shall be maintained for their intended use unless specifically approved by the County Engineer.

Upon suspension of Work, at the end of the day or for protracted periods, the Contractor shall remove all rubbish and materials from the Work site to the approved storage/staging location. All road cuts, saw cuts, and trenches that may pose hazard to vehicular, pedestrian, or bicycle traffic, to include handicapped users, shall be filled to the surface of the roadway or sidewalk. At no time will steel plates or settled trenches be allowed at the daily suspension of Work, unless specifically approved by the County Engineer.

Use of Traffic Control Officers shall be determined by the County in accordance with the provisions of N.J.S.A. 40A:11-23.1(c). If applicable to the Project, the County shall have provided an allowance for same as set forth in the Bid Form.

With respect to pedestrian traffic, the Contractor shall install signs restricting access of the general public and, as necessary, Union County employees to the area of construction. The Contractor shall provide safe access to required areas and place physical barriers to restricted areas. These barriers may range from caution tape to actual barriers, at the direction of the County Engineer.

19. CONTRACTOR'S EMPLOYEES

The Contractor must employ only suitable and competent labor in the Work, and must remove from the Work any incompetent, unsuitable, or disorderly person upon complaint from the County Engineer.

The parties to any contract resulting from this proposal do hereby agree that the provisions of N.J.S.A. 10:2-1 through 10:2-4 (discrimination in employment on public works contracts): 34:11-56.25 et seq. (payment of prevailing rate of wages determined pursuant to N.J.S.A. 34:11-56.30 by the Commissioner), and the Rules and Regulations promulgated pursuant thereto, are hereby made a part of any contract and are binding upon them.

There will be no discrimination against any employee who is employed in the Work to be covered by any contract resulting from this bid because of age, race, creed, color, national origin, ancestry, marital status or sex.

Any person, firm, or corporation violating the provisions of this Section will be deemed and judged a disorderly person.

20. OWNERSHIP DISCLOSURES REQUIRED

Pursuant to P.L. 1977, N.J.S.A. 52:25-24.2, the Bidder shall submit with its Bid, or prior to receipt of bids, a statement setting forth the names and addresses of all stockholders in the corporation or partnership bidding who own ten percent (10%) or greater interest therein. (See forms attached)

21. NON-COLLUSION AFFIDAVIT

The Bidder shall submit with its bid either the attached completed "Non-Collusion Affidavit" or a statement of non-collusion with verbiage similar to same.

22. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCES

The successful bidder shall be required to complete and submit an Initial Project Workforce Report, New Jersey Department of Treasury Form AA-201, upon notification of award. Failure to submit this completed form may result in the Contract being terminated.

The successful bidder shall also be required to submit a copy of its Monthly Project Workforce Report, New Jersey Department of Treasury Form AA-202, to the New Jersey Department of Treasury's Division of Public Contracts Equal Employment Opportunity Compliance and to the Board.

23. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56a.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Industry as one who failed to pay prevailing wages in accordance with the provisions of this Act. The bidder agrees to the inclusion of a

contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates of wages on public contracts as set forth in the New Jersey Prevailing Wage Act, P.L. 1963, Chapter 150 and P.L. 1974, Chapter 64.

A Copy of the Prevailing Wage Rates is attached for your reference. Applicable rates are those wages and fringe benefit rates in effect on the date the contract is awarded. All predetermined rate increases listed at the time the contract award must also be paid, beginning on the dates specified. Rates may change between the time of issuance of this determination and the award of the public works contract. Therefore, prior to the award of the contract, verification must be made with the Public Contracts section, to insure that the rates contained in this determination are still prevailing.

The Contractor agrees to abide and be bound by each and all of the said statutory provisions with respect to the payment of prevailing rates of wages, and acknowledges that the County reserves the right to terminate the Contractor's (or his subcontractors') right to proceed with the scope of Work, or such portion thereof that relates to the failure to pay prevailing rates of wages. In such event or under the terms of N.J.S.A. 34:11-56.27, the Contractor and his surety will be liable to the County of Union for any excess costs occasioned by such a violation.

The Contractor or subcontractors for this Project will post the Prevailing Wage Rates for each craft and classification involved as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the Work or at such place or places as are used by them to pay workmen their wages.

The County of Union requires a copy of payroll records from the Contractor and subcontractors. Payroll records shall be submitted with each voucher request for payment. Prevailing wage rates may be obtained from the New Jersey Labor, Division of Workplace Standards, Public Contracts Section, (609-292-2259).

In addition to compliance with the New Jersey Prevailing Wage Act, the County requires compliance with procedures established by Resolution No. 2014-0408 adopted by the Union County Board of Chosen Freeholders on May 8, 2014. The resolution is furnished in Section 53 of these General Specifications.

UNION LABOR IS PREFERRED ON ALL COUNTY WORK AND, WHERE NOTED, SUBJECT TO A PROJECT LABOR AGREEMENT TO BE EXECUTED BY THE CONTRACTOR AND CONSTRUCTION MANAGER PRIOR TO COMMENCEMENT OF THE WORK. FAILURE OF ANY CONTRACTOR TO COMPLY WITH THIS PROVISION CONSTITUTES A DEFAULT, RESULTING IN IMMEDIATE STOPPAGE OF THE WORK. ANY LOSSES OR OTHER DAMAGES INCURRED BY OTHER PARTIES AS A RESULT OF SAID DEFAULT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. (See Section 56)

The foregoing reference to specific laws will not be deemed to be a limitation of obligation of the Contractor to perform his obligations in full compliance with the provisions and requirements of all federal and state statutes and local ordinances applicable to the Work to be done under the contract.

It is agreed and understood that any contracts and/or orders placed as a result of this proposal will be governed and construed and the rights and obligations of the parties hereto will be determined in accordance with the laws of the State of New Jersey.

Upon completion of the Work, the Contractor will furnish a Certification of Compliance with the New Jersey Prevailing Wage Act. The certificate in a form acceptable to County Counsel is a condition of the final payment. (See form attached)

24. BRAND NAME OR EQUAL

When the Specifications, Forms, and other Contract Documents use “brand name or equivalent” or similar language, the listed brand name shall serve as a reference or point of comparison for the functional or operational characteristic desired for the goods or services being requested. Where a bidder attempts to submit an equivalent product for a brand name, it shall be the responsibility of the bidder to fully describe and document the product to be provided with the bid in order to establish the equivalence claim.

- A. If the Bidder proposes to offer substitute goods as an equal to those specified herein, the bidder shall so indicate with the Bid Proposal. For the purposes of this paragraph, a proposed item shall be considered equal to goods specified herein if:
 - 1. The County, in its sole discretion, determines that: (i) the goods conform substantially, even with deviations, to the brand name goods specified herein; (ii) the goods are equal to or greater than the brand name goods specified herein in terms of quality, durability, functionality, appearance, strength and design; (iii) the goods are capable, at least as well as the brand name goods specified herein, or performing with existing equipment; and (iv) the goods do not cost the County more than the brand name goods specified herein costs the County.
- B. To offer substitute goods as an equal to those specified herein, it is necessary that:

1. The Bidder submits sufficient information with its bid to permit the County to determine that the goods are equivalent to the brand name goods specified herein, including, but not necessarily limited to the brand, catalog number and specifications/data sheets;
 2. The Bidder fully identifies and describes the variations of the goods from the brand name goods specified herein on a separate sheet that is to be submitted with the bid proposal. Bidder's literature WILL NOT suffice in explaining exceptions to these specifications.
 3. The Bidder certifies that the goods (i) are similar in substance to the brand name goods specified, and (ii) are suited to the same use as the item specified;
- C. The County shall be allowed a reasonable time within which to evaluate the Bidder's proposal to offer substitute goods as an equal to those specified herein. The County shall be the sole judge of acceptability. No "or-equal" goods shall be ordered, delivered, assembled, set-up or utilized until the County's evaluation is complete. The County's determination as to equivalency shall be deemed final and absolute.

In the event the Bidder does not provide sufficient supporting documentation with the bid, it will be presumed and required that the brand name goods and services as described in the specifications will be provided.

25. LINES AND GRADES

Normally, horizontal and vertical control points will be provided in the technical specifications. All other surveying will be the responsibility of the Contractor unless otherwise noted.

26. NUMBER OF WORKING DAYS

In accordance with NJSA 40A:11-17, the Work for the within Project shall be completed as specified on the Time of Completion Form. See form attached

There shall be taken a deduction from the contract price, or any wages paid by the County, to any inspector(s) necessarily employed by it on the Work, for any number of days in excess of the number allowed in the specifications.

27. PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)

Pursuant to NJSA 2A:30A-1 et. seq., payment to the Contractor, other than for Work done pursuant to a contact allowance, where applicable, shall be processed and paid as follows:

1. All contractor bills shall be either approved for payment, or notice provided as to why the bill or any portion of it will not be approved by the representative(s) of the governing body no later than the public meeting following 20 calendar days of the billing date as defined in the statute.
2. If the billing is approved, said bill shall be paid in the payment cycle following the meeting.

28. STOPPING WORK ON ACCOUNT OF BAD WEATHER

Work must only be performed in weather suitable for the type of construction planned or underway. Extremes in temperature, humidity, precipitation, evaporation, etc. can detrimentally affect the constructed product. Refer to the Standard and Technical Specifications for specific items.

29. ACCESS FOR OTHER CONTRACTORS

The Contractor for this Work will give proper access to other contractors who may be employed upon the Project and must not hinder or delay unnecessarily any Work that may be progressing under other contracts.

30. CONDEMNED MATERIALS AND WORK

Any materials and or part of the Work that may be condemned by the County Engineer will be removed and replaced by the Contractor or otherwise rectified, as may be directed by the County Engineer. No payment will be made upon the Work until such faulty work has been made good as may be directed. In the event the Contractor refuses or neglects to make good such faulty work, he will be deemed to have abandoned the contract and proceedings may be taken against him as provided herein.

31. STORAGE

In the event that it is necessary for the Contractor to stockpile or store materials or equipment on the job site, the Contractor shall inform the County of such necessity and the County may offer available space, if any, for storage of such materials or equipment. The Contractor shall use said space only for such purpose. Any and all materials which may be stored in such space or which may be brought onto the job site

at any time by the Contractor will be at the Contractor's sole risk. The County will not be responsible for loss of or damage to said materials or equipment for any cause whatsoever. The Contractor shall take necessary measures to protect any such storage area and shall be responsible for any and all damages.

32. FINAL CLEAN UP

Upon completion of the Work, the Contractor will remove all equipment, unused materials, rubbish, etc., and will repair, or replace in an a manner acceptable to the County Engineer, all areas that may have been damaged in the prosecution of the Work. Same shall be a condition precedent to final payment. Should said Contractor fail to comply with this requirement, the County shall undertake the clean-up with its own forces and charge the cost of same against the Contractor's contract balance.

33. SUB-LETTING OF WORK

Except for the List of Subcontractors, pursuant to NJSA 40A:11-16 (See form attached), no portion of the Work will be sublet by the Contractor to any other entities, except with the consent of the County Engineer. A complete list of subcontractors must be submitted to the County Engineer at the preconstruction meeting. If the job does not warrant a preconstruction meeting, the Contractor must submit such list prior to the start of Work.

All Subcontractors will be subject to NJSA 34:11-56 et al.

N.J.S.A. 40A:11-16 requires the bidder to list in the bid sheets the name or names of all subcontractors involved in the following types of Work: plumbing and gas fitting and all kindred work, steam and hot water heating, ventilating apparatus, steam power plants and kindred work, electrical work, ornamental iron work, and structural steel. In addition, the County may require the identification of specific additional subcontractors. If these trades are expected to be part of the contract, such subcontractors should be listed on the "Subcontractor Identification Statement List of Subcontractors" and Bidder shall certify same on the accompanying sheet titled "Subcontractor Identification Certification". (See forms attached) **Bidder's failure to submit these two forms shall be considered a material defect and result in rejection of Bidder's bid.** Substitutions of any listed subcontractors pursuant to NJSA 40A:11-16 will not be permitted except with the consent of the County Engineer.

34. SAFETY

The Contractor shall observe all rules and regulations of the Federal, State, and local health officials. Attention is directed to Federal, State, and local laws, rules, and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to the worker's health or safety.

The Contractor shall admit to the site, without delay and without the presentation of an inspection warrant, any inspector of OSHA or other legally responsible agency involved in safety and health administration upon presentation of proper credentials.

The Contractor shall make available to the Contractor's employees, subcontractors, the County Engineer, and the public, all information pursuant to OSHA 29 CFR Part 1926.59 of The Hazard Communication Standard 29 CFR 1910.1200, and shall also maintain a file on each job site containing all Material Safety Data Sheets (MSDS) for products in use at the Project. These Material Safety Data Sheets shall be made available to the Engineer upon request.

The Contractor shall at all times conduct the Work to provide for the safety and convenience of the general public and protection of persons and property. The safety provisions of applicable laws, OSHA regulations, building and construction codes, and the rules and regulations of the New Jersey Department of Labor and Commerce shall be observed.

35. QUALITY, SAFETY AND PERFORMANCE STANDARDS

All goods and services must be constructed and provided with the highest quality materials and workmanship. It is the intent of these specifications that only equipment equal to, or exceeding, the standard specified will be acceptable in order to protect the safety of the occupants of the Building.

36. MATTERS NOT MENTIONED IN CONTRACT DOCUMENTS

Any Work, material, or method, not specifically described in these specifications, but shown upon the plans of the Work, will be carried out as shown on said plan.

37. PERMITS

The Contractor will obtain all necessary permits required by law and provide the County with necessary approvals prior to commencement of permitted Work.

38. CONTRACTOR TO PROVIDE PROOF OF PAYMENT

Upon the completion of the Work, the Contractor will furnish a General Release as proof that all claims for labor, materials, etc., have been settled by the Contractor. The General Release, in a form acceptable to County Counsel, is a condition of final payment.

39. CHANGE ORDERS

Change Order Procedures shall comply with *N.J.A.C. 5:30-11.1 et seq.*, "Change Orders and Open End Contracts" and subsequent provisions of the New Jersey Administrative Code.

40. SUPPLEMENTAL WORK

In case any supplemental work is necessary, it will be performed by the Contractor at a price fixed by agreement between the Contractor and the County Engineer and approved by the County as specified in Section 38. The Contractor will do no supplemental work on any character, for which the Contractor will demand pay, except upon the written order of the County.

41. FORM OF CONTRACT

Contracts will be let on the attached Form of Agreement Between County (“Owner”) and Contractor (AIA 101), and General Conditions (AIA 201), as supplemented.

The Contract will be subject to all statutory provisions on the matter of Public Works, Public Contracts, The Law Against Discrimination, the Laws Governing Affirmative Action and Prevailing Rates of Wages under the laws of New Jersey.

The Agreements shall be executed by both parties not later than twenty-one (21) days from the date of the award by the County (Sundays and holidays excluded); however, such time frame may be extended by agreement of the parties.

42. PROGRESS PAYMENTS

Monthly progress payments will be made based on the value of labor and materials incorporated in the Work and of materials suitably stored at the site. An itemized schedule of values shall be submitted with each Application for Payment.

(Refer to the Owner/Contractor Agreement for Retainage and other conditions pertaining to payment and the application of NJSA 2A:30A-1 et. seq.)

All Applications for Payment shall be accompanied by paid invoices for materials incorporated in the Work and for materials suitably stored at the site, and affidavit(s) by Subcontractors whose Work was included in the next to the last application to the effect such Work and such materials have been paid for.

No payment shall be made without Contractor having provided all submittals set forth in this Section, and the approval of same by the County.

For contracts exceeding \$100,000.00, monthly payments will be made on the Work to the extent of 98% of the value of the Work done which is considered to be retainage.

For contracts less than \$100,000.00, monthly payments will be on the Work to the extent of 90% of the value of the Work done. In lieu of the retainage, the Contractor

will, at his option, deposit with the County Counsel negotiable bearer bonds of the State of New Jersey or any political subdivision thereof, equal to the amount otherwise withheld as retainage.

When the Project is completed, the final cost of the Project will be based on actual quantities of authorized Work done under each item scheduled in the bidding sheet and approved Change Orders, if any. The money due to the Contractor as determined by said final certificate after deduction of previous monthly payments on account, will be paid to the Contractor in accordance with the terms of the contract dealing with Prompt Payment, providing, however that before such final payment is made, all outstanding claims against the Contractor must be satisfied. Before final payment is released, the Contractor must furnish: **a)** Maintenance Bond (see Section 17 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 23 & 53); and **c)** General Release (see Section 38) in a form satisfactory to County Counsel; **d)** complete set of as-built plans in the latest AutoCad on compact disc; and **e)** a complete set of in-progress photos in jpg, jpeg, or bmp digital format on a compact disc.

43. INSPECTION

The Work must be done in accordance with the plans and specifications, and will be inspected by the County Engineer. An inspector may be placed upon the Work at any time by the County Engineer to see that the plans, specifications, and instructions of the County Engineer are carried out. In connection herewith, bidders are referred to N.J.S.A. 40A:11-17.

44. DAMAGES

The Contractor will be held responsible for all damages that may occur to Work, or to persons or property by reason of the nature of the Work or from the elements, or by reason of inadequate protection of the Work, or from any carelessness or negligence on his part or on the part of his employees. The County will withhold payments on the Work until all suits or claims for damages sustained on, or by reason of, this Work will have been settled by the Contractor.

The construction and final completion of this Work will be guaranteed by the Contractor. Any damages that may be done to the Work or any part thereof, by the elements or otherwise, during its construction, will be made good by the Contractor.

45. LIQUIDATED DAMAGES

If the Project is not completed within the time specified herein or within such further time as may have been granted by the County Engineer, then the Contractor hereby agrees to pay to the County as liquidated damages, but not as a penalty, \$1,000.00 per day for each and every calendar day that he is in default on time to

complete the Work. The said sum will be deducted from moneys due the Contractor and if the damages exceed this amount, then the Contractor or his Surety Company will pay the excess. These damages may be waived at the option of the County.

46. AFFIRMATIVE ACTION REQUIREMENTS

EXHIBIT B (Revised 4/10)

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127) N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Division, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

(1) To notify the public agency compliance officer, the Division, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;

(2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;

(4) To leave standing requests for additional referral to minority and women workers with the

local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) The contractor or subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Division. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Division, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Division.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Division and submitted promptly to the Division upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor

shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Division an initial project workforce report (Form AA 201) electronically provided to the public agency by the Division, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (NJAC 17:27)**.

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47. INVESTMENT ACTIVITIES WITH IRAN

Pursuant to P.L. 2012, c25, codified as NJSA 52:32-55 *et seq.*, prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.

48. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (NJSA 34:11-56.48 *et. seq.*)

Pursuant to the above-referenced law, Bidders are required to be registered with the New Jersey Department of Labor and to possess a current certificate by said Department indicating compliance with the Act prior to the time and date that bids are received. Bidders are notified of this requirement of their compliance. Such certificates or applications shall also be provided for each Subcontractor furnishing plumbing and gas fitting, steam and hot water heating and ventilating apparatus, and all kindred work, steam power plants and kindred work, electrical work, structural steel and ornamental iron work, and such other subcontractors as the specifications require relative to prior identification.

49. UTILITIES

Attention of the bidder is directed to the fact that the approximate locations of known utility structures and facilities that may be encountered within and adjacent to the limits of the Work are shown on the plans and described herein. The accuracy and completeness of this information is not guaranteed by the County Engineer and the bidder is advised to ascertain for himself all the facts concerning the location of these and other utilities.

The Contractor will not proceed with his Work until he has made diligent inquiries of all public utility and municipal officials to determine the exact location of all underground structures and pipes within the site of the Project. The Contractor will notify utility owners not less than ten (10) days in advance of the time he proposes to perform any Work that will endanger or affect their facilities in compliance with **New Jersey One-Call**. In excavating in any part of the Work, care must be taken not to remove or damage any gas, water, sewer, or other pipe, conduit, or structure, - public or private - without the concurrence of the owner and the County Engineer. The Contractor will, at his own expense, shore up, secure and maintain a continuous flow in such structures, and will keep them in repair until final acceptance of the Work.

When pipes or other structures are encountered or when the removal, relocation or protection of these utilities are necessary in carrying out the Project as planned, the Contractor will cooperate with the owner of said utilities and will permit the owners or their agents access to the site of the Work in order to relocate or protect their facilities and not hinder or delay unnecessarily the Work of the owners in moving same. No extra allowance of payment will be made to the Contractor for the use of any materials,

equipment, etc., or for the performance of any Work in connection with the moving of said structures unless the Contractor is specifically ordered by the County Engineer to furnish such materials, equipment, or services. If directed by the County Engineer to do any Work or furnish any materials or equipment, payment will be allowed the Contractor in accordance with the unit prices bid for such Work, or, if such items are not scheduled in the proposal, such Work shall be allowed "Supplemental Work" as provided in Section 39 of these general specifications. The corporations, companies, agencies or municipalities owning or controlling the utilities, and the name, and telephone numbers are listed in the beginning of the Technical Specifications.

50. MATERIAL COMPLIANCE AND SHOP DRAWINGS

The Contractor will require the manufacturer or supplier to furnish three (3) copies of Certification of Compliance with each delivery of materials, components and manufactured items for the Project. Two (2) copies will be furnished to the County Engineer; one copy will be retained by the Contractor. Certificates of Compliance will contain the following information:

1. Project to which material is consigned;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the Certificate;
5. Means of identifying the consignment, such as label marking, seal number, etc.;
6. Date and method of shipment;
7. That the material is in conformity with the pertinent specifications stated in the certificate; and
8. Signature of a person having legal authority to bind the supplier.

The Contractor will submit to the County Engineer for his approval five (5) copies of complete and fully detailed shop or working drawings for those items listed in the beginning of the technical specifications.

Each drawing will identify the name of the job, location and Contractor.

All drawings will be approved in accordance with the standard specifications. Refer to the Technical Specifications for specific items.

All materials or articles used in the Work will be of American manufacture, insofar as same are available, in conformance with N.J.S.A. 40A:11-18.

51. PRECONSTRUCTION

In order to provide full coordination of this Project among the parties concerned, the County Engineer will arrange for a preconstruction meeting between the Contractor, County Engineer and other interested parties as soon as possible after the contract is

executed. At this meeting the Contractor will present his proposed schedule of Work which shall be subject to review and approval of the County through its designated representatives.

52. DISPUTES UNDER THE CONTRACT

A dispute arising under the Contract shall be submitted in writing to the County Engineer with all facts and supporting data. The County Engineer will review the dispute and issue his decision or request additional facts or documentation after which he will render his decision.

In the event the dispute is not then resolved, the matter shall, pursuant to law, be submitted to mediation before being submitted to a court of competent jurisdiction venued in Union County.

The County Engineer will notify the County Counsel when a matter is to be submitted to mediation. The County Counsel will communicate with the parties and inform them of the procedures to be followed in making such a submission.

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**53. RESOLUTION NO. 2014-0408 ADOPTED ON
MAY 8, 2014 BY THE UNION COUNTY BOARD OF CHOSEN
FREEHOLDERS**

In addition to compliance with the New Jersey Prevailing Wage Act, the Contractor shall comply with the requirement as set forth in Resolution No. 2014-0408 adopted on May 8, 2014 by the Union County Board of Chosen Freeholders.

**UNION COUNTY BOARD OF CHOSEN FREEHOLDERS RESOLUTION NO. 2014-0408
DATED: 05/08/2014**

WHEREAS, the County of Union recognizes there is a need to ensure that all work on significant public construction and maintenance contracts is performed by responsible, qualified firms that maintain the capacity, expertise, personnel, and other qualifications and resources necessary to successfully perform public contracts in a timely, reliable, and cost-effective manner; and

WHEREAS, in order to effectuate the purpose of selecting responsible contractors for significant public contracts and to protect Union County's capital investments in such contracts prospective contractors and subcontractors should be required to meet pre-established, clearly-defined, minimum standards relating to contractor responsibility, including requirements and criteria concerning qualifications, competency, expertise, adequacy of resources, including equipment, financial and personnel, and satisfactory records regarding past project performance, safety, legal compliance and business integrity; and

WHEREAS, the County has a compelling interest in assuring that its Public Works Projects meet the highest standard of safety and quality; and

WHEREAS, due to the critical impact that skilled construction craft labor has on public works projects, and due to the limited availability of skilled construction craft labor and imminent craft labor skill shortages, it is necessary to require contractors and subcontractors to participate in established, formal apprenticeship training programs for the purpose of both promoting successful project delivery and ensuring future workforce development; and

WHEREAS, an apprenticeship program is a structured system of training designed to prepare individuals for occupations and life long careers in skilled trades and crafts by providing a wage-paying job that incorporates extensive workplace and classroom training under the supervision of experienced workers, in preparation for highly skilled occupations; and

WHEREAS, apprenticeship programs are a critical component in public safety, by ensuring that workers on public projects are properly trained, able, competent and capable craftsmen, and provide assurance of compliance with the County's bid specifications and achieve high quality standards; and

WHEREAS, for an apprenticeship program to be fully effective, the public and private sectors must recognize its value and commit to supporting its mission; and

WHEREAS, Union County has long recognized the value of apprenticeship programs through its support of the Union County Vocational-Technical Schools, which offer

training programs to help ensure that Union County will continue to produce a skilled and educated work force in the trade specialties, and thus, strengthen Union County's economy by fostering the development of highly paid trade and craft careers; and

WHEREAS, the use of apprenticeship programs or apprenticeship trained employees on Union County Public Works Projects will serve the dual goal of providing the County with assurance that its public works projects are completed with a well-trained workforce, in a highly skilled and timely fashion, while creating opportunities for careers in the skilled trades and craft industry for County residents.

WHEREAS, the County of Union also recognizes that it is beneficial to their employees to utilize fair business, employment, and training practices that have a positive impact on local communities affected by such contracts.

NOW, THEREFORE, BE IT RESOLVED by the Board of Chosen Freeholders of the County of Union as follows:

1. The County of Union shall require compliance with the provisions of this Resolution by business entities seeking to provide services to the County of Union as specified herein. The requirements of this Resolution are intended to supplement, not replace, existing contractor qualifications and performance standards or criteria currently required by law, public policy or contracting documents, including but not limited to Union County's DPMC classification and Project Labor Agreement policies
2. All contractors and subcontractors that perform significant work on any public facility or public works project, including construction, alteration, renovation, repair, service, or maintenance work, shall meet the requirements of this Resolution. For purposes of this Resolution, the term "significant work" shall be defined as any work or activity covered under the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.
3. All firms engaged in contracts covered by this Resolution shall be qualified responsible contractors or subcontractors that have sufficient capabilities in all respects to successfully perform contracts on which they are engaged, including the necessary experience, equipment, technical skills and qualifications and organizational, financial and personnel resources. Firms bidding on public contracts shall also be required to have a satisfactory past performance record and a satisfactory record of legal compliance, integrity and business ethics. Compliance with these standards shall be established by compliance with the requirements set forth in paragraph 8 of this Resolution.
4. As a condition of performing work on public works contracts over the public works threshold, the general contractor shall provide certification that he and each subcontractor working on the project shall have at least one (1) employee who has successfully completed the OSHA 10-hour construction safety and health course. As a condition of performing work on public works contracts of \$500,000.00 or more total cost of project, the general contractor shall provide certification that each subcontractor working on the project shall

have at least one (1) employee who has successfully completed the OSHA 30-hour construction safety and health course.

5. All contractors and subcontractors that perform significant work on any public facility or public works project shall be required to affirmatively provide evidence of and confirm compliance with proof of participation in an Apprenticeship Program currently registered and approved by the United States Department of Labor (“USDOL”), the New Jersey Department of Labor (“NJDOL”) or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs. Additionally, Apprenticeship Programs shall meet the criteria set forth in Section 8(i) of this Resolution.

6. As a condition of performing work on public works contracts subject to this Resolution, a general contractor seeking award of a contract shall submit a Contractor Responsibility Certification at the time it submits its bid for contract.

7. The Contractor Responsibility Certification shall be completed on a form provided by the Union County Purchasing Department and shall reference the project for which a bid is being submitted by name and contract or project number.

8. In the Contractor Responsibility Certification, general contractors and subcontractors shall certify the following facts regarding their past performance and work history and its current qualifications and performance capabilities:

a. The firm has all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, including, but not limited to, licenses, registrations, certificates required to: (1) do business in the designated locale; and (2) perform the contract work it seeks to perform. These shall include, but not be limited to, licenses, registrations or certificates for any type of trade work or specialty work, which the firm proposes to self-perform.

b. The firm meets the bonding requirements for the contract, as required by applicable law or contract specifications and any insurance requirements, as required by applicable law or contract specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements.

c. The firm has not been debarred by any federal, state or local government agency or authority in the past three (3) years.

d. The firm has not defaulted on any project in the past three (3) years.

e. The firm has not had any type of business, contracting or trade license, registration, or other certification suspended or revoked in the past three (3) years.

f. The firm has not been cited and found guilty for a willful violation of federal or state safety laws in the past three (3) years.

g. The firm and/or its owners have not been convicted of any crime relating to the contracting business by a final decision of a court or government agency in the past three (3) years.

h. The firm will pay all craft employees that it employs on the project the current wage rates and benefits as required under applicable Federal or State prevailing wage laws.

i. The firm participates in an Apprenticeship Program that is currently registered with the USDOL, the NJDOL or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs, for each craft or trade in which it apprentices. The firm shall provide proof of meeting this qualification standard by submitting appropriate documentation as an attachment to this Certification. The firm shall continue to participate in applicable apprenticeship programs for the full duration of the contract work. The apprenticeship program in which the firm participates shall have graduated at least one (1) enrollee in each of the past three (3) years.

9. The County of Union may conduct any additional inquiries to verify that the prospective awardee and its subcontractors have the technical qualifications and performance capabilities necessary to successfully perform the contract and that the firms have a sufficient record of legal compliance and business integrity to justify the award of a public contract. In conducting such inquiries, the County of Union may seek relevant information from the firm, its prior clients or customers, its subcontractors or any other relevant source.

10. If any provision of this Resolution shall be held to be invalid or unenforceable by a court of competent jurisdiction, any such holding shall not invalidate any other provisions of this Resolution and all remaining provisions shall remain in full force and effect.

NOW, THEREFORE, BE IT RESOLVED by the Board of Chosen Freeholders of the County of Union that it hereby establishes and adopts the Responsible Contractor Policy, and it hereby authorizes the County Manager to sign any and all documents necessary to make said Policy effective immediately.

54. ORDINANCE NO. 557-2002 ADOPTED ON SEPTEMBER 5, 2002 BY THE BOARD OF CHOSEN FREEHOLDERS

Ordinance No. 557-2002 adopted on September 5, 2002 by the Board of Chosen Freeholders on Preclassification of Bidders by the NJDPMC (**if applicable**) pursuant to Ordinance No. 557-2002, the County of Union requires all bidders on projects for the construction, reconstruction, demolition, alteration, repair or maintenance of public buildings to be preclassified by the State of New Jersey, Department of Treasury, Division of Property Management and Construction ("DPMC").

Bidders must provide proof of classification in the form of a Certificate/Notice of Classification from the DPMC showing a sufficient aggregate rating to cover their bid amount, which is active on the date of receipt of these bids. Further, Bidder must also provide proof of preclassification in the applicable/appropriate trade code necessary for Work on the Project.

AN ORDINANCE IN ACCORDANCE WITH N.J.S.A. 40A:11-25 ESTABLISHING REASONABLE REGULATIONS APPROPRIATE FOR CONTROLLING THE QUALIFICATIONS OF PROSPECTIVE BIDDERS UPON CONTRACTS TO BE AWARDED ON BEHALF OF THE CONTRACTING UNIT, BY THE CLASS OR CATEGORY OF GOODS AND SERVICES TO BE PROVIDED OR PERFORMED AND FIXING THE QUALIFICATIONS REQUIRED ACCORDING TO THE FINANCIAL ABILITY AND EXPERIENCE OF THE BIDDERS AND THE CAPITAL AND EQUIPMENT AVAILABLE TO THEM PERTINENT TO AND REASONABLY RELATED TO THE CLASS AND CATEGORY OF SERVICE TO BE PERFORMED IN THE PERFORMANCE OF ANY SUCH CONTRACT.

WHEREAS, N.J.S.A. 40A:11-25 provides that the governing body of any contracting unit may establish reasonable regulations appropriate for controlling the qualifications of prospective bidders upon contracts to be awarded on behalf of the contracting unit, by the class or category of goods and services to be provided or performed; and

WHEREAS, N.J.S.A. 40A:11-25 also states that the regulations established by the governing body may fix the qualifications required according to the financial ability and experience of the bidders and the capital and equipment available to them pertinent to and reasonably related to the class and category of service to be performed in the performance of any such contract; and

WHEREAS, N.J.S.A. 40A:11-25 also requires that prior to the adoption of any such regulations, a contracting unit shall submit them to a public hearing and notice and a general description of the subject matter shall be published in not less than two newspapers; and

WHEREAS, N.J.S.A. 52:35-1 et seq. and 18A:18A-27 et seq. establish qualifications for the experience and financial abilities of bidders and the capital and equipment available to them relative to the specific services to be performed; and

WHEREAS, currently state officials, under the Department of Treasury, Division of Property Management and Construction, classify all prospective bidders as to the character and amount of public works on which they shall be qualified to submit bids and bids shall be accepted only from persons qualified in accordance with such classifications; and

WHEREAS, application for classification is open to all Contractors, regardless of the size of the business; and

WHEREAS, classification is based on general standards equally applicable to all Contractors; and

WHEREAS, classification is expressed in terms of trade and an aggregate rating determined on the basis of experience, financial ability, equipment and capital; and

WHEREAS, generally aggregate ratings can range from 0 to \$200,000.00; and

WHEREAS, the County of Union will determine the aggregate rating it will require on contracts depending on the size and expense of the Project, but at no time shall the required aggregate rating exceed \$25,000,000.00 for any one project; and

WHEREAS, such provisions are of considerable benefit to the County and to bidders by insuring that such bidders have the requisite experience, expertise and resources necessary to effectively perform the terms and conditions of the contract:

BE IT ORDAINED by the Board of Chosen Freeholders of the County of Union that it formally adopts as **Policy** that all prospective bidders for building construction projects be classified in accordance with the Department of Treasury – Division of Property Management and Construction pursuant to N.J.S.A. 52:35-1 et seq. and N.J.S.A. 18A:18A-27 et seq.

BE IT FURTHER ORDAINED that the Board of Chosen Freeholders of the County of Union hereby adopts the classification of bidders by the New Jersey Department of Treasury, Division of Property Management and Construction as a reasonable regulation for controlling the qualifications of prospective bidders upon contracts to be awarded for construction on behalf of the County of Union.

BE IT FURTHER ORDAINED that the provisions of this ordinance are severable. To the extent any clause, phrase, sentence, paragraph or provision of this ordinance shall be declared invalid, illegal or unconstitutional, the remaining provisions shall continue to be in full force and effect.

BE IT FURTHER ORDAINED that a public hearing shall be held on this ordinance on September 5, 2002 at the meeting of the Board of Freeholders, County Administration Building, Elizabeth, New Jersey.

BE IT FURTHER ORDAINED that the Clerk of the Board of Freeholders of the County is hereby directed to publish and post notice of this ordinance as required by law.

BE IT FURTHER ORDAINED that within 10 days hereof the Clerk of the Board of Freeholders of the County shall forward certified copies of this ordinance to the County Manager, Director of Finance, County Counsel, and Division of Local Government Services.

This ordinance shall take effect twenty (20) days after final adoption and publication in accordance with applicable law.

55. CONTRACTOR BUSINESS REGISTRATION CERTIFICATE New Mandatory Requirement -Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at <http://www.state.nj.us/treasury/revenue/busregcert.htm>. Click the “online” link and then select “Register for Tax and Employer Purposes or call the Division at 609-292-1730.

Note: A NJ Certificate of Authority is not acceptable.

FAILURE to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of contract shall be cause to reject the bid.

FAILURE of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction Work as well as non-construction bids.

IN ADDITION:

N.J.S.A. 52:32-44 imposes the following requirements on Contractors and all subcontractors that knowingly provide goods or perform services for a Contractor fulfilling this contract:

- 1) the Contractor shall provide written notice to its subcontractors and suppliers to submit proof of business registration to the Contractor;
- 2) subcontractors through all tiers of a project must provide written notice to their subcontractors and suppliers to submit proof of business registration and subcontractors shall collect such proofs of business registration and maintain them on file;
- 3) prior to receipt of final payment from a contracting agency, the Contractor must submit to the contacting agency an accurate list of all subcontractors and suppliers or attest that none was used; and,
- 4) during the term of this contract, the Contractor and its affiliates shall collect and remit, and shall notify all subcontractors and their affiliates that they must collect and remit, to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act, (*N.J.S.A. 54:32B-1 et seq.*) on all sales of tangible personal property delivered into this State.

A Contractor, subcontractor or supplier who fails to provide proof of business

registration or provides false business registration information shall be liable to a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided or maintained under a contract with a contracting agency. Information on the law and its requirements are available by calling (609) 292-9292.

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56. PROJECT LABOR AGREEMENT (To be signed where the overall project cost exceeds \$5 Million, irrespective of Phasing)

An Executive Order of Governor James E. McGreevey dated January 17, 2002, requires the use of a Project Labor Agreement in public construction contracts. This Executive Order was codified as N.J.S.A. 52:38-1 et seq. as a result of P.L. 2002, Chapter 44. Contractor must be prepared to abide by the terms of the within Project Labor Agreement, including obtaining the necessary and applicable Letters of Assent from subcontractors (of any tier). Through said Letters of Assent the subcontractors (of any tier) also must be prepared to abide by the terms of the Project Labor Agreement.

Contractor's failure to enter into this Project Labor Agreement shall result in the County's valid refusal to enter into a contract, for the performance of the Work with Contractor and shall constitute a default under the Contract. In addition, Contractor will be required to submit the completed Letters of Assent to the County with the executed Project Labor Agreement. The Project Labor Agreement is to be executed only where the total Project cost is \$5 Million or more, irrespective of Phasing. **This bid proposal addresses Phase 3 of 3 of Union County Project #2010-035C and said Project will exceed \$5 Million; therefore, a Project Labor Agreement will be applicable to this bid.**

ARTICLE 1 - PREAMBLE

WHEREAS, the COUNTY OF UNION, on behalf of itself, and Project Management Firms ("PMF") acting as Construction Managers, and reflecting the objectives of the COUNTY OF UNION ("UC"), as Owner, desires to provide for the efficient, safe, quality, and timely completion of a construction project for the County in a manner designed to afford lower reasonable costs to Union County, the Union County Freeholder Board, and the Public it represents, and the advancement of public policy objectives; **(See Project Labor Agreement attached)**

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia by:

- (1) ensuring a reliable source of skilled and experienced labor;
- (2) standardizing the terms and conditions governing the employment of labor on the Project;
- (3) permitting wide flexibility in Work scheduling and shift hours and times; from those which otherwise might obtain;
- (4) receiving negotiated adjustments as to Work rules and staffing requirements from those which otherwise might obtain;
- (5) providing comprehensive and standardized mechanisms for the settlement of Work disputes, including those relating to jurisdiction;

- (6) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from Work disputes, and promote labor harmony and peace for the duration of the Projects.
- (7) furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged in the construction industry;
- (8) expediting the construction process; and,

WHEREAS, the signatory Unions desire the stability, security and Work opportunities afforded by a Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Project safety conditions for both workers and the public,

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") entered into by and between UC and its successors and assigns, General Contractors to be named, for certain construction Work to be performed on construction performed pursuant to the "Local Public Contracts Law" in the State of New Jersey and by the Union County Building and Construction Trades Council, AFL-CIO, on behalf of itself and its affiliates and members.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the Union party and the Building Trades Council are referred to singularly and collectively as "the Union(s)" where specific reference is made to "Local Unions" that phrase is sometimes used; the term "Contractor(s)" shall include the Project Management Firm and all signatory Contractors, and their subcontractors of whatever tier, engaged in on-site Project construction Work within the scope of this Agreement as defined in Article 3; County of Union (UC) is referenced as (Owner); the Union County Building and Construction Trades Council, AFL-CIO is referenced as the BTC, and the Work covered by this Agreement (as defined in Article 3) is referred to as the "Project".

SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

The Agreement shall not become effective unless executed by the BTC, the PMF, and the General Contractor and will remain in effect until the **final** completion of the **Project**.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all signatory Unions and the Project Management Firms and all signatory Contractors performing on-site Project Work, including site preparation and staging areas, as defined in Article 3. The Contractors shall include in any subcontract that they let, for performance during the term of this Agreement, a requirement that their subcontractors, of whatever tier, become signatory and bound by this Agreement with respect to subcontracted Work performed within the scope of Article 3. This Agreement shall be administered by the PMF on behalf of all Contractors.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Project, in whole or in part. Where a subject covered by the provisions, explicit or implicit, of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall prevail. It is further understood that neither the PMF nor any Contractor shall be required to sign any other agreement as a condition of performing Work on this Project. No practice, understanding or agreement between a Contractor and Local Union, which is not explicitly set forth in this Agreement shall be binding on this Project unless endorsed in writing by the PMF.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The PMF and any Contractor shall not be liable for any violations of this Agreement by any other Contractor and the BTC and Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE CONSTRUCTION PROJECT MANAGER

UC shall require in its bid specifications for all Work within the scope of Article 3 that all successful bidders, and their subcontractors of whatever tier, become bound by, and signatory to, this Agreement. UC is not a party to and shall not be liable in any manner under this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of UC in determining which Contractors shall be awarded contracts for Project Work. It is further understood that UC has sole discretion at any time to terminate, delay or suspend the Work, in whole or part, on this Project.

SECTION 7. AVAILABILITY AND APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Unions agree that this Agreement will be made available to, and will fully apply to any successful bidder for Project Work who becomes signatory thereto, without

regard to whether that successful bidder performs Work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not, members of any unions. This Agreement shall not apply to the Work of any Contractor or PMF, which is performed at any location other than the Project site, as defined in Article 3, Section 1.

ARTICLE 3 - SCOPE OF THE AGREEMENT

The Project Work covered by this Agreement shall be as defined and limited by the following sections of this Article.

SECTION 1: THE WORK

This Agreement shall apply to building construction conducted by the County of Union pursuant to the "Local Public Contracts Law" in the State of New Jersey. This scope of Work may be amended time to time by UC to include Work not performed under the "Local Public Contracts Law".

The scope of Work is confined to the on-site Project Work contained in the scope of the General Contractor's final construction contract.

SECTION 2. EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing Work on the Project:

Superintendents, supervisors (excluding superintendents and general supervisors and forepersons specifically covered by a craft's Schedule A), engineers, inspectors and testers (excluding divers specifically covered by a craft's Schedule A), quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, non-manual employees, and all professional, engineering, administrative and management persons;

Employees of UC or any State agency, authority or entity or employees of any municipality or county or other public employer;

Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery, unless such offsite operations are covered by the New Jersey Prevailing Wage Act by being dedicated exclusively to the performance of the public works contract or building project and are adjacent to the site of Work, or involved in deliveries to and from the Project site, excepting local deliveries of all major construction materials including fill, ready mix, asphalt and item 4 which are covered by this Agreement.

Employees of the PMF or General Contractor, excepting those performing

manual, on-site construction labor who will be covered by this Agreement;

Employees engaged in on-site equipment warranty.

Employees engaged in geophysical testing (whether land or water) other than boring for core samples;

Employees engaged in laboratory or specialty testing or inspections;

Employees engaged in ancillary Project Work performed by third parties such as electric utilities, gas utilities, telephone utility companies, and railroads.

SECTION 3. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to the parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor or of PMF, which do not perform Work at this Project. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the owners, the PMF and/or any Contractor. The Agreement shall further not apply to UC or any other state or county agency, authority, or other municipal or public entity and nothing contained herein shall be construed to prohibit or restrict UC or its employees of any other state authority, agency or entity and its employees from performing on or off-site Work related to the Project. As the contracts which comprise the Project Work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty Work are assigned in writing (copy to Local Union involved) by the General Contractor for performance under the terms of this Agreement.

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all craft employees who are performing on-site Project Work within the scope of this Agreement as defined in Article 3.

SECTION 2. UNION REFERRAL

- A. The Contractors agree to hire Project, craft employees covered by this Agreement through the job referral systems and hiring halls (where the referrals meet the qualifications set forth in items 1,2, and 4 subparagraph B) established in the Local Unions' area collective bargaining agreements (attached as Schedule A to this Agreement).

Notwithstanding this, the Contractors shall have sole rights to determine

the competency of all referrals; the number of employees required (except with regard to pile driving); the selection of employees to be laid-off (subject to the applicable procedures in Schedule A for permanent and/or temporary layoffs and except as provided in Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments required in the applicable Schedule A. In the event that a Local Union is unable to fill any request for qualified employees within a 48-hour period after such requisition is made by the Contractor (Saturdays, Sundays, and holidays excepted), the Contractor may employ qualified applicants from another competent source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of the Project, craft employees hired within its jurisdiction from any source other than referral by the Union.

B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project Work and who meet the following qualifications as determined by a Committee of 3 designated, respectively, by the applicable Local Union, the PMF and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:

- (1) possess any license required by NJ law for Project Work to be performed;
- (2) have worked a total of at least 1000 hours in the Construction craft during the prior 3 years;
- (3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;
- (4) have demonstrated ability to safely perform the basic function of the applicable trade.

No more than 12 per centum of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above (any fraction shall be rounded to the next highest whole number).

C. A certified MBE/WBE contractor may request from the Workforce Coordinator, through the PMF, an exception to, and waiver of, the above per centum limitation upon the number of its employees to be hired through the special provision of Section 2.B above. This exception is based upon hardship and demonstration by the contractor that the Project Work would be the contractor's only job and that it would be obliged to lay off qualified minority and female employees in its current workforce moving from the last job.

The exception and waiver are also conditioned upon the employees meeting the qualifications as set forth in Section 2.B above.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Unions represent that their hiring halls and referral systems will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations, which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4. MINORITY AND FEMALE REFERRALS

In the event a Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling Project affirmative action goals as set forth in UC's bid specifications, the Contractor may employ qualified minority or female applicants from any other available source as Apprentice Equivalents. Apprentice Equivalents will have completed a DOL approved training program, applied to take a construction Apprenticeship test, and will be paid at not less than the applicable equivalent Apprentice rate. With the approval of the Local Administrative Committee (LAC), experience in construction related areas may be accepted as meeting the above requirements.

SECTION 5. CROSS AND QUALIFIED REFERRALS

The Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified craft employees to fulfill the requirements of the Contractor.

SECTION 6. UNION DUES / WORKING ASSESSMENTS

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule A local agreements, as amended from time to time, but only for the period of time during which they are performing on-site Project Work and only to the extent of rendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Union, signatory to this Agreement, which represents the craft in which the employee is performing Project Work. No employee shall be discriminated against at the Project site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment can be received by the Unions as a working assessment fee.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft foreperson shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craftsman he is leading exceed a specified number.

ARTICLE 5 - UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site Project employees shall be entitled to designate, in writing (copy to General Contractor involved and the PMF), one representative, and the Business Manager, who shall be afforded access to the Project.

SECTION 2. STEWARDS

- A. Each Local Union shall have the right to designate a working journey person as a Steward and an alternate, and shall notify the Contractor and PMF of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. There will be no non-working Stewards on the Project.
- B. In addition to their Work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor and, if applicable, subcontractors of that Contractor, but not with the employees of any other Contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.
- C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime, except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union, 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A, such provisions shall be recognized to the extent the Steward possesses the necessary qualifications to perform the Work

required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6 - MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their Project operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; or the discipline or discharge for just cause of its employees; the assignment and schedule of Work; the promulgation of reasonable Project Work rules; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, GC or PMF, and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitations or restriction upon the Contractors' choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tool, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such Work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-out or testing of specialized or unusual equipment or facilities as designated by the Contractor. Notwithstanding the foregoing statement of Contractor rights, prefabrication issues relating to work traditionally performed at the job site shall be governed pursuant to the terms of the applicable Schedule A. There shall be no restrictions as to Work, which is performed off-site for the Project, except for work done in a fabrication center, tool yard, or batch plant dedicated exclusively to the performance of Work on the Project, and located adjacent to the "site of Work".

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCKOUT

There shall not be strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Project for any reason by any Union or employee against any Contractor or employer while performing Work at the Project. There shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the existing free flow

of traffic in the project area. Failure of any Union or employee to cross any picket line established by any union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to the Project site is a violation of this Article. There shall be no lockout at the Project by any signatory Contractor. Contractors and Unions shall take all steps necessary to ensure compliance with this Section 1 and to ensure uninterrupted construction and the free flow of traffic in the project area for the duration of this Agreement.

SECTION 2. DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 1 above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If a Contractor contends that any Union has violated this Article, it will notify the appropriate district or area council of the Local Union involved advising of such fact, with copies of the notification to the Local Union and the BTC. The district or area council, and the BTC shall each instruct, order and otherwise use their best efforts to cause the employees, and/or the Local Unions to immediately cease and desist from any violation of this Article. A district or area council, or the BTC complying with these obligations shall not be liable for the unauthorized acts of a Local Union or its members.

SECTION 4. EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

- A. A party invoking this procedure shall notify J.J. Pierson who shall serve as Arbitrator under this expedited arbitration procedure. Copies of such notification will be simultaneously sent to the alleged violator and, if a Local Union is alleged to be in violation, it's International, UC, the PMF, the BTC, and the GC.
- B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the GC, the Local Union involved, the BTC, and the PMF, hold a hearing within 48 hours of receipt of the notice invoking the procedure it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the district or area council required by Section 3 above.
- C. All notices pursuant to this Article may be by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the arbitrator, Contractor or Union involved. The hearing may be held on any day

including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

- D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages, which issue is reserved solely for court proceedings, if any. The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.
- E. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of the Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved. In any court proceeding to obtain a temporary or preliminary order enforcing the arbitrator's Award as issued under this expedited procedure, the involved Union and Contractor waive their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.
- F. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.
- G. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 - LOCAL ADMINISTRATIVE COMMITTEE (LAC)

SECTION 1. THE LOCAL ADMINISTRATIVE COMMITTEE WILL MEET ON A REGULAR BASIS TO:

- (1) Implement and oversee the Agreement procedures and initiatives;
- (2) Monitor the effectiveness of the Agreement; and
- (3) Identify opportunities to improve efficiency and Work execution.

SECTION 2. COMPOSITION

The LAC will be co-chaired by the President of the Building and Construction Trades Council or his designee, and designated official of UC. It will be comprised of representatives of the local unions signatory to the project labor agreement (PLA) and representatives of the PMF and other contractors on the Project.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below; provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

- (a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the Work site representative of the involved Contractor. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence, or event giving rise to the grievance, or after the act, occurrence or event became known or should have become known to the Union. The business representative of the Local Union or the job steward and the Work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor and the General Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, the provisions of the Agreement alleged to have been violated.

Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved, unless the settlement is accepted in writing, by the General Contractor, as creating a precedent.

- (b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the BTC, the involved Contractor, and the General Contractor shall meet in Step 2 within 5 calendar days of the written grievance to arrive at a satisfactory settlement.

Step 3:

- (a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 14 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants) to J.J. Pierson, who shall act as the Arbitrator under this procedure. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitration's shall be borne equally by the involved Contractor and Local Union.
- (b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the PMF, involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding

30 calendar days prior to the date of service of the written grievance on the construction Project Manager and the involved Contractor or Local Union.

SECTION 3. PARTICIPATION BY GENERAL CONTRACTOR

The General Contractor shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1. NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the Work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2. ASSIGNMENT

- A. There shall be a mandatory pre-job markup/assignment meeting prior to the commencement of any Work. Attending such meeting shall be designated representatives of the Union signatories to this Agreement, the PMF, and the involved Contractors. Best efforts will be made to schedule the pre-job meeting in a timely manner after Notice to Proceed is issued but not later than 30 days prior to the start of the Project.
- B. All Project construction Work assignments shall be made by the Contractor according to the area practice.

SECTION 3. PROCEDURE FOR SETTLEMENT OF LABOR DISPUTES

- A. Any Union having a jurisdictional dispute with respect to Project Work assigned to another Union will submit the dispute in writing to the Administrator, Plan for the Settlement of Jurisdictional Disputes in the Construction Industry ("the Plan") within 72 hours and send a copy of the letter to the other Union involved, the Contractor involved, the General Contractor, the BTC, and the district or area councils of the unions involved. Upon receipt of a dispute letter from any union, the Administrator will invoke the procedures set forth in the Plan to resolve the jurisdictional dispute. The jurisdictional dispute letter shall contain the information described in Article IV of the Plan.
- B. Within 5 calendar days of receipt of the dispute letter, there shall be meeting of the General Contractor, the Contractor involved, the Local Unions involved and designees of the BTC and the district or area

councils of the Local Unions involved for the purpose of resolving the jurisdictional dispute.

- C. In order to expedite the resolution of jurisdictional disputes, the parties have agreed in advance to select Plan Arbitrator Pierson to hear all unsolved jurisdictional disputes arising under this Agreement. All other rules and procedures of the Plan shall be followed. If Plan Arbitrator Pierson is not available to hear the dispute within the time limits of the Plan, the Plan's arbitrator selection process shall be utilized to select another arbitrator. In the event that a union involved in the dispute is not a member of the BTC, the dispute shall be submitted directly to Arbitrator Pierson.
- D. The Arbitrator will render a short-form decision within 5 days of the hearing based upon the evidence submitted at the hearing, with a written decision to follow within 30 days of the close of hearing.
- E. This Jurisdictional Dispute Resolution Procedure will only apply to Work performed by Local Unions at the Project.
- F. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with Section 2 above and without disruption of any kind.

SECTION 4. AWARD

Any jurisdictional award pursuant to Section 3 shall be final and binding on the disputing Local Unions and the involved Contractor on this Project only, and may be enforced in any court of competent jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement. In all disputes under this Article, the General Contractor and the involved Contractors shall be considered parties in interest.

SECTION 5. LIMITATIONS

The Jurisdictional Dispute Arbitrator shall have no authority to assign Work to a double crew, that is, to more employees than the minimum required by the Contractor to perform the Work involved; nor to assign Work to employees who are not qualified to perform the Work involved; not to assign Work being performed by non-union employees to union employees. This does not prohibit the establishment, with the agreement of the involved Contractor, of composite crews where more than 1 employee is needed for the job. The aforesaid determinations shall decide only to whom the disputed Work belongs.

SECTION 6. NO INTERFERENCE WITH WORK

There shall be no interference or interruption of any kind with the Work of the Project while any jurisdictional dispute is being resolved. The Work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

ARTICLE 11 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the Work performed and paid the base hourly wage rates for those classifications as specified in the attached Schedules A, as amended during this Agreement. Recognizing, however, that special conditions may exist or occur on the Project, the parties, by mutual agreement may establish rates and/or hours for one or more classifications, which may differ from Schedules A. Parties to such agreements shall be the General Contractor, the Contractor involved, the involved Local Unions and the BTC.

SECTION 2. EMPLOYEE BENEFIT FUNDS

- A. The Contractors agree to pay contributions on behalf of all employees covered by this Agreement to the established employee benefit funds in the amounts designated in the appropriate Schedule A; provided, however, that the Contractor and the Union agree that only such bona fide employee benefits as are explicitly required under N.J.S.A 34:11-56.30 of the New Jersey State Labor Law shall be included in this requirement and paid by the Contractor on this Project. Bona fide jointly trusted fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly protected under N.J.S.A. 34:11-56-30. Contractors shall not be required to contribute to non-N.J.S.A 34:11-56.30 benefits, trusts or plans.
- B. The Contractor agrees to be bound by the written terms of the legally established Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to Work done on this Project and only for those employees to whom this Agreement requires such benefit Payments.
- C. Should any Contractor or sub-contractor become delinquent in the payment of contributions to the fringe benefit funds, then the subcontractor at the next higher tier, or upon notice of the delinquency claim from the

Union or the Funds, agrees to withhold from the subcontractor such disputed amount from the next advance, or installment payment for Work performed until the dispute has been resolved.

ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

- A. The standard work week shall consist of 40 hours of work at straight time rates per one of the following schedules:
 - (1) Five-Day Work Week: Monday-Friday, 5 days, 8 hours plus 1/2 hour unpaid lunch period each day.
 - (2) Four-Day Work Week: Monday-Thursday; 4 days, 10 hours plus 1/2 hour unpaid lunch period each day.
- B. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 7:30 p.m. Starting and quitting times shall occur at the employees' place of work as may be designated by the Contractor.
- C. Scheduling - The Contractor shall have the option of scheduling either a five-day work week, or four-day work week (when mutually agreed upon on a craft-by-craft basis). The Contractor shall also has the option to set the work day hours consistent with Project requirements, the Project schedule, and minimization of interference with County operations traffic flow. When conditions beyond the control of the Contractor, such as severe weather, power failure, fire or natural disaster, prevent the performance of Project Work on a regularly scheduled work day, the Contractor may, with mutual agreement of the Local Union on a craft-by-craft basis, schedule Friday (where on 4, 10's) during the calendar week in which a workday was lost, at straight time pay; providing the employees involved work a total of 40 hours or less during that work week.
- D. Notice - Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hours schedules to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2. OVERTIME

Overtime pay for hours outside of the standard work week and work day, described in paragraph A above, shall be paid in accordance with the applicable Schedule A. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who shall be worked, except as noted in Article 5, Section 2. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime.

SECTION 3. SHIFTS

- A. Flexible Schedules - Scheduling of shift work shall remain flexible in order to meet Project schedules and existing Project conditions including the minimization of interference with County operations. It is not necessary to work a day shift in order to schedule a second shift. Shifts must be worked a minimum of five consecutive work days, must have prior approval of the Construction Project Manager and must be scheduled with not less than five work days notice to the Local Union.
- B. Second/Shift - The second shift (starting between 2 p.m. and 8p.m.) shall consist of 8 hours work (or 10 hours of work) for an equal number of hours pay at the straight time rate plus 15% in lieu of overtime and exclusive of a 1/2 hour unpaid lunch period.
- C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Project requirements subject to the notice requirements of paragraph A.
- D. Four Tens - When working a four-day work week, the standard work day shall consist of 10 hours work for 10 hours of pay at the straight time rate exclusive of an unpaid 1/2 hour meal period and regardless of the starting time. This provision is applicable to night shifts only, and such night shifts are subject to the shift differential in paragraph B above.
- E. It is agreed that when Project circumstances require a deviation from the above shifts, the involved unions, Contractors and the General Contractor shall adjust the starting times of the above shifts or establish shifts which meet the Project requirements. It is agreed that neither party will unreasonably withhold their agreement.

SECTION 4. HOLIDAYS

- A. Schedule - There shall be 8 recognized holidays on the Project:

New Years Day	Labor Day
Presidents Day	Veterans Day
Memorial Day	Thanksgiving Day
Fourth of July	Christmas Day

*Work shall be scheduled on Good Friday pursuant to the craft's Schedule

- A.

All said holidays shall be observed on the dates designated by New Jersey State Law. In the absence of such designations, they shall be observed on the calendar date except those holidays which occur on

Sunday shall be observed on the following Monday. Holidays falling on Saturday are to be observed on the preceding Friday.

- B. Payment - Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.
- C. Exclusivity - No holidays other than those listed in Section 4-A above shall be recognized nor observed except in Presidential Election years when Election Day is a recognized holiday.

SECTION 5. REPORTING PAY

- A. Employees who report to the Work location pursuant to regular schedule and who are not provided with work or whose work is terminated early by a Contractor, for whatever reason, shall receive minimum reporting pay in accordance with the applicable Schedule A.
- B. When an employee, who has completed their scheduled shift and left the Project site, is "called back" to perform special Work of a casual, incidental or irregular nature, the employee shall receive pay for actual hours worked with a minimum guarantee, as may be required by the applicable Schedule A.
- C. When an employee leaves the job or Work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.
- D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special payments of any kind.
- E. There shall be no pay for time not actually worked except as specifically set forth in this Agreement and except where an applicable Schedule A requires a full weeks pay for forepersons.

SECTION 6. PAYMENT OF WAGES

- A. Payday - Payment shall be made by check, drawn on a New Jersey bank with branches located within commuting distance of the job site. Paychecks shall be issued by the Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.

- B. Termination-Employees who are laid-off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractors shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 7. EMERGENCY WORK SUSPENSION

A Contractor or PMF may, if considered necessary for the protection of life and /or safety of employees or others, suspend all or a portion of Project Work. In such instances, employees will be paid for actual time worked; provided, however, that when a Contractor request that employees remain at the job site available for Work, employees will be paid for "stand-by" time at their hourly rate of pay.

SECTION 8. INJURY/DISABILITY

An employee who, after commencing Work, suffers a work-related injury or disability while performing work duties, shall received no less than 8 hours wages for that day. Further, the employee shall be rehired at such time as able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

SECTION 9. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 10. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the Work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

SECTION 11. BREAK PERIODS

There will be not rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's Work location. Local area practice will prevail for coffee breaks that are not organized.

ARTICLE 13 – APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications as are contained in the applicable Schedule A in a ratio not to exceed 25% of the work force by craft (without regard to whether a lesser ratio is set forth in Schedule A), unless the applicable Schedules A provide for a higher percentage. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule A.

SECTION 2. DEPARTMENT OF LABOR

To assist the Contractors in attaining a maximum effort on this Project, the Unions agree to work in close cooperation with, and accept monitoring by, the New Jersey State and Federal Departments of Labor to ensure that minorities, women, or economically disadvantaged are afforded opportunities to participate in apprenticeship programs which result in the placement of apprentices on this Project. To further ensure that this Contractor effort is attained, up to 50% of the apprentices placed on this Project should be first year, minority, women or economically disadvantaged apprentices. The Local Unions will cooperate with Contractor request for minority, women or economically disadvantaged referrals to meet this Contractor effort.

ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA requirements and other requirements set forth in the contract documents are at all times maintained on the Project and the employees and Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and the Owner from injury or harm. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the PMF for this Project. Such rules will be published and posted in conspicuous places throughout the Project.

SECTION 3. INSPECTIONS

The Contractors and PMF retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or age in any manner prohibited by law or regulation. It is recognized that special procedures maybe established by Contractors and Local Unions and the New Jersey State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The parties to this Agreement will assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project.

SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16 - GENERAL TERMS

SECTION 1. PROJECT RULES

The Project Management Firm and the Contractors shall establish such reasonable Project rules as are appropriate for the good order of the Project, provided they do not violate the terms of this agreement. These rules will be explained at the pre-job conference and posted at the Project site and may be amended thereafter as necessary. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2. TOOLS OF THE TRADES

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the Work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses; travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement and in Schedule A limited to travel expenses.

SECTION 5. FULL WORK DAY

Employees shall be at their staging area at the starting time established by the Contractor and shall be returned to their staging area by quitting time after performing their assigned functions under the supervision of the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION

The Project Management Firm and the Unions will cooperate in seeking any New Jersey statutory Department of Labor approvals that may be required for implementation of any terms of this Agreement.

ARTICLE 17 - SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of the Agreement shall remain in full force and effect. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction where the Contractor voluntarily accepts the Agreement. The parties to this Agreement will enter into negotiations for a substitute provision in conformity with the law and the intent of the parties for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the General Contractor's bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law such requirement shall be rendered, temporarily or permanently, null and void but the Agreement shall remain in full force and effect to the extent allowed by law. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in constructions where the Contractor voluntarily accepts the Agreement. The parties will

enter in to negotiations as to modifications to the Agreement to reflect the court action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither UC, the Project Management Firm, or any Contractor, or any signatory Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order, injunction or determination. Project bid specifications will be issued in conformance with court orders in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

ARTICLE 18 – FUTURE CHANGES IN SCHEDULE “A” AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

- A. Schedules “A” to this Agreement shall continue to full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements which are the basis for Schedules A notify the General Contractor in writing of the mutually agreed upon changes in provisions of such agreements which are applicable to the Project, and their effective dates.
- B. It is agreed that any provisions negotiated into Schedules “A” collective bargaining agreements will not apply to work on this Project than those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provisions be recognized or applied on this Project if it may be construed to apply exclusively, or predominantly, to work covered by this Project Agreement.
- C. Any disagreement between signatories to this Agreement over the incorporation into Schedules “A” of provisions agreed upon in the negotiations of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be not strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project by any Local Union involved in the renegotiations of Area Local Collective Bargaining Agreements nor shall there be any lock-out on the Project affective a Local Union during the course of such renegotiations.

IN WITNESS WHEREOF the parties hereto have, either individually or by their duly authorized representative, caused this Agreement to be executed and to become effective as of the _____ day of _____, 2011.

ATTEST:

JAMES E. PELLETTIERE, CLERK
Board of Chosen Freeholders

APPROVED AS TO FORM

ROBERT E. BARRY, ESQ.
County Counsel

ATTEST:

Corporate Secretary/Notary Public

Print Name

ATTEST:

Corporate Secretary/Notary Public

Print Name

COUNTY OF UNION

By: _____
ALFRED FAELLA
County Manager

CONTRACTOR

President/Authorized Signatory

Print Name

Print Title

CONSTRUCTION MANAGER FIRM

President/Authorized Signatory

Print Name

Print Title

UNION COUNTY BUILDING & CONSTRUCTION TRADES COUNCIL

and on behalf of the following: Asbestos Local #32, Boilermakers Local #28, Bricklayers Local #4, Carpenters Local #715, Electricians Local #102, Elevator Construction Local #1, Ironworkers Local #480, Laborers Local #394, Operating Engineers Local #825, Painters Local #711, Plumbers Local #24, Roofers Local #4, Sheet Metal Workers Local #22, Sheet Metal Workers Local #25, Sheet Metal Workers Local #137, Sprinkler Fitters Local #696, Steam Fitters Local #475, Teamsters Local #408

ATTEST:

Witness

Print Name

**LETTER OF ASSENT REQUIRED FROM ALL SUBCONTRACTORS
(OF ANY TIER)**

County of Union Project Labor Agreement

The undersigned, as a Contractor(s) or Subcontractor(s) on a Contract which is part of the _____ Project, for and in consideration of the award of a Contract to perform Work on said Project, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

- (1) On behalf of itself and all its employees, accepts and agrees to be bound by terms and conditions of the Project Labor Agreement, together with any and all amendments and supplements now existing or which are later made thereto, and understands that any act of non-compliance with all such terms and conditions, including but not limited to, evidence of compliance with the pre-employment controlled substance testing, will subject the non-complying Contractor or employee(s) to being prohibited from the Project Site until full compliance is obtained.

- (2) Certified that it has no commitments or agreements, which would preclude its full compliance with the terms and conditions of said Project Labor Agreement.

- (3) Agrees to secure from any Contractor(s) (as defined in said Project Labor Agreement) which is or becomes a Subcontractor(s) (of any tier), a duly executed Letter of Assent in form identical to this document prior to commencement of any Work.

DATED:

Name of Contractor/Company

Signature of Authorized Representative

Print Name and Title

General Contractor

Contract Number (BA#)

*** To be signed if Project is subject to Project Labor Agreement – See Section 54.**

57. BID PROTEST – LEGAL FEES AND COSTS

In the event a Bidder unsuccessfully challenges a Bid Submission by filing an action in a court of law concerning same, said Bidder shall be responsible for payment of reasonable legal costs and fees incurred by the County relating to said protest.

58. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE

Bidder shall comply with the requirements of NJSA 40A:11-18 and use only manufactured and farm products of the United States, wherever available, for the Project.

59. NEW JERSEY PAY-TO-PLAY REQUIREMENTS

This Contract is required by law to be publicly advertised for bids. As such, lists of political contributions pursuant to NJSA 19A:44A-1 et. seq. are NOT REQUIRED to be provided with the bids.

60. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

Pursuant to NJSA 40A:11-20 entitled Certificate of Bidder Showing Ability to Perform Contract, the County requires a Certification from all bidders submitting a bid showing that the Bidder owns, leases, or controls all necessary equipment required by the Project Plans and Specifications. All bidders shall provide this information at the time of the bid opening using the attached form entitled, "CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT".

If the Bidder is not the actual owner of the equipment, it shall state the source from which the equipment will be obtained and shall attach a certificate from the owner or person in control of the equipment demonstrating that the equipment owner has granted the Bidder control of the requisite equipment during such time as may be necessary for completion of the portion of the contract for which the equipment is necessary.

61. NEW JERSEY SALES AND USE TAX REQUIREMENTS,

Contractors are required to comply with the following:

New Jersey Sales and Use Tax Requirements: All contractors with subcontractors, or any of their affiliates, who enter into contracts for the provision of goods or services with or for New Jersey local government entities, are required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax due on all of their sales of tangible personal property delivered into the State of New Jersey pursuant to the "Sales and Use Tax Act," (NJSA 54:32B-1 et, seq.), regardless of whether the tangible personal property is intended for a

contract with the contracting agency. This tax shall be remitted for the term of the Contract.

For purposes herein “affiliate” shall mean any entity that: (a) directly, indirectly, or constructively controls another entity, (b) is directly, indirectly, or constructively controlled by another entity, or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the ownership interest in that entity. NJSA 52:32-44(g)(3).

ALFRED J. FAELLA
COUNTY MANAGER

MICHAEL M. YUSKA, DIRECTOR
DIVISION OF PURCHASING

BID DOCUMENT SUBMISSION CHECKLIST

ALL SIGNATURES AND SEALS SHALL BE ORIGINALS UNLESS OTHERWISE SPECIFIED
BID SHEETS SHOULD NOT BE SUBMITTED DOUBLE SIDED PAGES, (SINGLE SIDE ONLY)

EACH BIDDER SHOULD COMPLETE THIS FORM AND INITIAL EACH ENTRY.

DATE COMPLETED: _____

IN ACCORDANCE WITH THE BID SPECIFICATIONS I HAVE REVIEWED, COMPLETED / EXECUTED AND INCLUDED THE FOLLOWING FORMS:

_____ Bid Form Page (**Signed, Dated and Bid on all alternatives applicable to the Work**).

_____ Security in the form of:

_____ Bid bond in an amount equal to 10% of the total amount of this bid not to exceed \$20,000.00; or

_____ Certified check or cashier's check in the amount of 10% of this bid not to exceed \$20,000.00

_____ Consent of Surety form signed by a Surety Company if the total amount of your Bid is over \$36,000.00. If your bid is accepted, the Surety Company that provided the Consent shall be required to furnish a Performance, Labor and Materials Bond in the amount of 100% of the award of the contract.

The County of Union has provided its Consent of Surety form for your use. The use of this form by your Surety Company will expedite the bid review process and eliminate the possibility of having your bid rejected. If, however, you should need to use another form, please use language similar to that used on the Union County form and avoid making any additions or deletions to the Union County form language. In lieu of the Consent of Surety you may submit a Certified Check in the full amount of the bid.

_____ STATEMENT OF BIDDER OWNERSHIP. Pursuant to N.J.S.A. 52:25-24.2, which includes **BOTH** of the following documents:

- Bidder Signature Page
- Bidder Disclosure Statement (**Fill out 2 pages completely**)

_____ SUBCONTRACTOR IDENTIFICATION. Pursuant to N.J.S.A. 40A:11-16, which includes **BOTH** of the following documents:

- Subcontractor Identification Statement: List of Subcontractors (**only for certain types of work**)
- Subcontractor Identification Certification

_____ Acknowledgement of Addendum form: (**This form is to be used only when an addendum has been added to the specifications**).

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** should be included with the bids as it must be received by the County prior to the award of the contract. The BRC provided must show that the Bidder was registered at the time of receipt of bids or the bid will be rejected.

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** of all named or listed subcontractors (List of Subcontractors) in a Construction bid should be included with the bid as the BRC(s) must be received by the County prior to the award of the contract. Each subcontractor's certificate provided must show that the subcontractor was registered at the time of the receipt of bids or the bid will be rejected.

- _____ Affirmative Action Requirement
- _____ Experience Statement
- _____ Certificate of Bidder showing ability to perform Contract
- _____ Non-Collusion Affidavit – Fill out completely and notarize
- _____ Certificates from New Jersey Department of Labor – Public Works Contractor Registration Act. **(Only for certain types of work)**
- _____ Federal Attachments **(If applicable)**
- _____ NJDPMC Certificate / Notice of Classification **(If applicable)**
- _____ Americans with Disabilities Act
- _____ Contractor Responsibility Certification
- _____ Affidavit of General Contractor and Subcontractor OSHA Compliance
- _____ Statement of Bidder's Qualifications
- _____ Contractor Performance Record
- _____ Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders
- _____ Prior Negative Experience Questionnaire
- _____ Contractor's Certification of Compliance – New Jersey Prevailing Wage Act
- _____ Uncompleted Contracts Affidavit **(For Bidder, if applicable) MUST ALSO PROVIDE DPMC FORM 701**
- _____ Certificate of Insurance Statement
- _____ Collection of Use Tax on Sales to Local Government Statement
- _____ Acknowledgement of Project Labor Agreement (PLA)
- _____ Time of Completion
- _____ Disclosure of Investment Activities in Iran form

I HAVE TAKEN THE FOLLOWING ACTIONS:

- _____ Visited the site and attended the **Mandatory Pre-Bid Meeting**
- _____ Reviewed the Contract Documents (including any permits the County or its professionals may have obtained), Work, Site, Locality, and Local Conditions and Laws and Regulations that in any manner may affect Cost, Progress, Performance or Furnishing of Work.
- _____ Reviewed Bond Requirements
- _____ Provided Proof of Compliance with New Jersey Prevailing Wage Act
- _____ Reviewed Form of Owner/Contractor Agreement and General Conditions to the Contract

NOTE: QUESTIONS PERTAINING TO THIS BID ARE TO BE DIRECTED TO DIVISION OF ENGINEERING AT 908-789-3675

BIDDING DOCUMENTS

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **OWNER-CONTRACTOR AGREEMENT (AIA 101) AND GENERAL CONDITIONS (AIA 201)**
- **SPECIFICATIONS:** As outlined in the Table of Contents and included in the Project Manual.
- **DRAWINGS:** As per List of Drawings, indicated on the Project Title Sheet.

Bidder's Name _____

BID FORM

I/We have carefully examined the plans, specifications, and advertisement for bid for the

**UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT PROJECT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA No. 30-2015; Union County Engineering Project No. 2010-035C**

that is on file in the Union County Division of Engineering. I/We have inspected the site of the work and will contract to do all the work and furnish all materials mentioned in said plans and specifications. Work will be accomplished in the manner prescribed therein.

BASE BID ITEMS:

(Identified individually for account and invoice purposes)

Item No. 1 – Ralph Oriscello Correctional Facility Elevator Modernization

Written

Figures

Item No. 2 – Ralph Oriscello Correctional Facility Roof Replacement

Written

Figures

TOTAL BASE BID ITEMS NO. 1 THRU 2:

(Sum total of all combined base bid items Nos. 1 – 2)

Written

Figures

ALLOWANCE NO. 1:
(Additional County Correctional Security Guard as required)

Two Hundred Twenty-Five Thousand Dollars
Written

\$225,000.00
Figures

ALLOWANCE NO. 2
(New control consoles [Total numbering 4] at First Floor Booking and Receiving and Main Command Center panel replacements)

Two Hundred Fifty Thousand Dollars
Written

\$250,000.00
Figures

BID CONTINGENCY: (To be used if and when directed by the County)

Four Hundred Thousand Dollars
Written

\$400,000.00
Figures

TOTAL BASE BID ITEMS NOS. 1, AND 2, PLUS ALLOWANCE NOS. 1 AND 2, PLUS BID CONTINGENCY AMOUNT:

Written

Figures

NOTE: Bid Contingency may include one-half of one percent of contract amount set aside for local training if and when directed by the County.

Bidder's Name _____

CONSENT OF SURETY
TO ACCOMPANY PROPOSAL (BID)

_____ (hereinafter called Surety), organized and existing under the laws of the State of _____ duly authorized and qualified to transact business in the State of New Jersey, in consideration of the sum of One Dollar (\$1.00), lawful money of the United States of America, to it in hand paid, receipt whereof is hereby acknowledged, and in consideration, hereby certifies and agrees that if the contract for which the attached proposal is made be awarded to _____ (hereinafter called Contractor) for the performance of certain work and labor or the supplying of certain materials, or both, as more particularly set forth in said proposal and described for purposes of this instrument as a proposal for _____ to the COUNTY OF UNION and if Contractor shall enter into the contract, Surety will become bound as surety for its faithful performance, labor and material payment and will provide the Contractor with a performance, labor and material payment bond in the full amount of the contract price.

NOTE:
Expiration date
Needed if Annual
Surety

NAME OF INSURANCE COMPANY
ADDRESS: _____

ORIGINAL SIGNATURE
ATTORNEY-IN-FACT FOR INSURANCE CO.

NOTE: PROOF OF AUTHORITY OF OFFICERS OF SURETY COMPANY TO EXECUTE THIS DOCUMENT MUST BE SUBMITTED.

BIDDER SIGNATURE PAGE

THE BIDDER MUST READ THE FOLLOWING INSTRUCTIONS TO COMPLETE THIS PAGE:

1. If doing business under a **trade name, partnership or a sole proprietorship**, you must submit the bid under exact title of the trade name, partnership, or proprietorship, and the bid must be signed by either the **owner**, or a **partner** and **witnessed** by a **notary public**.
2. If a **Corporation**, the bid must be signed by the **President** or **Vice President** and **witnessed** by a **Corporate Secretary** (corporate title must be exact) and **affix corporate seal**. If a Corporate Secretary does not exist, President or Vice President's signature shall be witnessed by a Notary Public.
3. Other persons **authorized** by **corporate resolution** to execute agreements in its behalf may also sign the bid documents (pages). **Copy of a resolution must accompany the bid.**
4. The person who signs this bid form **must also** sign the **Non-Collusion Affidavit**.
5. You **cannot** witness your own signature.

NAME OF BIDDER

ADDRESS OF BIDDER

**ORIGINAL SIGNATURE
CORPORATE SECRETARY**

**PRINT NAME AND TITLE
CORPORATE SECRETARY**

TEL: _____
FAX: _____
E-Mail: _____

BY: _____
ORIGINAL SIGNATURE

Corporate Seal

PRINT OR TYPE NAME AND TITLE

WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY SUPPLY THE INFORMATION REQUESTED ON THIS PAGE, YOUR BID MAY BE REJECTED.

Bidder's Name _____

BIDDER DISCLOSURE STATEMENT

N.J.S.A. 52:25-24.2 (P.L. 1977 c. 33)

Failure of the bidder/respondent to submit the required information is cause for automatic rejection.

CHECK ONE

I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued and outstanding stock of the undersigned.

OR

I certify that no one stockholder owns 10% or more of the issued and outstanding stock of the undersigned.

LEGAL NAME OF BIDDER: _____

Check the box that represents the type of business organization:

Partnership

Corporation

Sole Proprietorship

Limited Partnership

Limited Liability Company

Limited Liability Partnership

Subchapter S Corporation

Complete if the bidder/respondent is one of the 3 types of corporations:

Date Incorporated: _____ **Where Incorporated:** _____

BUSINESS ADDRESS:

Street Address	City	State	Zip Code
-----------------------	-------------	--------------	-----------------

Telephone #	Fax #
--------------------	--------------

Pursuant to N.J.S.A. 52:25-24.2, also referred to as P.L. 1977, c. 33, no corporation or partnership shall be awarded any contract for the performance of any work or the furnishing of any materials or supplies, unless, prior to the receipt of the bid or accompanying the bid of said corporation or partnership, there is submitted a statement setting forth the names and addresses of all stockholders in the corporation or partnership who own ten (10) percent or more of its stock of any class, or of all individual partners in the partnership who own a ten (10) percent or greater interest therein. Further, the Attorney General has concluded that the provisions of N.J.S.A. 52:25-24.2, in referring to corporations and partnerships, are intended to apply to all forms of business entities, including, but not limited to, corporations, limited partnerships, limited liability companies, limited liability partnerships, Subchapter S corporations, partnerships and sole proprietorships.

Bidders are required to disclose whether they are a partnership, corporation, limited liability company or sole proprietorship. The Stockholder Disclosure Certification form shall be completed, signed and notarized. Failure of the bidder to submit the required information is cause for automatic rejection of the bid.

BIDDER DISCLOSURE STATEMENT – (Continued)

N.J.S.A. 52:25-24.2, also referred to as **P.L. 1977, Ch. 33**, requires all corporate, limited liability and partnership bidders for state, county, municipal or school district contracts to submit a list of names and addresses of all stockholders owning 10% or more of their stock or 10% or more of the stock of the corporate stockholders or in the case of partnership or limited liability company, the names and addresses of those partners or owners owning 10% or greater interest in the partnership or limited liability company. Furthermore, the Union County Board of Chosen Freeholders requires a statement from all Bidders, which must indicate all Principals of Bidders.

You must set forth the name, home address, title and percentage of ownership of every person who is an owner of the bidder. You must also set forth the business form of the bidder.

II. Principals:

	NAME	HOME ADDRESS	TITLE	% OF OWNERSHIP
1.				
2.				
3.				
4.				

If one or more of the owners of the Bidder is itself a corporation, limited liability company or partnership, then for that corporation, limited liability company or partnership owner you must set forth the name, home address, title and percentage of ownership of every person who is an owner of that corporation, limited liability company or partnership.

	NAME	HOME ADDRESS	TITLE	% OF OWNERSHIP
1.				
2.				
3.				
4.				

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION STATEMENT

LIST OF SUBCONTRACTORS

This form is ONLY required for plumbing and gas fitting, steam and hot water heating and ventilating apparatus, steam power plants, electrical work, structural steel, ornamental iron work, and any other trades required to be identified by the specifications (including, but not limited, to satisfying any DPMC Classification requirements).

CHECK THIS BOX IF NONE OF THE ABOVE LISTED TRADES OR THOSE REQUIRED TO BE IDENTIFIED IN THE SPECIFICATIONS ARE TO BE USED TO PERFORM THE WORK

In compliance with N.J.S.A. 40A:11-16 and the bid specifications, the undersigned hereby lists the name or names of the following subcontractors:

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

IF MORE THAN THREE SUBCONTRACTORS, PLEASE COPY THIS SHEET AS NECESSARY AND ATTACH TO THE BID PACKAGE.

(Continued on following page)

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION CERTIFICATION

Note the law does not permit the listing of alternate subcontractors. However, multiple subcontractors for the same trade are permitted to be named provided the bidder meets the following requirements:

- Bidder identifies each subcontractor named for that category;
- Bidder states the scope of work, goods and services (the portion of the work) to be performed by each subcontractor; and
- Bidder provides the price quote provided by each subcontractor.

The bidder is advised that any change of subcontractor(s) from ones listed herein is subject to the County's approval. Change of subcontractor(s) will be approved only if made for good cause and not as a result of an arbitrary purpose.

The undersigned Bidder certifies and declares that the subcontractors listed above shall be used as subcontractors to complete certain portions of the work in this project as set forth in N.J.S.A. 40A: 11-16.

Witness

Date _____

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

Bidder's Name: _____

ACKNOWLEDGMENT OF ADDENDUM

COUNTY OF UNION

(Name of Construction /Public Works Project)

(Project or Bid Number)

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

Local Unit Reference Number or Title of Addendum/Revision	How Received (mail, fax, pick-up, etc.)	Date Received

ACKNOWLEDGMENT BY BIDDER:

NAME OF BIDDER: _____

ORIGINAL SIGNATURE: _____

PRINTED NAME AND TITLE: _____

DATE: _____

CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

New Mandatory Requirement - Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at www.nj.gov/treasury/revenue/taxreg.htm. Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

Note: A NJ Certificate of Authority is not acceptable.

FAILURE to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of a contract shall be cause to reject the bids.

FAILURE of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction work as well as non-construction bids.

IN ADDITION:

The contractor shall provide written notice to all **subcontractors and suppliers** not specifically named on the bid of the responsibility to register and submit proof of business registration to the contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

Before final payment on the contract is made by the contracting agency, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of the contract, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-44(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to section 1 of P.L.2001,c.134 (C.52:32-44 et al.) or subsection e. or f. of section 92 of P.L.1977,c.110 (C.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency.

Bidder's Name _____

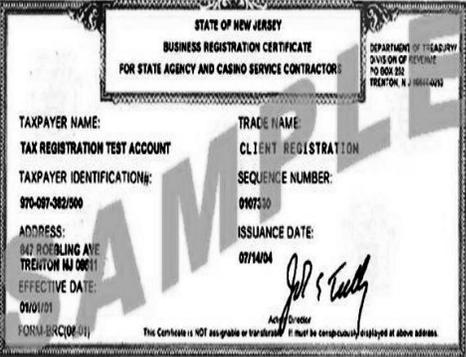
BUSINESS REGISTRATION
Mandatory Requirement

P.L. 2009, c.315, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be:

- A copy of a Business Registration Certificate issued by the Department of Treasury, Division of Revenue; or
- A copy of the web printed version provided by the NJ Division of Revenue

 <p>STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS</p> <p>TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT TRADE NAME: CLIENT REGISTRATION</p> <p>TAXPAYER IDENTIFICATION#: 070-097-382/000 SEQUENCE NUMBER: 0707310</p> <p>ADDRESS: 847 ROEBLING AVE TRENTON NJ 08611 ISSUANCE DATE: 07/14/04</p> <p>EFFECTIVE DATE: 01/01/01</p> <p>FORM BRC(02/04)</p> <p><i>John S. Early</i> Acting Director</p> <p><small>This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.</small></p>	 <p align="center">STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE</p> <p>Taxpayer Name: TAX REG TEST ACCOUNT</p> <p>Trade Name:</p> <p>Address: 847 ROEBLING AVE TRENTON, NJ 08611</p> <p>Certificate Number: 1093907</p> <p>Date of issuance: October 14, 2004</p> <p>For Office Use Only: 20041014112623533</p>
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ATTACH BRC HERE

Bidder's Name _____

AFFIRMATIVE ACTION REQUIREMENT

REQUIRED AFFIRMATIVE ACTION EVIDENCE

General Requirements of P.L. 1975, c. 127: You are hereby put on notice that:

CONSTRUCTION CONTRACTS: The successful contractor must submit within three (3) days of the notice of intent to award or the signing of the contract the initial project manning report (A.A.201). This report should be submitted at the time the signed contract is returned to the County of Union. Attention: *Affirmative Action Officer*.

If the successful contract does not submit the initial project manning report (A.A.201) within the three (3) days from the time the signed contract is returned to the County of Union, the County of Union WILL declare the contractor non-responsive and award the contract to the next lowest responsible bidder.

NAME OF BIDDER

ORIGINAL SIGNATURE

PRINT OR TYPE NAME AND TITLE

DATE THIS FORM IS COMPLETED

EXPERIENCE STATEMENT

I hereby certify that my company has performed the following private or public work, which is relevant to this bid. I further certify that my company has never defaulted under any contract. Should you not sign this form due to prior defaults, please provide details on an attached sheet.

Witness

Date

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

YOU MAY ATTACH ADDITIONAL SHEETS, BUT YOU MUST SIGN AND WITNESS THIS SHEET.

Contractor Registration Advisement
For Public Works Projects

A new law, known as "The Public Works Contractor Registration Act" (P.L. 1999, c.238), became effective April 11, 2000. Under the Act, no contractor/subcontractor will be permitted to bid on or engage in any contract for public work, as defined in Section 2 of P.L. 1963, c.150 (C:34:11-56.26), unless that contractor/subcontractor is registered with the New Jersey Department of Labor. The Act provides that upon registration with the Department, a public works contractor/subcontractor will be issued a certificate by the Department indicating compliance with the Act's requirements. The registration fee has been set at \$300.00 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

It is important to note that the term "contractor," is defined in the, Act as, "a person, partnership, association, joint stock company, trust, corporation or other legal business entity or successor thereof who enters into a contract which is subject to the provision of the "New Jersey Prevailing Wage Act," P.L. 1963, c.150 (C.34:11-56.25, et seq.) for the construction, reconstruction, demolition, alteration, repair or maintenance of a public building regularly open to and used by the general public or a public institution, and includes any subcontractor or lower tier subcontractor as defined herein: except that, for the purposes of the act, no pumping station, treatment plant or other facility associated with utility and environmental construction, reconstruction, demolition, alteration, repair or maintenance shall be regarded as a public building regularly open to and used by the general public or a public institution."

Registration forms, copies of the Act, and other relevant information can be obtained by contacting:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
PO Box 389
Trenton, New Jersey 08625-0389
Telephone: 609-292-9464
Fax: 609-633-8591
E-mail: contreg@dol.state.nj.us

Bidder's Name _____

AMERICANS WITH DISABILITIES ACT
EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The contractor and the County of Union (hereafter "Owner") do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C.S12.101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner's grievance procedure, the contractor agrees to abide by any decision of the Owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the Owner, or if the Owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The Owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the Owner or any of its agents, servants, and employees, the Owner shall expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or process received by the Owner or its representatives.

It is expressly agreed and understood that any approval by the Owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

Name _____ (Please print or type)

Signature _____ Date _____

Bidder's Name _____

CONTRACTOR RESPONSIBILITY CERTIFICATION

STATE OF NEW JERSEY / _____)

Specify, if Other) SS:

COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____ State of _____, of full age, being duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____, the Bidder making the proposal for the following Project ("Contractor"):

_____, and that I executed said proposal with full authority to do so;

With respect to past performance, work history, current qualifications and performance capabilities, I certify the following with respect to the Bidder/General Contractor and all of the subcontractors on this Project, I certify the following:

- a. The firms have all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, including, but not limited to, licenses, registrations, certificates required to: (1) do business in the designated locale; and (2) perform the contract work it seeks to perform. These include, but are not limited to, licenses, registrations or certificates for any type of trade work or specialty work to be self-performed by Bidder and/or subcontractors.
- b. The firms meet the bonding requirements for the contract, as required by applicable law or the specifications and any insurance requirements, as required by applicable law or the specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements.
- c. The firms have not been debarred by any federal, state or local government agency or authority in the past three (3) years.
- d. The firms have not defaulted on any project in the past three (3) years.
- e. The firms have not had any type of business, contracting or trade license, registration, or other certification suspended or revoked in the past three (3) years.

f. The firms have not been cited and found guilty for a willful violation of federal or state safety laws in the past three (3) years.

g. The firms and/or its owners have not been convicted of any crime relating to the contracting business by a final decision of a court or government agency in the past three (3) years.

h. The firms will pay all craft employees that it employs on the project the current wage rates and benefits as required under applicable Federal or State prevailing wage laws.

i. The firms participates in an Apprenticeship Program that is currently registered with the USDOL, the NJDOL or any state having equal to or higher requirements as either the USDOL or NJDOL apprenticeship programs, for each craft or trade in which it apprentices. The apprenticeship program in which the firm participates shall have graduated at least one (1) enrollee in each of the past three (3) years.

***** Proof of meeting this qualification standard shall be attached to this form. Bidder shall provide proof of meeting this qualification for those subcontractors required to be identified either pursuant to law or the requirements of the specifications.**

The firms shall continue to participate in the applicable apprenticeship programs for the full duration of the contract work.

Name of Bidder/General Contractor

By:_____

(Signature of Authorized Representative)

Subscribed and sworn to before me

this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/

Specify Other State

My Commission expires _____, 20__.

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

AFFIDAVIT OF GENERAL CONTRACTOR & SUBCONTRACTOR

OSHA COMPLIANCE

STATE OF NEW JERSEY / _____)

Specify, if Other) SS:

COUNTY OF _____)

In accordance with Union County Resolution 2014-0408 I, _____
_____, of the (City, Town, Borough, etc.) of _____
_____ State of _____, of full age, being duly sworn according to law on my oath
depose and say that:

- 1) I am _____ of the firm of _____
_____, the Bidder and General Contractor making the Proposal for the above named Project.
- 2) I have executed the said Proposal with full authority to do so.
- 3) Said Bidder/General Contractor and each subcontractor working on the Project have at least one (1) employee who has successfully completed the OSHA 10-hour construction safety and health course.
- 4) If this Project is in excess of \$500,000.00, the Bidder/General Contractor and each subcontractor working on the Project has at least one (1) employee who has successfully completed the OSHA 30-hour construction safety and health course.

Name of Bidder/General Contractor

By: _____

(Signature of Authorized Representative)

(Continued on next page)

Subscribed and sworn to before me

this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/

Specify Other State

My Commission expires _____, 20__.

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

1. _____
(Name of Bidder)
2. _____
(Permanent Main Office Address)
3. _____
(When Organized)
4. _____
(If a Corporation, where incorporated)
5. Number of years your organization has been engaged in construction or contracting business under present firm or trade name? _____
6. How many years of experience in construction work has your organization had (a) as a general contractor? And/or (b) As a subcontractor? _____
7. Contracts on hand: (Attach a list or table showing gross amounts of each Contract and the appropriate dates of completion) _____

8. General character of work performed by you. _____

9. Have you ever failed to complete any work awarded to you? _____

10. Have you ever defaulted on a Contract? _____ If so, complete details, including where and why?

Bidder's Name _____

STATEMENT OF BIDDER'S QUALIFICATIONS - (continued)

11. Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name? If so, state name of individual, name of owner, location and type of project, and reason for the failure to complete. _____

12. List your major equipment available for this Contract.

13. Experience in the construction work similar in importance to this Project.

14. Have you had any material adverse changes from the trades as listed in NJ Notice of Classification within last five (5) years? _____. If so, list prior classification.

15. Background and experience of the principal members of your organization, including the officers.

Individual's Name	Present Position or Office	Yrs. of Construction Experience	Magnitude & Type of Work	In What Capacity

16. Bank Reference. (Name, Address, Phone, Representative) _____
17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the proper agency? _____
18. The undersigned, hereby authorizes and requests any person, firm or corporation to furnish any information requested by the proper agency in verification of the responses comprising this Statement of Bidder's Qualifications.
17. Bidder's telephone number, fax number and e-mail address (if applicable).
- Phone _____
- Fax _____
- E-mail _____
- Mobile _____

Dated at _____ this _____ day of __, 20__.

BIDDER (Signature)

BIDDER (Print Name)

Subscribed and sworn to before me
this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires _____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH
YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name _____

CONTRACTOR PERFORMANCE RECORD

List all contracts completed by you below or provide separate form.

Name of Owner	Name & Location of Project: Type Of Work	Prime or Sub-Cont.	Engineer or Architect in Charge for Owner	Contract Price (Omit Cost)	Date Completed	Was Time* Extension Necessary	Were Any Penalties Imposed	Were Liens* Claims or Stop Notice Filed

* If answer is YES, provide explanation of details in connection with non-completion of contracts, time extensions, penalties imposed, labor troubles, liens, claims and notices filed against contracts listed in preceding item "Performance Record" on an attached sheet.

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

CERTIFICATION

The information above is true and complete to the best of my knowledge and belief.

(Name of Organization)

(Signature)

(Title)

Subscribed and sworn to before me
This _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires _____, 20__.

PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE

(N.J.S.A. 40A:11-4)

1. Within the past ten (10) years, have you been found, through either court adjudication, arbitration, mediation, or other contractually stipulated alternate dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract with a public entity?

_____ yes _____ no If yes, please provide full, detailed explanation.

2. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to utilize the services of another contractor to provide the goods or perform the services or to correct or complete the contract?

_____ yes _____ no If yes, please provide full, detailed explanation.

3. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to look to your surety for completion of the contract or tender of the costs of completion?

_____ yes _____ no If yes, please provide full, detailed explanation.

4. Within the past ten (10) years, have you been debarred or suspended from contracting with any of the agencies or department of the executive branch of the State of New Jersey at the time of the contract award, where the action was based on failure to perform a contract for goods or services with a public entity?

_____ yes _____ no If yes, please provide full, detailed explanation.

Bidder's Name _____

PRIOR NEGATIVE EXPERIENCE CERTIFICATION

I hereby certify that the above statements are true and accurate as of this _____
day of _____, 20__.

Name of Contractor

By _____
(Signature of Authorized Representative)

Subscribed and sworn to before me
This _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires _____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR
PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name _____

TO BE COMPLETED ONLY WHEN FINAL PAYMENT IS REQUESTED

CONTRACTOR'S CERTIFICATION OF COMPLIANCE - NEW JERSEY PREVAILING WAGE ACT

TO: County of Union
Division of Engineering
2325 South Avenue
Scotch Plains, New Jersey 07076

CONTRACT:

PROJECT:

In accordance with the requirements of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56 et al *, the undersigned contractor on the public work being performed for:

COUNTY OF UNION

hereby certifies that he/she has complied with the contract requirements regarding the payment of the minimum prevailing wages established under "The New Jersey Prevailing Wage Act" N.J.S.A. 34:11-56 et al.

CONTRACTOR: _____
ADDRESS: _____

BY: _____
ORIGINAL SIGNATURE ONLY

STATE OF NEW JERSEY
COUNTY OF _____

Being by me duly sworn according to law, on his oath deposes and says that _____ is _____ of _____ the above named contractor, and that the facts set forth in the above statement are true.

Subscribed and sworn before me
this ____ day of _____, 200__.

Notary Public: _____
My Commission Expires: _____

* N.J.S.A. 34:11-56.33 requires the contractor and subcontractor to file written statements with the public body in form satisfactory to the Commissioner certifying to the amounts then due and owing from such contractor and subcontractor filing such statement to any and all workmen for wages due on account of the public work, setting forth therein the names of the persons whose wages are unpaid and the amount due to each respectively. Union County will withhold the amount so deducted for the benefit of the workmen whose wages are unpaid as shown by the verified statement filed, and will pay directly to any workman the amount shown by such statement to be due to him for such wages. Such payment shall thereby discharge the obligation of the contractor to the person receiving such payment to the extent of the amount thereof.

Bidder's Name _____

UNCOMPLETED CONTRACTS AFFIDAVIT
(To be Submitted with DPMC Form 701)

PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS

ENTITY	PROJECT TITLE	ORIGINAL CONTRACT AMOUNT	UNCOMPLETED AMOUNT AS OF BID OPENING DATE	NAME AND TELEPHONE NUMBER OF PARTY TO BE CONTACTED FROM ENTITY FOR VERIFICATION

TOTAL AMOUNT OF UNCOMPLETED CONTRACTS \$ _____

Sworn and Subscribed to Before me

This _____ day of _____ 20____

Notary Public

BIDDER:

(Signature)

(Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

CERTIFICATE OF INSURANCE STATEMENT

The Bidder fully understands the County of Union insurance requirements as stated in the Instructions to Bidders as well as the Owner/Contractor Agreement and agrees to provide all insurance required by these documents prior to the issuance of the Notice to Proceed.

BIDDER (Signature)

BIDDER (Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

COLLECTION OF USE TAX ON SALES TO LOCAL GOVERNMENTS STATEMENT

The Bidder fully understands the requirements of the use tax on sales to local governments as stated in the General Conditions to the Contract for Construction and the Instructions to Bidders, and agrees at all times to comply with the "Contractor Use Tax Collection Legislation", as defined therein, and the terms relating thereto contained in the Contract Documents.

BIDDER (Signature)

BIDDER (Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

ACKNOWLEDGEMENT OF PROJECT LABOR AGREEMENT
(Projects of \$5 Million or more irrespective of Phasing)

Contractor _____, hereby acknowledges that the within Project, upon which the undersigned has submitted a Bid Proposal, requires the execution of a Project Labor Agreement and the utilization of union employees. The undersigned agrees to execute the PLA and comply with all terms and conditions of same in the performance of the Work.

Attest:

Contractor:

By: _____

Bidder's Name _____

TIME OF COMPLETION

The undersigned proposed that if awarded the Contract, the scope of work will be started within ten (10) calendar days and will be substantially completed within six hundred and thirty **(630) calendar days** from the date of the notice to proceed. In addition to being in compliance with Division I General Requirements: **Section 0110 – Schedule and Phasing** requirements for all individual projects.

I, _____ of _____
NAME (Print or type) COMPANY

Agree to complete work in the time frame specified _____
SIGNATURE

SITE VISIT – GENERAL CONTRACTOR

I, _____ of _____
NAME (Print or type) COMPANY

Visited the site of the work on _____
SIGNATURE

**COUNTY OF UNION NEW JERSEY
Division of Purchasing**

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Solicitation Number: _____ Bidder/Offeror: _____

Pursuant to Public law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the person or entity.

I certify, pursuant to Public Law 2012, c. 25, that the person or entity listed above for which I am authorized to bid/renew:

s not providing goods or services of \$20,000,000 or more in the energy sector of Iran, including a person or entity that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipe lines used to transport oil or liquefied natural gas, for the energy sector of Iran,
AND

s not a financial institution that extends \$20,000,000 or more in credit to another person or entity, for 45 days or more, if that person or entity will use the credit to provide goods or services in the energy sector in Iran.

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above-referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the Division of Purchase under penalty of perjury. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN. You must provide, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

Name _____ Relationship to Bidder/Offeror _____

Description of Activities _____

Duration of Engagement _____ Anticipated Cessation Date _____

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN – (Continued)

Bidder/Offeror

Contact Name _____ Contact Phone Number _____

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above referenced person or entity. I acknowledge that Union County is relying on the information contained herein and hereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the County to notify the County in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with Union County, New Jersey and that the County at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print) _____ Signature _____

Title _____ Date _____



STATE OF NEW JERSEY
Department of Labor and Workforce Development
Division of Wage and Hour Compliance - Public Contracts Section
PO Box 389
Trenton, NJ 08625-0389

PREVAILING WAGE RATE DETERMINATION

The New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.) requires that the Department of Labor and Workforce Development establish and enforce a prevailing wage level for workers engaged in public works in order to safeguard their efficiency and general well being and to protect them as well as their employers from the effects of serious and unfair competition.

Prevailing wage rates are wage and fringe benefit rates based on the collective bargaining agreements established for a particular craft or trade in the locality in which the public work is performed. In New Jersey, these rates vary by county and by the type of work performed.

Applicable prevailing wage rates are those wages and fringe benefits in effect on the date the contract is awarded. All pre-determined rate increases listed at the time the contract is awarded must also be paid, beginning on the dates specified. Rates that have expired will remain in effect until new rates are posted.

Prevailing Wage Rate

The prevailing wage rate for each craft will list the effective date of the rate and the following information:

W = Wage Rate per Hour **B** = Fringe Benefit Rate per Hour* **T** = Total Rate per Hour

* Fringe benefits are an integral part of the prevailing wage rate. Employers not providing such benefits must pay the fringe benefit amount directly to the employee each payday. Employers providing benefits worth less than the fringe benefit amount must pay the balance directly to the employee each payday.

Unless otherwise stated in the Prevailing Wage Rate Determination, the fringe benefit rate for overtime hours remains at the straight time rate.

When the Overtime Notes in the Prevailing Wage Rate Determination state that the overtime rates are "inclusive of benefits," the benefit rate is increased by the same factor as the wage rate (i.e. multiplied by 1.5 for time and one-half, multiplied by 2 for double time, etc.).

Apprentice Rate Schedule

An "apprentice" is an individual who is registered with the United States Department of Labor - Office of Apprenticeship and enrolled in a certified apprenticeship program during the period in which they are working on the public works project.

The apprentice wage rate is a percentage of the journeyman wage rate, unless otherwise indicated. The apprentice benefit rate is the full journeyman benefit rate, unless otherwise indicated.

If there is no apprentice rate schedule listed, the individual must be paid at least the journeyman rate even if that individual is in a certified apprentice program for that trade.

If there is no ratio of apprentices to journeymen listed for a particular craft, then the ratio shall be one (1) apprentice to every four (4) journeymen.

Comments/Notes

For each craft listed there will be comments/notes that cover the definition of the regular workday, shift differentials, overtime, recognized holidays, and any other relevant information.

Public Works Contractor Registration

The Public Works Contractor Registration Act (N.J.S.A. 34:11-56.48, et seq.) requires that **all** contractors, subcontractors, or lower tier subcontractors who are working on or who bid on public works projects register with the Department of Labor and Workforce Development. Applications are available at www.nj.gov/labor (click on Wage & Hour and then go to Registration & Permits).

Pursuant to N.J.S.A. 34:11-56.51:

No contractor shall bid on any contract for public work as defined in section 2 of P.L.1963, c. 150 (C.34:11-56.26) unless the contractor is registered pursuant to this act. No contractor shall list a subcontractor in a bid proposal for the contract unless the subcontractor is registered pursuant to P.L.1999, c.238 (C.34:11-56.48 et seq.) at the time the bid is made. No contractor or subcontractor, including a subcontractor not listed in the bid proposal, shall engage in the performance of any public work subject to the contract, unless the contractor or subcontractor is registered pursuant to that act.

Snow Plowing

Snow plowing contracts are not subject to the New Jersey Prevailing Wage Act or the Public Works Contractor Registration Act.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Air Conditioning & Refrigeration - Service and Repair

PREVAILING WAGE RATE

	03/19/15
Journeyman (Mechanic)	W36.18 B21.10 T57.28

Expiration Date: 02/29/2016

Craft: Air Conditioning & Refrigeration - Service and Repair

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	As Shown	Mo. 1-3	Mo. 4-12	2nd Year	3rd Year	4th Year	5th Year		Wage = %	of Jnymn
Wage and Bene	50%	55%	60%	65%	75%	85%		Bene = %	of Jnymn	Bene

Ratio of Apprentices to Journeymen - 1:4

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 3-1-13:

INTERVAL	PERIOD AND RATES							
As Shown	1st Year	2nd Year	3rd Year	4th Year	5th Year		Wage =% of Jnymn Wage	
Wage and Benefit	40%	50%	60%	70%	80%		Bene. =% of Jnymn Wage	

Craft: Air Conditioning & Refrigeration - Service and Repair

COMMENTS/NOTES

THESE RATES MAY BE USED FOR THE FOLLOWING:

- Service/Repair/Maintenance Work to EXISTING facilities.
- Replacement or Installation of air conditioning and refrigeration equipment when the combined tonnage does not exceed 15 tons for refrigeration, or 25 tons for air conditioning.
- Replacement or Installation of "packaged" or "unitary" rooftop-type units when the combined tonnage of the units does not exceed 75 tons.

NOTE: These rates may NOT be used for any work in new construction (including work on new additions).

The regular workday shall consist of 8 hours, starting between 6:00 AM and 10:00 AM, Monday through Friday.

SHIFT DIFFERENTIALS:

- The second and third shifts shall be paid an additional 15% of the hourly rate.
- All shifts must run for a minimum of 5 consecutive days.

OVERTIME:

Hours worked in excess of 8 per day or before or after the regular workday, that are not shift work, and all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Boilermaker PREVAILING WAGE RATE

	01/09/15
Foreman	W45.00 B40.02 T85.02
General Foreman	W47.00 B41.00 T88.00
Journeyman	W41.00 B38.42 T79.42

Expiration Date: 12/31/2015

Craft: Boilermaker APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	32.33	33.20	34.08	34.94	35.82	36.69	37.55			

Ratio of Apprentices to Journeymen - *

* 1 apprentice will be allowed for the first 5 journeymen, 1 apprentice for the next 10 journeymen and 1 apprentice for each succeeding 20 journeymen up to a maximum of 5 apprentices per contractor on any one job.

Craft: Boilermaker COMMENTS/NOTES

HIGH WORK: All apprentices working on the erection, repair, or dismantling of smoke stacks, standpipes, or water towers shall be paid the Journeyman rate.

The regular workday shall consist of 8 hours, between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall work 7½ hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 10%.
- The third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the regular hourly rate plus 20%.
- For "Municipal Water Works" projects only, the following shall apply: Two, four day, 10 hour shifts may be worked at straight time Monday through Thursday. The day shift shall work four days, at 10 hours, for 10 hours pay. The second shift shall work four days, at nine and a half hours, for 10 hours pay, plus 10% the hourly rate for new work and .25 cents on repair work. Friday may be used as a make-up day at straight time, due to weather conditions, holiday or any other circumstances beyond the employer's control.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.
- If any other craft employed by the same contractor, or a subcontractor thereof, receives double time in lieu of time and one-half, then the Boilermaker shall receive double time in lieu of time and one-half.
- For "Municipal Water Works" projects only, the following shall apply: Four 10 hour days may be worked Monday through

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Thursday at straight time. Friday may be used as a make-up day for a day lost to inclement weather, holiday or other conditions beyond the control of the employer. Overtime shall be paid for any hours that exceed 10 hours per day or 40 hours per week.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Boilermaker - Minor Repairs

PREVAILING WAGE RATE

	01/09/15
Foreman	W30.29 B16.17 T46.46
General Foreman	W30.79 B16.17 T46.96
Mechanic	W28.79 B16.17 T44.96

Expiration Date: 12/31/2015

Craft: Boilermaker - Minor Repairs

COMMENTS/NOTES

NOTE: These rates apply to MINOR REPAIR WORK ONLY (repair work in the field for which the contract amount does not exceed \$20,000.00).

OVERTIME:

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays (except Labor Day) shall be paid at double the hourly rate. All hours on Labor Day shall be paid at four times the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Thanksgiving Day, day after Thanksgiving, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Bricklayer, Stone Mason

PREVAILING WAGE RATE

	05/01/15
Deputy Foreman	W41.25 B29.83 T71.08
Foreman	W44.25 B29.83 T74.08
Journeyman	W38.25 B29.83 T68.08

Expiration Date: 04/30/2016

Craft: Bricklayer, Stone Mason

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	40%	50%	55%	60%	65%	70%	75%	80%		
Benefits	3.72	4.65	5.12	5.58	19.73	21.04	22.35	23.65		

Ratio of Apprentices to Journeymen - 1:5

Craft: Bricklayer, Stone Mason

COMMENTS/NOTES

The regular workday shall consist of 8 hours, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- When a 2 shift schedule (including a day shift) is established, the first, or day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15%, inclusive of benefits, and the third shift shall receive the regular rate plus 20%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 15%, inclusive of benefits, and the third shift shall receive the regular rate plus 20%, inclusive of benefits.

OVERTIME:

- The first 2 hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. The first 10 hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime shall be paid at double the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday may be used as a make-up day for hours lost to inclement weather.
- When Bricklayers/Stone Masons work on Saturday with Laborers, and no other crafts are working on the project for the day, benefits may be paid at straight time. If other crafts are present, the applicable overtime rate for benefits shall be paid.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Carpenter - Resilient Flooring

PREVAILING WAGE RATE

	05/12/15
Foreman	W51.22 B28.68 T79.90
Journeyman	W44.54 B24.94 T69.48

Expiration Date: 10/31/2015

Craft: Carpenter - Resilient Flooring

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
Benefit	56%	of	Appren	tice	Wage	Rate		for all	intervals	

Ratio of Apprentices to Journeymen - *

* 1 apprentice shall be allowed to every 2 journeymen or major fraction thereof. No more than 3 apprentices on any one job or project.

Craft: Carpenter - Resilient Flooring

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- On any job where there are 4 or more Carpenters of Resilient Flooring, 1 must be designated a Foreman.

FOR SYNTHETIC TURF INSTALLATION ONLY:

- The rate shall be 90% of the wage and benefit rate.

The regular workday consists of 8 hours, starting between 6:00 AM and 9:00 AM.

SHIFT DIFFERENTIALS:

- When a 2 shift schedule (including a day shift) is established, the day shift, shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular wage rate plus 15%.

- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular wage rate, the second shift shall receive the regular wage rate plus 15% and the third shift shall receive the regular wage rate plus 20%.

- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular wage rate plus 15% and the third shift shall receive the regular wage rate plus 20%.

OVERTIME:

- Hours in excess of 8 per day or 40 per week, or before or after the regular workday, Monday through Friday, shall be paid at time and one-half the wage rate. Saturday may be used as a make-up day, at straight time, up to 8 hours, for hours lost to reasons beyond the control of the employer, up to a total of 40 hours per week; hours in excess of 8 on Saturday shall then be paid at time and one-half the wage rate. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the wage rate. All hours on Sundays and holidays shall be paid at double the wage rate.

- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for hours lost to reasons beyond the control of the employer. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the wage rate.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Cement Mason

PREVAILING WAGE RATE

See "Bricklayer, Stone Mason" Rates

Expiration Date:

Craft: Cement Mason

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									

Ratio of Apprentices to Journeymen - 1:4

Craft: Cement Mason

COMMENTS/NOTES

See "Bricklayer, Stone Mason" Rates

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Dockbuilder PREVAILING WAGE RATE

	05/01/15	11/01/15
Foreman	W49.57 B42.32 T91.89	W0.00 B0.00 T93.14
Foreman (Concrete Form Work)	W49.57 B34.48 T84.05	W0.00 B0.00 T85.30
Journeyman	W43.10 B42.32 T85.42	W0.00 B0.00 T86.67
Journeyman (Concrete Form Work)	W43.10 B34.48 T77.58	W0.00 B0.00 T78.83

Expiration Date: 04/30/2016

Craft: Dockbuilder APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	17.24	21.55	28.02	34.48						
Benefit	28.90	for all	intervals		Concrete	Form Work	Only Ben.	= 23.65	for all	intervals

Ratio of Apprentices to Journeymen - *

* When there are 4 or fewer Dockbuilders on a job, no more than 1 may be an apprentice. When there are 5 or more Dockbuilders, there may be 1 apprentice for every 5 Dockbuilders.

Craft: Dockbuilder COMMENTS/NOTES

CREOSOTE HANDLING:

When handling creosote products on land piledriving, floating marine construction, and construction of wharves, the worker shall receive an additional \$0.25 per hour.

HAZARDOUS WASTE WORK:

- Hazardous waste removal work on a state or federally designated hazardous waste site where Level A, B, or C personal protection is required: an additional 20% of the hourly rate, per hour.
- Hazardous waste removal work in Level D, or where personal protection is not required: an additional \$1.00 per hour.

CERTIFIED WELDER: When required on the job by the project owner, a Certified Welder shall receive an additional \$1.00 per hour.

FOREMAN REQUIREMENTS:

The first Dockbuilder on the job shall be designated a Foreman.

OVERTIME:

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Veterans' Day may be switched with the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Drywall Finisher

PREVAILING WAGE RATE

	05/04/15	05/01/16	05/01/17
Foreman	W41.80 B22.60 T64.40	W43.05 B22.60 T65.65	W44.30 B22.60 T66.90
General Foreman	W43.70 B22.60 T66.30	W44.95 B22.60 T67.55	W46.20 B22.60 T68.80
Journeyman	W38.00 B22.60 T60.60	W39.25 B22.60 T61.85	W40.50 B22.60 T63.10

Expiration Date: 04/30/2018

Craft: Drywall Finisher

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	9.85	Intervals	4 to 6 =	12.28	Intervals	7 to 9 =	14.95	

Ratio of Apprentices to Journeymen - 1:4

Craft: Drywall Finisher

COMMENTS/NOTES

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.
- Shift work must run for a minimum of 5 consecutive workdays.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician

PREVAILING WAGE RATE

	06/02/15	05/30/16	05/29/17	05/28/18
Cable Splicer	W57.52 B32.88 T90.40	W58.71 B33.74 T92.45	W60.08 B34.53 T94.61	W61.52 B35.35 T96.87
Foreman	W58.56 B33.47 T92.03	W59.77 B34.34 T94.11	W61.17 B35.15 T96.32	W62.64 B35.98 T98.62
Journeyman	W52.29 B29.90 T82.19	W53.37 B30.67 T84.04	W54.62 B31.39 T86.01	W55.93 B32.13 T88.06

Expiration Date: 05/31/2019

Craft: Electrician

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	49%	58%	68%	80%		of Jour	neyman	Wage	Rate
Yearly	40%	49%	58%	68%	80%		of Jour	neyman	Wage	Rate
Benefit	40%	49%	58%	68%	80%		of Jour	neyman	Benefit	Rate

Ratio of Apprentices to Journeymen - 2:3

Craft: Electrician

COMMENTS/NOTES

THESE RATES ALSO APPLY TO THE FOLLOWING:

- All burglar and fire alarm work.
- All fiber optic work.
- Teledata work in new construction.
- Teledata work involving 16 Voice/Data Lines or more.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:

- On any job where there are 1 to 10 Journeymen electricians, 1 shall be designated a Foreman.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

OVERTIME:

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician - Teledata (15 Voice/Data Lines & Less)

PREVAILING WAGE RATE

	12/04/14
Master Technician/General Foreman	W49.84 B28.49 T78.33
Senior Technician/Lead Foreman (21-30 Workers on Job)	W45.62 B26.08 T71.70
Technician A/Foreman (11-20 Workers on Job)	W43.71 B24.99 T68.70
Technician B/Working Foreman (4-10 Workers on Job)	W41.79 B23.89 T65.68
Technician C/Journeyman (1-3 Workers on Job)	W38.34 B21.92 T60.26

Expiration Date: 11/01/2015

Craft: Electrician - Teledata (15 Voice/Data Lines & Less)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	19.20	20.48	22.62	25.18	28.16	30.72	33.71	36.70		
Benefits	7.96	8.49	9.38	10.44	11.68	12.74	13.98	15.22		

Ratio of Apprentices to Journeymen - 2:3

Craft: Electrician - Teledata (15 Voice/Data Lines & Less)

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 10-31-14:

INTERVAL	PERIOD AND RATES									
6 Months	17.07	18.35	20.48	23.04	26.03	28.59	31.58	34.56		
Benefits	7.08	7.61	8.49	9.56	10.79	11.86	13.09	14.33		

NOTES:

- These rates are for service, maintenance, moves, and/or changes affecting 15 Voice/Data (teledata) lines or less. These rates may NOT be used for any teledata work in new construction (including additions) or any fiber optic work.
- The number of Teledata workers on the jobsite is the determining factor for which Foreman category applies.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM) shall receive 8 hours pay for 7.5 hours work + an additional 10% of the regular rate, per hour, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM) shall receive 8 hours pay for 7 hours work + an additional 15% of the regular rate, per hour, inclusive of benefits.

OVERTIME:

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Electrician - Teledata (16 Instruments & More)

PREVAILING WAGE RATE

See "Electrician" Rates

Expiration Date:

Craft: Electrician - Teledata (16 Instruments & More)

COMMENTS/NOTES

See ELECTRICIAN Rates

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician- Outside Commercial

PREVAILING WAGE RATE

	08/20/15	05/30/16	05/29/17	05/28/18
Cable Splicer	W57.79 B32.60 T90.39	W58.99 B33.46 T92.45	W60.37 B34.24 T94.61	W61.82 B35.06 T96.88
Certified Welder	W55.17 B31.13 T86.30	W56.31 B31.94 T88.25	W57.62 B32.68 T90.30	W59.01 B33.47 T92.48
Equipment Operator	W52.54 B29.64 T82.18	W53.63 B30.42 T84.05	W54.88 B31.13 T86.01	W56.20 B31.88 T88.08
Foreman (1-10 Journeyman workers on job)	W58.84 B33.20 T92.04	W60.07 B34.07 T94.14	W61.47 B34.86 T96.33	W62.94 B35.70 T98.64
Foreman (11-20 Journeyman workers on job)	W60.42 B34.09 T94.51	W61.67 B34.98 T96.65	W63.11 B35.79 T98.90	W64.63 B36.66 T101.29
General Foreman (21-30 Journeyman workers on job)	W62.00 B34.98 T96.98	W63.28 B35.89 T99.17	W64.76 B36.73 T101.49	W66.32 B37.61 T103.93
General Foreman (31-60 Journeyman workers on job)	W67.25 B37.94 T105.19	W68.65 B38.94 T107.59	W70.25 B39.84 T110.09	W71.94 B40.80 T112.74
General Foreman (61+ Journeyman workers on job)	W68.30 B38.53 T106.83	W69.72 B39.54 T109.26	W71.34 B40.46 T111.80	W73.06 B41.44 T114.50
Groundman	W31.52 B17.79 T49.31	W32.18 B18.26 T50.44	W32.93 B18.68 T51.61	W33.72 B19.13 T52.85
Journeyman Lineman/Technician	W52.54 B29.64 T82.18	W53.63 B30.42 T84.05	W54.88 B31.13 T86.01	W56.20 B31.88 T88.08
Sub-Foreman	W58.84 B33.20 T92.04	W60.07 B34.07 T94.14	W61.47 B34.86 T96.33	W62.94 B35.70 T98.64

Expiration Date: 05/31/2019

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician- Outside Commercial

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	65%	70%	75%	80%	85%	90%			
Benefits	56.4% of	Journey	man	wage	+.01					

Craft: Electrician- Outside Commercial

COMMENTS/NOTES

EFFECTIVE 5-30-16- The apprentice benefit rate shall be 56.7% + \$.01.
 EFFECTIVE 5-29-17- The apprentice benefit rate shall be 56.7% + \$.01.
 EFFECTIVE 5-28-18- The apprentice benefit rate shall be 56.7% + \$.01.

* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

The regular worday shall be 8 hours, between 8:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:

On jobs where there are 2 Journeymen, one shall be a Foreman. The following number of Foreman, General Foreman, Assistant General Foreman and Sub-Foreman shall be required with respect to number of Journeymen on site:

- 2-10 Journeymen (1 Foreman)
- 11-20 Journeymen (1 Foreman and 1 Sub-Foreman)
- 21-30 Journeymen (1 Foreman and 2 Sub-Foremen)

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM to 12:30 AM): 8 hrs. pay for 7.5 hrs. work + an additional 10% of the regular rate, inclusive of benefits.
- 3rd Shift (12:30 AM to 8:00 AM): 8 hrs. pay for 7 hrs. work + an additional 15% of the regular rate per hour, inclusive benefits.

OVERTIME:

Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, and all hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS:

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician-Utility Work (North)

PREVAILING WAGE RATE

Rates are located in the "Statewide" rate package

Expiration Date:

Craft: Electrician-Utility Work (North)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	62.5% of	Appren	tice	Wage	Rate	for all	intervals			

Craft: Electrician-Utility Work (North)

COMMENTS/NOTES

Electrician-Utility Work (North) rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Electrician-Utility Work (South)

PREVAILING WAGE RATE

Rates are located in the "Statewide" rate package

Expiration Date:

Craft: Electrician-Utility Work (South)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	26.27	28.46	30.65	32.84	35.03	37.22	39.41			
Benefits	21.83	23.08	24.32	25.57	26.81	28.06	29.32			

Craft: Electrician-Utility Work (South)

COMMENTS/NOTES

Electrician-Utility Work (South) rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Elevator Constructor PREVAILING WAGE RATE

	03/27/15	03/17/16	03/17/17	03/17/18
Journeyman	W59.55	W60.96	W62.64	W64.48
	B38.02	B39.77	B41.56	B43.36
	T97.57	T100.73	T104.20	T107.84

Expiration Date: 03/16/2019

Craft: Elevator Constructor APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	Yearly	26.62	32.75	38.71	44.66					
Benefits	30.23	31.32	32.81	34.30						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Constructor COMMENTS/NOTES

The regular workday shall consist of either 7 or 8 hours to be established at the beginning of the project, between 7:00 AM and 4:30 PM.

OVERTIME:

For all hours worked before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday, shall be paid at double the hourly rate. Holiday pay is one days wages (8 hours) plus double the hourly rate for all hours worked.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Elevator Modernization & Service

PREVAILING WAGE RATE

	03/27/15	03/17/16	03/17/17	03/17/18
Journeyman	W46.92	W47.91	W49.14	W50.49
	B36.46	B38.17	B39.91	B41.66
	T83.38	T86.08	T89.05	T92.15

Expiration Date: 03/16/2019

Craft: Elevator Modernization & Service

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	Yearly	26.62	25.81	30.50	35.19					
Benefits	30.16	30.47	31.80	33.13						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

COMMENTS/NOTES

MODERNIZATION (addition, replacement, refurbishing, relocation, or changes in design or appearance, of elevator equipment in existing buildings):

- The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

- Overtime:

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday and Sunday shall be paid at time and one-half the hourly rate. Holiday pay is one days wages (8 hours) plus time and one-half the hourly rate for all hours worked.

SERVICE (repair or replacement of parts for the purpose of maintaining elevator equipment in good operating condition):

- The regular workday consists of 8 hours, between 6:00 AM and 6:00 PM.

- Overtime:

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS (Modernization and Service): New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays shall be observed on the previous Friday and Sunday holidays shall be observed on the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Glazier PREVAILING WAGE RATE

	06/11/15	05/01/16
Foreman	W46.50 B22.65 T69.15	W0.00 B0.00 T70.65
General Foreman	W48.50 B22.89 T71.39	W0.00 B0.00 T72.89
Journeyman	W42.50 B22.17 T64.67	W0.00 B0.00 T66.17

Expiration Date: 04/30/2017

Craft: Glazier APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	6.51	Intervals	4 to 6 =	9.33	Intervals	7 to 9 =	11.67	

Ratio of Apprentices to Journeymen - 1:4

Craft: Glazier COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AS OF 5-1-14:

INTERVAL	PERIOD AND RATES							
6 Months	50%	55%	60%	65%	70%	75%	80%	90%
Benefits	8.10	8.10	10.34	10.34	11.51	11.51	14.62	14.62

Hazard/Height Pay: +\$1.00 per hour

FOREMAN REQUIREMENTS:

- When there are 4 or more Glaziers on a job, 1 must be designated a Foreman.
- When there are 15 or more Glaziers on a job, 1 must be designated a General Foreman.

The regular workday shall consist of 8 hours, between 7:00 AM and 5:30 PM, Monday to Friday.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, and the third shift shall receive 8 hours pay for 7 hours of work.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Heat & Frost Insulator

PREVAILING WAGE RATE

	09/19/14
Foreman	W51.52 B28.42 T79.94
General Foreman	W54.07 B29.53 T83.60
Journeyman	W50.24 B27.86 T78.10

Expiration Date: 09/18/2015

Craft: Heat & Frost Insulator

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	23.27	27.59	33.35	39.16						
Benefits	16.96	20.03	21.99	23.76						

Ratio of Apprentices to Journeymen - 1:3

Craft: Heat & Frost Insulator

COMMENTS/NOTES

NOTE: These rates apply to the installing of insulation on hot and cold mechanical systems.

The regular workday shall be 8 hours between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIAL:

- Shift work must run for a minimum of 5 consecutive workdays.
- Second Shift shall work 7.5 hours and receive 8 hours pay, at the regular rate, plus 25% per hour.
- Third Shift shall work 7 hours and receive 8 hours pay, at the regular rate, plus 30% per hour.

OVERTIME:

The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Heat & Frost Insulator - Asbestos Worker

PREVAILING WAGE RATE

	09/19/14
Asbestos Worker/Firestop	W25.68 B9.25 T34.93
Foreman	W51.52 B28.42 T79.94

Expiration Date: 09/18/2015

Craft: Heat & Frost Insulator - Asbestos Worker

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	HEAT &	FROST	INSULAT OR						

Ratio of Apprentices to Journeymen - 1:3

Craft: Heat & Frost Insulator - Asbestos Worker

COMMENTS/NOTES

NOTE: These rates apply only to the removal of insulation materials/asbestos from mechanical systems, including containment erection and demolition, and placing material in appropriate containers.

The regular workday shall be 8 hours between 8:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.
- The second shift shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 25% per hour.
- The third shift shall work 7 hours and receive 8 hours pay at the regular rate, plus 30% per hour.

OVERTIME: The first 2 hours in excess of 8 per day, hours outside of the regular workday Monday through Friday that are not shift work, and the first 10 hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours in excess of 10 per day, and all hours on Sunday and holidays (except Labor Day) shall be paid at double the regular rate, inclusive of benefits. All hours on Labor Day shall be paid at triple the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day and Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Ironworker

PREVAILING WAGE RATE

	08/13/15	01/01/16	07/01/16	07/01/17
Rod /Fence Foreman	W41.24 B42.27 T83.51	W0.00 B0.00 T84.51	W0.00 B0.00 T86.51	W0.00 B0.00 T88.51
Rod/Fence Journeyman	W38.24 B42.27 T80.51	W0.00 B0.00 T81.51	W0.00 B0.00 T83.51	W0.00 B0.00 T85.51
Structural Foreman	W44.29 B42.77 T87.06	W44.29 B42.77 T87.06	W0.00 B0.00 T88.81	W0.00 B0.00 T90.56
Structural Journeyman	W41.29 B42.77 T84.06	W41.29 B42.77 T84.06	W0.00 B0.00 T85.81	W0.00 B0.00 T87.56

Expiration Date: 06/30/2018

Craft: Ironworker

APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	50%	60%		Yearly	70%	80%	90%			

Ratio of Apprentices to Journeymen - 1:4

Craft: Ironworker

COMMENTS/NOTES

HAZARDOUS WASTE WORK: On hazardous waste removal work on a state or federally designated hazardous waste site where the Ironworker is required to wear Level A,B, or C personal protection: + \$3.00 per hour

The regular workday consists of 8 hours between 6:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:

When there are 2 or more Ironworkers on a job, 1 shall be designated a Foreman.

SHIFT DIFFERENTIALS:

- When a 2 shift schedule is established, the first, or day shift , shall be established on an 8 hour basis .The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15%, and the third shift shall receive the regular rate plus 20%.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis.
- When an irregular shift is established for 5 consecutive days, the rate shall be paid at the regular rate and benefit rate , with no wage premium included. When an irregular shift is established for less than 5 days, the rate shall be paid at the regular rate plus 15%.

OVERTIME:

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays shall be paid at double the hourly rate, inclusive of benefits. Saturday may be used as a make-up day for a day lost to inclement weather. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the hourly rate, inclusive of benefits.

- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Laborer - Asbestos & Hazardous Waste Removal

PREVAILING WAGE RATE

	12/17/14
Foreman	W38.00 B16.20 T54.20
Journeyman (Handler)	W36.00 B16.20 T52.20

Expiration Date: 11/30/2015

Craft: Laborer - Asbestos & Hazardous Waste Removal

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	27.96	28.66	29.72	31.84						
Benefits	16.15	for	all	intervals						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Asbestos & Hazardous Waste Removal

COMMENTS/NOTES

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

OVERTIME:

- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- When the owner (Public Body) mandates that work is to be performed on Sunday, those hours may be worked at straight time, up to 8 hours per day, up to 40 hours per week.
- Benefits on ALL overtime hours shall be paid at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Good Friday, Easter, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Laborer - Building

PREVAILING WAGE RATE

	05/04/15
Class A Journeyman	W30.65 B25.22 T55.87
Class B Journeyman	W30.15 B25.22 T55.37
Class C Journeyman	W25.63 B25.22 T50.85
Foreman	W34.48 B25.22 T59.70
General Foreman	W38.31 B25.22 T63.53

Expiration Date: 04/30/2016

Craft: Laborer - Building

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefit	21.97	21.97	21.97	21.97						

Ratio of Apprentices to Journeymen - *

* Ratio of apprentices to journeymen shall not be more than one apprentice for the first journeyman and no more than (1) apprentice for each additional three (3) journeymen.

Craft: Laborer - Building

COMMENTS/NOTES

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.

CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.

CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 5 consecutive workdays.

- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

- When a 3-shift schedule is worked, the day shift shall be established on the basis of 8 hours pay for 8 hours worked, the second shift shall be established on the basis of 8 hours pay for 7.5 hours worked, and the third shift shall be established on the basis of 8 hours pay for 7 hours worked. The day shift shall receive the regular rate, the second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.
- When a second or third shift is worked with no day shift, the second or third shift shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 10%, and the third shift shall receive the regular rate plus an additional 15%.

OVERTIME:

- Hours in excess of 8 per day, or outside the regular workday that are not shift work, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. Saturday may be used as a make-up day (paid at straight time) for a day lost to inclement weather, or for a holiday that is observed during the work week, Monday through Friday. All hours on Sundays and holidays shall be paid at double the regular rate.
- Four 10-hour days may be worked Monday to Thursday, at straight time, with Friday used a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at time and one-half.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Laborer - Heavy & General

PREVAILING WAGE RATE

Rates are located in the
"Statewide" rate package

Expiration Date:

Craft: Laborer - Heavy & General

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	18.03	for	all	intervals						

Ratio of Apprentices to Journeymen - *

* No more than 1 apprentice for the first journeyman and no more than 1 apprentice for each additional 3 journeymen.

Craft: Laborer - Heavy & General

COMMENTS/NOTES

Heavy & General Laborer rates are located in the "Statewide" rate package.

With respect to the APPRENTICE RATE SCHEDULE, the following shall apply:

- On 9-1-15- benefits shall be \$18.03.
- On 3-1-16- benefits shall be \$18.78.
- On 9-1-16- benefits shall be \$18.78.
- On 3-1-17- benefits shall be \$19.53.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Millwright

PREVAILING WAGE RATE

	05/01/15
Foreman	W51.72 B29.52 T81.24
Journeyman	W44.97 B25.74 T70.71

Expiration Date: 10/31/2015

Craft: Millwright

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
6 Months										
Benefits	56% of	Appren	tice	Wage	Rate	for all	intervals	+.55		

Ratio of Apprentices to Journeymen - 1:4

Craft: Millwright

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Millwrights on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Millwrights on a job, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours, starting between 7:00 AM and 9:00 AM.

SHIFT DIFFERENTIALS:

- When a 2 shift schedule (including a day shift) is established, the day shift shall be established on an 8 hour basis. The second shift shall be established on an 8 hour basis, and receive the regular rate plus 15%, inclusive of benefits.
- When a three shift schedule is established, the first shift shall be established on an 8 hour basis, the second shift on a 7.5 hour basis, and the third shift on a 7 hour basis. The first shift shall receive the regular hourly rate, the second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.
- When there is no day shift, and a second or third shift is established, it shall be established on an 8 hour basis. The second shift shall receive the regular rate plus 15% and the third shift shall receive the regular rate plus 20%, inclusive of benefits.

OVERTIME:

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Operating Engineer

PREVAILING WAGE RATE

Rates are located in the
"Statewide" rate package

Expiration Date:

Craft: Operating Engineer

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	60%	70%	80%	90%						

Ratio of Apprentices to Journeymen - *

* 1 apprentice for each piece of heavy equipment. At least 10 pieces of heavy equipment or a minimum of 5 Operating Engineers must be on site.

Craft: Operating Engineer

COMMENTS/NOTES

Operating Engineer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Operating Engineer - Field Engineer

PREVAILING WAGE RATE

Rates are located in the
"Statewide" rate package

Expiration Date:

Craft: Operating Engineer - Field Engineer

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	70%	75%	of Rod/	Chainman	Wage					
Yearly			80%	90%	Transit/	Instrument	man	Wage		

Ratio of Apprentices to Journeymen - *

* No more than 1 Field Engineer Apprentice per Survey Crew.

Craft: Operating Engineer - Field Engineer

COMMENTS/NOTES

Operating Engineer - Field Engineer rates are located in the "Statewide" rate package.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter - Bridges

PREVAILING WAGE RATE

	05/22/15	05/01/16	05/01/17
Foreman	W56.38 B25.67 T82.05	W58.63 B25.67 T84.30	W61.13 B25.67 T86.80
General Foreman	W58.38 B25.67 T84.05	W60.63 B25.67 T86.30	W63.13 B25.67 T88.80
Journeyman	W51.38 B25.67 T77.05	W53.63 B25.67 T79.30	W56.13 B25.67 T81.80

Expiration Date: 01/31/2019

Craft: Painter - Bridges

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	6 Months	40%	50%			60%	70%		80%	90%
Benefits	Intervals	1 to 2 =	8.88	Intervals	3 to 4 =	10.81	Intervals	5 to 6 =	13.48	

Ratio of Apprentices to Journeymen - 1:4

Craft: Painter - Bridges

COMMENTS/NOTES

These rates apply to: All bridges that span waterways, roadways, railways and canyons. All tunnels, overpasses, viaducts and all appurtenances.

FOREMEN REQUIREMENTS:

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter - Line Striping

PREVAILING WAGE RATE

	07/09/15
Foreman (Charge Person)	W34.80 B15.28 T50.08
Helper (1st Year)	W27.33 B14.97 T42.30
Helper (2nd Year)	W28.38 B15.05 T43.43
Helper (3rd Year)	W30.53 B15.11 T45.64
Journeyman	W34.30 B15.28 T49.58

Expiration Date: 11/30/2015

Craft: Painter - Line Striping

COMMENTS/NOTES

OVERTIME:

Hours in excess of 8 per day, Monday through Saturday, and all hours on Sundays and holidays shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day. Veterans Day may be substituted for the day after Thanksgiving.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter - New Construction

PREVAILING WAGE RATE

	06/30/15	05/01/16	05/01/17
Foreman	W41.54 B22.35 T63.89	W42.91 B22.35 T65.26	W44.39 B22.35 T66.74
General Foreman	W45.31 B22.81 T68.12	W46.81 B22.81 T69.62	W48.43 B22.81 T71.24
Journeyman	W37.76 B21.90 T59.66	W39.01 B21.90 T60.91	W40.36 B21.90 T62.26

Expiration Date: 04/30/2018

Craft: Painter - New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

Ratio of Apprentices to Journeymen - 1:4

Craft: Painter - New Construction

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM ON 5-1-14:

INTERVAL	PERIOD AND RATES							
6 Months	40%	45%	55%	65%	70%	75%	80%	90%
Benefits	8.00	8.00	10.00	10.00	11.00	11.00	14.00	14.00

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

FOREMEN REQUIREMENTS:

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

rate.

- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter- Containment

PREVAILING WAGE RATE

	05/22/15	05/01/16	05/01/17
Journeyman	W32.93 B22.92 T55.85	W35.18 B22.92 T58.10	W37.68 B22.92 T60.60

Expiration Date: 01/31/2019

Craft: Painter- Containment

COMMENTS/NOTES

NOTE: These rates shall require no painting, but used in a supporting capacity only, such as wrapping, boxing, fencing, etc. on tanks.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate..

RECOGNIZED HOLIDAYS: New Year's Day President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter-Elevated Water Tanks

PREVAILING WAGE RATE

	05/22/15	05/01/16	05/01/17
Foreman	W46.17 B22.92 T69.09	W48.42 B22.92 T71.34	W50.92 B22.92 T73.84
General Foreman	W48.17 B22.92 T71.09	W50.42 B22.92 T73.34	W52.92 B22.92 T75.84
Journeyman	W41.17 B22.92 T64.09	W43.42 B22.92 T66.34	W45.92 B22.92 T68.84

Expiration Date: 01/31/2019

Craft: Painter-Elevated Water Tanks

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

Craft: Painter-Elevated Water Tanks

COMMENTS/NOTES

These rates apply to: All new and repaint elevated water tanks (interior and exterior).

FOREMEN REQUIREMENTS:

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Painter-Structural Steel

PREVAILING WAGE RATE

	05/22/15	05/01/16	05/01/17
Foreman	W45.12 B23.26 T68.38	W47.37 B23.26 T70.63	W49.87 B23.26 T73.13
General Foreman	W47.12 B23.26 T70.38	W49.37 B23.26 T72.63	W51.87 B23.26 T75.13
Journeyman	W40.12 B23.26 T63.38	W42.37 B23.26 T65.63	W44.87 B23.26 T68.13

Expiration Date: 01/31/2019

Craft: Painter-Structural Steel

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

Craft: Painter-Structural Steel

COMMENTS/NOTES

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, etc. and on open steel, whether new or repaint. All new work (excluding traditional commercial painting work) in refineries, tank farms, water/sewerage treatment facilities and on pipelines.

FOREMEN REQUIREMENTS:

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holiday observed the preceding Friday. Sunday holiday observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Paperhanger - New Construction

PREVAILING WAGE RATE

	06/30/15	05/01/16	05/01/17
Foreman	W42.51 B21.44 T63.95	W43.83 B21.44 T65.27	W45.32 B21.44 T66.76
Journeyman	W38.65 B22.01 T60.66	W39.85 B22.01 T61.86	W41.20 B22.01 T63.21

Expiration Date: 04/30/2018

Craft: Paperhanger - New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

Ratio of Apprentices to Journeymen - 1:4

Craft: Paperhanger - New Construction

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM ON 5-1-14:

INTERVAL	PERIOD AND RATES							
6 Months	40%	45%	55%	65%	70%	75%	80%	90%
Benefits	8.00	8.00	10.00	10.00	11.00	11.00	14.00	14.00

FOREMEN REQUIREMENTS:

- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

The regular workday shall consist of 8 hours between 7:00 AM and 5:30 PM.

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Paperhanger - Renovation

PREVAILING WAGE RATE

	06/30/15	05/01/16	05/01/17
Foreman	W32.21 B18.53 T50.74	W33.58 B18.53 T52.11	W35.06 B18.53 T53.59
Journeyman	W29.28 B18.53 T47.81	W30.53 B18.53 T49.06	W31.88 B18.53 T50.41

Expiration Date: 04/30/2018

Craft: Paperhanger - Renovation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	PAPER-	HANGER	NEW	CONSTR	TION				
					UC					

Ratio of Apprentices to Journeymen - 1:4

Craft: Paperhanger - Renovation

COMMENTS/NOTES

NOTE: These rates may only be used on jobs where no major alterations occur, and where not more than 3 other trades are present on the job, but may NOT, under any circumstances, be used for work on bridges, stacks, elevated tanks, or generating stations.

FOREMEN REQUIREMENTS:

- When there are 4 or more Paperhangers on a job, 1 shall be designated a Foreman.

OVERTIME:

- Hours in excess of 8 per day and 40 per week shall be paid at time and one-half the regular rate.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Pipefitter PREVAILING WAGE RATE

	05/01/15
Foreman	W50.42 B38.67 T89.09
Journeyman	W46.67 B35.80 T82.47

Expiration Date: 04/30/2016

Craft: Pipefitter APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	75%					
Benefit	76.5% of	Appren	tice	Wage	Rate + .10	cents				

Ratio of Apprentices to Journeymen - 1:5

Craft: Pipefitter COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Journeyman Pipefitters on a job, 1 shall be designated a Foreman.
- There shall be a Foreman for every 8 Journeyman Pipefitters on a job.

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM.

SHIFT DIFFERENTIAL:

- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 25% per hour.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 30% per hour.

OVERTIME:

- All hours worked in excess of 8 per day, Monday through Friday, and all hours worked on Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sunday and holidays shall be paid at double time, inclusive of benefits.
- By mutual agreement, employees may work four 10-hour days, Monday to Thursday, at straight time rate. Friday may be used as a make-up day for a day lost to inclement weather, and may be paid at straight time. If Friday is not a make-up day, the first 8 hours shall be paid at time and one-half, inclusive of benefits; hours in excess of 8 shall be paid at double time, inclusive of benefits.

SHIFT DIFFERENTIAL (Maintenance Work Only):

- 2nd Shift (3:30 PM-11:30 PM) shall work 7.5 hours and receive 8 hours pay at the regular rate, plus 10% per hour.
- 3rd Shift (11:30 PM-7:00 AM) shall work 7 hours and receive 8 hours pay at the regular rate, plus 15% per hour.

OVERTIME (Maintenance Work Only):

- All hours in excess of 8 per day, Monday through Saturday, shall be paid at time and one-half, inclusive of benefits. All hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

NOTE: Maintenance work is work to repair, restore, or improve the efficiency of existing facilities. This does NOT apply to ANY new construction.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays are observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Plasterer

PREVAILING WAGE RATE

See Bricklayer, Stone Mason Rates

Expiration Date:

Craft: Plasterer

COMMENTS/NOTES

See BRICKLAYER, STONE MASON Rates

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Plumber PREVAILING WAGE RATE

	05/01/15
Foreman	W54.39 B31.94 T86.33
General Foreman	W57.91 B31.94 T89.85
Journeyman	W50.36 B31.94 T82.30

Expiration Date: 04/30/2016

Craft: Plumber APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	12.24	18.04	19.65	21.28	22.89					

Ratio of Apprentices to Journeymen - *

* Employers may employ 1 apprentice on any job where 1 or 2 journeymen are employed. Thereafter, 1 apprentice may be employed for every 4 journeymen.

Craft: Plumber COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- On any job having 2 or more Plumbers, 1 must be designated a Foreman.
- On any job having 9 or more Plumbers, 2 shall be designated as Foremen.

The regular workday shall consist of 8 hours between 7:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must continue for a minimum of 5 consecutive workdays.
- When two shifts are worked, the second shift shall work 7.5 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 10%, inclusive of benefits.
- When a third shift is worked, the third shift shall work 7 hours and receive 8 hours pay, at a rate equal to the hourly rate plus 15%, inclusive of benefits.

OVERTIME:

- All hours in excess of 8 per day, or before of after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday, shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sunday and holidays, shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Roofer PREVAILING WAGE RATE

	06/02/15
Foreman	W36.27 B24.04 T60.31
Journeyman	W35.27 B24.04 T59.31

Expiration Date: 05/31/2016

Craft: Roofer APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%	60%	70%	80%	90%				
6 Months										
Benefits	1.85	1.85	21.25	21.25	21.25	21.25				

Ratio of Apprentices to Journeymen - *

- * A) For roofing jobs that are of the 1 or single ply nature: 1:2 or fraction thereof
- B) For roofing jobs on new built up roofs: 1:3 or fraction thereof
- C) For roofing jobs that are of a tear-off nature: 1:2 or fraction thereof
- D) For roofing jobs {not requiring complete removal of existing systems, installation done over existing roof}: 1:3 or fraction thereof

Craft: Roofer COMMENTS/NOTES

Pitch: +.50 per hour

Mop Man: +.30 per hour

The regular workday consists of 8 hours between 8:00 AM and 4:30 PM.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays, Sundays, and holidays shall be paid at time and one-half the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Sheet Metal Sign Installation

PREVAILING WAGE RATE

	04/07/15
Foreman	W32.89 B28.07 T60.96
Journeyman	W31.64 B28.07 T59.71

Expiration Date: 09/30/2015

Craft: Sheet Metal Sign Installation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
1000 hours										
Benefits	10.34	11.53	12.73	13.92	15.51	16.73	17.97	19.20	20.44	21.66

Ratio of Apprentices to Journeymen - 1:3

Craft: Sheet Metal Sign Installation

COMMENTS/NOTES

FOREMAN REQUIREMENT:

When there are 6 or more Sheet Metal Sign Installers on a job, 1 shall be designated a Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 3:30 PM.

OVERTIME:

Hours before or after the regular workday, Monday through Friday, and all hours worked on Saturday shall be paid at time and one-half the hourly rate. All hours on Sunday and holidays shall be paid at double the hourly rate.

Four(4) 10 hour days may be worked, Monday through Friday, at straight time, for projects lasting at least one week in duration. The fifth day may be used as a make-up day at straight time for a day lost due to inclement weather. However, if the fifth day is not a make-up day, all hours worked will be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Sheet Metal Worker

PREVAILING WAGE RATE

	07/23/15
Foreman	W49.22 B37.00 T86.22
General Foreman	W50.22 B37.00 T87.22
Journeyman	W45.72 B37.00 T82.72

Expiration Date: 05/31/2016

Craft: Sheet Metal Worker

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	35%	45%	55%	65%	of	Journey	man	Wage	Rate	
Benefit	35%	45%	55%	65%	of	Journey	man	Benefit	Rate	

Ratio of Apprentices to Journeymen - 1:4

Craft: Sheet Metal Worker

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Sheet Metal Workers on a project, 1 must be designated a Foreman.
- When there are 17 or more Sheet Metal Workers on a project, 1 must be designated a General Foreman.
- When there is only 1 Sheet Metal Worker (1 Journeyman) on a project, he/she shall receive \$1.00 more than the regular Journeyman's rate.

The regular workday is 8 hours between 7:00 AM and 4:30 PM.

SHIFT DIFFERENTIAL:

- 2nd Shift (3:30 PM - 12:00 AM) : +17% of regular hourly rate
- Shift work must run for a minimum of 5 consecutive workdays.

OVERTIME:

- Hours in excess of 8 per day, or before or after the regular workday, that are not shift work, and the first 10 hours on Saturdays shall be paid at time and one-half of the regular rate, inclusive of benefits. Hours in excess of 10 per day on Saturday, and all hours on Sundays and holidays shall be at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Friday, at straight time, with hours in excess of 10 per day, and hours in excess of 40 per week paid at the overtime rates listed above.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Sprinkler Fitter

PREVAILING WAGE RATE

	07/01/15
Foreman	W62.13 B24.52 T86.65
General Foreman	W65.10 B24.52 T89.62
Journeyman	W58.13 B24.52 T82.65

Expiration Date: 12/31/2015

Craft: Sprinkler Fitter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	9.50	11.25	29.07	31.97	34.88	37.78	40.69	43.60	46.50	49.41
Benefits	10.12	10.12	20.27	20.27	20.27	20.27	Intervals	7 to 10	Jourymn	Ben.

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 7-1-13:

INTERVAL	PERIOD AND RATES									
1000 hours	14.53	17.44	23.25	26.16	31.97	34.88	40.69	43.60	49.41	52.32
Benefits	10.12	10.12	20.27	20.27	20.27	20.27	Intervals	7 to 10	receive	Journeyman Ben.

Craft: Sprinkler Fitter

COMMENTS/NOTES

The regular workday consists of 8 consecutive hours between 6:00 AM and 4:30 PM.

FOREMAN REQUIREMENTS:

- The first Sprinkler Fitter on the job must be designated a Foreman.
- On any job having 12 or more Sprinkler Fitters, one must be designated a General Foreman.

SHIFT DIFFERENTIALS:

- Shift work must run for a minimum of 2 consecutive workdays.
- 2nd and 3rd shift shall receive an additional 15% of the regular rate, per hour.
- Any "off hours" shift starting at 8:00 PM or later shall receive an additional 25% of the regular rate, per hour.

OVERTIME:

The first 2 hours in excess of 8 per day, after the regular workday that are not shift work, Monday through Friday, shall be paid at time and one-half the regular rate. Hours worked in excess of 10 per day, Monday through Friday, and all hours on Saturday, Sunday and holidays, shall be paid double the regular rate.

Four 10 hour days may be worked, Monday through Thursday, at straight-time.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Tile Setter - Marble

PREVAILING WAGE RATE

	07/01/15	01/01/16	07/01/16	01/01/17	07/01/17	01/01/18
Tile Setter	W56.53	W56.89	W57.32	W57.74	W58.18	W58.53
	B31.32	B32.21	B33.23	B34.26	B35.27	B36.37
	T87.85	T89.10	T90.55	T92.00	T93.45	T94.90

Expiration Date: 06/30/2018

Craft: Tile Setter - Marble

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	50%	55%	65%	70%	75%	85%	90%	95%		
750 Hours										

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Setter - Marble

COMMENTS/NOTES

OVERTIME:

Hours in excess of 7 per day, Monday through Friday, and the first 7 hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 7 on Saturdays, and all hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Tile Setter - Mosaic & Terrazzo

PREVAILING WAGE RATE

	08/27/15	01/01/16	07/01/16	01/01/17
Grinder or Assistant	W49.10	W0.00	W0.00	W0.00
	B32.45	B0.00	B0.00	B0.00
	T81.55	T82.70	T83.85	T85.00
Mechanic	W50.71	W0.00	W0.00	W0.00
	B32.46	B0.00	B0.00	B0.00
	T83.17	T84.32	T85.47	T86.62

Expiration Date: 06/30/2017

Craft: Tile Setter - Mosaic & Terrazzo

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	50%	55%	65%	70%	75%	85%	90%	95%		
750 Hours										

Ratio of Apprentices to Journeymen - 1:5

Craft: Tile Setter - Mosaic & Terrazzo

COMMENTS/NOTES

The regular workday consists of 7 hours, between 8:00 AM and 3:30 PM.

OVERTIME:

- Hours in excess of 7 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Good Friday, Monday after Easter, Memorial Day, July 4th, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day and the day after, Christmas Day. Sunday holidays observed the following Monday.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Truck Driver

PREVAILING WAGE RATE

	05/01/15	11/01/15
Bucket, Utility, Pick-up, Fuel Delivery trucks	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Dump truck, Asphalt Distributor, Tack Spreader	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Euclid-type vehicles (large, off-road equipment)	W0.00 B0.00 T67.72	W0.00 B0.00 T68.22
Helper on Asphalt Distributor truck	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Straight 3-axle truck	W0.00 B0.00 T67.62	W0.00 B0.00 T68.12
Tractor Trailer (all types)	W0.00 B0.00 T67.72	W0.00 B0.00 T68.22
Vacuum or Vac-All truck (entire unit)	W0.00 B0.00 T67.57	W0.00 B0.00 T68.07
Winch Trailer	W0.00 B0.00 T67.82	W0.00 B0.00 T68.32

Expiration Date: 04/30/2016

Craft: Truck Driver

COMMENTS/NOTES

BLENDED RATE:

When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate" which shall be 80% of the above-listed wage rates, plus the full benefit rate. This rate shall be used when the driver "round robins" for a minimum of 6 hours during the work day.

HAZARDOUS WASTE REMOVAL:

- On hazardous waste removal work on a State designated hazardous waste site where the driver is in direct contact with hazardous materials and when personal protective equipment is required for respiratory, skin, and eye protection, the driver shall receive an additional \$3.00 per hour (with or without protective gear).
- A hazardous waste related certified worker at a designated hazardous waste site who is not working in a zone requiring level A, B or C personal protection shall receive an additional \$1.00 per hour.

TRUCK FOREMAN: \$.75 cents per hour above regular rate. Overtime shall be increased accordingly.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

The regular workday shall be 8 hours, starting between 6:00 AM and 8:00 AM.

SHIFT DIFFERENTIAL:

- Shifts starting at 4:00 PM (2nd Shift): + \$2.50 per hour.
- Shifts starting at 12:00 AM (midnight/3rd Shift): time and one-half the hourly rate.
- Shifts starting at a time other than from 6:00 AM to 8:00 AM, when such hours are mandated by the project owner: + \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days at straight time, Monday through Thursday, with Friday used as a make-up day for a lost day. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day (Decoration Day), July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veterans' Day.

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

County - UNION

Craft: Truck Driver-Material Delivery Driver

PREVAILING WAGE RATE

	05/01/12
Driver	W22.90 B10.17 T33.07

Expiration Date: 05/30/2016

Craft: Truck Driver-Material Delivery Driver

COMMENTS/NOTES

BLENDED RATE:

When a truck driver is performing work on the site and also serving as a material delivery driver, the driver shall be paid a "blended rate". See the "Truck Driver" craft for the blended rates.

Truck Foreman/Shop Steward: +\$0.25 per hour

SHIFT DIFFERENTIALS:

- 2nd Shift shall receive an additional \$0.50 per hour
- 3rd Shift shall receive time and one-half the hourly rate.

OVERTIME:

- Hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the hourly rate. All hours on Sundays shall be paid at two and one-half times the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veterans' Day.

**NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION**

County - UNION

Craft: Welder

PREVAILING WAGE RATE

Welder

Expiration Date:

Craft: Welder

COMMENTS/NOTES

Welders rate is the same as the craft to which the welding is incidental .

STATEWIDE RATES

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

On all machines, including pile drivers with booms of 100 feet and over (including jib) the Operating Engineer shall receive the regular hourly rate plus: \$1.00 per hour on rigs with 100 foot Boom (including jib) up to 139 feet, and \$2.00 per hour on rigs with 140 foot Boom (including jib) and over. On all hoists where "Cat Head" or "Sheave Point" is 100 feet or more above ground level, the same differential pay shall apply as applicable to booms 100 feet and over.

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
45.48	29.48	74.96	76.11	77.11	78.26

CLASSIFICATIONS:

- A-Frame
- Backhoe (combination)
- Boom Attachment on loaders (Except pipehook)
- Boring & Drilling Machine
- Brush Chopper, Brush Shredder, Tree Shredder
- Bulldozer, finish grade
- Cableway
- Carryall
- Concrete Pump
- Concrete Pumping System (Pumpcrete & similar types)
- Conveyor, 125 feet or longer
- Drill Doctor (Duties include dust collector and maintenance)
- Front End Loader (2 cu. yds. but less than 5 cu. yds.)
- Grader, finish
- Groove Cutting Machine (ride-on type)
- Heater Planer
- Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type)
- Hydraulic Crane (10 tons & under)
- Hydro-Axe
- Hydro-Blaster
- Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)
- Log Skidder

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
45.48	29.48	74.96	76.11	77.11	78.26

CLASSIFICATIONS:

- Pan
- Paver, concrete
- Plate & Frame Filter Press
- Pumpcrete (unit type)
- Pumpcrete, Squeezecrete, or Concrete Pumping machine
(regardless of size)
- Scraper
- Side Boom
- Straddle Carrier (Ross and similar types)
- Vacuum Truck
- Whiphammer
- Winch Truck (hoisting)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
43.57	29.48	73.05	74.60	75.20	76.35

CLASSIFICATIONS:

- Asphalt Curbing Machine
- Asphalt Plant Engineer
- Asphalt Spreader
- Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)
- Autograde Curecrete Machine (CMI & similar types)
- Autograde Tube Finisher & Texturing Machine (CMI & similar types)
- Bar Bending Machines (Power)
- Batcher, Batching Plant, & Crusher [On Site]
- Belt Conveyor System
- Boom-Type Skimmer Machine
- Bridge Deck Finisher
- Bulldozer (all sizes)
- Captain (Power Boats)
- Car Dumper (railroad)
- Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)
- Compressor (2 or 3 battery)
- Concrete Breaking Machine
- Concrete Cleaning/Decontamination Machine
- Concrete Finishing Machine
- Concrete Saw or Cutter (ride-on type)
- Concrete Spreader (Hetzl, Rexomatic & similar types)
- Concrete Vibrator

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
43.57	29.48	73.05	74.60	75.20	76.35

CLASSIFICATIONS:

- Conveyors - under 125 feet
- Crane Signalman
- Crushing Machine
- Directional Boring Machine
- Ditching Machine - Small (Ditchwitch, Vermeer or similar types)
- Dope Pot - Mechanical (with or without pump)
- Dumpster
- Elevator
- Fireman
- Fork Lift (Economobile, Lull & similar types)
- Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)
- Generator (2 or 3 battery)
- Giraffe Grinder
- Grader & Motor Patrols
- Grout Pump
- Gunnite Machine (Excluding nozzle)
- Hammer - Vibratory (in conjunction with generator)
- Heavy Equipment Robotics - Operator/Technician
- Hoist (roof, tugger, aerial platform hoist, house car)
- Hopper
- Hopper Doors (power operated)
- Ladder (motorized)
- Laddervator

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
43.57	29.48	73.05	74.60	75.20	76.35

CLASSIFICATIONS:

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

Tug Captains

Tug Master (Power Boats)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
43.57	29.48	73.05	74.60	75.20	76.35

CLASSIFICATIONS:

Ultra High Pressure Waterjet Cutting Tool System -
Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
40.23	29.48	69.71	70.86	71.86	73.01

CLASSIFICATIONS:

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
37.65	29.48	67.13	68.28	69.28	70.43

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

OPERATING ENGINEERS Rates Expiration Date : 06/30/2017

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
47.81	29.48	77.29	78.44	79.44	80.59

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
47.07	29.48	76.55	77.70	78.70	79.85

CLASSIFICATIONS:

- Autograde Pavement Profiler (CMI & similar types)
- Autograde Pavement Profiler - Recycle Type (CMI & similar types)
- Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)
- Autograde Slipform Paver (CMI & similar types)
- Backhoe (Excavator)
- Central Power Plant
- Concrete Paving Machine
- Draglines
- Drill, Bauer, AMI and similar types
- Drillmaster, Quarrymaster
- Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill
- Elevator Grader
- Field Engineer-Chief of Party
- Front End Loader (5 cu. yards or larger)
- Gradall
- Grader, Rago
- Helicopter Co-Pilot
- Helicopter Communications Engineer
- Juntann Pile Driver
- Locomotive (large)
- Mucking Machine
- Pavement & Concrete Breaker (Superhammer & Hoe Ram)

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
47.07	29.48	76.55	77.70	78.70	79.85

CLASSIFICATIONS:

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
41.94	29.48	71.42	72.57	73.57	74.72

CLASSIFICATIONS:

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

OPERATING ENGINEERS Rates Expiration Date : 06/30/2017

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
41.94	29.48	71.42	72.57	73.57	74.72

CLASSIFICATIONS:

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including propane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and maintenance)

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
48.89	29.48	78.37	79.52	80.52	81.67

CLASSIFICATIONS:

Helicopter Pilot/Engineer

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
50.32	29.48	79.80	80.95	81.95	83.10

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
49.32	29.48	78.80	79.95	80.95	82.10

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

OPERATING ENGINEERS **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
49.07	29.48	78.55	79.70	80.70	81.85

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
48.32	29.48	77.80	78.95	79.95	81.10

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
48.07	29.48	77.55	78.70	79.70	80.85

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), under 100 tons with a boom (including jib and/or leads) from 100 ft. to 139 ft.

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
50.70	29.48	80.18	81.33	82.33	83.48

CLASSIFICATIONS:

Helicopter Pilot or Engineer

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
46.64	29.48	76.12	77.27	78.27	79.42

CLASSIFICATIONS:

A-Frame

Cherry Picker -10 tons or less (Over 10 tons use crane rate)

Hoist (all types Except Chicago-boom)

Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)

Side Boom

Straddle Carrier

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
43.98	29.48	73.46	74.61	75.61	76.76

CLASSIFICATIONS:

Aerial Platform Used On Hoists

Apprentice Engineer/Oiler with Compressor or Welding Machine

Captain (Power Boats)

Compressor (2 or 3 in battery)

Conveyor or Tugger Hoist

Elevator or House Car

Fireman

Forklift

Generator (2 or 3)

Maintenance Utility Man

Tug Master (Power Boats)

Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
42.45	29.48	71.93	73.08	74.08	75.23

CLASSIFICATIONS:

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
40.69	29.48	70.17	71.32	72.32	73.47

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
48.26	29.48	77.74	78.89	79.89	81.04

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
37.65	29.48	67.13	68.28	69.28	70.43

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 06/30/2017**

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
47.40	29.48	76.88	78.03	79.03	80.18

CLASSIFICATIONS:

Field Engineer-Chief of Party

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
53.34	29.48	82.82	83.97	84.97	86.12

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) over 100 tons and Tower Cranes.

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
51.68	29.48	81.16	82.31	83.31	84.46

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), over 100 tons and Tower Crane.

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
51.09	29.48	80.57	81.72	82.72	83.87

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
49.43	29.48	78.91	80.06	81.06	82.21

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

STRUCTURAL STEEL ERECTION Rates Expiration Date : 06/30/2017

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
51.09	29.48	80.57	81.72	82.72	83.87

CLASSIFICATIONS:

Helicopter Co-Pilot

Helicopter Communications Engineer

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST Rates Expiration Date : 06/30/2017

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

On all machines, including pile drivers with booms of 100 feet and over (including jib) the Operating Engineer shall receive the regular hourly rate plus: \$1.00 per hour on rigs with 100 foot Boom (including jib) up to 139 feet, and \$2.00 per hour on rigs with 140 foot Boom (including jib) and over. On all hoists where "Cat Head" or "Sheave Point" is 100 feet or more above ground level, the same differential pay shall apply as applicable to booms 100 feet and over.

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

Effective Dates:

	07/23/2015		01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
47.07	29.48	76.55	77.70	78.70	79.85

CLASSIFICATIONS:

Driller

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST Rates Expiration Date : 06/30/2017

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
40.23	29.48	69.71	70.86	71.86	73.01

CLASSIFICATIONS:

Driller's Helper

FREE AIR TUNNEL JOBS **Rates Expiration Date : 08/31/2017**

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.50	26.28	64.78	65.53	67.03	68.13	70.53

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.20	26.28	64.48	65.23	66.73	67.83	70.23

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

FREE AIR TUNNEL JOBS **Rates Expiration Date : 08/31/2017**

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
37.70	26.28	63.98	64.73	66.23	67.33	69.73

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
40.20	26.28	66.48	67.23	68.73	69.83	72.23

CLASSIFICATIONS:

Blaster

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
37.15	26.28	63.43	64.18	65.68	66.78	69.18

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.80	26.28	63.08	63.83	65.33	66.43	68.83

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.65	26.28	62.93	63.68	65.18	66.28	68.68

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY
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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
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FREE AIR TUNNEL JOBS Rates Expiration Date : 08/31/2017

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.15	26.28	62.43	63.18	64.68	65.78	68.18

CLASSIFICATIONS:

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date : 06/30/2017**

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
45.82	29.48	75.30	76.45	77.45	78.60

CLASSIFICATIONS:

Driller

Effective Dates:

07/23/2015			01/01/2016	07/01/2016	01/01/2017
Rate	Fringe	Total	Total	Total	Total
38.98	29.48	68.46	89.61	70.61	71.76

CLASSIFICATIONS:

Driller's Helper

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2015**

NOTE: Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

OVERTIME:

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

10/01/2014

Rate	Fringe	Total
35.63	12.89	48.52

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Dates:

10/01/2014

Rate	Fringe	Total
30.81	12.50	43.31

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/01/2014

Rate	Fringe	Total
29.01	12.36	41.37

CLASSIFICATIONS:

Certified Welder

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2015**

Effective Dates:

10/01/2014

Rate	Fringe	Total
28.22	12.00	40.22

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/01/2014

Rate	Fringe	Total
27.30	11.92	39.22

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/01/2014

Rate	Fringe	Total
22.68	11.25	33.93

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

MICROSURFACING/SLURRY SEAL Rates Expiration Date : 02/28/2018

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.

SHIFT DIFFERENTIALS:

Any shift starting at 3:30 PM or later shall receive an additional \$0.35/hr

OVERTIME:

Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

Effective Dates:

	03/01/2015		03/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total
35.00	19.69	54.69	56.10	57.77

CLASSIFICATIONS:

Foreman

Effective Dates:

	03/01/2015		03/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total
32.40	19.69	52.09	53.45	55.07

CLASSIFICATIONS:

Box man

Effective Dates:

	03/01/2015		03/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total
30.40	19.69	50.09	51.45	53.02

CLASSIFICATIONS:

Microsurface/Slurry Preparation

Effective Dates:

	03/01/2015		03/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total
30.40	19.69	50.09	51.45	53.02

CLASSIFICATIONS:

Squeegee man

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

MICROSURFACING/SLURRY SEAL Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2015			03/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total
28.90	19.69	48.59	49.95	51.57

CLASSIFICATIONS:

Cleaner, Taper

ASPHALT LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.00	26.28	64.28	65.03	66.53	67.63	70.03

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.55	26.28	62.83	63.58	65.08	66.18	68.58

CLASSIFICATIONS:

Head Raker

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.40	26.28	62.68	63.43	64.93	66.03	68.43

CLASSIFICATIONS:

Raker, Screedman, Luteman

ASPHALT LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.15	26.28	62.43	63.18	64.68	65.78	68.18

CLASSIFICATIONS:

Tampers, Smoothers, Kettlemen,
Painters, Shovelers, Roller Boys

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.25	26.28	62.53	63.28	64.78	65.88	68.28

CLASSIFICATIONS:

Milling Controller

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.45	26.28	62.73	63.48	64.98	66.08	68.48

CLASSIFICATIONS:

Traffic Control Coordinator

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date : 10/16/2015**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

SHIFT DIFFERENTIAL:

Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional \$1.00 per hour.

OVERTIME:

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Hazardous Waste Pay (for Levels A, B, and C): an additional 10% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:

- 1st year on the job - 70% of Helper wage rate
- 2nd year on the job - 80% of Helper wage rate
- 3rd year on the job - 90% of Helper wage rate
- All helpers receive full fringe benefit rate.

Effective Dates:

11/13/2014

Rate	Fringe	Total
29.44	22.89	52.33

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

11/13/2014

Rate	Fringe	Total
36.82	22.89	59.71

CLASSIFICATIONS:

Driller

Effective Dates:

11/13/2014

Rate	Fringe	Total
42.22	22.89	65.11

CLASSIFICATIONS:

Foreman

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 08/31/2017**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
35.75	26.28	62.03	62.78	64.28	65.38	67.78

CLASSIFICATIONS:

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; traffic director/flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.45	26.28	62.73	63.48	64.98	66.08	68.48

CLASSIFICATIONS:

"C" Rate:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 08/31/2017**

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.70	26.28	62.98	63.73	65.23	66.33	68.73

CLASSIFICATIONS:

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
40.25	26.28	66.53	67.28	68.78	69.88	72.28

CLASSIFICATIONS:

"A" Rate:

blaster

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.00	26.28	64.28	65.03	66.53	67.63	70.03

CLASSIFICATIONS:

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
39.00	26.28	65.28	66.03	67.53	68.63	71.03

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
35.75	26.28	62.03	62.78	64.28	65.38	67.78

CLASSIFICATIONS:

basic, landscape, or railroad track laborer; utility meter installer; traffic director/flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofers

tree cutter, timberman

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
35.75	26.28	62.03	62.78	64.98	66.08	68.48

CLASSIFICATIONS:

wagon drill or drill master helper; powder carrier; magazine tender; signal man

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.45	26.28	62.73	63.48	64.98	66.08	68.48

CLASSIFICATIONS:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.45	26.28	62.73	63.48	64.98	66.08	68.48

CLASSIFICATIONS:

wagon or directional drill operator; drill master

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
40.25	26.28	66.53	67.28	68.78	69.88	72.28

CLASSIFICATIONS:

blaster

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.00	26.28	64.28	65.03	66.53	67.63	70.03

CLASSIFICATIONS:

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
39.00	26.28	65.28	66.03	67.53	68.63	71.03

CLASSIFICATIONS:

general foreman

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 08/31/2017**

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.70	26.28	62.98	63.73	65.23	66.33	68.73

CLASSIFICATIONS:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 05/31/2016

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:

In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: \$42.50; Pipeline Journeyman Welder: \$102.50; and Pipeline Helper: \$42.50. Note: in order to receive the per diem payment an employee must work a minimum of 8 hours in a 24 hour period.

NOTES:

- Journeymen employed as "stringer bead" welders and journeymen who are regularly employed as "hot-pass" welders shall receive \$1.00 per hour more than other journeymen.
- Welders running "stringer bead" or "hot-pass" on "cutouts" or "tie-ins" on a production basis shall be paid \$1.00 per hour above the journeymen rate.
- Whenever a welder helper is employed using a power buffer or power grinder immediately behind the stringer bead and/or hot-pass welders, and the pipe gang is set on a production basis, the helper shall be paid \$2.00 per hour above the helper rate.
- If back welding is performed inside a pipe under either or both of the following conditions, the welder engaged in the welding will receive \$3.00 per hour above the regular rate for the job only for the days on which such back welding is performed:
 - The employer elects, as a regular procedure, to back weld each line-up. This condition is not intended to apply to occasional back welding performed by the pipe gang to repair a bead, to rectify a "high-lo" condition or wall thickness, etc.
 - A welder is required to back weld a completed weld behind the firing line.
- If the welder helper is required to go inside the pipe for the purpose of brushing, buffing and grinding the weld, they shall receive a wage rate \$1.00 per hour above the regular helper rate for the days involved.
- Welders working on "hot work" shall be paid \$2.00 per hour above the regular rate for each day engaged in such work. "Hot work" is defined as work on lines in service where there is the danger of fire or explosion.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

OVERTIME:

Hours in excess of 8 per day, and all hours on Sundays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

06/02/2015

Rate	Fringe	Total
52.53	26.14	78.67

CLASSIFICATIONS:

Pipeline Journeyman Welder

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 05/31/2016

Effective Dates:

06/02/2015

Rate	Fringe	Total
52.53	26.14	78.67

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

06/02/2015

Rate	Fringe	Total
31.82	18.28	50.10

CLASSIFICATIONS:

Pipeline Helper

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date : 10/31/2015**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

SHIFT DIFFERENTIALS:

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

OVERTIME:

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

10/30/2014

Rate	Fringe	Total
54.13	20.90	75.03

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

10/30/2014

Rate	Fringe	Total
54.13	20.90	75.03

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

10/30/2014

Rate	Fringe	Total
35.07	15.09	50.16

CLASSIFICATIONS:

Pipeline Helper

ASPHALT LABORERS- NORTH **Rates Expiration Date : 08/31/2017**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
38.00	26.28	64.28	65.03	66.53	67.63	70.03

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.70	26.28	62.98	63.73	65.23	66.33	68.73

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

	06/05/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
36.45	26.28	62.73	63.48	64.98	66.08	68.48

CLASSIFICATIONS:

Asphalt Raker or Lute Man

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS- NORTH Rates Expiration Date : 08/31/2017

Effective Dates:

06/05/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
35.75	26.28	62.03	62.78	64.28	65.38	67.78

CLASSIFICATIONS:

Asphalt Laborer

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

Electrician-Utility Work (North)

(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).

These rates apply to work contracted for by the following utility companies:

Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.

These rates do not apply to work on substations or switching stations.

For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.

SHIFT DIFFERENTIALS:

Shift work must run for a minimum of 5 consecutive workdays.

2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.

3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.

Four 10-hour days may worked, at straight time, between 7:00 AM and 6:30 PM, Monday through Thursday.

RECOGNIZED HOLIDAYS:

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

Effective Dates:

	12/01/2014		11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
48.93	32.78	81.71	84.36	87.27

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

	12/01/2014		11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
46.16	30.92	77.08	79.59	82.34

CLASSIFICATIONS:

Journeyman Lineman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
46.16	30.92	77.08	79.59	82.34

CLASSIFICATIONS:

Special License Operator

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
45.70	30.61	76.31	78.79	81.51

CLASSIFICATIONS:

Transit Man

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
44.32	29.69	74.01	76.40	79.04

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
38.78	25.98	64.76	66.85	69.17

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
54.47	36.49	90.96	93.92	97.16

CLASSIFICATIONS:

General Foreman

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
53.09	35.57	88.66	91.53	94.68

CLASSIFICATIONS:

Assistant General Foreman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
51.70	34.63	86.33	89.14	92.21

CLASSIFICATIONS:

Line Foreman

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
37.39	25.05	62.44	64.46	66.69

CLASSIFICATIONS:

Straight Light Mechanical Leader

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
35.54	23.81	59.35	61.28	63.40

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
35.54	23.81	59.35	61.28	63.40

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
35.08	23.50	58.58	60.48	62.57

CLASSIFICATIONS:

Straight Light Mechanic

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
35.08	23.50	58.58	60.48	62.57

CLASSIFICATIONS:

Line Equipment Mechanic

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
30.01	20.10	50.11	51.73	53.52

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
27.70	18.55	46.25	47.76	49.39

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

12/01/2014			11/29/2015	12/04/2016
Rate	Fringe	Total	Total	Total
45.70	30.61	76.31	78.79	81.51

CLASSIFICATIONS:

Line Equipment Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 11/30/2015**

Electrician-Utility Work (South)

(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).

These rates apply to work contracted for by the following utility company:

Atlantic City Electric.

These rates do not apply to work on substations or switching stations.

For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.

SHIFT DIFFERENTIALS:

Shift work must run for a minimum of 5 consecutive workdays.

When two (2) or three (3) shifts are worked the following shall apply:

1st shift (between the hours of 8:00 AM and 4:30 PM)

2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and Holidays shall be paid double the hourly rate.

Four 10-hour days may be worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday with Friday used as a make-up day.

RECOGNIZED HOLIDAYS:

New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day or on days celebrated.

WORKING RULES:

There shall be a Foreman in charge of each work crew. No crews are to exceed twelve (12) men, including Foremen.

There shall be a General Foreman designated for transmission work when three (3) or more crews are on the same job and for distribution work where there are more than twenty (20) employees on site.

A small job crew shall consist of five (5) or less employees, one (1) of the Journeyman Linemen in the crew shall be designated as a Small Job Foreman.

Work performed from ladders and/or mechanical lift equipment shall be the work of Linemen and/or Apprentices.

On new construction, fitting and framing poles, towers or structures may be done by Journeymen and/or Apprentices. Groundmen may assist, but may not perform any work which would be performed by Linemen if assembled in the air.

There shall be a Journeyman Lineman in each pole setting, erection, grounding, wire and cable-pulling crew of more than three (3) men.

Effective Dates:

12/04/2014

Rate	Fringe	Total
56.05	41.02	97.07

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 11/30/2015

Effective Dates:

12/04/2014

Rate	Fringe	Total
49.92	37.54	87.46

CLASSIFICATIONS:

Foreman

Effective Dates:

12/04/2014

Rate	Fringe	Total
47.29	36.06	83.35

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/04/2014

Rate	Fringe	Total
43.79	34.05	77.84

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/04/2014

Rate	Fringe	Total
43.79	34.05	77.84

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/04/2014

Rate	Fringe	Total
43.79	34.05	77.84

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/04/2014

Rate	Fringe	Total
43.79	34.05	77.84

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 11/30/2015

Effective Dates:

12/04/2014

Rate	Fringe	Total
43.79	34.05	77.84

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/04/2014

Rate	Fringe	Total
35.03	29.07	64.10

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/04/2014

Rate	Fringe	Total
30.65	26.57	57.22

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/04/2014

Rate	Fringe	Total
28.46	25.33	53.79

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/04/2014

Rate	Fringe	Total
26.27	24.08	50.35

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2014

Rate	Fringe	Total
24.08	22.84	46.92

CLASSIFICATIONS:

Groundman 1st Year

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 11/30/2015

Effective Dates:

12/04/2014

Rate	Fringe	Total
19.27	20.09	39.36

CLASSIFICATIONS:

Flagman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 08/31/2017

THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
57.75	26.28	84.03	85.03	86.78	88.31	91.28

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	06/11/2015		09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
57.30	26.28	83.58	84.58	86.03	87.86	90.83

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date : 08/31/2017**

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
56.55	26.28	82.83	83.83	85.58	87.11	90.08

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
60.30	26.28	86.58	87.58	89.33	90.86	93.83

CLASSIFICATIONS:

Blaster

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
55.73	26.28	82.01	83.01	84.76	86.28	89.26

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
55.20	26.28	81.48	82.48	84.23	85.76	88.73

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
54.98	26.28	81.26	82.26	84.01	85.53	88.51

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 08/31/2017

Effective Dates:

06/11/2015			09/01/2015	03/01/2016	09/01/2016	03/01/2017
Rate	Fringe	Total	Total	Total	Total	Total
54.23	26.28	80.51	81.51	83.26	84.78	87.76

CLASSIFICATIONS:

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of New Jersey Department of Transportation, 2007 Edition; is added to and/or amended elsewhere herein by the Notice to Contractors (Advertisement), Proposal, Information for Bidders, General Conditions, Special Provisions, Project Plans, and Supplementary Specifications; shall, insofar as technical requirements are involved, govern in the execution of this project.

Such Standard Specifications are made a part of these Specifications by this reference and will not be repeated herein. It is the responsibility of prospective bidders to familiarize themselves with these Standard Specifications, copies of which may be examined at the office of the Engineer and may be obtained, upon payment of the cost thereof, from:

Department of Transportation
State of New Jersey
1035 Parkway Avenue
Trenton, New Jersey 08625

The Notice to Bidders (Advertisement), Proposal, General Conditions, Instructions to Bidders, Special Provisions, Project Plans and/or Technical Specifications shall govern and prevail in the case of conflict between them and the Standard Specifications.

In these Standard Specifications the words "COMMISSIONER" or "DEPARTMENT" shall refer to and mean the person, persons, body, board or agent legally empowered to enter into contracts and otherwise legally act for the Owner. The words "RESIDENT ENGINEER (RE)", "ENGINEER" or "STATE" shall refer to and mean the professional engineering representative of the Owner as hereinbefore defined and the word "INSPECTOR" shall mean the authorized project representative of the Engineer with the authority as hereinbefore defined. The word "LABORATORY" shall mean and refer to the Engineer who may, at his discretion, and with the consent of the Owner, employ qualified technical personnel or testing laboratories to assist him in fulfilling the duties normally assigned to the "LABORATORY" in these Standard Specifications.

When reference is made herein to the bulletins, standards, specifications, publications or requirements of the Manual on Uniform Traffic Control Devices (MUTCD), Institute of Traffic Engineers (ITE), Federal Highway Administration (FHWA), American Association of State Highway Officials (AASHTO), the American Concrete Institute (ACI), the American Society of Civil Engineers (ASCE) or similar national or regional societies, associations, institutes or organizations; the requirements of the bulletins, specifications, publications or requirements referred to shall be considered a part of these Specifications by such reference and shall not be repeated herein but shall have the same import and be as binding as if herein set forth in full.

DRAFT AIA Document A101™ - 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

The County Engineer or his designee:
(Name, legal status, address and other information)

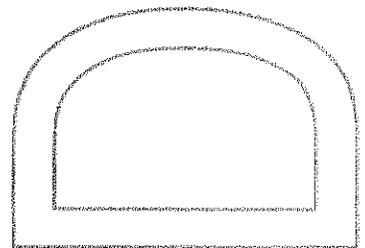
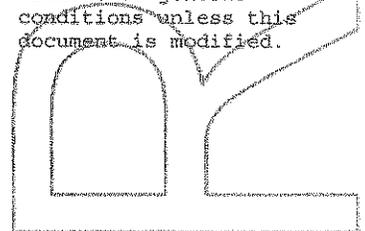
The Owner and Contractor agree as follows.



ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

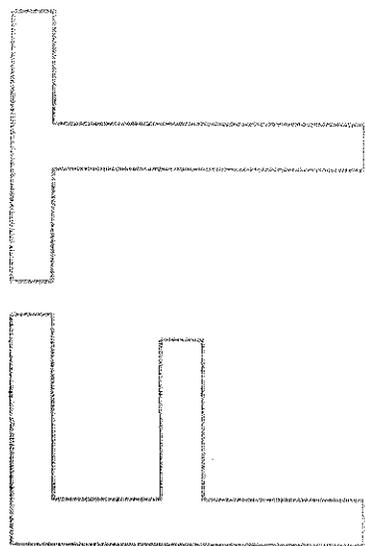
AIA Document A201™-2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.



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TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
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- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS
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ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. The Contractor will not be compensated for labor or materials outside the scope of work that is not properly authorized.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a Notice to proceed issued by the Owner, which is anticipated to be on or about

(())

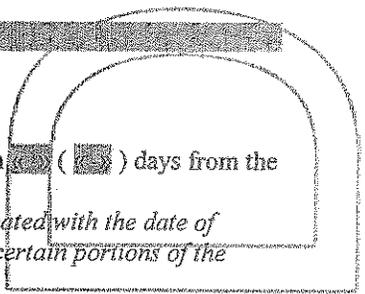
If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows: Not applicable.

(())

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than (()) days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)



Portion of Work

Substantial Completion Date

Entire Work

TBD

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

« » Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to pay the Owner One Thousand Dollars (\$1,000.00) per day for as liquidated damages, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it is being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages to be construed as a penalty to the Contractor. (See Bid Documents)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » (\$ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

« »
§ 4.3 Unit prices, if any:

(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
« »	« »	« »

§ 4.4 Allowances included in the Contract Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
« »	« »

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the County Engineer or his designee by the Contractor and Certificates for Payment issued by the County Engineer or his designee, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »
§ 5.1.3 The Contractor shall submit a Preliminary Payment Request (Pencil Requisition) to the County Engineer or his designee on the twenty-fifth (25th) day of any given calendar month for Work performed during that month,

Upon receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall review the Pencil Requisition and approve or disapprove of it in whole or in part as set forth hereafter. Within (4) calendar days of receipt of the Pencil Requisition from the Contractor, the County Engineer or his designee shall return the Pencil Requisition to the Contractor, with those charges that are approved or disapproved, if any, by the County Engineer or his designee, for the Contractor's incorporation into an Application for Payment. Within two (2) calendar days of return of the Pencil Requisition from the County Engineer or his designee, the Contractor shall submit a formal application for Payment to the County Engineer or his designee for review and approval by the County Engineer or his designee incorporating any revisions made by the County Engineer or his designee in the Pencil Requisition submission. Within five (5) calendar days of receipt of Contractor's Application for Payment, the County Engineer or his designee shall take any one of the following actions:

- 1) Certify the entire Application for Payment;
- 2) Certify partial payment and provide the Contractor with reasons for withholding the remaining portion of the payment; or
- 3) Withhold certification of the entire Application for Payment and provide the Contractor with reasons for withholding the entire payment,

Once the Application for Payment is certified either in whole or in part, the County Engineer or his designee shall transmit the Certified Payment Application within three (3) calendar days to the Owner for its review and payment. The Owner shall make payment to the Contractor for the Certified Payment Amount by no later than the time period set forth in the New Jersey Prompt Payment Act following receipt of the Certificate for Payment from the County Engineer or his designee. The Owner shall not be obligated to pay any Application for Payment until the Application for Payment is certified by the County Engineer or his designee. Approval of any Application for Payment may be withheld should the Contractor fail to submit Manning Reports in a timely manner.

Pursuant to N.J.S.A. 2A:30A-1 et seq. (the "Prompt Payment Act"), a public or governmental entity that requires the entity's governing body to vote on authorizations for each periodic payment, final payment, or retainage monies, such as the Owner, is excepted from the timing requirements of the Act. Accordingly, the Owner shall not approve the Contractor's Application for Payment until it is certified by the County Engineer or his designee in accordance herewith and shall not approve the Contractor's Certified Payment Application until the next scheduled public meeting of the Owner following the Owner's receipt of the Certified Payment Application from the County Engineer or his designee. The Owner shall not make payment to the Contractor for the Certified Payment Amount until the Owner's subsequent payment cycle following its approval of the Payment Application.

Pursuant to this same Act, if a payment due pursuant to the provisions herein is not made in a timely manner, the Owner shall be liable for the amount of money owed under the contract, plus interest at a rate equal to the prime rate plus one percent (1%), notwithstanding anything to the contrary in the Contract Documents. Interest on amounts due pursuant to the Act shall be paid to the prime contractor for the period beginning on the day after the required payment date and ending on the day on which the check for payment is received by the Contractor.

Pursuant to this same Act, disputes regarding whether a party has failed to make payments required by the Act may be submitted to a process of alternative dispute resolution, notwithstanding anything to the contrary in the contract documents, where the parties agree to same. Alternative dispute resolution permitted by the Act shall not apply to disputes concerning any other matters that may arise under or from this Contract. Any civil action brought to collect payments shall be conducted in Union County, State of New Jersey, and the prevailing party shall be awarded reasonable costs and attorneys' fees.

§5.1.4 The County Engineer or his designee may decide not to certify payment and may withhold a Certificate for Payment, in whole or in part, to the extent reasonably necessary to protect the Owner if, in the County Engineer or his designee's opinion, the representations as described in Section 5.1.5 below cannot be made to the Owner. If the County Engineer or his designee withholds a Certificate for Payment, the County Engineer or his designee will notify the Contractor and Owner as provided in Section 5.1.3 above. If the Contractor and County Engineer or his designee cannot agree on a revised amount, the County Engineer or his designee will issue a Certificate for Payment for the amount for which the County Engineer or his designee is able to make such representations to the Owner as set forth in Section 5.1.3 above. The County Engineer or his designee may also decide to withhold certifying

payment in whole or in part, or, because of subsequently discovered evidence or subsequent observations, to such extent as may be necessary in the County Engineer or his designee's opinion to protect the Owner from loss because of:

- .1 Defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or Liquidated Damages for the anticipated delay;
- .7 failure to carry out the Work in accordance with the Contract Documents;
- .8 avoidable delay in the progress of the Work;
- .9 deliberate delay in the submission for approval of names of Subcontractors, materialmen, sources of supply, shop drawings, and samples;
- .10 failure to maintain the Project Site in a safe and satisfactory condition in accordance with good construction practices as determined by the County Engineer or his designee; or
- .11 failure to submit updates as required by the General Conditions.

When the foregoing reasons for withholding certification are resolved, certification will be made for amounts previously withheld in the manner set forth in Section 5.1.3 above.

§5.1.5 The issuance of a separate Certificate for Payment will constitute representations made separately by the County Engineer or his designee to the Owner, based on its individual observations at the site and the data comprising the Application for Payment submitted by the Contractor, that the Work has progressed to the point indicated and that, to the best of the County Engineer or his designee's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents.

The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the County Engineer or his designee. The

issuance of a separate Certificate of Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a separate Certificate for Payment will not be a representation that the County Engineer or his designees has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures; (3) reviewed copies of requisitions received from Subcontractor's and materials suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§5.1.6 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the County Engineer or his designee may require. This schedule, unless objected to by the County Engineer or his designee, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§5.1.7 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.8 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ~~5~~ percent (~~5~~ %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™-2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ~~5~~ percent (~~5~~ %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the County Engineer or his designee has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201-2007.

§5.1.9 The progress payment amount determined in accordance with Section 5.1.8 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the County Engineer or his designee shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201-2007.

§5.1.10 Retainage shall be determined as follows: Pursuant to N.J.S.A. 40A:11-6.1, the Owner will withhold two percent (2%) of the amount due on each partial payment when the outstanding balance of the Contract exceeds One Hundred Thousand Dollars (\$100,000.00).

§5.1.11 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201-2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the County Engineer or his designee.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the County Engineer or his designee's final Certificate for Payment, or as follows:

« »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The County Engineer or his designee will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201-2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the County Engineer or his designee.)

« »
« »
« »
« »

§ 6.2 BINDING DISPUTE RESOLUTION

Except as provided in Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, all claims, disputes or other matters in question between the parties to this Contract, arising out of or relating to the Project or to the Contract, or the alleged breach hereof, shall be subject one to mediation, and if not resolved, then same shall be decided in a Court of competent jurisdiction venued in Union County, New Jersey. No party may be compelled to submit any dispute concerning the Project to arbitration. In the event any claim arising from the Project is beyond the jurisdiction of the court, the Contract consents to joinder as a party to such action or alternative dispute proceeding.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201-2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall in no instance bear interest, except as required by law in accordance with Section 5.1.3 hereof.

§ 8.3 The Contractor shall ensure that the Project Site is maintained in a clean and safe condition at all times, based upon Owner's sole discretion. If the Contractor fails to keep the Project Site in a clean and safe condition, said failure shall result in the following:

- .1 all claims resulting from the Contractor's failure shall be the Contractor's responsibility;
- .2 said failure shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the contract Documents; and
- .3 the Owner shall have the right to withhold any payments until the Contractor cures its failure.

Failure to do so shall authorize the Owner to withhold any Applications for payment until such time as the Contractor has rectified same. Further, if the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

§ 8.4 Indemnification – See Indemnification Requirements in Bid Documents.

§ 8.5 The within contract shall be governed by and interpreted pursuant to the law of the State of New Jersey.

§ 8.6 The Contractor shall comply with the anti-discrimination provisions of N.J.S.A. 10:2-1 et seq., the New Jersey Law Against Discrimination, N.J.S.A. 10:5-1 et seq., N.J.A.C. 17:27-1.1 et seq. and shall guarantee to afford equal opportunity in performance of the Work in accordance with an affirmative action program approved by the State Treasurer. (See Page G-21).

§ 8.7 The Contractor shall submit proof of Business Registration for itself and its subcontractors to the Owner and shall provide written notice to its subcontractors and suppliers of the responsibility to submit proof of business registration to the contractor. The requirement of proof of Business Registration extends down through all levels (tiers) of the Project.

The Contractor agrees to comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation.

For the term of the contract, the Contractor, any subcontractor, and each of their affiliates [N.J.S.A. 52:32-44(g)93], shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et seq.) on all of their sales of tangible personal property delivered into the State of New Jersey, regardless of whether the tangible personal property is intended for a contract with a contracting agency. For purposes herein, "affiliate" shall mean any entity that: (a)

directly, indirectly or constructively controls another entity; (b) is directly, indirectly, or constructively controlled by another entity; or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the Ownership interest in that entity.

§8.8 This Standard Form of Agreement and the General Conditions set forth in the Bid Documents shall control in the case of conflict between these documents and the Project Specifications, the Project Manual, and any other exhibits incorporated by reference in this Contract.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below, and incorporated herein as if set forth in their entirety.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

« See Specifications as referenced by Exhibit B.

Section	Title	Date	Pages

§ 9.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

« See List of Drawings, annexed hereto as Exhibit C.

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™-2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

■

.2 Other documents, if any, listed below:

■

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201-2007.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201-2007.)

Type of insurance or bond

Limit of liability or bond amount (\$0.00)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

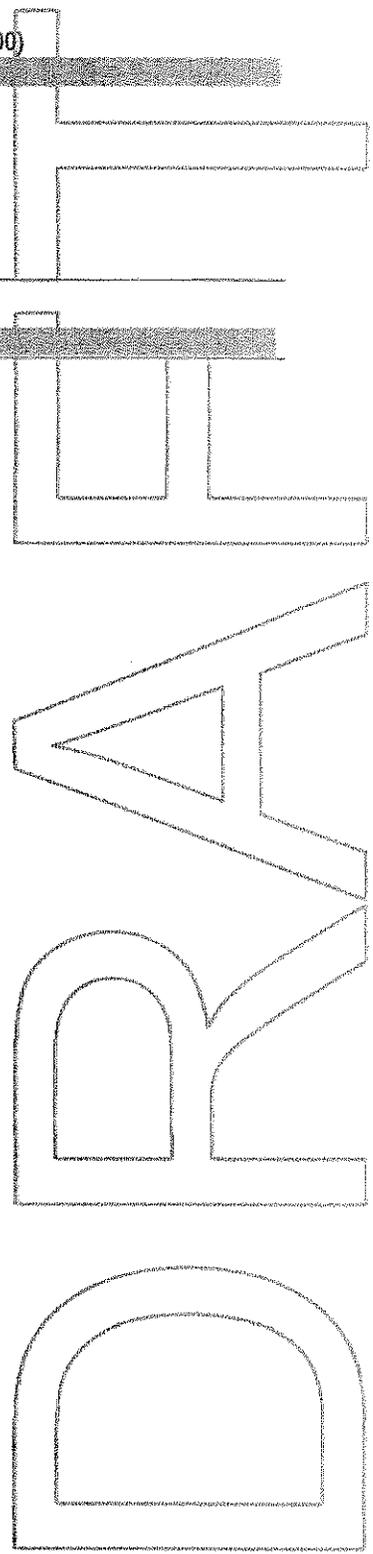
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(Printed name and title)

CONTRACTOR (Signature)

<><><>

(Printed name and title)



DRAFT AIA Document A201™ - 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

«County of Union»

« »

THE OWNER:

(Name, legal status and address)

« »

« »

THE ENGINEER, OR HIS DESIGNEE :

(Name, legal status and address)

« »

« »

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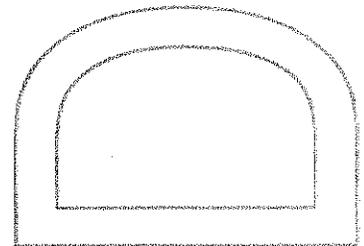
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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion.

The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.



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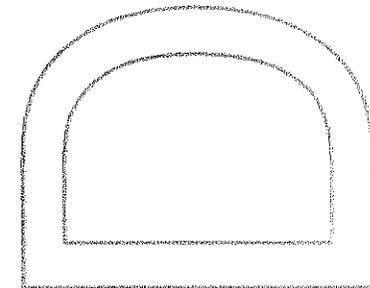
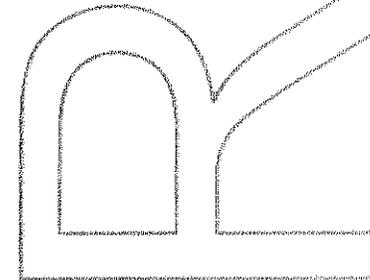
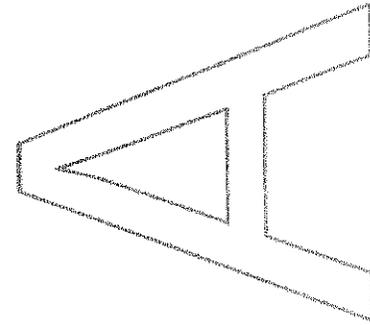
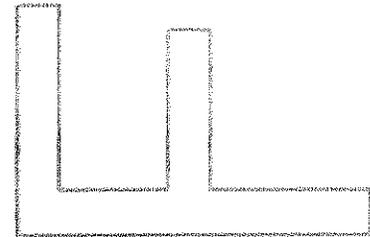
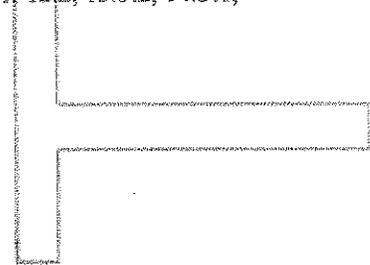
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect or Engineer. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Engineer, or his designee or the Engineer, or his designee's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Engineer, or his designee or the Engineer, or his designee's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Engineer, or his designee's shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Engineer, or his designee's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Engineer, or his designee and the Engineer, or his designee's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent

consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Engineer, or his designee s.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Engineer, or his designee and the Engineer, or his designee 's consultants shall be deemed the authors and Owners of their respective Instruments of Service, including the Drawings and Specifications. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Engineer, or his designee or Engineer, or his designee 's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Engineer, or his designee and the Engineer, or his designee 's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided elsewhere in the Contract Documents, the Engineer, or his designee does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 The Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only in the event that: (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 If readily available, the Owner shall furnish surveys describing physical characteristics and legal limitations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall be responsible for requesting and obtaining a utility mark-out.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Article 12 or fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6. Owner shall in no way be responsible for any delays or claims arising from delays for enforcement of this Section.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Engineer, or his designee's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located and shall maintain as current any approvals or certifications that may be required to perform the Work. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Engineer, or his designee in the Engineer, or his designee's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Engineer, or his designee any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Engineer, or his designee may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a Contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Engineer, or his designee any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Engineer, or his designee may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Engineer, or his designee issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Engineer, or his designee for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Engineer, or his designee and shall not proceed with that portion of the Work without further written instructions from the Engineer, or his designee. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Engineer, or his designee in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after

evaluation by the Engineer, or his designee and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Engineer, or his designee that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Engineer, or his designee, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Such warranty shall continue for a period of one (1) year from the date of Substantial Completion of the Work. Under this warranty, the Contractor shall remedy at his expense any such failure for the Work to be conforming to the requirement of the Contract, or any other defect appearing in the Work. In addition, the Contractor shall remedy at his own expense, any damage to Owner's owned, controlled, real or personal property, when that damage is the result of the Contractor's failure to provide conforming Work as it relates to the Contract Documents or any other defect of equipment, material, workmanship or design. The Contractor shall also restore any Work damaged in fulfilling its obligations under the terms of this provision. The Contractor's warranty with respect to the Work repaired or replaced hereunder will run for a period of one (1) year from the date of repair or replacement.

§ 3.6 TAXES

The Contractor shall pay use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Engineer, or his designee before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Engineer, or his designee will promptly investigate such conditions and, if the Engineer, or his designee determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Engineer, or his designee determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Engineer, or his designee shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Engineer, or his designee's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Engineer, or his designee. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2. The unused balance of any allowance shall be deducted from the Contract Sum upon completion and acceptance of the Work by Change Order.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Engineer, or his designee the name and qualifications of a proposed superintendent. The Engineer, or his designee may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Engineer, or his designee has reasonable objection to the proposed superintendent or (2) that the Engineer, or his designee requires additional time to review. Failure of the Engineer, or his designee to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Engineer, or his designee has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Engineer, or his designee's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Engineer, or his designee's approval. The Engineer, or his designee's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Engineer, or his designee reasonable time to review submittals. If the Contractor fails to submit a submittal

schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Engineer, or his designee .

§3.10.4 Should the Contractor responsible for the scheduling requirements of Article 3 herein fail to comply with said scheduling requirements, said failure shall result in the following:

- 1 all claims resulting from the Contractor's failure to prepare or submit a schedule shall be the Contractor's responsibility;
- 2 shall constitute an act of default and a substantial breach of the Contract giving the Owner remedies under the Contract Documents; and
- 3 the Owner shall have the right to withhold any payments until the Contractor complies with the scheduling requirements of Article 3 herein.

§3.10.5 In the event of a Five Prime Contract, the General Contractor shall be responsible for the preparation and submittal of the schedule.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Engineer, or his designee and shall be delivered to the Engineer, or his designee for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Engineer, or his designee is subject to the limitations of Section 4.2.7. Informational submittals upon which the Engineer, or his designee is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Engineer, or his designee without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Engineer, or his designee Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Engineer, or his designee or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Engineer, or his designee that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Engineer, or his designee .

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Engineer or his designee 's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Engineer, or his designee in writing of such deviation at the time of submittal and (1) the Engineer, or his designee has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Engineer, or his designee 's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Engineer, or his designee on previous submittals. In the absence of such written notice, the Engineer, or his designee 's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of Engineer, or his designee ure or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Engineer, or his designee will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Engineer or his designee . The Owner and the Engineer, or his designee shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Engineer, or his designee have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Engineer, or his designee will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Owner before using any portion of the Site.

§ 3.13.3 The Contractor shall store its apparatuses, materials, supplies, and equipment in such orderly fashion at the Site of the Work, if permitted, as will not unduly interfere with the progress of the Work or ongoing operations. The Contractor shall provide protective fencing around the designated storage areas.

§ 3.13.4 The Contractor shall see that stockpiles of materials and storage of equipment are kept to a minimum and neatly stored where directed by the Owner and the Engineer, or his designee .

§ 3.13.5 If the Work is to be executed in areas occupied by the Owner, the Contractor shall inform the Owner in advance of the areas scheduled to be worked on, so that the Owner's personnel may make proper preparations to protect equipment and records.

§3.13.6 The Contractor understands that some or all the Work of the Contract may be performed while the facilities are occupied by personnel, and accordingly shall make all reasonable and necessary provisions to ensure that the contract Work will be of minimal disruption to the environment.

§3.13.7 Materials and equipment that are to be used only directly in the Work, shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project Site. Protection of construction materials and equipment stored at the Project Site from weather, theft, damage and all other adversity is solely the Contractor's responsibility. The Contractor shall bear the responsibility to replace all such materials that may be lost, damaged, or stolen at its expense, whether such materials or equipment have been entirely or partially paid for by the Owner.

§3.13.8 The Contractor and any entity for whom the Contractor is responsibility, shall not erect any sign on the Project Site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.

§3.13.9 Contractor shall ensure that the Work is performed at all times in a manner that affords reasonable access, both vehicular and pedestrian, to the Site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

§3.13.10 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project Site, including, without limitation, the lavatories, toilets, entrances, and parking areas, other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project Site and the Building, as amended from time to time. The Contractor shall immediately notify the Owner in writing, if during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable. This notification shall set forth the problems of such compliance and shall suggest alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project Site and the Building.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents. Any costs incurred by the Onwer for defective cutting or patching shall be borne by the Contractor responsible therefore.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate Contractor except with written consent of the Owner and of such separate Contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate Contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor, or shall be entitled to reduce the Contract Amount in an amount equal to the Owner's cost to clean up.

§3.15.3 The Contractor shall, on a daily basis, clean debris resulting from its Work, and protect construction in progress and maintain adjoining materials in place during handling and installation, and provide protective covering where required to assure protection from damage or deterioration until Substantial Completion.

§3.15.4 The Contractor shall clean and provide maintenance on completed construction, after installation, as frequently as necessary through the remainder of the construction period.

§3.15.5 The Contractor shall supervise its construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. The term "clean" shall include the removal of debris from the work area to dumpsters furnished by the Prime General Work Contractor or the Contractor for Single Overall Contract Work, whichever contracting method shall apply.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Engineer, or his designee access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Engineer, or his designee harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Engineer, or his designee. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Engineer, or his designee.

§ 3.18 INDEMNIFICATION

§ 3.18.1 The County of Union requires all bidders to accept the following indemnification requirements in the event the County accepts their bid. The Contract awarded by the County to the successful bidder will contain the following provision:

"To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner and Owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorney's fees, legal costs and legal expenses arising out of or resulting from the performance of the Contractor's work under this contract, provided that such claim, damage, loss, cost or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Contractor, anyone directly or indirectly employed or retained by the Contractor, or anyone for whose acts the Contractor may be liable regardless of whether caused in part by the negligent act or omission of a party indemnified hereunder provided it is not caused by the sole negligence of a party indemnified hereunder. Contractor shall further indemnify and hold harmless the Owner and the Owner's consultants, agents, representative, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses, arising out of or resulting from performance of the work, provided that such claims, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to destruction of tangible property (other than work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Owner or the Owner's consultants, agents, representatives, or employees and arises out of this project and provided such claim, damage, loss, cost, or expense is not caused by the sole negligence of a party indemnified hereunder."

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ENGINEER, OR HIS DESIGNEE OR ENGINEER

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an Engineer, or his designee lawfully licensed to practice Engineer, or his designee in the jurisdiction where the Project is located. That person or entity is identified as the Engineer, or his designee in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Engineer, or his designee as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Engineer, or his designee. Consent shall not be unreasonably withheld.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Engineer, or his designee will provide administration of the Contract as set forth in its respective Agreements with the Owner and as described in the Contract Documents.

§ 4.2.2 The Engineer, or his designee will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Engineer, or his designee will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Engineer, or his designee about matters arising out of or relating to the Contract. Communications by and with the Engineer, or his designee's consultants shall be through the Engineer, or his designee. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Engineer, or his designee's evaluations of the Contractor's Applications for Payment, the Engineer, or his designee will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Engineer, or his designee has authority to reject Work that does not conform to the Contract Documents. Whenever the Engineer, or his designee considers it necessary or advisable, the Engineer, or his designee will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Engineer, or his designee nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty of responsibility of the Engineer, or his designee to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Engineer, or his designee will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Engineer, or his designee's action will be taken in accordance with the submittal schedule approved by the Engineer, or his designee or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Engineer, or his designee's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Engineer, or his designee's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Engineer, or his designee's review shall not constitute

approval of safety precautions or, unless otherwise specifically stated by the Engineer, or his designee, of any construction means, methods, techniques, sequences or procedures. The Engineer, or his designee's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Engineer, or his designee will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7. The Engineer, or his designee will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Engineer, or his designee will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Engineer, or his designee agree, the Engineer, or his designee will provide one or more project representatives to assist in carrying out the Engineer, or his designee's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in the Owner's Agreement with the Engineer, or his designee.

§ 4.2.11 The Engineer, or his designee will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Engineer, or his designee's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Engineer, or his designee will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Engineer, or his designee will endeavor to secure faithful performance by both Owner and Contractor and will not show partiality.

§ 4.2.13 The Engineer, or his designee will review and respond to requests for information about the Contract Documents. The Engineer, or his designee's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Engineer, or his designee will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate Contractor or subcontractors of a separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Identification of Subcontractors required by N.J.S.A. 40A:11-16 shall be provided with the bid submission in accordance with the requirements of that statute. Names of persons or entities for any Subcontractor not covered by N.J.S.A. 18A-18 shall be furnished within thirty (30) thirty days of notification of Award of Contract. The Engineer, or his designee will notify the Contractor in writing if the Owner or Engineer, or his designee, after due investigation, has reasonable objection to any such proposed person or entity. The list of proposed Subcontractors shall include a description of the materials and equipment each proposes to furnish and install in the Work. The description shall be insufficient detail to allow the Engineer, or his designee to determine general conformance to Contract requirements. Approval of the submittals as required under this Article shall not relieve the Contractor from conformance to Contract requirements.

§5.2.2 Subcontractors shall comply with the statutory requirements of N.J.S.A. 34:11-56.25 and N.J.S.A. 34:11-56.48. Any subcontractors who fail to comply with those statutory provisions shall be rejected.

§5.2.3 Written confirmation of award of each major subcontract shall be submitted to the Owner by the Contractor, in form subject to his approval, within seven (7) days after receipt of Owner's approval of proposed Subcontractor list as provided under this Article. Every subcontract shall be in writing, shall be submitted to Owner for review and approval prior to execution, and shall specifically provide that the Owner is an intended third (3rd) party beneficiary of such subcontract.

§ 5.2.4 The Contractor shall not contract with a proposed person or entity to whom the Owner or Engineer, or his designee has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.5 If the Owner or Engineer, or his designee has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Engineer, or his designee has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.6 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Engineer, or his designee makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

§5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Engineer, or his designee. Each subcontract agreement shall preserve and protect the rights of the Owner and Engineer, or his designee under the Contract Documents and at law. No Subcontract shall diminish in any way any rights or benefits conferred upon the Owner by these Contract Documents. The Contractor shall make all Contract Documents available to the Subcontractors.

§5.3.2 Where the Contractor sublets portions of the Work, the entire responsibility for the subdividing of Work rests with the Contractor. The Owner and the Engineer, or his designee are not responsible for the manner of the subdivision of the Work, nor will they enter into or settle disagreements or disputes between Contractor and Subcontractors. The Contractor is, and will be held, responsible for the proper execution of the Work of all Subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- 1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing.

§ 5.4.2 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site.

§ 6.1.2 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Engineer, or his designee apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.4.1 Should the Contractor cause damage to the Work or property of any separate Contractor on the Project, the Contractor shall promptly settle with such other Contractor by agreement, or otherwise resolve the dispute. If such separate Contractor institutes any legal proceeding against the Owner on account of any damage alleged to have been so sustained, the Contractor shall, indemnify, defend, or bear the cost of defense as the Owner shall in its own discretion determine, and hold the Owner's harmless. Said Indemnification shall be governed by Section 13, Page G7 of the Instructions to Bidders.

§ 6.2.5 The Owner and each separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Engineer, or his designee will allocate the cost among those responsible, which amounts the Owner shall be entitled to reduce the Contract Amounts of the various contracts of those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. Change Orders and Construction Change Directives shall be subject to and processed in accordance with N.J.A.C. 6A:23-7 and N.J.A.C. 6A:26-4.9, where applicable.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Engineer, or his designee; a Construction Change Directive requires a written agreement by the Owner and Engineer, or his designee and may or may not be agreed to by the Contractor; an order for a minor change in the Work which does not extend the Contract Time, increase the Contract Sum or change the Project Scope may be issued by the Engineer, or his designee alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 In order to facilitate checking of quotations for extras or credits, all proposals shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Engineer, or his designee and signed by the Owner, Contractor and Engineer, or his designee stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

A Change Order shall not require consent of the Owner if the Owner has provided an allowance for such a change.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum shall be those listed in Section 7.3.3.

§ 7.2.3 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change, and any and all adjustments to the Contract Sum and the construction schedule. In the event a Change Order increases the Contract Sum, Contractor shall include the Work covered by such Change Orders in Applications for Payment as if such Work were originally part of the Contract Documents.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Engineer, or his designee and signed by the Owner and Engineer, or his designee, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. A Construction Change Directive shall not require the Agreement of the Engineer, or his designee if the Owner specifically waives their consent in writing. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.6.

§ 7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Engineer, or his designee of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. The Contractor's failure to comply with a Construction Change Directive shall constitute an incident of default and cause for termination by the Owner.

§ 7.3.5 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Engineer, or his designee shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Engineer, or his designee may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.6 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.

§ 7.3.7 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Engineer, or his designee. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.8 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Engineer, or his designee will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Engineer, or his designee determines, in the Engineer, or his designee's professional judgment, to be reasonably justified. The Engineer, or his designee's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.9 When the Owner and Contractor agree with a determination made by the Engineer, or his designee concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Engineer, or his designee will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.10 In subparagraphs 7.3.3 and 7.3.6, the allowance for overhead and profit combined shall be based upon the following schedule:

- .1 For the Contractor, for work performed by his own forces, 10% of cost.
- .2 For each Subcontractor, for the work performed by his own forces, 10% of cost.
- .3 For the Contractor, for work performed by a subcontractor, 5% of cost.

§ 7.3.11 Lump sum quotations for changes in the Work will not be accepted. Proposals shall be completely itemized and broken down. They shall be accompanied by such supporting data as the Engineer, or his designee may require, such as copies of subcontractor's or vendor's quotations, quantity take-off sheets, or other similar information.

§ 7.4 MINOR CHANGES IN THE WORK

The Engineer, or his designee has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Engineer, or his designee and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work and services as required by the Contract

Documents, Substantial Completion of the Work shall be accomplished within the period of consecutive calendar days (or by the date), as stated in the Agreement, plus any authorized extension(s) of time as approved by written agreement. Final Completion of the Work shall be no later than thirty (30) consecutive calendar days from the date of Substantial Completion of the Work, unless otherwise set forth in Article 3.2 of the Owner/Contractor Agreement.

§ 8.1.2 Intentionally omitted

§ 8.1.3 Intentionally omitted.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work. There will be no bonus or incentives paid, should the Work, or any portion thereof, be completed in advance of the specified activity milestone dates.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 Intentionally omitted

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 Intentionally omitted

§ 8.3.4 No payment, compensation, or adjustment of any kind shall be made to the Contractor by the Owner for damages resulting from hindrances or delays caused by the delays of other contractors, or from foreseeable circumstances not attributable to the Owner's conduct. The Contractor agrees that it will make no claim against the Owner for payment, compensation, damages, mitigation of Liquidated Damages, or adjustment of any kind for such hindrances or delays, and will accept such extensions of time as may be granted by the Owner in the Owner's sole discretion in full satisfaction for any and all alleged claims against the Owner for any and all such hindrances or delays. For purposes of this Agreement, disputes arising between contractors before or during construction, adverse weather conditions, and delays on the part of local authorities issuing permits shall be considered foreseeable circumstances. Notwithstanding the foregoing, nothing herein shall limit the Contractor's remedies for Owner's negligence, bad faith, active interference, tortious conduct, or other reasons unanticipated by the parties that delay expenditures paid by the Owner to the Engineer, or his designee, other individual or entity, or to any inspector or inspectors necessarily employed by it on the Work, for any number of days in excess of the Contract Time, shall be deducted for the Contract Sum.

§ 8.3.5 The provisions of this Article shall not be so interpreted or construed as to preclude or prevent the Contractor from making and prosecuting any claim against any separate Contractor engaged or employed by the Owner for damages alleged to have been caused or occasioned by any such separate Contractor.

§ 8.3.6 To the extent permitted by law, the Owner may suspend the whole or any part of the Work, if it shall deem it for the best interest of the Owner to do so, without compensation to the Contractor for such suspension, other than extending the time for completion of the Work as much as it may have been delayed by such suspension. During such suspension, all materials delivered upon, but not placed in the Work shall be neatly piled by the Contractor so as not to obstruct public travel, or shall be removed from the line of Work at the direction of the Owner and, unless the

materials be moved by the Contractor upon such direction, the materials shall be removed by the Owner and expense thereof will be charged to the Contractor.

§8.4.1 Should the Contractor fail to complete fully, and in conformity with all provisions of the Contract within the Contract Time, the Contractor shall, and hereby agrees to, pay the Owner one thousand dollars (\$1,000.00) per day, for each consecutive calendar day beyond the number of days allowed by the Contract, which sum is agreed upon as reasonable and proper measure of damages that the Owner will sustain per diem by failure of Contractor to complete Work within time as stipulated; it being recognized by Owner and Contractor that the injury to Owner that could result from a failure of the Contractor to complete on schedule, is uncertain and cannot be computed exactly. In no way shall costs of Liquidated Damages be construed as a penalty to the Contractor.

§8.4.2 It is expressly understood and agreed by and between the Contractor and Owner that the Contract Time prescribed herein is a reasonable time for the completion of the Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Engineer, or his designee, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Engineer, or his designee may require. This schedule, unless objected to by the Engineer, or his designee, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 See Article 5 of Standard Form of Agreement between Owner/Contractor.

§ 9.3.1.1 Applications for Payment may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

§ 9.3.1.2 Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

§ 9.3.1.3 All applications for payment shall be accompanied by the Application and Certificate of Payment, AIA Document G702, and the Continuation Sheet, AIA Document G703, fully completed as required or such other application for Payment as the Owner's representative shall use.

§9.3.1.4 In cases where the work is awarded on a Single Overall Contract basis, payments shall be made in accordance with applicable State of New Jersey statutes.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§9.3.3.1 All municipal mechanic's liens filed by a lien claimant shall be governed by N.J.S.A. 2A:44-125 et seq. In the event a municipal mechanic's lien is filed, the Owner reserves the right to withhold the full amount of the lien. The Owner may release the funds to the party against whose account the lien is claimed, only after that party files with the Owner's financial officer, a bond in an amount double of all sums claimed ("Double Bond") under the lien, and such bond's form has been approved by the Owner's chief law officer and financial officer, per N.J.S.A. 2A:44-130 or if an acceptable release of liens is filed by the lien claimant.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 See Article 5 of Standard Form of Agreement between Owner and Contractor.

§ 9.4.2 See Article 5 of Standard Form of Agreement between Owner and Contractor

§9.4.3 See Article 5 of Standard Form of Agreement between Owner and Contractor.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 See Article 5 of Standard Form of Agreement between Owner and Contractor

§ 9.5.2 See Article 5 if Standard Form of Agreement between Owner and Contractor.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Engineer, or his designee has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Engineer, or his designee .

§ 9.6.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work and shall certify same to Owner. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Engineer, or his designee will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner and Engineer, or his designee on account of portions of the Work done by such Subcontractor.

§ 9.6.4 Neither the Owner nor Engineer, or his designee shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Payment to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.7 FAILURE OF PAYMENT

If the Engineer, or his designee does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Engineer, or his designee or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Engineer, or his designee , stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§9.7 REIMBURSEMENT TO OWNER

§9.7.1 If the Owner is entitled to any reimbursement or payment from the Contractor under, or pursuant to, the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to: (1) deduct an amount equal to that which the Owner is entitled from any

payment then, or thereafter, due the Contractor from the Owner; or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, that a condition precedent to Substantial Completion shall be the Owner's receipt of all certificates of occupancy (permanent or temporary) and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the occupancy of the Project. The Owner may withhold a certification of Substantial Completion if temporary installations or temporary construction exists in areas requesting certification, or if certificates of occupancy are temporary or conditional.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Engineer, or his designee shall prepare a comprehensive list of items to be completed or corrected ("Punch List"). The Contractor shall proceed immediately and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Upon receipt of the list, the Engineer, or his designee, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Engineer, or his designee's inspection discloses any item, whether or not included on the list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Engineer, or his designee. The Contractor shall then submit a request for another inspection by the Engineer, or his designee to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Engineer, or his designee will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Contractor for its written acceptance and to the Owner for its approval and acceptance as required by Section 9.8.1. No Certificate of Substantial Completion shall be deemed effective unless executed by both Owner and Contractor.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, who shall obtain all necessary modifications to its insurance coverage to permit such occupancy or use. In addition, Contractor shall obtain consent of those public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete pursuant to the terms of that Agreement. When the Contractor considers a portion substantially complete, the Engineer, or his designee shall prepare a Punch List as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Engineer, or his designee shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.9.4 The occupancy of any portion of the Work shall not constitute acceptance of any Work, except as hereinafter stated, nor does it waive the Owner's right to Liquidated Damages. Final Acceptance of the Work shall be for the whole Work only and not part.

§ 9.9.5 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims on behalf of the Owner or Contractor against each other.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Engineer, or his designee a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Engineer, or his designee a final Contractor's Application for Payment. The Engineer, or his designee will promptly make such inspection. When the Engineer, or his designee finds the Work acceptable under the Contract Documents and the Contract fully performed, the Engineer, or his designee will promptly issue a final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Engineer, or his designee's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor complies with all requirements set forth in Section 6 of the Standard Form of Agreement between Owner and Contractor and the Contractor submits to the Engineer, or his designee (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 Intentionally omitted

§ 9.10.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Engineer, or his designee for review and coordination with the safety programs of other Contractors.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- .4 Construction or operations by the Owner or other Contractors.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner or Engineer, or his designee or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Engineer, or his designee.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Engineer, or his designee in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Engineer, or his designee the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance.

§ 10.3.3 Intentionally omitted

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 Intentionally omitted

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The County of Union requires all bidders to be able to comply with the following insurance requirements. In the event a bid is accepted by the County, the bidder must accept the applicable insurance requirements, as set forth below, as part of any contract, awarded to it by the County.

1. Automobile Liability Insurance in any amount of not less than \$1,000,000.00 combined single limits for Bodily Injury and Property Damage Liability. A certificate of such current insurance will be provided to the County and will reflect the provision of at least thirty (30) days notice to the County before any major cancellation or major change may be made the policy.

2. Workers Compensation Insurance insuring the obligations of the Contractor and all Subcontractors under the New Jersey Workers Compensation and Occupational Disability Laws as respects to Work performed under the Contract. Insurance will be extended to include any obligations under the United States Longshoremen's and Harbor Workers Act or any maritime act, when applicable.

3. General Liability Insurance will be provided on a Comprehensive General Liability form with a combined single limit of \$3,000,000.00 per occurrence for Bodily Injury Liability and Property Damage Liability and will include the interest of the County with respect to Work emanating from the Contract with the County. The insurance will include the following:

- a) Personal Injury Liability
- b) Blanket Contractual Liability applies to assumption of liability under any written Contract
- c) Coverage for A, X, C, U exposures, relating to excavation, blasting underground damage
- d) Broad Form Property Damage Liability
- e) Products and/or Completed Operations Liability

A Certificate of Insurance will be filed with the County prior to commencement of any Work. This certificate will contain a provision that insurance afforded under the policies will not be canceled without at least (30) days prior written notice being given to the County.

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§ 11.1.2 The insurance required by Section 11.1.1 shall remain in effect for the duration of the project, i.e., from beginning of construction until final payment and closeout.

§ 11.1.3 All insurance required by Section 11.1.1 shall be issued by insurance companies authorized to do business in the State of New Jersey and rated as "A" or better as determined by A.M. Best Company.

§ 11.1.4 The Contractor waives all rights against the Owner for damages caused by fire or other perils to the extent covered by insurance provided under this Article. Any deductibles, co-insurance, or contribution to the loss will be borne solely by the Contractor.

§ 11.1.5 A certificate of insurance evidencing the coverages required by Section 11.1.1 shall be submitted to the Owner's attorney for approval and transmittal to the Owner and Engineer, or his designee prior to the commencement of the Work. The certificate must be submitted on the ACORD form Certificate of Insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days written notice has been given to the Owner. If requested by the Owner, the Contractor shall provide complete copies of any policies of insurance required by this Contract to be obtained by the Contractor and Subcontractor(s). Information concerning any reduction of coverage shall be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

§ 11.2 PROPERTY INSURANCE

§ 11.2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost

basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurance interest in the property required by this Section 11.2 to be covered, whichever is earlier. This insurance shall include the interest of the Owner, Contractor, Subcontractor(s), and Sub-Contractor(s) in the Work.

§ 11.2.1.1 Property insurance shall be on an "all-risk" policy form and shall be against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Engineer, or his designee's services and expenses required as a result of such insured loss. Coverage for all other perils shall not be required unless otherwise provided in the Contract Documents.

§ 11.2.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance which will protect the interests of the Contractor, Subcontractor(s) and Sub-subcontractor(s) in the Work. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.2.1.3 If the property insurance requires minimum deductibles, and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles over the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles.

§ 11.2.1.4 Unless otherwise provided in the Contract documents, this property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.5 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgage clause and of Section 11.3.10. The Contractor shall pay Subcontractor(s) their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractor(s) to make payments to their Sub-Contractor(s) in a similar manner.

§ 11.2.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds. The Owner as fiduciary shall have the power to adjust and settle a loss with insurers.

§ 11.2.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§ 11.2.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3 PERFORMANCE BOND, PAYMENT BOND AND MAINTENANCE BOND

§ 11.3.1 Contractor, at its sole expense, shall furnish bonds covering faithful performance of the contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract, including material and labor..

§ 11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be made

§ 11.3.3 The Contractor shall file with the Owner, as a condition of final acceptance, a statement from the Surety of its Performance Bond and Payment Bond, that the Surety is satisfied that all claims for labor and material supplied under its contract have been satisfactorily settled.

§ 11.3.4 As a condition of Substantial Completion of the Work, the Contractor shall provide an acceptable Maintenance Bond in accordance with section 16, page G-9 of the Instructions to Bidders.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work uncovered is contrary to the Engineer, or his designee's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Engineer, or his designee, be uncovered for the Engineer, or his designee's examination and be replaced at the Contractor's expense without change in the Contract Time or Contract Sum.

§ 12.1.2 If a portion of the Work has been covered that the Engineer, or his designee has not specifically requested to examine prior to its being covered, the Engineer, or his designee may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate Contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

The Contractor shall promptly correct Work rejected by the Engineer, or his designee or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Engineer, or his designee's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. The Contractor shall give such notice promptly after discovery of the non-conforming work. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after the receipt of notice from the Owner or Engineer, or his designee, the Owner may correct it in accordance with Section 2.4. This obligation under Section 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 Intentionally omitted.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged work, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work, nor to any deficient Work discovered after the one-year period that could not have readily been discovered.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work, that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. However, there shall be no implied or expressed acceptance of Work not in compliance with applicable law. The amount of said reduction will be within the exclusive determination of the Owner as its representative.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

§ 13.1.1 The Contract shall be governed by the laws of the State of New Jersey.

§ 13.1.2 Nothing in the Contract Documents shall be construed to permit deviation from the governing law.

§ 13.1.3 In accordance with N.J.S.A. 40A:11-18, American manufactured products or materials shall be used in the Work, wherever possible.

13.1.4 RATE OF WAGES

Where the Project is not subject to a Project Labor Agreement, wage notes shall be paid pursuant to the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq, the Contractor and Subcontractor are required to do the following:

§ 13.1.4.1 Pay to all workmen engaged in the performance of services, directly upon a public work, the prevailing rate of wages, which shall be those in effect for the Project site(s) on the Contract Date and such rates shall remain in effect for (2) years, unless superseded by a subsequent determination.

§ 13.1.4.2 Before final payment, furnish Owner with an affidavit stating that all workmen have been paid the prevailing rate of wages specified in the contract.

§ 13.1.4.3 Keep an accurate record showing the name, craft, or trade and actual hourly rate of wages paid to each workman employed by it in connection with any public work. Records shall be preserved for two (2) years from date of payment.

§ 13.1.4.4 Post the prevailing wage rated for each craft and classification involved as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof in prominent and easily accessible places at the site of the Work, and at such place or places as are used by them to pay workmen their wages.

§ 13.1.4.5 Submit the Owner, certified payroll records for each payroll period within ten (10) days of the payment of wages. A certified payroll record is defined as "a payroll record that is attested by the employer or the Owner of the company doing business as the employer, or a corporate officer of such company, or an authorized agent of the employer". A copy of the certified payroll form for submission of the payroll records may be obtained by contacting the Department of Labor, Division of Workplace Standards at 609.292.2259.

§ 13.1.4.6 In the event the Owner finds that any workers employed by the Contractor or Subcontractor, covered by the said contract, have been paid a rate of wages less than the prevailing wage required to be paid by such contract, the Owner may terminate the Contractor's or Subcontractor's right to proceed with the Work, or such part of the

Work as to where there has been a failure to pay required wages, and to prosecute the Work to completion or otherwise, the Contractor and its sureties shall be liable to the Owner for any excess costs occasioned thereby,

§ 13.1.4.7 a current wage rate determination is on file at the offices of the Owner for inspection and Contractor's use.

§ 13.1.5 SAFETY AND HEALTH REGULATIONS (OSHA)

§ 13.1.5.1 The Contractor shall comply with the laws, rules, regulations and codes dealing with occupational safety and health, including, but not limited to, the latest amendments of the following:

§ 13.1.5.2 Williams – Steiger Occupational Safety and Health Act of 1970, Public Law 91-595

§ 13.1.5.3 Part 1910 – Occupational Safety and Health Standards Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.4 Part 126 – Safety and Health Regulations for Construction, Chapter XVII of Title 29, Code of Federal Regulations.

§ 13.1.5.3 N.J.A.C. 8:59-5.1-5.109 requirements properly label any substances stored in containers) of the Worker and Community Right to Know Act, P.L. 1983, c.315.

§ 13.1.6 ENVIRONMENTAL REGULATIONS

§ 13.1.6.1 The Contractor shall comply with laws, rules, regulations, and codes dealing with the prevention of environmental pollution and the preservation of public natural resources, including but not limited to, the latest amendments of the following:

§ 13.1.6.2 Chapter 251, public Law of 1975 of the State of New Jersey, "soil Erosion and Sediment Control Act."

§ 13.1.7 AFFIRMATION ACTION EMPLOYMENT LAW

Contractor agrees to comply with the terms of the Mandatory Equal Employment Opportunity Language, a copy of which is annexed to the Contract Documents as Exhibit F and incorporated as if set forth herein.

§ 13.1.7.1 Contractor shall submit a copy of the Monthly Project Workforce Report, New Jersey Department of Treasury Form AA-202, to the New Jersey Department of Treasury's Division of Public Contracts Equal Employment Opportunity Compliance and to the Owner

§ 13.1.7.2 Contractor shall complete and submit to the Owner an Initial Project Workforce Report, New Jersey Department of Treasury Form AA 201, upon notification of award and no later than the execution of this Agreement. Failure to submit this completed form may result in this Agreement being terminated.

§ 13.2. SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents, neither party to the Contract shall assign the Contract as a whole without written consent of the other, unless as may be provided for elsewhere in the Contract Documents. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Engineer, or his designee or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Engineer, or his designee timely notice of when and where tests and inspections are to be made so that the Engineer, or his designee may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Engineer, or his designee, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Engineer, or his designee will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Engineer, or his designee of when and where tests and inspections are to be made so that the Engineer, or his designee may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Engineer, or his designee's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Engineer, or his designee.

§ 13.5.5 If the Engineer, or his designee is to observe tests, inspections or approvals required by the Contract Documents, the Engineer, or his designee will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Except as required by Section 5.1.3 of the Owner Contractor Agreement and notwithstanding anything to the contrary contained in the Contract Documents and related documents, the Owner will pay no interest whatsoever for any payments due.

§ 13.7 TIME LIMITS ON CLAIMS

Intentionally deleted.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

§ 14.1.2 Intentionally deleted

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon thirty (30) days' written notice to the Owner and Engineer, or his designee, terminate the Contract

§ 14.1.4 Intentionally deleted.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor after Notice and an opportunity to cure.

- .1 refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards laws, ordinances, rules or regulations, or orders of a public authority having jurisdiction;
- .4 fails to furnish the Owner with assurances satisfactory to the Owner, evidencing the Contractor's ability to complete the Work in compliance with all requirements of the Contract Documents;
- .5 fails after commencement of the Work, to proceed continuously with the construction and completion of the Work, for more than three (3) days, except as permitted by the Contract Documents;
- .6 disregards orders of the Owner or Engineer, or his designee;
- .7 fails to maintain the Site in a clean, safe and orderly manner;
- .8 fails to comply with a Construction Change Directive; or
- .9 otherwise is guilty of any breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. And charge the costs incurred against the Contractor's Contract balance

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. The Engineer, or his designee's certification issued pursuant to Section 14.2.2 shall be given a presumption of correctness.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer, or his designee's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Engineer, or his designee, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 Intentionally deleted.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;

- 2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- 3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. Any Contractor Claim seeking the payment of money shall not include consequential damages, which Contractor hereby waives, and shall be calculated in accordance with Section 7.3.6 and Section 7.3.10 hereof.

§ 15.1.2 DECISION OF ENGINEER, OR HIS DESIGNEE

Owner and Contractor agree that the Engineer, or his designee shall be the initial arbiter of all Claims, including those alleging error or omission by the Engineer, or his designee. All claims, shall be referred, initially to the Engineer, or his designee for action as provided in Article 4 and shall be required as a condition precedent to litigation of a Claim between the Contractor and Owner to all such matters arising prior to the date final payment is due, regardless of: (1) whether such matters relate to execution and progress of the Work; or (2) the extent to which the work has been completed. The decision by the Engineer, or his designee in response to a Claim shall not be a condition precedent to litigation in the event: (1) the position of the Engineer, or his designee is vacant; (2) the Engineer, or his designee has not received evidence or has failed to render a decision within agreed time limits; (3) the Engineer, or his designee has failed to take action required under Article 4 within thirty (30) days after the Claim is made; (4) forty-five (45) days have passed after the Claim has been referred to the Engineer, or his designee; or, (5) the claim relates to a mechanic's lien.

§ 15.1.3 TIME LIMITS ON CLAIMS

Claims must be within twenty one (21) calendar days after the occurrence of the event giving rise to the Claim or within twenty-one (21) calendar days after the claimant first becomes aware of the condition giving rise to the Claim, whichever is later. There shall be no time limitation upon any Claims made by the Owner. Claims must be made by written notice to the Engineer, or his designee. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted pursuant to the requirements of this Paragraph. Notice shall be deemed effective upon the Engineer, or his designee's receipt of the Notice.

§ 15.1.4 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments to the extent required by the Contract Documents.

§ 15.1.5 CLAIMS FOR CONCEALED OR UNKNOWN CONDITIONS

If conditions are encountered at the Site which are: (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents; or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for the Contract Documents, the Owner and Contractor mutually agree to give written notice to each other; including the Engineer, or his designee and any affected Contractor or subcontractor, upon the observation of the condition within twenty-four (24) hours of first observation of the condition. The Engineer, or his designee will investigate such conditions within seventy-two (72) hours and will diligently process and render a recommendation within twenty-one (21) days unless otherwise agreed in writing. If the Engineer, or his designee determines that the condition at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified the Engineer, or his designee shall so notify the Owner and Contractor in writing, stating the reasons. Claims by either party in

opposition to such determination must be made within seven (7) days after the Engineer, or his designee has given notice of the decision.

§ 15.1.6 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum written notice as provided herein shall be given before proceeding to execute the Work. All documentation in support of the Contractor's request shall, likewise be provided at the time said written request is made. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3 or elsewhere in the Contract Documents.

§ 15.2 CLAIMS FOR ADDITIONAL TIME

§ 15.2.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work, , all documentation in support of the Contractor's request shall, likewise be provided at the time said written request is made. In the case of a continuing delay, only one Claim is necessary.

§ 15.2.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction. The term "abnormal" as used here shall be construed according to the following formula: average rainfall (or snow, low temperature, etc) for the past five (5) years for the month in question, plus ten percent (10%). Accordingly, weather is not deemed to be abnormal unless it is ten percent (10%) worse than the average for the month over the past five (5) years. Claims relating to weather must be submitted within seven (7) calendar days of the occurrence of any such delays.

§ 15.3 CLAIMS FOR INJURY OR DAMAGE TO PERSON OR PROPERTY. If either Party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party, including the Engineer, or his designee , within a reasonable time not exceeding twenty-one (21) days after first occurrence, unless another time period is required by law. The notice shall provide sufficient detail to enable the other party to investigate the matter. If a Claim for additional cost or time related to this Claim is to be asserted, it shall be filed as provided for in Article 15.

§ 15.3.2 The Owner is not required to institute a claim under this section in order to terminate this Agreement.

§ 15.4 RESOLUTION OF CLAIMS AND DISPUTES

The Engineer, or his designee will review Claims and take one or more of the following preliminary actions with ten (10) days of receipt of a Claim: (1) request additional supporting data from the claimant; (2) reject the Claim in who or in part, stating reasons for rejection ; (3) recommend approval of the Claim by other party; or (4) suggest a compromise.

§ 15.4.2 If a Claim has been resolved, the Engineer, or his designee will prepare or obtain appropriate documentation in consultation with Owner's counsel as circumstances dictate.

§ 15.4.3 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Engineer, or his designee , the Engineer, or his designee will notify the parties in writing that the Engineer, or his designee 's decision will be made within seven (7) days, which decision shall be final. Upon expiration of such time period, the Engineer, or his designee will render to the parties the Engineer, or his designee 's written decision relative to the Claim, including any change in the Contract Sum or Contract Time or both.

§ 15.5. CLAIMS FORUM

Unless otherwise required by Section 5.1.3 of the Standard Form of Agreement between the Owner and Contractor, claims, disputes, or other matters in question between the parties to this Contract arising out of or relating to the Project or to this Contract, or the alleges breach thereof, shall be subject in the first instance to mediation and failing that, there in, a Court of competent jurisdiction venued in Union County, New Jersey. The Owner may not be compelled to submit any dispute concerning the Project to arbitration. By accepting award of the Contract and executing the Agreement, the Contractor consents to its joinder as a party in any litigation, mediation, arbitration or any other legal proceeding involving the Project and any references in the Contract documents.

§ 16.1 INTERPRETATIONS IN WRITING

§ 16.1.1 Neither the price bid for the work of any Contract, nor the Contract Sum, shall be based in any manner upon oral opinions, or real or alleged instructions of an oral nature, regardless if whether such opinions or instructions are expressed by the Owner, the Engineer, or his designee or its Consultants, the Contractor, or agents or representative of any of them and no such oral communication shall form the basis of a Claim.

§ 16.1.2 These provisions do not intend to deny, on an oral basis, normal discussion, recommendations, explanations, suggestions, approvals, rejections, and similar activity in pursuit of the work of the Project, such as at job conferences and otherwise at the Site. In such instances, the written minutes, correspondence, shop drawing records, written field orders, and other written data shall govern over personal claims regarding statements made contrary to the written data.

§ 17.1 JOB SITE MEETINGS

§ 17.1.1 Job site meetings, when called by the Engineer, or his designee, shall be held at a location and time convenient to the Owner's representatives, the Engineer, or his designee, and Contractor(s). Each Contractor shall attend such meeting, or be represented by a person in authority who is thoroughly familiar with the Project and who can speak and make decisions for the Contractor. In the instance of a Single Overall Contract, each of the major Subcontractors-Structural Steel, and ornamental iron work, plumbing, gas fitting and all kindered work and steam power plants, steam, and hot water heating and ventilating apparatus and Electrical-shall have a person in authority who is thoroughly familiar with the Project attend the meetings.

§ 18.1 MANDATORY LAW AGAINST DISCRIMINATION LANGUAGE
PROCUREMENT, PROFESSIONAL AND SERVICE CONTRACTS
(N.J.A.C. 13:6-1.3)

§ 18.1.1 The parties of this contract do hereby agree that the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4 dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereto, are hereby made a part of this contract and are binding upon them.

§ 18.1.1 Pursuant to the provision of N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4, during the performance of this contract, the Contractor agrees as follows:

§ 18.2.1.1 In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no Contractor, including without limitation, the Contractor, nor any person acting on behalf of such Contractor or subcontractor, shall by reason of race, creed, color national origin, ancestry, Marital status, gender identity or expression, affectional or sexual orientation, or sex, discriminate against any person who is qualified and available to perform the Work, to which the employment relates;

§ 18.2.1.2 No Contractor, including, without limitation, the Contractor, Subcontractor, nor any person acting on its behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this Contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such Contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation, or sex;

§ 18.2.1.3 There may be deducted from the amount payable to the Contractor by the Owner, under the Contract, a penalty of \$50.00 (fifty dollars) for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the Contract; and

§ 18.2.1.4 This contract may be canceled or terminated by the Owner, and all the money due or to become due hereunder may be forfeited, for any violation of this section of the Contract occurring after notice to the Contractor from the contracting public agency or any prior violation of this section of the Contract.

§ 19.1 CONTRACTOR AND SUBCONTRACTOR COLLECTION OF USE TAX TO LOCAL GOVERNMENTS

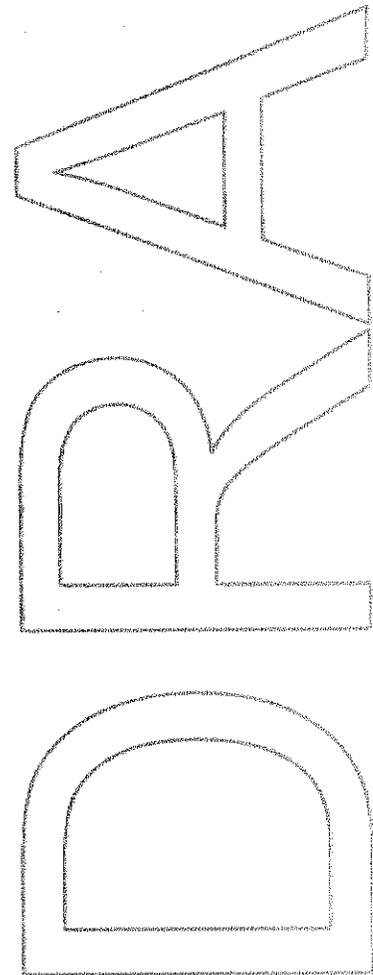
§ 19.1.1 The Contractor acknowledges and agrees that pursuant to P.L. 2004, c. 57, enacted by the State of New Jersey on June 29, 2004, contractors or contractors with subcontractors, or their affiliates, who enter into contracts

with New Jersey local government entities, including without limitation, boards of education, are, effective as of September 1, 2004, required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax pursuant to the "sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey (hereinafter referred to as the "Contractor Use Tax Collection Legislation").

§ 19.2.1 The Contractor hereby covenants and agrees that the Contractor, any subcontractor and each of their affiliates, shall collect and remit to the New Jersey Director of the Division of Taxation in the Department of Treasury, the use tax due pursuant to the "Sales and Use Tax Act," P.L. 1966, c. 30 (C.54:32B-1 et. seq.) on all their sales of tangible personal property delivered into the State of New Jersey. For purposes herein, "affiliate" shall mean any entity that : (a) directly, indirectly or constructively controls another entity; (b) is directly, indirectly, or constructively controlled by another entity; or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the Ownership interest in that entity.

§ 19.3.1 The parties intend that this Article 19 shall comply with the rules and regulations promulgated pursuant to the Contractor Use Tax Collection Legislation and shall be interpreted consistent therewith.

§ 19.4 Notwithstanding anything contained in the Agreement to the contrary, the Contractor hereby agrees to indemnify and hold the Owner harmless from and against any and all fines, taxes, penalties, interest, claims, losses. Costs, expenses, liabilities, or damages arising out of or in connection with the Contractor's failure to comply with the terms and condition of Sections 19.1 and 19.2 to the fullest extent permitted by law and public policy.



**UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA #30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C**

SPECIAL CONDITIONS

Definitions:

- a) OWNER: Union County, New Jersey
- b) CITY or TOWN: Elizabeth, New Jersey
- c) ARCHITECT: **NETTA ARCHITECTS**
1084 US 22
Mountainside New Jersey 07092
- d) CONSTRUCTION MANAGER: **Pinnacle Consulting & Construction Services Inc.**
One Gateway Center
Suite 2600
Newark, New Jersey 07102
- e) COUNTY ENGINEER: Thomas Mineo, P.E.
- f) INSPECTOR: An authorized representative of the County Engineer assigned to make all necessary inspections of the work performed by the Contractor.
- g) PRONOUNS: The masculine pronoun shall include the feminine and neuter and the singular shall include the plural.
- h) PERSON: Any individual, partnership, society, association, joint company, corporation, estate, receiver, trustee, assignee, referee, or capacity, whether appointed by a court or otherwise, and any combination of individuals.
- i) OR EQUAL: Whenever in the Contract Documents and Plans, any particular Brand make of materials, devise, or piece of equipment is shown or specified, such brand make of material or device or piece of equipment shall be regarded merely as a standard and the expression "or equal" shall apply to the same extent as if it is being written therein in full. If two or more brands, make of materials, devices, or pieces of equipment are shown as specified, each is to be regarded as the equal of the other. Any other brand, make of material, device or piece of equipment which, in the opinion of the Architect, is the recognized equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, will be accepted.
- j) BIDDER: Any person who submits a Proposal upon the project described in the Invitation for Bids.

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- k) **CONTRACTOR:** The person whose proposal shall be accepted by the Owner and who shall thereafter enter into a formal Contract with the Owner to furnish the materials and do the work as bid upon.
- l) **SUBCONTRACTOR:** A person supplying material, labor, equipment and appurtenances for work at the site of the project. Such person has contractual relations with the Contractor, but not with the Owner.
- m) **PRINCIPAL:** When used in the Bid Bond, the word Principal means the same as the word Bidder. When used in the Performance Bond, the word Principal means the same as the word Contractor.
- n) **SURETY:** The corporation or individual, bound by the Performance Bond, with and for the Contractor and who is primarily liable and engages to be responsible for the Contractor's acceptable performance of the Work for which the Contract has been made, and for his payment of all debts pertaining thereto.
- o) **CONTRACT DOCUMENTS** The Contract Documents, sometimes referred to as the plans and specifications, shall mean and include the following, as Listed in the Table of Contents:
1. Legal Documents
 2. General Conditions
 3. Special Conditions
 4. Specifications (Project Manual)
 5. Addenda
 6. Plans or Drawings
 7. Clarifications to Plans or Specifications
- p) **WORK:** All the work to be performed by the Contractor in the fulfillment of the contract, including all necessary materials, labor, equipment and transportation, as described in the Contract Documents for the contemplated improvement.
- q) **SCOPE OF THE WORK:** The specified work, improvement or job, to which these Contract Documents apply, as described in the Contract.
- r) **PLANS:** The prints of the drawings which show the location, character, dimensions and details of the Work to be done and which are to be considered part of the Contract Documents, the same as though attached thereto.
- s) **NOTICE OF ACCEPTANCE:** The official letter from the Owner to the successful Bidder, notifying him that he has been awarded the Contract.

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- t) **SUBSTANTIAL COMPLETION:** Date when a certificate of occupancy or temporary certificate of occupancy is issued, allowing the building to be occupied by the owner.
- u) **AFFIDAVIT:** The instrument which is to be signed by the Contractor and submitted to the Owner, upon completion of the job, showing that all bills have been paid.
- v) **DATE OF FINAL ACCEPTANCE:** The date the Owner accepts the completed Work and authorizes final payment therefore.

INTENT OF CONTRACT

The contract includes, but is not necessarily limited to, 3 new inmate elevator replacement / modernization of all cab, shaft, rails, machine room, components/equipment, doors, electronics, cables, motors, governors. In addition to new roof replacement and camera security conduit installation at basement, 1st and 2nd floor

This is a lump sum contract for all work. Each **contractor** or **subcontractor** shall refer to **ALL** drawings to completely familiarize him/herself with the work.

TEMPORARY FIELD OFFICE

The contractor shall set up a field office on site.

PROJECT COORDINATION

Throughout the project, the contractors shall coordinate all activities with the Building Services Dept. as well as the Superior Court staff and with department heads affected by the work taking place, in an effort to cause the least amount of disturbance to the daily operations of those departments.

SITE AND BUILDING LIMITATIONS AND JOB CONDITIONS

The contractor shall be aware that the site will be occupied during the entire construction period, the existing first floor at the Courthouse Annex Building will be constructed to keep the Building in operation at all times and to maintain security during construction. These construction operations shall not impact in any way on the Courthouse Annex operations and their ability for quick response to emergencies.

The contractor shall schedule Phasing and deliveries of materials with the owner so as not to cause undue hardship to the owner and cause any unsafe conditions on the site. He shall

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also coordinate with the owner for removal of demolition and construction debris, and a staging area for storage of materials.

The contractor shall cause the least amount of disruption to the Union County Oriscello (Correctional Facility) Courthouse Annex operations, the Union County Courthouse Tower, Rotunda operations, the Union County Garage operations and least amount of disruption to the Court personnel and visitors to the site and existing facilities on the site.

The contractor shall be aware that the existing **Oriscello Correctional Facility** will be occupied during construction. Phasing of the project must be coordinated with the **Corrections Department** as well as the Architect, CM and Owner. Proper security shall be coordinated with Corrections authorities having jurisdiction. Ref. Section 01100 Work Summary for schedule /phasing requirements.

THE CONTRACTOR SHALL BE AWARE THAT THE OWNER SHALL HAVE ON SITE A SEPARATE CONTRACTOR FOR THE INSTALLATION OF IT/DATA AUDIO/VISUAL EQUIPMENT.

THE CONTRACTOR SHALL COORDINATE HIS WORK AND THAT OF HIS SUBCONTRACTORS WITH THE SEPARATE CONTRACTOR AND PROVIDE ACCESS TO WORK AREAS NECESSARY FOR THE INSTALLATION OF THEIR WORK.

CONSTRUCTION SIGNS

The contractor shall install signs restricting access of the general public to the area of construction. As a minimum, they should state "**CONSTRUCTION AREA – NO ADMITTANCE**". Restricted areas, however, shall not block public exit ways. Provide temporary signs as required where work is being phased.

BUY AMERICAN ACT-CONSTRUCTION MATERIALS (APRIL 1984) DOMESTIC MATERIALS

The Buy American Act (41 U.S.C.) provides that the County give preference to domestic construction materials.

"Components", as used in this clause, means those articles, materials and supplies incorporated directly into construction materials.

"Construction Materials" as used in the clause means articles, materials and supplies brought to the construction site for incorporation into the building or work.

"Domestic construction material", as used in this clause, means (1) a construction material not manufactured, but mined or produced in the United States, or (2) a construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50% of the same class or kind as the construction materials determined to be unavailable pursuant to subparagraph 25.202 (a)(3) of the Federal Acquisition Regulation (FAR) shall be treated as domestic.

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The Contractor agrees that only domestic construction material will be used by the contractor, subcontractor, material person, and suppliers in the performance of this contract, except for foreign construction materials, if any, listed in this contract.

(The foregoing requirements are administered in accordance with Executive Order No. 10582, dated December 17, 1954, as amended, and Subpart 25.2 of the FAR).

All Materials furnished for this project shall be mined, produced and fabricated in the United States, Ref. NJSA 52:33-1 to 52:33-4.

Bidders are notified that they must comply with NJSA 52:32-1 to 52:33-4 and NJSA 18A:18A-20, the statutes on the use of domestic materials on public work.

PUBLIC STREETS AND TRAFFIC

Contractor shall coordinate the use of cranes or other hoisting equipment with owner and local authorities so as to minimize disruptions on site and adjoining streets. If use or blocking of streets is necessary, the contractor shall obtain and pay for any required permits or approvals.

No portion of any roadway or alley may be used for the storage of any materials or equipment without the approval of the Authorities having jurisdiction over same.

Sidewalks, gutters, drains, fire hydrants and private drives shall in-so-far as practicable, be kept in condition for their intended uses. While the work is actually going on at a location, as much as half the street width at such may be barricaded to exclude traffic entirely, if approved by local authorities, but street traffic shall not be obstructed needlessly.

Should the County Engineer deem it expedient for the best interest of the Owner or for the safety of the public, he may concentrate the work at specific places or he may suspend the Work entirely for a period not to exceed seven (7) days, providing that, if necessary, the further suspension of the work due to inclement weather will not be a detriment to the entire work operation. Upon any suspension of work, all unused materials shall be placed so as not to impede traffic and all rubbish shall be removed. Whenever a street is partially closed, the Contractor shall erect plainly worded signs announcing such fact, together with proper barricades at the nearest cross street upon each side of such obstruction and upon intersecting streets. The Contractor shall also receive approval from the appropriate departments of the CITY OF ELIZABETH.

The General Contractor shall provide all of the materials, tools, equipment and labor for cleaning the public streets, public sidewalks, roadways, alleys, driveways, etc. which are affected and/or disturbed by this work.

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GUARANTEES AND WARRANTIES:

All guarantees and warranties shall start at the time a Certificate of Occupancy is issued, not at the time of start up of equipment. This applies to **ALL** equipment, systems and services of the building.

PRECEDENCE OF LARGE SCALE DETAILS AND DOCUMENTS

1. The general character of the detail work is shown on the drawings, but minor modifications may be made in large-scale details. Where the word "similar" occurs on the drawings, it shall be used in its general sense and not as meaning identical. All details shall be worked out in relation to their location and their connection to other parts of the work. On any drawings where a portion of the work is drawn out and the remainder is indicated in outline, the parts indicated in outline shall also apply to other like portions of the work. Where details are indicated by starting only, such details shall be continued throughout the courses or parts where it occurs and shall also apply to all other similar parts in the work unless otherwise noted. In case of differences between small and large-scale drawings, the larger scale drawings shall take precedence. Any discrepancies shall be referred to the Architect/Engineer before any work affected thereby has been performed.
2. Work specified but not shown on the drawings, or shown on the drawings but not specified, shall be considered as if indicated in both. In the event of conflict between various parts of the contract documents, the document shall take precedence in the following order. For extent, sizes, quantity of work, and design intent, drawings shall govern over specifications. For quality of materials and workmanship, specifications shall govern over drawings. If there are conflicts between drawings, the Architect shall render a decision, which shall be final. The Contractor shall not increase the Contract price due to any interpretations made by the Architect.
3. **EACH BIDDER SHALL ALSO THOROUGHLY EXAMINE AND BECOME FAMILIAR WITH ALL CONTRACT DOCUMENTS.**

The Contractor shall review all drawings for the project and not limit his bid to only work that is shown on drawings referenced for a Prime Contractor. The drawings are done so for ease of reference only and not intended to limit the work of the Contractor. If work is shown to be done on one drawing which usually requires work of another Contractor or trade and is standard in the industry as such, than the Contractor whose trade it is shall include the work in his bid. It is assumed to be reasonable since the Contractor whose trade must do the work has reviewed and familiarized himself with the entire set of drawings and specifications, and therefore knew that it had to be furnished or hooked up and installed. Also if equipment is shown on one drawing but not shown as being hooked up on other drawings, the Contractor whose trade usually does the hook up shall do so at no additional charge since he reviewed and familiarized himself with the entire set of drawings and therefore knew the equipment

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was there and it had to be hooked up. If steel work is shown on the architectural, but not on the structural, it still shall be provided since the steel subcontractor reviewed the entire set of drawings. By submitting a proposal, the Bidder covenants that he has carefully examined the complete set of Contract Documents, Addenda, if any, and the Site; and that from his investigation he has satisfied himself as to the nature and location of the work, the phasing required for the work, the general and local conditions and all matters which may in any way affect the work or its performance and that as a result of such examination, he fully understands the intent and purpose thereof, his obligation there under, and that he will not make any claim for, or have any right to damages, because of the lack of any information.

CONSTRUCTION START AND DURATION

The Contractor shall begin construction within **10 days** after notice to proceed by the Owner

and shall complete the work in/or before **660 Calendar Days**, reference section 01100 Working Summary for schedule and phasing duration requirements. Failure of the Contractor to begin construction activities within 10 days for any reason not approved by the Owner shall constitute a Contractor default for which the owner may take whatever action that is deemed appropriate under the contract. The Contractor shall include within his bid all costs associated with the coordination required between the various subcontractors to meet these dates.

END OF SPECIAL CONDITIONS SECTION

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SECTION 01100 – WORK SUMMARY/SCHEDULE & PHASING

1.1 PROJECT IDENTIFICATION

Project Name and Location: Ralph Oriscello Correctional Facility Elevator Modernization and Roof Replacement, Elizabethtown Plaza, Elizabeth, NJ.

- A. Project Summary Description: The project “**Oriscello Correctional Facility Elevator Modernization For Three (3) Inmate Elevators**” includes but is not limited to the following work: replacement/modernization of all cab, shaft, rails, machine room, components/equipment, doors, electronics, cables, motors and governors for three (3) new inmate elevators. All elevator work is to be performed third shift (10 p.m.-6 a.m.).
- B. Project Summary Description: The project “**Oriscello Correctional Facility Roof Replacement**” includes but is not limited to the following work: The Demolition of the existing roof and replacement of the roof.

1.2 WORK UNDER OTHER CONTRACTS

- A. The Contractor shall cooperate with other contractors / sub-contractors performing related work, including but is not limited to the following, provide labor, materials and other costs necessary to satisfactorily coordinate the Contract work with work performed under other contracts.
- B. Concurrent Work: Separate contract work has been awarded by the County of Union Engineering for performance of certain construction operations that will be conducted simultaneously with the Work of this contract. Interface work under this Contract shall be satisfactorily conducted in compliance with the schedule requirements of the related concurrent separate contract work.

1.3 MISCELLANEOUS PROVISIONS

- A. Work in the extension of existing conditions shall correspond in all respects with the existing conditions to which it connects, or to similar existing conditions, in materials, workmanship and finish. Definition; The Quality of Workmanship, Materials, Finishes and Equipment must be equal to, or exceed the Workmanship, Materials, Finishes and Equipment as it exists.
- B. Alterations to Existing Conditions: Existing conditions shall be cut, drilled, removed, temporarily removed, or removed and replaced, as necessary for performance of Work under the Contract.
 - 1. Replacements of existing conditions that are removed shall match similar existing conditions.
 - 2. Unless otherwise indicated, existing structural members shall not be cut or altered without authorization by the Contracting Officer.
 - 3. Conditions remaining in place, which are damaged or defaced during the Work, shall be restored to the condition existing at time of award of Contract.

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4. Discolored or unfinished surfaces exposed by removal of existing conditions, that are indicated to be final exposed surfaces, shall be refinished or replaced as necessary to produce uniform and harmonious contiguous surfaces.
- C. Existing structures will remain in place.
- D. Existing utility services with related meters and equipment will remain in place.

1.4 SCOPE OF WORK

- A. The work covered by these specifications shall include the furnishing of all plant, labor, equipment, appliances, material and the performing of all modernization work in accordance with the specification and applicable contract drawings.

1.5 PROJECT SITE TOUR

- A. Each bidder is urged to **ATTEND THE PROJECT SITE TOUR** September 23, 2015 at 3:30 p.m. and visit the site of the proposed work and fully acquaint himself with conditions as they exist so that he may fully understand the facilities, difficulties and restrictions affecting the execution of the work under his contract. Bidders shall also thoroughly examine and be familiar with the requirements of the Specifications. The failure or omission of any bidder to receive or examine any Form, Instrument or Documents or to visit the site and acquaint himself with the conditions there existing will not relieve any bidder from any obligation with respect to their bid.
- B. The bidder shall, before any site visit, notify Charles Chirafesi III, Director of Facilities of the County of Union. You may contact him at **(908) 527-4218** to schedule an appointment.
- C. The County Correction Facilities is a secured location and each bidder will need to be properly checked in prior to making their visit.

1.6 GENERAL SCHEDULE AND CONTRACTOR OPERATIONS

- A. Adequate notice must be given to the **County of Union Correctional Facilities** and a "Notice to Proceed" will be issued prior to commencing any of the renovation work at the **Correctional Facilities**. A complete work schedule shall be submitted to the **Correctional Facilities** for review and approval during the pre-construction meeting.
- B. The contractor shall be allowed to work under an accelerated work schedule. Contractor shall coordinate with the **Correctional Facilities** for access into the **Correctional Facilities** during off working hours.
- C. The scheduling of all contractor operations shall be closely coordinated with the **County of Union** at a pre-construction meeting prior to the start of any of the contracted work.
- D. The contractor's operations will use the rear Freight Elevator as instructed by the **Correctional Facilities**. The contractors are not allowed to affect the use of any portion of the **Correctional Facilities**.

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Facilities during any hour and no type of communication will be permitted with inmates. The contractor is responsible for erecting all barricades to separate the contracted area.

- E. The contractor shall provide adequate protection for all parts of the building and its occupants when any work under this contract is performed. Maintain a safe unobstructed egress path to all exits at all times. Erect temporary partitions where indicated on plans and where required to prevent dust from entering occupied office workspaces.

1.6.1 PROJECT SPECIFIC SCHEDULE MILESTONE DURATIONS AND WORK SEQUENCE/PHASING REQUIREMENTS

1.6.1.1 Project Contract Duration: The entire project must be completed within six hundred and thirty (630) calendar days from the issue date of the “Notice to Proceed” from the County.

A. Oriscello Correctional Facility #3 Elevator Modernization

NOTE: The rear loading dock elevator will be accessible for contractor use. The only building access provided to the contractor will be through the rear loading dock area. **Note: All elevator work is to be performed second shift 10 p.m. to 6 a.m.** Only one elevator is allowed to be out of service and worked on at a time. Two elevators (2 of 3) must be in operation at all times.

B. Oriscello Correctional Facility Roof Replacement

NOTE: Roof demolition and replacement must be worked on at only one area at a time (1 of 4 areas). This work must be performed sequentially. Once one roof area is complete the next area can be started.

1.6.5. Allowance #1 Security Correctional Officer - \$225,000

Contractor is required to include within their bid an Allowance of \$225,000 (Two Hundred Twenty-Five Thousand Dollars). This allowance will be utilized as required for a correctional officer to be present during all elevator/camera conduit work.

1.6.6. Allowance #2 Security Control Console - \$250,000

Contractor is required to include within their bid an Allowance of \$250,000 (Two Hundred Fifty Thousand Dollars) for a total of Four (4) Security Control Consoles at the 1st Floor Booking and Receiving and Command Center panel replacement.

1.6.7. Contingency Amount - \$400,000

To be utilized solely at the County of Union’s direction.

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The delivery of all heavy hand tools and gang-boxes must be between the hours of 3:00pm and 5:00pm weekdays.

All tools and gang-boxes must be locked up each night.

1.7.1 General Contractor Security

All workers will require a picture identification to be provided by the County prior to the start of any work and access to the jail. All workers will be required to submit to a Background History Check performed by the County, prior to gaining access to the jail.

The County will provide a background check for all contractors work force. The County has the right to reject any and all individuals from access to the jail based on any perceived conflict from the background checks performed, which result in a documented prior criminal offense.

1.8 PROJECT SITE TOUR

- A. A Project Site Tour will be held September 23, 2015 at 3:30 p.m.(Refer to the notice of Bid Advertisement.) Attendance at this conference is strongly urged, and is for the benefit of the Bidder to gain a more complete understanding of the project.**

1.9 WORK DURING COUNTY HOLIDAYS

- A. The contractor shall not be allowed to work on County holidays unless the following condition is met:
 - 1. Prior written approval is granted by the County. It is at the sole discretion of the County to allow work to be conducted during any County holidays.****

END OF SECTION 01100

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SECTION 01140 – WORK RESTRICTIONS

1.1 SUMMARY

1. Use of Premises
2. Coordination with occupants.
3. Work restrictions.
4. Storage

A. Related Section - Division 1 Section 01500 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

B. Related Documents - Drawings and General Provisions of the Contract, including General and Supplemental Conditions and Other Division 1 Specification Sections, apply to this Section.

1.2 USE OF PREMISES

B. General: Contractor shall have limited use of premises for construction operations DURING THE ENTIRE CONSTRUCTION PERIOD.

C. Use of Site: Limit use of Premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways, parking garage, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
2. Limits: Confine Construction operations to areas that have been APPROVED by owner and remain secure.
3. Owner Occupancy: Allow Owner occupancy of site and use by the public. Maintain Security
4. Routes of ingress and egress to areas where work is being performed shall be subject to restrictions and instructions of the Owner
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
5. Condition and Use of Existing Building: Maintain portions of existing building affected by construction operations in a weather-tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period

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1.3 COORDINATION AND REQUIREMENTS WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) on site and Areas Adjacent to Construction Area during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the work so as not to interfere with Owner's day-to-day operations. If after normal hour construction operations are required to complete or requested by the Owner to minimize disturbance, it shall be done at NO Cost to the Owner. Maintain existing exits unless otherwise indicated.
- B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

NOTE: REFER TO DIVISION 1 GENERAL REQUIREMENTS SECTION 01100
- C. Notify the Construction Manager and Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.4 WORK RESTRICTIONS

- A. On-Site Work Hours, General: Work shall be generally performed inside the existing building during normal business working hours, Monday through Friday, except otherwise indicated. Comply with restrictions on construction operations.
 - 1. Weekend Hours: Coordinate with Construction Manager, Owner and Authorities having Jurisdiction.
 - 2. Early Morning Hours: Coordinate with Construction Manager, Owner and Authorities having Jurisdiction.
 - 3. Hours for Utility Shutdowns: Coordinate with Construction Manager, Owner and Authorities having Jurisdiction.
 - 4. Hours for Core Drilling: Coordinate with Construction Manager, Owner and Authorities having Jurisdiction.
 - 5. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

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- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Construction Manager, Architect and Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Construction Managers, Architect's and Owner written permission before proceeding with utility interruptions.

- C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Construction Manager and Architect not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Construction Managers, Architect and Owner's written permission before proceeding with disruptive operations.

- D. Nonsmoking Building: Smoking is not permitted within the building or within **25 feet** of entrances, operable windows, or outdoor air intakes.

1.5 STORAGE

- A. In the event that it is necessary for the Contractor to stockpile or to store quantities of material or equipment on the job site, the Contractor shall inform the Owner of such necessity and the Owner shall offer available space, IF ANY IS AVAILABLE, for storage of such materials or equipment. The Contractor shall use said space only for such purpose. Any and all materials which may be brought onto the job site at any time by the Contractor shall be left at the Contractor's sole risk. The Owner shall not be responsible to the Contractor for loss of or damage to said materials or equipment for any cause whatsoever. It is expressly understood and agreed that the Contractor assumes all risk of loss or damage to such materials and equipment, except as heretofore provided, and that the Owner shall not be required to furnish or supply watchmen at any time. Contractor shall take necessary measures to protect any such storage area and shall be responsible for any and all damages.

- B. The Contractor shall confine storage of materials to limits approved by the Owner and shall not necessarily encumber the premises or overload any portion of it with materials to a greater extent than is calculated to bear. Contractor shall not store hazardous materials such as solvents, paints, thinners, etc. unless in approved containers.

- C. Temporary storage of food service equipment salvaged for re-use. The Contractor is required to provide temporary off-site storage of all kitchen equipment being salvaged for re-use. The Contractor must coordinate all removals and replacement of equipment with the CM and County Corrections. Contractor is responsible for all equipment moving, loading, storage and re-installation as identified within the contract documents. All costs associated with kitchen equipment storage and re-installation is the responsibility of the Contractor.

END OF SECTION 01140

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SECTION 01210 – ALLOWANCES & BID CONTINGENCY

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
 - 2. ALL ALLOWANCES LISTED SHALL BE INCLUDED IN FINAL BID AND INDICATED ON SCHEDULE OF VALUES.
 - 3. ALLOWANCES ARE FOR LABOR AND MATERIALS ONLY.
- B. Contract Allowances include the following:
 - 1. Allowance #1 for Security in the amount of \$225,000.
 - 2. Allowance #2 for #4 new security control consoles at 1st floor Booking and Receiving in the amount of \$150,000.
- C. Bid Contingency in the amount of \$400,000.
- D. Related Sections include the following:
 - 1. Division 1 Section 01260 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the work.
- B. At Architect or Construction Manager's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the work.
- C. Purchase products and systems selected by Architect from the designated supplier.

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1.4 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders, or County Contract Modification Form.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 LUMP-SUM, UNIT-COST AND QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials **selected by Architect** under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials **selected by Architect** under allowance shall be included.

1.6 CONTINGENCY ALLOWANCES

- A. Use the construction contingency only as directed by Construction Manager and or Architect for Owner's purposes and only by Change Order/County Contract Modification Form that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order/County Contract Modification Form.

1.7 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

1.8 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

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1.9 SCHEDULE OF ALLOWANCES

- A. **ALLOWANCE #1: ADDITIONAL COUNTY CORRECTIONS SECURITY GUARD: \$225,000 (Two Hundred Twenty-Five Thousand Dollars)**

- B. **ALLOWANCE #2: #4 SECURITY CONTROL CONSOLES AND COMMAND CENTER PANEL REPLACEMENT: \$250,000 (Two Hundred Fifty Thousand Dollars)**

1.10 BID CONTINGENCY

- A. **BID CONTINGENCY to be used as the owner elects: \$400,000 (Four Hundred Thousand Dollars)**

END OF SECTION 01210

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SECTION 01250 - CONTRACT MODIFICATION/SUBSTITUTION PROCEDURES

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section 01210 "Allowances" for procedural requirements for handling and processing allowances.
 - 2. Division 1 Section 01600 "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architects and or Construction Manager will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on **AIA Document A101/A201**.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architects and or Construction Manager are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 7 calendar days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and fin-

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ish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
1. Include a statement outlining reasons for the change and the effect of the change on the work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 5. Comply with requirements in Division 1 Section 01600 "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Standard Form Document for Proposal Requests.

1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed. County Contract Modification Form to be prepared by Contractor.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 7 calendar days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 14 calendar days after such authorization.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

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1.6 CHANGE ORDER PROCEDURES

- A. ON OWNER'S APPROVAL OF A PROPOSAL REQUEST, CONSTRUCTION MANAGER WILL ISSUE A CHANGE ORDER FOR SIGNATURES OF OWNER, ARCHITECT AND CONTRACTOR ON AIA DOCUMENT G701.
- B. WHEN A CHANGE IN THE WORK INCLUDES A CATEGORY OR CATEGORIES OF WORK BOTH ADDED TO AND DEDUCTED FROM THE CONTRACT, THE TOTAL QUANTITIES OF ADDED WORK AND OF DELETED WORK SHALL BE DETERMINED SEPARATELY FOR EACH CATEGORY AND THE APPROPRIATE UNIT PRICE OR NET COST OF THE WORK SHALL BE APPLIED TO THE DIFFERENCE BETWEEN THE TWO TOTAL QUANTITIES.
- C. UNIT PRICES (IF APPLICABLE) SHALL BE INCLUSIVE OF ALL COSTS AND SHALL BE APPLIED TO UNITS OF MEASURE AS DEFINED IN THE SPECIFICATIONS FOR EACH CATEGORY OF WORK.
- D. FOR ALL EXTRA WORK PERFORMED BY EACH CONTRACTOR, THE GROSS COST TO THE OWNER SHALL INCLUDE THE NET COST OF THE WORK TO THE CONTRACTOR PLUS AN ALLOWANCE FOR OVERHEAD AND PROFIT **NOT TO EXCEED 15% OF THE NET COST.**
- E. FOR ALL EXTRA WORK PERFORMED BY A SUBCONTRACTOR, THE GROSS COST TO THE OWNER SHALL INCLUDE THE NET COST OF THE WORK TO THE SUBCONTRACTOR PLUS AN ALLOWANCE FOR OVERHEAD AND PROFIT **NOT TO EXCEED 10%** OF THE SUBCONTRACTOR'S NET COST.
- F. NET COST OF EXTRA WORK SHALL BE THE ACTUAL OR PRO-RATED COST OF:
 - 1. LABOR, INCLUDING FOREMAN AND SUPERINTENDENT, AT THE PREVAILING RATE OF WAGES, CONTRIBUTIONS AND TAXES.
 - 2. MATERIALS ENTERING PERMANENTLY INTO THE WORK, INCLUDING DELIVERY TO THE SITE.
 - 3. THE OWNERSHIP OR RENTAL COST OF CONSTRUCTION EQUIPMENT AND EXPENDABLE TOOLS, PRO-RATED FOR THE TIME NECESSARY FOR THE WORK.
 - 4. POWER AND CONSUMABLE SUPPLIES FOR THE OPERATION OF POWER EQUIPMENT, PRO-RATED FOR THE TIME NECESSARY FOR THE WORK.
 - 5. INSURANCE AND BONDS.
- G. GROSS COSTS SHALL BE NET COSTS PLUS THE ALLOWANCES DESCRIBED ABOVE, SUCH ALLOWANCES BEING INCLUSIVE, OF ALL COST OF SUPERINTENDENCE, SUPERVISION, ENGINEERING, CLEAN UP, OVERHEAD, PROFIT, ADMINISTRATIVE AND SITE OFFICE EXPENSES AND ALL OTHER GENERAL EXPENSES.
- H. CONTRACTOR SHALL INCLUDE SUPPORTING DOCUMENTATION FROM ALL SUBCONTRACTORS INVOLVED IN ANY PROPOSAL REQUEST. THIS DOCUMENTATION SHALL INCLUDE MANHOURS AND HOURLY RATES, MATERIAL LIST AND COSTS, AND OVERHEAD AND PROFIT. SUPPORTING DOCUMENTATION WILL BE ATTACHED TO CHANGE ORDER PREPARED BY ARCHITECT.

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1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Construction Manager and or Architect may issue a Construction Change Directive on AIA Document. Construction Change Directive instructs Contractor to proceed with a change in the work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.8 CONSTRUCTION DIRECTIVE

- A. Construction Directive: Construction Manager and or Architect may issue a Construction Directive on AIA Document. Construction Directive instructs Contractor to proceed with the work when the Contractor and Architect disagree on whether the work is included in the scope of work in the Contract Documents.
 - 1. Construction Directive contains a complete description of the Work.
 - 2. The Contractor may NOT stop the work, and must proceed with the work as directed even if they dispute the ownership of the work
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Directive.
 - 1. After completion of the work, the Contractor may submit an itemized account and supporting data necessary to substantiate their reason for disputing the validity of the work as part of the Contract Documents, they may include an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
 - 2. After the Architect has made a final interpretation that determines the work is part of the Contract Documents, the Contractor still has the right to file a claim per the General Conditions Specification Disputes Under the Contract Sections.

END OF SECTION 01250

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SECTION 01290 - PAYMENT PROCEDURES

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the Schedule of Values.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

- a. Application for Payment forms with continuation sheets.
- b. Submittal schedule.
- c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the Schedule of Values to Architect and Construction Manager at earliest possible date but no later than 7 days after the date of Notice to Proceed for review and approval.

3. Submit the Schedule of Values to Architect through Construction Manager at earliest possible date but no later than 7 days before the date scheduled for submittal of initial Applications for Payment

- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section or by Division Number.

1. Identification: Include the following Project identification on the schedule of values:

- a. Project name and location.
- b. Name of Architect.
- c. Architect's project number.
- d. Contractor's name and address.
- e. Date of submittal.

2. Arrange Schedule of Values consistent with format of AIA Document.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual Table of Contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

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5. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Progress payments shall be submitted to Architect by the 6th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- E. Application for Payment Forms: Use forms provided by Owner for Applications for Payment.
- F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

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1. Entries shall match data on the Schedule of Values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- G. Transmittal: Submit 5 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retain-age, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the work must submit waivers.
 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Submittal schedule (preliminary if not final).
 5. List of Contractor's staff assignments.
 6. List of Contractor's principal consultants.
 7. Copies of building permits.
 8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the work.
 9. Initial progress report.
 10. Report of preconstruction conference.
 11. Certificates of insurance and insurance policies.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the work claimed as substantially complete.

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1. Include documentation supporting claim that the work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the work.
- K. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document, "Contractor's Affidavit of Release of Liens."
 6. AIA Document, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.

END OF SECTION 01290

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SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination drawings.
 - 2. Requests for Information (RFIs).
 - 3. Project Web site.
 - 4. Project meetings.
- B. The work included in the section to be provided by the Contractor unless otherwise stated as the responsibility of others
- C. Related Sections:
 - 1. Division 01 Section 01700 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 2. Division 01 Section 01320 "Construction Progress Documentation" for Preparing and submitting the Contractors Construction Schedule.
 - 3. Division 01 Section 01770 "Closeout Procedures" for coordinating Contract closeout.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information from each other during construction.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their work is required.

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- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Pre-installation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.4 COORDINATION DRAWINGS

- A. Coordination Drawings - General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates maximum utilization of space for efficient installation of different components, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems include components shown on separate Shop Drawings.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 - d. Refer to Divisions Sections 15 and 16, "Materials and Methods" for specific Coordination Drawing Requirements for mechanical and electrical installations
 - e. General Contractor shall prepare Coordination Drawings for Submission to the Architect. Each Prime/Sub-Contractor shall prepare their own coordination drawings and submit to the General Contractor for final coordination within thirty (30) days from Notice to Proceed. Failure to submit these drawings will result in No Changes to the Contract Sum for necessary corrections to un-coordinated work. It is the sole responsibility of the General Contractor to assure the accuracy of all work that requires coordination. The General Contractor must submit within thirty (30) days.
 - f. The General Contractor shall act as the Project Coordinator, and shall be responsible for Coordination between ALL TRADES present on the project
- B. Coordination Drawing Organization - Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid.

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2. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire protection, fire alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Review: The Construction Manager and Architect will review coordination drawings to confirm that the work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility.

1.5 PROJECT COORDINATORS

- A. Project Coordinator shall be the General Construction Contractor. The General Contractor shall assign a person on his staff to be the Full-time Project Coordinator. The Project Coordinator shall be experienced in administration and supervision of building construction, including mechanical and electrical work.
 1. Coordination activities of Project Coordinator include, but are not limited to, the following:
 - a. Provide overall coordination of the work.
 - b. Coordinate shared access to work spaces.
 - c. Coordinate product selections for compatibility.
 - d. Provide overall coordination of temporary facilities and controls.
 - e. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
 - f. Coordinate construction and operations of the work with work performed by each contract.
 - g. Prepare Coordination Drawings to coordinate work by more than one contractor.
 - h. Coordinate sequencing and scheduling of the work. Including the following:
 - 1) Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with separate contractors for sequencing and coordinating the work; negotiate reasonable adjustments to schedules.
 - 2) Prepare a Construction Schedule for entire Project. Base schedule on Preliminary Construction Schedule. Secure time commitments for performing critical construction activities from separate contractors.
 - 3) Distribute copies of schedule to Architect, Owner, and separate contractors.
 - i. Provide construction photography.
 - j. Provide quality-assurance and quality control services specified in Division 1 Section 01400 "Quality Requirements."
 - k. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
 - l. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
 - m. Locate existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
 - n. Provide field surveys of in-progress construction and site work.

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- o. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
 - p. Coordinate cutting and patching.
 - q. Coordinate protection of the work.
 - r. Coordinate fire-stopping.
 - s. Coordinate preparation of Project Record Documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
 - t. Print and submit **Record Transparencies** if installations by more than one contractor are indicated on the same Contract Drawing or Shop Drawing.
 - u. Collect Record Specification Sections from other contractors, collate Sections into numeric order, and submit complete set.
 - v. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
2. Coordination activities of Mechanical/Electrical Coordinator include, but are not limited to, the following:
- a. Schedule and sequence mechanical and electrical activities.
 - b. Coordinate sharing access to work spaces by mechanical and electrical contractors.
 - c. Coordinate integration of mechanical and electrical work including sprinkler piping into limited spaces.
 - d. Coordinate protection of mechanical and electrical contractors' work.
 - e. Coordinate cutting and patching for mechanical and electrical work.
 - f. Prepare mechanical and electrical Coordination Drawings.
 - g. Coordinate tests and inspections for mechanical and electrical work.
- B. Coordinate mechanical and electrical temporary services and facilities.

1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the work AND AS LISTED IN SECTION 1.5.

1.7 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
- 1. Architect will return RFIs submitted to architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
- 1. Project name.
 - 2. Project number.
 - 3. Date.

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4. Name of Contractor.
 5. Name of Architect and Construction Manager.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716
- D. Architect's and Construction Manager's Action: Architect and Construction Manager will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect or Construction Manager after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section 01260 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.
 - b. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, any/all time spent by the contractor for the investigation and issuance of an RFI will **NOT** be included as part of a Change Order even if the RFI issue becomes a change to the contract.
- E. On receipt of Architects and Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Manager within seven days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use Microsoft Project.

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1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect and Construction Manager.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architects and Construction Manager's response was received.
8. Identification of related Minor Change in the work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

- A. General: Construction Manager will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
- B. Preconstruction Conference: Construction Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 30 days after execution of the Agreement.
 1. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Sustainable design requirements.
 - l. Preparation of record documents.
 - m. Use of the premises and existing building.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.
 - v. Office, work, and storage areas.
 - w. Equipment deliveries and priorities.

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- x. First aid.
 - y. Security.
 - z. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Construction Manager of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Construction Manager will conduct progress meetings at regular intervals.
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1. Attendees: In addition to representatives of Owner, Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: The Contractor will Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized by the Construction Manager and Architect. Issue revised schedule concurrently with the report of each meeting.

END OF SECTION 01310

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SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the work, including the following:
1. Contractor's construction schedule.
 2. Daily Construction Reports.
 3. Daily Manning Reports
 4. Field Condition Reports.
 5. Daily Field Photographs

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 2. Milestone Activity: An activity that has a must finish on date
 3. Predecessor Activity: An activity that precedes another activity in the network.
 4. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Milestone: Milestone dates are dates that a specific activity must be completed on. Normally there are several milestone dates incorporated within the CPM schedule and may include the following;
- Notice to Proceed
 - Steel Erecting
 - Building water-tight
 - Substantial Completion
- E. Float: The measure of leeway in starting and completing an activity.
1. Float time belongs to Owner.

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1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals - Submit required submittals in the following format:
1. PDF electronic file.
 2. Or 2 paper copies.
- B. Start-up Network Diagram: Of size required to display the entire network for entire construction period. Show logic ties for activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period. Schedule to be submitted to CM for review prior to first application for payment. No contractor payment will be made by the County until the CPM schedule is received by the CM.
1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- D. **CPM Reports: Concurrent with CPM schedule, submit each of the following reports.** Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 3. Total Float Report: List of all activities sorted in ascending order of total float.
 4. Substantial Completion Date
 5. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- E. Daily Construction Reports: Submit at weekly intervals.
- F. Field Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the work from entities involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

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PART 2 - PRODUCT DELIVERABLE

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion and to be **submitted for CM review prior to first payment application.**
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and re-submittal times indicated in Division 01 Section 01330 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 4. Inspection Activities: Include time for inspections, final inspection and fire inspections, these activities should not extend more than 5 days past the work required to be inspected
 5. Startup and Testing Time: Include not less than 15 days for startup and testing.
 6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architects and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
 7. Punch List and Final Completion: Include not more than 30 Calendar days for punch list and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under more than one contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the work performed by Owner.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.

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5. Work Stages: Indicate important stages of construction for each major portion of the work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion. Reference Section 01100.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
 1. Unresolved issues.
 2. Unanswered RFIs.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
- F. Recovery Schedule: When periodic update indicates the work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 1. Utilize Microsoft Project.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.
 8. Meetings and significant decisions.

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9. Unusual events.
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial completions and occupancies.
18. Substantial Completions authorized.

- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities and percentages complete for each activity. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in performance of construction activities.

END OF SECTION 01320

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SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 General Requirement Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
 - 1. Division 1 Section 01290 "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
 - 2. Division 1 Section 01320 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Division 1 Section 01310 "Project Management and Coordination" for submitting coordination drawings.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

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1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and/or Construction Manager and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the work and those required early because of long lead-time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number, volume number and title.
 - c. Submittal category: Action, informational.
 - d. Name of subcontractor.
 - e. Description of the work covered.
 - f. Scheduled date for Architect's and Construction Manager's final release or approval.
 - g. Scheduled dates for purchasing.
 - h. Scheduled dates for installation.
 - i. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that requires sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

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4. Coordinate transmittal of different types of submittals for related parts of the work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

- C. Processing Time: Allow time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the work to permit processing, including re-submittals.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Re-submittal Review: Allow 15 days for review of each re-submittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Construction Manager, through Architect, before being returned to Contractor.
 6. **Any product, material, equipment and/or MEP/HVAC/IT/Data substitutions other than specified will be reviewed by the A/E once only, "1 Time Only". If rejected by the A/E, any and all other substitutions submitted by the Contractor for that specific item will be reviewed by the A/E at the Contractor's expense.**

- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately **6 by 8 inches** on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of subcontractor.

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- g. Name of supplier.
- h. Name of manufacturer.
- i. Submittal number or other unique identifier, including revision identifier.

1) Submittal number shall use Specification Section number followed by a decimal point, followed by specification volume identifier, followed by a decimal point, and then a sequential number (e.g., 061000.IV.01). Re-submittals shall include an alphabetic suffix after another decimal point (e.g., 061000.III.01.A).

- j. Number and title of appropriate Specification Section.
- k. Number of Specification book Volume
- l. Drawing number and detail references, as appropriate.
- m. Location(s) where product is to be installed, as appropriate.
- n. Other necessary identification.

E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point followed by specification volume identifier, and then a sequential number (e.g., LNHS-061000.II.01). Re-submittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.IV.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect and Construction Manager.
4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.
 - h. Name of supplier.
 - i. Name of manufacturer.
 - j. Number and title of appropriate Specification Section.
 - k. Number of Specification book Volume
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Other necessary identification.
5. Include the following information as keywords in the electronic file metadata:

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- a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Number of Specification book Volume
 - d. Manufacturer name.
 - e. Product name.
- F. *Options*: Identify options requiring selection by the Architect.
- G. *Deviations*: Identify deviations from the Contract Documents on submittals.
- H. *Additional Paper Copies*: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect and Construction Manager.
- I. *Transmittal*: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Construction Manager will discard submittals received from sources other than Contractor.
1. *Transmittal Form*: Use AIA Document G810.
 2. *Transmittal Form*: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Volume number, Specification Section number and title.
 - i. Indication of full or partial submittal.
 - j. Drawing number and detail references, as appropriate.
 - k. Transmittal number, numbered consecutively.
 - l. Submittal and transmittal distribution record.
 - m. Remarks.
 - n. Signature of transmitter.
 3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. *Re-submittals*: Make re-submittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.

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3. Resubmit submittals until they are marked with approval notation from Architects and Construction Manager's action stamp.

- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, and authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- L. Use for Construction: Use only final submittals that are marked with approval notation from Architects and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Action Submittals: Submit three paper copies of each submittal, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
 3. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect and Construction Manager will not return copies.
 4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 1 Section 01770 "Closeout Procedures."
 5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer, or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 1 Section 01400 "Quality Requirements."

- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.

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2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
 - b. Four paper copies of Product Data, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least **8-1/2 by 11 inches** but no larger than **30 by 42 inches**.
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
 - b. Three opaque copies of each submittal. Architect and Construction Manager will retain two copies; remainder will be returned.

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- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager, will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

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- 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. PDF electronic file.
 - b. Three paper copies of product schedule or list, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section 01320 "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 1 Section 01290 "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 1 Section 01290 "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
 4. Submit subcontract list in the following format:
 - a. PDF electronic file.
 - b. Number of Copies: Four paper copies of subcontractor list, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
- J. Coordination Drawings: Comply with requirements specified in Division 1 Section 01310 "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

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- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section 01400 "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed

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before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 1 Section 01770 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the work will be reviewed when use of partial submittals has received prior approval from Architect and Construction Manager.

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- E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. The Architect and Construction Manager shall be reimbursed by the contractor for their time if; re-submittals have not been corrected after the third re-submittal, creating un-necessary review by the Architect and Construction Manager.
- G. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01330

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SECTION 01400 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
- C. **All laboratory testing and inspection as required by the contract documents are the responsibility of the Contractor. All independent field and laboratory testing costs are the responsibility of the Contractor.**
- D. Related Sections:
 - 1. All Divisions.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.
- C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

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1. Laboratory Mockups: Full-size, physical assemblies constructed at testing facility to verify performance characteristics.
- D. Pre-construction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the work to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the work and for completed work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

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1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.
1. Seismic-force resisting system, designated seismic system, or component listed in the designated seismic system quality assurance plan prepared by the Architect.
 2. Main wind-force resisting system or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and re-inspecting.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 5. Other required items indicated in individual Specification Sections.

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- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

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- I. Pre-construction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed work.
 - d. When testing is complete, remove test specimens, assemblies, mockups; do not reuse products on Project.
 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect or Construction Manager.
 2. Notify Architect and Construction Manager seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Architect's and Construction Manager's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed work.
 6. Demolish and remove mockups when directed, unless otherwise indicated.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage through the Construction Manager a qualified testing agency to perform these services.

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1. Owner through the Construction Manager will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 48 hours in advance of time when work that requires testing or inspecting will be performed.
 3. Notify the Construction Manager at least 24 hours in advance of time when work that requires testing or inspection will be performed
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the work, and submittal of written reports.
- D. Re-testing/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

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4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner. Paragraph below is an alternative to paragraph above that allows individual Specification Sections to define who is responsible for special tests and inspections.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched

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areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 1 Section 01700 "Execution."

- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

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SECTION 01420 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect or Construction Manager. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

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- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)

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AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	Architectural Precast Association
APA	APA - The Engineered Wood Association
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (American Society of Mechanical Engineers International)

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ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	Association of the Wall and Ceiling Industry
AWCMA	American Window Covering Manufacturers Association (Now WCMA)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association)
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
BICSI	BICSI, Inc.
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation)
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CEA	Consumer Electronics Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CIMA	Cellulose Insulation Manufacturers Association
CISCA	Ceilings & Interior Systems Construction Association

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CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CRRC	Cool Roof Rating Council
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association
CRI	Carpet and Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
DHI	Door and Hardware Institute
EIA	Electronic Industries Alliance
EIMA	EIFS Industry Members Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association (Electrostatic Discharge Association)
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA)
FIBA	Federation Internationale de Basketball (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball

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(The International Volleyball Federation)

FM Approvals	FM Approvals LLC
FM Global	FM Global (Formerly: FMG - FM Global)
FMRC	Factory Mutual Research (Now FM Global)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Part of GSI)
GS	Green Seal
GSI	Geosynthetic Institute
HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation (Now BWF)
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission

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IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization Available from ANSI
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek Testing Service NA (Now ETL SEMCO)
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International

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(National Association of Corrosion Engineers International)

NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	Inter-National Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NOMMA	National Ornamental & Miscellaneous Metals Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association

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NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Now ITS)
PCI	Precast/Prestressed Concrete Institute
PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
SAE	SAE International
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)
SGCC	Safety Glazing Certification Council

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SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc. (Now TCNA)
TCNA	Tile Council of North America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute
UL	Underwriters Laboratories Inc.

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UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTECH	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, Inc.
UBC	Uniform Building Code (See ICC)

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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CE	Army Corps of Engineers
CPSC	Consumer Product Safety Commission
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	Department of Housing and Urban Development
LBL	Lawrence Berkeley National Laboratory
NCHRP	National Cooperative Highway Research Program (See TRB)
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration
PBS	Public Buildings Service (See GSA)
PHS	Office of Public Health and Science
RUS	Rural Utilities Service (See USDA)
SD	State Department
TRB	Transportation Research Board
USDA	Department of Agriculture
USPS	Postal Service

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- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board
CFR	Code of Federal Regulations Available from Government Printing Office
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point
DSCC	Defense Supply Center Columbus (See FS)
FED-STD	Federal Standard (See FS)
FS	Federal Specification Available from Department of Defense Single Stock Point Available from Defense Standardization Program Available from General Services Administration Available from National Institute of Building Sciences
FTMS	Federal Test Method Standard (See FS)
MIL	(See MILSPEC)
MIL-STD	(See MILSPEC)
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point
UFAS	Uniform Federal Accessibility Standards Available from Access Board

- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following

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list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation

CCR California Code of Regulations

CPUC California Public Utilities Commission

TFS Texas Forest Service
Forest Resource Development

END OF SECTION 01420

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SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security, protection facilities, AND PROTECTION OF EXISTING UTILITIES AND SERVICES TO THE EXISTING BUILDINGS. THERE MAY BE SPACE IN THE EXISTING BUILDING FOR USE AS THE FIELD OFFICE FOR THE CONSTRUCTION MANAGER, ARCHITECT AND ALSO SPACE FOR THE GENERAL CONTRACTOR AND SUBCONTRACTORS. IF SPACE IS AVAILABLE IN THE EXISTING BUILDING THE CONTRACTOR SHALL PAY THE OWNER FOR USE OF SAID SPACE, AT A RATE EQUAL TO PROVIDING 1 (ONE) 10' X 20' CONSTRUCTION TRAILER.
- B. IF SPACE WITHIN THE EXISTING BUILDING IS NOT AVAILABLE, THE CONTRACTOR SHALL PROVIDE 1 (ONE) 10'X20' CONSTRUCTION MANAGEMENT TRAILER.
- C. **THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, COORDINATION, FEES, REMOVAL AND UTILITY USE COSTS FOR ALL TEMPORARY UTILITIES, SUPPORT FACILITIES, AND SECURITY AND PROTECTION FACILITIES. THE CONTRACTOR SHALL NOT TIE INTO THE EXISTING UTILITIES. CONTRACTOR SHALL COORDINATE TRAILER LOCATION TO BE SET ON ADJACENT CHURCH PROPERTY. CONTRACTOR WILL BE RESPONSIBLE TO LEASE SPACE FROM THE CHURCH FOR THE PROJECT DURATION AS REQUIRED.**
- D. Temporary utilities include, but are not limited to, the following:
 - 1. Sanitary facilities, including drinking-water facilities.
 - 2. Heating and cooling facilities.
 - 3. Ventilation.
 - 4. Electric power service.
 - 5. Lighting.
 - 6. Telephone service.
- E. Support facilities include, but are not limited to, the following:

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1. Project identification and temporary signs.
2. Waste disposal facilities and site cleaning.
3. Field offices.
4. Three (3) lockable desks with three (3) desk arm chairs
5. One 8 foot long Conference table with ten (10) stackable chairs
6. Six (6) lockable four (4) drawer file cabinets
7. Lifts and hoists.
8. Temporary stairs.
9. Construction aids and miscellaneous services and facilities.

F. Security and protection facilities include, but are not limited to, the following:

1. Environmental protection.
2. Tree and plant protection.
3. Pest control.
4. Site enclosure fence.
5. Security enclosure and lockup.
6. Barricades, warning signs, lights, AND SAFETY BARRIERS.
7. Covered walkways.
8. Temporary enclosures.
9. Temporary partitions.
10. Fire protection.

G. Related Sections include the following:

1. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
2. Divisions 2 through 16 for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weather-tight; exterior walls are insulated and weather-tight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES

- A. General: THE CONTRACTOR SHALL PAY FOR ALL TEMPORARY UTILITY USE COSTS. Cost or use charges for temporary facilities are not chargeable to Owner, Construction Manager or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:

1. Owner's construction forces.
2. Occupants of Project.
3. Architect
4. Testing agencies.
5. Personnel of authorities having jurisdiction.

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- B. Electric Power Service: THE CONTRACTOR SHALL Pay electric power service use charges, whether metered or otherwise, for electricity used by all entities engaged in construction activities at Project site.

1.5 SUBMITTALS

- A. Temporary Utility Reports: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Within 15 days of date established for submittal of Contractor's Construction Schedule, submit a schedule indicating implementation and termination of each temporary utility.

1.6 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
 - 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
 - 2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

- A. Temporary Utilities: At DATE OF SUBSTANTIAL COMPLETION, OR EARLIER DATE when acceptable to Owner, change over from use of temporary service to use of permanent service. CONTRACTOR SHALL CONTINUE TO PAY ALL TEMPORARY UTILITY COSTS UP TO THE DATE OF SUBSTANTIAL COMPLETION EVEN IF PERMANENT SERVICES ARE IN USE.
 - 1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
 - 2. SPECIFIED WARRANTIES SHALL NOT BE REDUCED OR VOIDED BY TEMPORARY USE OF PERMANENT FACILITIES. ALL WARRANTIES AND GUARANTEES START AT DATE OF CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:

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1. Keep temporary services and facilities clean and neat.
2. Relocate temporary services and facilities as required by progress of the Work AT NO COST TO THE OWNER.
3. CONTRACTOR SHALL PROVIDE TEMPORARY COVERS OVER ALL RETURN REGISTERS AND PROVIDE NEW CLEAN FILTERS AT TIME OF CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY. IF DUCTS REQUIRE CLEANING AS A RESULT OF TEMPORARY HEAT OR AIR CONDITIONING, THE CONTRACTOR SHALL CLEAN SAID DUCTWORK. ALL COSTS FOR CLEANING THE DUCTWORK SHALL BE BY THE CONTRACTOR.
4. INTERRUPTION OF EXISTING BUILDING SERVICES SHALL NOT OCCUR WITHOUT PRIOR CONSENT AND COORDINATION BY THE AND OWNER.
5. DUMPSTER LOCATION: THE ARCHITECT, CONSTRUCTION MANAGER AND OWNER WILL COORDINATE THE DUMPSTER LOCATIONS WITH THE CONTRACTOR. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND MAINTAINING ALL THE DUMPSTERS AND CLEAN ALL WORK AREAS THROUGHOUT THE COURSE OF THE PROJECT.
6. **Contractor to provide temporary material hoist attached to the Jail structure located at the side fenced entrance adjacent to main Jail entrance. This structure must meet all safety OSHA requirements for hoisting materials and must be completely enclosed so no inmate could climb up or down from 1st floor 14th floor roof level.**

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide **galvanized steel** bases for supporting posts.
- C. Lumber and Plywood: Comply with requirements in Division 6 Section "**Rough Carpentry.**"
- D. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.
- E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively.
- F. Paint: Comply with requirements in Division 9 Section "Painting."
- G. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- H. Water: Potable.

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2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures. REFER TO SECTION 3.4.J FOR LOCATIONS.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- C. Drinking-Water Fixtures: **bottled-water drinking-water units**, including paper cup supply.
 - 1. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 degree F.
- D. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- E. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be non-metallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
 - 1. CONTRACTOR SHALL PROVIDE TEMPORARY ENCLOSURES AROUND WORK PHASES AS INDICATED IN PHASING DRAWINGS, TEMPORARY ENCLOSURES SHALL BE A MINIMUM METAL STUD WITH HIGH IMPACT RESISTANT DRYWALL [ROTREX], (FROM FINISH FLOOR TO UNDERSIDE OF THE EXISTING CONCRETE SLAB ABOVE) CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL REQUIREMENTS FOR JAIL FACILITIES AND COORDINATE CONSTRUCTION AND LOCATIONS DURING EACH PHASE WITH THE OWNER.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. SAFETY BARRIERS: THE GENERAL CONTRACTOR SHALL ERECT SAFETY BARRIERS TO DETER AND PROHIBIT UNAUTHORIZED ACCESS TO THE CONSTRUCTION SITE. SUCH BARRIERS MAY TAKE THE FORM OF FENCES AND

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SHALL BE CLEARLY MARKED WITH SIGNAGE PROHIBITING UNAUTHORIZED ACCESS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY BARRIERS WITHIN THE BUILDING. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGES TO PERSONS OR PROPERTY DUE TO THE CONSTRUCTION PROCESS IF ADEQUATE SAFETY MEASURES ARE NOT UNDERTAKEN. THE ARCHITECT SHALL REVIEW SAFETY PRECAUTIONS FOR THEIR ADEQUACY BUT SHALL NOT BE HELD LIABLE FOR CONTRACTORS FAILURE TO MAINTAIN OR PROVIDE ADEQUATE PROTECTION.

- D. SEQUENCING: THE OWNER WILL WORK WITH THE CONTRACTORS TO SEQUENCE THE WORK DURING THE SUBMISSION OF PROJECT SCHEDULES. CONTRACTORS SHALL ENDEAVOR TO COORDINATE THEIR WORK EFFORTS WITH THE OWNER'S REQUIREMENTS. INTERRUPTIONS OF UTILITY SERVICES SHALL BE COORDINATED WITH THE ARCHITECT AND OWNER, BUT IN NO INSTANCE SHALL LAST LONGER THAN 2 HOURS. IF PREDICTED LONGER, WORK SHALL BE DONE WHEN NOT IN INTERFERENCE OR DISRUPTION OF EDUCATIONAL PROCESS.
- E. EACH CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF ALL STRUCTURAL ELEMENTS DURING ALL PHASES OF ALL WORK. NO MATERIALS, CRANES, TRUCKS OR ANY OTHER CONSTRUCTION LOADS SHALL BE PLACED ON ANY PART OF THE STRUCTURE UNTIL THE CONTRACTOR HAS DETERMINED THE ADEQUACY OF THAT STRUCTURE TO CARRY THE INTENDED LOAD WITHOUT DAMAGE OR OVERSTRESS.
- F. REMOVE TEMPORARY FACILITIES WHEN NO LONGER NEEDED, OR WHEN USE OF APPROPRIATE PERMANENT FACILITY IS APPROVED, BUT NOT LATER THAN SUBSTANTIAL COMPLETION.
 - 1. EXECPTION: WHEN THE ARCHITECT OR OWNER REQUESTS USAGE.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: CONTRACTOR SHALL engage appropriate local utility company to install temporary service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
- B. Sanitary Facilities: Provide temporary drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

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1. Disposable Supplies: Provide paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 2. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
 - a. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 degree F.
 3. Locate drinking-water fixtures so personnel need not walk more than two stories vertically **or 200 feet (60 m) horizontally** to facilities.
- C. Ventilation and Humidity Control: CONTRACTOR SHALL Provide temporary ventilation required by construction activities. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- D. Electric Distribution: CONTRACTOR SHALL provide receptacle outlets adequate for connection of power tools and equipment.
 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
 2. Provide warning signs at power outlets other than 110 to 120 V.
 3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
 4. Provide metal conduit enclosures or boxes for wiring devices.
 5. Provide 4-gang outlets, spaced so 100-foot extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
 6. **PROVIDE ANY 220-VOLT POWER THAT MAY BE REQUIRED FOR SPECIALTY EQUIPMENT NEEDED BY OTHERS FOR THE USE OF THEIR EQUIPMENT.**

E. Lighting: CONTRACTOR SHALL provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
 2. Provide one (1) 150-W ROUGH SERVICE incandescent lamp per 500 sq. ft., uniformly distributed, for general lighting, or equivalent illumination. **AS WALLS ARE ERECTED, PROVIDE A MINIMUM OF TWO (2)-150W ROUGH SERVICE INCANDESCENT LAMPS PER ROOM (ONE (1) IN ROOMS LESS THAN 150 SQUARE FEET.)**
 3. Provide one (1) 150-W ROUGH SERVICE incandescent lamp every 50 feet in traffic areas.
 4. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed.
 5. **PROVIDE MINIMUM ½ FOOTCANDLE AT ALL PAVED SURFACES.**

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- F. Telephone Service: CONTRACTOR SHALL provide temporary telephone service throughout construction period for common-use facilities used by all personnel engaged in construction activities. Install separate telephone line for each field office and first-aid station.
1. Provide additional telephone lines for the following:
 - a. CONTRACTOR SHALL PROVIDE A TELEPHONE, FAX MACHINE AND COPIER IN EACH FIELD OFFICE FOR USE BY OWNER, CONSTRUCTION MANAGER, ARCHITECT AND CONTRACTOR.
 - b. Provide a dedicated telephone line for each facsimile machine and computer with modem in each field office.
 2. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. PHYSICIAN / HOSPITAL.
 - c. Ambulance service.
 - d. Contractor's home office.
 - e. Architect's office.
 - f. Engineers' offices.
 - g. Owner's office.
 - h. Principal subcontractors' field and home offices.
 3. Provide **voice-mail service** on superintendent's telephone.
 4. Furnish superintendent with **electronic paging device** for use when away from field office.
 5. Provide a portable cellular telephone for superintendent's use in making and receiving telephone calls when away from field office.
 6. **CONTRACTOR SHALL PAY ALL TELEPHONE BILLS AND FEES**

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
1. Locate TEMPORARY field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities on adjacent church parking lot coordinate with church and negotiate lease for entire duration.
 2. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 3. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Project Identification and Temporary Signs: Prepare (1) 8 FOOT X 8 FOOT Project identification sign. Install sign IN LOCATION SELECTED BY OWNER, CONSTRUCTION MANAGER AND ARCHITECT to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.

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1. Engage an experienced sign painter to apply graphics for Project identification signs. ARCHITECT SHALL PREPARE A SCALED DRAWING OF ALL GRAPHICS FOR CONSTRUCTION SIGN. SIGN GRAPHICS SHALL BE AS APPROVED BY THE OWNER.
 2. Prepare ADDITIONAL temporary signs to provide directional information to construction personnel and visitors.
 3. Construct signs of ¾" THICK exterior-type Grade B-B high-density concrete form overlay plywood. Support on 6"X6" PRESSURE TREATED WOOD posts or framing steel.
 4. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer. IF VINYL LETTERS ARE USED, GENERAL CONTRACTOR SHALL BE CERTAIN THAT LETTERS CANNOT BE REMOVED. COVER SIGN WITH MATERIAL THAT WILL NOT ALLOW VINYL LETTERS TO BE REMOVED.
- C. Waste Disposal Facilities: CONTRACTOR SHALL provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Owner's specific requirements for progress cleaning, and clean site on a DAILY BASIS.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
 2. Develop a waste management plan for Work performed on Project. Indicate types of waste materials Project will produce and estimate quantities of each type. Provide detailed information for on-site waste storage and separation of recyclable materials. Provide information on destination of each type of waste material and means to be used to dispose of all waste materials.
- D. Common-Use Field Office: Provide THE FOLLOWING ITEMS for use as a common facility by all personnel engaged in construction activities;
1. Furnish and equip offices as follows:
 - a. THE CONTRACTOR SHALL PROVIDE A TELEPHONE, A FAX MACHINE AND A COPY MACHINE FOR USE BY THE CONSTRUCTION MANAGER, OWNER, ARCHITECT AND CONTRACTOR IN EACH FIELD OFFICE, REGARDLESS OF LOCATION IN EXISTING BUILDING OR TRAILER.
- E. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities. **Fourteen (14) story enclosed hoistway is required at side alleyway of jail, full height to roof. Enclosed for security and enabled impossible to climb up or down from outside access.**
- F. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

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- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
- B. Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest-control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Engage this pest-control service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
- C. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
 - 1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- thick exterior plywood.
- E. Covered Walkway and temporary scaffolding: Erect a structurally adequate, protective, covered walkway for passage of persons along adjacent Public Street to temporary entry and as required for public safety. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction. Also, provide similar interior temporary scaffolding and safety coverings at the entire two-story Records Room.
 - 1. Construct covered walkways using scaffold or shoring framing.
 - 2. Provide wood-plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
 - 3. Extend back wall beyond the structure to complete enclosure fence.
 - 4. Paint and maintain in a manner approved by Owner and Architect.
 - 5. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-thick exterior plywood.
- F. Temporary Enclosures: CONTRACTOR SHALL provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather-tight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - 2. Vertical Openings: Close openings of 25 sq. ft. or less with plywood or similar materials.

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3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
 4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
 5. Where temporary wood or plywood enclosure exceeds 100 sq. ft. in area, use fire-retardant-treated material for framing and main sheathing.
- G. Temporary Partitions: CONTRACTOR SHALL Erect and maintain dustproof partitions and temporary enclosures as manufactured by Dep Core to limit dust and dirt migration and to separate areas from fumes and noise.
1. Erect dustproof partitions of not less than nominal 4-inch studs, 5/8-inch gypsum wall-board with joints taped on occupied side, and 1/2-inch fire-retardant plywood on construction side.
 2. Insulate partitions to provide noise protection to occupied areas.
 3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 4. Protect air-handling equipment.
 5. Weather-strip openings.
- H. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, CONTRACTOR SHALL install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
 - a. Field Offices: Class A stored-pressure water-type extinguishers.
 - b. Other Locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
 - c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
 2. Store combustible materials in containers in fire-safe locations.
 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.
 4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
 5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
 6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

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- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
- D. Temporary Facility Changeover: Except for using permanent fire protections as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
 - 1. EXCEPTION: WHEN THE ARCHITECT OR OWNER REQUESTS LONGER USAGE.
- E. PERMANENT FACILITIES USED DURING CONSTRUCTION: CLEAN; REPLACE PARTS THAT ARE WORN IN EXCESS OF THAT EXPECTED DURING NORMAL USE.
 - 1. ALL WARRANTIES AND GUARANTEES SHALL START AT TIME OF SUBSTANTIAL COMPLETION EVEN IF SYSTEMS AND EQUIPMENT (I.E.; ROOFTOP UNITS, HVAC EQUIPMENT.) HAVE BEEN USED FOR TEMPORARY SERVICES DURING CONSTRUCTION.
- F. Termination and Removal: CONTRACTOR SHALL Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

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SECTION 01600 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Section:
 - 1. Division 1 Section 01250 "Contract Modification/Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

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1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor through Construction Manager of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later. **A/E will provide a substitution review one time only. If rejected, all other substitutions submitted by the Contractor for that same item(s) will be reviewed by the A/E at the cost of the Contractor.**
 - a. Form of Approval: As specified in Division 1 Section 01330 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section 01330 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturers written instructions.

- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent condensation.

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4. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturers written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
- C. Submittal Time: Comply with requirements in Division 1 Section 01770 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

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B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
 - b. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
 - b. Non-restricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with

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requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Second, third and fourth substitutions by the Contractor for the same product/material/equipment item will be reviewed by the A/E at the Contractor's expense.

END OF SECTION 01600

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SECTION 01700 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of Owner-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the work.

- B. Related Sections include the following:

1. Division 1 Section 01310 "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 1 Section 01330 "Submittal Procedures" for submitting surveys.
3. Division 1 Section 01731 "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the work.
4. Division 1 Section 01770 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

- A. Qualification Data: Submit qualifications to Project Superintendent.

1.4 QUALITY ASSURANCE

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the work.
1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

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- A. Existing Utility Information: Furnish information to **local utility** AND **Owner** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction AS PER CONSTRUCTION DOCUMENTS. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify **Architect** AND **Owner** not less than **two** days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without **Architect's** AND **Owner's** written permission.
- C. Field Measurements: Take field measurements as required to fit the work properly. Recheck measurements before installing each product. Where portions of the work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. **Submit requests on CSI Form 13.2A, "Request for Interpretation."**

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- C. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

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3.4 INSTALLATION

- A. General: Locate the work and components of the work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of **8 feet** in spaces without a suspended ceiling AS COORDINATED WITH ARCHITECT.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 PROGRESS CLEANING

- A. General: CONTRACTOR SHALL Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

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2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 degree F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 4. IF PROJECT SITE AND BUILDING IS KEPT IN AN UNCLEANLY STATE AS DETERMINED BY THE ARCHITECT FOR A PERIOD OF ONE WEEK AT ANY POINT DURING CONSTRUCTION, OWNER RESERVES THE RIGHT TO EMPLOY A CLEANING SERVICE AT THE EXPENSE OF THE CONTRACTOR. THIS SHALL COMMENCE AFTER IMMEDIATE NOTIFICATION TO THE CONTRACTOR.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress is subject to harmful, dangerous, damaging, or otherwise

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deleterious exposure during the construction period. PRIOR TO COMMENCEMENT OF PRIMING OR PAINTING ALL DEMOLITION WORK SHALL BE COMPLETE.

3.6 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturers written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section 01731 "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01700

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SECTION 01710 - GENERAL CLEANING

PART I - GENERAL

1.1 DESCRIPTION

- A. Work included: Throughout the construction period, maintain the building(s) and site in a standard of cleanliness as described in this Section.
- B. Related work:
 - 1. Documents affecting work in this Section include but are not limited to General Conditions, Supplementary Conditions and these specifications.

1.2 QUALITY ASSURANCE

- A. Conduct daily inspection, and more often if necessary, to verify that the requirements for cleanliness are being met.
- B. In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction for proper carting and disposal of materials.

1.3 SUBMITTALS

- A. Comply with the pertinent provisions of Section 01340 of these specifications.
- B. Product Data: Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit the following:
 - 1. Materials list of items to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed for the approval of the Architect.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

- A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material and as approved in advance by the Architect.

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PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General
 - 1. Retain stored items in an orderly arrangement in the area designated on the drawings allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
 - 2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this work.
 - 3. At least once each week, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
 - 4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the environment.

- B. Site
 - 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove such items to the place designated for their storage.
 - 2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy or otherwise service arrangements to meet the requirements of 3.1-A- 1 above.
 - 3. Maintain the site in a neat and orderly condition at all times.

- C. Structures
 - 1. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
 - 2. Weekly, and more often if necessary, sweep interior spaces clean. "Clean" shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a hand-held broom.
 - 3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.

3.2 FINAL CLEANING

- A. "Clean", except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described in 3.1 above.

C. Site

GENERAL CLEANING

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1. Unless otherwise specifically directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

D. Structures

1. Exterior:

- a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges and other foreign matter that resulted from contractor's work on or at the facility.
- b. Remove all traces of splashed materials from adjacent surfaces.
- c. If necessary to achieve a uniform degree of cleanliness, power-wash the exterior of the structure.
- d. In the event of stubborn stains not removable with water, the Architect may require other cleaning at no additional cost to the Owner.

2. Interior

- a. Visually inspect interior surfaces and remove all traces of soil, waste materials,
 1. smudges and other foreign matter.
 2. b.Remove all traces of splashed material from adjacent surfaces.
- b. Remove all paint droppings, spots, stains and dirt from finished surfaces.

3. Glass:

- a. Windows - Clean all glass panes inside and outside.
- b. Doors - Clean all view panels inside and outside.

4. Polished surfaces: to surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

- E. Schedule **final** cleaning as approved by the Architect to enable the Owner to accept and occupy a completely clean Building.

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SECTION 01731 - CUTTING AND PATCHING

PART I - GENERAL

1.1. Description

- A. Work included: This Section establishes general requirements pertaining to cutting (including excavation), fitting and patching of the Work required to:
 - 1. Make the several parts **fit** properly;
 - 2. Uncover work to provide for installing, inspecting or both, of ill-timed work;
 - 3. Remove and replace work not conforming to the requirements of the Contract Documents; and
 - 4. Remove and replace defective work.

- B. Related work:
 - 1. Documents affecting work of this section include but are not necessarily limited to General Conditions, Supplementary Conditions and Sections in Division -1 of these Specifications.
 - 2. In addition to other requirements specified, upon the Architect's request to uncover work to provide for inspection by the Architect, and remove samples of installed material for testing.
 - 3. Do not cut or alter work performed under separate contracts without the Architect's written permission.

1.2. QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods for proper performance of the work of this section.

1.3. SUBMITTALS

- A. Request for Architect's consent:
 - 1. Prior to cutting which effects structural safety, submit written request to the Architect for permission to proceed with the cutting.
 - 2. Should conditions of the work or schedule indicate a required change of materials or methods for cutting and patching, so notify the Architect and secure written permission and the required Change Order prior to proceeding.

- B. Notices to the Architect:
 - 1. Prior to cutting and patching performed pursuant to the Architect's instructions, submit cost estimate to the Architect. Secure the Architect's approval of Cost Estimates and type of reimbursement before proceeding with the cutting and patching.
 - 2. Submit written notice to the Architect designating the time the Work will be uncovered, to provide for the Architect's observation.

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PART 2 - PRODUCTS

2.1. MATERIALS

A. For replacement of the items removed, use materials complying with the pertinent Sections of these specifications.

2.2. PAYMENT FOR COSTS

A. The Owner will reimburse the Contractor for cutting and patching performed pursuant to the Approved written Change Order, after claim for such reimbursement is submitted by the Contractor. Perform cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

A. Inspection:

1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching and backfilling.
2. After uncovering the work, inspect conditions affecting installation of new work.

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Architect and secure needed directions.
2. Do not proceed until unsatisfactory conditions are corrected.

3.2. PREPARATION PRIOR TO CUTTING

A. Provide required protection including but not necessarily limited to shoring, bracing and support to maintain structural integrity of the work.

3.3. PERFORMANCE

A. Perform required excavating and backfilling as required under pertinent other Sections of these Specifications.

1. Perform cutting and demolition by methods, which will prevent damage to other portions of the work and provide proper surfaces to receive installation of repair and new work.
2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

END OF SECTION 01731

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SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the “General Conditions”, “Special Conditions” and all other applicable requirements of the contract documents shall govern the work of this Section. Consult them in detail for applicable instructions.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of fire protection system.
- B. Related Sections include the following:
 - 1. Special Conditions Section.
 - 2. Clean-Agent Fire Extinguishing System

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- 1. All items belong to the owner and the owner reserves the right to keep or discard of items.

1.5 SUBMITTALS

- A. Qualification Data: For construction firm.

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- B. Schedule of Selective Demolition Activities: Indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 2. Use of elevator and stairs.
 3. Locations of proposed dust- and noise-control temporary partitions and means of egress.
 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed work.
 5. Means of protection for items to remain and items in path of waste removal from building.
- C. Pre-demolition Photographs: Show existing conditions of adjoining rooms and structure, including finished areas that might be misconstrued as damage caused by selective demolition operations.
- D. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.
- D. Pre-demolition Conference: Conduct conference at Project site to review methods and procedures related to selective demolition including, but not limited to, the following:
1. Inspect and discuss condition of construction to be selectively demolished.
 2. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 4. Review areas where existing construction is to remain and requires protection.

1.7 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of site inspection will be maintained by Owner as far as practical during time of work.

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- C. Notify Engineer of discrepancies between existing conditions and drawings before proceeding with selective demolition.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- F. Contractor is responsible for the decommissioning and removal of the existing Halon system and the legal recovery and disposal of the Halon as per EPA and local codes.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to the Engineer.
- D. Survey of Existing Conditions: Record existing conditions by use of measured drawings and pre-construction photographs.
 - 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- E. Perform surveys as the work progresses to detect hazards resulting from selective demolition activities.

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3.2 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with owner's operations including adjacent streets, walkways, and other adjacent occupied and used facilities.

3.3 SELECTIVE DEMOLITION, GENERAL

- A. General: Notify owner prior to any demolition work that is to begin that could generate dust and debris which may affect existing facility fire detection systems. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches. Maintain fire watch and portable fire-suppression devices during demolition operations as needed.
4. Maintain adequate ventilation when demolition work is underway.
5. Dispose of demolished items and materials promptly.
6. Daily cleanup of dust and debris with vacuum cleaning equipment resulting from demolition work is required.

- B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.4 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Halon fire protection system: Properly remove equipment without releasing any Halon to the atmosphere.

1. Agent Storage Containers. The existing Halon 1301 agent storage containers shall be safely disconnected from the fire suppression system. The containers shall be rendered safe from inadvertent discharge, and the manufacturer's recommended anti-recoil cap shall be affixed to the discharge outlet. The container shall be removed from the premises and transported to an approved Halon 1301 recycling center for agent recovery.

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2. Halon 1301 Agent. The Halon 1301 agent shall be recovered by the approved Halon 1301 recycling center without venting to atmosphere. Halon 1301 agent shall not be disposed of through any means that could lead to inadvertent or deliberate release to atmosphere of all or any part of the agent.
3. Discharge Piping and Nozzles. The accessible above ceiling and subfloor discharge piping and nozzles shall be removed. The installing contractor shall be responsible for removal and replacement of ceiling and floor tiles. Pipe that is inaccessible, such as any behind sheetrock walls, shall not be removed. Pipe, fittings, and hangers shall not be reused for the new fire suppression system.
4. Control Panel and Electrical Devices. The existing control panel, fire detectors, audible/visual devices, manual pull stations, abort stations, conduit, and wiring shall be removed. The installing contractor shall be responsible for removal and replacement of ceiling and floor tiles. Items that are inaccessible, such as behind sheetrock walls, shall not be removed. Items removed shall not be reused for the new fire suppression system.
5. All removed items, with the exception of the agent storage container, shall be disposed of on-site by the installing contractor in waste containers specified by the General Contractor.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by stairwell to grade level in a controlled amount. Elevator shall be used during removal but shall be coordinated with the County of Union regarding overall usage.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and dispose of legally.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 01732

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SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Substantial Completion procedures.
 2. Final completion procedures.
 3. Warranties.
 4. Final cleaning.
- B. Related Sections:
1. Division 01 Section 01320 "Construction Progress Documentation" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work is not complete.
 2. Advise Owner of pending insurance changeover requirements.
 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Obtain and submit releases permitting Owner unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 8. Complete startup testing of systems.
 9. Submit test/adjust/balance records.
 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

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13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section 01290 "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report and warranty.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

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1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, proceeding from lowest floor to highest floor.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Submit list of incomplete items in the following format:
 - a. PDF electronic file.
 - b. Four paper copies, unless otherwise indicated. Architect, through Construction Manager, will return two copies.

1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive **8-1/2-by-11-inch** paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.6 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

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1.7 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

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- o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

END OF SECTION 01770

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**SECTION 01775 – GENERAL CONTRACT TERMS AND CONDITIONS DISCREPANCY
CLARIFICATION**

PART 1 - GENERAL

1.1 CONTRACT DISCREPANCY CLAUSE CLARIFICATION

In the event that a contract discrepancy and/or ambiguity is determined between the General Specifications, Standard Form Agreement AIA 101/201, Supplementary General Conditions, Special Conditions and/or General Requirements then the more comprehensive time intensive, cost excessive shall govern as determined by the Project Architect and Construction Manager.

END OF SECTION 01775

SPECIFICATIONS

MANUAL 2 OF 2

FOR

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AUGUST 2015

**UNION COUNTY OFFICIALS
BOARD OF CHOSEN FREEHOLDERS**

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Alfred J. Faella

**COUNTY ENGINEER
DIVISION OF ENGINEERING**

Thomas O. Mineo, P.E.
2325 South Avenue
Scotch Plains, New Jersey 07076
Telephone: (908) 789-3675
Fax: (908) 789-3674

**PREPARED BY: Netta
Architects**

1084 Route 22 West
Mountainside, New Jersey 07092
T: 973-379-0006
F: 973-379-1061

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August 2015
Bid Issue

Union County Justice Complex Renovations – Phase III
Elevator Modernization and Roof Replacement
Elizabeth, New Jersey

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END OF TABLE OF CONTENTS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Project information.
- 2. Work covered by Contract Documents.
- 3. Access to site.
- 4. Work restrictions.
- 5. Specification and drawing conventions.

- B. Related Sections:

- 1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: Roof and Elevator Replacement.

- 1. Project Location: Union County Justice Complex, Elizabethtown Plaza, City Of Elizabeth, County Of Union, New Jersey.

- B. Owner: County of Union.

- C. Architect: Netta Architects.

- D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:

- 1. Removal and replacement of roofing and elevators.

- B. Type of Contract:

- 1. Project will be constructed under a single prime contract.

1.5 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations during construction period as indicated on Drawings by the Contract limits. Contractor's use of Project site is limited only by Owner's direction.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours as directed by Owner.
- C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Architect's written permission before proceeding with disruptive operations.
- D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: If required, comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
 - 1. Maintain list of approved screened personnel with Owner's representative.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
- C. Related Sections:
 - 1. Division 01 Section "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1 (Lump-Sum): Include a lump-sum allowance of \$225,000 for additional County Correctional Security Guard as required.
- B. Allowance No. 2 (Lump Sum): Include a lump sum allowance of \$250,000 for new control consoles (total number 4) at First Floor Booking & Receiving and Main Command Center Panel Replacements.

END OF SECTION 012100

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Contractor's name and address.
 - d. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Description of the Work.
 - b. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
6. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

- E. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored on-site, but not yet installed.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. **Transmittal:** Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- H. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
- I. **Application for Payment at Substantial Completion:** After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. **Final Payment Application:** After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.

2. AIA Document G706A, "Contractor's Affidavit of Release of Liens."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Requests for Information (RFIs).
 - 3. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 2. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.

2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:

1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Architect may schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Lines of communications.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Use of the premises and existing building.
 - l. Working hours.
 - m. Owner's occupancy requirements.
 - n. Responsibility for temporary facilities and controls.
 - o. Procedures for disruptions and shutdowns.
 - p. Parking availability.
 - q. Equipment deliveries and priorities.
 - r. Security.
 - s. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Conduct progress meetings at biweekly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Status of submittals.
 - 2) Deliveries.
 - 3) Progress cleaning.
 - 4) Quality and work standards.
 - 5) Status of correction of deficient items.
 - 6) Field observations.
 - 7) Status of RFIs.
 4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
 - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 - 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain

- orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.
 - g. Scheduled date of fabrication.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
- D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information for processing and recording action taken:

- a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Name of manufacturer.
 - f. Number and title of appropriate Specification Section.
 - g. Drawing number and detail references, as appropriate.
4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
- a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
- a. Transmittal Form for Paper Submittals: Use AIA Document G810.
- E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Transmittal number, numbered consecutively.
 - p. Submittal and transmittal distribution record.
 - q. Other necessary identification.

- r. Remarks.
- 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
 - 3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 - 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.

- b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
 - b. Three paper copies of Product Data unless otherwise indicated. Architect will return two copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Compliance with specified standards.
 - c. Notation of coordination requirements.
 - d. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
 - b. Two opaque (bond) copies of each submittal. Architect will return one copy(ies).
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.

- d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
- a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
- a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
- E. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- F. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- G. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- I. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
 - 1. Division 01 Section "Allowances" for testing and inspecting allowances.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice of Award, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
 - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.

- B. **Manufacturer's Technical Representative's Field Reports:** Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. **Factory-Authorized Service Representative's Reports:** Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.
- D. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

- A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar in material, design, and extent to those indicated for this Project.

- F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. **Manufacturer's Technical Services:** Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. **Testing Agency Responsibilities:** Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- G. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
- H. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- B. Delegated-Design Submittal: For material hoist, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.

1.5 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

1.6 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance at staging area shown on drawings.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:

1. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Lifts and Hoists: Provide facilities necessary for hoisting materials. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
1. General Requirements:
 - a. Comply with the manufacturer's specifications and limitations applicable to the operations of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.
 - b. Rated load capacities, recommended operating speeds, and the special hazard wiring or instructions shall be posted on cars and platforms.
 - c. No hoists shall be constructed at such locations that will interfere with or affect the work of other contractors, or the functioning of school activities; they shall be located a sufficient distance from the exterior walls, and be so protected as to prevent damage, staining or marring of any permanent work.
 2. Material Hoists
 - a. Operating rules shall be established and posted at the operator's station of the hoist. Such rules shall include signal system and allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the Statement "No Riders Allowed." No person shall be allowed to ride on material hoists except for the purposes of maintenance and inspection.
 - b. All entrances of the hoistways shall be protected by substantial gates or bars which shall guard the full width of the landing entrance.
 - c. Protection of Interior Hoists - All interior hoistways shall be enclosed on each floor and shall be adequately protected with substantial guards. In no event shall the protection be less than that required by law.
 - d. All material hoist towers shall be designed by a licensed professional engineer and shall conform to the requirements of ANSI A10.5, Safety Requirements for material hoists.
- C. Existing Elevator Use: Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
1. Do not load elevators beyond their rated weight capacity.
 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

3.3 TEMPORARY ENCLOSURES

- A. Provide and maintain temporary weather-resistant enclosures for all openings in exterior walls and roof that are not enclosed.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Division 01 Section "Allowances" for products selected under an allowance.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Protect stored products from damage and liquids from freezing.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.
- B. Related Sections:
 - 1. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

- a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Electrical wiring systems.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.
- a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Equipment supports.
 - d. Piping, ductwork, vessels, and equipment.
 - e. Noise- and vibration-control elements and systems.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other

construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.2 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.3 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of work to be cut.
- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 01 Section "Summary."
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

- a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
- a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.4 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Utilize containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.5 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.7 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Division 01 Section "Execution" for progress cleaning of Project site.
 - 2. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

1.6 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - 4. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Architect will return annotated file.
 - b. Three paper copies. Architect will return two copies.

1.8 SUBMITTAL OF PROJECT WARRANTIES

- A. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- B. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - d. Clean exposed interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - e. Remove debris and surface dust from limited access spaces, including plenums, shafts, trenches, equipment vaults and similar spaces.
 - f. Remove labels that are not permanent.
 - g. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - h. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - i. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Division 01 Section "Closeout Procedures" for general closeout procedures.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
- B. Record Specifications: Submit one paper copy or annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy or annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or

entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding archive photographic documentation.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Revisions to electrical circuitry.
 - d. Changes made by Change Order or Construction Change Directive.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Note related Change Orders and record Drawings where applicable.
- B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file, paper copy or scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.

- B. Related Sections:

- 1. Division 01 Section "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Division 01 Section "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - a. Protect un-roofed portions of building.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.
- B. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
- C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Division 07 Section "Thermoplastic Ethylene Interpolymer (KEE) Roofing" for new roofing requirements.
1. Remove existing roof membrane, flashings, copings, and roof accessories.
 2. Remove existing roofing system down to substrate.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent. Refer to Division 01 "Section Temporary Facilities and Controls."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Elevator machine beams, hoist beams, and divider beams.
 - 2. Steel shapes for supporting elevator door sills.
 - 3. Elevator pit sump covers.
 - 4. Metal ladders.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

1.4 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1, "Structural Welding Code - Steel."

1.5 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

- B. Steel Plates, Shapes, and Bars: ASTM A 36.
- C. Rolled-Steel Floor Plate: ASTM A 786, rolled from plate complying with ASTM A 36 or ASTM A 283, Grade C or D.

2.2 FASTENERS

- A. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 563; and, where indicated, flat washers.
- B. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- C. Post-Installed Anchors: Torque-controlled expansion anchors.
 - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.

2.3 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- B. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.
- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- E. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.

- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- J. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

2.5 ELEVATOR PIT SUMP COVERS

- A. Fabricate from 1/8-inch rolled-steel floor plate with four 1-inch-diameter holes for water drainage and for lifting.
- B. Provide steel angle supports as indicated.

2.6 METAL ELEVATOR PIT LADDERS

- A. General: Refer to Division 14 Section “Electric Passenger Traction Elevator” for additional related elevator pit ladder requirements.
 - 1. For elevator pit ladders, comply with ASME A17.1.
- B. Steel Ladders:
 - 1. Space siderails of elevator pit ladders 12 inches apart.
 - 2. Siderails: Continuous, 3/8-by-2-1/2-inch steel flat bars, with eased edges.
 - 3. Rungs: 3/4-inch-diameter steel bars.
 - 4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
 - 5. Provide nonslip surfaces on top of each rung, either by coating rung with aluminum-oxide granules set in epoxy-resin adhesive or by using a type of manufactured rung filled with aluminum-oxide grout.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- 1) IKG Industries, a division of Harsco Corporation; Mebac.
- 2) SlipNOT Metal Safety Flooring, a W. S. Molnar company; SlipNOT.

2.7 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.8 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
- B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
- C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
- D. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

3.2 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055000

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Rooftop equipment bases and support curbs.
 - 2. Wood blocking, cants, and nailers.
 - 3. Plywood panels.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NHLA: National Hardwood Lumber Association.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.

2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
3. Provide dressed lumber, S4S, unless otherwise indicated.

- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.

- B. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

- C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 PLYWOOD BACKING PANELS

- A. Backing Panels: DOC PS 1, Exterior, C-C Plugged, pressure treated, in thickness indicated or, if not indicated, not less than 1/2-inch nominal thickness.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153.

B. Power-Driven Fasteners: NES NER-272.

C. Wood Screws: ASME B18.6.1.

D. Screws for Fastening to Metal Framing: ASTM C 954, length as recommended by screw manufacturer for material being fastened.

2.6 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Do not splice structural members between supports unless otherwise indicated.

E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.

F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:

1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.

- G. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- H. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 WOOD

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 071616 - CRYSTALLINE WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Crystalline waterproofing.

1.3 SUBMITTALS

- A. Product Data: Include construction details, and material descriptions and installation instructions for crystalline waterproofing.
- B. Product Certificates: For crystalline waterproofing, signed by product manufacturer.
- C. Qualification Data: For Installer and manufacturer.
- D. Material Test Reports: For crystalline waterproofing.
- E. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1.5 PROJECT CONDITIONS

- A. Proceed with waterproofing work only after pipe sleeves, vents, curbs, inserts, drains, and other projections through the substrate to be waterproofed have been completed. Proceed only after concrete and masonry substrate defects, including honeycombs, voids, and cracks, have been repaired to provide a sound substrate free of forming materials, including reveal inserts.
- B. Ambient Conditions: Proceed with waterproofing work only if temperature is maintained at 40 deg F or above during work and cure period, and space is well ventilated and kept free of water.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of crystalline waterproofing that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Failure to maintain watertight conditions within specified warranty period.
 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
1. Crystalline Waterproofing:
 - a. American Permaquik Inc.; Super 200.
 - b. Anti-Hydro International, Inc.; Hydro Cap.
 - c. ICS Penetron International Ltd.; Penetron Addmix.
 - d. Tamms Industries, Inc.; Hey'Di K-11.
 - e. Vandex International Ltd.; Vandex Super.
 - f. Xypex Chemical Corporation; Xypex.
 2. Patching for Leak Repair:
 - a. AQUAFIN, Inc.; Fix 10-S or Mortar-1C.
 - b. Specon, Incorporated; Hydrocel (HCMM).
 - c. Tamms Industries, Inc.; Hey'Di Powder-X System.
 - d. ThoRoc, Div. of ChemRex; Tegraproof mortar.

2.2 MATERIALS

- A. Crystalline Waterproofing: A prepackaged, gray-colored proprietary blend of portland cement, specially treated sand, and active chemicals that, when mixed with water and applied, penetrates by capillary action into concrete or masonry and reacts chemically with free lime in the presence of water to develop crystalline growth within concrete or masonry capillaries to produce an impervious, dense, waterproof concrete or masonry with properties meeting or exceeding the following criteria:
1. Permeability: 0 for water at 33 feet when tested according to CE CRD-C 48.
 2. Compressive Strength: 3000 psi when tested according to ASTM C 109/C 109M.
- B. Patching Compound: Cementitious waterproofing and repair mortar for filling and patching tie holes, honeycombs, reveals, and other imperfections; with properties meeting or exceeding the following criteria:
1. Compressive Strength: 7600 psi at 28 days when tested according to ASTM C 109/C 109M.
 2. Flexural Strength: 710 psi at 28 days when tested according to ASTM C 348.

3. Shrinkage: Minus 0.093 percent at 28 days and plus 0.073 percent at 90 days when tested according to ASTM C 596.

C. Water: Potable.

2.3 PROPORTION AND DESIGN OF PROTECTIVE TOPPING MIX

- A. Protective Topping: Measure, batch, and mix portland cement and sand in the proportion of 1:3 and water. Blend together with mechanical mixer to required consistency.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Acceptance of Conditions: Examine substrates, with Applicator present, where waterproofing is to be applied.
 1. Proceed with application only after unsatisfactory conditions have been corrected.
 2. Notify Architect in writing of active leaks or structural defects that would affect system performance.

3.2 PREPARATION

- A. Protect other work from damage from cleaning, preparation, and application of crystalline waterproofing. Provide temporary enclosure to confine spraying operation and to ensure adequate ambient temperatures and ventilation conditions for application.
- B. Stop active water leaks according to waterproofing manufacturer's written instructions.
- C. Repair damaged or unsatisfactory concrete or masonry according to manufacturer's written instructions.
- D. Surface Preparation: Comply with waterproofing manufacturer's written instructions to remove efflorescence, chalk, dust, dirt, mortar spatter, grease, oils, curing compounds, and form-release agents to ensure that waterproofing bonds to concrete or masonry surfaces.
 1. Clean masonry surfaces according to ASTM D 4261.
 - a. Lightweight Concrete Masonry: Etch with 10 percent muriatic (hydrochloric) acid solution or abrade surface by wire brushing. Remove acid residue until pH readings of water after rinse are not more than 1.0 pH lower or 2.0 pH higher than pH of water before rinse.
 - b. Medium- and Normal-Weight Concrete Masonry: Sandblast or bushhammer to a depth of 1/16 inch.
 2. Clean concrete surfaces according to ASTM D 4258.
 - a. Scratch- and Float-Finished Concrete: Etch with 10 percent muriatic (hydrochloric) acid solution according to ASTM D 4260.
 - b. Prepare smooth-formed and trowel-finished concrete by mechanical abrading or abrasive-blast cleaning according to ASTM D 4259.

3. Concrete Joints: Clean reveals according to waterproofing manufacturer's written instructions.

3.3 APPLICATION

- A. General: Comply with waterproofing manufacturer's written instructions for application.
 1. Dampen surface for several hours prior to application with water and maintain damp condition until applying waterproofing.
 2. Apply waterproofing to elevator pit surfaces.
 3. Number of Coats: One for brush or spray application.
 4. Dampen surface between coats.
- B. Final Coat Finish: Smooth.
- C. Moist-cure waterproofing for three days immediately after application has set, followed by two days of air drying as recommended in writing by manufacturer.

3.4 PROTECTION

- A. Protect applied crystalline waterproofing from rapid drying, severe weather exposure, and water accumulation. Maintain completed Work in moist condition for not less than three days by procedures recommended in writing by waterproofing manufacturer. Protect waterproofing from temperatures below 36 deg. F.

3.5 FIELD QUALITY CONTROL

- A. Inspection: Manufacturer's representative to inspect completed application and to provide a written report that application complies with manufacturer's written instructions.

END OF SECTION 071616

SECTION 075105 – NDL (NO DOLLAR LIMIT) WARRANTY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Requirements for the No Dollar Limit (NDL) roof warranty.

- B. Related Sections:

- 1. Division 07 Section "Thermoplastic Ethylene Interpolymer (KEE) Roofing" for related roofing system.

1.3 WARRANTY

- A. Quotations will include a price for a 20 year no dollar limit, non prorated warranty to be provided by the material supplier. If the supplier is a subsidiary company, the warranty must be issued by the parent company.
- B. The material supplier will issue the warranty to the owner upon material supplier acceptance of the project completion and full payment of all bills related to the project.
- C. Warranty will include one inspection in the first year and one inspection in the second year.
- D. Each inspection will include general housekeeping to remove and dispose of naturally occurring debris from the roof membrane, drain bowls (not plumbing connections), gutters and scuppers.
- E. Maintenance shall also be conducted during each inspection and shall include the following:
 - 1. Metal Edge Flashings:
 - a. Tears, splits and breaks in the membrane flashings repaired with appropriate repair mastic and membrane.
 - b. Open/Split flashing strip-ins repaired with appropriate repair mastics and membranes.
 - c. Metal edge cleats and clips will be re-secured if necessary.
 - d. Exposed fasteners will be re-sealed.
 - 2. Parapet Wall and Counterflashing Systems:
 - a. Tears, splits and breaks in the membrane flashings will be repaired with appropriate repair mastic and membrane.

- b. Breaks, tears and splits in flashing strip-ins will be repaired with appropriate repair mastics and membranes.
 - c. Coat all exposed reinforcing membrane with approved mastic.
 - d. Exposed fasteners will be resealed.
 - e. Voids in sealant on termination bars, counterflashings and parapet cap will be cleaned and resealed.
 - f. Re-secure termination bars and counterflashings.
 - g. Check and re-secure loose metal coping caps to cleats.
 - h. Dress-up reflective coatings where repairs have been made.
3. Equipment/Projection Flashing Components:
- a. Tears, splits and breaks in the membrane flashings will be repaired with appropriate repair mastic and membrane.
 - b. Check soil stack leads for cuts or holes and reseal with appropriate mastic.
 - c. Open or split flashing strip-ins repaired with appropriate repair mastics and membranes. d. Unsecured roof top equipment will be secured. (Replace loose or missing fasteners only)
 - e. Exposed fasteners will be tightened and resealed.
 - f. Termination bar and counterflashings will be sealed.
 - g. All pitch pans and pockets will be refilled and topped off.
 - h. Metal projections (hoods and clamps) will be checked and resealed.
 - i. Dress-up reflective coatings where repairs have been made.
4. Roof Membrane:
- a. Tears, splits and breaks in the membrane will be repaired with appropriate repair mastic and membrane.
 - b. Coat all exposed reinforcing membrane with approved mastic.
 - c. All membrane repairs will follow the manufacturer's written repair and maintenance guidelines.
 - d. Dress-up reflective coatings where repairs have been made.
5. Drains, Gutters and Scuppers:
- a. Check and re-secure drain bolts and clamping rings.
 - b. Advise owner of missing drain dome strainers, cracked rings or bowls, and missing clamps or bolts. Replacement of these items will be at owners cost.
 - c. Check strip-in around drain leads, coat with approved mastics.
 - d. Check gutter straps, joints and strip-ins.
 - e. Check inside and exterior of scuppers for open solder or caulking seals.

F. Warranty shall cover wind speeds up to but not including hurricane force.

G. Warranty shall cover all roof related components installed under this specification.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 075105

SECTION 075416 – THERMOPLASTIC ETHYLENE INTERPOLYMER (KEE) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Adhered thermoplastic ethylene interpolymer (KEE) roofing system.
2. Roof insulation.
3. Membrane flashings for roofing.

B. Related Sections:

1. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking; and for wood panels.
2. Division 07 Section "NDL (No Dollar Limit) Warranty" for roof warranty.
3. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
4. Division 07 Section "Manufactured Roof Expansion Joints" for proprietary manufactured roof expansion-joint assemblies.
5. Division 07 Section "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 SYSTEM DESCRIPTION

- A. The roofing system specified herein is designed for application over concrete with steel deck roof assemblies and includes the following:
 1. Thermoplastic Elvaloy type KEE (ketone ethylene ester) reinforced flexible roofing membrane with a polyester felt backing fully adhered in cold process adhesive, over
 2. (2) two plies of inter-ply felt fully adhered in cold process adhesive, over
 3. ½ inch thick high-density Polyisocyanurate (120 psi per ASTM D 1621) recovery board; over
 4. 1/8" per foot tapered Polyisocyanurate insulation (top layer) fully adhered in cold process adhesive, over
 5. two (3-1/2") inches minimum thickness Polyisocyanurate insulation (base layer), mechanically fastened through lightweight concrete to steel deck.

1.5 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof construction, conduct conference at Project site.
1. Meet with Owner, Construction Manager, Architect, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 2. Review safety requirements for installers during installation.
 3. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 4. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 5. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
 6. Review structural loading limitations of roof deck during and after roofing.
 7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 8. Review governing regulations and requirements for insurance and certificates if applicable.
 9. Review temporary protection requirements for roofing system during and after installation.
 10. Review roof observation and repair procedures after roofing installation.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes.
 3. Roof plan showing roof deck and orientation of roofing and fastening spacings and patterns for mechanically fastened roofing.
 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products:
1. Sheet roofing, of color required.
 2. Roof paver in each color and texture required.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
1. Submit evidence of compliance with performance requirements.
- C. Product Test Reports: For components of roofing system, tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Sample Warranties: For manufacturer's special warranties.

1.8 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.9 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- C. Manufacturer's On-Site Inspection: Provide, at no additional expenses to the Owner, on-site inspection, by the roofing manufacturer's representative, at a minimum of two days per week to insure that the roofing is installed as specified. Written reports are to be submitted to the Architect indicating progress of the Work and conformance to the Contract Documents and manufacturer's best recommended practice.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.11 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Temporary Waterproofing: Contractors are to provide temporary waterproofing, as recommended by system manufacturer, at all areas not completed during inclement weather and overnight periods.

1.12 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Refer to Section 075105 “NDL (No Dollar Limit) Warranty” for roof warranty information.

1. The above special warranty is in addition to the Contractor’s standard two (5) year warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain components including roof insulation, fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

- C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:

1. Corner Uplift Pressure: -68.5 psf
2. Perimeter Uplift Pressure: -50.2 psf
3. Field-of-Roof Uplift Pressure: -32.0 psf

- D. FM Global Listing: Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a built-up roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.

1. Fire/Windstorm Classification: Class 1A-90.

- E. UL Listing: Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" or by other nationally recognized testing laboratory for Class A rated materials/system.

- F. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- G. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 ROOF MEMBRANE

- A. Fully Adhered Fabric Back Membrane (for concrete and steel deck): Elvaloy (KEE) thermoplastic reinforced flexible sheet roofing membrane with fabric backing, complying with ASTM D 6754.
- B. Basis-of-Design: “Sion RM” by S.R. Products.
 - 1. Inter-ply Felt: Asphalt coated tri-laminated polyester/glass/polyester ply sheet, complying with ASTM D2178, “Superior Ply Ultra” by S. R. Products (basis of design).
- C. Physical Properties: Membrane shall have the following values when tested for the listed physical properties in accordance with the listed test methods.
 - 1. Composite Thickness: 80 mils, nominal, plus white 8 oz. (40 mil) polyester felt backing
 - 2. Exposed Face Color: White.
 - 3. Polyester Reinforced Cap Sheet.
 - 4. Physical Properties: Membrane shall have the following values when tested for the listed physical properties in accordance with the listed test methods.

<u>Physical Properties</u>	<u>Test Method</u>	<u>Specification</u>
Color		White
Thickness	ASTM D 751	.100" Nominal
Breaking Strength	ASTM D 751	>325 lbs.
Elongation	ASTM D 751	> 100%
Shore "A" Hardness	ASTM D 2240	85
Heat Aging	ASTM D 0573	90% of Original
Cold Resistance	ASTM D 2136	-40 Degrees F
Water Vapor Permeability	ASTM E 96	3.5 g/m ² /day
Weight Change after Immersion	ASTM D 570	1.5% max.
Seam Strength	ASTM D 751	80% of sheet
Dimensional	ASTM D 1240	0.5%
Accel. Weathering (Xenon Arc)	ASTM D 2565	10 M hrs.
Adhesion to Scrim	ASTM D 751	pass

2.4 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Bonding Adhesive: Manufacturer's standard for cold process. Provide the following by the Basis of Design manufacturer:
 - 1. Cap Sheet Adhesive: “Sion RM” cold process adhesive.
 - 2. Interply Membrane Adhesive: “SuperiorFlex Seal Max” by S.R. Products.

- C. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.
- E. Sheet Seaming System: Manufacturer's standard materials for seaming lapped joints, including edge sealer to cover exposed cut edges as recommended by membrane manufacturer.
- F. Cant Strips, Tapered Edge Strips, and Flashing Accessories: Types recommended by membrane manufacturer, including flashing adhesives and sealants.
- G. Flashing Material: Manufacturer's standard 0.060 thick membrane flashing compatible with flexible sheet membrane. Provide pre-molded pipe boots as indicated.
- H. Concrete Asphalt Primer: ASTM D 41.
- I. Provide pre-formed pipe boots with the following characteristics:
 - 1. Color: White
 - 2. Size: 7" in height /fits diameters up to 4 1/2"
 - 3. Thickness ASTM D638 .125" Nominal
 - 4. Specific Gravity ASTM D792 1.32g/cm³
 - 5. Tensile Strength ASTM D638 >2500 PSI
 - 6. Elongation ASTM D638 >300
 - 7. Heat Aging ASTM D3045 90% of Original
 - 8. Cold Resistance ASTM D1043 -40 Degrees F
 - 9. Water Vapor Permeability ASTM E96 2.8g/m²/day
 - 10. Dimensional Stability ASTM D1240 0.5% or less
 - 11. U.V. Stability Xenon Arc 150 10,000 hrs. (Excellent)
- J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.5 SUBSTRATE BOARDS

- A. Polyisocyanurate Board, Glass-Fiber-Mat Faced: ASTM C 1289, glass-fiber-mat faced, Type II, Class 2.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening substrate board to roof deck.

2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation.
- B. Polyisocyanurate Board Insulation Standard: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.

- C. Polyisocyanurate Foam Board Insulation: Rigid boards of minimum 2.0 lb./cu.ft. density polyisocyanurate based foam core, permanently bonded to roofing felt facer sheets. Provide in thickness indicated, with minimum aged R value of 5.88 (when conditioned in accordance with RIC/TIMA Bulletin #281-1).
 - 1. Provide 3-1/2” constant thickness and 1/8” per foot tapered thickness of insulation as indicated on the drawings.
- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
 - 1. Basis of Design Product: Provide the following Basis of Design:
 - a. Triangle Fastener, "#14x7" Sentry+5 Roofing Insulation Screws", through concrete to steel deck.
 - b. Provide certified pull-out test for fasteners other than Basis-of-Design product.
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to another insulation layer as follows:
 - 1. Description: Full-spread spray-applied, low-rise, two-component urethane adhesive with the following characteristics:
 - a. Density: ASTM D-1622, 3.38 lb./cf
 - b. Compressive Strength: ASTM D-1621, 20.6 psi @ 6% deflection
 - c. Tensile Strength: ASTM D-1623, 39.27 psi
 - d. Water Absorption: ASTM D-2842, 0.40%
 - e. Closed Cell Content: ASTM D-6226, 19.5% min.
 - f. R-Value: ASTM C-518, 3.8/inch (new)
 - g. VOC Content: ASTM D-2369, < 5 g/L
 - h. Weight/Gallon: Part 1 Component, 10.32 lbs.
 - i. Weight/Gallon: Part 2 Component, 8.4 lbs.
 - 2. Basis of Design Product: Provide the following Basis of Design:
 - a. OlyBond 500 Green (insulation to insulation) dual component polyurethane adhesive

2.8 ROOF DRAINS, OVERFLOW DRAINS AND ACCESSORIES

- A. Roof Drain bowl assemblies: Provide cast iron body roof drain with flashing clamp underdeck clamp, sump receiver and cast iron dome. Size to match existing. Provide the following Basis of Design product or approved product by acceptable manufacturer:

1. Basis of Design Product: “Jay R. Smith Co. #1010RC - CID” Jay R. Smith Mfg.
2. Acceptable Manufacturers
 - a. Josam Company
 - b. Zurn

- B. Provide roof drain overflow pipe extensions at locations indicated on the drawings.
- C. Provide Roof drain accessories as required to replace deteriorated and/or missing components as required upon field examination, and will be a part of the contract.

2.9 GOOSENECK VENTILATOR

- A. Provide a 26 oz. galvanized gooseneck ventilator with screen. Ventilator shall be sized to match existing to be replaced.

2.10 DUCT SUPPORTS

- A. Caddy Pyramid Thermoplastic Supports: Fixed Roller Supports, Provide the following Basis of Design product or approved equal:

1. “Model # RPS360406” by Erico.

2.11 PREFABRICATED CURBS/EQUIPMENT SUPPORTS

- A. Comply with loading and strength requirements as indicated where units support other work. Coordinate dimensions with rough-in sheets or shop drawings of equipment to be supported. Fabricate of structural quality sheet steel (ASTM A 570, Grade as required) which has been prepared for painting and factory-primed and painted with 2-mil thickness of baked-on synthetic enamel, after fabrication.

1. Fabricate with welded or sealed mechanical corner joints. Provide complete with cant strips and base profile coordinated with roof insulation thickness. Provide preservative-treated wood nailers at tops of curbs, coordinate with thickness of insulation and roof flashing as indicated, tapered as necessary to compensate for roof deck slopes of 1/4" per ft. and less.
2. Except as otherwise indicated or required for strength, fabricate units of minimum 14-gage (0.0747") metal, and to minimum height of 12".

- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering prefabricated curbs/equipment supports which may be incorporated in the work include, but are not limited to, the following:

1. Custom Curb, Inc..
2. The Pate Company.
3. ThyCurb Div./ThyBar Corp..

2.12 WALKWAYS

- A. Walkway Roof Pavers: Heavyweight, hydraulically pressed concrete units, square edged, factory cast for use as roof pavers; absorption not greater than 5 percent, ASTM C 140; no breakage and maximum 1 percent mass loss when tested for freeze-thaw resistance, ASTM C 67; and as follows:

1. Size: 24 by 24 inches. Manufacture pavers to dimensional tolerances of plus or minus 1/16 inch in length, height, and thickness.
2. Weight: 18 lb/sq. ft..
3. Compressive Strength: 7500 psi, minimum.
4. Colors and Textures: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Install cant strips, flashings, and accessory items as shown and as recommended by manufacturer.
- D. Prime substrate where recommended by manufacturer of materials being installed.
- E. Prevent compounds from entering and clogging drains and conductors and from spilling or migrating onto surfaces of other work.

3.3 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Do not install more insulation in a day than can be covered with membrane before end of day or before start of inclement weather.
- F. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- G. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- H. Mechanically Fastened and Adhered Insulation: Install each layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten first layer of insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification; meet 1-90 uplift criteria for steel decks.
 - 2. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
 - 3. Drive mechanical fasteners as recommended by fastener manufacturer. Fastener must properly engage the deck, secure the insulation and not damage the insulation surface or facer. Fasteners shall be secured to the upper portion of the metal roof deck and shall not extend below the lower portion of the metal roof deck. (for steel deck)
 - 4. Adhere subsequent layers using continuous application of specified insulation adhesive per the manufacturer's recommendations.

3.5 ADHERED MEMBRANE ROOFING INSTALLATION, GENERAL

- A. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- B. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.
- C. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.
- D. Apply roofing with side laps shingled with slope of roof deck where possible.

3.6 INSTALLING INTER-PLY MEMBRANES

- A. Application:
 - 1. Apply with a 24 inch wide 1/4-inch serrated squeegee.
 - 2. Three gallons per 100 sq.ft.
- B. Except as otherwise shown, install preformed 45 degree insulation cant strips at junctures of roofing membrane with vertical surface. Provide preformed tapered edge strips at perimeter edges of roof which do not terminate at vertical surfaces.
- C. Install 2 lapped courses of inter-ply membrane; fully adhered in complete coating of adhesive.

3.7 INSTALLING MEMBRANE

- A. General: Start installation only in presence of manufacturer's technical representative.
 - 1. Cut out and repair membrane defects at the end of each day's work.
- B. Membrane Placement and Seaming: Unroll roofing and allow to relax before installing.
 - 1. Secure roofing membrane over 2 plies of inter-ply felt set in specified adhesive according to manufacturer's instructions and requirements of this specification.
 - 2. Lap joints shall be done by lapping 3 inch selvedge edge over the non-selvedge edge of the previous roll. Roll ends are butted and capped with 6 inch trim strip, Seam welded 2" Minimum.
 - 3. Firmly broom field sheet into adhesive and then roll with a heavy roller (200 pounds) to insure proper adhesion.
- C. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet Minimum welded 2" Seam, and 3" overlap,
 - 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 - 3. All joints shall be checked with a needle probe and voids repaired with the hot air welding tool.
 - 4. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.
 - 5. All lap joints shall receive seam sealer daily as work is completed.
 - 6. At the ends of each day seal off the new roof by lapping field membrane onto the existing roof and affix in hot asphalt. Remove and discard lapped pieces at commencement of the next work day.
- D. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.8 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.9 INSTALLING MEMBRANE COATED METAL FLASHING

- A. Metal flashing shall be formed as indicated on Drawings. Flashing shall be secured as indicated on Drawings and as directed by manufacturer's requirements. Joints are covered by 2 inch wide aluminum foil tape and then made watertight by heat-welding a 4 inch wide membrane strip over the tape.

3.10 INSTALLING PRE-MOLDED BOOTS

- A. Pipe Flange applications require metal clamps to be installed with an approved caulking applied.

3.11 INSTALLING GOOSENECK VENTILATORS

- A. Installation shall be in accordance with manufacturers current printed instructions and be flashed into roofing system to provide a weather tight seal.

3.12 WALKWAY INSTALLATION

- A. Roof-Paver Walkways: Install walkway roof pavers according to manufacturer's written instructions in locations indicated, to form walkways. Leave 3 inches of space between adjacent roof pavers.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
- B. Flood Testing: Flood test each roofing area for leaks, according to recommendations in ASTM D 5957, after completing roofing and flashing but before overlying construction is placed. Install temporary containment assemblies, plug or dam drains, and flood with potable water.
 - 1. Flood to an average depth of 2-1/2 inches with a minimum depth of 1 inch and not exceeding a depth of 4 inches. Maintain 2 inches of clearance from top of base flashing.
 - 2. Flood each area for 24 hours.
 - 3. After flood testing, repair leaks, repeat flood tests, and make further repairs until roofing and flashing installations are watertight.
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- D. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.14 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075416

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Exposed trim, gravel stops, copings, and fascia.
 - 2. Miscellaneous sheet metal accessories.

- B. Related Sections:

- 1. Division 07 Section, "Thermoplastic KEE Roofing System" for related roofing system.
 - 2. Division 07 Section "NDL Warranty"

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.
- B. Product Data including manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experience Installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

1.5 PROJECT CONDITIONS

- A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

PART 2 - PRODUCTS

2.1 METALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability of alloy and temper designated below:
 - 1. Aluminum Sheet: ASTM B 209, 5005-H14, with a minimum thickness of 0.050 inch.

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.
- B. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

2.3 FABRICATION, GENERAL

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- E. Expansion Provisions: Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- F. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- G. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.

1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

2.4 SHEET METAL FABRICATIONS

A. General: Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.

B. Aluminum Fascia/Gravel Stops: Fabricate from the following material:

1. Aluminum: 0.050 inch thick.
2. Fabricate to sizes and profiles as indicated. Provide continuous water dam, spring clip, fascia cover, concealed splice plates and welded prefabricated corner units.
3. Gravel stop shall be tested for wind uplift resistance per ANSI/SPRI ES-1
4. Basis of Design Product: Provide "Storm Defender Fascia 5000" by SR Products
5. Warranty:
 - a. Materials shall be free of defects in material and workmanship for a period of 20 years from the date of Final Completion. See NDL Warranty Section.
 - b. Gravel stop shall be part of the roof system and included in the NDL warranty for the Thermoplastic KEE Roofing System.

C. Copings: Fabricate from the following material:

1. Aluminum: 0.050 inch thick.
2. Basis of Design Product: Provide "Storm Defender Coping 100" by SR Products
3. Warranty:
 - a. Materials shall be free of defects in material and workmanship for a period of 20 years from the date of Final Completion.
 - b. Gravel stop shall be part of the roof system and included in the NDL warranty for the Thermoplastic KEE Roofing System.

2.5 ALUMINUM FINISHES

A. General: Comply with Aluminum Association's (AA) "Designation System for Aluminum Finishes" for finish designations and application recommendations.

B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions.

1. Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
 - a. Color and Gloss: As selected by Architect from manufacturer's full range of choices for color and gloss or as required to match existing.
2. Clear anodized aluminum .050 gauge.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
- B. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Roof-Edge Flashings: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.
- D. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- E. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
 - 1. Use joint adhesive for nonmoving joints specified not to be soldered.
- F. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- G. Separations: Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.
 - 1. Underlayment: Where installing stainless steel or aluminum directly on cementitious or wood substrates (including pressure treated lumber), install a slip sheet of red-rosin paper and a course of polyethylene underlayment.
 - 2. Bed flanges of Work in a thick coat of roofing cement where required for waterproof performance.

3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

- B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Roof-edge drainage systems.

- B. Related Sections:

- 1. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Division 07 Section "Sheet Metal Flashing and Trim" for custom- and site-fabricated sheet metal flashing and trim.
 - 3. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint cover assemblies.
 - 4. Division 07 Section "Roof Accessories" for set-on-type curbs, equipment supports and other manufactured roof accessory units.
 - 5. Division 07 Section "Joint Sealants" for field-applied sealants between roof specialties and adjacent materials.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are SPRI ES-1 tested to specified design pressure.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.
- B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication, and indicate measurements on Shop Drawings.
- B. Coordination: Coordinate roof specialties with flashing, trim, and construction of parapets, roof deck, roof and wall panels, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg. F, ambient; 180 deg. F, material surfaces.

2.2 ROOF-EDGE DRAINAGE SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Gutters: Manufactured in uniform section lengths not exceeding 12 feet, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
 - 1. Aluminum Sheet: 0.040 inch thick.
 - 2. Gutter Profile: Style A according to SMACNA's "Architectural Sheet Metal Manual."
 - 3. Corners: Factory mitered and soldered.
 - 4. Gutter Supports: Gutter brackets with finish matching the gutters.
- C. Downspouts: Plain round complete with smooth-curve elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
 - 1. Formed Aluminum: 0.040 inch thick.
- D. Aluminum Finish: Clear Anodic finish.
- E. Splash Blocks: Lightweight pre-cast concrete units; grooved back, sloped surface.

2.3 MATERIALS

- A. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

2.4 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
 - 1. Color and Gloss: As selected by Architect from manufacturer's full range.
- C. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- D. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.
- C. Verify that substrate is sound, dry, smooth, and clean, sloped for drainage where applicable, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.
 - 1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 - 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
 - 3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
 - 4. Torch cutting of roof specialties is not permitted.
 - 5. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 - 1. Coat concealed side of uncoated aluminum roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 - 2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
 - 1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
 - 2. When ambient temperature at time of installation is between 40 and 70 deg. F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws but not less substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.
- F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg. F.
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.3 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION

- A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.
- B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 12 inches apart. Attach ends with rivets and seal with sealant to make watertight. Slope to downspouts.
 - 1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion-joint caps.
- C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c.
 - 1. Provide elbows at base of downspouts at grade to direct water away from building.
- D. Splash Blocks: Install where downspouts discharge on low-slope roofs.

3.4 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

- D. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077100

SECTION 077129 - MANUFACTURED ROOF EXPANSION JOINTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Bellows-type roof expansion joints.

- B. Related Sections:

- 1. Division 06 Section "Miscellaneous Rough Carpentry" for wooden curbs or cants for mounting roof expansion joints.
 - 2. Division 07 Section "Thermoplastic Ethylene Interpolymer (KEE) Roofing" for roofing system.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated sheet metal expansion-joint systems, flashing, and other sheet metal items.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For roof expansion joints.

- 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of splices, intersections, transitions, fittings, method of field assembly, and location and size of each field splice.
 - 3. Provide isometric drawings of intersections, terminations, and changes in joint direction or planes, depicting how components interconnect with each other and adjacent construction to allow movement and achieve waterproof continuity.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranties: For special warranties.

1.5 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.

- 1. Warranty Period: Two years from date of Substantial Completion.

- B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof expansion joints that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Roof expansion joints shall withstand exposure to weather, remain watertight, and resist the movements indicated without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.
 - 1. Temperature Change: 120 deg. F, ambient; 180 deg. F, material surfaces.

2.2 BELLOWS-TYPE ROOF EXPANSION JOINTS

- A. Source Limitations: Obtain bellows-type roof expansion joints approved by roofing manufacturer and that are part of roofing membrane warranty.
- B. Flanged Bellows Roof Expansion Joint: Manufactured, continuous, waterproof, joint-cover assembly, consisting of exposed membrane bellows, laminated to flexible, closed-cell support foam, and secured along each edge to a 3- to 4-inch-wide metal flange for nailing to substrate. Provide each size and type indicated, factory-fabricated units for corner and joint intersections and horizontal and vertical transitions including those to other building expansion joints, splicing units, adhesives, and other components as recommended by roof-expansion-joint manufacturer for complete installation. Fabricate each assembly specifically for installation configuration indicated on Drawings.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Joint Movement Capability: Plus and minus 50 percent of joint size.
 - 3. Bellows: EPDM flexible membrane, nominal 60 mils thick.
 - a. Color: Black.
 - 4. Flanges: Stainless steel, 0.019 inch thick.
 - a. Form: Flat to fit cants and angle formed to fit curbs.
 - 5. Cover Membrane: EPDM flexible membrane, factory laminated to bellows and covering entire joint assembly and curbs.
 - a. Color: Black.
- C. Extruded Bellows Roof Expansion Joint: Manufactured, continuous, waterproof, joint-cover assembly; consisting of primary and secondary, single-layered, elastomeric seals; secured along each edge with extruded-aluminum retainers for fastening to substrate. Provide each size and type indicated, factory-fabricated units for corner and joint intersections and horizontal and vertical transitions including those to other building expansion joints, splicing units, adhesives, and other components as recommended by roof-

expansion-joint manufacturer for complete installation. Fabricate each assembly specifically for installation configuration indicated on Drawings.

1. Joint Movement Capability: Plus and minus 50 percent of joint size.
2. Primary Seal: Silicone extrusion; color: Black.

2.3 MATERIALS

- A. Stainless-Steel Sheet: ASTM A 240 or ASTM A 666, Type 304.
- B. Aluminum: ASTM B 209 for sheet and plate, ASTM B 221 for extrusions; alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.
 1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious or preservative-treated wood materials.
 2. Class II, Clear Anodic Finish: Architectural Class II, clear coating 0.010 mm or thicker, complying with AAMA 611.
- C. EPDM Membrane: ASTM D 4637, Type standard with manufacturer for application.
- D. Silicone Extrusions: ASTM D 2000, UV stabilized, and that does not propagate flame.
- E. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
 1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.
- F. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine roof-joint openings, inside surfaces of parapets, and expansion-control joint systems that interface with roof expansion joints, for suitable conditions where roof expansion joints will be installed.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written instructions for handling and installing roof expansion joints.
 1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
 2. Install roof expansion joints true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 3. Provide for linear thermal expansion of roof expansion joint materials.

4. Provide uniform profile of roof expansion joint throughout its length; do not stretch or squeeze membranes.
 5. Provide uniform, neat seams.
 6. Install roof expansion joints to fit substrates and to result in watertight performance.
 7. Torch cutting of roof expansion joints is not permitted.
 8. Do not use graphite pencils to mark aluminum surfaces.
- B. Directional Changes and Other Expansion-Control Joint Systems: Coordinate installation of roof expansion joints with other expansion-control joint systems to result in watertight performance. Install factory-fabricated units at directional changes and at transitions between roof expansion joints and exterior expansion-control joint systems to provide continuous, uninterrupted, and watertight joints.
- C. Splices: Splice roof expansion joints with materials provided by roof-expansion-joint manufacturer for this purpose, to provide continuous, uninterrupted, and waterproof joints.
1. Install waterproof splices and prefabricated end dams to prevent leakage of secondary-seal membrane.
- D. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

3.3 PROTECTION

- A. Protect roof expansion joints from foot traffic, displacement, or other damage.
- B. Remove and replace roof expansion joints and components that become damaged by moisture or otherwise.

END OF SECTION 077129

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Equipment supports.
 - 2. Preformed flashing sleeves.
- B. Related Sections:
 - 1. Division 07 Section "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint covers.

1.3 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of roof accessory indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For roof accessories. Include plans, elevations, keyed details, and attachments to other work. Indicate dimensions, loadings, and special conditions. Distinguish between plant- and field-assembled work.

1.5 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.
- B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.6 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653 G90 coating designation.
 - 1. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil.
- B. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792, AZ50 coated.
 - 1. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil.
- C. Aluminum Sheet: ASTM B 209, manufacturer's standard alloy for finish required, with temper to suit forming operations and performance required.
 - 1. Mill Finish: As manufactured.
 - 2. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil.
 - 3. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
- D. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used, otherwise mill finished.
- E. Stainless-Steel Sheet and Shapes: ASTM A 240 or ASTM A 666, Type 304.
- F. Steel Shapes: ASTM A 36, hot-dip galvanized according to ASTM A 123 unless otherwise indicated.

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

- C. Underlayment:
 - 1. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, non-perforated.
 - 2. Polyethylene Sheet: 6-mil-thick polyethylene sheet complying with ASTM D 4397.
 - 3. Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.
- D. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide non-removable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
 - 1. Fasteners for Zinc-Coated or Aluminum-Zinc Alloy-Coated Steel: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153 or ASTM F 2329.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
- E. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.
- F. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.
- G. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.3 EQUIPMENT SUPPORTS

- A. Equipment Supports: Internally reinforced metal equipment supports capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, integral metal cant, and integrally formed deck-mounting flange at perimeter bottom.
- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Loads: As required to support existing equipment.
- D. Material: Aluminum-zinc alloy-coated steel sheet, 0.052 inch thick.
 - 1. Finish: Factory prime coating.
- E. Construction: Fabricate equipment supports to minimum height of 12 inches unless otherwise indicated.

2.4 PREFORMED FLASHING SLEEVES

- A. Vent Stack Flashing: Metal flashing sleeve, uninsulated, with integral deck flange.
 - 1. Metal: Aluminum sheet, 0.063 inch thick.
 - 2. Height: 7 inches, unless otherwise indicated.
 - 3. Diameter: As indicated in field.
 - 4. Finish: Manufacturer's standard.

2.5 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- C. Verify dimensions of roof openings for roof accessories.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions.
 - 1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
 - 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 - 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 - 1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
 - 3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.
- C. Equipment Support Installation: Install equipment supports so top surfaces are level with each other.
- D. Preformed Flashing-Sleeve Installation: Secure flashing sleeve to roof membrane according to flashing-sleeve manufacturer's written instructions.
- E. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Clean exposed surfaces according to manufacturer's written instructions.
- C. Clean off excess sealants.
- D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Urethane joint sealants.
 - 2. Polysulfide joint sealants.
 - 3. Butyl joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg. F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following:
 - 1. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Pecora Corporation.
 - b. Sika Corporation; Joint Sealants.
 - c. Tremco Incorporated.
- B. Urethane, M, P, 50, T, NT: Multicomponent, pourable, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade P, Class 50, Uses T and NT.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Sarnifil; Sika Corp..
 - b. Tremco Incorporated.
 - c. GAF Materials Corp.

2.3 POLYSULFIDE JOINT SEALANTS

- A. Polysulfide, S, NS, 25, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, polysulfide joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Euclid Chemical
 - b. Pecora Corporation.
 - c. W. R. Meadows, Inc.

2.4 BUTYL JOINT SEALANTS

- A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Bostik, Inc.
 - b. Pecora Corporation.
 - c. Tremco Incorporated.

2.5 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type O (open-cell material), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Remove laitance and form-release agents from concrete.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal nontraffic surfaces.
 - 1. Joint Locations: Post pockets
 - a. Joint Sealant: Multicomponent, pourable urethane, 50, T, NT
 - 2. Joint Locations: Roofing; must be compatible with roofing membrane assembly, see Division 07 Section “Thermoplastic Ethylene Interpolymer (KEE) Roofing“

- a. Joint Sealant: Butyl-Rubber-Based Joint Sealants
- B. Joint-Sealant Application: Interior and Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations: Flashing and elevator door frames
 - 2. Joint Sealant: Single-component Urethane, NS, 25, NT.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

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Part I.

SCOPE OF WORK

1. PROJECT SUMMARY

1.1. ELEVATOR SUMMARY

ITEM	EXISTING
Number of Elevators:	Three (3)
Classification:	Passenger
ID Number:	Cars 3, 4, and 5 (C3, C4, C5)
Rated Capacity:	C3, C4: 3,500 Pounds (lbs) C5: 4,500 Pounds (lbs)
Rated Speed:	350 Feet Per Minute (fpm)
Operational Control:	Simplex – Collective Selective
Floors Served:	C3, C4: B, 1, 2, 3, 4, 6, 8, 10, 12 C5: B, 1, 2, 3, 4, 6, 8, 10, 12, PH
Number of Openings:	C3, C4: Nine (9) C5: Ten (10)
Car Door Type:	C3, C4: Single Speed Side Opening C5: Two Speed Side Opening
Hall Door Type:	C3, C4: Single Speed Side Opening C5: Two Speed Side Opening
Driving Machine Type:	Geared Traction – Serge
Operational Controls:	Microprocessor – O Thompson
Motion Control:	Motor-Generator – Imperial Electric
Roping:	1:1

1.2. INTENT OF PROJECT

The purpose of this project is modernizing the elevators, bringing everything to current code compliance. Contractor shall perform all work necessary to achieve the intent of this project, including but not necessarily limited to the work specified herein. Please give very close attention on this modernization to the following items:

1.3. CODE COMPLIANCE

1. The following code shall be the applicable code for this project and shall be identified on all required municipal permits:
 - a) ASME A17.1-2007 and IBC-2009 NJ Edition and Chapter 30

2. The Elevator Contractor shall verify with the Authority Having Jurisdiction the status of all mandated inspections, tests, and any outstanding violations or fines incurred.

1.4. OWNER REQUIREMENTS

1. OPEN VIOLATIONS

- a) It is the owner's responsibility to confirm that the elevator is current with all mandated inspections and tests. The Elevator Contractor shall verify with the Authority Having Jurisdiction the status of all mandated inspections, tests, and any outstanding violations or fines incurred.

2. HAZARDOUS MATERIALS

- a) If hazardous materials are encountered, Owner will remove any hazardous materials under a separate contract.

3. STORAGE

- a) Provide suitable storage space for tools and materials brought to the site by the Contractor. Contractor must specify at the beginning of the project the details of storage space required. Storage space requested shall be reasonable and in accordance with the projected schedule.

1.5. BALANCED LOAD TEST

1. INSTRUCTIONS

- a) The Contractor shall perform a preliminary balanced load test on the elevator prior to any modernization work on the elevator as part of this specification. No more than four weeks after the award of contract.
- b) The Contractor shall factor in any additional weight to be added to the car during the modernization, such as door equipment or guardrails, but not including cab interior changes.
- c) If additional counterbalancing will be required, Contractor shall weigh all cars in the group.

2. REPORT

- a) Report the test results to the Owner and Elevator Consultant and shall include:
 - i. The required weight increase or decrease amount to properly counterbalance the elevator (assuming a car load of 40 - 42% of the rated capacity or % required by hoist machine manufacturer).
 - ii. Contractor shall determine if the additional weight will cause any of the following to occur
 - iii. The counterweight frame would no longer be sufficient for the modified counterweight.
 - iv. The additional weight would cause the building reactions or the sum of the cab weight and capacity to change by more than 5%.
 - v. The modified counterweight would cause any hoistway clearances to be insufficient according to applicable elevator or building codes including, but not limited to, ASME A17.1 and all local codes and ordinances.
 - vi. The modified counterweight or additional cab weight would not comply with applicable elevator or building codes including, but not limited to, ASME A17.1 and all local codes and ordinances.

1.6. CALLBACK PREVENTION

1. Prior to removing the first elevator for modernization, the Elevator Contractor shall perform a thorough preventative maintenance routine on the elevator(s) being used by the building. Replace any worn components, assemblies, or items that may fail or cause callbacks during the modernization of the first elevator due to the additional load placed on the elevator being used by the building. This preventative maintenance routine shall be in addition to the normal routine maintenance and included with the modernization (not billed separately). All components, assemblies, or parts removed from the first elevator being modernized shall remain on-site for immediate and necessary repairs or call backs on the other elevator. A suggested list of maintenance items is:
 - a) Clean, adjust, and lubricate all hoistway limit switches
 - b) Service governor and governor tension device
 - c) Clean, adjust, and lubricate the door operator, car door track, hangers, clutch, restrictor, and drive linkage
 - d) Secure the top emergency exit and verify it is easily opened in case of entrapment
 - e) Clean, adjust and lubricate all hall door tracks, hangers, interlocks, and closers; make all self-closing.
 - f) Clean top of car, machine room and pit
 - g) Verify all signals work and replace parts as needed
 - h) Confirm communication works as per code
 - i) Clean and inspect safety apparatus
 - j) Check and lubricate brake assembly
 - k) Replace any worn carbon brushes or contacts
 - l) Test overloads and replace any fuses that are not readily identifiable or legible

1.7. PERFORMANCE REQUIREMENTS

1. Upon completion of the elevators and prior to the acceptance test and subsequent turnover to use by the Owner and the building adjust the elevators to meet the following performance requirements.

Contract Speed	+/- 5% (Max)
Leveling Accuracy	+/- 1/2"
Floor-to-Floor Time	12.0 Seconds
Door Opening Time	2.40 Seconds
Door Closing Time	3.50 Seconds
Dwell Time (Car Call)	3.0 Seconds (adjustable to 10 seconds)
Dwell Time (Hall Call)	5.0 Seconds (adjustable to 20 seconds)
Reduced Dwell Time	1.0 Seconds (adjustable to 10 seconds)
Lobby Dispatch Time	5.0 Seconds (adjustable to 60 seconds)
Nudging Time	More than 20 Seconds
Door Closing Force	Less than 30 Pounds
Horizontal Vibration	25.0 milli-g
Vertical Vibration	25.0 milli-g
Noise Level	67 dBA (inside car)

1.8. ELEVATOR COMPONENTS CHECKLIST

1. DEFINITIONS OF TERMS

- New:** Newly manufactured, not rebuilt or used
- Refurbish (RFB):** Rebuild in order to return the part or assembly to like new condition
- Reuse (RUS):** Inspect, clean, repair, adjust, or replace all parts, Rcomponents and materials in order to return the part or assembly to its proper, code-compliant function or like new condition
- Remove (RMV):** Item removed and will not be replaced

SEC.	COMPONENTS	NEW	RFB	RUS	RMV	NOTES	%	DONE
INSIDE CAR								
2.2	Cab Enclosure	X				\$20,000/elev.		
2.3	CCTV Camera			X				
2.4	Car Sill	X				Nickel-Silver		
2.5	Cab Flooring	X						
2.7.3	Operating Panel	X						
2.7.4	Car Operating Panel	X						
2.7.5	Emergency Lighting	X						
MACHINE ROOM								
3.1.3	Machine Beams		X					
3.2	Equipment Isolation	X						
3.3.6	Car Controller	X						
3.4	Motion Control System	X						
3.5	Hoist Motor	X						
3.6.5	Geared Machine	X						
3.6.6	Brake	X						
3.6.7	Traction Sheave	X						
3.7	Hoist Ropes	X						
3.8	Ancillary Sheaves	X						
3.9	Governor and Tension Sheave	X						
3.10	Governor Rope	X						
3.11	Ascending Car Overspeed	X						
INSIDE HOISTWAY								
4.1.1	Car Top Guard Railings	X						
4.2	Selector / Leveling Device	X						
4.3	Door Reopening Device	X						
4.4	Top of Car Station	X						
4.5	Guide Rails		X					
4.6	Guide Shoes		X					
4.7.2	Door Operator	X						
4.7.3	Car Door Contact	X						
4.7.4	Car Door Track and Hanger	X						
4.7.5	Car Door Clutch	X						
4.8.2	Entrance Frames		X					

SEC.	COMPONENTS	NEW	RFB	RUS	RMV	NOTES	%	DONE
4.8.3	Entrance Panels		X					
4.8.4	Hoistway Sills			X				
4.9.2	Floor Numbers	X						
4.8.3	Hangers	X						
4.8.4	Tracks	X						
4.8.5	Interlock	X						
4.8.6	Door Closer	X						
4.8.7	Door Gib	X						
4.8.8	Safety Retainer	X						
4.10	Counterweight		X					
4.11	Compensation Chain		X					
4.12	Hoistway Limits	X						
4.13	Travelers and Wiring	X						
OUTSIDE HOISTWAY								
5.1	Access Stations	X						
5.2	Signage and Accessibility	X						
PIT								
6.1	Pit Ladder		X					
6.2	Buffers	X						
6.3	Pit Stop Switch	X						
6.4	Car Frame		X					
6.5	Platform		X					
6.6	Safety		X					

2. INSIDE CAR

2.1. STATIC BALANCE CAB

1. GENERAL INFORMATION

- a) The Elevator Contractor shall statically balance cab, with the car roller guide rollers removed. Include all costs associated with coordination of cab related work in the base bid including static and dynamic balancing. This work shall include the following:
 - i. Perform static balancing prior to dynamic balancing of the counterweight frames.
 - ii. Perform static balance test in the presence of the Consultant prior to or during the Final Acceptance.
 - iii. Elevator Contractor shall verify the dynamic balancing of 40 – 42% (or % required by hoist machine manufacturer) in the presence of the Consultant.
 - iv. The Elevator Contractor shall re-adjust the load weighing sensors to account for any net change in existing cab weight.
 - v. The Elevator Contractor shall be responsible for ensuring that any weight added to the cab does not result in exceeding the maximum permissible weight limits of the elevator hoist machine sheave shaft. If the cab weight does exceed the maximum permissible shaft loading then the Elevator Contractor must notify the Consultant immediately and take whatever action is necessary to lower the cab weight to a permissible level.

2.2. CAB ENCLOSURE

1. WORK SCOPE: NEW

- a) Provide a new cab enclosure with new finishes. The Owner and/or his representatives shall select the finish and design of the cab enclosure. Construct elevator cab to accommodate the door operator, hangers, interlocks and all accessory equipment provided under other sections of these specifications, including firefighter phones, card readers and CCTV. The net allowance for the new cab enclosure and finishes is **\$20,000 per elevator (\$60,000 total allowance)**.
 - i. The allowance shall include a design and material for this enclosure including lighting, entrance columns, transoms, door panels, and all necessary cutouts. The allowance shall exclude any handling charge, sales or use taxes, car door hangers, interlocks, exit contacts and locks, or any operating equipment; the Elevator Contractor shall include all of these items cost in his base bid. Any unused Allowance will be credited to Owner as a deduct Change Order.
 - ii. The Owner or his authorized representative reserves the right to purchase the cab separately, in which case the elevator contractor shall deduct the full allowance amount from the contract price. The elevator contractor shall remain responsible for all coordination with the cab vendor in terms of scheduling delivery.
 - iii. Subcontractor - The Elevator Contractor may hire a subcontractor to provide a design/build for the new cab enclosure. Owner shall pay Contractor out of each Allowance the actual costs for the subcontractor's work without mark-up. The Elevator Contractor shall coordinate and schedule the Subcontractor's work to fit into the Contractors schedule and meet all schedule obligations for this Project.

- b) Lighting: Vandal resistant, recessed fluorescent tube lighting; serviceable from the top of the elevator. The lighting shall be security grade lighting with high strength glass/lexan type material and secured to the ceiling with security screws. The objective is to have a light that cannot be easily tampered with, removed, or have the lens broken and used as a weapon.
- c) Please note that the existing security cameras and speakers will be removed and then reinstalled and reused in the new elevator cabs.

2.3. CCTV CAMERA

1. WORK SCOPE: REUSE

- a) Reuse the existing CCTV camera. The Elevator Contractor shall remove the existing CCTV camera when removing the elevator from service for the modernization and re-install prior to turning the elevator back over for use by the building.

2.4. CAR SILL

1. WORK SCOPE: NEW

2. MATERIAL

- a) Nickel-silver

2.5. CAB FLOORING

1. WORK SCOPE: NEW

2. TYPE

- a) Color, finish and design selected by the Owner or his representatives

2.6. FIXTURE DESIGN

1. DESIGN

Material	Stainless Steel
Finish	Brushed (#4)
Edge Style	Panned / Beveled
Button Size	1- $\frac{1}{8}$ "
Button Profile	Flat / Radius / Domed
Button Type	Tamper Resistant with $\frac{3}{16}$ " jewel
Button Halo	1- $\frac{3}{8}$ " diameter clear halo
Illumination	LED

- a) The Owner or his representatives shall select and approve the buttons, cover plates, Braille tags, numerals, engravings, fixtures, and equipment. Failure to gain their approval prior to ordering fixtures may result in contractor having to reorder fixtures acceptable to the owner. Provide samples of finishes for owner's approval.

2.7. OPERATING PANEL

1. WORK SCOPE: NEW

2. LOCATION

- a) Central Security Station Only (*there are no car stations inside the elevators at present, only an intercom for communication to the Central Security Station, this arrangement will not be changed*)

3. OPERATING PANEL

- a) The car station shall contain a series of push buttons to correspond to the landings served. The push buttons shall illuminate individually when pressing a button for the desired floor. These lights shall extinguish after answering the call. The main panel shall include on the cover:
 - i. Key-operated stop switch, that when activated shall remove electric power from the driving-machine motor and brake. Activation of the key-operated stop switch shall not cancel registered car or corridor calls, and after releasing the switch, the car shall continue to answer its registered calls.
 - ii. An illuminated alarm button connected to a bell under or on top of the car
 - iii. Door open button
 - iv. Door close button
 - v. Car light key switch
 - vi. Fan key switch
 - vii. Inspection key switch for use with access operation and the top-of-car operating station
 - viii. Independent key switch
- b) Incorporate the emergency lighting, fire controls, auxiliary signals, and mandated engraving to comply with all applicable elevator and fire codes as well as ADA requirements.

4. CAR OPERATING PANEL/CAR STATION

- a) The car station shall contain only the following items on the cover:
 - i. Intercom for communication to the Central Security Station
- b) Incorporate the emergency lighting and mandated engraving

5. EMERGENCY LIGHTING

- a) Locate the emergency light unit mounted as an integral part of the car operating panel or incorporate in the car lighting. Either type of unit shall provide:
 - i. A minimum of two (2) bulbs or LED's of approximately equal wattage
 - ii. Illumination for a minimum of four (4) hours
 - iii. Not less than 0.2 fc (2 lx) when measured 48 inches above the car floor and 12 inches in front of car operating panel
 - iv. A permanent connection to the car light branch circuit

3. MACHINE ROOM

3.1. ENCLOSURE

1. EQUIPMENT

- a) All elevator machinery and control equipment shall be located in the machine room/space.
- b) Any work required facilitating removal of existing equipment and installation of new equipment in the machine room and repair thereof shall be the responsibility of the Contractor.
- c) The placement of any new equipment shall meet all current and applicable codes including, but not limited to, ASME A17.1 and all local codes and ordinances.

2. ELECTRICAL SYSTEM

- a) Provide new electric wiring from the main disconnect switch to the terminals of the new elevator controller in its location as shown on the approved layout drawing, inclusive of a normal/standby 120 VAC, 15 Amp supply at each controller
- b) If necessary for code compliance, provide auxiliary main line disconnect switch to maintain line of sight of any controller and moving equipment.

3. MACHINE BEAMS

- a) Elevator Contractor shall furnish and install all support beams, angles, plates, bearing plates, blocking steel members and frames to support machines, governors, and deflector sheaves.

3.2. EQUIPMENT ISOLATION

1. WORK SCOPE: NEW

2. VIBRATION

- a) Provide sound-reducing vibration isolation elements at all support points of elevator controllers, solid-state motor drives, isolation transformers and hoisting motors. All bolts through isolation elements, where necessary, are to incorporate resilient washers and bushings.
- b) The elements for controllers, motion control, and isolation transformers shall be similar to ribbed neoprene pads, type mini super w pads, as manufactured by Mason Industries or approved equal, at 45 durometer.
- c) Elements between the hoisting machine and machine support beams or between car sling and platform shall be similar to triple (3) layer ribbed neoprene pads, separated by appropriate steel shims as manufactured by Mason Industries or approved equal, type Super W pads, at 50 durometer, loaded for 180 psi.

3. ELECTRICAL

- a) Provide electrical isolation as necessary to maintain the harmonic distortion and electrical noise within acceptable levels permitted by the appropriate governing authorities.
- b) Provide transformers, chokes, and filters as needed in order to minimize audible noise and radio frequency interference to acceptable levels.

3.3. OPERATIONAL CONTROL SYSTEM

1. WORK SCOPE: NEW

2. APPROVED MANUFACTURERS

- a) GAL
- b) MCE
- c) SmartRise
- d) Approved Equal (must be non-proprietary)
- e) A “Non-proprietary” controller product is one that is regularly sold by the manufacturer to other installers and one for which the manufacturer will provide technical support to other contractors maintaining the product.
- f) The Owner / Consultant shall retain the right to change or assign a controller manufacturer or product to the Contractor.

3. GENERAL INFORMATION

- a) Provide new solid-state microprocessor controllers designed to the applicable ASME code as adopted and/or modified by local and state law or the local authority having jurisdiction.
- b) Paint all machine room enclosures provided by the control manufacturer (control cabinet, isolation transformers, ripple filters, resistor boxes, etc.) the same color.
- c) Provide rubber floor mats at the front and at the rear of controller (if serviceable parts are located in the rear).

4. MACHINE DISPLAY

- a) Provide a monitor or an LCD display in the machine room that allows troubleshooting and can display the status of the elevators. The monitor display shall display car position, registered hall and car calls, and status of the car, etc. The troubleshooting functions should include the ability to register car calls and hall calls. Controller shall include security features in order to allow any maintenance contractor to lockout car calls or hall calls on an individual basis without software changes. Fire service shall override all lockouts, as required by Code.
- b) Elevator Contractor shall provide any passwords or passcodes set on either the LCD display or the control system in writing to the building owner and consultant. Anytime making changes to passwords or passcodes, Elevator Contractor shall give in writing all new updates to building owner and consultant.

5. JAIL ELEVATOR SERVICE

- a) Provide Jail Elevator Service to provide secure elevator services in restricted conditions by allowing elevators to be operated remotely by security personnel in visual and audible contact with elevator passengers. This shall include three operating modes:
 - i. Automatic - standard elevator operation per user configuration.
 - ii. Master - Landing and Car calls are disabled. Car requests are visible to the remote operator who is in complete control of car movement and door operation.
 - iii. Secure - Landing and Car calls may be registered but car motion is controlled remotely.
- b) Operation of Jail Elevator Service shall be by mouse and monitor.

- c) Mode Indicators
 - i. Green - Passenger/automatic operation
 - ii. Orange - Jail operation
 - iii. Yellow - Inspection, Test, Independent, Attendant, Capture
 - iv. Gray - Unknown status, Out of Service
 - v. Red - Fire Main, Alternate, Phase 2, EMS Service
 - vi. Blue - Commandeer for Special Service

6. CAR CONTROLLER

- a) Design
 - i. Electromechanical relays shall be used on safety circuits as required by the Code.
 - ii. Relays shall be designed to insure long life and quiet reliable operation without overheating or excessive wear. Provide contacts supplying highly inductive loads with arc deflectors or suppressers.
 - iii. Mount large resistors so that heat generated is dissipated from the enclosure without heating other components or wiring.
 - iv. All controller wiring shall be copper and done in a neat workmanlike manner. Make all connections to studs or terminals by means of solder-less connections lugs or similar connections. Label all studs and terminals for connections of board and external wiring.
 - v. Symbols or letters shall identify all devices on the controller, either permanently marked on or adjacent to each device. All fuse holders shall be permanently marked with ampere rating.
- b) Programming
 - i. Provide equipment to protect the drive motor and solid-state motor drive as applicable against overload, phase reversal, low voltage, and single phase in all three phases.
 - ii. Controller shall regulate car speed to +/- 5% of contract velocity in either direction with any load up to full load.
 - iii. Calls shall register after establishing the direction of travel and only register in that direction.
 - iv. Parking shall be adjustable to allow each car to park at any floor.
 - v. All date-sensitive functions of the elevator control system shall use a 4-digit year-tracking system.
 - vi. Controller shall provide efficient, smooth operation with step-less acceleration and deceleration of the elevator-hoisting machine independent of the load in the car.
 - vii. All memory chips shall be of the non-volatile type to provide for an automatic restart on power-up conditions.
- c) Special Services - the controller(s) shall include the following programming with necessary outputs and inputs, even if not used at present:
 - i. Fire Emergency Operation – shall meet all national and local code requirements.
 - ii. Emergency Power Operation
 - iii. Emergency Terminal Slowdown - for use with reduced stroke buffers; shall include all necessary circuitry, components, and control systems for reduced stroke buffers and emergency terminal limiting.

iv. Independent Service Operation

- A. Each car operating station shall be equipped with a key-operated switch labeled “IND”. When placed in the “on” position, this switch shall cause the elevator to bypass all corridor calls and to travel directly to any floor chosen by registration of a car call. During Independent Service Operation, the elevator doors shall remain open at any landing until applying continuous pressure to the “door close” push button.
- B. In case elevator is operating on the Independent Service mode and the Fire Emergency Recall system becomes activated, following a period not less than 10 seconds nor more than 30 seconds, the elevator shall automatically override Independent Service Operation and engage Phase I - Fire Emergency Recall Operation.

3.4. MOTION CONTROL SYSTEM

1. WORK SCOPE: NEW

2. TYPE

a) AC VVVF Solid-State Non-Regenerative Drive

i. Design:

- A. Drive shall include adjustable speed control and velocity profile in a dual-loop feedback system based on car position and speed. The VVVF drive system shall be a low-noise, flux-vector inverter device with the capability of varying the torque on the motor during acceleration and deceleration. It shall be capable of programming the volts per hertz and changing the acceleration deceleration profiles while utilizing velocity feedback digital encoding to permit a higher level of control.
- B. Include a digital LED readout and touch-key pad to facilitate software parameter adjustments, monitor system operation and display fault codes.
- C. Be configured as a complete digital drive system and be totally software configurable through high level language.
- D. Interface with external equipment/signals via either discrete local I/O connections or high speed Local Area Network (LAN).
- E. Provide fully programmable and adjustable carrier frequency to 16KHz with an output frequency of 0 - 500 Hz.
- F. Be located within the limits of the control cabinet (where system size allows) or separately mounted in an appropriate chassis with hinged swing-out doors with clearances equal to the cabinet width dimensions.
- G. Provide programmable linear or S-curve acceleration and deceleration with controlled reversing.

ii. Non-Regenerative Drive:

- A. Provide a separate dynamic braking module to control overhauling motor speed, reduce hoist motor deceleration time and dissipate regenerated power. A resistor bank to absorb power regenerated by the hoist motor. A 3-phase AC contactor rated for proper HP with overload protection to disconnect the inverter from the hoist motor whenever the elevator is stopped.

iii. Noise Reduction:

- A. Design and configure the solid-state drive system to include the following countermeasures for noise generated by the pulse-width modulated (PWM) inverters: control of radiated noise via inverter and/or motor cables, conducted noise through power lines, and induction and ground noise.
 - B. A noise filter for the input power line shall be provided to prevent penetration into radios, wireless equipment and smoke detectors.
 - C. Inverter shall be encased in metal and independently grounded.
- iv. Operating and Environmental Conditions:
- A. Have a service factor of 1.0.
 - B. Rated for continuous duty.
 - C. Humidity - 90% rated humidity non condensing.
 - D. Cooling - forced air when required.
 - E. Temperature - 0-40 degrees Celsius (104 degrees Fahrenheit) for UL Listing.
- v. Protective Features:
- A. Motor overspeed.
 - B. Adjustable current limit.
 - C. Isolated control circuitry.
 - D. Digital display of fault conditions.
 - E. Selectable automatic restart at momentary power loss.
 - F. Manual restart.
 - G. Over/Under Voltage.
 - H. Line to line and line to ground faults.
 - I. Over-temperature.

3.5. HOIST MOTOR

1. WORK SCOPE: NEW

2. TYPE

- a) AC induction motor

3. DESIGN DETAILS

- a) Provide a new vector duty, variable speed, reversible AC induction motors designed to operate with the VVVF drive and with high starting torque and low starting current, rated for 50 degrees Celsius (122 degrees Fahrenheit) during continuous operation, designed for this elevator application.
- b) Motors shall have class “H” (or approved equal) insulation to ensure long-term reliability.
- c) Furnish and install a new motor coupling machined for proper fit on motor shaft with slotted keyway and key to properly secure it for standard NEMA mounted construction (foot or footless).
- d) Properly align the hoisting motor to the hoisting machine for vibration-free operation.

3.6. DRIVING MACHINE

1. WORK SCOPE: NEW

2. TYPE

- a) Geared

3. LOCATION

- a) Overhead Machine Room

4. INSTALLATION

- a) Remove existing hoist machine and motor in their entirety. Make all required modifications to support beams and reinforce beams and beam supports as necessary to accommodate the new hoist machine. Provide and install any additional structural steel needed to tie in the new hoist machine mounting points to the machine beam locations. Permanently fasten the new hoist machine assemblies to the machine beams. Expansion shields will not be permitted.

5. GEARED MACHINE

a) Machine Design

- i. Provide Hollister Whitney or approved equal worm-gear traction machine with a motor, drum / disc brake, gears and demountable drive sheave mounted in proper alignment on a common bedplate. Accurately machine the worm from steel and provide with a single end, double race ball bearing thrust. The worm gear shall be from a phosphor bronze rim, accurately cut, fitted, and bolted to a cast iron spider. The drive sheave shall be a demountable casting from the best grade of metal with a Brinnell hardness of 215 to 230, and shall be machined with grooves, providing maximum traction with a minimum of cable and sheave wear. Provide means for lubricating the machine. The gear housing shall have a gasketed hole to inspect the gear.
- ii. Provide new deflector sheaves associated to the traction machine if new installation design requires their use.

6. BRAKE

a) Design

- i. Provide machine with a spring applied and electrically released electromechanical drum/disc brake and shall be so designed as to be effective to the extent of stopping and holding the car under all conditions of loading or operation. Brake shoes shall be applied to the braking surface simultaneously and with equal pressure by means of helical compression springs. Design brake electromagnet for quick release to provide smooth and gradual application of the brake shoes. Each brake arm is to be individually controlled and able to hold 125% of rated capacity.
- ii. The brake drum must be carefully balanced, and have the wearing surface and edge of flange turned smooth, and the wearing surface must run true within a minimum variation of 0.005 inch. Allowable clearance shall be a minimum of 0.5 inch between the brake stand assembly and traction drive sheave to prevent any contact with the brake stand or any part thereof. Brake shoes are to be lined with non-asbestos bonded type linings. Brake plunger rod shall be polished cold rolled steel with surface free of machine marks.

7. TRACTION SHEAVE

a) Design

- i. The demountable drive sheave shall be cast from the best grade of hard cast iron, semi-steel or cast steel of approved composition and shall be machined with grooves, providing maximum traction with a minimum of cable and sheave wear. The surface of sheave shall be tested individually for hardness and the actual hardness to be plainly stamped next to the grooves on the sheave rim. The hardness must measure between 220 and 240 Brinell. The test **MUST** be performed with a TELEBRINELLER instrument. Traction sheave shall be progressively grooved to produce required traction and shall be of sufficient thickness to provide for future groove undercut. Provide new rope guard at front and rear of sheave.

3.7. HOIST ROPES

1. WORK SCOPE: NEW

- a) Provide new pre-formed traction steel wire rope specifically constructed for elevator applications for suspension of the elevator car and counterweight assembly.
- b) New hoist ropes shall be identical in number and construction to those currently in use. They shall be of sufficient size and number to insure long life of cables and drive sheave.
- c) A metal tag shall identify the type, strength, number of strands and date of installation of the hoist ropes. Classification of new hoist ropes shall be for use with American steel traction sheaves.

3.8. ANCILLARY SHEAVES

1. WORK SCOPE: NEW

- a) Provide new sheaves as required for proper display of ropes leading to car and counterweight hoisting locations
- b) Sheaves shall include means to guard the hoist cables.

2. APPLICABLE EQUIPMENT

- a) Deflector

3.9. GOVERNOR AND TENSION SHEAVE

1. WORK SCOPE: NEW

- a) Install a new Hollister Whitney governor and tension weight.
- b) Elevator Contractor shall clean, confirm calibration, and install governor level and plumb.
- c) Provide an electrical overspeed protective device that when operated, shall disconnect power from the driving machine motor and brake before or at the application of the safety. This switch shall operate in both directions of travel. The setting for the overspeed switches shall be as prescribed in the ASME Code.
- d) The governor shall meet all applicable code requirements including, but not limited to, ASME 17.1 and all applicable local codes and ordinances.

3.10. GOVERNOR ROPE

1. WORK SCOPE: NEW

- a) Provide necessary new pre-formed traction steel wire rope specifically constructed for elevator governor rope applications.
- b) Governor rope shall pass over top of the governor sheave in the machine room and underneath the tension sheave located in the pit.
- c) Both ends of the governor rope shall attach to the safety release carrier.
- d) Governor rope diameter and method of fastening shall be in accordance with ASME A17.1 elevator safety code and codes and standards accepted by the authority having jurisdiction.

3.11. ASCENDING CAR OVERSPEED AND UNINTENDED CAR MOVEMENT

1. WORK SCOPE: NEW

- a) The Elevator Contractor's bid shall include any structural engineering required to validate the ability of the building structure to accommodate the "rope gripper" or other such device used to meet ascending car overspeed, unintended car movement requirement, or emergency brake requirements
- b) All devices shall meet the requirements of Section 2.19 of the ASME A17.1 Elevator Safety Code

2. ASCENDING CAR OVERSPEED

- a) Provide a device designed to prevent an ascending elevator from striking the hoistway overhead structure because of a failure in the electric driving-machine motor, brake, coupling, shaft, or gearing, the control system, and any other component upon which the speed of the car depends, except the suspension ropes and the drive sheave of the traction machine. The device shall decelerate the car with any load up to the rated capacity by applying an emergency brake.
- b) The device shall detect an ascending car overspeed condition of not greater than 10% higher than the speed that the car governor is set to trip.
- c) The device, when activated, shall prevent operation of the car until manually resetting the device.

3. UNINTENDED CAR MOVEMENT PROTECTION

- a) Provide a protection device to prevent the unintended car movement away from the landing when the hoistway and car doors are not in the closed and locked position and the car door is not in the closed position.
- b) The device shall prevent such movement in the event of failure of the electric driving machine motor, brake, coupling, shaft or gearing, control system, and any other component upon which the speed of the car depends, except the suspension ropes and the drive sheave of the traction machine.
- c) The device, when activated, shall prevent operation of the car until manually resetting the device.

4. EMERGENCY BRAKE

- a) Provide a mechanical device, independent of the normal braking system that will stop the elevator should it overspeed or move in an unintended manner. The device used may apply force to the car or counterweight rails, suspension or compensation ropes, drive sheave, or brake drum.

4. INSIDE HOISTWAY

4.1. ENCLOSURE

1. CAR TOP GUARD RAILINGS

- a) Provide car top guard rails per local and state code requirements.

4.2. SELECTOR / LEVELING DEVICE

1. WORK SCOPE: NEW

- a) Incorporate the solid-state selector into the new microprocessor based operational controls (*See 3.3*). The selector / leveling device shall:
 - b) It shall determine the position in the hoistway through either a fixed tape or by an encoder.
 - c) It shall provide accurate control, rapid acceleration, and retardation without discomfort to the rider.
 - d) It shall include absolute floor encoding; that during the elevator power up sequence causes the elevator to move to the closest floor to identify its position.
 - e) It shall automatically bring the car to a stop within 1/4 of an inch of the floor for which a stop has been initiated under all conditions of load for both "up" and "down" travel. This system shall correct for overtravel, undertravel, and rope stretch.

4.3. DOOR REOPENING DEVICE

1. WORK SCOPE: NEW

- a) Provide a new infrared matrix door reopening device system with independent power supplies.
- b) Approved manufacturers: Janus, Tri-tronics, or equal.
- c) Protective field not less than 71" above the car sill
- d) A minimum of 47 light beams and positioned correctly to conform to applicable codes, A17.1 and A117.1
- e) The door protection system shall have a modular design to permit on board test operation and replacement of all circuit boards without removing the complete unit.
- f) If the power to the unit fails, the doors shall remain open.
- g) Nudging Action: In the event continually obstructing a detector edge for a predetermined time interval (no less than 20 seconds) after initiating automatic door closing, a buzzer shall sound and the doors shall close at a gentle reduced speed. Timers shall be individually adjustable. This feature must be adjustable for reduced car door closing force. This feature shall also have the capability of being turned off on demand.

4.4. TOP OF CAR STATION

1. WORK SCOPE: NEW

- a) Top of car run box shall have an inspection switch that overrides all other inspection switches, with up, down, and enable push buttons and a stop switch. Install a guarded light on top of the car. The inspection station shall comply with all current code requirements, including operational and labeling requirements.

- b) The top of car run box may contain a lighting fixture for the top of the car and an approved 120 Volt grounded GFCI duplex receptacle.

4.5. GUIDE RAILS

1. WORK SCOPE: REFURBISH

- a) Reuse existing car and counterweight guide rails, brackets, fishplates, backings support, and related attachments. Inspect to determine if any unfavorable conditions exist that diminish the structural integrity of any component.
- b) Inspect each rail stack to determine if excessive compression has occurred from the building settlement. If such conditions exist then cut off sufficient from each affected stack to relieve the pressure and provide jacking bolts underneath each stack of both car and counterweight guide rails.
- c) Thoroughly clean all guide rails of grease, oil and other foreign substances, file and remove all rough edges and surfaces.
- d) Tighten bracket bolts and guide clips for smooth and quiet operation of car and counterweight.
- e) Realigned to $\pm \frac{1}{8}$ inch plumb to produce a smooth, quiet ride and to achieve the ride quality criteria stated herein.

4.6. GUIDE SHOES

1. WORK SCOPE: REFURBISH

2. APPLICABLE EQUIPMENT

- a) Car
- b) Counterweight

3. ROLLER GUIDES

- a) Refurbishing
 - i. Refurbish existing Hollister-Whitney roller guides. Replace as needed existing mounting hardware with graded bolts and proper attachment methods by OEM.
 - ii. Provide and install all missing equipment roller guides with 16 gauge cover guards.
 - iii. Clean exterior of all grease and oil.
 - iv. Check all rollers for proper tension, roller wear, and bearing failure; replace all worn rollers
 - v. Check all fastenings for proper structural integrity.
 - vi. The rollers shall be neoprene or polyurethane.

4.7. DOOR OPERATOR SYSTEM

1. WORK SCOPE: NEW

2. DOOR OPERATOR

- a) Approved Manufacturers
 - i. GAL

- ii. Approved equal
- b) Model
 - i. MOVFR – heavy-duty closed-loop door operator
- c) Design
 - i. The unit shall have the ability to adjust torque, opening speeds, closing speeds, nudging speed and soft start. It shall have proper filtering to eliminate audible noises.
 - ii. The door operator shall have the capability to operate at an average opening speed of 2 feet per second. This type of operator shall have the designation of a high-speed operator. Automatic closing of the car and hoistway door shall be required, and the closing speed shall be approximately 1 foot per second. This closing speed shall reduce as required to limit the kinetic energy of the closing doors to the values permitted by the ASME Code.
 - iii. The doors shall operate smoothly without slamming in either the opening and closing direction. They shall cushion their final movement in both directions of travel either by individual dashpots or by other equally effective approved methods. Electrical power shall open and close doors.
 - iv. In case of interruption or failure of electric power from any cause, the door operating mechanism shall instantly permit emergency manual operation of both the car door and the hoistway door within the floor landing zones, and the hoistway door shall continue during emergency operation to be self-locking and self-closing. The door operator shall operate in conjunction with or be equipped with all interlocks and safety contacts specified.
 - v. All car-door linkage construction shall be of heavy steel members. All pivot points shall have either ball or roller bearings, or bronze-bushed bearings of ample size. All brackets and other supports required to support door-operating mechanism shall be furnished and installed.
 - vi. The door operation shall be adjustable to allow for adjustment of the premature door opening time within the landing zone. Either the door operator or the door reopening device shall control the amount of time the door remains open.
 - vii. Controls shall automatically compensate for load changes such as: wind conditions, different weight door panels, or other unique conditions.
 - viii. Provide nudging to limit speed and torque in conjunction with door close signaling/closing and timing devices as permitted by ASME A17.1 and/or otherwise modified by the AHJ. The signal control system shall initiate nudging operation and not the door protective device.

3. CAR DOOR SWITCH

- a) Design
 - i. A new electrical contact shall be provided and arranged to operate with the car doors so that the elevator cannot operate unless the doors are closed or within the tolerance allowed by ASME Code. The car door contact/switch shall not be accessible by passengers inside the car.

4. DOOR HANGERS AND TRACKS

- a) Design
 - i. New car door hangers and tracks shall be compatible with the new door operator.

5. CAR DOOR CLUTCH

- a) Design

- i. Provide a new car door clutch assembly that is compatible with new release roller assembly and includes door restrictor compatible with applicable code.

4.8. ENTRANCES

1. WORK SCOPE: REFURBISH

2. DOOR FRAMES

- a) Applicable floors:
 - i. All floors
- b) Material (14 gauge)
 - i. Cold-rolled steel
- c) Finish
 - i. Painted - baked enamel
- d) Refurbishing
 - i. Replace missing dust covers
 - ii. Replace any missing door bumpers with permanently mounted type bumper, adhesive type are not acceptable.

3. DOOR PANELS

- a) Applicable floors:
 - i. All floors
- b) Material (14 gauge)
 - i. Cold-rolled steel
- c) Finish
 - i. Paint baked enamel
- d) Refurbishing
 - i. Replace any missing or damaged sight guards
 - ii. Replace any damaged or torn door astragals
 - iii. Provide escutcheons with metal ferrules at each opening. Sample requires approval by owner or owner's representative.
 - iv. Replace any missing door bumpers with permanently mounted type bumper, adhesive type are not acceptable.

4. HOISTWAY SILL

- a) Applicable floors:
 - i. All floors
- b) Reuse
 - i. If any entrance sill shows excessive wear, damage, or is no longer code compliant inform Consultant and Owner immediately.

4.9. DOOR EQUIPMENT

1. WORK SCOPE: NEW

2. FLOOR NUMBERS

- a) Provide new 4” floor numbering on the hoistway side of the hoistway doors and/or walls at intervals as require by Code.

3. HANGER

a) Design

- i. Provide new hangers for hoistway doors of the heavy-duty sheave type, consisting of two (2) ball bearing sheaves not less than 3½ inches in diameter enclosed in steel housings.
- ii. All sheave wheels shall rotate in grease packed precision ball bearing.
- iii. Each hanger shall be equipped with two (2) ball bearing upthrust rollers not less than 1 inch in diameter with eccentric adjustment.

4. TRACK

a) Design

- i. Provide new tracks not less than 3½ inches in height, and shall be of high carbon cold rolled or drawn steel, shaped, and finished to permit free movement of sheaves.

5. INTERLOCK

a) Approved manufacturers

- i. GAL
- ii. Approved equal

b) Design

- i. Provide new, positive electro-mechanical interlock. Interlock release roller assembly will include one fixed roller attached to the door mounting plate and one moveable roller that activate the interlock release assembly.
- ii. Interlock shall prevent operation of elevator by normal operating devices, unless all hoistway doors are locked in the closed position. Interlock shall also prevent opening of hoistway doors from landing side, unless car is within that landing zone and is either stopping or stopped. Interlocks shall be unlockable from elevator car in case of power failure, only within the landing zone. Entrances with center-parting doors shall be provided with interlock keeper mounted to both fast door panels.

6. DOOR CLOSER

a) Design

- i. Install new mechanical closers to assure self-closing of all shaft doors, independently and irrespective of the position of the car.
- ii. Closers shall be the similar mounting as at present. Each hall door panel shall be equipped with a mechanical closer.

7. DOOR GIB

a) Design

- i. Provide each door panel with two new removable plastic composition guides, arranged to run in sill grooves with a minimum clearance. The guide mounting shall permit their replacement without removing the door from the hangers.

8. SAFETY RETAINER

a) Design

- i. Provide one new steel safety retainer (aka: "Z bar" or "fire gib") guide on the underside of all doors and securely fasten to the underside of the door with steel countersunk machine screws. Mount the safety retainer adjacent to and in between the removable guides. The safety retainer shall meet all local code requirements for size and location. Provide new safety retainer as described in ASME A17.1 on all openings.

4.10. COUNTERWEIGHT

1. WORK SCOPE: REFURBISH

- a) Refurbish the existing counterweight assembly to like new condition.
- b) Inspect individual counterweight frame members for damage and determine if the overall assembly is twisted, racked, or otherwise distorted. In case any of these conditions exist, the Contractor shall immediately inform the Consultant about the exact nature of the problem and undertake whatever corrective action the Consultant may deem appropriate to remedy the situation.
- c) Examine, tighten, and if necessary renew all fastenings between counterweight frame members. Adjust so the counterweight shall securely hold the filler weights in place with tie rods passing through holes in both the weights and the counterweight frame. Secure the tie rods on each end with double locknuts and a cotter pin.
- d) The Contractor shall suitably counterbalance the elevator for smooth and economical operation (See Section 1.5 for more details regarding the balance load test). Modify and adjust existing counterweight frame for proper counterbalance, it shall be equal to the dead weight of elevator car plus 40 – 42% of the rated capacity (or % required by hoist machine manufacturer). Contractor shall include up to 500 pounds of additional counterweight per elevator in their base bid, if necessary.
- e) The Contractor shall inform the Owner and the Elevator Consultant if the elevator addint the required amount of additional counterbalancing will cause any one of the following situations to occur:
 - i. The total loads imposed upon the sheave shaft will exceed the rated design criteria.
 - ii. The additional weight will cause the building reactions to change by more than 5%.
 - iii. The modified counterweight will cause change to the original design criteria.
 - iv. The modified counterweight or additional cab weight will not comply with applicable elevator or building codes including, but not limited to, ASME A17.1 and all local codes and ordinances.

4.11. COMPENSATION CHAIN

1. WORK SCOPE: REFURBISH

- a) Refurbish the existing vinyl encapsulated compensating chain.
- b) Confirm the compensating chain is attached according to the method recommended by the manufacturer, and adjust as necessary.

- c) Provide a guidance system designed to prevent cable sway in the elevator pit.

2. FAILURE DETECTION

- a) Install detection methods on the first connection of the compensating chain “S” hook to the platform.
- b) Electric switches shall monitor each compensating chain connection and shall stop the elevator immediately upon failure of one or more of the “S” hooks and the switches shall require manual reset.

4.12. HOISTWAY LIMITS

1. WORK SCOPE: NEW

- a) Traction Limit Design:
 - i. Non-contact type for normal and emergency terminal slowdown, normal terminal stopping, and access limits
 - A. Terminal stopping devices that are not mechanically operated shall be provided by the manufacturer of the control equipment, intended for use as a terminal limit, and designed for reliable operation in the hoistway environment.
 - ii. Mechanically operated with cam for final terminal stopping devices
 - A. Terminal stopping devices that are mechanically operated by cams shall be fitted with rollers having a rubber or other approved composition tread to provide practically silent operation when actuated by the cam
 - B. Pin final terminal limits to prevent movement after final adjustment
 - iii. Provide new terminal slowdown limits, normal, and final terminal stopping devices conforming to Code requirements. This shall include any additional limits for emergency terminal slowdown when using reduced stroke buffers. Arrange the new upper and lower terminal slowdown limits to stop the car automatically from any speed obtained under normal operation within the top clearance and bottom overtravel.
- b) C3, C4: Will require a second set of normals and finals at the top of the hoistway for access to the deflector sheave and running to the top of the hoistway. Provide extra keyswitch properly marked in top of car station for enabling the second set of limits when on inspection operation and allowing car to run past the first set of normals and finals.

4.13. TRAVELERS AND WIRING

1. WORK SCOPE: NEW

2. LAYOUT AND DESIGN OF HOISTWAY WIRING

- a) Provide new wiring in the hoistway, pit, and machine room adequate for the proper operation of the elevator. All material used and method of installation shall conform to the NFPA National Electrical Code and/or local Building Code.
- b) Conductors shall be copper. The minimum size of conductors, exclusive of those that form an integral part of control devices and/or cabinets, shall be a minimum no. 14 for lighting or power circuits and no. 18 for operating, control and signal circuits. Provide ten percent (10%) spare wires and not less than two (2) spare wires between the controller, selector, hatchway junction box, starter’s panel, and in each traveling cable. Properly tag or clearly and indelibly mark all spares.

- c) All wiring shall be labeled and identified at the terminal in the machine room, shaft box, elevator cab junction box, and push-button stations within the cab and shall agree with the submitted wiring diagrams.
- d) Install strain boxes no more than 80 feet apart.
- e) Remove all abandoned or unused electrical conduit from the hoistway, pit, and machine room.
- f) Flexible metal conduit may be used for short connections if it is not subject to moisture, oil, or embedment in concrete.
- g) Controller shall have connections made in a manner that minimizes transmission of vibration or noise to the building.
- h) Do not use threadless (compression) fittings with rigid galvanized steel conduit. Electrical connections to machinery shall allow for one foot of lateral motion.
- i) Existing wire raceway may be reused. Where additional wire raceway is required, it shall be zinc-coated rigid steel conduit, intermediate electrical conduit, electrical metallic tubing (EMT), or metal wireways and outlet boxes except for traveling cables.

3. DESIGN OF TRAVELING CABLES

- a) Provide new traveling cables designed for elevator service compliant with current elevator and electrical codes and shall be sufficiently flexible to readily adapt to all changes in the position of the elevator cab and hang straight without twist. The cables shall be capable of bending 360 degrees with an inside radius of one (1) foot without any permanent set and without cracking of the outer covering. The open loop shall show no tendency to twist upon itself. Traveling cables shall contain shielded wires for the intercommunication system and sufficient coaxial cable for a CCTV system.
- b) Terminate one end of the coaxial cable in the elevator pit, in a separately identified box, and dead end the other end of the coaxial cable on one of the top corners of the elevator cab. In addition, a duplex GFCI outlet shall be located on the top corner of the elevator cab dedicated for camera power only.
- c) Directly suspend traveling cables exceeding 100 feet in length from the steel supporting core cables to relieve the conductors from strain.
- d) Install beam pads as necessary to prevent chafing of traveling cables.

5. OUTSIDE HOISTWAY

5.1. ACCESS STATION

1. WORK SCOPE: NEW

- a) Install an approved key switch at the the locations indicated above to permit moving the elevator at inspection speed with the hoistway doors open at that particular landing only. The car will only travel a distance necessary for authorized persons to obtain access to the top of car or pit area.

2. APPLICABLE FLOORS

- a) Top and Bottom Landings (C3, C4: B and 12; C5: B and PH)

5.2. SIGNAGE AND ACCESSIBILITY

1. WORK SCOPE: NEW

2. SIGNAGE

- a) Provide a sign in the machine room stating the range of temperature and humidity as specified by the equipment manufacturer and as required by A17.1.
- b) Provide a sign in the elevator pit adjacent to the counterweight stating the maximum allowable counterweight runby as required by A17.1.
- c) Identify the designated medical emergency services elevator with 3” high international symbol at each elevator entrance on both side of the jamb (if required).
- d) Provide elevators with data and marking plates, labels, signage, and refuge space markings complying with A17.1 Elevator Safety Code as may be adopted and/or otherwise modified by the local or state municipal code (AHJ).

3. EQUIPMENT IDENTIFICATIONS

- a) Properly identify the following equipment with the car number assigned to it. Paint, engrave, or securely attach the number on:

Driving Machine	2”
Motor-Generator	2”
Controller	2”
Transformers	2”
Governors	2”
Buffers	2”
Main Disconnect	2”
Crosshead	2”
Car Operating Panel	$\frac{1}{2}$ ”
Main Egress	3”
Hoistway Doors	4” (shaft side)

6. PIT

6.1. PIT LADDER

1. WORK SCOPE: REFURBISH

- a) Refurbish the existing pit ladder to meet the following: (Rule 2.2.4.2):
 - i. Extend not less than 48 inches above the lowest landing sill height
 - ii. Ladder rungs, cleats, or steps shall be a minimum of 16 inches wide; if there are obstructions, the reduced width shall be not less than 9 inches.
 - iii. Rungs, cleats, or steps shall be spaced 12 inches on center
 - iv. With not less than 4.5 inches distance between the rungs and the wall (from the centerline of rung to the wall)
 - v. Side rails shall have a clear distance of not less than 4.5 inches from their centerline to the nearest permanent object

6.2. BUFFERS

1. WORK SCOPE: NEW

2. TYPE

- a) Oil
 - i. Furnish and install new car and counterweight oil buffers as manufactured by Hollister Whitney or approved equal. Clean and paint all supporting steel. Install all necessary buffer support steel, hardware, and inspection platforms as required by code.

6.3. PIT STOP SWITCHES

1. WORK SCOPE: NEW

- a) Provide new pit stop switches as per code requirements.

6.4. CAR FRAME

1. WORK SCOPE: REFURBISH

- a) Reuse and refurbish the existing car frame, completely clean, and secure loose sections
- b) Replace the existing rubber isolation pads

6.5. PLATFORM

1. WORK SCOPE: REFURBISH

- a) Refurbish existing platform
- b) Clean existing components completely and properly secure all loose sections
- c) Replace the existing rubber isolation pads
- d) Properly align and square the existing car platform to the existing hall sills to provide equal running clearance at all floors

- e) Provide a NEW code-compliant platform or toe guard at each car entrance opening to extend below the car opening for safety.

6.6. SAFETY

1. WORK SCOPE: REFURBISH

- a) Refurbish, overhaul, and upgrade the existing governor actuated car safety device for current code compliance.
- b) Readjust safety for proper operation in accordance with current ASME A17.1 design standards.
- c) Readjust the existing safety operated switch (plank-switch) for proper adjustment and operation.
- d) Provide a new plank-switch where none currently exists.

2. TYPE

- a) B - Flexible Guide

7. GENERAL TRADE WORK

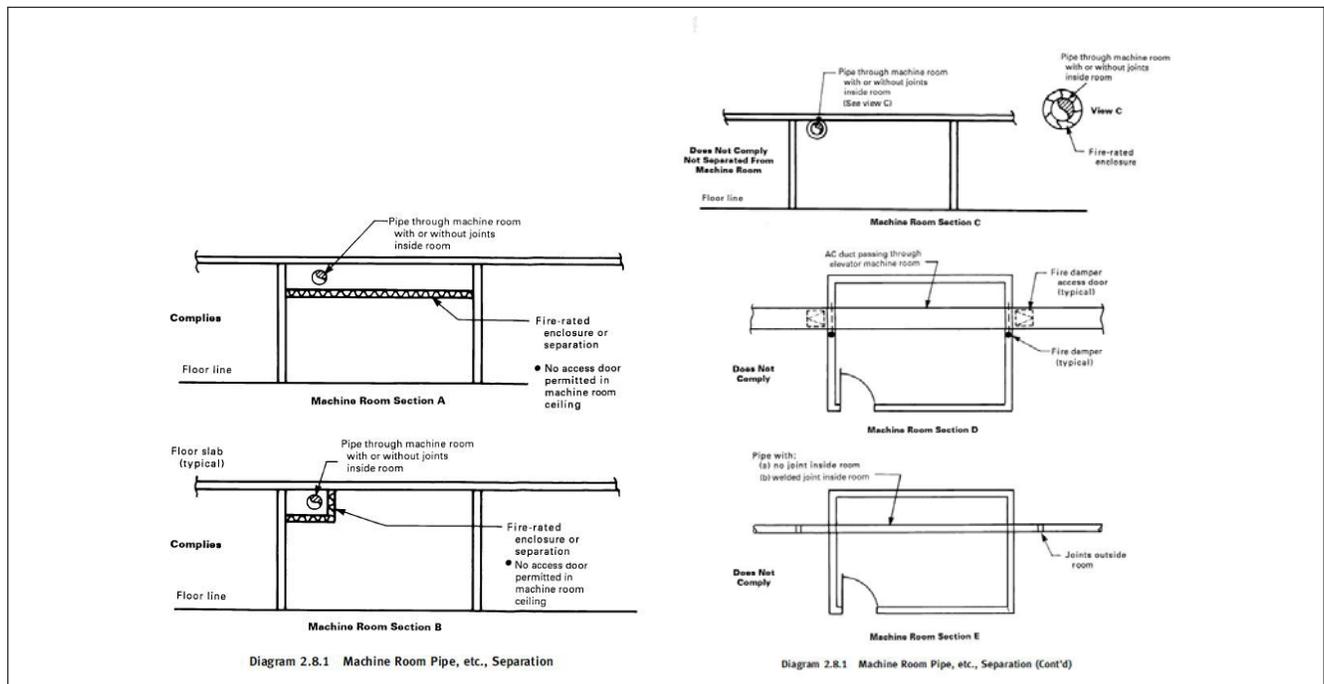
7.1. RESPONSIBILITY

1. The Elevator Contractor shall be responsible for all the work listed in this section, functioning as the General Contractor. If the Elevator Contractor is unable to perform any of the listed work then they shall use a licensed professional sub-contractor for that work. The cost for the sub-contractors shall be included and part of the bid submission price by the Elevator Contractor. (This is a **TURN-KEY** project)

7.2. ARCHITECTURAL WORK

1. **ACCESS DOORS.** Reuse the existing access door to the machine room for the elevators conforming to the appropriate Codes. Access doors to these areas shall be:
 - a) Self-closing and self-locking with spring-type lock to permit opening the door from the inside without a key.
 - b) Fire rating of 1-1/2 hours
 - c) Minimum size:
 - i. Machine room: 29.5 inches wide by 80 inches height
 - ii. Other spaces: 29.5 inches width and height

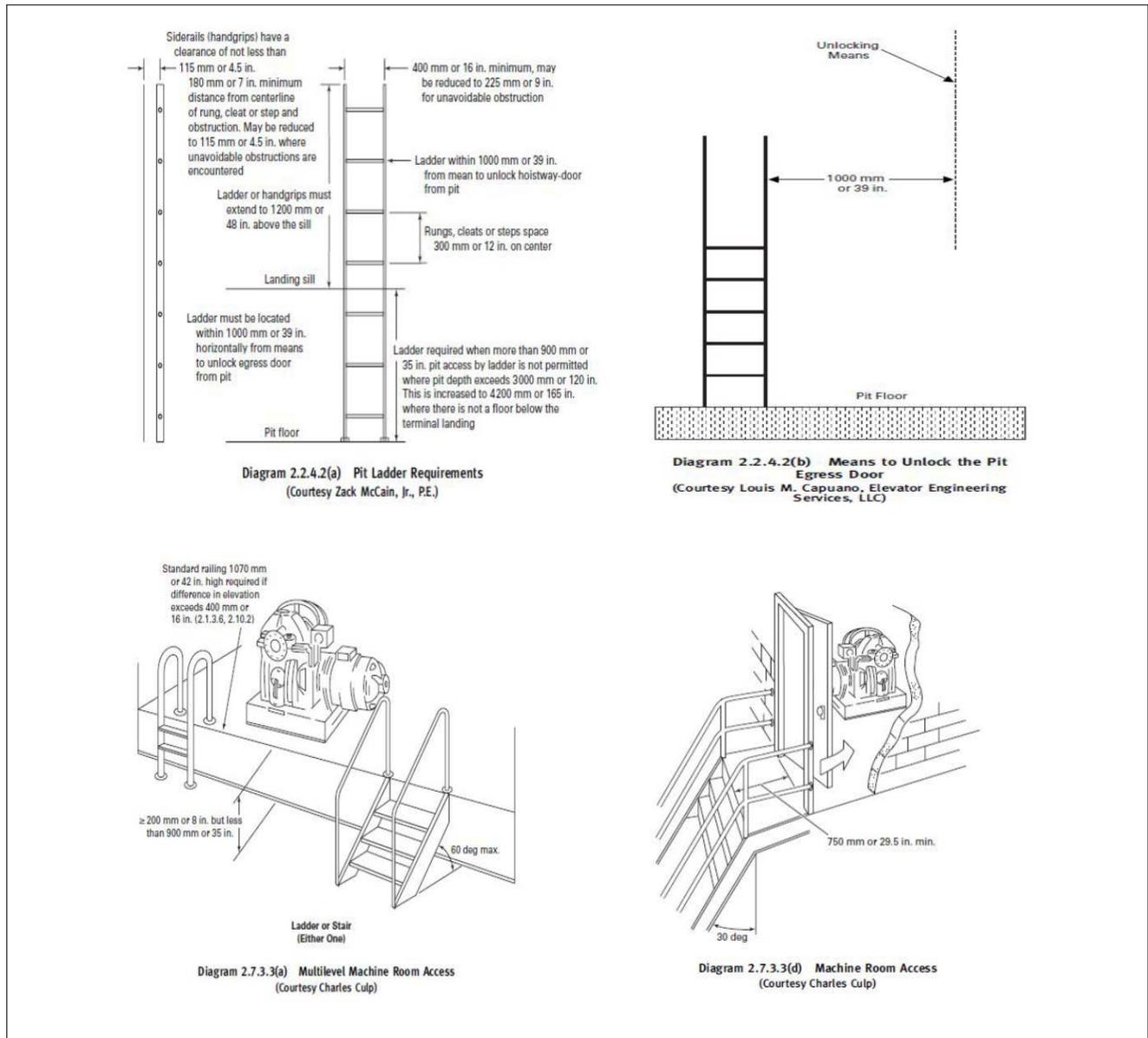
2. **NON-ELEVATOR ITEMS.** All non-elevator oriented conduit, ducts, drains, etc. not used in connection with the operation of the elevator system are not allowed to be located in or pass through the machine room, hoistway or pits. If enclosures are used they require a two-hour fire rating. Provide drip pans and drains to prevent water from accumulating on top of elevator equipment from existing pipes in machine rooms or machinery spaces that cannot be boxed in or relocated. (See diagram below for further details)



3. BEVELS. Inside the hoistway, unavoidable projections, recesses, and/or setbacks in excess of 4” (2” in NYC) MUST be beveled at an angle not less than 75 degrees with horizontal or covered/screened with wire material with a minimum thickness of 0.0437” (1.11mm) with openings less than 1” (25mm) and is supported so that it will not deflect more than 1” (25mm) when 100 pound force is applied horizontally at any point.

7.3. STEEL/STRUCTURAL/CONCRETE WORK

1. ACCESS. The following areas of the elevator will require proper code compliant access.
 - a) PIT (*Rule 2.2.4*). Furnish and install access ladders (aka pit ladders) and/or inspection platforms in the elevator pit. (*See diagram below for further details*) The elevator code requires that there shall be installed in the pit of each elevator, where the pit extends more than 35 inches (900 mm) below the sill of the pit access door, a fixed vertical ladder of noncombustible material, located within reach of the access door:
 - i. The ladder shall extend not less than 48 inches (1200 mm) above the sill of the access door.
 - ii. The rungs, cleats, or steps shall be a MINIMUM of 16 inches (400 mm) wide on 12 inch (305 mm) centers.
 - iii. Rungs shall have a MINIMUM of 4-1/2 inches (115 mm) from center of rung to the wall or obstruction.



2. CONCRETE. Furnish and install machine room slab, concrete slabs, elevator pit, supports for buffers, and sill recesses.

7.4. HVAC SYSTEM WORK

1. MACHINE ROOM. Provide adequate ventilation for elevator machine room, including a means to maintain the temperature range between 55° and 95°F with relative humidity not exceeding 95% non-condensing (air conditioning equipment shall not be located above any elevator equipment). The temperature and humidity range shall be permanently posted in the machine room. (NYC specific: for hydraulic elevator machine rooms, provide ventilation directly to the outside air naturally or mechanically, in accordance Appendix K of NYC Building Code.)

a) WORK SCOPE: REFURBISH

- i. Air Conditioning

ii. Thermostatically Controlled Mechanical Ventilation

2. HOISTWAY. Typical elevator hoistway ventilation requirements are that hoistway ventilation be connected to outer air (Minimum of 3.0 Sq. Ft free area or 3-1/2 percent of the area of each hoistway whichever is greater) not less than 1/3 permanently open and the balance automatically opened by a damper.

a) WORK SCOPE: REFURBISH

b) VENTILATION DESIGN

i. Powered Louver

c) NEW JERSEY REQUIREMENTS. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire. New Jersey will allow the following hoistway ventilation: (Chapter 30 - Section 3004 Hoistway Venting)

Exceptions: *In occupancies of other than Groups R-1, R-2, I-1, I-2 and similar occupancies with overnight sleeping units, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2*

- *Sidewalk elevator hoistways are not required to be vented.*
- *Elevators contained within and serving open parking garages only.*
- *Elevators within individual residential dwelling units.*

i. LOCATION OF VENTS. Vents shall be located at the top the hoistway and shall open either directly to the outer air or through noncombustible ducts to the outer air. Noncombustible ducts shall be permitted to pass through the elevator machine room, provided that portions of the ducts located outside the hoistway or machine room are enclosed by construction having not less than the fire-resistance rating required for the hoistway. Holes in the machine room floors for the passage of ropes, cables or other moving elevator equipment shall be limited as not to provide greater than 2 inches (51 mm) of clearance on all sides.

ii. AREA OF VENTS. Except as provided for in Section 3004.3.1, the area of the vents shall not be less than 3-1/2 percent of the area of the hoistway nor less than 3 square feet (0.28 m²) for each elevator car, and not less than 3-1/2 percent nor less than 0.5 square feet (0.047 m²) for each dumbwaiter car in the hoistway, whichever is greater. Of the total required vent area, not less than one-third shall be permanently open. Closed portions of the required vent area shall consist of openings glazed with plain glass not greater than 1/8 inch (3.2 mm) in thickness.

Exception: *The total required vent area shall not be required to be permanently open where all the vent openings automatically open upon detection of smoke in the elevator lobbies or hoistway, upon power failure and upon activation of a manual override control. The manual override control shall be capable of opening and closing the vents and shall be located in an approved location.*

iii. REDUCED VENT AREA. Where mechanical ventilation conforming to the International Mechanical Code is provided, a reduction in the required vent area is allowed provided that all of the following conditions are met:

- A. The occupancy is not in Group R-1, R-2, I-1 or I-2 or of a similar occupancy with overnight sleeping quarters.
- B. The vents required by Section 3004.2 do not have outside exposure.

- C. The hoistway does not extend to the top of the building.
- D. The hoistway and machine room exhaust fan is automatically reactivated by thermostatic means.
- E. Equivalent venting of the hoistway is accomplished.

7.5. ELECTRICAL SYSTEM WORK

1. A licensed electrician shall furnish and install the required electrical power and disconnecting means to the various elevator systems. The electrician shall review the existing electrical equipment and upgrade to current code the grounding, electrical feed, and distribution in the elevator machine room, if necessary. (NFPA 70 Rules 620.22-25, 51, 52, 53, 55)
2. MAINLINE POWER. Means for disconnecting the main power supply for each elevator shall be located in the machine room. The disconnecting means shall be fully enclosed, externally operated, fused motor circuit switch or circuit breaker capable of being locked in the "off" ("open") position. Provide proper grounding in accordance with electric code. Include all shunt-trip provisions if required. This shall include providing the electrical conduit, power feeders and grounding conductors between the load side of the main line disconnect switches and elevator control equipment.
 - a) WORK SCOPE: NEW
 - b) DESIGN - Shall be fully enclosed, externally operated, and capable of being locked in the "off" ("open") position. Any one of the following:
 - i. Circuit Breaker
 - ii. Heavy-Duty Disconnect
 - iii. Sub-Distribution Panel Disconnect
 - c) LABELING - Shall include:
 - i. Elevator Number
 - ii. Source
 - d) LOCATION - Readily accessible to qualified persons. (Ideally on the lock jamb side of the door)
3. CAR LIGHTING. A separate 120 volt, 15 amp single phase power supply (on emergency power circuit if available) and disconnecting means for each elevator located inside the machine room to operate lighting fixtures and exhaust fan units inside the elevator car.
 - a) WORK SCOPE: NEW
 - b) DESIGN - Shall be fully enclosed, externally operated, and capable of being locked in the "off" ("open") position. Any one of the following:
 - i. Circuit Breaker
 - ii. Heavy-Duty Disconnect
 - c) LABELING - Shall include:
 - i. Elevator Number
 - ii. Source
 - iii. *CAR LIGHTS*

d) LOCATION - Readily accessible to qualified persons. (Ideally on the lock jamb side of the door)

4. LIGHTING AND RECEPTACLES. Furnish and install the following items meeting code requirements. The permanent lighting fixtures shall include protective guards and the duplex receptacles shall be GFCI type in all the following areas **EXCEPT** provide a simplex receptacle (non-GFCI) on a dedicated circuit for sump pump connection in the pit.:

a) MACHINE ROOM. 120 volt, 15 amp single phase power supply. Illumination shall be no less than 19 foot candles (200 lx) at floor level. A light control switch must be provided immediately adjacent to the entrance door on the lock-jamb side of the access door.

i. Work Scope: Refurbish

ii. Additional Duplex Receptacles (*where applicable*)

A. Each intercom or other intercommunications systems

b) PIT. 120 volt, 15 amp single phase power supply. Illumination shall be no less than 10 foot candles (100 lx) at the pit floor and at a pit platform if provided. The light control switch shall be provided and positioned as to be readily accessible from the pit entrance door or access ladder as directed by Elevator Contractor.

i. Work Scope: Refurbish

c) HOISTWAY ENTRANCES (*Rule 2.11.10.2*). Permanent lighting with a MINIMUM illumination of 10 foot candles (100 lx) measured at the landing sill with elevator door closed.

5. WIRING REQUIREMENTS

a) All wiring in elevator machine room/space or control room/space must be in conduit, including phone wires.

b) All electrical equipment located less than 4 feet (1219 mm) above the pit floor shall be weatherproof (NEMA 4).

i. **Exception** - Earthquake protective devices conforming to the requirements of ASME A17.1 Rule 8.4.10.1.1

c) Provide pipe and wiring for any remote conduits from machine rooms/spaces or control rooms/spaces to any location for items such as Fire Alarm Systems, Emergency Power Systems, Communication or PA Systems or Remote Control of any type.

7.6. EMERGENCY POWER WORK

1. INTERCONNECTIONS. Furnish and install all necessary pipe and wiring to properly interconnect the emergency generator and ATS signals to the elevator system. Contacts shall be wired to an electrical junction box located inside each machine room for connection to the elevator control equipment by the elevator contractor. The disconnecting means shall disconnect the elevator from both the emergency (standby power) and the normal power system. The typical signals required are:

a) {ON EMERGENCY POWER} One set of normally closed, dry electrical contact (no voltage present) subject to activation following transfer to the building emergency power supply when applicable.

b) {PRE-TRANSFER} One set of normally closed, dry electrical contact (no voltage present) to signal the elevator system that the power source will transfer between emergency and normal power sources. A 30 second MINIMUM time delay is required before power transfer occurs. This delay is required

during elevator or emergency power testing, and prevents both the "normal power" and "generator" power from occurring at the same time; it also allows any elevators in motion to stop at the nearest landing prior to transfer taking place. (It may be provided as an adjustable time delay at the automatic transfer switch.)

2. **REQUIREMENTS.** Emergency generator or emergency power system shall meet the following requirements:

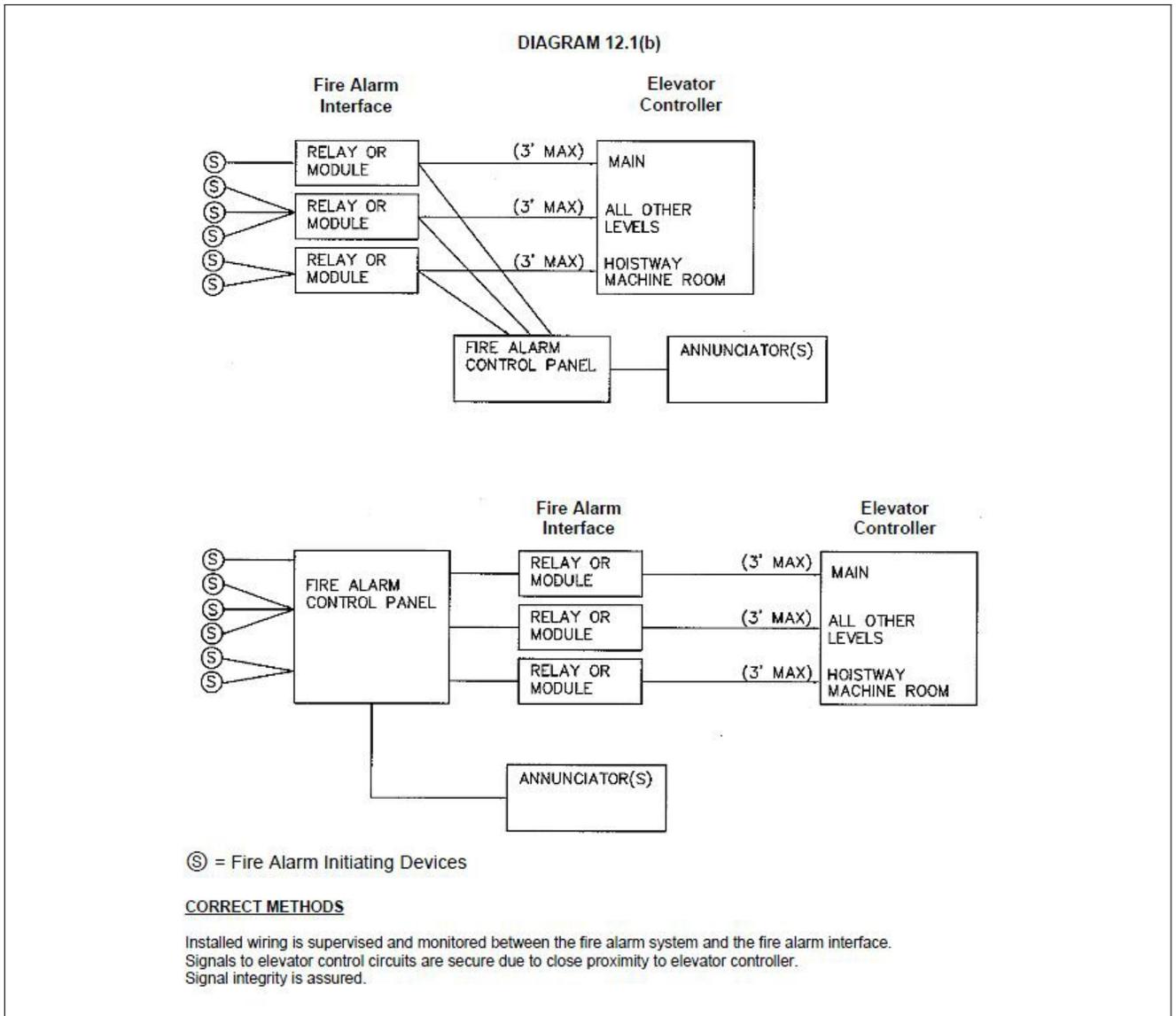
- a) If the elevator is to run on emergency power – it must be tested on emergency power.
- b) Machine room/space or control room/space lights, HVAC for elevator, elevator car lights, and pit lights must also be on emergency power.
- c) The standby (emergency) power system must be capable of absorbing the regenerative power from the elevators, in compliance with NFPA 70 Article 620, to prevent overspeed during regeneration.

7.7. SECURITY CAMERA

1. Closed Circuit TV (CCTV) camera in each elevator cab enclosure and conduit and wiring with final connections to the building security systems where applicable. The elevator contractor shall provide wiring from the security camera in the cab to a separate box located in elevator machine room.

7.8. FIRE ALARM SYSTEM WORK

1. Provide a code-approved (ABC type) fire extinguisher with current inspection tag in each machine room.
2. **INTERCONNECTIONS.** Furnish and install the necessary interconnections from the fire alarm system for each elevator. Fire system wiring shall be terminated in the machine room of each elevator and the contacts wired to an electrical junction box located inside each elevator machine room for final connection to the elevator control systems by the elevator contractor. Each wire shall be clearly labeled with its control function. See diagram below for an example of the proper method for fire alarm interface connections to elevator controller/group.



3. **COMMERCIAL BUILDING.** A building that is classified as a commercial building will require interfacing with a fire alarm system. The fire alarm system in the building will dictate the extent of the work required. If the fire alarm system is existing then the panels may allow program changes and additions while others have little or no space available and require adjustments or additions to provide the necessary fire alarm signals.

a) Fire alarm system details:

- i. Manufacturer -
- A. Model -
- B. Service company - ; telephone: ; FAX:

b) Required interface signals between elevator and fire alarm system:

- i. {OTHER ELEVATOR LOBBIES} Fire alarm signal recalling the elevator or elevator group to the designated level in response to activation of smoke detectors or similar at any elevator lobby served by the elevators other than the designated level.

- ii. {MAIN ELEVATOR LOBBY} Fire alarm signal recalling the elevator or elevator group to the alternate level in response to activation of smoke detectors or similar located at the designated level elevator lobby.
 - iii. {MACHINE ROOM} Fire alarm signal recalling the elevator or elevator group to the designated level in response to activation of smoke detectors or similar located in any elevator machine room except where the machine room is located at the designated level.
 - iv. {MACHINE ROOM AT EGRESS LANDING} Fire alarm signal recalling the elevator or elevator group to the alternate level in response to activation of smoke detectors or similar located in any elevator machine room if the machine room is located at the designated level.
 - v. {HOISTWAY} Fire alarm signal recalling the elevator or elevator group to the designated level in response to activation of smoke detectors or similar located in any elevator hoistway above the lowest recall level.
 - vi. {HOISTWAY AT OR BELOW EGRESS LANDING} Fire alarm signal recalling the elevator or elevator group to the alternate level in response to activation of smoke detectors or similar located in any elevator hoistway at or below the lowest recall level.
4. **SPRINKLERS.** Sprinkler and fire protective systems provided inside any given elevator hoistway, machine room, or associated machinery space shall be equipped with some means to disconnect the main line power supply from the affected elevator prior to activation. This means of disconnect shall be manually reset only. Fire alarm signal to disconnect power to shunt-trip breakers prior to water flowing to sprinkler located in elevator machine room, hoistway, or pit in response to fire alarm or heat detector in machine room.
- a) Install, pipe, and wire additional heat or smoke detectors and any adjustments of existing smoke detectors in each elevator machine room for installation of shunt-trip breaker on main elevator power due to existing sprinkler in machine room.
 - b) If sprinkler heads are located elevator hoistway, machine room, machine space, or pit there must be a heat sensor a maximum of 24” (610mm) of each head or a dedicated sprinkler flow switch to activate shunt trip breaker to remove power from elevator prior to the application of water. ¹
 - c) (*Rule 2.8.3*) If any sprinkler heads are located in the elevator pit, the sprinkler heads must be side spray type, guarded and within 24” of pit floor.
 - d) Sprinkler lines, risers, and returns **MAY NOT** be run inside of the elevator hoistway.
 - e) Fire alarm service company shall provide necessary technicians to properly interface new connections between the fire alarm panel and the new elevator controllers this shall include any reprogramming of the fire alarm system. The fire alarm service company shall run all the necessary wires. The elevator contractor shall terminate the wires in the new elevator controllers. The interface connections shall be made by both the fire alarm service company and elevator contractor present. During the acceptance testing of each elevator the Fire Alarm service company shall provide necessary technicians to operate the fire alarm panel and initiate each smoke head incorporated into the elevator system.

7.9. TELECOMMUNICATIONS WORK

- 1. Provide telephone lines for an in-cab intercomm system for two-way communication between the elevator car and the Central Security Station and terminate the wiring in the machine room.

¹NFPA 72 (Rule 6.15.4.4): Control circuits to shut down elevator power shall be monitored for presence of operating voltage. Loss of voltage to the control circuit for the disconnecting means shall cause a supervisory signal to be indicated at the control unit and required remote annunciators.

- a) Telephone communication wiring terminating in a junction box located in the elevator machine room adjacent to elevator control and remote panels.
 - i. Provide a dedicated outside telephone line per group of elevators as a minimum, in the machine room if elevators are remotely monitored by elevator company.
- b) Where needed as separate from typical elevator communications, furnish firemen's telephone communication wiring terminating in a junction box located in the elevator machine room.

7.10. WEATHER/WATERPROOFING WORK

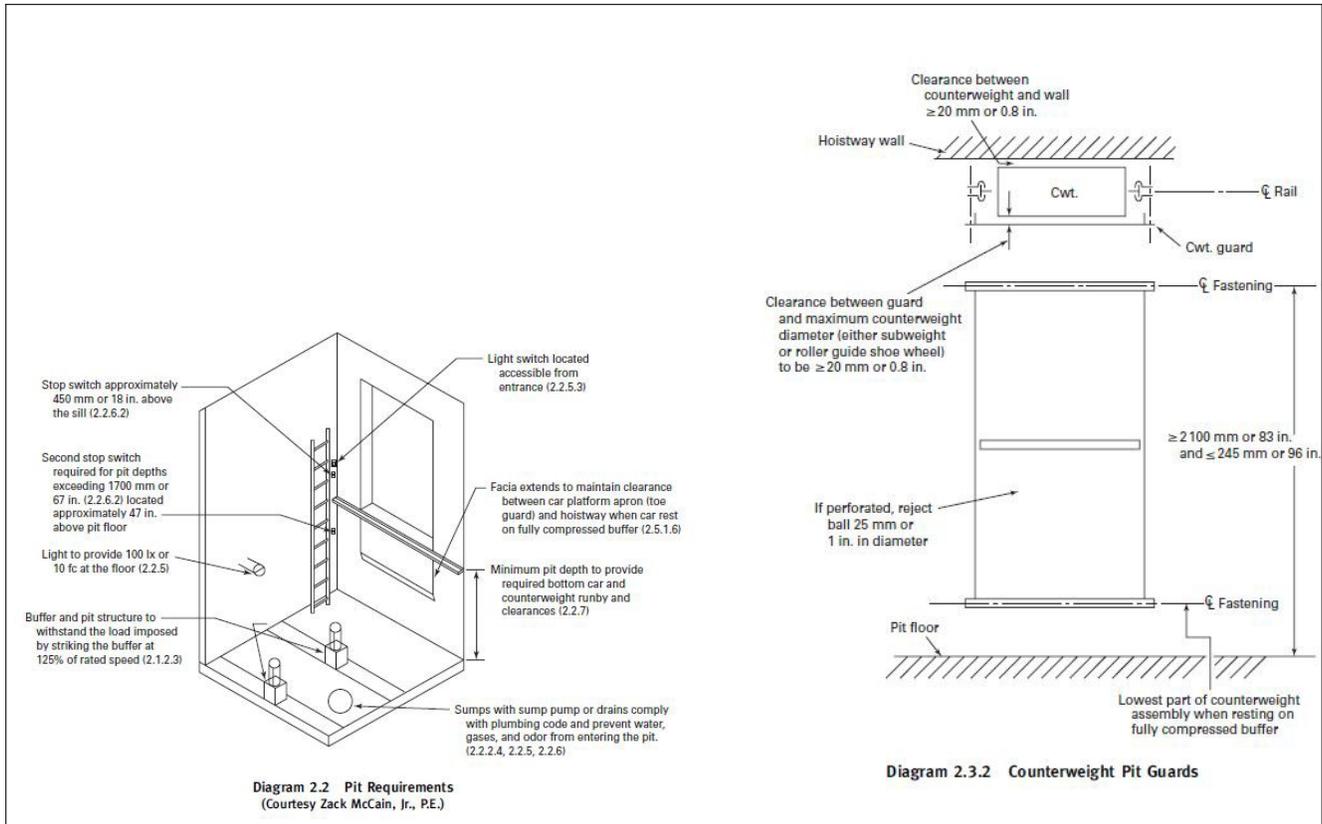
1. Hoistway overhead weatherproofing, as necessary.
2. Waterproofing for elevator pits, as necessary after setting all pit supporting steel and rail inserts.

7.11. SIGNAGE

1. Where applicable, provide each walk-in pit entrance door with a sign reading "danger elevator pit" or the equivalent thereof.
2. NOT APPLICABLE
3. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: "IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS". The emergency sign shall not be required for elevators that are part of an accessible means of egress complying section 1007.4

7.12. HAZARDOUS MATERIALS

1. Hazardous materials may be present in the areas affected by the elevator work; if materials suspected of containing hazardous materials are encountered, do not disturb and immediately notify the Owner.



NOTE – THIS INFORMATION IS PROVIDED AS A GENERAL GUIDELINE ONLY REGARDING COORDINATION ITEMS FOR REQUIRED NON-ELEVATOR WORK IN CONJUNCTION WITH ELEVATOR PROJECTS. PLEASE COORDINATE WITH ELEVATOR CONTRACTOR FOR FURTHER CLARIFICATION, AS SPECIFIC TO YOUR RESPECTIVE PROJECT.

END OF SECTION 142123

SECTION 323113 - HIGH-SECURITY CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. High-security chain-link fences and accessories.
- B. Related Sections:
 - 1. Division 26 Section "Lightning Protection" for coordination of fence and lightning protection installations.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated-Design Submittal: For chain-link fences and gate framework indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- B. Structural Performance: Chain-link fences and gate framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7:
 - 1. Minimum Post Size: Determine according to ASTM F 1043 for framework up to 12 feet high, and post spacing not to exceed 10 feet for Material Group IA, ASTM F 1043, Schedule 40 steel pipe.
 - 2. Minimum Post Size and Maximum Spacing: Provide line posts of size and in spacing indicated, but not less than sizes and spacing determined according to ASTM F 1916, including Appendix based on mesh size and pattern specified and the following:
 - a. Exposure Category: B.
 - b. Fence Height: Refer to drawings.
 - c. Material Group: IA, ASTM F 1043, Schedule 40 steel pipe.
 - 3. Fabric Tension: Provide fences in which fabric deflections do not exceed those indicated in Table X1.1 of ASTM F 1916 when tested by applying a 30-lbf. force at midpoint between rails and horizontally between posts for every eighth lower panel along the fence line.
 - 4. Fence Post Rigidity: Provide fences in which post deflections do not exceed 3/4 inch when tested according to ASTM F 1916 by applying a 50-lbf. force at mid-height of every eighth post along the fence line.
- C. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences.
 - 1. Fence and gate posts, rails, and fittings.
 - 2. Chain-link fabric, reinforcements, and attachments.
 - 3. Accessories: Barbed wire.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.

1.5 QUALITY ASSURANCE

- A. Grounding Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

- A. Chain-Link Fence Fabric: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage. Comply with CLFMI Product Manual and with requirements indicated below:
 - 1. Fabric Height: As indicated on Drawings.
 - a. Steel Wire Fabric: Wire with a diameter of 0.148 inch (9 gauge).
 - 1) Mesh Size: 2 inches.
 - 2. Aluminum-Coated Fabric: ASTM A 491, Type I, 0.40 oz./sq. ft..
 - 3. Selvage: Twisted and barbed top and bottom.

2.2 SECURITY FENCE FRAMING

- A. Posts and Rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts.
 - 1. Fence Height: As indicated on Drawings.
 - 2. Rail Members: Intermediate and brace rails complying with ASTM F 1043 for Heavy Industrial.
 - 3. Metallic Coating for Steel Framing:
 - a. Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123 or 4.0-oz./sq. ft. zinc coating per ASTM A 653.

2.3 TENSION WIRE

- A. Metallic-Coated Steel Wire: 0.177-inch-diameter, marcelled tension wire complying with ASTM A 817 and ASTM A 824, with the following metallic coating:
 - 1. Type I, aluminum coated (aluminized).

2.4 FITTINGS

- A. General: Comply with ASTM F 626.
- B. Tie Wires, Clips, and Fasteners: Comply with ASTM F 626 and ASTM F 1916.
 - 1. High-Security Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
 - a. Metallic-Coated Steel: 0.148-inch-diameter wire; zinc coating.
- C. Power-Driven Fabric Fasteners: Comply with ASTM F 1916.
- D. Finish:
 - 1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz. /sq. ft. of zinc.

2.5 BARBED WIRE

- A. Steel Barbed Wire: Comply with ASTM A 121, High Security Grade, for two-strand barbed wire; 0.099-inch-diameter line wire with 0.080-inch-diameter, four-point round barbs spaced not more than 3 inches o.c.
 - 1. Aluminum Coating: Type A.
- B. Provide three layers as shown on Drawings

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, roofing work, and other conditions affecting performance of the Work.
 - 1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

- A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.
 - 1. Install fencing on established boundary lines inside property line.

3.4 CHAIN-LINK FENCE INSTALLATION

- A. Post Setting: Set posts with mechanical anchors at indicated spacing into wall.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
- B. Terminal Posts: Locate and install terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more, at any abrupt change in grade, and at intervals not greater than 500 feet. For runs exceeding 500 feet, space pull posts an equal distance between corner or end posts.
- C. Line Posts: Space line posts uniformly at 96 inches o.c.
- D. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.
 - 1. Locate horizontal braces at mid-height of fabric on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.
- E. Barbed Wire Arms: Bolt or rivet to top of post. Angle single arms away from approach side of fence.
- F. Tension Wire: Install according to ASTM F 567 and ASTM F 1916, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch-diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
 - 1. Extended along top and bottom of fence fabric. Install top tension wire through post cap loops. Install bottom tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.
- G. Chain-Link Fabric: Apply fabric on the approach side of fence, inside of enclosing framework. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
 - 1. Leave 1-1/2 inches between finish grade or surface and bottom selvage unless otherwise indicated.
 - 2. Overlapping Fabric: At or between post or rail according to ASTM F 1916, with wire ties or steel strap method.
- H. Tie Wires: Power-fastened or manually fastened ties configured to wrap a full 360 degrees around rail or post and a minimum of one complete diamond of fabric. Twist ends one and one-half machine twists or three full manual twists, and cut off protruding ends to preclude untwisting by hand.
 - 1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.
- I. Power-Driven Fasteners: Fasten 0.192- or 0.148-inch wire fabric with 2- or 1-inch mesh size.

1. Fasten fabric to line posts 12 inches o.c. and to braces 24 inches o.c.

J. Fasteners: Install nuts for tension bands and carriage bolts on the side of fence opposite the fabric side.

K. Barbed Wire: Install barbed wire uniformly spaced as indicated on Drawings. Pull wire taut, install securely to extension arms, and secure to end post or terminal arms.

3.5 GROUNDING AND BONDING

A. Fence Grounding: Install at maximum intervals of 100 feet except as follows:

1. Gates and Other Fence Openings: Ground fence on each side of opening.

a. Bond metal gates to gate posts.

b. Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches below finished grade.

B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 150 feet on each side of crossing.

C. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location, including the following:

1. Make grounding connections to each barbed wire strand with wire-to-wire connectors designed for this purpose.

2. Make grounding connections to each barbed tape coil with connectors designed for this purpose.

D. Connections: Make connections to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.

2. Make connections with clean, bare metal at points of contact.

3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.

4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.

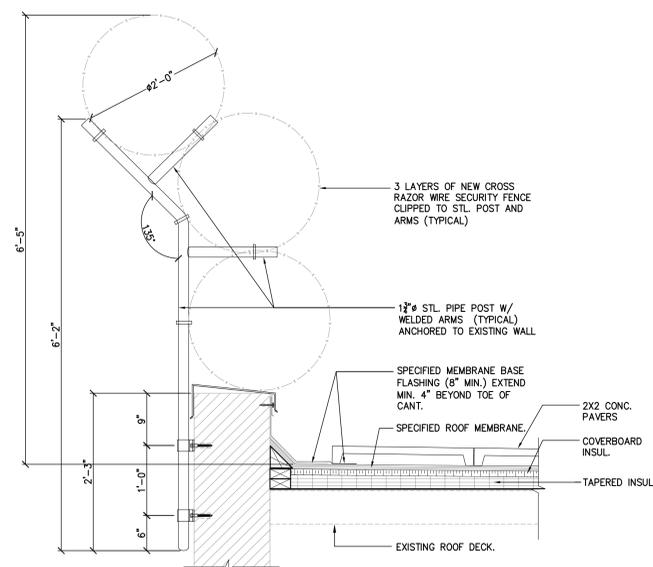
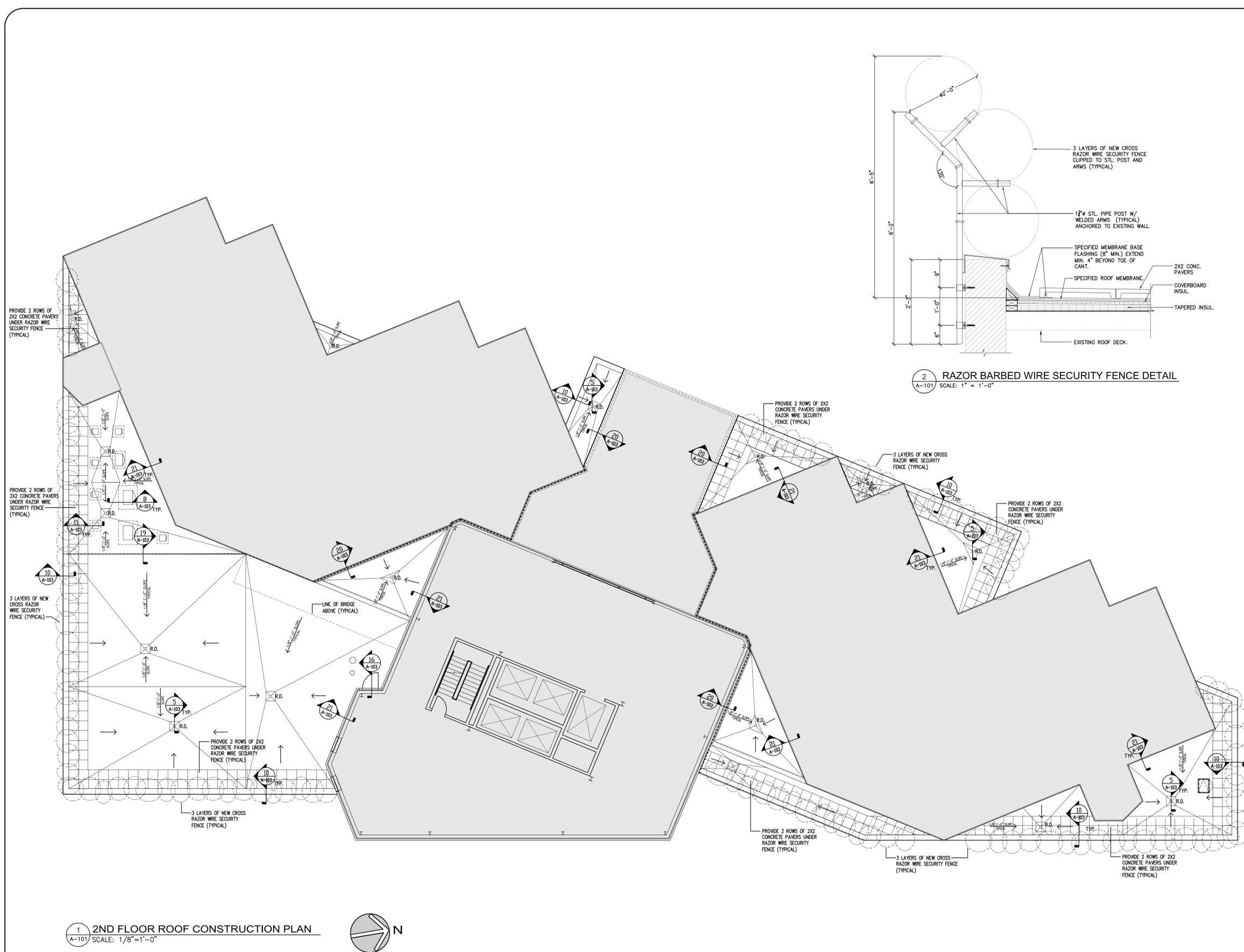
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

E. Bonding to Lightning Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor complying with NFPA 780.

3.6 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

END OF SECTION 323113



2 RAZOR BARBED WIRE SECURITY FENCE DETAIL
A-101 SCALE: 1" = 1'-0"

SCOPE OF WORK NOTES

- ROOFING SYSTEM-TYPICAL:**
- PROVIDE FIRE RETARDANT WOOD BLOCKING AT PERIMETER EDGE AND OTHER CONDITIONS AS INDICATED/REQUIRED.
 - PROVIDE 3 1/2" CONSTANT THICKNESS POLYISOCYANURATE BASE LAYER INSULATION OVER DECK, MECHANICALLY FASTENED PER FM80. PROVIDE 1 FASTENER EVERY 2 SF. - NOTE: FASTENER MUST BE PRE-TESTED, PULL TEST REPORTS REQUIRED.
 - PROVIDE 1/8" PER FOOT SLOPED TAPER INSULATION OVER BASE LAYERS.
 - PROVIDE 1/4" PER FOOT SLOPED CRICKETS, AS INDICATED ON DRAWINGS.
 - PROVIDE 1/2" THICK HIGH DENSITY POLYISOCYANURATE-RECOVERY BOARD A/C FOAM OVER TAPERED INSULATION.
 - PROVIDE (2) PILES OF INTERPLY BASE PLY SHEETS OVER THE RECOVERY BOARD.
 - PROVIDE SPECIFIED CAP SHEET OVER BASE PLY SHEETS.
 - PROVIDE AT ALL VERTICAL LOCATIONS 3" FIRE RATED PLYWOOD AS SUBSTRATE TO RECEIVE ELVALOY FLASHING MEMBRANE. SECURE PLYWOOD TO SUBSTRATE WITH APPROVED FASTENERS.
 - PROVIDE PRE-MANUFACTURED ROOF EDGE FASCIA, AND COPING AS INDICATED ON DWG'S.
 - PROVIDE METAL COUNTER FLASHING, AND ALL MISCELLANEOUS ITEMS & ACCESSORIES, AS REQUIRED.
 - PROVIDE CLAMPING RING & STRAINER AT ALL EXISTING ROOF DRAIN LOCATIONS.
 - INSTALL GASKETED FASTENERS AROUND ALL COUNTER FLASHING. FASTENERS TO BE INSTALLED 6" O.C. IN THE AREA WITH BUTYL TAPE.
 - PROVIDE COLD PROCESS ROOFING SYSTEM AS PER BASIS OF DESIGN.
 - PROVIDE 2'X2' ROOF CONCRETE PAVERS AS INDICATED IN ROOF PLANS.

GENERAL REQUIREMENTS

- A.C. CONDENSER UNITS TO BE DISCONNECTED AND REINSTALLED AS REQUIRED TO FACILITATE THE WORK.
- ALL EXISTING ROOF DRAINS, VENT STACKS, MECHANICAL EQUIPMENT, ETC. (WHETHER OR NOT INDICATED ON THE DRAWINGS) ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TEMPORARILY REMOVE AND REINSTALL ANY AND ALL EXISTING ITEMS AS NECESSARY TO FACILITATE THE WORK.
- ANY AND ALL ELECTRICAL ITEMS (LIGHTS, JUNCTION BOXES, CONDUITS) SHALL BE REMOVED AND REINSTALLED IN ACCORDANCE WITH ELECTRICAL CODES, AS REQUIRED TO FACILITATE THE WORK.
- THE CONTRACTOR IS REQUIRED TO MEET ALL OF THE "BEST PRACTICE" REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS, MATERIALS AND/OR SYSTEMS INCORPORATED IN THIS PROJECT. WHERE A SPECIFIC REQUIREMENT OF THE ARCHITECT IS IN VARIANCE TO A REQUIREMENT OF THE MANUFACTURER, THE GREATER QUANTITY OR QUALITY OF THE WORK SHALL BE PROVIDED.
- ALL PLUMBING VENTS THROUGH ROOF ARE NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO FLASH AS INDICATED IN DETAILS.
- AT ALL INTERIOR ROOF DRAINS "SNAKE-OUT" OR OTHERWISE CLEAN OUT DRAIN PIPING AS REQUIRED TO ENSURE PROPER OPERATION OF ALL DRAINS AT THE CONCLUSION OF THE PROJECT.
- PROVIDE FLASHING AT ALL EXISTING CURB MOUNTED MECHANICAL EQUIPMENT, AND OTHER PENETRATIONS AS THEY OCCUR ON THE ROOF. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INCREASE OR REBUILD ANY CURB THAT IS EITHER DETERIORATED, DAMAGED, OR MUST BE RAISED TO PROPERLY FACILITATE INSULATION AND ROOFING AS REQUIRED.
- ALL WOOD CURBS, BLOCKING, ETC. SHALL BE A MIN. OF 9" HIGH FIRE RATED WOOD.
- AT ANY CASE WHERE THE TOP SURFACE OF THE INSULATION AND ROOF SYSTEM IS LESS THAN 8" MIN. BELOW THE BOTTOM OF EXISTING METAL COUNTERFLASHING, THE EXISTING COUNTERFLASHING SHALL BE REMOVED AND REPLACED WITH A SURFACE APPLIED REGLET/COUNTERFLASHING SYSTEM. DO NOT COVER OR BLOCK MASONRY WEEP HOLES.
- THE LOCATION OF MECHANICAL UNITS & CURBS ARE APPROXIMATE, IF A MECHANICAL UNIT FALLS IN A VALLEY, CONTRACTOR IS TO CRICKET WATER FLOW AROUND THE UNIT.
- THE GC WILL BE RESPONSIBLE TO REMOVE THE EXISTING LIGHTNING PROTECTION TO ALLOW ROOF REPLACEMENT. THE GC WILL CONTRACT A LIGHTNING PROTECTION VENDOR FOR THE COUNTY ELECTRICAL APPLICATIONS INC., 289 WEST CLAY AVENUE, ROSELLE PARK NJ 07204) TO DESIGN A NEW SYSTEM AND WILL COORDINATE THE INSTALLATION OF THE NEW LIGHTNING PROTECTION INSTALLATION. THE GC WILL CERTIFY THAT THE LIGHTNING PROTECTION SYSTEM WILL MEET ALL BUILDING CODES REQUIREMENTS.

1 2ND FLOOR ROOF CONSTRUCTION PLAN
A-101 SCALE: 1/8" = 1'-0"



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NICHOLAS J. NETTA, AIA, NCARB
NJ License No. AI 12541

FRANCISCO J. MELENDEZ, SR., AIA
NJ License No. AI 12118

MARK E. BESS, AIA, NCARB
NJ License No. AI 16160

LAURENCE K. UHER, AIA, LEED, AP
NJ License No. AI 14394

Netta Architects
ARCHITECTURE - PLANNING - INTERIOR DESIGN
1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
TEL: 973-379-0006 FAX: 973-379-1061
CERTIFICATE OF AUTHORIZATION AC-438

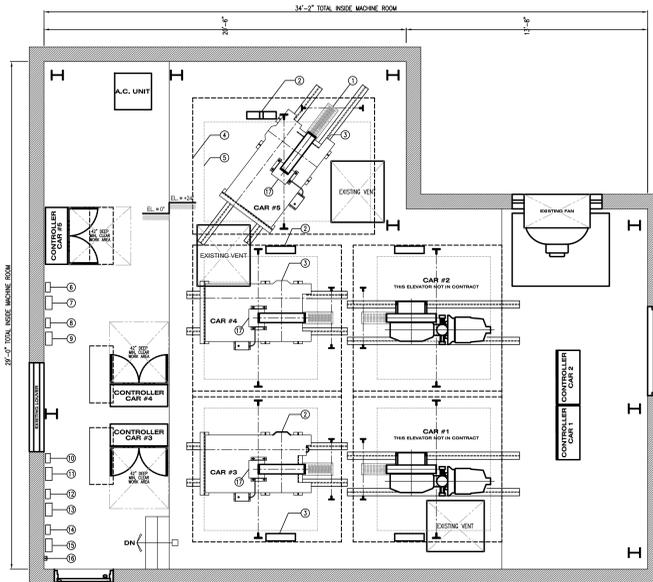
PROJECT: UC JUSTICE COMPLEX PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C".

SHEET CONTENTS:
SECOND FLOOR ROOF CONSTRUCTION PLAN

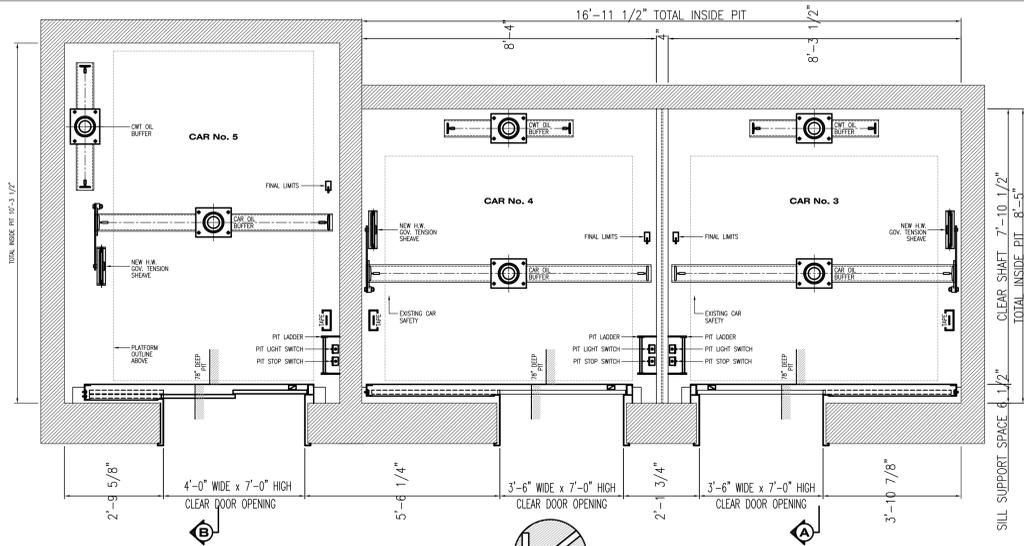
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								SHEET:	OF: -
								DRWG NO	

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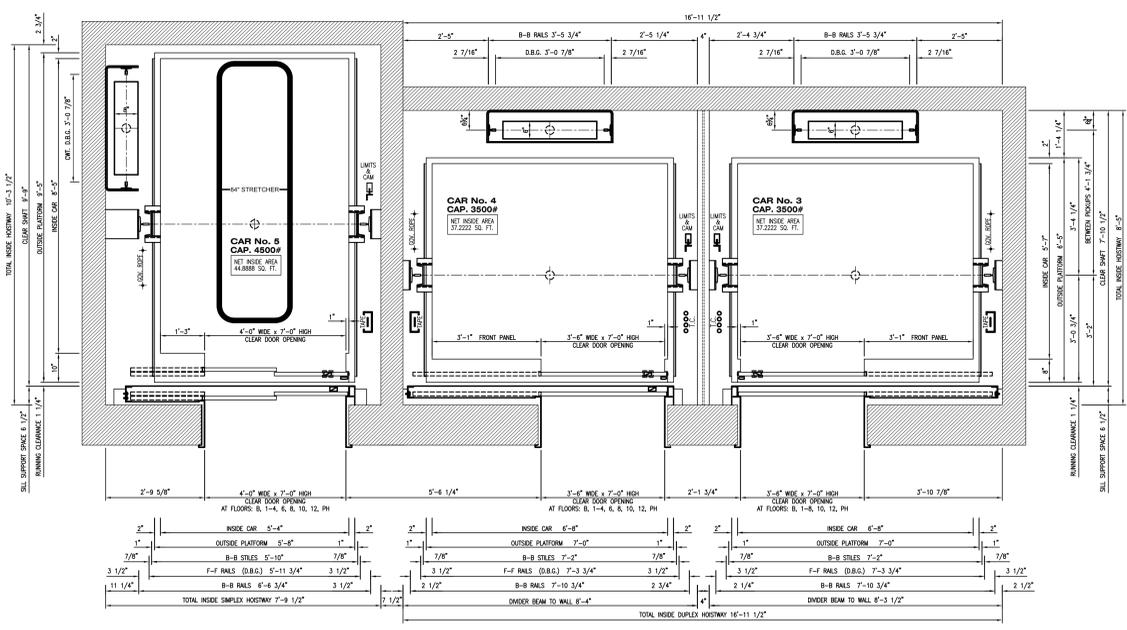


1 MACHINE ROOM PLAN
A-502 SCALE: 1/4"=1'-0"

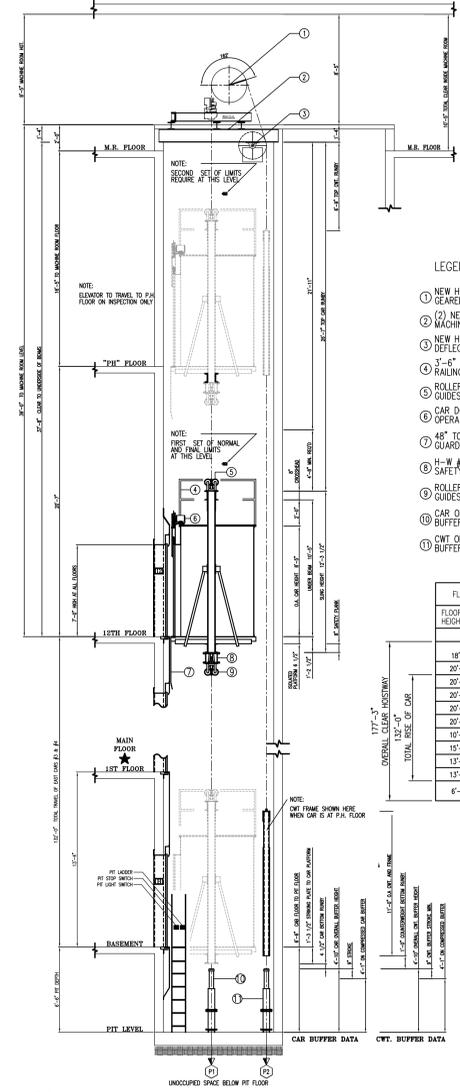
- KEY NOTE:
- 1 NEW 25" Ø DEFLECTOR SHEAVE
 - 2 NEW HOLLISTER WHITNEY GOVERNOR
 - 3 NEW HOLLISTER WHITNEY RIGHT HAND MACHINES
 - 4 SHAFT OUTLINE BELOW
 - 5 PLATFORM OUTLINE BELOW
 - 6 NEW LOCKABLE FUSED CAR LIGHTING DISCONNECT SWITCH FOR CAR #3
 - 7 NEW LOCKABLE FUSED MAINLINE DISCONNECT SWITCH FOR CAR #3
 - 8 NEW LOCKABLE FUSED CAR LIGHTING DISCONNECT SWITCH FOR CAR #4
 - 9 NEW LOCKABLE FUSED MAINLINE DISCONNECT SWITCH FOR CAR #4
 - 10 NEW LOCKABLE FUSED CAR LIGHTING DISCONNECT SWITCH FOR CAR #1
 - 11 NEW LOCKABLE FUSED MAINLINE DISCONNECT SWITCH FOR CAR #1
 - 12 NEW LOCKABLE FUSED CAR LIGHTING DISCONNECT SWITCH FOR CAR #2
 - 13 NEW LOCKABLE FUSED MAINLINE DISCONNECT SWITCH FOR CAR #2
 - 14 NEW LOCKABLE FUSED CAR LIGHTING DISCONNECT SWITCH FOR CAR #1
 - 15 NEW LOCKABLE FUSED MAINLINE DISCONNECT SWITCH FOR CAR #1
 - 16 MACHINE ROOM LIGHT SWITCH
 - 17 NEW H-W ROPE GRIPPER



3 PIT PLAN @ BASEMENT LEVEL
A-502 SCALE: 1/2"=1'-0"



2 SHAFT PLAN
A-502 SCALE: 1/2"=1'-0"

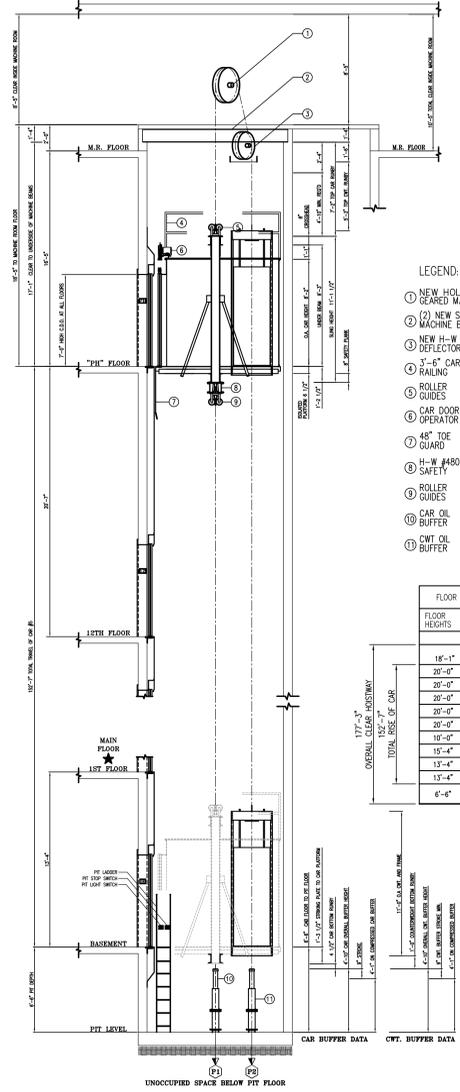


4 SECTION A-A
A-502 SCALE: 3/16"=1'-0"

- LEGEND:
- 1 NEW HOLLISTER WHITNEY SERVED MACHINE
 - 2 NEW S12x31.8# MACHINE BEAMS
 - 3 NEW H-W 25" Ø DEFLECTOR SHEAVE
 - 4 3'-6" CAR TOP
 - 5 ROLLER GUIDES
 - 6 CAR DOOR OPERATOR
 - 7 48" TOE GUARD
 - 8 H-W #480 SAFETY
 - 9 ROLLER GUIDES
 - 10 CAR OIL BUFFER
 - 11 CWT OIL BUFFER

FLOOR STOPS AND ENTRANCE SCHEDULE

FLOOR HEIGHTS	FLOOR NUMBERS	FRONT ONLY	FLOOR SERVED
OVERHEAD			
18'-1"	PH FLOOR		NOT SERVED
20'-0"	12TH FLOOR		SERVED
20'-0"	10TH FLOOR		SERVED
20'-0"	8TH FLOOR		SERVED
20'-0"	6TH FLOOR		SERVED
20'-0"	4TH FLOOR		SERVED
18'-0"	3RD FLOOR		SERVED
13'-4"	2ND FLOOR		SERVED
13'-4"	1ST FLOOR		SERVED
6'-4"	PIT LEVEL		SERVED
TOTAL FLOORS SERVED		9	



5 SECTION B-B
A-502 SCALE: 3/16"=1'-0"

- LEGEND:
- 1 NEW HOLLISTER WHITNEY SERVED MACHINE
 - 2 NEW S12x31.8# MACHINE BEAMS
 - 3 NEW H-W 25" Ø DEFLECTOR SHEAVE
 - 4 3'-6" CAR TOP
 - 5 ROLLER GUIDES
 - 6 CAR DOOR OPERATOR
 - 7 48" TOE GUARD
 - 8 H-W #480 SAFETY
 - 9 ROLLER GUIDES
 - 10 CAR OIL BUFFER
 - 11 CWT OIL BUFFER

FLOOR STOPS AND ENTRANCE SCHEDULE

FLOOR HEIGHTS	FLOOR NUMBERS	FRONT ONLY	FLOOR SERVED
OVERHEAD			
18'-1"	PH FLOOR		SERVED
20'-0"	12TH FLOOR		SERVED
20'-0"	10TH FLOOR		SERVED
20'-0"	8TH FLOOR		SERVED
20'-0"	6TH FLOOR		SERVED
20'-0"	4TH FLOOR		SERVED
18'-0"	3RD FLOOR		SERVED
13'-4"	2ND FLOOR		SERVED
13'-4"	1ST FLOOR		SERVED
6'-4"	PIT LEVEL		SERVED
TOTAL FLOORS SERVED		10	

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LAURENCE K. UHER, AIA, LEED, AP
NJ License No. AI 14394

NettaArchitects
ARCHITECTURE - PLANNING - INTERIOR DESIGN
1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
TEL: 973-379-0006 FAX: 973-379-1061
CERTIFICATE OF AUTHORIZATION AC-438

PROJECT: UC JUSTICE COMPLEX PHASE III
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C".
SHEET CONTENTS:
ELEVATOR ENLARGED PLANS AND DETAILS

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DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	DATE	SCALE
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								CHKD BY	
								JOB NO.	207895
								SHEET:	OF: -
								DRWG NO.	

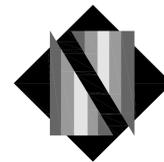
A.502

UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C”.

**15 ELIZABETHTOWN PLAZA
ELIZABETH, NJ 07202**

**ISSUED FOR BID
AUGUST, 2015**



NettaArchitects

1084 Route 22 West, Mountainside, New Jersey 07092
TEL: 973.379.0006 FAX: 973-379-1061

CONSULTANTS

LOCATION MAP NO SCALE

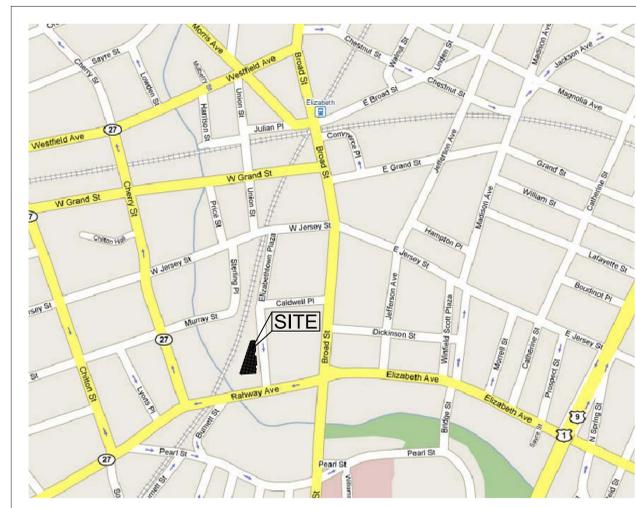
LIST OF DRAWINGS

ELECTRICAL ENGINEER
CONCORD CONSULTING ENGINEERING

28 CONCORD DRIVE
LIVINGSTON, NJ 07039
PHONE: 973.534.6731

CBA ELEVATOR CONSULTANTS LLC

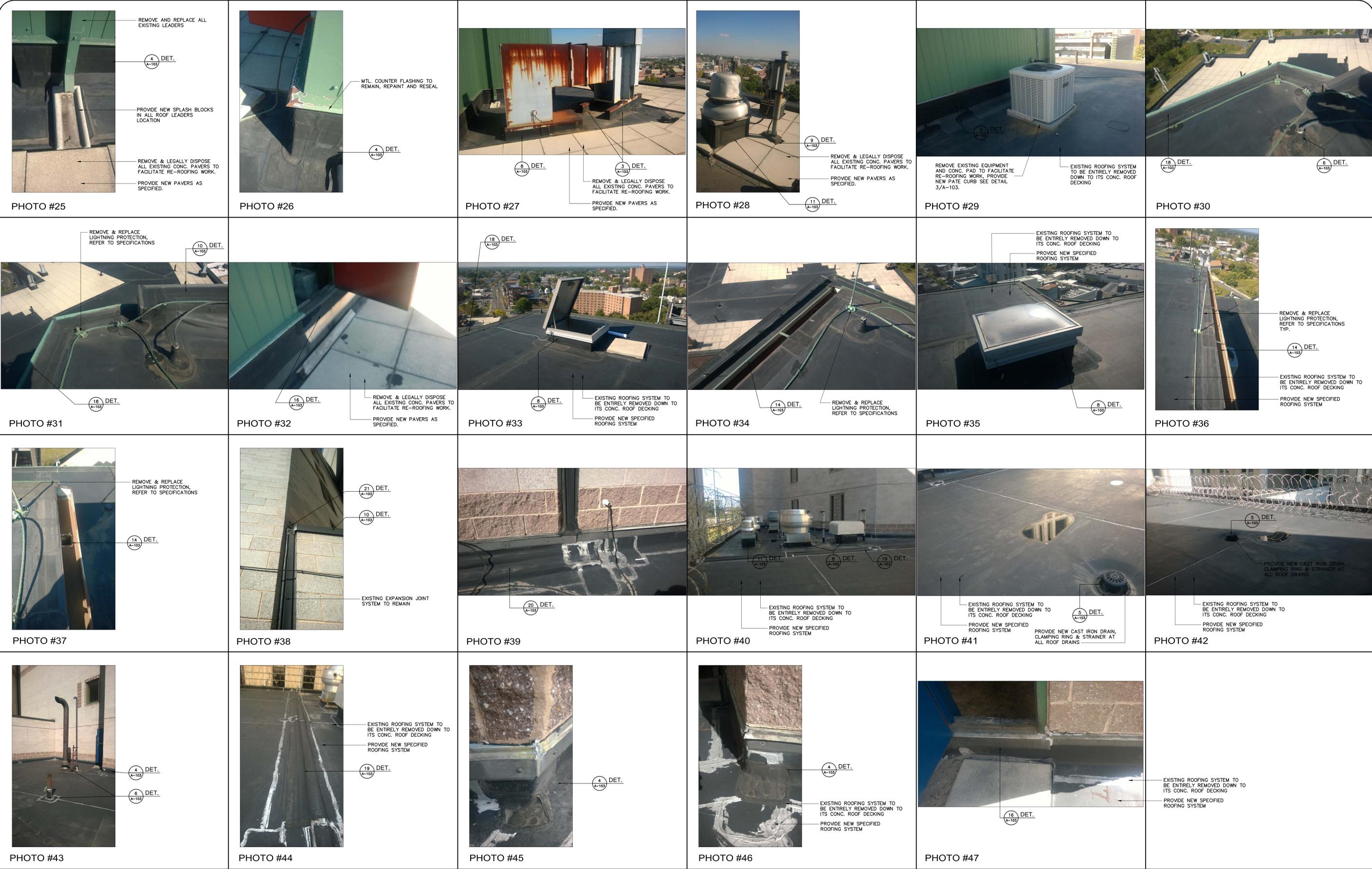
190 MAIN STREET, SUITE 402
HACKENSACK, NJ 07601
PHONE: 201.804.0911



ARCHITECTURAL

COVER SHEET

- A-001 SITE PLAN & BUILDING DATA
- D-101 2ND FLOOR ROOF, 10TH & 12TH FLOOR BRIDGE ROOF DEMOLITION PLAN
- D-102 13TH FLOOR, PENTHOUSE AND MACHINE ROOM ROOFS DEMOLITION PLANS
- D-103 PHOTOS AND DEMOLITION NOTES
- D-104 PHOTOS AND DEMOLITION NOTES
- A-101 2ND FLOOR ROOF CONSTRUCTION PLAN, CONSTRUCTION NOTES AND GENERAL REQUIREMENTS
- A-102 13TH FLOOR ROOF, PENTHOUSE ROOF & MACHINE RM. ROOF CONSTRUCTION PLAN, CONSTRUCTION NOTES AND GENERAL REQUIREMENTS
- A-103 TYPICAL ROOF DETAILS
- A-500 FIRST FLOOR KEY PLAN
- A-501 ELEVATOR PLAN AND DETAILS
- A-502 ELEVATOR ENLARGED PLANS & DETAILS
- E-001 ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM & PANEL SCHEDULES
- E-010 ELECTRICAL SPECIFICATIONS
- E-101 ELECTRICAL PART PLANS



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Netta Architects
ARCHITECTURE - PLANNING - INTERIOR DESIGN
1084 ROUTE 22 WEST, MOUNTAINVIEW, NEW JERSEY 07092
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PROJECT: UC JUSTICE COMPLEX PHASE III

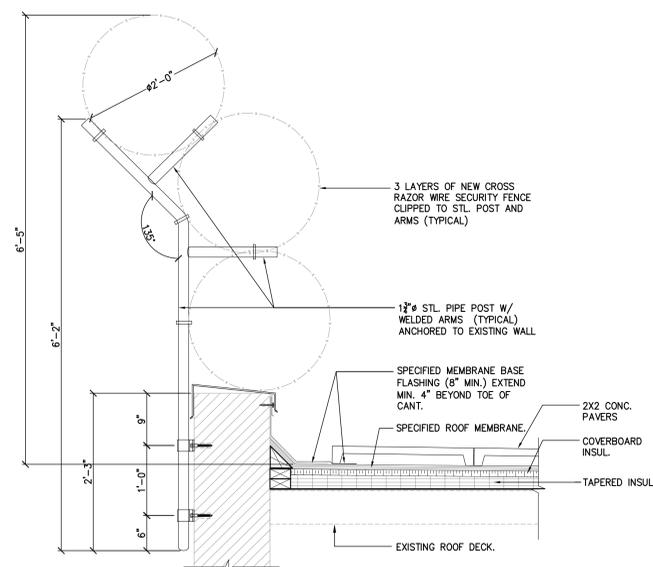
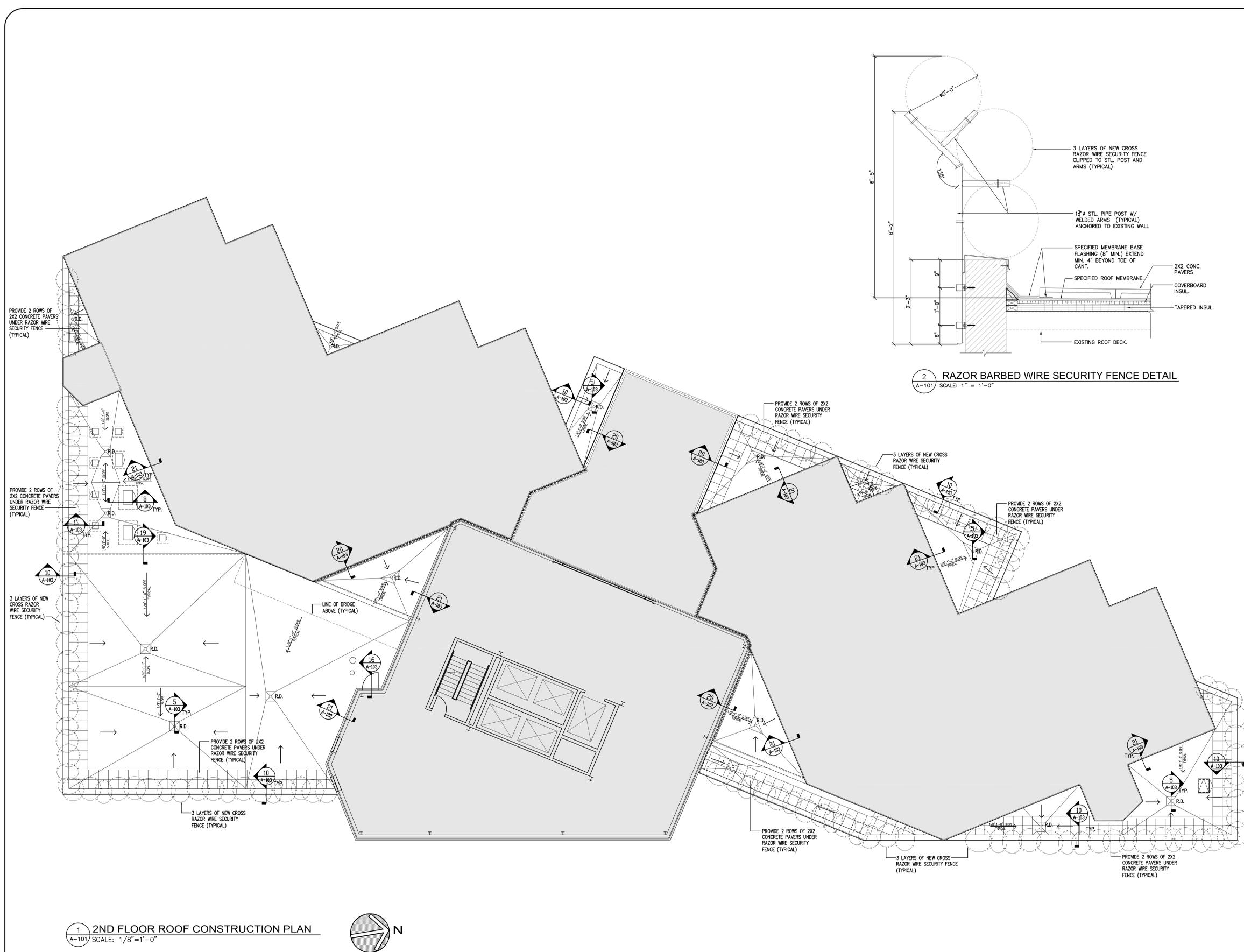
ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C".

SHEET CONTENTS:

EXISTING CONDITIONS - PHOTOS 2

SUBMISSIONS				REVISIONS				DATE	SCALE
DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	DATE	SCALE
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								DRAWN BY	
								CHKD BY	FM
								JOB NO	207895
								SHEET:	OF: -
								DRWG NO	

D.104



2 RAZOR BARBED WIRE SECURITY FENCE DETAIL
A-101 SCALE: 1" = 1'-0"

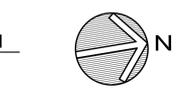
SCOPE OF WORK NOTES

- ROOFING SYSTEM-TYPICAL:**
1. PROVIDE FIRE RETARDANT WOOD BLOCKING AT PERIMETER EDGE AND OTHER CONDITIONS AS INDICATED/REQUIRED.
 2. PROVIDE 3 1/2" CONSTANT THICKNESS POLYISOCYANURATE BASE LAYER INSULATION OVER DECK, MECHANICALLY FASTENED PER FM80. PROVIDE 1 FASTENER EVERY 2 SF. - NOTE: FASTENER MUST BE PRE-TESTED, PULL TEST REPORTS REQUIRED.
 3. PROVIDE 1/8" PER FOOT SLOPED TAPER INSULATION OVER BASE LAYERS.
 4. PROVIDE 1/4" PER FOOT SLOPED CRICKETS, AS INDICATED ON DRAWINGS.
 5. PROVIDE 1/2" THICK HIGH DENSITY POLYISOCYANURATE-RECOVERY BOARD A/C FOAM OVER TAPERED INSULATION.
 6. PROVIDE (2) PILES OF INTERPLY BASE PLY SHEETS OVER THE RECOVERY BOARD.
 7. PROVIDE SPECIFIED CAP SHEET OVER BASE PLY SHEETS.
 8. PROVIDE AT ALL VERTICAL LOCATIONS 3" FIRE RATED PLYWOOD AS SUBSTRATE TO RECEIVE ELVALOY FLASHING MEMBRANE. SECURE PLYWOOD TO SUBSTRATE WITH APPROVED FASTENERS.
 9. PROVIDE PRE-MANUFACTURED ROOF EDGE FASCIA, AND COPING AS INDICATED ON DWG'S.
 10. PROVIDE METAL COUNTER FLASHING, AND ALL MISCELLANEOUS ITEMS & ACCESSORIES, AS REQUIRED.
 11. PROVIDE CLAMPING RING & STRAINER AT ALL EXISTING ROOF DRAIN LOCATIONS.
 12. INSTALL GASKETED FASTENERS AROUND ALL COUNTER FLASHING. FASTENERS TO BE INSTALLED 6" O.C. IN THE AREA WITH BUTYL TAPE.
 13. PROVIDE COLD PROCESS ROOFING SYSTEM AS PER BASIS OF DESIGN.
 14. PROVIDE 2'X2' ROOF CONCRETE PAVERS AS INDICATED IN ROOF PLANS.

GENERAL REQUIREMENTS

1. A.C. CONDENSER UNITS TO BE DISCONNECTED AND REINSTALLED AS REQUIRED TO FACILITATE THE WORK.
2. ALL EXISTING ROOF DRAINS, VENT STACKS, MECHANICAL EQUIPMENT, ETC. (WHETHER OR NOT INDICATED ON THE DRAWINGS) ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TEMPORARILY REMOVE AND REINSTALL ANY AND ALL EXISTING ITEMS AS NECESSARY TO FACILITATE THE WORK.
3. ANY AND ALL ELECTRICAL ITEMS (LIGHTS, JUNCTION BOXES, CONDUITS) SHALL BE REMOVED AND REINSTALLED IN ACCORDANCE WITH ELECTRICAL CODES, AS REQUIRED TO FACILITATE THE WORK.
4. THE CONTRACTOR IS REQUIRED TO MEET ALL OF THE "BEST PRACTICE" REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS, MATERIALS AND/OR SYSTEMS INCORPORATED IN THIS PROJECT. WHERE A SPECIFIC REQUIREMENT OF THE ARCHITECT IS IN VARIANCE TO A REQUIREMENT OF THE MANUFACTURER, THE GREATER QUANTITY OR QUALITY OF THE WORK SHALL BE PROVIDED.
5. ALL PLUMBING VENTS THROUGH ROOF ARE NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO FLASH AS INDICATED IN DETAILS.
6. AT ALL INTERIOR ROOF DRAINS "SNAKE-OUT" OR OTHERWISE CLEAN OUT DRAIN PIPING AS REQUIRED TO ENSURE PROPER OPERATION OF ALL DRAINS AT THE CONCLUSION OF THE PROJECT.
7. PROVIDE FLASHING AT ALL EXISTING CURB MOUNTED MECHANICAL EQUIPMENT, AND OTHER PENETRATIONS AS THEY OCCUR ON THE ROOF. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INCREASE OR REBUILD ANY CURB THAT IS EITHER DETERIORATED, DAMAGED, OR MUST BE RAISED TO PROPERLY FACILITATE INSULATION AND ROOFING AS REQUIRED.
8. ALL WOOD CURBS, BLOCKING, ETC. SHALL BE A MIN. OF 9" HIGH FIRE RATED WOOD.
9. AT ANY CASE WHERE THE TOP SURFACE OF THE INSULATION AND ROOF SYSTEM IS LESS THAN 8" MIN. BELOW THE BOTTOM OF EXISTING METAL COUNTERFLASHING, THE EXISTING COUNTERFLASHING SHALL BE REMOVED AND REPLACED WITH A SURFACE APPLIED REGLET/COUNTERFLASHING SYSTEM. DO NOT COVER OR BLOCK MASONRY WEEP HOLES.
10. THE LOCATION OF MECHANICAL UNITS & CURBS ARE APPROXIMATE, IF A MECHANICAL UNIT FALLS IN A VALLEY, CONTRACTOR IS TO CRICKET WATER FLOW AROUND THE UNIT.
11. THE GC WILL BE RESPONSIBLE TO REMOVE THE EXISTING LIGHTNING PROTECTION TO ALLOW ROOF REPLACEMENT. THE GC WILL CONTRACT A LIGHTNING PROTECTION VENDOR FOR THE COUNTY ELECTRICAL APPLICATIONS INC., 289 WEST CLAY AVENUE, ROSELLE PARK NJ 07204) TO DESIGN A NEW SYSTEM AND WILL COORDINATE THE INSTALLATION OF THE NEW LIGHTNING PROTECTION INSTALLATION. THE GC WILL CERTIFY THAT THE LIGHTNING PROTECTION SYSTEM WILL MEET ALL BUILDING CODES REQUIREMENTS.

1 2ND FLOOR ROOF CONSTRUCTION PLAN
A-101 SCALE: 1/8" = 1'-0"



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ARCHITECTURE - PLANNING - INTERIOR DESIGN
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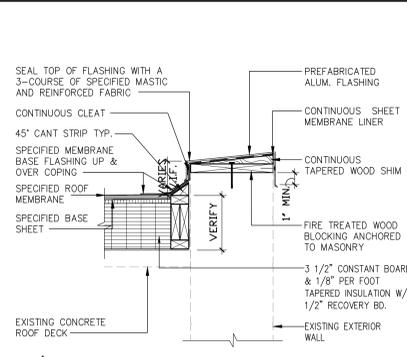
PROJECT: UC JUSTICE COMPLEX PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C".

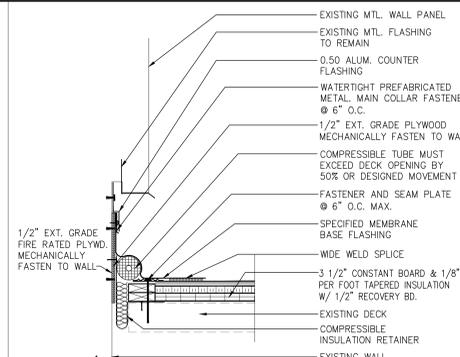
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SECOND FLOOR ROOF CONSTRUCTION PLAN

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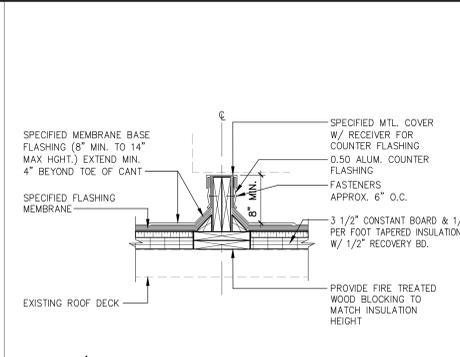
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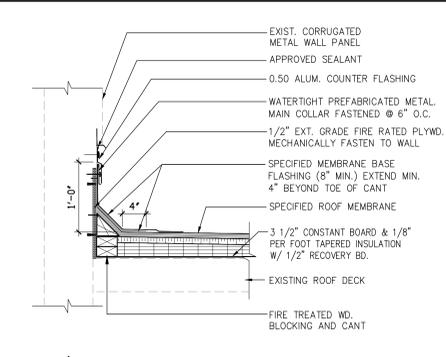
1 PARAPET / ROOF DETAIL
A-103 SCALE: 1" = 1'-0" BRIDGE ROOF



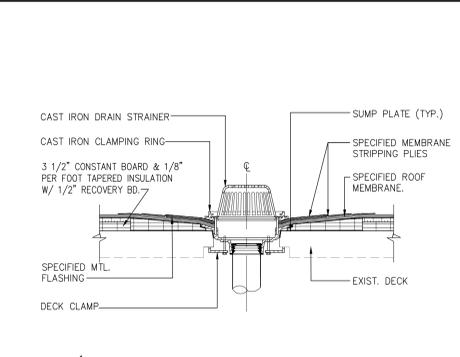
2 EXPANSION JOINT DETAIL
A-103 SCALE: 1" = 1'-0" ROOF/WALL E.J. COVER



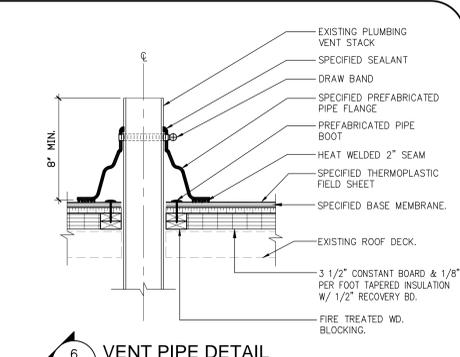
3 PATE CURB DETAIL
A-103 SCALE: 1" = 1'-0"



4 FLASHING DETAIL
A-103 SCALE: 1" = 1'-0"

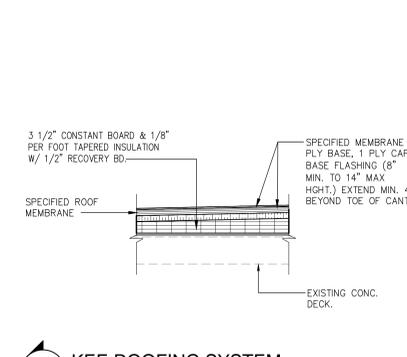


5 NEW ROOF DRAIN DETAIL
A-103 SCALE: 1" = 1'-0" TYPICAL

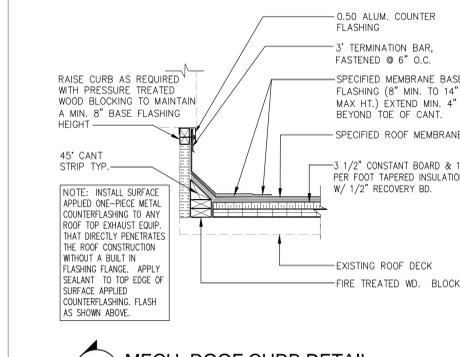


6 VENT PIPE DETAIL
A-103 SCALE: 1" = 1'-0"

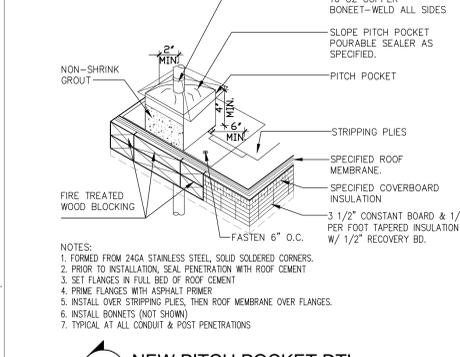
NOTE:
1. PREFABRICATED PIPE FLANGES MAY NOT BE VERTICALLY CUT AND WELDED BACK TOGETHER. COVER ANY ASPHALT RESIDUE ON PIPE WITH ALUMINUM TAPE PRIOR TO INSTALLING MEMBRANE.



7 KEE ROOFING SYSTEM
A-103 SCALE: 1" = 1'-0"



8 MECH. ROOF CURB DETAIL
A-103 SCALE: 1" = 1'-0"



GENERAL NOTES

1. ALL WORK IS NEW UNLESS OTHERWISE NOTED. THE DRAWINGS INDICATE SIZE AND GENERAL LOCATION OF WORK. SCALE DIMENSIONS SHALL NOT BE USED. THE EXACT LOCATION AND ELEVATION OF ALL RECEPTACLES AND TELEPHONE/DATA OUTLETS, ETC. SHALL BE DETERMINED FROM THE ARCHITECT'S DRAWINGS, U.O.N.
2. ALL ELECTRIC POWER SHALL BE DISCONNECTED BEFORE PERFORMING CONNECTIONS TO ANY POWER SOURCE OR DEMOLITION WORK. NO WORK IS ALLOWED ON ANY ENERGIZED EQUIPMENT.
3. FILE PLANS WITH THE BUILDING DEPARTMENT AND OBTAIN ALL PERMITS AND SIGN-OFF'S. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSPECTION APPROVAL CERTIFICATE TO BUILDING MANAGEMENT UPON COMPLETION OF WORK. CONTRACTOR SHALL FILE AS REQUIRED AND OBTAIN ALL NECESSARY APPROVAL AND PERMITS FROM ALL APPROPRIATE AGENCIES HAVING JURISDICTION. PROVIDE COPIES OF ALL APPROVALS, PERMITS, INSPECTIONS, SIGN-OFF'S, CERTIFICATES, ETC. TO THE LANDLORD FOR RECORD.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION.
5. ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED WITH SET-SCREW CONNECTION TYPE FITTINGS ONLY.
6. GREENFIELD MAY BE USED FOR FINAL CONNECTION TO MOTORS, RECESSED FIXTURES AND VIBRATION TRANSMITTING EQUIPMENT ONLY. LENGTH SHALL NOT EXCEED 6 FEET.
7. PANEL DIRECTORIES SHALL BE UPDATED TO CONFORM TO WORK COMPLETED.
8. ELECTRIC PANEL COVERS ARE NOT TO BE LEFT OFF AT ANY TIME UNLESS MEN ARE WORKING ON SAME. COVERS SHALL BE REPLACED EACH NIGHT BEFORE LEAVING JOB SITE.
9. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS ARE TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. TEMPORARY LIGHT AND POWER STRINGERS SHALL UTILIZE C-TAP TERMINATIONS. LAMP HOLDERS SHALL HAVE LEFT HANDED SCREW SHELL LAMP HOLDERS AND NON-METALLIC LAMP GUARDS. TEMPORARY LIGHTING AND POWER SHALL BE DERIVED FROM SOURCES COORDINATED WITH AND AS DIRECTED BY BUILDING MANAGEMENT AND COMPLETELY REMOVED UPON COMPLETION OF INSTALLATION.
10. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND FREE OF ANY DAMAGES. ANY INSTALLED DAMAGED MATERIAL AND EQUIPMENT SHALL BE REPLACED WITH NEW NOT DAMAGED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL COST TO THE OWNER.
11. ALL NEW MATERIALS REQUIRED SHALL CONFORM WITH THE STANDARDS OF THE UNDERWRITERS LABORATORIES, INC. IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL, IN QUESTION, UNLESS OTHERWISE NOTED.
12. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. CONTRACTOR SHALL PERFORM THIS, PRIOR TO SUBMITTING HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
13. THIS CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILING PLASTER, PARTITIONS, WALLS, ETC., AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS. IF ANY WORK IS SO INSTALLED AND IT LATER DEVELOPS THAT SUCH DETAILS OR DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR AT HIS OWN EXPENSE SHALL MAKE SUCH CHANGES IN THE WORK AS DIRECTED BY THE ARCHITECT, AS WELL AS TO PERMIT THE INSTALLATION OF THE ARCHITECTURAL WORK AS SHOWN ON THE PLANS AND DETAILS.
14. UPON COMPLETION OF THE WORK, A SET OF "AS-BUILT" DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND RECORDS. PROVIDE "AS-BUILT" DRAWINGS ON DISK, AUTOCAD 2010 AND FULL SIZE PRINT DRAWINGS SHOWING ALL FEEDERS AND BRANCH CIRCUITS WIRE SIZE, CONDUIT, ACTUAL EQUIPMENT/DEVICES CIRCUIT NUMBERING OF ALL ELECTRICAL WORK AS ACTUALLY INSTALLED. CAD BACKGROUNDS TO BE SUPPLIED BY ENGINEERING CONSULTANT UPON COMPLETION OF CAD RELEASE FORM. IN ADDITION, PROVIDE FULL SIZE "AS-BUILT" SET OF DRAWINGS AND A CAD 2010 DISC WITH ELECTRONIC FILES OF "AS-BUILT" DRAWINGS INDICATING ACTUAL WORK INSTALLED TO BUILDING MANAGEMENT UPON PROJECT COMPLETION.
15. DURING THE PROJECT DURATION, THE BUILDING MANAGEMENT OFFICE AND ITS DESIGNATED REPRESENTATIVE WILL INSPECT THE WORK IN PROGRESS. ANY WORK WHICH IS JUDGED UNSATISFACTORY FOR ANY REASON OR NOT IN COMPLIANCE WITH SET STANDARDS SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE CONTRACTOR.
16. THE OPERATION OF THE ELECTRICAL INSTALLATION DOES NOT CONSTITUTE AN ACCEPTANCE OF THE WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM ALL AGENCIES HAVING JURISDICTIONS AND UNDERWRITERS.
17. PROVIDE APPROVED GROUND WIRES IN ALL BRANCH CIRCUITS AND FEEDERS AS REQUIRED.
18. ALL DELIVERIES OF MATERIALS, EQUIPMENT, ETC. SHALL BE COORDINATED WITH OWNER AND BUILDING MANAGEMENT FOR SCHEDULES.

ELECTRICAL DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL FIELD EXAMINE THE ENTIRE AREA AFFECTED BY THIS CONSTRUCTION AND SHALL DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND OTHER DEVICES COMPLETE WITH ALL ASSOCIATED WIRING, CONDUITS, ETC. SCHEDULED TO BE DEMOLISHED AS REQUIRED TO COMPLETE FIT-OUT PROGRAM. COORDINATE WITH ARCHITECT FOR EXACT EQUIPMENT AND DEVICES TO BE DEMOLISHED. ALL CONDUITS WITH NON-ACTIVE WIRING SHALL BE REMOVED. PROVIDE ALL DEMOLITION LABOR AS REQUIRED BY ARCHITECT'S DEMOLITION NOTES AND AS INSTRUCTED IN FIELD BY G.C. WHERE THE REMOVAL OF THESE ITEMS MAKE DEAD ELECTRICAL WIRING THAT IS TO REMAIN. THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS AS REQUIRED TO MAKE THE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, OBSOLETE WIRING SHALL BE REMOVED BACK TO THE REMAINING DEVICE OR TO THE PANELBOARD. WHERE REMOVAL OF CONDUITS IS IMPRACTICAL, REMOVE WIRING ENTIRELY, CAP CONDUITS FROM BOTH ENDS AND ABANDON IN PLACE. COORDINATE ALL DEMOLITION INCLUDING ABANDONING OF EXISTING COMPONENTS WITH ARCHITECT.
2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL, MECHANICAL AND ELECTRICAL LAYOUTS AND SCHEMES IN FULL COORDINATION WITH THE ARCHITECT'S DEMOLITION PLAN. ALL WORK THAT IS NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED, DISCONNECTED AND REMOVED.
3. MAINTAIN CONTINUOUS SERVICE ON REMAINING FEEDERS, CIRCUITS OR PARTIAL CIRCUITS AND OUTLETS SERVICING ADJACENT REMAINING ACTIVE AREAS, EXCEPT WHERE GIVEN WRITTEN PERMISSION FOR OUTAGE FOR SPECIFIED TIME. ALL WORK REQUIRING SHUTDOWN OF POWER SUPPLY OR ANY EXISTING SYSTEMS SHALL BE PERFORMED ON OVERTIME (PREMIUM HOURS) AT HOURS AS APPROVED BY BUILDING MANAGEMENT, OWNER, ARCHITECT OR GENERAL CONTRACTOR AND AT NO ADDITIONAL COST TO THE OWNER. SUBMIT SCHEDULE OF REQUIRED OUTAGES FOR APPROVAL. PERFORM WORK IN A MANNER TO MINIMIZE SHUTDOWN TIME.
4. CUT BACK TO FLOOR/WALL AND PLUG ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY ALTERATIONS TO PERMIT REFINISHING SURFACES. REMOVE EXPOSED CONDUITS, WIRE WAYS, OUTLET BOXES, HANGERS, SUPPORTS AND DEVICES MADE OBSOLETE BY THIS WORK UNLESS DESIGNATED SPECIFICALLY TO REMAIN. ELIMINATE VOID SPACES. ALL CONDUITS IN HUNG CEILING AREAS MADE OBSOLETE BY THIS WORK SHALL BE REMOVED BACK TO ORIGINATING PANEL OR POINT WHERE SUCH REMOVAL IS IMPRACTICAL. (CONCEALED IN FLOOR/WALL). ASSOCIATED WIRING SHALL BE ENTIRELY REMOVED FROM SUCH CONDUIT. ALL ELECTRICAL WORK IN ADJOINING AREAS WHICH IS REQUIRED TO FUNCTION BUT IS AFFECTED BY DEMOLITION SHALL BE RECONNECTED AND RESTORED TO ITS PRESENT FUNCTION.
5. WHERE NECESSARY, PROVIDE RECONNECTIONS AND TEMPORARY INSTALLATION AS REQUIRED; REMOVE AT JOB COMPLETION.
6. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND IDENTIFY LOCATION AND TYPE OF LOAD SERVED. "AS-BUILT" RECORDS SHALL BE SUBMITTED TO ENGINEER PRIOR TO START OF DEMOLITION.
7. PROVIDE TEMPORARY CONSTRUCTION LIGHTING AND POWER AS REQUIRED BY THE CONTACTORS OF ALL DISCIPLINES OF THIS CONTRACT.
8. EXISTING CONDUITS WHEN REUSED, SHALL BE THOROUGHLY CLEANED AND REFINISHED BEFORE REUSING.
9. PROVIDE BLANK PLATES ON ALL UNUSED OUTLET BOXES.
10. CONTRACTOR SHALL REMOVE ALL EXISTING ACCESSIBLE FIRE ALARM, TELEPHONE AND DATA CABLES THAT ARE ABANDONED AND NOT BEING REUSED AS PART OF THIS PROJECT.
11. ALL FIRE ALARM, TELEPHONE AND DATA CABLES BEING DESIGNATED FOR FUTURE USE SHALL BE TAGGED AND LABELED AS SUCH AT BOTH ENDS.

SYMBOL LIST

- \$ WALL MOUNTED LIGHTING CONTROL SWITCH, 120/277V RATED
- Ⓢ WALL MOUNTED NEMA 5-20R DUPLEX RECEPTACLE, 2P, 20A, 125V.
- Ⓢ CEILING MOUNTED SMOKE DETECTOR. "TL" DENOTES FOR ELEVATOR LOBBY WHERE INDICATED
- Ⓢ JUNCTION BOX WITH ACCESSIBLE REMOVABLE COVER, SIZE AS REQUIRED.
- ▽ WALL MOUNTED TEL/DATA OUTLET. PROVIDE 1-GANG EMPTY BACK BOX AND 1" E.C. STUB-UP WITH DRAG LINE, BUSH AT BOTH ENDS AS REQUIRED. TERMINATE AT POINT AS DIRECTED BY THE OWNER IN ACCESSIBLE CEILING OR AT HEIGHT NOT LESS THAN 8'-0" AFF.
- DISCONNECT SWITCH. SIZE, POLES AND RATING AS INDICATED ON DRAWINGS.
- Ⓢ MOTOR. NUMERIC DESIGNATION DENOTES HORSE-POWER RATING OR WATTS.
- Ⓢ MANUAL MOTOR STARTING SWITCH WITH BUILT-IN THERMAL OVERLOAD PROTECTION RELAY.
- Ⓢ HOMERUN TO DESIGNATED PANEL. HALF-ARROW INDICATES AMOUNT OF 1-POLE CIRCUITS. TICK-MARKS DEPICT AMOUNT OF #12 AWG CONDUCTORS, "G" DENOTES "GROUNDING".
- Ⓢ HOMERUN TO DESIGNATED PANEL. FULL-ARROW INDICATES AMOUNT OF MULTI-PHASE CIRCUITS. TICK-MARKS DEPICT AMOUNT OF #12 AWG CONDUCTORS, U.O.N., "G" DENOTES "GROUNDING".
- Ⓢ GROUNDING CONNECTION AS REQUIRED.
- SURFACE MOUNTED ELECTRICAL PANEL.
- Ⓢ TRANSFORMER. SIZE AND RATING AS INDICATED ON THE DRAWINGS.
- EXISTING FEEDER/EQUIPMENT TO REMAIN.
- NEW FEEDER/EQUIPMENT.

ELECTRICAL ABBREVIATIONS
(NOT ALL ABBREVIATIONS COULD BE USED)

A	AMPERES	LTG	LIGHTING
AF	AMPERE FRAME	MXM	MAXIMUM
AF	ABOVE FINISH FLOOR	MCB	MAIN CIRCUIT BREAKER
AT	AMPERE TRIP	MCH	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MER	MECHANICAL EQUIPMENT ROOM
BLDG	BUILDING	MFS	MAIN FUSED SWITCH
C	CONDUIT	MIN	MINIMUM
CAT	CATALOG	MLO	MAIN LUGS ONLY
CB	CIRCUIT BREAKER	MTD	MOUNTED
DISC	DISCONNECT	N	NEUTRAL
DWG	DRAWING	(N)	NEW
(E)	EXISTING DEVICE TO REMAIN	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NI	NOT IN CONTRACT
EM	EMERGENCY	No.	NUMBER
EQUIP	EQUIPMENT	NL	NIGHT LIGHT
FACP	FIRE ALARM CONTROL PANEL	NTS	NOT TO SCALE
FBO	FURNISH BY OTHER DIVISION OF WORK	P	POLE
FL	FLOOR	PC	PERSONAL COMPUTER (COMPUTER CIRCUIT)
FLEX	FLEXIBLE	PNL	PANEL
FT	FEET OR FOOT	∅	PHASE
GA	GAUGE	SW	SWITCH
G, GRD, GND	GROUND	SWBD	SWITCHBOARD
GC	GENERAL CONTRACTOR	TEL	TELEPHONE
GI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
HP	HORSEPOWER	U.O.N	UNLESS OTHERWISE NOTED
HVAC	HEATING, VENTILATING AND AIR CONDITIONING DIVISION OF WORK	UL	UNDERWRITERS LABORATORIES
HZ	HERTZ	V	VOLTAGE
JB	JUNCTION BOX	WP	WEATHERPROOF
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		

ELECTRICAL DRAWING LIST

DRAWING NUMBER	DRAWING TITLE
E-001	ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM AND PANEL SCHEDULES
E-010	ELECTRICAL SPECIFICATIONS
E-101	ELECTRICAL PART PLANS

PANEL SCHEDULE

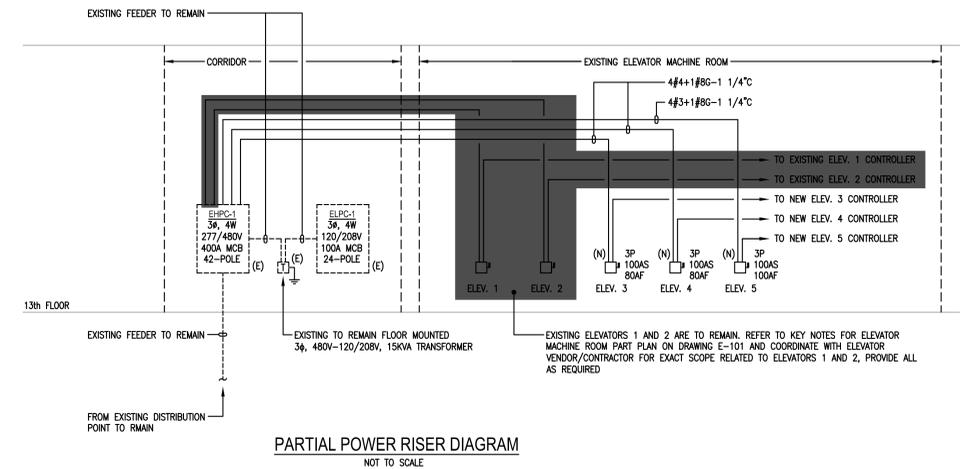
PANEL I.D.: ELPC-1		A/C: EXISTING		MAN		OPTIONS					
VOLTAGE	PHASE	WIRE	POLES	BUS	125	AMPS	200X NEUTRAL				
120/208	3	4	24	20	125	AMPS	ISOLATED GROUND BUS				
<input type="checkbox"/> FLUSH <input type="checkbox"/> NEW <input checked="" type="checkbox"/> SURFACE <input checked="" type="checkbox"/> EXISTING				<input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY <input type="checkbox"/> MOLDED CASE SWITCH <input type="checkbox"/> SWITCH & FUSE <input type="checkbox"/> TOP FEED <input type="checkbox"/> BOTTOM FEED <input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> -				<input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -			
REMARKS:				CONNECTED LOAD:				DEMAND LOAD:			
CONN/CKT LOAD NO	DESCRIPTION	CB RATING	#	CB RATING	DESCRIPTION	CKT NO	CONN LOAD				
- 1	EXISTING SPACE	20	A	20	EXISTING SPACE	2	-				
- 3	EXISTING SPACE	20	B	20	EXISTING SPACE	4	-				
- 5	EXISTING ACTIVE	20	C	20	EXISTING SPACE	6	-				
0.4 7	ELEV. 4 CAR LITG AND FAN	20	A	20	EXISTING ACTIVE	8	-				
0.4 9	ELEV. 5 CAR LITG AND FAN	20	B	20	EXISTING ACTIVE	10	-				
- 11	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	12	-				
- 13	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	14	-				
0.4 15	ELEV. 3 CAR LITG AND FAN	20	B	20	EXISTING ACTIVE	16	-				
- 17	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	18	-				
- 19	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	20	-				
- 21	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	22	-				
- 23	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	24	-				
- 25	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	26	-				
- 27	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	28	-				
- 29	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	30	-				
- 31	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	32	-				
- 33	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	34	-				
- 35	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	36	-				
- 37	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	38	-				
- 39	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	40	-				
- 41	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	42	-				

PANEL SCHEDULE

PANEL I.D.: EHPC-1		A/C: EXISTING		MAN		OPTIONS					
VOLTAGE	PHASE	WIRE	POLES	BUS	400	AMPS	200X NEUTRAL				
277/480	3	4	42	20	400	AMPS <td>ISOLATED GROUND BUS</td>	ISOLATED GROUND BUS				
<input type="checkbox"/> FLUSH <input type="checkbox"/> NEW <input checked="" type="checkbox"/> SURFACE <input checked="" type="checkbox"/> EXISTING				<input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY <input type="checkbox"/> MOLDED CASE SWITCH <input type="checkbox"/> SWITCH & FUSE <input type="checkbox"/> TOP FEED <input type="checkbox"/> BOTTOM FEED <input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> -				<input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -			
REMARKS:				CONNECTED LOAD:				DEMAND LOAD:			
CONN/CKT LOAD NO	DESCRIPTION	CB RATING	#	CB RATING	DESCRIPTION	CKT NO	CONN LOAD				
- 1	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	2	-				
- 3	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	4	-				
- 5	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	6	-				
- 7	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	8	-				
- 9	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	10	-				
- 11	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	12	-				
- 13	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	14	-				
- 15	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	16	-				
- 17	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	18	-				
- 19	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	20	-				
- 21	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	22	-				
- 23	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	24	-				
- 25	EXISTING ACTIVE	20	A	20	EXISTING ACTIVE	26	-				
- 27	EXISTING ACTIVE	20	B	20	EXISTING ACTIVE	28	-				
- 29	EXISTING ACTIVE	20	C	20	EXISTING ACTIVE	30	-				
18 31	ELEV. 5 MAIN POWER SUPPLY (50HP-63FLA)	3P	A	20	EXISTING ACTIVE	32	-				
18 33	(50HP-63FLA)	B	20	EXISTING ACTIVE	34	-					
18 35	(4#3+1#8G-1 1/4")	100	C	20	EXISTING ACTIVE	36	-				
14.4 37	ELEV. 4 MAIN POWER SUPPLY (40HP-52FLA)	3P	A	3P	ELEV. 3 MAIN POWER SUPPLY	38	14.4				
14.4 39	(40HP-52FLA)	B	20	EXISTING ACTIVE	40	14.4					
14.4 41	(4#4+1#8G-1 1/4")	80	C	80	(4#4+1#8G-1 1/4")	42	14.4				

PANEL SCHEDULES NOTES:

1. UTILIZE EXISTING BRANCH CIRCUIT BREAKERS WHERE POSSIBLE. PROVIDE NEW CIRCUIT BREAKERS AS NECESSARY, TYPE AND KVAIC RATING TO MATCH EXISTING.
2. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR AND PROVIDE MAIN POWER SUPPLY CIRCUIT BREAKER WITH SHUNT TRIP FEATURE IF NECESSARY.
3. PROVIDE UPDATED PANEL DIRECTORY UPON COMPLETION OF WORK.



MEP Consultant:
CONCORD CONSULTING ENGINEERING, PC
 28 CONCORD DR. TEL: (973) 534-6731
 LIVINGSTON, NJ 07039 FAX: (973) 533-0548
 IRENE SHEVYKMAN PROFESSIONAL ENGINEER NJ LIC. # 24GE04541300

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 FRANCISCO J. MELENDEZ, SR., AIA NJ License No. A1 12118
 MARK E. BESS, AIA, NCARB NJ License No. A1 16160
 LAURENCE K. UHER, AIA, LEED, AP NJ License No. A1 14394

NettaArchitects
 ARCHITECTURE - PLANNING - INTERIOR DESIGN
 1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
 TEL: 973-379-0006 FAX: 973-379-1061
 CERTIFICATE OF AUTHORIZATION AC-438

PROJECT:
 UC JUSTICE COMPLEX PHASE III
ROOF AND ELEVATORS REPLACEMENT
 Elizabethtown Plaza, Elizabeth, New Jersey
SHEET CONTENTS:
 ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM AND PANEL SCHEDULES

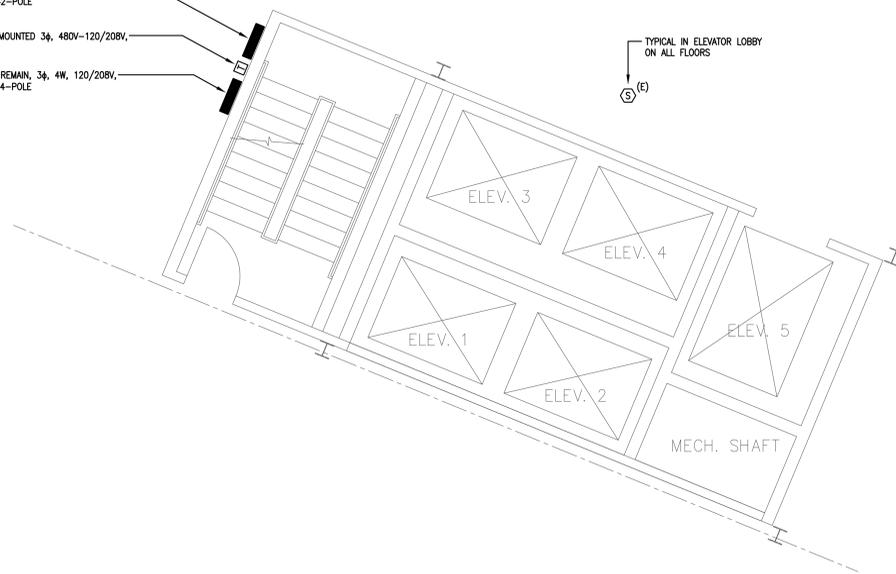
SUBMISSIONS				REVISIONS				DATE	SCALE
DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	05.12.2015	AS SHOWN
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								DRAWN BY	
								CHKD BY	NJN
								JOB NO	207895
								SHEET:	OF: --
								DRWG NO	

E-001

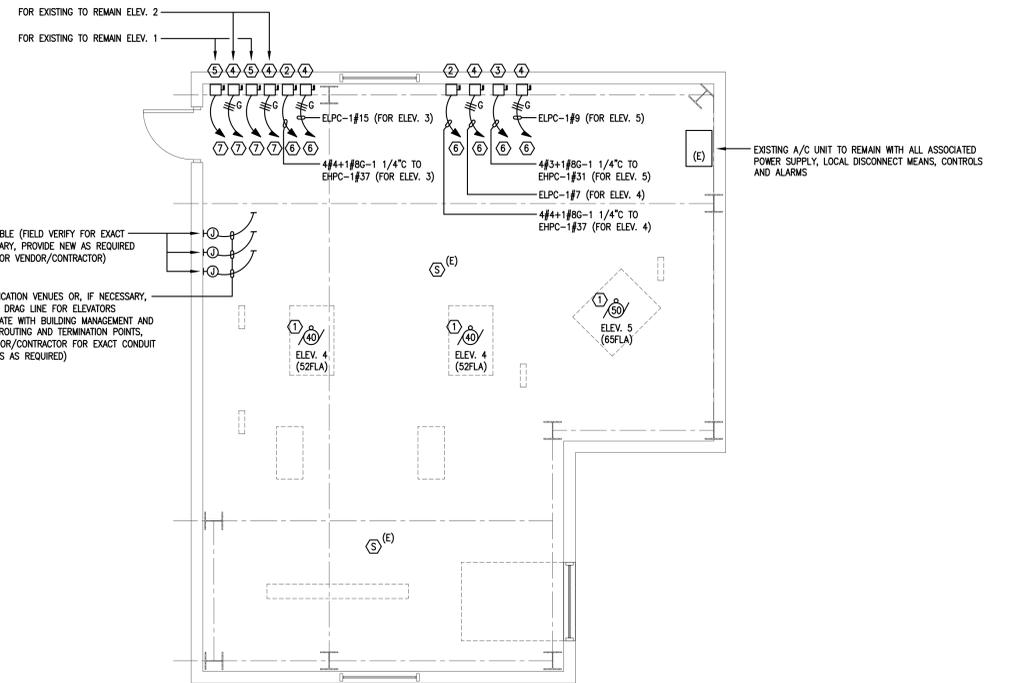
EXISTING PANEL EHPC-1 TO REMAIN, 3ø, 4W, 277/480V,
400A BUS, 3P-400A MCB, 42-POLE

EXISTING TO REMAIN FLOOR MOUNTED 3ø, 480V-120/208V,
15KVA TRANSFORMER

EXISTING PANEL ELPC-1 TO REMAIN, 3ø, 4W, 120/208V,
125A BUS, 3P-100A MCB, 24-POLE



PENTHOUSE PART PLAN
SCALE: 1/4"=1'-0"



ELEVATOR MACHINE ROOM
SCALE: 1/4"=1'-0"

KEY NOTES:

- ① REPLACE EXISTING ELEVATOR MOTOR WITH ALL ASSOCIATED CONTROLLER AND GEARS WITH ALL NEW AS REQUIRED AS INDICATED. REFER TO DRAWINGS A-501 AND A-502, AND SPECIFICATION SECTION 142123.
- ② PROVIDE NEW 3P-100AS/80AF, 600V FUSED DISCONNECT SWITCH FOR ELEVATOR CONTROLLER MAIN POWER SUPPLY, COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
- ③ PROVIDE NEW 3P-100AS/100AF, 600V FUSED LOCKABLE DISCONNECT SWITCH FOR ELEVATOR CONTROLLER MAIN POWER SUPPLY. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
- ④ PROVIDE NEW 3P-30AS/20AF (2-POLE USED ONLY), 250V FUSED LOCKABLE DISCONNECT SWITCH FOR ELEVATOR CAR LIGHT AND FAN. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
- ⑤ RELOCATE EXISTING TO NEW POSITION AS SHOWN OR PROVIDE NEW FUSED LOCKABLE DISCONNECT SWITCH FOR EXISTING ELEVATOR TO REMAIN MAIN POWER SUPPLY. COORDINATE FOR EXISTING ELEVATOR MOTOR SIZE AND WITH ELEVATOR VENDOR/CONTRACTOR.
- ⑥ PROVIDE NEW WIRING AND CONDUIT AS REQUIRED. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
- ⑦ FOR EXISTING ELEVATOR, EXTEND EXISTING WIRING AND CONDUIT OR PROVIDE ALL NEW WIRING AND CONDUIT TO RELOCATED OR PROVIDED NEW EQUIPMENT/DEVICES AS REQUIRED. IF NECESSARY, PROVIDE NEW PULL/SPLICE BOXES WITH REMOVABLE ACCESSIBLE COVERS, SIZE AS REQUIRED. NEW MAIN LINE POWER SUPPLY FEEDER SIZE SHALL MATCH EXISTING, FIELD VERIFY FOR EXISTING CONDITIONS. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.

NOTES:

1. IN ELEVATOR MACHINE ROOM, ALL EXISTING LIGHTING FIXTURES WITH ASSOCIATED SWITCHING CONTROL, CONVENIENCE RECEPTACLES, TEL/DATA OUTLETS AND FIRE ALARM DEVICES SHALL REMAIN.
2. IF NECESSARY FOR EQUIPMENT CODE COMPLIANT LOCATION WITHIN THE MACHINE ROOM, RELOCATE EXISTING COMPONENTS ASSOCIATED WITH ELEVATORS 1 AND 2 AND EXTEND ALL EXISTING SERVICES INCLUDING WIRING AND CONDUIT TO NEW POSITIONS AS REQUIRED. IF NECESSARY, PROVIDE ALL NEW COMPONENTS INCLUDING FUSIBLE DISCONNECT SWITCHES, WIRING AND CONDUIT AS REQUIRED. FIELD VERIFY AND COORDINATE WITH ELEVATOR VENDOR/CONSULTANT.
3. FIELD VERIFY FOR EXACT EXISTING CONDITION OF ELEVATOR PIT LIGHTING, PROVIDE NEW LIGHT AND ASSOCIATED MANUAL CONTROL SWITCH BY PIT ENTRANCE IF NECESSARY AS REQUIRED. IF NECESSARY, FOR EACH ELEVATOR PIT LIGHTING, PROVIDE NEW 3P-30A (2-POLE USED ONLY), 250V UNFUSED DISCONNECT SWITCH, PROVIDE NEW 1P-20A CIRCUIT BREAKERS IN AVAILABLE POSITIONS OF EXISTING PANEL ELPC-1, TYPE AND KAC RATING TO MATCH EXISTING AND INSTALL PIT LIGHT AND ASSOCIATED CONTROL SWITCH AS PER BUILDING CODE REQUIREMENTS. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
4. IN EXISTING ELEVATOR MACHINE ROOM, EXISTING HVAC SYSTEM WITH AC UNIT, ASSOCIATED DUCT WORK, LOUVERS, DAMPERS AND ASSOCIATED CONTROLS AND ALARM SHALL REMAIN.
5. IN EXISTING ELEVATOR MACHINE ROOM, EXISTING SPRINKLER SYSTEM WITH SPRINKLER HEADS AND ASSOCIATED MONITORING AND ALARM AMENITIES SHALL REMAIN.
6. PROVIDE ALL NECESSARY COMPONENTS INCLUDING WIRING AND CONDUITS, HARDWARE AND SUPPORT FOR SECURITY AND SURVEILLANCE SYSTEMS COMPONENTS AS PER ELEVATOR CONSULTANT SPECIFICATIONS AND ACCOMPANYING DOCUMENTATION. WHERE NECESSARY, REPLACE ASSOCIATED EQUIPMENT AND DEVICES WITH NEW. WHERE POSSIBLE, REUSE EXISTING POWER SUPPLY OR PROVIDE ALL NEW AS REQUIRED.
7. PROVIDE ALL FIRE ALARM PROGRAMMING AND SEQUENCE OF OPERATION AS PER ELEVATOR CONSULTANT SPECIFICATIONS AND AS REQUIRED BY CODE AND LOCAL ORDINANCES. PROGRAM NEW ELEVATOR CONTROLLERS TO EXISTING FIRE ALARM SYSTEM AS REQUIRED. PROVIDE ALL NECESSARY MONITORING, ALARM AND CONTROL AMENITIES AND FEATURES TO ACCOMPLISH FULLY PROPERLY FUNCTIONING APPROVED SYSTEM IN ACCORDANCE TO CODE AND LOCAL AUTHORITIES HAVING JURISDICTIONS, COORDINATE WITH BUILDING FIRE ALARM CONTRACTOR.
8. PROVIDE ALL NECESSARY PULL/SPLICE BOXES WITH REMOVABLE ACCESSIBLE COVERS. FIELD VERIFY AND COORDINATE FOR EXACT BOXES LOCATION AND CONDUIT ROUTING. PROVIDE ALL PROPER SUPPORT AS REQUIRED.

MEP Consultant:
**CONCORD CONSULTING
ENGINEERING, PC**
28 CONCORD DR. TEL: (973) 534-6731
LIVINGSTON, NJ 07039 FAX: (973) 533-0548
IRENE SHEYKMAN
PROFESSIONAL ENGINEER NJ LIC. # 24GE04541300

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NICHOLAS J. NETTA, AIA, NCARB
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FRANCISCO J. MELENDEZ, SR., AIA
NJ License No. AI 12118

MARK E. BESS, AIA, NCARB
NJ License No. AI 16160

LAURENCE K. UHER, AIA, LEED, AP
NJ License No. AI 14394

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NettaArchitects
ARCHITECTURE - PLANNING - INTERIOR DESIGN
1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
TEL: 973-379-0006 FAX: 973-379-1061
CERTIFICATE OF AUTHORIZATION AC-438

PROJECT:

**UC JUSTICE COMPLEX PHASE III
ROOF AND ELEVATORS REPLACEMENT**
Elizabethtown Plaza, Elizabeth, New Jersey

SHEET CONTENTS:

ELECTRICAL PART PLANS

SUBMISSIONS				REVISIONS				DATE
DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	05.12.2015
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								DRAWN BY
								CHKD BY N/JN
								JOB NO 207895
								SHEET: OF: --
								DRWG NO

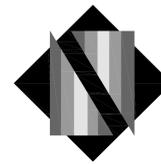
E-101

UNION COUNTY JUSTICE COMPLEX RENOVATIONS PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C”.

**15 ELIZABETHTOWN PLAZA
ELIZABETH, NJ 07202**

**ISSUED FOR BID
AUGUST, 2015**



NettaArchitects

1084 Route 22 West, Mountainside, New Jersey 07092
TEL: 973.379.0006 FAX: 973-379-1061

CONSULTANTS

LOCATION MAP NO SCALE

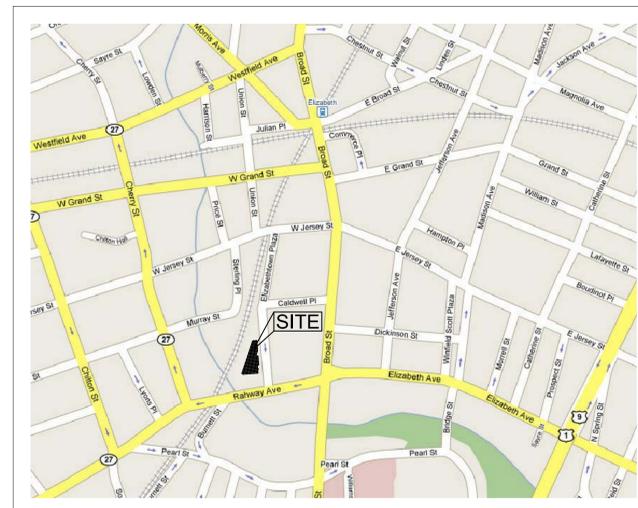
LIST OF DRAWINGS

ELECTRICAL ENGINEER
CONCORD CONSULTING ENGINEERING

28 CONCORD DRIVE
LIVINGSTON, NJ 07039
PHONE: 973.534.6731

CBA ELEVATOR CONSULTANTS LLC

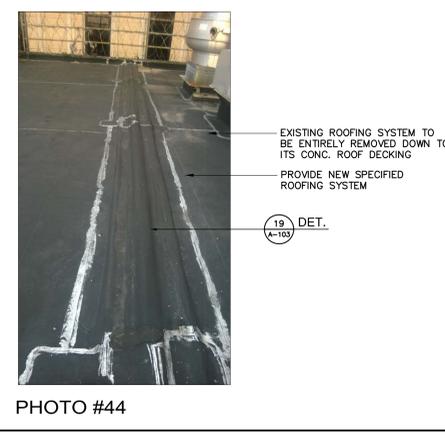
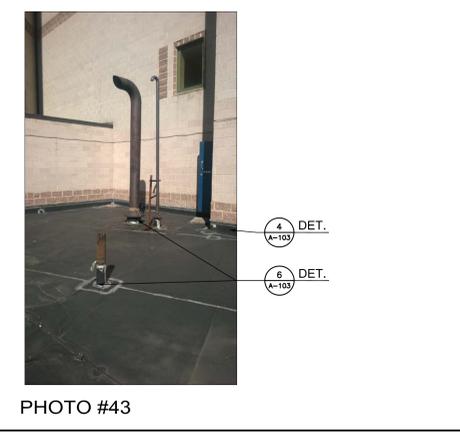
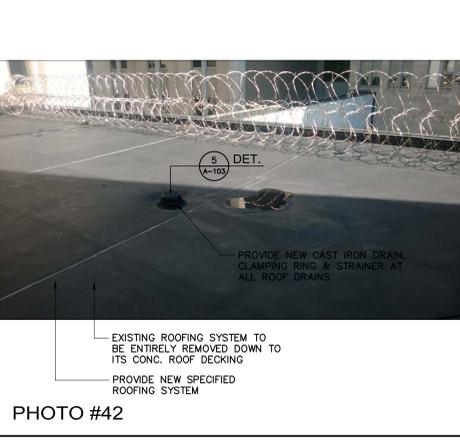
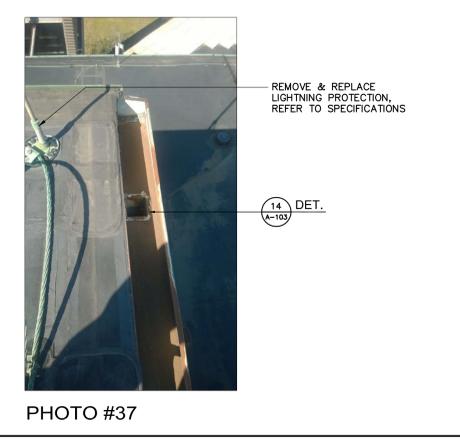
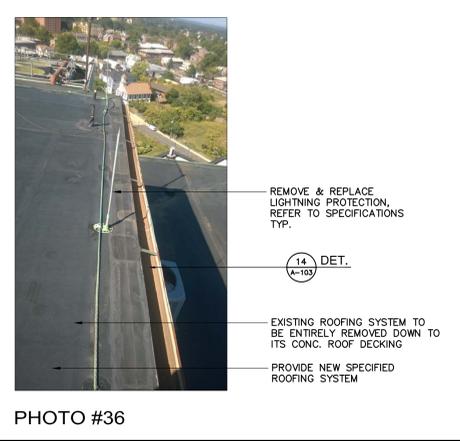
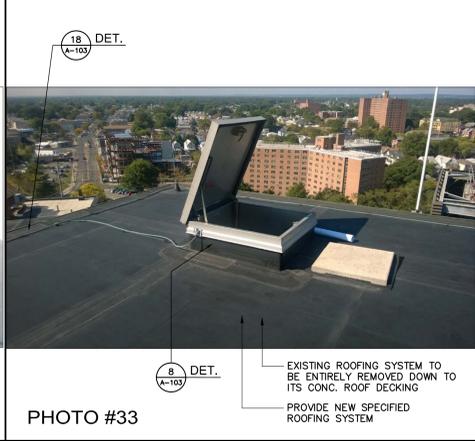
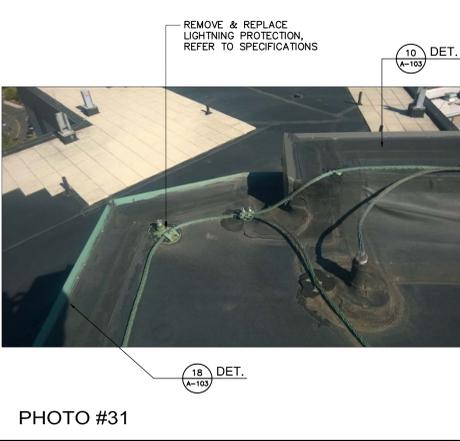
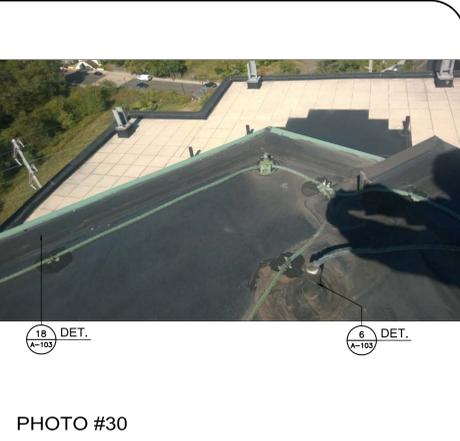
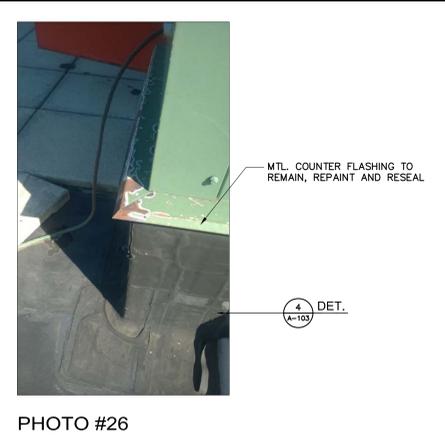
190 MAIN STREET, SUITE 402
HACKENSACK, NJ 07601
PHONE: 201.804.0911



ARCHITECTURAL

COVER SHEET

- A-001 SITE PLAN & BUILDING DATA
- D-101 2ND FLOOR ROOF, 10TH & 12TH FLOOR BRIDGE ROOF DEMOLITION PLAN
- D-102 13TH FLOOR, PENTHOUSE AND MACHINE ROOM ROOFS DEMOLITION PLANS
- D-103 PHOTOS AND DEMOLITION NOTES
- D-104 PHOTOS AND DEMOLITION NOTES
- A-101 2ND FLOOR ROOF CONSTRUCTION PLAN, CONSTRUCTION NOTES AND GENERAL REQUIREMENTS
- A-102 13TH FLOOR ROOF, PENTHOUSE ROOF & MACHINE RM. ROOF CONSTRUCTION PLAN, CONSTRUCTION NOTES AND GENERAL REQUIREMENTS
- A-103 TYPICAL ROOF DETAILS
- A-500 FIRST FLOOR KEY PLAN
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- A-502 ELEVATOR ENLARGED PLANS & DETAILS
- E-001 ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM & PANEL SCHEDULES
- E-010 ELECTRICAL SPECIFICATIONS
- E-101 ELECTRICAL PART PLANS



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NICHOLAS J. NETTA, AIA, NCARB
 NJ License No. AI 12541

FRANCISCO J. MELENDEZ, SR., AIA
 NJ License No. AI 12118

MARK E. BESS, AIA, NCARB
 NJ License No. AI 16160

LAURENCE K. UHER, AIA, LEED, AP
 NJ License No. AI 14394

Netta Architects
 ARCHITECTURE - PLANNING - INTERIOR DESIGN
 1084 ROUTE 22 WEST, MOUNTAINVIEW, NEW JERSEY 07092
 TEL: 973-379-0006 FAX: 973-379-1061
 CERTIFICATE OF AUTHORIZATION AC-438

PROJECT: UC JUSTICE COMPLEX PHASE III

ELEVATOR MODERNIZATION AND ROOF REPLACEMENT
 CITY OF ELIZABETH, COUNTY OF UNION, NEW JERSEY
 BA#30-2015; UNION COUNTY ENGINEERING PROJECT #2010-035C".

SHEET CONTENTS:

EXISTING CONDITIONS - PHOTOS 2

SUBMISSIONS				REVISIONS				DATE	SCALE
DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	DATE	SCALE
AUG 2015	ISSUED FOR BID	WTJ	FM					XX.XX.2015	AS SHOWN

DATE: XX.XX.2015
 SCALE: AS SHOWN
 DRAWN BY: FM
 CHKD BY: FM
 JOB NO: 207895
 SHEET: OF: -
 DRWG NO: D.104

GENERAL NOTES

1. ALL WORK IS NEW UNLESS OTHERWISE NOTED. THE DRAWINGS INDICATE SIZE AND GENERAL LOCATION OF WORK. SCALE DIMENSIONS SHALL NOT BE USED. THE EXACT LOCATION AND ELEVATION OF ALL RECEPTACLES AND TELEPHONE/DATA OUTLETS, ETC. SHALL BE DETERMINED FROM THE ARCHITECT'S DRAWINGS, U.O.N.
2. ALL ELECTRIC POWER SHALL BE DISCONNECTED BEFORE PERFORMING CONNECTIONS TO ANY POWER SOURCE OR DEMOLITION WORK. NO WORK IS ALLOWED ON ANY ENERGIZED EQUIPMENT.
3. FILE PLANS WITH THE BUILDING DEPARTMENT AND OBTAIN ALL PERMITS AND SIGN-OFF'S. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSPECTION APPROVAL CERTIFICATE TO BUILDING MANAGEMENT UPON COMPLETION OF WORK. CONTRACTOR SHALL FILE AS REQUIRED AND OBTAIN ALL NECESSARY APPROVAL AND PERMITS FROM ALL APPROPRIATE AGENCIES HAVING JURISDICTION. PROVIDE COPIES OF ALL APPROVALS, PERMITS, INSPECTIONS, SIGN-OFF'S, CERTIFICATES, ETC. TO THE LANDLORD FOR RECORD.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION.
5. ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED WITH SET-SCREW CONNECTION TYPE FITTINGS ONLY.
6. GREENFIELD MAY BE USED FOR FINAL CONNECTION TO MOTORS, RECESSED FIXTURES AND VIBRATION TRANSMITTING EQUIPMENT ONLY. LENGTH SHALL NOT EXCEED 6 FEET.
7. PANEL DIRECTORIES SHALL BE UPDATED TO CONFORM TO WORK COMPLETED.
8. ELECTRIC PANEL COVERS ARE NOT TO BE LEFT OFF AT ANY TIME UNLESS MEN ARE WORKING ON SAME. COVERS SHALL BE REPLACED EACH NIGHT BEFORE LEAVING JOB SITE.
9. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS ARE TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. TEMPORARY LIGHT AND POWER STRINGERS SHALL UTILIZE C-TAP TERMINATIONS. LAMP HOLDERS SHALL HAVE LEFT HANDED SCREW SHELL LAMP HOLDERS AND NON-METALLIC LAMP GUARDS. TEMPORARY LIGHTING AND POWER SHALL BE DERIVED FROM SOURCES COORDINATED WITH AND AS DIRECTED BY BUILDING MANAGEMENT AND COMPLETELY REMOVED UPON COMPLETION OF INSTALLATION.
10. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND FREE OF ANY DAMAGES. ANY INSTALLED DAMAGED MATERIAL AND EQUIPMENT SHALL BE REPLACED WITH NEW NOT DAMAGED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL COST TO THE OWNER.
11. ALL NEW MATERIALS REQUIRED SHALL CONFORM WITH THE STANDARDS OF THE UNDERWRITERS LABORATORIES, INC. IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL. IN QUESTION, UNLESS OTHERWISE NOTED.
12. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. CONTRACTOR SHALL PERFORM THIS, PRIOR TO SUBMITTING HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
13. THIS CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILING PLASTER, PARTITIONS, WALLS, ETC., AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS. IF ANY WORK IS SO INSTALLED AND IT LATER DEVELOPS THAT SUCH DETAILS OR DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR AT HIS OWN EXPENSE SHALL MAKE SUCH CHANGES IN THE WORK AS DIRECTED BY THE ARCHITECT, AS WELL AS TO PERMIT THE INSTALLATION OF THE ARCHITECTURAL WORK AS SHOWN ON THE PLANS AND DETAILS.
14. UPON COMPLETION OF THE WORK, A SET OF "AS-BUILT" DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND RECORDS. PROVIDE "AS-BUILT" DRAWINGS ON DISK, AUTOCAD 2010 AND FULL SIZE PRINT DRAWINGS SHOWING ALL FEEDERS AND BRANCH CIRCUITS WIRE SIZE, CONDUIT, ACTUAL EQUIPMENT/DEVICES CIRCUIT NUMBERING OF ALL ELECTRICAL WORK AS ACTUALLY INSTALLED. CAD BACKGROUNDS TO BE SUPPLIED BY ENGINEERING CONSULTANT UPON COMPLETION OF CAD RELEASE FORM. IN ADDITION, PROVIDE FULL SIZE "AS-BUILT" SET OF DRAWINGS AND A CAD 2010 DISC WITH ELECTRONIC FILES OF "AS-BUILT" DRAWINGS INDICATING ACTUAL WORK INSTALLED TO BUILDING MANAGEMENT UPON PROJECT COMPLETION.
15. DURING THE PROJECT DURATION, THE BUILDING MANAGEMENT OFFICE AND ITS DESIGNATED REPRESENTATIVE WILL INSPECT THE WORK IN PROGRESS. ANY WORK WHICH IS JUDGED UNSATISFACTORY FOR ANY REASON OR NOT IN COMPLIANCE WITH SET STANDARDS SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE CONTRACTOR.
16. THE OPERATION OF THE ELECTRICAL INSTALLATION DOES NOT CONSTITUTE AN ACCEPTANCE OF THE WORK BY THE OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER THE CONTRACTOR HAS DEMONSTRATED THAT THE WORK FULFILLS THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS AND HAS FURNISHED ALL REQUIRED CERTIFICATES OF APPROVAL FROM ALL AGENCIES HAVING JURISDICTIONS AND UNDERWRITERS.
17. PROVIDE APPROVED GROUND WIRES IN ALL BRANCH CIRCUITS AND FEEDERS AS REQUIRED.
18. ALL DELIVERIES OF MATERIALS, EQUIPMENT, ETC. SHALL BE COORDINATED WITH OWNER AND BUILDING MANAGEMENT FOR SCHEDULES.

ELECTRICAL DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL FIELD EXAMINE THE ENTIRE AREA AFFECTED BY THIS CONSTRUCTION AND SHALL DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND OTHER DEVICES COMPLETE WITH ALL ASSOCIATED WIRING, CONDUITS, ETC. SCHEDULED TO BE DEMOLISHED AS REQUIRED TO COMPLETE FIT-OUT PROGRAM. COORDINATE WITH ARCHITECT FOR EXACT EQUIPMENT AND DEVICES TO BE DEMOLISHED. ALL CONDUITS WITH NON-ACTIVE WIRING SHALL BE REMOVED. PROVIDE ALL DEMOLITION LABOR AS REQUIRED BY ARCHITECT'S DEMOLITION NOTES AND AS INSTRUCTED IN FIELD BY G.C. WHERE THE REMOVAL OF THESE ITEMS MAKE DEAD ELECTRICAL WIRING THAT IS TO REMAIN. THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS AS REQUIRED TO MAKE THE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, OBSOLETE WIRING SHALL BE REMOVED BACK TO THE REMAINING DEVICE OR TO THE PANELBOARD. WHERE REMOVAL OF CONDUITS IS IMPRACTICAL, REMOVE WIRING ENTIRELY, CAP CONDUITS FROM BOTH ENDS AND ABANDON IN PLACE. COORDINATE ALL DEMOLITION INCLUDING ABANDONING OF EXISTING COMPONENTS WITH ARCHITECT.
2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL, MECHANICAL AND ELECTRICAL LAYOUTS AND SCHEMES IN FULL COORDINATION WITH THE ARCHITECT'S DEMOLITION PLAN. ALL WORK THAT IS NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED, DISCONNECTED AND REMOVED.
3. MAINTAIN CONTINUOUS SERVICE ON REMAINING FEEDERS, CIRCUITS OR PARTIAL CIRCUITS AND OUTLETS SERVICING ADJACENT REMAINING ACTIVE AREAS, EXCEPT WHERE GIVEN WRITTEN PERMISSION FOR OUTAGE FOR SPECIFIED TIME. ALL WORK REQUIRING SHUTDOWN OF POWER SUPPLY OR ANY EXISTING SYSTEMS SHALL BE PERFORMED ON OVERTIME (PREMIUM HOURS) AT HOURS AS APPROVED BY BUILDING MANAGEMENT, OWNER, ARCHITECT OR GENERAL CONTRACTOR AND AT NO ADDITIONAL COST TO THE OWNER. SUBMIT SCHEDULE OF REQUIRED OUTAGES FOR APPROVAL. PERFORM WORK IN A MANNER TO MINIMIZE SHUTDOWN TIME.
4. CUT BACK TO FLOOR/WALL AND PLUG ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY ALTERATIONS TO PERMIT REFINISHING SURFACES. REMOVE EXPOSED CONDUITS, WIRE WAYS, OUTLET BOXES, HANGERS, SUPPORTS AND DEVICES MADE OBSOLETE BY THIS WORK UNLESS DESIGNATED SPECIFICALLY TO REMAIN. ELIMINATE VOID SPACES. ALL CONDUITS IN HUNG CEILING AREAS MADE OBSOLETE BY THIS WORK SHALL BE REMOVED BACK TO ORIGINATING PANEL OR POINT WHERE SUCH REMOVAL IS IMPRACTICAL. (CONCEALED IN FLOOR/WALL). ASSOCIATED WIRING SHALL BE ENTIRELY REMOVED FROM SUCH CONDUIT. ALL ELECTRICAL WORK IN ADJOINING AREAS WHICH IS REQUIRED TO FUNCTION BUT IS AFFECTED BY DEMOLITION SHALL BE RECONNECTED AND RESTORED TO ITS PRESENT FUNCTION.
5. WHERE NECESSARY, PROVIDE RECONNECTIONS AND TEMPORARY INSTALLATION AS REQUIRED; REMOVE AT JOB COMPLETION.
6. CONTRACTOR SHALL TRACE EXISTING CIRCUITS AND IDENTIFY LOCATION AND TYPE OF LOAD SERVED. "AS-BUILT" RECORDS SHALL BE SUBMITTED TO ENGINEER PRIOR TO START OF DEMOLITION.
7. PROVIDE TEMPORARY CONSTRUCTION LIGHTING AND POWER AS REQUIRED BY THE CONTACTORS OF ALL DISCIPLINES OF THIS CONTRACT.
8. EXISTING CONDUITS WHEN REUSED, SHALL BE THOROUGHLY CLEANED AND REFINISHED BEFORE REUSING.
9. PROVIDE BLANK PLATES ON ALL UNUSED OUTLET BOXES.
10. CONTRACTOR SHALL REMOVE ALL EXISTING ACCESSIBLE FIRE ALARM, TELEPHONE AND DATA CABLES THAT ARE ABANDONED AND NOT BEING REUSED AS PART OF THIS PROJECT.
11. ALL FIRE ALARM, TELEPHONE AND DATA CABLES BEING DESIGNATED FOR FUTURE USE SHALL BE TAGGED AND LABELED AS SUCH AT BOTH ENDS.

SYMBOL LIST

- \$ WALL MOUNTED LIGHTING CONTROL SWITCH, 120/277V RATED
- Ⓢ WALL MOUNTED NEMA 5-20R DUPLEX RECEPTACLE, 2P, 20A, 125V.
- Ⓢ CEILING MOUNTED SMOKE DETECTOR. "TL" DENOTES FOR ELEVATOR LOBBY WHERE INDICATED
- Ⓢ JUNCTION BOX WITH ACCESSIBLE REMOVABLE COVER, SIZE AS REQUIRED.
- ▽ WALL MOUNTED TEL/DATA OUTLET. PROVIDE 1-GANG EMPTY BACK BOX AND 1" E.C. STUB-UP WITH DRAG LINE, BUSH AT BOTH ENDS AS REQUIRED. TERMINATE AT POINT AS DIRECTED BY THE OWNER IN ACCESSIBLE CEILING OR AT HEIGHT NOT LESS THAN 8'-0" AFF.
- DISCONNECT SWITCH. SIZE, POLES AND RATING AS INDICATED ON DRAWINGS.
- Ⓢ MOTOR. NUMERIC DESIGNATION DENOTES HORSE-POWER RATING OR WATTS.
- Ⓢ MANUAL MOTOR STARTING SWITCH WITH BUILT-IN THERMAL OVERLOAD PROTECTION RELAY.
- Ⓢ HOMERUN TO DESIGNATED PANEL. HALF-ARROW INDICATES AMOUNT OF 1-POLY CIRCUITS. TICK-MARKS DEPICT AMOUNT OF #12 AWG CONDUCTORS, "G" DENOTES "GROUNDING".
- Ⓢ HOMERUN TO DESIGNATED PANEL. FULL-ARROW INDICATES AMOUNT OF MULTI-PHASE CIRCUITS. TICK-MARKS DEPICT AMOUNT OF #12 AWG CONDUCTORS, U.O.N., "G" DENOTES "GROUNDING".
- Ⓢ GROUNDING CONNECTION AS REQUIRED.
- SURFACE MOUNTED ELECTRICAL PANEL.
- Ⓢ TRANSFORMER. SIZE AND RATING AS INDICATED ON THE DRAWINGS.
- EXISTING FEEDER/EQUIPMENT TO REMAIN.
- NEW FEEDER/EQUIPMENT.

ELECTRICAL ABBREVIATIONS
(NOT ALL ABBREVIATIONS COULD BE USED)

A	AMPERES	LTG	LIGHTING
AF	AMPERE FRAME	MXM	MAXIMUM
AF	ABOVE FINISH FLOOR	MCB	MAIN CIRCUIT BREAKER
AT	AMPERE TRIP	MCH	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MER	MECHANICAL EQUIPMENT ROOM
BLDG	BUILDING	MFS	MAIN FUSED SWITCH
C	CONDUIT	MIN	MINIMUM
CAT	CATALOG	MLO	MAIN LUGS ONLY
CB	CIRCUIT BREAKER	MTD	MOUNTED
DISC	DISCONNECT	N	NEUTRAL
DWG	DRAWING	(N)	NEW
(E)	EXISTING DEVICE TO REMAIN	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NI	NOT IN CONTRACT
EM	EMERGENCY	No.	NUMBER
EQUIP	EQUIPMENT	NL	NIGHT LIGHT
FACP	FIRE ALARM CONTROL PANEL	NTS	NOT TO SCALE
FBO	FURNISH BY OTHER DIVISION OF WORK	P	POLE
FL	FLOOR	PC	PERSONAL COMPUTER (COMPUTER CIRCUIT)
FLEX	FLEXIBLE	PNL	PANEL
FT	FEET OR FOOT	∅	PHASE
GA	GAUGE	SW	SWITCH
G, GRD, GND	GROUND	SWBD	SWITCHBOARD
GC	GENERAL CONTRACTOR	TEL	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
HP	HORSEPOWER	U.O.N	UNLESS OTHERWISE NOTED
HVAC	HEATING, VENTILATING AND AIR CONDITIONING DIVISION OF WORK	UL	UNDERWRITERS LABORATORIES
HZ	HERTZ	V	VOLTAGE
JB	JUNCTION BOX	WP	WEATHERPROOF
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		

ELECTRICAL DRAWING LIST

DRAWING NUMBER	DRAWING TITLE
E-001	ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM AND PANEL SCHEDULES
E-010	ELECTRICAL SPECIFICATIONS
E-101	ELECTRICAL PART PLANS

PANEL SCHEDULE

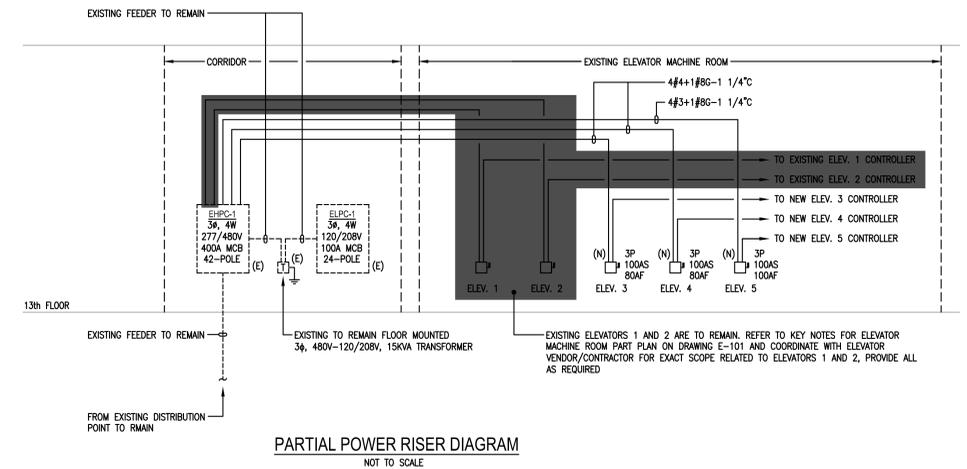
PANEL I.D.: ELPC-1		A/C: EXISTING	
VOLTAGE	PHASE	WIRE	POLES
120/208	3	4	24
BUS		125	AMPS
DEVICE		100	AMPS
<input type="checkbox"/> FLUSH <input type="checkbox"/> NEW <input checked="" type="checkbox"/> SURFACE <input checked="" type="checkbox"/> EXISTING		<input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY <input type="checkbox"/> MOLDED CASE SWITCH <input type="checkbox"/> SWITCH & FUSE <input type="checkbox"/> TOP FEED <input type="checkbox"/> BOTTOM FEED <input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> OTHER: -	
<input type="checkbox"/> 200X NEUTRAL <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -		<input type="checkbox"/> 200X NEUTRAL <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -	
CONN/CKT LOAD NO	DESCRIPTION	CB RATING	# CB RATING
1	EXISTING SPACE	20	A 20
3	EXISTING SPACE	20	B 20
5	EXISTING ACTIVE	20	C 20
0.4 7	ELEV. 4 CAR LITG AND FAN	20	A 20
0.4 9	ELEV. 5 CAR LITG AND FAN	20	B 20
11	EXISTING ACTIVE	20	C 20
13	EXISTING ACTIVE	20	A 20
0.4 15	ELEV. 3 CAR LITG AND FAN	20	B 20
17	EXISTING ACTIVE	20	C 20
19	EXISTING ACTIVE	20	A 20
21	EXISTING ACTIVE	20	B 20
23	EXISTING ACTIVE	20	C 20
25	EXISTING ACTIVE	20	A 20
27	EXISTING ACTIVE	20	B 20
29	EXISTING ACTIVE	20	C 20
31	EXISTING ACTIVE	20	A 20
33	EXISTING ACTIVE	20	B 20
35	EXISTING ACTIVE	20	C 20
37	EXISTING ACTIVE	20	A 20
39	EXISTING ACTIVE	20	B 20
41	EXISTING ACTIVE	20	C 20

PANEL SCHEDULE

PANEL I.D.: EHPC-1		A/C: EXISTING	
VOLTAGE	PHASE	WIRE	POLES
277/480	3	4	42
BUS		400	AMPS
DEVICE		400	AMPS
<input type="checkbox"/> FLUSH <input type="checkbox"/> NEW <input checked="" type="checkbox"/> SURFACE <input checked="" type="checkbox"/> EXISTING		<input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY <input type="checkbox"/> MOLDED CASE SWITCH <input type="checkbox"/> SWITCH & FUSE <input type="checkbox"/> TOP FEED <input type="checkbox"/> BOTTOM FEED <input checked="" type="checkbox"/> EXISTING <input type="checkbox"/> OTHER: -	
<input type="checkbox"/> 200X NEUTRAL <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -		<input type="checkbox"/> 200X NEUTRAL <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> EQUIPMENT GROUND BUS <input type="checkbox"/> DOOR-IN-DOOR COVER <input type="checkbox"/> STAINLESS STEEL CONSTR. <input type="checkbox"/> NEMA 3R <input type="checkbox"/> SUB-FEED MAIN CB <input type="checkbox"/> 80% - SIZE - <input type="checkbox"/> CONTACTOR CONTROLLED <input type="checkbox"/> AMP'S: - <input type="checkbox"/> CONTACTS CONTROLLED: - <input type="checkbox"/> OTHER: -	
CONN/CKT LOAD NO	DESCRIPTION	CB RATING	# CB RATING
1	EXISTING ACTIVE	20	A 20
3	EXISTING ACTIVE	20	B 20
5	EXISTING ACTIVE	20	C 20
7	EXISTING ACTIVE	20	A 20
9	EXISTING ACTIVE	20	B 20
11	EXISTING ACTIVE	20	C 20
13	EXISTING ACTIVE	20	A 20
15	EXISTING ACTIVE	20	B 20
17	EXISTING ACTIVE	20	C 20
19	EXISTING ACTIVE	20	A 20
21	EXISTING ACTIVE	20	B 20
23	EXISTING ACTIVE	20	C 20
25	EXISTING ACTIVE	20	A 20
27	EXISTING ACTIVE	20	B 20
29	EXISTING ACTIVE	20	C 20
31	ELEV. 5 MAIN POWER SUPPLY	3P	A 20
33	(50HP-63FLA)	B	20
35	(4#3+1#8G-1 1/4")	100	C 20
14.4 37	ELEV. 4 MAIN POWER SUPPLY	3P	A 3P
14.4 39	(40HP-52FLA)	B	20
14.4 41	(4#4+1#8G-1 1/4")	80	C 80

PANEL SCHEDULES NOTES:

1. UTILIZE EXISTING BRANCH CIRCUIT BREAKERS WHERE POSSIBLE. PROVIDE NEW CIRCUIT BREAKERS AS NECESSARY, TYPE AND KVA RATING TO MATCH EXISTING.
2. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR AND PROVIDE MAIN POWER SUPPLY CIRCUIT BREAKER WITH SHUNT TRIP FEATURE IF NECESSARY.
3. PROVIDE UPDATED PANEL DIRECTORY UPON COMPLETION OF WORK.



MEP Consultant:
CONCORD CONSULTING ENGINEERING, PC
 28 CONCORD DR. TEL: (973) 534-6731
 LIVINGSTON, NJ 07039 FAX: (973) 533-0548
 IRENE SHEVYKMAN PROFESSIONAL ENGINEER NJ LIC. # 24GE04541300

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NICHOLAS J. NETTA, ARCHITECT.
 NICHOLAS J. NETTA, AIA, NCARB NJ License No. A1 12541
 FRANCISCO J. MELENDEZ, SR., AIA NJ License No. A1 12118
 MARK E. BESS, AIA, NCARB NJ License No. A1 16160
 LAURENCE K. UHER, AIA, LEED, AP NJ License No. A1 14394

NettaArchitects
 ARCHITECTURE - PLANNING - INTERIOR DESIGN
 1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
 TEL: 973-379-0006 FAX: 973-379-1061
 CERTIFICATE OF AUTHORIZATION AC-438

PROJECT:
UC JUSTICE COMPLEX PHASE III ROOF AND ELEVATORS REPLACEMENT
 Elizabethtown Plaza, Elizabeth, New Jersey
SHEET CONTENTS:
 ELECTRICAL GENERAL NOTES, SYMBOLS, ABBREVIATIONS, PARTIAL POWER RISER DIAGRAM AND PANEL SCHEDULES

SUBMISSIONS		REVISIONS		DATE	05.12.2015
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E-001

ELECTRICAL SPECIFICATIONS

1. GENERAL DESCRIPTION
- A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND EQUIPMENT AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK AS SHOWN, SPECIFIED HEREIN OR OTHERWISE REQUIRED. ALL MATERIAL AND EQUIPMENT/DEVICES SHALL BE NEW, FREE FROM ANY INTERNAL OR EXTERNAL DAMAGES AND U/L LISTED.
- B. THE CONTRACT DOCUMENTS ARE INTENDED TO COVER THE COMPLETE AND PROPER EXECUTION OF THE ENTIRE WORK. DETAILS, PARTS AND APPURTENANT WORK REQUIRED TO CARRY OUT THEIR INTENT, AND WORK NECESSARY FOR THE COMPLETE AND PROPER EXECUTION OF THE WORK, EVEN THOUGH NOT DELINEATED, DESCRIBED, MENTIONED OR INDICATED, SHALL BE FURNISHED THE SAME AS IF THEY WERE SPECIFICALLY SHOWN OR MENTIONED. THE BID PRICE SHALL BE DEEMED TO INCLUDE SUCH DETAILS, PARTS AND APPURTENANT WORK.
2. STANDARDS AND REGULATIONS
- A. ALL WORK AND MATERIALS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, THE BUILDING CODE, BUILDING STANDARDS AND REGULATIONS.
- B. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE BUILDING REQUIREMENTS AND REGULATIONS AND WITH ACCEPTED CONSTRUCTION METHODS, SCHEDULES AND ALLOWABLE MATERIALS AND NOTIFY THE ENGINEER IF, IN HIS OPINION, ANY WORK OR MATERIAL SPECIFIED IS NOT PERMITTED. A SUBSTITUTE APPROVED BY THE ENGINEER SHALL BE FURNISHED AT NO ADDITIONAL COST TO THE OWNER.
- C. THE CONTRACTOR SHALL DELIVER COMPLETE INSTALLATION AND FULFILL ALL CONTRACTUAL OBLIGATIONS INCLUDING COMPLETE PUNCH LIST PREPARED BY OWNER, ARCHITECT AND ENGINEER BEFORE REQUESTING FINAL PAYMENT.
3. COORDINATION
- A. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER, LANDLORD/BUILDING MANAGEMENT, ARCHITECT AND ALL OTHER TRADES. THE REQUIREMENTS OF THE OWNER, LANDLORD/BUILDING MANAGEMENT AND ARCHITECT SHALL SUPERSEDE THE CONVENIENCE OF THE CONTRACTOR.
4. GUARANTEE
- A. CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, MATERIALS AND WORKMANSHIP FOR MINIMUM ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE.
5. INSURANCE
- A. THE CONTRACTOR SHALL FURNISH STATUTORY COMPENSATION INSURANCE CERTIFICATES FOR PERSONAL AND PROPERTY DAMAGE DISABILITY/LIABILITY AS REQUIRED BY THE OWNER AND HEREINBEFORE DESCRIBED.
6. SHOP DRAWINGS
- A. CONTRACTOR SHALL SUBMIT FOUR (4) COPIES OF ALL SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION AND INSTALLATION, INCLUDING ALL CATALOG INFORMATION AND OTHER PRINTED DATA.
- B. SHOP DRAWINGS SHALL INCLUDE ALL INFORMATION, ILLUSTRATED CUTS OF THE ITEM TO BE FURNISHED, SCALED DETAILS, SIZES, DIMENSIONS, PERFORMANCE CHARACTERISTICS, CAPACITIES, WIRING DIAGRAMS AND CONTROLS AND ALL OTHER PERTINENT INFORMATION.
- C. THE ACCEPTANCE OF SHOP DRAWINGS BY THE ENGINEER WILL BE GENERAL. IT SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ACCURACY OF SUCH SHOP DRAWINGS, NOR FOR PROPER FITTING, CONSTRUCTION OF WORK, FURNISHING OF MATERIALS OR WORK REQUIRED BY CONTRACT AND NOT INDICATED ON SHOP DRAWINGS. SHOP DRAWING ACCEPTANCE SHALL NOT BE CONSTRUED AS ACCEPTING DEPARTURES FROM CONTRACTUAL REQUIREMENTS.
- D. MANUFACTURER'S SHOP DRAWINGS OF THE FOLLOWING EQUIPMENT INDICATING FULL INFORMATION AS TO SIZE, MATERIAL, FINISH, GAUGE, INSTALLATION DETAILS, ETC., SHALL BE SUBMITTED:
1. WIRING DEVICES AND DEVICE PLATES.
 2. DISCONNECT SWITCHES.
 3. LIGHTING FIXTURES.
 4. PANELBOARDS.
 5. ANY OTHER ITEMS OF ELECTRICAL WORK AS REQUIRED BY ENGINEER.
7. PULL BOXES
- A. PULL BOXES AND SPLICE BOXES FOR CABLES SHALL BE INSTALLED AS REQUIRED REGARDLESS IF THEY ARE SHOWN ON THE DRAWINGS OR NOT. BOXES SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH ACCESSIBLE REMOVABLE COVERS.
8. OUTLET BOXES AND DEVICES
- A. OUTLET BOXES SHALL BE GALVANIZED STEEL, EXCEPT AS NOTED, COMPLETE WITH RAISED PLASTER COVER, SIZE AS REQUIRED. FURNISH BLANK COVERS FOR ALL JUNCTION BOXES.
- B. OUTLET BOXES SHALL BE NOMINAL 4" SQUARE, 1 1/2" OR 2 1/8" DEEP.
9. WIRE AND CABLE
- A. ALL WIRING SHALL BE COPPER, U/L LISTED, AWG, MINIMUM #12 GAUGE, 600 VOLT RATED, TYPE THHN OR THWN UNLESS OTHERWISE NOTED.
- B. WIRING #10 AND SMALLER SHALL BE SOLID; #8 AND LARGER SHALL BE STRANDED.
- C. ALL WIRES AND CABLES SHALL BE COLOR CODED, UNLESS OTHERWISE NOTED. NEUTRALS SHALL BE WHITE. GROUNDS SHALL BE GREEN.
- D. SWITCH LEGS FOR LOCAL WALL SWITCHES SHALL HAVE A DISTINCTIVE COLOR. NEUTRAL CONDUCTORS SHALL NOT BE SWITCHED.
- E. WHERE TWO OR MORE CIRCUITS RUN TO OR THROUGH A CONTROL DEVICE, OUTLET OR JUNCTION BOX, EACH CIRCUIT SHALL BE TAGGED.
- F. TAGS SHALL SHALL BE FIBER AND SHALL IDENTIFY WIRE OR CABLE NUMBER, SIZE, POWER SOURCE AND PIECE OF EQUIPMENT SERVED.
- G. ALL CABLES NOT INSTALLED IN CONDUIT AND RUN IN AIR SHALL BE PLENUM RATED.
- H. AC TYPE CABLE ("BX") SHALL NOT BE USED. MC TYPE CABLE SHALL BE UTILIZED.
- I. WHERE NECESSARY, INCREASE WIRE SIZE TO ACCOMMODATE FOR REQUIRED VOLTAGE DROP OR AMPACITY DRAINING BASED ON AMOUNT AND SIZE OF CURRENT CARRYING CONDUCTORS IN THE RACEWAY.

10. RACEWAYS
- A. GENERAL:
1. RACEWAY ENCLOSURES AND BOXES SHALL BE MECHANICALLY JOINED TO FORM A CONTINUOUS ELECTRICAL CONDUCTOR.
 2. THE CONTRACTOR SHALL PROVIDE AND ERECT APPROVED TYPE PULL BOXES AS REQUIRED.
 3. FITTINGS FOR RIGID STEEL CONDUIT SHALL BE THREADED TYPE.
- B. MINIMUM SIZE OF CONDUITS SHALL BE 3/4 INCHES, UNLESS OTHERWISE NOTED.
- C. CONDUIT JOINTS AND ENDS SHALL BE CAREFULLY REAMED AFTER APPLICATION DIE. ENDS SHALL BE KEPT PLUGGED OR CAPPED DURING CONSTRUCTION.
- D. IN GENERAL, ALL CONDUIT WORK SHALL BE CONCEALED IN ALL FINISHED PORTIONS AND EXPOSED ELSEWHERE, UNLESS OTHERWISE DIRECTED BY OWNER.
- E. FURNISH MINIMUM #14 GAUGE GALVANIZED STEEL DRAG WIRE OR EQUIVALENT IN ALL EMPTY CONDUIT RUNS. DRAG WIRE SHALL BE SECURELY FASTENED AT EACH END.
- F. ALUMINUM CONDUIT SHALL NOT BE PERMITTED, UNLESS OTHERWISE NOTED.
- G. FURNISH LOCKOUTS AND BUSHINGS FOR ALL CONDUIT TERMINATIONS IN ALL OUTLET BOXES, PANELS, PULL BOXES, ETC.
- H. FURNISH EXPANSION FITTINGS ON ALL CONDUITS PASSING THROUGH STRUCTURAL EXPANSION JOINTS.
- I. USE EMT CONDUIT FOR CONCEALED WORK, IN DRY AREAS AND ABOVE HUNG CEILINGS.
- J. USE RGS CONDUIT WITH THREADED FITTINGS FOR CONCEALED WORK IN POURED CONCRETE FLOORS, UNDER GROUND, IN WET AND EXTERIOR LOCATIONS, UNLESS OTHERWISE NOTED.
- K. PROVIDE PROPER CONDUIT SIZE AS REQUIRED WHERE ADJUSTMENTS HAVE TO BE MADE TO ACCOMMODATE WIRING SIZE INCREASE DUE TO VOLTAGE DROP OR AMPACITY DIRECTION.

11. GROUNDING
- A. THE GROUNDING SYSTEM SHALL CONSIST OF CONDUCTORS, CONNECTORS AND ALL OTHER NECESSARY EQUIPMENT REQUIRED TO PROVIDE A COMPLETE GROUNDING SYSTEM FOR ELECTRICAL WORK. THE GROUNDING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF THE ELECTRICAL CODE.
- B. THE COMPLETE GROUNDING SYSTEM SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT LOW IMPEDANCE RETURN PATH TO THE GROUNDING SOURCE.
- C. THE GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ELECTRICAL CODE AND THE AUTHORITY HAVING JURISDICTION.
- D. ALL GROUNDING CONNECTIONS WITHIN BUILDINGS SHALL BE ACCESSIBLE FOR PERIODIC FUTURE INSPECTIONS AND SHALL ALSO BE MADE USING SOLDERLESS CONNECTORS AS HEREIN SPECIFIED.
- E. LENGTH OF GROUNDING CONDUCTORS OR JUMPERS SHALL BE KEPT AT A MINIMUM.
- F. BOLTED CONNECTIONS SHALL BE OF THE MULTIPLE BOLT-TYPE. BOLTS, WASHERS AND STOP NUTS SHALL BE OF THE HIGH COPPER ALLOY EVERDUR, DURUM, DURONIZE OR SILICON BRONZE. FERROUS HARDWARE WILL NOT BE ACCEPTABLE.
- G. EQUIPMENT GROUND
1. EQUIPMENT GROUNDING SHALL CONSIST OF CONNECTING ALL NON-CURRENT CARRYING METAL PARTS OF THE WIRING SYSTEM TO A GROUND SOURCE.
 2. GROUND SOURCE SHALL BE THE TERMINAL OF THE GROUNDING CONDUCTOR IN THE SERVICE EQUIPMENT.
 3. CONDUIT GROUNDING BUSHINGS SHALL BE PROVIDED ON ALL INCOMING AND OUTGOING CONDUITS TO THE SERVICE EQUIPMENT.
 4. NON-CURRENT CARRYING METAL PARTS SHALL INCLUDE SUCH ITEMS AS METAL CONDUITS, RACEWAYS, OUTLET BOXES, CABINETS AND SIMILAR COMPONENT PARTS OF ALL ELECTRICAL AND NON-ELECTRICAL EQUIPMENT AND APPARATUS.
- H. GROUND TESTS
1. THE CONTRACTOR SHALL PERFORM SUCH GROUND TESTS AS ARE REQUIRED IN ORDER TO ENSURE COMPLIANCE OF THE GROUNDING SYSTEM WITH THE REQUIREMENTS OF THE ELECTRICAL CODE.
- I. GROUND BUS
1. GROUND BUS IN NORMAL AND EMERGENCY PANELS SERVING COMMON AREAS SHALL AS A MINIMUM BE BONDED TOGETHER WITH A #8 CONTINUOUS COPPER BONDING JUMPER AS PER CODE REQUIREMENTS.

12. WIRING DEVICES
- A. FURNISH AND INSTALL ALL SWITCHES, RECEPTACLES, OUTLET BOXES, PLATES, ETC. AS INDICATED, SPECIFIED OR REQUIRED FOR A COMPLETE INSTALLATION.
- B. OUTLET BOXES SHALL BE MOUNTED AT UNIFORM HEIGHTS WITHIN THE SAME OR SIMILAR AREAS.
- C. RECEPTACLES
- RECEPTACLES IN GENERAL SHALL BE HEAVY DUTY GRADE 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE, GROUNDED, UNLESS OTHERWISE NOTED. LEVITON, HUBBELL OR EQUIVALENT AS APPROVED BY THE ENGINEER. COLOR SHALL BE AS SPECIFIED BY ARCHITECT.
- D. SWITCHES:
- ALL TOGGLE SWITCHES SHALL BE QUIET TYPE, SINGLE POLE 20 AMPERE, 120/277 VOLT, LEVITON DECORA SERIES.
- E. WALL PLATES:
1. NON MAGNETIC WHITE OR AS SPECIFIED BY ARCHITECT OR OWNER.
 2. EACH RECEPTACLE OUTLET PLATE AND SWITCH PLATE SHALL BE ENGRAVED TO INDICATE PANELBOARD AND CIRCUIT NUMBER SERVING IT.
- F. HEIGHT OF OUTLETS:
- IN GENERAL, MOUNTING HEIGHT OF ALL OUTLETS AND SWITCHES SHALL BE DETERMINED BY THE ARCHITECT, UNLESS OTHERWISE NOTED. HEIGHT OF OUTLETS FROM FINISHED FLOOR TO CENTER-LINE OF OUTLET, GENERALLY SHALL BE AS FOLLOWS:
1. RECEPTACLES - GENERAL (TO MATCH EXISTING, U.O.A.).....1'-3"
 2. COUNTER OUTLETS - COORDINATE WITH FURNITURE LAYOUTS.....ABOVE BACK COUNTER
 3. WALL SWITCHES - GENERALAS NOTED ON ARCHITECTURAL DRAWINGS
 4. TELEPHONE OUTLETS FOR WALL PHONES.....4'-6"

13. DISCONNECT SWITCHES
- A. FURNISH AND INSTALL ALL SAFETY SWITCHES WHERE SHOWN AND AS SIZED ON DRAWINGS, CLASS AS REQUIRED. SWITCH SHALL BE IN NEMA ENCLOSURE TO SUIT CONDITIONS - NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR APPLICATIONS.
- B. SAFETY SWITCHES SHALL BE NEMA TYPE HD HEAVY DUTY, 3-POLE, RATED FOR THE VOLTAGES SHOWN, UNLESS OTHERWISE NOTED. FUSED WHEN NOTED AND SHALL BE MOUNTED 6'-6" AFT TO TOP OF OPERATING HANDLE, UNLESS OTHERWISE NOTED OR AS APPLICABLE AND PERMITTED BY CODE.
- C. SWITCHES SHALL HAVE A QUICK-MAKE OPERATING HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE ENCLOSURE, NOT THE COVER.
- D. PROVIDE INTERLOCKS TO PREVENTS OPENING THE COVER WITH THE SWITCH IN THE "ON" POSITION OR CLOSING OF THE SWITCH WITH THE DOOR OPEN.
- E. SWITCHES SHALL BE CAPABLE OF WITHSTANDING THE AVAILABLE FAULT OR LET-THROUGH CURRENT BEFORE THE FUSE OPERATES WITHOUT DAMAGE OR CHANGE IN RATING.
- F. SAFETY SWITCHES SHALL BE GENERAL ELECTRIC TYPE "TH", CUTLER-HAMMER, SIEMENS OR SQUARE D HEAVY DUTY.
14. FUSES
- A. FUSES SHALL BE AS MANUFACTURED BY BUSSMANN, LITLFE FUSE COMPANY OR AS APPROVED EQUAL AND SHALL BE OF THE RATINGS SHOWN ON THE DRAWINGS.
- B. ALL FUSES SHALL BE CURRENT LIMITING AND HAVE AN INTERRUPTING CAPACITY OF AT LEAST 200,000 AMPERES RMS SYMMETRICAL.
- C. THE TIME CURRENT CHARACTERISTICS AND RATINGS SHALL BE SUCH THAT POSITIVE SELECTIVE COORDINATION IS ASSURED.
15. CIRCUIT BREAKERS
- A. 100 AMPERE FRAME:
1. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC, MANUALLY OPERATED, MOLDED CASE TYPE FOR 100 AMPERE FRAME SIZE AND SHALL BE BOLT-DOWN TYPE.
 2. BREAKERS SHALL PROVIDE POSITIVE TRIP-FREE OPERATION ON ABNORMAL OVERLOADS WITH QUICK-MAKE AND QUICK-BREAK CONTACT UNDER BOTH MANUAL AND AUTOMATIC OPERATION. EACH POLE OF THE BREAKER SHALL BE EQUIPPED WITH AN INVERSE TIME DELAY THERMAL OVERCURRENT TRIP ELEMENT AND MAGNETIC INSTANTANEOUS OVERCURRENT TRIP ELEMENTS FOR COMMON TRIPPING OF ALL POLES.
 3. BREAKERS SHALL BE OF POLES AND SIZE AS INDICATED ON THE DRAWINGS AND SHALL BE AS MANUFACTURED BY CUTLER-HAMMER, GE, SIEMENS, SQUARE D OR AS APPROVED EQUAL.
- B. 225 AMPERE FRAME AND LARGER
1. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC, MANUALLY OPERATED, MOLDED CASE TYPE FOR 225 AMPERE FRAME OR LARGER SIZE AS REQUIRED AND SHALL BE BOLT-DOWN TYPE.
 2. BREAKERS SHALL PROVIDE POSITIVE TRIP-FREE OPERATION ON ABNORMAL OVERLOADS WITH QUICK-MAKE AND QUICK-BREAK CONTACT UNDER BOTH MANUAL AND AUTOMATIC OPERATION. EACH POLE OF THE BREAKER SHALL BE EQUIPPED WITH AN INVERSE TIME DELAY THERMAL OVERCURRENT TRIP ELEMENT FOR COMMON TRIPPING OF ALL POLES. CIRCUIT BREAKERS OF 225 AMPERES FRAME SIZE AND LARGER SHALL HAVE INTERCHANGEABLE OVERCURRENT TRIP UNITS AND ADJUSTABLE INSTANTANEOUS TRIP WHERE INDICATED ON THE DRAWINGS.
 3. BREAKERS SHALL BE OF POLES AND SIZE AS INDICATED ON THE DRAWINGS AND SHALL BE AS MANUFACTURED BY CUTLER-HAMMER, GE, SIEMENS, SQUARE D OR AS APPROVED EQUAL.

16. PANELBOARDS
- A. LIGHTING/UTILITY PANELS SHALL BE RECESSED MOUNTED IN FINISHED AREAS OR SURFACE MOUNTED WITHIN ELECTRICAL CLOSETS. PANELS SHALL BE DEAD FRONT TYPE AND SHALL HAVE COPPER BUS BARS.
- B. PANELS SHALL HAVE CONCEALED HINGES, INDICATING TRIP CLAMPS AND SHALL BE OF THE DOOR-IN-DOOR TYPE WITH TWO LOCKS.
- C. PANELS SHALL HAVE A GROUND CONNECTOR WELDED TO PANEL ENCLOSURE SHALLOU TO O.Z. TYPE OGL.
- D. PANELS SHALL HAVE A MINIMUM OF 6" OUTER SPACE ON BOTH SIDES AND 8" ON TOP AND BOTTOM.
- E. CIRCUIT BREAKERS SHALL BE OF THE MOLDED CASE BOLTED IN PLACE TYPE WITH THERMAL MAGNETIC TRIP. PROVIDE 20% SPARE CIRCUIT BREAKERS.
- F. PANELBOARDS SHALL BE FINISHED IN BAKED-ON GRAY ENAMEL AND BE LOCKABLE. ACCEPTABLE MANUFACTURERS ARE METROPOLITAN SWITCHBOARD, ALL CITY SWITCHBOARD, LINCOLN ELECTRIC, GE, SIEMENS, SQUARE D OR CUTLER-HAMMER.
- G. FURNISH AND INSTALL TYPEWRITTEN DIRECTORIES. PROVIDE PLASTIC ENGRAVED NAMEPLATES.
17. LOW-VOLTAGE SYSTEM
- A. FURNISH WALL MOUNTED OUTLET BOXES AND PLATES, SIZE AND TYPE AS REQUIRED BY OWNER OR ARCHITECT, FOR THE COMPUTER, TEL./DATA, SECURITY, AV, CABLE TV OR OTHER SYSTEMS.
- B. FROM EACH OUTLET RUN CONCEALED CONDUIT UP WALL AND TERMINATE IN ACCESSIBLE CEILING IN A BUSHED ELBOW. PROVIDE PULL CORD IN EACH EMPTY CONDUIT. CONDUIT SIZE SHALL BE 1" FOR ALL NEW WALL MOUNTED LOW-VOLTAGE OUTLETS AND 1 1/4" FOR ALL NEW FURNITURE SYSTEMS.
- C. ALL WORK RELATED TO THE TELEPHONE SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL TELEPHONE COMPANY AND OWNER. COORDINATE FOR TERMINATION POINTS.
- D. ALL WORK RELATED TO LOW-VOLTAGE SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE OWNER AND SERVICE PROVIDER/CARRIER. COORDINATE FOR TERMINATION POINTS.
18. EQUIPMENT FURNISHED BY OTHERS
- A. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY CONDUIT, WIRING, JUNCTION BOXES, CONNECTIONS, POWER CIRCUITING/FEEDERS, ODD'S, HANGERS AND SUPPORTS AND ALL NECESSARY ASSOCIATED EQUIPMENT, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION OF EQUIPMENT FURNISHED BY OTHERS.
19. NAMEPLATES
- A. ON EACH ITEM OF EQUIPMENT (PANELBOARDS, DISCONNECT SWITCHES, ETC.) PROVIDE PHENOLIC ENGRAVED NAMEPLATE FASTENED WITH SET OF SCREWS WITH EQUIPMENT IDENTIFICATION INFORMATION, SOURCE OF POWER SUPPLY AND SIZE OF ASSOCIATED SERVING FEEDER.
20. CLEANING UP
- A. CONTRACTOR SHALL TAKE CARE TO AVOID ACCUMULATION OF DEBRIS, BOXES, GRATES, ETC., RESULTING FROM THE INSTALLATION OF HIS WORK. CONTRACTOR SHALL REMOVE FROM THE PREMISES EACH DAY ALL DEBRIS, BOXES, ETC., AND KEEP THE PREMISES CLEAN, SUBJECT TO THE OWNER'S DIRECTION AND LANDLORD INSTRUCTION ON REMOVAL.
- B. CONTRACTOR SHALL CLEAN ALL FIXTURES, PANELS, EQUIPMENT, ETC., UPON COMPLETION OF THE PROJECT.

21. RECORD DRAWINGS - "AS-BUILT"
- A. DURING THE CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL KEEP A RECORD OF ALL MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS. UPON CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A PRINT OF THE FINAL "AS-BUILT" DRAWINGS INDICATING THE ACTUAL WORK BUILT FOR REVIEW AND RECORD.
- B. AFTER REVIEW, THE CONTRACTOR SHALL SUBMIT (3) BLACKLINE SETS OF PRINTS AND (1) DISC CONTAINING ELECTRONIC VERSION OF DRAWINGS IN AUTOCAD-2008 FORMAT. THE USE OF SHOP DRAWINGS WILL NOT CONSTITUTE "AS-BUILTS".
22. TAPPING
- A. PROVIDE ALL REQUIRED LUGS, BUS BAR EXTENSIONS, ENCLOSURE MODIFICATIONS, ETC. TO MAKE ALL REQUIRED CONNECTIONS (BUS TAPS, FEEDER TAPS, ETC.).
23. SECURITY, TELEPHONE AND DATA EMPTY CONDUIT SYSTEM
- A. PROVIDE LABOR, MATERIALS AND SERVICES FOR A COMPLETE AND SAFE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES, STANDARDS, REGULATIONS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTIONS FOR THE SYSTEM INCLUDING THE FOLLOWING:
1. CONDUIT
 2. PULL BOXES
 3. OUTLET BOXES
 4. SLEEVES
- B. PROVIDE MINIMUM 2" DEEP 2 GANG OUTLET BOXES, U.O.A. DEVICES AND WIRING/CABLEING BY OTHERS.
- C. ALL RACEWAY SHALL BE EMT WITH BUSHED TERMINATIONS AT HUNG CEILING OR AS DIRECTED BY OWNER OR SYSTEM VENDOR/INSTALLER WITH FISHWIRE (NYLON CORD).

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MEP Consultant:
CONCORD CONSULTING ENGINEERING, PC
 28 CONCORD DR. TEL: (973) 534-6731
 LIVINGSTON, NJ 07039 FAX: (973) 533-0548
 IRENE SHEVYKMAN PROFESSIONAL ENGINEER NJ LIC. # 24GE0451300

NICHOLAS J. NETTA, AIA, NCARB
 NJ License No. A1 12541
 FRANCISCO J. MELENDEZ, SR., AIA
 NJ License No. A1 12118
 MARK E. BESS, AIA, NCARB
 NJ License No. A1 16160
 LAURENCE K. UHER, AIA, LEED, AP
 NJ License No. A1 14394



PROJECT:
UC JUSTICE COMPLEX PHASE III ROOF AND ELEVATORS REPLACEMENT
 Elizabethtown Plaza, Elizabeth, New Jersey

SHEET CONTENTS:
 ELECTRICAL SPECIFICATIONS

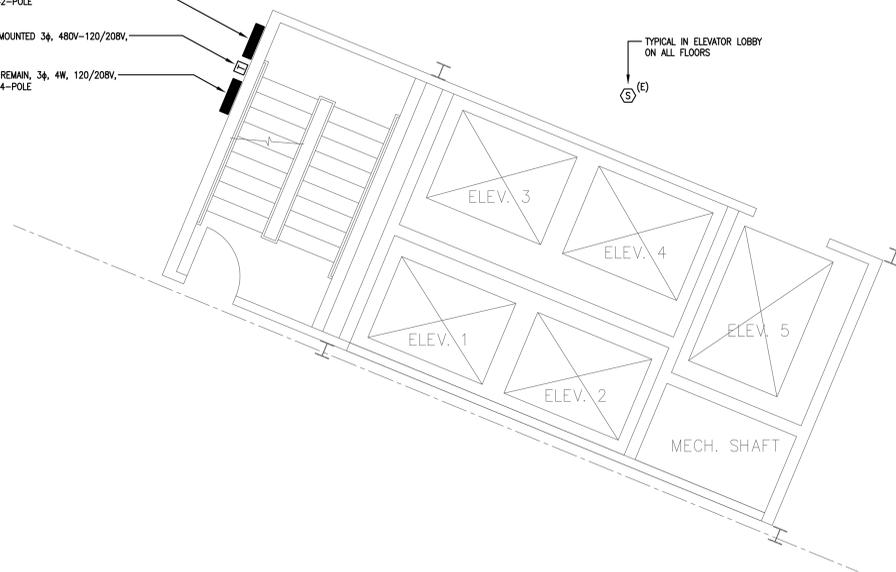
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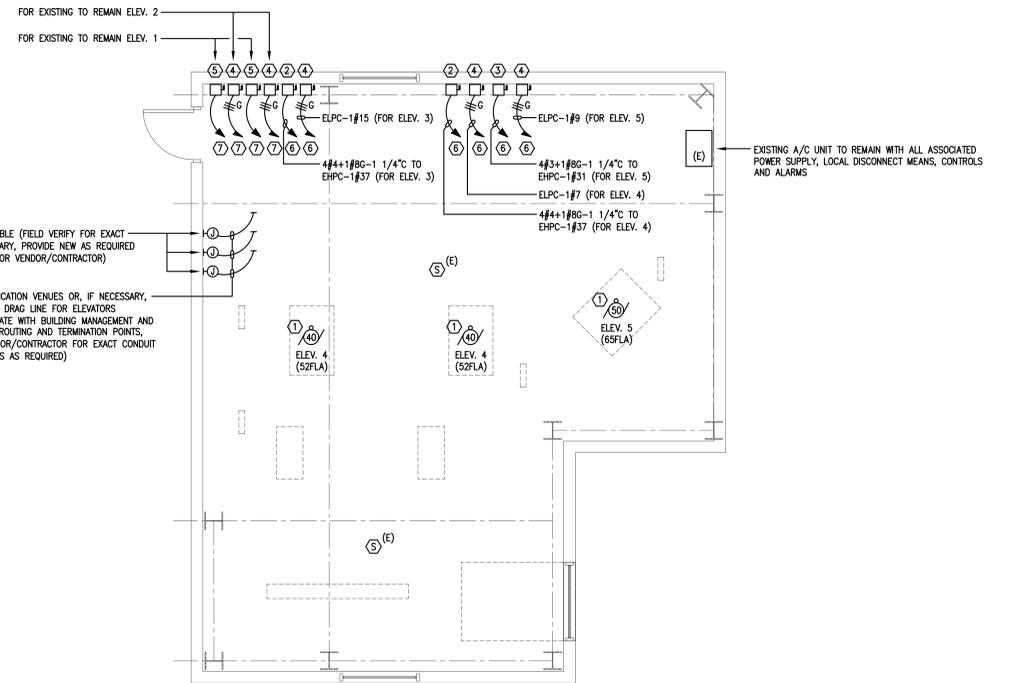
EXISTING PANEL EHPC-1 TO REMAIN, 3ø, 4W, 277/480V,
400A BUS, 3P-400A MCB, 42-POLE

EXISTING TO REMAIN FLOOR MOUNTED 3ø, 480V-120/208V,
15KVA TRANSFORMER

EXISTING PANEL ELPC-1 TO REMAIN, 3ø, 4W, 120/208V,
125A BUS, 3P-100A MCB, 24-POLE



PENTHOUSE PART PLAN
SCALE: 1/4"=1'-0"



ELEVATOR MACHINE ROOM
SCALE: 1/4"=1'-0"

KEY NOTES:

1. REPLACE EXISTING ELEVATOR MOTOR WITH ALL ASSOCIATED CONTROLLER AND GEARS WITH ALL NEW AS REQUIRED AS INDICATED. REFER TO DRAWINGS A-501 AND A-502, AND SPECIFICATION SECTION 142123.
2. PROVIDE NEW 3P-100AS/80AF, 600V FUSED DISCONNECT SWITCH FOR ELEVATOR CONTROLLER MAIN POWER SUPPLY, COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
3. PROVIDE NEW 3P-100AS/100AF, 600V FUSED LOCKABLE DISCONNECT SWITCH FOR ELEVATOR CONTROLLER MAIN POWER SUPPLY. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
4. PROVIDE NEW 3P-30AS/20AF (2-POLE USED ONLY), 250V FUSED LOCKABLE DISCONNECT SWITCH FOR ELEVATOR CAR LIGHT AND FAN. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
5. RELOCATE EXISTING TO NEW POSITION AS SHOWN OR PROVIDE NEW FUSED LOCKABLE DISCONNECT SWITCH FOR EXISTING ELEVATOR TO REMAIN MAIN POWER SUPPLY. COORDINATE FOR EXISTING ELEVATOR MOTOR SIZE AND WITH ELEVATOR VENDOR/CONTRACTOR.
6. PROVIDE NEW WIRING AND CONDUIT AS REQUIRED. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
7. FOR EXISTING ELEVATOR, EXTEND EXISTING WIRING AND CONDUIT OR PROVIDE ALL NEW WIRING AND CONDUIT TO RELOCATED OR PROVIDED NEW EQUIPMENT/DEVICES AS REQUIRED. IF NECESSARY, PROVIDE NEW PULL/SPLICE BOXES WITH REMOVABLE ACCESSIBLE COVERS. SIZE AS REQUIRED. NEW MAIN LINE POWER SUPPLY FEEDER SIZE SHALL MATCH EXISTING, FIELD VERIFY FOR EXISTING CONDITIONS. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.

NOTES:

1. IN ELEVATOR MACHINE ROOM, ALL EXISTING LIGHTING FIXTURES WITH ASSOCIATED SWITCHING CONTROL, CONVENIENCE RECEPTACLES, TEL/DATA OUTLETS AND FIRE ALARM DEVICES SHALL REMAIN.
2. IF NECESSARY FOR EQUIPMENT CODE COMPLIANT LOCATION WITHIN THE MACHINE ROOM, RELOCATE EXISTING COMPONENTS ASSOCIATED WITH ELEVATORS 1 AND 2 AND EXTEND ALL EXISTING SERVICES INCLUDING WIRING AND CONDUIT TO NEW POSITIONS AS REQUIRED. IF NECESSARY, PROVIDE ALL NEW COMPONENTS INCLUDING FUSIBLE DISCONNECT SWITCHES, WIRING AND CONDUIT AS REQUIRED. FIELD VERIFY AND COORDINATE WITH ELEVATOR VENDOR/CONSULTANT.
3. FIELD VERIFY FOR EXACT EXISTING CONDITION OF ELEVATOR PIT LIGHTING, PROVIDE NEW LIGHT AND ASSOCIATED MANUAL CONTROL SWITCH BY PIT ENTRANCE IF NECESSARY AS REQUIRED. IF NECESSARY, FOR EACH ELEVATOR PIT LIGHTING, PROVIDE NEW 3P-30A (2-POLE USED ONLY), 250V UNFUSED DISCONNECT SWITCH, PROVIDE NEW 1P-20A CIRCUIT BREAKERS IN AVAILABLE POSITIONS OF EXISTING PANEL ELPC-1, TYPE AND KAC RATING TO MATCH EXISTING AND INSTALL PIT LIGHT AND ASSOCIATED CONTROL SWITCH AS PER BUILDING CODE REQUIREMENTS. COORDINATE WITH ELEVATOR VENDOR/CONTRACTOR.
4. IN EXISTING ELEVATOR MACHINE ROOM, EXISTING HVAC SYSTEM WITH AC UNIT, ASSOCIATED DUCT WORK, LOUVERS, DAMPERS AND ASSOCIATED CONTROLS AND ALARM SHALL REMAIN.
5. IN EXISTING ELEVATOR MACHINE ROOM, EXISTING SPRINKLER SYSTEM WITH SPRINKLER HEADS AND ASSOCIATED MONITORING AND ALARM AMENITIES SHALL REMAIN.
6. PROVIDE ALL NECESSARY COMPONENTS INCLUDING WIRING AND CONDUITS, HARDWARE AND SUPPORT FOR SECURITY AND SURVEILLANCE SYSTEMS COMPONENTS AS PER ELEVATOR CONSULTANT SPECIFICATIONS AND ACCOMPANYING DOCUMENTATION. WHERE NECESSARY, REPLACE ASSOCIATED EQUIPMENT AND DEVICES WITH NEW. WHERE POSSIBLE, REUSE EXISTING POWER SUPPLY OR PROVIDE ALL NEW AS REQUIRED.
7. PROVIDE ALL FIRE ALARM PROGRAMMING AND SEQUENCE OF OPERATION AS PER ELEVATOR CONSULTANT SPECIFICATIONS AND AS REQUIRED BY CODE AND LOCAL ORDINANCES. PROGRAM NEW ELEVATOR CONTROLLERS TO EXISTING FIRE ALARM SYSTEM AS REQUIRED. PROVIDE ALL NECESSARY MONITORING, ALARM AND CONTROL AMENITIES AND FEATURES TO ACCOMPLISH FULLY PROPERLY FUNCTIONING APPROVED SYSTEM IN ACCORDANCE TO CODE AND LOCAL AUTHORITIES HAVING JURISDICTIONS, COORDINATE WITH BUILDING FIRE ALARM CONTRACTOR.
8. PROVIDE ALL NECESSARY PULL/SPLICE BOXES WITH REMOVABLE ACCESSIBLE COVERS. FIELD VERIFY AND COORDINATE FOR EXACT BOXES LOCATION AND CONDUIT ROUTING. PROVIDE ALL PROPER SUPPORT AS REQUIRED.

MEP Consultant:
**CONCORD CONSULTING
ENGINEERING, PC**
28 CONCORD DR. TEL: (973) 534-6731
LIVINGSTON, NJ 07039 FAX: (973) 533-0548
IRENE SHEYKMAN
PROFESSIONAL ENGINEER NJ LIC. # 24GE04541300

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NICHOLAS J. NETTA, ARCHITECT.

NICHOLAS J. NETTA, AIA, NCARB
NJ License No. AI 12541

FRANCISCO J. MELENDEZ, SR., AIA
NJ License No. AI 12118

MARK E. BESS, AIA, NCARB
NJ License No. AI 16160

LAURENCE K. UHER, AIA, LEED, AP
NJ License No. AI 14394

These drawings shall be used for the specific project location indicated within the Title Block, and shall not be used at any other location without prior consent from the ARCHITECT.



NettaArchitects
ARCHITECTURE - PLANNING - INTERIOR DESIGN
1084 ROUTE 22 WEST, MOUNTAINSIDE, NEW JERSEY 07092
TEL: 973-379-0006 FAX: 973-379-1061
CERTIFICATE OF AUTHORIZATION AC-438

PROJECT:

**UC JUSTICE COMPLEX PHASE III
ROOF AND ELEVATORS REPLACEMENT**
Elizabethtown Plaza, Elizabeth, New Jersey

SHEET CONTENTS:

ELECTRICAL PART PLANS

SUBMISSIONS				REVISIONS				DATE
DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD	05.12.2015
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								DRAWN BY
								CHKD BY N/JN
								JOB NO 207895
								SHEET: OF: --
								DRWG NO

E-101