

SPECIFICATIONS

FOR

**Asbestos Abatement and Fire Sprinkler
Installation on the 2nd Floor of the New Annex
Building, City of Elizabeth, County of Union,
New Jersey**

BA#18-2021; Union County Engineering Project # 2020-005

March 2021

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Director, Department of Engineering, Public Works and
Facilities Management

**COUNTY ENGINEER
DIVISION OF ENGINEERING**

Thomas O. Mineo, P.E.

Prepared by:

USA Architects, Planners and Interior Designers, Ltd.
20 North Doughty Avenue
Somerville, New Jersey 08876
(T) 908-722-2300
Andrew P. Adornato, AIA

**COUNTY OF UNION
NOTICE TO BIDDERS**

Sealed bids will be received by the assistant director of the Division of Purchasing, or her designee, at the County of Union, New Jersey on **April 28, 2021 at 11:30 a.m.**, prevailing time, in the **3rd Floor Conference Room**, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**Asbestos Abatement and Fire Sprinkler Installation
on the 2nd Floor of the New Annex Building, City of Elizabeth,
County of Union, New Jersey
BA#18-2021; Union County Engineering Project # 2020-005**

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.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid in accordance with the New Jersey Local Public Contracts Law.

***Public access to the County of Union Administration Building is currently restricted during the statewide public health emergency. Accordingly there will not be an in-person public opening but instead will be conducted live and streamed via the County of Union live streaming platform which will feature both audio and video capabilities. A link will be provided on the day of the opening at <https://ucnj.org/>.

Bidders on this project are required to be pre-classified by the State of NJ, Division of Property Management and Construction (DPMC) under classifications #C009 (General Construction/Alterations & Additions), #C032 (HVACR), #CO45 (Sprinkler System), #C047 (Electrical) and #C092 (Asbestos Removal) as well as other documentary requirements in the INSTRUCTION TO BIDDERS found in the bid specification. If the Bidder himself does not have the required classification(s) as stated above, the Bidder must include and identify a subcontractor(s), of any tier, who has the required classification(s) in the List of Subcontractors.

A pre-bid meeting will be held on April 8, 2021 at 11:00am. Those attending shall meet in the lobby of the New Annex Building, 9 Elizabethtown Plaza, Elizabeth, NJ; no late arrivals will be permitted. Specific questions regarding the project will be addressed at the pre-bid meeting. COVID-19 Precautions must be taken.

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. Hand delivery of proposals are strongly discouraged due to public restrictions. If delivered by hand, you will not receive confirmation of delivery. **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.A.C. 17:27.

***Entire bid packages received will be scanned and available for public inspection on the portal, <http://ucnj.org/itb>, as they would be available for public inspection after an in-person bid opening. Bidders are reminded to review their submissions for any information they consider to be confidential. The County will not be responsible for the release of any information contained in the bid package which may be subject to confidentiality.

MICHELLE HAGOPIAN, ASSISTANT DIRECTOR OF PURCHASING

Union County Board of County Commissioners

We're Connected to You!

**Asbestos Abatement and Fire Sprinkler Installation on the 2nd Floor of the New Annex Building, City of
Elizabeth, County of Union, New Jersey
BA#18-2021; Union County Engineering Project # 2020-005**

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- Contractor Registration Advisement
- Americans with Disabilities Act
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- Contractor Performance Record
- Affidavit Regarding List of Disbarred, Suspended or Disqualified Bidders
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STANDARD SPECIFICATION FORM - SS-1

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR AIA DOCUMENT A-101/2007
(Draft form until contract is awarded)

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A-201/2007
(Draft form until contract is awarded)

NEW JERSEY PREVAILING WAGE DETERMINATION DOCUMENTS

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**UNION COUNTY BOARD OF COUNTY COMMISSIONERS
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 County Commissioners
UC Administration Building, 6th Floor
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

ADDRESS INQUIRIES TO:

Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Michelle Hagopian, Assistant Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548
ucbids@ucnj.org

ADDRESS BIDS AND SUBMIT TO:

Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Michelle Hagopian, Assistant Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548
ucbids@ucnj.org

TITLE OF PROJECT:

Asbestos Abatement and Fire Sprinkler Installation on the 2nd Floor of the New Annex Building, City of Elizabeth, County of Union, New Jersey

BA#18-2021; Union County Engineering Project # 2020-005

BIDDER: Bidder shall be a single overall contract bidder

ARCHITECT: USA Architects

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

COUNTY ENGINEER:

Thomas O. Mineo, P.E.
Union County
Division of Engineering

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.

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 Contactor's risk. Such payment will only be in the amount agreed to by the parties, in writing in the Change Order(s). See Section 37, 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 minor informalities or non-material exceptions in the bids.

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 Michele Hagopian, Assistant 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, Michele Hagopian, Assistant 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 Assistant Director, Division of Purchasing at ucbids@ucnj.org 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 Assistant Director, Division of Purchasing at ucbids@ucnj.org, 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 Office of the Division of Purchasing 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 Assistant Director, Division of Purchasing 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 15 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 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 will return all certified checks or cashier's checks after the proposals have been opened, tabulated and reviewed except those of the three (3) bidders lowest responsible bidders. 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 an 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. 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.

11. 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 County Commissioners, 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 County Commissioners, 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.

12. 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.”

13. 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.

14. 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".

15. 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.

16. 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.

17. 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.

18. OWNERSHIP DISCLOSURES REQUIRED

Pursuant to P.L. 2016, c. 43, codified as N.J.S.A. 52:25-24.2.no corporation, partnership, or limited liability company shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies the County unless prior to the receipt of the bid or accompanying the bid, of said corporation, said partnership, or said limited liability company there is submitted a statement setting forth the names and addresses of all stockholders in the corporation who own ten percent (10%) or more of its stock, of any class, or of all individual partners in the partnership who own a ten percent (10%) or greater interest therein, or of all members in the limited liability company who own a ten percent (10%) or

greater interest therein, as the case may be. If one or more such stockholder or partner or member is itself a corporation or partnership or limited liability company, the stockholders holding ten percent (10%) or more of that corporation's stock, or the individual partners owning ten percent (10%) or greater interest in that partnership, or the members owning ten percent (10%) or greater interest in that limited liability company, as the case may be, shall also be listed. The disclosure shall be continued until names and addresses of every non corporate stockholder, and individual partner, and member, exceeding the ten percent (10%) ownership criteria has been listed.

To comply with this section, a bidder with any direct or indirect parent entity which is publicly traded may submit the name and address of each publicly traded entity and the name and address of each person that holds a ten percent (10%) or greater beneficial interest in the publicly traded entity as of the last annual filing with the federal Securities and Exchange Commission ("SEC") or the foreign equivalent, and, if there is any person that holds a ten percent (10%) or greater beneficial interest, also shall submit links to the websites containing the last annual filings with the federal SEC or the foreign equivalent and the relevant page numbers of the filings that contain the information on each person that holds a ten percent (10%) or greater beneficial interest.

(See forms attached)

19. 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.

20. 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.

21. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56.25 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 Workforce Development 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 County Commissioners on May 8, 2014. The resolution is furnished in Section 51 of these General Specifications.

UNION LABOR IS PREFERRED ON ALL COUNTY WORK

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)

22. 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.

23. 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.

24. NUMBER OF WORKING DAYS

In accordance with N.J.S.A. 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.

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

Pursuant to N.J.S.A. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. SUB-LETTING OF WORK

Except for the List of Subcontractors, pursuant to N.J.S.A. 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 N.J.S.A. 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 N.J.S.A. 40A:11-16 will not be permitted except with the consent of the County Engineer.

32. 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 Workforce Development shall be observed.

33. 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.

34. 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.

35. PERMITS

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

36. 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.

37. CHANGE ORDERS

The applicability of change orders and change order procedures shall comply with *N.J.S.A. 40A:11-16.7* and *N.J.A.C. 5:30-11.1 et seq.*, "Change Orders and Open End Contracts".

38. 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 36. 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.

39. FORM OF CONTRACT

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.

40. 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 N.J.S.A. 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 6 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 21 and 51); and **c)** General Release (see Section 36) 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.

41. 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.

42. 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.

43. 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.

44. 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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45. INVESTMENT ACTIVITIES IN IRAN

Pursuant to *N.J.S.A. 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.

46. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (N.J.S.A. 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 Workforce Development 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.

47. 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.

48. 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.

49. 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.

50. 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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51. CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

Pursuant to N.J.S.A. 52:32-44, the County of Union is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.

Prior to contract award or authorization, the contractor shall provide the County of Union with its proof of business registration and that of any named subcontractor(s).

Subcontractors named in a bid or other proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the County of Union prior to the time a contract, purchase order, or other contracting document is awarded or authorized.

During the course of contract performance:

- 1) the contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.
- 2) the contractor shall maintain and submit to the County of Union a list of subcontractors and their addresses that may be updated from time to time.
- 3) the contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury, 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 the State. Any questions in this regard can be directed to the Division of Taxation at (609)292-6400. Form NJ-REG can be filed online at <http://www.state.nj.us/treasury/revenue/busregcert.shtml>.

Before final payment is made under the contract, the contractor shall submit to the County of Union a complete and accurate list of all subcontractors used and their addresses.

Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000, for each proof of business registration not properly provided under a contract with a contracting agency.

52. 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.

53. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE

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

54. 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 N.J.S.A. 19:44A-1 et seq. are NOT REQUIRED to be provided with the bids.

55. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

Pursuant to N.J.S.A. 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.

56. 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," (N.J.S.A. 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).

BIDDER'S NAME: _____

EDWARD T. OATMAN
COUNTY MANAGER

MICHELE HAGOPIAN, ASSISTANT 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: _____

**PLEASE SUBMIT BID DOCUMENTS ON SINGLE SIDED PAPER ONLY, WITH THE EXCEPTION OF
THE SURETY AND BID BOND DOCUMENTS.**

**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.

BIDDER'S NAME: _____

_____ 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 and Workforce and Workforce Development – 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

_____ 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

_____ Time of Completion

_____ Disclosure of Investment Activities in Iran Certification Form

I HAVE TAKEN THE FOLLOWING ACTIONS:

_____ Visited the site and attended the Pre-Bid Meeting **(Where applicable)**

_____ 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

BIDDER'S NAME: _____

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

**Asbestos Abatement and Fire Sprinkler Installation on the 2nd Floor of the New Annex Building,
City of Elizabeth, County of Union, New Jersey**

BA#18-2021; Union County Engineering Project # 2020-005

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.

LUMP SUM BID:

Written

Figures

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

Two Hundred Twenty Five Thousand and No Cents
Written

\$225,000.00
Figures

TOTAL LUMP SUM BASE BID PLUS 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'S NAME: _____

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: _____

STATEMENT OF OWNERSHIP DISCLOSURE

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.

Name of Organization: _____

Organization Address: _____

Part I Check the box that represents the type of business organization:

- Sole Proprietorship (skip Parts II and III, execute certification in Part IV)
- Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)
- For-Profit Corporation (any type) Limited Liability Company (LLC)
- Partnership Limited Partnership Limited Liability Partnership (LLP)
- Other (be specific): _____

Part II

- The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. **(COMPLETE THE LIST BELOW IN THIS SECTION)**

OR

- No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. **(SKIP TO PART IV)**

(Please attach additional sheets if more space is needed):

BIDDER'S NAME: _____

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed.**

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

Please list the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above.** The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

BIDDER'S NAME: _____

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) or Business Address

Part IV Certification

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the **County of Union** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with **County of Union** to notify the **County of Union** in writing of any changes to the information contained herein; 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 am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the **County of Union** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

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: _____

BIDDER'S NAME: _____

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

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

DEPARTMENT OF TREASURY
DIVISION OF REVENUE
PO BOX 382
TRENTON, NJ 08646

TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT
TRADE NAME: CLIENT REGISTRATION
TAXPAYER IDENTIFICATION#: 070-007-382/000
SEQUENCE NUMBER: 0107200
ADDRESS: 847 ROEBLING AVE, TRENTON NJ 08611
ISSUANCE DATE: 07/14/04
EFFECTIVE DATE: 01/01/01

For Office Use Only:
20041014112823533

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

BIDDER'S NAME: _____

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.

BIDDER'S NAME: _____

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 and Workforce and Workforce Development. 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 and Workforce and Workforce Development
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. S12101 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: _____

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

BIDDER'S NAME: _____

16. Bank Reference. (Name, Address, Phone, Representative) _____

17. Will you, upon request, fill out a detailed financial Statement? _____

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.

19. 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____.

BIDDER'S NAME: _____

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 contact 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 _____, 20__.

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: _____

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 **180 calendar days** from the date of the notice to proceed.

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

BIDDER'S NAME: _____

**COUNTY OF UNION NEW JERSEY
Division of Purchasing
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN FORM**

Solicitation Number: _____

Vendor/Bidder: _____

PART 1

CERTIFICATION

VENDOR/BIDDER MUST COMPLETE PART 1 BY CHECKING ONE OF THE BOXES
FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE

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 neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the State of New Jersey, Department of the Treasury's Chapter 25 list as a person or entity engaged in investment activities in Iran. The Chapter 25 list is found on the Department's website at <http://www.state.nj.us/treasury/pdf/Chapter25List.pdf>. Vendors/Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification will render a Vendor's/Bidder's proposal non-responsive.** If the Director of the Division of Purchase and Property finds a person or entity to be in violation 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 party.

CHECK THE APPROPRIATE BOX

A. I certify, pursuant to Public Law 2012, c.25, that neither the Vendor/Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the N.J. Department of Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). Disregard Part 2 and complete and sign the Certification below.

OR

B. I am unable to certify as above because the Vendor/Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such information 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 ADDITIONAL INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

If you checked Box "B" above, provide a detailed, accurate and precise description of the activities of the Vendor/Bidder, or one of its parents, subsidiaries or affiliates, engaged in investment activities in Iran by completing the information below.

ENTITY NAME: _____
RELATIONSHIP TO VENDOR/BIDDER: _____
DESCRIPTION OF ACTIVITIES: _____
DURATION OF ENGAGEMENT: _____
ANTICIPATED CESSATION DATE: _____
VENDOR/BIDDER CONTACT NAME: _____
VENDOR/BIDDER CONTACT PHONE#: _____

Attach Additional Sheets If Necessary

CERTIFICATION

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor/Bidder, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the County of Union, New Jersey is relying on the information contained herein, and that the Vendor/Bidder is under a continuing obligation from the date of this certification through the completion of any contract(s) with the County of Union to notify the County of Union in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution under the law, and it will constitute a material breach of my agreement(s) with the County of Union, permitting the County of Union to declare any contract(s) resulting from this certification void and unenforceable.

Signature

Date

Print Name and Title

Revised 10/19/17

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of New Jersey Department of Transportation, 2019 Edition; is added to and/or amended elsewhere herein by the Notice to Contractors (Advertisement), Proposal, Information for Bidders, General Conditions, Supplemental Conditions, 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 Contractors (Advertisement), Proposal, General Conditions, Special Provisions, Project Plans and/or Supplementary 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 word "STATE" shall refer to and mean the professional engineering representative of the Owner as hereinbefore defined and the word "ENGINEER" 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 American Association of State Highway Official (AASHO), 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)

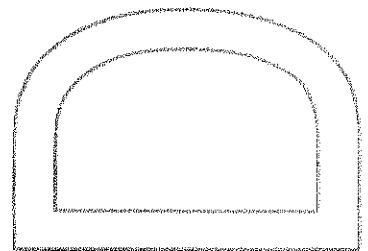
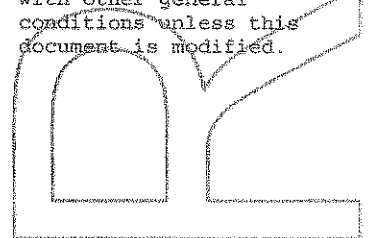
The Owner and Contractor agree as follows.



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.



ELECTRONIC COPYING of any portion of this AIA Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS
- 10 INSURANCE AND BONDS

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)

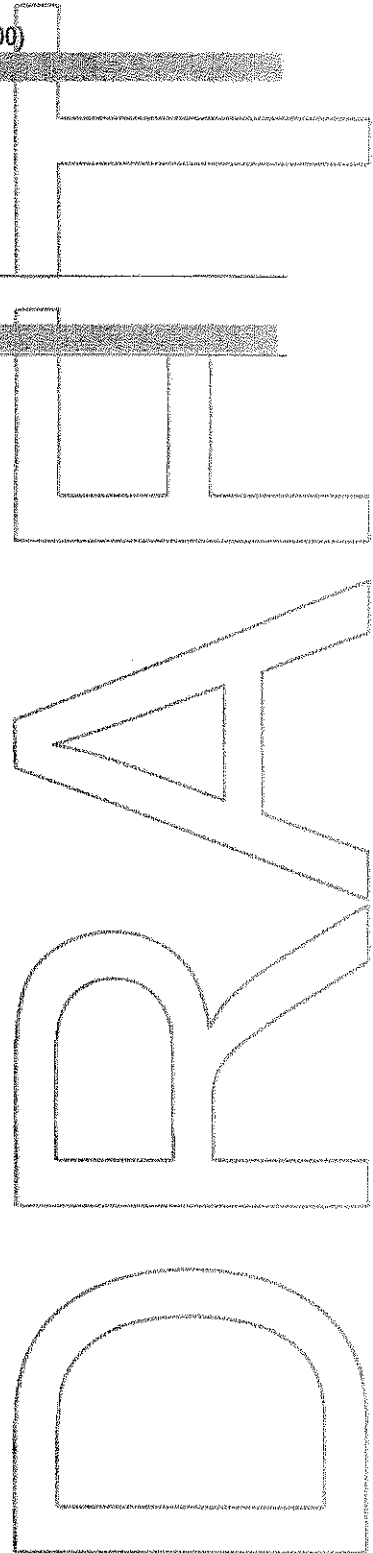
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(Printed name and title)

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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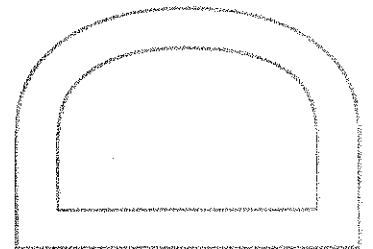
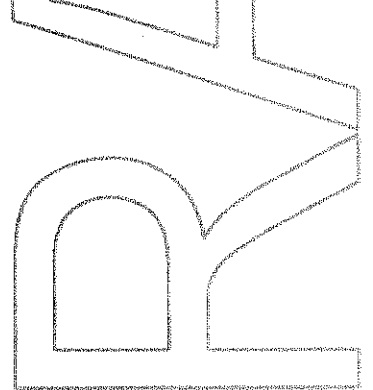
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ADDITIONS AND DELETIONS:

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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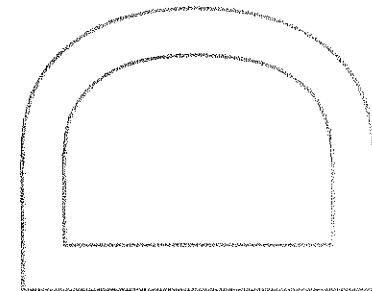
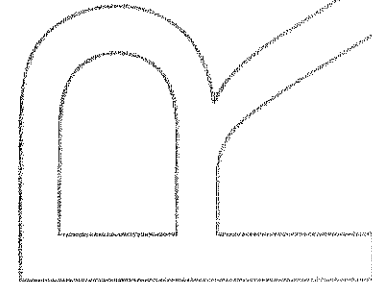
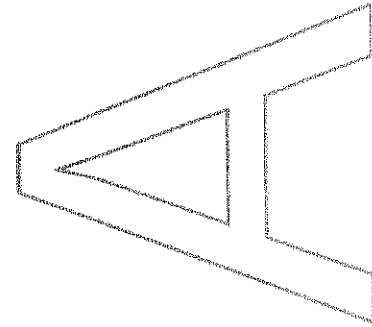
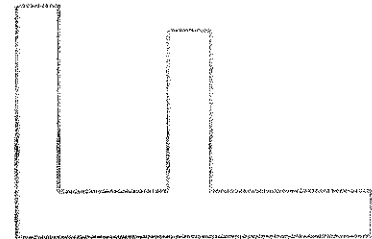
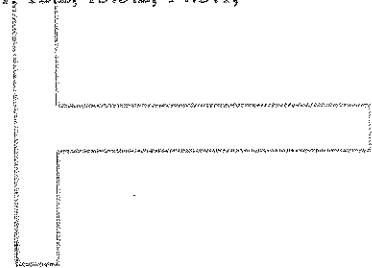
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ARTICLE 1 GENERAL PROVISIONS

§ 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 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 or 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 un contemplated 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 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

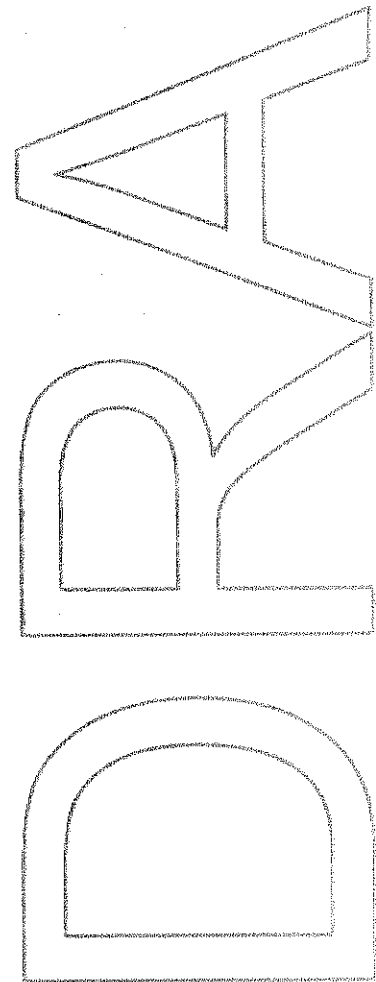
§ 19.1.1 The Contractor acknowledges and agrees that pursuant to P.L. 2004, c. 57, enacted by the State of New Jersey on June 29, 2004, contractors or contractors with subcontractors, or their affiliates, who enter into contracts

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.





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

	03/03/21
Journeyman (Mechanic)	W41.48 B26.57 T68.05

Craft: Air Conditioning & Refrigeration - Service and Repair

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 1:4

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

	01/01/21
Foreman	W52.51 B45.60 T98.11
General Foreman	W54.51 B46.63 T101.14
Journeyman	W47.51 B43.91 T91.42

Craft: Boilermaker APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	37.08	37.99	39.49	39.84	40.78	41.70	42.61			

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

APPRENTICE RATE SCHEDULE AS OF 1-1-21:

INTERVAL	PERIOD AND RATES									
1000 Hours	65%	70%	75%	80%	85%	90%	95%			
Benefits	37.72	38.20	39.20	40.14	41.09	42.03	42.96			

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.

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

County - UNION

- 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 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

	01/01/21
Foreman	W34.62 B17.57 T52.19
General Foreman	W35.25 B17.57 T52.82
Mechanic	W33.25 B17.57 T50.82

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 \$125,000.00), for boilers that do not produce electric or are not used in the heating of petroleum products.

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

	10/01/20
Deputy Foreman	W47.45 B33.73 T81.18
Foreman	W50.45 B33.73 T84.18
Journeyman	W44.45 B33.73 T78.18

Craft: Bricklayer, Stone Mason

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%	55%	60%	65%	70%	75%	80%		
6 Months										
Benefits	4.00	5.00	5.50	6.00	22.17	23.66	25.14	26.62		

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 10%, 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 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, 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 10%, inclusive of benefits, and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 10%, 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, President's Day, Memorial Day, July 4th, Labor 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: Carpenter

PREVAILING WAGE RATE

	05/07/20
Foreman	W59.06 B34.29 T93.35
Journeyman	W51.36 B29.90 T81.26

Craft: Carpenter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	40%	55%	65%	80%	90%					
Benefit	57% of	Appren	tice	Wage	for all	intervals	+ \$0.63			

Ratio of Apprentices to Journeymen - 1:3

Craft: Carpenter

COMMENTS/NOTES

FOREMAN REQUIREMENTS:

- When there are 2 or more Carpenters on a job, 1 shall be designated as a Foreman.
- When there are 21 or more Carpenters on a job, 2 shall be designated as Foremen.

The regular workday shall consist 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 rate plus 10%, 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 10% and the third shift shall receive the regular rate plus 15%, 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 10% and the third shift shall receive the regular rate plus 15%, inclusive of benefits.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, 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, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. 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: Carpenter - Resilient Flooring

PREVAILING WAGE RATE

	05/05/20
Foreman	W59.06 B34.20 T93.26
Journeyman	W51.36 B29.81 T81.17

Craft: Carpenter - Resilient Flooring

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	40%	55%	65%	80%	90%					
Benefit	57%	of	Appren	tice	Wage	for all	intervals	+ \$0.54		

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 10%.
- 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 10% and the third shift shall receive the regular wage rate plus 15%.
- 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 10% and the third shift shall receive the regular wage rate plus 15%.
- When an irregular shift must be established, this shift shall receive the regular rate plus 15%, inclusive of benefits.

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, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. 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: Cement Mason

PREVAILING WAGE RATE

See "Bricklayer, Stone Mason" Rates

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: Commercial Painter- New Construction

PREVAILING WAGE RATE

	09/24/20
Foreman	W45.05 B27.06 T72.11
General Foreman	W49.14 B27.55 T76.69
Journeyman	W40.95 B26.56 T67.51

Craft: Commercial Painter- New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	45%	55%	65%	70%	75%	80%	80%		
6 Months										
Benefits	8.05	8.05	10.05	10.05	11.05	11.05	14.05	14.05		

Ratio of Apprentices to Journeymen - 1:4

Craft: Commercial Painter- New Construction

COMMENTS/NOTES

* Commercial Painters perform work on all commercial structures such as offices, schools, hotels, shopping malls, restaurants, condominiums, etc.

Spraying, sandblasting, lead abatement work on commercial buildings, 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 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,

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

County - UNION

Veterans' Day, Thanksgiving Day, Christmas Day.

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

County - UNION

Craft: Commercial Painter- Repainting

PREVAILING WAGE RATE

	09/24/20
Foreman	W33.11 B20.66 T53.77
General Foreman	W34.61 B20.66 T55.27
Journeyman	W30.10 B20.66 T50.76

Craft: Commercial Painter- Repainting

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	COMME	CIAL	PAINTER	NEW	CONSTR	TION			
		R				UC				

Ratio of Apprentices to Journeymen - 1:4

Craft: Commercial Painter- Repainting

COMMENTS/NOTES

* Commercial Painters perform work on all commercial structures such as offices, schools, hotels, shopping malls, restaurants, condominiums, etc.

NOTE: These rates may only be used on jobs where no major alterations (only doing painting and carpeting with nothing else being changed in the commercial building) 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, tanks, or generating stations.

Spraying, sandblasting, lead abatement work on commercial buildings, 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.

OVERTIME:

- Hours in excess of 8 per day and 40 per week 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.
- Four 10-hour days may be worked, at straight time, Monday through Sunday.

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: Diver

PREVAILING WAGE RATE

	05/05/20
Diver	W60.24 B48.47 T108.71
Tender	W48.50 B48.47 T96.97

Craft: Diver

COMMENTS/NOTES

NOTE: All dive crews must consist of a Tender, a Diver, and a standby Diver (standby Diver is the same rate as a Diver).

DEPTH & PENETRATION RATES: Divers shall be paid the following depth and penetration rates, in addition to the regular hourly rate, when applicable:

AIR DIVES:

0-59 feet: No additional wage
60-74 feet: + \$0.25 per foot
75-125 feet: + \$0.78 per foot

MIXED GAS DIVES:

0-74 feet: No additional wage
75-125 feet: + \$1.00 per foot
126-200 feet: + \$2.00 per foot

PENETRATION DIVES:

126-200 feet: + \$1.50 per foot
201-275 feet: + \$1.75 per foot
276-350 feet: + \$2.00 per foot
351-425 feet: + \$2.50 per foot

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 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: Dockbuilder PREVAILING WAGE RATE

	05/05/20
Foreman	W55.78 B48.47 T104.25
Foreman (Concrete Form Work)	W54.97 B35.36 T90.33
Journeyman	W48.50 B48.47 T96.97
Journeyman (Concrete Form Work)	W47.80 B35.36 T83.16

Craft: Dockbuilder APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	19.40	24.25	31.53	38.80						
Benefit	32.07	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

APPRENTICE RATE SCHEDULE FOR CONCRETE FORM WORK ONLY:

INTERVAL	PERIOD AND RATES			
Yearly	19.12	23.90	31.07	38.24
Benefits	24.16	for all	intervals	

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.

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

County - UNION

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 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

	09/24/20
Foreman	W44.43 B27.06 T71.49
General Foreman	W46.45 B27.06 T73.51
Journeyman	W40.39 B27.06 T67.45

Craft: Drywall Finisher

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	40%	50%		60%	70%		80%	90%		
6 Months										
Benefits	Intervals	1 to 2 =	10.65	Intervals	3 to 4 =	13.41	Intervals	5 to 6 =	16.63	

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

	06/01/20	05/31/21
Cable Splicer	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (11-20 Journeymen)	W67.90 B40.41 T108.31	W69.05 B41.78 T110.83
Foreman (1-3 Journeymen)	W63.83 B37.99 T101.82	W64.92 B39.29 T104.21
Foreman (4-10 Journeymen)	W66.74 B39.72 T106.46	W67.87 B41.07 T108.94
General Foreman (21-30 Journeymen)	W69.64 B41.44 T111.08	W70.82 B42.85 T113.67
General Foreman (31-60 Journeymen)	W75.44 B44.89 T120.33	W76.72 B46.42 T123.14
General Foreman (61+ Journeymen)	W76.60 B45.58 T122.18	W77.90 B47.13 T125.03
Journeyman	W58.03 B34.54 T92.57	W59.02 B35.72 T94.74
Sub-Foreman	W66.16 B39.37 T105.53	W67.28 B40.71 T107.99

Craft: Electrician

APPRENTICE RATE SCHEDULE

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

Ratio of Apprentices to Journeymen - 2:3

Craft: Electrician

COMMENTS/NOTES

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

County - UNION

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:

- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
- 4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
- 11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
- 21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
- 31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
- 41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
- 51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
- 61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-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.

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

	11/02/20
Master Technician/General Foreman	W57.42 B31.58 T89.00
Senior Technician/Lead Foreman (21-30 Workers on Job)	W52.56 B28.91 T81.47
Technician A/Foreman (11-20 Workers on Job)	W50.35 B27.69 T78.04
Technician B/Working Foreman (4-10 Workers on Job)	W48.15 B26.47 T74.62
Technician C/Journeyman (1-3 Workers on Job)	W44.17 B24.29 T68.46

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

APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>										
6 Months						66%	72%	79%	86%		
Benefits						11.81	12.89	14.14	15.40		

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	35%	35%	40%	43%	48%	54%	61%	67%	74%	81%	
Benefits	6.76	6.76	7.16	7.70	8.59	9.66	10.82	11.99	13.25	14.51	

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:

- Shift work must run for a minimum of 5 consecutive workdays.

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

County - UNION

- 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

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

	06/01/20	05/31/21
Cable Splicer	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Certified Welder	W61.22 B35.97 T97.19	W62.26 B37.21 T99.47
Equipment Operator	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Foreman (1-3 Journeymen workers on job)	W64.14 B37.69 T101.83	W65.22 B38.97 T104.19
Foreman (4-10 Journeymen workers on job)	W67.06 B39.40 T106.46	W68.19 B40.75 T108.94
General Foreman (11-20 Journeymen workers on job)	W68.22 B40.08 T108.30	W69.37 B41.45 T110.82
General Foreman (21-30 Journeymen workers on job)	W69.97 B41.11 T111.08	W71.16 B42.52 T113.68
General Foreman (31-60 Journeymen workers on job)	W75.80 B44.54 T120.34	W77.08 B46.06 T123.14
General Foreman (61+ Journeymen workers on job)	W76.96 B45.22 T122.18	W78.27 B46.77 T125.04
Groundman	W34.99 B20.56 T55.55	W35.58 B21.26 T56.84
Journeyman Lineman/Technician	W58.31 B34.26 T92.57	W59.29 B35.43 T94.72
Sub-Foreman	W66.47 B39.06 T105.53	W67.60 B40.40 T108.00

**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	57.75% of	Journey	man	wage	+	\$.01				

Craft: Electrician- Outside Commercial

COMMENTS/NOTES

EFFECTIVE 6-1-20- The apprentice benefit rate shall be 58.75% + \$.01.
EFFECTIVE 5-31-21- The apprentice benefit rate shall be 59.75% + \$.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:

- 1 to 3 Journeymen- 1 must be a Foreman (Foreman/1-3 Journeymen rate).
- 4 to 10 Journeymen- 1 must be a Foreman (Foreman/4-10 Journeymen rate).
- 11 to 20 Journeymen- 1 must be Foreman (Foreman/11-20 Journeymen rate) and 1 must be a Sub-Foreman.
- 21 to 30 Journeymen- 1 must be a General Foreman (General Foreman/21-30 Journeymen rate) and 2 must be a Sub-Foreman.
- 31 to 40 Journeymen- 1 must be a General Foreman (General Foreman/31-40 Journeymen rate) and 3 must be a Sub-Foreman.
- 41 to 50 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 4 must be a Sub-Foreman.
- 51 to 60 Journeymen- 1 must be a General Foreman (General Foreman/31-60 Journeymen rate) and 5 must be a Sub-Foreman.
- 61+ Journeymen- 1 must be a General Foreman (General Foreman/61+ Journeymen rate) and 6 must be a Sub-Foreman.

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

Craft: Electrician-Utility Work (North)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
* 6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	69% 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.

* The apprentice wage rate is paid at the percentage of the Journeyman Lineman wage rate 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

Craft: Electrician-Utility Work (South)

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	29.70	32.18	34.65	37.13	39.60	42.08	44.55			
Benefits	26.19	27.65	29.10	30.58	32.04	33.51	34.95			

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

	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W69.56	W72.29	W75.14	W77.49
	B41.92	B42.92	B43.91	B45.57
	T111.48	T115.21	T119.05	T123.06

Craft: Elevator Constructor APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	29.85	36.82	43.52	50.21						
Benefits	32.71	33.51	34.80	36.09						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Constructor COMMENTS/NOTES

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL	PERIOD AND RATES			
Yearly	31.03	38.26	45.21	52.17
Benefits	33.38	34.20	35.55	36.89

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL	PERIOD AND RATES			
Yearly	32.27	39.76	46.99	54.22
Benefits	34.05	34.91	36.30	37.70

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL	PERIOD AND RATES			
Yearly	33.56	41.33	48.84	56.36
Benefits	34.72	35.61	37.05	38.50

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL	PERIOD AND RATES			
Yearly	34.60	42.62	50.37	58.12
Benefits	36.02	36.94	38.50	39.95

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

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

County - UNION

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

	03/17/20	03/17/21	03/17/22	03/17/23
Journeyman	W54.56	W56.77	W59.09	W60.89
	B40.86	B41.82	B42.79	B44.41
	T95.42	T98.59	T101.88	T105.30

Craft: Elevator Modernization & Service

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	29.85	28.84	34.09	39.33						
Benefits	32.66	33.13	34.36	35.58						

Ratio of Apprentices to Journeymen - 1:1

Craft: Elevator Modernization & Service

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE AS OF 3-17-20:

INTERVAL	PERIOD AND RATES			
Yearly	31.03	30.01	35.46	40.92
Benefits	33.33	33.82	35.09	36.36

APPRENTICE RATE SCHEDULE AS OF 3-17-21:

INTERVAL	PERIOD AND RATES			
Yearly	32.27	31.22	36.90	42.58
Benefits	34.00	34.50	35.83	37.15

APPRENTICE RATE SCHEDULE AS OF 3-17-22:

INTERVAL	PERIOD AND RATES			
Yearly	33.56	32.50	38.41	44.32
Benefits	34.67	34.20	35.20	37.94

APPRENTICE RATE SCHEDULE AS OF 3-17-23:

INTERVAL	PERIOD AND RATES			
Yearly	34.60	33.49	39.58	45.67
Benefits	35.97	36.53	37.95	39.38

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.

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

County - UNION

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

	09/24/20
* Leadman	W48.80 B27.31 T76.11
Foreman	W50.80 B27.55 T78.35
General Foreman	W52.80 B27.79 T80.59
Journeyman	W46.80 B27.07 T73.87

Craft: Glazier APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
6 Months	50%	55%		60%	65%		70%	75%		
Benefits	Intervals	1 to 2 =	9.50	Intervals	3 to 4 =	12.11	Intervals	5 to 6 =	15.60	

Ratio of Apprentices to Journeymen - 1:4

Craft: Glazier COMMENTS/NOTES

Hazard/Height Pay: +\$1.00 per hour

* When there are three (3) men working on a jobsite for three (3) days or longer, 1 Journeyman may be designated as a Leadman for the duration of the job, provided he has his OSHA certification.

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

	09/21/20
Foreman	W58.52 B33.42 T91.94
General Foreman	W60.86 B34.53 T95.39
Journeyman	W56.74 B32.86 T89.60

Craft: Heat & Frost Insulator

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	26.55	31.49	37.95	44.36						
Benefits	19.44	23.03	25.44	27.76						

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 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 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

	09/24/19
Asbestos Helper	W36.89
Abatement	B24.92
	T61.81

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 7:00 AM and 3:30 PM. In addition, the regular workday may also be 8 hours between 6:00 AM and 2:30 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: Industrial Painter- Bridges

PREVAILING WAGE RATE

	02/11/21
Foreman	W62.18 B31.62 T93.80
General Foreman	W64.18 B31.62 T95.80
Journeyman	W57.18 B31.62 T88.80

Craft: Industrial Painter- Bridges

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefits	14.27	14.50	17.73	17.96						

Ratio of Apprentices to Journeymen - 1:4

Craft: Industrial Painter- Bridges

COMMENTS/NOTES

* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, refineries, any structural steel work, etc.

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

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

County - UNION

observed the following Monday.

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

County - UNION

Craft: Industrial Painter- Structural Steel

PREVAILING WAGE RATE

	02/11/21
Foreman	W50.92 B29.27 T80.19
General Foreman	W52.92 B29.27 T82.19
Journeyman	W45.92 B29.27 T75.19

Craft: Industrial Painter- Structural Steel

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
	SEE	INDUST	RIAL	PAINTER	BRIDGES					

Ratio of Apprentices to Journeymen - 1:4

Craft: Industrial Painter- Structural Steel

COMMENTS/NOTES

* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, refineries, any structural steel work, etc.

These rates apply to: All work in power plants (any aspect). On steeples, on dams, on hangers, transformers, substations, on all open steel, 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: Industrial Painter- Water Tanks

PREVAILING WAGE RATE

	02/11/21
Foreman	W51.97 B28.92 T80.89
General Foreman	W53.97 B28.92 T82.89
Journeyman	W46.97 B28.92 T75.89

Craft: Industrial Painter- Water Tanks

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	50%	70%	90%							
Benefits	11.77	14.50	17.96							

Ratio of Apprentices to Journeymen - 1:4

Craft: Industrial Painter- Water Tanks

COMMENTS/NOTES

* Industrial Painters perform work on all industrial structures, such as bridges, water tanks, waste water facilities, refineries, any structural steel work, etc.

These rates apply to: All new and repaint 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: Industrial Painter-Containment

PREVAILING WAGE RATE

	02/11/21
Journeyman	W38.23 B28.67 T66.90

Craft: Industrial 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.
- 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, 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, 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: Ironworker PREVAILING WAGE RATE

	07/24/20
Rod /Fence Foreman	W46.14 B48.12 T94.26
Rod/Fence Journeyman	W43.14 B48.12 T91.26
Structural Foreman	W48.44 B48.12 T96.56
Structural Journeyman	W45.44 B48.12 T93.56

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 the Ironworker (Structural) classification, the rate shall be paid at time and one-half the regular rate, inclusive of benefits. When an irregular shift is established for the Rod/Fence classification, the shift shall be established on an 8 hour basis and receive the regular rate, plus 20%.

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

	10/20/20
Journeyman (Handler)	W32.98 B23.66 T56.64

Craft: Laborer - Asbestos & Hazardous Waste Removal

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	19.79	23.09	26.38	29.68						
Benefits	21.51	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.

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.
- Benefits on ALL overtime hours shall be paid at straight time.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Easter, Memorial Day, July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. (Holidays start at 12:00 am).

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

County - UNION

Craft: Laborer - Building

PREVAILING WAGE RATE

	05/12/20
Class A Journeyman	W34.85 B30.27 T65.12
Class B Journeyman	W34.10 B30.27 T64.37
Class C Journeyman	W28.99 B30.27 T59.26
Foreman	W39.21 B30.27 T69.48
General Foreman	W43.56 B30.27 T73.83

Craft: Laborer - Building

APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	60%	70%	80%	90%						
6 Months										
Benefit	27.02	27.02	27.02	27.02						

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 nozzle men 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%.
- 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

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

County - UNION

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, Presidents' Day, Memorial Day, July 4th, Labor 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

Craft: Laborer - Heavy & General

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	22.48	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.

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

County - UNION

Craft: Laborer-Residential and Modular Construction

PREVAILING WAGE RATE

	04/01/20
* Skilled Tradesman (only applies to Modular Construction)	W26.55 B5.45 T32.00
Foreman (person directing crew, regardless of his skill classification)	W30.55 B5.45 T36.00
Laborer	W22.55 B5.45 T28.00
Laborer (for single family and stand-alone duplex owned by single owner)	W17.05 B2.95 T20.00

Craft: Laborer-Residential and Modular Construction

APPRENTICE RATE SCHEDULE

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	As shown	800 hours	600 hours	600 hours						
wage & benefits	70%	80%	90%							

Ratio of Apprentices to Journeymen-

One (1) apprentice shall be allowed for the first journeyman on site and no more than one (1) additional apprentice for each additional three (3) journeymen on site.

Craft: Laborer-Residential and Modular Construction

COMMENTS/NOTES

* SKILLED TRADESMAN- any worker doing work not typically done by a Building Laborer. Some examples are installing interior doors, sheet rock, hooking up appliances, installing light fixtures, installing railing systems, etc. Please note where local building codes require that certain work be performed under the supervision of a licensed tradesman (i.e. Plumber, Electrician, etc.) Laborers shall work under such supervision.

RESIDENTIAL CONSTRUCTION- All residential construction (not commercial), single-family, stand-alone duplex houses, townhouses and multi-family buildings of not more than four (4) floors. Each housing unit must be fully and independently functional; each housing unit must have its own kitchen and bathroom. The definition includes all incidental items such as site work, parking areas, utilities, streets and sidewalks. Please note the construction must be Residential in nature. A First Floor at or below grade may contain commercial space not to exceed 50% square footage of the floor; at least 50% of the First Floor must contain living accommodations or related nonresidential uses (e.g. laundry space, recreation/hobby rooms, and/or corridor space). Basement stories below grade used for storage, parking, mechanical systems/equipment, etc., are considered basement stories which are not used in determining the building's height. An attic is an unfinished space located immediately below the roof. Such space is not used in determining a building's height even if used for storage purposes. In addition, barracks and dormitories are not considered residential projects.

MODULAR RESIDENTIAL CONSTRUCTION- all aspects of modular residential construction (not commercial) at the site of installation of structures of no more than four (4) stories, including all excavation and site preparation, footings and

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

County - UNION

foundation systems whether poured on-site or prefabricated, all underground waterproofing, underground utilities, concrete slabs, sidewalks, driveways, paving, hardscape and landscaping. Please note the construction must be Residential as defined above. All work performed by the Set Crew (the crew of workers who set the modular boxes on the foundation), including the rigging, setting, attaching and assembly of all modules and structural members, preparation of the foundation to accept modules, such as sill plates, connection of all in-module and under-module connections including, but not limited to, plumbing, electrical, HVAC, fire suppression, CATS, telephone, television/internet, and fiber optic, the building or installation of any porches or decks regardless of material or method of construction, the on-site installation of, or completion of any roof system, doors, windows and fenestrations, including flashing, gutter and soffit systems, waterproofing, insulation and interior and exterior trim work, and painting. Please note that modular construction does not include on-site stick built construction, tip up construction or panel built construction.

The regular workday shall be 8 hours between 6:00 AM and 6:00 PM.

OVERTIME:

Hours worked in excess of 8 per day/40 per week, Monday through Saturday, and all hours worked on Sunday and holidays shall be paid at time and one-half the hourly rate.

RECOGNIZED HOILDAYS:

New Year's Day, Martin Luther King Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day.

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

County - UNION

substituted for the day after Thanksgiving.

**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

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 - Line Striping

PREVAILING WAGE RATE

	12/10/20
Apprentice (1st year)	W27.50 B12.15 T39.65
Apprentice (2nd year)	W31.50 B23.10 T54.60
Foreman (Charge Person)	W40.15 B23.88 T64.03
Journeyman 1 (at least 1 year of working exp. as a journeyman)	W35.38 B23.88 T59.26
Journeyman 2 (at least 2 years of working exp. as a journeyman)	W39.15 B23.88 T63.03

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: Paperhanger - New Construction

PREVAILING WAGE RATE

	09/24/20
Foreman	W45.05 B26.56 T71.61
Journeyman	W40.95 B26.56 T67.51

Craft: Paperhanger - New Construction

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES										
	SEE	COMME R	CIAL	PAINTER	NEW	CONSTR UC	TION				

Ratio of Apprentices to Journeymen - 1:4

Craft: Paperhanger - New Construction

COMMENTS/NOTES

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

	09/24/20
Foreman	W33.94 B20.70 T54.64
Journeyman	W30.86 B20.70 T51.56

Craft: Paperhanger - Renovation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
		SEE	COMME R	CIAL	PAINTER	NEW	CONSTR UC	TION		

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

hours on Sundays and holidays shall be paid at double time, inclusive of benefits.

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

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

	05/01/20
Foreman	W60.69 B37.32 T98.01
General Foreman	W64.62 B37.32 T101.94
Journeyman	W56.19 B37.32 T93.51

Craft: Plumber APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
Yearly	30%	45%	55%	65%	75%					
Benefits	14.31	20.83	22.72	24.52	26.50					

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 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 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 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

	06/04/20
Foreman	W42.77 B28.03 T70.80
Journeyman	W39.77 B28.03 T67.80

Craft: Roofer APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
6 Months	15.90	19.89	23.86	27.84	31.82	35.79				
Benefits	2.10	2.10	25.28	25.28	25.28	25.28				

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

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 4-1-17:

INTERVAL	PERIOD AND RATES									
6 Months	15.90	19.89	23.86	25.85	27.84	29.83	31.82	35.79		
Benefits	2.10	2.10	25.28	25.28	25.28	25.28	25.28	25.28		

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

	04/16/20
Foreman	W38.29 B35.55 T73.84
Journeyman	W36.79 B35.55 T72.34

Craft: Sheet Metal Sign Installation

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 hours	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
Benefits	12.03	13.71	15.39	17.09	19.21	20.92	22.65	24.38	26.10	27.82

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

	06/09/20
Foreman	W53.62 B46.85 T100.47
General Foreman	W54.62 B46.85 T101.47
Journeyman	W50.12 B46.85 T96.97

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

	01/08/21
Foreman	W66.37 B32.65 T99.02
General Foreman	W69.57 B32.65 T102.22
Journeyman	W62.12 B32.65 T94.77

Craft: Sprinkler Fitter

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
1000 Hours									80%	85%
Benefits							Intervals	9 to 10	Jourymn	Ben.

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AS OF 7-1-13:

INTERVAL	PERIOD AND RATES									
1000 hours	25%	30%	40%	45%	55%	60%	70%	75%	85%	90%
Benefits	12.65	12.65	26.15	26.15	26.15	26.15	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 Friday, 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 Finisher-Marble PREVAILING WAGE RATE

	01/04/21
Finisher	W48.27 B35.40 T83.67

Craft: Tile Finisher-Marble APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Finisher-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 - Ceramic

PREVAILING WAGE RATE

	12/07/20
Finisher	W46.69 B31.56 T78.25
Setter	W60.86 B34.74 T95.60

Craft: Tile Setter - Ceramic

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	35%	40%	50%	55%	60%	65%	70%	75%	80%	90%

Ratio of Apprentices to Journeymen - 1:4

Craft: Tile Setter - Ceramic

COMMENTS/NOTES

OVERTIME:

Hours in excess of 7 per day, and the first 10 hours on Saturdays shall be paid at time and one-half the hourly rate. All hours on Saturdays after 10 hours shall be paid double the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor 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

	01/04/21
Tile Setter	W60.89 B37.80 T98.69

Craft: Tile Setter - Marble

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%

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

	01/01/21
Grinder or Assistant	W56.32 B37.76 T94.08
Mechanic	W57.92 B37.78 T95.70
Terrazzo Resinous Worker	W48.55 B30.40 T78.95

Craft: Tile Setter - Mosaic & Terrazzo

APPRENTICE RATE SCHEDULE

INTERVAL	PERIOD AND RATES									
750 Hours	50%	55%	60%	65%	70%	75%	85%	95%	100%	

Ratio of Apprentices to Journeymen - 1:5

Craft: Tile Setter - Mosaic & Terrazzo

COMMENTS/NOTES

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES ENTERING PROGRAM AFTER 7-1-17:

INTERVAL	PERIOD AND RATES						
1500 Hours	35%	45%	60%	70%	80%	90%	100%

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

	05/01/20
Bucket, Utility, Pick-up, Fuel Delivery trucks	W39.21 B38.05 T77.26
Dump truck, Asphalt Distributor, Tack Spreader	W39.21 B38.05 T77.26
Euclid-type vehicles (large, off-road equipment)	W39.31 B38.05 T77.36
Helper on Asphalt Distributor truck	W39.21 B38.05 T77.26
Slurry Seal, Seeding/Fertilizing/ Mulching truck	W39.21 B38.05 T77.26
Straight 3-axle truck	W39.21 B38.05 T77.26
Tractor Trailer (all types)	W39.31 B38.05 T77.36
Vacuum or Vac-All truck (entire unit)	W39.21 B38.05 T77.26
Winch Trailer	W39.41 B38.05 T77.46

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): + \$3.00 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: + \$3.00 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.
 - Benefits on overtime shall be \$36.80.
- As of 5-1-20, benefits on overtime shall be \$37.80.

RECOGNIZED HOLIDAYS: New Year's Day, President's Day, Memorial Day (Decoration Day), July 4th, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays will be observed the following Monday. The day after Thanksgiving may be substituted for Veteran's Day.

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

County - UNION

Craft: Truck Driver-Material Delivery Driver

PREVAILING WAGE RATE

	04/01/20
Driver	W25.60 B15.71 T41.31

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 Sunday and 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, 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

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 :**

{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, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

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 :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
53.23	34.50	87.73	90.03	92.28

CLASSIFICATIONS:

A-Frame

Backhoe (combination)

Boom Attachment on loaders (Except pipehook)

Boring & Drilling Machine

Brush Chopper, Brush Shredder, Tree Shredder, Tree Shearer

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: Outside Material Tower 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) * receives an additional \$1.00 per hour on 100 ft. up to 199 ft. total height, and an additional \$2.00 per hour on 200 ft. and over total height.

Hydraulic Crane (10 tons & under)

Hydraulic Dredge

Hydro-Axe

Hydro-Blaster

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
53.23	34.50	87.73	90.03	92.28

CLASSIFICATIONS:

Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)

Log Skidder

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)

Whiphammer

Winch Truck (hoisting)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

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 :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

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
- Goldhofer/Hydraulic Jacking Trailer
- 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)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

CLASSIFICATIONS:

Laddervator

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)

Rod Bending Machines

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

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
51.32	34.50	85.82	88.12	90.37

CLASSIFICATIONS:

Tug Captains

Tug Master (Power Boats)

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:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
47.98	34.50	82.48	84.78	87.03

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

Tire Repair & Maintenance

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
45.40	34.50	79.90	82.20	84.45

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
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OPERATING ENGINEERS Rates Expiration Date :

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
55.56	34.50	90.06	92.36	94.61

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

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

Cranes, Derricks, Pile Drivers (all types), under 100 tons with a boom (including jib and/or leads) under 100 ft.

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

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

CLASSIFICATIONS:

Pavement & Concrete Breaker (Superhammer & Hoe Ram)

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

Vacuum Truck

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
49.69	34.50	84.19	86.49	88.74

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 :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
49.69	34.50	84.19	86.49	88.74

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:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
56.64	34.50	91.14	93.44	95.69

CLASSIFICATIONS:

Helicopter Pilot/Engineer

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
61.32	34.50	95.82	98.12	100.37

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
60.32	34.50	94.82	97.12	99.37

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

OPERATING ENGINEERS **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
56.82	34.50	91.32	93.62	95.87

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
59.32	34.50	93.82	96.12	98.37

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), 100 tons and over and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
55.82	34.50	90.32	92.62	94.87

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 :**

{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, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

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:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
58.45	34.50	92.95	95.25	97.50

CLASSIFICATIONS:

Helicopter Co-Pilot & Communications Engineer

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STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
54.39	34.50	88.89	91.19	93.44

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

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
51.73	34.50	86.23	88.53	90.78

CLASSIFICATIONS:

- Aerial Platform Used On Hoists
- Apprentice Engineer/Oiler with Compressor or Welding Machine
- Captain (Power Boats)
- Compressor (2 or 3 in battery)
- Concrete Cleaning/Decontamination Machine Operator
- Conveyor or Tugger Hoist
- Directional Boring Machine
- Elevator or House Car
- Fireman
- Forklift
- Generator (2 or 3)
- Heavy Equipment Robotics, Operator/Technician
- Maintenance Utility Man
- Master Environmental Maintenance Technician
- Tug Master (Power Boats)
- Ultra High Pressure Waterjet Cutting Tool System Operator/Maintenance Technician
- Vacuum Blasting Machine Operator/Maintenance Technician
- Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
50.20	34.50	84.70	87.00	89.25

CLASSIFICATIONS:

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
48.44	34.50	82.94	85.24	87.49

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Off Road Back Dump

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
56.01	34.50	90.51	92.81	95.06

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
45.40	34.50	79.90	82.20	84.45

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

STRUCTURAL STEEL ERECTION **Rates Expiration Date :**

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
55.15	34.50	89.65	91.95	94.20

CLASSIFICATIONS:

Field Engineer-Chief of Party

Vacuum Truck

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
63.34	34.50	97.84	100.14	102.39

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) 100 tons and over and Tower Cranes.

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
61.68	34.50	96.18	98.48	100.73

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), 100 tons and over and Tower Crane.

Effective Dates:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
58.84	34.50	93.34	95.64	97.89

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:

07/01/2020			07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
57.18	34.50	91.68	93.98	96.23

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.

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STRUCTURAL STEEL ERECTION Rates Expiration Date :

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
58.84	34.50	93.34	95.64	97.89

CLASSIFICATIONS:

Helicopter Pilot & Engineer

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST Rates Expiration Date :

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

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, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

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:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
54.82	34.50	89.32	91.62	93.87

CLASSIFICATIONS:

Driller

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
47.98	34.50	82.48	84.78	87.03

CLASSIFICATIONS:

Driller's Helper

FREE AIR TUNNEL JOBS **Rates Expiration Date :**

{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 \$3.00 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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
46.25	33.23	79.48	80.78	83.53	86.03

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.95	33.23	79.18	80.48	83.23	85.73

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

FREE AIR TUNNEL JOBS **Rates Expiration Date :**

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.45	33.23	78.68	79.98	82.73	85.23

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
47.95	33.23	81.18	82.48	85.23	87.73

CLASSIFICATIONS:

Blaster

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.90	33.23	78.13	79.43	82.18	84.68

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.55	33.23	77.78	79.08	81.83	84.33

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.40	33.23	77.63	78.93	81.68	84.18

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)

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FREE AIR TUNNEL JOBS **Rates Expiration Date :**

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.00	33.23	77.23	78.53	81.28	83.78

CLASSIFICATIONS:

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date :**

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:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
53.57	34.50	88.07	90.37	92.62

CLASSIFICATIONS:

Driller

Effective Dates:

	07/01/2020		07/01/2021	07/01/2022
Rate	Fringe	Total	Total	Total
47.33	34.50	81.83	83.53	85.78

CLASSIFICATIONS:

Driller's Helper

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date :**

NOTE: These wage rates only apply to dredging and other marine construction activities occurring in navigable waters and their tributaries.

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:

10/01/2020

Rate	Fringe	Total
41.42	15.29	56.71

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Dates:

10/01/2020

Rate	Fringe	Total
35.82	14.84	50.66

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/01/2020

Rate	Fringe	Total
33.72	14.67	48.39

CLASSIFICATIONS:

Certified Welder

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date :**

Effective Dates:

10/01/2020

Rate	Fringe	Total
32.80	14.30	47.10

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/01/2020

Rate	Fringe	Total
31.74	14.21	45.95

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/01/2020

Rate	Fringe	Total
26.37	13.48	39.85

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

Effective Dates:

10/01/2020

Rate	Fringe	Total
36.91	14.93	51.84

CLASSIFICATIONS:

Crane Operator

MICROSURFACING/SLURRY SEAL Rates Expiration Date :

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:

03/01/2017

Rate	Fringe	Total
36.50	21.27	57.77

CLASSIFICATIONS:

Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
33.80	21.27	55.07

CLASSIFICATIONS:

Box man

Effective Dates:

03/01/2017

Rate	Fringe	Total
31.75	21.27	53.02

CLASSIFICATIONS:

Microsurface/Slurry Preparation

Effective Dates:

03/01/2017

Rate	Fringe	Total
31.75	21.27	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 :

Effective Dates:

03/01/2017

Rate	Fringe	Total
30.30	21.27	51.57

CLASSIFICATIONS:

Cleaner, Taper

ASPHALT LABORERS - SOUTH **Rates Expiration Date :**

"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 \$3.00 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:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
48.00	33.23	81.23	82.53	86.28	89.78

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.30	33.23	77.53	78.83	81.58	84.08

CLASSIFICATIONS:

Head Raker

Effective Dates:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

CLASSIFICATIONS:

Screedman

ASPHALT LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.90	33.23	77.13	78.43	81.18	83.68

CLASSIFICATIONS:

Tampers, Smoothers, Kettlemen,
Painters, Shovelers, Roller Boys

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.00	33.23	77.23	78.53	81.28	83.78

CLASSIFICATIONS:

Milling Controller

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

CLASSIFICATIONS:

Traffic Control Coordinator

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.15	33.23	77.38	78.68	81.43	83.93

CLASSIFICATIONS:

Raker, Luteman

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date :**

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 \$2.00 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 15% 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:

	10/18/2020		10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
32.92	29.50	62.42	64.17	65.92

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

	10/18/2020		10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
41.74	29.50	71.24	73.24	75.24

CLASSIFICATIONS:

Driller

Effective Dates:

	10/18/2020		10/18/2021	10/18/2022
Rate	Fringe	Total	Total	Total
47.78	29.50	77.28	79.28	81.28

CLASSIFICATIONS:

Foreman

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date :**

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 \$3.00 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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

CLASSIFICATIONS:

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; 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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

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 :**

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

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:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
48.00	33.23	81.23	82.53	85.28	87.78

CLASSIFICATIONS:

"A" Rate:

blaster

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.75	33.23	78.98	80.28	84.03	87.53

CLASSIFICATIONS:

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
46.75	33.23	79.98	81.28	85.03	88.53

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

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 \$3.00 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:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

CLASSIFICATIONS:

basic, landscape, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coatiers of pipe; waterproofers; tree cutter, timberman

Effective Dates:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

CLASSIFICATIONS:

wagon drill or drill master helper; powder carrier; magazine tender; signal man

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

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:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

CLASSIFICATIONS:

wagon or directional drill operator; drill master

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
48.00	33.23	81.23	82.53	85.28	87.78

CLASSIFICATIONS:

blaster

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.75	33.23	78.98	80.28	84.03	87.53

CLASSIFICATIONS:

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/10/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
46.75	33.23	79.98	81.28	85.03	88.53

CLASSIFICATIONS:

general foreman

TERRITORY
ENTIRE STATE

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

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date :**

Effective Dates:

	03/10/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

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 :

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: \$80.50; Pipeline Journeyman Welder: \$140.50; and Pipeline Helper: \$64.50. 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:

06/09/2020

Rate	Fringe	Total
54.58	32.80	87.38

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 :

Effective Dates:

06/09/2020

Rate	Fringe	Total
54.58	32.80	87.38

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

06/09/2020

Rate	Fringe	Total
33.27	22.42	55.69

CLASSIFICATIONS:

Pipeline Helper

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date :**

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:

	11/02/2020		11/01/2021	11/01/2022
Rate	Fringe	Total	Total	Total
61.50	27.23	88.73	91.23	93.73

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

	11/02/2020		11/01/2021	11/01/2022
Rate	Fringe	Total	Total	Total
61.50	27.23	88.73	91.23	93.73

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

	11/02/2020		11/01/2021	11/01/2022
Rate	Fringe	Total	Total	Total
39.46	19.88	59.34	61.01	62.68

CLASSIFICATIONS:

Pipeline Helper

ASPHALT LABORERS- NORTH **Rates Expiration Date :**

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 \$3.00 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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
45.75	33.23	78.98	80.28	84.03	87.53

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.45	33.23	77.68	78.98	81.73	84.23

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
44.20	33.23	77.43	78.73	81.48	83.98

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 :

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
43.50	33.23	76.73	78.03	80.78	83.28

CLASSIFICATIONS:

Asphalt Laborer

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

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:

11/29/2020

Rate	Fringe	Total
57.30	39.54	96.84

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

11/29/2020

Rate	Fringe	Total
54.06	37.30	91.36

CLASSIFICATIONS:

Journeyman Lineman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Effective Dates:

11/29/2020

Rate	Fringe	Total
54.06	37.30	91.36

CLASSIFICATIONS:

Special License Operator

Effective Dates:

11/29/2020

Rate	Fringe	Total
53.52	36.92	90.44

CLASSIFICATIONS:

Transit Man

Effective Dates:

11/29/2020

Rate	Fringe	Total
51.90	35.80	87.70

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

11/29/2020

Rate	Fringe	Total
45.41	31.32	76.73

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

11/29/2020

Rate	Fringe	Total
67.57	46.62	114.19

CLASSIFICATIONS:

General Foreman

Effective Dates:

11/29/2020

Rate	Fringe	Total
62.17	42.88	105.05

CLASSIFICATIONS:

Assistant General Foreman

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date :**

Effective Dates:

11/29/2020

Rate	Fringe	Total
60.55	41.77	102.32

CLASSIFICATIONS:

Line Foreman

Effective Dates:

11/29/2020

Rate	Fringe	Total
43.79	30.20	73.99

CLASSIFICATIONS:

Street Light Mechanical Leader

Effective Dates:

11/29/2020

Rate	Fringe	Total
41.63	28.71	70.34

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

11/29/2020

Rate	Fringe	Total
41.63	28.71	70.34

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

11/29/2020

Rate	Fringe	Total
41.08	28.35	69.43

CLASSIFICATIONS:

Street Light Mechanic

Effective Dates:

11/29/2020

Rate	Fringe	Total
41.08	28.35	69.43

CLASSIFICATIONS:

Line Equipment Mechanic

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PREVAILING WAGE RATE DETERMINATION

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date :

Effective Dates:

11/29/2020

Rate	Fringe	Total
35.14	24.24	59.38

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

11/29/2020

Rate	Fringe	Total
32.44	22.36	54.80

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

11/29/2020

Rate	Fringe	Total
53.52	36.92	90.44

CLASSIFICATIONS:

Line Equipment Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

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:

12/02/2020

Rate	Fringe	Total
63.56	51.00	114.56

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Effective Dates:

12/02/2020

Rate	Fringe	Total
56.43	46.88	103.31

CLASSIFICATIONS:

Foreman

Effective Dates:

12/02/2020

Rate	Fringe	Total
53.46	45.13	98.59

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/02/2020

Rate	Fringe	Total
49.50	42.79	92.29

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/02/2020

Rate	Fringe	Total
49.50	42.79	92.29

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/02/2020

Rate	Fringe	Total
49.50	42.79	92.29

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/02/2020

Rate	Fringe	Total
49.50	42.79	92.29

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date :**

Effective Dates:

12/02/2020

Rate	Fringe	Total
49.50	42.79	92.29

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/02/2020

Rate	Fringe	Total
39.60	36.94	76.54

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/02/2020

Rate	Fringe	Total
34.65	34.00	68.65

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/02/2020

Rate	Fringe	Total
32.18	32.55	64.73

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/02/2020

Rate	Fringe	Total
29.70	31.09	60.79

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/02/2020

Rate	Fringe	Total
27.23	29.62	56.85

CLASSIFICATIONS:

Groundman 1st Year

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ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date :

Effective Dates:

12/02/2020

Rate	Fringe	Total
21.78	26.40	48.18

CLASSIFICATIONS:

Flagman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date :**

****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 \$3.00 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:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
69.38	33.23	102.61	104.31	107.86	111.19

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
68.93	33.23	102.16	103.86	107.41	110.74

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date :**

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
68.18	33.23	101.41	103.11	106.66	109.99

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
71.93	33.23	105.16	106.86	110.41	113.74

CLASSIFICATIONS:

Blaster

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
67.35	33.23	100.58	102.28	105.83	109.16

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.83	33.23	100.06	101.76	105.31	108.64

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:

03/03/2021			09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.60	33.23	99.83	101.53	105.08	108.41

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)

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HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date :

Effective Dates:

	03/03/2021		09/01/2021	03/01/2022	03/01/2023
Rate	Fringe	Total	Total	Total	Total
66.00	33.23	99.23	100.93	104.48	107.81

CLASSIFICATIONS:

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 PROJECT

- A. Project Name: Second Floor Annex Asbestos Abatement and Renovations for the County of Union.
- B. Owner's Name: County of Union.
- C. Architect's Name: USA Architects Planners and Interior Designers, Ltd.
- D. The Project consists of Asbestos Abatement, Fire Sprinkler Installation and Renovations at the Second Floor New Annex Building at Union County.

1.2 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price.

1.3 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
 - 1. Locate and conduct construction activities in ways that will limit disturbance to site.
- B. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Work by Others.
 - 3. Work by Owner.
 - 4. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.

- 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage.
- E. Smoking is prohibited within the building and within 25 feet of entries, outdoor air intakes, and operable windows.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 21 00 - ALLOWANCES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contingency allowance.

1.2 CONTINGENCY ALLOWANCE

- A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.
- B. Funds will be drawn from the Contingency Allowance only by Change Order.
- C. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.3 ALLOWANCES SCHEDULE

- A. Contingency Allowance: Include the stipulated sum/price of \$225,000.00 for use upon Owner's instructions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.2 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability.
 - b. Regulatory changes.
 - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.

1.3 REFERENCE STANDARDS

- A. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase) Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
 - 4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.

5. Waives claims for additional costs or time extension that may subsequently become apparent.
 - a. Waiver includes claims related to providing custom aesthetic effects, colors, or finishes to meet the intent expressed in the Contract Documents.
 6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
1. Note explicitly any non-compliant characteristics.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - 1) Official project name and number.
 - 2) Owner's, Architect's, and Contractor's names.
 - b. Substitution Request Information:
 - 1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - 2) Indication of whether the substitution is for cause or convenience.
 - 3) Issue date.
 - 4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - 5) Description of Substitution.
 - 6) Reason why the specified item cannot be provided.
 - 7) Differences between proposed substitution and specified item.
 - 8) Description of how proposed substitution affects other parts of work.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - 1) Physical characteristics.
 - 2) In-service performance.
 - 3) Expected durability.
 - 4) Visual effect.
 - 5) Sustainable design features.
 - 6) Warranties.
 - 7) Other salient features and requirements.
 - 8) Include, as appropriate or requested, the following types of documentation:
 - (a) Product Data:
 - (b) Samples.
 - (c) Certificates, test, reports or similar qualification data.
 - (d) Drawings, when required to show impact on adjacent construction elements.
 - d. Impact of Substitution:

- 1) Savings to Owner for accepting substitution.
- 2) Change to Contract Time due to accepting substitution.

- D. Limit each request to a single proposed substitution item.
1. Submit an electronic document, combining the request form with supporting data into single document.

3.2 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Submittal Form (after award of contract):
1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request. See this form for additional information and instructions.
 2. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
- C. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project or the date of Commencement of the Work, whichever is later, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
 3. Bear the costs engendered by proposed substitution of:
 - a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
 - b. Other construction by Owner.
 - c. Other unanticipated project considerations.
- D. Substitutions will not be considered under one or more of the following circumstances:
1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 2. Without a separate written request.
 3. When acceptance will require revisions to Contract Documents.

3.3 RESOLUTION

- A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

- B. Architect will notify Contractor in writing of decision to accept or reject request.
 - 1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.4 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.5 CLOSEOUT ACTIVITIES

- A. Include completed Substitution Request Forms as part of the Project record.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General administrative requirements.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Number of copies of submittals.
- F. Requests for Information (RFI) procedures.
- G. Submittal procedures.

1.2 RELATED REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: General product requirements.
- B. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

1.3 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

- A. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.

- B. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract and <1|A/E|>.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.

- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.2 SITE MOBILIZATION MEETING

- A. Architect will schedule meeting at the Project site prior to Contractor occupancy.

- B. Meeting may be conducted as part of the Preconstruction Meeting.

- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.

- D. Agenda:
 - 1. Use of premises by Owner and Contractor.
 - 2. Owner's requirements.
 - 3. Construction facilities and controls provided by Owner.
 - 4. Temporary utilities provided by Owner.

5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

A. Attendance Required:

1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

B. Agenda:

1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Review of off-site fabrication and delivery schedules.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.
10. Planned progress during succeeding work period.
11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to work.

- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.4 PREINSTALLATION MEETINGS - SEE SECTION **01 70 00**.

3.5 **REQUESTS FOR INFORMATION (RFI)**

- A. Definition: A request seeking one of the following:

Administrative Requirements

1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare in a format and with content acceptable to Owner.
 3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.

1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.
3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

3.6 SUBMITTAL SCHEDULE

- A. Submit to Architect for review a schedule for submittals in tabular format.
1. Submit at the same time as the preliminary schedule.
 2. Coordinate with Contractor's construction schedule and schedule of values.
 3. Format schedule to allow tracking of status of submittals throughout duration of construction.
 4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
 5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
 - a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.7 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

3.8 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
 - 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- D. Architect's and consultants' actions on items submitted for review:
 - 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
 - 1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
 - 2) Non-responsive resubmittals may be rejected.
 - 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - 2) Non-responsive resubmittals may be rejected.
 - b. "Rejected".
 - 1) Submit item complying with requirements of Contract Documents.
- E. Architect's and consultants' actions on items submitted for information:
 - 1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 - 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, with network analysis diagrams and reports.

1.2 SUBMITTALS

- A. Within 10 days after date of Commencement of the Work, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

1.3 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.2 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Provide sufficient detail so that no activity exceeds five percent of the Contract Sum.
- D. Identify work of separate stages and other logically grouped activities.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.
- G. Provide legend for symbols and abbreviations used.

3.3 NETWORK ANALYSIS

- A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.
- B. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
 - 1. Preceding and following event numbers.
 - 2. Activity description.
 - 3. Estimated duration of activity, in maximum 15 day intervals.
 - 4. Earliest start date.
 - 5. Earliest finish date.
 - 6. Actual start date.
 - 7. Actual finish date.
 - 8. Latest start date.
 - 9. Latest finish date.
 - 10. Total and free float; float time shall accrue to Owner and to Owner's benefit.
 - 11. Monetary value of activity, keyed to Schedule of Values.
 - 12. Percentage of activity completed.
 - 13. Responsibility.

- D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.
- E. Required Reports: List activities in sorts or groups:
 - 1. By preceding work item or event number from lowest to highest.
 - 2. By amount of float, then in order of early start.

3.4 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Architect at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.5 UPDATING SCHEDULE

- A. Save baseline schedule for comparison to future schedules.
- B. Maintain schedules to record actual start and finish dates of completed activities.
- C. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- D. Annotate diagrams to graphically depict current status of Work.
- E. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- F. Indicate changes required to maintain Date of Substantial Completion.
- G. Submit reports required to support recommended changes.
- H. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.6 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. References and standards.
- D. Testing and inspection agencies and services.
- E. Control of installation.
- F. Mock-ups.
- G. Tolerances.
- H. Manufacturers' field services.
- I. Defect Assessment.

1.2 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- B. Section 01 42 16 - Definitions.
- C. Section 01 42 19 - Reference Standards.
- D. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.3 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2019.

- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2020.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2015.
- G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.
- H. IAS AC89 - Accreditation Criteria for Testing Laboratories 2018.

1.4 DEFINITIONS

- A. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.
 - 1. Design Services Types Required:
 - a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor's sole responsibilities for construction means, methods, techniques, sequences, and procedures.
 - b. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.
- B. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.

- f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
 - 2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
 - C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
 - D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
 - E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
 - 1. Submit report within 30 days of observation to Architect for information.
 - 2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
 - F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
 - 1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
 - 2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.
- 1.6 QUALITY ASSURANCE
- A. Testing Agency Qualifications:
 - 1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Qualification Statement: Provide documentation showing testing laboratory is accredited under IAS AC89.

B. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.7 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.8 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:

1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
2. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
3. Laboratory: Authorized to operate in New Jersey.
4. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
5. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality

assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MOCK-UPS

3.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.4 TESTING AND INSPECTION

- A. See individual specification sections for testing and inspection required.

- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.

- C. Limits on Testing/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the Work.

- D. Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 - 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

- E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

- F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.5 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Architect 30 days in advance of required observations.
 - 1. Observer subject to approval of Architect.
 - 2. Observer subject to approval of Owner.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.6 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.
- B. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 42 16 - DEFINITIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Other definitions are included in individual specification sections.

1.2 DEFINITIONS

- 1. Architect.
 - 2. Change Order.
 - 3. Claim.
 - 4. Construction Change Directive.
 - 5. Contract.
 - 6. Contract Document.
 - 7. Contract Sum.
 - 8. Contract Time.
 - 9. Contractor.
 - 10. Date of Commencement of the Work.
 - 11. day.
 - 12. defective.
 - 13. Drawings.
 - 14. Instruments of Service.
 - 15. Modification.
 - 16. Owner.
 - 17. Product Data.
 - 18. Project.
 - 19. Samples.
 - 20. Separate Contractor.
 - 21. Shop Drawings.
 - 22. Specifications.
 - 23. Subcontractor.
 - 24. (Date of) Substantial Completion.
 - 25. Sub-subcontractor.
 - 26. Work.
- B. Furnish: When referring to products, means to purchase and deliver.
 - C. Install: When used in connection with "furnish," includes unloading (if not provided by delivery carrier), inspecting for damage, uncrating, and other handling at the site.
 - D. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and

not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

- E. Provide: When referring to products, means to furnish and install.
- F. Shall: Must; be obliged to (expressing imperative mood, not future tense).
- G. Supply: To furnish and install.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary telecommunications services.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers and enclosures.
- D. Security requirements.
- E. Waste removal facilities and services.

1.2 TEMPORARY UTILITIES - SEE SECTION 01 51 00

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.

1.3 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Telephone Land Lines: One line, minimum; one handset per line.
 - 2. Internet Connections: Minimum of one; 100 Mbps upload and download or faster.
 - 3. Data/phone jacks: Four minimum.
 - 4. WIFI: WPA2 security.

1.4 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. New permanent facilities may be used during construction operations.
- C. Maintain daily in clean and sanitary condition.
- D. At end of construction, return facilities to same or better condition as originally found.

1.5 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.6 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.7 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.8 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.

- D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 51 00 - TEMPORARY UTILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.2 RELATED REQUIREMENTS

- A. Section 01 50 00 - Temporary Facilities and Controls:
 - 1. Temporary telecommunications services for administrative purposes.
 - 2. Temporary sanitary facilities required by law.

1.3 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.

1.4 TEMPORARY ELECTRICITY

- A. Cost: By Owner.
- B. Connect to Owner's existing power service.
 - 1. Do not disrupt Owner's need for continuous service.
 - 2. Exercise measures to conserve energy.
- C. Provide temporary electric feeder from existing building electrical service at location as directed.
- D. Complement existing power service capacity and characteristics as required.
- E. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- F. Provide main service disconnect and over-current protection at convenient location and meter.
- G. Permanent convenience receptacles may be utilized during construction.
- H. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.
 - 1. Provide 20 ampere duplex outlets, single phase circuits for power tools for every 5000 sq ft of active work area.
 - 2. Provide 20 ampere, single phase branch circuits for lighting.

1.5 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.
- B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide and maintain 0.25 watt/sq ft H.I.D. lighting to interior work areas after dark for security purposes.
- D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- E. Maintain lighting and provide routine repairs.
- F. Permanent building lighting may be utilized during construction.

1.6 TEMPORARY VENTILATION

- A. Utilize existing ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.

1.7 TEMPORARY WATER SERVICE

- A. Cost of Water Used: By Owner.
- B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.
- C. Connect to existing water source.
 - 1. Exercise measures to conserve water.
- D. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Re-use of existing products.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

- A. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- B. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.3 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.2 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. VOC: Comply with the most stringent of federal, State, and local requirements, and these specifications.
- C. Use of products having any of the following characteristics is not permitted unless specifically indicated otherwise:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Made using or containing CFC's or HCFC's.
 - 3. Made of wood from newly cut old growth timber.
 - 4. Containing lead, cadmium, or asbestos.

2.3 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.4 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.

3.2 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3 STORAGE AND PROTECTION

- A. Provide protection of stored materials and products against theft, casualty, or deterioration.
- B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
 - 1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas.
- C. Store and protect products in accordance with manufacturers' instructions.

- D. Store with seals and labels intact and legible.
- E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.
- F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- G. For exterior storage of fabricated products, place on sloped supports above ground.
- H. Provide off-site storage and protection when site does not permit on-site storage or protection.
- I. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- J. Comply with manufacturer's warranty conditions, if any.
- K. Do not store products directly on the ground.
- L. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- M. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- N. Prevent contact with material that may cause corrosion, discoloration, or staining.
- O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- P. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Cleaning and protection.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- G. General requirements for maintenance service.

1.2 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures.
- B. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.
- C. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.
- D. Section 01 76 10 - Temporary Protective Coverings: Materials for protection of installed work.
- E. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

- C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.4 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
 - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- D. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. During Owner Occupancy: Excessively noisy tools and operations will not be tolerated inside the building; excessively noisy includes jackhammers.

1.5 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- C. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- D. Coordinate completion and clean-up of work of separate sections.
- E. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.

- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.4 GENERAL INSTALLATION REQUIREMENTS

- A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.
- B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.5 RENOVATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of renovation work constitutes acceptance of existing conditions.

- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 .

- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 - 2. Remove items indicated on drawings.
 - 3. Relocate items indicated on drawings.
 - 4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate renovated work.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 - 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 - 4. Verify that abandoned services serve only abandoned facilities.
 - 5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

- E. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.

- F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
 4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.
- G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- I. Clean existing systems and equipment.
- J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- K. Do not begin new construction in renovation areas before demolition is complete.
- L. Comply with all other applicable requirements of this section.
- 3.6 CUTTING AND PATCHING
- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Renovation article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.

- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.7 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.8 PROTECTION OF INSTALLED WORK

- A. See Section 01 76 10 for temporary protective covering materials.

- B. Protect installed work from damage by construction operations.
- C. Provide special protection where specified in individual specification sections.
- D. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- E. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- F. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- G. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.
- H. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- I. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.9 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

- A. Execute final cleaning after Substantial Completion but before making final application for payment.
- B. Use cleaning materials that are nonhazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment.
- G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect and Owner.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Owner will occupy all of the building as specified in Section 01 10 00.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.12 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 76 10 - TEMPORARY PROTECTIVE COVERINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.2 REFERENCE STANDARDS

- A. ANSI A135.4 - Basic Hardboard 2012 (Reaffirmation approved 2020).
- B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board 2012, with Editorial Revision (2019).
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.
- D. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 2019.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes available; and installation instructions.
- C. Shop Drawings: Indicate existing finished surfaces to be protected.

PART 2 PRODUCTS

2.1 GENERAL

- A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
 - 1. Water resistant.
 - 2. Vapor permeable.
 - 3. Impact resistant.
 - 4. Slip resistant.
 - 5. Flame retardant.

2.2 MATERIALS

A. Sheet Materials:

1. Corrugated polypropylene sheet.
2. Recycled paperboard/plastic composite sheet.
3. Recycled paperboard sheet.
4. Wood Hardboard: ANSI A135.4, tempered, 1/4 inch thick nominal.
5. Plywood, 1/2 inch thick nominal.
6. Fiberboard: ASTM C208, 1/2 inch thick nominal.
7. Flame Retardance: Meet requirements of NFPA 701.
8. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Rolled Materials:

1. Self-adhering polyethylene film.
2. Recycled cellulose fiberboard paper.
3. Laminated glass fiber reinforced kraft paper.
4. Rosin coated paper.
5. Flame Retardance: Meet requirements of NFPA 701.
6. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

C. Corner and Door Jamb Protection Materials:

1. Cardboard, shaped specifically for application.
2. PVC plastic.

D. Tape: Type recommended by protective covering material manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

- A. Remove dirt and debris from surfaces to be protected.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Trim or overlap sheet materials to fit area to be covered.
- C. Roll out and cut rolled materials to fit area to be covered.
- D. Tape seams. Avoid taping directly to finished surfaces.

E. Stretch self-adhering film materials to completely cover surface.

3.3 REMOVAL

A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

END OF SECTION

SECTION 01 78 00 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Operation and Maintenance Data.
- B. Warranties and bonds.

1.2 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect.
- C. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- D. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.

2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
 7. Cross references from design drawings to shop drawings.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.

3.2 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.4 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.
 - 4. Complete nomenclature and model number of replaceable parts.

- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 - 1. Include HVAC outdoor and exhaust air damper calibration strategy.
 - a. Include provisions which ensure that full closure of dampers can be achieved.
 - 2. Include Carbon Dioxide Monitoring Protocol.
 - 3. Include Carbon Monoxide Monitoring Protocol.
 - 4. Include Frost Mitigation Strategy for ventilation heat-recovery system.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports.
- O. Additional Requirements: As specified in individual product specification sections.

3.5 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- J. Arrangement of Contents: Organize each volume in parts as follows:
 - 1. Project Directory.
 - 2. Table of Contents, of all volumes, and of this volume.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.
 - 4. Design Data: To allow for addition of design data furnished by Architect or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.6 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 41 00 - DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selective demolition of built site elements.
- B. Selective demolition of building elements for renovation purposes.

1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- C. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.3 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Identify demolition firm and submit qualifications.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.5 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.1 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.
 - 3. Use of explosives is not permitted.
 - 4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 5. Provide, erect, and maintain temporary barriers and security devices.
 - 6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 8. Do not close or obstruct roadways or sidewalks without permit.
 - 9. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Do not begin removal until built elements to be salvaged or relocated have been removed.
- D. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.
- E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- F. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.
 - 1. Refer to Appendix A "Asbestos Technical Specifications"
- G. Perform demolition in a manner that maximizes salvage and recycling of materials.

1. Dismantle existing construction and separate materials.
2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.2 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.3 SELECTIVE DEMOLITION FOR RENOVATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 1. Verify that construction and utility arrangements are as indicated.
 2. Report discrepancies to Architect before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 in locations indicated on drawings.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- D. Remove existing work as indicated and as required to accomplish new work.
 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 2. Remove items indicated on drawings.

- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. Verify that abandoned services serve only abandoned facilities before removal.
 - 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

- F. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

3.4 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 54 00 - CAST UNDERLAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Liquid-applied self-leveling floor underlayment.
 - 1. Use cementitious type at leveling applications.

1.2 REFERENCE STANDARDS

- A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens) 2020b.
- B. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete 2012.
- C. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars 2020.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data sheets documenting physical characteristics and product limitations of underlayment materials. Include information on surface preparation, environmental limitations, and installation instructions.
- C. Manufacturer's Instructions.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Keep dry and protect from direct sun exposure, freezing, and ambient temperature greater than 105 degrees F.

1.5 FIELD CONDITIONS

- A. Do not install underlayment until floor penetrations and peripheral work are complete.

- B. Maintain minimum ambient temperatures of 50 degrees F 24 hours before, during and 72 hours after installation of underlayment.
- C. During the curing process, ventilate spaces to remove excess moisture.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cementitious Underlayment: Blended cement mix, that when mixed with water in accordance with manufacturer's directions will produce self-leveling underlayment with the following properties:
 - 1. Compressive Strength: Minimum 4000 pounds per square inch after 28 days, tested per ASTM C109/C109M.
 - 2. Flexural Strength: Minimum 1000 psi after 28 days, tested per ASTM C348.
 - 3. Density: 125 pounds per cubic foot, nominal.
 - 4. Final Set Time: 1-1/2 to 2 hours, maximum.
 - 5. Thickness: Capable of thicknesses from feather edge to maximum 3-1/2 inch.
 - 6. Surface Burning Characteristics: Flame spread/Smoke developed index of 0/0 in accordance with ASTM E84.
- B. Aggregate: Dry, well graded, washed silica aggregate, approximately 1/8 inch in size and acceptable to underlayment manufacturer.
- C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to underlayment mix materials.
- D. Primer: Manufacturer's recommended type.
- E. Joint and Crack Filler: Latex based filler, as recommended by manufacturer.

2.2 MIXING

- A. Site mix materials in accordance with manufacturer's instructions.
- B. Add aggregate for areas where thickness will exceed 1/2 inch. Mix underlayment and water for at least two minutes before adding aggregate, and continue mixing to assure that aggregate has been thoroughly coated.
- C. Mix to self-leveling consistency without over-watering.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are clean, dry, unfrozen, do not contain petroleum byproducts, or other compounds detrimental to underlayment material bond to substrate.

3.2 PREPARATION

- A. Concrete: Mechanically prepare steel troweled concrete to create a textured surface necessary to achieve the best bond; acceptable methods include bead blasting and scarifying. Do not use acid etching.
- B. Remove substrate surface irregularities. Fill voids and deck joints with filler. Finish smooth.
- C. Vacuum clean surfaces.
- D. Prime substrate in accordance with manufacturer's instructions. Allow to dry.
- E. Close floor openings.

3.3 APPLICATION

- A. Install underlayment in accordance with manufacturer's instructions.
- B. Pump or pour material onto substrate. Do not retemper or add water.
 - 1. Pump, move, and screed while the material is still highly flowable.
 - 2. Be careful not to create cold joints.
 - 3. Wear spiked shoes while working in the wet material to avoid leaving marks.
- C. Place to indicated thickness, with top surface level to 1/8 inch in 10 ft.
- D. For final thickness over 1-1/2 inches, place underlayment in layers. Allow initial layer to harden to the point where the material has lost its evaporative moisture. Immediately prime and begin application of the subsequent layer within 24 hours.
- E. Where additional aggregate has been used in the mix, add a top layer of neat mix (without aggregate), if needed to level and smooth the surface.
- F. If a fine, feathered edge is desired, steel trowel the edge after initial set, but before it is completely hard.

3.4 CURING

- A. Once underlayment starts to set, prohibit foot traffic until final set has been reached.
- B. Air cure in accordance with manufacturer's instructions.

3.5 PROTECTION

- A. Protect against direct sunlight, heat, and wind; prevent rapid drying to avoid shrinkage and cracking.
- B. Do not permit traffic over unprotected floor underlayment surfaces.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Rough opening framing for doors, windows, and roof openings.
- B. Preservative treated wood materials.
- C. Fire retardant treated wood materials.
- D. Miscellaneous wood nailers, furring, and grounds.

1.2 REFERENCE STANDARDS

- A. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing 2010 (Reapproved 2017).
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood 2018.
- D. FM 1-49 - Perimeter Flashing 2016.
- E. PS 20 - American Softwood Lumber Standard 2020.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on fire retardant treatment, wood preservative materials, adhesives, and application instructions.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 3 or Utility Grade.
 - 2. Boards: Standard or No. 3.

2.3 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
 - 3. Anchors: Bolt or ballistic fastener for anchorages to steel.

2.4 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 - 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

- B. Fire Retardant Treatment:
 - 1. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat wood in exterior walls and parapets.
 - c. Treat wood in contact with roofing, flashing, or waterproofing.
 - d. Do not use treated wood in direct contact with the ground.

- C. Preservative Treatment:
 - 1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber exposed to weather.

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.3 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. Comply with FM 1-49.

3.4 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.5 CLEANING

- A. Waste Disposal:
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07 92 00 - JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 08 80 00 - Glazing: Glazing sealants and accessories.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
 - 5. Substrates for which use of primer is required.
 - 6. Substrates for which laboratory adhesion and/or compatibility testing is required.
 - 7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 8. Sample product warranty.
 - 9. Certification by manufacturer indicating that product complies with specification requirements.
 - 10. SWRI Validation: Provide currently available sealant product validations as listed by SWRI (VAL) for specified sealants.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.5 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
 - 1) Exception: Such gaps and openings in gypsum board and plaster finished stud walls and suspended ceilings.
 - 2) Exception: Through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
 - c. Other joints indicated below.
 - 2. Do not seal the following types of joints.
 - a. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
 - b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - c. Joints where installation of sealant is specified in another section.

- d. Joints between suspended panel ceilings/grid and walls.
 - B. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
 - 1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
 - 2. Wall and Ceiling Joints in Wet Areas: Non-sag polyurethane sealant for continuous water immersion.
 - 3. Floor Joints in Wet Areas: Self-leveling polyurethane "traffic-grade" sealant suitable for continuous water immersion.
 - 4. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; clear.
 - 5. In Sound-Rated Assemblies: Acrylic emulsion latex sealant.
 - 6. Narrow Control Joints in Interior Concrete Slabs: Self-leveling epoxy sealant.
 - 7. Other Floor Joints: Self-leveling polyurethane "traffic-grade" sealant.
 - C. Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".
- 2.2 JOINT SEALANTS - GENERAL
- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.
- 2.3 NONSAG JOINT SEALANTS
- A. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. FDA suitable for indirect food additives, NSF recognized for direct food contact, or USDA accepted for use in meat and poultry processing plants.
 - 2. Color: White.
 - 3. Manufacturers:
 - a. Pecora Corporation; Pecora 898 NST (Non-Staining Technology): www.pecora.com.
 - b. Polymeric Systems; 601 FG: www.polymericsystems.com.
 - c. Sika Corporation; Sikasil GP: www.usa-sika.com.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
 - B. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
 - 1. Color: Standard colors matching finished surfaces, Type OP (opaque).
- 2.4 SELF-LEVELING SEALANTS
- A. Self-Leveling Polyurethane Sealant for Continuous Water Immersion: Polyurethane; ASTM C920, Grade P, Uses M and A; single or multi-component; explicitly approved by manufacturer for traffic exposure and continuous water immersion.

1. Movement Capability: Plus and minus 25 percent, minimum.
 2. Color: To be selected by Architect from manufacturer's standard range.
 3. Manufacturers:
 - a. Sika Corporation; Sikaflex-1c SL: www.usa-sika.com.
 - b. W. R. MEADOWS, Inc; POURTHANE SL: www.wrmeadows.com.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Semi-Rigid Self-Leveling Epoxy Joint Filler: Epoxy or epoxy/polyurethane copolymer; intended for filling cracks and control joints not subject to significant movement; rigid enough to support concrete edges under traffic.
1. Composition: Multi-component, 100 percent solids by weight.
 2. Durometer Hardness: Minimum of 85 for Type A or 35 for Type D, after seven days when tested in accordance with ASTM D2240.
 3. Joint Width, Minimum: 1/8 inch.

2.5 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 3. Open Cell: 40 to 50 percent larger in diameter than joint width.
 4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.4 POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION

SECTION 08 12 13 - HOLLOW METAL FRAMES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-fire-rated hollow metal frames for flush wood doors.

1.2 RELATED REQUIREMENTS

- A. Section 08 14 16 - Flush Wood Doors: Non-hollow metal door for hollow metal frames.
- B. Section 09 91 23 - Interior Painting: Field painting.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.
- D. Samples: Submit one sample of frame metal, 2 by 2 inches, showing factory finishes, colors, and surface textures.
- E. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- F. Manufacturer's Qualification Statement.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide hollow metal frames from SDI Certified manufacturer: www.steeldoor.org/sdicertified.php.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of experience.
- C. Maintain at project site copies of reference standards relating to installation of products specified.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Door Frame Type: Provide hollow metal door frames with integral casings.
- B. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
- C. Accessibility: Comply with ICC A117.1 and ADA Standards.
- D. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.
- E. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- F. Zinc Coating for Units Subject to Corrosive Conditions: Components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvanized) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise.

2.2 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

- A. Interior Door Frames, Non-Fire Rated: Knock-down type.
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 - Heavy-duty.
 - b. Physical Performance Level B 500 000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Frame Metal Thickness: 16 gauge, 0.053 inch, minimum.

2.3 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
- B. Factory Finish: Complying with ANSI/SDI A250.3, manufacturer's standard coating.
- C. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15 mil, 0.015 inch dry film thickness (DFT) per coat; provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.4 ACCESSORIES

- A. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.2 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.3 INSTALLATION

- A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.
- B. Coordinate frame anchor placement with wall construction.
- C. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
- D. Install door hardware as specified in Section 08 71 00.
 - 1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

E. Coordinate installation of electrical connections to electrical hardware items.

3.4 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 14 16 - FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Flush wood doors; flush configuration

1.2 RELATED REQUIREMENTS

- A. Section 08 12 13 - Hollow Metal Frames.
- B. Section 09 91 23 - Interior Painting: Field finishing of doors.
- C. Section 09 93 00 - Staining and Transparent Finishing: Field finishing of doors.

1.3 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard 2016.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards 2014, with Errata (2018).
- C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.1 2017, with Errata (2019).
- D. WDMA I.S. 1A - Interior Architectural Wood Flush Doors 2013.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
- D. Samples: Submit two samples of door veneer, 4 by 4 inches in size illustrating wood grain, stain color, and sheen.
- E. Manufacturer's Installation Instructions: Indicate special installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

PART 2 PRODUCTS

2.1 DOORS AND PANELS

- A. Doors: See drawings for locations and additional requirements.
 - 1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS), AWMAC/WI (NAAWS) or WDMA I.S. 1A.
 - 2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at each location.

2.2 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.
- B. Core for Low Pressure Decorative Laminate (LPDL), Non-Rated and 20 Minute Rated Doors: ANSI A208.1 Grade M-2 particleboard, minimum, with no seams on faces; edges reinforced as required to pass performance grade specified.

2.3 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
- B. Veneer Facing for Opaque Finish: Medium density overlay (MDO), in compliance with indicated quality standard.

2.4 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.

- B. Cores Constructed with stiles and rails:
 - 1. Provide solid blocks at lock edge for hardware reinforcement.
 - 2. Provide solid blocking for other throughbolted hardware.
 - C. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.
 - D. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
 - E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
 - 1. Exception: Doors to be field finished.
 - F. Provide edge clearances in accordance with the quality standard specified.
- 2.5 FINISHES - WOOD VENEER DOORS
- A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
 - 1. Transparent:
 - a. System - 11, Polyurethane, Catalyzed.
 - b. Stain: As selected by Architect.
 - c. Sheen: Semigloss.
 - 2. Opaque:
 - a. System - 11, Polyurethane, Catalyzed.
 - b. Color: As selected by Architect.
 - c. Sheen: Semigloss.
 - B. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:
 - 1. Transparent:
 - a. System - TR-6, Catalyzed Polyurethane.
 - b. Sheen: Semigloss.
 - 2. Opaque:
 - a. System - OP-6, Catalyzed Polyurethane.
 - b. Color: As selected by Architect.
 - c. Sheen: Semigloss.
 - C. Seal door top edge with color sealer to match door facing.
- 2.6 ACCESSORIES
- A. Hollow Metal Door Frames: See Section 08 12 13.

- B. Door Hardware: As indicated on Drawings

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.

3.3 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.4 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

END OF SECTION

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Acoustic insulation.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.

1.3 REFERENCE STANDARDS

- A. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board 2004 (Reapproved 2020).
- B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2018.
- C. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing 2017.
- D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.
- E. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
- F. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications 2018.
- G. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base 2019.
- H. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel 2017.
- I. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.

- J. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels 2019, with Editorial Revision (2020).
- K. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems 2013a (Reapproved 2017).
- L. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.
- M. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials 2020.
- N. GA-216 - Application and Finishing of Gypsum Panel Products 2016.
- O. UL (FRD) - Fire Resistance Directory Current Edition.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
- C. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Fire-Resistance-Rated Assemblies: Provide completed assemblies complying with applicable code and UL assemblies indicated on drawings
 - 1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 METAL FRAMING MATERIALS

- A. Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
 - 1. Runners: U shaped, sized to match studs.
 - 2. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.

- B. Shaft Wall Studs and Accessories: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.
- C. Area Separation Wall Studs and Accessories: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with specified performance requirements.

2.3 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - 2. Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 - a. Glass mat faced gypsum panels are required wherever board is installed before building is enclosed and conditioned.
 - 3. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 - 4. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 5. Thickness:
 - a. Vertical Surfaces: 5/8 inch.

2.4 GYPSUM WALLBOARD ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness as indicated on drawings.
- B. Acoustic Firestop: Moldable acoustic silicone pad, 1/8 inch thick, complying with ASTM E814, ASTM E119, and ASTM C919.
- C. Mullion Trim Cap: Sound barrier mullion trim caps of aluminum and sound absorbing foam, capable of accommodating variations in adjacent surfaces.
 - 1. Fasteners: Concealed.
 - 2. Sound Transmission: STC 55.
 - 3. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
 - 4. Finish: Anodized, natural.
 - 5. Products:
 - a. MULL-it-OVER Products; Mullion Trim Cap: www.mullitoverproducts.com.
- D. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
 - 1. Types: As indicated on drawings or required for finished appearance.

- E. Nails for Attachment to Wood Members: ASTM C514.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.2 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs at 16 inches on center.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
- E. Blocking: Install wood blocking for support of:
 - 1. Framed openings.
 - 2. Wall-mounted cabinets.
 - 3. Plumbing fixtures.
 - 4. Toilet partitions.
 - 5. Toilet accessories.
 - 6. Wall-mounted door hardware.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
 - 1. Place one bead continuously on substrate before installation of perimeter framing members.
 - 2. Place continuous bead at perimeter of each layer of gypsum board.
 - 3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.
- C. Acoustical Firestop: Wrap pads around electrical boxes, cutting as required to fit around wires, before concealing or enclosing.

3.4 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
 - 1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- D. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.
- E. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For nonrated assemblies, install as follows:
- F. Replace gypsum board that directly or indirectly has been damaged by exposure to moisture or mold.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
 - 1. Not more than 30 feet apart on walls, soffits, and ceilings over 50 feet long or more than 900 square feet in area.
 - 2. Where a control joint occurs in a fire or an acoustically rated assembly, provide gypsum blocking behind the joint.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.6 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 - 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.

3. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
 - D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- 3.7 TOLERANCES
- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 51 00 - ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.2 REFERENCE STANDARDS

- A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings 2017.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels 2013.
- C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions 2020.
- D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products 2019.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on suspension system components and acoustical units.
- C. Samples: Submit two samples 4 by 4 inch in size illustrating material and finish of acoustical units.
- D. Samples: Submit two samples each, 12 inches long, of suspension system main runner, cross runner, and perimeter molding.

- E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
 - F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.
- 1.5 FIELD CONDITIONS
- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acoustic Tiles/Panels:
 - 1. Armstrong World Industries, Inc: www.armstrong.com.
 - 2. CertainTeed Corporation: www.certainteed.com.
 - 3. USG Corporation: www.usg.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Suspension Systems:
 - 1. Same as for acoustical units.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 ACOUSTICAL UNITS

- A. Acoustical Units - General: ASTM E1264, Class A.
- B. Acoustical Panels Type AP-1: Painted mineral fiber, ASTM E1264 Type III, Form 2, Pattern CE, with the following characteristics:
 - 1. Size: 24 by 48 inches.
 - 2. Thickness: 5/8 inches.
 - 3. Composition: Wet felted.
 - 4. Edge: Square.
 - 5. Surface Color: White.
 - 6. Surface Pattern: Perforated, small holes, lightly textured.
 - 7. Suspension System: Exposed grid Type W.
 - 8. Products:
 - a. Armstrong Fine Fissured.
 - b. CertainTeed Baroque, Fine Fissured.
 - c. USG Radar.

2.3 SUSPENSION SYSTEM(S)

- A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.
- B. Exposed Steel Suspension System Type W: Formed steel, commercial quality cold rolled; intermediate-duty.
 - 1. Profile: Tee; 15/16 inch wide face.
 - 2. Construction: Double web.
 - 3. Finish: White painted.

2.4 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.
- C. Perimeter Moldings: Same metal and finish as grid.
- D. Metal Edge Trim for "Cloud" Suspension Systems: Steel or extruded aluminum; provide attachment clips, splice plates, and preformed corner pieces for complete trim system.
 - 1. Finish: Baked enamel.
 - 2. Color: White.
 - 3. Products:
 - a. Armstrong World Industries, Inc; Axiom: www.armstrong.com.
 - b. CertainTeed Corporation; Cloud Perimeter Trim: www.certainteed.com.
 - c. USG Corporation; Compasso Suspension Trim: www.usg.com/ceilings.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.2 PREPARATION

- A. Install after major above-ceiling work is complete.
- B. Coordinate the location of hangers with other work.
- C. Provide hanger clips during steel deck erection. Provide additional hangers and inserts as required.

3.3 INSTALLATION - SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- C. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
- D. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.

3.4 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.

- D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- E. Cutting Acoustical Units:
 - 1. Cut to fit irregular grid and perimeter edge trim.
 - 2. Make field cut edges of same profile as factory edges.
 - 3. Double cut and field paint exposed reveal edges.
- F. Where round obstructions occur, provide preformed closures to match perimeter molding.
- G. Install hold-down clips on panels within 20 ft of an exterior door.

3.5 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 65 00 - RESILIENT FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Resilient tile flooring.
- B. Resilient base.
- C. Installation accessories.

1.2 REFERENCE STANDARDS

- A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source 2019a, with Editorial Revision (2020).
- B. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile 2004 (Reapproved 2018).
- C. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile 2020.
- D. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source 2019.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Shop Drawings: Indicate seaming plans and floor patterns.
- D. Verification Samples: Submit two samples, 12 by 12 inch in size illustrating color and pattern for each resilient flooring product specified.
- E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Flooring Material: Quantity equivalent to 5 percent of each type and color.
 - 3. Extra Wall Base: Quantity equivalent to 5 percent of each type and color.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

1.6 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.1 TILE FLOORING

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.
 - 1. Manufacturers:
 - a. As indicated on drawings.
 - 2. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.
 - 3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - 4. Size: 12 by 12 inch.
 - 5. Thickness: 0.125 inch.
 - 6. Color: As indicated on drawings.
- B. Vinyl Tile: Printed film type, with transparent or translucent wear layer.
 - 1. Manufacturers:
 - a. As indicated on drawings.
 - 2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
 - 3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 - 4. Plank Tile Size: 4 by 36 inch.

5. Wear Layer Thickness: 0.020 inch.
6. Total Thickness: 0.125 inch.
7. Color: As indicated on drawings.

2.2 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; Style B, Cove.
 1. Manufacturers:
 - a. As indicated on drawings.
 2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
 3. Length: Roll.
 4. Color: As indicated on drawings.

2.3 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
- C. Moldings, Transition and Edge Strips: Same material as flooring.
- D. Filler for Coved Base: Plastic.
- E. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
 1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.2 PREPARATION

- A. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- B. Prohibit traffic until filler is fully cured.

3.3 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.

3.4 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.
- B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern.
- C. Install square tile to basket weave pattern. Allow minimum 1/2 full size tile width at room or area perimeter.
- D. Install plank tile with a random offset of at least 6 inches from adjacent rows.

3.5 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Miter internal corners. At external corners, 'V' cut back of base strip to 2/3 of its thickness and fold. At exposed ends, use premolded units.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.6 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean, seal, and wax in accordance with manufacturer's written instructions.

3.7 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 68 13 - TILE CARPETING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Carpet tile, fully adhered.

1.2 REFERENCE STANDARDS

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.
- D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.5 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Tile Carpeting: Tufted, manufactured in one color dye lot.
 - 1. Product: As indicated on drawings.

2.2 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Edge Strips: Rubber, color as selected by Architect.
- C. Adhesives:
 - 1. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.
- D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
 - 1. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.2 PREPARATION

- A. Remove subfloor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with subfloor filler.
- B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

- C. Vacuum clean substrate.

3.3 INSTALLATION

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions.
- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
- F. Locate change of color or pattern between rooms under door centerline.
- G. Trim carpet tile neatly at walls and around interruptions.
- H. Complete installation of edge strips, concealing exposed edges.

3.4 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
 - 1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
 - 2. Prime surfaces to receive wall coverings.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, and lead items.
 - 6. Marble, granite, slate, and other natural stones.
 - 7. Floors, unless specifically indicated.
 - 8. Ceramic and other tiles.
 - 9. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
 - 10. Glass.
 - 11. Acoustical materials, unless specifically indicated.
 - 12. Concealed pipes, ducts, and conduits.
 - 13. Operating and moving parts of operating equipment, including valve and damper operators, linkages, sensing devices, and motor and fan shafts.

1.2 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Finish Materials: 1 gallon of each color and type; from the same product run, store where directed.
 - 3. Label each container with color, type, and room locations in addition to the manufacturer's label.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience and approved by manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.6 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Benjamin Moore: www.benjaminmoore.com.
 - 2. PPG Paints: www.ppgpaints.com.
 - 3. Sherwin-Williams Company: www.sherwin-williams.com.
- C. Primer Sealers: Same manufacturer as top coats.
- D. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.

4. Supply each paint material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:

1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
 - 1) Opaque, Flat: 50 g/L, maximum.
 - 2) Opaque, Nonflat: 150 g/L, maximum.
 - 3) Opaque, High Gloss: 250 g/L, maximum.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Colors: As indicated on drawings.

1. Extend colors to surface edges; colors may change at any edge as directed by Architect.

2.3 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, and plaster.

1. Two top coats and one coat primer.
2. Top Coat(s): Interior Epoxy-Modified Latex.
 - a. Products:
 - 1) Benjamin Moore Corotech Waterborne Acrylic Epoxy, V450, Gloss.
 - 2) PPG Paints Pitt-Glaze WB Water-Borne Acrylic Epoxy, 16-599 Series, Gloss.
 - 3) Sherwin-Williams Waterbased Catalyzed Epoxy, B73 Series, Gloss.
 - 4) Substitutions: Section 01 60 00 - Product Requirements.
3. Top Coat Sheen:
 - a. Semi-Gloss: Use this sheen at all locations.
4. Primer: As specified under "PRIMERS" below.

2.4 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

1. Interior/Exterior Latex Block Filler; For Rough Concrete and Masonry.
 - a. Products:
 - 1) Benjamin Moore Corotech Polyamide Epoxy Primer.

- 2) PPG Paints: 6-15XI Speedhide Masonry Hi Fill Latex Block Filler.
 - 3) Sherwin-Williams Loxon Block Surfacers, A24W00200.
 - 4) Substitutions: Section 01 60 00 - Product Requirements.
2. Latex Primer for Interior Wood; Plaster; or Gypsum Wallboard.
- a. Products:
 - 1) Benjamin Moore Ultra Spec 500 Interior Latex Primer, N534.
 - 2) Sherwin-Williams Premium Wall & Wood Interior Latex Primer, B28W08111; except ProMar 200 Zero VOC Interior Latex Primer, B28W02600, for gypsum wallboard.
 - 3) Substitutions: Section 01 60 00 - Product Requirements.

2.5 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Plaster and Stucco: 12 percent.
 3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.

3.2 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Masonry:
 - 1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
 - 2. Prepare surface as recommended by top coat manufacturer.
- G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- I. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- E. Sand wood and metal surfaces lightly between coats to achieve required finish.
- F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

- G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.5 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 09 93 00 - STAINING AND TRANSPARENT FINISHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of stains and transparent finishes.

1.2 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category.
 - 2. Manufacturer's installation instructions.
- C. Samples: Submit three samples, illustrating selected colors and sheens for each system. Submit on actual wood substrate to be finished, 4 by 4 inch in size.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Applicator's Qualification Statement.
- F. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, safety data sheets (SDS), care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Stain and Transparent Finish Materials: 1 gallon of each color and type; from the same product run, store where directed.
 - 3. Label each container with color and type in addition to the manufacturer's label.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of stain or transparent finish, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Stain and Transparent Finish Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.6 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by manufacturer of stains and transparent finishes.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

PART 2 PRODUCTS

2.1 STAINS AND TRANSPARENT FINISHES - GENERAL

- A. Finishes:
 - 1. Provide finishes capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 3. Supply each finish material in quantity required to complete entire project's work from a single production run.
 - 4. Do not reduce, thin, or dilute finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Volatile Organic Compound (VOC) Content:

1. Provide stains and transparent finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
 - 1) Varnishes: 350 g/L, maximum.
 - c. Architectural coatings VOC limits of the State in which the Project is located.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Colors: To be selected from manufacturer's full range of available colors.

1. Selection to be made by Architect after award of contract.

2.2 EXTERIOR STAIN AND TRANSPARENT FINISH SYSTEMS

A. Finish on Wood:

1. Stain: Exterior Solid Stain for Wood, Water Based.
 - a. Products:
 - 1) Behr Deckplus Solid Color Waterproofing Wood Stain (Home Depot)
 - 2) Benjamin Moore Arborcoat Solid Deck & Siding.
 - 3) Olympic Maximum Solid.
 - 4) PPG Paints ProLuxe Rubbol Solid Matte Wood Finish, SIK710 Series.
 - 5) Substitutions: Section 01 60 00 - Product Requirements.

2.3 INTERIOR STAIN AND TRANSPARENT FINISH SYSTEMS

A. Finish on Wood - Vertical Surfaces:

1. Stain: Semi-Transparent Stain for Wood, Solvent Based.
 - a. Products:
 - 1) Sherwin-Williams MinWax 250 VOC Oil Stain.
 - 2) Approved equal.
2. Top Coat(s): Polyurethane Varnish.
 - a. Products:
 - 1) Sherwin-Williams Minwax Water-Based Oil-Modified Polyurethane, Semi-Gloss.
 - 2) Approved equal.
3. Top Coat Sheen:
 - a. Semi-Gloss: Use this sheen at all locations.

B. Finish on Wood - Floors.

1. Stain: Semi-Transparent Stain for Wood.
 - a. Products:

- 1) Sherwin-Williams MinWax 250 VOC Oil Stain.
- 2) Approved equal.
2. Top Coat(s): Polyurethane Varnish.
 - a. Products:
 - 1) Sherwin-Williams MinWax Ultimate Floor Finish, Gloss.
 - 2) Approved equal.
3. Top Coat Sheen:
 - a. Gloss: Use this sheen at all locations.

2.4 ACCESSORY MATERIALS

- A. Accessory Materials: Cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of finished surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin application of stains and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

3.2 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing finishes that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
- F. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

- G. Wood Floor Finishing: Sand flooring to smooth even finish with no evidence of sander marks. Take precautions to contain dust. Remove dust by vacuum.

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's written instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- D. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- E. Reinstall items removed prior to finishing.

3.4 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.5 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

Appendix A

TECHNICAL SPECIFICATIONS

ASBESTOS REMOVAL

Union County Annex
2 Broad Street
Elizabeth, New Jersey 07201



Prepared for:
County of Union
2325 South Avenue
Scotch Plains, New Jersey 07076

Prepared by:
Project Designer, Ralph Coppola, CIEC
NAET156211
Exp. 11/06/2020

A handwritten signature in blue ink, appearing to read "Ralph Coppola". The signature is written in a cursive style and is positioned below the text identifying the project designer.

Project No. SUBCE20004

September 10, 2020

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

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SECTION 00002

PROJECT DIRECTORY

PROJECT NAME: Asbestos Removal
Union County Annex
2 Broad Street, Elizabeth New Jersey 07201

PROJECT LOCATION: Union County Annex
2 Broad Street, Elizabeth New Jersey 07201

BUILDING OWNER: County of Union
2325 South Avenue
Scotch Plains, New Jersey 07076

Contact: Mr. Matthew A. Ferraro, LEED AP
Project Manager
Division of Engineering
(908) 389-5208 Office
(908) 789-3674 Fax

ASBESTOS SAFETY CONTROL MONITOR: Pennoni Associates, Inc.
24 Commerce Street Suite 300
Newark, New Jersey 07102
License # 00102

Contact: Ralph Coppola, CIEC
(973) 265-9763 Office
(908) 210-1455Cell

DATE OF CONTRACT DOCUMENTS: July 21, 2020

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ATTACHMENT A SUB-CHAPTER 8 5:23-8 OF NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS

END OF SECTION

SECTION 01013

SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings, general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION:

- A. The Project name is Asbestos Removal – Union County Annex

Site location is as follows:

- 1. Union County Annex
2 Broad Street
Elizabeth, New Jersey 07201

The contract documents have been prepared by the Owner's Environmental Consultant, Pennoni Associates Inc., and are dated August 19, 2020.

The base bid is a lump sum bid for the removal of asbestos containing materials as per these specifications. The asbestos-containing material removal will require full containment preparation following N.J.A.C. 5:23-8 (Subchapter 8) regulations for occupied buildings and are shown on the accompanying drawings..

- B. The scope of the project includes the complete removal and proper off-site disposal of identified asbestos-containing materials from the Union County Annex located at 2 Broad Street, Elizabeth, New Jersey and as described in this specification and accompanying drawings in preparation for the renovation of the building. The building will be occupied during abatement activities. Carpeting with underlying floor tile and/or mastic adhered to the underside shall be disposed as asbestos contaminated waste. Carpeting with no floor tile and/or mastic adhered to the underside shall be disposed as construction debris. The Contractor shall remove all flooring materials from sections of the floor beneath non-permanent partition walls.

The Contractor will also be responsible for the disconnection, reconnection and testing of all utilities associated with the ventilator units within the work areas. Disconnection, reconnection and testing of the utilities shall be performed by appropriately licensed professionals.

Section 3.14 - Summary of Work provides estimated quantities of asbestos containing materials to be removed and replaced. The Contractor is responsible to determine exact quantities of asbestos containing materials and scope of work as outlined in the specification and drawings prior to the submission of their bid.

- C. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:
 - 1. Applicable codes and regulations.
 - 2. Notices and permits.
 - 3. Existing site conditions and restrictions on use of the site.
 - 4. Work performed prior to work under this Contract.
 - 5. Alterations and coordination with existing work.
 - 6. Work to be performed subsequent to work under this Contract.

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7. Alternates.
 8. Allowances.
- D. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.
- E. General and Administrative Requirements are set forth in the following specification sections:
1. 01013 SUMMARY OF THE WORK.
 2. 01043 PROJECT COORDINATION.
 3. 01091 DEFINITIONS AND STANDARDS.
 4. 01301 SUBMITTALS.
- F. Abatement Work requirements are set forth in the following specification sections, listed here according to the sequence of the work:
1. 01092 CODES, REGULATIONS, AND STANDARDS - Sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 2. 01503 TEMPORARY FACILITIES - Sets forth the support facilities needed such as electrical and plumbing connections for the decontamination units and office space for the Asbestos Safety Technician (AST).
 3. 01526 TEMPORARY ENCLOSURES - Details the requirements for the sheet plastic barriers isolating the work area from the balance of the building.
 4. 01410 AIR MONITORING - Describes air monitoring by the Owner's Environmental Consultant so that the building beyond the work area(s) will remain uncontaminated. Air monitoring to determine required respiratory protection is the responsibility of the Contractor.
 5. 01513 TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM - Sets forth the procedures to set up the air filtration units and ventilation of the work area.
 6. 01560 WORKER PROTECTION - Sets forth the procedures and equipment for adequate worker protection.
 7. 01562 RESPIRATORY PROTECTION - Sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos fibers.
- G. Asbestos Removal Work Procedures are described in the following specification sections:
1. 02081 REMOVAL OF ASBESTOS
 2. 02084 DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL.
- H. Decontamination of the Work Area after completion of abatement work is described in the following sections:

1. 01711 PROJECT DECONTAMINATION - Describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area.
2. 01714 WORK AREA CLEARANCE - Describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.

1.3 PROJECT COORDINATION:

- A. The Asbestos Contractor shall coordinate all asbestos abatement work with the Environmental Consultant in accordance with Section 01043 – Project Coordination.
- B. The Asbestos Contractor shall not perform any work in the absence of the Environmental Consultant's Asbestos Safety Technician (AST) who shall decide in his absolute discretion as to the meaning and applicability of any part of the Asbestos Abatement Specification.

1.4 INSPECTION:

- A. Prior to commencement of work, the Contractor shall inspect areas in which work will be performed. Prepare a listing of damages to structure, surfaces, equipment or surrounding properties, which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary, to document conditions. Submit to Environmental Consultant prior to starting work.

1.5 POTENTIAL ASBESTOS HAZARD:

- A. The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the jobsite of the seriousness of the hazard and of proper work procedures, which must be followed.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

1.6 STOP WORK:

- A. If the Owner or Environmental Consultant presents a written stop work order, immediately and automatically stop all work. Do not recommence work until authorized in writing by the Environmental Consultant.

1.7 ASBESTOS-CONTAINING MATERIALS:

- A. The following asbestos-containing materials are to be removed as part of this scope of work. If any other materials are found, which are suspected of containing asbestos (i.e. pipe insulation, pipe fittings, duct insulation, etc.), notify the Environmental Consultant immediately both verbally and in writing. Do not proceed with any additional work without written approval. A summary table of materials, estimated quantities and locations of asbestos materials to be removed is also included under 3.4 of this Section.

1. 1' x 1' Concealed Spline Ceiling Tile

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2. 1' x 1' Concealed Spline Star Pattern Ceiling Tile
3. Green 9" x 9" Floor Tile
4. Pipe Elbow Insulation
5. Peach 12" x 12" Floor Tile
6. Light Green 9" x 9" Floor Tile
7. Tan 9" x 9" Floor Tile
8. Grey 9" x 9" Floor Tile
9. Peach 9" x 9" Floor Tile
10. Spray Applied Fireproofing on I-Beam (Alternate)
11. Corrugated Aircell Pipe Insulation Above Spline Ceiling (Alternate)

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 OWNER OCCUPANCY:

- A. The building **will be occupied** during abatement activities. Cooperate fully with other personnel that may be working at the site. Perform all work so as not to interfere with other personnel.
- B. All Asbestos Abatement work shall be performed in accordance with these specifications, and all federal, state and local regulations, as applicable.

3.2 CONTRACTOR USE OF PREMISES:

- A. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.
 1. Keep existing driveways and entrances serving the premises clear and available to the Owner at all times. Do not use these areas for parking or storage of materials.
 2. Do not unreasonably encumber the site with materials or equipment.
 3. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.
- B. Contractor's Use of the Existing Building(s): Maintain existing building(s) in a safe and weather tight condition throughout the construction period.
 1. Smoking or open fires will not be permitted within the building.
 2. Keep means of egress clear of rubbish, construction materials and asbestos waste.
 3. The use of existing toilets within the building will be allowed at the Owner's discretion.

3.3 WORK TO BE PERFORMED BY OTHERS:

- A. The Owner will coordinate with the Contractor to facilitate shut down and lockout of all H.V.A.C., electrical, mechanical and security equipment and systems located within and/or servicing the work area(s).
- B. The building Owner shall be responsible for the removal and replacement of all furniture from areas of work.

3.4 SUMMARY OF WORK:

- A. The scope of the Project includes the complete removal and off-site disposal of certain identified asbestos containing materials. The asbestos containing materials are summarized in the following summary tables and on the attached drawings. The tables are provided to supply Contractors with information to aid in the bidding process. The table shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work and provide a bid proposal based on all existing conditions.

Asbestos-Containing Material Removal Union County Annex 2 Broad Street, Elizabeth New Jersey 07201		
Location	Material	Estimated Quantity
Courtroom, Judge's Chambers/Office, Corridor, Public Waiting, Room 202	1' x 1' Concealed Spline Ceiling Tile	4,900 SF
Jury Room, Room 203 & Adjacent Offices, Judge's Chamber Secretary Office	1' x 1' Concealed Spline Star Pattern Ceiling Tile	3,800 SF
Jury Room	Green 9" x 9" Floor Tile	300 SF
Bathrooms (Concealed in wall)	Pipe Elbow Insulation	10 Pieces
Judge's Office & Adjacent Hallway	Peach 12" x 12" Floor Tile	350 SF
Room 203 & Adjacent Offices	Light Green 9" x 9" Floor Tile	2,900 SF
Hallway to Security	Tan 9" x 9" Floor Tile	210 SF
Vault Room and Hallway Storage Room	Grey 9" x 9" Floor Tile	700 SF
Room 202 & Adjacent Offices	Peach 9" x 9" Floor Tile	2,100 SF
Above Spline Ceiling at Perimeter	Spray Applied Fireproofing (Alternate)	800 SF
Throughout Above Spline Ceiling	Corrugated Air Cell Pipe Insulation (Alternate)	500 LF

B. The Contractor shall:

1. Make all required notifications, obtain all permits and pay all fees associated with the work.
2. Remove all identified asbestos containing materials in strict accordance with all applicable federal, state and local regulations and this specification.
3. Dispose of all asbestos containing materials in strict accordance with N.J.D.E.P. rules and regulations, N.J.A.C. 7:26, and this specification.
4. Coordinate with the Counties Facilities Manager for the shut down and lockout all H.V.A.C., electrical, mechanical and security equipment and systems located within and/or servicing the work area locations.

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5. Provide personnel and waste decontamination facilities where indicated on the contract drawings. The Contractor shall be responsible to make all connections and disconnections to existing electrical panels and water sources. The Contractor shall provide the necessary equipment to supply the decontamination units with hot water.
6. Vent all HEPA-equipped air filtration units to the exterior of the building as indicated on the Contract Drawings. The Contractor shall remove doors and/or windows as required and construct plywood manifold systems to allow for exhaust ducts to run to the building exterior.
7. Install scaffolding as necessary to access the work.
8. Remove and dispose of asbestos containing materials as indicated on the Contract Drawings and described herein.
9. Clean and decontaminate the work areas as per this specification and all applicable federal, state and local regulations.
10. Route all waste directly to the secured dumpster/truck.
11. Coordinate the location of dumpsters with the Environmental Consultant. All locked asbestos dumpsters shall be the enclosed lockable type and shall be kept when left unattended.
12. The Contractor shall be required to achieve the post abatement, air monitoring clearance criteria as specified in Section 01714, Work Area Clearance.

3.5 SCHEDULE:

- A. The scheduling of this scope of work will be determined at a later date.

END OF SECTION

SECTION 01043

PROJECT COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of 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 supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Notifications.
 - 2. Permits and Fees.
 - 3. Administrative and supervisory personnel.
 - 4. Pre-Construction meeting.
 - 5. Progress Meetings.
 - 6. Documentation required at work site.
 - 7. Coordination of Subcontractors and other trades.
 - 8. Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

1.3 NOTIFICATIONS:

- A. The Contractor shall make all required notifications associated with his contract to include, but not limited to those listed in Section 01902 Codes, Regulations and Standards.

1.4 PERMITS AND FEES:

- A. The Contractor shall obtain all required Permits, and pay all fees associated with his contract to include, but not limited to those listed in Section 01092 Codes, Regulations and Standards.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

- A. General Superintendent: Provide on a twenty-four hour a day on call basis, a General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by OSHA in 29 C.F.R. 1926 for the Contractor and is the Contractor's Representative's responsible for compliance with all applicable Federal, State, and Local Regulations, and this specification. This person shall have completed a course at an E.P.A. Training Center or an equivalent certified course in asbestos abatement procedures and have had a minimum of three years of on-the-job training and meet any additional requirements set forth in 29 C.F.R. 1926 for a Competent Person and this specification. The responsibilities of the General Superintendent shall include but not be limited to the following:

- 1. The General Superintendent shall submit special reports directly to the Owner within one day of occurrence. A copy shall be submitted to the Owner's Representative, Project Consultants, and others affected by the occurrence.

When an event of unusual and significant nature occurs at the site (e.g. failure of negative pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Owner in advance at the earliest possible date.

- B. Project Supervisor: Provide a full-time Project Supervisor who is certified and fully knowledgeable in the use of equipment and situations unique to that worksite. A separate individual shall be required to fulfill this function for each work shift that exceeds ten hours within any twenty-four hour period. The responsibilities of the Project Supervisor shall include but not be limited to the following:
1. Ensure that the individuals are wearing all proper personal protective equipment as outlined in Sections 01560 - 01562 of this specification and are trained in their use.
 2. Ensure that precautions have been taken to prevent heat stress and other emergencies from occurring (e.g. selecting light-weight protective clothing, reducing the work rate, and providing adequate fluid breaks).

1.6 PRE-CONSTRUCTION MEETING:

- A. The Contractor shall attend pre-construction meeting(s) scheduled by the Environmental Consultant. These meetings shall be attended by the Owner and/or the Owner's Representative, and the Contractor's OSHA Monitoring Firm. At this meeting, the Contractor shall present in detail the following:
1. A detailed plan for preparation of each work area.
 2. Description of protective clothing and approved respirators (by NIOSH and the Project Consultants) to be used.
 3. Delineation of responsibility of work site isolation.
 4. Explanation of the decontamination sequence.
 5. Description of all removal methods to be used.
 6. Explanation of the handling of asbestos-contaminated waste.
 7. Proof of workers' medical exams substantiated by reports signed by the physician.
 8. Description of the final clean up procedures to be used.
 9. Proposed waste disposal site and proof of transporter registration. If a change in either of these items occurs during the course of the project, the Contractor shall notify the Environmental Consultant.
 10. A sample of the waiver form to be used for all authorized visitors to the site.
 11. Explanation of air filtration systems to be used for personnel protection, building protection, and environmental protection.
 12. List of equipment on hand or to be obtained, how to be used, and the operation of each to include impact on the personnel, building environmental, and work environment.
 13. Plan of action in the event of an emergency (Asbestos Spill Plan, fire routes, etc.).
 14. A Detailed Work Schedule, with start and completion dates for all phases of asbestos abatement, to include, but not limited to, Worksite Preparation, Pre-inspection, Removal, Clean-up, Pre-encapsulation Inspection, Encapsulation, Clean-up Inspection, Final Cleaning, Disposal, Final Inspection, Post-testing, Analysis and Post State Inspection.

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- B. The Quality Assurance Air Monitoring Firm shall present in detail an explanation of air monitoring procedures to be used on behalf of the Owner. The Contractor (or independent air monitoring laboratory employed on his behalf) shall present in detail how compliance with OSHA monitoring requirements shall be fulfilled.
- C. Asbestos work shall not proceed until the Owner, Environmental Consultant, and the Contractor agree on the details listed in this article.

1.7 PROGRESS MEETINGS:

- A. The Contractor shall attend prescheduled Progress Meetings. These shall be scheduled by the Environmental Consultant. These meetings shall also be attended by Owner's Representative and the Environmental Consultant. Any such meetings shall serve to update all items discussed in the Pre-Construction meeting.

1.8 DOCUMENTATION REQUIRED AT WORK SITE:

- A. One copy of each regulation cited in Section 01092 shall be available in the Contractor's business office and one copy of each shall be maintained in view at the job site.
- B. The Contractor shall display copies of the required letters of Notification, Permits, and Variances.
- C. Additional documentation required of the Contractor and to be available at the job site shall include:
 - 1. List of emergency telephone numbers to include:
 - a. The Environmental Consultant and Industrial Hygienist.
 - b. E.P.A.
 - c. O.S.H.A.
 - d. D.E.P.
 - e. D.O.H.
 - f. Fire Department.
 - g. Police Department.
 - h. Local Hospital.
 - i. Emergency Squad.
 - j. Contractors Project Supervisor and General Superintendent.
 - 2. The Contractor shall establish written work area emergency procedures and shall have such procedures posted in view and also inside each work area. In case of an emergency, decontamination procedures shall not impede emergency procedures.
 - 3. List or personnel including all new employees.
 - 4. A Daily Log of all persons entering the work area, including all visitors. The Log shall include the full name and certification number of all employees, and the time when they enter and exit the work area. Non-employees of the Asbestos Contractor shall be required to sign an acceptable waiver form. The waiver form shall be approved by the Environmental Consultant.
 - 5. The Daily Log shall include a record of start and stop times, any work area problems encountered, any corrective action, and estimated amount of asbestos waste generated.
 - 6. The Contractor shall be responsible for obtaining a copy of the daily monitoring logs from their air testing firm and maintaining this with the Daily Log at the job site.

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7. Copies of Daily Log forms shall be given to the Environmental Consultant at the end of each week's work.

D. Work schedules and updated progress charts depicting all phases of work and completion deadlines.

E. Copy of Waste Hauler's Certificate and copy of all landfill receipts.

1.9 COORDINATION OF SUBCONTRACTORS AND OTHER TRADES:

A. The Contractor shall work in complete cooperation and coordination with any Subcontractors or any other trades that may be involved in other work within or related to the site.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01091

DEFINITIONS AND STANDARDS

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. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.
- B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

1.3 GENERAL DEFINITIONS:

- A. Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.
 - 1. Building Owner: The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance the Building Owner means the person in whom beneficial title is vested.
 - 2. Contractor: A public authority or any other governmental agency or instrumentality thereof, self-employed person, company, unincorporated association, firm, partnership, or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.
 - 3. Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
 - 4. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.
 - 5. Approve: The term "approved," where used in conjunction with the Owner Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
 - 6. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

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7. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
8. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
9. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
10. Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
11. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.
12. Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings.
13. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.
14. Owner's Representative: This is the entity described as the "Architect" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." All references to Architect or Engineer in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during construction and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
15. Project Administrator: This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." The Project Administrator is a full time representative of the Owner at the job site with authority to stop the work upon verbal order if requirements of the Contract Documents are not met, or if in the sole judgment of the Project Administrator, Owner's Representative, Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.
16. General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

A. Definitions:

1. Abatement: Any and all procedures physically taken to control fiber release from asbestos-containing materials. This includes removal, encapsulation, enclosure and repair.

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2. Abatement Activities: All activities from the initiation of work area preparation through successful clearance air monitoring performed at the conclusion of an asbestos project.
3. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with Section 206 of Title II of the Toxic Substances Control Act (TSCA).
4. Action Level: An airborne concentration of asbestos of 0.1 fibers per cubic centimeter (f/cc) of air calculated as an eight-hour time-weighted average.
5. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
6. Aggressive Sampling: A method of sampling in which the individual collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
7. Airlock: A system for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least four feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
8. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
9. Air Monitoring: The process of measuring the fiber content of a specific volume of air.
10. Air Sampling: The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400, or the provisional transmission electron microscopy methods developed by the USEPA which are utilized for lower detectability and specific fiber identification.
11. Ambient Air Monitoring: Measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the worksite.
12. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
13. Approved Safety and Health Program: A Program certified by the Commissioner providing training in the handling and use of asbestos-containing material, and safety and health risks inherent in such handling and use, together with methods for minimizing the exposure of workers and the public to asbestos fibers, and instruction in all applicable federal, state and local laws and regulations pertaining to asbestos-related work.
14. Area Air Sampling: Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
15. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
16. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types.
17. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

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18. Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
19. Asbestos-Contaminated Objects: Any objects which have been contaminated by asbestos or asbestos-containing material.
20. Asbestos debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
21. Asbestos Handler: An individual who disturbs, removes, encapsulates, repairs, or encloses friable asbestos material. This individual shall have completed an approved training course and be fully certified.
22. Asbestos Handler Supervisor: An individual who supervises the handlers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training courses and be fully certified.
23. Asbestos Inspection Report: A report on the condition of a building or structure in relation to the presence and condition of asbestos therein.
24. Asbestos investigator: A certified individual having satisfactorily demonstrated his or her ability to identify the presence and evaluate the condition of asbestos in a building or structure.
25. Asbestos Removal Plan: A plan which will be undertaken so as to prevent asbestos from becoming airborne in the course of the alteration, renovation, modification or demolition of any building or structure.
26. Asbestos Safety Control Monitor: A business entity authorized pursuant to N.J.A.C. 5:23-8 to ensure compliance with the Asbestos Hazard Abatement Subcode.
27. Asbestos Safety Technician: A person licensed by New Jersey Department of Community Affairs who continuously monitors and inspects the asbestos abatement work. This person shall be required to be on the jobsite during all phases of the asbestos abatement project.
28. Asbestos Spill Plan: This is to be implemented immediately in the event of failure. This includes, but is not limited to, a HEPA vacuum, extra trash bags, mops, sponges, buckets, etc., for rapid cleanup.
29. Authorized Visitor: The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
30. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
31. Baseline Monitoring: A measurement or determination of airborne asbestos fiber concentrations inside the work area and outside the building prior to starting the abatement activities.
32. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
33. Calibration: The determination within specific limits of the true value of the scale reading or indication of an instrument.
34. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
35. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

36. Certified Safety Person (C.S.P): An individual having a bachelor's degree from an accredited college or university and a minimum of four years experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified.
37. Clean room: An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
38. Clearance Air Monitoring: The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers, and shall be performed as the final abatement activity.
39. Containment: An area which has been sealed with polyethylene sheeting to prevent contamination of asbestos to the outside environment.
40. Controlled Area: An area which can be separated off from occupied areas of the building for the purpose of controlling fiber release to the occupied areas of the building. This area is controlled so as to limit access and to ensure that, when accessed, all appropriate health and safety protocols are utilized.
41. Curtained Doorway: A device which consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached at the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
42. Decontamination Unit: A serial arrangement of rooms or spaces for the purpose of separating the work area from the building environment upon entering the work area and for the cleaning of persons, equipment, and contained waste prior to returning to the clean environment.
43. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
44. Disposal Bag: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.
45. Disturb: Any action taken which may alter, change, or stir, such as but not limited to the removal, encapsulation, enclosure or repair of asbestos-containing material.
46. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
 - a. Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
 - b. Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
 - c. Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather than for in situ encapsulation.
47. Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.
48. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
49. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.

50. Fiber: An acicular single crystal or a similarly elongated polycrystalline aggregate which displays some resemblance to organic fibers by having such properties as flexibility, high aspect ratio, silky luster, axial lineation, and others, and which has attained its shape primarily through growth rather than cleavage.
51. Fiber Count: Average number of fibers in a cubic centimeter of air (f/cc).
52. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
53. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
54. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
55. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
56. Friable Material Containment: The encapsulation or enclosure of any friable ACM in a facility.
57. Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.
58. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
59. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
60. High-efficiency particulate air filter (HEPA): Refers to a filtering system capable of trapping and retaining 99.97 percent of all mono-dispersed particles 0.3 um in diameter or larger.
61. High Volume Sampling Pump: An instrument used to draw ambient air over a filter at a flow rate between ten (10) and thirty (30) liters per minute. The high volume sampling pumps are generally utilized for background or baseline samples, environmental samples, decontamination unit samples, and post-abatement samples.
62. Holding Area: A small chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
63. Homogeneous Work Area: A portion of the work area which contains one type of asbestos-containing material and/or where one type of abatement is used.
64. Incidental Exposure: Occupational exposure to asbestos fibers caused to oneself by disturbing ACM during the performance of one's job, except during the performance of an asbestos project or minor project.
65. Industrial Hygiene: That science and art devoted to the recognition, evaluation and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers or among the citizens of the community.
66. Industrial Hygienist: An individual having a college or university degree or degrees in Engineering, Chemistry, Physics, or Medicine or related Biological Sciences who, by virtue of special studies and training must have been sufficient in all of the above cognate sciences to provide the following abilities:

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- a. To recognize the environmental factors and to understand their effect on people and their well-being.
 - b. To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well-being.
 - c. To prescribe methods to eliminate, control or reduce such stresses when necessary to alleviate their effects.
67. Isolation Barrier: The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas to contain asbestos fibers in the work area.
 68. Large Asbestos Project: The removal, enclosure, or encapsulation within one year of 160 square feet or more of asbestos-containing material used on an equipment, wall, or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, within one year of 260 linear feet or more of asbestos-containing material on covered piping.
 69. Log: An official record of all activities that occurred during the project and it shall identify the Building Owner, Agent, Contractor, and Workers, and other pertinent information (e.g., equipment malfunctions, contamination beyond the work area, etc.).
 70. Low Volume Sampling Pump: An instrument used to collect air samples at rates ranging from one (1) to three (3) liters per minute. The low volume sampling pump, also known as the personal sampling pump, is essentially utilized for personal samples and work area samples.
 71. Minor Asbestos Project: Corrective action using recommended work practices to minimize the likelihood of fiber release from damaged areas of asbestos ceilings, pipe and boiler insulation which involves the removal, repair, encapsulation or enclosure of 25 square feet or less of asbestos-containing material used on an equipment, wall or ceiling area, or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, of 10 linear feet or less of asbestos-containing material on covered piping within one year from the start of the initial abatement work. The repair, enclosure and encapsulation by methods other than pressurized spray of any amount of asbestos-containing material, used to cover piping, shall also be a minor asbestos hazard abatement project.
 72. Movable Object: A unit of equipment or furniture in the work area which can be removed from the work area.
 73. Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the work area.
 74. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
 75. Negative Pressure Ventilation System: A pressure differential and ventilation system.
 76. Occupied Area: An area of the worksite where abatement is not taking place and where personnel or occupants normally function or where workers are not required to use personal protective equipment.
 77. Outside Air: The air outside the work place.
 78. Permissible Exposure Limit: The permitted exposure to a particular concentration of a substance as specified by OSHA. The current permissible exposure limit for asbestos is 0.1 f/cc for an eight-hour (8) time-weighted average.

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79. Personal Air Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
80. Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, head gear and approved respiratory protection.
81. Plasticize: To cover walls and floors with plastic sheeting as herein specified or by using approved spray plastics.
82. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans re-circulated air or generates a constant air flow from adjacent areas into the Work Area.
83. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
84. Qualitative Fit Test: The individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator facepiece. Three of the most popular methods include:
 - a. Irritant smoke test.
 - b. Odorous vapor test.
 - c. Taste test.
85. Quantitative Fit Test: Exposing the respirator wearer to a test atmosphere containing an easily detectable, nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the facepiece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.
86. Removal: The stripping of any asbestos-containing materials from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.
87. Replacement Material: Any material used to replace ACM that contains less than .01% asbestos by weight.
88. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
89. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
90. Shift: A worker's, or simultaneous group of worker's, complete daily term of work.
91. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.
92. Small Asbestos Project: The removal, enclosure or encapsulation within one year of more than 25 and less than 160 square feet of asbestos-containing material used on an equipment, wall or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray within one year of more than 10 and less than 260 linear feet of asbestos-containing material on covered piping.
93. Staging Area: The work area near the Waste Decontamination Chamber where containerized asbestos waste has been placed prior to removal from work area.
94. Strip: To remove friable Asbestos materials from any part of the facility.

95. Structural Member: Any load-supporting member of a facility, such as beams and load-supporting walls, or any non-load supporting member, such as ceiling and non-load supporting walls.
96. Surface Barriers: The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.
97. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
98. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.
99. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
100. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
101. Wet Methods: The use of amended water or removal encapsulants to minimize the generation of fibers during ACM disturbance.
102. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.
103. Worker: Certified asbestos handler and/or asbestos handler supervisor.
104. Work Place: The work area and the decontamination enclosure system(s).
105. Work Site: Premises where asbestos abatement activity is taking place, and may be composed of one or more work areas.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION:

- A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract requirements.
- B. Specification Format: These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system. This organization conforms generally to recognized construction industry practice.
- C. Specification Content: This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 1. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
 2. Imperative Language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.

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- D. Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

1. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

- E. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 DRAWING SYMBOLS:

- A. Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., seventh edition.
- B. Mechanical/Electrical Drawings: Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner's Representative for clarification before proceeding.

1.7 INDUSTRY STANDARDS:

- A. Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.
1. Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
2. Unreferenced industry standards are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.
- B. Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- C. Updated Standards: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.
- D. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to

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which quality level is more stringent to the Owner's Representative for a decision before proceeding.

- E. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.
- F. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
 - 2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.
- G. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:
 - 1. AIHA - American Industrial Hygiene Association 475 Wolf Ledges Parkway Akron, OH 44311 216/762-7294.
 - 2. AIA - American Institute of Architects 1735 New York Ave. NW Washington, DC 20006 202/626-7474.
 - 3. ANSI - American National Standards Institute 1430 Broadway New York, NY 10018 212/354-3300.
 - 4. ASHRAE - American Society for Heating, Refrigerating, and Air Conditioning Engineers 1791 Tullie Circle NE Atlanta, GA 30329 404/636-8400.
 - 5. ASME - American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 212/705-7722.
 - 6. ASPE - American Society of Plumbing Engineers 3716 Thousand Oaks Boulevard, Suite 210, Westlake, CA 91362 805/495-7120.
 - 7. ASTM - American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103 215/299-5400.
 - 8. AWCI - Association of the Wall and Ceiling Industries- International 25 K Street, NW Washington, DC 20002 202/783-2924.
 - 9. CFR - Code of Federal Regulations Available from Government Printing Office; Washington, DC 20402 (usually first published in Federal Register) 202/783-3238.
 - 10. CGA - Compressed Gas Association 1235 Jefferson Davis Highway Arlington, VA 22202 703/979-0900.
 - 11. CS - Commercial Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/377-2000.

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12. DOT - Department of Transportation 400 Seventh St., SW Washington, DC 20590 202/426-4000.
 13. EPA - Environmental Protection Agency 401 M St., SW Washington, DC 20460 202/382-3949.
 14. FS - Federal Specification (General Services Admin.) Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, DC 20406 202/472-2205 or 2140.
 15. GA - Gypsum Association 1603 Orrington Ave. Evanston; IL 60201 312/491-1744.
 16. GSA - General Services Administration F St. and 18th St., NW Washington, DC 20405 202/655-4000.
 17. IEEE - Institute of Electrical and Electronic Engineers 345 E. 47th Street New York, NY 10017 212/705-7900.
 18. MIL - Military Standardization Documents (U.S. Dept. of Defense) Naval Publications and Forms Center, 5801 Tabor Ave. Philadelphia, PA 19120.
 19. MSHA - Mine Safety and Health Administration, Approval and Certification Center, P.O. Box 251, Route 1, Triadelphia, WV 26059.
 20. NBS - National Bureau of Standards (U.S. Dept. of Commerce) Gaithersburg, MD 20234 301/921-1000.
 21. NEC - National Electrical Code (by NFPA).
 22. NESHAP - National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).
 23. NIOSH - National Institute for Occupational Safety and Health CDC - NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226
 24. NFPA - National Fire Protection Association Batterymarch Park Quincy, MA 02269 617/770-3000.
 25. NRCA - National Roofing Contractors Association 6250 River Road Rosemont, IL 60018 312/318-6722.
 26. OSHA - Occupational Safety & Health Administration (U.S. Dept. of Labor) Government Printing Office Washington, DC 20402 202/783-3238.
 27. PS - Product Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/783-3238.
 28. RFCI - Resilient Floor Coverings Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805 301/340-8580.
 29. UL - Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062 312/272-8800.
- H. Trade Union Jurisdictions: The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities. The manner in which Contract Documents have been organized and subdivided is not intended to indicate trade union or jurisdictional agreements.
1. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
 2. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

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1.8 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

CODES, REGULATIONS, AND STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

- A. This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 - 1. Requirements include adherence to all work practices and procedures set forth in applicable codes, regulations and standards and this specification.
 - 2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES AND REGULATIONS:

- A. General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.
- C. Federal Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
- D. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:
 - 1. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations
 - 2. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
 - 3. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations

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4. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations
 5. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations
 6. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations
- E. DOT: U. S. Department of Transportation, including but not limited to:
1. Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations
- F. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:
1. Asbestos Abatement Projects; Worker Protection Rule Title 40 Part 763, Sub-part G of the Code of Federal Regulations
 2. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations
 3. Training Requirements of (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
 4. National Emission Standards for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations
- G. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
1. Uniform Construction Code Act. (New Jersey S.A. 52-17D-119 et. seq., P.L. 1984)
 2. Asbestos Control and Licensing Act. (NJSA 34:5A-32 et. seq., P.L. 1984)
 3. Asbestos Hazard Abatement Subcode for Educational Facilities - Subchapter 8. N.J.A.C. 5:23-8 New Jersey Department of Community Affairs Division of Housing and Development Bureau of Construction Code Enforcement CN 805 Trenton, New Jersey 08625-0805
 4. Asbestos Licenses and Permits N.J.A.C. 12:120-1,2,3,4,5,7 and 8:60-1,2,3,4,5,7 New Jersey Department of Labor Division of Workplace Standards CN 504 Trenton, New Jersey 08625-0504
 5. Asbestos Training Courses N.J.A.C. 8:60-2 and 6, and 12:120-2 and 6 New Jersey Department of Health Asbestos Control Project, Training Unit CN 360 Trenton, NJ 08625-0360
 6. Solid Waste Management Act. (NJSA 13:1E-1, 13:109,et.seq.,as amended)
 7. Disposal Regulations N.J.A.C. 7:26 New Jersey Department of Environmental Protection Division of Waste Management Bureau of Field Operations CN 028 Trenton, NJ 08625-0805
 8. Control and Prohibition of Air Pollution by Toxic Substances, New Jersey Department of Environmental Protection, New Jersey Administrative Code. Title 7, Chapter 27, Subchapter 17, effective date: December 17, 1979.
 9. Asbestos Subchapter of the New Jersey Safety and Health Standards for Public Employees, NJAC 12:100 et. seq.

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- H. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.4 STANDARDS:

- A. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.
- C. Standards: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
 - 1. American National Standards Institute (ANSI) 1430 Broadway New York, New York 10018 (212)354-3300E
 - a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-79
 - b. Practices for Respiratory Protection Publication Z88.2-80
 - 2. American Society for Testing and Materials (ASTM) 100 Bar Harbor Drive, Conshohocken, PA 19428 (610)832-9585
 - a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

1.5 EPA GUIDANCE DOCUMENTS:

Discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

- A. Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)
- B. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024
- C. Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)
- D. Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005
- E. Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006
- F. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018
- G. Asbestos Waste Management Guidance. EPA 530-SW-85-007

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- H. Asbestos Fact Book. EPA Office of Public Affairs. Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials
- I. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification
- J. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001

1.6 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

- 1. Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 days prior to beginning any work on asbestos-containing materials. Send notification to the following address:
 - a. REGION 2: Asbestos NESHAP Contact, Division of Enforcement & Compliance Assistance, Asbestos Removal – 21st Floor, 290 Broadway, New York, NY 10007.
- 2. Notification: Include the following information in the notification sent to the NESHAP contact:
 - a. Name and address of owner or operator.
 - b. Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.
 - c. Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials is less than 260 linear feet on pipes and less than 160 square feet on other facility components, explain techniques of estimation.
 - d. Location of the facility being demolished or renovated.
 - e. Scheduled starting and completion dates of demolition or renovation.
 - f. Nature of planned demolition or renovation and method(s) to be used.
 - g. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).
 - h. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.
 - i. For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

B. STATE AND LOCAL AGENCIES:

- 1. Send written notification as required by state and local regulations prior to beginning any work on asbestos-containing materials.

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1.7 PERMITS:

- A. The Contractor shall obtain all required Permits, and pay all Fees associated with his contract.
- B. All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

1.8 LICENSES:

- A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.9 POSTING AND FILING OF REGULATIONS:

- A. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulation and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.10 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
- B. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:
 - 1. State and Local Regulations: Submit copies of codes and regulations applicable to the work.
 - 2. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.
 - 3. Permits: Submit copies of current valid permits required by state and local regulations.
 - 4. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01301

SUBMITTALS

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 specifies administrative and procedural requirements for submittals required for performance of the Work, including:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Daily construction reports.
 - 4. Shop Drawings.
 - 5. Product Data.
 - 6. Miscellaneous Submittals.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits.
 - 2. Applications for Payment.
 - 3. Performance and Payment Bonds.
 - 4. Insurance Certificates.
 - 5. List of Subcontractors.

1.3 SUBMITTAL PROCEDURES:

- A. Coordination: Transmit each submittal sufficiently in advance of performance of related activities to avoid delay.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE:

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 10 days of the date established for "Commencement of the Work".
 - 1. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
 - 2. Indicate completion and Clearance of each Work Area in Advance of the date established for Substantial Completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of Clearance and Substantial Completion.
- B. Phasing: Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion.
- C. Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
 - 1. Preparation of the Work Area.
 - 2. Asbestos Removal.

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3. Clearance Testing.
4. Substantial Completion.

- D. Area Separations: Provide a separate time bar to identify each Work Area or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.
- E. Distribution: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates.
- F. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SUBMITTAL SCHEDULE:

- A. Listing: Below is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

1.6 PRODUCT DATA:

- A. Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves.
- B. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 1. Manufacturer's printed recommendations.
 2. Compliance with recognized trade association standards.
 3. Compliance with recognized testing agency standards.
 4. Application for testing agency labels and seals.
- C. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
- D. Submittals: Submit 1 copy of each required submittal.

1.7 MISCELLANEOUS SUBMITTALS:

- A. Material Safety Data Sheets: Process material safety and data sheets as "product data."
- B. Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.
- C. Record Documents: Furnish set of original documents as maintained on the project site.

PART 2 PRODUCTS (Not Applicable).

PART 3 EXECUTION (Not Applicable).

END OF SECTION

SECTION 01410

AIR MONITORING

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 work of this section.
- B. Air Monitoring: Work area clearance is described in Section 01714 Work Area Clearance.

1.2 DESCRIPTION OF THE WORK:

- A. Not in Contract Sum: This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.
- B. This section describes air monitoring carried out by the Environmental Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.
- C. Air monitoring required by OSHA is work of the Contractor and is not covered in this Section. The Abatement Contractor is responsible for providing daily OSHA compliance monitoring as per 29 C.F.R. 1926.1101. OSHA monitoring shall be included in the Asbestos Contractor's Contract Sum.

1.3 AIR MONITORING:

- A. Work Area Isolation: The purpose of the Environmental Consultant's air monitoring is to detect faults in the work area isolation such as:
 - 1. Contamination of the building outside of the work area with airborne asbestos fibers.
 - 2. Failure of filtration or rupture in the differential pressure system.
 - 3. Contamination of air outside the building envelope with airborne asbestos fibers.
- B. Should any of the above occur, immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Environmental Consultant.

1.4 WORK AREA AIRBORNE FIBER COUNT:

- A. The Environmental Consultant will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

1.5 WORK AREA CLEARANCE:

- A. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Environmental Consultant will sample and analyze air per Section 01714 Work Area Clearance.
- B. The Environmental Consultant will be conducting air monitoring throughout the course of the project.

1.6 STOP ACTION LEVELS:

A. Inside Work Area:

1. Maintain an average airborne count in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8-hour period exceeds the Stop Action Level, stop all work except corrective action, leave pressure differential and air circulation system in operation and notify the Environmental Consultant. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

STOP ACTION LEVEL (f/cc)	IMMEDIATE STOP LEVEL (f/cc)	MINIMUM RESPIRATOR REQUIRED	PROTECTION FACTOR
0.5	1.0	PAPR	50

2. If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify the Environmental Consultant. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Environmental Consultant.

B. Outside Work Area:

1. If any air sample taken outside of the Work Area exceeds the base line established below or is greater than 0.010 f/cc or if any sample collected inside the clean room of the decontamination unit exceeds 0.02 f/cc as determined by PCM analysis, immediately and automatically stop all work except corrective action. The Environmental Consultant shall inspect and determine the source of the high reading and so notify the Contractor in writing.
2. If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:
 - a. Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor).
 - b. Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.
 - c. Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for reoccupancy in accordance with Section 01714 Work Area Clearance.
 - d. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.
 - e. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.

- f. After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 Work Area Clearance.
 3. If the high reading was the result of other causes initiate corrective action as determined by the Environmental Consultant.
- C. Effect on Contract Sum: Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities or negligence. The Contract Sum and schedule will be reviewed and may be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

1.7 ANALYTICAL METHODS:

- A. The following methods will be used by the Environmental Consultant in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.
1. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 methodology.
 2. Transmission Electron Microscopy (TEM) will be performed using the AHERA guidelines found in 40 CFR Part 763 Appendix A subpart E.

1.8 SAMPLE VOLUMES:

- A. General: The number and volume of air samples taken by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used and the site conditions.

1.9 SCHEDULE OF AIR SAMPLES:

- A. Daily:
1. From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Environmental Consultant may be taking the following samples on a daily basis:
 - a. In the immediate area of the abatement work: Samples taken in this area should represent, with reasonable accuracy, the airborne concentration of asbestos fibers which may reach the breathing zone of removal personnel. One asbestos worker shall be required to wear a personal exposure sampling device or a proximity sample simulating the breathing zone of removal personnel. A low volume sampler shall be employed drawing a minimum sample volume of 180 liters. Two (2) samples shall be taken per work shift.
 - b. Inside the Work Area: Two (2) samples shall be taken per work shift. A low volume sampler shall be employed, drawing a minimum sample volume of 180 liters.
 - c. Outside the Work Area, but inside the building: Samples shall be taken per work shift. A high or low volume sampler shall be employed, drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sampling device shall be placed in locations where potential contamination could occur (e.g. outside entrances and exits to the Work Area) and shall be moved periodically to assess the potential for contamination of adjacent areas at all critical points in the containment system. Special attention shall be given to locations where exhaust ducts from air filtration devices run through occupied areas of the building.

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- d. In the Clean Room of the Personnel/Waste Decontamination Unit: A minimum of one (1) sample shall be taken in the Decontamination Unit Clean Room per work shift. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sample(s) shall be taken at a time when activity levels are expected to be at their peak (e.g. shift breaks).
 - e. Downwind of Air Filtration Unit Exhaust: Where feasible due to on site conditions, one (1) sample shall be taken per work shift to evaluate potential fiber escape through the Air Filtration Device. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc.
 - g. The Analytical Method for all daily environmental monitoring shall be Phase Contrast Microscopy (PCM) (NIOSH 7400) in accordance with the N.J.A.C. 5:23-8 (Subchapter 8) regulations for occupied buildings.
- B. Additional samples may be taken at the Environmental Consultant's discretion. If airborne fiber counts exceed allowable limits, additional samples will be taken as necessary to monitor fiber levels.

1.10 LABORATORY TESTING:

- A. The services of a testing laboratory may be employed by the Environmental Consultant to perform laboratory analyses of the air samples. A microscope and technician may be set up at the job site. Samples will be analyzed within four hours of the start time in accordance with the N.J.A.C. 5:23-8 (Subchapter 8) regulations for occupied buildings. Air sample results will be posted on a daily basis. The Contractor shall have access to all air monitoring tests and results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 ADDITIONAL TESTING:

- A. The Contractor may conduct his/her own air monitoring and laboratory testing. If he/she elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

3.2 PERSONAL MONITORING:

- A. The Environmental Consultant shall not perform air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION

SECTION 01503

TEMPORARY FACILITIES

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 work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

- A. General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

1.3 SUBMITTALS:

- A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are approved by the Owner's Representative.
 - 1. Scaffolding: Submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.
 - 2. Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.
 - 3. Decontamination Unit Sub-panel: Submit product data.
 - 4. Ground Fault Circuit Interrupters (GFCI): Submit product data.
 - 5. Lamps and Light Fixtures: Submit product data.
 - 6. Self-Contained Toilet Units: Provide product data and name of subcontractor to be used for servicing self-contained toilets. Submit method to be used for servicing.
 - 7. First Aid Supplies: Provide list of contents of first aid kit. Submit in form of check list.
 - 8. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

- A. General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

2.2 SCAFFOLDING:

- A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.
- B. The rungs of all metal ladders, etc. shall be equipped with an abrasive non-slip surface.
- C. All surfaces subject to foot traffic shall have a nonskid surface. Surfaces shall be cleaned as required to remove slippery materials.
- D. At the completion of the removal work, all construction aids shall be cleaned within the work area (encapsulated for wood) and wrapped in one layer of six (6) mil polyethylene sheeting and sealed before removal from the work area.

2.3 WATER SERVICE:

- A. Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.
- B. Water Hoses: Employ heavy-duty abrasion-resistant hoses with back flow protection and pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
- C. Hot Water Heater: Provide UL rated 30 gallon electric hot water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. A 3-quart kitchen saucepan may be substituted for this purpose. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards.
- D. Hot Water: May be secured from the building hot water system, provided backflow protection is installed at the point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner's Representative.

2.4 ELECTRICAL SERVICE:

- A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
- B. Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.
- C. Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.
- D. Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate the panel exterior to Work Area.
- E. Electrical Power Cords: Use only grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.
- F. Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are

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exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture. Use of building lighting fixtures is strictly prohibited.

2.5 TEMPORARY HEAT:

- A. Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed. Use steam or hot water radiation heat where available, and where not available use electric resistant fin radiation supplied from a branch circuit with ground fault circuit interrupter.

2.6 FIRST AID:

- A. Comply with governing regulations and recognized recommendations within the construction industry.

2.7 FIRE EXTINGUISHERS:

- A. Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. The fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Provide not less than one extinguisher in each work area in the equipment room of the decontamination unit and one outside the work area in the clean room. Distance between fire extinguishers within the work area shall not exceed seventy-five (75) feet.

PART 3 EXECUTION

3.1 SCAFFOLDING:

- A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.
- B. Clean as necessary, debris from non-slip surfaces.
- C. At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheeting and seal before removal from the Work Area.

3.2 INSTALLATION, GENERAL:

- A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.
- B. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.
- C. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.
- D. The Contractor shall coordinate with the Building Owner for connection to existing building utilities. No connections shall be executed without prior approval of the building owner.

3.3 WATER SERVICE:

- A. Water connection (without charge) to Owner's existing potable water system is the responsibility of the Contractor. Install using vacuum breakers or other backflow preventer as

required by local authority. Hot water shall be supplied at a minimum temperature of 100 F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01516. In addition, water shall be supplied for all worksite uses.

- B. Maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.4 ELECTRICAL SERVICE:

- A. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.
- B. Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.
 - 1. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of the Owner's designated Representative.
 - 2. Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and turn keys over to the Owner's Representative for control. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocutation hazard."
- C. Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative.
- D. Upon request provide and bear all costs associated with off-hour or twenty-four (24) hour electrical service to the work area as required by the Building Owner for Air Monitoring services.

Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

- E. Temporary wiring in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.
- H. Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

- 1. One Circuit for each HEPA filtered fan unit.

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2. For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).
 - a. One outlet in the work area for each 2500 square feet of work area
 - b. One outlet at each decontamination unit, located in equipment room
3. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:
 - a. One in each work area
 - b. One at clean side of each Decontamination Unit.
 - c. One at each exhaust location for HEPA filtered fan units
4. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:
 - a. Five inside work area
 - b. Two outside work area in location designated by Owner's Representative

3.5 TEMPORARY LIGHTING:

- A. Lockout: Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.
- B. Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level.
 1. One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.
- C. Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.
- D. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
- E. Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.
- F. Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.
- G. Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

3.6 TEMPORARY HEAT:

- A. General: Provide temporary heat where indicated or needed for performance of work.

- B. Maintain a minimum temperature of 70 degrees F where finished work has been installed.
- C. Maintain a minimum temperature of 75 degrees F in the shower of the decontamination unit.
- D. Maintain a minimum temperature of 70 degrees F in the Work Area at all times that work is being performed. At all other times and at the completion of removal work, but before the start of reconstruction work, maintain a minimum temperature of 50 degrees F.
- E. Maintain a minimum temperature of 70 degrees F in the Work Area at all times during and after removal work.

3.8 FIRE EXTINGUISHERS:

- A. Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in the Equipment Room and one outside Work Area in the Clean Room.

END OF SECTION

SECTION 01513

TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM

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 work of this section.

1.2 MONITORING:

- A. The Contractor shall supply and utilize a digital manometer with a continuous recorder (e.g. strip chart), alarm and **internet or wifi connectivity** for the purpose of continuously monitoring and recording the pressure differential between the Work Area and the building outside of the Work Area during onsite and offsite hours. Current and recorded pressure readings shall be accessible by team members off-site via the internet. **The Contractor shall be solely responsible for providing a competent individual(s) currently licensed by the New Jersey Department of Labor to perform asbestos work to observe and monitor the work area(s) and digital manometer readings during all non-working hours including nights, weekends and holidays. This individual shall be authorized and capable of investigating and remediating any drop in the pressure differential system between the work area(s) and the building outside the work area.**

1.3 SUBMITTALS:

- A. Before Start of Work: Submit design of pressure differential system to the Environmental Consultant for review. Do not begin work until the submittal is approved. Include in the submittal:
1. Number of HEPA-equipped air filtration units required and the calculations necessary to determine the number of machines.
 2. Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area.
 3. Anticipated pressure differential across Work Area enclosures.
 4. Description of methods of testing for correct air flow and pressure differentials.
 5. Manufacturer's product data on the HEPA-equipped air filtration units to be used.
 6. Location of the machines in the Work Area.
 7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
 8. Description of work practices to insure that airborne fibers travel away from workers.
 9. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area.
- B. On a weekly basis: Submit the printout from the pressure differential monitoring equipment. Mark the printout with date and start time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each day's record, times of starting and stopping abatement work, type of work in progress, breaks for lunch and other purposes, periods of stop work, and filter changes. Cut printout into segments by day, attach to 8 ½" by 11" paper. Label with project name, Contractor name and date.

1.4 QUALITY ASSURANCE:

- A. Monitor pressure differential at Personnel and Equipment Decontamination Units with one or more digital manometers equipped with a continuous recorder alarm and internet or wifi connect ability. Manometers shall be equipped with a warning buzzer which will sound and a

signal to a monitored device on off hours if pressure differential drops below negative 0.05 inches of water.

PART 2 PRODUCTS

2.1 HEPA-EQUIPPED AIR FILTRATION UNITS:

- A. General: Supply the required number of HEPA-equipped air filtration units to the site in accordance with these specifications. A minimum of one additional unit shall be installed as a backup to be used during primary unit filter changing and upon unit failure. Use units that meet the following requirements:
1. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:
 - a. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance.
 - b. Arranged to provide access to and replacement of all air filters from intake end.
 - c. Mounted on casters or wheels.
 2. Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.
 3. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
 - a. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.
 - b. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
 - c. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
 - d. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:
 - 1) First-stage pre-filter: low-efficiency type (e.g., for particles 100 um and larger).
 - 2) Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 um).
 - e. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.
 4. Instrumentation: Provide units equipped with:
 - a. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed.
 - b. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the

- Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point.
- c. Elapsed time meter to show the total accumulated hours of operation.
5. Safety and Warning Devices: Provide units with the following safety and warning devices:
 - a. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter.
 - b. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge.
 - c. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red).
 - d. Audible alarm if unit shuts down due to operation of safety systems.
 6. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.
 7. Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
 - a. Aerospace America, Inc. "Aero-Clean 2000" 900 Truman Parkway P.O. Box 189 Bay City, Michigan 48707A
 - b. Asbestos Control Technology, Inc. "Micro-Trap" P.O. Box 183 Maple Shade, NJ 08052
 - c. Control Resource Systems, Inc. "Hog" 2000 670 Mariner Drive Michigan City, Indiana 46360
 - d. Global Consumer Services, Inc. "Red Baron" 1721 N. Highland Avenue Los Angeles, CA 90028
 - e. Tri-Dim Filter Corporation "ACCU-2M" 1431 West Lake Street Chicago, Illinois 60607

PART 3 EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION:

- A. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.
- B. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of negative 0.05 inches of water, at a minimum.
- C. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:
 1. Establish required air circulation in the work area, personnel and equipment

- decontamination units.
- 2. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
- 3. Exhaust a sufficient number of units from the work area to develop one complete air exchange every fifteen (15) minutes.
- 4. The required number of units is the number determined above plus one additional unit.

D. Vent HEPA filtered fan units to outside of building unless authorized in writing by Environmental Consultant.

- 1. Mount units to exhaust directly or through disposable ductwork.
- 2. Use only new ductwork except for sheet metal connections and elbows.
- 3. Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
- 4. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.
- 5. If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire-reinforced flex duct after direction change.

3.2 AIR CIRCULATION IN THE WORK AREA:

- A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.
- B. Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.
- C. Determining the Air circulation Requirements: Provide a fully operational air circulation system supplying a minimum of four (4) air changes per hour.
- D. Determine Number of Units needed to achieve required air circulation according to the following procedure:
 - 1. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate and multiplying by 60.

Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

$$\frac{\text{Volume of work area(CF)}}{60 \text{ (minutes per hour)}} \times \frac{\text{Number of air changes per hour}}{60 \text{ (minutes per hour)}}$$

- 2. Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

$$\text{Number of Units} = \frac{\text{Air circulation Requirement(CFM)}}{\text{Capacity of Unit with Loaded Filters (CFM)}}$$

- 3. Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

3.3 EXHAUST SYSTEM:

- A. Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

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- B. Exhaust all units from the Work Area to meet air circulation requirement of this section.
- C. Location of HEPA-equipped air filtration units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.
- D. Place the intake portion of the unit or its exhaust duct through an opening in the plastic barrier or wall covering. Seal the plastic sheeting around the unit or exhaust duct with tape.
- E. Vent to Outside of Building, unless authorized in writing by the Environmental Consultant.
- F. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units.
- G. Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in location approved by the Environmental Consultant by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.4 AIR CIRCULATION IN DECONTAMINATION UNITS:

- A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:
 - 1. Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.
 - 2. Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.
- B. Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.
- C. Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.

3.5 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

- A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities." Do not use existing branch circuits to power fan units.
- B. Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Asbestos Safety Technician.
- C. Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

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1. Squareness of HEPA Filter.
 2. Condition of seals.
 3. Proper operation of all lights.
 4. Proper operation of automatic shut down if exhaust is blocked.
 5. Proper operation of alarms.
 6. Proper operation of magnehelic gauge.
 7. Proper operation and calibration on pressure monitoring equipment.
- D. Demonstrate Operation of the pressure differential system to the Asbestos Safety Technician will include, but not be limited to, the following:
1. Plastic barriers and sheeting move lightly in toward Work Area.
 2. Curtain of decontamination units move lightly in toward Work Area.
 3. There is a noticeable movement of air through the Decontamination Unit.
 4. Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.
 5. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.
 6. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.
- E. Modify the Pressure Differential System as necessary to demonstrate successfully the above.
- F. Use of System During Abatement Operations:
1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
 2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Environmental Consultant. Supply sufficient pre-filters to allow frequent changes.
 3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.
 4. At completion of abatement work, allow fan units to run as specified under Section 01711 - Project Decontamination, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.
- G. Dismantling the System:
1. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION

SECTION 01514

CONTINGENCY PLAN FOR OCCUPIED BUILDINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section covers the responsibilities of the Owner, Contractor and Asbestos Safety Control Monitor for the safe performance of asbestos abatement activities conducted in occupied facilities. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 NOTIFICATIONS

- A. The building Owner shall notify building occupants in writing 20 business days prior to the commencement of an asbestos abatement project. The building owner shall outline in writing any procedures and/or precautions that are deemed necessary in order to protect the health, safety and welfare of the occupants. This notification shall include, but not be limited to: relocation plans, if any; entrances and exits that may temporarily be blocked and alternate routes to be used; the name and telephone number of the owner's representative for the occupant to call in case of an emergency or to answer any questions with regard to the project. This notification shall accompany the application for a construction permit for asbestos abatement and shall be filed with the enforcing agency.
- B. This notification shall be posted seven days prior to the preparation of the work area, in visible locations, for the benefit of the affected occupants of the work place, and in areas immediately adjacent to the asbestos abatement project. It shall be the Owner's responsibility to ensure that these postings are maintained throughout the project.

1.3 CONTINGENCY PLAN

Contingency plan during abatement shall be implemented as described below. These are the minimum requirements that shall be enforced by the Asbestos Safety Control Monitor (ASCM). These requirements shall not limit the ASCM from instituting additional requirements, if necessary, for the protection of the building occupants.

- A. If the pressure differential drops below 0.05 inches water column (wc); the following procedures shall be implemented:
 - 1. The Asbestos Safety Technician and the Contractor supervisor shall investigate and evaluate the engineering controls to determine the source of the pressure loss.
 - 2. The Contractor shall institute corrective action such as: additional sealing, critical barrier maintenance and construction, changing of exhaust unit filters, adjustment of make-up air, operation of additional exhaust units or other necessary measures to re-establish an acceptable pressure differential.
- B. If the pressure differential drops below 0.01 wc, the following procedures shall be implemented:
 - 1. The Contractor shall cease abatement activity in the work area.
 - 2. The ASCM shall notify the building Owner to evacuate the pressurized space(s). The pressurized space(s) shall include all space outside the work area which is pressurized to maintain the required pressure differential relative to the work area and is isolated from the rest of the building in terms of airflow. The pressurized space may include the entire building exclusive of the work area or any part of the building that is pressurized to isolate it from the work area.

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3. The Asbestos Safety Technician and the Contractor supervisor shall investigate and evaluate the engineering controls and determine the source of the pressure loss.
 4. The Contractor shall institute corrective action such as: additional sealing, critical barrier maintenance and construction, changing of exhaust unit filters, adjustment of make-up air, operation of additional exhaust units or other necessary measures to re-establish an acceptable pressure differential.
 5. Re-occupancy on any given day/shift shall not be permitted in any area unless a pressure differential of 0.05 wc or greater is re-established.
 6. If a pressure differential of 0.05 wc or greater is not re-established within 24 hours of the first reading below 0.01 wc, then the building shall be evacuated.
- C. If air fiber concentrations exceed 0.010 fibers per cubic centimeter (f/cc); the following procedures shall be implemented:
1. The Asbestos Safety Technician and the Contractor supervisor shall investigate and evaluate the engineering controls to determine the source of the high air level.
 2. An additional/second PCM air sample shall be taken. The additional/second PCM sample may be split, and if the result of the air sample is less than or equal to 0.010 f/cc, the contingency plan is terminated. If the result of the air sample exceeds 0.010 f/cc, the Contractor, in consultation with the ASCM, shall choose the option of cleaning and retesting by PCM analysis or analyzing the split sample by TEM analysis. If the result of the TEM analysis exceeds 0.010 f/cc, then cleaning shall be undertaken.
 3. The ASCM firm in consultation with the building Owner and the Contractor shall make the decision as to the timing of the cleaning activity.
 4. Cleaning shall include, but not be limited to, wet wiping and misting the air. Cleaning the affected area shall be continued outside the containment and PCM sampling shall also be continued until the result in the area is equal to or less than 0.010 f/cc by either PCM or TEM analysis.
 5. If laboratory analysis of air samples does not yield a reading less than or equal to 0.010 f/cc within 24 hours of receipt of the first test result above 0.010 f/cc, then the building shall be evacuated.
 6. Re-occupancy shall not be permitted in any area where PCM analysis reveals results greater than 0.010 f/cc, unless TEM results indicate asbestos fibers are equal to or less than 0.010 f/cc. In the case of re-occupancy, an accredited laboratory shall analyze all air samples used to make the determination to allow reentry.
- D. If a power outage occurs during active abatement work, the building occupants shall be evacuated until the air samples determine that the occupied spaces are safe, and power has been restored. If a power outage occurs when the building is unoccupied, occupancy will not be permitted until air samples determine that the spaces to be occupied are safe and power has been restored.
- E. Security shall be required as follows: In high risk areas, the Owner shall provide a 24 hour security guard to ensure protection against damage or vandalism to separation barriers, engineering systems, monitoring devices, or other equipment.
- F. The Owner shall provide continuous unlimited access for the Asbestos Safety Technician in all occupied spaces for installation, maintenance, and data collection from monitoring equipment.

END OF SECTION

SECTION 01526

TEMPORARY ENCLOSURES & WORK AREA PREPARATION

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 work of this section.

1.2 SUBMITTALS:

- A. Before Start of Work submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.
- B. For Spray Cement, submit the following:
 - 1. Product description including major components and solvents.
 - 2. Manufacturer's installation instructions. Indicate portions applicable to the project.
 - 3. Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use during the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.
- C. Sheet Plastic: For fire retardant plastic submit test reports on NFPA 701 test.
- D. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

2.1 SHEET PLASTIC:

- A. Polyethylene Sheeting: Provide flame-resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.
- B. Provide materials that meet the following fire safety requirements:
 - 1. When wet or being installed:
 - a. Do not create combustible vapors.
 - b. Have no flash point.
 - c. Are not noxious.
 - 2. When dry, material must have a Class A rating as a building material and meet the following requirements when tested in accordance with ASTM E-84.
 - a. Flame Spread no greater than 20.
 - b. Fuel Contributed 0.
 - c. Smoke Developed no more than 110.
 - 3. Deliver materials to the job site in unopened, factory labeled containers.

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2.2 MISCELLANEOUS MATERIALS:

- A. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to polyethylene sheeting.
- B. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to polyethylene sheeting.

PART 3 EXECUTION

3.1 SEQUENCE OF WORK:

- A. Carry out work of this section sequentially. Complete each activity before proceeding to the next.
 - 1. The Work Area shall mean the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.
 - 2. The Contractor shall inspect each work location with the Environmental Consultant. The Contractor and Environmental Consultant shall agree on conditions of materials and worksite and select the appropriate abatement procedures. Should the Environmental Consultant and Contractor not be in agreement, the Building Owner and Environmental Consultant shall make the final decision.
 - 3. Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.
 - 4. Each work area location shall be pre-cleaned as per Section 01013. Respirators and protective equipment are required as per Sections 01560 and 01562.
 - 5. Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.
 - 6. Stationary restroom equipment (toilets, sinks, etc.) shall be completely covered with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape and individually sealed. Such equipment shall be considered outside the work area unless covering plastic or seal is breached.
 - 7. Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
 - 8. Lockout power to the Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of the Owner's designated Representative.
 - 9. Lockout power to circuits running through work area wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape

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over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of the Owner's designated representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocutation hazard". Label circuits in hidden locations but which may be affected by the work in a similar manner.

3.2 EMERGENCY PRECAUTIONS:

- A. The Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation. Note that nothing in this Specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
- B. The Contractor shall provide barricades and adequate protection to safely prevent accidental entrance to the abatement area by any building occupants. Signage shall be posted in visible locations a sufficient distance to allow an individual to take all necessary protective precautions prior to being exposed to airborne asbestos fiber concentrations.
- C. Before the Contractor starts actual abatement of asbestos material, the local fire department and ambulance crews shall be notified, by the Contractor, as to the dangers of entering the work area. The Contractor shall make every effort to help these agencies and form plans of action should their personnel need to enter the contaminated area.
- D. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified, by the Contractor, as to the possibility of having to handle injured work persons who are contaminated with asbestos dust. They shall be advised on safe decontamination procedures.
- E. First aid shall comply with the governing regulations and all recognized recommendations within the construction industry.
- F. Except as otherwise indicated, submit special reports directly to the Owner within one day of occurrence requiring special report, with copy to Owner's Representative, Project Consultants and others affected by occurrence.

3.3 EMERGENCY EXITS:

- A. Provide emergency exits and emergency lighting as set forth below:
 - 1. Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:
 - a. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.
 - b. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1" wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2" thick.
 - c. Provide lighted, battery powered exit sign at each exit.

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3.4 CONTROL ACCESS:

- A. Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:
 - 1. Coordinate with the Industrial Hygienist the doors and other openings that must be secured to isolate Work Area.
 - 2. After receiving authorization from the Industrial Hygienist, lock all doors into Work Area. If doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency exits from Work Area or from building.
 - 3. After receiving authorization from the Industrial Hygienist, construct partitions or closures across any opening into Work Area. Partitions are to be a minimum of 8 feet high. All isolation barrier construction shall conform to the requirements set forth in NJAC 5:23-8.19.
 - 4. Fabricate partitions from 2 X 4 wood studs with 1/2" plywood on one face. Brace at 16" on center.
- B. Locked Access: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.
- C. Provide Warning Signs at each locked door leading to Work Area reading as follows: Print text in both English and Spanish:

LEGEND	NOTATION
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE	14 Point Gothic
HAZARDOUS TO YOUR HEALTH	

- D. Immediately inside doors and outside critical barriers post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

3.5 LEGEND:

- A. Provide spacing between respective lines at least equal to the height of the respective upper line.

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
IN THIS AREA
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

3.6 RESPIRATORY AND WORKER PROTECTION:

A. Before proceeding beyond this point in providing Temporary Enclosures:

1. Provide Worker Protection per Section 01560
2. Provide Respiratory Protection per Section 01562

B. Provide Personnel Decontamination Unit per Section 01563

3.7 CRITICAL BARRIERS:

A. Completely Separate the Work Area from other portions of the building, and the outside by closing all openings with two (2) independent layer sheet plastic barriers at least 6 mil in thickness.

B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with two (2) independent layers of polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed.

C. Provide two (2) independent layers of Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas. Individually seal the perimeter of each sheet plastic barrier with duct tape and spray cement.

D. Mechanically Support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic sheeting. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative:

1. Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.
2. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet, minimum 1/4" in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot below ceiling. Tighten rope so that it has 2" maximum dip. Drape plastic over rope from outside Work Area so that a two foot long flap of plastic extends over rope into Work Area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.

E. Provide Pressure Differential System per Section 01513.

F. Clean equipment, housings and ducts of any overspray materials prior to erection of any Critical Barrier that will restrict access.

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3.8 PREPARE AREA:

- A. Scaffolding: If fixed scaffolding is to be used to provide access, HEPA vacuum and wet clean area prior to scaffolding installation.
- B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.
- C. Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.
- D. Clean all furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment, furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by ASCM.
- E. Clean all surfaces in the Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of the primary barrier.

3.9 PRIMARY BARRIER:

- A. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

Sheet Plastic: Protect floor surfaces in the Work Area with two (2) independent layers of six (6) mil plastic sheeting and wall surfaces with one (1) layer of six (6) mil. thick plastic sheeting, or as otherwise directed on the Contract Drawings.

- 1. Cover Floor of Work Area with 2 independent layers of polyethylene sheeting, each at least 6 mil in thickness. The first layer shall extend up the wall at least 12 inches. The second layer shall extend up the wall at least 24 inches. Form a sharp right angle bend at the junction of the floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Sheeting shall be sized to minimize seams. Install sheeting so that top layer can be removed independently of bottom layer.
- 2. Cover carpeting with three (3) layers of polyethylene sheeting at least 6 mil in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene floor sheeting.
- 3. Cover all walls in the Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape and spray-glue, so as to overlap floor sheeting by at least 18 inches in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape.
- 4. All vertical and horizontal surfaces except those of asbestos-containing materials shall be sealed with polyethylene sheeting.

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5. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide $\frac{3}{4}$ " exterior grade plywood treads securely held in place, over the plastic. Do not cover rungs or rails with any type of protective materials.
6. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.10 STOP WORK:

- A. If the Critical or Primary barrier falls or is breached in any manner stop work immediately. Do not resume work until authorized in writing by the Industrial Hygienist.

3.11 EXTENSION OF WORK AREA:

- A. Extension of Work Area: If a Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add the affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.12 SECONDARY BARRIER:

- A. Use a secondary layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work as specified in the appropriate work sections.

3.13 EXTERIOR ENCLOSURES:

- A. Construct exterior enclosures utilizing rigid construction consisting of nominal 2x4 inch studs spaced 16 inches on center and covered with a minimum of one-half inch plywood or approved equal framing and board covering. The approved enclosure shall be covered with two (2) layers of 6 mil polyethylene sheeting.

END OF SECTION

SECTION 01560

WORKER PROTECTION

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 work of this section.

1.2 DESCRIPTION OF WORK:

- A. This section describes the equipment and procedures required for protecting workers and site visitors against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

- A. Respiratory Protection is specified in Section 01562.

1.4 WORKER TRAINING:

- A. AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.
- B. State and Local License: All workers are to be trained, certified and accredited as required by state or local code or regulation.
- C. Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:
 - 1. Methods of recognizing asbestos.
 - 2. Health effects associated with asbestos.
 - 3. Relationship between smoking and asbestos in producing lung cancer.
 - 4. Nature of operations that could result in exposure to asbestos.
 - 5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
 - a. Engineering controls.
 - b. Work practices.
 - c. Respirators.
 - d. Housekeeping procedures.
 - e. Hygiene facilities.
 - f. Protective clothing.
 - g. Decontamination procedures.
 - h. Emergency procedures.
 - i. Waste disposal procedures.
 - 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134.
 - 7. Appropriate work practices for the work.
 - 8. Requirements of medical surveillance program.
 - 9. Review of 29 CFR 1926.
 - 10. Pressure Differential Systems.
 - 11. Work practices including hands on or on-job training.

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12. Personal Decontamination procedures.
13. Air monitoring, personal and area.

1.5 MEDICAL EXAMINATIONS:

- A. Provide medical examinations for all workers who may encounter an airborne fiber concentration level of 0.1 fibers per cubic centimeter (f/cc) or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber concentration data, provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926 In addition, provide an evaluation of the individuals' ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review, if requested. Do not start work until these submittals are approved by the Environmental Consultant.
- B. AHERA Accreditation: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.
- C. State and Local License: Submit evidence that all workers have been trained, and are currently certified and accredited as required by state or local code or regulation.
- D. Report from Medical Examination: Conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:
 1. Name and Social Security Number
 2. Physicians Written Opinion from examining physician including at a minimum the following:
 - a. Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - b. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - c. Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 3. Copy of information that was provided to physician in compliance with 29 CFR 1926
 4. Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.
- E. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 EQUIPMENT

2.1 PROTECTIVE CLOTHING:

- A. Provide fire-retardant "Tyvek" disposable protective clothing consisting of full-body coveralls, headcovers, and boots as required by the most stringent OSHA standards applicable to the work and as manufactured by DuPont or approved equal. Eye protection, gloves, and safety shoes shall be worn. They shall be in accordance with ANSI Z89.1 (1969) and ANSI Z41.1 (1967).
- B. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.
- C. Goggles: Provide eye protectives (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.
- D. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area, dispose of as asbestos-contaminated waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

- A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Project Consultants, and other authorized representatives who may inspect the jobsite. Provide two (2) respirators and six (6) complete coveralls and where applicable provide six (6) respirator filter changes per day. Sufficient HEPA cartridges for powered air-purifying respirators shall be provided for the workers to change during the work shift. No HEPA cartridges shall be used longer than three (3) eight (8) hour work shifts. The respirators shall be worn at all times when in the contaminated area. There shall be no exceptions.

PART 3 EXECUTION

3.1 GENERAL:

- A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.
- B. Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES:

- A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:
 - 1. Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:
 - a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.
 - b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

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- 1) Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.
 - 2) With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
 - 3) Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.
 - 4) Carefully wash facepiece of respirator inside and out.
 - 5) If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this may short out and destroy the battery.
 - 6) Shower completely with soap and water.
 - 7) Rinse thoroughly.
 - 8) Rinse shower room walls and floor prior to exit.
- c. Proceed from shower to Clean Room and change into street clothes or into new disposable work items.
- B. Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedure is then completed as required above.
- C. Within the Work Area: Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building.

END OF SECTION

SECTION 01562

RESPIRATORY PROTECTION

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 work of this section.

1.2 DESCRIPTION OF WORK:

- A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber levels encountered in the work area or as required for other toxic or oxygen-deficient situations encountered.

1.3 STANDARDS:

- A. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.
 - 1. OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1101 and Section 1910.134. 29 CFR 1926.58
 - 2. CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air"
 - 3. CSA - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-00, "Compressed Breathing Air"
 - 4. ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992
 - 5. NIOSH - National Institute for Occupational Safety and Health
 - 6. MSHA - Mine Safety and Health Administration

1.4 SUBMITTALS:

- A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are approved by the Environmental Consultant.
- B. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.
- C. System Diagram: When a Type "C" supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.

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- D. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.
- E. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.58.
- F. Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

1.5 DELIVERY:

- A. Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 EQUIPMENT

2.1 AIR PURIFYING RESPIRATORS:

- A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.
- B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1998). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.
- C. Non-permitted respirators: Do not use single use, disposable or quarter face respirators.

PART 3 EXECUTION

3.1 GENERAL:

- A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1992 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.
- B. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.
- C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.
- D. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency (HEPA) filters.
- E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

- A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those

respirators for which training and fit testing has been provided.

- B. On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.
- C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1992).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

A. Provide respirator protection as follows:

- 1. Negative pressure air-purifying respirators for all preparation, glove bag removal and Category I removal activities.
- 2. Powered Air-Purifying Respirators: PAPR, positive pressure, full-face, or half-face respirators (if half-faced respirators are used, eye protection shall be provided by the Contractor).

3.4 PERMISSIBLE EXPOSURE LIMIT (PEL):

A. 8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed 0.1 fibers/cubic centimeter.

3.5 RESPIRATORY PROTECTION FACTOR:

A. Respirator Type Protection Factor

- 1. Air purifying: PF=10 - Negative pressure respirator High efficiency filter Half facepiece
- 2. Air purifying: PF=10 - Negative pressure respirator High efficiency filter full facepiece
- 3. Powered Air Purifying (PAPR): PF=50 - Positive pressure respirator High efficiency filter Half or Full facepiece

3.6 AIR PURIFYING RESPIRATORS:

- A. Air purifying - half or full face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior body of respirator, including head straps be washed each time a worker leaves the Work Area.
- B. Powered air purifying full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION

SECTION 01563
DECONTAMINATION UNITS

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 work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. Refer to Section 01503 Temporary Facilities for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water and electrical.

1.3 SUBMITTALS:

- A. Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.
- B. Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.
- C. Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.
- D. Shower Pan: Provide shop drawing.
- E. Shower Walls: Provide product data.
- F. Shower Head and Controls: Provide product data.
- G. Filters: Provide product data and shop drawing of installation on decontamination unit.
- H. Hose Bib: Provide product data.
- I. Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.
- J. Elastomeric membrane: Provide product data.
- K. Lumber: Provide product data on fire resistance treatment.
- L. Sump Pump: Provide product data.
- M. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

- A. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6-mil thick as indicated, clear, frosted, or black as indicated.
- B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6-mil thick as indicated, frosted or black as indicated.

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- C. Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.
- D. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
- E. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- F. Shower Pan: Provide one piece stainless steel shower pan with a minimum 6" depth, or approved equal.
- G. Shower Walls: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.
- H. Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Supply shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.
- I. Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.
 - 1. Primary Filter - Passes particles 20 microns and smaller.
 - 2. Secondary Filter - Passes particles 5 microns and smaller.
- J. Hose Bibb: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.
- K. Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0" above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.
- L. Elastomeric membrane: Provide uniform flat sheets of flexible sheet roofing material fabricated from EPDM (ethylene propylene diene monomers) or Neoprene (polychloroprene), in a nominal 45 mil thickness.
- M. Lumber: Provide kiln dried lumber of any grade or species.
- N. Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3" remains between top of liquid and top of sump pan.

PART 3 EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT:

- A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Provide temporary heating and lighting within Decontamination Units as necessary to provide safe and comfortable conditions. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretch or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area. Such doors must be at least four (4) feet wide, and the distance between sets of flaps must be at least four (4) feet.
- B. Clean Room: Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.
1. Construct using two (2) layers of opaque polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the Clean Room and the rest of the building.
 2. Locate so that access to Work Area from Clean Room is through Shower Room.
 3. Separate Clean Room from the building utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
 4. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.
 5. Maintain floor of clean room dry and clean at all times. Do not allow overflow water from shower to wet floor in clean room.
 6. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
 7. Provide posted information for all emergency phone numbers and procedures.
 8. Provide 1 storage locker per employee.
- C. Shower Room (contaminated area): Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading to the Work Area from the Clean Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.
1. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.
 2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
 3. Separate this room from the Clean Room utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
 4. Provide splash proof entrances to Clean Room with doors of flapped polyethylene.
 5. Provide shower head and controls supplied with hot and cold water adjustable within the shower.
 6. Provide a continuously adequate supply of liquid bath soap and shampoo and maintain in sanitary condition.
 7. Provide a continuously adequate supply of disposable bath towels.

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8. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
 9. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.
 10. Used filters shall be disposed of as asbestos-containing waste material.
 11. Provide hose bibb.
- D. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.
1. Separate this room from the Shower Room and the Work Area utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
 2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
 3. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll the drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change with a clean drop cloth. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.
- E. Decontamination Sequence: Require that all workers and authorized visitors adhere to the following sequence when entering or leaving the Work Area.
1. All individuals that enter the work area shall sign the entry log, located in the clean room, upon each entry and exit.
 2. Entering Work Area: Worker enters Clean Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.
 - a. Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.
 - b. Worker proceeds to Work Area.
 3. Exiting Work Area:
 - a. Before leaving the Work Area, require the worker to remove all gross contamination and debris from the outside of the respirator, and protective clothing by wet wiping and HEPA vacuuming.
 - b. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.
 - c. Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.
 - d. Disposable coveralls are placed in a bag for disposal with other material.
 - e. Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.
 - f. After showering, the worker moves to the Clean Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 CONSTRUCTION OF THE DECONTAMINATION UNITS:

- A. Walls and Ceiling: Construct airtight walls and ceiling using two (2) layers of polyethylene sheeting, at least 6-mil in thickness. Attach to existing building components or a temporary framework.
- B. Floors: Use two (2) layers (minimum) of 6-mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.
- C. Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of four feet (4') wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of four feet (4') between entrance and exit of any room. Provide a minimum of four feet (4') between doors to airlocks.
- D. If the Decontamination area is located at the exterior of the building, adjacent to occupied areas of the building or within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the decontamination unit with a protective shell as follows.
 - 1. Decontamination unit shall be framed with 2"x4" (min) fire-rated lumber at 16" on center.
 - 2. Walls and roof shall be covered with 1/2" (min) fire-rated plywood and all seams shall be caulked and sealed so as to provide an airtight barrier.
 - 3. The decontamination unit entrance shall be fitted with a lockable, louvered door.
 - 4. Two (2) layers of 6-mil polyethylene shall be applied to both sides of the airtight plywood enclosure.
- E. Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.
- F. Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.
- G. Electrical: Provide subpanel at Clean Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits to a ground-fault circuit protection device.

3.3 CLEANING OF DECONTAMINATION UNITS:

- A. Clean debris and residue from inside of Decontamination Units on a daily basis or as otherwise indicated on Contract Drawings. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.
- B. If the Clean Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Clean Room as an inner section of the new Equipment Room.

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3.4 SIGNS:

A. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

1. Provide signs in both English and Spanish.
2. Legend:

DANGER - ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

3. Provide spacing between respective lines at least equal to the height of the respective upper line.
4. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:
Provide signs in both English and Spanish.

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGE AREA	3/4" Block

END OF SECTION

SECTION 01711

PROJECT DECONTAMINATION

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 work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

- A. General: Decontamination of the Work Area following asbestos abatement.
 - 1. If the asbestos abatement work is on damaged or friable materials the work is a three step procedure with two cleanings of the Primary Barrier plastic prior to its removal and one cleaning of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.
 - 2. Operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

- A. Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:
 - 1. Section 02081 Removal of Asbestos-Containing Materials.
- B. Work Area Clearance: Air testing and other requirements which must be met before release of Contractor and reoccupancy of the work area are specified in Section 01714 Work Area Clearance.

PART 2 PRODUCTS

2.1 GENERAL:

- A. Encapsulant shall be an asbestos binding compound such as Serpiflex Shield from Grace Construction Products or approved equal.

PART 3 EXECUTION

3.1 GENERAL:

- A. Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.
- B. Work of This Section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:
 - 1. Primary and Critical Barriers erected by work of Section 01526.
 - 2. Decontamination Unit erected by work of Section 01563.
 - 3. Pressure Differential System installed by work of Section 01513.

- C. Work of this Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floors) of the Work Area, and all furniture or equipment in the Work Areas.

3.2 START OF WORK:

- A. Previous Work: During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.
- B. Start of Work: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:
 - 1. Primary Barrier: Two layers of polyethylene sheeting on floor and one layer on walls and ceilings.
 - 2. Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.
 - 3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
 - 4. Decontamination Units: For personnel and equipment in operating condition.
 - 5. Pressure Differential System: In operation.

3.3 FIRST CLEANING:

- A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.
- B. Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.
- C. Wait twelve (12) hours to allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire period.
- D. After completion of the first cleaning operation of the facility, the Contractor shall give written notification to the AST that a pre-encapsulation inspection is needed.
- E. The AST shall perform a visual inspection of the work area to ensure that it is dry and dust free.
- F. After approval by the AST, the Contractor shall spray coat all dried exposed surfaces with a sealant. The surfaces to be coated shall include the polyethylene which has been used to cover walls, floors, ceilings and non-removable fixtures and equipment.
- G. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:
 - 1. Surfaces to be covered have met the requirements for a visual inspection in this section.

- H. After the encapsulation of the polyethylene, the first layer shall be carefully removed and rolled up with the contaminated portion inside. All equipment, machinery, scaffolding, tools, etc. within the isolated work area shall be cleaned with amended water, moved to the equipment room, and properly removed from the work area.

3.4 SECOND CLEANING:

- A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.
- B. Removal of Primary Barriers:
 - 1. Immediately following the second cleaning of the remaining layer of Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:
 - a. Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.
 - b. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
 - c. Decontamination Unit: For personnel, in operating condition.
 - d. Pressure Differential System: Maintain in continuous operation.

3.5 FINAL CLEANING:

- A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleanings.
- B. The Contractor shall request that a final clean up inspection be performed to insure all visible asbestos has been removed, the area is dust free and that the work area may have Post Removal Sampling. The AST and the Contractor shall perform a complete visual inspection of the entire work area including:
 - 1. Decontamination Unit.
 - 2. Primary seals and critical barriers over ventilation openings, doorways, windows, and other openings.
- C. Look for debris from any sources, residue on surfaces, dust or other matter. If any such debris, residue, dirt or other matter is found, repeat the final cleaning and continue decontamination procedure from that point.
- D. When the area is visually determined to be clean and dry, post removal air sampling shall be performed.
- E. During inspection time allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire period.
- F. The polyethylene sheeting used to maintain critical barriers between work areas and clean areas such as doorways, windows and air vents shall be sprayed with encapsulant, but not removed until air monitoring is completed and satisfactory results have been received. (Lockback)

3.6 VISUAL INSPECTION:

- A. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.
- B. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.7 FINAL AIR SAMPLING:

- A. After the work area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedures for PCM or TEM set forth in Section 01714 Work Area Clearance:
 - 1. If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.
 - 2. If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

3.8 REMOVAL OF WORK AREA ISOLATION:

- A. After all requirements of this section and Section 01714 Work Area Clearance have been met:
 - 1. Shut down and remove the Pressure Differential System. Seal HEPA-equipped air filtration units, HEPA vacuums and similar equipment with 6-mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
 - 2. Remove Personnel Decontamination Unit.
 - 3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified herein.
 - 4. Remove all equipment, materials, and debris from the work site.
 - 5. Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

3.9 SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

- A. Asbestos Abatement Work is Substantially Complete upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of:
 - 1. Certificate of Visual Inspection.
 - 2. Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material.
 - 3. Punch list detailing repairs to be made and incomplete items.

END OF SECTION

SECTION 01714

WORK AREA CLEARANCE

PART1GENERAL

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 work of this section.
1. Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.
 2. Air Monitoring: performed by the ASCM during abatement work, is described in Section 01410 Test Laboratory Services.

1.2 SUMMARY:

A. Not in Contract Sum:

1. This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.
2. This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Environmental Consultant will use to measure these levels.

1.3 CONTRACTOR RELEASE CRITERIA:

- A. The Asbestos Abatement Work Area is cleared when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.
1. TEM clearance criteria shall be achieved when the average concentration of asbestos of the five (5) samples collected within the work area is ≤ 70 structures per millimeter squared (mm²).

1.4 CLEARANCE CRITERIA FAILURE:

- A. Costs associated with the initial round of clearance sampling for each work area are not part of, and shall not be included in the Asbestos Contractor's Contract Sum.

In the event of clearance criteria failure, the Asbestos Contractor shall re-clean the work area in accordance with the specification and as directed by the AST. All re-cleaning activities shall be performed at the Asbestos Contractor's expense. Additionally, all costs associated with subsequent clearance testing shall be deducted from the Asbestos Contractor's Contract Sum. The unit price schedule for air monitoring and analytical services are as follows:

Asbestos Safety Technician Labor - \$95.00/hour
PCM Sample - \$20.00/sample
TEM Sample - \$80.00/sample

1.5 VISUAL INSPECTION:

- A. Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

1.6 AIR MONITORING:

A. To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the ASCM will secure samples and analyze them according to the following procedures:

1. PCM clearance samples will be secured and analyzed for any glove-bag work areas as indicated below.
2. TEM sampling will be performed for all work areas exclusive of glove-bag work areas using the analysis methodology set forth in the AHERA regulation 40 CFR Part 763 Appendix A, SUBPART E.
3. Work Area Clearance: upon meeting the PCM Clearance or TEM Clearance requirements the work of Section 01711 Project Decontamination can continue.

1.7 SCHEDULE OF AIR SAMPLES:

A. General: The number and volume of air samples taken and analytical methods used by the ASCM will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical instruments used and site conditions.

1.8 LABORATORY TESTING:

A. PHASE CONTRAST MICROSCOPY: The services of a testing laboratory will be employed by the ASCM to perform laboratory analysis of the air samples. A microscope and technician may be set up at the job site, or samples will be sent daily by overnight mail, so that verbal reports for daily air sampling or air clearance sampling can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Environmental Consultant, the Owner and the Contractor.

B. TRANSMISSION ELECTRON MICROSCOPY: The services of a testing laboratory will be employed by the ASCM to perform laboratory analysis of the air samples. Samples will be transported or sent by overnight mail, so that verbal reports on clearance air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the, Environmental Consultant the Owner and the Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 02081

REMOVAL OF ASBESTOS CONTAINING MATERIAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.
- B. Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.
- C. Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos-Containing Waste Material.

1.3 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Environmental Consultant.
 - 1. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
 - 2. Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.
 - 3. NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).
 - 4. Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 PRODUCTS

- A. Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:
 - 1. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and

- 50% polyoxyethylene ether mixed with five gallons of water.
2. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.
- B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick as indicated, frosted or black as indicated.
 - C. Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
 - D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
 - E. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.
 - F. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.
 - G. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

PART 3 EXECUTION

3.1 WORKER PROTECTION:

- A. Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.2 PROCEDURES FOR FRIABLE REMOVAL OF FLOOR TILE, MASTIC & FLOOR LEVELING COMPOUND

- A. Areas containing multiple layers of floor tile, damaged floor tile, areas containing red floor leveling compound and/or areas of floor tile that have become friable due to the removal of carpeting shall be removed utilizing full containment preparation procedures, pressure differential air filtration and wet methods as delineated in N.J.A.C. 5:23-8.
- B. A three stage personnel decontamination unit(s), contiguous with the full containment work area shall be established and made operable prior to the removal of any carpeting, floor tile/mastic or floor leveling compound materials.
- C. The Contractor will utilize bead blasting equipment in areas of full containment friable removal.

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END OF SECTION

SECTION 02084

DISPOSAL OF ASBESTOS-CONTAINING WASTE

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 work of this section.
- B. Section 01092 Codes and Regulations - Asbestos Abatement describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK:

- A. This section describes the disposal of Asbestos-Containing Materials. Disposal includes proper packaging of asbestos-containing waste materials.

1.3 SUBMITTALS:

- A. Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start work until these submittals are approved by the Environmental Consultant.
 - 1. Copy of current state or local license for waste hauler.
 - 2. Name and address of landfill where non-friable and friable asbestos-containing waste materials are to be buried. Include contact person and telephone number.
 - 3. Chain of Custody form and form of waste manifest proposed.
 - 4. Sample of disposal bag and any added labels to be used.
- B. Submit copies of all manifests and disposal site receipts to the Environmental Consultant on a weekly basis.

PART 2 PRODUCTS

2.1 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with four labels with text as follows:

A. First Label:

CAUTION: CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

B. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

C. Third Label: Provide in accordance with U. S. Department of Transportation regulation on

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hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

- D. Fourth Label: Provide in accordance with 40 CFR Part 61 Asbestos NESHAP revision; Final Rule dated November 20, 1990.

County of Union
2325 South Avenue
Scotch Plains, New Jersey 07076

PART 3 EXECUTION

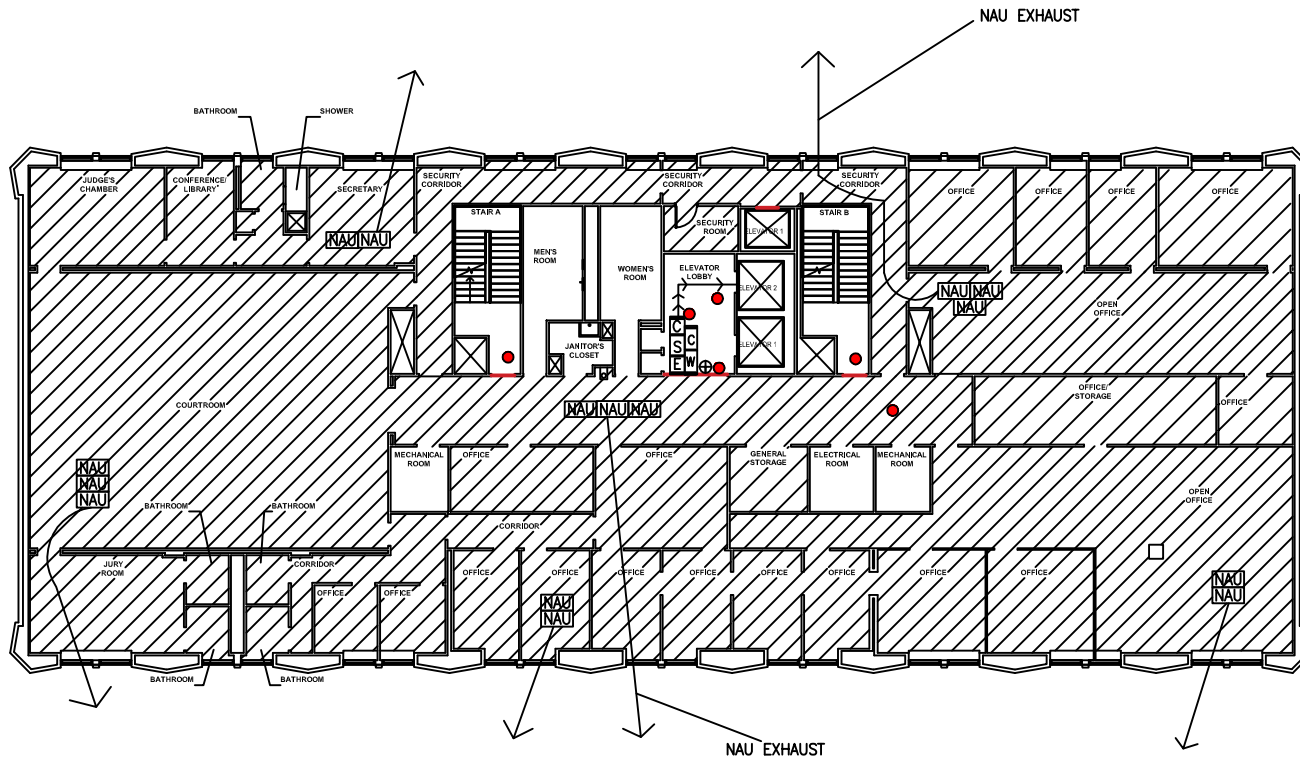
3.1 GENERAL:

- A. The transportation and disposal of non-friable and friable asbestos-containing materials shall be performed in strict accordance with New Jersey Department of Environmental Protection Regulations (N.J.S.A. 7:26).
- B. Comply with the following sections during all phases of this work:
1. Section 01560 Worker Protection - Asbestos Abatement.
 2. Section 01562 Respiratory Protection.
- C. All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.
- D. Load all asbestos-containing waste material in disposal bags or leak-tight fiber drums. All materials are to be contained in one of the following:
1. Two 6 mil disposal bags.
 2. Two 6 mil disposal bags and a fiberboard drum.
- E. Protect interior of truck or dumpster with 6 mil polyethylene sheeting.
- F. Carefully load containerized waste into fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.
- G. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.
- H. Do not transport disposal bagged materials in open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.
- I. Advise the landfill operator or processor, at least ten days in advance of transport, and the quantity of material to be delivered.

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- J. At the disposal site unload containerized waste. Sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean and decontaminate entire truck and contents.
- K. Retain receipts from landfill or processor for all disposed materials.
- L. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to the Environmental Consultant.

END OF SECTION



LEGEND	
	WASTE DECONTAMINATION UNIT
	DECONTAMINATION UNIT
	CONTAINMENT AREA
	WORKER EGRESS
	WASTE CONTAINER
	AIR SAMPLE LOCATION
	ISOLATION BARRIER
	DIGITAL MANOMETER
	NEGATIVE AIR UNIT



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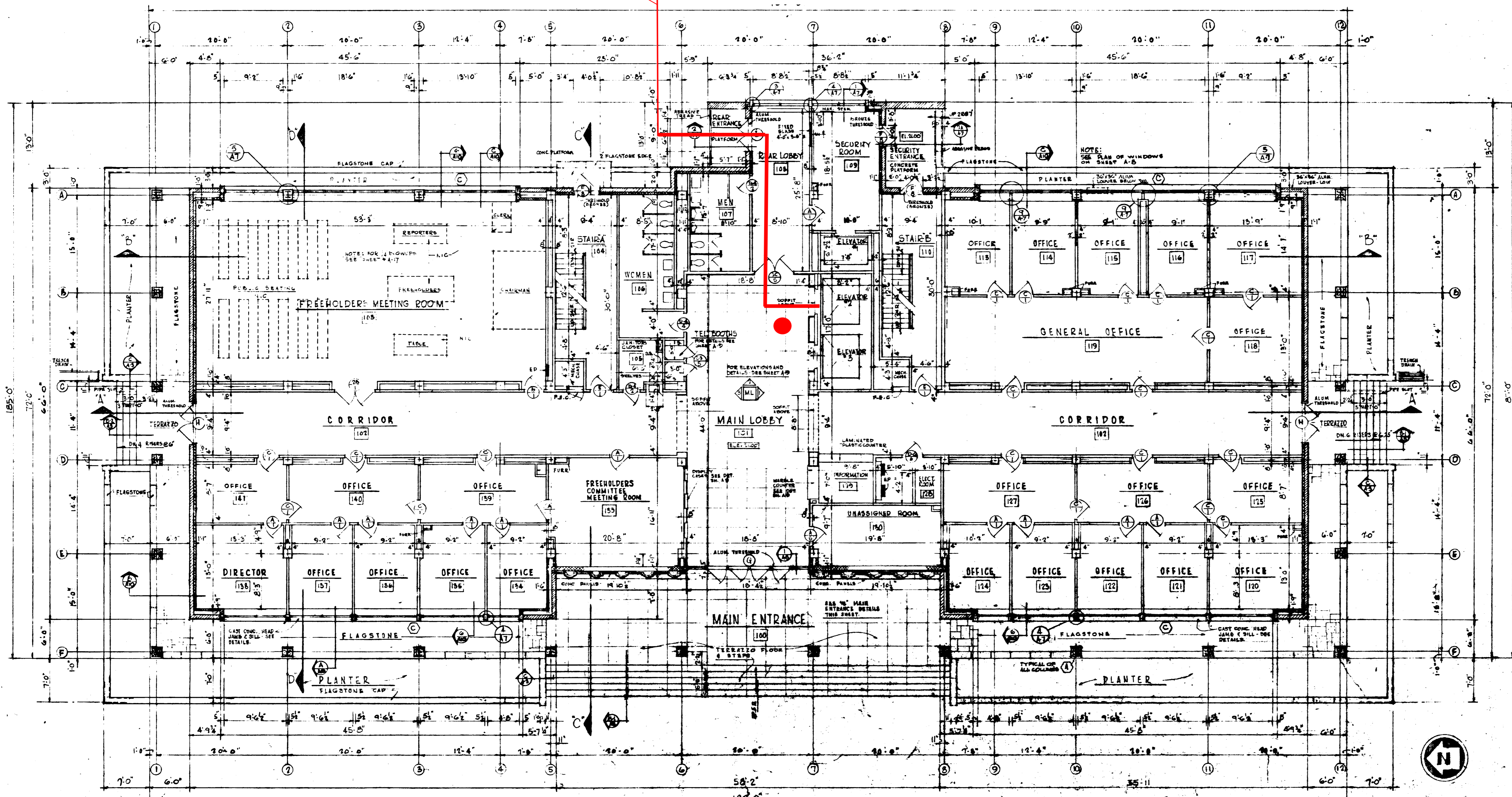
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SCALE: N=N
DATE: 08/13/20
SKETCH No.




01

WORKER EGRESS ROUTE

WASTE CONTAINER



LEGEND

-  WORKER EGRESS ROUTE
-  AIR SAMPLE
-  W.C. WASTE CONTAINER

FIRST FLOOR PLAN FINISHED FLOOR [E] 21.00'



[N.J.A.C. 5:23-8](#)

This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 15, August 5, 2019

NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

Title 5, Chapter 23, Subchapter 8 Notes

Annotations

Notes

[Chapter Notes](#)

Research References & Practice Aids

CROSS REFERENCES:

Child care center physical plant requirements, see N.J.A.C. 10:122-5.2.

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End of Document

N.J.A.C. 5:23-8.1

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NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.1 Title; scope; intent

(a) This part of the regulations, adopted pursuant to P.L. 1975, c.217, the Uniform Construction Code Act ([N.J.S.A. 52:27D-119](#) et seq.) and entitled Asbestos Hazard Abatement Subcode shall be known and may be cited throughout the regulations as [N.J.A.C. 5:23-8](#) and when referred to in this subchapter, may be cited as "this subchapter."

1. In addition, the New Jersey Departments of Health and Labor have jointly adopted regulations pursuant to P.L. 1984, c.217, the Asbestos Control and Licensing Act ([N.J.S.A. 34:5A-32](#) et seq.) and are cited as [N.J.A.C. 8:60](#), and [N.J.A.C. 12:120](#), respectively. These regulations provide for: a standardized training course for all asbestos workers; licensing of asbestos abatement contractors; and issuing asbestos worker performance permits for asbestos abatement workers.

i. Copies of [N.J.A.C. 12:120](#) may be obtained from the New Jersey Department of Labor, Division of Workplace Standards, Asbestos Control and Licensing, PO Box 054, Trenton, New Jersey 08625-0054. These rules provide that any asbestos abatement project, excluding an operations and maintenance activity, must be conducted by a licensed contractor pursuant to the referenced rules, including projects involving buildings and structures which are not within the scope of this subchapter.

2. The New Jersey Department of Environmental Protection has authority to enforce regulations regarding the transport and disposal of asbestos-containing materials pursuant to [N.J.S.A. 13:1D-9](#) and [13:1E-1](#) et seq. These rules are cited as [N.J.A.C. 7:26](#).

i. Copies of [N.J.A.C. 7:26](#) may be obtained from the New Jersey Department of Environmental Protection, Division of Solid Waste Management, 840 Bear Tavern Road, PO Box 414, Trenton, New Jersey 08625-0414.

3. All samples collected and submitted for analysis for asbestos pursuant to this subchapter shall be analyzed for asbestos in accordance with [N.J.A.C. 5:23-8.21](#).

(b) Unless otherwise specifically provided, all references to article or section numbers or to provisions not specifically identified by number, shall be construed to refer to such article, section or provision of this subchapter.

(c) This subchapter, which pertains to educational facilities and public buildings as defined in [N.J.A.C. 5:23-8.2](#), shall control matters relating to: construction permits for asbestos abatement; fees; licenses; certification; work permits; reports required; documentation; inspections by the asbestos safety technician; air monitoring; enforcement responsibilities; and remedies and enforcement. This subchapter controls the abatement of asbestos from a building. A construction permit for renovation or demolition shall be required pursuant to N.J.A.C. 5:23-2 for any other work performed subsequent to the asbestos abatement project.

1. Any private building that houses a day care center, nursery or educational facility shall be subject to this subchapter when an asbestos hazard abatement project takes place within the building or any part

of the building regardless of the remoteness of the facility or its size relative to the building. An asbestos hazard abatement project shall have a construction permit from the enforcing agency.

2.All common areas in a building, or part thereof, leased by a public entity, such as, but not limited to, building entrances and lobbies, rest rooms, cafeterias, hallways, stairwells, and elevators where public employees may normally traverse and all areas with mechanical equipment that serve the areas occupied by the public employees, shall be subject to this subchapter when an asbestos hazard abatement project takes place within the building or any part of the building.

3.This subchapter shall apply to exterior portions of buildings, such as: exterior hallways connecting buildings; porticos; mechanical system insulation; cooling towers; and steam or other service tunnels serving or connecting buildings. These exterior spaces are to be considered, for the purposes of obtaining a construction permit pursuant to this subchapter, a single homogeneous area for purposes of abatement project design.

4.Projects involving the removal of non-friable, miscellaneous asbestos-containing material from interior spaces shall be subject to this subchapter where the method chosen to remove the non-friable material may cause the building environment to become contaminated with airborne asbestos fibers. Removal shall be in accordance with [N.J.A.C. 5:23-8.20](#).

(d)Until further action is taken, this subchapter remains advisory for all other buildings and structures in the State.

(e)This subchapter seeks to provide and ensure public safety, health, and welfare insofar as they are affected by asbestos and asbestos-containing materials. It is not intended to, nor shall it be construed to, conflict with or impede the operation of the asbestos work standards issued by the Occupational Safety and Health Administration, 29 CFR Section 1910.1001 et seq., 29 CFR Section 1926.58 and [N.J.A.C. 12:100-12](#), the Asbestos Subchapter of the New Jersey Safety and Health Standards for Public Employees. The purpose of this subchapter is to assure that work is performed in a safe manner as a pre-condition to the issuance of a certificate of occupancy.

1.It is the purpose of this subchapter to establish standards and procedures to ensure that all State laws and regulations applicable to asbestos hazard abatement work are actually adhered to wherever work takes place.

2.Asbestos has been a pervasive construction material which in many of its forms poses no significant health risk. These standards and procedures need not be applied to all work involving asbestos-containing materials but only those which pose serious health hazards to the public.

3.Asbestos that is, or that can readily become, friable was a widely used construction material. Its removal, replacement, repair, enclosure or encapsulation shall be considered construction work and shall therefore require a construction permit issued pursuant to the State Uniform Construction Code Act ([N.J.S.A. 52:27D-119](#) et seq.). Asbestos and asbestos-containing materials were, in many cases, used in order to satisfy important code requirements pertaining to fire safety. Accordingly, where asbestos was used originally to satisfy fire code requirements, it shall not be removed unless it is replaced, as part of the project, with material or assembly which has equivalent fire resistive or heat resistive characteristics. Additionally, any encapsulation materials or methods shall conform to the construction requirements of the Uniform Construction Code.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Deleted text in (c) "administrative authority having jurisdiction" and substituted "asbestos safety technician;".

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Revised section with stylistic changes.

In (a)1ii: added language regarding asbestos abatement projects. Added new (a)3.

In (c): added language clarifying subchapter's scope. Added new (c)3 and (c)4.

Amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Annotations

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Case Notes

New Jersey asbestos rules preempted by Occupational Safety & Health Act (OSHA) to the extent that they addressed issue of education and training in the workplace; balance of N.J. asbestos program was unenforceable because preempted provisions were not severable from remaining provisions, and because OSHA considered and rejected testing, certification, license and permit requirements similar to New Jersey's program. [New Jersey State Chamber of Commerce v. State of New Jersey, 653 F.Supp. 1453 \(D.N.J.1987\).](#)

Minor child's violence in school warranted evaluation. [Roselle Board of Education v. M.W., 97 N.J.A.R.2d \(EDS\) 38.](#)

Strict adherence to asbestos abatement regulations required by asbestos safety technician and control monitor. [Lotto v. Bureau of Code Services, 97 N.J.A.R.2d \(CAF\) 31.](#)

NEW JERSEY ADMINISTRATIVE CODE

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[N.J.A.C. 5:23-8.2](#)

This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 15, August 5, 2019

NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.2 Definitions

The following words, terms and abbreviations when used in this subchapter shall have the following meanings unless the context clearly indicates otherwise.

"Airlock" means a serial arrangement of rooms whose doors are spaced a minimum of four feet apart so as to permit ingress or egress through one room without interfering with the next and constructed in such a manner as to prevent or restrict the free flow of air in either direction.

"Air pressure differential" means air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).

"Amended water" means water to which a surfactant has been added.

"Asbestos" means a general term used to describe a group of naturally occurring hydrated mineral silicates. The asbestiform varieties include chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite-grunerite); anthophyllite; tremolite and actinolite.

"Asbestos-containing material" means any material which contains more than one percent asbestos by weight.

"Asbestos hazard abatement project" means the removal, enclosure, or encapsulation of more than 25 square feet of asbestos-containing material used on any equipment or surface area such as wall, or ceiling area; or the removal or encapsulation of more than 10 linear feet of asbestos-containing material on covered piping.

"Asbestos Safety Control Monitor" means a business entity authorized pursuant to [N.J.A.C. 5:23-8](#) to ensure compliance with the Asbestos Hazard Abatement Subcode.

"Asbestos Safety Technician" means a person certified by the New Jersey Department of Community Affairs, hired by the asbestos safety control monitor who continuously monitors and inspects the asbestos abatement work pursuant to this subchapter. This person shall be required to be on the job site during the time the asbestos abatement work is taking place and perform all duties and responsibilities established by these regulations.

"Authorized personnel" means the owner, the owner's representative, asbestos abatement contractor personnel, asbestos safety control monitor personnel, emergency personnel, or a representative of any Federal, state, or local regulatory agency or other personnel under contract for or having jurisdiction over the project.

"Certificate of Completion" shall mean the certificate issued by the asbestos safety control monitor signifying that the asbestos hazard abatement work has been completed in conformance with [N.J.A.C. 5:23-8](#).

"Construction permit for asbestos abatement" means required official approval to commence any asbestos hazard abatement project. This permit is issued by the enforcing agency.

"Contractor" means the Asbestos Removal Contractor licensed by the New Jersey Department of Labor.

"County facility" means all buildings and structures, or parts thereof, which are under the ownership or control of a county. This includes, but is not limited to, administration offices, court houses, sheriff offices, welfare offices, maintenance facilities and garages.

"Critical barrier" means two layers of nominal six mil polyethylene sheeting that completely seals off the work area to prevent the distribution of fibers to the surrounding area, such as the opening between the top of a wall and the underside of ceiling construction, electrical outlets, nonremovable lights, HVAC systems, windows, doorways, entranceways, ducts, grilles, grates, diffusers, wall clocks, speaker grilles, floor drains, sink drains, etc.

"Decontamination unit" means serial arrangement of rooms or spaces for the purpose of separating the work area from the building environment upon entering the work area and for the cleaning of persons, equipment, and contained waste prior to returning to the clean environment.

"Demolition" means the actual destruction and removal of a building, or part of a building, without intent to renovate, repair, or replace.

"Educational facility" means all buildings and structures, or parts thereof, (both public and private) which are under the ownership or control of an educational institution and which are used for student residences, educational purposes or learning experiences, dining facilities, libraries, or support facilities. Educational institutions include schools, colleges, universities, academies, child day care centers and nurseries.

"Employee" means an asbestos abatement worker having a valid work permit, issued by the New Jersey Department of Labor and employed by the contractor.

"Encapsulation" means the treatment of asbestos-containing materials with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).

"Enclosure" means the construction of an airtight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.

"Engineering controls" means all methods used to maintain low fiber counts in work areas and occupied spaces, including, but not limited to, air management, barriers to ensure public safety, and methods to confine airborne asbestos fibers to the work area.

"EPA" means the United States Environmental Protection Agency.

"Flame-resistant polyethylene sheet" means a single polyethylene film in the largest sheet size possible to minimize seams, nominal six mil thick, conforming to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films.

"Friable" means any material applied to ceilings, walls, piping, duct work, etc., which when dry may be crumbled, pulverized, or reduced to a powder by hand pressure.

"Glove bag" means a polyethylene bag or other techniques or work practices approved by Department especially designed to enclose sections of equipment for the purpose of removing asbestos-containing material without releasing fibers into the air.

"Glovebag work area enclosure" means the enclosure that defines the work area for glovebag activity.

"HEPA" means High Efficiency Particulate Air filter, capable of filter efficiency of 99.97 percent down to 0.3 um (microns).

"Local education agency" means any local educational agency as defined in Section 198 of the Elementary and Secondary Education Act of 1965 ([20 U.S.C. 3381](#)); the owner of any nonpublic, nonprofit elementary, or secondary

school building; or the governing authority of any school operated under the defense dependents' education system provided for under the Defense Dependents' Education Act of 1978 ([20 U.S.C. 921](#) et seq.).

"Miscellaneous asbestos-containing material" means interior building material on structural components, structural members or fixtures such as vinyl asbestos flooring, ceiling tiles, transite and asbestos cement board, and fire-resistant gaskets and seals but does not include surfacing material or thermal system insulation.

"Municipal facility" means all buildings and structures, or parts thereof, which are under the ownership or control of a municipality. This includes, but is not limited to, city halls, police stations, fire houses, welfare offices, maintenance facilities, and garages.

"NESHAP" means the National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

"NIOSH" means the National Institute for Occupational Safety and Health.

"Non-friable" means material which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.

"Occupied building" means a building or structure where occupancy is permitted in certain areas outside of the required containment during an asbestos hazard abatement project.

"Operations and maintenance activity" means corrective action not intended as asbestos abatement. The amount of friable asbestos-containing material that can be abated per year per project is 25 square feet or less or, if on covered piping, 10 linear feet or less.

"PCM" means Phase Contrast Microscopy.

"Polyethylene sheet" means a single nominal six mil thick polyethylene film.

"Privately owned buildings containing educational facilities" means all buildings and structures, or parts thereof, which are under the ownership or control of private parties, and which are used for educational purposes or learning experiences. Educational facilities include child day care centers, nurseries, laboratories, and schools.

"Public building" means any building or structure or part thereof, owned, leased or managed by the State or any of its departments, divisions, bureaus, boards, councils, authorities, or other agencies; or by any county, municipality, or any agency or instrumentality thereof.

"Removal" means the taking out or the stripping of asbestos-containing material from a building or structure.

"Repair" means returning damaged asbestos-containing material to an undamaged condition or to an intact state using recommended work practices so as to prevent the likelihood of fiber release.

"Sealant" means a liquid or solution to be used as a binding agent, such as a diluted encapsulant or a water based paint, on dried exposed surfaces from which asbestos containing material has been removed. The color of the coat shall be separate and distinct from the underlying substrate.

"Separation barrier" means a wall constructed to isolate the clean area from the work area and to support the polyethylene sheets.

"State facility" means all buildings and structures, or parts thereof, which are owned, managed or leased by the State of New Jersey.

"Strippable coating" means a water-based latex material, which is either available in aerosol cans or pre-mixed for spray application, formulated to adhere to surfaces and to be removed cleanly by peeling off at the completion of the abatement project.

"Surfacing asbestos-containing material" means material in a building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing or other purposes.

"TEM" means Transmission Electron Microscopy.

"Thermal system insulation" means material in a building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

"um" means microns, or micrometers.

"Water column (w.c.)" means a unit of measurement for pressure differential.

"Wet cleaning" means the process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or a removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.

"Work area" means the area where asbestos related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Added definitions and deleted "negative pressure".

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

In "Asbestos" definition, added: "anthophyllite; tremolite and actinolite."

Changed stylistically definitions of: "Construction permit for asbestos abatement"; "Engineering controls"; "Large asbestos hazard abatement project"; "Minor asbestos hazard abatement project"; and "Small asbestos hazard abatement project".

In "Encapsulation": Added new definition, deleting prior language.

In "Enclosure": Added new definition, deleting prior language.

Added new definitions for: EPA; Local education agency; Miscellaneous asbestos-containing material; Non-friable; PCM; Public building; Removal; Repair; Surfacing asbestos-containing material; TEM and Thermal system insulation.

Amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Annotations

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N.J.A.C. 5:23-8.3

This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 15, August 5, 2019

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§ 5:23-8.3 Enforcement; licensing; special technical services

(a) Except as is otherwise provided in (b)1 below, the provisions of this subchapter shall be enforced by municipal enforcing agencies utilizing asbestos safety control monitors or by the New Jersey Department of Community Affairs, hereafter cited as the Department, if applicable, and shall be administered and enforced uniformly throughout the State. This subchapter shall be in addition to existing regulations already adopted pursuant to the Uniform Construction Code Act (P.L.1975, c.217 as amended) and known as the Regulations for the Uniform Construction Code ([N.J.A.C. 5:23](#)). This subchapter contains administrative procedures for the inspection of asbestos abatement work involving removal, encapsulation, enclosure, repair, renovation, or demolition work which disturbs asbestos.

1. Rules concerning exceptions are as follows:

i. State-owned, State-managed or State-leased buildings: The Department utilizing asbestos safety control monitors shall be the sole enforcing agency to administer and enforce the Asbestos Hazard Abatement Subcode with respect to State-owned, State-leased or State-managed buildings.

(b) The joint regulations adopted by the New Jersey Departments of Health and Labor, which are cited as [N.J.A.C. 8:60](#) and [N.J.A.C. 12:120](#), respectively, provide the licensing requirements of contractors who perform any of the functions of application, enclosure, removal or encapsulation.

1. Rules concerning licenses are as follows:

i. A licensed contractor shall be required for an asbestos hazard abatement project.

ii. A licensed contractor shall not be required for an operations and maintenance activity.

2. Nothing herein shall be construed as limiting the ability of the Department of Labor to cite contractors for violations of the provisions of this subchapter.

(c) Whenever the Asbestos Safety Control Monitor determines that the need for interpretations and/or assistance exists with regard to a particular project, the asbestos safety control monitor shall contact the department who shall make such determination deemed necessary. Such may include, but not be limited to:

1. Plan and specification services;

2. Site investigation;

3. Site inspections.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

N.J.A.C. 5:23-8.3

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Added State-leased.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.3 as new 8.4 with minor stylistic changes. Section 8.4 was formerly "Minor asbestos hazard abatement job."

In (b)1i and ii: changed "job" to "project".

Recodified from 5:23-8.4 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Pre-project procedures," recodified as 5:23-8.13.

Annotations

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Case Notes

Bureau had not met its burden of proof by a preponderance of the competent and credible evidence to support charges under [N.J.A.C. 5:23-8.3\(b\)](#), [N.J.A.C. 5:23-8.5](#), [N.J.A.C. 5:23-8.15](#), and [N.J.A.C. 5:23-8.21\(b\)](#) when it provided no proof that respondent performed asbestos removal. Dep't of Community Affairs, Bureau of Code Services v. Herman H. Braun Heating & [Plumbing](#), [OAL Dkt. No. CAF 03509-06](#), [2006 N.J. AGEN LEXIS 1018](#), Initial Decision (December 22, 2006).

Evidence was sufficient to find failure to comply with New Jersey asbestos containment procedures. N.J.S.A. 52:27 D139. [McLaughlin v. Bureau of Code Services](#), [91 N.J.A.R.2d \(CAF\) 11](#).

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N.J.A.C. 5:23-8.4

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§ 5:23-8.4 Variations

(a) No variations from the requirements of this subchapter shall be made except upon written approval from the Department. The application for a variation shall be filed by the owner or the agent of the owner and forwarded to the Department with the recommendation of the asbestos safety control monitor. Any variation shall be consistent with N.J.A.C. 5:23-2 and the intent of this subchapter.

(b) An application for a variation pursuant to this section shall be filed in writing with the Department and shall include specifically:

1. A statement of the requirements of this subchapter from which a variation is sought;
2. A statement of the manner by which strict compliance with said provisions would result in practical difficulties;
3. A statement of the nature and extent of such practical difficulties;
4. A statement of feasible alternatives to the requirements of this subchapter which would adequately protect the health, safety and welfare of the occupants or intended occupants and the public generally and which would adequately prevent contamination of the environment. Plans describing any relevant aspects of the variation requested, as pertaining to the layout of the work area, work procedures, exit requirements, or safety, shall be submitted with the statement of feasibility; and
5. The appropriate fee.

(c) The fee for an application for a variation from this subchapter shall be \$ 571.00 and shall be paid by check or money order payable to "Treasurer, State of New Jersey."

(d) The validity of an approved variation shall be determined as follows:

1. Any approved variation shall become invalid if the authorized work is not commenced within 12 months after the approval of the variation, or if the authorized work is suspended or abandoned for a period of 12 months after the time of commencing the work.

History

HISTORY:

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(b), 19 N.J.R. 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

N.J.A.C. 5:23-8.4

Recodified old 8.5 as new 8.6. Section 8.6 was formerly "Construction permit for asbestos abatement".

In (a): changed "approval" to "recommendation regarding the asbestos safety control monitor firm".

In (a)1: deleted "and Health and New Jersey Department of Higher Education" from text, and added (a)1i.

Amended by R.1991 d.181, effective April 1, 1991.

See: 23 N.J.R. 257(b), 23 N.J.R. 1029(a).

In (a)1i, increased fee from \$ 325.00 to \$ 432.00.

Amended by R.1992 d.392, effective October 5, 1992.

See: 24 N.J.R. 2657(a), 24 N.J.R. 3521(b).

Fee increased at (a)1i.

Recodified from 5:23-8.6 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Enforcement; licensing; special technical services," recodified as 5:23-8.3.

Administrative Correction.

See: 25 N.J.R. 2862(a).

Amended by R.1997 d.377, effective September 15, 1997.

See: [29 N.J.R. 2741\(b\)](#), [29 N.J.R. 4102\(b\)](#).

In (a) and (b), substituted "Department" for "enforcing agency"; in (a), added "and the intent of this subchapter"; and in (c), deleted "When the Department is the enforcing agency," preceding "The fee".

Amended by R.2002 d.260, effective August 5, 2002.

See: [34 N.J.R. 1572\(a\)](#), [34 N.J.R. 2781\(c\)](#).

In (c), substituted "\$ 560.00" for "\$ 467.00".

Amended by R.2014 d.149, effective October 6, 2014.

See: [46 N.J.R. 898\(a\)](#), [46 N.J.R. 2024\(a\)](#).

In (c), substituted "\$ 571.00" for "\$ 560.00".

Annotations

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N.J.A.C. 5:23-8.5

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§ 5:23-8.5 Construction permit for asbestos abatement

(a) It shall be unlawful to undertake an asbestos hazard abatement project unless the owner of the facility, or an authorized representative on behalf of the owner, first files an application in writing with the enforcing agency and obtains the required permit. This permit shall serve as notice for public record in the office of the enforcing agency. All work shall be monitored and controlled by the asbestos safety control monitor who will advise the enforcing agency of its findings.

1. The enclosure of any amount of asbestos-containing material used to cover pipes shall not require a permit for asbestos abatement pursuant to this subchapter, but it may be considered construction work.
2. A construction permit shall be obtained when required by the enforcing agency pursuant to N.J.A.C. 5:23-2.

(b) All asbestos abatement work shall be conducted in unoccupied buildings, unless a written statement signed by the asbestos safety control monitor denoting portions of the building that may be occupied is filed as required by [N.J.A.C. 5:23-8.19\(c\)](#)8.

1. The asbestos safety control monitor shall not be required to file such a written statement denoting the occupancy of the building by maintenance personnel who are properly trained and/or security personnel essential to the building operation.
2. The asbestos safety control monitor shall not be required to file such written statement denoting occupied portions of the building for a cleared area in a multi-phase project that has received a Temporary Certificate of Occupancy from the enforcing agency when such occupancy applies to contractors or related personnel involved with post-abatement activity.

(c) The Department or a municipality utilizing an asbestos safety control monitor which has been authorized by the Department to enforce the Asbestos Hazard Abatement Subcode within its jurisdiction shall be the sole enforcing agency for asbestos hazard abatement work.

(d) The application for a construction permit for asbestos abatement shall be subject to the following:

1. The application for a permit shall be submitted in such form as the department may prescribe and shall be accompanied by the required fee as provided for in this subchapter.
2. The application for a construction permit for asbestos abatement shall be required to include the following:
 - i. The name, address and license number of the asbestos contractor pursuant to [N.J.A.C. 12:120](#) Asbestos Licenses and Permits under the jurisdiction of the New Jersey Department of Labor;
 - ii. The asbestos hazard assessment, which shall be prepared by the New Jersey Department of Health, or by a county or local department of health or a private individual who has received accreditation as an inspector under the United States Environmental Protection Agency's Model Accreditation Program as referenced in 40 CFR 763. The accreditation will be issued by an EPA-

approved training agency, and that accreditation will include the place of training, accreditation number and expiration date. Accreditations are issued for one year. This assessment shall be required unless the requirement for an assessment has been waived in writing by the New Jersey Department of Health;

iii. The name and address of the private air monitoring firm, hired by the building owner, who shall act as the asbestos safety control monitor authorized by the New Jersey Department of Community Affairs and shall be responsible for continuously monitoring the asbestos abatement project;

iv. Four sets of plans and specifications indicating: the scope of the proposed work; type and percentage of the asbestos; the total amount of square and/or linear footage of asbestos-containing material to be abated; the provisions proposed to contain the asbestos-containing material during abatement work including, but not limited to, separation barriers, critical barriers, and the route of travel for removing asbestos waste from the work area; a copy of the site plan; and a floor plan indicating exits. The approved plans and specifications shall be distributed as follows: one set each to the construction official, asbestos safety control monitor, building owner, and project site;

v. Documentation that all buildings will be unoccupied at the time an asbestos abatement project takes place, except as approved by the asbestos safety control monitor as delineated in [N.J.A.C. 5:23-8.19](#);

vi. The name and address of the New Jersey Department of Environmental Protection and Energy registered waste hauler and of the New Jersey Department of Environmental Protection and Energy registered landfill where asbestos waste will be deposited;

vii. The scheduled starting and completion dates for the asbestos abatement project;

viii. The method of air analysis used pursuant to [N.J.A.C. 5:23-8.21](#) for determining the final clearance level in order to reoccupy the building.

3. It shall be the responsibility of the owner or his agent to file with the enforcing agency, in the event of any change in (d)2i, iii and vi above. Such change shall be filed as an amendment to the application and shall be forwarded to the Department as set forth in (h) below. The replacement firm shall assume all responsibilities for the asbestos abatement work to continue, while the preceding firm still bears responsibility for its action.

(e) The issuance of a construction permit for asbestos abatement shall be subject to the following:

1. Submission of a completed application;
2. The described work and containment measures shall conform to the requirements of this subchapter and the requirements of any other applicable law or rule adopted or enforced by any other State agency;
3. A written release of the plans and specifications by the asbestos safety control monitor.
4. cursory plan review shall be done by the enforcing agency to determine the need of replacement material for maintaining the structural integrity of a building; if required, a separate construction permit shall be issued by the enforcing agency. In addition, a review shall be done to ensure that means of egress are maintained in occupied buildings.

(f) The issuance of the construction permit for asbestos abatement authorizes preparation of the work area. This initial preparation of the work area shall be observed by the asbestos safety technician to ensure compliance with this subchapter. No actual asbestos abatement work shall commence until a pre-commencement inspection has been conducted and approved by the asbestos safety technician.

(g) A permit, once issued, shall remain valid only as long as all of the information contained in the application remains correct and is adhered to. Any change shall require an amendment to the application before the change takes place. Failure to adhere to these requirements may result in a stop work order.

(h) The owner or his or her agent shall notify the Department in writing within three business days of the issuance of the construction permit for asbestos abatement, if the enforcing agency is a municipal enforcing agency and not the Department. Such notice shall be supplied in the form of a copy of the completed application for a construction permit for asbestos abatement and a copy of the permit.

1. Notification shall be sent to:

New Jersey Department of Community Affairs
 Bureau of Code Services
 Asbestos Safety Unit
 CN 816
 Trenton, New Jersey 08625-0816

(i) The owner or his or her agent shall notify the following in writing as required in NESHAPS (40 CFR Part 61, Subpart M):

1. Notification shall be sent to:

i. U.S. Environmental Protection Agency

Region II NESHAP
 26 Federal Plaza, Room 1033
 New York, New York 10278; and

ii. New Jersey Department of Community Affairs

Bureau of Code Services
 Asbestos Safety Unit
 CN 816
 Trenton, New Jersey 08625-0816

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.6 as new 8.7 with stylistic changes. Section 8.7 was formerly "Inspections; violations".

In (a): deleted "Health and New Jersey Department of Education ..." from text.

In (b)2ii: Added text regarding required accreditation of an asbestos hazard assessor.

In (b)2iv-v: revised text to clarify plans and specifications and added new (b)2viii.

In (f)1: changed address and name of "Asbestos Safety Unit."

In (g): deleted "10 days prior to the start of the asbestos abatement project" and added text requiring compliance with Federal register.

Added new (g)1ii.

Recodified from 5:23-8.7 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Minor asbestos hazard abatement project," recodified as 5:23-8.14.

Annotations

Notes

[Chapter Notes](#)

Case Notes

Bureau had not met its burden of proof by a preponderance of the competent and credible evidence to support charges under [N.J.A.C. 5:23-8.3\(b\)](#), [N.J.A.C. 5:23-8.5](#), [N.J.A.C. 5:23-8.15](#), and [N.J.A.C. 5:23-8.21\(b\)](#) when it provided no proof that respondent performed asbestos removal. Dep't of Community Affairs, Bureau of Code Services v. Herman H. Braun Heating & Plumbing, OAL Dkt. No. CAF 03509-06, 2006 N.J. AGEN LEXIS 1018, Initial Decision (December 22, 2006).

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N.J.A.C. 5:23-8.6

This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 15, August 5, 2019

NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.6 Coordination with other permits

(a) When a building owner or an authorized representative on behalf of the owner submits an application for a construction permit for repair, renovation, or demolition work, the following information shall be required to be given to the construction official having jurisdiction before a construction permit is issued:

1. An architect/engineer certification concerning whether asbestos will be disturbed and to what extent it will be disturbed during the planned construction work.
 - i. Where any work not requiring an architect/engineer is involved then this certification will be required of the contractor undertaking the work.

(b) When it is certified that asbestos may become disturbed in a building or structure subject to this subchapter, an assessment performed by the New Jersey Department of Health, county or local health department, or by a private business entity authorized by the New Jersey Department of Health shall be required, unless the requirement for an assessment has been waived.

1. Boiler and water storage tank removal projects which require the removal of asbestos insulation from the boiler, water storage tank and piping shall not require an assessment before a permit is issued by the enforcing agency.
2. If the assessment indicates that the work and the disturbance which will result from it has made asbestos hazard abatement work necessary, then the construction official shall inform the building owner, or his agent, that all asbestos abatement work shall conform to this subchapter.
 - i. The work which will cause the disturbance will not be permitted to proceed until the hazard abatement work is complete or the asbestos-containing material clearly presents no further hazard.
 - ii. The construction official shall issue a partial permit for work which clearly will not disturb or interfere with the asbestos hazard abatement work.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Recodified from 8.15 and (b) substantially amended. Old 8.16 has been repealed.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Added text in (b) "county or local ..."; added new (b)1 and renumbered old (b)1 to 2.

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Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.17 as new 8.18. Section 8.17 was formerly "Asbestos safety control monitor".

Recodified from 5:23-8.17 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Variations," recodified as 5:23-8.4.

Annotations

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N.J.A.C. 5:23-8.7

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§ 5:23-8.7 Inspections; violations

(a) Pre-commencement inspections shall be conducted as follows:

1. Notification in writing to the Asbestos Safety Control Monitor shall be made by the applicant or contractor to request a pre-commencement inspection at least 48 hours in advance of the desired date of inspection. This inspection shall be requested each time another work area is started in a multi-phase project.

2. The asbestos safety technician shall ensure that:

i. The work area is properly prepared and that all containment measures are in place pursuant to this subchapter;

ii. All workers shall present to the asbestos safety technician a valid work permit issued by the New Jersey Department of Labor;

iii. Measures for the disposal of removed asbestos material are in place and shall conform to the adopted standards;

iv. The contractor has a list of emergency telephone numbers at the work area which shall include the asbestos safety control monitor firm employed by the building owner and telephone numbers for fire, police, emergency squad, local hospital and health officer, New Jersey Department of Labor and New Jersey Department of Health and New Jersey Department of Community Affairs.

3. If all is in order, the asbestos safety technician, shall issue a written notice to proceed with the asbestos abatement in the field. If the project site is not in order, then any needed corrective action must be taken before any work is to commence. Conditional approval shall not be granted.

4. The Department reserves the right to make a pre-commencement inspection in addition to the required pre-commencement inspection conducted by the asbestos safety technician before a written notice to proceed is issued.

(b) Progress inspections shall be conducted as follows:

1. Primary responsibility for ensuring that the asbestos abatement work progresses in accordance with this subchapter rests with the asbestos safety technician. This asbestos safety technician shall continuously be present to observe the progress of work and perform required inspections and tests.

2. If the asbestos safety technician observes irregularities at any time, the asbestos safety technician shall direct such corrective action as may be necessary.

3. Where a sealant is required to be applied after removal, a pre-sealant inspection shall be conducted to ensure that all asbestos-containing material has been removed properly before the sealant is applied. If the pre-sealant inspection is acceptable to the asbestos safety technician, he should indicate this acceptance in writing.

(c) Clean-up inspections shall be conducted as follows:

1. Notice for clean-up inspection shall be requested by the contractor at least 48 hours in advance of the desired date of inspection;
2. The clean-up inspection shall be conducted prior to the removal of the critical barriers;
3. The asbestos safety technician shall ensure that:
 - i. The project site has been properly cleaned and is free of all visible dust and asbestos and asbestos-containing material; and
 - ii. All abated asbestos-containing material has been properly placed in a locked secure container outside of the work area.
4. If all is in order, and acceptable air results have been achieved, the asbestos safety technician shall issue a written notice of authorization to remove barriers from the work area.

(d) Final inspections shall be conducted as follows:

1. Upon notice by the owner or by the contractor and within 48 hours after the removal of the critical barriers, a final inspection shall be made to ensure the absence of any visible signs of asbestos or asbestos-containing materials and that all removed asbestos and asbestos contaminated materials have been properly disposed of off-site in accordance with the rules of the New Jersey Department of Environmental Protection and Energy, [N.J.A.C. 7:26-1](#), which is referenced in [N.J.A.C. 5:23-8.22](#).
2. The Department reserves the right to make a final inspection in addition to the required final inspection conducted by the asbestos safety technician before a certificate of occupancy is issued by the enforcing agency.

(e) The Department inspections shall be conducted as follows:

1. The Department shall make scheduled and/or unannounced periodic inspections of any work area involving asbestos abatement work for the purpose of enforcing this subchapter.

(f) **Violations:** The asbestos safety technician shall ensure that the work conforms to this subchapter. If it is found that the asbestos abatement work is being conducted in violation of this subchapter, the asbestos safety technician shall direct such corrective action as may be necessary. If the contractor fails to comply with the corrective action required, or if the contractor or any of their employees habitually and/or excessively violate the requirements of any rule, then the asbestos safety technician shall order, in writing, that the work be stopped. If the contractor fails to comply with the order, then the asbestos safety technician shall notify the enforcing agency, which shall issue a stop work order to the contractor, have the work area secured until all violations are abated, and assess a penalty, in accordance with [N.J.A.C. 5:23-2.31](#), which shall not be reduced or settled for any reason.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Added New Jersey Department of Community Affairs.

Amended by R.1989 d.342, effective July 3, 1989.

N.J.A.C. 5:23-8.7

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.7 as new 8.8 with various stylistic changes. Section 8.8 was formerly "Certificate of occupancy; certificate of completion".

In (a): added new 4.

In (d): added new 2.

In (f): revised language to specify order procedures regarding violations.

Administrative correction to (a)2.

See: 21 New Jersey Register 3747(a).

Recodified from 5:23-8.8 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Construction permit for asbestos abatement," recodified as 5:23-8.5.

Amended by R.2004 d.365, effective October 4, 2004.

See: [36 New Jersey Register 2605\(a\)](#), [36 New Jersey Register 4441\(a\)](#).

In (f), substituted "in accordance with [N.J.A.C. 5:23-2.31](#)" for "of \$ 500.00".

Annotations

Notes

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Case Notes

Asbestos safety technician properly penalized; failure to spray additive prior to removing asbestos. *Bowes v. Bureau of Code Services*, 95 N.J.A.R.2d (CAF) 7.

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N.J.A.C. 5:23-8.8

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§ 5:23-8.8 Certificate of occupancy; certificate of completion

(a) Certificate of occupancy requirements are as follows:

1. It shall be unlawful to re-occupy the portion of a building that was vacated during an asbestos hazard abatement project until a certificate of occupancy has been issued by the enforcing agency. The certificate of occupancy shall be issued upon receipt of a certificate of completion issued by the asbestos safety control monitor and verified by the enforcing agency that the building or a portion of a building is in conformance with all applicable requirements of the Uniform Construction Code and that any walls, floors, trim, doors, furniture or other items damaged during the work shall be repaired or refinished to match existing materials.

2. The application for a certificate of occupancy shall be in writing and submitted in such form as the Department may prescribe and shall be accompanied by the required fee as provided for in this subchapter.

i. The application shall include the following:

(1) The name and address of the owner;

(2) The address of the building or structure;

(3) Certificate of Completion submitted by the asbestos safety control monitor.

3. If all the information required is complete and in accordance with this subchapter, a certificate of occupancy shall be issued.

(b) Certificate of Completion requirements are as follows:

1. It shall be unlawful to apply for a certificate of occupancy until a certificate of completion has been issued by the asbestos safety control monitor.

2. Within five days of completion of an asbestos hazard abatement project the owner/agent shall file for a certificate of completion from the asbestos safety control monitor.

3. The application for a certificate of completion shall be in writing and submitted in such form as the department may prescribe.

4. A Certificate of Completion shall be issued only if:

i. All information is complete.

ii. Final inspection by the asbestos safety technician reveals no visible evidence of asbestos.

iii. All requirements of this subchapter have been met.

iv. An acceptable final air monitoring level has been attained pursuant to [N.J.A.C. 5:23-8.21](#) and documentation of that air level has been submitted in writing.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Changed level of fibers from .01 to .010.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.8 as new 8.9. Section 8.9 was formerly "Fees".

Deleted old (a)2i.(4) regarding air monitoring level requirement.

In (b)4iv.: added "an acceptable" defining Final air monitoring levels and deleted "of .010 fibers per cc or lower". Also added text regarding N.J.A.C. cite and "submitted in writing" requirement.

Recodified from 5:23-8.9 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Inspections; violations", recodified as 5:23-8.7.

Annotations

Notes

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Case Notes

Inability to travel due to weather did not exonerate asbestos safety technician from being held responsible for deficiencies previously left at work site. *Department of Community Affairs v. Stewart*, 95 N.J.A.R.2d (CAF) 62.

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§ 5:23-8.9 Fees

(a) The enforcing agency that issues the construction permit and the certificate of occupancy for an asbestos hazard abatement project shall establish by regulation or ordinance the following flat fee schedule:

1. An administrative fee of \$ 118.00 for each construction permit issued for an asbestos hazard abatement project.
2. An administrative fee of \$ 24.00 for each certificate of occupancy issued following the successful completion of an asbestos hazard abatement project.

(b) The authorization and reauthorization fees for the asbestos safety control monitor are delineated in [N.J.A.C. 5:23-8.11](#).

(c) The application fee for certification as an asbestos safety technician is delineated in [N.J.A.C. 5:23-8.10](#).

(d) All fees shall be paid by check or money order, payable to "Treasurer, State of New Jersey".

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.9 as new 8.10. Section 8.10 was formerly "Precautions and procedures during a large asbestos abatement job."

In (b): changed "defined" to "delineated" and "8.17" to "8.18".

Added new (c).

Amended by R.1991 d.181, effective April 1, 1991.

See: 23 N.J.R. 257(b), 23 N.J.R. 1029(a).

In (a)1, increased fee from \$ 50.00 to \$ 65.00.

In (a)2, increased fee from \$ 10.00 to \$ 13.00.

Amended by R.1992 d.392, effective October 5, 1992.

See: 24 N.J.R. 2657(a), 24 N.J.R. 3521(b).

Fees increased at (a)1 and 2.

Recodified from 5:23-8.10 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Certificate of occupancy; certificate of completion", recodified as 5:23-8.8.

Amended by R.2002 d.260, effective August 5, 2002.

See: [34 N.J.R. 1572\(a\)](#), [34 N.J.R. 2781\(c\)](#).

In (a), substituted "\$ 84.00" for "\$ 70.00" in 1 and substituted "\$ 17.00" for "\$ 14.00" in 2.

Amended by R.2009 d.77, effective March 2, 2009.

See: [40 N.J.R. 5895\(a\)](#), [41 N.J.R. 1009\(b\)](#).

In the introductory paragraph of (a), substituted "or" for "/"; in (a)1, substituted "\$ 106.00" for "\$ 84.00"; and in (a)2, substituted "\$ 21.00" for "\$ 17.00".

Amended by R.2014 d.149, effective October 6, 2014.

See: [46 N.J.R. 898\(a\)](#), [46 N.J.R. 2024\(a\)](#).

In (a)1 and (a)2, updated the fee amount.

Annotations

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[N.J.A.C. 5:23-8.10](#)

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§ 5:23-8.10 Asbestos safety technician

(a) Any candidate for certification as an asbestos safety technician shall submit an application to the Department accompanied by the required application fee established in (c) below. The requirements for certification as an asbestos safety technician are as follows:

1. At least 24 college credits in academic sciences, including biology, chemistry, industrial hygiene, environmental science, physics, geology or related fields; or one year of work experience which included performing environmental assessment activities, which may be substituted for this education requirement;
2. Successful completion of a course in air monitoring methods consisting of a minimum of 30 contact hours that shall include hands-on experience with using and calibrating various types of air monitoring equipment; or six months of work experience performing air monitoring including at least 30 hours of on-the-job training, which may be substituted for this education requirement;
3. Successful completion of a training course for asbestos worker/supervisors approved by the New Jersey Department of Health pursuant to [N.J.A.C. 12:120](#) and [N.J.A.C. 8:60](#):
 - i. One year of experience in monitoring asbestos abatement activities may be substituted for completion of an approved training course;
 - ii. Six months of experience monitoring asbestos abatement may be substituted for completion of an approved training course if the individual is an industrial hygienist certified by the American Board of Industrial Hygiene;
4. Successful completion of a course for asbestos safety technicians approved by the New Jersey State Department of Community Affairs;
5. Successful passing of an examination for asbestos safety technicians administered by the National Assessment Institute in cooperation with the National Asbestos Council, or any equivalent examination approved by the Department.

(b) The Department shall renew the certification following submission of an application, payment of the required fee pursuant to (c) below, and verification by the Department that the applicant meets the requirements for the certification in this section.

1. Every two years any certification already issued shall be renewed upon submission of an application, payment of the required fee, and verification by the Department that the applicant has met such continuing educational requirements as may be established by the Commissioner. The Department shall renew the certification previously issued for a term of two years. The renewal date shall be 45 days prior to the expiration date. The expiration dates shall be July 31 or January 31.
2. The Department shall issue, upon application, a duplicate certification upon a finding that the certification has been issued and the applicant is entitled to such certification to replace one which has

been lost, destroyed, or mutilated. Payment of a fee as established by [N.J.A.C. 5:23-8.10\(c\)](#) shall be required.

3.The Department may establish by rule continuing education requirements as deemed necessary for the renewal of a certification.

(c)No application for certification or recertification shall be acted upon unless said application is accompanied by a \$ 74.00 fee.

(d)Duties of the asbestos safety technician shall be as follows:

1.The asbestos safety technician shall perform all air sampling specified in this subchapter, as delineated in [N.J.A.C. 5:23-8.21](#) and shall be thoroughly familiar with this subchapter. He or she shall inform the department who his or her employer is at the time of his or her application for certification, and shall notify the department in writing within 10 working days of any change in status or employer. He or she shall have access to all areas of the asbestos abatement project at all times and shall continuously inspect and monitor the performance of the contractor to verify that said performance complies with this subchapter while work is in progress. The asbestos safety technician shall be on site from the initial preparation of the work area through the approved final visual inspection, and shall perform all inspections pursuant to [N.J.A.C. 5:23-8.7](#).

2.The asbestos safety technician shall direct the actions of the contractor verbally and in writing to ensure compliance with this subchapter. The asbestos safety technician shall require that all workers present a valid asbestos worker performance permit issued by the New Jersey Department of Labor before entering the work area. In matters of negligence and/or flagrant disregard for the safety of any person, including the possibility of contaminating the building environment and the emergence of an unsafe condition at the work area, the asbestos safety technician shall direct such corrective action as may be necessary. If the contractor fails to take the corrective action, or if the contractor or any of his or her employees continually violates the requirements of any regulation, then the asbestos safety technician shall order, in writing, that the work be stopped. If the contractor fails to comply with the order, the asbestos safety technician shall notify the enforcing agency, who shall issue a Stop Work Order to the contractor and have the work area secured until all violations are abated.

3.The asbestos safety technician shall calculate, based on the actual available output (not the rated output) of the air filtering units, the required number of air filtration units for each work area. This calculation shall be made whenever the volume of the work area changes. The asbestos safety technician shall inform the owner, contractor, and the abatement project designer of any discrepancies between the number of units required and those in operation within the work area. If problems are identified and not corrected, the asbestos safety technician shall inform the enforcing agency who shall take necessary measures to ensure corrective action;

4.At the beginning of each work shift, every four hours thereafter, and at the end of the contractor's work day, the asbestos safety technician shall monitor pressure differential by digital manometers with continuous printout or other approved low pressure monitoring devices for each work area. One or more separate monitoring systems shall be installed for every 10,000 square feet of separation surface adjacent to the work area. Pressure monitoring shall be representative of all adjacent areas. The pressure differential shall meet the minimum requirement set forth in [N.J.A.C. 5:23-8.15\(b\)9](#) or 8.17(d)6i or 8.19(c)4ii, as appropriate.

5.The asbestos safety technician shall ensure that the contractor smoke tests all the glovebags after they are attached and before the commencement of work.

6.For unoccupied buildings, upon receipt of testing results indicating that concentrations above the acceptance criteria established in [N.J.A.C. 5:23-8.21](#) have occurred during the abatement project, the asbestos safety technician shall immediately direct corrective action and verbally report these results within 24 hours to the contractor, the owner and the abatement project designer. Such verbal notification shall be followed by written notification to the contractor, the owner and the abatement project designer. A copy shall be sent to the enforcing agency and the Department within three

business days from receipt of the results. For occupied buildings, the procedure set forth at [N.J.A.C. 5:23-8.19](#) shall be followed.

7. The asbestos safety technician shall monitor the removal of all asbestos-contaminated waste from the work area to ensure that it takes place in conformance with [N.J.A.C. 5:23-8.22](#), in the following manner:

i. Direct removal by a collector/hauler registered with the New Jersey Department of Environmental Protection pursuant to [N.J.A.C. 7:26](#) and pursuant to New Jersey Department of Transportation rules at [N.J.A.C. 16:49](#).

ii. Indirect removal by placement in a locked and secure container, for temporary storage, awaiting the New Jersey Department of Environmental Protection registered waste hauler.

8. The asbestos safety technician shall keep an up-to-date and comprehensive daily log of on-site activities. The log shall be updated continuously. The name of the project, name of the asbestos safety technician, and date shall be recorded daily. Each entry shall contain the event, the time of event and shall be initialed by the asbestos safety technician. One section of the log shall contain observations concerning contractor compliance with activities required under this subchapter listing all deficiencies encountered. In addition, the log shall list the name of each person entering the work area. The log shall be a bound book and all entries shall be in ink. The log shall be kept at the project site and shall be made available upon request at all times to the owner, the abatement project designer and to appropriate local and State agencies.

9. The asbestos safety technician shall prepare a comprehensive final report to include daily logs, required inspection reports, observations and air monitoring results. This report shall be made part of the official record filed by the asbestos safety control monitor.

(e) Penalties: The Department may suspend or revoke a certification, or assess a civil penalty, in accordance with [N.J.A.C. 5:23-2.31](#), for each offense, if the Department determines that an individual:

1. Has violated the provisions of the Uniform Construction Code regulations;
2. Has obtained a certification by fraud or misrepresentation;
3. Has aided or abetted in practice as an asbestos safety technician any person not authorized to practice as an asbestos safety technician under the provisions of this subchapter.
4. Has fraudulently or deceitfully practiced as an asbestos safety technician.
5. Has been grossly negligent or has engaged in misconduct in the performance of any of his duties;
6. Has failed to maintain a minimally acceptable level of competence;
7. Has been found to have accepted or failed to report an offer of a bribe or other favors in a proceeding under this act or other appropriate law of this or any other state or jurisdiction;
8. Has failed to comply with any order issued by the Department;
9. Has made a false or misleading written statement, or has made a willful material omission in any submission to the Department;
10. Has failed to enforce this subchapter; or
11. Has performed the duties of an asbestos safety technician without being certified as such.

(f) In addition to, or as an alternative to, revoking or suspending a certification or assessing a penalty, the Department may issue a letter of warning, reprimand, or censure with regard to any conduct which, in the judgment of the Department, warrants such a letter. Such letter shall be made a part of the certification file of the individual. A copy of such action shall be sent to an officer of the asbestos safety control monitor firm employing the individual.

(g) Conviction of a crime or an offense shall constitute grounds for revocation or suspension of a certification.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Recodified from 8.14 and substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Substantially amended.

Repeal and New Rule, R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Repealed old 8.15 and replaced with new rule 8.16. Section title remains same; new rule includes substantive changes regarding asbestos safety technician duties.

New Rule R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.18 to new 8.19. Section 8.18 was formerly "Application of asbestos".

In (d)3: added language regarding professional experience substitution for education requirements.

In (d)5: added New Jersey Administrative code citations.

Amended by R.1991 d.181, effective April 1, 1991.

See: 23 N.J.R. 257(b), 23 N.J.R. 1029(a).

In (i)1 and 2, fee increased from \$ 30.00 to \$ 40.00.

Amended by R.1992 d.392, effective October 5, 1992.

See: 24 N.J.R. 2657(a), 24 N.J.R. 3521(b).

Fees increased.

Recodified from 5:23-8.16 and 8.19 by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Fees", recodified as 5:23-8.9.

Amended by R.1994 d.436, effective September 6, 1994 (operative January 1, 1995).

See: 26 N.J.R. 2183(a), 26 N.J.R. 3707(a).

Amended by R.1997 d.409, effective October 6, 1997.

See: [29 N.J.R. 2736\(a\)](#), [29 N.J.R. 4281\(a\)](#).

Amended by R.2002 d.260, effective August 5, 2002.

See: [34 N.J.R. 1572\(a\)](#), [34 N.J.R. 2781\(c\)](#).

In (c), substituted "\$ 52.00" for "\$ 43.00".

Amended by R.2004 d.365, effective October 4, 2004.

See: [36 N.J.R. 2605\(a\)](#), [36 N.J.R. 4441\(a\)](#).

In (e), substituted "in accordance with [N.J.A.C. 5:23-2.31](#)" for "of not more than \$ 500.00" in the introductory paragraph.

Amended by R.2009 d.77, effective March 2, 2009.

See: [40 N.J.R. 5895\(a\)](#), [41 N.J.R. 1009\(b\)](#).

In (c), substituted "\$ 66.00" for "\$ 52.00".

Amended by R.2014 d.149, effective October 6, 2014.

See: [46 N.J.R. 898\(a\)](#), [46 N.J.R. 2024\(a\)](#).

In (c), substituted "\$ 74.00" for "\$ 66.00".

Annotations

Notes

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Case Notes

Asbestos safety technician unauthorized to issue waiver of codified asbestos hazard abatement procedures. *Gromen v. Bureau of Code Services*, 97 N.J.A.R.2d (CAF) 35.

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[N.J.A.C. 5:23-8.11](#)

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§ 5:23-8.11 Asbestos safety control monitor

(a) An asbestos safety control monitor may be an individual, partnership, corporation, or other business entity organized for the purpose of enforcing and administering this subchapter.

1. Each asbestos safety control monitor shall enter into a contract for each asbestos hazard abatement project with the building owner or his authorized agent. The contract shall specify: the scope of the project with the provision that the asbestos safety control monitor shall carry out all the rules and responsibilities established by this subchapter, how the asbestos safety control monitor is to be paid for its services and the name of the employee who shall serve as the representative of the asbestos safety control monitor authorized to review and approve all documents related to the administration of this subchapter.

2. Each asbestos safety control monitor authorized by the Department shall organize its operation to effectively fulfill the requirements of this subchapter. Each person assigned to perform the duties of an asbestos safety technician shall be certified as an asbestos safety technician by the Department.

3. The asbestos safety control monitor shall report to the Department through its designee and shall be subject to the orders and directives of the Department in matters relating to the enforcement of this subchapter.

(b) The Department shall authorize the establishment of an asbestos safety control monitor:

1. No person shall undertake the services described in this section or enter into any contract pursuant to this subchapter without first receiving the authorization of the Department.

i. Except that applicants who have received notice from the Department that their application is complete and suitable for processing may begin to promote or otherwise make their anticipated availability known provided that the applicant discloses in writing at the time of undertaking any such activity that he has not yet been authorized by the Department.

2. Applicants for authorization as an asbestos safety control monitor shall submit an application on the prescribed form, with the required fee pursuant to (h) below, and any additional information the Department may require.

3. Following a determination by the Department that an application is complete and suitable for processing, the Department shall review and evaluate the information contained in the application and such other information as the Department shall deem necessary to enable it to make an accurate and informed determination of approval or disapproval. Within 30 days following the receipt of a completed application, the Department shall make its determination as to whether authorization as an asbestos safety control monitor shall be granted or denied, and shall notify the applicant. In the event of denial, the Department shall provide the applicant with a written explanation of the reasons for denial.

4. The application for authorization shall contain information relating to:

- i. The financial integrity of the applicant as evidenced by a reviewed financial statement prepared by an independent certified public accountant;
- ii. The qualifications of the management and technical personnel of the applicant, including a statement that all technical personnel who are to be assigned as asbestos safety technicians are certified by the Department;
- iii. The type of analysis done (for example, NIOSH 7400) and the laboratory(ies) that do the procedures. If the applicant does its own lab analysis, it shall list the type of equipment used and the personnel using it, with their qualifications. All laboratories shall be accredited by the National Institute of Standards and Technology (NIST). The laboratory shall be a current proficient participant in the American Industrial Hygiene Association Proficiency Analytical Testing Program or any other recognized equivalent program for PCM. All laboratory analysis shall be performed in accordance with [N.J.A.C. 5:23-8.21](#);
- iv. The names of all technical personnel, including asbestos safety technicians with their certification numbers, and their range of salaries and other compensation;
- v. The policies and procedures of the applicant for the hiring, training, education, and supervision of all technical personnel involved in the supervision and performance of duties pursuant to this subchapter;
- vi. The prior experience of the applicant in performing similar or related functions;
- vii. The capability of the applicant to review plans and specifications and to inspect asbestos abatement work to ensure that the completed work is in compliance with this subchapter;
- viii. A statement that the applicant is not affiliated with, or influenced or controlled by any producer, manufacturer, supplier or vendor of products, supplies or equipment used in asbestos hazard abatement or by any abatement contractor;
- ix. Proof of insurance as required pursuant to [N.J.A.C. 5:23-8.11\(c\)3v](#); and
- x. The name and address of an agent upon whom service upon the business organization may be made within the State of New Jersey. The agent shall be either an individual who is a resident of the State of New Jersey or a corporation maintaining an office within the State of New Jersey. The agent listed shall be the same as the agent on record with the New Jersey Department of Treasury.

5. Authorization shall be valid for a period of one year. The expiration dates shall be March 31 or September 30.

6. Applications for reauthorization shall be filed with the Department at least 60 days prior to the scheduled expiration for the current authorization from the Department. The asbestos safety control monitor shall make current the information previously submitted to the Department. The asbestos safety control monitor shall provide additional information as the Department may request. The application shall be accompanied by the fee established pursuant to (h) below. The Department may conduct such additional investigations of the applicant as it may deem necessary.

- i. Within 30 days following receipt by the Department of an application for reauthorization, the Department shall make its determination as to whether the asbestos safety control monitor continues to meet the requirements of the regulations. In the event of disapproval, the Department shall provide the asbestos safety control monitor with a written explanation of the reasons for such disapproval. Each reauthorization shall expire one year from the date of the current authorization from the Department.
- ii. The Department, on its own motion or at the request of any asbestos safety control monitor, may grant a temporary reauthorization of such agency for a period not to exceed 60 days.

7.It shall be the responsibility of the applicant to notify the Department of any change in the identity, mailing address, office or residence address or phone number of the applicant or representative. Any change shall be reported to the Department in writing within 30 days of the change.

(c)Records shall be maintained by the asbestos safety control monitor of all inspections, applications, approved plans, air tests, log sheets and any other information that may be required by the enforcing agency or the department. These records shall be open to department audit and shall not be destroyed or removed from the offices of the asbestos safety control monitor without the permission of the department.

- 1.The asbestos safety control monitor shall provide the Department with written notification of any change of licensed personnel and any change of principals within 30 days.
- 2.The enforcing agency shall be the sole agent for the collection of all fees and penalties from the property owner, the designated agent or anyone in their employ.
- 3.Each asbestos safety control monitor shall have the following responsibilities:
 - i.To maintain an adequate number of certified staff to enforce the Asbestos Hazard Abatement Subcode for the projects contracted;
 - ii.To review and approve the plans and specifications, release them in writing, and forward them to the enforcing agency for issuance of a permit;
 - iii.To be subject to the department's rulings, directives and orders;
 - iv.To provide adequate supervision to its employees to ensure conformance to the provisions of this subchapter;
 - v.To carry liability insurance equal to that required of private enforcing agencies pursuant to [N.J.A.C. 5:23-4.14\(e\)](#)5;
 - vi.To process and return all documents, plans, specifications, and applications within the time frame specified by this subchapter.
 - vii.To provide technical assistance to the building owner in the preparation of a construction permit application;
 - viii.To provide written notification of the start of a project to the department a minimum of 10 days prior to the start of the project and telephone notification to the department by the asbestos safety technician on the first day of the start of the project;
 - ix.To perform all required inspections and reinspections pursuant to this subchapter;
 - x.To perform all tests required by this subchapter;
 - xi.To give testimony at a hearing or in court, as required by the construction official or the Department;
 - xii.To prepare all reports required by this subchapter or as may be required by the Department from time to time;
 - xiii.To meet its obligations under its contract with the building owner;
 - xiv.To issue and maintain documentation and certification, including, but not limited to, plan release, permit application and permit issued by the enforcing agency (if a firm is the duly authorized agent of the owner), variations submitted, written notice to proceed, written notice to remove barriers, certificate of completion, violation notices, daily logs, inspection records, observations, calculations, backup records, air monitoring results and a separate listing of any contractor deficiencies observed during the course of the work;
 - xv.To ensure the attendance of all technical and supervisory employees at required training and orientation programs; and

xvi. Upon completion of an asbestos hazard abatement project, the asbestos safety control monitor shall submit a final comprehensive report consisting of, but not limited to, plan release, permit application and permit issued by the enforcing agency (if a firm is the duly authorized agent of the owner), variations submitted, written notice to proceed, written notice to remove barriers, certificate of completion, violation notices, daily logs, inspection records, observations, calculations, backup records, air monitoring results and a separate listing of any contractor deficiencies observed during the course of the work. The final report shall be submitted to the building owner within 60 days of issuance of the Certificate of Completion. A copy of the final report shall be made available to the Department within 10 days of written request.

(d) Whenever an asbestos safety control monitor enters into a contract to provide asbestos safety control monitoring services in connection with an asbestos hazard abatement project, the asbestos safety control monitor shall not have any economic relationship with another party involved with the project. Laboratory services needed by the asbestos safety control monitor shall not be provided by any laboratory that has any economic relationship with the abatement contractor.

1. The asbestos safety control monitor may perform air monitoring required pursuant to the related OSHA requirements only through a contract with the building owner.

(e) Penalty, suspension and revocation procedures are as follows:

1. In addition to any other remedies provided by the Uniform Construction Code regulations, [N.J.A.C. 5:23](#), the Department may suspend or revoke its authorization of any asbestos safety control monitor or assess a civil penalty, in accordance with [N.J.A.C. 5:23-2.37](#), if the Department determines that the authorization or reauthorization was based on the submission of fraudulent or materially inaccurate information, or that the authorization or reauthorization was issued in violation of this subchapter, or that a change of facts or circumstances makes it unlikely that the asbestos safety control monitor can continue to discharge its responsibilities under this subchapter in a satisfactory manner, or any provision of this subchapter has been violated, or that the asbestos safety control monitor has been negligent or has engaged in misconduct in the performance of any of its duties, or that the asbestos safety control monitor has failed to maintain a minimally acceptable level of competence.

i. During the period of suspension, the affected asbestos safety control monitor shall not be authorized to discharge any of its responsibilities under this subchapter unless otherwise specified in the notice of suspension or order of the Department.

2. The Department shall notify such asbestos safety control monitor of its suspension or revocation in writing. Copies of the notice of suspension shall be forwarded by the Department to all building owners with implementing contracts with the affected asbestos safety control monitor. The suspension shall be effective on the date the affected asbestos safety control monitor receives the notice of suspension or on any later date that may be designated in the notice of suspension.

3. The Department may revoke its approval of any asbestos safety control monitor without previously suspending its authorization. In such event, the Department shall send a written notice to the affected asbestos safety control monitor of its intention to consider revocation of its authorization stating the grounds therefore. The notice shall be sent to the affected asbestos safety control monitor and to all building owners with implementing contracts with the affected asbestos safety control monitor.

i. No such asbestos safety control monitor shall reapply for approval as an asbestos safety control monitor until the expiration of one year from the date of the order of revocation.

4. Upon the suspension or revocation of approval of an asbestos safety control monitor, any building owner with an implementing contract with the asbestos safety control monitor shall have the right to terminate its contract with such asbestos safety control monitor and be free of all obligations thereunder and to enter into an implementing contract with any other asbestos safety control monitor.

(f) In addition or as an alternative to revoking or suspending an authorization, or assessing a penalty, the department may issue a letter of warning, reprimand, or censure with regard to any conduct which, in the

judgment of the department, warrants such a response. Such letter shall be made part of the authorization file of the firm.

(g)Conviction of a crime or an offense shall constitute grounds for revocation or suspension of an authorization.

(h)Authorization and reauthorization fees are as follows:

- 1.Authorization fee: Any asbestos safety control monitor submitting an application to the Department under this subchapter for approval as an asbestos safety control monitor shall pay a fee of \$ 5,875 for the authorization which is sought.
- 2.Once authorized, the asbestos safety control monitor shall pay a fee of six percent of the gross revenue earned solely from asbestos safety control monitoring activities. This fee shall be payable quarterly, accompanied by a completed form prescribed by the Department, and is due within one month of the close of the indicated quarter according to the following schedule: First quarter--January 1 to March 31; second quarter--April 1 to June 30; third quarter--July 1 to September 30; and, fourth quarter--October 1 to December 31. The monies obtained from the preparation of plans and specifications and payments for laboratory services shall not be included in the calculation of this quarterly fee.
- 3.Reauthorization fee: Any asbestos safety control monitor submitting an application to the Department under this subchapter for reapproval as an asbestos safety control monitor shall pay a fee of \$ 2,937.

History

HISTORY:

New Rule R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Amended by R.1987 d.490, effective November 16, 1987.

See: 19 N.J.R. 1684(a), 19 N.J.R. 2134(a).

Fee raised from \$ 1,000 plus five percent to \$ 1,250 plus six percent.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Correction: Asbestos safety control monitor fee raised from \$ 2,000 to \$ 2,500 equal to six not five percent and reapproval fee raised from \$ 1,000 to \$ 1,250 equal to six not five percent.

See: 20 N.J.R. 1115(a).

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.17 to new 8.18, with minor stylistic changes throughout. Section 8.18 was formerly "Asbestos safety technician: certification requirements". In (a)4iii: Revised text to specify program that testing laboratories are required to participate.

Amended by R.1991 d.181, effective April 1, 1991.

See: 23 N.J.R. 257(b), 23 N.J.R. 1029(a).

In (h)1, authorization fee increased from \$ 2,500 to \$ 3,250. In (h)2, reauthorization fee increased from \$ 1,250 to \$ 1,625.

Amended by R.1992 d.392, effective October 5, 1992.

See: 24 N.J.R. 2657(a), 24 N.J.R. 3521(b).

Fees increased.

Recodified from 5:23-8.18 by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Precautions and procedures during a large asbestos hazard abatement project", recodified as 5:23-8.15.

Administrative correction.

See: 26 N.J.R. 4760(a).

Amended by R.2002 d.260, effective August 5, 2002.

See: [34 N.J.R. 1572\(a\)](#), [34 N.J.R. 2781\(c\)](#).

In (h), substituted "\$ 4,200" for "\$ 3,500" in 1 and "\$ 2,100" for "\$ 1,750" in 3.

Amended by R.2004 d.365, effective October 4, 2004.

See: [36 N.J.R. 2605\(a\)](#), [36 N.J.R. 4441\(a\)](#).

In (e)1, substituted "in accordance with [N.J.A.C. 5:23-2.31](#)" for "of not more than \$ 500.00 per violation" in the introductory paragraph.

Administrative correction.

See: [36 N.J.R. 5337\(a\)](#).

Amended by R.2005 d.446, effective December 19, 2005.

See: [37 N.J.R. 2747\(a\)](#), [37 N.J.R. 4907\(a\)](#).

In (b), added 4x and 7.

Administrative correction.

See: [38 N.J.R. 1827\(b\)](#).

In (b)4x, substituted "The agent listed shall be" for "The agent list shall be".

Amended by R.2009 d.77, effective March 2, 2009.

See: [40 N.J.R. 5895\(a\)](#), [41 N.J.R. 1009\(b\)](#).

In (h)1, substituted "\$ 5,292" for "\$ 4,200"; and in (h)3, substituted "\$ 2,646" for "\$ 2,100".

Amended by R.2014 d.149, effective October 6, 2014.

See: [46 N.J.R. 898\(a\)](#), [46 N.J.R. 2024\(a\)](#).

In (h)1 and (h)3, updated the fee amount.

Annotations

Notes

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Case Notes

Inability to travel due to weather did not exonerate asbestos safety technician from being held responsible for deficiencies previously left at work site. *Department of Community Affairs v. Stewart*, 95 N.J.A.R.2d (CAF) 62.

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[N.J.A.C. 5:23-8.12](#)

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§ 5:23-8.12 Application of asbestos

(a) This section shall apply to the application of asbestos, except as provided in (a)1 below.

1. This section shall not apply to asbestos materials which are applied in solid, non-friable form, such as floor tiles or cement pipe.

(b) The requirements of this section are set forth in order to prevent the contamination of the building environment which may be caused by improperly performed asbestos application work.

1. No person may cause or allow surface coating by spraying on any building structure, facility, installation or internal or external portion thereof, using asbestos or any friable material containing in excess of 0.25 percent by weight of asbestos. See [N.J.A.C. 7:27-17](#).

2. The direct application of asbestos material during construction or renovation of structures, facilities or installations by means such as troweling by hand shall be prohibited.

3. The only permissible applications of asbestos-containing materials during construction or renovation of structures, facilities or installations shall be those in which the asbestos is securely bound into a solid matrix before the application is performed, such as floor tiles in which asbestos is a minor component.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.11 as new 8.12, changing abatement "job" to "project" throughout with stylistic changes. Section 8.12 was formerly "Asbestos encapsulation and enclosure".

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Recodified from 8.17.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.19 to new 8.20. Section 8.20 was formerly "Appeals".

Recodified from 5:23-8.20 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Precautions and procedures during a small asbestos hazard abatement project", repealed.

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§ 5:23-8.13 Pre-project procedures

Before an asbestos abatement project begins, the owner shall have evaluated whether or not the scope of work for a specific project will require that all surfaces in the work area are to be HEPA vacuumed and/or wet-wiped. This is in order to remove any dust which may contain asbestos and might, therefore interfere with the final inspection and final air clearance level needed to reoccupy the building. The surfaces to be cleaned shall include, but not be limited to, all horizontal and vertical surfaces and such inside spaces as room ventilators, storage lockers, and utility and storage closets. The cleaning shall be accomplished by trained employees of the building owner as delineated in this subchapter before the asbestos abatement project begins or it shall be made part of the scope of work of an asbestos abatement project to be completed by the licensed contractor.

History

HISTORY:

New Rule, R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Section 8.3 formerly was "Enforcement; licensing; special technical services".

Recodified from 5:23-8.3 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Asbestos encapsulation and enclosure", recodified as 5:23-8.16.

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§ 5:23-8.14 Operations and maintenance activities

(a) Operations and maintenance activity, as defined in [N.J.A.C. 5:23-8.2](#), involves asbestos abatement work that may be performed without application or notice to the enforcing agency. Mechanical, electrical, plumbing or general construction work that involves the incidental disturbance of asbestos-containing material shall also be considered an operations and maintenance activity. Examples include, but are not limited to, corrective action which includes removal, repair, encapsulation and enclosure of asbestos-containing insulation on pipes, beams, walls or ceilings, etc.; disturbance or routine maintenance activities which may involve asbestos-containing material; clean up of asbestos debris from a floor; and maintenance activities that may include the removal of asbestos-containing material, if required in the performance of another maintenance activity not intended as asbestos abatement, or minor repairs to damaged insulation which do not require removal. The stabilization of any amount of asbestos-containing materials used to cover piping, boilers, tanks, structural members, or similar equipment by applying duct tape, re-wettable glass cloth, canvas, cement, or other sealable material to seal exposed areas where asbestos fibers may be released, shall also constitute an operations and maintenance activity. Asbestos hazard abatement projects shall not be broken down into smaller component parts in order to qualify as an operation and maintenance activity.

(b) Specific records of each operations and maintenance activity shall be kept on file at a central location by the owner of the facility and shall be open for review and audit by the enforcing agency and for public inspections during normal business hours.

1. The information required shall be:

- i. Location/name/number of building;
- ii. Exact locations of the work area within the building;
- iii. Type of abatement work conducted;
- iv. Scope of work;
- v. Type of replacement material used (if applicable);
- vi. Date;
- vii. Name(s) and address(es) of personnel; and
- viii. Location of the disposal site.

(c) A certificate of occupancy or completion is not required for an operations and maintenance activity.

(d) Requirements concerning wetting methods are as follows:

1. Wetting methods shall be used whenever asbestos-containing materials are disturbed.
2. Asbestos materials shall be wetted using amended water applied by means of an airless sprayer to minimize the disturbance of asbestos-containing material. Asbestos-containing materials shall be wetted from the initiation of the maintenance or renovation operation that disturbs asbestos-containing

material. The wetting agents shall be used continually throughout the work period to ensure that any dry asbestos-containing material exposed in the course of the work is water-soaked and remains wet until final disposal.

(e) Asbestos-containing material shall be disposed of as specified in [N.J.A.C. 5:23-8.22](#).

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Added text to (a) "Mechanical, electrical, plumbing ... hazard abatement job"; deleted text in (a)1 "although asbestos abatement ... to N.J.A.C. 5:23-2." and added "Although the enclosure ... to N.J.A.C. 5:23-2."

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Deleted text in (a) "This work requires ... job takes place." Added (b) and (c).

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.4 as new 8.5 and changed "abatement job" to "abatement project." Section 8.5 was "Variations".

In (a): Revised language and added text to define work involved in project.

In (b): Added language regarding the wearer of a respirator.

Recodified old (c) in the new (d), with stylistic changes. Added new (c)1-4 and new (e).

Recodified from 5:23-8.5 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Glove bag technique", recodified as 5:23-8.17, "Limited containment removals".

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§ 5:23-8.15 Asbestos hazard abatement projects

(a) No asbestos hazard abatement work including preparation shall be performed or continued without having a certified asbestos safety technician at the work area.

(b) Protective clothing, equipment, and general procedures for asbestos abatement shall be subject to the following requirements:

1. Only authorized personnel shall be permitted in the work area. The contractor shall provide the required respirators and protective clothing to all who may inspect or visit the work area;
2. The protective clothing and equipment requirements set forth in this section shall be used to prevent the contamination by persons engaged in asbestos abatement projects of areas and buildings accessible to or used by the public;
3. All persons entering the work area shall wear protective clothing. All clothing worn during removal operations shall be disposed of as contaminated waste. The requirement that clothing be disposed of as contaminated waste shall not include rubber boots, respirators, eye protection, hard hats, and other protective clothing, which can be easily cleaned.
4. Polyethylene bags shall be six mil thick and of sufficient size for their intended use;
5. All tape, spray-on adhesives, glove bags, glue, and other materials used in the abatement process shall be of sufficiently high quality to serve their intended purpose;
6. The contractor shall have available sufficient inventory of protective clothing, respirators, filter cartridges, polyethylene sheeting, duck tape, spray-on adhesives, and air filters. Sufficient personal protective equipment shall be available for usage by authorized personnel;
7. The contractor shall have available shower stall(s) and sufficient plumbing for these showers including hot and cold running water and sufficient hose length and drain systems or an acceptable alternate such as a portable decontamination trailer with showers. Waste shower water shall be added to asbestos-contaminated waste material before disposal in a permitted asbestos waste landfill or it shall be solidified using an approved polymer to prevent leaks or accidental spills within a facility or during transport for disposal to a permitted asbestos waste landfill or it shall be filtered using a five [mu] filter and disposed of in the sanitary drain, if allowed by local treatment works by regulation or as allowed by permit;
8. The contractor shall have available adequate ladders and/or scaffolds and sufficient temporary lighting equipped with ground fault circuit interruptors for the asbestos safety technician and all others who may inspect the work;
9. The contractor shall have available HEPA filter equipped air filtering equipment capable of filtering asbestos fibers to 0.3 [mu] at 99.97 percent efficiency and of sufficient quantity and capacity to cause a complete air change or total air filtration within the work area at least once every 15 minutes. Nothing in this subchapter shall be construed to limit the maximum exhaust capacity from the work area. If the

situation warrants, the specifications for the abatement project may require additional air changes per hour. The exhaust capacity from the work area shall be sufficient to establish a pressure differential between the work area and all adjacent spaces greater than or equal to 0.03 inches w.c. for unoccupied buildings and greater than or equal to 0.05 inches w.c. for occupied buildings.

i. Pressure differential shall be monitored by digital manometers with continuous printout or other approved low pressure monitoring devices. The asbestos safety technician shall zero and level the gauges each time a reading is taken.

ii. One or more separate pressure monitoring systems shall be installed by the asbestos safety control monitor firm near the entrance(s) to the work area and between the work area and any interior spaces from which make-up air is drawn.

iii. In unoccupied buildings, if the pressure differential drops below 0.01 inches w.c., the asbestos safety technician and the contractor supervisor shall investigate and evaluate the engineering controls to determine the source of the pressure loss and the contractor shall institute corrective action as indicated.

iv. In occupied buildings, the procedures set forth in [N.J.A.C. 5:23-8.19](#) shall be followed.

10. Air shall flow into the work area through all openings, including the decontamination chamber and waste exit ports, any areas in the work area where air leakage may occur, and other controlled makeup air inlets. Air shall exhaust through the air pressure differential filtration unit by means of flexible or solid duct leading outside the building. The air-filtering equipment should be positioned at a maximum distance from the decontamination chamber to maximize filtration of airborne fibers. Sufficient air shall be exhausted by an approved HEPA equipped vacuum truck or HEPA equipped air filtration units when necessary to provide air pressure differential. Air filtration units shall be in operation at all times;

11. Asbestos-containing material shall be disposed of as specified in [N.J.A.C. 5:23-8.22](#).

(c) Decontamination procedures are as follows:

1. The contractor shall provide an adequate decontamination unit consisting of a serial arrangement of rooms or spaces adjoining the work area or a decontamination trailer. Each airlock shall be clearly identified and separated from the other by polyethylene crossover sheet doors designed to minimize fiber and air transfer as people pass between areas. A minimum of two layers of polyethylene sheeting shall be required for floors, walls, and the ceiling for on-site constructed decontamination units. Polyethylene crossover sheet doors shall have at least three layers of polyethylene sheeting and be weighted so as to fall into place when people pass through the area. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretch or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area. Such doors must be at least four feet wide, and the distance between sets of doors must be at least four feet.

i. As an alternative to the use of polyethylene crossover sheet doors, any other suitable method to accomplish this end shall be acceptable, if it is approved by the asbestos safety control monitor. Alternative doors shall provide for adequate exiting in accordance with the building subcode of the Uniform Construction Code.

2. The decontamination areas shall consist of the following:

i. Clean room: In this room persons remove and leave all street clothes and put on clean disposable coveralls. Appropriate NIOSH approved respiratory protection equipment is also picked up in this area. No asbestos contaminated items are permitted in this room.

ii. Shower room: This is a separate room used for transit by cleanly dressed people entering the work area from the clean room and for showering by them after they have undressed in the equipment room. This is a contaminated area.

iii. Equipment room: Work equipment, footwear, and all other contaminated work clothing shall be stored here. This is also a change and transit room for people. All areas between the shower room and work area shall be considered part of the equipment room. This is a contaminated area.

3. In order to prevent contamination of the environment, the contractor shall be responsible for controlling access at the work area and shall maintain a daily log of personnel entering the work area. A list of names of workers shall be posted with their start and stop times for each day. In addition, the contractor shall ensure that all persons who enter the work area shall observe the following work area entry and exit procedures:

- i. Person enters clean room and removes street clothing, puts on protective clothing and a respirator, and passes through shower room into equipment room.
- ii. Any additional required clothing and equipment previously deposited in the equipment room is put on.
- iii. Person proceeds to work area.
- iv. Before leaving the work area, the person shall remove all gross contamination and debris from the coveralls using a vacuum with a high efficiency particulate air (HEPA) filter. In practice, this is usually carried out by one person assisting another.
- v. The person then proceeds to equipment room and removes all clothing except approved respirators. Extra clothing may be stored in contaminated end of the unit. Disposable coveralls are placed in a bag for disposal with other material.
- vi. The person then proceeds directly into the shower room. Respirators shall be taken off last to prevent inhalation of fibers during removal of contaminated clothing, and shall not be removed until they have been washed free of dust.
- vii. After showering, the person moves to the clean room and dresses in street clothing prior to exiting.
- viii. Respirators are picked up, washed thoroughly, and disinfected as required, wrapped and stored in the clean room.

4. The contractor shall ensure that filters in cartridge type respirators used during the preparation and abatement phase of the project are removed, wetted, and discarded as contaminated waste. All new filters shall be in place in the respirator prior to reuse. For powered air purifying respirators or supplied air respirators, the manufacturer's instructions shall be followed about the proper decontamination sequence.

5. There shall be no smoking, eating, or drinking in any contaminated areas (shower room, equipment room, and work area). Respirators shall be worn in all contaminated areas.

6. Nondisposable footwear shall remain inside the contaminated area until completion of the activity, and shall be thoroughly cleaned at that time.

(d) Preliminary preparations in the work area shall be conducted as follows:

1. The contractor shall provide and post in clearly visible locations, appropriate caution and/or danger signs indicating that asbestos work is being conducted and that unprotected persons should not enter;
2. Employees of the contractor permitted pursuant to [N.J.A.C. 8:60](#) and [N.J.A.C. 12:120](#) or persons employed by the building owner who have successfully completed a maintenance/custodial or worker training course approved by the New Jersey Department of Health shall clean with wet cloths and/or with HEPA vacuums as appropriate all objects that can be removed from the work area without disrupting the asbestos-containing material. Objects shall include, but not be limited to, furniture, equipment, drapes, and curtains. The cloths used for cleaning shall be disposed of as asbestos contaminated waste. If the room and objects within it are shown to be uncontaminated by asbestos, then other employees of the building owner or contractor may remove such objects;

3. The contractor shall install or build a decontamination facility in accordance with this section;
4. The contractor shall arrange for shutting down and sealing off all electrical, heating, cooling, and ventilating or other air handling systems. However, if approved by the asbestos safety control monitor, the lighting and the receptacles in the work area may be used if these are properly protected by ground fault circuit interruptors and can be adequately cleaned following abatement;
5. The contractor shall establish written emergency procedures to be posted within each work area. These procedures shall include plans for medical emergencies, fire evacuation, temporary loss of electrical power or water and procedures for repair and clean-up following temporary breach of containment barriers.

(e) Isolation and barrier construction in the work area shall be conducted as follows:

1. Before removing any asbestos from the work area, the contractor shall ensure that the outer perimeters of the work area have been securely sealed off from the rest of the building;
2. All vertical and horizontal surfaces except those of asbestos containing materials shall be sealed with watertight polyethylene sheeting except as provided in (e)3 below;
3. The only permissible exception to total enclosure shall be:
 - i. An entrance airlock with showers and a decontamination chamber;
 - ii. A debris removal airlock to permit cleaning and removing asbestos waste;
 - iii. Staircases; and
 - iv. Controlled makeup air inlets into the work area.
4. Polyethylene sheeting shall be used to isolate contaminated from uncontaminated areas. This polyethylene sheeting shall be replaced or repaired immediately if torn or damaged. One layer of polyethylene sheeting shall be required for walls and two layers of polyethylene sheeting shall be used to seal open space between work areas and non-contaminated areas and for all floors. In buildings required by the Uniform Construction Code to be of noncombustible construction, all materials used to construct separation barriers must meet the Uniform Construction Code, building subcode requirements for that building and all plastics used must be flame resistant.

(f) Initial activity in the work area shall be conducted in the following order:

1. Remove filters from all heating, ventilating, and air conditioning systems. Wet the filters and place them in polyethylene bags, double bagged with visible labels, for disposal as asbestos-containing waste. Squeeze all excess air out of the bag before sealing to prevent puncture during disposal. Secure bags by twisting, taping, folding over, and sealing them with duct tape.
2. The contractor shall wet clean and/or HEPA vacuum all non-removable non-asbestos items such as radiators and suspended light fixtures in the work area, including built-in equipment; and shall cover with two layers of polyethylene sheeting taped securely in place;
3. The contractor shall detach and wet clean removable electrical, heating, and ventilating equipment and other items which may be connected to the asbestos surfaces. These items shall be removed from the work area and returned and reattached to their proper place when the work area has been decontaminated and final air testing has provided satisfactory results;
4. The contractor shall seal all floor, wall, and ceiling penetrations with suitable material such as expanding foam insulation before covering the surfaces with polyethylene sheeting. The contractor then shall seal all openings between the work area and uncontaminated areas including but not limited to, windows, doorways, elevator openings, skylights, corridor entrances, floor and sink drains, air ducts, grills, grates and diffusers with critical barriers consisting of two layers of polyethylene sheeting taped securely in place or stapled or fastened by spray-on adhesives, glue beads, or horizontal wood battens or the equivalent. Floor drains shall be sealed individually and then covered as all other floor surfaces

with two layers of polyethylene sheeting. Separation barriers may be constructed to support the critical barriers. Separation barriers shall not block any required means of egress;

5.For floor covering two layers of polyethylene sheeting shall be used. The first layer of floor sheeting shall extend up the wall at least 12 inches. The second layer shall be extended up walls at least 24 inches. Sheeting shall be sized so as to minimize the number of seams necessary. No seams shall be located at the joints between walls and floors;

6.Wall sheeting shall consist of one layer of polyethylene sheeting. It shall be installed to minimize joints and shall overlap floor sheeting by at least 18 inches. No seams shall be located at the corners. Wall coverings shall be taped first to the upper most edge of the wall and shall hang straight down;

7.When a strippable coating is used in place of polyethylene sheeting, it must be manufactured for the specific application required for walls, floors, or windows.

i. When dry, the strippable coating must have a class A rating as a building material and must meet the following requirements when tested in accordance with ASTM E-84: flame spread no greater than 20, fuel contributed 0, and smoke developed no more than 110.

ii. The strippable coating shall be applied uniformly in such a manner as to achieve a minimum uniform final thickness of six mil for each layer required pursuant to this subchapter.

iii. Manufacturer's specifications shall be followed for the method of application and for the protection of the applicators and building occupants.

iv. Use of the product shall be authorized in advance by the asbestos safety control monitor firm. The material shall be delivered to the project site in unopened, factory-labeled containers.

8.As all existing ventilating systems in work area are to be sealed throughout the removal operation, an alternative system shall be utilized. Install approved HEPA equipped air filtration units with filters in place. HEPA equipped air filtration units shall be of sufficient number and capacity to ensure that total air volume is exchanged at least once every 15 minutes and an acceptable pressure differential is established and maintained. These units shall be rated by the manufacturer as to their actual working air capacity and field tested pursuant to [N.J.A.C. 5:23-8.10\(d\)4](#).

(g)Sequence of asbestos removal activities shall be as follows:

1.The asbestos-containing material shall be sprayed with water containing an additive to enhance penetration (amended water) or removal encapsulant. All wetting agents shall be tested on a small area before use to ensure effectiveness. A fine low-pressure spray of this solution shall be applied to prevent fiber disturbance preceding removal. The removal encapsulant or amended water shall be sprayed on as many times and as often as necessary to ensure that the asbestos material is adequately wetted throughout (especially that asbestos nearest the substrate) to prevent dust emission.

2.As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work towards the HEPA equipped air filtration units. If this is not feasible, the asbestos safety control monitor firm shall approve an alternative to this requirement.

3.The wet material from each section shall be packed and sealed into labeled six mil polyethylene bags and double bagged with visible labels or placed in labeled, leak-proof containers, prior to starting the next section. Water-soaked fallen material shall be picked up while wet.

4.Contaminated material containing sharp edged items shall be cut to manageable size while adequately wet, and then placed in suitable leak-tight and puncture-proof containers or wrapped individually in two separate polyethylene sheets and double bagged.

5.Bags and drums shall be marked with the label prescribed by 40 CFR Part 61, Subpart M of the US EPA, 29 CFR 1926 of OSHA, and 49 CFR--Parts 100-199 of the US DOT Hazardous Waste Hauling regulations. The outside of all containers shall be wet-cleaned or HEPA vacuumed before leaving the work area.

6. After completion of this removal phase (stripping), all surfaces from which asbestos has been removed shall be scrubbed using nylon or bristle brushes and wet sponged or cleaned by an equivalent method to remove visible asbestos-containing material. During this work, the surfaces being cleaned shall be kept wet using amended water or a removal encapsulant. All disposable equipment shall be packaged for disposal. Containers shall be washed with amended water or a removal encapsulant and shall have all exterior particulate matter removed prior to removal from the contaminated area.

7. All accessory equipment shall be moved to the equipment room and decontaminated for removal.

8. All free water (in contaminated areas) shall be retrieved and added to asbestos-contaminated waste and/or placed in plastic lined leak-tight drums and/or solidified with an acceptable polymer or it shall be filtered using a five [μ] filter and disposed of in the sanitary drain, if allowed by local treatment works by regulation or as allowed by permit.

9. Final clean-up of the work area may commence.

(h) Final clean-up of the work area shall be conducted as follows:

1. The contractor shall first clean all surfaces in the work area using a fine spray or mist of amended water or removal encapsulant applied to all surfaces followed by the wet-wiping procedure using disposable cloths. These cloths shall be disposed of or rinsed thoroughly on a frequency sufficient to eliminate visible accumulation of debris. The contractor shall allow all surfaces to dry before re-entering the work area and proceeding to (h)2 below.

i. The contractor shall notify the asbestos safety technician in writing that a pre-sealant inspection is requested.

2. After completion of cleaning all surfaces in the work area and upon receiving a satisfactory pre-sealant inspection, the contractor shall spray coat all dried exposed surfaces with a sealant. The color of this coat shall be separate and distinct from the underlying substrate. The surfaces to be coated shall include surfaces from which asbestos-containing materials have been removed (such as ceilings) and polyethylene which has been used to cover walls, floors and non-removable fixtures and equipment.

3. The polyethylene sheeting used to protect floors, walls, fixtures and equipment shall be carefully removed and rolled up, with the contaminated portion on the inside, and packaged for disposal. Tape and any other debris shall also be disposed of in sealed polyethylene bags labeled as asbestos-contaminated waste.

4. Wet clean with amended water or a removal encapsulant all walls, floors, woodwork, ceilings, electric light fixtures and other surfaces. Allow all surfaces to dry and repeat procedure. Cloths or sponges used in the cleaning operation shall be disposed of as contaminated waste.

5. The polyethylene sheeting used to maintain critical barriers between work areas and clean areas such as those in doorways, windows and air vents shall be sprayed with encapsulant, but not removed until air monitoring is completed and satisfactory results have been obtained.

6. After completion of the cleaning operations the contractor shall:

i. Notify the asbestos safety technician that a clean-up inspection can be performed to ensure all visible asbestos has been removed and the area is dust free;

ii. Request final air clearance monitoring of the work area.

7. After the work area is found to be in compliance with the acceptance criteria, the following tasks shall be performed by the contractor:

i. All critical barriers shall be removed and bagged in polyethylene bags for disposal;

ii. The inside of windows shall be washed;

iii. Any walls, floors, trim, doors, furniture or other items damaged during the work shall be repaired and refinished to match existing material;

8. Notice for a final inspection shall be made by the owner or contractor to the asbestos safety control monitor.

9. Upon receiving a satisfactory final inspection, application for a Certificate of Completion may be made.

(i) Special precautions shall be implemented, where appropriate, including, but not limited to, the following examples:

1. Asbestos abatement projects involving ceiling tile and T-grid components, elevators, carpet, contaminated soil and projects in tunnels, crawl spaces, plumbing access panels, and/or involving live electrical panels or live steam lines are likely to present unique conditions that will require special precautions in addition to the procedures described in this section. In instances where special precautions need to be instituted, they shall be described in plans and specifications approved by the asbestos safety control monitor firm.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 N.J.R. 902(a), 19 N.J.R. 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.10 to new 8.11, changing abatement "job" to "project" throughout with stylistic changes. Section 8.11 formerly was "Precautions and Procedures during a small hazard abatement job".

In (g): deleted old 7 regarding air monitoring results and recodified old 8 through 10 as new 7 through 9 with no change in text.

Recodified from 5:23-8.11 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Disposal of asbestos waste", recodified as 5:23-8.22.

Annotations

Notes

[Chapter Notes](#)

Case Notes

Bureau had not met its burden of proof by a preponderance of the competent and credible evidence to support charges under [N.J.A.C. 5:23-8.3\(b\)](#), [N.J.A.C. 5:23-8.5](#), [N.J.A.C. 5:23-8.15](#), and [N.J.A.C. 5:23-8.21\(b\)](#) when it provided no proof that respondent performed asbestos removal. *Dep't of Community Affairs, Bureau of Code Services v. Herman H. Braun Heating & Plumbing, OAL Dkt. No. CAF 03509-06, 2006 N.J. AGEN LEXIS 1018*, Initial Decision (December 22, 2006).

Evidence supported finding that company violated law by failing to use amended water at asbestos hazard abatement project. *Contamination Control Engineering, Inc., v. Bureau of Code Services, 96 N.J.A.R.2d (CAF) 45*.

Asbestos safety rules violated when asbestos-containing materials removed without wetting down. *Contamination Control Engineering, Inc. V. Community Affairs Department, 96 N.J.A.R.2d (CAF) 25*.

Revocation of asbestos safety technician's license; allowing job to go forward without asbestos safety control monitoring firm representative. *Rossnagel v. Bureau of Code Services, 95 N.J.A.R.2d (CAF) 11*.

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N.J.A.C. 5:23-8.16

This file includes all Regulations adopted and published through the New Jersey Register, Vol. 51 No. 15, August 5, 2019

NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.16 Asbestos encapsulation and enclosure

(a) Encapsulation constitutes spraying friable asbestos-containing material with a liquid sealant (not including paint) that helps bind the asbestos together with other material components to adhere it firmly to the building structure.

1. The requirements of this section are set forth in order to prevent the contamination of the building environment which may be caused by improperly performed asbestos encapsulation work.

i. Encapsulation shall not be performed where:

- (1) Asbestos-containing material is friable, damaged, or deteriorating;
- (2) Effective long-term inspection of the encapsulated site cannot be assured;
- (3) The source of asbestos is highly accessible to building occupants and damage to material is possible;
- (4) The asbestos-containing material does not adhere well to the substrate;
- (5) There is existing or potential water damage to asbestos containing material;
- (6) The asbestos-containing material is more than one inch thick; and is used to cover ceilings, walls, beams, or other structural members;
- (7) The asbestos-containing material is subject to high vibration.

ii. Encapsulation may be performed when:

- (1) Damage to the material is improbable;
- (2) The asbestos-containing material is granular or cementitious;
- (3) The encapsulating material is known to bond asbestos to the subsurface and asbestos-containing material and also retains its bonding integrity;
- (4) Asbestos-containing material has been removed and loose fibers remain which should be bonded.

iii. If encapsulation is used as a method of asbestos abatement the following maintenance procedures shall be employed:

- (1) A periodic monitoring and maintenance program consisting of inspection at least annually to check for damage to all encapsulated surfaces;
- (2) Maintenance of records by the building owner, on the locations and condition of the encapsulated material;
- (3) The removal of encapsulated asbestos when conditions change, making encapsulation no longer an appropriate method of asbestos abatement.

iv. Sealants considered for use in encapsulation shall first be tested to ensure that the sealant is adequate for its intended use. A section of the asbestos-containing material shall be evaluated following this initial test application of the sealant to quantitatively determine the sealant's effectiveness in terms of penetrating and hardening the asbestos-containing material, its toxicity, its flammability, its tolerance to disturbance or abuse, its solubility (dissolvability) in water, its effects on the acoustical properties of the asbestos-containing material, and its tolerance to top-covering paints. The United States Environmental Protection Agency, Office of Toxic Substances, has developed guidelines for the use of encapsulants on asbestos-containing materials which discuss advantages and disadvantages of encapsulation. The American Society of Testing and Materials (ASTM) Committee E06.21.06E on Encapsulation of Building Materials has developed a guidance document to assist in the selection of an encapsulant once a decision to encapsulate has been made. When a choice of an encapsulant has been made, written justification of this choice (based on the characteristics of the encapsulant, the asbestos-containing material to be encapsulated, and the substrate surface underneath the asbestos-containing material) shall be included in the job specifications, and a copy of this justification shall be available for review at the job site.

v. Before encapsulation is performed, all loose and hanging asbestos-containing material shall be removed while damp, and disposed of in accordance with this subchapter.

vi. Filler material used to repair damaged and missing areas of asbestos-containing material shall contain no asbestos, shall adhere well to the substrate and shall provide an adequate base for the encapsulating agent.

vii. Encapsulated asbestos containing materials shall be identified by signs, labels, color coding or some other mechanism to warn persons who may be required to disturb the material that asbestos is present.

viii. Where encapsulants are sprayed on asbestos-containing materials:

(1) Low pressure airless spray shall be used. The airless spray gun shall have an appropriately sized tip which shall be tested by briefly spraying the encapsulant onto a surface from approximately 12 inches away. An appropriately sized tip will spray the encapsulant in a fan approximately eight inches wide; it will also distribute the encapsulant uniformly within the fan, giving even coverage.

(2) A suitable quantity of HEPA filtration units shall be used during the encapsulation process which shall have sufficient capacity to cause one complete air exchange every 30 minutes.

(3) At least three coats of the encapsulant shall be applied to the surface of the asbestos-containing material. Each coat shall be applied in a two-step procedure. The first step is to apply a light mist coat to moisten and seal any loose fibers and keep them from breaking away from the surface. This mist coat should be applied in three or four quick passes with the gun held 18 to 24 inches from the surface. After an area of 16 to 20 square feet has been given the mist coat, a heavier coating is applied, using 8 or 10 passes with the gun held 10 and 12 inches from the material. The gun should be kept in constant motion to create a smooth and even coat. This two-step application shall be considered one coat of encapsulant. Each subsequent coat shall be applied at a 90 degree angle to the direction of the preceding coat application, to ensure complete coverage of the asbestos-containing material. When questions rise regarding drying time, curing time, dilution, or use under different weather conditions, the manufacturer's recommendations and instructions shall be consulted.

(4) All other preparation, decontamination, and work requirements and procedures used in encapsulation projects shall be the same as those used in removal projects.

ix. Sealants used in the encapsulation shall not alter the existing fire rating and shall be flame resistant and meet the flame spread and smoke generation requirements of N.J.A.C. 5:23-3 of the Uniform Construction Code.

(b)Enclosure constitutes construction of a permanent (that is, for the life of the building), air-tight, impact-resistant, solid structure of new construction materials which must be built around the asbestos covered pipe or structure to prevent the release of asbestos-containing materials into the area beyond the enclosure and to prevent these materials from casual contact during future maintenance operations. The enclosure shall not alter the existing fire rating and shall be flame resistant and meet the flame spread and smoke generation requirements of N.J.A.C. 5:23-3 of the Uniform Construction Code.

1.The requirements of this section are set forth in order to prevent the contamination of the building environment which may be caused by improperly performed asbestos enclosure work. The following procedures shall be adhered to:

i.Before constructing the enclosure, all electrical conduits, telephone lines, recessed lights, and pipes in the area shall be moved to ensure that the enclosure will not have to be reopened later for routine or emergency maintenance. If for any reason, lights or other equipment cannot be moved, removal of the asbestos-containing materials rather than enclosure shall be the appropriate control method to use;

ii.Enclosure walls shall be made of tongue and groove boards, boards with spine joints, or gypsum boards having taped seams. All joints between the walls and ceiling of the enclosure shall be caulked to prevent the escape of asbestos fibers;

iii.The underlying structure must be able to support the weight of the enclosure. Suspended ceilings with laid-in panels do not provide air-tight enclosures and shall not be used to enclose structures covered with asbestos-containing materials;

iv.The surface of the asbestos-containing material which will be disturbed during the installation of hangers, brackets or other enclosure supports shall first be sprayed with amended water or a removal encapsulant using a low pressure airless spray:

v.Power drills or other tools which may disturb asbestos containing material shall be equipped with or used in conjunction with HEPA vacuum filters;

vi.Loose and hanging asbestos-containing materials shall be removed while damp and disposed of in accordance with this subchapter;

vii.After the installation of hangers, brackets or other supports and before the asbestos-containing material is enclosed, asbestos containing materials shall be repaired, using materials which do not contain asbestos;

viii.Enclosures for asbestos-containing materials shall be identified by signs, labels, color coding or some other mechanism to warn persons who may be required to disturb the enclosure that asbestos is present; and

ix.Enclosures shall be inspected at least annually to ensure their integrity.

History

HISTORY:

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.12 as new 8.13. Section 8.13 was formerly "Glove bag technique".

In (a)1ix: added "shall not alter the existing fire rating and..."

Deleted old (b) and added new (b) defining "enclosure".

Added new (b)1i-iii and recodified old i-vi as new iv-ix, with stylistic or no changes in text.

Recodified from 5:23-8.13 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Duties of the asbestos safety technician", recodified as 5:23-8.10(d).

Annotations

Notes

[Chapter Notes](#)

Case Notes

Inability to travel due to weather did not exonerate asbestos safety technician from being held responsible for deficiencies previously left at work site. *Department of Community Affairs v. Stewart*, 95 N.J.A.R.2d (CAF) 62.

Failure of safety technician to test and record exhaust volume of air pressure prior to asbestos abatement was violation warranting order to pay penalty. *Miller v. Community Affairs*, 95 N.J.A.R.2d (CAF) 30.

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N.J.A.C. 5:23-8.17

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NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.17 Limited containment removals

(a) The following procedures shall be followed for the use of glove bags or other techniques or work practices approved by the Department which similarly contain asbestos fibers. The glove bag work area enclosure shall be either an enclosure, built out of polyethylene sheeting around the glove bag, or the entire room if no enclosure is built.

(b) The preparation of the work area for glove bag removal shall include the following:

1. A minimum of two persons shall perform a glove bag removal project. A third person may be required to conduct air monitoring or assist with supplies.
2. The work area where the technique is to be utilized shall be roped off and appropriate caution and/or danger signs posted on the perimeter to prevent unauthorized personnel from entering the work area.
3. All necessary materials and supplies shall be brought into the work area before any removal begins.
4. One air change every 15 minutes shall be provided in a glovebag work area enclosure.
5. If no mini-enclosure is established, then the contractor shall arrange for shutting down and sealing off all electrical, heating, cooling, and ventilating or other air handling systems.

i. If approved by the asbestos safety control monitor, the lighting and receptacles in the work area may be used if these are properly protected by ground fault circuit interruptors and can be adequately cleaned following abatement.

(c) The following is a list of equipment and tools for the removal of asbestos by the glove bag technique:

1. Glove bag(s) in suitable number, size and configuration for the specific abatement project. The glove bag is an air-tight, tear-resistant enclosure, designed to enclose an object from which asbestos-containing material is to be removed, constructed of a minimum of six mil polyethylene or other suitable material with inward projecting longsleeve gloves, a tool pouch or other place where tools can be placed, and facilities for water application and a HEPA equipped vacuum attachment.
2. A pump-up sprayer (garden type) with a two or three gallon capacity;
3. Wetting agent: Amended water (water with a surfactant) or a removal encapsulant;
4. Six mil polyethylene disposal bags or leak-proof containers with the proper markings for asbestos waste;
5. A HEPA filtered vacuum with a capillary tube for insertion into the glove bag;
6. Tools such as a small scrub brush, a utility knife for cutting the insulation, a stapler, wire cutters, smoke tubes with aspirator bulb, a bone saw or other appropriate tool, tin snips, duct tape and wettable cloths;
7. A roll of six mil polyethylene; and

8. An encapsulant (tinted).

(d) Removal procedures shall be conducted as follows:

1. A visual inspection of the pipe where the work will be performed shall be made to determine if any damaged pipe covering (such as broken lagging, or hanging) exists. If there is damage, then the affected portion of the pipe shall be wrapped in polyethylene and fully secured with duct tape. This procedure will prevent excessive airborne fiber concentrations from occurring during the glove bag work caused by pipe lagging hanging several feet or even several yards away which may be jarred loose by the activity. All dust and debris on the floor and other surfaces which has accumulated due to the abatement project and which contains asbestos shall be cleaned up as necessary. If the pipe is undamaged, one layer of duct tape shall be placed around the pipe at each end where the glove bag will be attached. This permits a good surface to which to seal the ends of the glove bag, and it minimizes the chance of releasing fibers when the tape at the ends of the glove bag is peeled off at the completion of the project.

2. Slit the top of the glovebag open (if necessary) and cut down the sides to accommodate the size of the pipe (about two inches longer than the pipe diameter).

3. Place the necessary tools into the pouch located inside the glove bag. This will usually include the bone saw, utility knife, rags, scrub brush, wire cutters, tin snips and pre-cut wettable cloth. Cut out a donut shape in the cloth with the inner diameter one-half-inch smaller than the diameter of the pipe beneath the insulation. The outer diameter of the donut should be three inches longer than the diameter of the pipe insulation being removed. Finally, cut a slit in each of the two donuts so they can be slipped around the pipe. A piece of cloth that can be easily bent around the surface to be cleaned may be used instead of the donut-shaped cloth.

4. One strip of duct tape shall be placed along the edge of the open top slit of the glovebag for reinforcement.

5. Place the glove bag around the section of pipe to be worked on and staple the top together through the reinforcing duct tape. Staple at intervals of approximately one inch. Next, fold the stapled top flap back and tape it down with a strip of duct tape. This should provide an adequate seal along the top. Next, duct tape the ends of the glove bag to the pipe itself, previously covered with polyethylene or duct tape (see (d)1 above). The bottom seam of the glove bag shall be sealed with high quality duct tape or equivalent to prevent any leakage from the bag that may result from a defect in the bottom seam.

6. Before the commencement of the abatement work, but after the glove bag is attached, the contractor shall smoke test each glove bag to ensure that it does not leak. The asbestos safety technician shall personally witness the smoke testing of each of these glove bags. Using the smoke tube and aspirator bulb or other approved smoke generating device, place the tube into the wetting agent sleeve (two-inch opening to glovebag). Fill the bag with visible smoke. Remove the smoke tube and twist the wetting agent sleeve to close it. While holding the wetting agent sleeve tightly, gently squeeze the glovebag and look for smoke leaking out, especially at the top and ends of the glovebag. If leaks are found, they shall be taped closed using duct tape and the bag shall be re-tested.

i. Exception: If negative pressure is established and maintained at .02 inches w.c., smoke testing of glove bags is not required.

7. Insert the wand from the wetting agent sprayer through the wetting agent sleeve. Using duct tape, tape the wetting agent sleeve tightly around the wand to prevent leakage.

8. One person places his hands into the long-sleeved gloves while the second directs the wetting agent spray at the work.

9. If the section of pipe is covered with a protective jacket, this is removed first, using the wire cutters to cut any bands and the tin snips to remove the jacket. It is important to fold the sharp edges in to prevent cutting the bag when it is placed in the bottom. A box may be put in the bottom of the bag when the tools are placed in, and the metal placed in the box to further protect the bag from being cut.

10. With the insulation exposed, using the bone saw, cut the insulation at each end of the section to be removed. A bone saw is a serrated heavy-gauge wire with ring-type handles at each end. Throughout this process, wetting agent is sprayed on the cutting area to keep dust to a minimum.
11. Once the ends are cut, the section of insulation should be split from end to end using the utility knife. The cut should be made along the bottom of the pipe and the wetting agent continuously supplied. Again, care should be taken when using the knife not to puncture the bag. Some insulation may have wire to be clipped as well. Again, a box may be used as in (d)9 above to protect the bag from puncture.
12. Rinse all tools with wetting agent inside the bag and place back into pouch.
13. The insulation can now be lifted off the pipe and gently placed in the bottom of the bag, while the side of the insulation adjacent to the pipe is being thoroughly wetted.
14. Using the scrub brush, rags and water, scrub and wipe down the exposed pipe.
15. Wet the donut-shaped pieces of wettable cloth over the exposed ends of insulation remaining on the pipe.
16. Remove the wetting agent wand from the wetting agent sleeve and attach the small nozzle from the HEPA-filtered vacuum. Turn on the vacuum only briefly to collapse the bag.
17. Remove the vacuum nozzle and twist the wetting agent sleeve closed and seal with duct tape.
18. Remove all the tools and draw them out into one of the arm sleeves, twist the sleeve tightly, and seal with tape, and cut the sleeve away from the bag, cutting through the tape. In this manner, the contaminated tools may be placed directly into the next glovebag without being cleaned. Alternatively, the sleeve with the tools in it can be placed in a bucket of water, opened underwater and dried without releasing asbestos into the air. This water shall be handled as asbestos-contaminated waste. Rags and scrub brushes cannot be cleaned in this manner and should be discarded with the asbestos-contaminated waste. No more than one use of a glovebag shall be permitted.
19. With removed insulation in the bottom of the bag, twist the bag several times and tape it to keep the material in the bottom during removal of the glovebag from the pipe.
20. Slip a six mil disposal bag over the glovebag (still attached to the pipe). Remove the tape and open the top of the glovebag and fold it down into the disposal bag.
21. All surfaces in the work area should be cleaned using disposable cloths wetted with wetting agent. These cloths shall be disposed of or rinsed thoroughly to eliminate visible accumulation of debris. Then, when these surfaces have been allowed to dry, all surfaces shall be cleaned again using a HEPA filtered vacuum. If no mini-enclosure was built, then the entire room shall be cleaned.
22. Place any contaminated articles or debris into the bag with the waste.
23. Twist the top of the bag closed, fold this over, and seal with duct tape. Label the bag with labels prescribed by 40 CFR Part 61, Subpart M of the USEPA, 29 CFR 1926 of OSHA and 49 CFR--Parts 100-199 of the US DOT Hazardous Waste Hauling regulations.
24. Asbestos-containing waste material shall be disposed of as specified in [N.J.A.C. 5:23-8.22](#).
25. Air sampling shall be conducted after completion of glovebag projects pursuant to [N.J.A.C. 5:23-8.21](#) to determine if undetected leakage occurred. Once the area has been found to be safe for re-entry by unprotected personnel, the barriers may be removed.

History

HISTORY:

New Rule R.1986 d.143, effective May 5, 1986.

N.J.A.C. 5:23-8.17

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.13 as new 8.14. Section 8.14 was formerly "Disposal of asbestos waste."

In (b)1: changed "are required to" perform to "shall" perform and changed "and" assist to "or" assist.

In (d)1: added text to specify removal procedures.

In (d)5: added text regarding the handling of the glove bag.

In (d)24: changed "8.14" to "8.15".

Recodified from 5:23-8.14 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Coordination with other permits", recodified as 5:23-8.6.

Annotations

Notes

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[N.J.A.C. 5:23-8.18](#)

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§ 5:23-8.18 Demolition

(a) In buildings undergoing partial demolition and in buildings to be reoccupied by persons other than workers wearing appropriate NIOSH-approved respiratory protection, all friable asbestos or asbestos-containing material that will become friable during demolition must be properly removed.

(b) The removal of asbestos shall require a construction permit in accordance with [N.J.A.C. 5:23-8.5](#). Additionally, a demolition permit must be obtained pursuant to N.J.A.C. 5:23-2.

(c) Asbestos abatement shall be done in accordance with all applicable provisions of this subchapter.

(d) Air monitoring samples during the removal phase and final air samples after removal shall be required for an asbestos abatement project.

History

HISTORY:

New Rule R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

(e) substantially amended and results of .02 fibers change to .020.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.21 as new 8.22.

In (a): added "Friable" to describe asbestos.

In (a)1i.: added text to specify accreditation requirements for asbestos hazard assessors.

Deleted old (c)1ii(1)-(4) regarding plans and specifications, added new (1) and recodified (5) and (6) as new (2) and (3); with no change in text.

Changed throughout "administrative authority having jurisdiction" to "asbestos safety control monitor".

In (e)1: changed "0.2 fibers/cc" from "0.20" and added "by phase contrast microscopy (PCM)".

Recodified from 5:23-8.22 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Asbestos safety control monitor", recodified as 5:23-8.11.

Annotations

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Case Notes

Tiles removed by chipping subject to strict asbestos removal standards for friable asbestos. *Gromen v. Bureau of Code Services*, 96 N.J.A.R.2d (CAF) 21.

Fine appropriate for unlawful removal of broken asbestos-containing floor tile in friable manner. [Contamination Control Engineering, Inc. v. Department of Community Affairs](#), 96 N.J.A.R.2d (CAF) 14.

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[N.J.A.C. 5:23-8.19](#)

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§ 5:23-8.19 Abatement in occupied buildings

(a) The requirements of this section are intended to prevent contamination and exposure of building occupants to asbestos fibers.

(b) The building owner shall notify building occupants in writing 20 business days prior to the commencement of an asbestos abatement project. The building owner shall outline in writing any procedures and/or precautions that are deemed necessary in order to protect the health, safety and welfare of the occupants. This notification shall include, but not be limited to: relocation plans, if any; entrances and exits that may temporarily be blocked and alternate routes to be used; the name and telephone number of the owner's representative for the occupant to call in case of an emergency or to answer any questions with regard to the project. This notification shall accompany the application for a construction permit for asbestos abatement and shall be filed with the enforcing agency.

1. This notification shall be posted seven days prior to the preparation of the work area, in visible locations, for the benefit of the affected occupants of the work place, and in areas immediately adjacent to the asbestos abatement project. It shall be the owner's responsibility to ensure that these postings are maintained throughout the project.
2. When circumstances require immediate removal of asbestos-containing material, notification shall be provided to the building occupants as soon as possible.
3. Nothing in this section shall be interpreted as prohibiting the building owner from providing additional notification.
4. The asbestos safety control monitor firm shall notify the Department in writing 10 days prior to the commencement of an abatement project in an occupied building.

(c) A building or structure or part thereof may be occupied during an asbestos abatement project when all of the following conditions are met:

1. Isolation conditions include a requirement that the work area be physically separated from occupied areas by separation barriers of rigid construction consisting of nominal two inch by four inch studs spaced 16 inches on center and covered with a minimum of one-half inch plywood or comparable metal framing and 1/2 inch gypsum board covering. All seams shall be caulked to render the barrier air tight before two layers of polyethylene sheeting are applied on both sides. The polyethylene sheeting shall overlap at the seams. All penetrations around conduits, pipes, ducts or other openings between the work area and adjacent spaces shall be sealed, using materials determined to be suitable in accordance with the applicable subcode. In buildings required by the Uniform Construction Code to be of noncombustible construction, all materials used to construct separation barriers shall meet the Uniform Construction Code, building subcode requirements for that building and all plastics used shall be flame resistant. A separate means of egress for abatement personnel, materials and equipment shall be maintained. Adequate fire evacuation routes shall exist for all building occupants at all times.

i. Whenever the building in which this work area is located exceeds four stories in height and when stair, elevator or similar shafts lie within or adjacent to the separation barriers or the work area, then special seals shall be installed. Such seals shall be constructed in the same manner as the separation barriers and shall create a space not less than three inches in depth in front of the entire access area which space is sealed on both sides and positively pressurized with HEPA filtered air so that the pressure in the sealed space is .05 inches w.c. greater than that in the work area or the shaft.

ii. All HVAC systems located in the work area shall be shut down. If HVAC equipment is located in the work area and must be operated to service other areas of the building, then the HVAC equipment shall be isolated from the remainder of the work area by an enclosure constructed in a manner similar to the separation barriers and the space between the equipment and the seal shall be positively pressurized with HEPA filtered air to at least .05 inches w.c. greater than the work area.

iii. Where return air ductwork which must be kept operating is located within the work area, then it shall be isolated from the work area by an enclosure forming an annular space around the duct which is positively pressurized with HEPA filtered air to at least .02 inches w.c. greater than the work area. The enclosure shall be constructed in a manner similar to that required for separation barriers.

iv. All electrical systems in the work area shall be shut down. Their use may be approved by the asbestos safety control monitor if they are properly protected by ground fault circuit interruptors, they are cleanable, and provided that such other precautions as may be necessary are taken to ensure the safety of all who are in the work area.

2. Engineering controls shall be implemented as follows:

i. The asbestos safety technician shall verify exhaust capacity through appropriate field measurement and record these results in writing. The verification of exhaust flow rate via use of devices for monitoring pressure drop across filters on air filtration devices shall not be a substitute for appropriate field measurement. All exhaust from the work area shall be directed to the exterior of the building. If exhaust to the exterior of the building is not feasible, exhaust from the work area shall be directed into a second set of in-line air filtration devices, which, then, shall be permitted to be discharged into designated spaces approved by the asbestos safety control monitor.

ii. The contractor shall install a sufficient number of HEPA filter equipped air filtration units to cause a complete air change or total air filtration within the work area at least once every 15 minutes. (Nothing in this subchapter shall be construed to limit the maximum exhaust capacity from the work area or to prohibit additional air changes per hour.) The exhaust capacity from the work area shall be sufficient to establish a pressure differential between the work area and all adjacent spaces greater than or equal to 0.05 inches w.c. (Nothing in this subchapter shall be construed to limit the maximum pressure differential established between the work area and occupied spaces.)

(1) Make up air shall not be drawn through openings in the separation barriers in buildings greater than four stories in height, unless those openings are equipped with systems or devices which will not permit air flow except toward the work area and the air filtration and exhaust units located in the work area.

3. Work area protection shall be assured as follows:

i. Floors shall be covered with two layers of polyethylene sheeting which shall overlap at the seams and which shall be applied to the floor, individually sealed. The first layer shall extend up the wall at least 12 inches. The second floor layer shall be installed and extend up sidewalls at least 24 inches.

ii. Walls shall be covered with one layer of polyethylene sheeting individually sealed to the wall. The layer shall hang straight down overlapping the second layer of floor sheeting on the wall by at least 18 inches.

iii. Sheeting shall be sized to minimize the number of seams. No seams shall be located at the joints between walls and floors. As a minimum, no seam shall stop within 12 inches of a corner and sheeting shall overlap at least 12 inches between seams of adjacent layers.

iv. When a strippable coating is used in place of polyethylene sheeting, it shall be used in accordance with [N.J.A.C. 5:23-8.15\(f\)](#) and the product shall be applied during periods of minimal occupancy as determined by the owner and included in the approved plan.

4. Monitoring shall be conducted as follows:

i. Air sampling shall be done as follows:

(1) At a minimum, one sample at the beginning of each work shift, one every four hours thereafter, and one at the end of the contractor's work day for every 10,000 square feet of occupied space adjacent to the work area shall be collected and analyzed. Air samples shall be taken in areas where the greatest potential for fiber migration exists. In addition to the requirements noted above, air samples shall be taken at the entrance(s) to the work area and any other interior spaces from which make-up air is drawn. Additional samples shall be taken for all areas such as stairwells, communicating shafts, elevators, plenums, ducts which pass through the work area and which are in service, and unusual room and building configurations. If air levels exceed the permitted fiber count, the applicable requirements of the contingency plan in (c)5 below shall be followed.

(A) At least one air sample shall be collected and analyzed during the work shift inside the work area. The results of this test will not, however, trigger the requirements of the contingency plan.

(2) A secure chain of custody for air samples shall be established in writing as part of the approved plan by the asbestos safety control monitor firm. The final disposition of samples (whether they should be retained or disposed of after analysis and if retained, who keeps them) shall be determined prior to the commencement of asbestos abatement.

(3) The services of a testing laboratory, as delineated in [N.J.A.C. 5:23-8.21\(a\)](#) 1 and 2, shall include a microscope and laboratory technician at the project site or the capacity to obtain results within four hours from start of sample. The laboratory technician shall be listed in the Asbestos Analyst Registry of the American Industrial Hygiene Association for PCM analysis or qualified by other programs recognized by the Department as equivalent. If the laboratory technician is on site, the owner shall provide a safe and clean space for the analysis of samples separate and distinct from the work area. Air samples are to be analyzed via NIOSH 7400 and verbal results made available for a determination regarding continued occupancy. A written record of test results shall be kept at the job site and included in the final report.

(4) Ten percent of all abatement samples shall be re-analyzed within 24 hours at a laboratory for quality control purposes.

(5) Daily occupancy shall be allowed when the results of all the air samples are less than or equal to 0.010 fibers/cc by Phase Contrast Microscopy. If air levels exceed 0.010 fibers/cc, the contingency plan during abatement in (c)5 below shall be followed.

(6) In the case of reoccupancy and final clearance, all air samples used to determine reentry shall be analyzed by an accredited laboratory.

ii. Pressure monitoring shall be carried out as follows:

(1) Pressure differential shall be monitored by digital manometers with continuous printout or other approved low pressure monitoring devices. Sensor tubes used for monitoring shall be

placed so that the air filtration devices shall not cause false readings. The asbestos safety technician shall zero and level the gauges each time a reading is taken.

(2) One or more separate pressure monitoring systems shall be installed by the asbestos safety control monitor firm near the entrance(s) to the work area and between the work area and any interior spaces from which make-up air is drawn.

(3) Written documentation of pressure differential shall be provided by the asbestos safety technician either by continuous printout devices. The asbestos safety technician and the contractor supervisor will ensure, prior to the completion of the work shift, the integrity of the containment site before workers depart.

(4) The pressure differential shall be greater than or equal to 0.05 inches w.c. at the pre-commencement inspection (at the time of approval immediately prior to the start of abatement work).

(A) In addition to providing a pressure differential greater than or equal to 0.05 inches w.c. for the pre-commencement inspection, a smoke test shall be conducted to demonstrate that the work area has been isolated properly and that the pressure differentials have been established to prevent fiber migration from the work area.

(5) Daily Occupancy shall be allowed when the pressure differential is equal to or exceeds 0.05 inches w.c. If the air pressure differential drops below 0.05 inches w.c., the contingency plan during abatement in (c)5 below shall be followed.

5. Contingency plan during abatement shall be implemented as described below. These are the minimum requirements which shall be enforced by asbestos safety control monitors. These requirements shall not limit the asbestos safety control monitors from instituting additional requirements, if necessary, for the protection of the building occupants.

i. If the pressure differential drops below 0.05 inches w.c., the following procedures shall be implemented:

(1) The asbestos safety technician and the contractor supervisor shall investigate and evaluate the engineering controls to determine the source of the pressure loss.

(2) The contractor shall institute corrective action such as: additional sealing, critical barrier maintenance and construction, changing of exhaust unit filters, adjustment of make-up air, operation of additional exhaust units or other necessary measures to reestablish an acceptable pressure differential.

ii. If the pressure differential drops below 0.01 inches w.c., the following procedures shall be implemented:

(1) The contractor shall cease abatement activity in the work area.

(2) The asbestos safety control monitor shall notify the building owner to evacuate the pressurized space(s). The pressurized space(s) shall include all space outside the work area which is pressurized to maintain the required pressure differential relative to the work area and is isolated from the rest of the building in terms of air flow. The pressurized space may include the entire building exclusive of the work area or any part of the building that is pressurized to isolate it from the work area.

(3) The asbestos safety technician and the contractor supervisor shall investigate and evaluate the engineering controls and determine the source of the pressure loss.

(4) The contractor shall institute corrective action such as: additional sealing, critical barrier maintenance and construction, changing of exhaust unit filters, adjustment of make-up air, operation of additional exhaust units or other necessary measures to reestablish an acceptable pressure differential.

(5) Reoccupancy shall not be permitted in any area unless a pressure differential of 0.05 inches w.c. or greater is reestablished.

(6) If a pressure differential of 0.05 inches w.c. or greater is not reestablished within 24 hours of the first reading below 0.01 inches w.c., then the building shall be evacuated.

iii. If air levels exceed 0.010 f/cc, the following procedures shall be implemented:

(1) The asbestos safety technician and the contractor supervisor shall investigate and evaluate the engineering controls to determine the source of the high air level.

(2) An additional/second PCM air sample shall be taken at each place at which a high air level was obtained. The additional/second PCM sample may be split, and if the result of the air sample is less than or equal to 0.010 f/cc the contingency plan is terminated. If the result of the air sample exceeds 0.010 f/cc, the contractor, in consultation with the asbestos safety control monitor, shall choose the option of cleaning and retesting by PCM analysis or analyzing the split sample by TEM analysis. If the result of the TEM analysis exceeds 0.010 f/cc, then cleaning shall be undertaken.

(3) The decision as to the timing of the cleaning activity shall be made by the asbestos safety control monitor firm in consultation with the building owner and the contractor.

(4) Cleaning shall include, but not be limited to, wet wiping and misting the air. Cleaning the affected area shall be continued outside of containment and PCM sampling shall also be continued until the result in the area is equal to or less than 0.010 f/cc by either PCM or TEM analysis.

(5) If laboratory analysis of air samples does not yield a reading less than or equal to 0.010 f/cc within 24 hours of receipt of the first test result above 0.010 f/cc, then the building shall be evacuated.

(6) Reoccupancy shall not be permitted in any area where PCM analysis reveals results greater than 0.010 f/cc, unless TEM results indicate asbestos fibers are equal to or less than 0.010 f/cc. In the case of reoccupancy, all air samples used to make the determination to allow reentry shall be analyzed by an accredited laboratory.

iv. If a power outage occurs during active abatement work, the building occupants shall be evacuated until the air samples determine that the occupied spaces are safe, and power has been restored. If a power outage occurs when the building is unoccupied, occupancy will not be permitted until air samples determine that the spaces to be occupied are safe and power has been restored.

6. Security shall be required as follows:

i. In high risk areas, the owner shall provide a 24 hour security guard to ensure protection against damage or vandalism to separation barriers, engineering systems, monitoring devices, or other equipment.

ii. The owner shall provide continuous unlimited access for the asbestos safety technician in all occupied spaces for installation, maintenance, and data collection from monitoring systems.

iii. The asbestos safety control monitor firm shall include provisions in the plan and the asbestos safety technician shall ensure that filters are changed as necessary and that pressure differential is maintained around the clock until the project is completed.

7. Waste removal shall be accomplished as follows:

i. The waste removal route of travel is to be designated on the abatement plans and shall be separate and distinct from the normal route of travel used by building occupants. Waste removal shall occur during the time of least amount of building occupancy. If the route of travel is to be used the following day by building occupants, air monitoring must be performed, and if the results

of air levels exceed 0.010 f/cc, then the waste removal route is to be wet wiped using amended water, HEPA vacuumed and retested until an acceptable air level is achieved prior to allowing occupancy of the area.

ii. The waste removal process shall be closely monitored visually and through air sampling by the asbestos safety technician.

iii. No dumpster shall remain on the premises overnight unless the dumpster is locked and labeled to indicate that it contains asbestos-contaminated waste.

8.A written statement shall be signed by the asbestos safety control monitor denoting that an asbestos abatement will occur during building occupancy and verifying that the above requirements will be maintained. This written statement shall accompany the application for a construction permit for asbestos abatement and shall be filed with the enforcing agency. This statement shall include the areas to be occupied during the abatement and the number of occupants.

History

HISTORY:

Recodification and New Rule, R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Asbestos safety technician; certification requirements", recodified as 5:23-8.10(a)-(c).

Administrative Correction.

See: [28 New Jersey Register 1981\(b\)](#).

Annotations

Notes

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[N.J.A.C. 5:23-8.20](#)

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§ 5:23-8.20 Removal of non-friable asbestos-containing material

(a) This section applies to all non-friable, miscellaneous asbestos-containing material.

1. When the removal method will cause the building environment to become contaminated with airborne asbestos fibers caused by a combination of mechanical and manual tasks, such as grinding the surface of vinyl asbestos floor tiles, then complete separation of the worksite from the rest of the building shall be required and the precautions and procedures as delineated in [N.J.A.C. 5:23-8.15](#) or [8.19](#), as appropriate, shall be followed. A construction permit for asbestos abatement pursuant to this subchapter shall be required.

2. When the removal method will not contaminate the building environment with airborne asbestos fibers, such as when an electric heating appliance is used to loosen vinyl asbestos floor tiles or when the "Recommended Work Practices for the Removal of Resilient Floor Coverings" (latest edition) by the Resilient Floor Covering Institute are followed in removing floor tile, sheet vinyl flooring and the associated adhesives, then general isolation of the work area from the surrounding environment by the closing of doors and windows in the removal areas, when feasible, safe work practices and proper clean-up procedures shall be required.

(b) The disposal of non-friable asbestos-containing material and/or asbestos-contaminated waste shall conform to the New Jersey Department of Environmental Protection and Energy requirements specified in [N.J.A.C. 7:26](#).

(c) Exception: This section shall not apply to non-friable asbestos-containing material found on the exterior of the building such as asbestos siding, transite and asbestos cement board, asbestos roof shingle, felts and build up roofing materials. Safe work practices shall be employed to minimize asbestos fiber exposure during the tear-off period. A construction permit shall be obtained if required pursuant to N.J.A.C. 5:23-2. Disposal of this waste shall be in accordance with regulations for the disposal of such material adopted by the New Jersey Department of Environmental Protection and Energy.

History

HISTORY:

Recodified from 5:23-8.24 by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior text at section, "Application of asbestos", recodified as 5:23-8.12.

Annotations

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[N.J.A.C. 5:23-8.21](#)

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§ 5:23-8.21 Air monitoring methodology

(a) Air sampling specified in this section shall be performed by the asbestos safety technician in accordance with the procedures specified in this subchapter and shall be analyzed by a laboratory pursuant to 40 CFR 763.90.

1. For phase contrast microscopy (PCM) analysis, laboratories shall be currently enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program or an equivalent recognized program.
2. Analysis by PCM shall use the NIOSH 7400 method delineated in "Fibers" publication in the NIOSH Manual of Analytical Methods, 3rd edition, 2nd supplement, August 1987 or the latest edition. Maximum turnaround time from sample collection through data reporting shall be 24 hours.
3. For transmission electron microscopy (TEM) analysis, laboratories shall participate in the National Institute of Standards and Technology--National Voluntary Laboratory Accreditation Program (NIST-NVLAP) and shall certify that the analysis they performed was according to the protocol listed in Appendix A to Subpart E of 40 CFR 763. Maximum turnaround time from sample collection through data reporting shall be 72 hours.
4. All pumps shall be calibrated prior to initial sampling using a primary standard. Pumps shall be recalibrated with a minimum of a secondary standard before and after each sample is collected. Protocols shall be established for periodic calibration, using a primary standard. The frequency of primary recalibration checks shall be initially high, until experience is accumulated to show that it can be reduced while maintaining the required sampling accuracy. Records shall be kept of all calibrations and shall be part of the daily log.

(b) Air sampling while abatement is in progress shall comply with the following procedures:

1. A minimum of three samples per eight hour shift shall be collected (one at the beginning of each shift, one every four hours thereafter, and one at the end of the contractor's work day). One stationary sample shall be collected within the clean room of the decontamination unit and two samples collected adjacent to the work area but remote from the decontamination unit entrance. In the selection of adjacent areas to be monitored, preference shall be given to rooms adjacent to critical barriers and/or work area. Testing results shall not indicate that concentrations above 0.01 fibers per cubic centimeter have occurred outside the containment barrier or above 0.02 fibers per cubic centimeter within the clean room of the decontamination chamber during the abatement project.
2. For abatement projects in occupied buildings, additional samples shall be taken in spaces adjacent to the work area and inside the work area and analyzed by PCM as required by [N.J.A.C. 5:23-8.19\(c\)](#)4. The contingency plan in [N.J.A.C. 5:23-8.19\(c\)](#)5 shall be followed if test results indicate that this is necessary.

(c) Post abatement visual inspections and air monitoring shall comply with the following procedures:

1. Within 48 hours after clean-up for post-removal air testing, and before the removal of critical barriers, a thorough and complete visual inspection and a subsequent final air test shall be performed. This test is required to establish safe conditions for the removal of critical barriers and to permit the beginning of reconstruction activity, if required. Sufficient time following clean-up activities shall be allowed so that all surfaces shall be dry during monitoring. Air pressure differential filtration units shall be in use during this monitoring. Post removal testing shall begin when all work area surfaces are completely dry.

2. Aggressive air sampling shall be employed using propeller-type fans and leaf blowers as follows:

i. The fans shall be placed in each room to be sampled so as to cause settled fibers to rise and enter the air.

ii. Prior to air monitoring, floors, ceilings, and walls shall be swept with the exhaust of a one-horsepower leaf blower. The areas which would be subject to dead-air conditions shall be swept clean.

iii. The fans used shall be capable of creating a minimum air velocity of 500 feet per minute. These fans may be of the oscillating type.

iv. The sampling pump and sampling media shall be placed in the abatement area on a random basis to provide unbiased and representative samples. Stationary fans shall be placed in locations which will not interfere with air monitoring equipment. Fan air shall be directed toward the ceiling.

v. One fan shall be used for each 10,000 cubic feet of the work area.

vi. The leaf blower and its use must meet the criteria set forth in EPA document 560/5-85-024, "Guidance for Controlling Asbestos-Containing Materials in Buildings," appendix section M.1.5, or any replacement criteria set forth by the EPA. Their use should be restricted to general occupancy areas that are contained, and they should not be used in any space with an open dirt, sand or gravel floor.

vii. The work site shall be kept free of non-asbestos abatement debris that would render aggressive air sampling impractical.

(d) Post abatement sampling and analysis for an asbestos hazard abatement project shall be performed as per EPA 40 CFR 763.90i. Samples collected within the affected work area shall be analyzed by TEM.

(e) Post abatement sampling and analysis for an asbestos hazard abatement project utilizing the glovebag technique and encapsulation shall be as follows:

1. One sample per 10,000 square feet of work area with a minimum of five samples shall be required. Samples collected within the affected work area may be analyzed by PCM to confirm completion of an asbestos abatement project using the methodology specified in NIOSH 7400.

(f) For TEM analysis, the project shall be considered complete when the results of samples collected in the affected work area comply with 40 CFR 763.90 and Appendix A to Subpart E. Maximum turnaround time from sample collection through data reporting shall be 72 hours.

(g) For PCM analysis, the project shall be considered complete when the results of samples collected in the affected work area show that the concentration of fibers for each of the five samples is less than or equal to 0.01 fibers per cubic centimeter.

(h) When the air analysis results for projects covered by this subchapter show asbestos fiber concentrations above the acceptance criteria, then clean-up shall be repeated until compliance is achieved by re-cleaning all surfaces using wet methods and operating all HEPA equipped air pressure differential units to filter the air.

History

HISTORY:

New Rule R.1986 d.143, effective May 5, 1986.

See: 18 N.J.R. 378(a), 18 N.J.R. 949(a).

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 N.J.R. 1130(b), 21 N.J.R. 1844(b).

Recodified old 8.20 as new 8.21. Section 8.21 was formerly "Demolition".

Recodified from 5:23-8.23 by R.1993 d.198, effective June 7, 1993.

See: 24 N.J.R. 1422(a), 25 N.J.R. 2519(b).

Prior text at section, "Appeals", repealed.

Annotations

Notes

[Chapter Notes](#)

Case Notes

Bureau had not met its burden of proof by a preponderance of the competent and credible evidence to support charges under [N.J.A.C. 5:23-8.3\(b\)](#), [N.J.A.C. 5:23-8.5](#), [N.J.A.C. 5:23-8.15](#), and [N.J.A.C. 5:23-8.21\(b\)](#) when it provided no proof that respondent performed asbestos removal. Dep't of Community Affairs, Bureau of Code Services v. Herman H. Braun Heating & [Plumbing, OAL Dkt. No. CAF 03509-06, 2006 N.J. AGEN LEXIS 1018](#), Initial Decision (December 22, 2006).

NEW JERSEY ADMINISTRATIVE CODE

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End of Document

[N.J.A.C. 5:23-8.22](#)

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NJ - New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 23. UNIFORM CONSTRUCTION CODE > SUBCHAPTER 8. ASBESTOS HAZARD ABATEMENT SUBCODE

§ 5:23-8.22 Disposal of asbestos waste

(a) The disposal of friable/non-friable asbestos-containing material and asbestos-contaminated waste from the project site shall be in accordance with New Jersey Department of Environmental Protection and Energy requirements specified in [N.J.A.C. 7:26](#) and 40 CFR Part 61, Subpart M.

History

HISTORY:

Amended by R.1986 d.143, effective May 5, 1986.

See: 18 New Jersey Register 378(a), 18 New Jersey Register 949(a).

Recodified from 8.13 and substantially amended.

Amended by R.1987 d.525, effective December 21, 1987.

See: 19 New Jersey Register 902(a), 19 New Jersey Register 2389(a).

Substantially amended.

Amended by R.1989 d.342, effective July 3, 1989.

See: 20 New Jersey Register 1130(b), 21 New Jersey Register 1844(b).

Recodified old 8.14 as new 8.15, no change in text. Section 8.15 was formerly "Duties of the asbestos safety technician".

Recodified from 5:23-8.15 and amended by R.1993 d.198, effective June 7, 1993.

See: 24 New Jersey Register 1422(a), 25 New Jersey Register 2519(b).

Prior section, "Demolition", recodified as 5:23-8.18.

Annotations

Notes

[Chapter Notes](#)

End of Document

Official version to be obtained from Lexis Nexis, www.lexis.com



RENOVATIONS, ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION

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DIVISION 00
PROCUREMENT

00.01 ALL BIDDERS, UPON SUBMITTING BIDS, HEREBY CERTIFY THAT THEY HAVE REVIEWED THE ENTIRE SET OF CONTRACT DOCUMENTS. (CONTRACT DOCUMENTS CONSIST OF A COMPLETE SET OF DRAWINGS AND THE ENTIRE PROJECT MANUAL, INCLUDING ALL DIVISIONS & ANY ALL ADDENDA) AND ARE AWARE OF, AND AGREE TO MEET THE INTENT OF THE CONTRACT DOCUMENTS WHETHER EXPRESSED OR IMPLIED.

00.02 PRODUCT MANUFACTURERS IN CONJUNCTION WITH SUBCONTRACTORS AND PRIME CONTRACTOR(S) ARE RESPONSIBLE FOR ALL COMPONENTS AND CALCULATIONS AND/OR CERTIFICATIONS OF THEIR PRODUCT AND FOR PROVIDING COMPLETE SYSTEMS/ASSEMBLIES TO MEET THE DESIGN INTENT OF THE PROJECT.

00.03 THE BIDDER/CONTRACTOR IS REQUIRED TO VISIT THE SITE & EXAMINE THE EXISTING CONDITIONS TO HIS COMPLETE SATISFACTION PRIOR TO BIDDING. THE BIDDER/CONTRACTOR SHALL COMPARE THE EXISTING CONDITIONS TO THE DESIGN INTENT OF THE CONTRACT DOCUMENTS & SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY ALL DISCREPANCIES BEFORE SUBMITTING A BID. FAILURE TO DO SO WILL PLACE THE BURDEN OF RESPONSIBILITY ON THE CONTRACTOR TO PERFORM THE WORK AS INTENDED BY THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.

DIVISION 01
AVAILABLE INFORMATION

01.01 ANY ADDITIONAL INFORMATION THAT IS NOT PART OF THE CONSTRUCTION DOCUMENTS, SUCH AS, BUT NOT LIMITED TO, SOIL REPORT(S), HAZARDOUS MATERIALS REPORT(S), EXISTING DRAWINGS, ETC., ARE INTENDED FOR REFERENCE ONLY AND ARE TO BE USED BY THE CONTRACTOR(S) AT HIS/HER OWN DISCRETION.

01.02 THE INDICATION OF SUBSTRATE & CONFIGURATION OF CONCEALED ITEMS & MATERIALS SHOWN ON THE CONSTRUCTION DOCUMENTS IS FOR GENERAL REFERENCE ONLY. THE CONTRACTOR(S) SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR ANY VARIANCE BETWEEN ACTUAL EXISTING CONDITIONS AND THAT REPRESENTED ON THE CONSTRUCTION DOCUMENTS.

01.03 ALL DIMENSIONS INDICATED ON THE CONSTRUCTION DOCUMENTS, OF EXISTING CONDITIONS, ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR(S) PRIOR TO SUBMITTING A BID.

DIVISION 02
GENERAL REQUIREMENTS

02.01 THE CONTRACTOR(S) SHALL DISCUSS & VERIFY, WITH ALL GOVERNING AUTHORITIES ALL CODE REQUIREMENTS INDICATED AND/OR REQUIRED FOR THE COMPLETE EXECUTION OF THE WORK AS INTENDED BY THE CONSTRUCTION DOCUMENTS.

02.05 THE CONTRACTOR(S) SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR(S) SHALL OBTAIN PERMITS & GIVE NOTICES TO SUCH AGENCIES IN AMPLE TIME FOR OFFICIALS TO CONDUCT INSPECTIONS AND OBTAIN TIMELY APPROVALS. FAILURE TO COMPLY WILL SOLELY BE THE RESPONSIBILITY OF THE CONTRACTOR(S).

02.06 THE CONTRACTOR(S) SHALL PROVIDE PROTECTION FOR THE PUBLIC, OWNER'S STAFF, AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION AREA & ADJACENT PROPERTY. ADEQUATE BARRIERS & SIGNAGE SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE INGRESS & EGRESS OF PREMISES. FIRE EXITS SHALL NOT BE BLOCKED. PROPER SITE SECURITY DURING WORKING & OFF-HOURS SHALL BE MAINTAINED. BARRICADE ALL UNSAFE OR POTENTIALLY DANGEROUS CONDITIONS. THE CONTRACTOR(S) SHALL FOLLOW O.S.H.A. STANDARDS DURING THE COURSE OF THE PROJECT.

02.07 DO NOT SCALE THE DRAWINGS. USE CALCULATED DIMENSIONS ONLY. NOTE THAT NOT ALL DIMENSIONS ARE GIVEN ON THE CONSTRUCTION DOCUMENTS. SOME DIMENSIONS ARE IMPLIED. IF THE CONTRACTOR IS NOT SURE OF A GIVEN DIMENSION, HE/SHE SHALL SUBMIT A REQUEST FOR INFORMATION (R.F.I.) AND/OR SHALL FIELD VERIFY EXISTING DIMENSIONS.

DIVISION 03
GENERAL REQUIREMENTS

03.01 ALL INFORMATION FOR ALL TRADES CONTAINED WITHIN THE CONSTRUCTION DOCUMENTS SHALL BE USED TOGETHER & IN CONCERT WITH ONE ANOTHER AS A WHOLE BODY OF INFORMATION FOR THE PROJECT. THE DRAWINGS & PROJECT MANUAL ARE COMPLEMENTARY & WHAT IS REQUIRED BY ONE, SHALL BE REQUIRED BY BOTH. NEITHER THE PRIME CONTRACTOR(S) NOR ANY SUBCONTRACTOR(S) SHALL BE RELIEVED OF THE RESPONSIBILITY TO PROVIDE ALL ITEMS REQUIRED BY THE INFORMATION IN DESIGN INTENT INDICATED & IMPLIED. IN THE EVENT OF CONFLICTS BETWEEN DOCUMENTS, THE GREATER QUANTITY OR HIGHER QUALITY OF WORK SHALL PREVAIL AND BE PROVIDED.

03.09 ALL ITEMS LABELED "EXISTING" ARE EXISTING "TO REMAIN" UNLESS OTHERWISE INDICATED. ITEMS NOT LABELED "EXISTING" ARE TO BE PROVIDED. THE TERM "PROVIDE" SHALL MEAN FURNISH & INSTALL AS IT IS USED THROUGHOUT THE CONTRACT DOCUMENTS.

DIVISION 04
GENERAL REQUIREMENTS

04.10 THE SCOPE OF THIS SINGLE OVERALL PRIME CONTRACT INCLUDES ALL THE WORK AS INDICATED ON THE DRAWINGS AND IN THE PROJECT MANUAL. THE SINGLE OVERALL PRIME CONTRACT BEARS SOLE SOURCE RESPONSIBILITY FOR THE DELIVERY OF THE PROJECT TO 100% COMPLETION.

04.11 THE SINGLE OVERALL PRIME CONTRACT BEARS SOLE SOURCE RESPONSIBILITY FOR THE COORDINATION OF THE ACTIVITIES OF ALL SUBCONTRACTORS, SUB-SUBCONTRACTORS, MATERIAL SUPPLIERS, AND ALL PARTIES INVOLVED IN THE EXECUTION OF THE PROJECT.

04.12 ENGINEERING DRAWINGS (STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, COMMUNICATIONS, AND SECURITY SYSTEM DRAWINGS, ETC.) ARE SHOWN DIAGRAMMATICALLY AND ARE NOT TO SCALE, NOR DO THEY SHOW THE EXACT LOCATION OF THEIR COMPONENTS. THE EXACT LOCATION AND CLEARANCES FOR EACH SUCH SYSTEM OF COMPONENTS SHALL BE COORDINATED BY THE CONTRACTOR(S). ALL PRIME CONTRACTORS, PRIOR TO PURCHASE, FABRICATION, OR INSTALLATION OF THESE ITEMS SHALL PREPARE COORDINATION DRAWINGS SHOWING THE DIFFERENT TRADES BY COLORS AND SHALL CONDUCT A COORDINATION MEETING WITH ALL OTHER CONTRACTOR(S) AFFECTED FOR A TOTAL UNDERSTANDING OF THE DESIGN INTENT. THE ARCHITECTS AND THE ENGINEERS(S) SHALL BE INVITED TO ATTEND THIS MEETING AND OFFER INPUT PRIOR TO ANY WORK BEING FABRICATED OR INSTALLED.

DIVISION 05
GENERAL REQUIREMENTS

05.13 THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, SERVICES, ETC. TO COMPLETE THE ENTIRE WORK IN A MANNER ACCEPTABLE TO THE OWNER AND THE ARCHITECT. IT IS UNDERSTOOD THAT NOT EVERY DETAIL OR DIMENSION IS SHOWN IN THE CONTRACT DOCUMENTS, NOR ARE THEY NECESSARY FOR THE CONTRACTOR(S) TO PROVIDE A QUALITY PRODUCT. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION (R.F.I.) IF NEEDED TO CLARIFY THE INTENT OF ANY DETAIL OR OTHER INFORMATION. HOWEVER, SUCH REQUEST FOR INFORMATION SHALL NOT CONSTITUTE A CHANGE IN THE SCHEDULE, OR IN THE CONTRACT AMOUNT. NO WORK SHOULD BE INSTALLED IF THE CONTRACTOR IS UNSURE OF THE DESIGN INTENT. INSTALLATION OF ANY WORK THAT DOES NOT COMPLY WITH THE DESIGN INTENT, AS DETERMINED BY THE ARCHITECT, SHALL BE SUBJECT TO REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

DIVISION 06
PRODUCT REQUIREMENTS

06.14 ALL CONSTRUCTION, EQUIPMENT, CONTENTS, ETC. SHALL BE PROTECTED BY EACH CONTRACTOR DURING THE ENTIRE PERFORMANCE OF THE WORK. AREAS DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE COMPLETELY RESTORED, REPAIRED, OR REPLACED BY THE CONTRACTOR. TO THE OWNER'S COMPLETE SATISFACTION AT NO ADDITIONAL COST.

06.15 ALL UNUSED MATERIAL AND DEBRIS SHALL BE COMPLETELY REMOVED FROM THE SITE AND LEGALLY DISPOSED OF. NO ON-SITE STORAGE, BURNING, OR BURIAL OF DEBRIS SHALL BE PERMITTED. THE CONSTRUCTION SITE SHALL BE KEPT IN A CLEAN AND SAFE MANNER, INCLUDING, BUT NOT LIMITED TO DAILY BROOM CLEANING THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT.

DIVISION 07
PRODUCT REQUIREMENTS

07.17 ALL MATERIALS AND PRODUCTS SHALL BE PROTECTED AND PROPERLY STORED AS PER MANUFACTURER'S RECOMMENDATION. ALL MATERIALS AND PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENTLY PRINTED RECOMMENDATIONS TO MAINTAIN THE PROPER WARRANTIES.

07.18 PRIOR TO THE INSTALLATION OF ALL MAJOR BUILDING COMPONENTS, THE PRIME CONTRACTOR(S) SHALL CONDUCT A PRE-INSTALLATION AND COORDINATION MEETING WITH THE MANUFACTURER'S REPRESENTATIVE. INCLUDED IN THE MEETING SHALL BE ANY SUBCONTRACTOR AND PRODUCT MANUFACTURER AFFECTED BY THE SPECIFIC WORK. FAILURE OF THE PRIME CONTRACTOR(S) TO CONDUCT SUCH A MEETING, AND PROPERLY COORDINATE THE PROCESS, SHALL PLACE THE BURDEN FOR ANY & ALL PROBLEMS, RESULTING FROM SAID INSTALLATION, UPON THE PRIME CONTRACTOR(S) RESPONSIBLE FOR THAT PORTION OF THE WORK.

DIVISION 08
EXECUTION REQUIREMENTS

08.19 LONG LEAD ITEMS SHALL BE IDENTIFIED BY THE CONTRACTOR(S) WITH NOTIFICATION TO THE ARCHITECT IN A TIMELY MANNER. FAILURE BY THE CONTRACTOR(S) TO OBTAIN SUBMITTAL APPROVALS, AND TO ORDER LONG LEAD ITEMS, SO AS NOT TO DELAY THE PROGRESS OF THE WORK, WILL NOT JUSTIFY AN EXTENSION OF THE SCHEDULE FOR COMPLETION, NOR WILL IT CAUSE PRODUCT SUBSTITUTIONS IN ORDER TO MEET THE SCHEDULE.

08.20 MISCELLANEOUS WOOD, COLD FORMED, OR ROLLED STEEL SHAPES, WHETHER BLOCKING OR SUB-FRAMING WHICH ARE REQUIRED FOR THE INSTALLATION OF OTHER ITEMS NECESSARY FOR A COMPLETE PACKAGE SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS.

08.23 EACH PRIME CONTRACTOR SHALL FIRE STOP/SMOKE PROOF ANY/ALL PENETRATIONS AS REQUIRED TO MAINTAIN THE DESIGNATED FIRE RATINGS/SMOKE PROOFING OF THE CONSTRUCTION WHETHER EXISTING OR NEW. THE GENERAL CONTRACTOR SHALL ALSO EXTEND RATED CONSTRUCTION TO MAINTAIN CONTINUITY OF SAME THROUGH CONCEALED SPACES (VERTICAL & HORIZONTAL) AS REQUIRED.

DIVISION 09
EXECUTION REQUIREMENTS

09.24 ANY/ALL EQUIPMENT PROVIDED SHALL BE INSTALLED TO BE COMPLETELY FUNCTIONAL. EACH PIECE OF EQUIPMENT PROVIDED BY A PRIME CONTRACTOR, REQUIRING SERVICE CONNECTIONS BY ANOTHER PRIME CONTRACTOR SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. STARTUP & TESTING OF EQUIPMENT SHALL BE PERFORMED & DOCUMENTED BY FACTORY AUTHORIZED PERSONNEL.

09.25 DETAILS & SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS & ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYPICAL" IMPLY ALL "LIKE-CONDITIONS" ARE TO BE TREATED SIMILARLY.

09.26 WORK NOT INDICATED IN PART OF THE DRAWING, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

DIVISION 10
EXECUTION REQUIREMENTS

10.27 MINOR DETAILS OR INCIDENTAL ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER & COMPLETE EXECUTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE SPECIFICALLY INDICATED IN THE CONSTRUCTION DOCUMENTS.

10.28 UNLESS OTHERWISE INDICATED: CUTTING AND PATCHING (EXCEPT FOR FINISHES) IS TO BE PERFORMED BY THE PRIME CONTRACTOR REQUIRING CUTTING AND PATCHING, WHETHER AS SELECTIVE DEMOLITION, OR AS A MEANS OF ACCESSING OR CORRECTING UNSATISFACTORY WORK. PATCHING OF THE SUBSTRATE IS ALSO THE WORK OF THAT PRIME CONTRACTOR, HOWEVER THE PATCHING OF ALL FINISHES EXPOSED TO VIEW IS TO BE DONE BY THE GENERAL CONTRACTOR USING SKILLED TRADESMAN TRAINED FOR PATCHING THE PARTICULAR FINISH INVOLVED.

DIVISION 11
EXECUTION REQUIREMENTS

11.29 THE PROJECT HAS BEEN DESIGNED TO MEET A CERTAIN PROFESSIONAL STANDARD AND PRODUCTS HAVE BEEN SELECTED TO MEET SUCH STANDARDS. THE PRODUCTS SPECIFIED ARE THE PRODUCTS INTENDED TO BE USED. IN THE EVENT THAT SUBSTITUTIONS ARE SUBMITTED FOR REVIEW, A PROPER COMPARATIVE INFORMATION SHEET SHALL ALSO BE SUBMITTED. ALL REQUESTS FOR SUBSTITUTION SHALL BE MADE WITHIN THE FIRST 90 DAYS AFTER THE CONTRACTOR HAS BEEN AWARDED THE CONTRACT FOR CONSTRUCTION. NO SUBSTITUTION WILL BE CONSIDERED AFTER THIS PERIOD.

11.30 THE PRIME CONTRACTOR SHALL PROVIDE ALL REQUIRED SCHEDULES, SUCH AS BUT NOT LIMITED TO: SUBMISSION SCHEDULE, CONSTRUCTION SCHEDULE, & SCHEDULE OF VALUES PRIOR TO SUBMISSION OF THE FIRST APPLICATION FOR PAYMENT. NO APPLICATION FOR PAYMENT WILL BE APPROVED BY THE ARCHITECT UNTIL THIS PREREQUISITE IS COMPLIED WITH PROPERLY.

DIVISION 12
EXECUTION REQUIREMENTS

12.31 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SUFFICIENTLY IN ADVANCE OF THE WORK TO ALLOW PROPER TIME FOR REVIEW. MATERIALS SHALL NOT BE FABRICATED OR DELIVERED TO THE SITE BEFORE THE SHOP DRAWINGS HAVE BEEN APPROVED.

12.32 SHOP DRAWINGS SHALL BE REVIEWED BY THE ARCHITECT/ENGINEER FOR BASIC CONFORMANCE TO THE DESIGN INTENT ONLY AFTER PRIOR APPROVAL BY THE RESPONSIBLE PRIME CONTRACTOR. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OR HIS SUB-CONTRACTOR(S) OF RESPONSIBILITY FOR FULL COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR DIMENSIONS & CLEARANCES TO BE CONFIRMED & CORRELATED AT THE JOB SITE, FOR MATERIALS QUANTITIES & PROPER FABRICATION, FOR PROPER MEANS & METHODS, FOR PROPER SEQUENCES OF CONSTRUCTION, FOR THE PROPER COORDINATION WITH OTHER TRADES, AND FOR PROVIDING SAFE AND SATISFACTORY CONSTRUCTION OPERATIONS.

DIVISION 13
EXECUTION REQUIREMENTS

13.33 EACH CONTRACTOR IS ADVISED THAT CERTAIN COLOR SCHEDULE SELECTIONS MAY HAVE PREVIOUSLY BEEN MADE, REVIEWED, AND APPROVED BY THE OWNER & RETURNED TO THE CONTRACTOR FOR EXECUTION. ALL CONTRACTORS SHALL TAKE NOTE & HEREAFTER STRONGLY BE ADVISED THAT MATERIAL SUBSTITUTIONS SUBMITTED LATER MAY BE REQUIRED TO BE PROVIDED WITH CUSTOM COLORS, TEXTURES, & FINISHES BASED UPON SELECTIONS PREVIOUSLY APPROVED. MATERIAL SUBSTITUTIONS ARE SUBJECT TO REJECTION SOLELY ON APPEARANCE.

DIVISION 14
STANDARD WARRANTY

14.36 THE ARCHITECT WILL TAKE APPROPRIATE ACTION UP TO THREE (3) TIMES FOR EACH ITEM SUBMITTED. SUBMITTALS REQUIRING MORE THAN THREE (3) REVIEWS DUE TO INCORRECT OR INCOMPLETE INFORMATION SHALL BE SUBJECT TO A REVIEW FEE FOR EACH SUBSEQUENT SUBMITTAL. THIS FEE SHALL BE AT THE HOURLY RATE OF THE ARCHITECT & ENGINEER, AND SHALL BE PRE-PAID TO THE ARCHITECT BY THE CONTRACTOR PRIOR TO ANY ADDITIONAL CONSIDERATION. FEES PAID SHALL IN NO WAY CONSTITUTE AN OBLIGATION BY THE ARCHITECT TO APPROVE ANY SUBMITTAL THAT IN HIS/HER OPINION DOES NOT COMPLY WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS. FURTHERMORE, ANY SUCH ADDITIONAL REVIEW TIME SHALL NOT BE A BASIS FOR AN EXTENSION OF TIME.

14.35 IF SUBSTITUTIONS ARE APPROVED, THE CONTRACTOR SHALL NOTIFY ALL OTHER TRADES AFFECTED BY THE SUBSTITUTION & FULLY COORDINATE THE IMPACT ON THE PROJECT. ANY ADDITIONAL COST RESULTING FROM SUBSTITUTIONS SHALL BE PAID BY THE CONTRACTOR PROPOSING THE SUBSTITUTION.

DIVISION 15
DEMOLITION

15.38 EACH PRIME CONTRACTOR SHALL PROVIDE, AS PART OF ITS REQUIRED CLOSE-OUT DOCUMENTS, A STANDARD WARRANTY COVERING ALL MATERIALS, PRODUCTS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ARCHITECT. THIS STANDARD WARRANTY IS A BASIC REQUIREMENT OF EACH PRIME CONTRACT AND SHALL BE EXTENDED BY SPECIFIC WARRANTY REQUIREMENTS OF THE VARIOUS PRODUCTS AND SYSTEMS AS INDICATED THROUGHOUT THE CONTRACT DOCUMENTS.

15.01 THE ACTUAL SCOPE OF DEMOLITION SHALL NOT BE LIMITED TO WHAT IS SPECIFICALLY INDICATED ON THE DRAWINGS OR WITHIN THE PROJECT MANUAL, BUT SHALL INCLUDE ANY AND ALL COMPLETE OR SELECTIVE DEMOLITION AS MAY BE NECESSARY TO ACCOMPLISH THE INTENDED CONSTRUCTION. THIS APPLIES TO THE WORK OF ALL TRADES.

DIVISION 16
WOOD BLOCKING

16.01 ANY HOLLOW WALLBOARD PARTITION THAT IS INDICATED TO RECEIVE ANY ACCESSORIES SUCH AS, BUT NOT LIMITED TO, TOILET ACCESSORIES, HANDICAP RAILS, CABINETS, WALL MOUNTED BACKBOARDS, ETC. SHALL BE PROVIDED WITH SOLID BLOCKING AND REINFORCEMENT WITHIN THE FRAMING TO ADEQUATELY SUPPORT THE INSTALLATION OF SUCH ITEMS.

16.01 ANY AND ALL CONSTRUCTION JOINTS INCLUDING JOINTS BETWEEN DIFFERENT ITEMS AND MATERIALS, JOINTS SURROUNDING PENETRATIONS THROUGH MATERIALS, AND CRACKS WITHIN MATERIALS, ETC., WHETHER ON THE INTERIOR OR EXTERIOR OF THE BUILDING, SHALL BE FILLED WITH AN APPROPRIATE SEALANT AS REQUIRED. ON THE INTERIOR OF THE BUILDING, SAID SEALANT SHALL BE PAINTABLE ON THE EXTERIOR OF THE BUILDING, SAID SEALANT SHALL BE WEATHERPROOF AND IN A COLOR SELECTED BY THE ARCHITECT.

DIVISION 17
SEALANTS

17.01 UNLESS FACTORY FINISHED, OR OTHERWISE SPECIFICALLY NOTED ON THE CONSTRUCTION DOCUMENTS, ALL EXPOSED SURFACES (BOTH INTERIOR & EXTERIOR OF THE BUILDING) SHALL BE PAINTED/COATED IN COLORS & TEXTURES AS SELECTED BY THE ARCHITECT/OWNER. NO SURFACES ARE TO BE LEFT UNFINISHED UNLESS SPECIFICALLY NOTED ON THE CONTRACT DOCUMENTS.

17.11 EQUIPMENT SUPPORT MEMBERS AS WELL AS PLUMBING & ELECTRICAL REQUIREMENTS SHALL BE COORDINATED IN A PRE-INSTALLATION CONFERENCE BY THE GENERAL CONTRACTOR WITH SUPPLIER/INSTALLER, ARCHITECT, & ANY OTHER CONTRACTOR AFFECTED BY THIS WORK.

DIVISION 18
ELECTRICAL

18.01 CONVENIENCE & DATA OUTLETS, WALL SWITCHES, AND FIXTURES SHALL BE COORDINATED WITH THE LOCATION OF FURNITURE, MILLWORK, CASEWORK, ETC. PRIOR TO INSTALLATION. FAILURE TO COORDINATE THESE ITEMS MAY RESULT IN CHANGES IN THE FIELD AT THE EXPENSE OF THE PRIME CONTRACTOR.

18.01 CONTRACTOR TO COMPLY WITH ALL COVID-19 REGULATIONS AS STIPULATED BY LOCAL, COUNTY AND STATE GUIDELINES.

COVID-19

CONTRACTOR TO COMPLY WITH ALL COVID-19 REGULATIONS AS STIPULATED BY LOCAL, COUNTY AND STATE GUIDELINES.

DRAWING LIST

ARCHITECTURAL

A-1	GENERAL NOTES, CODE INFO., LOCATION MAP AND KEY PLAN
A-2	SECOND FLOOR DEMOLITION PLAN
A-3	PARTIAL SECOND FLOOR CONSTRUCTION PLAN AND NOTES
A-4	SECOND FLOOR REFLECTED CEILING PLAN
A-5	SECOND FLOOR FINISH PLAN, SCHEDULE AND LEGEND
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FP-01	FIRE PROTECTION GENERAL INFORMATION
FP-11	FIRE PROTECTION SECOND FLOOR PLAN NEW WORK
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M-02	MECHANICAL SPECIFICATIONS
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M-21	MECHANICAL SCHEDULES & DETAILS
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E02	ELECTRICAL DETAILS
E03	ELECTRICAL DETAILS
E11	ELECTRICAL SECOND FLOOR PLAN DEMOLITION AND NEW WORK

DESIGN TEAM

ARCHITECT



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ENVIRONMENTAL



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BUILDING CODE INFORMATION

NEW JERSEY ADMINISTRATIVE CODES

APPLICABLE CONSTRUCTION CODES - NEW JERSEY ADMINISTRATIVE CODE ("N.J.A.C.")

N.J.A.C. 5:23	UNIFORM CONSTRUCTION CODE (UCC)
N.J.A.C. 5:23-3.14	BUILDING SUBCODE - INTERNATIONAL BUILDING CODE / 2018 NEW JERSEY EDITION ("NJ IBC 2018")
N.J.A.C. 5:23-3.15	PLUMBING SUBCODE - NATIONAL STANDARD PLUMBING CODE / 2018 NEW JERSEY EDITION ("NJ NSPC 2018")
N.J.A.C. 5:23-3.16	ELECTRICAL SUBCODE - NATIONAL ELECTRICAL CODE (NFPA 70) / 2017 ("NEC 2017")
N.J.A.C. 5:23-3.18	ENERGY SUBCODE - 1.2016 (COMMERCIAL AND ALL OTHER RESIDENTIAL)
N.J.A.C. 5:23-3.20	MECHANICAL SUBCODE - INTERNATIONAL MECHANICAL CODE / 2018 ("IMC 2018")
N.J.A.C. 5:23-3.22	FUEL GAS SUBCODE - INTERNATIONAL FUEL GAS CODE / 2018 ("IFGC 2018")
N.J.A.C. 5:23-6	REHABILITATION SUBCODE - ICC/ANSI A117.1-2009
N.J.A.C. 5:23-7	BARRIER FREE SUBCODE - CHAPTER 11 OF NJ IBC 2018 AND ICC/ANSI A117.1-2009
N.J.A.C. 5:70	UNIFORM FIRE CODE (UFC) AND THE STATE FIRE PREVENTION CODE

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

USE GROUP: EXISTING "BUSINESS"

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS

EXISTING BUILDING

CHAPTER 6: TYPES OF CONSTRUCTION

CONSTRUCTION TYPE: EXISTING "TYPE IIB"

CHAPTER 8: INTERIOR FINISHES

IBC REFERENCE	CLASSIFICATION	FLAME SPREAD	SMOKE DEVELOPMENT
803.1.2	CLASS A INTERIOR FINISH:	0-25	0-450
	CLASS B INTERIOR FINISH:	26-75	0-450
	CLASS C INTERIOR FINISH:	76-200	0-450

TABLE 803.11 - INTERIOR WALL AND CEILING FINISH REQUIREMENTS

LOCATION	OCCUPANCY	REQUIREMENT
EXIT ENCLOSURES AND PASSAGEWAYS	B	CLASS B
CORRIDORS	B	CLASS C
ROOMS AND ENCLOSED SPACES	B	CLASS C

IBC REFERENCE	INTERIOR FLOOR FINISH CLASSIFICATION
804.2	CLASS I INTERIOR FLOOR FINISH COVERING: 0.45 WATTS/CM2 OR GREATER CLASS II INTERIOR FLOOR FINISH COVERING: 0.22 WATTS/CM2 OR GREATER

(CLASSIFICATION AS DETERMINED BY NFPA 253)

CHAPTER 9: FIRE PROTECTION SYSTEMS

903	AUTOMATIC SPRINKLER SYSTEMS B USE GROUP	REQUIRED NO	PROVIDED YES
906	PORTABLE FIRE EXTINGUISHERS B USE GROUP	REQUIRED YES	PROVIDED YES (UNCHANGED)

TABLE 906.1 - ADDITIONAL REQUIRED PORTABLE FIRE EXTINGUISHERS IN THE INTERNATIONAL FIRE CODE

NFPA 10 PORTABLE FIRE EXTINGUISHERS

TABLE 906.3(1) - FIRE EXTINGUISHER SIZE AND PLACEMENT FOR CLASS A HAZARDS

	LIGHT (LOW) HAZARD OCCUPANCY
MINIMUM RATED SINGLE EXTINGUISHER	2-A
MAXIMUM FLOOR AREA PER UNIT OF A	3000 SF.
MAXIMUM FLOOR AREA FOR EXTINGUISHER	11,250 SF.
MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER	75 FT.

907 MANUAL FIRE ALARM SYSTEM
B USE GROUP

AUTOMATIC SMOKE DETECTION SYSTEM
B USE GROUP

SMOKE ALARMS
B USE GROUP

REQUIRED NO
NO (UNCHANGED)
REQUIRED YES
YES (UNCHANGED)
REQUIRED YES
YES (UNCHANGED)

CHAPTER 10: MEANS OF EGRESS

BUILDING AREA: EXISTING / NO CHANGE

TABLE 1017.2 - EXIT ACCESS TRAVEL DISTANCE, WITH SPRINKLER SYSTEM

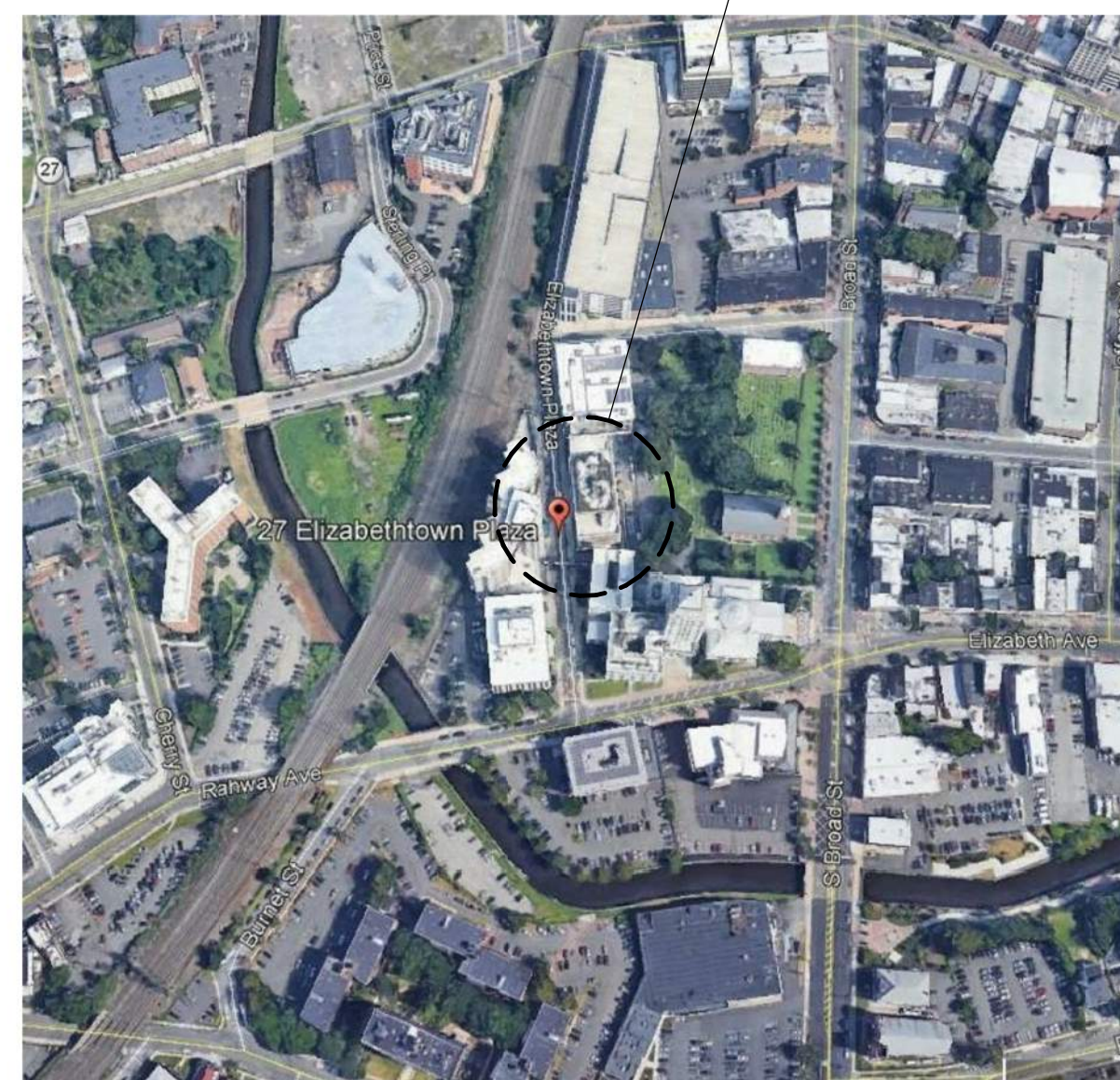
OCCUPANCY	MAXIMUM DISTANCE
B (BUSINESS)	250 FEET

CHAPTER 7: PLUMBING FIXTURES

THE EXISTING SHARED COMMON TOILET FACILITIES AND PLUMBING FIXTURE COUNT SHALL REMAIN UNCHANGED.

PROJECT LOCATION:

27 ELIZABETHTOWN PLAZA
ELIZABETH, NJ 07202



SCOPE OF WORK LEGEND

AREA OF WORK

NOT IN SCOPE

1 LOCATION MAP

SCALE: N.T.S.

2 SECOND FLOOR KEYPLAN

SCALE: 1/16" = 1'-0"

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RENOVATIONS, ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION
AT THE

NEW ANNEX BUILDING, SECOND FLOOR

FOR THE

COUNTY OF UNION

27 Elizabethtown Plaza
Elizabeth, NJ 07202

1 03.26.2021 ISSUED FOR BID

No. Date Issue or Revision

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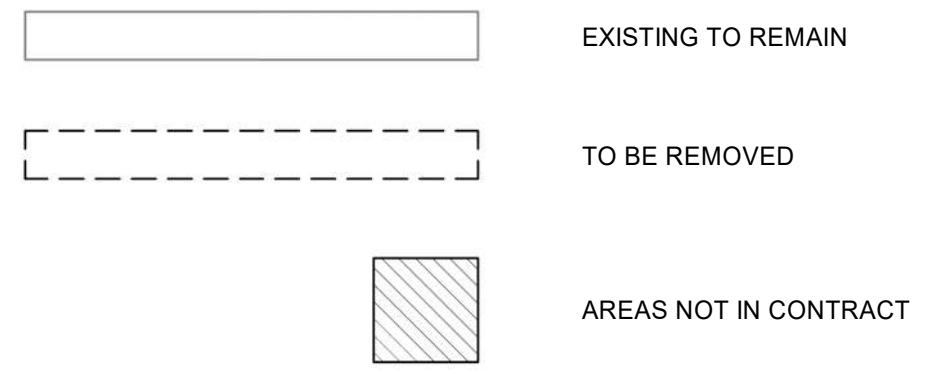
GENERAL NOTES, CODE INFO., LOCATION MAP AND KEY PLAN

Scale As indicated USA Project No. 2020-047

Drawing Date 03.26.21 Drawing No. A-1

Drawn By JLG Checked By APA

- GENERAL DEMOLITION NOTES:**
1. CONTRACTOR MUST INSTALL AND MAINTAIN PLASTIC DUST BARRIERS DURING DEMOLITION AND CONSTRUCTION TO PROTECT THE GENERAL PUBLIC FROM DUST AND FUMES. LOCATE PARTITIONS REQUIRED TO PROTECT ADJACENT AREAS AND EQUIPMENT, AND CONTINUE EGRESS THROUGH THE SPACE. CONTRACTOR SHALL PROVIDE TEMPORARY EXITWAYS AS REQUIRED BY LOCAL CODE ENFORCEMENT OFFICIAL DURING CONSTRUCTION.
 2. DO NOT CONSIDER DEMOLITION AND ALTERATION NOTES TO BE ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH SPACE AND TO FULFILL THE INTENT OF THE WORK INDICATED BY THE CONTRACT DOCUMENTS. VERIFY ALL DIMENSIONS WITHIN THE CONTRACT LIMITS. BRING DEVIATIONS FROM THE CONTRACT DOCUMENTS TO THE ATTENTION OF THE ARCHITECT. THE EXTENT OF DEMOLITION AND REMOVAL INCLUDES, BUT IS NOT LIMITED TO WORK SHOWN ON THE DRAWINGS. COORDINATE W/ MECHANICAL, ELECTRICAL, PLUMBING & STRUCTURAL DRAWINGS.
 3. REMOVE ANY MISCELLANEOUS PROJECTIONS, HANGERS, BOLTS, SCREWS AND NAILS FROM EXISTING SURFACES TO REMAIN. PATCH AND PREPARE SURFACES TO RECEIVE NEW FINISH.
 4. PATCH AND REPAIR ALL ADJACENT SURFACES WHICH ARE AFFECTED BY THE DEMOLITION OR REMOVAL OF ACCESSORIES TO THEIR ORIGINAL FORM AND PREPARE FOR NEW FINISH. COORDINATE WITH FINISH DRAWINGS.
 5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANUP OF CONSTRUCTION DEBRIS.
 6. BEFORE DEMOLITION BEGINS, CONTRACTOR SHALL COORDINATE SEQUENCE AND SCHEDULES FOR ALL WORK AND RELOCATION OR DISPOSAL OF ALL MATERIALS WITH OWNER.
 7. DEMOLITION PLANS ARE DIAGRAMMATIC. PRIOR TO SUBMITTING BID, GENERAL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND BRING ANY AREAS IN QUESTION TO THE ATTENTION OF THE ARCHITECT.

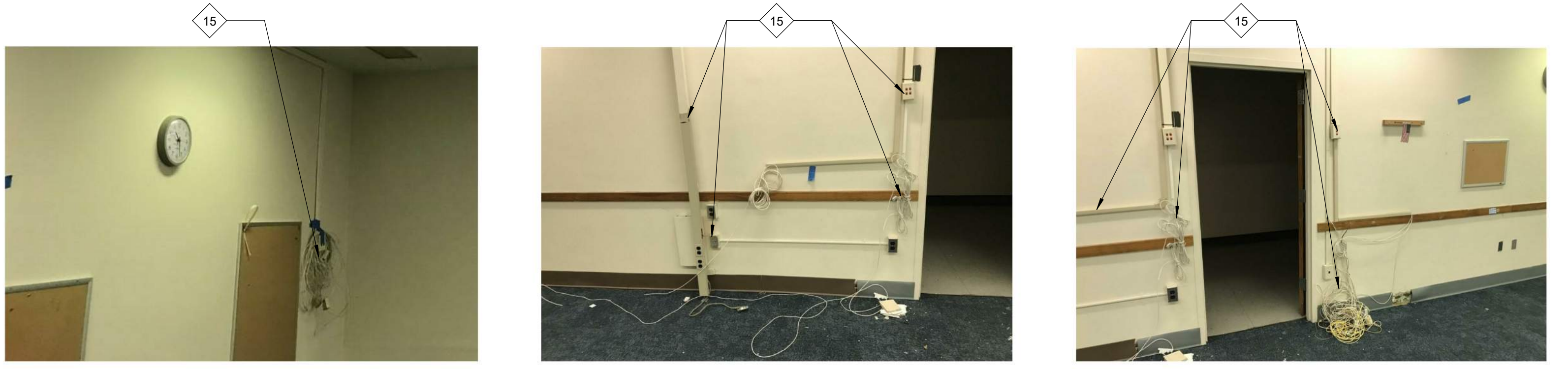


SELECTIVE DEMOLITION LEGEND:

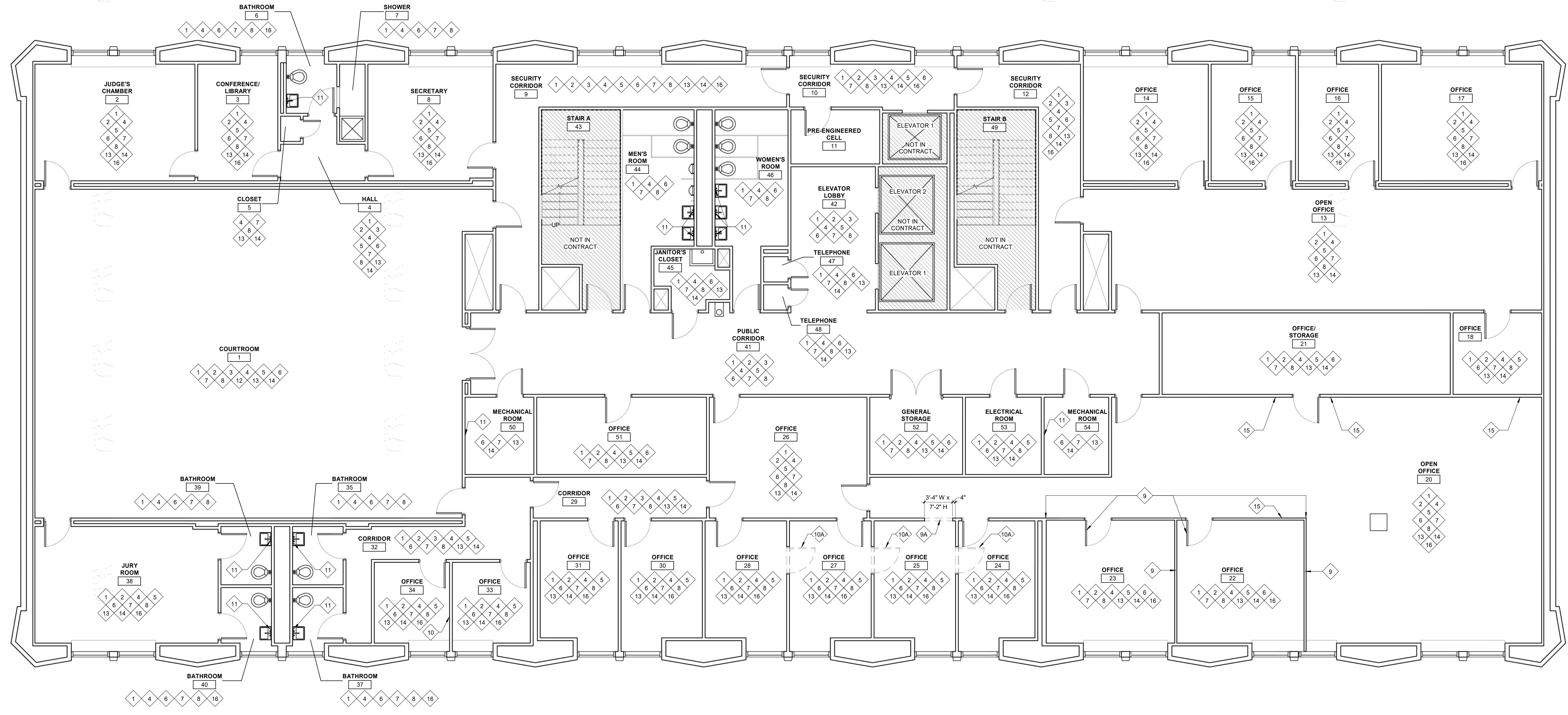
- X DEMOLITION SCOPE OF WORK ITEM TYPICAL THROUGHOUT ENTIRE ROOM / AREA
- X DEMOLITION SCOPE OF WORK ITEM AT A SPECIFIC LOCATION
- 1 REMOVE EXISTING SUPPLY AND RETURN CEILING DIFFUSERS AND THEIR COMPONENTS IN THEIR ENTIRETY. COORDINATE WITH MECHANICAL DWGS.
- 2 REMOVE EXISTING CEILING MOUNTED SPEAKERS AND THEIR COMPONENTS IN THEIR ENTIRETY. STORE FOR REINSTALLATION IN NEW CEILING SYSTEM. INSTALL IN SAME LOCATIONS.
- 3 REMOVE EXISTING CEILING MOUNTED SECURITY CAMERAS AND THEIR COMPONENTS FROM THE CEILING SYSTEM TO FACILITATE WORK. SECURE TO STRUCTURE AS REQUIRED TO MAINTAIN CAMERA FUNCTION DURING CONSTRUCTION. REINSTALL IN NEW CEILING SYSTEM.
- 4 REMOVE EXISTING CEILING MOUNTED LIGHT FIXTURES AND THEIR COMPONENTS IN THEIR ENTIRETY.
- 5 REMOVE EXISTING CEILING MOUNTED I.T. EQUIPMENT (i.e. ROUTERS, BOOSTERS, etc.) AND THEIR COMPONENTS FROM THE CEILING SYSTEM TO FACILITATE WORK. SECURE TO STRUCTURE AS REQUIRED TO MAINTAIN FUNCTION DURING CONSTRUCTION. REINSTALL IN NEW CEILING SYSTEM.
- 6 REMOVE EXISTING CEILING MOUNTED FIRE ALARMS AND THEIR COMPONENTS FROM THE CEILING SYSTEM TO FACILITATE WORK. SECURE TO STRUCTURE AS REQUIRED TO MAINTAIN FIRE ALARM FUNCTION DURING CONSTRUCTION. REINSTALL IN NEW CEILING SYSTEM.
- 7 REMOVE EXISTING CEILING SMOKE DETECTORS AND THEIR COMPONENTS FROM THE CEILING SYSTEM TO FACILITATE WORK. SECURE TO STRUCTURE AS REQUIRED TO MAINTAIN SMOKE DETECTOR FUNCTION DURING CONSTRUCTION. REINSTALL IN NEW CEILING SYSTEM.
- 8 REMOVE EXISTING CEILING SYSTEM AND ALL ITS ACCESSORIES IN THEIR ENTIRETY. PATCH AND REPAIR ADJACENT SURFACES TO RECEIVE NEW CEILING SYSTEM.
- 9 REMOVE EXISTING WOOD PANELED WALL SYSTEM AND THEIR COMPONENTS INCLUDING, BUT NOT LIMITED TO, DOORS, HARDWARE, CLIPS, TRACKS, ETC., IN THEIR ENTIRETY. PREPARE FOR INSTALLATION OF NEW WALL SYSTEM AND FINISHES.
- 9A REMOVE EXISTING WALL TO DIMENSIONS SHOWN. PREPARE SPACE FOR INSTALLATION OF NEW DOOR FRAME, DOOR AND HARDWARE. PATCH AND REPAIR TO MATCH ADJACENT SURFACES.
- 10 REMOVE EXISTING ACCESS DOORS FOR LIGHT FIXTURES AND ALL THEIR ACCESSORIES IN THEIR ENTIRETY. PATCH AND REPAIR WALL TO MATCH ADJACENT CONSTRUCTION AND FINISH. REFER TO PLAN FOR LOCATION. REFER TO PHOTOS 2/4-50 FOR MORE INFORMATION.
- 10A REMOVE EXISTING DOOR HARDWARE, DOOR, FRAME AND ALL ACCESSORIES IN THEIR ENTIRETY. PROVIDE NEW INFL AT OPENING TO MATCH EXISTING PARTITION MATERIALS, WIDTH AND FIRE RATING. PATCH AND REPAIR TO MATCH ADJACENT FINISHES.
- 11 REMOVE EXISTING WALL MOUNTED LIGHT FIXTURE IN ITS ENTIRETY. PATCH AND REPAIR WALL TO RECEIVE NEW WALL FINISH.
- 12 DISASSEMBLE, REMOVE AND STORE AT AN OFF-SITE FACILITY ALL EXISTING LOOSE FURNITURE CONSISTING OF, BUT NOT LIMITED TO, SYSTEM FURNITURE, SEATING AND FILE CABINETS TO FACILITATE WORK. AT COMPLETION OF WORK, REINSTALL ALL FURNITURE TO ORIGINAL LOCATIONS.
- 13 REMOVE EXISTING FLOOR COVE BASE IN ITS ENTIRETY. PATCH AND REPAIR WALL TO RECEIVE NEW COVE BASE.
- 14 REMOVE EXISTING FLOOR SYSTEM(S) IN THEIR ENTIRETY TO SUBSTRATE. PREPARE SURFACE FOR INSTALLATION OF NEW FLOOR FINISH. USE SELF LEVELING CONCRETE TO ENSURE LEVEL SURFACE.
- 15 REMOVE ANY AND ALL EXISTING WIRES, CONTROLS AND COMPONENTS THAT ARE NO LONGER IN USE BACK TO SOURCE. VERIFY FUNCTION AND WHETHER ITEMS ARE IN USE WITH OWNER PRIOR TO REMOVAL. CLEANLY WRAP WIRES IN USE FOR OWNER AT LOCATION. REFER TO PLAN FOR LOCATIONS. REFER TO PHOTOS 3/4-50 FOR MORE INFORMATION.
- 16 REMOVE EXISTING WINDOW TREATMENTS (SHADES, BLINDS, ETC.) AND ACCESSORIES TO FACILITATE WORK. STORE FOR REINSTALLATION.
- 17 REMOVE ALL EXISTING ASBESTOS CONTAINING MATERIALS ABOVE CEILING AS SHOWN AND INDICATED WITHIN THE "ASBESTOS REMOVAL TECHNICAL SPECIFICATIONS" AND THE DRAWINGS THEREIN.



2 FIXTURE ACCESS DOOR PHOTOS
SCALE: N.T.S.



3 WIRING PHOTOS
SCALE: N.T.S.



1 SECOND FLOOR DEMOLITION PLAN
SCALE: 3/16" = 1'-0"
12, 17 NOTES ARE TO BE UTILIZED THROUGHOUT THE ENTIRETY OF THE PLAN

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RENOVATIONS, ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION AT THE NEW ANNEX BUILDING, SECOND FLOOR FOR THE COUNTY OF UNION

27 Elizabethtown Plaza
Elizabethtown, NJ 07202

03-26-2021 ISSUED FOR BID

1 03-26-2021 ISSUED FOR BID

No. Date Issue or Revision

Drawing Title
SECOND FLOOR DEMOLITION PLAN

Scale: As indicated
Drawing Date: 03.26.21
Drawn By: JLG

USA Project No.: 2020-047
Drawing No.:
Checked By: APA

A-2

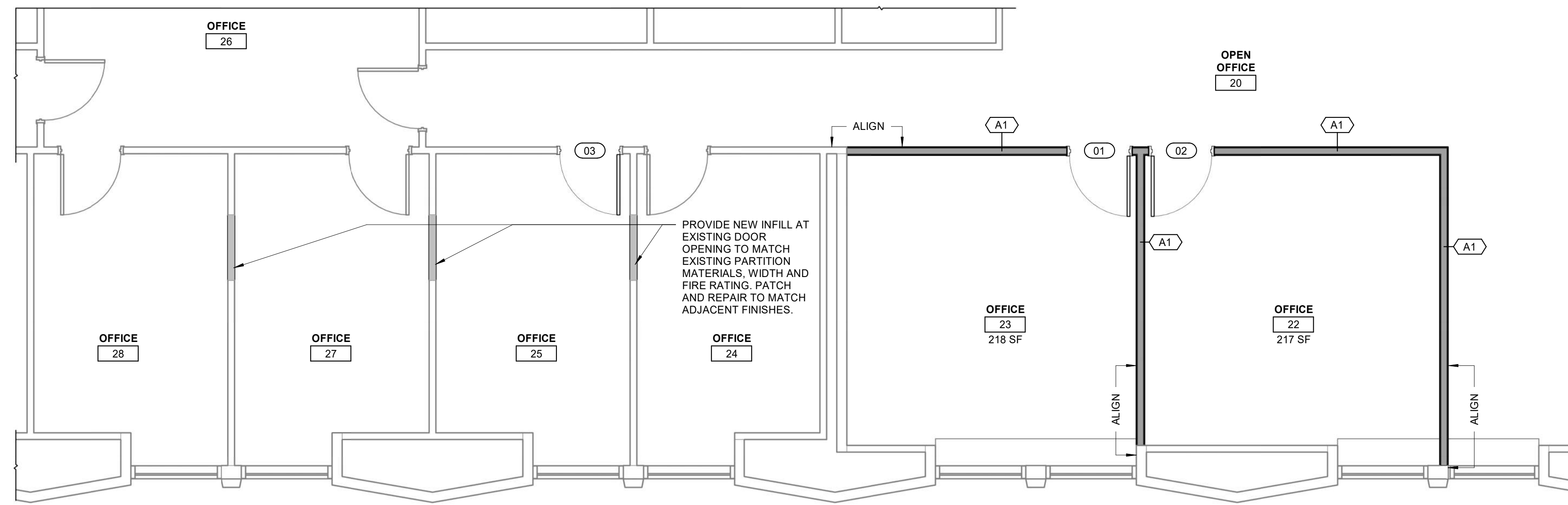
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DOOR SCHEDULE									
DOOR NUMBER	ELEVATION TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR TYPE	FRAME TYPE	FRAME HEIGHT	HARDWARE SET	FIRE RATING	COMMENTS
01	F	3'-0"	7'-0"	SWC	HM	7'-2"	1		
02	F	3'-0"	7'-0"	SWC	HM	7'-2"	1		
03	F	3'-0"	7'-0"	SWC	HM	7'-2"	1		

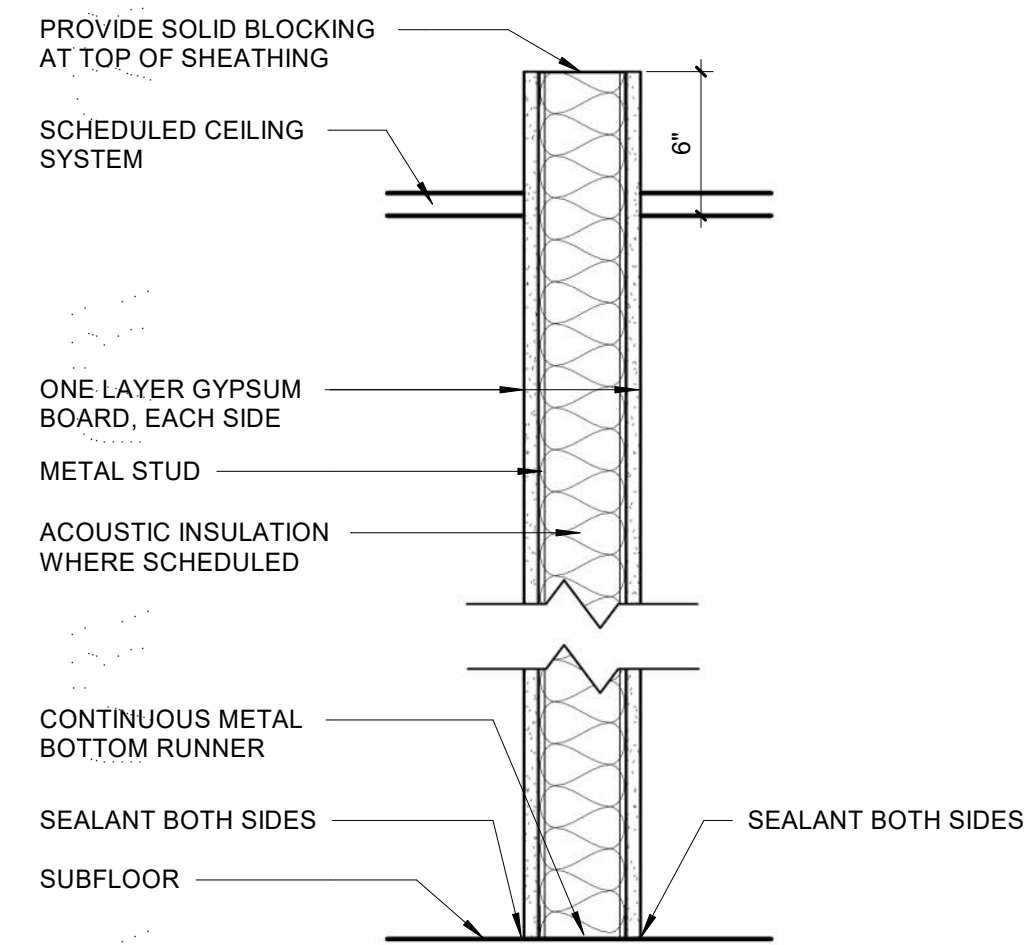
HARDWARE SET #1:				
QUANTITY	DESCRIPTION	CATALOG NUMBER	FINISH	MANUFACTURER
3 EACH	HINGE	5BB1 4.5 X 4.5	630	IVES
1 EACH	OFFICE/ENTRY LOCK	L9050T 07A L583-363	630	SCHLAGE
1 EACH	PERMANENT CORE	AS REQUIRED	626	SCHLAGE
1 EACH	KICK PLATE	8400 8" X 2" LDW B-CS	630	IVES
1 EACH	WALL STOP	WS406/407CCV	630	IVES
3 EACH	SILENCER	SR64	GRY	IVES



1 SECOND FLOOR CONSTRUCTION PLAN

SCALE: 1/4" = 1'-0"

REFER TO ELECTRICAL DRAWINGS FOR ALL POWER, DATA AND SWITCHING INFORMATION.



MARK	STUD SIZE	GYP. BD. THICKNESS	GYPSUM BOARD HEIGHT	TOTAL PARTITION THICKNESS	ACOUSTIC INSULATION	Comments
A1	3-5/8"	5/8"	6" ABOVE FINISHED CEILING	4 7/8"	YES	

2 PARTITION TYPE

SCALE: 1 1/2" = 1'-0"

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RENOVATIONS, ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION
AT THE

NEW ANNEX BUILDING, SECOND FLOOR

FOR THE

COUNTY OF UNION

27 Elizabethtown Plaza
Elizabethtown, NJ 07202

1 03.26.2021 ISSUED FOR BID

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PARTIAL SECOND FLOOR CONSTRUCTION PLAN AND NOTES

Scale As indicated USA Project No. 2020-047

Drawing Date 03.26.21 Drawing No.

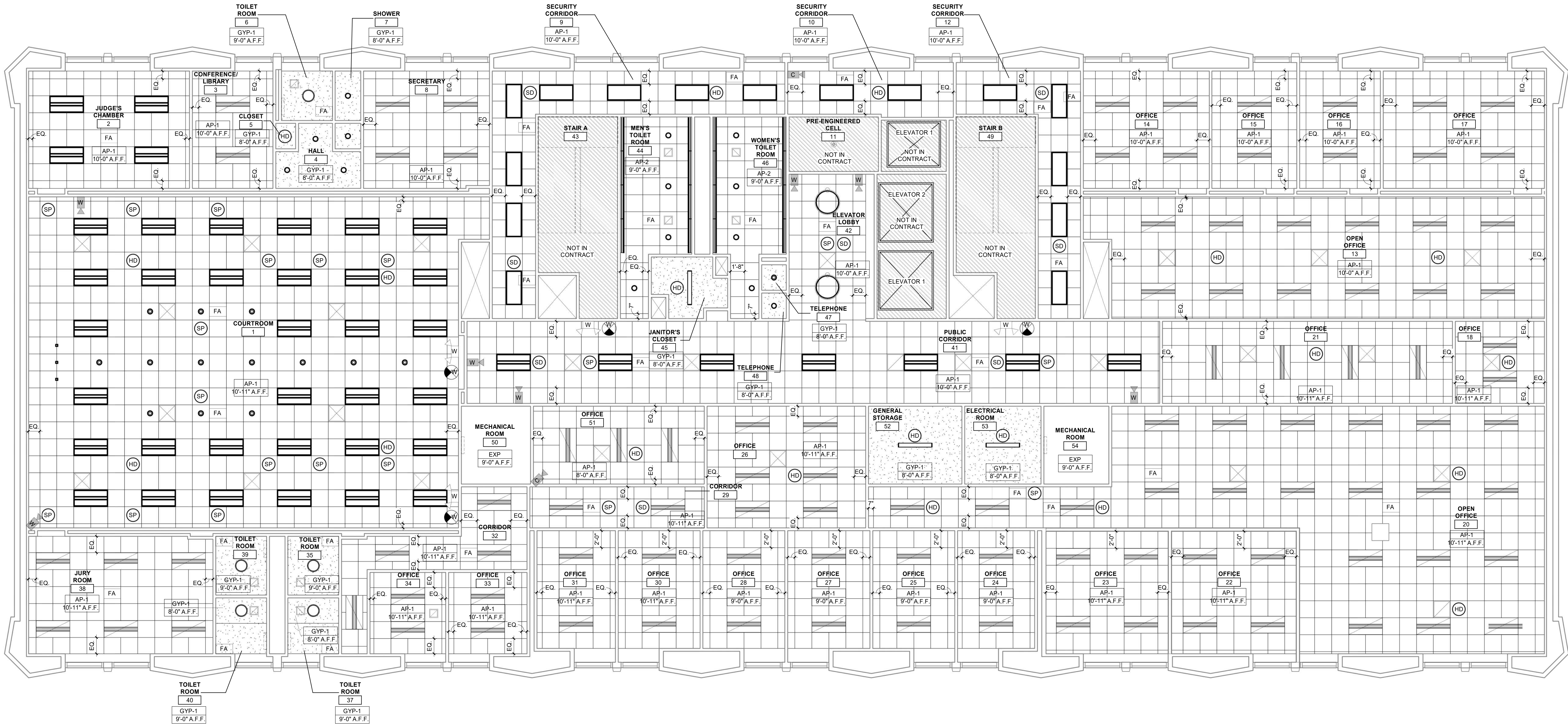
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GENERAL REQUIREMENTS:

1. MEASURE EACH CEILING AREA PRIOR TO INSTALLATION AND ESTABLISH THE LAYOUT OF THE ACOUSTICAL PANEL SYSTEM SO THAT THE PANELS AT THE PERIMETER ARE CUT TO EQUAL SIZES TO THE OPPOSITE WALL AND PROVIDE MINIMUM DIMENSION OF 6" FOR CUT PIECES, UNLESS NOTED OTHERWISE BY SPECIFIC DIMENSIONS OR LAYOUT REQUIREMENTS.
2. REFER TO ELECTRICAL DRAWINGS FOR TYPES OF FIXTURES. UTILIZE REFLECTED CEILING PLANS FOR LOCATIONS AND COORDINATION OF FIXTURES. ANY DISCREPANCY BETWEEN ELECTRICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
3. REFER TO ELECTRICAL DRAWINGS FOR NIGHT LIGHT LOCATIONS.
4. REFER TO MECHANICAL DRAWINGS FOR CEILING DIFFUSERS. UTILIZE REFLECTED CEILING PLAN FOR LOCATION AND COORDINATION OF ITEMS. ANY DISCREPANCY BETWEEN THE MECHANICAL AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
5. ALL CEILING HEIGHTS TO BE ABOVE FINISHED FLOOR FOR EACH ROOM. THESE ARE +/- THE CURRENT CEILING HEIGHTS. NEW CEILINGS ARE TO BE INSTALLED AT SAME HEIGHT.
6. THE ENTIRETY OF THE 2ND FLOOR IS TO BE SPRINKLERED. COORDINATE WITH FIRE PROTECTION DRAWINGS. PLACEMENT OF SPRINKLER HEADS SHALL BE AT THE CENTER OF ACOUSTICAL TILE UNLESS NOTED OTHERWISE. NOTED COORDINATION LOCATION WITH ELECTRICAL, H.V.A.C. FIXTURES AND EQUIPMENT.

CEILING LEGEND

	AP-1 2' x 2' ACOUSTICAL PANEL CEILING		3" DIA. CEILING MOUNTED LED LIGHT FIXTURE		EXISTING SPRINKLER HEAD TO REMAIN		CEILING MOUNTED FIRE ALARM EQUIPMENT (COORDINATE TYPE AND LOCATIONS WITH ELECTRICAL DRAWINGS)
	AP-2 2' x 2' ACOUSTICAL PANEL CEILING (WET AREA)		6" x 4" SURFACE MOUNTED LED LIGHT FIXTURE		SUPPLY DIFFUSER (COORDINATE LOCATIONS WITH MECHANICAL DRAWINGS)		EXIT SIGN - WALL MOUNTED (EXISTING TO REMAIN)
	GYP-1 PAINTED GYPSUM BOARD ON COLD FORMED METAL FRAMING		4" COVE LED LIGHT FIXTURE		RETURN DIFFUSER (COORDINATE LOCATIONS WITH MECHANICAL DRAWINGS)		EMERGENCY LIGHT - WALL MOUNTED (EXISTING TO REMAIN)
	EXP NO CEILING (UNDERSIDE OF DECK EXPOSED)		2" DIA. SURFACE MOUNTED ROUND LED LIGHT FIXTURE		RETURN DIFFUSER (COORDINATE LOCATIONS WITH MECHANICAL DRAWINGS)		SECURITY CAMERA - WALL MOUNTED (EXISTING TO REMAIN)
	2' x 4" RECESSED LED LIGHT FIXTURE		6" DIA. RECESSED LED DOWNLIGHT		CEILING MOUNTED SPEAKER (COORDINATE LOCATIONS WITH ELECTRICAL DRAWINGS)		SECURITY CAMERA - CEILING MOUNTED (REINSTALL AT SAME LOCATION)
	2' x 4" RECESSED LED LIGHT FIXTURE		3" SQ. WALL WASHER LED LIGHT FIXTURE		CEILING MOUNTED HEAT DETECTOR (COORDINATE LOCATIONS WITH ELECTRICAL DRAWINGS)		
	2' x 4" RECESSED LED LIGHT FIXTURE (HIGH ABUSE)		WALL MOUNTED LED LIGHT FIXTURE		CEILING MOUNTED SMOKE DETECTOR (COORDINATE TYPE AND LOCATIONS WITH ELECTRICAL DRAWINGS)		



2 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"



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RENOVATIONS, ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION AT THE NEW ANNEX BUILDING, SECOND FLOOR

FOR THE
COUNTY OF UNION
27 Elizabethtown Plaza
Elizabethtown, NJ 07202

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SECOND FLOOR REFLECTED CEILING PLAN	
Scale	USA Project No.
3/16" = 1'-0"	2020-047
Drawing Date	Drawing No.
03.26.21	A-4
Drawn By	Checked By
JLG	APA

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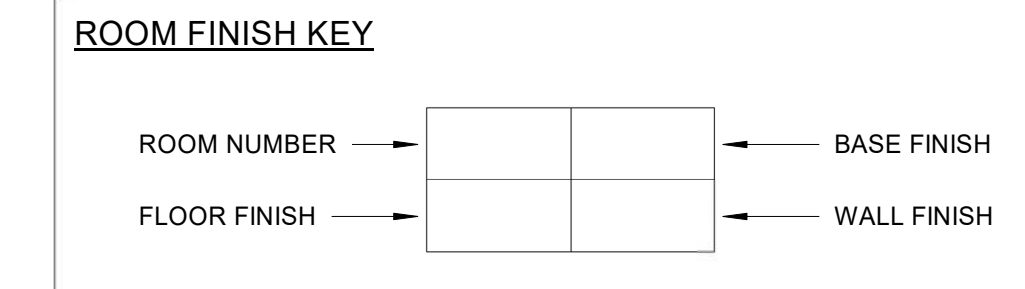


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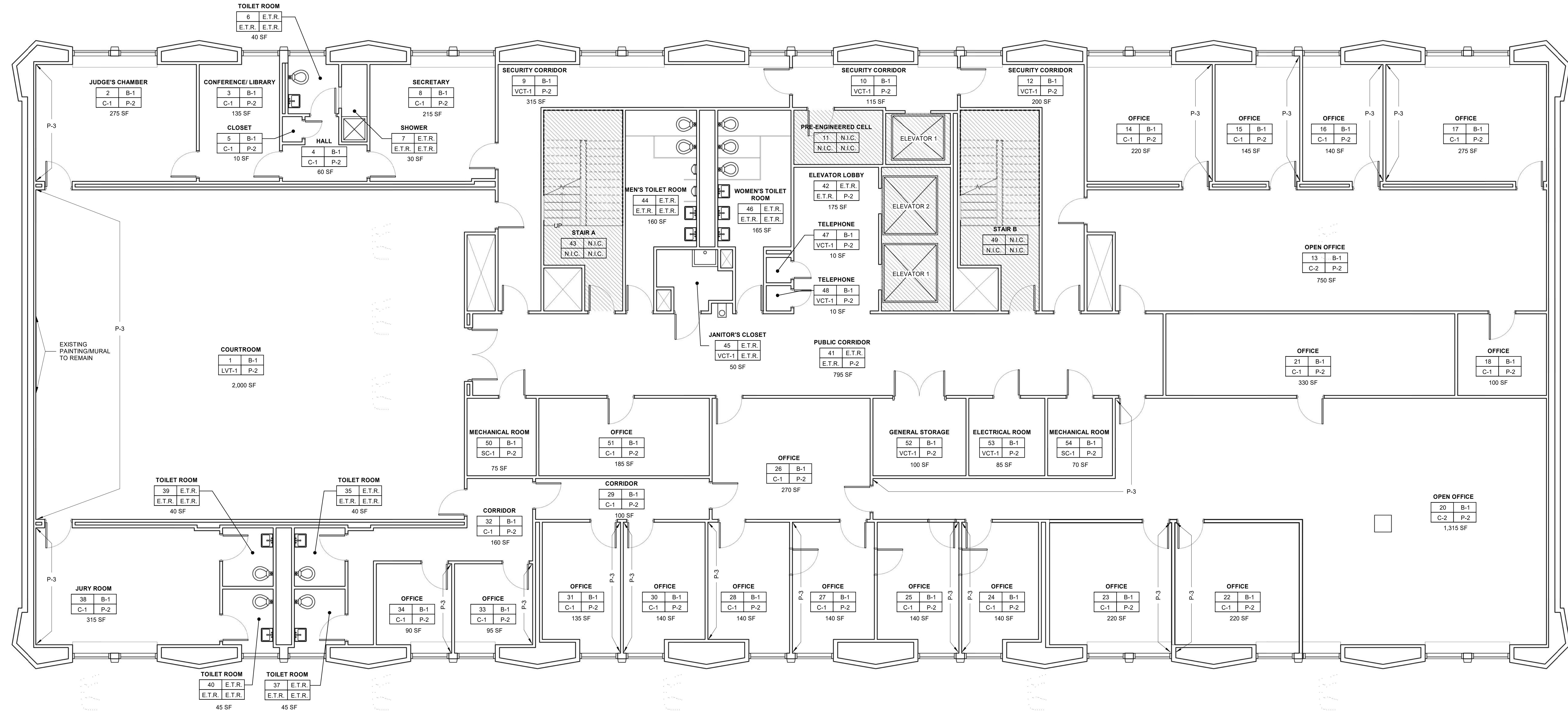
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FINISH MATERIAL LEGEND						
TAG	FINISH	MANUFACTURER	STYLE	COLOR	SIZE	COMMENTS
GENERAL						
E.T.R.	EXISTING TO REMAIN	-	-	-	-	
N.I.C.	NOT IN CONTRACT	-	-	-	-	
PAINT						
P-1	PAINT	BENJAMIN MOORE	-	1475 GRAYSTONE	-	TRIM COLOR
P-2	PAINT	BENJAMIN MOORE	-	OC-9 BALLET WHITE	-	WALL COLOR
P-3	PAINT	BENJAMIN MOORE	-	HC-45 SHAKER BEIGE	-	ACCENT COLOR
CARPET						
C-1	CARPET	SHAW CONTRACT	LINK TILE 59105	BRIDGE 05750	24" x 24"	BRICK INSTALLATION
C-2	CARPET	SHAW CONTRACT	LINK TILE 59106	BRIDGE 05750	24" x 24"	ASHLAR INSTALLATION
RESILIENT FLOORING						
VCT-1	VINYL COMPOSITION TILE	ARMSTRONG FLOORING	STANDARD EXCELON	51927 FIELD GRAY	12" x 12"	
LVT-1	LUXURY VINYL TILE	ALTRO	LAVENCIA LAV16022	STERLING	12" x 24"	
WALL BASE						
B-1	WALL BASE	ROPPE	PINNACLE RUBBER COVE	174 SMOKE	4" HIGH	



- FINISH GENERAL NOTES FOR AREA OF WORK:**
- VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOBSITE AND ADVISE ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH ANY PHASE OF WORK. ALL ROOM SQUARE FOOTAGES ARE APPROXIMATE.
 - SEE REFLECTED CEILING PLANS FOR ALL CEILING TYPES, HEIGHTS AND FINISH.
 - ALL CEILINGS WHICH ARE NOT ACOUSTICAL CEILING PANELS AND SOFFITS SHALL BE PAINTED.
 - REFER TO SPECIFICATIONS FOR PAINT SUBSTRATE.
 - ALL UNFINISHED MATERIALS, GRILLES, REGISTERS, ETC. SHALL BE PAINTED TO MATCH ADJACENT WALL. MATERIALS WITH A NATURAL FINISH, I.E. ANODIZED ALUMINUM, SHALL BE LEFT IN THEIR NATURAL FINISH, UNLESS NOTED OTHERWISE.
 - ALL CLOSETS WITHIN ROOMS SHALL RECEIVE SAME FINISH AS ADJACENT ROOM, UNLESS NOTED OTHERWISE.
 - PROVIDE TRANSITION STRIPS BETWEEN ALL CHANGES IN FLOOR MATERIAL. COLOR TO BE SELECTED BY ARCHITECTS.
 - ACCENT WALL COLORS SHALL RUN FROM INSIDE CORNER TO INSIDE CORNER WHERE INDICATED.



1 SECOND FLOOR FINISH PLAN
SCALE: 3/16" = 1'-0"

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**RENOVATIONS, ASBESTOS
ABATEMENT AND FIRE
SPRINKLER INSTALLATION**
AT THE
**NEW ANNEX BUILDING,
SECOND FLOOR**
FOR THE
COUNTY OF UNION
27 Elizabethtown Plaza
Elizabethtown, NJ 07202

1 03.26.2021 ISSUED FOR BID
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Drawn Title
**SECOND FLOOR
FINISH PLAN,
SCHEDULE AND
LEGEND**

Scale As indicated USA Project No. 2020-047
Drawing Date 03.26.21 Drawing No. A-5
Drawn By JLG/ML Checked By APA

COORDINATION DRAWINGS

CONTRACTOR IS ADVISED THAT CEILING AND CHASE SPACE TO ROUTE DUCTWORK, PIPING AND CONDUIT IS LIMITED AND CONGESTED. THE GENERATION AND SUBMISSION OF COORDINATION DRAWINGS REFLECTING THE WORK OF ALL TRADES IS REQUIRED.

EACH TRADE SHALL INDICATE THEIR WORK IN AUTOCAD FORMAT ON 1/4" SCALE FLOOR PLANS IN A COMBINED DRAWING FILE. CONTRACTORS SHALL MAKE A GOOD FAITH EFFORT TO RESOLVE CONFLICTS BETWEEN TRADES PRIOR TO SEEKING RESOLUTION FROM THE ARCHITECT OR ENGINEER. DRAW SECTIONS AND ELEVATIONS AS REQUIRED TO ACCURATELY REPRESENT THE WORK.

PIPING AND CONDUIT SHALL BE RUN BETWEEN JOISTS (ABOVE RATED SHEETROCK) WHERE REQUIRED TO COORDINATE THE WORK AT NO ADDITIONAL COST.

CONSTRUCTION MANAGER SHALL CONDUCT COORDINATION MEETINGS ATTENDED BY A KNOWLEDGEABLE REPRESENTATIVE OF EACH TRADE TO REVIEW COORDINATION DRAWINGS AND RESOLVE ANY CONFLICTS.

REFER TO INDIVIDUAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

COORDINATION DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO:

1. DUCTWORK AND DAMPERS
2. PIPING AND VALVES
3. CONDUIT
4. EQUIPMENT
5. STRUCTURAL MEMBERS
6. ARCHITECTURAL COMPONENTS
7. SPRINKLER HEADS
8. LIGHTING
9. ACCESS PANELS
10. FIRE AND SMOKE DAMPERS
11. ALL REQUIRED CLEARANCES FOR ACCESS AND MAINTENANCE
12. DIFFUSERS, REGISTERS AND GRILLES
13. SUPPORTS AND ANCHORS
14. EXPANSION FITTINGS AND LOOPS

SPRINKLER GENERAL NOTES:

1. ALL CONCEALED SPRINKLER HEADS SHALL HAVE WHITE FINISH CAPS UNLESS OTHERWISE NOTED ON DRAWINGS OR AS OTHERWISE DIRECTED BY ARCHITECT.
2. ALL SPRINKLER HEAD LOCATIONS TO BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS - IN O.P.P. BO CEILING AREAS SPRINKLERS TO BE ALIGNED WITH OR CENTERED BETWEEN ADJACENT LIGHT FIXTURES.
3. SPRINKLER HEAD LOCATIONS SHALL BE LOCATED TO AVOID OBSTRUCTIONS (LIGHTING FIXTURES, BEAMS, ETC.) WITH MINIMUM ALLOWABLE DISTANCES AS REQUIRED PER NFPA-13 AND LOCAL JURISDICTION.
4. ADDITIONAL PENDENT SPRINKLER HEADS TO BE INSTALLED WHERE THE SOFFITS USED FOR THE INSTALLATION OF SIDEWALL SPRINKLER HEADS EXCEEDS 8".
5. ALL SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS.

SPRINKLER DESIGN CRITERIA

- 1) LIGHT HAZARD SPRINKLER CRITERIA
 - MAX. SPRINKLER HEAD COVERAGE - 225 SQ.FT.
 - DESIGN DENSITY 0.10 GPM/SQ. FT.
 - DESIGN AREA 1500 SQ. FT.
- 2) ORDINARY HAZARD SPRINKLER CRITERIA
 - MAX. SPRINKLER HEAD COVERAGE - 130 SQ.FT.
 - DESIGN DENSITY 0.15 GPM/SQ. FT.
 - DESIGN AREA 1500 SQ. FT.

UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER SIZE AND SPACING SHALL BE WITHIN FOLLOWING LIMITS:

PIPE SIZE	MAX. HANGER SPACING	MIN. ROD SIZE
1"	8 FT. O.C.	3/8"
1-1/4"	10 FT. O.C.	3/8"
2-1/2"	12 FT. O.C.	1/2"

THE ABOVE HANGER SPACINGS APPLY TO STRAIGHT RUNS OF PIPE ONLY. AT POINTS WHERE VALVES, SPECIALTIES OR BRANCH CONNECTIONS ARE LOCATED, ADDITIONAL HANGERS OR SUPPORTS SHALL BE USED TO PROPERLY SUPPORT THE LOAD.

CONTRACTOR SHALL CERTIFY THAT ALL COMPONENTS/DEVICES TO BE INSTALLED AS PART OF THE AUTOMATIC FIRE SPRINKLER SYSTEM ARE LISTED FOR FIRE SPRINKLER SYSTEM USE AND THAT CHANGES OR MODIFICATIONS BEING MADE DO NOT CAUSE THE SYSTEM DEMAND TO EXCEED THE AVAILABLE WATER SUPPLY IN EXISTING CALCULATED REMOTE AREAS, CAUSE A NEW REMOTE AREA DEMAND THAT EXCEEDS THE AVAILABLE WATER SUPPLY, OR AFFECT THE AVAILABLE GPM OR PSI AVAILABLE TO EXISTING SYSTEMS. IF THE CHANGES BEING PROPOSED MAKE THE DEMAND EXCEED THE AVAILABLE SUPPLY OR OTHERWISE AFFECT THE HYDRAULIC DESIGN, THEN NEW HYDRAULIC CALCULATIONS SHALL BE PROVIDED FOR REVIEW. THE SUBMISSION MUST BE SIGNED AND SEALED BY A LICENSED NJ PROFESSIONAL ENGINEER.

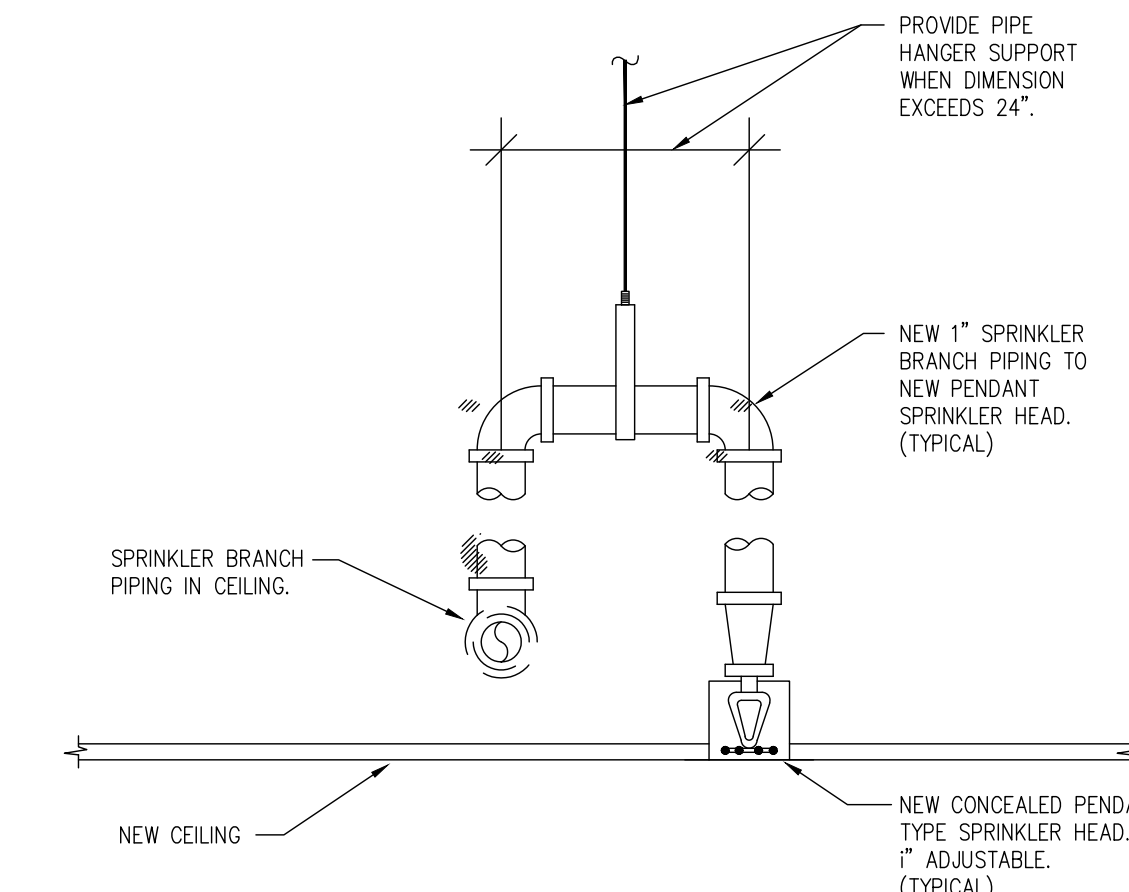
PERFORMANCE FIRE SPRINKLER SPECIFICATIONS

- 1.) GENERAL REQUIREMENTS:
 - A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT.
 - B. VERIFY ALL GOVERNING DIMENSIONS IN THE BUILDING.
 - C. COORDINATE ALL WORK WITH OTHER TRADES TO MINIMIZE INTERFERENCE WITH EXISTING AND NEW FACILITIES. TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.
 - D. PROVIDE WORKMANSHIP OF HIGHEST GRADE. INSTALL ALL PIPING AND SPRINKLER HEADS IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS OF NFPA-13 2016, LOCAL FIRE DEPARTMENT, OWNER'S INSURANCE UNDERWRITER AND ALL OTHER APPLICABLE BUILDING CODES LATEST EDITION.
 - E. PROVIDE ONE YEAR GUARANTEE AGAINST DEFECTIVE WORKMANSHIP AND MATERIALS.
 - F. NO SHUT-DOWN OF EXISTING FIRE PROTECTION SYSTEMS SHALL BE DONE WITHOUT PRIOR WRITTEN PERMISSION FROM BUILDING MANAGEMENT. REQUESTS FOR SHUT DOWNS MUST BE DELIVERED TO THE OWNERS REP. AT LEAST (7) WORKING DAYS PRIOR TO THE REQUESTED SHUTDOWN AND SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE MANAGER. KEEP THE SHUT DOWN TIME TO A MINIMUM. DRAINAGE SHALL BE TO A PROPERLY CONNECTED RECEIPTER, WITHOUT CAUSING DAMAGE TO OTHER WORK AND PROPERTY.
 - G. THIS IS A PERFORMANCE SPRINKLER DESIGN SPECIFICATION. THE CONTRACTOR SHALL FOLLOW NFPA 13 2016 EDITION AND THE GUIDELINES SHOWN ON THESE DRAWINGS TO DEVELOP THE SPRINKLER DESIGN FOR THIS PROJECT. THE CONTRACTOR SHALL PROVIDE SIGNED AND SEALED HYDRAULIC CALCULATIONS AND SHOP DRAWINGS INCLUDING DETAILS FOR REVIEW BY LOCAL CODE OFFICIAL, ICA-STATE OF NEW JERSEY, ENGINEER AND ARCHITECT.
 - H. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL CONCERNING FIRE ALARM SYSTEM AND/OR FIRE SPRINKLER SHUTDOWN PLANS, PROCEDURES, AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED FOR SYSTEM INTERRUPTIONS DURING DEMOLITION AND CONSTRUCTION.
- 2.) SCOPE OF WORK:
 - A. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, HYDRAULIC CALCULATIONS, PERMITS, CERTIFICATES, INSPECTION TESTING AND OTHER SERVICES NECESSARY OR REQUIRED FOR COMPLETE SAFE INSTALLATION OF WORK IN FULL CONFORMANCE WITH NFPA-13 REQUIREMENTS AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED.
 - B. CUTTING AND PATCHING.
- 3.) WORK NOT INCLUDED:
 - 1.) FINISHED PAINTING.
- 4.) SUBMITTALS:
 - 1.) SHOP DRAWINGS
 - 2.) VALVES
 - 3.) HANGERS
 - 4.) PIPING LAYOUT COORDINATED WITH ALL TRADES INCLUDE ON EACH WORKING DRAWING LAYOUT CERTIFICATE THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES; AND THAT NO CONFLICT EXISTS. SUBMISSION WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.
- 5.) HYDRAULIC CALCULATIONS BROUGHT BACK TO THE CONNECTION TO THE RISER. VERIFY PRESSURE AT THE RISER, PROVIDE COVER SHEET AS PER FIG. A-4-2-2(A) OF NFPA 13 2016. INDICATE SOURCE OF WATER SUPPLY, WATER RESERVE AND ELEVATION. DESIGN SYSTEM WITH 10% FLOW PRESSURE MARGIN OF SAFETY.
- 6.) AS-BUILT DRAWINGS:
 - 1.) FURNISH AND INSTALL "AS-BUILT" SHOP DRAWINGS FOR SPRINKLER INSTALLATION.
 - 2.) SPRINKLER HYDRAULIC CALCULATIONS:
 - 1.) THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SPRINKLER HYDRAULIC CALCULATION FOR REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER OF RECORD.
 - 2.) PREPARE FOR SUBMITTAL PLANS SHOWING EXISTING DISTRIBUTION PIPING, SIZES, ELEVATIONS, ETC.

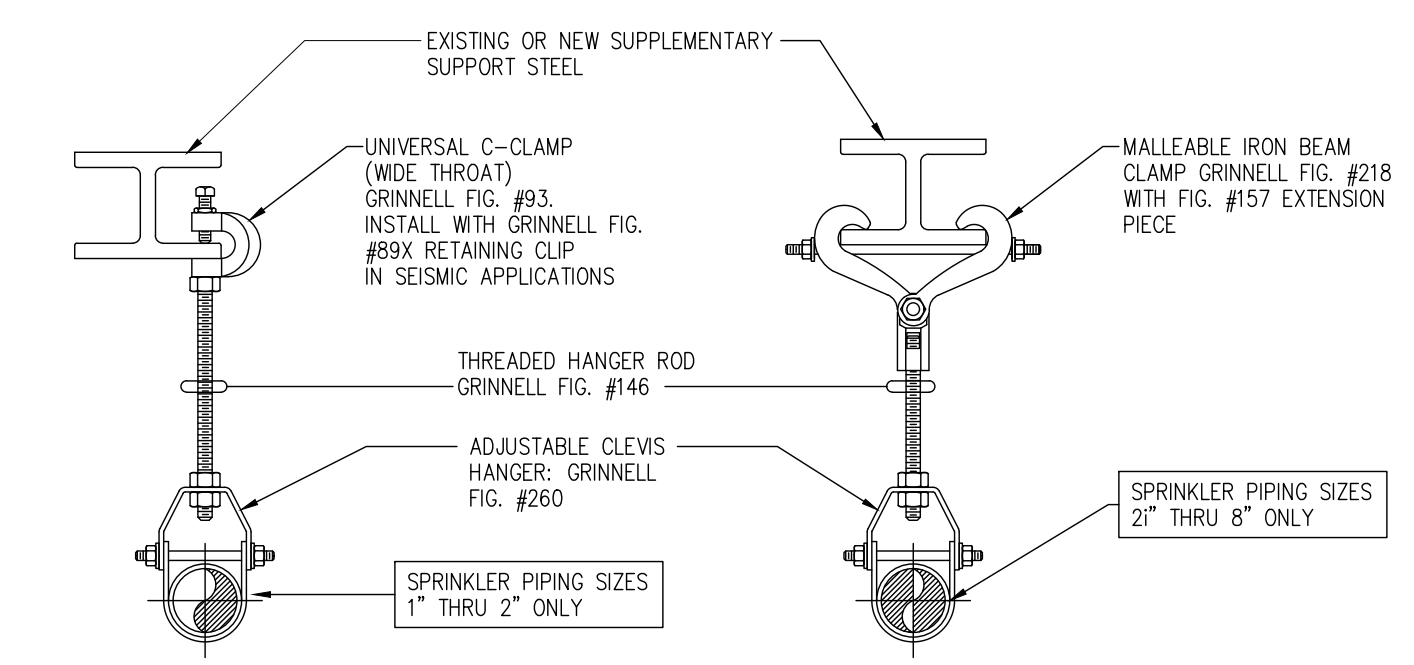
- 6.) CONNECTION TO EXISTING WORK:
 - A. CONNECT NEW WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING PIPING DISTURBED IN MAKING SUCH CONNECTIONS TO PREVENT CONGESTION. TEMPORARY SHUT DOWN OF EXISTING SERVICES ONLY WITH WRITTEN APPROVAL OF OWNER, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATIONS.
- 7.) MATERIALS - GENERAL:
 - A. TYPE AND SIZE OF MATERIALS SHALL BE APPROVED AS PER NFPA STANDARDS AND OWNER'S INSURANCE UNDERWRITERS. SYSTEM AS INSTALLED SHALL MEET ALL REQUIREMENTS AND RECEIVE APPROVAL OF SAME BEFORE FINAL PAYMENT.
 - B. ALL MATERIALS SHALL BE UL LISTED AND FM APPROVED.
- 8.) HANGERS AND SUPPORTS:
 - A. ALL SPRINKLER PIPING SHALL BE INSTALLED IN ACCORDANCE WITH N.F.P.A. 13.
 - B. SPRINKLER HEADS SHALL BE CENTERED IN 2 DIRECTIONS, ON CEILING TILES OR AS PER CONTRACT DWGS.
- 9.) SUPPORTS:
 - A. ALL PIPING SHALL BE HUNG FROM EXISTING STRUCTURAL STEEL AND CONCRETE BEAMS. PROVIDE AUXILIARY STEEL WHEN REQUIRED.
 - B. BEAM CLAMPS: APPROVED C-CLAMPS WITH LOCKOUT.
- 10.) SLEEVES AND ESCUTCHEONS
 - A. SLEEVES FOR PIPING PASSING THROUGH MASONRY WALLS SHALL SCHEDULE 40 STANDARD GALVANIZED STEEL PIPE. IN FRAMED PARTITIONS SHALL BE 20 GAUGE SHEET METAL. THE SPACE BETWEEN THE PIPE AND ITS SLEEVE SHALL NOT EXCEED ONE-HALF INCH. THE SLEEVE SHALL HAVE SUFFICIENT LENGTH TO BE FLUSH WITH THE FINISHED WALL SURFACES.
 - B. EXPOSED PIPING PASSING THROUGH WALLS, FLOORS OR CEILING SHALL BE FITTED WITH CHROMIUM PLATED CAST BRASS ESCUTCHEONS WITH FASTENING SET SCREWS SIMILAR TO FEE & MASON MANUFACTURING CO., F. & S. MANUFACTURING CO., OR RITTER PATTERN AND CASTING CO.
- 11.) CUTTING AND PATCHING
 - A. PIPING PASSING THROUGH WALLS SHALL HAVE A TIGHT OPENING CUT NO GREATER THAN NECESSARY FOR THE INSTALLATION OF A SLEEVE SECURED THEREIN.
 - B. PIPING PASSING THROUGH CONCRETE FLOORS SHALL HAVE THE OPENING CORE DRILLED SO THAT THE INTEGRITY OF THE WALLS AND FLOORS, WITH A NON-HARDENING COMPOUND SIMILAR AND EQUAL TO UNISEAL OR DUXSEAL AS MANUFACTURED BY THE J.M. CLIPPER CORPORATION.
- 12.) PIPE
 - A. SPRINKLER STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE, SEAMLESS OR WELDED MILD STEEL, CONFORMING TO ASTM A-795/A-53.
- 13.) FITTINGS
 - A. CAST IRON: THREADED CLASS 125, ANSI B-16.4.
 - B. MALLEABLE IRON: CLASS 150 THREADED, ANSI B-16-3.
 - C. GROOVED AND MALLEABLE IRON FITTINGS AND COUPLINGS WITH PRESSURE RATING; SIMILAR TO VICTALUC WILL NOT BE ALLOWED.
 - D. REDUCERS AND INCREASERS: OF TAPERED TYPE. NO BUSHINGS PERMITTED.
- 14.) SPRINKLER HEADS
 - A. CAST BRASS, CLOSED FUSIBLE LINK, SPRAY TYPE, 1/2 IN. ORIFICE, ORDINARY DEGREE TEMPERATURE RATING (165 DEG. F), EXCEPT AS NOTED.
 - 1.) SPRINKLERS IN AREAS WITH HUNG CEILINGS SHALL BE VICTALUC, QUICK RESPONSE MODEL, CONCEALED AUTOMATIC SPRINKLER. THE HEADS MUST BE COMPLETE WITH WHITE FLUSH COVER PLATE 165F TEMPERATURE RATING. COLOR TO BE FACTORY APPLIED.
 - B. SPRINKLERS IN AREAS WITH HUNG CEILINGS SHALL MATCH EXISTING.
 - C. HIGHER TEMPERATURE RATING WHERE SUBJECT TO ABNORMAL HEATING CONDITIONS AND/OR WHERE INDICATED.
 - D. SPRINKLER HEADS TO BE CENTERED ON CEILING TILES, OR AS PER CONTRACT DWGS.

FIRE SPRINKLER GENERAL NOTES

1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS FOR THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE AND WORKING FIRE SPRINKLER PROTECTION SYSTEMS FOR THE BUILDING IN FULL COMPLIANCE WITH THE BUILDING AND FIRE CODES OF THE STATE OF NEW JERSEY INCLUDING: VALVES, RISERS, AND ALARMS AS REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL DESIGN ASPECT OF THE FIRE PROTECTION SYSTEM INCLUDING HYDRAULIC CALCULATIONS.
2. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO, THE BUILDING AND FIRE CODES OF THE STATE OF NEW JERSEY, THE ACCEPTED NATIONAL FIRE PROTECTION ASSOCIATION STANDARD NO. 13, 14 & 20 AND THE OWNER'S INSURANCE UNDERWRITERS.
3. IF THERE ARE ANY QUESTIONS CONCERNING WHAT THE INSURANCE UNDERWRITER WILL REQUIRE IN ORDER TO APPROVE THE COMPLETED INSTALLATION (PIPING SIZING, LOCATION OF RISERS, TEST STATIONS, HYDRANTS, ALARMS, ETC.) THE BIDDER SHALL CONSULT WITH THE INSURANCE UNDERWRITER BEFORE SUBMITTING HIS BID. FAILURE TO CONSULT WITH THE INSURANCE UNDERWRITER DOES NOT RELIEVE THIS CONTRACTOR FROM HIS RESPONSIBILITY BY THE COMPLETION OF ANY AND ALL WORK REQUIRED WITH NO EXTRA CHARGES TO THE OWNER.
4. CONTRACTOR SHALL SUBMIT FOR APPROVAL, DETAILED CONSTRUCTION DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ENGINEER, FIRE SUB-CODE OFFICIAL PRIOR TO THE INSTALLATION OF ANY EQUIPMENT. OBTAIN CERTIFICATE OF INSPECTION AND APPROVAL FROM THE SAME AGENCY HAVING JURISDICTION AFTER INSTALLATION. FIRE SUPPRESSION CONSTRUCTION DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE AREA WHERE THE PROJECT IS LOCATED.
5. DETAILED DRAWINGS AND CALCULATIONS OF THE SPRINKLER SYSTEM(S), AND SHOP DRAWINGS OF EQUIPMENT, STAMPED AND APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING FIRE MARSHAL AND INSURANCE UNDERWRITERS, ARE REQUIRED FOR THIS WORK. DRAWINGS AND CALCULATIONS SHALL BE PREPARED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SHALL COMPLY WITH NFPA 13, CHAPTER 22.
6. THE CONTRACTOR SHALL RUN A CURRENT CERTIFIED FLOW TEST AS REQUIRED BY N.F.P.A. 13.
7. FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION REQUIRED FOR THE INSTALLATION OF COMPLETE SYSTEMS AND WORKING FIRE SPRINKLER PROTECTION SYSTEMS FOR THE BUILDING INCLUDING: VALVES, DRANS AND SPRINKLER ALARMS, FLOW SWITCHES, HORNS OR GONGS, DETECTOR CHECK VALVES, SIAMSESE FIRE DEPARTMENT CONNECTIONS, PRESSURE GAUGES, AND OTHER REQUIRED COMPONENTS.
8. ALL MATERIALS EXPOSED WITHIN PLenums SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH THIS REQUIREMENT UPON REQUEST.
9. ALL SPRINKLER PIPING SHALL BE CONCEALED IN ALL FINISHED AREAS, AVOIDING INTERFERENCE WITH LIGHTS, DUCTS, PIPES, ETC. BALANCE MAY BE RAN EXPOSED.
10. SPRINKLER HEADS SHALL NOT INTERFERE WITH LIGHTING FIXTURES, SPEAKERS, AIR CONDITIONING DIFFUSERS AND GRILLES, ETC. COORDINATE WITH ARCHITECT'S REFLECTED CEILING PRIOR TO SUBMITTING SHOP DRAWING.
11. EXACT LOCATION OF SPRINKLER HEADS AND PIPING SHALL BE COORDINATED WITH OTHER TRADES AND THE ARCHITECT'S REFLECTED CEILING PLAN BEFORE INSTALLATION.
12. CUTTING AND NOTCHING OF JOISTS IS NOT ACCEPTABLE AND WILL NOT BE PERMITTED. ANY DAMAGE CAUSED TO THE BUILDING STRUCTURE DURING INSTALLATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
13. ALL ELECTRICAL REQUIREMENTS FOR FIRE PROTECTION AND SPRINKLER SYSTEM ARE TO BE INCLUDED AS PART OF THIS CONTRACTOR'S RESPONSIBILITY. THIS CONTRACTOR SHALL SUB-CO-TRACTOR FOR ALL WIRING AND RELATED COMPONENT REQUIREMENTS WITH SEPARATE ELECTRICAL CONTRACTOR. ALARM WIRING REQUIREMENTS FOR THE FIRE PROTECTION AND ALARM SYSTEM ARE TO BE INCLUDED IN THIS WORK.
14. WHEN COMPLETED, THE ENTIRE SPRINKLER SYSTEM SHALL BE TESTED IN ACCORDANCE WITH NFPA 13 AND AS REQUIRED BY THE RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION. ALL SYSTEMS MUST BE FREE OF LEAKS AND ANY OTHER DEFECTS.
15. SHOP DRAWINGS BEARING THE APPROVAL OF THE INSURANCE UNDERWRITER SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE BEFORE ANY WORK IS STARTED.
16. ALL EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR AFTER ACCEPTANCE BY THE OWNER AND ARCHITECT, AGAINST DEFECTIVE MATERIALS AND LABOR AND IMPROPER DESIGN.
17. CONTRACTOR SHALL MAKE AN ALLOWANCE FOR A MINIMUM OF 3% ADDITIONAL SPRINKLER HEADS TO BE INSTALLED AS TO PROVIDE ADEQUATE COVERAGE DUE TO ANY OBSTRUCTIONS, DUCTWORK, PIPING, ETC. INSTALLED DURING CONSTRUCTION WHICH MAY ALTER THE ORIGINAL SPRINKLER DESIGN.
18. FURNISH POTTES-ROEMER FIG. 6142 SPRINKLER CABINETS OF FINISHED STEEL AND HINGED COVER WITH SPACE FOR A MINIMUM OF 8 SPRINKLER HEADS PLUS SPRINKLER WRENCH FOR EACH TYPE, SUITABLE FOR WALL MOUNTING IN THE WATER SERVICE ROOM. FURNISH SIX (6) EXTRA SPRINKLER HEADS OF EACH TYPE.
19. INSTALL SPRINKLER PIPING TO PROVIDE FOR SYSTEM DRAINAGE IN ACCORDANCE WITH NFPA 13.
20. INSTALL SPRINKLER PIPING IN ACCORDANCE WITH NFPA 13, CHAPTER 9, FOR HANGING, BRACING AND RESTRAINING OF PIPING.
21. PIPING LAYOUTS ARE DIAGRAMMATIC AND INTEND TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY. ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
22. CONTRACTOR TO PAY FOR AND SUPPLY ALL DUMPSTERS FOR DEBRIS REMOVAL, COORDINATE AND OBTAIN APPROVAL FOR DUMPSTER LOCATIONS ON SITE AND DEBRIS REMOVAL ROUTES WITH THE CONSTRUCTION MANAGER.
23. CONTRACTOR TO UTILIZE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS AND COORDINATION OF SPRINKLER HEADS WITH MECHANICAL AND ELECTRICAL ELEMENTS.
24. INSTALL NON-COMBUSTIBLE WOODS OR SHIELDS ABOVE IMPORTANT ELECTRICAL EQUIPMENT FOR PROTECTION FROM SPRINKLER DISCHARGE PER NFPA 13.
25. REFER TO ARCHITECTURAL DRAWINGS FOR SUSPENDED CEILING HEIGHTS AND MINIMUM CLEAR HEIGHTS ABOVE FLOORS WHERE NO CEILING ARE INSTALLED FOR SPACING SPRINKLER HEADS IN ACCORDANCE WITH CODES.
26. WHERE WORK BETWEEN THESE DRAWINGS AND ARCHITECTURAL PLANS ARE IN CONFLICT, ADVISE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION OF SPRINKLER WORK.
27. FOR ALL DIMENSIONS WITH REFERENCE TO PARTITIONS AND ARCHITECTURAL DETAILS AND SPECIAL TREATMENTS, REFER TO ARCHITECTURAL DRAWINGS.
28. ALL SPRINKLER DRAINS SHALL RUN TO SAFE LOCATIONS TO PREVENT OVERFLOW OF DRAINS.
29. SPRINKLER CONTRACTOR SHALL PROVIDE AND PAY FOR HOLES THROUGH STRUCTURAL MEMBERS WHERE AND WHEN REQUIRED, AND ONLY AFTER COORDINATED SIGNED-OFF SHOP DRAWINGS ARE PREPARED WITH ALL OTHER TRADES INDICATING THE NEED FOR CUTS. DRAWINGS INDICATING CUTS, ALONG WITH WRITTEN REQUEST SHALL BE SENT TO THE ARCHITECT/ENGINEERS FOR THEIR APPROVALS. NO ADDITIONAL COMPENSATION WILL BE APPROVED DUE TO LACK OF COORDINATION OR ACTUAL FIELD CONDITIONS.
30. ALL PIPING SYSTEMS SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC AND NO ATTEMPT HAS BEEN MADE TO INDICATE OFFSETS AND PIPING ARRANGEMENTS TO SUIT FIELD CONDITIONS. SPRINKLER CONTRACTOR SHALL COORDINATE WITH THE O.C. AND ALL OTHER TRADES WHEN LAYING OUT HIS WORK.
31. ALL REQUIRED DRAINAGE SHALL BE PIPED TO THE OUTSIDE UNLESS NOTED OTHERWISE.
32. AS THE ACTUAL LIFE SPAN OF THE SPRINKLER SYSTEM IS DEPENDENT ON MANY VARIABLES, INCLUDING BUT NOT LIMITED TO WATER QUALITY AND ATMOSPHERIC CONDITIONS, THE ENGINEER ASSUMES NO LIABILITY OR RESPONSIBILITY OF THE LIFE SPAN OF THE SPRINKLER SYSTEM DO TO MICRO-BIOLOGICALLY INFLUENCED CORROSION (MIC). THE SPRINKLER CONTRACTOR AND/OR THE GENERAL CONTRACTOR SHALL HAVE THE SPRINKLER SYSTEM TESTED AND TREATED (IF NECESSARY) FOR PROTECTION AGAINST MICRO-BIOLOGICALLY INFLUENCED CORROSION (MIC).



PENDENT SPRINKLER HEAD DETAIL
NOT TO SCALE

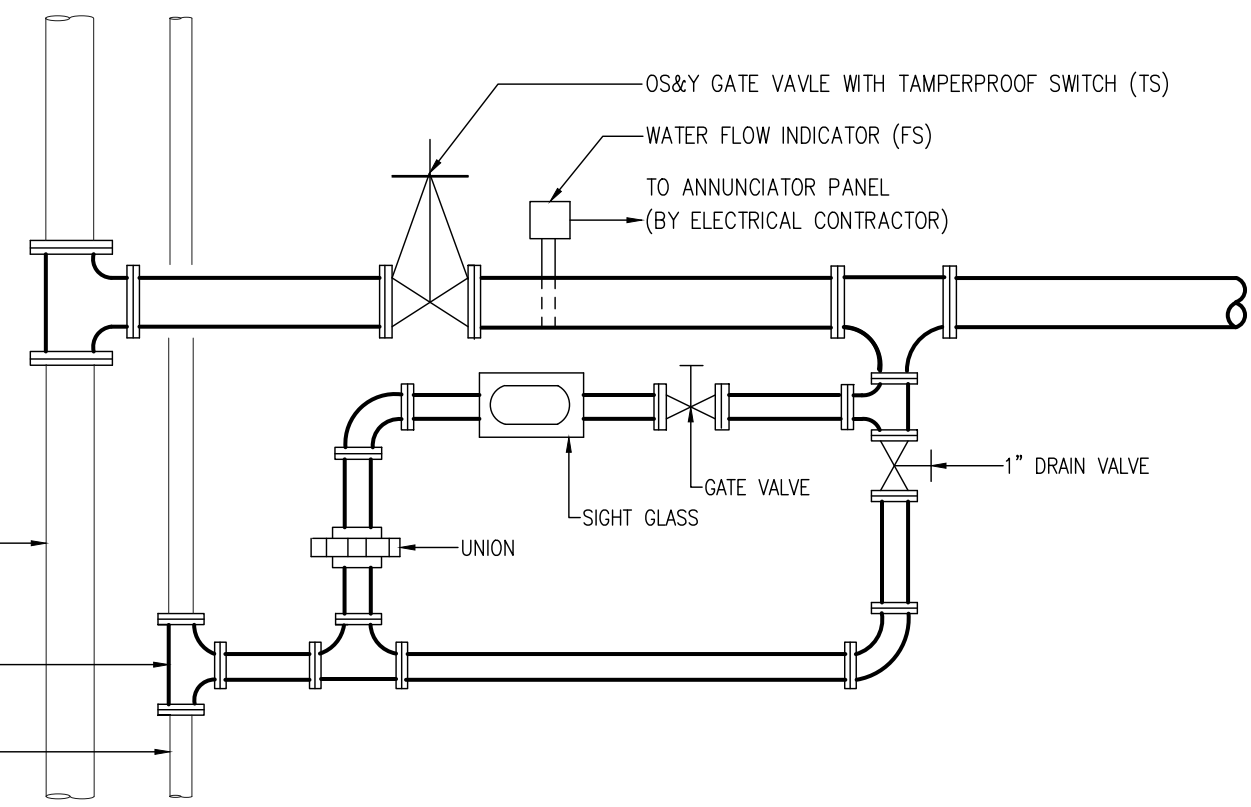


- NOTES:**
1. SIZE HANGER ROD, AND CLAMP TO ADEQUATELY SUPPORT LOAD (REFER TO HANGER CATALOG).
 2. CLAMP MUST BE FM APPROVED FOR NFPA 13.
 3. HANGER COMPONENTS SHALL ALL BE AS INDICATED OR APPROVED EQUAL (WITH REQUIRED APPROVALS).

TYPICAL SPRINKLER HANGER DETAILS
NOT TO SCALE

FIRE SPRINKLER NOTES

1. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING:
 - a) SUBMIT MANUFACTURER'S SPECIFICATIONS FOR ALL SPRINKLER SYSTEM COMPONENTS INCLUDING: SPRINKLER HEADS, PIPE, FITTINGS, VALVES, GAUGES, PUMPS, BACKFLOW PREVENTION DEVICE, AND TRIM.
 - b) SUBMIT NOMINAL PIPE SIZE, SCHEDULE, LENGTH, AND CENTERLINE DIMENSIONS.
 - c) INCLUDE THE TYPE AND LOCATION OF ALL FASTENERS, HANGERS, AND SWAY BRACING.
 - d) INDICATE REQUIRED SWAY BRACING ON ALL THE SPRINKLER RISERS.
 - e) PROVIDE THE TYPE AND LOCATION OF ALL FITTINGS, JOINTS, WELDS AND BENDS.
 - f) CLARIFY TYPE AND TEMPERATURE RATING OF THE SPRINKLER HEADS.
2. INCLUDE A FIRE STANDPIPE DIAGRAM AND CALCULATIONS.
3. SHOP DRAWING FOR AUTOMATIC SPRINKLER SYSTEMS SHALL BE SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ARCHITECT OR ENGINEER.
4. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING:
 - A) SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
 - B) INCLUDE A CURRENT WATER FLOW TEST [WITHIN ONE YEAR] INCLUDING LOCATION AND ELEVATION OF STATIC AND RESIDUAL TEST GAUGE WITH RELATION TO THE RISER REFERENCE POINT, FLOW LOCATION, STATIC PRESSURE, RESIDUAL PRESSURE, FLOW (POT) PRESSURE, OUTLET SIZE, USED, MAKE AND MODEL OF FLOW HYDRANT, HYDRANT COEFFICIENT, WATER MAIN SIZE, TIME AND DATE, PROVIDE DRAWING OR SKETCH OF TEST AND FLOW HYDRANTS IN RELATION TO PROPOSED SITE. PRESSURE HYDRANT SHALL BE HYDRANT CLOSEST TO CURRENT OR PROPOSED SPRINKLER RISER CONNECTION; FLOW HYDRANT SHALL BE DOWNSTREAM OF THE PRESSURE HYDRANT. SUFFICIENT FLOW HYDRANTS SHALL BE OPERATED TO OBTAIN A MINIMUM PRESSURE DROP OF 20% AT THE PRESSURE HYDRANT TO INSURE ACCURACY OF THE FLOW TEST RESULTS. AN ADJUSTMENT TO THE WATER FLOW TEST DATA FOR DAILY AND SEASONAL FLUCTUATIONS, POSSIBLE INTERRUPTIONS BY FLOOD OR ICE CONDITIONS, LARGE SIMULTANEOUS INDUSTRIAL USE, FUTURE DEMAND ON THE WATER SUPPLY SYSTEM, OR ANY OTHER CONDITION THAT COULD AFFECT THE WATER SUPPLY SHALL BE MADE AS APPROPRIATE.
 - C) INDICATE THE TYPE OF HAZARD AND THE REQUIRED DENSITY.
 - D) PROVIDE A FLOW AND PRESSURE SUMMARY.
 - E) INCLUDE A WATER ANALYSIS GRAPH.
5. ALL DOCUMENTS PREPARED BY PEOPLE OTHER THAN THE DESIGN PROFESSIONAL SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL AND A SIGNED AND SEALED LETTER SUBMITTED INDICATING THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN CONFORMANCE WITH THE REGULATIONS FOR THE DESIGN OF THE BUILDING PER N.J.A.C.
6. HYDRAULIC CALCULATIONS FOR AUTOMATIC SPRINKLER SYSTEMS SHALL BE SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ARCHITECT OR ENGINEER.
7. ANY CONTRACTOR PERFORMING FIRE PROTECTION EQUIPMENT WORK SHALL HAVE THE APPROPRIATE CERTIFICATION ISSUED BY THE NJ DIVISION OF FIRE SAFETY, OR IN THE CASE OF FIRE ALARM SYSTEM WORK, OFS CERTIFICATION, LICENSED ELECTRICAL CONTRACTORS OR LICENSED FIRE ALARM CONTRACTORS. CERTIFICATION INFORMATION FOR SPRINKLER, HOOD SUPPRESSION, OR OTHER RELATED WORK SHALL BE PROVIDED WHEN SHOP DRAWINGS ARE SUBMITTED. FIRE ALARM CERTIFICATION SHALL BE AT TIME OF PERMIT APPLICATION.



DETAIL OF WATER FLOW INDICATOR ASSEMBLY
NOT TO SCALE



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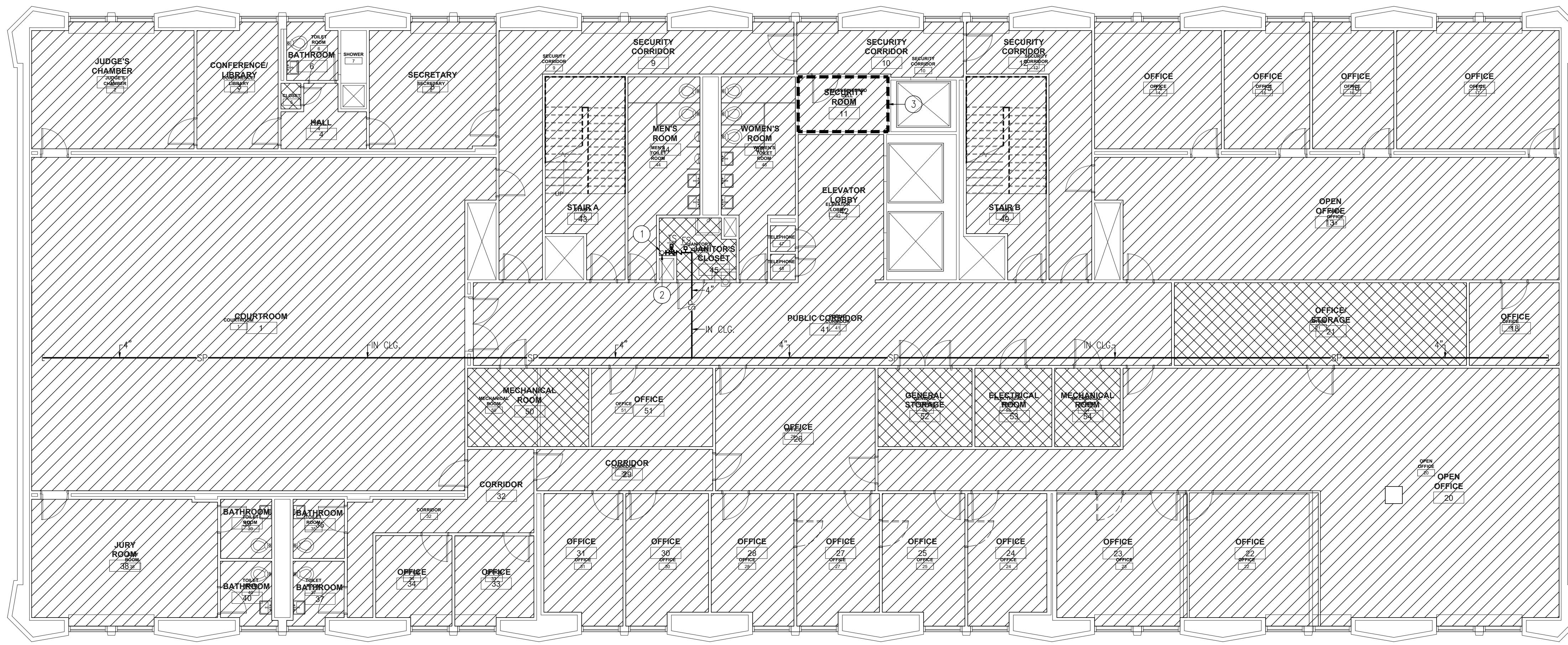
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ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION
AT THE
NEW ANNEX BUILDING, SECOND FLOOR
FOR THE
COUNTY OF UNION
27 Elizabethtown Plaza
Elizabeth, NJ 07202

1	03.26.2021	ISSUED FOR BID
No.	Date	Issue or Revision

Drawing Title
FIRE PROTECTION GENERAL INFORMATION

Scale	USA Project No.
As Noted	2020-047
Drawing Date	Drawing No.
03.26.2021	FP01
Drawn By	Checked By
JJC	JU



SPRINKLER NOTE:
 SPRINKLER CONTRACTOR SHALL COORDINATE ALL NEW FIRE SPRINKLER PIPING WITH ALL OTHER TRADES (EXISTING & NEW) TO ENSURE PROPER CLEARANCES.

FIRE PROTECTION CRITERIA SYMBOLS

COMMON SPACE/CORRIDORS
 WET TYPE SPRINKLER SYSTEM - NFPA 13
 SYSTEM TYPE: WET PIPE SYSTEM
 OCCUPANCY CLASS: LIGHT HAZARD
 DENSITY: 0.10 GPM/SQ FT
 AREA OF APPLICATION: 1,500 SQ FT
 MAX. SPRINKLER HEAD COVERAGE: 225 SQ FT

STORAGE SPACES & MECHANICAL ROOMS
 WET TYPE SPRINKLER SYSTEM - NFPA 13
 SYSTEM TYPE: WET PIPE SYSTEM
 OCCUPANCY CLASS: ORDINARY HAZARD GROUP-1
 DENSITY: 0.15 GPM/SQ FT
 AREA OF APPLICATION: 1,500 SQ FT
 MAX. SPRINKLER HEAD COVERAGE: 130 SQ FT

NEW WORK KEY NOTES (1, 2, ETC.)

- 1 EXISTING 4" SPRINKLER RISER TO REMAIN
- 2 MAKE NEW CONNECTION TO EXISTING 4" SPRINKLER RISER AT CEILING.
- 3 SPRINKLER CONTRACTOR TO INSPECT EXISTING SECURITY TYPE SPRINKLER HEAD IN THIS AREA FOR FUNCTIONALITY. SPRINKLER HEAD IS TO REMAIN CONNECTED TO EXISTING WATER SOURCE.

1 FIRE PROTECTION - SECOND FLOOR PLAN - NEW WORK

SCALE
 1/8" = 1'-0"



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**ASBESTOS ABATEMENT AND
 FIRE SPRINKLER
 INSTALLATION**
 AT THE
**NEW ANNEX BUILDING,
 SECOND FLOOR**
 FOR THE
COUNTY OF UNION
 27 Elizabethtown Plaza
 Elizabethtown, NJ 07202

No.	Date	Issue or Revision
1	03.26.2021	ISSUED FOR BID

Drawing Title	
FIRE PROTECTION SECOND FLOOR PLAN NEW WORK	
Scale	USA Project No.
As Noted	2020-047
Drawing Date	Drawing No.
03.26.2021	FP11
Drawn By	Checked By
JJC	JU

MECHANICAL GENERAL NOTES

MECHANICAL SYMBOLS

MECHANICAL ABBREVIATIONS

MECHANICAL DEMOLITION NOTES

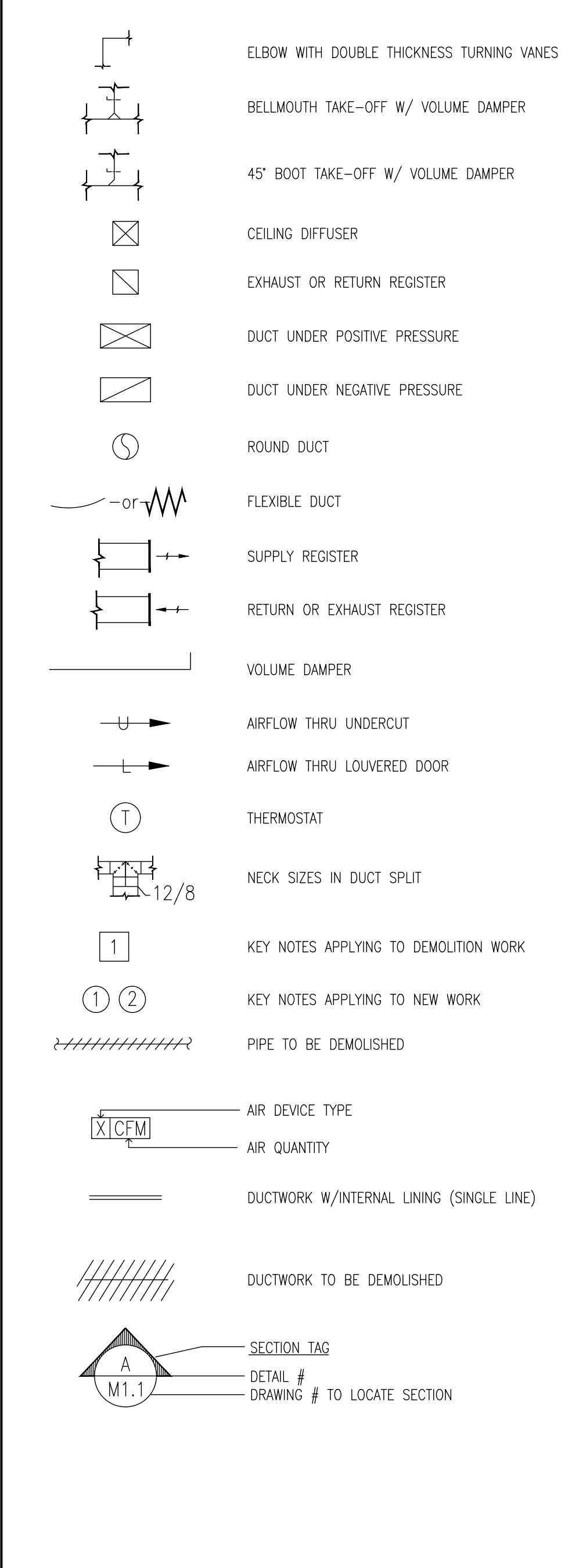
PROJECT GENERAL NOTES

HVAC DESIGN CRITERIA
1. APPLICABLE CODES AND REFERENCES:
A. INTERNATIONAL BUILDING CODE, 2018 - LATEST ADOPTED NEW JERSEY EDITION.
B. INTERNATIONAL MECHANICAL CODE, 2018 - LATEST ADOPTED NEW JERSEY EDITION.
C. INTERNATIONAL FUEL GAS CODE, 2018 - LATEST ADOPTED NEW JERSEY EDITION.
D. ASHRAE 90.1, 2013 - LATEST ADOPTED NEW JERSEY EDITION.
E. NATIONAL STANDARD PLUMBING CODE, 2018.
F. NFPA No. 90A - AIR CONDITIONING AND VENTILATING SYSTEMS.
G. ASHRAE HANDBOOKS - AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS.
H. UNIFORM CONSTRUCTION CODE OF NEW JERSEY.
2. SUMMER OUTDOOR DESIGN CONDITIONS (1.0% FOR NEWARK, NJ PER ASHRAE 90.1 - 2016):
A. DRY BULB: 90 DEG. F.
B. WET BULB: 73 DEG. F.
3. SUMMER INDOOR DESIGN CONDITIONS:
A. DRY BULB: 75 DEG. F. (+/- 2 DEG. F.)
B. RELATIVE HUMIDITY: 50%
4. WINTER OUTDOOR DESIGN CONDITIONS (1.0% FOR NEWARK, NJ PER ASHRAE 90.1 - 2016):
A. DRY BULB: 10 DEG. F.

MECHANICAL INSULATION
1. ALL INSULATION MUST BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. APPLY INSULATION AFTER ALL TESTING HAS BEEN COMPLETED AND APPROVED.
3. ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED INDEX OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
4. ALL INSULATION FOR EQUIPMENT AND PIPING WITH A SURFACE TEMPERATURE BELOW 65 DEGREES F, SHALL CONTAIN A COMPLETE VAPOR BARRIER SEAL.
5. DUCTWORK INSULATION
A. ALL SUPPLY DUCTS WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED WITH A MINIMUM INSULATION VALUE OF R-3.5 (INSTALLED) FOIL-SCRIM-KRAFT, FORMALDEHYDE FREE FLEXIBLE FIBERGLASS DUCT WRAP (APPROXIMATE 1-1/2" THICK).
B. ALL OUTDOOR AIR INTAKE DUCTS, PLENUMS AND DUCTS IN MECH. EQUIP. ROOMS SHALL BE INSULATED WITH A MINIMUM INSULATION VALUE OF R-3.5 RIGID FIBERGLASS BOARD AND FOIL-SCRIM-KRAFT FACING (APPROXIMATE 1" THICK).

TESTING, ADJUSTING & BALANCING
1. BALANCING THE AIR SYSTEMS
A. OPERATE ALL SYSTEMS FOR AS LONG AS NECESSARY TO TEST AIR FLOW AT ALL OPENINGS. ADJUST DAMPERS, FANS, AND SHEAVES UNTIL EVEN DISTRIBUTION AND REQUIRED CFM OF AIR IS OBTAINED THROUGHOUT.
B. SUBMIT TEST REPORTS SHOWING ALL PERTINENT OPERATING DATA, SUCH AS CFM AND FPM AT EACH OUTLET. FAN RPM, MOTOR CURRENT, ETC., SHALL BE SUBMITTED FOR PERMANENT RECORD. BALANCE AIR VOLUME TO WITHIN 10% OF DESIGN VALUES. DURING ADJUSTMENT PERIOD, MAKE ALL NECESSARY SETTINGS AND ADJUSTMENTS OF TEMPERATURE REGULATING EQUIPMENT. TEST REPORTS SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER WHO SHALL BE A MEMBER OF THE BALANCING FIRM.

21. UNLESS OTHERWISE SPECIFIED, ALL MOTORS 1/2 H.P. AND ABOVE SHALL BE 3 PHASE AND MOTORS UNDER 1/2 H.P. SHALL BE SINGLE PHASE. ALL MOTORS SHALL MEET MINIMUM EFFICIENCIES AS OUTLINED BY ASHRAE/IESNA STANDARD 90.1-2013 "ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS".
22. HVAC CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL MOTOR STARTERS ASSOCIATED WITH HIS WORK. PROVIDE COMBINATION STARTER/DISCONNECTS WHEN EQUIPMENT IS NOT IN SIGHT OF ELECTRIC PANEL SERVING SAME. ALL STARTERS SHALL HAVE "HAND-OFF-AUTO" SELECTION SWITCHES WITH INDICATOR LIGHTS AND 120V HOLDING COILS. COORDINATE STARTER REQUIREMENTS WITH THE A/C CONTRACTOR.
23. ELECTRICAL CONTRACTOR SHALL PROVIDE DUCT MOUNTED SMOKE DETECTORS (SUPPLY & RETURN) TO BE INSTALLED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. DUCT MOUNTED SMOKE DETECTORS SHALL BE PRESENT IN THE MAIN RETURN DUCT FOR ALL AIR HANDLING UNITS SUPPLYING AIR QUANTITIES GREATER THAN OR EQUAL TO 2,000 CFM. DETECTORS SHALL BE PROVIDED IN BOTH SUPPLY AND RETURN MAINS IF THE SYSTEM IS GREATER THAN 15,000 CFM OR AN AIR HANDLING SYSTEM, WHICH EXHAUSTS GREATER THAN 50% OF THE SUPPLY AIR.



DRAWING LIST

M01 MECHANICAL-GENERAL INFORMATION
M02 MECHANICAL-SPECIFICATIONS
M11 MECHANICAL-SECOND FLOOR DEMOLITION AND NEW WORK PLAN
M21 MECHANICAL-SCHEDULES & DETAILS

MECHANICAL ABBREVIATIONS
IDENTIFIER DESCRIPTION
CFM CUBIC FEET PER MINUTE
CU CONDENSING UNIT
DB DRY BULB
DN DOWN
E/A EXHAUST AIR
EAT ENTERING AIR TEMPERATURE
EDB ENTERING DRY BULB
EER ENERGY EFFICIENCY RATIO
EG EXHAUST GRILLE
EH ELECTRIC HEATER
ESP EXTERNAL STATIC PRESSURE
EWB ENTERING WET BULB
EF EXHAUST FAN
FC FLEXIBLE CONNECTION
BMS BUILDING MANAGEMENT SYSTEM
ATC AUTOMATIC TEMPERATURE CONTROL
FD FIRE DAMPER WITH ACCESS DOOR
FPM FEET PER MINUTE
G GAS
GPM GALLONS PER MINUTE
LAT LEAVING AIR TEMPERATURE
MBH THOUSAND BTU PER HOUR
NK NECK
O/A OUTSIDE AIR
OA OUTSIDE AIR INTAKE
RA RETURN AIR
RAV RELIEF AIR VENT
RG RETURN GRILLE
RH RELATIVE HUMIDITY
RR RETURN REGISTER
S/A SUPPLY AIR
SR SUPPLY REGISTER
T THERMOSTAT
TF TRANSFER FAN
WMS WIRE MESH SCREEN
TR TOP REGISTER
VD VOLUME DAMPER
WB WET BULB
WG WATER GAUGE

1. SCOPE OF WORK
A. CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE ALL REMOVALS AND RENOVATION WORK AS SHOWN ON THE CONTRACT DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:
B. DISCONNECT, DEMOLISH, AND REMOVE ALL EXISTING DUCTWORK, PIPING, INSULATION, EQUIPMENT, AND OTHER ASSOCIATED ITEMS.
C. CAPPING ALL EXISTING PIPING NOT BEING REUSED (AT THE MAINS), WHERE REMOVAL OF PIPING LEAVES OPEN CONNECTIONS, PROVIDE SCREWED CAPS OR PLUGS OR WELDED CAPS TO CLOSE SUCH CONNECTIONS.
D. CAPPING ALL EXISTING DUCTWORK NOT BEING REUSED (AT THE MAINS).
E. INSULATE DUCT CAPS AND PIPE CAPS TO MATCH THE EXISTING INSULATION.
F. CAPPING ALL OPENINGS CREATED BY THE REMOVAL OF ROOFTOP HVAC EQUIPMENT, PROVIDE INSULATED CURB CAPS FOR ALL REMOVED ROOF FANS, ROOFTOP UNITS, ETC. INSULATED CURB CAPS SHALL BE BRACED FROM BELOW AND SHALL BE CAPABLE OF WITHSTANDING LIVE LOAD. PROVIDE NECESSARY FLASHING AND COORDINATE WITH ROOFING CONTRACTOR AND/OR EXISTING ROOF GUARANTEE.
G. PROVIDE ADDITIONAL HANGERS AND OTHER SUPPORTS AS REQUIRED BY THE REMOVAL OF EXISTING PIPING AND/OR DUCTWORK. ALL REMAINING PIPING AND/OR DUCTWORK SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS.
H. REMOVAL OF HVAC EQUIPMENT'S ASSOCIATED CONCRETE PADS.
2. VERIFICATION OF FIELD CONDITIONS
A. LOCATION, SIZE, AND DIMENSIONS OF EXISTING EQUIPMENT, PIPING, DUCTWORK, AND ACCESSORIES SHOWN ARE APPROXIMATE. NOT ALL EXISTING PIPING, DUCTWORK AND EQUIPMENT ARE SHOWN ON DRAWINGS.
B. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DIMENSIONS OF EXISTING EQUIPMENT, PIPING, DUCTWORK AND ACCESSORIES IN FIELD PRIOR TO PREPARATION OF DETAILED SHOP DRAWINGS AND ANY REMOVALS AND RELOCATIONS.
3. SEQUENCING & SCHEDULING
A. EXISTING MECHANICAL SYSTEMS NOT RELATED TO NEW CONSTRUCTION SHALL REMAIN IN SERVICE UNLESS OTHERWISE NOTED.
B. CONTRACTOR SHALL COORDINATE ALL REQUIRED REMOVAL AND RELOCATIONS OF MECHANICAL SYSTEMS IN THE EXISTING BUILDING, RELATED TO NEW CONSTRUCTION, AS SHOWN ON CONTRACT DRAWINGS.
C. PROVIDE RELOCATIONS, REMOVALS AND RE-ROUTING OF ANY EXISTING EQUIPMENT THAT INTERFERES WITH INSTALLATION OF THE NEW EQUIPMENT, COORDINATE IN ADVANCE AND OBTAIN OWNER'S APPROVAL FOR THESE RELOCATIONS, EITHER TEMPORARY OR PERMANENT.
D. CONTRACTOR TO REMOVE EXISTING PARTITIONS, CEILING TILES AND SUPPORTS AS NECESSARY TO PERFORM REMOVALS AND NEW INSTALLATION IN EXISTING AREAS. REINSTALL EXISTING AND REPLACE THOSE DAMAGED DUE TO THE NEW WORK.
4. COORDINATION WITH OWNER
E. THE CONTRACTOR SHALL CAREFULLY INSPECT ALL AREAS INVOLVED WITH REMOVALS AND PROVIDE THE PROPER COORDINATION AND MANPOWER REQUIRED FOR AN EFFICIENT OPERATION WITHOUT INTERFERING WITH THE BUILDING FUNCTION.
F. EQUIPMENT AND MATERIALS DESIRED BY THE OWNER SHALL BE DELIVERED BY THE CONTRACTOR TO AN ON-SITE STORAGE LOCATION DESIGNATED BY THE OWNER.
5. DISPOSAL OF MATERIALS REMOVED
A. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DEBRIS RESULTING FROM DEMOLITION WORK AND CONSTRUCTION FOR THIS PROJECT. THIS WILL INCLUDE, BUT NOT BE LIMITED TO PROVISIONS FOR PORTABLE CONTAINERS (DUMPSTERS) AND ALL GARBAGE AND DUMPING FEES.
B. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ALL AREAS IN AND ABOUT THE WORK IN A NEAT AND SAFE CONDITION. TRASH AND OTHER WASTE RESULTING FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. USE OF THE OWNER'S TRASH RECEPTACLES IS FORBIDDEN FOR DISPOSAL OF ANY REMOVALS, RUBBER, OR WASTE RESULTING FROM WORK UNDER THIS CONTRACT.
C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE DISPOSAL AT HIS COST IN ACCORDANCE WITH ANY APPLICABLE STATE OR FEDERAL REGULATION.
D. REMOVAL AND DISPOSAL OF REFRIGERANT SHALL BE IN ACCORDANCE WITH NJDEP REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH SECTION 608 OF THE CLEAN AIR ACT, WHICH IS AN EPA REGULATION TO LIMIT THE RELEASES OF ENVIRONMENTALLY HARMFUL REFRIGERANTS INTO THE ENVIRONMENT DURING THE MAINTENANCE, SERVICE, REPAIR OR DISPOSAL OF AIR CONDITIONING AND REFRIGERATION EQUIPMENT TO THE "LOWEST ACHIEVABLE LEVEL".
6. DAMAGES
A. CONTRACTOR SHALL EXERCISE SPECIAL CARE NOT TO DAMAGE ANY OF THE OWNERS' FACILITIES OR EQUIPMENT WHILE PERFORMING CONSTRUCTION WORK. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE THAT OCCURS.
B. ANY EXISTING OR NEW CONSTRUCTION THAT IS DAMAGED DURING THE COURSE OF THE MECHANICAL WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE MECHANICAL CONTRACTOR.
C. CONTRACTOR SHALL PROVIDE AND INSTALL NEW INSULATION FOR ALL EXISTING DUCT AND PIPE INSULATION THAT IS DAMAGED DUE TO THE IMPLEMENTATION OF THIS CONTRACT.
7. CUTTING & PATCHING
A. CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED UNDER THIS CONTRACT, INCLUDING WORK DUE TO EQUIPMENT, PIPING, AND DUCTWORK REMOVALS TO MATCH ADJACENT CONSTRUCTION.
B. PATCH AND SEAL OPENINGS WITH APPROVED MATERIALS TO MAINTAIN EXISTING FIRE AND/OR SMOKE RESISTANCE RATINGS OF THE EXISTING STRUCTURE.
C. SEAL ROOF AND EXTERIOR WALL OPENINGS WEATHER AND AIR TIGHT.
D. PATCH ALL WALL, ROOF AND FLOOR OPENINGS AS NECESSARY DUE TO PIPING, DUCTWORK, OR EQUIPMENT REMOVALS TO MATCH EXISTING ADJACENT CONSTRUCTION.
8. RESTORING SURFACE FINISHES
A. WHERE CONCRETE PADS ARE REMOVED OR ATTACHMENTS TO FLOORS, WALLS, AND CEILINGS ARE REMOVED, THE FLOORS, WALLS, AND CEILINGS SHALL BE PATCHED AND FINISHED AS NECESSARY TO PROVIDE A SMOOTH FINISHED SURFACE INCLUDING PAINT, TO MATCH THE ADJACENT FINISHES OF THE SURROUNDING AREA.
9. CONTROLS
A. REMOVE CONTROLS, WHICH DO NOT REMAIN AS PART OF THE BUILDING AUTOMATION SYSTEM, ALL ASSOCIATED ABANDONED WIRING AND CONDUIT, AND ALL ASSOCIATED PNEUMATIC TUBING. THE OWNER WILL INFORM THE CONTRACTOR OF ANY EQUIPMENT, WHICH IS TO BE REMOVED, THAT WILL REMAIN THE PROPERTY OF THE OWNER. ALL OTHER EQUIPMENT, WHICH IS REMOVED, WILL BE DISPOSED OF BY THE CONTRACTOR.

1. MOTOR CONTROLLERS, MOTOR STARTERS & DISCONNECTS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR.
2. POWER WIRING TO MECHANICAL EQUIPMENT, MOTOR CONTROLLERS AND CONTROL PANELS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
3. HVAC CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
4. DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC DIAGRAMS AND ARE INTENDED TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY AND DO NOT INDICATE WHICH PIPE OR DUCT IS ABOVE OR BELOW THE OTHER. ALL OFFSETS ARE NOT NECESSARILY SHOWN, CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES, VENTS, AND FITTINGS TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND STRUCTURAL AND ARCHITECTURAL ELEMENTS WITHOUT ADDITIONAL COST TO THE OWNER. IF AREAS OF CONFLICT ARE ENCOUNTERED, THE ARCHITECT SHALL BE NOTIFIED AND CONTRACTOR'S RECOMMENDATION SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE WORK HAS BEGUN.
5. ENTIRE INSTALLATION SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND OTHER AUTHORITIES HAVING JURISDICTION.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND SHALL ARRANGE ALL REQUIRED INSPECTIONS.
7. PROPER FIRE PROTECTION MEASURES, SATISFACTORY TO THE LOCAL FIRE DEPARTMENT SHALL BE TAKEN WHEN WELDING OR CUTTING WITH TORCHES OR ELECTRIC ARC.
8. PROVIDE FLEXIBLE CONNECTIONS ON ALL ROTATING EQUIPMENT.
9. CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS SUPPORTS FOR ALL EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK. SUSPEND FROM SLAB, STEEL, WALL, OR TRUSS WORK.
10. BALANCE AND CERTIFY ALL AIR AND WATER FLOWS AS PER SPECIFICATIONS. REFER TO DRAWINGS FOR CFM REQUIREMENTS.
11. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES AND THE FIELD CONDITIONS.
12. ALL AIR MOVING DEVICES, INCLUDING NOT LIMITED TO, AIR HANDLING UNITS AND AIR CONDITIONING UNITS MUST COMPLY WITH AMCA STANDARD 210 AND ASHRAE.
13. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL DEVICES WILL BE INSTALLED IN A LOCATION WHICH AFFORDS ACCESSIBILITY FOR MAINTENANCE AND REPAIR. COORDINATE INSTALLATION AMONG ALL TRADES TO AVOID INTERFERENCE, AND LOCATE EQUIPMENT TO MEET OR EXCEED CLEARANCE RECOMMENDED BY THE MANUFACTURER. FULL COORDINATION WITH ARCHITECT, REPRESENTATIVES OF OWNER AND JOHNSON & URBAN, LLC CONSULTING ENGINEERS WILL REVIEW EACH INSTALLATION AND WILL DIRECT CHANGES WHENEVER ACCESS OR SERVICEABILITY IS, IN THEIR OPINION, UNACCEPTABLE.
14. FURNISH LOCAL DISCONNECT SWITCHES FOR ALL ELECTRICALLY DRIVEN HVAC EQUIPMENT. DISCONNECT SWITCH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
15. WALL MOUNTED THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE OWNER AND ARCHITECT'S FURNITURE PLANS PRIOR TO INSTALLATION.
16. THERMOSTAT WIRING SHALL BE INSTALLED IN CONCEALED SPACE, WALL OR CHASE.
17. ALL MECHANICAL COMPONENTS LOCATED BEHIND WALLS/CHASES/HARD CEILINGS REQUIRING ACCESS SHALL BE PROVIDED WITH METAL ACCESS DOORS AT WALL/CEILING SURFACES. THESE COMPONENTS SHALL INCLUDE BUT NOT BE LIMITED TO VALVES, ACTUATORS, VOLUME DAMPERS, FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS. ACCESS DOOR SHALL MATCH FIRE RATING OF WALL/CHASE. COORDINATE FULL REQUIREMENTS WITH ARCHITECT. MINIMUM DOOR SIZE SHALL BE 8x8 FOR HAND/ARM ACCESS AND 16x16 FOR HEAD/ARM ACCESS.
18. ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
19. ALL EQUIPMENT FOR THIS PROJECT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
20. COORDINATION DRAWINGS SHALL BE PREPARED AT A MINIMUM 1/4 SCALE AND SHALL INDICATE ALL TRADES. SUBMIT COORDINATION DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING ANY WORK.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMISSION OF THE NECESSARY FORM-WORK FOR THE PURPOSES OF SECURING SMART-START REBATES FOR THE HVAC EQUIPMENT, MOTORS AND SYSTEMS. CONTRACTOR SHALL INCLUDE THIS WORK AS PART OF THEIR BID.



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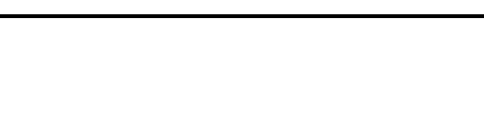
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ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION AT THE NEW ANNEX BUILDING, SECOND FLOOR FOR THE COUNTY OF UNION 27 Elizabethtown Plaza Elizabeth, NJ 07020

Table with columns: No., Date, Issue or Revision. Row 1: 1, 03.26.2021, ISSUED FOR BID.

Drawing Title
MECHANICAL GENERAL INFORMATION

Scale: As Noted
USA Project No.: 2020-047

Drawing Date: 03.26.2021
Drawing No.: M01

Drawn By: AR
Checked By: JU

METAL DUCTWORK SPECIFICATION

PART 1 - GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. RECTANGULAR DUCTS AND FITTINGS.
2. ROUND DUCTS AND FITTINGS.
3. SHEET METAL MATERIALS.
4. SEALANTS AND GASKETS.
5. HANGERS AND SUPPORTS.
1.2 PERFORMANCE REQUIREMENTS
A. AIRSTREAM SURFACES: SURFACES IN CONTACT WITH THE AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ASHRAE 62.1-2016.
1.3 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SHOP DRAWINGS:
1. FABRICATION, ASSEMBLY, AND INSTALLATION, INCLUDING PLANS, ELEVATIONS, SECTIONS, COMPONENTS, AND ATTACHMENTS TO OTHER WORK.
2. FACTORY- AND SHOP-FABRICATED DUCTS AND FITTINGS.
3. DUCT LAYOUT INDICATING SIZES, CONFIGURATION, AND STATIC-PRESSURE CLASSES.
4. ELEVATION OF TOP OF DUCTS.
5. DIMENSIONS OF MAIN DUCT RUNS FROM BUILDING GRID LINES.
6. FITTINGS.
7. REINFORCEMENT AND SPACING.
8. SEAM AND JOINT CONSTRUCTION.
9. PENETRATIONS THROUGH FIRE-RATED AND OTHER PARTITIONS.
10. EQUIPMENT INSTALLATION BASED ON EQUIPMENT BEING USED ON PROJECT.
11. LOCATIONS FOR DUCT ACCESSORIES, INCLUDING DAMPERS, TURNING VANES, AND ACCESS DOORS AND PANELS.
12. HANGERS AND SUPPORTS, INCLUDING METHODS FOR DUCT AND BUILDING ATTACHMENT.
C. COORDINATION DRAWINGS: PLANS, DRAWN TO SCALE, ON WHICH THE FOLLOWING ITEMS ARE SHOWN AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED:
1. DUCT INSTALLATION IN CONGESTED SPACES, INDICATING COORDINATION WITH GENERAL CONSTRUCTION, BUILDING COMPONENTS, AND OTHER BUILDING SERVICES. INDICATE PROPOSED CHANGES TO DUCT LAYOUT.
2. SUSPENDED CEILING COMPONENTS.
3. STRUCTURAL MEMBERS TO WHICH DUCT WILL BE ATTACHED.
4. SIZE AND LOCATION OF INITIAL ACCESS MODULES FOR ACOUSTICAL TIE.
5. PENETRATIONS OF SMOKE BARRIERS AND FIRE-RATED CONSTRUCTION.
6. ITEMS PENETRATING FINISHED CEILING INCLUDING THE FOLLOWING:
a. LIGHTING FIXTURES.
b. AIR OUTLETS AND INLETS.
c. SPEAKERS.
d. SPRINKLERS.
e. ACCESS PANELS.
d. WELDING CERTIFICATES.
1.4 QUALITY ASSURANCE
A. WELDING QUALIFICATIONS: QUALITY PROCEDURES AND PERSONNEL ACCORDING TO "SHEET METAL WELDING CODE," FOR DUCT JOINT AND SEAM WELDING.
B. WELDING QUALIFICATIONS: QUALITY PROCEDURES AND PERSONNEL ACCORDING TO THE FOLLOWING:
1. AWS D9.1M/D9.1, "SHEET METAL WELDING CODE" FOR DUCT JOINT AND SEAM WELDING.
C. ASHRAE COMPLIANCE: APPLICABLE REQUIREMENTS IN ASHRAE 62.1-2013, SECTION 5 - "SYSTEMS AND EQUIPMENT" AND SECTION 7 - "CONSTRUCTION AND SYSTEM START-UP."
D. ASHRAE/IESNA COMPLIANCE: APPLICABLE REQUIREMENTS IN ASHRAE/IESNA 90.1-2013, SECTION 6.4.4 - "HVAC SYSTEM CONSTRUCTION AND INSULATION."

PART 2 - PRODUCTS

2.1 RECTANGULAR DUCTS AND FITTINGS
A. GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.
B. TRANSVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 1-4, "TRANSVERSE (GIRTH) JOINTS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
C. LONGITUDINAL SEAMS: SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 1-5, "LONGITUDINAL SEAMS - RECTANGULAR DUCTS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
D. ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER DUCT CONSTRUCTION: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 2, "FITTINGS AND OTHER CONSTRUCTION," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
2.2 ROUND DUCTS AND FITTINGS
A. GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 3, "ROUND, OVAL, AND FLEXIBLE DUCT," BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. LINDAB INC.
b. MCGILL AIRFLOW LLC.
c. SEMCO INCORPORATED.
d. SHEET METAL CONNECTORS, INC.
B. TRANSVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-2, "TRANSVERSE JOINTS - ROUND DUCT," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
1. TRANSVERSE JOINTS IN DUCTS LARGER THAN 60 INCHES IN DIAMETER: FLANGED.
C. LONGITUDINAL SEAMS: SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-1, "SEAMS - ROUND DUCT AND FITTINGS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
1. FABRICATE ROUND DUCTS LARGER THAN 90 INCHES IN DIAMETER WITH BUTT-WELDED LONGITUDINAL SEAMS.
D. TEES AND LATERALS: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-4, "90 DEGREE TEES AND LATERALS," AND FIGURE 3-5, "CONICAL TEES," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."

2.3 SHEET METAL MATERIALS
A. GENERAL MATERIAL REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS UNLESS OTHERWISE INDICATED. SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
B. GALVANIZED SHEET STEEL: COMPLY WITH ASTM A 653/A 653M.
1. GALVANIZED COATING DESIGNATION: 90.
2. FINISHES FOR SURFACES EXPOSED TO VIEW: MILL PHOSPHATIZED.
C. CARBON-STEEL SHEETS: COMPLY WITH ASTM A 1008/A 1008M, WITH OILED, MATTE FINISH FOR EXPOSED DUCTS.
D. STAINLESS-STEEL SHEETS: COMPLY WITH ASTM A 480/A 480M, TYPE 304 OR 316, AS INDICATED IN THE "DUCT SCHEDULE" ARTICLE; COLD ROLLED, ANNEALED, SHEET. EXPOSED SURFACE FINISH SHALL BE NO. 2B, NO. 2D, NO. 3, OR NO. 4 AS INDICATED IN THE "DUCT SCHEDULE" ARTICLE.
E. REINFORCEMENT SHAPES AND PLATES: ASTM A 36/A 36M, STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.
1. WHERE BLACK- AND GALVANIZED-STEEL SHAPES AND PLATES ARE USED TO REINFORCE ALUMINUM DUCTS, ISOLATE THE DIFFERENT METALS WITH BUTYL RUBBER, NEOPRENE, OR EPDM GASKET MATERIALS.
F. TIE RODS: GALVANIZED STEEL, 1/4-INCH MINIMUM DIAMETER FOR LENGTHS 36 INCHES OR LESS; 3/8-INCH MINIMUM DIAMETER FOR LENGTHS LONGER THAN 36 INCHES.

2.4 SEALANT AND GASKETS
A. GENERAL SEALANT AND GASKET REQUIREMENTS: SURFACE-BURNING CHARACTERISTICS FOR SEALANTS AND GASKETS SHALL BE A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED ACCORDING TO UL 723; CERTIFIED BY AN NRTL.
B. WATER-BASED JOINT AND SEAM SEALANT:
1. APPLICATION METHOD: BRUSH ON.
2. SOLIDS CONTENT: MINIMUM 65 PERCENT.
3. SHORE A HARDNESS: MINIMUM 20.
4. WATER RESISTANT.
5. MOLD AND MILDEW RESISTANT.
6. VOC: MAXIMUM 75 G/L (LESS WATER).
7. MAXIMUM STATIC-PRESSURE CLASS: 10-INCH WG (2500 PA), POSITIVE AND NEGATIVE.
B. SERVICE: INDOOR OR OUTDOOR.
9. SUBSTRATE: COMPATIBLE WITH GALVANIZED SHEET STEEL (BOTH PVC COATED AND BARE), STAINLESS STEEL, OR ALUMINUM SHEETS.
C. FLANGED JOINT SEALANT: COMPLY WITH ASTM C 920.
1. GENERAL: SINGLE-COMPONENT, AOD-CURING, SILICONE, ELASTOMERIC.
2. TYPE: S.
3. GRADE: NS.
4. CLASS: ZS.
5. USE: O.
6. FOR INDOOR APPLICATIONS, USE SEALANT THAT HAS A VOC CONTENT OF 250 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUPPLEMENT D (EPA METHOD 24).
D. FLANGE GASKETS: BUTYL RUBBER, NEOPRENE, OR EPDM POLYMER WITH POLYISOBUTYLENE PLASTICIZER.
E. ROUND DUCT JOINT O-RING SEALS:
1. SEAL SHALL PROVIDE MAXIMUM LEAKAGE CLASS OF 3 CFM/100 SQ. FT. AT 1-INCH WG AND SHALL BE RATED FOR 10-INCH WG STATIC-PRESSURE CLASS, POSITIVE OR NEGATIVE.
2. EPDM O-RING TO SEAL IN CONCAVE BEAD IN COUPLING OR FITTING SPIGOT.
3. DOUBLE-LIPPED, EPDM O-RING SEAL, MECHANICALLY FASTENED TO FACTORY-FABRICATED COUPLINGS AND FITTING SPIGOTS.
2.5 HANGERS AND SUPPORTS
A. HANGER RODS FOR NONCORROSIVE ENVIRONMENTS: CADMIUM-PLATED STEEL RODS AND NUTS.
B. HANGER RODS FOR CORROSIVE ENVIRONMENTS: ELECTROGALVANIZED, ALL-THREAD RODS OR GALVANIZED RODS WITH THREADS PAINTED WITH ZINC-CHROMATE PRIMER AFTER INSTALLATION.
C. STRAP AND ROD SIZES: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1, "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 4-2, "MINIMUM HANGER SIZES FOR ROUND DUCT."
D. STEEL CABLES FOR GALVANIZED-STEEL DUCTS: GALVANIZED STEEL COMPLYING WITH ASTM A 603.
E. STEEL CABLES FOR STAINLESS-STEEL DUCTS: STAINLESS STEEL COMPLYING WITH ASTM A 492.
F. STEEL CABLE END CONNECTIONS: CADMIUM-PLATED STEEL ASSEMBLIES WITH BRACKETS, SWIVEL, AND BOLTS DESIGNED FOR DUCT HANGER SERVICE; WITH AN AUTOMATIC-LOCKING AND CLAMPING DEVICE.
G. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS, OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.
H. TRAP AND RISER SUPPORTS:
1. SUPPORTS FOR GALVANIZED-STEEL DUCTS: GALVANIZED-STEEL SHAPES AND PLATES.
2. SUPPORTS FOR STAINLESS-STEEL DUCTS: STAINLESS-STEEL SHAPES AND PLATES.
3. SUPPORTS FOR ALUMINUM DUCTS: ALUMINUM OR GALVANIZED STEEL COATED WITH ZINC CHROMATE.
PART 3 - EXECUTION
3.1 DUCT INSTALLATION
A. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM. INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR-HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS AND COORDINATION DRAWINGS.
B. INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.
C. INSTALL ROUND DUCTS IN MAXIMUM PRACTICAL LENGTHS.
D. INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS.
E. INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.
F. UNLESS OTHERWISE INDICATED, INSTALL DUCTS VERTICALLY AND HORIZONTALLY, AND PARALLEL AND PERPENDICULAR TO BUILDING LINES.
G. INSTALL DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING.
H. INSTALL DUCTS WITH A CLEARANCE OF 1 INCH, PLUS ALLOWANCE FOR INSULATION THICKNESS.
I. ROUTE DUCTS TO AVOID PASSING THROUGH TRANSFORMER VAULTS AND ELECTRICAL EQUIPMENT ROOMS AND ENCLOSURES.
J. WHERE DUCTS PASS THROUGH NON-FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS AND ARE EXPOSED TO VIEW, COVER THE OPENING BETWEEN THE PARTITION AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS THE DUCT. OVERLAP OPENINGS ON FOUR SIDES BY AT LEAST 1-1/2 INCHES.
K. PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS. COMPLY WITH SMACNA'S "DUCT CLEANLINESS FOR NEW CONSTRUCTION GUIDELINES."

3.2 DUCT SEALING
A. SEAL DUCTS FOR DUCT STATIC-PRESSURE, SEAL CLASSES, AND LEAKAGE CLASSES SPECIFIED IN "DUCT SCHEDULE" ARTICLE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
B. SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE":
1. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4, "HANGERS AND SUPPORTS."
2. OUTDOOR, SUPPLY-AIR DUCTS: SEAL CLASS A.
3. OUTDOOR, EXHAUST DUCTS: SEAL CLASS C.
4. OUTDOOR, RETURN-AIR DUCTS: SEAL CLASS C.
5. UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS B.
6. UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS A.
7. UNCONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS C.
8. UNCONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS B.
9. CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS C.
10. CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS B.
11. CONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS B.
12. CONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS C.
3.3 HANGER AND SUPPORT INSTALLATION
A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4, "HANGERS AND SUPPORTS."
B. BUILDING ATTACHMENTS: CONCRETE INSERTS, POWDER-ACTUATED FASTENERS, OR STRUCTURAL-STEEL FASTENERS APPROPRIATE FOR CONSTRUCTION MATERIALS TO WHICH HANGERS ARE BEING ATTACHED.
1. WHERE PRACTICAL, INSTALL CONCRETE INSERTS BEFORE PLACING CONCRETE.
2. INSTALL POWDER-ACTUATED CONCRETE FASTENERS AFTER CONCRETE IS PLACED AND COMPLETELY CURED.
3. USE POWDER-ACTUATED CONCRETE FASTENERS FOR STANDARD-WEIGHT AGGREGATE CONCRETES OR FOR SLABS MORE THAN 4 INCHES THICK.
4. DO NOT USE POWDER-ACTUATED CONCRETE FASTENERS FOR LIGHTWEIGHT-AGGREGATE CONCRETES OR FOR SLABS LESS THAN 4 INCHES THICK.
5. DO NOT USE POWDER-ACTUATED CONCRETE FASTENERS FOR SEISMIC RESTRAINTS.
C. HANGER SPACING: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1, "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 4-2, "MINIMUM HANGER SIZES FOR ROUND DUCT," FOR MAXIMUM HANGER SPACING; INSTALL HANGERS AND SUPPORTS WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION.
D. HANGERS EXPOSED TO VIEW: THREADED ROD AND ANGLE OR CHANNEL SUPPORTS.
E. SUPPORT VERTICAL DUCTS WITH STEEL ANGLES OR CHANNEL SECURED TO THE SIDES OF THE DUCT WITH WELDS, BOLTS, SHEET METAL SCREWS, OR BLIND RIVETS; SUPPORT AT EACH FLOOR AND AT A MAXIMUM INTERVALS OF 16 FEET.
F. INSTALL UPPER ATTACHMENTS TO STRUCTURES. SELECT AND SIZE UPPER ATTACHMENTS WITH FULL-OUT TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

3.4 CONNECTIONS
A. MAKE CONNECTIONS TO EQUIPMENT WITH FLEXIBLE CONNECTIONS.
B. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR BRANCH, OUTLET AND INLET, AND TERMINAL UNIT CONNECTIONS.
3.5 START UP
A. AIR BALANCE: COMPLY WITH REQUIREMENTS IN DIVISION 23 SECTION "TESTING, ADJUSTING, AND BALANCING FOR HVAC."
3.6 DUCT SCHEDULE
A. FABRICATE DUCTS WITH GALVANIZED SHEET STEEL EXCEPT AS OTHERWISE INDICATED AND AS FOLLOWS:
B. SUPPLY DUCTS:
1. DUCTS CONNECTED TO ROOFTOP UNITS, FURNACES, AND TERMINAL UNITS:
a. PRESSURE CLASS: POSITIVE 2-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 12.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT OVAL: 12.
2. RETURN DUCTS:
a. MATERIAL: CARBON-STEEL SHEET.
b. PRESSURE CLASS: POSITIVE OR NEGATIVE 2-INCH WG.
c. MINIMUM SMACNA SEAL CLASS: A.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT OVAL: 12.
e. EXHAUST DUCTS:
1. DUCTS CONNECTED TO FANS EXHAUSTING (ASHRAE 62.1, CLASS 1 AND 2) AIR:
a. PRESSURE CLASS: NEGATIVE 1-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 12.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT OVAL: 12.
2. OUTDOOR-AIR DUCTS:
a. PRESSURE CLASS: POSITIVE OR NEGATIVE 2-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 12.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT OVAL: 12.
e. ELBOW CONFIGURATION:
1. RECTANGULAR DUCT: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-2, "RECTANGULAR ELBOW."
a. VELOCITY 1000 FPM OR LOWER:
1) RADIUS TYPE RE 1 WITH MINIMUM 0.5 RADIUS-TO-DIAMETER RATIO.
2) MITERED TYPE RE 4 WITHOUT VANES.
b. VELOCITY 1000 TO 1500 FPM:
1) RADIUS TYPE RE 1 WITH MINIMUM 1.0 RADIUS-TO-DIAMETER RATIO.
2) RADIUS TYPE RE 3 WITH MINIMUM 0.5 RADIUS-TO-DIAMETER RATIO AND TWO VANES.
3) MITERED TYPE RE 2 WITH VANES COMPLYING WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-3, "VANES AND VANE RUNNERS," AND FIGURE 2-4, "VANE SUPPORT IN ELBOWS."
2. RECTANGULAR DUCT: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-2, "RECTANGULAR ELBOWS."
a. RADIUS TYPE RE 1 WITH MINIMUM 1.5 RADIUS-TO-DIAMETER RATIO.
b. RADIUS TYPE RE 3 WITH MINIMUM 1.0 RADIUS-TO-DIAMETER RATIO AND TWO VANES.
c. MITERED TYPE RE 2 WITH VANES COMPLYING WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-3, "VANES AND VANE RUNNERS," AND FIGURE 2-4, "VANE SUPPORT IN ELBOWS."
3. ROUND DUCT: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-3, "ROUND DUCT ELBOWS."
a. MINIMUM RADIUS-TO-DIAMETER RATIO AND ELBOW SEGMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-1, "MITERED ELBOWS." ELBOWS WITH LESS THAN 90-DEGREE CHANGE OF DIRECTION HAVE PROPORTIONATELY FEWER SEGMENTS.
1) VELOCITY 1000 FPM OR LOWER: 0.5 RADIUS-TO-DIAMETER RATIO AND THREE SEGMENTS FOR 90-DEGREE ELBOW.
2) VELOCITY 1000 TO 1500 FPM: 1.0 RADIUS-TO-DIAMETER RATIO AND FOUR SEGMENTS FOR 90-DEGREE ELBOW.
3) RADIUS-TO-DIAMETER RATIO: 1.5.
b. ROUND ELBOWS, 12 INCHES AND SMALLER IN DIAMETER: STAMPED OR PLEATED.
c. ROUND ELBOWS, 14 INCHES AND LARGER IN DIAMETER: STANDING SEAM.
B. BRANCH CONFIGURATION:
1. RECTANGULAR DUCT: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-6, "BRANCH CONNECTIONS."
a. RECTANGULAR MAIN TO RECTANGULAR BRANCH: 45-DEGREE ENTRY.
b. RECTANGULAR MAIN TO ROUND BRANCH: SPIN IN.
2. ROUND: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-4, "90 DEGREE TEES AND LATERALS," AND FIGURE 3-5, "CONICAL TEES." SADDLE TAPS ARE PERMITTED IN EXISTING DUCT.
a. VELOCITY 1000 FPM OR LOWER: 90-DEGREE TAP.
b. VELOCITY 1000 TO 1500 FPM: CONICAL TAP.



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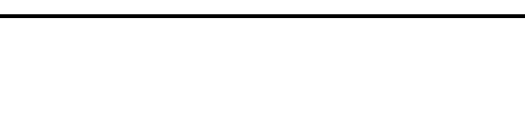
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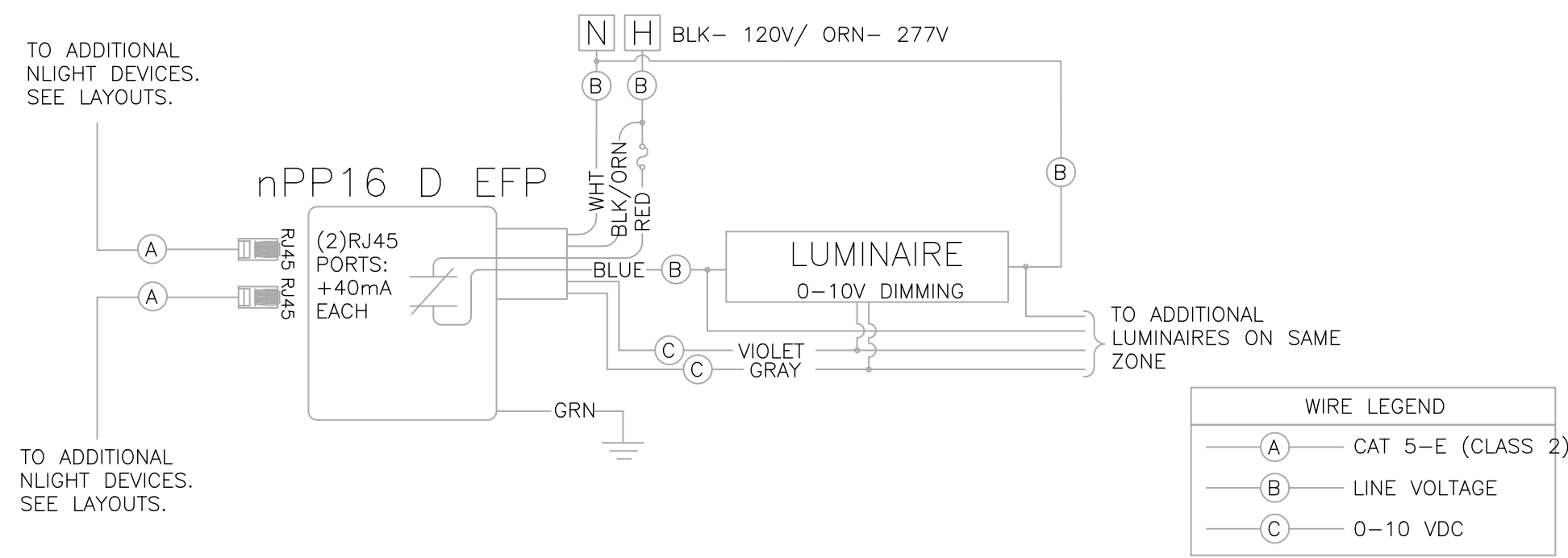
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ASBESTOS ABATEMENT AND FIRE SPRINKLER INSTALLATION AT THE NEW ANNEX BUILDING, SECOND FLOOR FOR THE COUNTY OF UNION 27 Elizabethtown Plaza Elizabeth, NJ 07202

Table with 3 columns: No., Date, Issue or Revision. Row 1: 1, 03.26.2021, ISSUED FOR BID.

Drawing Title: MECHANICAL SPECIFICATIONS
Scale: As Noted
USA Project No.: 2020-047
Drawing Date: 03.26.2021
Drawing No.: M02
Drawn By: AR
Checked By: JU

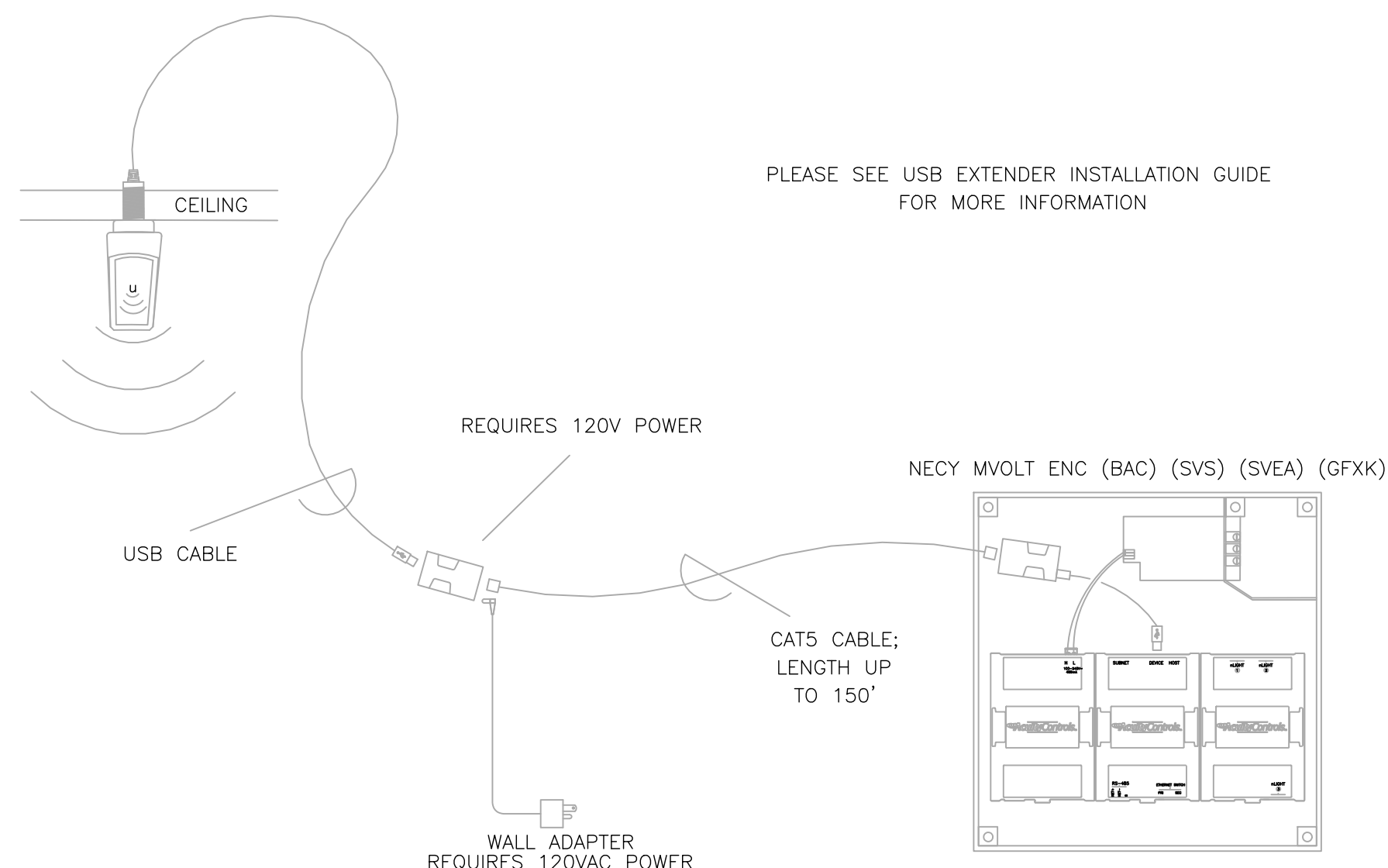
WIRED NLIGHT



TYPICAL WIRING DIAGRAM: NPP16 D EFP

N.T.S.

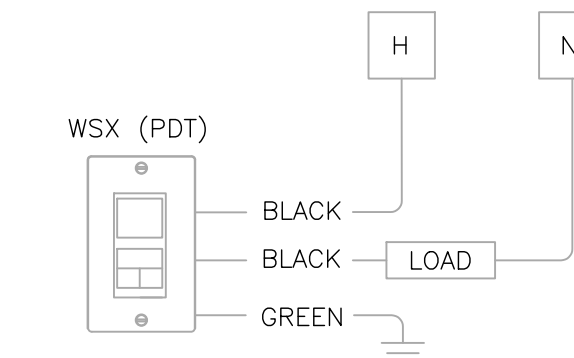
WIRELESS NLIGHT



USB EXTENDER FOR NLIGHT AIR ADAPTOR INSTALLATION

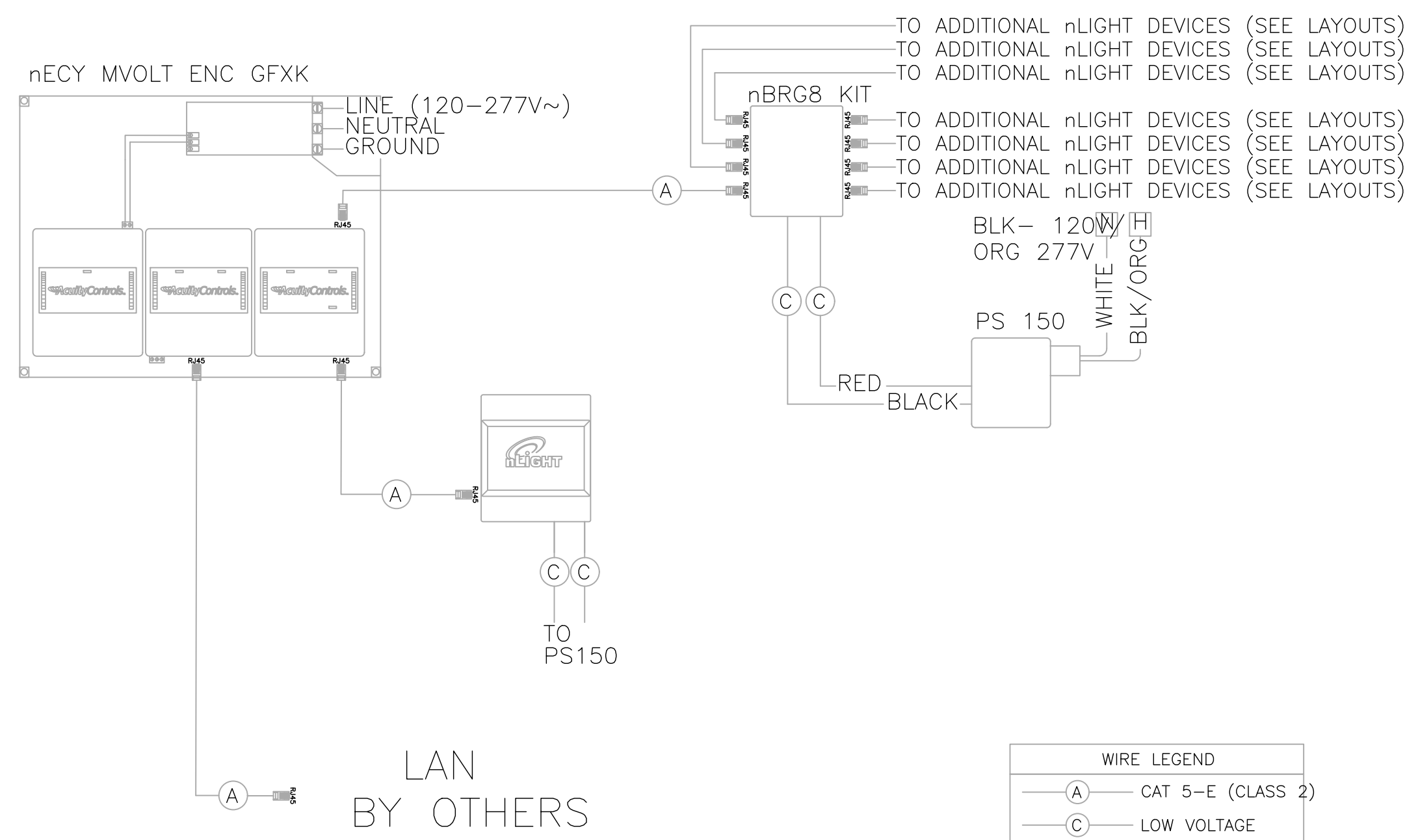
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LINE VOLTAGE



WALL SWITCH, 1 POLE, AUTO ON/OFF

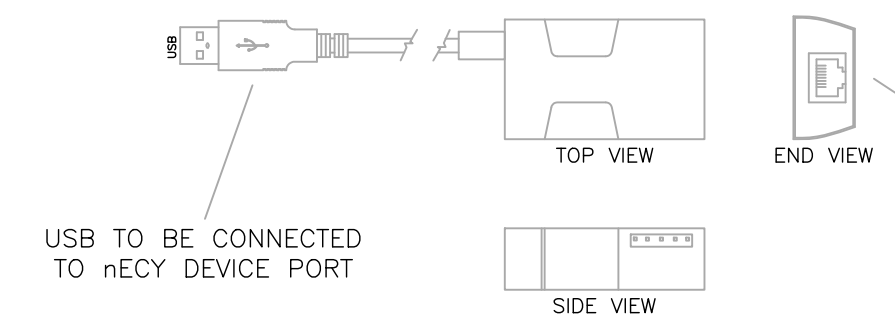
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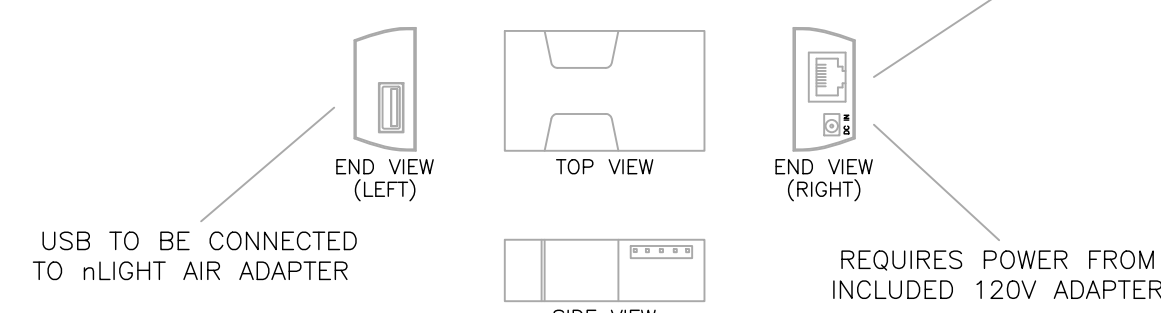
TYPICAL WIRING DIAGRAM: nECY MVOLT ENC GFXK

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USB TRANSMITTER (LOCATED ON THE nECY CONTROLLER SIDE)

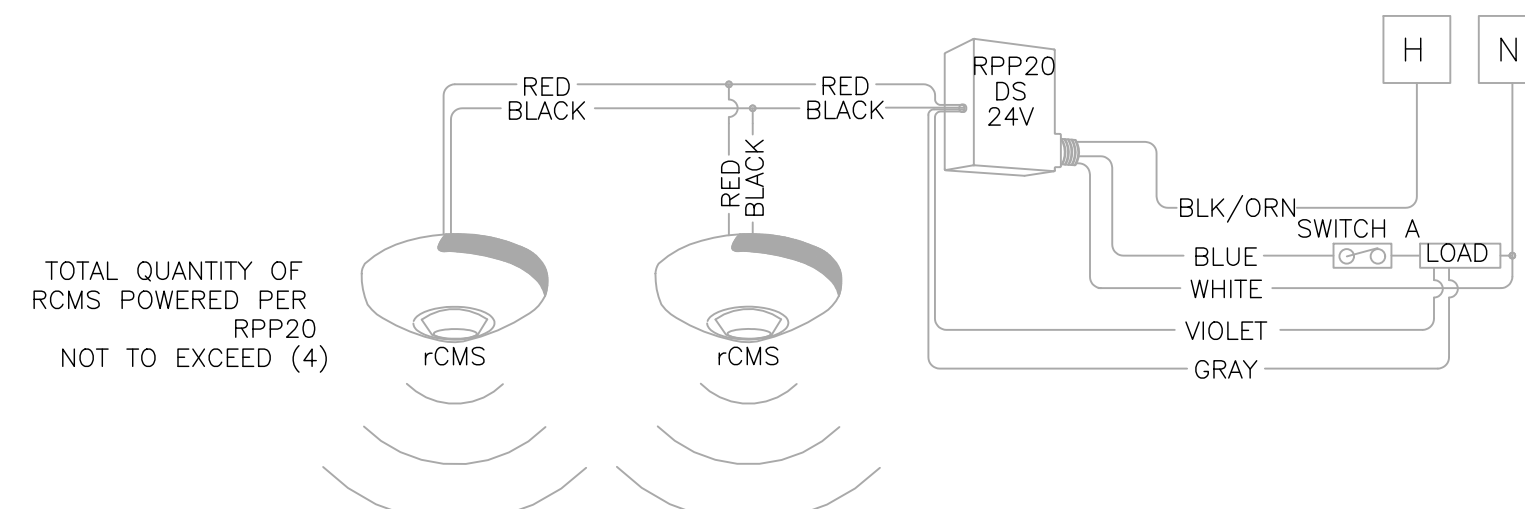


USB RECEIVER (LOCATED ON THE SIDE NEAREST TO THE ADAPTER)



USB EXTENDER FOR NLIGHT AIR ADAPTER

N.T.S.



RPP20 DS 24V w/ MULTIPLE OCC SENSORS

N.T.S.

nLight AIR System Notes:

ALL NETWORKED NLIGHT AIR DEVICES ARE IDEALLY LOCATED WITHIN 150 FEET OF AN NLIGHT AIR ADAPTER FOR INDOOR APPLICATIONS, UNLESS A SITE SURVEY HAS BEEN DONE TO CONFIRM OTHERWISE. A 1000 FOOT LINE-OF-SIGHT DISTANCE SHOULD BE USED FOR OUTDOOR APPLICATIONS WHERE LINE OF SIGHT IS AVAILABLE BETWEEN THE NLIGHT AIR ADAPTER AND RECEIVING DEVICE. AN NLIGHT ECLYPSE CAN SUPPORT 750 DEVICES TOTAL.

STANDALONE NLIGHT AIR GROUPS CAN CONTAIN UP TO 128 NLIGHT AIR DEVICES, AND ALL DEVICES SHOULD BE LOCATED WITHIN A MAXIMUM OF 1000 FEET CLEAR LINE OF SITE OF EACH DEVICE WITHIN THE GROUP, DEPENDING ON APPLICATION.

BATTERY POWERED NLIGHT AIR SWITCHES AND CEILING MOUNTED SENSORS (RPODB AND RCMSB SERIES RESPECTIVELY) INCLUDE AN INTERNAL BATTERY, RATED FOR A 10 YEAR LIFE EXPECTANCY.

NLIGHT AIR DEVICES MUST BE PROGRAMMED THROUGH THE CLARITY PRO MOBILE APPLICATION BEFORE THEY CAN BE CONTROLLED OR NETWORKED TO AN NLIGHT ECLYPSE WITH CORRESPONDING NLIGHT AIR ADAPTER.

nLight System Notes

EVERY NLIGHT ENABLED DEVICE (INCLUDING NLIGHT ENABLED FIXTURES) IS FURNISHED WITH (1) PERMANENTLY ADHERED ID TAG AND (1) MATCHING, PARTIALLY ADHERED ID TAG TO BE PLACED ON THE RISER DIAGRAM SHEET, OR THE LIGHTING CONTROL LAYOUT SHEET, PROVIDED AS PART OF AN NLIGHT SUBMITTAL. THIS SHALL BE DONE DURING INSTALLATION AND PRIOR TO FACTORY STARTUP. FAILURE TO COMPLY MAY RESULT IN STARTUP DELAYS AND ADDITIONAL COSTS AT THE CONTRACTOR'S EXPENSE. DO NOT PLACE DEVICE ID STICKERS ON FLOOR PLAN UNLESS REQUIRED TO EXECUTE nFLOORPLAN SERVICES. REFERENCE nFLOORPLAN SERVICE NOTES ON THIS SHEET FOR SPECIFIC REQUIREMENTS.

ONE RELAY PACK OR NLIGHT ENABLED FIXTURE IS NEEDED PER CIRCUIT/ZONE TO BE CONTROLLED AND CAN RESIDE WITHIN SENSORS, WALLPODS, OR RELAY PACKS. POWER PACK PLACEMENT ON DRAWINGS IS FOR COUNTING ONLY; FINAL PLACEMENT IS UP TO DISCRETION OF CONTRACTOR/ENGINEER. PLEASE REQUEST COUNTS TO VERIFY THE NUMBER OF RELAYS NEEDED TO SWITCH ALL DESIRED LOADS.

BRIDGES, RELAYS, POWER PACKS, WALLPODS, AND SENSORS ON DRAWINGS WERE PLACED WITH INFORMATION PROVIDED AT TIME OF DESIGN. ADDITIONAL BRIDGES AND/OR SENSORS MAY BE REQUIRED DEPENDING ON BUILDING CHANGES, FINAL PARTITION HEIGHT/PLACEMENT, FURNITURE PLACEMENT, EQUIPMENT HEIGHT/PLACEMENT AND SHELVING HEIGHT/PLACEMENT.

THE LAYOUT OF THE NETWORK BACKBONE (BRIDGES AND GATEWAYS) HAS BEEN PLACED IN A SEPARATE TREE DIAGRAM AND NOT ON THE ACTUAL LAYOUT. FINAL PLACEMENT OF THE BRIDGE(S) AND GATEWAY(S) DEVICES SHALL BE AT THE CONTRACTOR/ENGINEER DISCRETION.

ALL DEVICES HAVE RJ-45 FEMALE PORTS. MAKING NETWORK CONTROL CABLES IS REQUIRED. T568B TERMINATIONS ARE RECOMMENDED. IT IS IMPERATIVE THAT ALL NETWORK CONTROL CABLES BE TESTED WITH A LAN CABLE TESTER TO VERIFY PROPER TERMINATIONS.

DAISY-CHAINED DEVICES SHOULD BE POWERED UP AND WORKING ON DEFAULT PROGRAMMING PRIOR TO CONNECTION TO BRIDGE OR GATEWAYS.

LOW VOLTAGE NETWORK CONTROL CABLE (CAT5/5E/6) RUNS FOR LOCAL ZONES, HOMERUNS AND BACKBONE SHOULD BE WHITE WITH CABLES LABELED.

CONTRACTOR TO VERIFY BLINK/DIAGNOSTIC CODES (VISIT [HTTP://NLIGHTCONTROLS.COM/MP-CONTENT/UPLOADS/NLIGHT_POCK_ET_GUIDE.PDF](http://nLIGHTCONTROLS.COM/MP-CONTENT/UPLOADS/NLIGHT_POCK_ET_GUIDE.PDF)) WHEN CONNECTING GATEWAYS/BRIDGES TO ZONES.

MAXIMUM CABLE LENGTH FROM START DEVICE TO END DEVICE IS 1500' INCLUDING HOMERUN TO BRIDGE DEVICE, IF PRESENT. MANUFACTURER IS NOT RESPONSIBLE FOR SYSTEMS EXCEEDING CABLING PARAMETERS.



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J&U Project # 20-086

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**ASBESTOS ABATEMENT AND
FIRE SPRINKLER
INSTALLATION**
AT THE
**NEW ANNEX BUILDING,
SECOND FLOOR**

FOR THE

COUNTY OF UNION

27 Elizabethtown Plaza
Elizabethtown, NJ 07202

1	03.26.2021	ISSUED FOR BID
No.	Date	Issue or Revision

Drawing Title
**ELECTRICAL
DETAILS**

Scale
As Noted

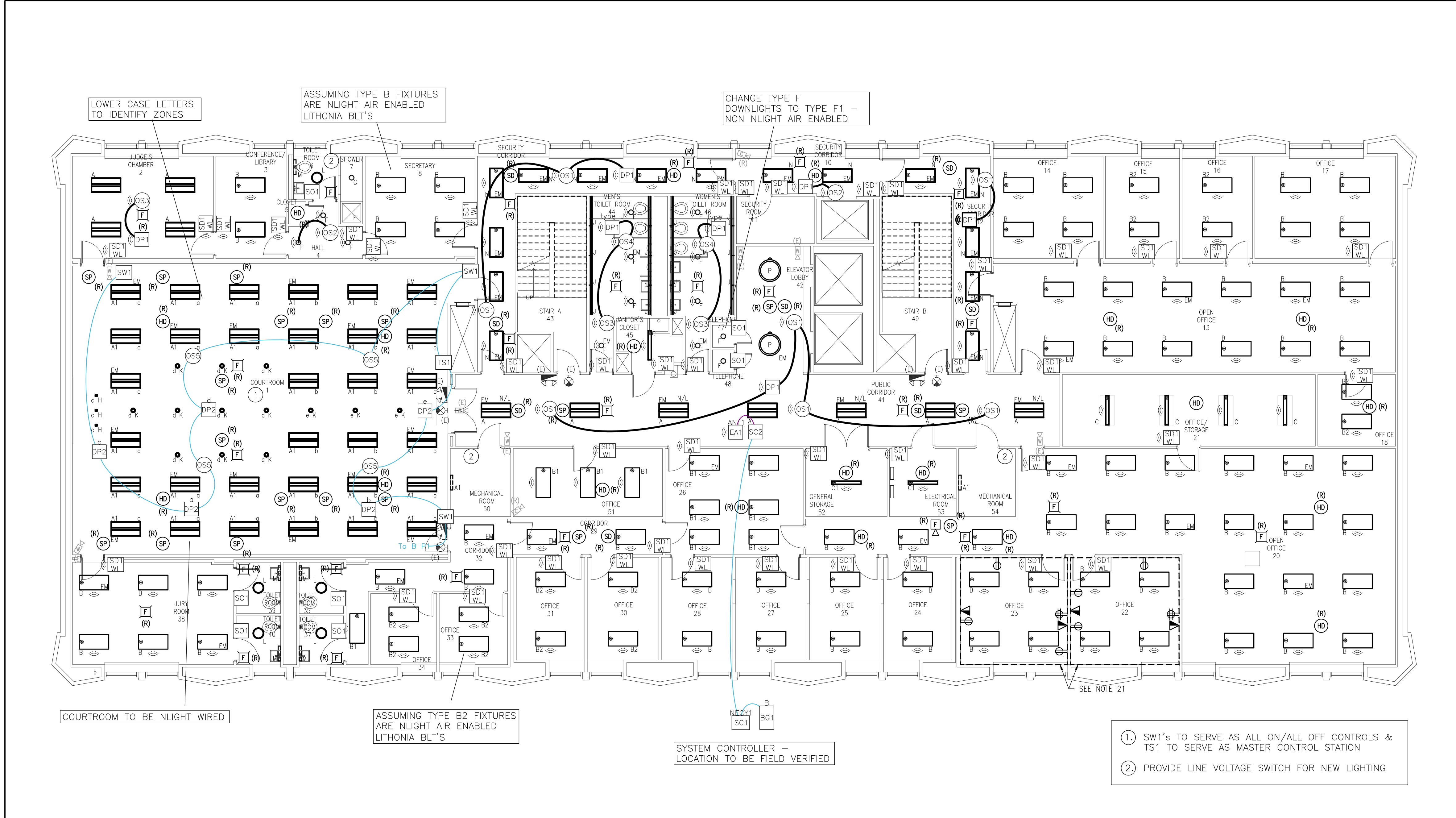
USA Project No.
2020-047

Drawing Date
03.26.2021

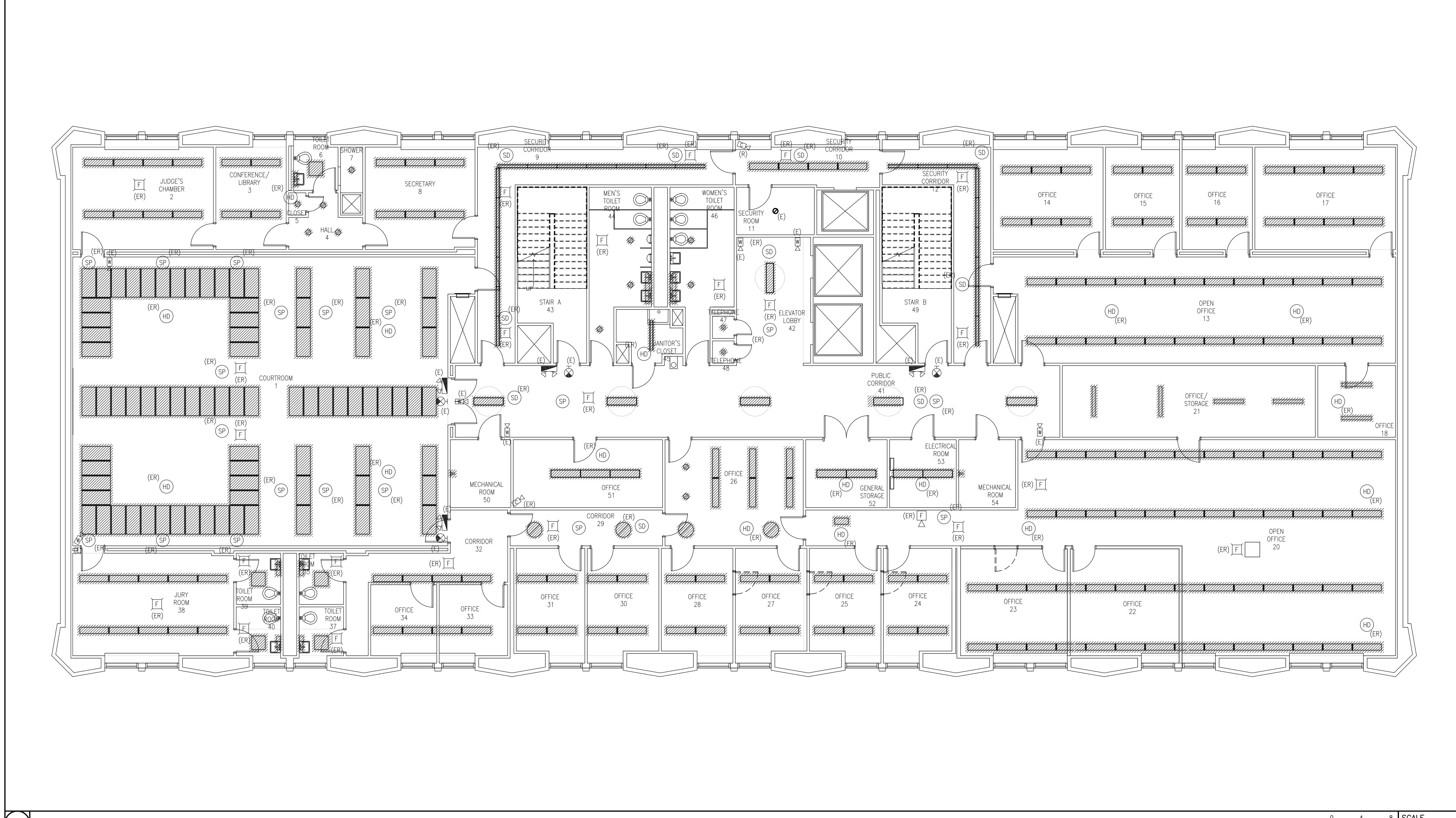
Drawing No.
E02

Drawn By
MW

Checked By
JU



2 ELECTRICAL - SECOND FLOOR PLAN - NEW WORK



1 ELECTRICAL - SECOND FLOOR PLAN - DEMOLITION

Created by Shaun McHugh
LC 1.1
Project: Union County Annex

- B Luminaire nLight Air enabled, wireless control integral combination occupancy & daylight sensor with 7-15' mounting height lens
- B1 Luminaire nLight Air enabled, wireless control integral combination occupancy & daylight sensor with 7-15' mounting height lens
- B2 Luminaire nLight Air enabled, wireless control integral combination occupancy & daylight sensor with 7-15' mounting height lens
- BG1 NBRG 8 KIT
nLight Bridge, Kit
- C Luminaire nLight Air enabled, wireless control integral combination occupancy & daylight sensor with 7-15' mounting height lens
- C1 Luminaire nLight Air enabled, wireless control integral combination occupancy & daylight sensor with 7-15' mounting height lens
- DP1 RPP20 DS 24V EFP G2
nLight Air Power/Relay Pack, Networked Version, Dimming Side Output, 24 volt output, External Fault Protection, Generation Two
- DP2 DP16 D EFP
Power/Relay Pack, Occupancy Controlled Dimming, External Fault Protection
- EA1 NECYD NLTAR G2
Adapter, nLight AIR, Generation Two
- F Luminaire nLight Air enabled, wireless control
- OS1 RCMS 10 G2
Networked nLight AIR occupancy and daylight sensor, Large Motion / Extended Range 360 Lens, Generation Two
- OS2 RCMS 9 G2
Networked nLight AIR occupancy and daylight sensor, Small Motion / Standard Range 360 Lens, Generation Two
- OS3 RCMS PDT 9 G2
Networked nLight AIR occupancy and daylight sensor, Passive Dual Technology, Small Motion / Standard Range 360 Lens, Generation Two
- OS4 RCMS PDT 10 G2
Networked nLight AIR occupancy and daylight sensor, Passive Dual Technology, Large Motion / Extended Range 360 Lens, Generation Two
- OS5 NCM PDT 10
Low Voltage Ceiling Mount Sensor, Passive Dual Technology, Large Motion / Extended Range 360 Lens
- SC1 NECYD MVLTC ENC GFXX
nLight Eclipse, 120-277 VAC, Enclosure for nLight ECLYPSE, nGWY2 GFX and PS 150 Power Supply
- SC2 NECYD EXT150
Adapter, 150-foot, USB to CAT6 Extender for the nLight AIR Adapter (NECYD NLTAR G2); Includes 120VAC Power Adapter and CAT6 to USB Converters
- SD1 WL
RPODBA DX XX G2
nLight Preset Wall control, Raise/Lower Dimming Without Wires, Generation Two
- SD1 WSXA PDT SA XX
Dimming Wall Switch, Passive Dual Technology, Vacancy (default) or Auto-On
- SW1 NPQDMA XX
nLight Wired Aesthetic Wallpod
- SW1 WL
RPODBA XX G2
nLight Preset Wall control, Generation Two
- TS1 NPQD TOUCH XX
Low Voltage Wallpod, Touchscreen Wall Control

1 SW1's TO SERVE AS ALL ON/ALL OFF CONTROLS & TS1 TO SERVE AS MASTER CONTROL STATION
2 PROVIDE LINE VOLTAGE SWITCH FOR NEW LIGHTING

SCALE
1/8" = 1'-0"

- WIRE LEGEND - LC 1.1
- CATS nLight
CAT5e nLight
Pre-terminated CAT5e cable for nLight communication network
 - LV
Low Voltage
Low voltage cable
 - USB
USB
USB cable

GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITIONS OF THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, NFPA, UCC AND THE NATIONAL ELECTRIC SAFETY CODE.
2. AS-BUILTS SHALL BE PROVIDED WITHIN 30 DAYS OF SYSTEM ACCEPTANCE, INCLUDING BUT NOT LIMITED TO SINGLE-LINE OF ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLAN WITH LOCATIONS OF DISTRIBUTION EQUIPMENT AND AREAS SERVED BY THAT EQUIPMENT. (ASHRAE STANDARD 90.1-2004.)
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS AND MOUNTING HEIGHTS, COLORS AND FINISHES.
4. THE ELECTRICAL CONTRACTOR SHALL TRACE AFFECTED POWER PANEL BRANCH CIRCUITS IN CONTRACT AREAS TO DETERMINE WIRING CONFIGURATION OF AFFECTED AND SURROUNDING AREAS. ELECTRICAL CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS TO AID IN REWIRING CONTRACT AREAS IN COMPLIANCE WITH ENGINEERING DOCUMENTS, LOCAL CODES AND ORDINANCES. PROVIDE FINDINGS IN REPORT FORM WITH MARKED UP DRAWINGS, TO THE ENGINEER AS SOON AS COMPLETED. NO REWIRING SHALL BEGIN UNTIL THIS STEP IS COMPLETED.
5. AT COMPLETION OF ALL BRANCH WIRING DESCRIBED ON CONTRACT DOCUMENTS, ELECTRICAL CONTRACTOR SHALL COMPILE A LIST OF EXISTING AND NEW CIRCUITS TO PROVIDE A FULL PANEL SCHEDULE DIRECTORY WITH DEVICE NAME (LIGHTING, RECEPTABLES, EQUIPMENT, ETC.) AND ROOM NUMBERS BEING SERVED. LABEL ALL CIRCUIT BREAKERS NOT BEING USED AS SPARE AND REMOVE CONDUCTORS FROM PANEL BOARD AND CONDUITS.
6. ALL DEVICES, EQUIPMENT, FIXTURES, ETC., SHOWN SHALL BE NEW. U.O.N.
7. ALL NEW ELECTRICAL SYSTEMS, INCLUDING LIGHTING, CONDUIT, PANELS, ETC., SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
8. RELOCATE EXISTING JUNCTION BOXES, PULL/SPACE BOXES, ETC. WHICH REQUIRE ACCESS THAT WILL BE BLOCKED BY NEW CONSTRUCTION (MECHANICAL AND ELECTRICAL). CONTRACTOR SHALL COORDINATE WITH FIELD CONDITIONS AND OTHER TRADES FOR NEW OR EXISTING ELECTRICAL ITEMS REQUIRING ACCESS LOCATED OVER G.W.B. OR OTHER INACCESSIBLE CEILING. PROVIDE ACCESS PANELS TO BE LOCATED IN COORDINATION WITH ARCHITECT AND INSTALLED BY G.C.
9. DEVICE AND EQUIPMENT MOUNTING HEIGHTS ARE AS LISTED ON DRAWING AND/OR DESCRIBED IN SPECIFICATIONS UNLESS NOTED BY ARCHITECTURAL DOCUMENTS.
10. ALL FIRE ALARM WORK MUST BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF NFPA 72 AND IBC NJ. CONTRACTOR TO PROVIDE ALL SHOP DOCUMENTATION IN ACCORDANCE WITH IBC NJ 907.1.1 & NFPA 72.
11. E.C. SHALL PROVIDE NEW FIRE ALARM DEVICES AS INDICATED. E.C. SHALL MODIFY AND EXTEND EXISTING WIRING AS REQUIRED ACCORDING TO NEW FLOOR PLAN.
12. ALL SWITCHES AND RECEPTABLES SHALL BE LABELED WITH CIRCUIT NUMBER(S) AND PANEL OF ORIGIN. UTILIZE AN ELECTRONIC LABEL MAKER (E.G. DPMO OR EQUAL) WITH BLACK LETTERS/NUMBERS ON A CLEAR BACKGROUND.
13. APPLY U.L. APPROVED FIRESTOPPING ("3M" FIRE STOP SEALANT 2000 AND/OR "3M" FIRE BARRIER CP25 WB) TO ALL PENETRATIONS OF FIRE RATED FLOORS, WALL AND CEILING ASSEMBLIES. RATING MUST RE-ESTABLISH THE ORIGINAL FIRE RESISTANCE.
14. ALL NEW RECEPTABLES, SWITCHES, DATA/TEL BACK BOXES, ETC. SHALL BE FULLY RECESSED IN THE NEW OR EXISTING PARTITIONS (EXCEPT FOR EXTERIOR WALLS). ALL WIRING SHALL BE FISHED AND CONCEALED WITHIN THE NEW OR EXISTING WALLS/PARTITIONS.
15. DEVICE BOXES ON OPPOSING SIDES OF THE SAME WALL SHALL BE STAGGERED HORIZONTALLY (NOT BACK TO BACK) TO MINIMIZE SOUND TRANSMISSION.
16. ALL ELECTRICAL DEVICES SHALL BE WIRED TO EXISTING CIRCUIT BREAKERS DEMOLISHED TO SPARE IN PREVIOUS PHASE WHERE POSSIBLE. FROM PANELS AS SHOWN ON PLAN WITH #1/2, #1/2G, IN 3/4". NUMBERS SHOWN ARE FOR GROUPING INTENT ONLY AND DO NOT REPRESENT ACTUAL POLE POSITION. PROVIDE AND INSTALL NEW CIRCUIT BREAKERS FOR ANYTHING OTHER THAN 30/1 CIRCUIT BREAKERS. RE-USE 30/1 CIRCUIT BREAKERS WHERE POSSIBLE. WHERE NOT AVAILABLE, PROVIDE AND INSTALL NEW. U.O.N.
17. CONNECT ALL NEW LIGHTING TO EXISTING CIRCUIT SERVING SPACE WITH #12, #12G, IN 3/4".
18. THE LIGHTING CONTROL SYSTEM SHOWN ON THESE DRAWINGS IS SCHEMATIC TO INDICATE THE INTENT OF THE WORK. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL NECESSARY DEVICES, POWER PACKS, MODULES, WIRING, CIRCUITRY, RACEWAYS, ACCESSORIES, HARDWARE, ETC. THAT ARE REQUIRED FOR COMPLETE LIGHTING CONTROL SYSTEM AS INTENDED. ALL DEVICES, WIRING, ETC. MAY NOT BE INDICATED, WHICH ARE REQUIRED AND SHALL BE PROVIDED. ALL WORK SHALL BE PROVIDED PER MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
19. COORDINATE MOUNTING HEIGHT OF ALL CEILING MOUNTED ELECTRICAL DEVICE (EMERGENCY, EXIT, LIGHTS, TRACK, ETC) WITH ARCHITECT/OWNER/VENDOR DRAWING PRIOR TO INSTALLATION.
20. FIXTURE WITH "EM" IN OR NEXT TO IT INDICATED FIXTURE TO BE PROVIDED WITH AN EMERGENCY BALLAST.
21. CONNECT NEW RECEPTABLES TO EXISTING RECEPTABLE CIRCUIT SERVING SPACE WITH #12, #12G, IN 3/4" CONDUIT. CONNECT NO MORE THAN 8 DUPLEX RECEPTABLES TO 1-POLE, 20-AMP CIRCUIT BREAKER.

DEMOLITION NOTES:

1. CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMISSION OF BID. NO ADDITIONAL COMPENSATION SHALL BE CONSIDERED FOR FAILURE TO OBSERVE THIS REQUIREMENT.
2. EXISTING PROJECT CONDITIONS INDICATED ARE BASED ON FIELD OBSERVATION, EXISTING DESIGN / CONSTRUCTION DOCUMENTS AND EXISTING RECORDS AND ARE INTENDED TO INDICATE THE SCOPE OF THE WORK AFFECTED BY THIS PROJECT. NOT ALL AREAS MAY HAVE BEEN ACCESSIBLE DURING SURVEY. EQUIPMENT SHOWN IS TO THE BEST OF THE SURVEYOR'S ABILITY DUE TO SITE CONSTRAINTS. CONTRACTOR IS RESPONSIBLE FOR FINAL SURVEY OF ALL AREAS IN SCOPE FOR DEMOLITION AS SHOWN.
3. DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, WIRING DEVICES, RACEWAY, WIRING, CABLE, OUTLET BOXES, ETC. ABANDONED OR REPLACED AS A RESULT OF THIS WORK, AND PREVIOUSLY ABANDONED/DEFUNCT ITEMS WITHIN THE AREA OF WORK. DISCONNECT APPLIANCES, ETC., FOR REMOVAL BY OTHERS.
4. WHERE ELECTRICAL ITEMS ARE REMOVED, ALL BRANCH DEVICES' WIRING SHALL BE REMOVED BACK TO PANEL, SERVICING THE EQUIPMENT. WHERE CIRCUITS SERVE ADDITIONAL DEVICES OR EQUIPMENT REMAINING, WIRING SHALL BE REMOVED BACK TO THE NEAREST ACTIVE JUNCTION BOX.
5. THE CONTRACTOR SHALL MAINTAIN CONTINUITY OF EXISTING CIRCUITS THAT ARE TO REMAIN IN OPERATION AND SCHEDULE FOR RE-FEEDING FROM PANELS. FORWARD FINDINGS TO ENGINEER FOR REVIEW AND COORDINATION.
6. ALL UNUSED CIRCUITS REMAINING AFTER REMOVALS SHALL BECOME SPARE IN PANELS AND LABELED AS SPARE.
7. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION AND SCOPE OF DEMOLITION.
8. ALL MATERIALS AND EQUIPMENT REMOVALS SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR THE ARCHITECT.
9. REFER TO ARCHITECT'S PHASING DRAWINGS AND NOTES PRIOR TO THE REMOVAL/DEMOLITION OF ANY ELECTRICAL WORK.
10. REPORT DISCREPANCIES TO ARCHITECT / ENGINEER BEFORE DISTURBING EXISTING INSTALLATION.
11. VERIFY THAT ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.
12. DISCONNECT EXISTING ELECTRICAL SYSTEMS IN WALLS, FLOORS AND CEILINGS INDICATED FOR REMOVAL.
13. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION THAT ARE NECESSARY FOR THE OPERATION OF THE BUILDING.
14. REMOVE, RELOCATE AND REPAIR EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
15. DISCONNECT AND REMOVE ABANDONED LUMINAIRES, BRACKETS, STEMS, HANGERS AND OTHER ACCESSORIES.
16. REPAIR OPENINGS LEFT IN BUILDING COMPONENTS AS A RESULT OF REMOVAL OF ELECTRICAL WORK.
17. MAINTAIN ACCESS TO EXISTING ACTIVE ELECTRICAL INSTALLATIONS.
18. EXTEND EXISTING INSTALLATION USING MATERIALS AND METHODS COMPATIBLE WITH EXISTING ELECTRICAL INSTALLATIONS AND AS SPECIFIED.



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Elizabeth, NJ 07202

No.	Date	Issue or Revision
1	03.26.2021	ISSUED FOR BID

Drawing Title
ELECTRICAL SECOND FLOOR PLAN DEMOLITION AND NEW WORK

Scale
As Noted
03.26.2021
Drawing Date
MW
Drawing No.
2020-047
Drawing No.
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JU
E11