

**ADVERTISEMENT FOR BIDS**

**PROJECT:** ROOF REPLACEMENT AT FIELD MAINTENANCE SHOP (FMS) CAPE MAY  
**PROJECT #:** CM113  
**LOCATION:** FIELD MAINTENANCE SHOP (FMS) AT THE NEW JERSEY  
NATIONAL GUARD ARMORY, CAPE MAY, NEW JERSEY  
**OWNER:** THE STATE OF NEW JERSEY, DEPARTMENT OF MILITARY AND  
VETERANS AFFAIRS

**EST. COST RANGE:** \$250,000 - 500,000

Sealed bid forms will be received in the New Jersey Department of Military and Veterans Affairs (NJDMAVA), Business Management Bureau, Contract Administration Office, located at 101 Eggerts Crossing Road, Lawrenceville, NJ 08648 until **2:00 PM** on **MAY 22, 2013** and then publicly opened and read aloud. No bid will be accepted thereafter.

Mailing and/or Delivery: NJ Dept. of Military and Veterans Affairs  
ATTN: CFMO- BMB  
101 Eggerts Crossing Road  
Lawrenceville, NJ 08648-2805  
Tele: (609) 530-7115



Bid(s) will be received on the following DPMC trade classifications:

**C071 – Roofing Metal** or **C009 - General Construction/Alterations and Additions**

All bidders must be prequalified in accordance with the statute (N.J.S.A. 52:35-3) Division of Property Management and Construction (DPMC). Current proof must be on file in DPMC and/or submitted to this office not later than TIME SCHEDULE FOR BID OPENING. Failure to do so may result in the disqualification of the bidder.

Contract documents are on Compact Disc (CD) hard copy may be examined and (CD) obtained at the Business Management Bureau's Office upon payment of a **NON- REFUNDABLE \$ 25.00 FEE**, (company check or U.S. money order made payable to Treasurer, State of New Jersey).

No bidder may withdraw his bid within ninety (90) calendar days after the actual date of the opening thereof.

Each bidder must deposit with his bid, security in an amount and form subject to the conditions provided in the Instructions for Bidders. Successful bidder(s) must provide a 100% Performance Bond and 100% Payment Bond when the project is awarded.

Attention of bidders is particularly called to the requirements as to condition of employment to be observed and minimum wage rates to be paid under the contract.

Bidders are required to comply with the requirements of P.L. 1975, C.127 Affirmative Action Program, and P.L. 1945, C.169 Law Against Discrimination.

A **MANDATORY PRE-BID MEETING** WILL BE HELD ON **APRIL 24, 2013** AT **10:00 AM** at The Field Maintenance Shop (FMS), 600 Garden State Parkway, Cape May Court House, Cape May, New Jersey 08210. Questions related to this bid submission should be directed to the Business Management Bureau at 609-530-7115 between the hours of 8:00 AM AND 4:00 PM Monday thru Thursday.

*Lt. Col(R) EDWARD R. SAIN, P.E.*  
Contracting Officer  
Department of Military and Veterans Affairs

# PROJECT MANUAL

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## ROOF REPLACEMENT

AT

**THE FIELD MAINTENANCE SHOP (FMS)  
CAPE MAY, NEW JERSEY**

MICHAEL L. CUNNIFF  
BRIGADIER GENERAL NJARNG  
THE ADJUTANT GENERAL



STATE OF NEW JERSEY  
DEPARTMENT OF MILITARY  
AND VETERANS AFFAIRS  
EGGERT CROSSING ROAD  
TRENTON, NEW JERSEY

**Bid Date: May 22, 2013**  
**Project #: CM113**

# INDEX

## ROOF REPLACEMENT AT THE FIELD MAINTENANCE SHOP (FMS) CAPE MAY, NEW JERSEY

### GENERAL CONDITIONS

#### DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS

#### ALL CONTRACTS

#### 00001 INDEX

**A. Specifications for this Project are arranged in accordance with the Construction Specification Institute numbering system and format, Section numbering is discontinuous and all numbers not appearing in the Index are not used for the Project.**

**B. DOCUMENTS BOUND HEREIN:**

#### **DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS**

00001	Index
00030	Advertisement
00100	Instructions to Bidders
00306	Bid Document Submission Checklist
00310	Bid Form
00432	Unit Prices Form
00412	Bid Bond
00470	Disclosure Affidavit
00480	Non-Collusion Affidavit
00481	Notice of Classification
00490	Certification of Uncompleted Contracts
00491	Certification of Non-segregated Facilities
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00493	Outside Contractor Notification of Asbestos Management Plan
00494	Important Notice
00495	Public Law 2005 Chapter 51
00606	Contract and Bond
00710	General Provisions
00822	Wage Rate Determination

#### **DIVISION 01- GENERAL REQUIREMENTS**

01010	Summary of Work
01220	Unit Prices
01732	Asbestos Removal

## **C. TECHNICAL SPECIFICATIONS**

### **DIVISION 02- EXISTING CONDITIONS**

024119 Selective Demolition

### **DIVISION 03-CONCRETE**

NOT USED

### **DIVISION 04-MASONRY**

040120 Maintenance of Unit Masonry

042000 Unit Masonry

### **DIVISION 05- METALS**

054000 Light Gage Steel Pre-Manufactured Trusses

055000 Metal Fabrications

### **DIVISION 06- WOOD, PLASTICS, AND COMPOSITES**

061000 Rough Carpentry

### **DIVISION 07- THERMAL AND MOISTURE PROTECTION**

072100 Thermal Insulation

074113 Standing Seam Metal Roof Panels

076200 Sheet Metal Flashing and Trim

077200 Roof Hatch

079200 Joint Sealants

### **DIVISION 08- OPENINGS**

NOT USED

### **DIVISION 09- FINISHES**

NOT USED

### **DIVISION 10-SPECIALTIES**

105030 Awnings

### **DIVISION 11-EQUIPMENT**

NOT USED

### **DIVISION 12-FURNISHINGS**

NOT USED

### **DIVISION 13-SPECIAL CONSTRUCTION**

NOT USED

### **DIVISION 14-CONVEYING EQUIPMENT**

NOT USED

### **DIVISION 23-MECHANICAL**

233113 Metal Ducts

## II. INSTRUCTION TO BIDDERS

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### ARTICLES

#### 1. DEFINITIONS - NOTICES

- A. The CONTRACT documents consist of the **Agreement, Instructions to Bidders, General Conditions and Supplementary Conditions of the CONTRACT, the Drawings and Specifications, Addenda, and Change Orders** including all modifications thereof incorporated in the documents before his/her execution. Whenever the word "**CONTRACT**" is used herein, it means all of the above documents or such part of them as are clearly indicated.
- B. Whenever the word "**State**" or "**Owner**" is used herein, it means the State of New Jersey and specifically the **New Jersey Department of Military and Veterans Affairs (NJDMVA)**.
- C. Whenever the word "**Contracting Officer**" (**C.O.**) is used herein, it means the individual appointed by the Adjutant General to enter into CONTRACTs as his/her duly authorized representative.
- D. Whenever the word "**CONTRACTOR**", "**Prime CONTRACTOR**", "**Single CONTRACTOR**" or "**CONTRACTOR**" is used herein, it means the individual or firm undertaking to do all work contracted for under the CONTRACT.
- E. Whenever the word "Architect" or "Engineer" (A/E) is used herein, it means the Architect or Engineer engaged by the State and, when applicable by designation, shall be acting as the duly authorized representative of the C.O. to the extent described in "Architect or Engineer Status" in PART IV Article 2. In addition, in Design/Build projects, the Architect/Engineer shall be a representative of the Design/Build venture and acting on behalf of the CONTRACTOR of record.
- F. Whenever the word **CONSTRUCTION MANAGER** is used herein, it means a firm engaged by the state and designated to act as the duly authorized representative of the C.O. to the extent described in the "CONSTRUCTION MANAGER" status in Part IV Article 3.
- G. Whenever the word "**CONTRACTOR**" is used herein, it means an individual or firm undertaking to do all work Contracted for under the CONTRACT. It shall include the understanding that a duly licensed Architectural/Engineering firm is part of the firm or subcontracted to perform the design aspects of the CONTRACT.
- H. The term "Federally Funded Contract" applies to CONTRACTS where the National Guard Bureau (NGB) shall be participating by providing the funds. These funds shall be administered by the USP&FO.
- I. The term "Subcontractor", as employed here, includes individual or firm having a direct CONTRACT with the CONTRACTOR and it includes one who furnishes labor or material worked or one who merely furnished material not so worked.
- J. **The entire above are treated throughout the CONTRACT as if each were the singular member and masculine gender.**

When the term "**acceptable**" or "**approved**" is used herein, it means that the material or work shall be acceptable to or approved by the C.O.

- K. The term "**work**" of the CONTRACTOR as used herein includes labor, materials, plant and equipment required to complete the CONTRACT.
- L. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered or sent by

certified or registered mail to the last business address known to them who gives the notice, or delivered in person to said CONTRACTOR or his/her authorized representative on the work.

- M. Whenever the words "Contract Limit Lines" are used herein, his/her refer to the lines shown on the drawings, surrounding the CONTRACT work beyond which no construction work shall be performed unless otherwise noted in the CONTRACT Documents. The CONTRACTOR shall check and verify conditions outside of the CONTRACT limit lines to determine whether or not any conflict exists between elevations or other data shown on the drawings and existing elevations or other data outside of the CONTRACT limit lines.
- N. Whenever the words "**Construction Site**" or "**Project**" are used herein, his/her refer to the geographical grounds of the entire Department of Military & Veterans Affairs Property at which the CONTRACT work is performed.

## **2. QUALIFICATIONS OF BIDDER**

- A. The State may make such investigations as it deems necessary to determine the ability of the CONTRACTOR to perform the work, and the BIDDER shall furnish to the State all such information and data for this purpose as the State may request. The State reserves the right to reject any bid if the evidence submitted by, or investigation of such BIDDER fails to satisfy the State that such BIDDER is properly qualified to carry out the obligations of the CONTRACT and to complete the work contemplated therein.
- B. CONTRACTORS, his/her Architects or sub-consultants must be pre-qualified (NOTICE OF CLASSIFICATION) in accordance with New Jersey State laws, rules and Regulations before his/her bid can be accepted and award made.
- C. **CONTRACTORS who have been consistently rated as unsatisfactory from previous NJDMAVA projects may be disqualified for this and future projects.**

## **3. AUTHORIZATION TO DO BUSINESS IN THE STATE OF NEW JERSEY**

- A. If the successful BIDDER is a CORPORATION not organized under the laws of the State of New Jersey or is not authorized to do business in the State of New Jersey, the award of CONTRACT and payment of consideration thereunder shall be conditioned upon said CORPORATION promptly filing a certificate of doing business in the State of New Jersey and complying with the provisions of the law of the State of New Jersey in that regard.
- B. If any CORPORATION doing business with the State of New Jersey shall be or become delinquent in the payment of taxes to the State said taxes may be withdrawn from any monies due from the State to such a CORPORATION.

## **4. LAWS TO BE OBSERVED**

- A. The CONTRACTOR shall keep fully informed of all Federal, State, and local laws, ordinances, and regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of Work.
- B. The CONTRACTOR shall at all times observe and comply with, and shall cause its agents and employees to observe and comply with, all such laws, ordinances, regulations, orders, and decrees and shall protect and indemnify the State and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the CONTRACTOR or the CONTRACTOR'S agents or employees, subcontractors or any suppliers or materialman. **If any discrepancy or inconsistency is discovered between the CONTRACT Documents and any such law, ordinance, regulation, order, or decree, the CONTRACTOR shall immediately report the same to the CONTRACTING OFFICER in writing.**

## **5. PERMITS, LAWS AND REGULATIONS**

- A. Each CONTRACTOR shall obtain and pay for ALL necessary permits from **State (i.e., D.C.A, D.E.P., D.O.H., Pinelands Commission, etc.) and Federal (Soil Erosion Conservation District, EPA, etc.)** and arrange inspections with these agencies in accordance with the agency's policies. Each CONTRACTOR shall obtain any Federal or State permits which may be required and pay all costs, comply with Federal or State laws, ordinances, and regulations applying to this work provided his/her do not conflict with the CONTRACT Documents. All electrical and applicable mechanical work shall conform to the latest rules of the Underwriter's Laboratory concerned, Board of Fire Underwriters. On new construction and all alteration work, a Final Certificate of Inspection and or Occupancy from the Department of Community Affairs shall be provided at the expense of the CONTRACTOR(S). All plumbing and sewage disposal work shall conform to the regulations of the Uniform Construction Code, Department of Community Affairs and the State Board of Health.
- B. The CONTRACTOR shall submit a copy of his application to Department of Community Affairs for plan review (if not completed by NJDMAVA prior to bidding), permit issuance and inspection at the immediately following receipt of the Notice to Proceed.
- C. Each CONTRACTOR shall be responsible for and save harmless the State from all fines, penalties or loss incurred for, or by reason of, the violation and the local ordinance or regulation or law of the State while the said work is in process of construction.
- D. All work shall be conducted in accordance with the State Department of Labor and Industry Construction Safety Code, effective July 1, 1968, as promulgated by the Commission of Labor and Industry under the authority of the Construction Safety Act, P.L. 1962, Chapter 45, N.J.S.A. 34:5-166 to 34:5-181. Where the Construction Safety Code refers to designation of GENERAL CONTRACTOR for enforcing of compliance with the code, such designation shall be intended to refer to the CONTRACTOR. Particular emphasis is placed upon compliance with all requirements on Pages 8 and 9, Articles 3.14 and 3.15 of the code wherein CONTRACTOR shall be responsible for Safety Inspections and Project Protection.
- E. All CONTRACTORS shall comply with the Federal Occupational Safety and Health Act of 1970.
- F. All CONTRACTORS shall comply with regulations of the DCA Fire Official.
- G. All CONTRACTORS and his/her subcontractors shall be certified or licensed by the appropriate agency for the work to be performed. Evidence of such shall be presented when requested by this Department.

## **6. PREVAILING WAGE ACT**

- A. Each CONTRACTOR or any Subcontractor shall comply with the State Prevailing Wage Act, Laws of 1963, Chapter 150, and all amendments thereto, and this Act is hereby made a part of every CONTRACT entered into on behalf of the State except those CONTRACTS which are not within the contemplation of the Act.
  - (1) All workmen employed in the performance of every CONTRACT in excess of \$2,500 for any public work to which the Department of Military and Veterans Affairs is a party, shall be paid not less than the prevailing wage rate as designated by the Commission of Labor and Industry or his/her duly authorized deputy or representative.
  - (2) In the event it is found that any workman, employed by any CONTRACTOR or any Subcontractor covered by any CONTRACT in excess of \$2,500 for any public work to which the Department of Military and Veterans Affairs is a party, has been paid a rate of wages less than the prevailing wage required to be paid by such CONTRACT, the C.O. may terminate the CONTRACTOR'S or

Subcontractor's right to proceed with the work, or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise.

The State shall furnish as part of the CONTRACT a copy of the Prevailing Wage Rates, which shall be paid (as designated by the Commission of Labor) to the workman, employed in the performance of the CONTRACT.

- (3) Nothing contained in the Prevailing Wage Act shall prohibit the payment of more than the prevailing wage rate to any workman employed on a public work.
  - a. Each CONTRACTOR and Subcontractor performing public work for the Department of Military and Veterans Affairs are subject to the provisions of the Prevailing Wage Act shall post the prevailing wage rates for each craft and classification involved as determined by the Commissioner, 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 his/her wages.
  - b. The BIDDER'S signature on the PROPOSAL is his/her guarantee that neither his/her nor any subcontractor is currently listed or on record by the Commissioner as one who has failed to pay the prevailing wages according to the Prevailing Wage Act.

## **7. MINIMUM WAGES**

- A. The CONTRACTOR shall post at appropriate conspicuous points at the site of the project a schedule showing all determined minimum wage rates for the various classes of laborers and mechanics to be engaged in work on the project under this CONTRACT and all deductions, if any, required by law to be made from unpaid wages actually earned by the laborers and mechanics so engaged.

DAVIS-BACON ACT (40 U.S.C. 276A TO A-7) (1977 DEC)

- B. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Copeland Regulations (29 CFR, Part 3), the full amount due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the CONTRACTOR and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the CONTRACTOR at the site of the work in a prominent place where the workers can easily see it. The term "mechanics and laborers" shall be deemed to include apprentices and trainees not covered by an approved program as provided by the APPRENTICES AND TRAINEES Clause of the CONTRACT.
- C. The CONTRACTOR may discharge his/her obligation under this Clause to workers in any classification for which the wage determination decision contains:
  - (1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR, Part 3); or
  - (2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to beat the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or cost assumed, on other than a weekly basis shall be considered as having been constructively made or assumed, during a weekly period to the extent that his/her apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the CONTRACTOR pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls

showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the CONTRACTOR provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

- D. The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(B) (2) of the Davis-Bacon Act or in the wage determination decision forming a part of the CONTRACT, may be considered as payment of wages only with the approval of the Secretary of Labor may require the CONTRACTOR to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.
- E. The CONTRACTING OFFICER shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the CONTRACT shall be classified or reclassified conforming to the wage determination decision and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics, including apprentices and trainees, to be used, the CONTRACTING OFFICER shall submit the question, together with his/her recommendation, to the Secretary of Labor for final determination.
- F. In the event it is found by the CONTRACTING OFFICER that any laborer or mechanic, including all apprentices and trainees, employed by the CONTRACTOR or any subcontractor directly on the site of the work covered by this CONTRACT has been or is being paid at a rate of wages less than the rate of wages required by paragraph (A) of this Clause, or by the APPRENTICES AND TRAINEES Clause of this CONTRACT, the CONTRACTING OFFICER may (i) by written notice to the Prime CONTRACTOR terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages and (ii) prosecute the work to completion by CONTRACT or otherwise, whereupon such CONTRACTOR and his/her sureties shall be liable to the Government for any excess costs occasioned the Government thereby.
- G. The CONTRACTING OFFICER'S failure to discharge his/her obligations under this clause may result in withholding of Federal funds which are otherwise authorized for payment to the CONTRACTOR under the terms of this CONTRACT.

#### H. DISPUTES CONCERNING LABOR STANDARDS (1977 DEC)

Disputes arising out of the labor standards provisions of this CONTRACT shall be subject to the DISPUTES Clause except to the extent such disputes involved the meaning of classification or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of this CONTRACT which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor.

### **8. OBLIGATION OF BIDDER**

- A. At the time of the opening of bids each BIDDER shall be presumed to have inspected the site, to have read and become thoroughly familiar with the CONTRACT Documents (including all addenda). **The failure or omission of any BIDDER to examine any form, instrument, document or site shall in no way relieve any BIDDER from any obligation with respect to his bid.**
- B. **SITE INVESTIGATION (1965 JAN) - The BIDDER acknowledges that they have investigated and satisfied themselves as to the conditions affecting the work, including but restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site.**

**the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The BIDDER further acknowledges that they have satisfied themselves as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered. Any failure by the BIDDER to acquaint themselves with the conditions of the site will not relieve them from responsibility for estimating properly the difficulty or cost of successfully performing the work. The State assumes no responsibility for any conclusions or interpretations made by the BIDDER on the basis of the information made available by the State.**

## **9. PROPOSAL**

- A. Sealed PROPOSALS for the work described shall be received in the Construction Facilities Management Office, Business Management Bureau, Department of Military and Veterans Affairs Building, 101 Eggert Crossing Road, Lawrenceville, New Jersey 08648. Bids must be received on the published date and prior to the time specified for opening bids.
- B. PROPOSALS based upon these CONTRACT Documents shall be held as made with full knowledge of conditions and requirements. **BIDDERS are expected to visit project site and/or premises prior to time of submitting PROPOSALS for work herein described, and shall thoroughly inspect the conditions under which the CONTRACT is to be executed.**
- C. PROPOSALS are to be made and submitted on the Bid Form included in the specifications. PROPOSALS shall be submitted in the self-addressed envelope provided. Envelope shall be marked in the left-hand corner with the name of the project. The words "**BID FORMS ENCLOSED**" shall be printed on the outside of the envelope.
- D. All amounts shall be stated in words as well as in figures. In case of a discrepancy, **the written words shall govern.**
- E. Persons or firms submitting bids shall be engaged in the lines of work called for in these CONTRACT Documents and shall be able to refer to work of a similar character performed by them. Pre-qualification by the State of New Jersey, Department of Treasury, Division of Real Property and Construction Management, is mandatory and evidence of such shall be provided **prior to the award** of a project.
- F. PROPOSALS shall be open for acceptance for **ninety (90) calendar days** after bid due date. At times, monies may not be available for all portions of the bids. NJDMAVA reserves the right to request the awarded BIDDER to extend the acceptance period. This shall be done in writing at the time of award.
- G. Bids not submitted on the appropriate forms and in accordance with the instructions contained herein and in the "Advertisement for Bids" may be rejected at the discretion of the CONTRACTING OFFICER.
- H. Each BIDDER is required to submit a Disclosure Statement with his bid pursuant to the requirements of the P.L. 1977 Chap. 33 which shall set forth the names and addresses of all stockholders or holders of an interest of ten percent (10%) or more in the corporation or partnership. Shall a separate corporation hold ten (10%) or more as a stockholder of the BIDDER'S corporation, than a separate Disclosure Statement shall be submitted for the Stockholding Corporation.

## **10. ADDENDA AND INTERPRETATIONS**

- A. NJDMAVA shall be the sole interpreter of its plans, specifications, and other bid documents.
- B. No interpretations of the meaning of the plans, specifications or other pre-bid documents will be made to any BIDDER orally. Any oral interpretation, not documented in writing to all BIDDERS prior to bid opening or referenced in the bid proposal, shall be considered as privileged information and, as such, not binding upon the State. **(It should be cautioned that NJDMAVA representatives and CONTRACTORS shall avoid this interaction to eliminate the perception of any wrong doing.)**

- C. Every request for interpretation shall be in writing and addressed to the CONTRACTING OFFICER on projects under his/her direct control and to be given consideration must be received at least **fourteen (14) calendar days** prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications, which, if issued, will be mailed by certified mail with return receipt requested to all prospective BIDDERS (at the respective addresses furnished for such purposes), not later than **seven (7) calendar days** prior to the date fixed for the opening of bids, or by telegraphic notice. Failure of any BIDDER to receive any such addenda or interpretation shall not relieve such BIDDER from any obligation under his/her bid as submitted. All addenda so issued shall become part of the CONTRACT Documents and shall be acknowledged in the proposals.
- D. Responsibility of Receipt of Addenda: It shall be the responsibility of the BIDDER to assure himself that his bid is responsive to the Invitation to Bid as modified by any **addenda** which may have been issued prior to the opening of bids. Information as to addenda may be obtained at any time before the opening of bids by telephone inquiry to the Construction Facilities Management Office, Business Management Bureau, Trenton, New Jersey (609-530-7120).

## **11. MODIFICATION OF BIDS**

Any BIDDER may modify his bid prior to the scheduled closing time for receipt of bids by rescinding the current bid, in writing, and resubmitting a bid in accordance with Part II Article 9, 1, PROPOSAL of this document. In order for rescission to be valid, the original request must be provided to NJDMAVA prior to the closing time for the receipt of bids.

## **12. APPROVED EQUALS**

- A. CONTRACTORS shall submit all items, materials, equipment, etc. for **APPROVED EQUAL(S)** to the CONTRACTING OFFICER **fourteen (14) calendar days prior to the bid date**.
- B. If the items, materials, equipment, etc. are deemed approved equal, an ADDENDA shall be sent to all prospective BIDDERS giving them the opportunity to bid on that product or item.
- C. **The CONTRACTING OFFICER is the sole determining individual of approved equal items.**
- D. **No items, materials, equipment, etc. shall be submitted or approved as equal after the bid date, nor shall any substitutions be accepted for installation once the bid is awarded and the CONTRACT executed unless circumstances force the substitution through no fault of the CONTRACTOR.**
- E. **No** NJDMAVA representative or CONTRACTOR shall authorize an approved equal unless otherwise approved, in writing, by the Contracting Officer.

## **13. UNIT PRICES REQUIRED**

- A. BIDDERS shall list unit prices for both additions and deductions as called for on the Bid Form and in the CONTRACT Documents. The maximum differential between add and deduct unit prices shall not exceed fifteen (15%) percent. Such unit prices may, at the discretion of the CONTRACTING OFFICER, be rejected. If any unit price is not applicable to any BIDDER, he shall write the words "**Not Applicable**" in the space provided for the unit price.
- B. Where unit prices have been established by the State on the Bid Form, BIDDERS agrees that such unit price shall prevail. **All unit prices appearing on a Bid Form, upon acceptance by the State, shall become a part of the CONTRACT.**
- C. All unit prices appearing in a bid proposal, upon acceptance by the State, may be used to evaluate the bids. If the CONTRACTING OFFICER determines that there is a probability of exercising the unit prices in a

Change Order, he/she may award a bid on the basis of the bid proposal including unit prices. Therefore, being low in the normal bids on the bid proposal shall not necessarily signify award.

#### **14. BID SECURITY**

- A. Each PROPOSAL shall be accompanied by a certified check or a bid bond prepared on the form of Bid Bond attached hereto duly executed by the BIDDER as principal made payable to the State of New Jersey.
- B. The bond shall equal ten (10%) percent of the amount of the proposal, as an evidence of good faith, and to the effect that, if the proposal of the BIDDER is accepted, the bidder will enter into the CONTRACT. The bond shall have surety thereon of a surety company approved by the State of New Jersey. If a Bid Bond is submitted, the same shall also provide that the surety shall be bound to issue the final bonds for the faithful performance and payment, in statutory form, if the BIDDER is awarded the CONTRACT.
- C. If the BIDDER, whose proposal is accepted, is unable to qualify for the Performance and Payment Bonds or fails to execute a CONTRACT in the time allowed, then such BIDDER and the Surety, in the case a Bid Bond has been submitted, shall be obligated to pay to the State of New Jersey the difference in money between the amount of the bid and the amount which the State legally CONTRACTs with another party to perform the work. The State reserves the right to retain any certified check deposited hereunder as reimbursement for the difference as aforesaid and return any balance to the BIDDER upon demand. The BIDDER shall make immediate payment to the State for any deficiency.
- D. Nothing contained herein shall be construed as a waiver of any other legal remedies the State may have by reason of default. Certified checks or bonds of unsuccessful BIDDERS will be returned after the CONTRACT is executed, or previous to such time at the discretion of the CONTRACTING OFFICER. Such checks or Bid Bonds will be returned to all except the three lowest BIDDERS, **within ten (10) calendar days** after the opening of bids. The remaining checks, or Bid Bonds will be returned promptly after the State and the accepted BIDDER have executed the CONTRACT, or, if no award has been made within **ninety (90) calendar days** after the date of the opening of bids, upon demand of the BIDDER at any time thereafter, so long as he has not been notified of the acceptance of his bid.
- E. CONTRACTORS electing to furnish a bid bond must submit the same in the forms as shown in Section 00412. Bid Bonds shall be on Statutory Form or in the form attached and supplied by bonding companies authorized to do business in New Jersey.

**15. POWER OF ATTORNEY**

Attorneys-in-fact who sign Bid Bonds or CONTRACTs must file with each bond a certified and effectively dated copy of his/her Power of Attorney.

**16. FORMS – AFFIRMATIVE ACTION**

The BIDDER awarded a CONTRACT shall submit the Affirmative Action form No. AA-201 no later than five (5) days after the bid opening. Failure to do so shall disqualify the awarded BIDDER and the CONTRACTING OFFICER shall award the bid to the next responsible BIDDER.

**17. FORM OF NON-COLLUSION AFFIDAVIT**

State Form of Non-Collusion Affidavit (FORM NJDMAVA 53) must be completed and submitted with all bid proposals. The required number of copies (as outlined in the advertisement) shall be included in the bidding documents. A sample copy appears on page 17.

**18. UNCOMPLETED CONTRACTS**

- A. The Certification of Uncompleted CONTRACTs must be completed and submitted with all bid proposals.
- B. Failure to include this document with the other bid documents could result in the bid being disqualified.
- C. **Bids shall not** be awarded where the bid proposal of this project added to the total of outstanding uncompleted CONTRACTs exceeds the pre-qualification limits of the CONTRACTOR.

**19. MCBRIDE PRINCIPALS AND NORTHERN IRELAND ACT OF 1989**

The required number of copies be included in bidding documents sample in Section 00492.

**20. PERFORMANCE**

- A. The State requires that each CONTRACTOR shall perform a minimum of thirty-five (35%) percent of the CONTRACT work by his/her own plant and forces.
- B. Plant and work **shall not include the administration of the CONTRACT** unless it can be shown that the administration process warrants consideration in the thirty-five (35%) percent. The CONTRACTOR shall be responsible for full-time supervision of the project regardless of the thirty-five (35%) rule.

**21. AWARD & NOTICE TO PROCEED**

- A. **The State reserves the right to accept or reject any or all bids.**
- B. Awards will be officially initiated when the words "OK TO AWARD" are annotated on the bid abstract. CONTRACTS shall become effective when signed and dated by the authorized representative of NJDMAVA.
- C. CONTRACTs, when awarded, shall be made for each DESIGN/BUILD only.
- D. CONTRACTORs shall perform his/her work to the satisfaction of the Department of Military and Veterans Affairs, Construction Facilities Management Office. CONTRACTOR(s) shall complete the work and furnish all material under his/her CONTRACT within the number of stated calendar days from date of **NOTICE TO PROCEED** issued by the CONTRACTING OFFICER.

Each BIDDER must bid on all items of the bid sheets. Failure to bid on any item shall disqualify the BIDDER. **Modification of the bid form in any manner shall disqualify the BIDDER.**

### **Single Contract Award.**

- E. Where a single CONTRACT is awarded, any references to PRIME CONTRACTORS shall be interpreted as referring to the CONTRACTOR. More specifically, but not limited to, are the references to the obligation of certain trades to perform certain services which are applicable to the mentioned CONTRACTORS in the case of multiple bidding which under the single CONTRACT are the sole exclusive obligation of the CONTRACTOR who shall be responsible for the entire project, its progress, coordination of all trades, any delays caused by any subcontractor to any other subcontractor or to the CONTRACTOR and workmanship.

## **22. METHOD OF AWARD**

### **A. Applicable to Federal Funded Projects Only**

1. Bidding procedure involving only base bids for Separate Prime Contract: If the proposal is within the amount of funds available to finance the CONTRACT, then award will be made to responsible BIDDER submitting the Low Base Bid for each branch or divisions of work.
2. Bidding procedures involving a Base Bid and Alternate Deductive Bids: If the Base Bid is within the amount of funds available to finance the construction CONTRACT, then CONTRACT award will be made to that responsible BIDDER submitting the low base bid. If the Base Bid exceeds the amount of funds available to finance the construction CONTRACT, then the State may reject all bids or may award the CONTRACT to that responsible BIDDER submitting the Low Combined Bid, consisting of the Base Bid with such Alternate Deductive Bids as are required to produce a net Bid amount within the availability of funds.
3. Bidding procedure involving a Base Bid and Alternate Additive or unit price Bids: If the Base Bid is within the amount of funds available to finance the construction CONTRACT and the State wishes to accept Alternate Additive Bids, then the CONTRACT will be made to the responsible BIDDER submitting the Low Combined Bid, consisting of the Base Bid plus Alternate Additive Bids. Under this procedure, if the State wishes to make award on only the Base Bid, then CONTRACT award will be made to that responsible BIDDER submitting the Low Base Bid.
4. Bidding Procedure Involving Prime and Single Contract Bidding:
  - a. Lowest Prime Contract Bids: If the sum total of the lump sum amount, base bids and alternates, bid by the lowest qualified BIDDERS under prime CONTRACT bidding, as determined under paragraph 1, 2, or 3 is less than the corresponding lump sum amount bid by the lowest responsible BIDDER under single CONTRACT bidding, CONTRACT award will be made to the lowest responsible BIDDER for each of the separate CONTRACTs listed on the Proposal Form.
  - b. Lowest Single Contract Bid: If the lump bid by the lowest qualified responsible BIDDER under Single CONTRACT bidding, as determined under paragraph A, B, C is less than the corresponding lump sum made by the lowest responsible BIDDER under Single CONTRACT bidding.

### **B. Applicable to State Funded Projects Only**

The State of New Jersey reserves the right to award a CONTRACT upon basis of lump sum bid for the entire work or upon basis of any base bid or alternate (unit price) or any combination of base bids or alternates (Unit price) which may best serve the interest of the State.

The BID FORMS method of award shall stipulate what items shall be awarded and how the award shall be determined.

### **23. PROTESTS**

- A. CONTRACTORS who may be aggrieved in connection with the solicitation or award of a CONTRACT or its pre-qualification status or classification status may protest to the CONTRACTING OFFICER.
- B. The protest shall be submitted in writing within **five (5) calendar days** after the date of award. The CONTRACTING OFFICER shall conduct a hearing to settle or resolve protest and if the protest is not resolved by mutual agreement, the CONTRACTING OFFICER shall issue a decision in writing within **ten (10) calendar days**.
- C. The CONTRACTING OFFICER shall have final authority for the interpretation of the specifications and a decision under this section shall be deemed a final agency action.

### **24. SECURITY FOR FAITHFUL PERFORMANCES**

- A. The CONTRACTOR shall furnish a surety bond or bonds, simultaneously with his/her delivery of the executed CONTRACT, as security for faithful performance of this CONTRACT and for the payment of all persons performing labor on the project under this CONTRACT and furnish materials in connection with this CONTRACT, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the State and authorized to do business in the State of New Jersey.
- B. The cost of bonds shall be borne by the representative CONTRACTOR.

### **25. PROCUREMENT OF STEEL (Applicable to Federal Funded Projects Only)**

The BIDDER assures by signing his bid that he will procure steel for use under the CONTRACT at the lowest possible current prices.

**BID DOCUMENT SUBMISSION CHECKLIST**

- |  | Bidder Initials |
|--|-----------------|
| 1. Bid Form (Section 00310)  | _____           |
| 2. Bid Bond (Section 00412)  | _____           |
| 3. Disclosure Affidavit (Section 00470)                                      | _____           |
| 4. Non-Collusion Affidavit (Section 00480)                                   | _____           |
| 5. Notice of Classification (Section 00481) (Treasury determination)         | _____           |
| 6. Certification of Uncompleted Contracts (Section 00490)                    | _____           |
| 7. Certification of Nonsegregated Facilities (Section 00491)                 | _____           |
| 8. Certification MacBride Principles (Section 00492)                         | _____           |
| 9. Contractor Notification of Asbestos Management Plan (Section 00493)       | _____           |
| 10. PL 2005, Chap 51 Contractor Certification and Disclosure (Section 00494) | _____           |
| 11. EO 117 Certification (Section 00495)                                     | _____           |

Signature: The undersigned hereby acknowledges and has submitted the above listed requirements.

Firm Name of Bidder: \_\_\_\_\_

By Authorized Representative:

Signature: \_\_\_\_\_

Print Name and Title: \_\_\_\_\_ Date: \_\_\_\_\_

**ADVERTISEMENT FOR BIDS**

**PROJECT: ROOF REPLACEMENT AT FIELD MAINTENANCE SHOP (FMS) CAPE MAY**  
**PROJECT #: CM113**  
**LOCATION: FIELD MAINTENANCE SHOP (FMS) AT THE NEW JERSEY**  
**NATIONAL GUARD ARMORY, CAPE MAY, NEW JERSEY**  
**OWNER: THE STATE OF NEW JERSEY, DEPARTMENT OF MILITARY AND**  
**VETERANS AFFAIRS**

**EST. COST RANGE: \$250,000 - 500,000**

Sealed bid forms will be received in the New Jersey Department of Military and Veterans Affairs (NJDMAVA), Business Management Bureau, Contract Administration Office, located at 101 Eggerts Crossing Road, Lawrenceville, NJ 08648 until **2:00 PM** on **MAY 22, 2013** and then publicly opened and read aloud. No bid will be accepted thereafter.

Mailing and/or Delivery: NJ Dept. of Military and Veterans Affairs  
ATTN: CFMO- BMB  
101 Eggerts Crossing Road  
Lawrenceville, NJ 08648-2805  
Tele: (609) 530-7115

Bid(s) will be received on the following DPMC trade classifications:

**C071 – Roofing Metal or C009 - General Construction/Alterations and Additions**

All bidders must be prequalified in accordance with the statute (N.J.S.A. 52:35-3) Division of Property Management and Construction (DPMC). Current proof must be on file in DPMC and/or submitted to this office not later than TIME SCHEDULE FOR BID OPENING. Failure to do so may result in the disqualification of the bidder.

Contract documents are on Compact Disc (CD) hard copy may be examined and (CD) obtained at the Business Management Bureau's Office upon payment of a **NON- REFUNDABLE \$ 25.00 FEE**, (company check or U.S. money order made payable to Treasurer, State of New Jersey).

No bidder may withdraw his bid within ninety (90) calendar days after the actual date of the opening thereof.

Each bidder must deposit with his bid, security in an amount and form subject to the conditions provided in the Instructions for Bidders. Successful bidder(s) must provide a 100% Performance Bond and 100% Payment Bond when the project is awarded.

Attention of bidders is particularly called to the requirements as to condition of employment to be observed and minimum wage rates to be paid under the contract.

Bidders are required to comply with the requirements of P.L. 1975, C.127 Affirmative Action Program, and P.L. 1945, C.169 Law Against Discrimination.

**A MANDATORY PRE-BID MEETING WILL BE HELD ON APRIL 24, 2013 AT 10:00 AM** at The Field Maintenance Shop (FMS), 600 Garden State Parkway, Cape May Court House, Cape May, New Jersey 08210. Questions related to this bid submission should be directed to the Business Management Bureau at 609-530-7115 between the hours of 8:00 AM AND 4:00 PM Monday thru Thursday.

Lt. Col(R) EDWARD R. SAIN, P.E.  
Contracting Officer  
Department of Military and Veterans Affairs

# BID FORM

STATE OF NEW JERSEY  
DEPARTMENT OF MILITARY AND VETERANS' AFFAIRS  
CONSTRUCTION MANAGEMENT BUREAU

ROOF REPLACEMENT  
AT THE FELD MAINTENANCE SHOP (FMS)  
CAPE MAY, NEW JERSEY

To: STATE OF NEW JERSEY  
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS  
BUSINESS MANAGEMENT BUREAU  
101 EGGERT CROSSING ROAD  
LAWRENCEVILLE, NEW JERSEY 08648

Date \_\_\_\_\_

This Bid Form is to be returned in accordance with the Specification in a self-addressed envelope. The general contractor will furnish all labor, material, equipment and services necessary for the complete construction, as defined in the contract documents of Roof Replacement at The Field Maintenance Shop (FMS), Cape May, New Jersey as mentioned in Technical Specification shown on drawings and per actual job conditions in strict accordance with the contract documents and addenda thereto for the total sum of:

**BID # 1**

**ROOF REPLACEMENT**

Written amount \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_)

**BID # 2**

**MASONRY WORK**

Written amount \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_)

**SUM OF BID # 1 & BID # 2**

Written amount \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_)

**UNIT PRICE**

**Replacement of damaged decking with new to match existing**

Written amount \_\_\_\_\_  
\_\_\_\_\_ (\$ \_\_\_\_\_) Per SQFT Installed.

**SUBCONTRACTORS:** The undersigned proposes to subcontract work in conjunction with this single overall bid submitted pursuant to N.J.S.A. 52:32-2 to the following named subcontractors qualified in accordance with N.J.S.A. 52:35-1 et seq:

Plumbing: \_\_\_\_\_

HVAC (Mechanical) \_\_\_\_\_

Electrical \_\_\_\_\_

Structural Steel \_\_\_\_\_

NOTE: Award shall be made to the lowest responsible bidder for the base bid and bid deductive items in priority order subject to the availability of construction funding available. The amount of construction funding available will be announced at the bid opening subsequent to the bid closing date and time and prior to opening of the submitted bids.

This bidder having examined the specifications with related documents and the site of the proposed work and being familiar with all of the conditions surrounding the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials and supplies, and to complete the work in accordance with the Contract Documents within the time set forth herein, and at the prices stated above. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete the project within **ONE HUNDRED AND TWENTY (120)** Calendar Days. Bidder further agrees to pay as liquidated damages, a sum for each consecutive working day thereafter as provided in Paragraph 25 of the General Conditions.

**BID FORMS MUST BE SUBMITTED IN ORIGINAL**

Refer to CONTRACT NUMBER and/or ACCOUNT NUMBER IN ALL CORRESPONDENCE  
Bidder acknowledges receipt of the following Addenda

Addendum Number

Date of Addendum

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BID SECURITY: Enclosed with this bid form is a bid security in the form of (Bid Bond) or (Certified Check) for the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_). payable to the State of New Jersey. If this bid is accepted, the undersigned agrees that in the event of failure to furnish required bonds, this bid security shall be and remain the property of the State of New Jersey.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract within fourteen (14) calendar days and deliver a Performance-Payment Bond as required by Instruction to Bidders and Part III paragraph 4 of Contract and Bond.

PLEASE NOTE: ( ) Certified Check or ( ) Bid Bond in amount of 10% of base bid required.

Certified Check \$\_\_\_\_\_ Bid Bond \$\_\_\_\_\_

The bid security attached in the sum of \_\_\_\_\_ (\$\_\_\_\_\_) is to become the property of the State in the event the contract and bond are not executed within the time set forth, as liquidated damages for the delay and additional expense to the owner caused thereby.

Complete and submit with bid forms the following forms:

1. Non-Collusion Affidavit (DOD 53)
2. Bid Bond and Agreement of Surety (See PART III, 6A & B)
3. Disclosure Statement.
4. Contractors Statement of Contingent or other Fees (SF119)
5. Certification of uncompleted contracts.

The State of New Jersey reserves the right to accept or reject any or all bids if it is felt to be in the public interest to do so.

This bid shall be valid for ninety (90) calendar days from date of bid opening.

NOTE: If the bidder is a corporation, indicate State of Incorporation and if a partnership, give full names of partners.

Respectfully submitted:

(Seal - If bid is by a corporation) By

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature & Title

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
Business Phone

**BID BOND**

BOND NO. \_\_\_\_\_

KNOWN ALL MEN BY THESE PRESENTS THAT (Insert name and address of CONTRACTOR)

**as Principal, hereinafter called Principal, and** (Insert name and address of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto the State of New Jersey, Department of Military and Veterans' Affairs, Eggert Crossing Road - CN340, Trenton, New Jersey, 08625-0340, as Obligee, hereinafter called Obligee, in the full and just sum of (Insert amount equal to 10% of proposal or proposals)

**Dollars (\$ \_\_\_\_\_ )**

lawful money of the United States, for the payment of which sum, well and truly to be made, of which Principal and Surety bind themselves, his/her heirs, executors, administrators, successors, and assigns, jointly and severally by this instrument.

WHEREAS, Principal herewith submits proposal dated \_\_\_\_\_, 20\_\_\_\_, for (Insert describe the work)

in accordance with proposed CONTRACT documents prepared by

which is by reference made a part of this bond the same as though set forth herein, and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall be awarded the CONTRACT and Principal will, within the time required, enter into the CONTRACT and give a good and sufficient bond to secure the payment and performance of the CONTRACT, then this obligation shall be void and of no effect, otherwise Principal and Surety will pay unto the Obligee the difference in money between the amount of the bid of the Principal and the amount for which the Obligee legally CONTRACTs with another party to perform the work if the latter amount be in excess of the former.

Signed, sealed and delivered this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

ATTEST: Principal

(Seal)

\_\_\_\_\_  
(Principal) Secretary Signature

By \_\_\_\_\_  
Principal Signature

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Witness to Principal)

ATTEST: Surety

00412-1

(Seal)

\_\_\_\_\_  
(Surety) Secretary Signature

By \_\_\_\_\_  
Attorney-in-fact Signature

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Witness as to Surety)

**AGREEMENT OF SURETY**

In consideration of the sum of One Dollar, lawful money of the United States, the receipt whereof is hereby acknowledged, and for other valuable considerations, (Insert name and address of Surety)

hereinafter called the Company, consent and agree that if the CONTRACT for (Insert Description of Contract)

for which the preceding proposal is made be awarded to (Insert name and address of Bidder)

hereinafter called the Bidder, the Company will become bound as Surety for its faithful payment and performance and will execute the final bonds required, and if the Bidder shall omit or refuse to execute such CONTRACT when notified or awarded then the Company will pay to the State of New Jersey, Department of Military and Veterans' Affairs, herein called the Obligee, the difference between the amount of the Bidder's Bid or proposal, and the lowest amount in excess of said bid, or proposal, for which the Obligee may be able to award CONTRACT within a reasonable time.

Signed, sealed and dated this        day of        , 20    .

(Seal)

\_\_\_\_\_  
(Surety) Secretary Signature

By \_\_\_\_\_  
Attorney-in-fact Signature

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Print or Type Name)

00412-2

**DOCUMENT 00432 - UNIT PRICES FORM**

1.1 **BID INFORMATION**

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Roof Replacement.
- C. Project Location: Camp May Courthouse, New Jersey.
- D. Owner: New Jersey Department of Military and Veteran's Affairs.
- E. Owner Project Number: CM113.
- F. Architect: Tokarski Millemann Architects, LLC.
- G. Architect Project Number: 1231.

1.2 **BID FORM SUPPLEMENT**

- A. This form is required to be attached to the Bid Form.
- B. The undersigned Bidder proposes the amounts below be added to the Contract Sum on performance and measurement of the individual items of Work and for adjustment of the quantity given in the Unit-Price Allowance for the actual measurement of individual items of the Work.
- C. If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

1.3 **UNIT PRICES**

- A. Unit-Price No. 1: Removal and replacement of damaged T&G sheathing.
  - 1. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) per unit.

1.4 **SUBMISSION OF BID SUPPLEMENT**

- A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2012.
- B. Submitted By: \_\_\_\_\_ (Insert name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

# DISCLOSURE AFFIDAVIT

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS  
101 EGGERT CROSSING ROAD, PO BOX 340,  
TRENTON, NEW JERSEY 08625

This form must be completed for ALL CONTRACTS with the State of New Jersey (NJ 52:25-24.2)

Bidder's Name:

Bid (Contract) No.:

Fed Tax I.D. (or S.S.):

Address: (Insert full address to include street, city, county, state and zip)

List the names and addresses of all individuals, partnerships, corporations or any other owner having 10% or greater interest in the corporation or partnership named above. If a listed owner is a corporation or partnership than list the name, percentage of ownership, and address of holders of 10% or more interest in that corporation or partnership. If additional space is necessary please list on reverse side. If there are no owners with 10% or greater interest in your company, enter "NONE" below.

Complete affidavit at bottom of form. If this has already been submitted to the Department of Military and Veterans Affairs, use the form for any changes and complete the affidavit.

<u>Name</u>	<u>% OF</u>	<u>ADDRESS</u>
(Type of Print name)	Ownership	Street, city/twp., county, state, zip

\_\_\_\_\_  
(Type President's Name)

\_\_\_\_\_  
(Type Corporate Secretary's Name)

I certify that:

- List of stockholders has been submitted to NJDMAVA, and it is CURRENT AND CORRECT to the best of my knowledge, with the exceptions above.
- The list of stockholders above is CURRENT AND CORRECT to the best of my knowledge.
- There are no stockholders holding 10% or greater interest in this corporation or firm to the best of my knowledge.
- Firm is sole ownership and not subject to corporate or partnership disclosure requirements.

ATTEST:

Subscribed and sworn to before me this

Day of \_\_\_\_\_ 20\_\_\_\_

(Seal)

\_\_\_\_\_  
(Signature of Authorized Representative)

\_\_\_\_\_  
(Notary Public Signature)

Additional names if required

(Signature of Corporate Secretary) Date Seal

NAME	% OF	ADDRESS
(Type or Print Name)	Ownership	Street, city/twp., county, state, zip

00470-1

**NON-COLLUSION AFFIDAVIT**

PROJECT TITLE \_\_\_\_\_

Bid Due Date \_\_\_\_\_

STATE OF NEW JERSEY  
as:  
COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_ of the City of \_\_\_\_\_  
in the County of \_\_\_\_\_ and the State of \_\_\_\_\_

of full age, being sworn according to law on my oath depose and say that:

I am \_\_\_\_\_ of the firm of \_\_\_\_\_

\_\_\_\_\_ the bidder making the proposal for the above named project, and that I executed the said Proposal with full authority so to do; that said bidder has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the above named project; and that all statements contained in said Proposal and in this affidavit are true and correct, and made with full knowledge that the State of New Jersey relies upon the truth of the statements in said Proposal and in the statements contained in this affidavit in awarding the CONTRACT for the said project.

Subscribed and sworn to before me this \_\_\_\_\_

day of \_\_\_\_\_, 20 \_\_\_\_.

seal

\_\_\_\_\_  
Notary Public of

\_\_\_\_\_  
Bidder's Signature and Title

My Commission expires:

19

00480-1

# NOTICE OF CLASSIFICATION

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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AMOUNT	TRADE(S) DATE	EFFECTIVE DATE	EXPIRATION
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In accordance with N.J.S.A. 13A:18A-27 et seq. (Department of Education) and N.J.S.A.52:35-1 (Department of Treasury) and any rules and regulations issued pursuant hereto, you are hereby notified of your classification to do State work in the Department(s) as noted above.

Very truly yours,  
Bureau of CONTRACTOR Services

enclosures  
cc. Records Section

00481-1

**CERTIFICATION OF  
UNCOMPLETED CONTRACTS**

I certify that the amount of uncompleted work on the contracts is \$\_\_\_\_\_.

I further certify that the amount of this bid proposal, including all outstanding incomplete contracts does not exceed my pre-qualification dollar limit.

Respectfully submitted,

By \_\_\_\_\_

Affix  
corporate

seal  
here

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Business Address

Sworn to and subscribed  
before me this \_\_\_\_\_  
date of 20 \_\_\_\_\_.

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Notary Public of

My Commission Expires:

20

00490

## CERTIFICATION OF NONSEGREGATED FACILITIES

The bidder or Subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder or Subcontractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control where segregated facilities are maintained. The bidder or Subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means nay waiting rooms, areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom or otherwise. The bidder or Subcontractor further agrees that (except where he has obtained identical certifications from proposed Subcontractors for specific time periods) he will obtain identical certifications from proposed Subcontractors prior to the award of Subcontractors exceeding \$10,000 which are not exempt from the provisions of Equal Opportunity Clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed Subcontractors (except where the proposed Subcontractors have submitted identical certification for specific time periods).

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES A Certification of Non-segregated facilities must be submitted prior to the award of a Subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The certification may be submitted either for each Subcontract or for all Subcontracts during a period (i.e. quarterly, semiannually, or annually) (1970 AUG) (Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001).

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature of Bidder or Subcontractor)

\_\_\_\_\_  
(Type Firm Name)

\_\_\_\_\_  
(Type Business Address)

\_\_\_\_\_

\_\_\_\_\_

CERTIFICATION

---

MacBride Principles and Northern Ireland Act of 1989.

The bidder hereby certifies:

1. Contractor has no business operations in Northern Ireland or
2. Contractor will take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride principles of nondiscrimination as set forth in NJSA 52:18A-89.5 and in conformance with the United Kingdom's Fair Employment (Northern Ireland) Act of 1989 and permit compliance with those principles.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Name and Address of Contractor

\_\_\_\_\_  
Name and Title of Affiant

Subscribed and sworn before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

**OUTSIDE CONTRACTOR NOTIFICATION  
OF ASBESTOS MANAGEMENT PLAN**

Retain signed copy in contract documents folder

**Company Name:** \_\_\_\_\_

**Company Officer:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Type of Business:** \_\_\_\_\_

I have reviewed and understand the *NJDMAVA Asbestos Operations and Maintenance Plan* and the Facility Asbestos Materials Report as posted on the DMAVA page website at [www.state.nj.us/military/installations/index.html](http://www.state.nj.us/military/installations/index.html) I will not perform any renovation, remodeling, or construction in any area of a NJDMAVA facility without first thoroughly reading the *NJDMAVA Asbestos Operation and Maintenance Plan* for that facility and coordinating such activities through the ID-CMB. I will not disturb any area of a NJDMAVA facility where asbestos containing materials have been identified without first coordinating such activities through the ID-CMB. My company, business, or entity will perform our work in accordance with the *NJDAMVA Asbestos Operation and Maintenance Plan* or will inform the ID-CMB if unable to do so. In such case, the Asbestos Program Manager will give instructions as required prior to any asbestos-associated work.

**Signature:** \_\_\_\_\_  
(Company Officer)

**Date:** \_\_\_\_\_

# IMPORTANT NOTICE

## NEW "PAY-TO-PLAY" RESTRICTIONS TO TAKE EFFECT NOVEMBER 15, 2008

Governor Jon S. Corzine recently signed Executive Order No. 117, which is designed to enhance New Jersey's efforts to protect the integrity of government contractual decisions and increase the public's confidence in government. The Executive Order builds on the provisions of P.L. 2005, c. 51 ("Chapter 51"), which limits contributions to certain political candidates and committees by for-profit business entities that are, or seek to become, State government vendors.

Executive Order No. 117 extends the provisions of Chapter 51 in two ways:

1. The definition of "business entity" is revised and expanded so that contributions by the following individuals also are considered contributions attributable to the business entity:

- ◆ Officers of corporations and professional services corporations, with the term "officer" being defined in the same manner as in the regulations of the Election Law Enforcement Commission regarding vendor disclosure requirements (N.J.A.C. 19:25-26.1), with the exception of officers of non-profit entities;
- ◆ Partners of general partnerships, limited partnerships, and limited liability partnerships and members of limited liability companies (LLCs), with the term "partner" being defined in the same manner as in the regulations of the Election Law Enforcement Commission regarding vendor disclosure requirements (N.J.A.C. 19:25-26.1); and
- ◆ Spouses, civil union partners, and resident children of officers, partners, LLC members and persons owning or controlling 10% or more of a corporation's stock are included within the new definition, except for contributions by spouses, civil union partners, or resident children to a candidate for whom the contributor is eligible to vote or to a political party committee within whose jurisdiction the contributor resides.

2. Reportable contributions (those over \$300.00 in the aggregate) to legislative leadership committees, municipal political party committees, and candidate committees or election funds for Lieutenant Governor are disqualifying contributions in the same manner as reportable contributions to State and county political party committees and candidate committees or election funds for Governor have been disqualifying contributions under Chapter 51.

***Executive Order No. 117 applies only to contributions made on or after November 15, 2008, and to contracts executed on or after November 15, 2008.***

Updated forms and materials are currently being developed and will be made available on the website as soon as they are available. In the meantime, beginning November 15, 2008, prospective vendors will be required to submit, ***in addition to the currently required Chapter 51 and Chapter 271 forms***, the attached Certification of Compliance with Executive Order No. 117.

**Certification on Behalf of A Company, Partnership or Organization and All Individuals  
Whose Contributions are Attributable to the Entity  
Pursuant to Executive Order No. 117 (2008)**

I hereby certify as follows:

On or after November 15, 2008, neither the below-named entity nor any individual whose contributions are attributable to the entity pursuant to Executive Order No. 117 (2008) has solicited or made any reportable contribution of money or pledge of contribution, including in-kind contributions or company or organization contributions, to the following:

- a) **Any candidate committee and/or election fund of the Governor;**
- b) **A State political party committee;**
- c) **A legislative leadership committee;**
- d) **A county political party committee; or**
- e) **A municipal political party committee.**

I certify as an officer or authorized representative of the Company or Organization identified below that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

**Name of Company, Partnership or Organization:**

\_\_\_\_\_

**Signed:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**(circle one) (A) The Company, Partnership or Organization is the vendor;**

**or**

**(B) the Company, Partnership or Organization is a Principal (more than 10% ownership or control) of the vendor, a Subsidiary controlled by the vendor, or a Political Organization (e.g., PAC) controlled by the vendor.**

*\*Please note that if the person signing this Certification is not signing on behalf of all individuals whose contributions are attributable to the entity pursuant to Executive Order No. 117 (2008), each of those individuals will be required to submit a separate individual Certification.*

**Individual Certification of Compliance with Executive Order No. 117 (2008)**

I hereby certify as follows:

On or after November 15, 2008, I have not solicited or made any reportable contribution of money or pledge of contribution, including in-kind contributions or company or organization contributions, to the following:

- a) **Any candidate committee and/or election fund of the Governor;**
- b) **A State political party committee;**
- c) **A legislative leadership committee;**
- d) **A county political party committee; or**
- e) **A municipal political party committee.**

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

**Signed:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Public Law 2005, Chapter 51 Contractor Certification and Disclosure of Political Contributions Solicitation No.:**

Formerly: 

Executive Order <b>134</b>
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**Bidder:** \_\_\_\_\_

The Bidder (Vendor) should complete the required Certification and Disclosure forms and submit them, together with a completed Ownership Disclosure form, **to the using agency, department or the Purchase Bureau**. Instructions for completing this form are at <http://www.state.nj.us/treasury/purchase/forms.htm#eo134>.

**Part I: Certification**

I hereby certify as follows:

1. On or after October 15, 2004, the below-named person or entity has not solicited or made any Contribution of money, pledge of Contribution, including in-kind Contributions, company or organization Contributions, as set forth below that would bar the award of a contract to the Bidder, pursuant to the terms of Public Law 2005, Chapter 51 (N.J.S.A. 19:44A-20.13-20.25, superseding Executive Order 134 (2004)).
  - a) Within the 18 months immediately preceding the Solicitation (exclusive of any contributions made prior to October 15, 2004), the below-named person or organization has not made a Contribution to
    - (i) Any candidate committee and/or election fund of any candidate for or holder of the public office of Governor; or
    - (ii) Any State or county political party committee.
  - b) During the term of office of the current Governor (exclusive of any Contributions made prior to October 15, 2004), the below-named person or organization has not made a Contribution to
    - (i) Any candidate committee and/or election fund of the governor; or
    - (ii) Any State or county political party committee nominating such Governor in the election preceding the commencement of said Governor's term.
  - c) Within the 18 months immediately prior to the first day of the term of office of the Governor (exclusive of any Contributions made prior to October 15, 2004), the below-named person or organization has not made a Contribution to
    - (i) Any candidate committee and/or election fund of the Governor; or
    - (ii) Any State or County political party committee of the political party nominating the successful gubernatorial candidate in the last gubernatorial election.
2. If the Bidder is awarded a contract pursuant to the solicitation for this bid proposal, the below-named person or organization will, on a continuing basis, continue to report any Contributions it makes during the term of the contract, and any extension(s) thereof.

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**Public Law 2005,  
Chapter 51**

Formerly: **Executive Order  
134**

Bidder: \_\_\_\_\_

**Part II: Disclosure**

Following is the required disclosure of all Contributions made from October 15, 2004, through the date of signing of this Certification and Disclosure to: (i) any entity designated and organized as a "political organization" under 26 U.S.C.A. § 527 that is also defined as "continuing political committee" under N.J.S.A. 19:44A-3(n) and N.J.A.C. 19:25-1 or (ii) any candidate committee and/or election fund of any candidate for or current holder of the public office of Governor; and any State or county political party committee. Such an entity is identified in the following chart as a "Committee."

Name and Address of Committee	Date of Contribution	Amount of Contribution	Type of Contribution i.e., Currency, Check, Loan, In Kind	Donor
Indicate "none" if no Contributions were made. Attach additional pages if necessary.				

**#1**

**#1**

**Certification on behalf of a COMPANY or organization** : I certify as an officer or authorized representative of the Company or Organization identified below that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of statements are willfully false, I am subject to punishment.

Name of Company or Organization: \_\_\_\_\_

**#2**

Signed: \_\_\_\_\_ Title: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date: \_\_\_\_\_

(check one) (A)

The Company or Organization is the Bidder, or (B)

The Company or Organization is a Principal (more than 10% ownership or control) of the Bidder, a Subsidiary controlled by the Bidder, or a Political Organization (eg, PAC) controlled by the Bidder.

**Certification by an individual** – for use by the individual Bidder, or as a Principal (more than 10% ownership or control) of the Bidder, or as the spouse or child of the Bidder:

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.



#3

Signed: \_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Note: A person may certify BOTH as an officer or authorized representative of the Bidder, AND in his or her individual capacity, as a Principal of the Bidder.**

Rev: 10/26/2005 DPP c51 - C&D

00495-3

### III. CONTRACT AND BOND

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#### ARTICLES

##### 1. LEGAL JURISDICTION

- A. This CONTRACT shall be construed and governed in accordance with the Constitution and laws of the State of New Jersey. The State in entering into this CONTRACT does not waive its Sovereign Immunity, except as provided in the New Jersey Contractual Liability Act, NJSA 59:13-1 *et seq.*
- B. The rights or benefits provided the CONTRACTOR in this CONTRACT which exceed those provided under that Act and the obligations established under this CONTRACT which vary from those under the Act are contractual in nature and shall not be deemed to expand the waiver of Sovereign Immunity as set forth in that Act.

##### 2. RELATIONSHIP OF THE FEDERAL GOVERNMENT (Federal Funded Contracts)

- A. This CONTRACT may be **funded** in part by the Federal Government.
- B. The Federal Government is not a party to this CONTRACT. As a condition to receiving and expending Federal funds, there are certain rights of Federal inspection, Federal approval or CONTRACT changes and modifications, and Federal approval of settlements or dispute actions that the Federal Government will exercise prior to authorization of Federal funds. Therefore, no inspection or acceptance, change, modification, settlement, dispute claim payment, or dispute action will be considered binding until the required federal approval is obtained.
- C. The Chief, National Guard Bureau or Secretary of the Veterans Administration, or his/her designated representative, is the approval authority. This paragraph does not abrogate any rights conferred on the Federal Government by law or other clause required due to the use of Federal funding.

##### 3. APPROVAL (Federal - National Guard Bureau - Funding)

This CONTRACT and any subsequent terminations, modifications, or change orders (including those resulting from disputes and settlements of disputes) shall be subject to the written approval of the Chief, National Guard Bureau, or his duly authorized representative, and shall not be binding until so approved.

##### 4. CONTRACT EXECUTION

- A. The CONTRACTOR shall have **fifteen(15) calendar days** to fully execute this CONTRACT. The **fifteen (15) calendar days** shall begin on the day the CONTRACTOR receives the CONTRACT from NJDMAVA.
- B. Execution of the CONTRACT shall include appropriate Performance and Payment Bonds, applicable insurance, signed CONTRACTs and all other forms, and signatures and notarization must be received within this time period. Shall the CONTRACTOR fail to execute the CONTRACT within this time frame, the CONTRACTOR shall be deemed in default of the bid bond. The CONTRACTING OFFICER shall then award the CONTRACT to the next lowest BIDDER and exercise any and all rights under the bid bond and the law to retrieve the difference in CONTRACT award.

- C. The CONTRACTING OFFICER, in his sole discretion and upon receipt of a written request from the CONTRACTOR no less than three (3) days prior to the expiration of the **fifteen (15) day** period established herein, may grant an extension of time for CONTRACT execution.

## **5. PERFORMANCE BOND AND PAYMENT BOND**

- A. The BIDDER to whom the award is made shall furnish a Performance Bond in an amount at least equal to one hundred percent (100%) of the CONTRACT prices as security for the faithful performance of this CONTRACT and also a Payment Bond in an amount not less than one hundred percent (100%) of the CONTRACT price as security or the payment of all persons performing labor on the project under this CONTRACT and furnishing materials in connection with this CONTRACT.
- B. The Performance Bond and the Payment Bond shall be in separate instruments in accordance with local law. Before final acceptance each bond must be approved by the State and/or U.S. Government Agency of Office involved, when applicable, and shall be from a surety company authorized to do business in the State of New Jersey.
- C. It is recommended that the Performance Bond and Payment Bond provided herein be used to satisfy the requirements of the State. If a CONTRACTOR chooses to use his/her own bonds, then the language of the bond shall strictly conform to the sample enclosed in these General Conditions. Conditions that modify the intent of the State shall not be accepted.
- D. The respective CONTRACTORS shall pay for the cost of bonds.
- E. If at any time the State for justifiable cause, shall be or become dissatisfied with any Surety or Sureties then upon the Performance Bond or Payment Bond, the CONTRACTOR shall within five (5) calendar days after notice from the State so to do, substitute an acceptable bond(s) in such form and sum and signed by such other Surety or Sureties as may be satisfactory to the State. The CONTRACTOR shall pay the premiums on such bond. No further payments shall be deemed due nor shall be made to the CONTRACTOR until the new Surety or Sureties shall have furnished such an acceptable bond to the State.
- F. Date of Bond must not be prior to date of CONTRACT. Use:
- (1) Correct name of CONTRACTOR
  - (2) A Corporation, a Partnership or an Individual as case may be.
  - (3) Correct name of Surety.
  - (4) If CONTRACTOR is Partnership, all partners shall execute bond.
- F. IMPORTANT NOTE: Surety Companies executing bonds on U.S. funded projects must appear on the U.S. Treasury Department's most current list (Circular 570) and be authorized to transact business in the State of New Jersey.

**Combined Bonds: Combined performance and payment bonds shall not be accepted. The CONTRACTOR is to provide separate Performance and Payment Bonds with separate bond numbers.**

## PERFORMANCE BOND

KNOWN ALL MEN BY THESE PRESENTS:

That we, the undersigned \_\_\_\_\_ as principal and \_\_\_\_\_ as sureties, are hereby held and firmly bound unto \_\_\_\_\_ in the penal sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) for the payment of which will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

"Signed this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_."

"The condition of the above obligation is such that whereas, the above named principal did on the \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_, enter into a contract with \_\_\_\_\_ which said contract is made a part of this the bond the same as though set forth herein":

"Now, if the said Principal shall well and faithfully do and perform the things agreed by Owner to be done and performed according to the terms of said contract, and shall pay all lawful claims of subcontractors, materialmen, laborers, persons, firms or corporations for labor performed or materials, provisions, provender or other supplies or teams, fuels, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, materialmen, laborer, person, firm or corporation having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated."

"The said surety hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the said contract or in or to the plans and specifications therefore shall in anywise affect the obligation of said surety on its bond."

Provide, further, that no final settlement between the Owner and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

This bond is given in compliance with the requirements of the statutes of the State of New Jersey in respect to bonds or Contractors on public works, Revised Statutes of New Jersey, 1937, Sections 2A:44-143-147 and amendments thereof.

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IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
Principal

BY \_\_\_\_\_

\_\_\_\_\_  
(Address)

(SEAL)

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Surety

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

BY \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Witness to Surety

\_\_\_\_\_  
(Address)

The Surety Company shall be one authorized to do business in New Jersey.

## PAYMENT BOND

KNOWN ALL MEN BY THESE PRESENTS:

That we, the undersigned \_\_\_\_\_ as principal and \_\_\_\_\_ as sureties, are hereby held and firmly bound unto \_\_\_\_\_ in the penal sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) for the payment of which will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

"Signed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_."

"The condition of the above obligation is such that whereas, the above named principal did on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, enter into a contract with \_\_\_\_\_ which said contract is made a part of this the bond the same as though set forth herein":

"Now, if the said Principal shall pay all lawful claims of subcontractors, materialman, laborers, persons, firms or other suppliers or teams, fuels, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any CONTRACTOR, materialman, laborer, person, firm or corporation having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the pen amount of this obligation as herein stated."

"The said surety hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the said contract or in or to the plans and specifications therefore shall in anywise affect the obligation of said surety on its bond."

Provide, further, that no final settlement between the Owner and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

This bond is given in compliance with the requirements of the statutes of the State of New Jersey in respect to bonds or Contractors on public works, Revised Statutes of New Jersey, 1937, Sections 2A:44-143-147 and amendments thereof.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary

BY \_\_\_\_\_

\_\_\_\_\_  
(Address)

(SEAL)

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Surety

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

BY \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Witness to Surety

\_\_\_\_\_  
(Address)

The Surety Company shall be one authorized to do business in New Jersey.

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## **6. INSURANCE**

- A. The CONTRACTORS shall hold the State harmless for any loss or damage to tools, equipment, scaffolding, staging towers and forms, materials stored on site, sheds or other structures erected for use by CONTRACTOR and Subcontractors, if being understood that the CONTRACTOR will, at his/her own expense, carry all insurance which may be required to provide the necessary protection against such loss or damage, which insurance shall contain a waiver of any right or subrogation against the State.
- B. Three (3) certified copies of each insurance policy or certificate of such insurance shall be delivered to the OWNER prior to the commencement of the work and shall contain the provision that the insurance shall not be canceled except upon a minimum of thirty (30) calendar days prior to written notice to the State Of New Jersey Department of Military and Veterans Affairs, Attn.: CONTRACTING OFFICER.
- C. The CONTRACTOR shall not commence work under this CONTRACT until he/she have obtained all the insurance required under this paragraph and such insurance has been approved by the State, nor shall the CONTRACTOR allow any Subcontractor to commence work on his/her subcontract until the insurance required of the Subcontractor has been so obtained and approved. Insurance obligations include the following:

### **(1) COMPREHENSIVE GENERAL LIABILITY**

Comprehensive General Liability insurance for the benefit of The CONTRACTOR and any Subcontractors is to be written as broad as the standard coverage form currently in use in the State of New Jersey, which shall not be circumscribed by any endorsements limiting the breadth of coverage. The policy shall include endorsements (broad form) for Contractual Liability and Completed Operations; and an endorsement, which will eliminate the explosion, collapse and underground exclusion. Limits of liability shall not be less than \$1,000,000 per occurrence for bodily injury liability and \$1,000,000 per occurrence for property damage liability, or as a combined single limit of \$2,000,000.

### **(2) COMPREHENSIVE AUTOMOBILE LIABILITY**

Comprehensive Automobile liability insurance covering owned, non-owned and hired vehicles shall be covered by all CONTRACTORS. The limits of liability shall not be less than \$1,000,000 per occurrence for bodily injury liability and \$500,000 for property damage liability.

### **(3) WORKERS' COMPENSATION**

Workers' compensation insurance applicable to the laws of the State of New Jersey and other State and Federal jurisdiction is required to protect the employees of the CONTRACTOR or any Subcontractor who will be engaged in the performance of the CONTRACT. The insurance shall include Employers Liability protection with a limit of liability of not less than \$500,000.

## **NOTE: THE FOLLOWING SHALL BE INCORPORATED FOR NEW CONSTRUCTION ONLY.**

### **(5) BUILDERS' RISK**

The State of New Jersey shall provide insurance protection for the benefit of the CONTRACTOR and Subcontractors in the form of a Builders' Risk Policy, providing all risk protection for the structure on which the work in this CONTRACT is to be done to 100% of the insurable value thereof, including items of labor and materials connected therewith, whether in or adjacent to the structure insured, and materials in place or to be used as part of the permanent construction including surplus materials.

This policy may contain a deductible clause. The State of New Jersey agrees to indemnify the CONTRACTOR against any insurable loss to the extent that such loss exceeds \$5,000 per occurrence. In these instances, the CONTRACTOR shall assume responsibility for the first \$5,000 of any loss.

#### **(6) LOSS REPORTING AND LOSS ADJUSTMENT**

In the event of loss, the CONTRACTOR shall immediately notify the State of New Jersey, Department of Military & Veterans Affairs, in writing, and take any other appropriate steps as may be required under the Builders' Risk policy in effect. Upon the occurrence of any loss or damage prior to the acceptance of the building by the State, the CONTRACTOR shall, at the State's option, replace and repair the damaged work as originally provided in the drawings and specifications at no additional compensation to that provided in the original CONTRACT.

All losses will be adjusted with, and payable to, the State of New Jersey, as trustee for the insured as his/her interests may appear. The CONTRACTOR shall be named jointly with the State in all policies of insurance, all of which shall be open to inspection, by the state.

The CONTRACTOR shall not include any cost for Builders' Risk insurance premiums as described herein. However, this provision shall not relieve the CONTRACTOR from his/her obligation to complete, according to plans and specifications, the project covered by the CONTRACT, and the CONTRACTOR and his/her surety shall be obligated to full performance of the CONTRACTOR'S undertaking.

### **7. ASSIGNMENTS**

The CONTRACTOR shall not assign the whole or any part of this CONTRACT without written consent of the State. Money due or to become due the CONTRACTOR hereunder shall not be assigned for any purposes whatever.

### **8. COVENANT AGAINST CONTINGENT FEES**

- A. The CONTRACTOR warrants that no person or selling agency has been employed or retained to solicit or secure this CONTRACT upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the CONTRACTOR for the purpose of securing business.
- B. For breach or violation of this warranty the State shall have the right to annul this CONTRACT without liability or in its discretion to deduct from the CONTRACT price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

### **9. PROJECT SCHEDULE**

- A. **This CONTRACTOR shall submit a PROJECT SCHEDULE in Critical Path Method (CPM) format, ten (10) calendar days from receipt of the Notice To Proceed and prior to starting any work or submitting any work related submittals.**
- B. This project schedule shall be a valid working document and its **accuracy maintained at all times**. The project schedule shall be posted at the work site and updated when the CONTRACTING OFFICER or his/her representative approves major changes. The CONTRACTOR (s) and his/her subcontractors are required to follow the project schedule in the execution of the CONTRACT.

- C. These specifications may contain a project schedule (timeline) established by NJDMAVA. This project schedule identifies time frames for major tasks and the overall completion time frame of the project. This schedule is only used to inform the BIDDER of the expected completion of this project in a timely manner. Should a (all) CONTRACTOR(s) see any problems with these dates, then his/her shall bring them to the attention of NJDMAVA prior to the bid date. Should a change be agreed upon, then a new project schedule shall be issued prior to the bid date. The major time frame of the schedule is all inclusive of any and all sub-tasks that shall be identified by the CONTRACTOR in his/her C.P.M. CONTRACTORS shall understand that this does not eliminate his/her responsibility to provide a detailed C.P.M. as outlined in the General Conditions of this document.
- D. This enclosed schedule **shall not** be resubmitted by the CONTRACTOR in lieu of producing his own detailed Critical Path Method (C.P.M.) format. The CONTRACTOR shall submit a C.P.M identifying greater detail of the tasks to be accomplished with special attention to those tasks that are critical and dependent upon the completion of other tasks/trades. The milestones for various stages of work shall be binding on all CONTRACTOR once the CONTRACT is executed.
- E. NJDMAVA may have his/her A/E or Construction Manager produce a detailed C.P.M. for complex projects. When this is done, this shall be used for project completion and the CONTRACTORS' C.P.M. shall be adjusted to coincide with it. **Any additional costs associated with reducing time or adding labor to meet the deadlines established shall be at the expense of the CONTRACTOR(S).**

## **10. AFFIRMATIVE ACTION**

- A. The Department of Military & Veterans Affairs follows all laws established in N.J.S.A. 10.5-31 et seq., specially N.J.S.A. 10.5-36K Chapter 27, AFFIRMATIVE ACTION RULES. The CONTRACTOR shall become thoroughly familiar with all rules, regulations and forms associated with the State Law and execute the requirements of the same. The Affirmative Action rules on page 30-34 shall be reviewed and followed. Subsequent pages shall identify the forms needed during the length of the CONTRACT. The CONTRACTOR can obtain extra forms from the State's Affirmative Action Office.
- B. Execution of this CONTRACT by the CONTRACTOR demonstrates his/her willingness to comply with these laws and regulations. It is understood that NJDMAVA shall not interpret these laws or rules or intercede on the CONTRACTOR'S behalf regarding these laws or rules. It shall be assumed that the CONTRACTOR is thoroughly knowledgeable of the rules and in compliance at all times of the same.

EXHIBIT A

P.L. 1975, C. 127 (N.J.A.C. 17:27)  
MANDATORY AFFIRMATIVE ACTION LANGUAGE

PROCUREMENT, PROFESSIONAL AND SERVICE 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, sex, affectional or sexual orientation. The contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to his/her age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. Such action shall include, but not be limited to the following: employment, upgrading, 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, sex, affectional or sexual orientation;

The contractor or subcontractor, where applicable, will send to each labor union or representative or workers with which it has a collective bargaining agreement or other contract or understanding, 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 the regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time and the Americans with Disabilities Act.

The contractor or subcontractor agrees to attempt in good faith to employ minority and female workers consistent with the applicable county employment goals prescribed by N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time or in accordance with a binding determination of the applicable county employment goals determined by the Affirmative Action Office pursuant to N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time.

The contractor or subcontractor agrees to inform in writing appropriate recruitment agencies in the area, including employment agencies, placement bureaus, colleges, universities, labor unions, that it does not discriminate on the basis of age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The contractor or subcontractor agrees to revise any of its testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the State of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

The contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and layoff to ensure that all such actions are taken without regard to age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and conform with the applicable employment goals, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office 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 Affirmative Action Office for conducting a compliance investigation pursuant to **Subchapter 10-of the Administrative Code (NJAC 17:27)**.

## EXHIBIT B

### P.L. 1975, C. 127 (N.J.A.C. 17:27) MANDATORY AFFIRMATIVE ACTION LANGUAGE CONSTRUCTION CONTRACTS

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

a. The CONTRACTOR, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. The CONTRACTOR will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to his/her age, race, creed, color, national origin, ancestry, marital status or sex. Such action 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;

b. 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, sex, affectional or sexual orientation;

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

d. The CONTRACTOR or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time .

e. When hiring workers in each construction trade, the CONTRACTOR or subcontractor agrees to attempt in good faith to employ minority and female workers in each construction trade consistent with the applicable employment goal prescribed by N.J.A.C. 17:27-7.3; provided, however, that the Affirmative Action Office 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 Affirmative Action Office is satisfied that the CONTRACTOR is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Affirmative Action office, that its percentage of active "card carrying" members who are minority and female workers is equal to or greater than the applicable employment goal prescribed by N.J.A.C. 17:27-7.3, promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time. 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 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 P.L. 1975, c. 127, as supplemented and amended from time to time. If the CONTRACTOR or subcontractor is unable to obtain said assurances from the construction trade union at least five days prior to the commencement of construction work, the

minority and female workers consistent with the applicable employment goal. If the contractors or subcontractors prior experience with a construction trade union, regardless of whether the union has provided said assurances, CONTRACTOR or subcontractor agrees directly to attempt to hire indicates a significant possibility that the trade union will not refer sufficient minority and female workers consistent with the applicable employment goal, the CONTRACTOR or subcontractor agrees to be prepared to hire minority and female workers directly, consistent with the applicable employment goal ' by complying with the hiring procedures prescribed under (B) below; and the CONTRACTOR or subcontractor further agrees to immediately take said action if it determines or is so notified by the Affirmative Action Office that the union is not referring minority and female workers consistent with the applicable employment goal.

(B) If the hiring of a workforce consistent with the employment goal has not or cannot be achieved for each construction trade by adhering to the procedures of (b) 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 consistent with the applicable county employment goals:

(1) To notify the Public Agency Compliance Officer, Affirmative Action Office, and at least one approved minority referral organization of its manpower needs, and request referral of minority and female workers;

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

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

(4) To leave standing requests for additional referral to minority and female workers with the local construction trade union, if 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 until such time as the workforce is consistent with the employment goal;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, to assure, consistent with the applicable State and Federal statutes and court decisions, that sufficient minority and female employees remain on the site consistent with the employment goal; and to employ any minority and female workers so laid off by the CONTRACTOR on any other construction site in the area on which its workforce composition is not consistent with an employment goal established pursuant to rules implementing P.L. 1975, c. 127;

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

(i) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required, the CONTRACTOR or subcontractor shall determine the qualifications of such individuals and if the contractors or subcontractors workforce in each construction trade is not consistent with the applicable employment goal, it shall employ such persons which satisfy appropriate qualification standards; provided however, **that a** CONTRACTOR or subcontractor shall determine that th6'individual at least possesses the skills and experience recognized by any worker's skills and experience classification determination which may have been made by a Public Agency Compliance Officer, union, apprentice program or a referral agency, provided the referral agency **is** acceptable to the Affirmative Action Office and provided further, that, if necessary, the CONTRACTOR or subcontractor shall hire minority and female workers who qualify as trainees pursuant to these regulations. All of the requirements of this paragraph, however, are limited by the provisions of (C) below.

(ii) If the contractors or subcontractor's work orce **is** consistent with the applicable employment goal, the name of said female or minority group individual shall be maintained on a waiting list for the first consideration, in the event the contractors or subcontractors workforce is no longer consistent with the applicable employment goal.

(iii) If, for any reason, said CONTRACTOR or subcontractor determines that a minority individual or a female is not qualified or if the individual qualifies as an advanced trainee or apprentice, the CONTRACTOR or subcontractor shall inform the individual in writing with the reasons for the determination, maintain a copy in its files, and send a copy to the Public Agency Compliance Officer and to the Affirmative Action Office.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract and on forms made available by the Affirmative Action Office and shall be submitted promptly to that office upon request.

(C) The CONTRACTOR or subcontractor agrees that nothing contained in (B) preceding provision shall preclude the CONTRACTOR or subcontractor from complying with the hiring hall or apprenticeship provisions in any applicable collective bargaining agreement or 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: provided, however, that where the practices of a union or apprenticeship program will result in the exclusion of minorities and females or the failure to refer minorities and females consistent with the county employment goal, the CONTRACTOR or subcontractor shall consider for employment persons referred pursuant to said provisions (B) without regard to such agreement or arrangement; provided further, however, that the CONTRACTOR or subcontractor shall not be required to employ female 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 the preceding provisions (B) it shall, where applicable, employ minority and female workers residing within the geographical jurisdiction of the union.

(D) The CONTRACTOR agrees to complete an Initial Project Manning Report on forms provided by the Affirmative Action Office or in the form prescribed by the Affirmative Action Office and submit a copy of said form no later than 3 days after signing a construction contract; provided, however, that the public agency may extend in a particular case the allowable time for submitting the form to no more than 14 days; and to submit a copy of the Monthly Project Manning Report once a month (by the seventh work day of each month) thereafter for the duration of this contract to the Affirmative Action Office 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 off-the-job programs for outreach and training of minority and female trainees employed on the construction projects.

(E) The CONTRACTOR and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office 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 affirmative action office for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code** (NJAC 17:27).

## IV. GENERAL PROVISIONS

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### ARTICLES

#### **1. CONTRACTING OFFICER STATUS (C.O.)**

- A. The CONTRACTING OFFICER or his/her representative shall have general supervision and direction of the work. His/her are the agents of the State to the extent provided in the CONTRACT documents and all laws and rules and regulations issued thereunder. His/her have authority to stop the work, whenever such stoppage in his opinion may be necessary to insure the proper execution of the CONTRACT. Neither Project Officer nor Inspector, on behalf of the CONTRACTING OFFICER, is authorized to change any provision of the specification without written authorization (Change Order) of the CONTRACTING OFFICER, nor shall the presence or absence of an Inspector relieve the CONTRACTOR from any requirements of the CONTRACT.
- B. As the CONTRACTING OFFICER or his/her representative is, in the first instance, the interpreter of the conditions of the CONTRACT and the judge of its performance, his/her shall side neither with the State nor with the CONTRACTOR, but shall use his/her powers under the CONTRACT to enforce its faithful performance by both.

#### **2. ARCHITECT OR ENGINEER STATUS (A/E)**

- A. NJDMAVA may include Class C services as part of the design CONTRACT. These services shall be limited to reviewing shop drawings for compliance to the specifications and interpreting his/her scope of work when clarification is required from the CONTRACTOR.
- B. NJDMAVA may hire an A/E to act as a CONSTRUCTION MANAGER on the project. When acting in such a role his/her shall interpret the CONTRACT documents and shall judge the quantity, quality, fitness and acceptability of all parts of the work when acting as an agent for the CONTRACTING OFFICER. His/her shall certify CONTRACTOR'S invoices for work performed and materials delivered to the site, and shall be given access to any part of the work for inspection at all times.
- C. The A/E shall not have authority to give approval nor order changes in work which alter the terms or conditions of the CONTRACT, nor which involve additional cost. His/her may, however, make recommendations to the CONTRACTING OFFICER for such changes, whether or not costs are revised, and the CONTRACTING OFFICER may act, at his/her discretion, on the basis of the A/E's recommendations.
- D. **Under no circumstances shall the A/E have authority to judge or validate an approved equal after the bid date.**

#### **3. CONSTRUCTION MANAGER STATUS (CM)**

- A. NJDMAVA may hire a firm to act as a CONSTRUCTION MANAGER on the project. His/her shall interpret the CONTRACT documents and shall judge the quantity, quality, fitness and acceptability of all parts of the work when acting as an agent for the CONTRACTING OFFICER. His/her shall certify CONTRACTOR'S invoices for work performed and materials delivered to the site, and shall be given access to any part of the work for inspection at all times.
- B. The CONSTRUCTION MANAGER shall not have authority to give approval nor order changes in work which alter the terms or conditions of the CONTRACT, nor which involve additional cost. His/her may, however, make recommendations to the CONTRACTING OFFICER for such changes, whether or not costs

are revised, and the CONTRACTING OFFICER may act, at his/her discretion, on the basis of the CONSTRUCTION MANAGER recommendations.

- C. The CONSTRUCTION MANAGER shall not have the authority to authorize any approved equals after a bid date.

#### **4. CONTRACTOR STATUS**

- A. When the term CONTRACTOR is used in these General Conditions or within the CONTRACT documents, it shall also mean a CONTRACTOR. The CONTRACTOR shall be responsible for hiring a license architect to furnish drawings and specifications to fully construct the project as outlined in these documents.
- B. NJDMAVA may at any time hire his/her own A/E or CONSTRUCTION MANAGER to oversee the project and inspect the drawings and specifications of the CONTRACTOR. The CONTRACTOR shall be required to meet all applicable federal and state codes, rules, regulations and other guidelines as outlined by the State of New Jersey.

#### **5. INTENTION**

- A. The drawings and specifications, with the CONTRACT of which his/her form a part, are intended to provide for and comprise everything necessary for the proper and complete finishing of the work in every part notwithstanding that each and every item necessary may not be shown on the drawing or mentioned in the specifications.
- B. Contract Drawings and Specifications:
  - (1). Omissions from the drawings or specifications or the mis-description of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the CONTRACTOR from performing such omitted or mis-described details of the work but his/her shall be performed as if fully and correctly set forth and described in the drawings and specifications.
  - (2) The CONTRACTOR shall check all drawings furnished him immediately upon his/her receipt and shall promptly notify the CONTRACTING OFFICER of any discrepancies. It shall be understood that the CONTRACTOR(S) have reviewed the specifications in his/her entirety along with every page of the drawings for completeness. Should a conflict arise where items are omitted from one portion of the drawing but not on another, than the CONTRACTOR(S) shall notify the CONTRACTING OFFICER or his representative immediately. Failure to notify NJDMAVA shall not relieve the CONTRACTOR(S) of his/her responsibility to perform the necessary work or provide the appropriate item at no additional cost to the owner.
  - (3) Figures marked on drawings shall in general be followed in preference to scale measurements. Large-scale drawings shall in general govern small-scale drawings. The CONTRACTOR shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.
- C. Determination will be in the form of Addenda to the CONTRACT Document, which will be forwarded to all affected CONTRACTORS.
- D. Any provisions in any of the CONTRACT Documents which may be in conflict or inconsistent with any of the paragraphs in these General Conditions shall be void to the extent of such conflict or inconsistency unless the provision is specifically referenced as a supplement or change thereto.

- E. Each and every provision of law and clause required by law to be inserted in the CONTRACT shall be deemed to be inserted herein and the CONTRACT shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted then upon application of either party the CONTRACT shall forthwith be physically amended to make such insertion or correction.
- F. **Failure of any CONTRACTOR to thoroughly review all bid documents, drawings and specifications for their thoroughness during the bidding phase, shall not relieve the CONTRACTOR from performing all work at no additional expense to the owner.**

## **6. DRAWINGS, SPECIFICATIONS, SHOP DRAWINGS, AS-BUILT DRAWINGS**

- A. Drawings and specifications apply to all parts of this CONTRACT and sub-contracts. The CONTRACTOR shall examine the drawings and specifications for all CONTRACTs on the project, whether bound in one document or separately, shall observe any work indicated or specified pertaining to his work and shall make due allowances to perform or carry out the applicable work.
- B. Unless otherwise provided in the CONTRACT Documents, the C.O. will furnish to the CONTRACTOR, free of charge, a minimum of one (1) copy of CONTRACT Documents for the execution of the work.
- C. The C.O. will furnish, with reasonable promptness, additional instructions, by means of supplemental drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the CONTRACT Documents, true development thereof, and reasonably inferable therefrom. The work shall be executed in conformity therewith and the CONTRACTOR shall do no work without proper drawings and instructions. In giving such additional instructions, the C.O. will have authority to make minor changes in work, not involving extra cost.
- D. Any CONTRACTOR so requesting may together with the C.O., jointly prepare a schedule, subject to change from time to time in accordance with the progress of the work, fixing the dates with the various detail and supplemental drawings will be required, and the C.O. will furnish them in accordance with the schedule.
- E. All drawings referred to, together with such supplementary details as may be furnished or approved from time to time as the work progresses, are understood as being included and a part of the CONTRACT to which his/her relate. The State may duplicate use, and disclose in any manner and for any purpose shop drawings delivered under this CONTRACT. This clause shall be included in all subcontracts hereunder at any time.
- F. On all work of a remodeling nature or installation within present buildings, it will be the responsibility of the CONTRACTOR, by personal inspection, to satisfy themselves as to the correctness of any information given which may affect the quantity, size, and quality of materials required for a satisfactorily completed CONTRACT, whether or not such information is indicated on the drawings or within the specifications.
- G. **All work that may be called for in the specifications and not shown on the drawings or shown on the drawings and not called for in the specifications shall be executed and furnished by the CONTRACTORS as if described in both.** Should any incidental work or materials be required but which are nevertheless, necessary for the proper carrying out of the intent therefor, the CONTRACTOR shall understand same to be implied and required and his/her shall perform all such work and furnish all such materials as fully as if his/her were particularly delineated or described.
- H. The CONTRACTOR shall not at any time after the execution of this CONTRACT, set up any claims whatever based upon insufficient data or incorrectly assumed conditions, nor shall his/her claim any misunderstanding with regard to the nature, conditions or character of the work to be done under the

- I. CONTRACT, and he/she shall assume all risks resulting from any changes in conditions which may occur during the progress of the work.
- J. No CONTRACTOR shall submit with such promptness as to cause no delay in his/her own work or that of any other Prime CONTRACTOR, a reproducible transparent copy of all shop or setting drawings, details, and schedules required for the work of the various trades; and the A/E, Construction Manager, and/or C.O. will pass upon them with reasonable promptness.
- K. The CONTRACTOR shall make any corrections if required by the A/E, Construction Manager, and/or C.O. and resubmit a reproducible transparent copy for approval. After final approval of the drawings has been received, the CONTRACTOR shall immediately send the A/E, Construction Manager, and/or C.O. a minimum of six (6) prints of the finally approved drawings, plus the required number of approved prints each to every other interested Prime CONTRACTOR. The A/E or Construction Manager, when applicable, will make proper distribution of all drawings as directed by the C.O.
- L. Attached to the CONTRACTOR's initial submission of such drawing or catalog data shall be an itemized schedule listing by dates when all other submissions will be forwarded to the A/E, Construction Manager or the C.O. Any list of drawings prepared by the A/E or Construction Manager is for the C.O.'s convenience only, and shall not be construed as limiting the number of drawings, which the CONTRACTOR shall furnish.
- M. If any CONTRACTOR desires to make any deviations or changes from the CONTRACT Documents, his/her shall obtain the consent of the C.O. to such changes in writing (Change Order) before submitting drawings showing such change. His/her shall have checked all drawings submitted by the CONTRACTOR before being submitted. The Project Title and Project Number must appear on all submissions. Drawings and specification references shall also be noted on all submissions. Failure to comply with these instructions will be sufficient reason to return such drawings to the CONTRACTOR without any action being taken.
- N. Each CONTRACTOR shall keep, at all times, a copy of all drawings and specifications on the work up to date and in good order, available to the C.O.
- O. All models, drawings, specifications, and copies thereof furnished by the CONTRACTOR. are the property of the State. His/her are not to be used in other work, and with the exception of the signed CONTRACT set, are to be returned to the State at the completion of the work. All models are the property of the State.
- P. In the event there is no A/E or Construction Manager, all shop drawings will be sent to the CONTRACTING OFFICER.
- Q. The CONTRACTOR shall keep his/her prints of the CONTRACT Drawings up to date at all times by marking in colored markers the final location of any changes in the work, pipes, traps, conduits, ducts, footings, anchors, etc. The data shall be transferred regularly by the CONTRACTOR to transparencies furnished by the State and paid for by the CONTRACTOR.
- R. The CONTRACTOR shall submit the transparencies of all CONTRACT Drawings whether altered or not to the A/E or Construction Manager with CONTRACTOR certification as to the accuracy of the information prior to final payment. All as-built drawings shall be entitled "AS-BUILT" above the title block and dated. This information shall be checked, edited, and certified by the A/E, if applicable who shall then transpose such information to the original drawings and certify that such drawings reflect as-built status.
- S. Transparencies of A/E drawings, if desired for this purpose, may be obtained from the State. The CONTRACTOR shall pay for the cost of reproduction.
- T. The CONTRACTOR for general construction shall review and approve all shop drawings and submittals prior to submission. After review by the C.O., his/her shall re-distribute the shop drawings and submittals.

- U. The CONTRACTOR for general construction is to review all "as-built" drawings and verify their accuracy and assemble into one set of "as-builts" prior to submission to the NJDMAVA.
- V. ALL "AS-BUILTS" SHALL BE SUBMITTED TO NJDMAVA ON REPRODUCABLE TRANSPARENCIES AND ALSO ON DISC IN THE CURRENT VERSION OF AUTOCAD.

## **7. RESPONSIBILITY FOR WORK; DUTY TO DEFEND AND HOLD HARMLESS**

- A. The CONTRACTOR shall be responsible for all damages due to his/her operations; to all parts of the work, both temporary and permanent; and to all adjoining property.
- B. BECAUSE THE BID SUBMITTED BY THE CONTRACTOR INCLUDES THE COST OF PROVIDING COMPREHENSIVE GENERAL LIABILITY INSURANCE COVERAGE FOR THE STATE AS A NAMED ASSURED AND BECAUSE THE STATE DESIRES TO TRANSFER ALL OF THE RISKS ATTENDING ALL ACTIVITIES IN CONNECTION WITH THIS PROJECT TO THE CONTRACTOR REGARDLESS OF WHICH PARTY, IF ANY, MAY BE AT FAULT, EACH CONTRACTOR SHALL DEFEND, PROTECT AND HOLD THE STATE HARMLESS FROM ALL SUITS, ACTIONS, DAMAGES, AND COSTS OF EVERY NAME AND DESCRIPTION RESULTING FROM THE WORK UNDER THIS CONTRACT OR ACTIVITIES OF ANY KIND AT THE PROJECT SITE OR AT THE LOCATION OF THE CONTRACTOR OR SUPPLIER.**
- C. The CONTRACTOR shall provide in connection with his/her own work, all safeguards, rails, night-lights, and other means of protection against accidents.
- D. The CONTRACTOR shall make, use and provide all proper necessary and sufficient precautions, safeguards and protection against the occurrence or happening of any accident, injuries, damage or hurt to any person or property during the progress of the work.
- E. The CONTRACTOR shall, at his/her own expense, protect all finished work liable to damage, and keep the same protected until the project is completed and accepted by the C.O.
- F. In order to protect the lives and health of his/her employees under the CONTRACT, the CONTRACTOR shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, the injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the CONTRACT. The CONTRACTOR alone shall be responsible for the safety, efficiency, and adequacy of his/her plant, appliances, and methods and for any damage or injury which may result from his/her failure or his/her improper construction, maintenance, or operation.
- G. In case of emergency, which threatens loss or injury of property and/or safety of life, the CONTRACTOR may be allowed to act without previous instructions from the C.O. in a diligent manner. The CONTRACTOR shall notify the C.O. immediately. Any claim for compensation by the CONTRACTOR due to such extra work shall be documented and promptly submitted to the C.O. for approval. Where the CONTRACTOR has not taken action but has notified the C.O. of any emergency threatening injury to persons or damage to the work or any adjoining property, his/her shall act as instructed or authorized by the C.O. The amount of reimbursement claimed by the CONTRACTOR on account of any emergency action shall be determined in the manner provided in these General Conditions.

## **8. USE OF PREMISES**

- A. The CONTRACTOR shall comply with the rules and regulations of the Using Agency.

- B. The CONTRACTOR shall confine his/her apparatus, the storage of materials, and the operation of his/her workmen to limits indicated by law, ordinances, permits, CONTRACT limit lines as established, or directions of the C.O. and shall not unreasonably encumber the premises with his/her materials.
- C. No CONTRACTOR shall not load or permit any part of the structure to be so loaded with weight that will endanger its safety.
- D. The CONTRACTOR shall enforce the C.O.'s instructions regarding signs, advertisements, fire and smoking.
- E. **WHEN THE PROJECT INVOLVES WORK ON AN EXISTING STRUCTURE, THE STATE'S SMOKE FREE ENVIRONMENT POLICY SHALL BE IN AFFECT. NO CONTRACTOR, SUBCONTRACTOR OR MATERIALMAN SHALL SMOKE ON STATE PROPERTY. WHEN THE WORK INVOLVES THE CONSTRUCTION OF A NEW FACILITY, THEN THE STATE'S SMOKE FREE ENVIRONMENT SHALL BE IN EFFECT WHEN THE BUILDING IS ENCLOSED WITH DOORS AND WINDOWS AND THE HVAC SYSTEM IS OPERATIONAL. AT NO TIME SHALL THERE BE SMOKING IN ANY STRUCTURE WHEN OCCUPIED BY STATE EMPLOYEES OR RESIDENTS.**
- F. The CONTRACTOR agrees to the use and occupancy of a portion or unit of the project by the State before acceptance by the State, provided the State:
  - Secures written consent of the CONTRACTOR except in the event, in the opinion of the C.O., the CONTRACTOR is chargeable with unwarranted delay in final completion of punch list items or other Contract requirements and,
    - (a) Secures endorsement from the insurance carrier and consent of the Surety permitting occupancy of the building or use of the project during the remaining period of construction, or
    - (b) When the project consists of more than one building and one of the buildings is occupied, secures permanent fire and extended coverage insurance, including a permit to complete construction. Consent of the Surety must also be obtained.
- G. The CONTRACTOR shall obtain from the Station Commander or CEO specific instructions, rules, and regulations regarding conduct of the CONTRACTOR during the construction so that security of the facility and safety of occupants will not be endangered.

## **9. SUPERINTENDENT - SUPERVISION - LAYING OUT**

- A. At the site of the work the CONTRACTOR shall employ a Construction Superintendent or Foreman on the work site **at all times** during progress who shall have full authority to act for the CONTRACTOR. It is understood that such representative shall be acceptable to the C.O. and shall be one who is to be continued in that capacity for the particular job involved unless he ceases to be on the CONTRACTOR'S payroll. Any successor Construction Cuperintendent or Foreman must be acceptable to the C.O. Should, during the course of the CONTRACT, the C.O. find the superintendent unacceptable as evidence by just cause, than the CONTRACTOR shall remove and replace the superintendent.
- B. The various subcontractors shall have competent foremen in charge of his/her respective part of the work at all times. His/her are not to employ on the work any unfit persons or anyone not skilled in the work assigned to him.

- C. The CONTRACTOR shall give the work his/her special supervision, lay out his/her own work, do all the necessary leveling and measuring or employ a competent New Jersey licensed engineer or land surveyor satisfactory to the C.O. to do so.
- D. If, due to trade agreement, additional standby personnel are required to supervise equipment or temporary services used by other trades, the CONTRACTOR providing such stand-by services shall evaluate requirements and include the cost thereof in his bid.
- E. The CONTRACTOR and subcontractors shall rely on his/her own measurements for the performance of his/her work.
- F. The CONTRACTOR shall do all field engineering and layout. In addition, his/her shall establish and maintain all benchmarks related to all tasks and the project schedule.
- G. The C.P.M schedule shall be working document and maintained in a current status and posted in his/her field office.
- H. The CONTRACTOR shall employ a master mechanic at all times.

**10. SUBCONTRACTOR COST OR PRICING DATA - PRICE ADJUSTMENTS (1970 JAN)**

Insert the following Clause in all CONTRACTs, both formally advertised and negotiated, which exceed \$100,000:

- A. Paragraphs (B) and (C) of this Clause shall become operative with respect to any modification made pursuant to one or more provisions of this CONTRACT which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000. The requirements of this Clause shall be limited to such modifications.
- B. The CONTRACTOR shall require subcontractors hereunder to submit cost or pricing data under the following circumstances:
  - (i) Prior to the award of any subcontract the amount of which is expected to exceed \$100,000 when entered into:
  - (ii) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public or prices set by law or regulation.
- C. The CONTRACTOR shall require subcontractors to certify that to the best of his/her knowledge and belief the cost and pricing data submitted under (B) above is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract change or modification.
- D. The CONTRACTOR shall insert the substance of this Clause including this paragraph (D) in each subcontract which exceeds \$100,000.

**11. FEDERAL FUNDS (APPLICABLE TO FEDERAL FUNDED , NGB, PROJECTS ONLY)**

The CONTRACTOR must comply with regulations included in the CONTRACT Documents.

- A. Federal Public Law 88-204 as amended, provides that all laborers and mechanics employed on the project shall be paid wages at not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis Bacon Act as amended.
- B. In case of conflict between State and U.S. Department of Labor wage rates the higher rate for any given occupation will be the governing rate.
- C. CONTRACTORS and Subcontractors are advised that upon acceptance of his/her bids, his/her are obligated under the Davis-Bacon Act to pay not less than the established wage rate. Unless otherwise required by law, wage rates need not be listed for non-manual workers, including executive, supervisory, administrative, and clerical employees.
- D. Subject to Federal-State Agreement - This CONTRACT is subject to all terms and conditions in Agreement No. DAHA \_\_\_\_\_ dated \_\_\_\_\_ between the United States of America and the State of New Jersey attached hereto and made a part hereof.

## **12. SUBCONTRACTOR APPROVAL**

- A. The CONTRACTOR shall within **thirty (30) working days** after award of the CONTRACT notify the C.O. in writing of the names of Subcontractors proposed for the principal parts of the work and for such other as the C.O. or any that the C.O. may within a reasonable time reject. **No CONTRACT shall be entered into with any Subcontractor before his/her name has been approved in writing by the C.O.**
- B. The CONTRACTOR agrees that he is fully responsible to the State for the acts and omissions of the Subcontractors and of persons either directly or indirectly employed by them as theirs is for the acts and omissions of persons directly employed by him/her.
- C. Nothing contained in the CONTRACT Documents shall create any contractual relation between any Subcontractor and the State.
- D. The CONTRACTOR agrees to bind every Subcontractor and every Subcontractor agrees to be bonded by the terms of the CONTRACT Documents, as far as applicable to his work.

## **13. EQUIPMENT - MATERIAL APPROVAL**

- A. The CONTRACTOR shall submit to the C.O. for approval a list of all manufacturers, materials, and equipment whether specified in the CONTRACT or not; within **thirty (30) calendar days** after award of CONTRACT. **No CONTRACT shall be entered into with any Vendor before his/her name has been approved in writing by the C.O.**
- B. The CONTRACTOR shall provide the following information:
  - (1) Identifying information shall be properly completed.
  - (2) Note whether the item is included in the specifications and state specification section and paragraph.
  - (3) If a substitute item is being allowed for the substitution differs from that originally scheduled.
  - (4) If a credit is allowed for the substitution, the breakdown showing the amount of the credit must be included.

- (5) If the State approves the substitute item and the substitute item changes the scope of work under other CONTRACTs or trades from the original specifications, then the CONTRACTOR offering the substitute item shall be responsible for all added such involved by reason of the charge in the work or other trades, including redesign.
  - (6) The CONTRACTOR, when requesting approval of an out-of-state Subcontractor or material manufacturer or supplier, shall attach a statement to the form to the effect that exhaustive effort was made to use New Jersey firms and/or materials, etc. Preference shall be given to New Jersey manufacturers, firms, etc.
  - (7) It is further called to the attention of each Prime CONTRACTOR that the approval by the State of a Subcontractor or material supplier does not relieve the CONTRACTOR or the Subcontractor of the responsibility of complying with the drawings and specifications. The approval of a Subcontractor does not imply approval of any material.
- C. Where any particular brand or manufacturer is specified, it is to be regarded as a standard. Another brand or make equally as good in the opinion of the C.O. may be acceptable and approved if submitted with these General conditions.
- D. After the CONTRACT has been awarded, should the CONTRACTOR desire to use some other material other than that specified, his/her shall first make application to the C.O. in writing, naming the differences in cost in each case, otherwise his/her will be held to what is specified. No changes shall be made without the written consent of the C.O.
- E. In the event a CONTRACTOR should propose a substitution (IAW Section 2, Article 20) for the specified equipment or materials, it shall be his/her responsibility to submit proof of equality, have any tests performed which may be required by the C.O. and pay all costs of such tests.
- F. **This section of the specifications shall in no way authorize the use of approved equals.** Submission for approved equals shall be in accordance with Section II Article 12, page 7 of these specifications.

#### **14. REPORTS, RECORDS AND DATA**

- A. The CONTRACTOR shall submit to the C.O. such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data as the State may request concerning work performed or to be performed under this CONTRACT.
- B. These shall be submitted in triplicate with state invoices or as requested by the C.O. or his/her duly appointed representative.
- C. Any substantial change to the contract drawings, as determined by the C.O. shall be drawn by the CONTRACTOR in the current version of AutoCad with backup discs provided to NJDMAVA.

#### **15. CONSTRUCTION PROJECT SCHEDULE**

- A. The CONTRACTOR for the CONTRACT shall be responsible for preparing and furnishing, before the first CONTRACT requisition date (or by the second Quality Review Board meeting, if applicable) a coordinated single project schedule which incorporates project schedules of all prime contractors engaged on the project. (When a DESIGN/BUILD has been awarded, this shall be a schedule including all tasks related to that CONTRACT). The schedule shall be a cost loaded "Primavera" C.P.M. schedule or equal in a form and in sufficient detail satisfactory to the C.O. The schedule shall not only include the multiple tasks and his/her

inter-relationships, but shall also clearly delineate the critical path and associated tasks of the project. The schedule shall be updated once each month and be submitted with the payment requisitions. The schedule must be approved by all prime contractors, when applicable, and NJDMAVA or his/her representative.

- B. The CONTRACTOR shall submit copies of his/her initial draft of this schedule to all subcontractors. Each subcontractor shall then prepare a project schedule for his/her own work, properly coordinated with the CONTRACTOR'S initial draft, and submit it to the CONTRACTOR for his/her preparation of a final draft of a single coordinated project schedule. The CONTRACTOR shall compare his updated schedule with the C.O.'s and determine what necessary actions shall be taken, when required, to keep the project on schedule IAW the C.O.'s time frame.
- C. C.O. will not process CONTRACT requisitions until final project schedule has been submitted and approved by the State.
- D. The coordinated progress schedule shall indicate each section of the specifications or work, dates on which various branches of the work will commence, anticipated delivery dates for critical items, approved C.P.M. dates for completion. All shall be predicated upon time of completion specified for the project.
- E. After the final schedule has been approved by the C.O., the CONTRACTOR shall prepare and distribute ten (10) copies to the C.O. and two (2) copies to each subcontractor, and two (2) copies to the A/E, if applicable.
- F. In the event the C.O. authorizes a new calendar date during the progress of the work, the CONTRACTOR shall furnish a revised schedule immediately with copies as indicated above.
- G. The CONTRACTOR shall furnish sufficient labor, construction plant and equipment to insure the prosecution of the work in accordance with the approved Progress Schedule. If, in the opinion of the C.O., or his representative, any subcontractor or the CONTRACTOR falls behind the Project Schedule, the CONTRACTOR shall take such steps as may be necessary to improve his/her progress; and the C.O. may require them to increase the number of shifts, days of work, invest in better construction methods and/or the amount of construction plant and equipment, all without additional cost to the State.
- H. Should a CONTRACTOR fail to supply the project schedule prior to the start of the job, then his/her work shall be delayed until it is provided. Any delays incurred will be without additional cost to the State and may incur liquidated damages to the CONTRACTOR.
- I. Should a CONTRACTOR fail to supply the progress schedule with the payment requisitions, then payment shall be held until the schedule is received.

## **16. UNIT SCHEDULE BREAKDOWN**

- A. The CONTRACTOR shall file, with the C.O., a unit schedule breakdown in sufficient detail and a Project Schedule (C.P.M.), to include the following, which will be used as the basis for determining the amount of payment to be made on a periodic basis for work completed and installed in accordance with CONTRACT documents.
  - (1). Description of material or equipment and number of units involved.
  - (2). Lump sum price for labor and lump sum price for equipment and/or material listed.
  - (3). Lump sum allowances included in the specification.
  - (4). The total of items shall equal the lump sum CONTRACT price.
- B. The Unit Schedule Breakdown shall be submitted for approval to the C.O. within ten (10) calendar days from date of written Notice To Proceed by the State.

## **17. PAYMENT**

- A. The basis for computing monthly progress payments shall be the Project Schedule (CPM) and the Unit Schedule Breakdown.
- B. Subject to submission by the CONTRACTOR of written certifications required by them and their Subcontractors, partial payments will be made as work progresses not later than the thirtieth day of each calendar month for work done during the preceding calendar month on estimates certified to by the A/E, or Construction Manager if applicable, and the C.O.
- C. In preparing estimates, material delivered to and properly stored on the site and preparatory work done shall be taken into consideration. Estimates for monthly payments must be submitted for the project not later than the thirtieth day of each calendar month. These payments will be based on percentage of completion in comparison to the Project Schedule (CPM). The CONTRACTOR should take diligence to ensure that he/she is on time according to the Schedule and that his/her pay requests correspond to the project completion status.
- D. In making such partial payments for work, there will be retained ten (10%) percent of estimated amount until Final Acceptance and completion of all work covered by the CONTRACT. Provided that after eighty (80%) percent of the work has been completed, the CONTRACTOR may request a reduction in retainage to five (5%) percent. This request must be in writing and directed to the C.O. Should the C.O. determine that a reduction is warranted, then he shall direct the Construction Facilities Management Office Account Management Section to make the adjustment in future payment(s). Provided, further, that on completion and acceptance of each separate building, public work, or other division of the CONTRACT, on which the price is stated separately in the CONTRACT, payment may be made in full, including retaining percentages thereon, less authorized deductions.
- E. State's Right to Withhold Certain Amounts and Make Application thereof: The CONTRACTOR agrees that his/her will indemnify and save the State harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this CONTRACT. The CONTRACTOR shall, at the State's request, furnish satisfactory evidence that all obligations of the nature herein above designated have been paid, discharged, or waived. If the CONTRACTOR fails so to do, then the State may, after having served written notice on the said CONTRACTOR, either pay unpaid bills, of which the State has written notice, may direct, or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of this CONTRACT, but in no event shall the provisions of this sentence be construed to impose any obligations upon the State to either the CONTRACTOR or his/her Surety. In paying any unpaid bills of the CONTRACTOR, the State shall be deemed the agent of the CONTRACTOR, and any payment so made by the State, shall be considered as a payment made under the CONTRACT by the State to the CONTRACTOR and the State shall not be liable to the CONTRACTOR for any such payment made in good faith.
- F. All material and work covered by partial payments made shall thereupon become sole property of the State, but this provision shall not be construed as relieving the CONTRACTOR from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work, or as a waiver of right of the State to require fulfillment of all terms of the CONTRACT.
- G. The CONTRACTOR shall pay (a) for all transportation and utility services not later than the twentieth day of the calendar month following that in which services are rendered, (b) for all materials, tools, and other expendable equipment to the extent of ninety (90%) percent of the cost thereof, not later than the twentieth day of the calendar month following that in which such material, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof not later than the thirtieth day following the completion

of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and to each of his Subcontractors, not late than the fifth day following each payment to the CONTRACTOR, the respectable amounts allowed the CONTRACTOR on account of the work performed by his Subcontractors to the extent of each Subcontractor's interest herein.

- H. Upon completion of all CONTRACTs and Final Acceptance of all work required hereunder, the amount due the CONTRACTOR under the CONTRACT shall be paid within thirty (30) calendar days after issuance of Certificate of Final Acceptance of all CONTRACTs by the A/E, if applicable, and approval by the State, after the CONTRACTOR shall have furnished the State with a release in satisfactory form of all claims against the State arising under and by virtue of this CONTRACT, other than such claims, if any, as may be specifically excepted by CONTRACTOR from operation of release; provided, each such exception embraces no more than one claim, the basis and scope of which are clearly defined and amount stated; and, provided further, that the amounts of such excepted claims are not included in voucher for final payment.
- I. The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the State of all claims and all liability to the CONTRACTOR for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall be made with any intent of releasing the CONTRACTOR or his/her Sureties from any obligations under this CONTRACT or the Performance and Payment Bond.
- J. All request for payments under this CONTRACT shall be made on a State of New Jersey Payment Voucher as follows: If Federal/State -original and two (2) copies, if 100% Federal and if 100% State - original and two (2) copies. CONTRACTOR will be provided with forms.
- K. Should the Unit Schedule Breakdown reflect the actual work done but not correlate with the time in which it is suppose to be done in accordance with the Progress Schedule, then the C.O. shall withhold a percentage of the payment equal to the percentage of time added. This shall be withheld until such time as the delay is made up.
- L. The CONTRACTOR shall not receive final payment until he/she satisfactorily corrects deficiencies cited by the "National Guard Bureau's" or the United States Department Veterans Administration's final inspection, when applicable.
- M. The CONTRACTOR'S submittal of a State payment invoice shall include the certified weekly payroll records for the period of the invoice along with the Affirmative Action records required.

## **18. PAYMENTS WITHHELD**

- A. The C.O. may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate for payment to such extent as may be necessary to protect the State from loss on the account of:
  - (1) Defective work not remedied.
  - (2) Claims filed, or reasonable evidence indicating probable filing of claims.
  - (3) Failure of the CONTRACTOR to make payments promptly to Subcontractors or for material or labor.
  - (4) A reasonable doubt that the CONTRACT can be completed for the balance then unpaid.
  - (5) Damage to another CONTRACTOR.
  - (6) Failure to meet the timelines of the approved progress schedule.

- (7) Failure to meet the Affirmative Action requirements.
  - (8) Failure to cleanup in accordance with Section 43 (D)
  - (9) Failure to make steady progress or
  - (10) Failure to make punch list repairs in an agreed upon time frame alteration or repair, as the case may be, and for added administrative and inspection costs to the State on account of the delay; provided, however, that the said liquidated damages provided for herein shall be in addition to other consequential losses or damages that the State may incur by reason of such delay, such as, but not limited to, added costs of the project and the cost of furnishing temporary services, if any. Any such sums for which the CONTRACTOR is liable may be deducted by the State from any monies due or to become due to the CONTRACTOR.
- B. When all the above grounds are removed, certificates will at once be issued for amounts withheld because of them.

## **19. AUDIT BY DEPARTMENT OF MILITARY AND VETERANS AFFAIRS**

Insert the following clause in all CONTRACTs (except those entered into by formal advertising which are not expected to exceed \$100,000).

- A. GENERAL: The Contracting Officer or his/her representatives shall have the audit and inspection rights described in the applicable paragraphs (B), (C) and (D) below.
- B. EXAMINATION OF COSTS: If this is a cost reimbursement type, incentive, time and materials, labor hour, or price re-determinable CONTRACT, or any combination thereof, the CONTRACTOR shall maintain, and the C. O. or his/her representatives shall have the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this CONTRACT. Such right of examination shall include inspection at all reasonable times of the CONTRACTOR'S plant, or such parts thereof, as may be engaged in the performance of this CONTRACT.
- C. COST OR PRICING DATA: If the CONTRACTOR submitted cost or pricing data in connection with the pricing of this CONTRACT or any change or modification thereto, unless such pricing was based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation, the C.O. or his/her representatives who are employees of the United States Government shall have the right to examine all books, records, documents and other data of the CONTRACTOR related to the negotiation, pricing or performance of such CONTRACT, change or modification, for the purpose of evaluating the accuracy, completeness and currency of the cost or pricing data submitted. Additionally, in the case of pricing any change or modification exceeding \$100,000 to formally advertised CONTRACTs, the Comptroller General of the United States or his/her representatives who are employees of the United States Government shall have such rights. The right of examination shall extend to all documents necessary to permit adequate evaluation of the cost of pricing data submitted, along with the computations and projections used therein.
- D. REPORTS: If the CONTRACTOR is required to furnish CONTRACTOR Cost Data Reports (CCDR), CONTRACT Fund Status Reports (CFSR), or Cost Performance Reports (CPR) the C. O. or his/her representatives shall have the right to examine books, records, other documents, and supporting materials, for the purpose of evaluating (i) the effectiveness of the CONTRACTOR'S policies and procedures to produce data compatible with the objective of these reports, and (ii) the data reported.

- E. AVAILABILITY: The materials described in (B), (C) and (D) above shall be made available at the office of the CONTRACTOR, at all reasonable times, for inspection, audit, or reproduction, until the expiration of three (3) years from the date of final payment under this CONTRACT or such lesser time specified in Appendix M of the Defense Acquisition Regulation and for such longer period, if and, as is required by applicable statute, or by other clauses of this CONTRACT, or by (1) and (2) below:
- (1) If this CONTRACT is completely or partially terminated, the records relating to the work terminated shall be made available for a period of three (3) years from the date of any resulting final settlement.
  - (2) **RECORDS WHICH RELATE TO APPEALS UNDER THE DISPUTES CLAUSE OF THIS CONTRACT, OR LITIGATION, OR THE SETTLEMENT OF CLAIMS ARISING OUT OF THE PERFORMANCE OF THIS CONTRACT, SHALL BE MADE AVAILABLE UNTIL SUCH APPEALS, LITIGATION, OR CLAIMS HAVE BEEN DISPOSED OF. FAILURE OF THE CONTRACTOR OR HIS /HER REPRESENTATIVES TO MAINTAIN AND MAKE AVAILABLE SUCH RECORDS SHALL CONCLUSIVELY BAR THE CONTRACTOR FROM MAKING ANY CLAIM CONCERNING ANY ITEM OR SUBJECT FOR WHICH RECORDS HAVE NOT BEEN MAINTAINED OR MADE AVAILABLE.**
- F. The CONTRACTOR shall insert a clause containing all the provisions of the above Clause, including this paragraph (F), in all subcontracts exceeding \$10,000 hereunder, except altered as necessary for proper identification of the contracting parties and the C.O. under the State prime CONTRACT.

## **20. MATERIAL - WORKMANSHIP - LABOR**

- A. All material and work shall conform to the best practice. Only the best of the several kinds of materials shall be used, and the work carefully carried out in strict accordance with the general and detail drawings, under the supervision of the C.O. The Department of Military & Veterans Affairs shall be the sole determiner of "Industry Standards" for projects under its jurisdiction. The C.O. shall have full power at any time to reject such work or materials which does not, in his opinion, conform to the true intent and meaning of the CONTRACT Documents or meet the industry standard.
- B. Preference shall be given at all times to materials that are manufactured or produced in the State, where such preference is possible and will best serve the interests of the State.
- C. All work when completed in a substantial and workmanlike manner to the satisfaction of the C.O., shall be accepted by him in writing. Unless otherwise specified, all materials used shall be new.
- D. The CONTRACTOR shall furnish and pay all necessary transportation, scaffolding, centering, forms, water, labor, tools, light and power, and mechanical appliances, and all other means, materials, and supplies for properly prosecuting his/her work under CONTRACT, unless expressly specified otherwise.
- E. The CONTRACTOR shall furnish necessary materials in ample quantities and as frequently as required to avoid delay in the progress of the work, and shall so store them as to prevent interference with other branches of work not under his/her CONTRACT.
- F. The CONTRACTOR shall employ qualified and competent craftsmen in his/her respective lines of work. All such employees shall be subject to approval by the C.O. Should the C.O. deem any employee incompetent or negligent or for any cause unfit for his/her duties, the CONTRACTOR shall dismiss them, and his/her shall not again be employed on the work. No CONTRACTOR will be required to employ for any work any person against whom his/her have a reasonable objection.

- G. It is understood by CONTRACTOR and Subcontractors engaged in this CONTRACT, that in the employment of both skilled and unskilled labor, preference shall be given to residents of the State of New Jersey and that all such labor shall at all times be satisfactory to the C.O.
- H. Any work necessary to be performed after regular working hours, on Saturdays, Sundays, or Legal Holidays, shall be performed without additional expense to the State, including reimbursement to the State for armorer standby or overtime cost.
- I. No materials or supplies for the work shall be purchased by the CONTRACTOR or by any Subcontractor subject to any liens, claims, or other encumbrance or other agreement by which an interest is retained by the seller. The CONTRACTOR warrants that his/her have good title to all materials and supplies used by them in the work, free from all liens, claims or encumbrances.

## **21. DEFECTIVE WORK AND MATERIALS**

- A. Any materials or work found to be defective, or not in strict conformity with the requirements of the CONTRACT Documents, or defaced or damaged through the negligence of the CONTRACTOR, his/her Subcontractor or employees, or through action of fire or the weather or any causes, shall be removed immediately and new materials or work substituted therefore without delays by the CONTRACTOR involved.
- B. No previous inspection or certificate on hand shall be held as an acceptance of defective work or materials or to relieve the CONTRACTOR from the obligation to finish sound materials and to perform good satisfactory work. The C.O. is to be the final judge of the materials and work finished.
- C. If the C.O. deems it inexpedient to correct work damaged or not done in accordance with the CONTRACT, the difference in value between such work, and that specified, together with a fair allowance for consequential damage, shall be deducted from the CONTRACT price.

## **22. INSPECTION OF WORK**

- A. The C.O. and DCA shall at all times have access to the work whether it is in preparation or in progress, and the CONTRACTOR shall provide proper facilities for such access and for inspection.
- B. Should it be considered necessary or advisable by the State, or by the representatives of the Chief, National Guard Bureau or Secretary of the Veterans Administration, at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the CONTRACTOR shall on request promptly furnish all necessary facilities, labor and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the CONTRACTOR or his/her subcontractors, his/her shall defray all the expenses of such examination and reconstruction. If, however, such work is found to meet the requirements of the CONTRACT, an equitable adjustment shall be made in the CONTRACT price to compensate the CONTRACTOR for the additional services involved in such examination and reconstruction; and if completion of the work has been delayed thereby, his/her shall, in addition, be granted a suitable extension or time. Federal funding support of the cost for examination and replacement of satisfactorily completed work that requires removal or that is damaged due to inspection requirements is subject to prior approval by the Chief, National Guard Bureau or Secretary of the Veterans Administration or his/her duly authorized representatives.
- C. All materials and equipment used in the construction of the project shall be adequately tested according to standards of the trade, or as required by the State, all at the expense of the CONTRACTOR, except as otherwise provided herein.

- D. On Federally funded projects, the authorized representative and agents of the Federal Department or Agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.
- E. Before a certificate of substantial completion can be issued, the General Construction CONTRACTOR shall arrange for an inspection of the project by DCA, where and when applicable, with regard to all life safety systems including but not limited to: Fire alarm systems, sprinkler systems; provisions for panic egress; emergency lighting; and so forth. The General Construction CONTRACTOR shall coordinate the inspection with all of the other Prime Contractors of the project so that the life safety inspection shall be inclusive of all systems.
- F. Inspection:
  - (1) Except as otherwise provided in subparagraph (3) hereof, all material and workmanship (if not otherwise designated by the specifications) shall be subject to inspection, examination, and testing by representatives of the C.O. at any and all times during manufacture and/or construction (and at any and all places where such manufacture and/or construction are carried on). The State shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily replaced with proper material without charge therefor, and the CONTRACTOR shall promptly segregate and remove the rejected material from the premises. If the CONTRACTOR fails to proceed at once with the replacement of rejected material and/or the correction of defective workmanship, the State may, by CONTRACT or otherwise, replace such material and/or correct such workmanship and charge the cost thereof to the CONTRACTOR, or the State may terminate the right of the CONTRACTOR to proceed as provided in this CONTRACT, the CONTRACTOR and Surety being liable for any damage to the same extent as provided in said Articles for terminations thereunder.
  - (2) The CONTRACTOR shall furnish promptly, without additional charge, all reasonable facilities, labor, and materials necessary for the safe and convenient inspections and tests that may be required by the C. O. or the State. All inspections and tests by the State shall be performed in such manner as not unnecessarily to delay work. Special, full size, and performance tests shall be as described in the specifications. The CONTRACTOR shall be charged with any additional cost of inspection when material and workmanship is not ready at the time inspection is requested by the CONTRACTOR.
  - (3) Inspection of material and finished articles to be incorporated in the work at the site may be made by C.O. or his/her representative and by the Department of Community Affairs at the place of production, manufacture, or shipment, whenever the quantity justifies it, unless otherwise stated in the specifications; and such inspection and acceptance shall be in writing, and unless otherwise stated in the specifications, shall be final, except as regards latent defects, departures from specific requirements of the CONTRACT and the specifications and drawings made a part thereof, damage or loss in transit, fraud, or such gross mistakes as amount to fraud. Subject to the requirement contained in the preceding sentence, the inspection of material and workmanship for final acceptance as a whole or in part, shall be made at the site. Nothing contained in this paragraph (3) shall in any way restrict the State's rights under any warranty or guarantee.

### **23. CHANGE ORDERS (ADDITIONS - DEDUCTIONS - DEVIATIONS)**

- A. The C.O. at his/her discretion, may at any time during the progress of the work authorize additions, deductions or deviations from the work described in the CONTRACT Documents as herein below set forth; and the CONTRACT shall not be vitiated or the Surety released thereby.
- B. Federal funding support for any change or extra is subject to prior approval by the Chief, National Guard Bureau, or Secretary of the Veterans Administration or his/her duly authorized representative.
- C. Additions, deductions, deviations may be authorized as follows at the C.O.'s option;

- (1) On the basis of unit price specified.
- (2) On a lump sum basis.
- (3) On a time and material basis.
- (4) Standby time or overtime.

D. All pricing must be submitted on DMAVA Change Order Forms in triplicate.

E. The value of any change in the CONTRACT under C-1, 2, 3, 4 shall be determined as follows:

- a. On the basis of unit prices specified.

When a Change Order is authorized on the basis of a unit price included in the CONTRACT or subsequently agreed upon the unit price only is used to determine the cost of the work.

- b. On a lump sum basis.

When a Change Order is authorized on a lump sum basis, the lump sum price submitted by the CONTRACTOR must include a breakdown for labor, material, insurance, profit, overhead and bond.

- c. On a time and material basis.

When a Change Order is authorized on a time and material basis, the payment for such work is to be performed by a CONTRACTOR, shall include the cost for labor and materials to which may be added ten (10%) percent for overhead, ten (10%) percent for profit and one (1%) percent for bond. Where such work is to be performed by a Subcontractor of the CONTRACTOR, then, and in that event, the CONTRACTOR may add an additional ten (10%) percent only of the cost of labor and materials to be paid to them for his/her overhead. Payment for work done on a time and material basis shall be limited to the maximum (upset) price established.

- d. Standby time or overtime.

When a Change Order is authorized for standby time, overhead and profit is to be limited to ten (10%) percent of the net labor cost to cover the CONTRACTOR'S overhead, profit, and bond. The limit of ten (10%) percent shall apply whether or not a Subcontractor is involved. Any claim for standby time will be rejected unless documented by the time sheets signed by the C.O.

F. When a Change Order is authorized for overtime and the work to be performed is a contractual obligation the State will pay for only the premium portion of the labor cost plus ten (10%) percent for overhead and profit, and one (1%) percent for bond.

G. All Change Orders shall be subject to audit by the C.O.

H. CONTRACTORS are not authorized to add separate administrative, internal engineering or other similar cost since the overhead allowed shall be determined to be sufficient to cover these administrative costs.

I. Should a CONTRACTOR request a Change Order or imply there could be one, his/her shall be required to submit a formal request to the C. O. within **ten (10) days** of identifying such request. This request shall include an itemized breakdown of the work involved and related cost. Should the CONTRACTOR fail to provide this documentation, then the C. O. shall not review this issue at any time in the future.

J. In order to avoid delays to the progress of the work, the C.O. at his/her discretion, may authorize any CONTRACTOR, in writing, to proceed and the CONTRACTOR shall so proceed with such addition, deduction, or deviation prior to the issuance of a formal Change Order. CONTRACTORS shall submit his/her proposals for any change in the work within **twenty (20) calendar days** from the date of authorization

to proceed with the work. Should the C.O. and the CONTRACTOR not agree on costs of a change order, then the CONTRACTOR shall proceed with such work as not to delay the project. This shall not waive his/her rights to any claims under the provisions of this CONTRACT and shall not delay the C.O. from making a good faith effort to resolve the dispute.

- K. All such work shall be executed under the conditions of the original CONTRACT, except that any claims for extension of time caused thereby shall be adjusted at the time of ordering such change. Except as provided herein before and except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order; and no claim for an addition to the CONTRACT sum shall be valid unless so ordered. Should the CONTRACTOR perform extra work without first obtaining an order from the C.O., such action may be construed by the State as a waiver of any and all claims to extra payment therefore.
- L. When work is deleted, the Prime CONTRACTOR shall submit a credit based upon an estimate which includes a bill of material and a breakdown of labor costs to which shall be added one (1%) percent for bond. When credits are involved, documented cancellation and/or restocking charges may be included.
- M. When work is added and deleted on the same Change Order, resulting in net additional costs, the CONTRACTOR shall first prepare a bill-of-material and labor breakdown showing separate net costs of the added and deleted work. He shall then subtract the net cost of the selected work from the net cost of the added work and escalate the DIFFERENCE by adding ten (10%) percent for overhead, ten (10%) percent for profit (both based on base amount) and one (1%) percent for bond.
- N. When similar materials are to be added and deleted on the same Change Order, the difference in material quantities shall be determined before pricing and escalation. Labor costs in the same trade shall be handled in the same manner, the difference in labor hours shall be determined before pricing and escalation.
- O. When work is added and deleted on the same Change Order, resulting in net credit, the CONTRACTOR shall first determine the net cost of the deleted materials, labor, and equipment comprising the credit. They shall next determine the total cost of the added material, labor and equipment rental, including escalation. The total cost of the added work shall then be subtracted from the net cost of the deleted work and the resulting difference shall become the amount of the credit Change Order.
- P. When work is added by a CONTRACTOR in which a Subcontractor is used, the Subcontractor shall submit an estimate to the CONTRACTOR on their own stationery with supporting documentation which includes a bill of material and a breakdown of labor costs to which may be added ten (10%) percent for overhead and ten (10%) percent for profit. The CONTRACTOR will be allowed to add ten (10%) percent and one (1%) percent for bond to the estimate of the Subcontractor.
- Q. When work is deleted by a CONTRACTOR in which a Subcontractor is used the Subcontractor shall submit to the CONTRACTOR a credit based upon an estimate on his own stationery with supporting documentation which includes a bill of material and a breakdown of labor costs. When credits are involved, documented cancellation and/or restocking charges may be included. The CONTRACTOR shall add one (1%) percent for bond to the estimate of the Subcontractor.
- R. The State reserves the right to accept or reject any combination of add or deduct alternates. Under no circumstances does the sequential order of add or deduct alternates imply his/her will be awarded in such order.
- S. No Change Order shall be approved if funding is not available from the State or Federal Government. CONTRACTORS proceeding with work that is not approved under DMAVA's Change Order process shall do so at his/her sole risk without any implied cost to the State.
- T. When Change Orders are identified, NJDMAVA shall have **ten (10) calendar days** to review and process Change Orders.

## **24. ALLOWANCES**

- A. The CONTRACTOR shall include in his proposal the cash allowances stated in the CONTRACT Documents.
- B. The CONTRACTOR shall purchase the "Allowed Materials" as directed by the C.O. on the basis of the lowest and best bid of at least three (3) competitive bids. If the actual price purchasing of the "Allowed Materials" is more or less than the "Cash Allowance", the CONTRACT price shall be adjusted accordingly. The adjustment in CONTRACT price shall be made on the basis on the purchase price without additional charges for overhead, profit, insurance, or any other incidental expenses.
- C. The cost installation of the "Allowed Materials" shall be included in the applicable sections of the CONTRACT specifications covering this work.

## **25. TIME OF COMPLETION - DELAY - LIQUIDATED DAMAGES**

- A. In the event of the failure of the CONTRACTOR to complete the said work within the time stated in his/her proposal, the CONTRACTOR shall be liable to the State in the sum of one hundred (\$100.00) dollars per day, or the sum equal to 1/20<sup>th</sup> of one percent of the total consideration provided for under this Contract, per day, or for the sum of total costs incurred by NJDMAVA to maintain staffing of the project beyond its completion date, whichever is greater for each and every day that the paid work shall be and remain incomplete, which said sum shall be treated as liquidated damages and not a penalty, for the loss to the State of the use of the premises in a completed state of construction, alteration or repair, as the case may be, and for added administrative and inspection costs to the State on account of the delay; provided, however, that the said liquidated damages provided for herein shall be in addition to other consequential losses or damages that the State may incur by reason of such delay, such as, but not limited to, added costs of the project and the cost of furnishing temporary services, if any. Any such sums for which the CONTRACTOR is liable may be deducted by the State from any monies due or to become due to the CONTRACTOR.
- B. It is hereby understood and mutually agreed, by and between the CONTRACTOR and the State, that the date of beginning and the time for completion as specified in the CONTRACT of the work to be done hereunder are **ESSENTIAL CONDITIONS** of this CONTRACT; and it is further mutually understood and agreed that the work embraced in this CONTRACT shall be commenced on a date to be specified in the "**Notice to Proceed.**"
- C. The CONTRACTOR agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the CONTRACTOR and the State that the time for the completion of the work herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
- D. If the said CONTRACTOR shall neglect, fail, or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the C.O., then the CONTRACTOR does hereby agree, as a part consideration for the awarding of this CONTRACT, to pay to the State the amount specified in paragraph A above, not as a penalty but as liquidated damages for such breach of CONTRACT as hereinafter set forth, for each and every calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT for completing the work.
- E. The Said amount is fixed and agreed upon by and between the CONTRACTOR and the State because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the State would in such event sustain, and said amount is agreed to be the amount of damages which the State would sustain and said amount shall be retained from time to time by the State from current periodical estimates.

- F. It is further agreed that time is of the essence of each and every portion of the CONTRACT and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the CONTRACT and additional time is allowed for the completion of any work, the new time limit fixed by such extension should be of the essence of this CONTRACT **PROVIDED** that the CONTRACTOR shall not be charged with liquidated damages, or any excess cost when the Owner determines that the CONTRACTOR is without fault and the CONTRACTOR'S reasons for the time extension are acceptable to the owner; provided further, that the CONTRACTOR shall not be charged with liquidated damages of any excess cost when the delay in the completion of the work is due:
- (1) To any preference, priority, or allocation order duly issued by the Government.
  - (2) To unforeseeable cause beyond the control and without the fault or negligence of the CONTRACTOR, including, but not restricted to, acts of God, or of the public enemy, acts of the State, acts of another CONTRACTOR in the performance of a CONTRACT with the State which acts are contrary to the terms of such CONTRACT, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
  - (3) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (1) and (2) of this article:
- G. Provided, further, that the CONTRACTOR shall, within ten (10) days from the beginning of such delay, unless the C.O. shall grant a further period of time prior to the date of final settlement of the CONTRACT, notify the State, in writing of the causes of the delay and any costs involved. The C.O. shall first ascertain the facts and extent of the delay and notify the CONTRACTOR within ten (10) working days that good cause has been shown to warrant the granting of such extension or deny the delay.
- I. Should the State be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the State to include delays caused by other state of federal agencies, the CONTRACTOR shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as State may determine will compensate for time lost by such delay with such determination to be set forth in writing.

## **26. CONSTRUCTION SIGN**

- A. The CONTRACTOR shall construct and install a construction sign as indicated on the drawings or as provided after the project is started. Lettering shall be as shown on the drawings and shall include the names of the subcontractors engaged on the project, and, if applicable, such State personnel as directed. The sign shall be securely installed to remain rigid and plumb, shall be maintained in good condition throughout the construction period, and shall be removed when directed by the A/E.
- B. The construction sign shall indicate, when applicable, that the Federal Government is participating in the development of the project.

## **27. TEMPORARY DRIVES AND WALKS**

- A. The CONTRACTOR for general construction shall provide, maintain and remove, when no longer required, all temporary driveways, parking areas and walkways that may be necessary to allow access to all parts of the structure and for handling of materials and equipment. The CONTRACTOR shall maintain temporary access to parts of the structure and for handling of materials and equipment and keep temporary access and parking facilities clean and provide dust control by means of application of water or road oil as required.

- B. Should the CONTRACTOR for the General Construction Contract elect to place any materials that will be incorporated into the permanent driveways, parking areas or walks, his/her shall not do so without having prepared the subgrade as may be elsewhere required by the specifications nor will he be relieved from any responsibility for providing additional materials or of reworking the subgrade, if required to make the improvements conform fully with the specifications.
- C. The CONTRACTOR for the General Construction Contract shall obtain permission in writing from NJDMAVA before using any existing driveways or parking areas for construction purposes. He/she shall maintain such driveways and areas in good condition during the construction period, and at completion of the project, shall leave them in same condition as at the start of the work.

## **28. TEMPORARY BUILDINGS AND SANITARY FACILITIES**

- A. The CONTRACTOR for the Contract shall provide a convenient office space on the job sufficient to accommodate the State representative assigned to the project. At a minimum, a construction trailer shall be maintained on the construction site for the duration of the project.
- B. The CONTRACTOR for the Contract shall have a pay station telephone installed for the use of all prime contractors.
- C. The CONTRACTOR for Construction shall provide temporary office facilities of not less than 400 square feet for use by the state representative. This office space shall be in a construction trailer unless otherwise approve in writing by the C.O. This space shall be for the exclusive use of the state or his/her representative. The CONTRACTOR shall level the trailer and provide a skirt and steps. The office space shall include the following:
  - (1) two (2) desks and chairs and two (2) 30' x 60' minimum reference type boards.
  - (2) Two (2) four-drawer lockable file cabinets.
  - (3) An area for meetings with a conference table and chairs adequate for twelve (12) people minimum.
  - (4) Toilet facilities within the office space.
  - (5) CONTRACTOR shall maintain these areas in a neat and sanitary condition.
  - (6) Heat and Air Conditioning
  - (7) Necessary power, lighting and two telephone lines. CONTRACTOR shall pay all utility and telephone charges.
  - (8) A hanging type drawing file
  - (9) The following equipment shall be provided with specifications provided and approved by the C.O.:
    - (a) Computer
    - (b) Photocopy machine
    - (c) Fax machine
    - (d) Refrigerator
    - (e) Coffee Machine
    - (f) Water Cooler
  - (10) All equipment and furniture shall become the property of the state at the completion of the project.
- D. The CONTRACTOR, from the commencement of the job, shall provide sufficient and sanitary toilet room facilities for the use of all persons at work. These are to be kept in sanitary conditions and at the completion of the job are to be cleaned out and removed. Sanitary facilities shall conform with the Board of Health, State and local requirements.

## **29. TEMPORARY WATER**

- A. The Plumbing CONTRACTOR shall provide, protect and maintain an adequate water supply for the use of all CONTRACTORS on the project during the period of construction, either by means of the permanent water supply line, or by the installation of a temporary water supply line. This water supply line shall be made available within fifteen (15) days after written request has been made to the Plumbing CONTRACTOR by any CONTRACTOR requiring this service, with copies to the C.O. If the source of water supply is a well, provisions covering the supply of water will include the installation of necessary power driven pumping facilities by the Plumbing CONTRACTOR, as well as protection of well from contamination. The water supply shall be tested periodically by the Plumbing CONTRACTOR and, if necessary, shall be chlorinated and filtered.
- B. The Plumbing CONTRACTOR will be required to install a valved temporary water supply connection at a point approximately ten feet (10') from the buildings and provide a meter, if required. The plumbing CONTRACTOR in conjunction with the local water authority shall determine the actual location of the point to which the water is brought. The plumbing CONTRACTOR shall install either the permanent service or the temporary water line from a point in the street to the valved location ten (10') feet from the building. At this point, each CONTRACTOR shall install, valve, maintain and protect such temporary water lines, as his/her will require performing the work under his/her CONTRACT.
- C. If there is a charge for water, said charges shall be paid by the General Construction CONTRACTOR. When temporary water lines are no longer required his/her shall be removed by the CONTRACTORS responsible for his/her installation and any part, or parts of the ground or building, disturbed or damaged, shall be restored to the original condition by the said CONTRACTORS. The Plumbing CONTRACTOR shall install his/her permanent water lines to the boiler room and heating equipment in sufficient time to be available for supplying water for testing and operation of the heating system when needed to supply heat on the project.
- D. If the Plumbing CONTRACTOR fails to carry out his responsibility in the supplying of the water, as set forth herein, he/she shall be held responsible for such failure and the C.O. shall have the right to take such action as he deems proper for the protection and conduct of the work and shall deduct the cost involved from the amount due the Plumbing CONTRACTOR.
- E. The Plumbing CONTRACTOR may use existing exterior hydrants and bibs on the state's property and will reimburse the State for the usage.
- F. The Plumbing CONTRACTOR shall maintain all services to existing buildings, without interruption, for the duration of construction.

## **30. TEMPORARY LIGHT AND POWER**

- A. The CONTRACTOR shall extend electrical service to the building or buildings at locations approved by the C.O. Initial temporary service shall be three (3) phase or single phase depending upon which phase is closest to the project. This service shall be installed with fifteen (15) working days after written request has been made to the CONTRACTOR by any subcontractor requiring such service with copies to the C.O. When the CONTRACT calls for 3-phase permanent service, the CONTRACTOR shall install same within six (6) months to permit use by other subcontractors. Electrical characteristics shall be provided to meet all temporary light and power requirements as herein and hereinafter specified or as included under **Supplementary General Conditions**. The Electrical subcontractor shall provide the necessary distributing facilities and meter.

- B. The CONTRACTOR shall extend the service into the building and shall provide receptacles and lighting as described herein and one (1) 5 H.P. 208 v, or 220 or 230 volts power outlet for each building and one (1) separate power outlet for each subcontractor for the proper conduct of his/her work. Power outlets shall be fed independently of the temporary lighting system. The extension of service shall include the necessary wiring of sufficient capacity to the location of the well for the operation of the well pump in the event a water well is the source of water supply for the project. Where services of a type other than herein mentioned is required, the subcontractor requiring same shall install and pay all costs of such special service. The sized and the incoming service and main distribution switch and panel shall be sized as any service by NEC requirements.
- C. The CONTRACTOR shall provide double sockets at a maximum of thirty feet (30') on centers in large areas. One socket shall contain a 150 watt lamp and the other socket shall be a grounding type to accept a receptacle plug for small single phase loads to be used for short periods of time. The CONTRACTOR shall provide double sockets of the type described above in all individual rooms, one double socket for each 500 sq. ft. or fraction thereof of room area (for example: a room 30' X 30' - 900 sq. ft. would require two double sockets).
- D. The CONTRACTOR shall provide all electrical service for operation of elevator equipment and/or handicap lifts.
- E. The CONTRACTOR shall pay for cost of all electric energy used on distribution lines installed by the Electrical subcontractor until the project is accepted by the C.O. The CONTRACTOR shall provide and pay for all maintenance, servicing, operation and supervision of the service and distribution facilities. His/her shall also maintain and service any electrical equipment installed by the CONTRACTOR and necessary for maintaining heat after same is required in the building.
- F. When the temporary electrical lines are no longer required his/her shall be removed by the CONTRACTOR and he shall restore to his/her original condition any part, or parts, of the ground or building, disturbed or damaged.
- G. The CONTRACTOR who fails to carry out his responsibility in the supplying of uninterrupted light and power, as set forth in this CONTRACT, shall be held responsible for such failure and the C.O. shall have the right to take such action as he deems proper for the protection and conduct of the work and shall deduct the costs involved from the amount due the CONTRACTOR at fault.
- H. There shall be no additional cost to the State or other Prime Contractors because of standby requirements due to conflict in the normal working hours of the various trades. The CONTRACTOR shall provide temporary light and power required to meet normal working hours and days of all trades. Refer to Article 9,
- I. The CONTRACTOR shall observe the requirements of the Federal Occupational Safety and Health Act of 1970 with regard to temporary light and power.
- J. The CONTRACTOR shall maintain all services to the existing buildings, without interruption, for the duration of construction, unless interruption is agreed to in writing in advance by the C.O.
- K. The CONTRACTOR shall provide power to the owner's construction trailer and one trailer for the CONTRACTOR. If the primes should have more than one trailer, his/her shall pay the additional costs. The CONTRACTOR for general construction shall pay the monthly consumption costs.

### **31. TEMPORARY HEAT AND AIR CONDITIONING**

- A. Prior to the building being enclosed by walls and roofs, if the outside temperature shall fall below 40 degrees F., at any time during the day or night, and the work in progress requires heat for execution and protection, the respective CONTRACTOR(S) responsible for such phases of work shall furnish acceptable means to provide sufficient heat to maintain a temperature of 40 degrees F. for that portion of the work for which his/her are directly responsible.
- B. Heating of field office, storage spaces, concrete and masonry materials and working area heating required prior sufficient herein, shall be provided by CONTRACTOR(S) under respective specification headings affected.
- C. As soon as the building or major unit thereof, is generally enclosed by walls and roof, as determined by the C.O., the responsibility for supplying working area heat or air conditioning shall be by the CONTRACTOR and he/she shall furnish sufficient heat or air conditioning during the day or night. The CONTRACTOR shall furnish sufficient heat by the use and maintenance of LP gas heaters to maintain a temperature of 45 degrees F., within the enclosed area of the building at all times, and remove same when no longer required. The CONTRACTOR will be held responsible for freeze-ups for the duration of the sixty-(60) calendar day period following enclosure of the building. His/her shall remove soot smudges and other deposits from walls, ceilings, and all exposed surfaces, which are the result of heating equipment including the permanent heating system during the period of its use for supplying heat. His/her shall not do any finish work until the areas are properly cleaned. The CONTRACTOR shall provide or arrange, at his/her expense, supervision of the LP gas heaters at all times prior to start of the permanent heating CONTRACTOR'S obligation, which shall be sixty (60) calendar days after the acknowledged enclosure of the building or buildings. The CONTRACTOR shall furnish and pay for all fuel.
- D. All heating equipment shall be NBFU approved and connected to approved flues to the atmosphere. Gas cylinders within the building shall not exceed 100 lb. capacity, shall have Interstate Commerce Commission approval and shall be fitted with a permanent cap to protect the valve when not in use. Heaters shall be approved by a recognized testing laboratory and must be equipped with a positive shut-off safety valve. Cylinders and heaters shall stand at least six feet (6'- 0") apart and be connected with two (2) braid neoprene hoses that will withstand 250 psi test pressure.
- E. When cylinders and heaters are on the same floor, not more than one (1) cylinder shall feed 400-sq. ft. of heated floor space. If cylinders feed heaters installed on a floor above, the area of heated floor may be increased to 600 sq. ft. Storage of cylinders within the building will not be permitted at any time. Fire extinguishers shall be provided on each floor where heaters are used, and the area must be ventilated.
- F. The CONTRACTOR shall train at least two (2) dependable persons to supervise heating installation at construction site.
- G. The CONTRACTOR shall provide air conditioning by using the HVAC supplied by the Heating and Air Conditioning subcontractor. The building shall be maintained at a temperature of 10 degrees below the outside air temperature or low enough to protect heat from affecting any and all finishes or items of equipment. The cost of running the Air Conditioning equipment shall be born by the CONTRACTOR. Use of the equipment shall not constitute acceptance of the same by the C.O. nor shall it imply that any warantee is in effect.
- H. Sixty (60) calendar days after the building, or major unit thereof, is (are) enclosed and the C.O. has determined that heat or air conditioning is required for the proper execution of the construction work, the permanent Heating subcontractor shall provide the heat and air conditioning. A building, or major unit thereof, shall be considered "enclosed" when (a) the exterior walls have been erected; (b) a temporary roof or permanent roof is installed and in watertight condition; (c) temporary or permanent doors hung and

window openings are closed with either permanent or temporary weathertight enclosures (cardboard, muslin and light canvas materials are not acceptable, however any impervious transparent material is acceptable). A major unit of building as referred to herein shall be: (1) an entire separate structure; (2) a full enclosed wing which shall have a floor area equal to at least 50 percent of the total floor area of the project; or (3) a section which shall have a floor area equal to at least 50 percent of the total floor area on the project. Regardless of whether the boiler room is within the confines of the major unit or not, it shall be enclosed and floor installed at the time the attention of the permanent heating subcontractor is directed to his obligations to supply heat. The boiler room floor area shall not be considered in determining the area comprising the major unit. The above sixty-(60) day period shall apply only to the enclosed portion of this building.

- I. When the building or a major unit, including the boiler room area, is enclosed as herein defined and appropriate notice given, it shall be the obligation of the C.O., or his/her representative, to acknowledge thereof at a weekly job conference, at the site, and to send written confirmation of such notice to all the CONTRACTOR. If the C.O. at the site concurs that the building or major unit is properly enclosed, then at the end of sixty (60) calendar days from the date of job conference at which such notice was given, the supply of heat and the responsibility for freeze-ups shall become the responsibility and obligation of the CONTRACTOR providing the permanent heating system. Confirmation of this responsibility and obligation shall be incorporated in the minutes of the weekly job conference as prepared by the C.O., if applicable, copies of which shall be sent to all subcontractors engaged on the project who shall give due attention to his/her obligations in the connection.
- J. The CONTRACTOR shall continue to provide acceptable means of heat until the obligation of the permanent Heating subcontractor to supply heat shall become effective as herein stated. If the permanent heating system is not acceptable to the C.O., for providing temporary heat, the CONTRACTOR shall continue to provide temporary heat as described above, as ordered by the C.O. and at the expense of the CONTRACTOR responsible for installing the permanent heating system.
- K. At the termination of the sixty (60) day interval after notice has been given that the building, or major unit, is enclosed, the permanent Heating subcontractor shall operate the permanent heating system, if its installation has been completed to the extent necessary to make its use possible. The permanent Heating subcontractor shall provide such heat to a minimum temperature of 45 degrees F., or to such higher temperature not exceeding 75 degrees F. as may be directed by the C.O. for the proper conduct and protection of the work until such time as his/her work is completed and accepted and is relieved of this requirement by the C.O., in writing. Should the permanent Heating subcontractor fail to meet his/her obligation then the C.O. at his discretion, will take any action his/her deem necessary to have the heating system operated and all costs involved shall be deducted from any monies due the permanent Heating subcontractor. The permanent Heating subcontractor shall pay for and be responsible for the maintenance, operation and supervision of the heating system throughout the period that the heat is needed and until final acceptance by the C.O. of the work under his/her CONTRACT regardless of the CONTRACT completion date.
- L. When the heating system provided by the permanent Heating subcontractor is the source of the heat, the CONTRACTOR shall be responsible for paying for all water, electricity, and fuel required for the operation of the permanent heating system, except fuel during the test period as required by the C.O. The permanent Heating subcontractor shall arrange, at his/her own cost, with the Plumbing and Electrical Contractors for making such temporary connections as required for the operation of the heating system. When the heating system provided by the permanent Heating subcontractor is designed for tie-in to existing steam lines for source of heat, the State will provide steam for temporary heat through the project permanent heating system at no additional cost to the permanent Heating subcontractor. The permanent Heating subcontractor shall arrange, at his/her own cost, for connections as specified under paragraph above.
- M. Where electricians are required to supervise and maintain electrical equipment required for the provision of heat, the payment for the services of the supervisor or maintenance personnel shall be the responsibility of the CONTRACTOR for the operation of the heating system in supplying temporary heat, it shall be the responsibility of the CONTRACTOR to provide a motor driven generator unit of sufficient capacity, voltage

and phasing to provide uninterrupted service for the operation of the heating system. The CONTRACTOR shall pay the cost of all fuel consumed in the operation of the generating unit for supplying temporary heat. The CONTRACTOR shall provide uninterrupted electrical service to the heating, water and pumping equipment.

- N. Valves, traps and other parts of the heating system which are permanently installed by the CONTRACTOR and used for supplying heat during the construction period need not be replaced, providing the system was in acceptable condition prior to its use, and further, that the system is properly cleaned and adjusted to operate after the permanent system is in use and to the satisfaction of the C.O.
- O. If plastering or pargeting or finishing of any surfaces is necessary to enable the CONTRACTOR to install the heating system in a manner to permit its use for supplying heat during the construction period, the finishing, plastering and parging of such surfaces shall be done by the CONTRACTOR sufficiently in advance of the work of the CONTRACTOR so as not to delay the installation of the permanent system. In the installation of permanent piping and heating units in a particular area the permanent
- P. The CONTRACTOR shall install temporary piping and pay the heating units and cost of such temporary installation.
- Q. If additional heat is required beyond that specified therein, the CONTRACTOR shall pay for additional costs at no expense to the State.
- R. Any other equipment used for the provision of temporary heat (fans, pumps, etc.) which shall be part of the permanent heating system shall be fully cleaned, refurbished and have filters replaced prior to final acceptance of the C.O.

### **32. TEMPORARY ENCLOSURES, GLASS BREAKAGE AND CLEANING (IF REQUIRED)**

- A. Whenever necessary, in order to maintain proper temperatures for the prosecution of the work, or for the protection thereof, the General CONTRACTOR shall furnish and maintain temporary enclosures for all openings in exterior walls that are not enclosed with finishing materials. Window sash may be installed and glazed. Temporary wood doors shall be provided at door openings.
- B. The General CONTRACTOR shall be responsible for all breakage of glass after same has been installed, no matter by whom or what caused, and shall replace all broken, scratched or otherwise damaged glass before the completion and acceptance of the work.
- C. The General CONTRACTOR shall wash all glass on both sides at completion, or when directed, removing all paint spots, stains, plaster, etc.
- D. The General CONTRACTOR shall provide and maintain necessary temporary dustproof partitions around areas of work in any existing building.
- E. Chemical fire extinguishers shall be provided by the CONTRACTOR for general construction and meet all O.S.H.A. requirements.

### **33. HOISTING FACILITIES**

The CONTRACTOR shall be responsible for hoisting and distributing his/her own material and equipment throughout the project.

### **34. FIRE PROTECTION**

- A. The CONTRACTOR shall perform his/her work on or about the premises in a careful manner with full consideration to fire protection as required by the State DCA Fire Official, National Fire Protection Association Code, U.C.C. Codes, and The National Board of Fire Underwriters having jurisdiction. Fire resistant materials shall be used for temporary enclosures.
- B. Chemical extinguishers approved by the C.O. shall be provided by the CONTRACTOR during the progress of the work where and as required by the State Fire Marshall, the Local Fire Department, and the National Board of fire Underwriters, except in storage sheds, warehouses, CONTRACTOR's Offices, workmen's temporary. Chemical extinguisher shall also meet all O.S.H.A. requirements.
- C. The CONTRACTOR shall maintain an active program of fire prevention to keep workman fire conscious during the entire life of the CONTRACT. His/her shall designate one member of his/her organization to execute and coordinate fire control measures of his/her own organization, that of all Subcontracting under his/her jurisdiction and that of all other subcontractors at the site. His/her shall report to the C.O. any lack of cooperation or refusal to participate on the part of the CONTRACTOR or Subcontractor with regard to the fire prevention program.
- D. Each Subcontractor shall cooperate with the CONTRACTOR in carrying out the above program.
- E. The CONTRACTOR shall be responsible for periodic cleaning up of the building and premises to eliminate fire hazards, and his/her shall remove all of his/her refuse from the project site. Should a dispute arise relative to responsibility, the decision of the C.O. shall be final and binding. If a CONTRACTOR fails to remove debris from the site within three (3) working days after his/her have been given written notice to do so by the C.O., the C.O. will have the debris removed by others and the cost backcharged to the CONTRACTOR(s) responsible.
- F. Storage of flammable material will not be permitted in the new structure or existing buildings unless written permission is obtained from the C.O. Storage of all such materials shall be the interested CONTRACTOR'S responsibility.
- G. On-site open burning of rubbish, garbage, trade waste, leaves or plant life is strictly prohibited in accordance with New Jersey Air Pollution Control Code, effective October 11, 1971, as promulgated by New Jersey Department of Environmental Protection.

### **35. PROTECTION - PUMPING - WEATHER CONDITIONS**

- A. The CONTRACTOR shall protect all trees, shrubs, lawns and all landscape work from damage and shall provide such guards and covering as necessary. All damaged items shall be repaired or replaced at the CONTRACTOR'S expense to the satisfaction of the C.O. Special precaution shall be taken to protect the floors from damage at all times.
- B. It shall be the responsibility of the CONTRACTOR at all times to protect the building excavations, trenches up to 10 feet from the building and the building from water damage, including damage by rainwater, ground water, backing up of drains, downspouts or sewers. The CONTRACTOR shall construct and maintain all necessary drainage and do all pumping required to keep the structure free from water and shall perform any pumping necessary for the full and proper execution of the construction work and protection of the building including all equipment installed therein.
- C. Beyond a point ten feet from the building, it shall be the responsibility of the CONTRACTOR installing underground pipes, conduits, cables, or heat transmission lines to protect the trenches by shoring or other

methods and perform all pumping required to dispose of the surface and subsurface water to permit the satisfactory performance of the work. The CONTRACTOR shall provide his/her own pumping equipment of adequate capacity and shall be responsible for all fuel, cost of operators and supervision.

- D. The CONTRACTOR shall remove all snow and ice as may be required for the proper protection and prosecution of his/her CONTRACT and to provide access to the building for the other subcontractors.
- E. In the event of temporary suspension of work, or during inclement weather, or whenever the C.O. shall direct, the CONTRACTOR shall cause his/her subcontractors to protect carefully his/her work and materials against damage from the weather. If, in the opinion of the C.O., any work or materials shall have been damaged by reason of failure on the part of the CONTRACTOR or any of his/her Subcontractors so to protect his/her work, such materials shall be removed and replaced at the expense of the CONTRACTOR.
- F. Unless otherwise shown in the CONTRACT documents, the CONTRACTOR shall provide minimum protection of the construction area by means of enclosure by four foot high snow fence.

**EXCAVATION, TRENCHING AND BACKFILL (ALL TRADES):**

- (1). The CONTRACTOR shall do all excavation of earth that may be required for the installation of his/her work. The CONTRACTOR and subcontractors shall also do all the necessary backfilling, rough grading, removal of surplus earth of other materials, repaving or replacing of hard surfaced areas which he disturbs. Remove all water that may accumulate in any excavation necessary for this work and furnish sheet piling where required. They shall resod or reseed grass area he disturbs.
- (2). The CONTRACTOR and/or his/her subcontractors shall be fully responsible for any accident that may occur to any person or property during the hours of the work and shall fully defend, protect and hold the owner harmless from all claims.
- (3). The CONTRACTOR and/or his/her subcontractors shall furnish all plant, labor, equipment, appliances, and materials and perform all operations in connection with the excavation, trenching and backfilling for all piping requiring trenching as indicated on the drawings and which is installed under this specification.
- (4). Where streets, roads or any other property other than that of the owner must be disturbed it shall be the responsibility of this CONTRACTOR to make all necessary arrangements, obtain all permits and pay required fees.
- (5) EXCAVATION: The CONTRACTOR and their subcontractors shall perform all excavation of every description and of whatever substances encountered, to the proper depth as required for his work or as otherwise specified. During excavation, materials suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and prevent slides or cave-ins. All excavated materials not required or suitable for backfill shall be removed and wasted as indicated on the drawings or as directed by the C.O. Such grading shall be done as may be necessary to prevent surface water from flowing into trenches or other excavation and any water accumulating therein shall be removed by pumping or other approved methods. Such sheeting and shoring shall be done as may be necessary for the protection of the work and for the safety of personnel. Unless otherwise indicated, excavation shall be by open-cut except that short section of a trench may be tunneled; if, in the opinion of the C.O., the pipe can be safely and properly installed and backfill can be properly tamped in such section. Earth excavation shall comprise all materials not classified as rock excavation, and shall include clay, silt, sand, muck, gravel, hard pan, loose shale, loose stone in masses and boulders measuring less than that defined as rock.
- (6). TRENCH EXCAVATION: Trenches shall be of necessary width for the proper laying of the pipe, and the banks shall be accurately graded and machine tamped to provide uniform bearing and support for each section of the pipe on undisturbed soil at every point along its entire length, except for the portions of the

pipe sections where it is necessary to excavate the bell holes and for the proper sealing of pipe joints. Bell holes and depression for joints shall be dug after the trench bottom has been graded, and in order that the pipe rest upon a prepared bottom for as nearly its full length as practicable, bell holes and depressions shall be only such length, depth, and width as required for properly making the particular type of joint. Except where rock is encountered care shall be taken not to excavate below the depth indicated. Over depths in the rock excavation and unauthorized overdepths shall be backfilled with loose, granular, moist earth, and thoroughly machine tamped. Whenever wet or otherwise unstable soil that is incapable of properly supporting the pipe, as determined by the Contracting Officer, is encountered in the bottom of the trench, such soil shall be removed to the depth required and the trench backfilled to the proper grade with crushed stone, coarse sand, fine gravel, or other suitable material.

- (7) PROTECTION OF EXISTING UTILITIES: Existing utilities shall be protected from damage during the excavation and backfilling of trenches and, if damaged, shall be repaired by the CONTRACTOR at his/her expense.
- (8) BACKFILLING: The trenches shall not be backfilled until all required pressure tests are performed and until the piping installed conforms to the requirements specified in the various sections of the specifications. The trenches shall be carefully backfilled with clay, sand and gravel, soft shale, or other approved materials, free from large clogs of earth or stones, deposited in six inch (6") layers and thoroughly and carefully tamped until the pipe has a cover of not less than one foot (1') for water and gas piping and two feet (2') for sanitary and storm sewers and all others. Where piping is specially coated for protection against corrosion, care shall be taken not to damage the coating. The remainder of the backfill materials shall then be laid into the trench in one foot (1') layers and tamped. Setting the backfill with water will be permitted and will be a requirement when so directed by the C.O. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth with the surface restored to the required grade and compaction, mounded over, and smoothed off. Open trenches across roadways, or other areas to be paved shall be backfilled in six inch (6") layers, and each layer shall be moistened and compacted to a density at least equal to that of the surrounding earth filled trench with adjoining earth to provide the required bearing value, so the paving of the area can proceed immediately after backfilling is completed. Along all the mounding over the trenches left in a uniform and neat condition to the satisfaction of the C.O.
- (9) TESTS FOR DISPLACEMENT OF SEWERS: Storm and sanitary sewers will be checked by the C.O. to determine whether any displacement of the pipe has occurred after the trench has been backfilled to two feet (2') above the pipe and tamped as specified. The tests will be as follows: A light will be flashed between manholes or between sections of pipe by means of flashlight to determine if the interior of the pipe line shows poor alignment, displaced pipe, or other defects. The CONTRACTOR at his expense shall remedy the defects designated by the C.O..

### **36. SAMPLES**

The CONTRACTOR shall furnish for approval all samples as directed. The work shall be in accordance with approved samples. Such samples shall be submitted promptly to the C.O. at the beginning of the work, so as to give the C.O. ample time to examine them. Any list of samples prepared by the is for the C.O.'s convenience only, and shall not be construed as limiting the number of samples which the CONTRACTOR shall furnish.

### **37. TESTING OF EQUIPMENT**

- A. When mechanical, electrical and/or other equipment is installed, it shall be the responsibility of the CONTRACTOR to operate it for a satisfactory period of time as required by the C.O. for proper testing of

- B. the equipment and instructing the State's operating personnel. Fuel, power and any other items and/or services required for proper testing of equipment and for the period of instructing personnel shall be provided at the expense of the CONTRACTO00710-29.
- C. Tests shall be conducted in the presence of the State inspector. Test results shall be submitted and approved by the C.O. prior to acceptance of the installation.
- D. All subcontractors installing any equipment shall thoroughly train the State's operating personnel in the operation, adjustment, and maintenance of all equipment.
- E. DMAVA shall require witnessing of all certification and/or testing of major pieces of equipment. Notice of such testing shall be given to DMAVA five (5) days in advance of all tests.

### **38. CONCRETE AND OTHER STRUCTURAL TESTING**

- A. Concrete testing shall be performed by a testing company selected by the CONTRACTOR, approved by the C.O., and paid for by the CONTRACTOR. The testing laboratory will perform the following work:
  - (1) Design mixes for controlled concrete.
  - (2) Take and test cylinders of concrete as poured. Four (4) test specimens will be made for each 50 cubic yards of concrete placed or not less than four (4) cylinders for each day's pour.
  - (3) Plant inspection at batching plant.
  - (4) Field inspection of all concrete when being poured.
  - (5) Make slump tests in the field in accordance with ATSM requirements.
  - (6) Submit reports to the State and the Engineer.
- B. A testing company selected by the CONTRACTOR, approved by the C.O. and paid for by the CONTRACTOR shall perform other structural testing and inspection, when determined as necessary by the C.O.
- C. Each CONTRACTOR shall cooperate fully with the testing company and supply materials for testing as required.
- D. Required testing shall include, but not be limited to, soils, concrete, steel and fireproofing.

### **39. OPENING-CHANNELS-CUTTING-ETC.**

- A. The CONTRACTOR shall be responsible for furnishing and setting of sleeves, built-in items, anchors, inserts, etc. for his/her work. The CONTRACTOR shall build these items into the construction.
- B. The CONTRACTOR shall build recesses, channels, chases, openings and flues and leave holes where shown on drawings or where directed for steam, water or other piping, electrical conduits, switch boxes, panelboards, flues and ducts, or any other feature of the heating and ventilation work. All subcontractors requiring such recesses, channels, chases, openings, etc. shall furnish to the CONTRACTOR through the Project Manager complete detail drawings for all chases and openings required in connection with the work. Such information shall be furnished in complete form and in ample time to allow the construction work to

proceed without interruption or delay. At least three (3) copies of such drawings shall be furnished to the C.O.

- C. The CONTRACTOR shall close, build in and finish around or over all openings, chases, channels, pockets, etc. after installation has been completed.
- D. In the event that any CONTRACTOR fails to furnish the information as above required in time, said CONTRACTOR shall at his/her own expense do all cutting, rebuilding and finishing and shall employ the CONTRACTOR for such work.
- E. Positive instructions in writing shall be obtained from the C.O. before cutting or boring any floor beams, floor constructions or supporting members.

#### **40. CUTTING-PATCHING-DIGGING**

- A. The CONTRACTOR shall do all cutting, fitting or adjusting of his/her work that may be required to make its several parts come together properly, and fit it to receive or be received by work of other subcontractors shown upon, or reasonably implied by the CONTRACT documents for the completed structure and his/her shall make good after them, as the C.O. may direct.
- B. Any cost caused by defective work or failure to coordinate shall be borne by the CONTRACTOR responsible thereof.
- C. The CONTRACTOR shall not endanger the work of others by cutting, digging or otherwise altering the work of any other CONTRACTOR save with the consent of the C.O.
- D. The General CONTRACTOR shall have the final responsibility for the following: clean-up of premises and patching of all work. If the cleanup is not accomplished within twenty-four (24) hours of written notice from C.O. or General CONTRACTOR, DMAVA shall have the option to withhold final payment in accordance with Article 19 (PAYMENT WITHHELD) of this document.

#### **41. JOB MEETING**

- A. The CONTRACTOR and any subcontractors, material man or vendor whose presence is necessary, shall attend job meetings when called by the A/E, the Construction Manager or the C.O. for the purpose of discussing the execution of the work, unless excused in writing by the A/E, the Construction Manager or the C.O.
- B. Meetings will be held at least once every week at the time and place designated by the C.O. All decisions, instructions and interpretations given by the C.O. at these meetings shall be binding and conclusive on the CONTRACTOR. The proceedings of these meetings will be recorded by the C.O. or his representative; and each CONTRACTOR will be furnished a reasonable number of copies for his use and for distribution to the various subcontractors, materialmen and vendors involved.
- C. The CONTRACTOR for general construction shall attend the Quality Review Board meetings which when applicable, shall be held a minimum of once a month.

#### **42. PHOTOGRAPHS**

- A. With each monthly application for payment, until the exterior of the building is completed, the General CONTRACTOR shall submit progress photographs of the building in duplicate, giving two (2) views of each

building as selected by the A/E, or the Construction Manager and/or C.O., taken from the same points each month.

- B. The photographs shall be 8" x 10" in color, and the photographs and negatives shall bear the date of the exposure, the name of the project, the CONTRACTOR and the CO..
- C. The photographs are to be submitted monthly at the project meetings. The photographic record shall include but not be limited to:
  - (1) All new structures on site.
  - (2) All site work.
  - (3) Landscaping.
  - (4) All representative interior space.
  - (5) Work that shall be enclosed.

#### **43. WORK FURNISHED BY OTHER**

- A. The State may, and reserves the rights to, enter upon the premises at any and all times during the progress of the work, or cause others to do so, for the purpose of installing any apparatus or carrying on any construction not included in this specification. The CONTRACTOR shall not commit or permit any act which will interfere with the performance of work by the CONTRACTOR or by State employees.
- B. The CONTRACTOR shall examine all work or materials not included in his/her CONTRACT, the installation of which will affect the work in his/her CONTRACT, and should the same be imperfect, incorrect or insecure, his/her shall notify the C.O. immediately in order that the same may be rectified.

#### **44. USE OF PREMISES AND REMOVAL OF DEBRIS**

- A. Each CONTRACTOR expressly undertakes at his/her own expense:
  - 1. To take every precaution against injuries to persons or damage to property;
  - 2. To store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his/her work or the work of any other persons;
  - 3. To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work.
  - 4. To clean up frequently all refuse, rubbish, scrap materials, and debris caused by his/her operations, to the end that at all times the work shall present a neat, orderly and workmanlike appearance.
  - 5. To remove all surplus material, false work, temporary structures, including foundations thereof, plant of any description, and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition before final payment;
  - 6. In case of dispute, the State may remove the rubbish and charge the cost to the several CONTRACTORS as the C.O. shall determined to be just.
  - 7. All materials of any kind or character belonging to the CONTRACTOR which shall remain upon the premises where the work is being performed after the expiration of sixty (60) calendar days from the date of certificate of final acceptance issued by the State of the CONTRACTOR shall become absolutely the property of the State, subject to be used and disposed of by the State as the State may deem proper.

8. The CONTRACTOR shall provide dumpsters for use by all subcontractors. The CONTRACTOR shall place his/her debris in the dumpster(s).
  9. If medical waste or hazardous materials are discovered, then the CONTRACTOR shall notify the C.O. immediately. The subcontractors' responsibility for removal of this debris is not eliminated because it is classified as hazardous.
- C. The CONTRACTOR shall have the final responsibility for clean-up and/or patching of all work and the removal of debris. Should his/her fail to clean up or patch any portion of the site, then the C.O. will proceed to make the necessary repairs and clean up the area and charge the CONTRACTOR for the amount of work performed.

#### **45. FEDERAL EXCISE TAXES AND STATE SALES TAX**

- A. Under Chapter 32 of the Internal Revenue Code an exemption covering this exemption is on file with the Director of Purchase and Property and is Number A- 257217. Excise taxes are not to be included in the proposal.
- B. CONTRACTORS are exempt from sales tax on State work.

#### **46. PATENTS**

- A. The CONTRACTOR shall hold and save the State and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the CONTRACT, including its use by the State, unless otherwise specifically stipulated in the CONTRACT Documents.
- B. License or Royalty Fees: License and/or Royalty Fees for the use of a process, which is authorized by the State, must be reasonable. Payment of such fees shall be made directly to the holder of the patent and his/her authorized licensee by the State. Such payments shall not be made through the CONTRACTOR.
- C. If the CONTRACTOR uses any design, device or materials covered by letters, patent or copyright, his/her shall provide for such use by suitable agreement with the State of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the CONTRACT prices shall include all royalties, or costs arising from the use of such design, device or materials, in any way involved in the work. The CONTRACTOR and/or his/her Sureties shall indemnify and save harmless the owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this CONTRACT, and shall indemnify the State for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

#### **47. SUBSURFACE CONDITIONS FOUND DIFFERENT**

- A. Should the CONTRACTOR encounter subsurface and/or latent conditions at the site materially differing from those shown on the plans or indicated in the specifications, his/her shall immediately give written notice to the C.O. of such conditions before his/her are disturbed.

- B. The C.O. will thereupon promptly investigate the conditions, and if his/her find that his/her materially differ from those shown on the plans or indicated in the specifications, his/her will at once make such changes in the plans and/or specifications as his/her may find necessary. Any increase or decrease of cost resulting from such changes may, in the sole discretion of the C.O., be adjusted in the manner provided in Articles 24 and 25 of the General Conditions.

#### **48. UNCLASSIFIED EXCAVATION**

- A. All excavation work under all CONTRACTs shall be considered unclassified excavation. Unclassified excavation shall consist of the removal of earth, rock, abandoned utilities, foundations and all other materials encountered of whatever nature.
- B. When explosives are used, work shall be executed by experienced powdermen who are licensed, or otherwise authorized to use explosives. Explosives shall be stored, handled and used in accordance with
- C. local regulations and the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America, Inc. Any damage to foundations or other work caused by the use of explosives shall be corrected at the CONTRACTOR's expense.

#### **49. SOIL BORINGS**

Where data pertaining to test pits, test borings, or any like information orally, by drawings or in writing, are given, his/her are for general information only and shall not relieve the CONTRACTOR, bidding on this work, from the responsibility for making such investigations as may be necessary to insure that his/her bid is based on actual conditions.

#### **50. PAY LIMITS FOR ADDITIONS OR DEDUCTIONS**

- A. The method of measurement and establishment of pay limits for additions or deductions for excavation shall be as follows:
  - (1) BASEMENT EXCAVATIONS: Pay limit for excavation shall be in accordance with cross sections limited by vertical parallel planes extending twenty-four inches (24") outside of foundation walls shown on CONTRACT drawings, and horizontal plane along bottom of basement concrete slab or footing.
  - (2) ALL PIPELINES AND UNCASED UTILITIES: Pay limit for trench excavation shall be limited to width of thirty-six inches (36") or the largest diameter of pipe barrel plus twenty-four inches (24"), whichever is greatest, and depth at bottom of pipe barrel. When rock is encountered, CONTRACTOR shall excavate to six inches (6") below bottom of pipe barrel. A compacted granular fill bed for the pipe shall be provided by CONTRACTOR. No additional payment will be made for this additional six inches (6") of granular fill.
  - (3) ENCASED ELECTRICAL CONDUIT, STEAM TRANSMISSION LINES, UNFORMED FOUNDATION FOOTINGS: Width and depth of trench shall be limited to same width and elevations of structure shown on CONTRACT drawings.
  - (4) Where unsuitable foundation material is encountered, the CONTRACTOR shall excavate to elevations as directed by the C.O. Unit prices for additional excavation and replacement with approved compacted granular fill, stated in the proposal form, shall be used as a basis for additional payment by the State.

## **51. QUANTITIES OF ESTIMATE**

- A. Wherever the estimated quantities of work to be done and materials to be furnished under the CONTRACT are shown in any of the documents including the proposal, his/her are given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or decrease as may be deemed reasonably necessary or desirable by the State to complete the work contemplated by this CONTRACT, and such increase or decrease shall in no way vitiate this CONTRACT, nor shall any such increase or decrease give cause for claims or liability for damages.

## **52. LANDS AND RIGHTS-OF-WAY**

Prior to the start of construction, the State shall obtain all lands and rights-of-way necessary for the carrying out and completion of work to be performed under this CONTRACT.

## **53. CUT OVERS**

All cutovers of existing mechanical services shall be done at a time convenient to the C.O. so as not to interfere with facility operations (water line cut-line by wet tap will be permissible during regular working hours).

## **54. BUY AMERICAN ACT (1966 OCT)**

- A. AGREEMENT: In accordance with the Buy American Act (41 U.S.C. 10a-10d), the CONTRACTOR agrees that only domestic construction material will be used (by the CONTRACTOR, subcontractors, materialmen, and suppliers) in the performance of this CONTRACT, except for nondomestic construction material listed in the "Nondomestic Construction Materials" Clause, if any, of this CONTRACT.
- B. DOMESTIC CONSTRUCTION MATERIAL: "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50% of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.
- C. DOMESTIC COMPONENT: A component shall be considered to have been "mined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

## **55. WATCHMEN**

- A. The CONTRACTOR may provide watchmen service throughout the period of construction to adequately protect the work, stored materials and temporary structures located on the premises. Additionally, watchmen shall be used to prevent unauthorized persons from entering upon the construction site.
- B. Watchman may be employed to cover a twenty-four hour, seven day per week schedule. It may be necessary to employ more than one watchman because of the size of the facility or project. The watchman must use a designated roving patrol as established by the General CONTRACTOR. His/her shall maintain a log of his/her activities and unusual events.

- C. It shall be the responsibility of all primes to provide the watchman with a list of names of individuals who shall be working overtime and weekends prior to said time.
- D. The watchman shall be provided an Standard Operating Procedures Manual as prepared by the General CONTRACTOR and at a minimum the SOP shall include:
  - (1) Emergency telephone numbers for Police, Fire and ambulance
  - (2) CONTRACTOR emergency telephone numbers
  - (3) NJDMAVA emergency personnel and telephone numbers
  - (4) Procedures indicating action to be taken upon the discovery of theft.
- E. Employment of a Watchman shall commence on the first day that equipment and material are stored on site.
- F. The CONTRACTOR and their subcontractors shall adequately secure and protect his own tools, equipment, materials and supplies.

**THE FOLLOWING ARTICLES, 56 to 67 INCLUSIVE, ARE APPLICABLE TO FEDERALLY FUNDED PROJECTS ONLY.**

**56. INTEREST OF MEMBER OF OR DELEGATE TO CONGRESS**

No member of or Delegate to Congress shall be admitted to any share or part of this CONTRACT or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this CONTRACT if made with a corporation for its general benefit.

**57. OTHER PROHIBITED INTERESTS**

- A. No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection of construction, or material supply CONTRACT or any Subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this CONTRACT or in any part hereof.
- B. No officer, employee, architect, attorney, engineer, or inspector of or for the State who is authorized in such capacity and on behalf of the State to exercise any legislative, executive, supervisory, or other similar function in connection with the construction of the project, shall become directly or indirectly interested personally in this CONTRACT or in any part thereof, any material supply CONTRACT, subcontract, insurance CONTRACT, or other CONTRACT pertaining to the project.

**58. WITHHOLDING OF FUNDS (1977 DEC)**

- A. The C. O. may withhold or cause to be withheld from the State prime CONTRACTOR so much of the accrued payments or advances as may be considered necessary (i) to pay laborers and mechanics, including apprentices, trainees, watchmen, and guards, employed by the CONTRACTOR or any subcontractor on the work the full amount of wages required by the CONTRACT, and (ii) to satisfy any liability of the CONTRACTOR and any subcontractor for liquidated damages under paragraph (B) of the Clause entitled CONTRACT WORK HOURS AND SAFETY STANDARDS ACT OVERTIME COMPENSATION.
- B. If the CONTRACTOR or any subcontractor fails to pay any laborer, mechanic, apprentice, trainee, watchman, or guard employed or working on the site of the work, all or part of the wages required by the

CONTRACT, the C.O. may, after written notice to the State prime CONTRACTOR, take such action as may be necessary to cause suspension of any further payments of advances until such violations have ceased.

#### **59. PAYROLLS AND BASIC RECORDS (1977 DEC)**

- A. The CONTRACTOR shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of three (3) years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards, working at the site of the work. Such records shall contain the name and address of each such employee, his/her correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. (NOTE: Watchmen and guards are reflected on payroll records for Contract Work Hours and Safety Standards Act purposes only.) Whenever the CONTRACTOR has obtained approval from the Secretary of Labor as provided in paragraph (C) of the Clause entitled DAVIS-BACON ACT, he shall maintain records which show the commitment, its approval, written
- B. Communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.
- C. The CONTRACTOR shall submit weekly a copy of all payrolls to the CO.. The State prime CONTRACTOR shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the CONTRACTOR indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic, including apprentices and trainees, conform with the work he performed. Weekly submission of the "Statement of Compliance" required under this CONTRACT and the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) shall satisfy the requirement for submission of the above statement. The CONTRACTOR shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (C) of the Clause entitled DAVIS-BACON ACT.
- D. The CONTRACTOR shall make the records required under this Clause available for inspection by authorized representatives of the C.O. and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

#### **60. APPRENTICES AND TRAINEES (1977 DEC)**

- A. Apprentices will be permitted to work at less than the predetermined rate for the work his/her performed when his/her are employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his first ninety (90) days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification employed on this CONTRACT shall not be greater than the ratio permitted to the CONTRACTOR as to his/her entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in paragraph (B) of this Clause or is not registered or otherwise employed as stated above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The CONTRACTOR or subcontractor shall furnish to the Contracting Officer written evidence of the registration of his program and apprentices as well as the appropriate ratios and wage rates (expressed in percentages of the journeyman hourly rates), for the area of construction prior to using apprentices on the CONTRACT work. The wage rate paid apprentices shall be not less than the appropriate percentage of the journeyman's rate contained in the applicable wage determination.

- B. Trainees will be permitted to work at less than the predetermined rate for the work performed when his/her are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification, by the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training. The ratio of trainees to the journeyman on this CONTRACT shall not be greater than permitted under the plan approved by the Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress. Any employee listed on the payroll at a trainee rate who is not registered and not participating in a training plan approved by the Bureau of Apprenticeship and Training shall be paid not less than the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The CONTRACTOR or subcontractor shall furnish the C.O. written evidence of the certification of his program, the registration of the trainee, and the ratios and wage rates prescribed in that program. In the event the Bureau of Apprenticeship and Training withdraws the approval of a training program, the CONTRACTOR shall no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- C. The utilization of apprentices, trainees, and journeymen under this Clause shall be in conformity with the equal employment opportunity requirements of this CONTRACT.

#### **61. COPELAND ("ANTI-KICKBACK") ACT-NONREBATE OF WAGES**

The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3) made pursuant to the Copeland Act, as amended (40 U.S.C. 276c) and to side in the enforcement of the Anti-Kickback Act (18 U.S.C. 874) are made a part of this CONTRACT by reference. The CONTRACTOR will comply with these regulations and any amendments or modifications thereof and the prime CONTRACTOR will be responsible for the submission of affidavits required of subcontractors thereunder; the foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances and exemptions.

#### **62. CONTRACT TERMINATION: DEBARMENT**

- A. A breach of Articles 67 through 78 as well as a breach of any other material provisions of this contract may be grounds for termination of the CONTRACT and for debarment as provided in 29 CFR. 5.6.
- B. Title 29 of Code of Federal Regulations, part 5.6 as printed in the Federal Register of January 4, 1964 may be obtained from General Services Administration, Washington, D.C.

#### **63. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT-OVERTIME COMPENSATION (40 U.S.C. 327-333) (1977 DEC)**

- A. This Contract is subject to the Contract Work Hours and Safety Standards Act and to the applicable rules, regulations, and interpretations of the Secretary of Labor.
- B. The CONTRACTOR shall not require or permit any laborer or mechanic, including apprentices, trainees, watchmen, and guards in any workweek in which he is employed on any work site under this CONTRACT to work in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such workweek on work subject to the provisions of the CONTRACT Work Hours and Safety Standards Act unless such laborer or mechanic, including apprentices, trainees, watchmen, and guards, receives compensation at a rate not less than one and one-half times his basic rate or pay for all such hours worked in excess of eight (8) hours in any calendar day or in excess of forty (40) hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this Clause, shall be the amount paid per hour, exclusive of the CONTRACTOR'S contribution or cost for fringe benefits and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

- C. In the event of any violation of the provisions of paragraph (A), the CONTRACTOR shall be liable to any affected employee for any amount due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including an apprentice, trainee, watchman, or guard, employed in violation of the provisions of paragraph (A) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of eight (8) hours or in excess of the standard workweek of forty (40) hours without payment of the overtime wages required by paragraph (A).

#### **64. CONVICT LABOR**

In connection with the performance of work under this CONTRACT, the CONTRACTOR agrees not to employ any person undergoing sentence of imprisonment, as provided by Public Law 89-176, September 10, 1965 (18 USC 4082 (c) (2) and Executive Order 11755, December 29, 1973.

#### **65. CONTRACTOR WILL COMPLY WITH THE NEW JERSEY STATUTES AND ALL RULES AND REGULATIONS ISSUED THEREUNDER PROHIBITING DISCRIMINATION IN EMPLOYMENT.**

##### **EQUAL OPPORTUNITY (FEDERALLY ASSISTED CONSTRUCTION) (1972 AUG)**

**NONDISCRIMINATION IN EMPLOYMENT-** In connection with the performance of work under this CONTRACT, the CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of sex, race, creed, color, or national origin; and further agrees to insert the foregoing provision in all subcontracts hereunder except subcontracts for standard commercial supplies or for raw materials.

**EQUAL OPPORTUNITY FEDERALLY ASSISTED CONSTRUCTION (1978 SEP)-** If, during any twelve (12) month period (including the 12 months preceding the award of this CONTRACT), the CONTRACTOR has been or is awarded Federal contracts or federally assisted contracts and/or subcontracts which have an aggregate value in excess of \$10,000, the CONTRACTOR shall comply with (1) through (7) below. Upon request, the CONTRACTOR shall provide information necessary to determine the applicability of this Clause.

The CONTRACTOR hereby agrees that it will incorporate or cause to be incorporated into any CONTRACT for construction work, or modification thereof, as defined in the Regulations of the Secretary of Labor at 42 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, CONTRACT, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, CONTRACT, loan, insurance, or guarantee, the following Equal Opportunity Clauses:

During the performance of this CONTRACT, the CONTRACTOR agrees as follows:

- (1) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated equally during employment, without regard to his/her race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: Employment, upgrading, 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 setting forth the provisions of this nondiscrimination clause.

(2) The CONTRACTOR will, in all solicitations or advertisements for employees place by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contract or understanding, a notice to be provided advising the said labor union or worker's representatives of the CONTRACTOR'S commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The CONTRACTOR will comply with all provisions of Executive Order 11375 of October 13, 1967, and by rules, regulations, and relevant orders of the Secretary of Labor.

(5) The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and

accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and relevant orders.

(6) In the event of the CONTRACTOR'S noncompliance with the nondiscrimination clauses of this CONTRACT or with any of the said rules, regulations, or, this CONTRACT may be canceled, terminated, or suspended in whole or part and the CONTRACTOR declared ineligible for further Government CONTRACTs or Federally assisted construction CONTRACTs in accordance with Executive Order 11246 of September 25, 1965 as amended by Executive Order 11375 of October 1967, and such sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(a) The CONTRACTOR will include the portion of the sentence immediately preceding Paragraph (1) and the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempt by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967, so that such provisions will be binding upon each Subcontractor or vendor. The CONTRACTOR will take such action with respect to and subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States. The applicant further agrees that it will be bound by the above Equal Opportunity clause with respect to its own employment practices when it participates in Federally assisted construction work: Provided that if the applicant so participating is a State or local government, the above Equal Opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the CONTRACT. The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of CONTRACTORS and Subcontractors with the Equal Opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that will furnish the administering agency and the Secretary of Labor such information as his/her may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing

compliance. The applicant further agrees that it will refrain from entering into any CONTRACT or CONTRACT modification subject to Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967. With a CONTRACTOR debarred from, or who has not demonstrated eligibility for, Government contracts and Federally assisted construction CONTRACTs pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the Equal Opportunity clause as may be imposed upon CONTRACTORS and Subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any (CONTRACT, loan, insurance, guarantee): refrain from extending any further assistance to the applicant under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

## **66. GRATUITIES**

- A. The State may, by written notice to the CONTRACTOR, terminate the right of the CONTRACTOR to proceed under this CONTRACT if it is found, after notice and hearing, by the Secretary or Governor or the Duly authorized representative of either, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the CONTRACTOR, or any agent or representative of the CONTRACTOR, to any officer or employee of the State with a view toward securing a CONTRACT or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performance, of such CONTRACT: Provided, that the existence of the facts upon which the Secretary or Governor or the duly authorized representative of either makes such findings shall be in issue and may be reviewed in any competent court.
- B. In the event this CONTRACT is terminated as provided in paragraph (A) hereof, the State shall be entitled (1) to pursue the same remedies against the CONTRACTOR as it could pursue in the event of a breach of the CONTRACT by the CONTRACTOR, and (2) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or Governor or the duly authorized representative of either) which shall be not less than three (3) nor more than ten (10) times the costs incurred by the CONTRACTOR in providing any such gratuities to any such officer or employee.
- C. The rights and remedies of the State provided in this Clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this CONTRACT.

## **67. AMERICAN WITH DISABILITIES ACT**

### **EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES**

The CONTRACTOR and the State 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 thereunto, are made a part of this CONTRACT. In providing any aid, benefit, or service on behalf of the STATE pursuant to this CONTRACT, the CONTRACTOR agrees that the performance shall be in strict compliance with the Act. In the event that 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 STATE in any action or administrative proceeding commenced pursuant to this Act. The CONTRACTOR shall indemnify, protect, and save harmless the STATE, 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 his/hers 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 STATE'S grievance procedure, the CONTRACTOR agrees to abide by any decision of the STATE, which is rendered pursuant to, said grievance procedure. If any action or administrative proceeding results in an award of damages against the STATE or if the STATE 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 STATE 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 STATE or any of its agents, servants, and employees, the STATE shall expeditiously

forward or have forwarded to the CONTRACTOR every demand, complaint, notice, summons, pleading or other process received by the STATE or its representatives.

It is expressly agreed and understood that any approval by the STATE 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 STATE pursuant to this paragraph.

It is further agreed and understood that the STATE assumes no obligation to indemnify or save harmless the CONTRACTOR, its agents, servants, employees and subcontractors from any claim which may arise out of his/her 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 assigned in this Agreement, nor shall his/her be construed to relieve the CONTRACTOR from any liability, nor preclude the STATE from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

## **68. ADDITIONAL GENERAL MECHANICAL CONDITIONS FOR PLUMBING, HEATING AND VENTILATING, AND ELECTRICAL WORK**

### A. GENERAL:

- (1) All trades shall perform work in accordance with the requirements of local codes and in accordance with any authority having jurisdiction.
- (2) Where the words "furnish", "provide", or "install" are mentioned in these specifications, either singularly or in combination, his/her are to be interpreted to mean "furnish and install" unless specifically noted otherwise.
- (3) These words are further to be interpreted to be prefixed to all materials, equipment and apparatus hereinafter mentioned in these specifications, shown on the drawings either in abbreviated or in schedule form.
- (4) Where the work "CONTRACTOR" is mentioned in this article of the specifications or on the drawings, it shall mean the particular Mechanical or Electrical CONTRACTOR under that section, unless specifically noted otherwise.
- (5) Where the term "mechanical trades", "mechanical CONTRACTOR" are used, his/her shall refer to the Plumbing, Heating and Ventilating and Electrical Contractors.

B. DEFINITIONS:

- (1) "Furnish" or "Provide": to furnish, erect, install, and connect up complete and ready for regular operation particular work referred to, unless specifically indicated or specified otherwise.
- (2) "Work": Labor, materials, equipment, apparatus, controls, accessories, and other items customarily furnished for proper and complete installation of work.
- (3) "Piping": Pipe, fittings, flanges, valves, controls, hangers, traps, drains, insulation, and items necessary or required in connection with or relating to such piping.
- (4) "Wiring": Conduit, fittings, wire, junction and outlet boxes, switches, cutouts, and receptacles, and items necessary or required in connection with or relating to such wiring.
- (5) "Concealed": Embedded in masonry or other construction, installed behind wall furring, within double partitions or hung ceiling, in trenches, in crawl spaces, below floor or below grade.
- (6) "Exposed": Not installed underground or "Concealed" as defined above.
- (7) "Indicated" or "Shown": As indicated or shown on drawing.
- (8) "Noted": As indicated on drawings and/or specified.

C. EXAMINATION OF THE BUILDING SITE:

- (1) The CONTRACTORS shall visit the building site before submitting his/her proposals to fully acquaint themselves with all existed and limiting conditions.
- (2) Any existing or limiting conditions discovered on the site visit, and found to be in direct conflict with the intent of the drawings and specifications must be called to the CONTRACTING OFFICER'S attention for immediate adjustment.
- (3) The CONTRACTORS shall assume full responsibility for the cost of additional work arising out of his/her failure to examine the building site.

D. PERMITS AND FEES

- (1) The CONTRACTORS shall make application and obtain approval of all work shown on the drawings and specifications of his/her trades, from all authorities having jurisdiction.
- (2) The CONTRACTOR shall secure all permits, licenses, and pay all charges or fees necessary and incidental to the due and lawful prosecution of their work, including those of the local water, gas and electric companies.
- (3) The CONTRACTORS shall note that "BOCA", New Jersey Uniform Construction Code, New Jersey Department of Environmental Protection and the Department of Community Affairs rules and regulations of all authorities shall govern and take precedence over the drawings and specifications, except where drawings and specification require materials and workmanship of higher quality than required by the rules and regulations, the CONTRACT Drawings and Specifications shall apply.
- (4) If any existing work remaining in place or any new work must be corrected to meet provisions of rules and regulations, such correction must be made by the CONTRACTORS at no increase of the CONTRACT sum.

- (5) The CONTRACTORS shall give all requisites or notices required relating to his/her work to the CONTRACTING OFFICER.
- (6) Upon completion of his/her work, but before final acceptance of the work by the owner, the CONTRACTORS shall submit to the C. O. all necessary certificates of approval.

E. MATERIAL AND EQUIPMENT SCHEDULE:

- (1) Within ten (10) calendar days after award of the CONTRACT and before commencement of purchase or installation of any material or equipment, a complete schedule of the materials and equipment proposed for installation shall be prepared by the contractors and submitted to the C.O. for approval. Any scheduled materials, fixtures and equipment not conforming to the specification or drawings may be rejected.
- (2) No consideration will be given to partial lists submitted from time to time.
- (3) The CONTRACTOR shall assume full responsibility for rejections, delays, corrections and additional costs resulting from his failure to obtain advance approval of his material and equipment schedule.
- (4) All mechanical and electrical equipment shall bear the seal of approval of the National Board of Fire Underwriters, the National Electrical Code and State of New Jersey codes.

F. MATERIAL AND EQUIPMENT SUBSTITUTIONS

- (1) Materials and equipment as identified on the drawings and/or in these specifications by the manufacturers or specific trade names shall be furnished as identified, except where permission for substitution (as per the Approved Equal Article) is obtained from the C.O.
- (2) Substitutions of material and equipment other than identified on the drawings, in these specifications, or approved under the Approved Equal Article may be made by this CONTRACTOR at the discretion of the C.O. These will only be requested and approved under certain circumstances, e.g., item is no longer manufactured, manufacturer is no longer in business, conflict with what is specified and what actually can be bought, etc. The CONTRACTOR shall then submit for substitution under the following procedure
  - a. Make written request to the C.O. stating reason for substitutions.
  - b. Support request with duplicate copies of complete description, capacities, dimensions, weights of proposed product.State any CONTRACT credit to owner for acceptance of such substitution.
- (3) Substitute material or equipment will be accepted with the CO.'s written approval only.
- (4) The CONTRACTORS shall bear the entire responsibility and all additional costs involved for any redesign required, architecturally, structurally or mechanically to suit any equipment which he may offer as a substitute for approval and installations.

G. MANUFACTURER'S SERVICE:

The CONTRACTORS shall provide, if required, at the appropriate time or as directed by the C.O., the services of a competent factory trained engineer of the particular manufacturer of the equipment or item involved to inspect, adjust and place in proper operating condition any and all such item of manufacturer. No additional compensation will be allowed the CONTRACTORS for such services.

H. OPERATING INSTRUCTIONS:

- (1). The CONTRACTORS shall provide for each item of equipment or apparatus furnished under this CONTRACT, a triplicate set of printed instructions obtained from the manufacturer covering the proper operation, care, lubrication, cleaning, servicing, adjusting, etc., of the items involved, together with special safety instructions.
- (2). The CONTRACTOR or individual primes shall pay particular attention in instructing the owner's representative(s), who will operate the plant, in all such details required to operate all pieces of equipment. The instruction shall include identifying the proper preventive maintenance programs.

H. CHARTS AND DIAGRAMS:

- (1). CONTRACTOR shall install where directed charts and diagrams, framed and glass-covered of approved size, giving the number, location and function of each valve, identifications of each pipe line, and an electrical single line diagram.
- (2). Included in the above are to be:
  - a. Two (2) valve charts and piping diagrams for each trade.
  - b. Temperature and other control diagrams shall be mounted in each equipment room for the equipment located therein.
  - c. Diagram of all feeders showing the wiring connections from incoming service to main distribution switchgear, light and power panels and motor controllers.

J. SLEEVE AND HANGER DRAWINGS:

- (1). The CONTRACTORS shall prepare sleeve and hanger drawings showing types, sizes and locations of all sleeves and hangers, required for his work.
- (2). The CONTRACTORS shall submit to the CO four (4) copies of his/her sleeve and hanger drawings for record only.
- (3). Two (2) copies of sleeve and hanger drawings shall be furnished to the General CONTRACTOR.

K. MOVING OF EQUIPMENT:

The CONTRACTOR shall investigate each space into and through which equipment must be moved. Equipment shall be shipped from manufacturer in sections of size suitable for moving through restricted spaces.

L. ACCESSIBILITY:

All work shall be installed so that all parts required are readily accessible for inspection, operation maintenance and repair. Minor deviations from the drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval from the C.O..

M. EQUIPMENT BASES:

- (1). CONTRACTOR shall submit for approval of the C.O., detail drawings of all equipment foundations and shall furnish all templates for his foundations.

- (2). Each CONTRACTOR shall construct the required forms from drawings and will supply and pour the concrete. It is the duty of this CONTRACTOR to place any templates and anchor bolts and to supervise the construction of these foundations. Each CONTRACTOR will refer to the General Specification for types and mixes of concrete.

N. ACCESS DOORS:

- (1). The CONTRACTOR shall provide Access doors in masonry walls whose work required the access. All trades are to furnish doors of same manufacture. Type to be approved by the C.O.
- (2). Furnish access doors to the General CONTRACTOR for installation under another section of the specifications. Access doors are not required in areas having removable section-hung ceiling.
- (3). Frame and door shall finish flush with finished surface. Fabricate doors from No. 14 gauge sheet steel; frames No. 16 gauge sheet steel, and equipped with concealed hinges, permitting at least 175 degrees opening, and two (2) concealed screw driver operated came locks.
- (4). Fabricate access doors of minimum 14 gauge steel with rounded corners for installation in tile and masonry walls with maximum of 3/4 inch wide trim and masonry anchors.
- (5). Minimum door size: 12 X 12 inch at easily accessible valves and cleanouts: 18 X 18 inch where partial body access is required; 24 X 24 inch where entire body access is necessary.
- (6). Group together concealed boxes, controls, valves, dampers, and other mechanical and electrical equipment requiring access for operation, maintenance and repair, to reduce number of access doors required.
- (7). Where electric motors or heaters are installed in hung ceilings, provide disconnect switch in hung ceiling within reach from access door.

O. ELIMINATION OF NOISE AND VIBRATION:

- (1). All equipment and accessories shall operate without objectionable noise and vibration.
- (2). Should operation of any one or more of the systems produce noise or vibration which is, in the opinion of the C.O., objectionable, the CONTRACTOR shall, at his/her own expense, make changes in equipment and do all work necessary to eliminate the objectionable noise or vibration.

P. CLEANING:

All apparatus, accessories and piping, after installation, shall be thoroughly cleaned of all dirt, grease and foreign matter, and left in a condition satisfactory to the C.O. for delivery to the owner for his operation.

Q. PAINTING

- (1). Except for shop coats and finish coats, as may be herein specified, all painting will be done by others.
- (2). All concealed supports and ironwork not otherwise protected against corrosion shall be given two (2) coats of bituminous base paint.
- (3). The CONTRACTORS shall, however, thoroughly clean all his/her work and leave same in a neat and workmanlike condition for the application of paint.

R. ELECTRIC WIRING:

- (1). The Electrical CONTRACTOR shall be required to bring a service outlet and wiring within 2'-0" of each piece of equipment installed by other trades and CONTRACTs.
- (2). All electric work including labor and materials, from these outlets to place equipment into complete operation shall be done under the CONTRACT furnishing and installing the equipment.

S. MOTORS:

- (1). Unless otherwise indicated on the drawings or herein specified, electric motors 1/2 horsepower and larger shall be 3 phase motor. Electric motors less than 1/2 horsepower shall be 120 volts, single phase.
- (2). All motors shall be of special design for quiet operation and voltage specified, guaranteed to operate continuously at full load with a temperature rise in any part not exceeding 40 degrees C. or for two (2) hours at 25% overload, with a temperature rise not exceeding 55 degrees C. All temperatures shall be measured by a thermometer based on a room temperature of 25 degrees C. The motors shall be capable of carrying 50% overload for short periods without injurious heating.
- (3). Fractional horsepower motors shall be of the sealed prelubricated ball bearing type. Larger size motors shall have ball bearings with pressure grease fittings and drain parts, unless otherwise indicated.
- (4). All motors shall be approved by the Underwriters' Laboratories Inc., for the service and location intended. In general, motors shall be open drip- proof type in dry nonhazardous location, and weather-protected Type II here exposed to dampness or weather. Motors, located here exposed to dampness or weather, shall be provided with watertight connection boxes.
- (5). All motors shall conform to the design, construction and performance requirements of Standard C-50 for "Rotating Electrical Machinery" of the American Standards Association, and shall comply with the regulation of the National Electrical Code.
- (6). Direct connected motors shall be provided with acceptable type couplings, and the motors must be dowelled into the base plates at least at two (2) points. Motors connected to belt-driven apparatus shall be provided with slotted slide base with take-up screws.
- (7). All motors for pumps, compressors, air conditioning drives, and similar type applications where moisture or dust is present shall be provided with vacuum-impregnated epoxy encapsulation of the windings.
- (8). Motors shall be capable of withstanding momentary overloads of 50% without injurious heating. His/her shall operate without excessive heating, flashing or sparking under any conditions within the required capacity of load and speed. All motors shall operate quietly, and shall be replaced if, in the Contracting Officer's opinion, his/her do not operate quietly.
- (9). All motors shall be equipped with ball bearings unless specified otherwise in other sections of these specifications.
- (10). Motors for single-phase operation shall be of the capacitor type and those for three-phase operation shall be polyphase motors of the squirrel cage induction or wound rotor inductor type.
- (11) Direct connected fan motors shall have speeds as indicated on the plans or specifications. V-Belt connected motors shall have a maximum synchronous speed of 1800 rpm.

- (12). Motors requiring high starting torque are to be wound to suit such requirements and are to be high starting torque, low starting current type.
- (13). Fans, blowers, centrifugal pumps, and similar application shall be NEMA design B motors.
- (14). Reciprocating pumps, compressor, air conditioning drives, and conveyors shall be NEMA design C motors.
- (15). Motors shall be as manufactured by G.E., Westinghouse, U.S. Motors, Electro-Dynamic or Reliance.

T. MOTORS CONTROLLERS AND STARTERS:

- (1). Unless otherwise herein specified, the CONTRACTOR will provide all motor controllers and starters providing said motor. Motor controllers and starters shall be as manufactured by General Electric, Westinghouse or Allen Bradley.
- (2). Motor controllers and starters shall be of a type suitable for use in connection with each motor to be controlled. All starters shall have pilot light and shall be "hand-off automatic" type.
- (3). Controllers shall be of the fully enclosed type, floor or wall mounted except where mounted in a Motor Control Center. Each enclosure shall be furnished with a schematic-wiring diagram pasted inside the door.
- (4). All controllers shall have thermal overload protection in three phases for three-phase motors, and in the phase leg for single-phase motors.
- (5). All magnetic controllers must provide low voltage protection for the motors.
- (6). All component parts of each controller (switches or breakers, starters, resistors, etc.) shall be in one (1) ventilated enclosure.
- (7). Controllers shall be of the combination type with fused or nonfused safety type disconnect switched as required by the local electrical code.
- (8). Across-the-line magnetic type starters shall be used for all motors except where reduced voltage type starters are indicated on plans or specifications.
- (9). Reduced voltage starters shall be of the auto- transformer type unless otherwise indicated on the drawings.
- (10). Each three-phase motor controller shall be provided with control transformer.
- (11). Starters for single-phase motors shall be manual across-the-line type with thermal overload protection except where remote push buttons are called for, in which case magnetic type starter shall be used.
- (12). Remote controls shall be of the four (4) wire type with "Start" and "Stop" push button, and pilot light to indicate "on" and "off" operation of motors. When motors are remotely controlled, additional push button stations with the pilot lights shall be installed integrally in the controller door.
- (13). The CONTRACTORS shall deliver to the electrical CONTRACTOR all necessary wiring diagrams and instructions for power connections and wiring to his equipment.

- (14). Except where equipment is factory mounted and wired, the CONTRACTORS shall deliver the motor controllers and starters to be provided under his/her CONTRACT to the electrical CONTRACTOR at the job site, who will mount same and provide all power and control wiring.

U. VALVE TAGS:

Each valve on main or branch line of piping shall have 1-1/2" diameter brass tag with black filled engraved numbers and letters. Tag shall be affixed to valve by means of a brass "S" hook. Tags on different services shall be identifiable by a letter and number designation.

V. PIPE SLEEVES:

- (1). The individual Mechanical CONTRACTOR shall furnish and set all sleeves used to accommodate pipes or conduits passing through walls, floors and partitions. Unless otherwise specified, sleeves shall be standard weight steel pipe.
- (2). Sleeves shall be of sufficient size to pass conduit, pipe or with insulation so as not to present any undue friction with one inch (1") minimum clearance.
- (3). Sleeves in exterior walls shall be either galvanized steel or cast iron with an intermediate flange. Sleeves shall finish flush with walls. Spaces between pipe or conduit and sleeve or insulation and sleeve shall be packed with oakum and caulked with lead or plastic compound.
- (4). Sleeves for concealed pipes in chases shall terminate flush with floor. Sleeves for pipes exposed to view shall project one inch (1") above finished floor. Sleeves passing through wall shall terminate flush with wall surface. Sleeves in equipment spaces shall project two inches (2") above finished floor.
- (5). Sleeves shall be set before concrete is cured and before masonry construction is finished. Any subsequent cutting and repair of construction be cause of failure to set sleeves in time shall be done at CONTRACTOR'S expense.
- (6). Sleeves passing through waterproofed floors or walls shall be enclosed with caulking type plate. Plate shall be split type, complete with floor gasket and flanged ends for bolting halves together. The bell end of the plate shall be tightly packed with oakum.
- (7). Pipes and conduit passing through roof decks shall be installed with a base-flashing fitting.

W. ESCUTCHEONS:

Escutcheons shall be provided at all exposed finished surfaces pierced by sleeves. His/her shall fit around insulation or around pipe if uninsulated and shall extend against the finished surface of wall, floor, or ceiling so that embedded sleeve is completely concealed. Escutcheons shall be solid nickel-plated cast iron with set screws and attached to projecting sleeves or pipes and not to pipe covering.

X. FLASHING:

CONTRACTOR shall provide all cap flashing for the trade involved, unless otherwise specified. Base flashing will be provided under another division of these specifications.

Y. BUTTONS AND TABS:

Furnish buttons or tabs, as approved, to indicate location of mechanical and electrical equipment in removable type ceilings.

AA. SUPPORTS FROM OVERHEAD CONSTRUCTION:

Where overhead construction does not permit fastening of supports for equipment, furnish additional framing, subject to approval by C.O.

BB. REAMING:

The ends of all pipes shall be fully reamed or filed out to the full size of the bore before being made up with the fittings.

CC. CONNECTION OF EQUIPMENT FURNISHED BY OTHERS:

- (1). All equipment noted on the drawings as furnished by the owner or by other trades will be rigged in place, set and installed under separate CONTRACTs or under other sections of this specification. All wiring and piping technically and internally or integrally a part of the equipment will be previously executed, or executed under separate CONTRACTs, unless otherwise specifically shown and/or specified in these drawings and specifications.
- (2). The mechanical and electrical trades shall make all necessary supply, inlet and outlet connections to equipment furnished by the owners or installed under separate CONTRACT as called for on the drawings and as required.
- (3). CONTRACT drawings only indicate the services to various pieces of owner's equipment. The mechanical and electrical trades shall make all connections to such equipment as required. The CONTRACTOR will furnish all power and control wiring to such equipment.

DD. AS-BUILT DRAWINGS:

The CONTRACTOR shall keep on the job site, one (1) set of drawings upon which, any changes in the work, which may arise due to field conditions or other causes, shall be recorded. These drawings shall be kept in good condition and shall be turned over to the C.O. upon completion of the work. Final payment will be withheld until such drawings are turned over to the C.O.

EE. UNDERWRITERS' LABORATORIES CERTIFICATION:

All mechanical and electrical equipment shall bear the UL label of approval where such inspection service is furnished for the particular type of equipment.

FF. FINAL TESTS:

- (1). Before an application for final acceptance of the work will be considered, all tests deemed necessary to show proper execution to the work shall have been performed and completed in the presence of the CO. Scheduling of all testing procedures shall be arranged to suit the convenience of the C.O.
- (2). Where electricity-utilizing equipment, supplied by other trades, is energized, controlled or otherwise made operative by electric work wiring systems, the testing which will prove the proper functional performance of such wiring systems shall be conducted specifically by the trade responsible for the mechanical equipment. The electrical work shall, however, include cooperation in such testing and the making available to any necessary electrical testing equipment.

- (3). Testing to show the proper functioning of lighting fixtures and lamps, supplied by other trades or any other parties, shall be completely included in the electrical work.
- (4). Any defects or deficiencies discovered in any of the electrical work shall be corrected in an approved manner without additional cost.

GG. DEMOLITION:

- (1). The CONTRACTOR shall disconnect, remove and cap all existing outside and underground utilities which are abandoned as a result of this CONTRACT, as shown on drawings or specified within specification. All transformers and meters shall be the property of the owners.
- (2). Electrical - Disconnect and store on the job site overhead wiring, transformers and conduit as indicated on drawings. Trench disconnects and removes underground electric wires and conduit as indicated on drawings and backfill in accordance with specifications.
- (3). Plumbing - All abandoned underground piping (except clay) shall be trenched, removed and backfilled. All underground clay pipe may be trenched, crushed and backfilled. See Trench and Backfilling in specifications.

**69. ELECTRIC WELDING EQUIPMENT, TERRAZZO GRINDERS, PIPE THREADING EQUIPMENT, FLOOR SANDERS**

- A. The CONTRACTOR shall provide at locations acceptable to subcontractors involved two (2) outlets - 208, 220, 230, volts 60 cycle - three phase (single phase if 3-phase not available) 7-1/2 H.P. maximum capacity for each of the Prime Contractors using the referenced equipment. Should any subcontractor desire additional outlets or service of this type beyond the specified two (2) outlets or service of a greater capacity or of different characteristics or for any other power equipment, his/her shall arrange with the CONTRACTOR for the installation and pay all costs involved.
- B. The CONTRACTOR who is obligation to employ standby personnel by trade agreement to which his/her are a party shall determine and include all such costs thereof in his/her bid proposal.
- C. Any conflict arising between the prime contractors with regard to financial obligations for standby personnel or standby supervisory employees when the maximum number of units are provided, shall be resolved between the parties involved in direct proportion to the number of units on the site by the respective contractors.
- D. No CONTRACTOR shall at any time set up claim for an extra relating to costs of standby maintenance or standby supervision for electric motor driven equipment. The State under no condition will entertain or consider an extra in this regard.
- E. The provisions required hereunder are in addition to the provisions required under Light and Power.

**70. APPROVAL**

Any sum or sums allowed to the CONTRACTOR under the provisions of this CONTRACT or under the State arbitration proceedings or under other State procedure shall be paid subject to the approval of the CONTRACTING OFFICER, Chief, National Guard Bureau or agent of the Veterans Administration as part of the cost of the work herein contracted for and shall be deemed to be within the contemplation of this CONTRACT.

## **71. COOPERATION - THREE DAY'S NOTICE, ETC.**

- A. The CONTRACTOR shall cooperate with each other and secure the effective cooperation of the different craftsmen employed on the work, so that no portion of the work is delayed or slighted because of the failure of any workmen in any part to do his duty. Should it at any time appear that this is happening, then the CONTRACTOR shall immediately discharge the delinquents and employ others to finish the work.
- B. All subcontractors shall coordinate his/her work with adjacent work and with other trades so as to accelerate general progress of the work and assure correctness.
- C. Each CONTRACTOR shall lay out and install his/her work at such time or times and in such manner as to facilitate general progress of project.
- D. It is agreed that in event of any dispute arising as to possible or alleged interference among various CONTRACTORS which may retard progress of work, same will be adjusted by the C.O. whose decision as to parties at fault and as to manner in which matter may be adjusted shall be binding and conclusive to all parties.
- E. Each trade shall afford other trades every reasonable opportunity for installation of his/her work and for storage of his/her materials.
- F. **If the CONTRACTOR for general construction or any other contractor delays the project or interferes with the progress of any other CONTRACTOR, the C.O. may order or direct the CONTRACTOR at fault to accelerate work at any particular point; and such CONTRACTOR shall provide workmen at such point or points and execute such portion of their work as may be required to enable others to hasten and properly engage and carry on their work at no expense to the State.**
- G. Should any CONTRACTOR fail to comply with such notice, should his/her fail or refuse to make good condemned work, or should his/her neglect or refuse to diligently prosecute the work, or any part thereof, then the C.O. may, after **three (3) calendar day's** notice in writing to the CONTRACTOR and his/her Sureties cost thereof, together with any loss or damage that may accrue from such neglect, failure or refusal, shall be deducted from the amount of the CONTRACT. The expense of carrying on such work or operation shall be paid by the State, to such person or persons as present certificates from the C.O. therefore without entailing any personal liability upon the officers issuing certificates or making such payments. Should the infraction continue, then the C.O. shall terminate the CONTRACT and seek recourse from the surety as outlined in these General Conditions.
- H. If, through acts of neglect on the part of the CONTRACTOR, any Subcontractor shall suffer loss or damage on the work, the CONTRACTOR agrees to settle with such other Subcontractors by agreement or arbitration if such other Subcontractor will so settle. If such other Subcontractor shall assert any claim against the State on account of any damage alleged to have been sustained, the C.O. shall notify the CONTRACTOR who shall indemnify and save harmless the State against any such claim.
- I. The CONTRACTOR shall coordinate his/her operations with those of other subcontractor. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The CONTRACTOR, including his/her Subcontractors shall keep informed of the progress and the detail work. The Project Manager shall immediately report a lack of progress or defective workmanship on the part of other CONTRACTOR. Failure of a CONTRACTOR to keep informed of workmanship by others shall be construed as acceptance by them of the status of the work as being satisfactory for proper coordination with his/her own work.

## **72. COORDINATION OF WORK - RIGHTS OF OTHER CONTRACTORS**

- I. The General CONTRACTOR shall be responsible for coordinating the entire building operation from the beginning of the work until acceptance by the State.
- J. The various other prime contractors shall coordinate his/her own work and shall cooperate with each other under the overall direction of the CONTRACTOR for general construction.
- K. In case the CONTRACTOR, by his/her own act or neglect or the act or neglect of any person or persons in his/her employ, shall unnecessarily delay, in the opinion of the CONTRACTING OFFICER, Architect/Engineer, and/or the Construction Manager, the work of the owner or other CONTRACTORS, by not coordinating or properly cooperating with them or by not affording them sufficient opportunity or facility to perform work as may be specified, the CONTRACTOR shall, in that case, pay all costs and expenses incurred by such other CONTRACTORS due to any such delays and his/her hereby authorize the owner to deduct the amount of such costs and expenses from any monies due or to become due the CONTRACTOR under this Contract, based on the investigations and recommendations of the Architect/Engineer or the C.O. Nothing contained in this paragraph shall, however, relieve said CONTRACTOR from any liability or damage resulting to the owner on account of such delay or delays. It is the intent of the parties that the other CONTRACTORS on this project shall be third party beneficiaries of this provision and may bring an action directly against the CONTRACTOR for any and all damages occasioned by any act or neglect by the CONTRACTOR. This provision shall not give such third party beneficiaries any right of action against the State or the C.O.
- L. The G.C. Shall schedule and hold bi-weekly meetings with subcontractors and distribute minutes for these meetings. The meeting date and time shall be provided to the C.O. or his/her representative for his/her attendance.
- M. DMAVA shall determine and approve the date, time and location for the first project or coordination meeting. DMAVA shall also establish and approve what CONTRACTOR (s) or subcontractor(s) shall be required at meetings.
- N. The General CONTRACTOR shall coordinate all work to be performed by utility companies such as Gas and Electric, telephone, cable, water and sewer. This includes any work related to the project performed by local, county or state agencies.
- O. The CONTRACTOR for general construction shall have coordination responsibilities to include but not be limited to the following:
  - (1) Scheduling and holding subcontractor coordination meetings at least once every two weeks. The CONTRACTOR shall produce and distribute minutes for these meetings. The meeting schedule shall be provided to the State, the A/E or the Construction Manager for his/her project representatives' attendance.
  - (2) The HVAC Prime CONTRACTOR shall prepare Mylar backgrounds for the use of all other Prime Contractors to prepare his/her coordination drawings under the supervision of the CONTRACTOR. Minimum scale of the drawings shall be 3/8" = 1'0".
  - (3) CONTRACTOR to coordinate all work to be performed by utility companies including a provision for the new main electrical service, new roadway and parking lot lighting, temporary telephone lines and the location and installation of new telephone lines and the installation of a new gas line from the street to the building.

### **73. CLAIMS/DISPUTES/MEDIATION/ LITIGATION**

- A. The CONTRACTING OFFICER shall be, in the first instance, the interpreter of the requirements of this CONTRACT and the judge of the CONTRACTOR's performance hereunder. The extent and character of the work shall be subject to the general supervision, direction, control and approval of the CONTRACTING OFFICER to whom the CONTRACTOR shall report and be responsible.
- B. Disputes between the parties will be resolved in accordance with the following process:
  - a. Written notice by the CONTRACTOR of his/her claim and a request for a CONTRACTING OFFICER's Hearing.
  - b. CONTRACTING OFFICER's hearing
  - c. Mediation
  - d. Litigation
- C. Except as otherwise provided in this CONTRACT, disputes and claims concerning questions of fact or law arising under this CONTRACT which are not disposed of by mutual agreement shall be governed by the provisions of N.J.S. 59:13-1, et. Seq., the "New Jersey Contractual Liability Act."
- D. The CONTRACTOR hereby agrees that only the law of New Jersey applies to all disputes arising out of this project and that all claims of every nature by or against the CONTRACTOR shall be brought only in the Superior Court of New Jersey and no other state. The CONTRACTOR hereby agrees to submit to the jurisdiction of the Superior Court of New Jersey even though all or any portions of the work may be performed outside New Jersey. The CONTRACTOR agrees to reference the applicability of the New Jersey Contractual Liability Act in all subcontracts and insert this paragraph in all subcontracts.

### **CONTRACTING OFFICER'S HEARINGS**

- A. The CONTRACTOR may at anytime request a hearing of any claim, dispute or matter in question arising out of or relating to this CONTRACT. The CONTRACTING OFFICER's decision shall be the final decision of DMAVA.
- B. The CONTRACTOR may also request a CONTRACTING OFFICER's hearing should they have any claims, dispute or matter in question arising out of or relating to their CONTRACT. The CONTRACTOR will be required to participate in such hearing either as a party to the dispute or as a CONTRACTING OFFICER's witness.
- C. Based upon the Hearing Officer's findings of fact the CONTRACTING OFFICER will make a decision. Such action on the part of the CONTRACTING OFFICER shall be expeditiously taken. Except as otherwise provided in this CONTRACT, disputes and claims concerning a question of fact arising under this CONTRACT which are not disposed of by mutual agreement shall be reviewed by the CONTRACTING OFFICER who shall reduce a decision to writing and notify the CONTRACTOR. Pending such final decision the CONTRACTOR shall have no recourse to Court actions, assuming that the aforesaid administrative procedures take place within reasonable amount of time.
- D. Pending final decision of such claim or dispute, the CONTRACTOR and consultants shall proceed diligently with the performance of his/her CONTRACT responsibilities.

### **MEDIATION**

- A. The parties of this CONTRACT agree to use mediation as the first step in resolving disputes prior to arbitration or litigation. Any party or parties to a dispute under this CONTRACT may initiate mediation. Parties desiring the mediation of a dispute shall initiate a written request and forward it to

the C. O. The C.O. shall respond in writing within thirty (30) days. His/her will jointly agree to seek a mediator through the American Arbitration Association, firms engaged in mediation services or through other state agencies who have certified mediators in his/her employment. The C.O. shall request a list of names from the organization agreed upon. Qualifications of the mediator(s) will be reviewed by both parties and be in agreement on a choice. Each party agrees to jointly select a single mediator; however, a mediation team may be used if agreed upon by both parties.

- B. No person shall serve as a mediator in any dispute under this CONTRACT if the person(s) has any financial or personal interest in the result of the mediation. Prior to accepting an appointment, the prospective mediator shall disclose any circumstance likely to create a presumption of bias or prevent a prompt meeting with the parties. The person or firm must present evidence of credentials and experience so all parties can make an educated selection. In the event that a mediator becomes unwilling or unable to serve, his/her shall give written notice to the parties involved at least thirty (30) days in advance of ceasing services.
- C. Persons of his/her choice may represent any party to the dispute. The name(s) and address (es) from the CONTRACTOR(s) shall be communicated to the C.O. at least thirty (30) days in advance of any meetings. The mediator shall fix the time and place of the mediation session(s).
- D. At least ten (10) days in advance, DMAVA and the CONTRACTOR shall provide the mediator with a brief memorandum setting forth its position with regard to the issues that need to be resolved. These memoranda may be distributed to the parties at the direction of the mediator.
- E. The mediator does not have the authority to impose a settlement upon the parties but will attempt to help the parties reach a satisfactory resolution of his/her dispute. The mediator is authorized to conduct joint and separate meetings with the parties and to make oral and written recommendations for settlement. The mediator may obtain expert advice when delineation of technical information is required. The parties must agree to this and be willing to assume expenses associated with obtaining such advice. Once expert advice is agreed to, the mediator shall make the necessary arrangements for obtaining the advice. The mediator is authorized to end mediation if, in his/her opinion, further efforts would not contribute to a resolution.
- F. Mediation sessions are private and the information confidential. The mediator shall not disclose any information discussed by the parties or witnesses in the course of the mediation. All records, reports or other documents received by a mediator during the course of a session or sessions shall be confidential. The mediator shall not be compelled to divulge such records or to testify in regard to the mediation in any adversary proceeding or judicial forum. The parties shall maintain the confidentiality of the mediation and shall not rely on, or introduce as evidence in any arbitral, judicial or other proceeding:
  - (a) views expressed or suggestions made by the other party with respect to a possible settlement of the dispute;
  - (b) admission made by the other party in the course of the mediation proceedings;
  - (c) proposals made or view expressed by the mediation; or
  - (d) the fact that the other party had or had not indicated willingness to accept a proposal for settlement made by the mediator.
- G. There shall be no stenographic record of the mediation process. Other persons may attend only with agreement from all parties involved.
- H. Termination of mediation shall be made when:
  - (a) the execution of a settlement agreement by the parties;
  - (b) by a written declaration of the mediator to the effect that further efforts at mediation are not longer worthwhile; or
  - (c) by a written declaration of a party or parties to the effect that the mediation proceedings are terminated.

- I. The mediator shall not be a necessary party to a judicial proceeding relating to the mediation. The mediator shall not be liable to any party for any act or omission in connection with any mediation conducted under this agreement.

#### **LITIGATION**

- A. If the parties to a dispute for damages identified in Article 83 do not mutually agree to mediation or arbitration as set forth, the parties to the dispute agree to litigate the matter in a court of law of this State having jurisdiction.
- B. No litigation, arising out of or relating to such a dispute, shall include by consolidation, joinder or any other manner, the State or the Government when the State or the Government has no direct responsibility in the dispute or for the damages arising therefrom.
- C. Nothing contained herein shall, however, relieve said CONTRACTOR or his/her subcontractor(s), or the Architect-Engineer, from any liability or damage resulting to the State on account of such dispute damages.

#### **INDEMNIFICATIONS**

- A. The CONTRACTOR agrees to: Except as set forth in Article 10 above, defend, indemnify, protect and save harmless the State and the Government and its agents, servants, and employees from and against any and all suits, claims, demands, or damages of whatsoever kind of nature arising solely out of any negligent act, error or omission of the CONTRACTOR or his/her subcontractors, its agents, servants and employees, in the performance of professional services under the CONTRACT, including but not limited to reasonable expenditures for and costs of investigations, hiring of expert witnesses, court costs, counsel fees, settlements, judgments or awards.
- B. The CONTRACTOR shall be liable to the State for any reasonable costs incurred by it to correct, modify or redesign any drawings submitted by his/her Architect-Engineer that are found to be defective or not in accordance with the provisions of this agreement as a result of negligent act, error or omission on the part of his/her Architect-Engineer, agents, servants or employees. The CONTRACTOR's Architect-Engineer shall be given reasonable opportunity to correct any deficiencies.

#### **74. DISPUTES BETWEEN CONTRACTOR'S AND THEIR SUBCONTRACTOR(S)**

- A. The CONTRACTOR agrees to make no claim for damages against the State or Government when the State or Government has no direct responsibility for said damages, by reason of any act, error or omission, by any CONTRACTOR, or in connection with such CONTRACTOR.
- B. These provisions shall not require the CONTRACTOR to consider modifications of any nature proposed which affect esthetics or safety; to consider modifications or substitution unless accompanied by engineering and other technical data required to permit proper evaluation and unless the CONTRACTOR has undertaken to reimburse the Architect-Engineer for all cost involved in the evaluation; to provide interpretation of the CONTRACT Documents or review shop drawings within less than a reasonable time (including time required for testing and consultation with consultants); to consider shop drawings which are not accompanied by data and other related shop drawings as required to permit proper review; or to act on shop drawings within a normal time when his/her are submitted in unusually great volume rather than spaced in a reasonable manner. In no case shall the Architect-Engineer be required to perform his services in a manner, which is at variance with his/her own professional judgment.

## **75. RIGHT OF THE OWNER TO TERMINATE CONTRACT**

- A. In the event that any of the provisions of this CONTRACT are violated by the CONTRACTOR, or by any of his/her Subcontractors, the C.O. may serve written notice upon the CONTRACTOR and the Surety of his intention to terminate the CONTRACT.
- B. Such notices shall contain the reasons for such intention to terminate the CONTRACT.
- C. The CONTRACT shall be terminated unless within **five (5) working days** after the serving of such notice upon the CONTRACTOR, such violation or delay shall cease and satisfactory arrangements of correction be made. Should the violation or delay not be resolved then the C.O. shall, upon the expiration of said **five (5) working days**, cease and terminate the CONTRACT.
- D. In the event of any such termination, the C.O. shall immediately serve notice thereof upon the Surety and the CONTRACTOR, and the Surety shall have the right to take over and perform the CONTRACT; provided, however, that if the Surety does not commence performance thereof within **five (5) working days** from the date of the mailing to such Surety of Notice of Termination, the C.O. may take over the work and prosecute the same to completion by CONTRACT or by "NJDMAVA's Construction Force" and at the expense of the CONTRACTOR and the CONTRACTOR and his/her Surety shall be liable to the State for any excess cost occasioned by the State and any other such damages caused by the breach including liquidated damages caused by the delay to the date of completion thereby, and in such event the State may take the site of the work and necessary therefore.

## **76. ASSIGNMENT OF CLAIMS**

- A. Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S. Code 203, 41 U.S. Code 15), if this CONTRACT provides for payments aggregating \$1,000 or more, claims for money due or to become due the CONTRACTOR from the State or Government under this CONTRACT may be assigned to a bank, trust company, or other financing institution, including any Federal-lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this CONTRACT and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing.
- B. Notwithstanding any provisions of this CONTRACT, payments to an assignee of any moneys due or to become due under this CONTRACT shall not, to the extent provided in said Act, as amended, be subject to reduction or set-off.

## **77. SUBSTANTIAL COMPLETION**

- A. On the request of the State, the A/E, the CONTRACTOR, and the C.O. shall make a joint inspection of the work and if all determine that the work is substantially completed and shall prepare a certificate of substantial completion. The Veterans Administration Engineer may also, in the case of Veterans facilities, be present at this inspection. Such certification shall in no way relieve the CONTRACTOR of any contractual obligation.
- B. Standard guarantee periods for equipment, workmanship, and materials shall commence on the date of substantial completion for the project or portions thereof so certified unless specified to the contrary as a condition of partial acceptance and approved in writing by the C.O.

## **78. PUNCH LISTS**

- A. At the request of the CONTRACTOR, when he believes his work to be completed, and with concurrence of the A/E or Construction Manager, the C.O. shall direct the A/E or Construction Manager to inspect the facility and develop a punchlist.
- B. The Project Manager shall develop this punchlist by conducting a walk thru of the entire facility and identifying any and all work that must be accomplished to allow NJDMAVA to take Final Acceptance of the facility. Once this punchlist is develop and prior to it being given to any CONTRACTOR, NJDMAVA C.O. shall conduct a walk thru to verify its accuracy and to add items believed to have been missed.
- C. Once the punch list is completed and validated, it shall be forwarded to the CONTRACTOR for completion. The CONTRACTOR shall commence completion of the punchlist within five (5) working days of receipt of the list. Every effort shall be made to complete the list in the minimum amount of time. Once the punchlist items are repaired, the A/E, Construction Manager and the C.O. shall re-inspect for completion. Should items be found incomplete, his/her shall be so noted and the CONTRACTOR directed to complete them.
- D. NJDMAVA shall make the sole determination that the project is complete and ready for inspection and development of the punchlist. The C.O. shall not accept a building as complete if it would be obvious to a laymen that there is still work to be done in the normal execution of the CONTRACT. The CONTRACTOR shall make a good faith effort to complete every item of work that is required in the normal execution of his/her CONTRACT before making any requests for an inspection and punchlist.
- E. NJDMAVA's inspection and development of a punchlist in no way eliminates the CONTRACTORS' responsibility to meet the requirements of DCA for final inspection and the issuance of a Temporary Certificate of Occupancy or Certificate of Occupancy. All items identified by DCA shall be completed by the CONTRACTORS in accordance with the applicable codes and regardless of not being identified on any punchlist.

## **79. FINAL ACCEPTANCE**

- A. Once all punchlist items have been completed NJDMAVA shall accept the building and its systems and order the CONTRACTOR to submit it final invoice and Final Acceptance Certificate. The Project Manager and the C.O. shall sign off this form and a copy shall be sent to the CONTRACTOR. The date of this document shall be the date that all warranties shall commence.
- B. Should the CONTRACT be such that there are multiple phases to the project and acceptance of each phase shall be a logical step then the C.O. shall issue a memorandum for record indicating final acceptance of a particular phase. This shall not eliminate the CONTRACTORS obligation to finish the remainder of his/her CONTRACT nor shall it be construed as allowing the warantee period to start on portions of the CONTRACT not completed.
- C. The C.O. shall be the sole deteminer of any final acceptance being initiate against any phase of the project.

## **80. GUARANTEE**

- A. Neither the final certificate of payment nor any provision in the CONTRACT Documents nor partial or entire occupancy of the premises by the State shall constitute an acceptance of work not done in accordance with the CONTRACT Documents or relieve the CONTRACTOR of liability in respect to

any express or implied warranties or responsibility for faulty materials or workmanship. The State will give notice of observed defects with reasonable promptness.

- B. In addition to guarantee otherwise specified in other sections of the specifications, the CONTRACTOR and each individual Subcontractor shall guarantee and warrant in writing the work to be performed and all materials to be furnished under this CONTRACT against defects in materials or workmanship and pay for any damage to other work resulting therefrom. All guarantees, bonds, etc. required by the specifications shall be in writing in requisite legal form, and delivered to the C.O. at the time of submission of requisition for final payment. All Subcontractors' guarantees, bonds, etc. shall be underwritten by the CONTRACTOR, who shall obtain and deliver same to the C.O. before the work shall be deemed finished and accepted. Such guarantees shall be for a period of one (1) year from final acceptance.
- C. The CONTRACTOR shall, at his/her own expense and without cost to the State, within a reasonable time after receipt of written notice thereof, make good any defects in material or workmanship which may develop during stipulated guarantee period, and any damage to other work caused by such defects, or the repairing of same.
- D. The CONTRACTOR shall furnish a written statement from each manufacturer of equipment and materials used in the project that all such equipment and materials are the latest models manufactured at the time of installation of the work and that, for a period of seven (7) years, all components and replacement parts of such equipment and materials will be available for purchase by the Owner.



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](http://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 - CAPE MAY

**Craft: Air Conditioning & Refrigeration - Service and Repair**

**PREVAILING WAGE RATE**

	04/05/12	03/01/13	03/01/14
Journeyman (Mechanic)	W33.28	W0.00	W0.00
	B18.29	B0.00	B0.00
	T51.57	T52.82	T54.32

Expiration Date: 02/28/2015

**Craft: Air Conditioning & Refrigeration - Service and Repair**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	Mo. 1-3	Mo. 4-12	2nd Year	3rd Year	4th Year	5th Year		Wage = %	of Jnymn	Wage
As Shown										
Wage and Bene	50%	55%	60%	65%	75%	85%		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 in excess of 8 per day, hours before or after 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.

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 - CAPE MAY**

**Craft: Boilermaker                      PREVAILING WAGE RATE**

	05/30/12
Foreman	W43.36 B35.00 T78.36
Journeyman	W39.36 B33.56 T72.92

Expiration Date: 12/31/2012

**Craft: Boilermaker                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	65%	70%	75%	80%	85%	90%	95%			
1000 Hours										
Benefit =	28.33	29.08	29.83	30.57	31.32	32.07	32.81			

**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 job.

**Craft: Boilermaker                      COMMENTS/NOTES**

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

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

**SHIFT DIFFERENTIALS:**

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

**OVERTIME:**

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

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

**County - CAPE MAY**

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 - CAPE MAY**

**Craft: Boilermaker - Minor Repairs**

**PREVAILING WAGE RATE**

	05/30/12
Mechanic	W27.22 B15.49 T42.71

Expiration Date: 12/31/2012

**Craft: Boilermaker - Minor Repairs**

**COMMENTS/NOTES**

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

**OVERTIME:**

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

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

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

**County - CAPE MAY**

**Craft: Bricklayer, Stone Mason**

**PREVAILING WAGE RATE**

	05/01/12
Deputy Foreman	W39.95 B26.77 T66.72
Foreman	W42.95 B26.77 T69.72
Journeyman	W36.95 B26.77 T63.72

Expiration Date: 10/31/2012

**Craft: Bricklayer, Stone Mason**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	40%	50%	55%	60%	65%	70%	75%	80%		
Benefits	3.72	4.65	5.12	5.58	17.73	18.87	20.07	21.23		

**Ratio of Apprentices to Journeymen - 1:5**

**Craft: Bricklayer, Stone Mason**

**COMMENTS/NOTES**

The regular workday shall consist of 8 hours, between 7:00 AM and 4:30 PM.

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

**OVERTIME:**

- The first 2 hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, and the first 2 hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. Any additional overtime, including hours in excess of 2 on Saturdays, shall be paid at time and one-half of the second shift 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 due to inclement weather, provided 24 hours or more hours are worked during the course of the week, Monday through Friday.
- 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.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

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

**County - CAPE MAY**

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 - CAPE MAY

**Craft: Carpenter**

**PREVAILING WAGE RATE**

	05/08/12
Foreman	W47.47 B26.10 T73.57
Journeyman	W41.28 B22.70 T63.98

Expiration Date: 10/31/2012

**Craft: Carpenter**

**APPRENTICE RATE SCHEDULE**

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

**Ratio of Apprentices to Journeymen - 1:4**

**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 7:00 AM and 9:00 AM.

**SHIFT DIFFERENTIALS:**

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

**OVERTIME:**

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

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

**County - CAPE MAY**

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 - CAPE MAY**

**Craft: Carpenter - Resilient Flooring**

**PREVAILING WAGE RATE**

	05/30/12	11/01/12
Foreman	W47.47 B26.10 T73.57	W0.00 B0.00 T74.32
Journeyman	W41.28 B22.70 T63.98	W0.00 B0.00 T64.73

Expiration Date: 04/30/2013

**Craft: Carpenter - Resilient Flooring**

**APPRENTICE RATE SCHEDULE**

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

**Ratio of Apprentices to Journeymen - \***

\* Ratio is 1 apprentice to 2 journeymen. No more than 3 apprentices may be on any 1 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.

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

**SHIFT DIFFERENTIALS:**

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

**OVERTIME:**

- Hours in excess of 8 per day or 40 per week, or before or after the regular workday, Monday through Friday, shall be paid at time and one-half the wage rate. Saturday may be used as a make-up day, at straight time, up to 8 hours, for hours lost to reasons beyond the control of the employer, up to a total of 40 hours per week; hours in excess of 8 on Saturday shall then be paid at time and one-half the wage rate. If Saturday is not a make-up day, all hours on Saturday shall be paid at time and one-half the wage rate. All hours on Sundays and holidays shall be paid at double the wage rate.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for hours lost to reasons beyond the control of the employer. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the wage rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

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

**County - CAPE MAY**

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 - CAPE MAY

Craft: Cement Mason

PREVAILING WAGE RATE

See " Bricklayer, Stone Mason" Rates

Expiration Date:

Craft: Cement Mason

COMMENTS/NOTES

\*\*\*See " Bricklayer, Stone Mason" Rates

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

**County - CAPE MAY**

**Craft: Diver                      PREVAILING WAGE RATE**

	07/31/12
Diver	W46.56 B29.07 T75.63
Tender	W38.80 B29.07 T67.87

Expiration Date: 04/30/2013

**Craft: Diver                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	60%	65%	70%	75%	80%	85%				
6 Months										
Benefits	24.58	25.14	25.70	26.27	26.82	27.39				

**Ratio of Apprentices to Journeymen - 1:4**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AFTER 5-1-11:

INTERVAL	PERIOD AND RATES		
1500 Hours	40%	60%	80%
Benefits	18.34	20.59	22.83

**Craft: Diver                      COMMENTS/NOTES**

**OVERTIME:**

- The first 2 hours in excess of 8 per day (9th and 10th hours), Monday through Friday, and the first 8 hours on Saturdays shall be paid at time and one-half the hourly rate. Hours in excess of 10 per day, Monday through Friday, hours in excess of 8 per day on Saturdays, and all hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days, 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, the first 10 hours on Friday shall be paid at time and one-half the hourly rate. Hours in excess of 10 per day shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor 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 - CAPE MAY

**Craft: Dockbuilder                      PREVAILING WAGE RATE**

	07/31/12
Foreman	W46.56 B29.07 T75.63
Journeyman	W38.80 B29.07 T67.87

Expiration Date: 04/30/2013

**Craft: Dockbuilder                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	60%	65%	70%	75%	80%	85%				
6 Months										
Benefits	24.58	25.14	25.70	26.27	26.82	27.39				

**Ratio of Apprentices to Journeymen - 1:4**

APPRENTICE RATE SCHEDULE FOR THOSE APPRENTICES REGISTERED AFTER 5-1-11:

INTERVAL	PERIOD AND RATES		
1500 Hours	40%	60%	80%
Benefits	18.34	20.59	22.83

**Craft: Dockbuilder                      COMMENTS/NOTES**

**Creosote Handling:**

- May 1st to Sept. 30th: + \$0.50 above hourly rate
- Oct. 1st to April 30th: + \$0.25 above hourly rate

**Hazardous Material Work:**

On hazardous material work on a state or federally designated hazardous work site where the worker is required to wear Level A, B or C personal protection, the worker shall receive an additional 20% of the hourly rate, per hour.

**OVERTIME:**

- The first 2 hours in excess of 8 per day (9th and 10th hours), Monday through Friday, and the first 8 hours on Saturdays shall be paid at time and one-half the hourly rate. Hours in excess of 10 per day, Monday through Friday, hours in excess of 8 per day on Saturdays, and all hours on Sundays and holidays shall be paid at double the hourly rate.
- Employees may work four 10-hour days, 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, the first 10 hours on Friday shall be paid at time and one-half the hourly rate. Hours in excess of 10 per day shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor 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 - CAPE MAY**

**Craft: Drywall Finisher**

**PREVAILING WAGE RATE**

	06/07/12
Foreman	W40.49 B20.58 T61.07
General Foreman	W42.33 B20.80 T63.13
Journeyman	W36.81 B20.14 T56.95

Expiration Date: 04/30/2013

**Craft: Drywall Finisher**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.10	Intervals	4 to 6 =	10.78	Intervals	7 to 9 =	13.45	

**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 afternoon, Veterans' Day, Thanksgiving Day, Christmas Day.

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

County - CAPE MAY

**Craft: Electrician**

**PREVAILING WAGE RATE**

	10/03/11	10/01/12
Asst. General Foreman	W52.68 B39.53 T92.21	W53.30 B40.41 T93.71
Foreman	W49.17 B37.06 T86.23	W49.75 B37.89 T87.64
General Foreman	W57.07 B42.60 T99.67	W57.75 B43.57 T101.32
Journeyman, Cable Splicer	W43.90 B33.37 T77.27	W44.42 B34.10 T78.52
Lead Foreman	W50.48 B37.98 T88.46	W51.08 B38.83 T89.91
Working Foreman	W46.10 B34.91 T81.01	W46.64 B35.68 T82.32

Expiration Date: 09/30/2013

**Craft: Electrician**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	14.83	19.06	23.30	27.53	31.77					
Benefits	5.57	6.79	8.01	9.23	10.44					

**Ratio of Apprentices to Journeymen - 2:3**

**Craft: Electrician**

**COMMENTS/NOTES**

THESE RATES ALSO APPLY TO THE FOLLOWING:

- All fire and burglar alarm work.
- All fiber optic work.
- Teledata work in new construction (including additions).
- Teledata work involving 16 or more instruments or voice/data lines.
- All camera installations.

Height Work: 40 feet above ground/floor: +10%

FOREMAN REQUIREMENTS (number of Electricians on site):

(2 to 10) - a Working Foreman; (11 to 22) - a Foreman; (23 to 44) - a Lead

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

**County - CAPE MAY**

Foreman; (35 to 48) - an Assistant General Foreman; (49 or more) - a General Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

**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, per hour, 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 of benefits.

**OVERTIME:**

The first 4 hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and the first 8 hours on Saturdays, shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 12 per day, Monday through Friday, in excess of 8 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, 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 - CAPE MAY**

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

**PREVAILING WAGE RATE**

	09/16/11
Master Technician/Gen. Foreman (31+ Workers on Job)	W43.25 B28.47 T71.72
Senior Technician/Lead Foreman (21-30 Workers on Job)	W38.67 B27.00 T65.67
Technician A/Foreman (11-20 Workers on Job)	W36.59 B26.33 T62.92
Technician B/Working Foreman (4-10 Workers on Job)	W35.30 B24.91 T60.21
Technician C/Journeyman (1-3 Workers on Job)	W32.34 B22.96 T55.30

Expiration Date: 12/31/2012

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

**APPRENTICE RATE SCHEDULE**

<b>INTERVAL</b>	<b>PERIOD AND RATES</b>									
6 Months	17.16	17.16	20.44	20.44	25.38	25.38	29.92	29.92		
Benefits	7.52	7.52	8.49	8.49	10.45	10.45	12.79	12.79		

**Ratio of Apprentices to Journeymen - 2:3**

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

**COMMENTS/NOTES**

NOTES: These rates are for service, maintenance, moves and/or changes affecting 15 voice/data lines or less. These rates may NOT be used for any new construction or fiber optic work.

**FOREMAN REQUIREMENTS:**

The number of workers on the jobsite is the determining factor for which Foreman category applies.

HIGH WORK: Any work performed 40 feet above ground or floor: +10%

**SHIFT DIFFERENTIAL:**

- 2nd Shift (4:30 PM to 12:30 AM) - 8 hrs. pay for 7.5 hrs. work + an additional 10% of the regular hourly rate, per hour.
- 3rd Shift (12:30 AM to 8:00 AM) - 8 hrs. pay for 7 hrs. work + an additional 15% of the regular hourly rate, per hour.

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

**County - CAPE MAY**

**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.

**RECOGNIZED HOLIDAYS:** New Year's 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 - CAPE MAY

Craft: Electrician - Teledata (16 Instruments & More)

PREVAILING WAGE RATE

See "Electrician" Rates

Expiration Date:

Craft: Electrician - Teledata (16 Instruments & More)

COMMENTS/NOTES

\*\*\*See ELECTRICIAN Rates\*\*\*

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

**County - CAPE MAY**

**Craft: Electrician- Outside Commercial**

**PREVAILING WAGE RATE**

	10/03/11	10/01/12
Assistant General Foreman	W52.68 B39.56 T92.24	W53.30 B40.44 T93.74
Foreman	W49.17 B37.05 T86.22	W49.75 B37.88 T87.63
General Foreman	W57.07 B42.67 T99.74	W57.75 B43.65 T101.40
Groundhand, Truck Driver, Conduit Installer (1 year or less experience)	W17.56 B14.57 T32.13	W17.77 B14.86 T32.63
Groundhand, Truck Driver, Conduit Installer (1 year or more experience)	W21.95 B17.68 T39.63	W22.21 B18.05 T40.26
Groundhand, Truck Driver, Conduit Installer (2 years or more experience)	W30.73 B23.93 T54.66	W31.09 B24.45 T55.54
Groundhand, Truck Driver, Conduit Installer (3 years or more experience)	W37.32 B28.62 T65.94	W37.76 B29.25 T67.01
Journeyman Lineman	W43.90 B33.31 T77.21	W44.42 B34.04 T78.46
Lead Foreman	W50.48 B37.98 T88.46	W51.08 B38.84 T89.92
Working Foreman	W46.10 B34.86 T80.96	W46.64 B35.65 T82.29

Expiration Date: 09/30/2013

**Craft: Electrician- Outside Commercial**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	25.42	27.53	29.65	31.77	33.89	36.01	38.12			
Benefits	8.52	9.16	9.78	10.41	10.98	11.67	12.30			

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

**County - CAPE MAY**

**Craft: Electrician- Outside Commercial**

**COMMENTS/NOTES**

\* FOR UTILITY WORK PLEASE SEE STATEWIDE RATES

FOREMAN REQUIREMENTS (number of Electricians on site):

(1 to 10)- one Working Foreman.

(11 to 20)- one Working Foreman and one Foreman.

(21 to 30)- one Working Foreman, one Foreman and one Lead Foreman.

(31 to 40) - one Working Foreman, two (2) Foremen and one Lead Foreman.

(41 to 50)- one Working Foreman, four (4) Foremen, one Assistant General Foreman (runs 5 foremen), and one General Foreman.

(51 to 60)- one Working Foreman, five (5) Foremen, one Assistant General Foreman (runs 5 foremen), and one General Foreman

(runs one foreman).

(61 to 70)- one Working Foreman, six (6) Foremen, one Assistant General Foreman (runs 5 foremen), and one General Foreman

(runs two foremen).

(71 to 80)- one Working Foreman, seven (7) Foremen, two (2) Assistant General Foremen and one General Foreman.

(81 to 90)- one Working Foreman, eight (8) Foremen, two (2) Assistant General Foremen, and one General Foreman.

(91 to 100)- one Working Foreman, nine (9) Foremen, two (2) Assistant General Foremen and one General Foreman.

The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

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 per hour, 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 of benefits.

OVERTIME:

All hours in excess of 8 per day, Monday through Friday, 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 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, 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 - CAPE MAY**

**Craft: Electrician-Utility Work (North)**

**PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

Expiration Date:

**Craft: Electrician-Utility Work (North)**

**APPRENTICE RATE SCHEDULE**

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

**Craft: Electrician-Utility Work (North)**

**COMMENTS/NOTES**

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

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

**County - CAPE MAY**

**Craft: Electrician-Utility Work (South)**

**PREVAILING WAGE RATE**

Rates are located in the "Statewide" rate package

Expiration Date:

**Craft: Electrician-Utility Work (South)**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	60%	65%	70%	75%	80%	85%	90%			
Benefits	19.31	20.34	21.39	22.44	23.48	24.53	25.57			

**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 - CAPE MAY

**Craft: Elevator Constructor**

**PREVAILING WAGE RATE**

	01/01/12
Helper-Over 5 Years	W34.51 B26.59 T61.10
Helper-Under 5 Years	W34.51 B25.90 T60.41
Mechanic (Journeyman) over 5 years	W49.30 B27.77 T77.07
Mechanic (Journeyman) under 5 years	W49.30 B26.78 T76.08
Mechanic in Charge (Foreman) over 5 years	W55.46 B28.26 T83.72
Mechanic in Charge (Foreman) under 5 years	W55.46 B27.15 T82.61
Probationary Helper (1st 6 months)	W24.65 B25.30 T49.95

Expiration Date: 12/31/2012

**Craft: Elevator Constructor**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	55%	65%	70%	80%						
Yearly										
Benefits	full	journeyma n	benefit	rate for	all	intervals				

**Ratio of Apprentices to Journeymen - \***

\* Total number of helpers and apprentices shall not exceed the number of mechanics on the job , except where 2 teams are working, 1 additional helper or apprentice may be employed for first 2 teams and an extra helper or apprentice for each additional 3 teams. Further, the employer may use as many helpers or apprentices as needed under the direction of a mechanic in wrecking of old plants, handling and hoisting material, and on foundation work. When replacing cables on existing elevators, employer may use 2 helpers or apprentices to 1 mechanic.

**Craft: Elevator Constructor**

**COMMENTS/NOTES**

The total number of helpers and apprentices shall not exceed the number of mechanics on the job, except that on jobs where two teams are working, 1 extra helper or apprentice may be employed for the first two teams and an extra helper or apprentice for each additional three teams. Further, the employer may use as

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

**County - CAPE MAY**

many helpers or apprentices as needed under the direction of a mechanic in wrecking old plants, handling and hoisting material, and on foundation work. When replacing cables on existing elevators, employer may use 2 helpers or apprentices to 1 mechanic.

**SHIFT DIFFERENTIALS:**

- 2nd Shift (4:30 PM to 12:30 AM) shall be established on the basis of 7.5 hours of work for 8 hours of pay, plus an additional 10% per hour.
- 3rd Shift (12:30 AM to 8:00 AM) shall be established on the basis of 7 hours of work for 8 hours of pay, plus an additional 15% per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays, Sundays, and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. When working a 4-10 schedule, all hours on Friday shall be paid at double the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and 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 - CAPE MAY

**Craft: Glazier                      PREVAILING WAGE RATE**

	05/30/12
Foreman	W40.35 B25.75 T66.10
Journeyman	W38.35 B25.75 T64.10

Expiration Date: 04/30/2013

**Craft: Glazier                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	17.38	21.41	25.77	32.53						
Benefits	12.52	13.39	13.97	14.47						

**Ratio of Apprentices to Journeymen - 1:3**

**Craft: Glazier                      COMMENTS/NOTES**

HIGH WORK (30 feet above ground /floor or using a swing stage): +\$1.00/hr

**FOREMAN REQUIREMENT:**

- When 4 or more Glaziers are working on a job that runs for 10 days or more, 1 shall be designated a Foreman.

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

**SHIFT DIFFERENTIALS:**

- Second and Third shift shall receive the regular hourly rate, plus 15% per hour.

**OVERTIME:**

- The first 2 hours in excess of 8 per day (9th and 10th hours), or outside the regular workday, Monday through Friday, that are not shift work, and the first 8 hours on Saturdays shall be paid at time and one-half the regular rate. All other daily overtime, and 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 Friday. The 11th and 12th hours on the 4 days worked, and the first 12 hours on the fifth day shall be paid at time and one-half the regular rate. All other daily overtime, and all hours on Saturdays, Sundays, and holidays shall be paid at double the regular rate.

- Benefits on overtime hours are as follows:

Time and one-half = \$24.98/hr.

Double time = \$29.41/hr.

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

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

**County - CAPE MAY**

**Craft: Heat & Frost Insulator**

**PREVAILING WAGE RATE**

	07/01/12
Foreman	W40.92 B29.48 T70.40
Journeyman	W39.92 B29.48 T69.40

Expiration Date: 06/30/2013

**Craft: Heat & Frost Insulator**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	45%	55%	65%	75%	80%					
Yearly										
Benefit	26.23	for	all	intervals						

**Ratio of Apprentices to Journeymen - \***

\* Ratio = 1:4 on a "company-wide" basis (i.e. the total number of apprentices and journeymen employed by the company). There is no limit to the number of apprentices allowed on any one job, provided there is at least 1 journeyman on the job.

**Craft: Heat & Frost Insulator**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- If there is only 1 Insulator on the job, he must be designated a Foreman.
- If there are 2 to 10 Insulators on the job, 1 must be designated a Foreman.
- If there are 11 or more Insulators on the job, 1 must be designated a General Foreman and receive the following additional pay (% above Journeyman wage rate):
  - 11 - 20 Insulators on site: 10%; 21 - 30 Insulators on site: 15%;
  - 31 - 40 Insulators on site: 20%; 41 - 50 Insulators on site: 25%

The regular workday shall be 8 hours between 7:00 AM and 3:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of two (2) consecutive days and a minimum of two (2) shifts per day must be worked. Additionally, no less than two (2) employees may work on any one (1) shift. If these requirements are not met then shift work would not apply and the applicable overtime rate shall be paid.
- 1st Shift (8:00 AM- 4:00 PM).
- 2nd Shift (4:00 PM - 12:00 AM): additional 15% of the regular rate, inclusive of benefits.
- 3rd Shift (12:00 AM - 8:00 AM): additional 20% of the regular rate, inclusive of benefits.

**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 regular rate, inclusive of benefits. All hours on Sundays 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, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day,

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

**County - CAPE MAY**

Thanksgiving Day, 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 - CAPE MAY

**Craft: Heat & Frost Insulator - Asbestos Worker**

**PREVAILING WAGE RATE**

	07/01/12
Abatement Foreman	W40.92 B29.48 T70.40
Abatement Helper, First Level	W31.13 B12.32 T43.45
Abatement Helper, Second Level	W27.94 B29.48 T57.42
Abatement Mechanic	W39.92 B29.48 T69.40

Expiration Date: 06/30/2013

**Craft: Heat & Frost Insulator - Asbestos Worker**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
	SEE	Heat &	Frost	Insulator						

**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.

**FOREMAN REQUIREMENTS:**

- If there is only 1 Asbestos Worker on the job, he must be designated an Abatement Foreman.
- If there are 2 to 10 Asbestos Workers on the job, 1 must be designated an Abatement Foreman.
- If there are 11 or more Asbestos Workers on the job, 1 must be designated a General Foreman and receive the following additional pay (% above Abatement Mechanic wage rate):
  - 11 - 20 Insulators on site: 10%; 21 - 30 Insulators on site: 15%;
  - 31 - 40 Insulators on site: 20%; 41 - 50 Insulators on site: 25%

**MECHANIC-TO-HELPER RATIO:**

- Maximum of 5 Abatement Helpers for each Abatement Mechanic on the job.

**OVERTIME:**

- Hours in excess of 8 per day, 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 (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, Memorial Day, July 4th, Labor Day, Veterans' Day, Presidential Election Day, Thanksgiving Day, Christmas Day. Saturday holidays observed the preceding Friday, Sunday holidays observed the

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

**County - CAPE MAY**

following Monday.

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

**County - CAPE MAY**

**Craft: Ironworker**

**PREVAILING WAGE RATE**

	07/01/12	07/01/13
Building: Structural & Precast - Foreman	W48.62 B26.63 T75.25	W0.00 B0.00 T75.75
Building: Structural & Precast - Journeyman	W44.62 B26.63 T71.25	W0.00 B0.00 T71.75
Fence & Guardrail Erector-Foreman	W44.57 B26.63 T71.20	W0.00 B0.00 T71.70
Fence & Guardrail Erector-Journeyman	W40.57 B26.63 T67.20	W0.00 B0.00 T67.70
Heavy Highway: Fence Erector- Foreman	W44.57 B26.63 T71.20	W0.00 B0.00 T71.70
Heavy Highway: Fence Erector- Journeyman	W40.57 B26.63 T67.20	W0.00 B0.00 T67.70
Heavy Highway: Structural & Precast - Foreman	W48.62 B26.63 T75.25	W0.00 B0.00 T75.75
Heavy Highway: Structural & Precast - Journeyman	W43.27 B26.63 T69.90	W0.00 B0.00 T70.40
Solar & Windmill- Foreman	W48.62 B26.63 T75.25	W0.00 B0.00 T75.75
Solar & Windmill- Journeyman	W43.27 B26.63 T69.90	W0.00 B0.00 T70.40
Windows-Foreman	W47.52 B26.63 T74.15	W0.00 B0.00 T74.65
Windows-Journeyman	W43.52 B26.63 T70.15	W0.00 B0.00 T70.65

Expiration Date: 06/30/2014

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

**County - CAPE MAY**

**Craft: Ironworker**

**APPRENTICE RATE SCHEDULE**

<b>INTERVAL</b>	<b>PERIOD AND RATES</b>									
6 Months	60%	65%	70%	75%	80%	85%	90%	95%		

**Ratio of Apprentices to Journeymen - \***

\* On all work EXCEPT Bridge Cable Spinning Work- 1:4; On Bridge Cable Spinning Work- 1:1

**Craft: Ironworker**

**COMMENTS/NOTES**

Note: On any hazardous site where the worker is required to wear personal protective gear, the worker shall receive an additional \$3.00 per hour.

**SHIFT DIFFERENTIALS:**

- 2nd Shift: 8 hrs. pay for 7.5 hrs. work
- 3rd Shift: 8 hrs. pay for 7 hrs. work
- For all Heavy Highway projects: A flexible shift may be worked with a \$4.00 per hour differential.

**OVERTIME:**

- Building Structural & Precast and Windows:  
Hours in excess of 8 per day, and all hours on Saturdays, Sundays, and holidays shall be paid at double the wage rate.
- Heavy Highway (all) and Fence & Guardrail:  
Hours in excess of 8 per day Monday through Friday, and all hours on Saturdays 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.
- Solar and Windmill:  
The first 2 hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and the first 8 hours on Saturday, shall be paid at time and one-half the regular rate. Any additional overtime, shall be paid at double-time the regular rate.
- Four 10 hour days may be worked Monday through Thursday at straight time. Friday shall 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 double the hourly rate.
- Benefits on overtime hours shall be paid at the following rates:  
When wages are time and one-half, benefits = \$30.60.  
When wages are double-time, benefits = \$34.55/hr.

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



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

**County - CAPE MAY**

When wages are time and one-half, benefits = \$30.60/hr.

When wages are double-time, benefits = \$34.55/hr.

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

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

**County - CAPE MAY**

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**PREVAILING WAGE RATE**

	05/30/12	12/01/12
Foreman	W31.92 B21.87 T53.79	W0.00 B0.00 T56.29
Journeyman (Handler)	W28.37 B21.87 T50.24	W0.00 B0.00 T52.74

Expiration Date: 10/31/2013

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefit	20.22	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 one (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Asbestos & Hazardous Waste Removal**

**COMMENTS/NOTES**

NOTE: These rates apply to work in connection with Asbestos, Radiation, Hazardous Waste, Lead, Chemical, Biological, Mold Remediation and Abatement.

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

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Saturday, and all hours on Sunday and holidays shall be paid at time and one-half the regular rate.
- When the owner (Public Body) mandates that work is to be performed on Sunday, those hours may be worked at straight time, up to 8 hours per day, up to 40 hours per week.
- Benefits on ALL overtime hours shall be paid at straight time.

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

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

County - CAPE MAY

**Craft: Laborer - Building**

**PREVAILING WAGE RATE**

	05/01/12
Class A Journeyman	W29.85 B23.37 T53.22
Class B Journeyman	W29.35 B23.37 T52.72
Class C Journeyman	W24.95 B23.37 T48.32
Foreman	W33.58 B23.37 T56.95
General Foreman	W37.31 B23.37 T60.68

Expiration Date: 04/30/2013

**Craft: Laborer - Building**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	60%	70%	80%	90%						
6 Months										
Benefit	20.37	20.37	20.37	20.37						

**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 one (1) apprentice for each additional three (3) journeymen.

**Craft: Laborer - Building**

**COMMENTS/NOTES**

CLASS A: Specialist laborer including mason tender or concrete pour crew; scaffold builder (scaffolds up to 14 feet in height); operator of forklifts, Bobcats (or equivalent machinery), jack hammers, tampers, motorized tampers and compactors, vibrators, street cleaning machines, hydro demolition equipment, riding motor buggies, conveyors, burners; and nozzlemen on gunite work.

CLASS B: Basic laborer - includes all laborer work not listed in Class A or Class C.

CLASS C: Janitorial-type light clean-up work associated with the TURNOVER of a project, or part of a project, to the owner. All other clean-up work is Class B.

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

**SHIFT DIFFERENTIALS:**

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

- When a 2-shift schedule is worked, including a day shift, both shifts shall be established on the basis of 8 hours pay for 8 hours worked. The second shift shall receive the regular rate plus an additional 15%.

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

**County - CAPE MAY**

- When a 3-shift schedule is worked, the day shift shall be established on the basis of 8 hours pay for 8 hours worked, the second shift shall be established on the basis of 8 hours pay for 7.5 hours worked, and the third shift shall be established on the basis of 8 hours pay for 7 hours worked. The day shift shall receive the regular rate, the second shift shall receive the regular rate plus an additional 15%, and the third shift shall receive the regular rate plus an additional 20%.
- 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 15%, and the third shift shall receive the regular rate plus an additional 20%.

**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. All hours on Sundays and holidays shall be paid at double the regular rate.
- Four 10-hour days may be worked Monday to Thursday, at straight time, with Friday used a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the regular rate.
- Benefits on ALL overtime hours shall be paid at time and one-half.

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

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

**County - CAPE MAY**

**Craft: Laborer - Heavy & General**

**PREVAILING WAGE RATE**

Rates are located in the  
"Statewide" rate package

Expiration Date:

**Craft: Laborer - Heavy & General**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	60%	70%	80%	90%						
Benefit	11.50	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 - CAPE MAY**

**Craft: Millwright**

**PREVAILING WAGE RATE**

	05/08/12
Foreman	W48.38 B26.60 T74.98
Journeyman	W42.07 B23.13 T65.20

Expiration Date: 10/31/2012

**Craft: Millwright**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	45%	50%	55%	60%	65%	70%	75%	85%	95%
6 Months										
Benefits	55% of	Appren	tice	Wage	Rate					

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Millwright**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

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

The regular workday shall consist of 8 hours, starting between 7:00 AM and 9:00 AM.

**SHIFT DIFFERENTIALS:**

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

**OVERTIME:**

- All hours in excess of 8 per day, or before or after an established shift that are not shift work, and all hours on Saturdays shall be paid at time and one-half the hourly rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday to Thursday, at straight time. Friday may be used as a make-up day for a day lost due to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate, inclusive of benefits.

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election

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

**County - CAPE MAY**

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 - CAPE MAY**

**Craft: Operating Engineer**

**PREVAILING WAGE RATE**

Rates are located in the  
"Statewide" rate package

Expiration Date:

**Craft: Operating Engineer**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	60%	70%	80%	90%						

**Ratio of Apprentices to Journeymen - \***

\* 1 apprentice for each piece of heavy equipment. At least 10 pieces of heavy equipment or a minimum of 5 Operating Engineers must be on site.

**Craft: Operating Engineer**

**COMMENTS/NOTES**

Operating Engineer rates are located in the "Statewide" rate package.

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

**County - CAPE MAY**

**Craft: Operating Engineer - Field Engineer**

**PREVAILING WAGE RATE**

Rates are located in the  
"Statewide" rate package

Expiration Date:

**Craft: Operating Engineer - Field Engineer**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	70%	75%	of Rod/	Chainman	Wage					
Yearly			80%	90%	Transit/	Instrument	man	Wage		

**Ratio of Apprentices to Journeymen - \***

\* No more than 1 Field Engineer Apprentice per Survey Crew.

**Craft: Operating Engineer - Field Engineer**

**COMMENTS/NOTES**

Operating Engineer - Field Engineer rates are located in the "Statewide" rate package.

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

**County - CAPE MAY**

**Craft: Painter - Bridges**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W54.78 B22.02 T76.80
General Foreman	W57.28 B22.02 T79.30
Journeyman	W49.78 B22.02 T71.80

Expiration Date: 04/30/2013

**Craft: Painter - Bridges**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
6 Months	50%	55%			60%	65%		75%	85%	
Benefits	Intervals	1 to 2 =	8.13	Intervals	3 to 4 =	9.63	Intervals	5 to 6 =	11.13	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - Bridges**

**COMMENTS/NOTES**

These rates apply to: All bridges that span waterways, roadways, railways and canyons. All tunnels, overpasses, viaducts and all appurtenances.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

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

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, Monday through Friday, and all hours on Saturdays and Sundays shall be paid at time and one-half the regular rate. All hours on holidays shall be paid at double the regular rate.
- Saturday or Sunday may be used to make up a day lost to inclement weather, at straight time.
- Four 10-hour days may be worked, at straight time, Monday through Friday.

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

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

**County - CAPE MAY**

**Craft: Painter - Line Striping**

**PREVAILING WAGE RATE**

	08/26/11
Foreman (Charge Person)	W33.24 B13.19 T46.43
Helper (1st Year-2nd 6 Mos.)	W25.13 B13.10 T38.23
Helper (2nd Year)	W26.64 B13.13 T39.77
Helper (3rd Year)	W28.65 B13.14 T41.79
Journeyman	W32.74 B13.19 T45.93
Probationary Helper (1st-6 Mos.)	W22.09 B13.07 T35.16

Expiration Date: 06/30/2012

**Craft: Painter - Line Striping**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

The first Painter on the job site must be designated as a Foreman.

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

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

**County - CAPE MAY**

**Craft: Painter - New Construction**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W39.69 B20.31 T60.00
General Foreman	W41.49 B20.53 T62.02
Journeyman	W36.08 B19.88 T55.96

Expiration Date: 04/30/2013

**Craft: Painter - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - New Construction**

**COMMENTS/NOTES**

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

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

**SHIFT DIFFERENTIALS:**

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

**OVERTIME:**

- Hours in excess of 8 per day, or before or after the regular workday, Monday through Friday, and all hours on Saturdays shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular 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 afternoon, Veterans' Day, Thanksgiving Day, Christmas Day.

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

**County - CAPE MAY**

**Craft: Painter - Repainting**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W30.95 B17.12 T48.07
General Foreman	W33.76 B17.46 T51.22
Journeyman	W28.13 B16.78 T44.91

Expiration Date: 04/30/2013

**Craft: Painter - Repainting**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	NEW	CONSTR UC	TION					

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Painter - Repainting**

**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 tank, or generating stations.

Spraying, sandblasting, lead abatement, work on tanks or stacks, work performed above 3 stories or 30 feet in height, or using swing scaffolds requires an additional 10% of the wage rate.

**FOREMEN REQUIREMENTS:**

- When there are 4 or more Painters on a job, 1 shall be designated a Foreman.
- When there are 15 or more Painters on a job, 1 shall be designated a General Foreman.

**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.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, General Election afternoon, Veterans' Day, Thanksgiving Day, Christmas Day.

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

County - CAPE MAY

Craft: Painter- Containment

PREVAILING WAGE RATE

	06/25/12
Journeyman	W30.85 B20.32 T51.17

Expiration Date: 04/30/2013

Craft: Painter- Containment

COMMENTS/NOTES

NOTE: These rates shall require no painting, but used in a supporting capacity only, such as wrapping, boxing, fencing, etc. on new tanks and structural steel only.

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

SHIFT DIFFERENTIALS:

- The second shift shall receive an additional 10% of the hourly rate, per hour, and the third shift shall receive an additional 15% of the hourly rate, per hour.

OVERTIME:

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

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

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

**County - CAPE MAY**

**Craft: Painter- Structural Steel and Tanks (New Construction)**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W43.56 B20.32 T63.88
General Foreman	W46.06 B20.32 T66.38
Journeyman	W38.56 B20.32 T58.88

Expiration Date: 04/30/2013

**Craft: Painter- Structural Steel and Tanks (New Construction)**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter- Structural Steel and Tanks (New Construction)**

**COMMENTS/NOTES**

These rates apply to: All work in nuclear plants, on towers, on steeples, on dams, on hangers and open steel whether new or repaint. All new work in refineries, tank farms, water/sewerage treatment facilities and on pipelines, and tanks, including all elevated and water tanks, tank interiors and repaint of ground tanks over sixty (60) feet in height.

**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.

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

**County - CAPE MAY**

**Craft: Painter- Structural Steel and Tanks (Repaint)**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W34.66 B17.05 T51.71
General Foreman	W37.16 B17.05 T54.21
Journeyman	W29.66 B17.05 T46.71

Expiration Date: 04/30/2013

**Craft: Painter- Structural Steel and Tanks (Repaint)**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAINTER	BRIDGES							

**Craft: Painter- Structural Steel and Tanks (Repaint)**

**COMMENTS/NOTES**

These rates apply to: All repaint work in refineries, tank farms, water/sewerage treatment facilities and on pipelines and repainting of all other tanks.

**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.

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

**County - CAPE MAY**

**Craft: Painter- Tender**

**PREVAILING WAGE RATE**

	06/25/12
Tender	W18.00 B9.05 T27.05

Expiration Date: 04/30/2013

**Craft: Painter- Tender**

**COMMENTS/NOTES**

These rates apply to: The handling of all materials, manning of safety boats, handling of traffic controls, loading and unloading of trucks, cleaning of abrasive materials and other clean-up work.

NOTE: THIS WORK CLASSIFICATION SHALL ONLY APPLY IN SUPPORT OF THE FOLLOWING WORK CLASSIFICATIONS), Painter-Structural Steel and Tanks (New Construction), Painter-Structural Steel and Tanks (Repaint) and Painter-Bridges.

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.

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

County - CAPE MAY

**Craft: Paperhanger - New Construction**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W40.67 B20.44 T61.11
Journeyman	W36.97 B19.99 T56.96

Expiration Date: 04/30/2013

**Craft: Paperhanger - New Construction**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	30%	40%	50%	60%	70%	75%	80%	85%	90%	
4 Months										
Benefits	Intervals	1 to 3 =	8.00	Intervals	4 to 6 =	10.00	Intervals	7 to 9 =	11.00	

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Paperhanger - New Construction**

**COMMENTS/NOTES**

**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 afternoon, Veterans' Day, Thanksgiving Day, Christmas Day.

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

County - CAPE MAY

**Craft: Paperhanger - Renovation**

**PREVAILING WAGE RATE**

	06/25/12
Foreman	W31.74 B17.21 T48.95
Journeyman	W28.85 B16.86 T45.71

Expiration Date: 04/30/2013

**Craft: Paperhanger - Renovation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	SEE	PAPER-	HANGER	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 - CAPE MAY

Craft: Pipefitter

PREVAILING WAGE RATE

See "Plumber" Rates

Expiration Date:

Craft: Pipefitter

COMMENTS/NOTES

\*\*\* See PLUMBER Rates\*\*\*

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

County - CAPE MAY

Craft: Plasterer

PREVAILING WAGE RATE

See "Cement Mason" Rates

Expiration Date:

Craft: Plasterer

COMMENTS/NOTES

\*\*\*See CEMENT MASON Rates\*\*\*

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

County - CAPE MAY

**Craft: Plumber                      PREVAILING WAGE RATE**

	05/01/12	05/01/13
Foreman	W44.57 B33.54 T78.11	W0.00 B0.00 T79.86
Journeyman	W40.52 B33.54 T74.06	W0.00 B0.00 T75.81

Expiration Date: 04/30/2014

**Craft: Plumber                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	35%	40%	50%	55%	60%	65%	70%	75%	80%	85%
6 Months										
Benefits	21.60	22.51	24.36	25.27	26.18	27.11	28.03	28.95	29.86	30.78

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Plumber                      COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- On any job having 2 or more Journeyman Plumbers, 1 must be designated a Foreman.
- There must be 1 additional Foreman for every 10 Plumbers on the job.

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive 8 hours pay for 8 hours of work.
- 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.
- The rate of pay for all shift work shall be an additional 15% of the hourly rate, per hour.

**OVERTIME:**

The first 4 hours in excess of 8 per day, or before or after the regular workday that are not shift work, Monday through Friday, and the first 12 hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. Hours in excess of 12 per day, 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, 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 - CAPE MAY**

**Craft: Roofer                      PREVAILING WAGE RATE**

	07/23/12
Foreman (5 workers or less)	W33.05 B26.95 T60.00
Foreman (6 workers or more)	W33.55 B26.95 T60.50
Journeyman	W31.05 B26.95 T58.00

Expiration Date: 04/30/2013

**Craft: Roofer                      APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
Yearly	47%	52%	60%	75%						
Benefits	20.22	20.97	26.95	26.95						

**Ratio of Apprentices to Journeymen - \***

\* 1:2, 2:4, 3:6, 4:8, 5:10, 6:12, 7:14

**Craft: Roofer                      COMMENTS/NOTES**

NOTE: Mopper, Operator of Felt Laying Machine or Slag Dispenser shall receive an additional \$.50 per hour.

**FOREMAN REQUIREMENTS:**

- There must be a Foreman on all jobs.
- Foreman rate depends on the number of Roofers on the job, as indicated.

The regular workday is 8 hours between 5:00 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 wage rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor 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 - CAPE MAY

**Craft: Roofer - Shingle, Slate & Tile**

**PREVAILING WAGE RATE**

	07/23/12
Foreman (3 workers or less)	W24.25 B16.37 T40.62
Foreman (4 workers or more)	W25.00 B16.37 T41.37
Helper	W12.13 B16.37 T28.50
Journeyman (shingle work)	W24.00 B16.37 T40.37

Expiration Date: 04/30/2013

**Craft: Roofer - Shingle, Slate & Tile**

**APPRENTICE RATE SCHEDULE**

<u>INTERVAL</u>	<u>PERIOD AND RATES</u>									
Yearly	60%	70%	80%							

**Ratio of Apprentices to Journeymen - \***

\* 1:2, 2:4, 3:6, 4:8, 5:10, 6:12, 7:14

**Craft: Roofer - Shingle, Slate & Tile**

**COMMENTS/NOTES**

NOTE: Above rates are for Shingle work only. Slate and Tile work rates are an additional \$3.00 per hour.

HELPER RATIO: 1 Helper to 1 Journeyman

**FOREMAN REQUIREMENTS:**

- There must be a Foreman on all jobs.
- Foreman rate depends on the number of Roofers on the job, as indicated.

**OVERTIME:**

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

**RECOGNIZED HOLIDAYS:** New Year's Day, Memorial Day, July 4th, Labor 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 - CAPE MAY**

**Craft: Sheet Metal Sign Installation**

**PREVAILING WAGE RATE**

	07/06/12
Foreman	W26.02 B18.12 T44.14
Journeyman	W24.02 B18.12 T42.14

Expiration Date: 12/31/2012

**Craft: Sheet Metal Sign Installation**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	40%	45%	50%	55%	60%	65%	70%	75%	80%	90%

**Ratio of Apprentices to Journeymen - 1:2**

**Craft: Sheet Metal Sign Installation**

**COMMENTS/NOTES**

**HAZARDOUS DUTY:**

Sign Installers working from a bosun's chair or outside swinging scaffold at a height of 60 feet or more: + \$1.00 per hour.

**FOREMAN REQUIREMENTS:**

When there are 3 or more Sign Installers on a job, one must be designated a Foreman.

The regular workday shall be 8 hours, between 8:00 AM and 5:00 PM.

**OVERTIME:**

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

**RECOGNIZED HOLIDAYS:** New Year's Day, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, day after Thanksgiving, Christmas Day. Saturday holidays will be observed the preceding Friday, Sunday holidays will be observed the following Monday.

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

**County - CAPE MAY**

**Craft: Sheet Metal Worker**

**PREVAILING WAGE RATE**

	07/13/12
Foreman	W45.58 B32.52 T78.10
Journeyman	W43.08 B32.52 T75.60

Expiration Date: 05/31/2013

**Craft: Sheet Metal Worker**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
	40%	45%	50%	55%	60%	65%	70%	75%	80%	
6 months										
Benefits	10.57	11.78	12.98	14.18	20.18	21.79	23.40	24.50	26.10	

**Ratio of Apprentices to Journeymen - 1:3 \***

\* For work performed in a fabrication shop, the ratio will be applied on a "company-wide" basis (i.e. the total number of apprentices and journeymen employed by the company).

**Craft: Sheet Metal Worker**

**COMMENTS/NOTES**

**FOREMAN REQUIREMENTS:**

- When there are 2 to 9 Sheet Metal Workers on a jobsite, 1 must be designated a Foreman.
- When there are 10 to 16 Sheet Metal Workers on a jobsite, 2 must be designated Foremen.
- When there are 17 or more Sheet Metal Workers on a jobsite, 3 must be designated Foremen.

The regular workday consists of 8 hours, between 7:00 AM and 4:30 PM.

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd Shift (4:30 PM-12:30 AM) shall be paid an additional 15% of the regular rate per hour inclusive of benefits, and receive 8 hours pay for 7.5 hours of work.
- 3rd Shift (12:30 AM-8:00 AM) shall be paid an additional 25% of the regular rate per hour inclusive of benefits, and receive 8 hours pay for 7 hours of work.
- There must be a day shift worked in order to have a 2nd and/or 3rd Shift.

**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 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, Presidents' Day, Good Friday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Saturday holidays will be observed the

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

**County - CAPE MAY**

preceding Friday, Sunday holidays will be observed the following Monday.

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

**County - CAPE MAY**

**Craft: Sprinkler Fitter**

**PREVAILING WAGE RATE**

	08/09/12
Foreman	W47.18 B21.31 T68.49
General Foreman	W49.43 B21.31 T70.74
Journeyman	W44.43 B21.31 T65.74

Expiration Date: 12/31/2012

**Craft: Sprinkler Fitter**

**APPRENTICE RATE SCHEDULE**

INTERVAL	PERIOD AND RATES									
1000 Hours	50%	50%	55%	60%	65%	70%	75%	80%	85%	90%
Benefits	7.90	7.90	14.22	14.22	14.22	14.22	14.22	14.22	14.22	14.22

**Ratio of Apprentices to Journeymen - 1:1**

**Craft: Sprinkler Fitter**

**COMMENTS/NOTES**

For those apprentices hired on or after April 1, 2010, the Class 1 Percentage Scale of Journeyman's Rate shall be 45% instead of 50%.

**FOREMAN REQUIREMENTS:**

- There must be a Foreman on all projects. If there is only 1 Sprinkler Fitter on the project, he/she shall be designated a Foreman.
- On any job with 22 or more Sprinkler Fitters 1 shall be designated a General Foreman.

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

**SHIFT DIFFERENTIALS:**

- Shift work must run for a minimum of 5 consecutive workdays.
- 2nd and/or 3rd 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 that are not shift work, 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.
- 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, Thanksgiving Day, Christmas Day. Saturday holidays will be observed the preceding Friday, Sunday holidays will be observed the following Monday.

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

County - CAPE MAY

**Craft: Tile Worker                      PREVAILING WAGE RATE**

	06/01/12	12/01/12
Finisher	W38.28	W0.00
	B21.48	B0.00
	T59.76	T60.91
Setter	W43.27	W0.00
	B25.79	B0.00
	T69.06	T70.56

Expiration Date: 05/31/2013

**Craft: Tile Worker                      APPRENTICE RATE SCHEDULE**

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

**Ratio of Apprentices to Journeymen - 1:4**

**Craft: Tile Worker                      COMMENTS/NOTES**

NOTE: These rates also apply to Terrazzo and Marble work.

**OVERTIME:**

Hours in excess of 8 per day, Monday through Friday, and the first 10 hours on Saturdays shall be paid at time and one half the regular rate, inclusive of benefits. Hours in excess of 10 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, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day. Sunday holidays shall be observed the following Monday.

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

**County - CAPE MAY**

**Craft: Truck Driver**

**PREVAILING WAGE RATE**

	08/21/12	05/01/13	05/01/14
Bucket, Seeding/Fertilizing/ Mulching trucks	W30.75 B16.32 T47.07	W0.00 B0.00 T48.57	W0.00 B0.00 T50.07
Concrete mobile unit; Tack Spreader, Transit Mix trucks	W30.75 B16.32 T47.07	W0.00 B0.00 T48.57	W0.00 B0.00 T50.07
Dump, Tank, Pick-up, Vacuum or Vac-All trucks	W30.75 B16.32 T47.07	W0.00 B0.00 T48.57	W0.00 B0.00 T50.07
Helper on Straight 3-axle truck, Mechanic's helper	W30.55 B16.32 T46.87	W0.00 B0.00 T48.37	W0.00 B0.00 T49.87
Large, off-road dump or water truck	W31.10 B16.32 T47.42	W0.00 B0.00 T48.92	W0.00 B0.00 T50.42
Mechanic	W31.25 B16.32 T47.57	W0.00 B0.00 T49.07	W0.00 B0.00 T50.57
Shop Steward	W31.20 B16.32 T47.52	W0.00 B0.00 T49.02	W0.00 B0.00 T50.52
Straight 3-axle truck	W30.75 B16.32 T47.07	W0.00 B0.00 T48.57	W0.00 B0.00 T50.07
Tow Truck	W30.90 B16.32 T47.22	W0.00 B0.00 T48.72	W0.00 B0.00 T50.22
Tractor Trailer; Fuel, Winch, Asphalt Oil Distributor trucks	W31.10 B16.32 T47.42	W0.00 B0.00 T48.92	W0.00 B0.00 T50.42

Expiration Date: 04/30/2015

**Craft: Truck Driver**

**COMMENTS/NOTES**

**HAZARDOUS WASTE WORK:**

- 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: + \$3.00 per hour.
- All other designated hazardous waste sites: + \$1.00 per hour.

**SHIFT DIFFERENTIAL:**

- Second shift shall receive an additional \$1.00 per hour.

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

**County - CAPE MAY**

**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.
- Employees may work four 10-hour days at straight time, Monday through Thursday, with Friday used as a make-up day. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. When all trades agree, the day after Thanksgiving may be substituted for Veterans' Day. Sunday holidays will be observed the following Monday.

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

**County - CAPE MAY**

**Craft: Truck Driver-Material Delivery Driver**

**PREVAILING WAGE RATE**

	08/21/12	05/01/13	05/01/14
Driver	W30.75 B16.32 T47.07	W0.00 B0.00 T48.57	W0.00 B0.00 T50.07

Expiration Date: 04/30/2015

**Craft: Truck Driver-Material Delivery Driver**

**COMMENTS/NOTES**

**HAZARDOUS WASTE WORK:**

- All designated hazardous waste sites: + \$1.00 per hour.

**SHIFT DIFFERENTIAL:**

- Second shift shall receive an additional \$1.00 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 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. If Friday is not a make-up day, then all hours on Friday shall be paid at time and one-half the hourly rate.

**RECOGNIZED HOLIDAYS:** New Year's Day, President's Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. When all trades agree, the day after Thanksgiving may be substituted for Veterans' Day. Sunday holidays will be observed the following Monday.

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

**County - CAPE MAY**

**Craft: Welder**

**PREVAILING WAGE RATE**

Welder

Expiration Date:

**Craft: Welder**

**COMMENTS/NOTES**

Welders rate is the same as the craft to which the welding is incidental .

ROOF REPLACEMENT  
AT THE FIELD MAINTENANCE SHOP (FMS)  
CAPE MAY, NEW JERSEY

DIVISION 1 - GENERAL REQUIREMENT  
SECTION 01010 – SUMMARY OF WORK

1.01 NOTICE TO BIDDERS

- A. Bidders shall visit the site of work at the above address to familiarize themselves with the existing conditions of the job site, the drawings and specifications, storage of materials, etc. Any questions pertaining to drawings, specifications etc., shall be referred to Mirza Baig, Project Officer, Department of Military and Veterans Affairs, Construction Management Bureau, 101 Eggert Crossing Road, NJ. 08648 Telephone (609) 530-7127. Fax (609) 530-6880. All contracting questions shall be referred to Chief, Business Management Bureau (609)-530-7115.
- B. Contractor must obtain 100% Performance and 100% Payment Bonds within (10) days after of contract.

1.02 SUBMITTAL/FEES

- A. Submit (6) six copies of shop drawings, structural framing, load calculations, signed and sealed by The New Jersey State certified professional Architect /engineer for (DCA) Department of Community Affairs review and approval.
- B. Submit (6) copies of Time schedule, Schedule of Values, and Material submittals and Two (2) No. material samples for DMAVA`'s review and approval.
- C. Contractor will submit Two (2) hard copies and one digitized copy of As-built Drawings, Equipment O&M manuals, workmanship warranty and manufacturer`s product warranties and project progress pictures on CD at the completion of the project.
- D. Contractor shall be responsible to apply, pay and obtain DCA construction permits. Also to include any utilities mark-outs, inspections and licenses for all applicable inspecting agencies to carry out and complete this work.

1.03 APPLICABLE DRAWINGS AND SPECIFICATIONS

- A. The drawings accompanying this specification represents general arrangement and extent of work to be done but the exact location, arrangement and details of all areas shall be determined as the work progresses to conform in the best possible manner with its surroundings. The work in all its detail being subject to the approval of the Contracting Officer whose decision on all points of differences shall be final and binding on the contract.
- B. Should any errors or omissions be discovered on the drawings or in the specifications prior to bidding, each bidder shall be required to call the same to the attention of the project Officer in time to be set forth in an addendum.

Attention is called to the fact that it is the intention of the specifications to provide all labor and material required to complete the work as shown on the drawings and as specified.

IT IS NOT the intention of the drawings or specifications to cover each and every thing required to complete the job.

Items or work required which are not shown or specified shall be included in the bid without additional cost to the owner. Any other item or work, which is obviously required to complete the installation, shall also come under this category.

- C. An error shall be defined as the absence of any indication on the drawings or in the specifications for providing or installing of any major item of material or work which the Government desires to be installed. It shall be further understood that when materials are shown and specified, it is assumed that the work required shall be complete in every detail.

#### 1.04 DESCRIPTION OF WORK

- A. The General Contractor will provide all labor, material, equipment and supervision necessary required for complete installation of a New metal standing seam pitch roof and masonry works, complete construction with all related works and accessories, as shown on drawings, mentioned in specifications and as per actual job conditions.

#### 1.05 PROCEDURE OF WORK

- A. The contractor will be required to commence work under this contract within fourteen (14) calendar days after date of receipt of valid contract documents and Notice to Proceed.
- B. No work will be allowed to start until a time line for the project has been approved by the Project Officer.

#### 1.06 MATERIALS

- A. Whenever an article of any class of material is specified by the trade name, or by the name of any manufacturer, or by reference to the catalog of any such manufacturer, it shall be taken as intending to mean and specify the article or material described. Any other product or material equal thereto in quality, finish and durability and as equally serviceable to the purpose for which it is intended and this equality shall be determined by the Contracting Officer shall be the sole “judge” as to which material or service will be accepted as “approved equal” of that specified.
- B. All materials shall be new and of the best grade of their respective kinds free from all defects and of the make, brand and quality specified. All like materials used in the installation shall be of the same manufacturer.
- C. Shop drawings and other submittals for material approval may be sent prior to issuance of a Notice to Proceed. However, they will not be approved until a Notice to Proceed has been issued.

- D. No construction or material will be allowed to start or be installed until shop drawings or product information for work or material requiring such has been approved by the Project Officer.
- E. If the contractor fails to submit for approval within the specified time, a schedule of materials and equipment in accordance with the preceding paragraph, the Contracting Officer will select a complete line of materials and equipment. The selection thus made by the Contracting Officer shall be final and binding, and the items shall be furnished by the contractor without change in contract price or time of completion
- F. The contractor shall store his materials and equipment in the facility at job location without hindering the progress of the work or the operation of the facility. The State will not be responsible for the losses by the contractor due to inadequacy of his Disposal security measures.

1.07 WORKMANSHIP

- A. It shall be the responsibility of each Prime Contractor to familiarize himself with the requirements, so that all of his work will complement the finished project. Special attention shall be paid to cutting materials. Any new work, which is not in the opinion of the C.O., or his representative installed in a neat and skilled craftsmanlike manner, shall be immediately removed and done over and any damage caused to the present building or property shall be repaired by men skilled in the required trades at no additional expense to the Government.

1.08 SECURITY

- A. Determine and provide sufficient means to safeguard, protect, and secure materials, tools, equipment, etc. from unauthorized persons. This facility has a large number of personnel and the public, which utilize the building. The State will not be responsible for the losses by the contractor due to inadequacy of his security measures.
- B. The Facility Manager is responsible for security of the facilities including all State and Federal property therein. Cooperate with the Facility Manager to insure that his security requirements and measures are not violated.

1.09 SEMI-FINAL AND FINAL INSPECTION

- A. When the work is, in the opinion of the contractor, 100 percent complete, he may require a semi-final inspection. This inspection will be made in the presence of the contractor and any items which require additional corrections shall be itemized on a "punch list" by the Contracting Officer and sent to the contractor. The contractor shall be required to complete the additional work or corrections within the time limit agreed on at the time of inspection. If after the time limit is past and items of addition or correction are not completed, the Government will settle the contract and make final payment, minus the monies required to have corrections made under another contract.

- B. Final inspection will be made on the working day after the last day of correction time limit. If no corrections are found on semi-final inspection, this inspection will be considered as final.

1.10 FEES/PERMIT/INSPECTION

- A. It is contractor`s responsibility to apply, pay fees and acquire construction permits for all trades. To schedule DCA inspections, pay and obtain certificates of inspection and approval as required from applicable regulatory agencies to carry out the construction of this project.

1.11 UNIT PRICE

- A. Provide a unit price to replace existing damaged decking (if required) with new to match existing including materials, workmanship, overhead and profit, as well as all incidental work required in connection therewith. It is bidder`s responsibility to verify type and material of existing decking at site prior to quote a unit price.

**PRE-BID MEETING:**

**A MANDATORY PRE-BID MEETING WILL BE HELD ON APRIL 24, 2013 AT 10:00 AM AT THE FIELD MAINTENANCE SHOP (FMS) 600 GARDEN STATE PARKWAY, CAPE MAY COURT HOUSE, CAPE MAY, NJ 08210 “ONLY” CONTRACTORS ATTENDING PRE-BID MEETING WILL BE QUALIFIED FOR BIDDING ON THE SAID PROJECT.**

## **SECTION 01220 - UNIT PRICES**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for unit prices.

#### **1.2 DEFINITIONS**

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

#### **1.3 PROCEDURES**

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

#### **3.1 SCHEDULE OF UNIT PRICES**

- A. Unit Price No. 1 – Removal and replacement of T&G sheathing:
  - 1. Description: Removal and replacement of damaged and/or deteriorated T&G sheathing as indicated on drawings.
  - 2. Unit of Measurement: Square feet.

**END OF SECTION 012200**

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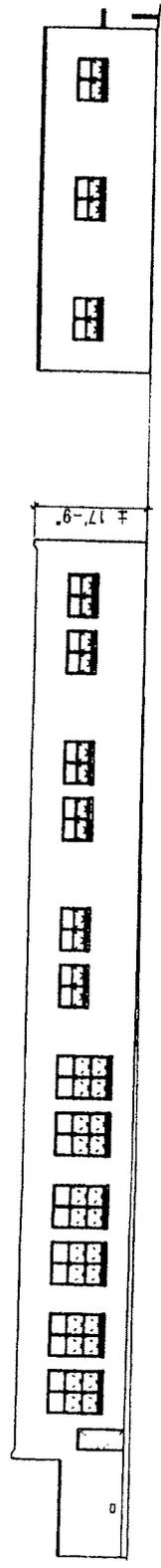
## SECTION 01732 SELECTIVE DEMOLITION, ASBESTOS REMOVAL

### ASBESTOS REMOVAL AND DISPOSAL FOR ROOF REPLACEMENT AT THE FIELD MAINTENANCE SHOP (FMS) CAPE MAY, NEW JERSEY

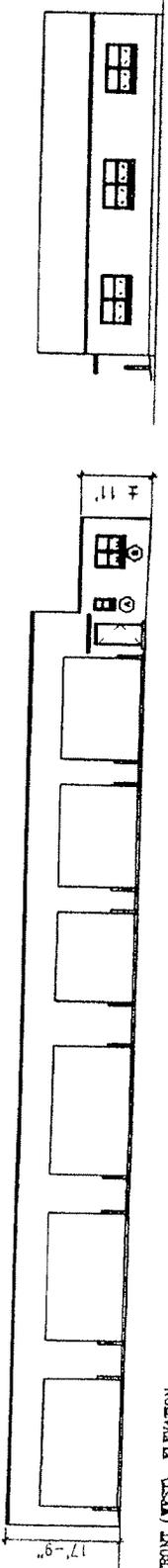
Project # CM113

#### WORK PROCEDURE

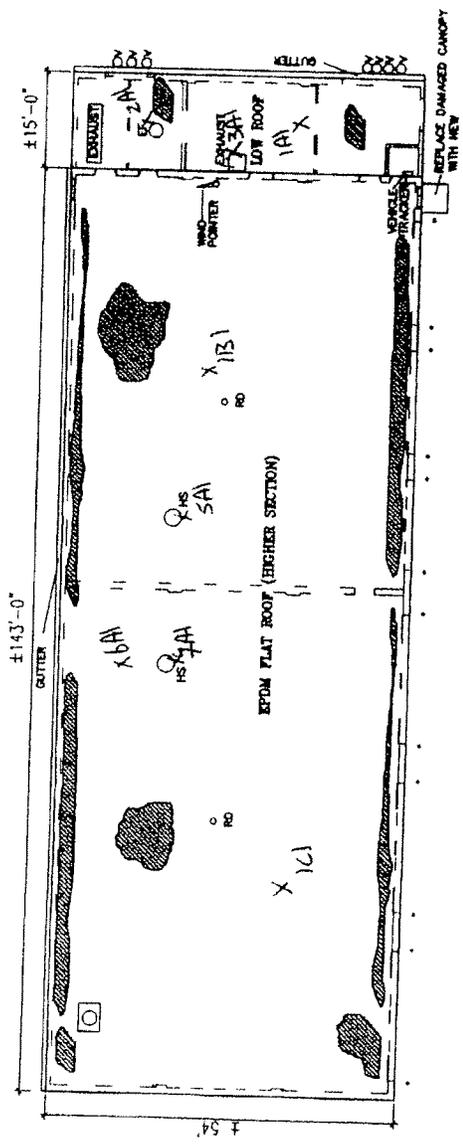
1. Bidders will provide written schedule to perform the removal and disposal of any existing materials containing **Asbestos** during demolition and construction of the above mentioned project. The work shall meet at a minimum, the following conditions:
  - The work involves removal, cleanup, and disposal of existing asbestos materials (**See attached report**) **The samples from the low roof battery roof vent caulking tar (Sample 2A1) and the tar around the high roof chimney (Sample 5A1) tested positive for asbestos and is over 1%.. It is assumed all the Tar Caulking is positive and shall be removed and disposed off separately from other roofing materials. Quantity +/- 15 linear feet. (See attached plan).**
  - Contractor must examine and verify quantities as per actual job conditions prior to bid and include them in the bid price.
  - Removal of the existing asbestos roofing material i.e shall proceed in a workman like manner and utilize best management practices to reduce the generation of fugitive dust. Materials shall be removed in largely intact pieces with minimal amount of disturbance and handling.
  - Contractor and any subcontractors are responsible for removing and disposing of roofing material containing asbestos in accordance with N.J.A.C. 5:23-8.20.
  - Disposal of waste containing asbestos materials shall comply with the regulations promulgated by the NJDEP.
  - All related work will be completed **within 20 days** from receiving a Notice to Proceed from the building owner. This includes all applicable permits/approvals, notifications, removal and disposal, and site cleanup. A longer time period will be allowed as determined by the building owner or building owner's representative, at no cost to the building owner.
  - A written report will be submitted by the contractor to the building owner's representative no later than **15 workdays** after removal of the asbestos materials from the work site. The report will include, at a minimum, all contractor names, addresses, and applicable license numbers, scope of work, name and address of disposal facility(s), quantity of materials disposed, laboratory reports, medical monitoring reports, field notes, waste disposal manifests, etc.
  - Contractor is responsible to pay for all fees, permits, license/certification and approvals, as required by the concerned Agencies.
2. All correspondence and documents will be addressed to the building owner's representative, Mirza Baig, Project Officer, Tele: (609) 530-7127, Fax: (609) 530-6880. Construction Management Bureau, New Jersey Department of Military & Veterans Affairs, 101 Eggert Crossing Road, Lawrenceville, New Jersey 08648.



LEFT SIDE (NORTH) ELEVATION  
SCALE: 1/8" = 1'-0"



RIGHT SIDE (SOUTH) ELEVATION  
SCALE: 1/8" = 1'-0"



LEAKS



ADDENDUM # 1 9/8/12

NO.	DATE	DESCRIPTION	REVISIONS

STATE OF NEW JERSEY  
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS  
PROJECT CHIEF: P.O. BOX 940 TRENTON, N.J. 08646

PROJECT TITLE: ROOF REPLACEMENT  
SCALE: 1/8" = 1'-0"

PROJECT NO.:  
DATE: 9/8/12  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]

DRAWING  
A1

## **SECTION 024119 - SELECTIVE DEMOLITION**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

##### **A. Section Includes:**

1. Demolition and removal of selected portions of building or structure.

#### **1.2 DEFINITIONS**

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### **1.3 PREINSTALLATION MEETINGS**

- A. Predemolition Conference: Conduct conference at Project site.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For refrigerant recovery technician.
- B. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

#### **1.5 CLOSEOUT SUBMITTALS**

- A. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

#### **1.6 QUALITY ASSURANCE**

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

## 1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. Hazardous materials will be disposed of by Contractor.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

## 1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner.
- D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, preconstruction videotapes and templates.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
  - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."
- B. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain [ **fire watch and** ] portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

- B. Burning: Do not burn demolished materials.

- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

**END OF SECTION 024119**

## SECTION 040120 - MAINTENANCE OF UNIT MASONRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes maintenance of unit masonry consisting of brick clay masonry restoration and cleaning as follows:
  - 1. Repairing unit masonry, including replacing units.
  - 2. Repointing joints.
  - 3. Preliminary cleaning, including removing plant growth.
  - 4. Cleaning exposed unit masonry surfaces.

### PART 2 - PRODUCTS

#### 2.1 MASONRY MATERIALS

- A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
  - 1. Provide units with physical properties, colors, color variation within units, surface texture, size, and shape to match existing brickwork.
    - a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.

#### 2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, white or gray where required for color matching of exposed mortar.
  - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Sand: ASTM C 144 unless otherwise indicated.
  - 1. For pointing mortar, provide sand with rounded edges.
  - 2. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
- D. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
- E. Water: Potable.

## 2.3 CLEANING MATERIALS

- A. Water: Potable.
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F.
- C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.
- D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gal. of solution required.

## 2.4 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
  - 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
  - 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mortar Proportions: Mix mortar materials in the following proportions:
  - 1. Pointing Mortar for Brick: 1 part portland cement, 2 parts lime, and 6 parts sand
    - a. Add mortar pigments to produce mortar colors required.
  - 2. Rebuilding (Setting) Mortar: Same as pointing mortar

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
- B. Comply with chemical-cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning

solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.

1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. When no longer needed, promptly remove masking to prevent adhesive staining.
2. Keep wall wet below area being cleaned to prevent streaking from runoff.

### 3.2 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged condition as many whole bricks as possible.
  1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
  2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
- E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- F. Replace removed damaged brick with other removed brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- G. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
  1. Maintain joint width for replacement units to match existing joints.
- H. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min.. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
  1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
  2. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
  3. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

### 3.3 REPOINTING MASONRY

- A. Rake out and repoint joints to the following extent:
1. All joints in areas indicated.
  2. Joints where mortar is missing or where they contain holes.
  3. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch thick.
  4. Cracked joints where cracks are 1/8 inch or more in width and of any depth.
  5. Joints where they sound hollow when tapped by metal object.
  6. Joints where they are worn back 1/4 inch or more from surface.
  7. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
  8. Joints where they have been filled with substances other than mortar.
  9. Joints indicated as sealant-filled joints.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, :
1. Remove mortar from joints to depth of 2 times joint width but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar.
  2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
  3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
    - a. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar by hand with chisel and resilient mallet.
- D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
  2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
  3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
  4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
  5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.

- a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
  - 6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
- F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

#### 3.4 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
  - 1. Do not use metal scrapers or brushes.
  - 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040120

## **SECTION 042000 - UNIT MASONRY**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Face brick.
  - 2. Masonry Units
  
- B. Related Sections:
  - 1. Section 076200 "Sheet Metal Flashing and Trim" for furnishing manufactured reglets installed in masonry joints.

#### **1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
  
- B. Samples for Verification: For each type and color of exposed masonry unit and colored mortar.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Material Certificates: For each type and size of product indicated. For masonry units include data on material properties.
  
- B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
  - 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.

#### **1.4 QUALITY ASSURANCE**

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

#### **1.5 PROJECT CONDITIONS**

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
  
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

## PART 2 - PRODUCTS

### 2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

### 2.2 BRICK

- A. General: Provide shapes indicated and as follows:
  - 1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
  - 2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
- B. Face Brick: Facing brick complying with ASTM C 216.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. The Belden Brick Company
    - b. Endciott Clay Products Company
    - c. CalStar Products, Inc.
  - 2. Grade: SW..
  - 3. Type: FBX or HBX.
  - 4. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
  - 5. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
  - 6. Size (Actual Dimensions): 3-1/2 inches wide by 7-1/2 inches high by 7-1/2 inches long or 3-5/8 inches wide by 7-5/8 inches high by 7-5/8 inches long.

### 2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Masonry Cement: ASTM C 91.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Capital Materials Corporation; Flamingo Color Masonry Cement.
  - b. Holcim (US) Inc.; Mortamix Masonry Cement.
  - c. Lafarge North America Inc.; Magnolia Masonry Cement.
  - d. Lehigh Cement Company; Lehigh Masonry Cemen.
- E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979. Use only pigments with a record of satisfactory performance in masonry mortar.
- 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Davis Colors; True Tone Mortar Colors.
    - b. Lanxess Corporation; Bayferrox Iron Oxide Pigments.
    - c. Solomon Colors, Inc.; SGS Mortar Colors.
- F. Colored Cement Product: Packaged blend made from portland cement and hydrated lime or masonry cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.
- 1. Colored Portland Cement-Lime Mix:
    - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Capital Materials Corporation; Riverton Portland Cement Lime Custom Color.
      - 2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
      - 3) Lafarge North America Inc.; Eaglebond Portland & Lime.
      - 4) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
  - 2. Colored Masonry Cement:
    - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Capital Materials Corporation; Flamingo Color Masonry Cement.
      - 2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Masonry Cement.
      - 3) Lafarge North America Inc.; U.S. Cement Custom Color Masonry Cement.
      - 4) Lehigh Cement Company; Lehigh Custom Color Masonry Cement.
- G. Aggregate for Mortar: ASTM C 144.

1. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
  2. White-Mortar Aggregates: Natural white sand or crushed white stone.
  3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- H. Epoxy Pointing Mortar: ASTM C 395, epoxy-resin-based material formulated for use as pointing mortar for structural-clay tile facing units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.
- I. Water: Potable.

## 2.4 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
  2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
- B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches parallel to face of veneer.
- C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.
1. Wire: Fabricate from 3/16-inch- diameter, hot-dip galvanized steel wire.

## 2.5 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and Section 076200 "Sheet Metal Flashing and Trim" and as follows:
1. Metal Drip Edge: Fabricate from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
  2. Metal Sealant Stop: Fabricate from stainless steel. Extend at least 3 inches into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 1/4 inch to form a stop for retaining sealant backer rod.
  3. Metal Expansion-Joint Strips: Fabricate from stainless steel to shapes indicated.
- B. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."
- C. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

## 2.6 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; formulated from neoprene, urethane or PVC.
- B. Preformed Control-Joint Gaskets: Made from [styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805] [or] [PVC, complying with ASTM D 2287, Type PVC-65406] and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
- D. Weep/Vent Products: Use one of the following unless otherwise indicated:
  - 1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch less than depth of outer wythe, in color selected from manufacturer's standard.
    - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Hohmann & Barnard, Inc.; No. 342 W/S Cell Vent.
      - 2) Advanced Building Products Inc.; Mortar Maze weep vent.
      - 3) Blok-Lok Limited; Cell-Vent.
      - 4) Dayton Superior Corporation, Dur-O-Wal Division; Cell Vents.
      - 5) Heckmann Building Products Inc.; No. 85 Cell Vent.
      - 6) Wire-Bond; Cell Vent.

## 2.7 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Diedrich Technologies, Inc.
    - b. EaCo Chem, Inc.
    - c. ProSoCo, Inc.

## 2.8 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.
  - 2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.
  - 3. For exterior masonry, use portland cement-lime or masonry cement mortar.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Pigmented Mortar: Use colored cement product[ or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products].
  - 1. Pigments shall not exceed 10 percent of portland cement by weight.
  - 2. Pigments shall not exceed 5 percent of masonry cement by weight.
  - 3. Application: Use pigmented mortar for exposed mortar joints with the following units:
    - a. Face brick.
- D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.
  - 1. Mix to match Architect's sample.
  - 2. Application: Use colored aggregate mortar for exposed mortar joints with the following units:
    - a. Face brick.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

### 3.2 TOLERANCES

- A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

### 3.3 ANCHORING MASONRY VENEERS

A. Anchor masonry veneers to masonry backup with masonry-veneer anchors to comply with the following requirements:

1. Fasten anchors to masonry backup with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
2. Embed tie sections, connector sections and continuous wire in masonry joints. Provide not less than 2 inches of air space between back of masonry veneer and face of sheathing.
3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
4. Space anchors as indicated, but not more than 16 inches o.c. vertically and 24 inches o.c. horizontally with not less than 1 anchor for each 3.5 sq. ft. of wall area. Install additional anchors within 12 inches of openings and at intervals, not exceeding 36 inches, around perimeter.

### 3.4 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
  2. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
  3. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal flashing termination.
- C. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
1. Use specified weep/vent product to form weep holes.
  2. Space weep holes 24 inches o.c. unless otherwise indicated.
  3. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.
- D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

### 3.5 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Inspections: Level 1 special inspections according to the "International Building Code."
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.
- E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C 67 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

### 3.6 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
2. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
3. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.7 MASONRY WASTE DISPOSAL

- A. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

**END OF SECTION 042000**

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## **SECTION 054000 - LIGHT GAUGE STEEL PRE-MANUFACTURED TRUSSES**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
1. Metal Roof Trusses.
  2. Anchorage, bracing and bridging.

#### 1.2 REFERENCES

- A. Reference standards:
1. ASTM:
    - a. ASTM A653 and A 525
    - b. ASTM A780-93a "Repair of Damages and Uncoated Areas of Hot-Dip Galvanized Coatings."
  2. American Welding Society (AWS):
    - a. AWS D1.1 "Structural Welding Code – Steel."
    - b. AWS D1.3 "Structural Welding Code – Sheet Steel."

#### 1.3 PERFORMANCE REQUIREMENTS

- A. AISI "Specifications": Calculate structural characteristics of cold-formed metal framing according to AISI's "Cold Formed Steel Design Manual" March 1987 edition.
- B. Structural Performance: Design, engineer, fabricate and erect cold-formed metal framing to withstand design loads within limits and under conditions required:
1. Design Loads: As indicated on Structural and Architectural drawings
  2. Design framing systems to withstand design loads without deflections greater than the following:
    - a. Roof Trusses: Vertical deflection of L/600.
    - b. Roof Truss bottom chord is to capable of supporting:  
  
10psf., additional framing are to be provided by truss provider to support

finish material including but not limited to metal soffit panel. All

Mechanical, Plumbing (including Fire Protections), Electrical and

Architectural items that will be supported from bottom chord of the trusses.

3. Design framing systems to provide movement of framing members without damage or

over stressing, sheathing failure, connection failure, undue strain of fasteners and anchors, or other detrimental effects when subject to a maximum temperature change (range) of 120 deg. F (67 deg. C).

- C. Bottom Chord of trusses to be 10" minimum.
- D. Light Gauge Metal Truss Manufacturer to provide all miscellaneous framing required between trusses to support finish materials such as, facia, soffits, ceilings, attic access and electrical fixtures, curbs for Solar tubes . Truss framing shall be of 2'-0" o.c. maximum
- E. Roof Trusses to be sized to support rigid insulation per the architectural details ( 6" min). All miscellaneous steel and fasteners to install roof.
- F. See drawing S1.1 for other loads to be applied to the roof trusses & miscellaneous framing required to install finish materials supported by roof trusses.

#### 1.4 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions for each type of cold-formed metal framing and accessory required.
- B. Submit shop drawings showing member, type, location, spacing, size and gauge of members, method of attachment to supporting members and all necessary erection details.

Responsibilities:

1. Truss Manufacturer to submit shop drawing showing:
  - a. member, type, location spacing, size and gauge of members.
  - b. location of required lateral web compression bracing
  - c. all truss to truss connection details and truss to supporting structure connections
  - d. detailed roof truss layouts.

- e. submit structural calculations, sealed and signed by an engineer registered in the State of Tennessee, verifying framing assembly's ability to meet or exceed local code and design requirements.
- f. all light gage framing at lower roof.

C. Sustainable Design Submittals

1. Section 01354 thru 01363 – Sustainable Project Requirements: Requirements for sustainable design submittals.
2. Materials Resources Certificates:
  - a. Certify recycled material content for recycled content products.
  - b. Certify source for local and regional materials and distance from Project site.
3. Product Cost Data: Submit cost of products listed in this section individually to verify compliance with Project sustainable design requirements. Exclude cost of labor and equipment to install products.
4. Provide cost data for the following products:
  - a. Products with recycled material content.
  - b. Local and regional products.
5. Matrix for each Recycled Content and Regional Material for all materials in this section.

Recycled Content Matrix is to have all cells filled in. Including but not limited to below;

Material Name	Manufacturer	Material Cost	Post Consumer Recycled Content (%)	Pre-Consumer Recycled Content (%)	Recycled Content Information Source.
Light Gauge Pre Engineered Metal Trusses					

Regional Material Matrix is to have all cells filled in.

Product	Manufacturer	Distance between Project & Manufacturer (Miles)	Distance between Project & Extraction/Harvest (Miles)	Product Cost	Value Qualifying as Regional	Information Source

Light Gauge Pre Engineered Metal Trusses						
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- 6. All sustainable design submittals must be provided in a hard copy and electronic .pdf file ready to be uploaded to USGBC

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Fabrication shall be performed by experienced cold-formed metal framing truss fabricator with not less than three years experience designing and fabricating cold-formed metal trusses equal in material, design, and extent to the systems required for this project. Primary fabrication shall be conducted in permanent facility dedicated to the manufacturing of cold-formed metal trusses.
- B. Erector Qualifications: Truss erection shall be performed by a qualified installer experienced in structural light gauge steel framing and recommended truss installation practices.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Trusses to be delivered to job site individually labeled to match information in layout drawings. Exercise extreme care to avoid damage during unloading, storing and erection.
- B. Store trusses on blocking off of ground and in an upright position when possible to avoid damage from bending and over stressing. Protect metal from corrosion, deformation, damage, and deterioration when stored on job site. Keep trusses free of dirt and other foreign matter.

1.7 PROJECT CONDITIONS

- A. During construction, distribute concentrated loads applied to trusses adequately so that carrying capacity of any one truss or other competent is not exceeded.

1.8 SUSTAINABLE DESIGN REQUIREMENTS

- A. All products within this section are to be with Minimum 80% post-consumer and 15% pre-consumer recycled content. Provide certificate from light gauge steel

pre-manufactured truss provider stating post consumer/pre consumer content or USGBC documentation.

B. All products listed in the section are to be extracted, processed and manufactured with 500 mile radius of project site.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

A.

1. Fabricate truss components of commercial quality steel ASTM A653 galvanized finish with a minimum yield stress of 45 ksi.
2. Bracing, bridging and blocking members: Fabricate components of commercial quality steel sheet, ASTM A653 galvanized finish with a minimum yield of 33 ksi.

B. Metal framing components: Provide sizes, shapes and gauges indicated:

1. Design Uncoated-Steel Thickness: 20 Ga. .0360 in (0.91 mm)
2. Design Uncoated-Steel Thickness: 18 Ga. .0470 in (1.20mm)
3. Design Uncoated-Steel Thickness: 16 Ga. .0580 in (1.52 mm)
4. Design Uncoated-Steel Thickness: 14 Ga. .0750 in (1.90 mm)
5. All products in this section are to be with Minimum 80% post-consumer and 15% pre-consumer recycled content.
6. All Products in this section are to be extracted, possessed and manufactured with 500 mile radius of project site.

C. Finish: Provide components with protective zinc coating complying with ASTM A653, minimum G60 coating.

D. Fastenings:

1. Hilti self drilling screws, bolts, nuts and washers with corrosion-resistant plated finish. Fasteners shall be of sufficient size to ensure the strength of the connection.
2. Welding: Comply with AWS D1.1 when applicable and AWS D1.3 for welding base metals less than 1/8" thick

### 2.2 FABRICATION

A. Factory fabricate trusses and accessories plumb, square, true to line and with connections securely fastened.

1. Fabricate truss assemblies in jig templates.
2. Cut framing members by sawing or shearing; do not torch cut.
3. Fasten cold-formed metal framing member by screw fastening.
4. Locate mechanical fasteners and install according to cold-framed to cold-formed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads.
5. Splicing:

- a. Splicing of webs is not permitted.
- b. The following procedure must be followed when splicing of chord members is necessary:
  - 1) Splice chord members by using a 24 inch (typ.) piece of chord material the same size and gauge of the chord material being spliced.
  - 2) Attach splice with a minimum of (4) ¼"-14 screws each side of the splice. The screw count of the splice is calculated by dividing the forces in the member (see individual truss engineering drawing), by the appropriate screw shear value.

20 GA – 243 lbs/screw

18 GA – 419 lbs/screw

16 GA – 513 lbs/screw

14 GA – 519 lbs/screw

- B. Reinforce, stiffen, and brace trusses to withstand handling, delivery, and erection stresses. Lift trusses to prevent damage or distortion.
- C. Fabrication Tolerances: Fabricate assemblies to a maximum allowable tolerance variation from plumb, level, and true to a line of 1/8 inch in 10 feet (1:960) and as follows
  - 1. Spacing: Space individual web members no more than plus or minus 1 inch from plan location. Vertical webs located directly over bearing points shall be located plus or minus 1/8 inch (3mm) from plan location.
  - 2. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square tolerance of 1/8 inch (3 mm).

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine structure substrates and installation conditions. Do not proceed with truss erection until unsatisfactory conditions have been corrected. Trusses should be installed so as to allow complete and adequate contact with truss connection member at all bearing locations as indicated.
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

### 3.2 INSTALLATION

- A. General:
  - 1. Erection of trusses, including proper handling, safety precautions, temporary bracing and other safeguards or procedures are the responsibility of the Contractor and Contractor's installer.
  - 2. Exercise care and provide erection bracing required to prevent toppling or deforming of trusses during erection.

- B. Erect trusses with plane of truss webs vertical and parallel to each other accurately located at design spacing indicated.
- C. Provide proper lifting equipment suited to sizes and types of trusses required, applied at lift points recommended by truss fabricator. Exercise care to avoid damage to truss members and joints during erection and to keep horizontal bending of trusses to a minimum.
- D. Provide framing anchors as indicated or accepted on the engineering design drawings or erection drawings. Anchor trusses securely at bearing points.
- E. Install truss framing and accessories plumb, square, true to line, and with connections safely fastened, according to manufacturer's recommendations.
- F. Provide temporary bracings and leave in place until all permanent bracing, framing, and sheathing is in place and securely fastened.
- G. Erection Tolerances: Install joist and truss framing to a maximum allowable tolerance variation from plumb, level and true to line of 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastenings requirements of sheathing or other finishing materials.
- H. Do not alter, cut or remove framing members or connections of trusses.
- I. Align webs of bottom chords and load-bearing studs or continuously reinforce track to transfer loads to structure. Anchor trusses securely at all bearing points as indicated.
- J. Coordinate installation of Mechanical Air Handling unit in attic with installation of trusses.

### 3.3 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanizing repair paint according to ASTM A780 and the manufacturer's instructions.

END OF SECTION 05400

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## **SECTION 055000 - METAL FABRICATIONS**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
1. Miscellaneous steel framing and supports.
  2. Shelf angles.
  3. Metal Ladders

#### **1.2 ACTION SUBMITTALS**

- A. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

### **PART 2 - PRODUCTS**

#### **2.1 PERFORMANCE REQUIREMENTS**

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

#### **2.2 METALS**

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
- D. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.
- E. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.
- F. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T6.
- G. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.

## 2.3 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
  - 1. Provide stainless-steel fasteners for fastening aluminum.
  - 2. Provide stainless-steel fasteners for fastening stainless steel.
  - 3. Provide stainless-steel fasteners for fastening nickel silver.
  - 4. Provide bronze fasteners for fastening bronze.
- B. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.
- C. Post-Installed Anchors: Torque-controlled expansion anchors.
  - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
  - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.
- D. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches by length indicated with anchor straps or studs not less than 3 inches long at not more than 8 inches o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

## 2.4 METAL LADDERS

- A. General:
  - 1. Comply with ANSI A14.3
- B. Steel Ladders:
  - 1. Space siderails 16 inches
  - 2. Siderails: Continuous, 1/2-by-2-1/2-inch steel flat bars, with eased edges.
  - 3. Rungs: 3/4-inch- diameter steel bars.
  - 4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
  - 5. Provide nonslip surfaces on top of each rung.
  - 6. Prime ladders, including brackets and fasteners, with zinc-rich primer.

## 2.5 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
  - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- B. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- E. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

## 2.6 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
- E. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors not less than 8 inches from ends and corners of units and 24 inches o.c.

## 2.7 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
- C. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.
  - 1. Where wood nailers are attached to girders with bolts or lag screws, drill or punch holes at 24 inches o.c.
- D. Fabricate steel pipe columns for supporting wood frame construction from steel pipe with steel baseplates and top plates as indicated. Drill or punch baseplates and top plates for anchor and

connection bolts and weld to pipe with fillet welds all around. Make welds the same size as pipe wall thickness unless otherwise indicated.

## 2.8 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.

## 2.9 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
- B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
- C. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

**END OF SECTION 055000**

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## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
1. Framing with dimension lumber.
  2. Rooftop equipment bases and support curbs.
  3. Wood blocking, cants, and nailers.
  4. Wood furring and grounds.
  5. Plywood backing panels.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements
  2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
1. Wood-preservative-treated wood.
  2. Fire-retardant-treated wood.
  3. Engineered wood products.
  4. Shear panels.
  5. Power-driven fasteners.
  6. Powder-actuated fasteners.
  7. Expansion anchors.
  8. Metal framing anchors.

### PART 2 - PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S, unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
  1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
  1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
  3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.

## 2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
  1. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
  2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- E. Application: Treat items indicated on Drawings, and the following:
  - 1. Concealed blocking.
  - 2. Framing for non-load-bearing exterior walls.
  - 3. Roof construction.
  - 4. Plywood backing panels.

## 2.4 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade.
  - 1. Application: All interior partitions
  - 2. Species:
    - a. Mixed southern pine; SPIB.
    - b. Northern species; NLGA.
    - c. Eastern softwoods; NeLMA.
    - d. Western woods; WCLIB or WWPA.
- B. Framing Other Than Non-Load-Bearing Interior Partitions: Construction or No. 2 grade.
  - 1. Application: Framing other than interior partitions.
  - 2. Species:
    - a. Hem-fir (north); NLGA.
    - b. Southern pine; SPIB.
    - c. Douglas fir-larch; WCLIB or WWPA.
    - d. Spruce-pine-fir; NLGA.
    - e. Douglas fir-south; WWPA.
    - f. Hem-fir; WCLIB or WWPA.
    - g. Douglas fir-larch (north); NLGA.
    - h. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

## 2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
  - 3. Rooftop equipment bases and support curbs.
  - 4. Cants.
  - 5. Furring.
  - 6. Grounds.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine; No. 2 grade; SPIB.
2. Eastern softwoods; No. 2 Common grade; NeLMA.
3. Northern species; No. 2 Common grade; NLGA.
4. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.

## 2.6 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

## 2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Power-Driven Fasteners: NES NER-272.
- C. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

## 2.8 METAL FRAMING ANCHORS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product name or designation or comparable product by one of the following:
  1. Cleveland Steel Specialty Co.
  2. KC Metals Products, Inc.
  3. Phoenix Metal Products, Inc.
  4. Simpson Strong-Tie Co., Inc.
  5. USP Structural Connectors.
- C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- D. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
  1. Use for interior locations unless otherwise indicated.

- E. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
  - 1. Use for wood-preserved-treated lumber and where indicated.

## 2.9 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- D. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- G. Where wood-preserved-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. NES NER-272 for power-driven fasteners.
  - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

- A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

**END OF SECTION 061000**

## **SECTION 072100 - THERMAL INSULATION**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Polyisocyanurate Board Insulation.
  - 2. Fiberglass-mat faced gypsum roof boards.

#### **1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Product test reports.
- B. Research/evaluation reports.

### **PART 2 - PRODUCTS**

#### **2.1 POLYISOCYANURATE BOARD INSULATION:**

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Atlas Roofing Corporation.
  - 2. Carlisle SynTec Incorporated.
  - 3. Firestone Building Products.
  - 4. GAF Materials Corporation.
  - 5. Hunter Panels.
  - 6. Johns Manville.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 3, felt or glass-fiber mat facer on both major surfaces.

#### **2.2 FIBERGLASS-MAT FACED GYPSUM BOARDS**

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. CertainTeed Corporation.
  - 2. G-P Gypsum Corp
  - 3. Securock

- B. Kraft-Faced, Thermal barrier over rigid insulation (where indicated)
  - 1. Gypsum Board : Non-structural, glass mat, treated gypsum core board, ½” thick unless otherwise specified, similar to “Dens-Deck Prime” by G-P Gypsum Corp, Atlanta, GA
    - a. Flame Spread (ASTM E-84):0
    - b. Smoke developed (ASTM E-84):0
    - c. Noncombustible when tested in accordance with ASTM E136
    - d. UL Classified Type X when tested in accordance with ASTM E119

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

### 3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Glass-Fiber or Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
  - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
  - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
  - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
  - 4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
  - 5. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
    - a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- C. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..
2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

**END OF SECTION 072100**

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## **SECTION 074113 - STANDING-SEAM METAL ROOF PANELS**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes standing-seam metal roof panels.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
- C. Samples: For each type of metal panel indicated.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Warranties: Sample of special warranties.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

#### 1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: 20 years from date of Substantial Completion.

- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Finish Warranty Period: 20 years from date of Substantial Completion.
- C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
  - 1. Warranty Period: 30 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
  - 1. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E 1680
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646
- D. Salt Spray Test: ASTM B117, min.1000 hrs. Blister rating #8, creepage from scribe 3/16".
- E. Formability Test: ASTM D3281, Exterior coating, no cracking, no pick off at 3-T bend
- F. Accelerated Weathering Test: ASTM D822, Min. of 2000 hours exposure
- G. Humidity Test: ASTM D2247 for 3000 hours, no field blisters, no pencil hardness/24 hours
- H. Abrasion Test: ASTM D968, Coefficient of abrasion min. 55 liter of sand per mil. of coating thickness
- I. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
  - 1. Uplift Rating: UL 90
- J. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces

### 2.2 STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.
  2. Aluminum Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1637.
- B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. CENTRIA Architectural Systems.
    - b. Englert, Inc.
    - c. Merchant & Evans.
  2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
    - a. Nominal Thickness: 22 Gauge
    - b. Exterior Finish: 70% Kynar 500, Chrome Pre-Treatment and Chrome Primer, min. 1.0 mil. dry film thickness
    - c. Color: "Dark Bronze"
  3. Clips: to accommodate thermal movement.
    - a. Material: 16 Gauge nominal thickness, zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet.
  4. Joint Type: As standard with manufacturer
  5. Panel Coverage: 16 inches
  6. Panel Height: 2.5 inches

## 2.3 MISCELLANEOUS MATERIALS

- A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
  2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- B. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- C. Gutters and Downspouts: Formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads.
- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
  1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch wide and 1/8 inch thick.
  2. Joint Sealant: ASTM C 920; as recommended in writing by metal panel manufacturer.
  3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

## 2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

### 3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated on Drawings, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.
  - 1. Apply over the entire roof surface.
- B. Felt Underlayment: Apply at locations indicated on Drawings, in shingle fashion to shed water, and with lapped joints of not less than 2 inches.
  - 1. Apply over the entire roof surface.
- C. Slip Sheet: Apply slip sheet over underlayment before installing metal roof panels.
- D. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

### 3.3 METAL PANEL INSTALLATION

- A. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.
  - 1. Install clips to supports with self-tapping fasteners.
  - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
  - 3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
  - 4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
  - 5. Watertight Installation:
    - a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
    - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
    - c. At panel splices, nest panels with minimum 6-inch end lap, sealed with sealant and fastened together by interlocking clamping plates.
- B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
- C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners

where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

#### 3.4 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

**END OF SECTION 074113**

## **SECTION 076200 - SHEET METAL FLASHING AND TRIM**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
1. Manufactured reglets with counterflashing.
  2. Formed roof-drainage sheet metal fabrications.
  3. Formed low-slope roof sheet metal fabrications.
  4. Formed wall sheet metal fabrications.

#### **1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Shop Drawings: For sheet metal flashing and trim.
1. Include plans, elevations, sections, and attachment details.
  2. Distinguish between shop- and field-assembled work.
  3. Include identification of finish for each item.
  4. Include pattern of seams and details of termination points, expansion joints and expansion-joint covers, direction of expansion, roof-penetration flashing, and connections to adjoining work.
- C. Samples: For each exposed product and for each color and texture specified.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Product certificates.
- B. Product test reports.
- C. Sample warranty.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Maintenance data.

#### **1.5 QUALITY ASSURANCE**

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

## 1.6 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Finish Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and FM 4435 and capable of resisting the following design pressure:
  - 1. Design Pressures
    - a. Horizontal at Perimeter: 66psf
    - b. Horizontal at Corner: 82.3psf
    - c. Vertical at Perimeter: 114.3psf
    - d. Vertical at Corner: 172psf
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

### 2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.
  - 1. Exposed Coil-Coated Finish:
    - a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  - 2. Color: As indicated by manufacturer's designations.

- C. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead soft, fully annealed; 2D (dull, cold rolled) finish.
- D. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation or aluminum-zinc alloy-coated steel sheet according to ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; prepainted by coil-coating process to comply with ASTM A 755/A 755M.
  - 1. Exposed Coil-Coated Finish:
    - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  - 2. Color: As indicated by manufacturer's designations.

### 2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Atlas Roofing Corporation; Summit.
    - b. Engineered Coated Products; Nova-Seal II.
    - c. Kirsch Building Products, LLC; Sharkskin Comp.
    - d. SDP Advanced Polymer Products Inc; Palisade.
- B. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Grace Construction Products, a unit of W. R. Grace & Co.-Conn.; Grace Ice and Water Shield HT.
    - b. Henry Company; Blueskin PE200 HT.
    - c. Kirsch Building Products, LLC; Sharkskin Ultra SA.
    - d. Metal-Fab Manufacturing, LLC; MetShield.
    - e. Owens Corning; WeatherLock Specialty Tile & Metal Underlayment.
    - f. Polyguard Products, Inc.; Deck Guard HT.

- g. Protecto Wrap Company; Protecto Jiffy Seal Ice & Water Guard HT.
  - h. SDP Advanced Polymer Products Inc; Palisade SA-HT.
2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
  3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.
- C. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft.minimum.

## 2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
    - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
  2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
  3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
  4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Solder:
1. For Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
  2. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- H. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- I. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

## 2.5 MANUFACTURED REGLETS

- A. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions and with interlocking counterflashing on exterior face, of same metal as reglet.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings comparable product by one of the following:
    - a. Fry Reglet Corporation.
    - b. Cheney Flashing Company.
    - c. Heckmann Building Products, Inc.
    - d. Hickman, W. P. Company.
    - e. Hohmann & Barnard, Inc.
    - f. Keystone Flashing Company, Inc.
    - g. National Sheet Metal Systems, Inc.
    - h. Sandell Manufacturing.
  - 3. Material: Stainless steel, 0.019 inch thick.
  - 4. Finish: With manufacturer's standard color coating.

## 2.6 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
  - 1. Obtain field measurements for accurate fit before shop fabrication.
  - 2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
  - 3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

- B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
  - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
  - 2. Use lapped expansion joints only where indicated on Drawings.
- C. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

## 2.7 ROOF-DRAINAGE SHEET METAL FABRICATIONS

- A. Downspouts: Fabricate downspouts to match roofing material, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows. Finish to match roofing
  - 1. Fabricate from the following materials:
    - a. Galvanized Steel: 0.05 inch thick.
    - b. Aluminum-Zinc Alloy-Coated Steel: 0.05 inch thick.

## 2.8 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. One-Piece Gravel Stops: Manufactured, one-piece, metal gravel stop in section lengths not exceeding 10 feet, with a horizontal flange and vertical leg, drain-through fascia, and concealed splice plates of same material, finish, and shape as gravel stop. Provide matching corner units.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
    - a. Certainteed.
    - b. Hickman Company, W. P.
    - c. Carlisle.
    - d. Fields Corporation.
    - e.
  - 3. Formed Aluminum Sheet Gravel Stops: Aluminum sheet, 0.050 inch thick.
    - a. Surface: Smooth, flat finish.
    - b. Finish: Two-coat fluoropolymer.
    - c. Color: Medium bronze.

4. Corners: Factory mitered and mechanically clinched and sealed watertight.
- B. Copings: Fabricate in minimum 96-inch- long, but not exceeding 12-foot- long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
  1. Fabricate from the Following Materials:
    - a. Aluminum: 0.050 inch thick.
- C. Base Flashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
  1. Aluminum: 0.040 inch thick.
  2. Stainless Steel: 0.019 inch thick.
  3. Galvanized Steel: 0.028 inch thick.
  4. Aluminum-Zinc Alloy-Coated Steel: 0.028 inch thick.
- D. Counterflashing and Flashing Receivers: Fabricate from the following materials:
  1. Stainless Steel: 0.019 inch thick.
- E. Roof-Penetration Flashing: Fabricate from the following materials:
  1. Stainless Steel: 0.019 inch thick.
- F. Roof-Drain Flashing: Fabricate from the following materials:
  1. Stainless Steel: 0.016 inch thick.

## 2.9 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch- long, but not exceeding 12-foot- long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch- high, end dams. Fabricate from the following materials:
  1. Stainless Steel: 0.016 inch thick.
- B. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch- high, end dams. Fabricate from the following materials:
  1. Stainless Steel: 0.016 inch thick.

## PART 3 - EXECUTION

### 3.1 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6

inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

### 3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
  2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
  3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
  4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
  5. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
1. Coat concealed side of uncoated-aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
  2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
  2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws or substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.

1. Do not solder metallic-coated steel and aluminum sheet.
2. Do not use torches for soldering.
3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
4. Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
5. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.

H. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

### 3.3 ROOF-DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c.

### 3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
- D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of **4 inches**.
- E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric or butyl sealant and clamp flashing to pipes that penetrate roof.

### 3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Through-Wall Flashing: Installation of through-wall flashing is specified in Section 042000 "Unit Masonry."

- C. Reglets: Installation of reglets is specified in Section 042000 "Unit Masonry."
- D. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

**END OF SECTION 076200**

## SECTION 07720 - ROOF HATCH

### PART ONE - GENERAL

#### 1.01 SUMMARY

- A. Work included: Furnishing and installing factory fabricated roof hatches

#### 1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM), 100 Bar Harbor Drive, West Conshocken, PA 19428-2959; (610) 832-9585, fax (610) 832-9555
  - 1. ASTM A 36-93a: Standard Specification for Structural Steel
- B. Miami-Dade Building Code Compliance Office, 140 W Flagler Street, Suite 1603, Miami, FL 33130-1563, phone (305) 375-2901, fax (305) 375-2908
  - 1. N.O.A. 11-0722.10 High velocity hurricane zone, large and small missile impact.
- C. Florida Building Commission, 1940 North Monroe Street, Tallahassee FL 32399, phone: 850-487-1824
  - 1. Florida Product Approval number FL13501 High velocity hurricane zone, large and small missile impact.
- B. International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland, phone +41 22 749 01 11, fax +41 22 733 34 30
  - 1. ISO 9001:2008 Certified

#### 1.03 SUBMITTALS

- A. Product Data: Provide manufacturer's product data for all materials in this specification.
- B. Shop Drawings: Show profiles, accessories, location, and dimensions.
- C. Samples: Manufacturer to provide upon request; sized to represent material adequately.
- D. Contract Closeout: Roof hatch manufacturer shall provide the manufacturer's Warranty prior to the contract closeout

#### 1.04 PRODUCT HANDLING

- A. All materials shall be delivered in manufacturer's original packaging.
- B. Store materials in a dry, protected, well-vented area. The contractor shall thoroughly inspect product upon receipt and report damaged material immediately to delivering carrier and note such damage on the carrier's freight bill of lading.
- C. Remove protective wrapping immediately after installation

#### 1.05 SUBSTITUTIONS

- A. Proposals for substitution products shall be accepted only from bidding contractors and not less than (10) working days before bid due date. Contractor guarantees that proposed substitution shall meet the performance and quality standards of this specification.

#### 1.06 JOB CONDITIONS

- A. Verify that other trades with related work are complete before installing roof hatch(s).
- B. Mounting surfaces shall be straight and secure; substrates shall be of proper width.
- C. Refer to the construction documents, shop drawings, and manufacturer's installation instructions.
- D. Coordinate installation with roof membrane and roof insulation manufacturer's instructions before starting.
- E. Observe all appropriate OSHA safety guidelines for this work.

#### 1.07 WARRANTY/GUARANTEEE

- A. Manufacturer's standard warranty: Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge. Electrical motors, special finishes, and other special equipment (if applicable) shall be warranted separately by the manufacturers of those products.
- B. Manufacturer's Quality System: Registered to ISO 9001:2008 Quality Standards including in-house engineering for product design activities.

### PART TWO - PRODUCTS

#### 2.01 MANUFACTURER

- A. BILCO Company
- B. Babcock Davis
- C. Nystrom
- D. or approved equal

## 2.02 ROOF HATCH

- A. Furnish and install where indicated on plans metal roof hatch per drawings. Length denotes hinge side. The roof hatch shall be single leaf. The roof hatch shall be pre-assembled from the manufacturer.
- B. Performance characteristics:
  - 1. Cover shall be reinforced to support a minimum live load of 40 psf (195kg/m<sup>2</sup>) with a maximum deflection of 1/150th of the span or a maximum design pressure of + or - 70 psf (342kg/m<sup>2</sup>) with a factor of safety of 2.
  - 2. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
  - 3. Operation of the cover shall not be affected by temperature.
  - 4. Entire hatch shall be weathertight with fully welded corner joints on cover and curb.
- C. Cover: Shall be 14 gauge paint bond G-90 galvanized with a 3" (76mm) beaded flange with formed reinforcing members. Cover shall have a heavy extruded EPDM rubber gasket that is bonded to the cover interior to assure a continuous seal when compressed to the top surface of the curb.
- D. Cover insulation: Shall be fiberglass of 1" (25.4mm) thickness, fully covered and protected by a metal liner 22 gauge paint bond G-90 galvanized steel.
- E. Curb: Shall be 12" in height. The curb shall be formed with a flange and holes provided for securing to the roof deck. The curb shall be equipped with an integral metal capflashing of the same gauge and material as the curb, fully welded at the corners.
- F. Curb insulation: Shall be rigid, high-density fiberboard of 1" (25.4mm) thickness on outside of curb.
- G. Lifting mechanisms: Manufacturer shall provide compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the entire arc of opening and closing. The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly.
- H. Hardware
  - 1. Heavy pintle hinges shall be provided
  - 2. Cover shall be equipped with a spring latch with interior and exterior turn handles
  - 3. Roof hatch shall be equipped with interior and exterior padlock hasps.
  - 4. The latch strike shall be a stamped component bolted to the curb assembly.
  - 5. Cover shall automatically lock in the open position with a rigid hold open arm equipped with a 1" diameter red vinyl grip handle to permit easy release for closing.
  - 6. Compression spring tubes shall be an anti-corrosive composite material and all other hardware shall be zinc plated and chromate sealed.
  - 7. Cover hardware shall be bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- I. Finishes: Factory finish shall be alkyd based red oxide primed steel

## PART THREE - EXECUTION

### 3.01 INSPECTION

- A. Verify that roof hatch installation will not disrupt other trades. Verify that the substrate is dry, clean, and free of foreign matter. Report and correct defects prior to any installation.

### 3.02 INSTALLATION

- A. Submit product design drawings for review and approval to the architect or specifier before fabrication.
- B. The installer shall check as-built conditions and verify the manufacturer's roof hatch details for accuracy to fit the application prior to fabrication. The installer shall comply with the roof hatch Manufacturer's installation instructions.
- C. The installer shall furnish mechanical fasteners consistent with the roof requirements.

**END OF SECTION 07720**

## **SECTION 079200 - JOINT SEALANTS**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Silicone joint sealants.

#### **1.2 ACTION SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Product test reports.
- B. Field-adhesion test reports.
- C. Warranties.

#### **1.4 QUALITY ASSURANCE**

- A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

#### **1.5 WARRANTY**

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  1. Architectural Sealants: 250 g/L.
  2. Sealant Primers for Nonporous Substrates: 250 g/L.
  3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Low-Emitting Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

### 2.2 SILICONE JOINT SEALANTS

- A. Silicone Joint Sealant: ASTM C 920.
  1. Basis-of-Design Product: Subject to compliance with requirements, provide product by one of the following:
    - a. BASF Building Systems.
    - b. Dow Corning Corporation.
    - c. GE Advanced Materials - Silicones.
    - d. May National Associates, Inc.
    - e. Pecora Corporation.
    - f. Polymeric Systems, Inc.
    - g. Schnee-Morehead, Inc.
    - h. Sika Corporation; Construction Products Division.
    - i. Tremco Incorporated.
  2. Type: Single component (S).
  3. Grade: nonsag (NS).
  4. Class: 100/50.
  5. Uses Related to Exposure: Traffic (T).

## 2.3 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

## 2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
  - 1. Remove laitance and form-release agents from concrete.
  - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Locations:
    - a. Perimeter joints between exterior materials and frames of **doors**
    - b. Other joints as indicated.
  - 2. Joint Sealant: Silicone.
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Locations:
    - a. Perimeter joints of exterior openings where indicated.
    - b. Perimeter joints between interior wall surfaces and frames of windows, etc.

- c. Other joints as indicated.
- 2. Joint Sealant: Silicone.
- 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors

**END OF SECTION 079200**

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## **SECTION 105030 - AWNINGS**

### **PART 1 - GENERAL**

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Building supported metal awnings including framing, enclosure, and attachment hardware.
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. (other)

#### 1.2 REFERENCES

- A. American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures.
- B. ASTM International (ASTM)
  - 1. B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
  - 2. B429 - Standard Specification for Aluminum-Alloy Extruded Pipe and Tube.

#### 1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Design awning system to withstand:
  - 1. Standards for wind pressure, snow load, and drifting snow load in accordance with current adopted form of the Uniform Construction code or accepted requirements of local municipality.

#### 1.4 SUBMITTALS

- A. Submittals for Review:
  - 1. Shop Drawings: Indicate system components, dimensions, attachments, and accessories.
  - 2. Samples:
    - a. 3 x 3 inch coating samples in specified color.
    - b. 6 inch decking/ siding samples showing profile and finish.
- B. (LEED Project Submittals)
  - 1. Product Data for Credit MR 4: documentation indicating percentages by weight of post consumer and pre consumer recycled content. Include statement indicating cost for each product having recycled content.
  - 2. Product Data for Credit MR 5: Indicate location of product manufacturer, distance from manufacturer to project site, and mill test report for origination of materials.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 5 years experience in installation of MASA products. B. (Mockup:
  - 1. Provide mockup of awning system including all framing members, enclosure materials, and attachments at location selected by architect.)

## **PART 2 - PRODUCTS**

### 2.1 MANUFACTURER

- A. Contract Documents are based on:  
Alumiframe

By: MASA Architectural Canopies

21 Randolph Ave. Avenel, NJ 07001  
800-761-7446  
[www.architecturalcanopies.com](http://www.architecturalcanopies.com).

- B. Acceptable alternates:

Other manufacturers may bid only after written approval of the architect, obtained 10 days prior to bid opening and issued by addendum. Interested manufacturers must furnish full details of proposed product, engineering calculations on all sections involved, physical samples of all shapes and finishes, a list of installations similar in size and design, and must have a minimum of five years experience in manufacturing and installing extruded aluminum louver systems

### 2.2 MATERIALS

- A. Aluminum Extrusions:
  - 1. ASTM B221& ASTM B429 6061-T6 alloy and temper.
- B. Hardware:
  - 1. All fasteners shall be stainless steel or hot dip galvanized for corrosion resistance.

### 2.3 COMPONENTS

- A. Framing:
  - 1. Type: Extruded aluminum square tube
  - 2. Size: 1" square (2" Square)(3" Square)
- B. Enclosure: 2mm Aluminum Composite Panel (1 ½" Standing seam metal roofing with 1 ¼" wall panel)
- C. Other Components: other components as indicated or as required for system attachment and performance.

### 2.4 ACCESSORIES

- A. Anchors and Fasteners: Stainless steel or hot dip galvanized and corrosion resistant

### 2.5 FABRICATION

- A. Fabricate canopy system in accordance with approved Shop Drawings.

### 2.6 FINISHES

- A. Aluminum Framing:
  - 1. Pre- Treatment: White Epoxy Primer 274 908SP pre cleaned and pre sanded
  - 2. Finish coat: Low VOC Acrylic Polyurethane

3. Source: Matthews Paint
4. Color: (color) to be selected by architect from MASA's color range

### **PART 3 - EXECUTION**

#### 3.1 FIELD DIMENSIONS

- A. Field verify dimensions of supporting structure and any openings at site of installation prior to fabrication.

#### 3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Install components plumb and level, in proper plane, free from warp and twist.
- C. Anchor system to building components; provide adequate clearance for movement caused by thermal expansion and contraction and wind loads.

#### 3.3 ADJUSTING

- A. Touch up minor scratches and abrasions on finished surfaces to match original finish.

END OF SECTION

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## **SECTION 233113 - METAL DUCTS**

### **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. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and performance requirements and design criteria indicated in "Duct Schedule" Article.
- B. Structural Performance: Duct hangers and supports shall withstand the effects of gravity loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"
- C. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
- D. Performance Standards with Antimicrobial Coating.
1. Efficacy: The coated product should demonstrate a minimum of 3 log reduction when tested for efficacy using procedures similar to ASTM E 2180.
  2. Friction reduction: The coated product should have a coefficient of friction of 0.70 or lower when tested using a Draw Bead Simulator (DBS).
  3. Corrosion Resistance: The coated product should be free of red rust after 15 cycles when tested for corrosion behavior using the following wet/dry cycle:
    - a. 15 minutes dip in a room temperature 5 percent sodium chloride solution.
    - b. Air dry at room temperature for 1 hour nad 15 minutes.
    - c. Placed into a humidity cabinet at 140 degrees F and 85 percent relative humidity for 22 hours and 30 minutes.
    - d. Repeat cycle Monday to Friday (5 cycles).
    - e. On weekends samples must be maintained in the 140 degrees F (60 degrees C) / 85 percent humidity chamber (weekends do not count as cycle days).

#### **1.3 ACTION 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. Fittings.
5. Reinforcement and spacing.
6. Seam and joint construction.
7. Penetrations through fire-rated and other partitions.
8. Equipment installation based on equipment being used on Project.
9. Locations for duct accessories, including dampers, turning vanes, and access doors and panels.
10. Hangers and supports, including methods for duct and building attachment and vibration isolation.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to [AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.] [AWS D1.2/D1.2M, "Structural Welding Code - Aluminum," for aluminum supports.] [AWS D9.1M/D9.1, "Sheet Metal Welding Code," for duct joint and seam welding.]
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
1. AWS D1.1/D1.1M, "Structural Welding Code - Steel," for hangers and supports.
  2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum," for aluminum supports.
  3. AWS D9.1M/D9.1, "Sheet Metal Welding Code," for duct joint and seam welding.
- C. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."
- D. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, 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 2-1, "Rectangular Duct/Transverse 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 2-2, "Rectangular Duct/Longitudinal Seams," 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 4, "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, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Lindab Inc.
    - b. McGill Airflow LLC
    - c. SEMCO Incorporated

## 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: G90.
  - 2. Finishes for Surfaces Exposed to View: Mill phosphatized.
- C. Stainless-Steel Sheets: Comply with ASTM A 480/A 480M, Type 304, 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.
- D. 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.
- E. 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. Two-Part Tape Sealing System:
1. Tape: Woven cotton fiber impregnated with mineral gypsum and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
  2. Tape Width: 3 inches.
  3. Sealant: Modified styrene acrylic.
  4. Water resistant.
  5. Mold and mildew resistant.
  6. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
  7. Service: Indoor and outdoor.
  8. Service Temperature: Minus 40 to plus 200 deg F.
  9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum.
  10. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  11. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. 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, positive and negative.
  8. Service: Indoor or outdoor.
  9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.
- D. Flanged Joint Sealant: Comply with ASTM C 920.
1. General: Single-component, acid-curing, silicone, elastomeric.
  2. Type: S.
  3. Grade: NS.

4. Class: 25.
  5. Use: O.
  6. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  7. Sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- E. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.
- F. Round Duct Joint O-Ring Seals:
1. Seal shall provide maximum 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 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "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. Trapeze 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 "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."]

### 3.2 INSTALLATION OF EXPOSED DUCTWORK

- A. Protect ducts exposed in finished spaces from being dented, scratched, or damaged.
- B. Trim duct sealants flush with metal. Create a smooth and uniform exposed bead. Do not use two-part tape sealing system.
- C. Grind welds to provide smooth surface free of burrs, sharp edges, and weld splatter. When welding stainless steel with a No. 3 or 4 finish, grind the welds flush, polish the exposed welds, and treat the welds to remove discoloration caused by welding.

- D. Maintain consistency, symmetry, and uniformity in the arrangement and fabrication of fittings, hangers and supports, duct accessories, and air outlets.
- E. Repair or replace damaged sections and finished work that does not comply with these requirements.

### 3.3 ADDITIONAL INSTALLATION REQUIREMENTS FOR COMMERCIAL KITCHEN HOOD EXHAUST DUCT

- A. Install commercial kitchen hood exhaust ducts without dips and traps that may hold grease, and sloped a minimum of 2 percent to drain grease back to the hood.
- B. Install fire-rated access panel assemblies at each change in direction and at maximum intervals of 12 feet in horizontal ducts, and at every floor for vertical ducts, or as indicated on Drawings. Locate access panel on top or sides of duct a minimum of 1-1/2 inches from bottom of duct.
- C. Do not penetrate fire-rated assemblies except as allowed by applicable building codes and authorities having jurisdiction.

### 3.4 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."

### 3.5 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "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 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "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 pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

### 3.6 CONNECTIONS

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

### 3.7 DUCT CLEANING

- A. Clean new and existing duct system(s) before testing, adjusting, and balancing.
- B. Use service openings for entry and inspection.
  - 1. Create new openings and install access panels appropriate for duct static-pressure class if required for cleaning access. Provide insulated panels for insulated or lined duct. Patch insulation and liner as recommended by duct liner manufacturer.
  - 2. Disconnect and reconnect flexible ducts as needed for cleaning and inspection.
  - 3. Remove and reinstall ceiling to gain access during the cleaning process.
- C. Particulate Collection and Odor Control:
  - 1. When venting vacuuming system inside the building, use HEPA filtration with 99.97 percent collection efficiency for 0.3-micron-size (or larger) particles.
  - 2. When venting vacuuming system to outdoors, use filter to collect debris removed from HVAC system, and locate exhaust downwind and away from air intakes and other points of entry into building.
- D. Clean the following components by removing surface contaminants and deposits:
  - 1. Air outlets and inlets (registers, grilles, and diffusers).
  - 2. Supply, return, and exhaust fans including fan housings, plenums (except ceiling supply and return plenums), scrolls, blades or vanes, shafts, baffles, dampers, and drive assemblies.
  - 3. Air-handling unit internal surfaces and components including mixing box, coil section, air wash systems, spray eliminators, condensate drain pans, humidifiers and dehumidifiers, filters and filter sections, and condensate collectors and drains.
  - 4. Coils and related components.
  - 5. Return-air ducts, dampers, actuators, and turning vanes except in ceiling plenums and mechanical equipment rooms.
  - 6. Supply-air ducts, dampers, actuators, and turning vanes.

7. Dedicated exhaust and ventilation components and makeup air systems.

E. Mechanical Cleaning Methodology:

1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
4. Clean fibrous-glass duct liner with HEPA vacuuming equipment; do not permit duct liner to get wet. Replace fibrous-glass duct liner that is damaged, deteriorated, or delaminated or that has friable material, mold, or fungus growth.
5. Clean coils and coil drain pans according to NADCA 1992. Keep drain pan operational. Rinse coils with clean water to remove latent residues and cleaning materials; comb and straighten fins.
6. Provide drainage and cleanup for wash-down procedures.
7. Antimicrobial Agents and Coatings: Apply EPA-registered antimicrobial agents if fungus is present. Apply antimicrobial agents according to manufacturer's written instructions after removal of surface deposits and debris.

3.8 DUCT SCHEDULE

A. 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 if negative pressure, and A if positive pressure.
  - c. SMACNA Leakage Class for Rectangular: 12.
  - d. SMACNA Leakage Class for Round and Flat Oval: 6.
2. Ducts Connected to Commercial Kitchen Hoods: Comply with NFPA 96.
  - a. Exposed to View: Type 304, stainless-steel sheet, No. 4 finish.
  - b. Concealed: Type 304, stainless-steel sheet, No. 2D finish.
  - c. Welded seams and joints.
  - d. Pressure Class: Positive or negative 2-inch wg.
  - e. Minimum SMACNA Seal Class: Welded seams, joints, and penetrations.
  - f. SMACNA Leakage Class: 3.
3. Ducts Connected to Equipment Not Listed Above:
  - a. Pressure Class: Positive or negative 2-inch wg.
  - b. Minimum SMACNA Seal Class: A if negative pressure, and A if positive pressure.
  - c. SMACNA Leakage Class for Rectangular: 6.
  - d. SMACNA Leakage Class for Round and Flat Oval: 3.

B. Intermediate Reinforcement:

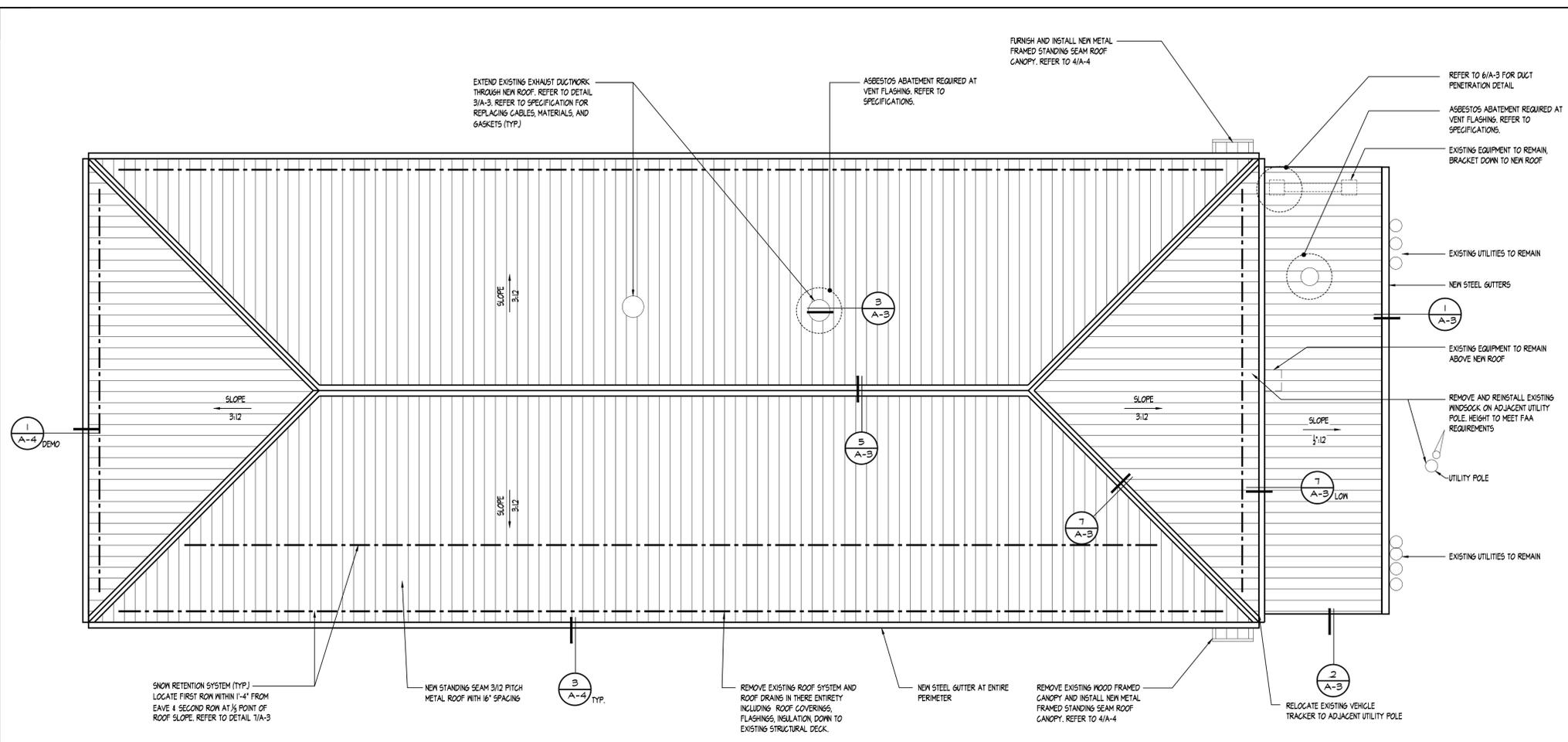
1. Galvanized-Steel Ducts: Galvanized steel

C. Elbow Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
  - 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 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
  - c. Velocity 1500 fpm or Higher:
    - 1) Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
    - 2) Radius Type RE 3 with minimum 1.0 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 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
2. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "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 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
3. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows."
  - a. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 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) Velocity 1500 fpm or Higher: 1.5 radius-to-diameter ratio and five segments for 90-degree elbow.
    - 4) Radius-to Diameter Ratio: 1.5.

END OF SECTION 233113



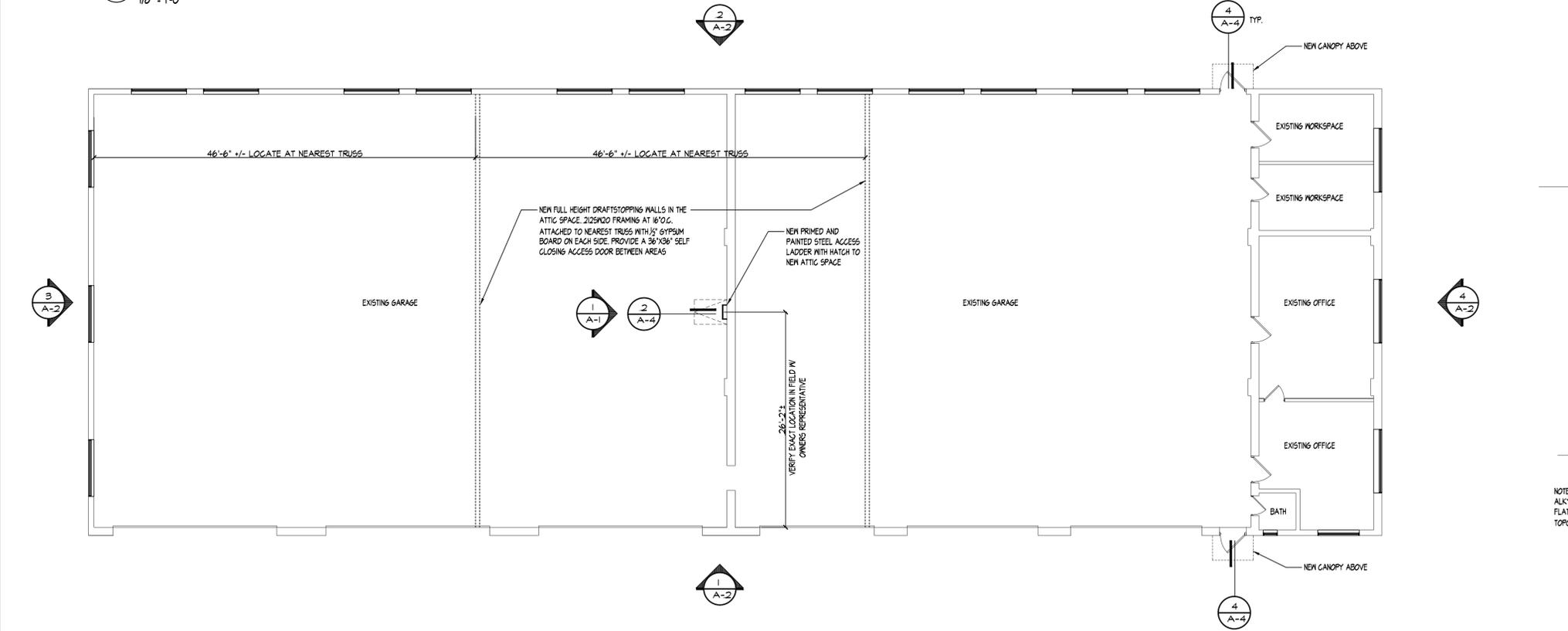


- ### GENERAL NOTES
- DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS REQUIRED. CRITICAL DIMENSIONS NOT FOUND SHOULD BE FIELD VERIFIED OR OBTAINED FROM THE ARCHITECT.
  - NOTES ON ONE DRAWING OR DETAIL APPLY TO ALL SIMILAR DRAWINGS OR DETAILS.
  - CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO COMMENCING ANY WORK AFFECTED.
  - CAULK JOINTS WHERE INDICATED ON DRAWINGS AS WELL AS AT JOINTS BETWEEN DISSIMILAR MATERIALS.
  - DELINEATION OF SNOW GUARDS IS DIAGRAMMATIC ONLY. VERIFY WITH MANUFACTURER FOR NUMBER, LOCATION AND SPACING.
  - CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATERTIGHT CONDITIONS AT ALL ROOF AREAS AT ALL TIMES.
  - TEMPORARILY SUPPORT & RE-INSTALL ALL ROOF UTILITIES AS REQUIRED FOR COMPLETION OF WORK.

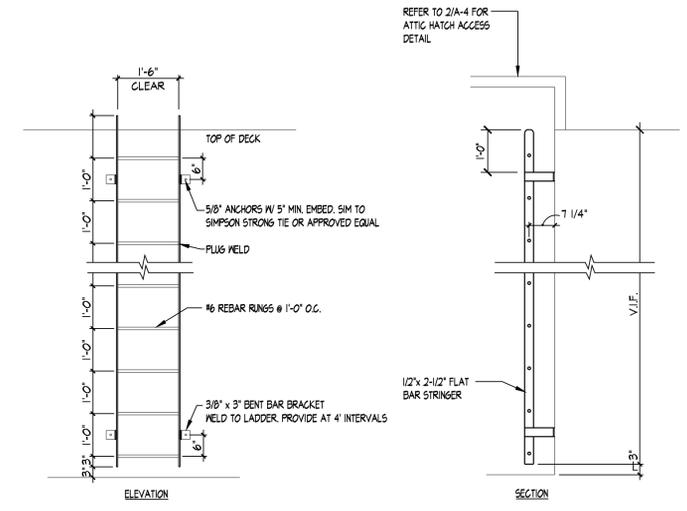
- ### GENERAL DEMOLITION NOTES
- REMOVE AND LEGALLY DISPOSE OF EXISTING ROOF SYSTEM IN ITS ENTIRETY, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: ROOF COVERINGS, ROOF INSULATION BASE SHEETS, ROOF DRAINS, FLASHINGS, ETC. DOWN TO EXISTING DECK. REMOVE EXISTING WOOD BLOCKING AS DETAILED. EXISTING ROOF TOP EQUIPMENT TO REMAIN, UNLESS NOTED OTHERWISE.
  - REMOVE EXISTING FLASHINGS REPORT ANY DETERIORATED / DAMAGED WOOD BLOCKING, FURRING TO ARCHITECT.
  - RE-USE EXISTING PLYWOOD AND WOOD BLOCKING IN GOOD CONDITION. REPLACE DAMAGED WOOD BLOCKING AS REQUIRED WITH TREATED WOOD BLOCKING.
  - REMOVE & RELOCATE/RE-INSTALL EXISTING ROOF TOP EQUIPMENT AS REQUIRED TO ALLOW FOR NEW WORK.
  - REMOVE ROOF DRAIN PIPING FROM DECK TO EXTERIOR WALLS, INFILL WALL WITH MASONRY CONSTRUCTION TO MATCH EXISTING, PAINT AND FINISH NEW SURFACES TO MATCH EXISTING.
  - REMOVE AND REPLACE DAMAGED ROOF DECKINGS WITH NEW MATERIALS TO MATCH EXISTING IN STRUCTURAL CAPACITY AND SIZE. (REFER TO UNIT PRICING SPECIFICATION).



**3** Roof Plan  
1/8" = 1'-0"



**2** Floor Plan  
1/8" = 1'-0"



NOTE: GRIND ALL WELDS AND EDGES SMOOTH. PROVIDE ALKYL ANTI-CORROSIVE PRIMER, ALKYL EXTERIOR FLAT INTERMEDIATE COAT AND ALKYL EXTERIOR FLAT TOPCOAT (COLOR AS SELECTED BY OWNER)

**1** Attic Access Ladder Detail  
1/2" = 1'-0"

Roof Replacement, Repairs, Restoration, and Masonry Work  
**Field Maintenance Shop**  
New Jersey National Guard  
Cape May Court House, New Jersey 08210  
DMAVA Project No. CM 113

REV.	DATE	DESCRIPTION

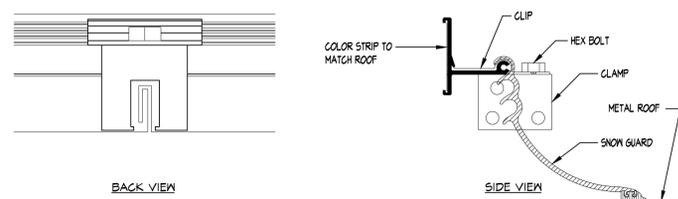
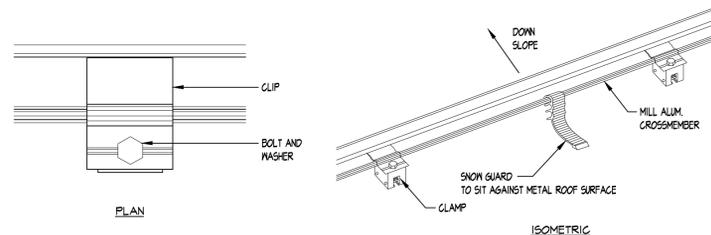
Floor Plan, Roof Plan  
Notes and Details

PROJECT NO.: 1231 DRAWN BY: DS

DATE ISSUED: 2/28/13

SHEET NO.:

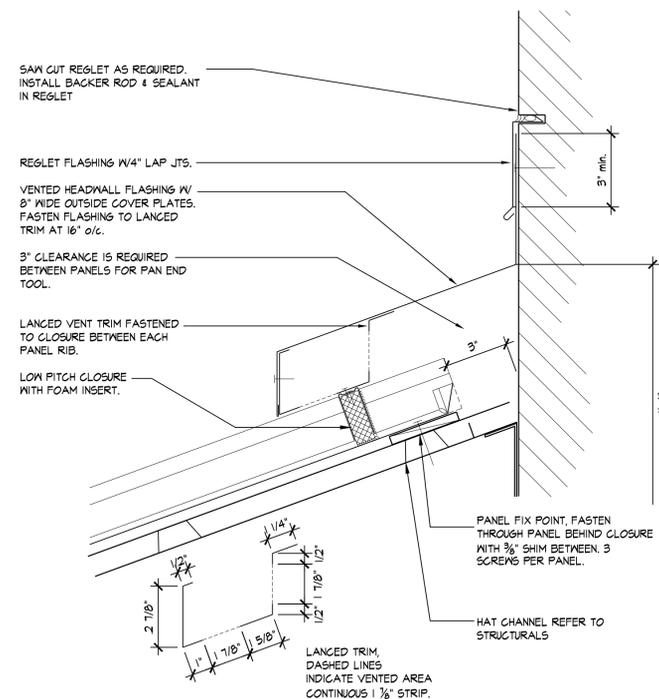




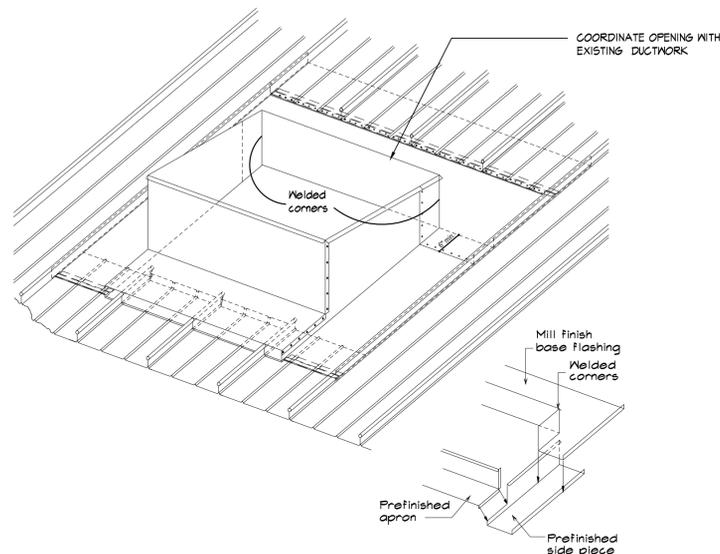
ICE/SNOW RETENTION SYSTEM GENERAL NOTES

1. BASED ON #16 COLORGARD BAR SYSTEM BY ALPINE SNOW GUARDS OR APPROVED EQUAL
2. PROVIDE CLAMP AT EVERY SEAM. SECURE W/ STAINLESS STEEL FASTENERS.
3. PROVIDE MILL ALUM. FINISH CLIP. SECURE W/ STAINLESS STEEL BOLT AND WASHER.
4. PROVIDE SNOW GUARD ONE PER PANEL, EVENLY SPACED AND INSTALLED TO THE SLOPE

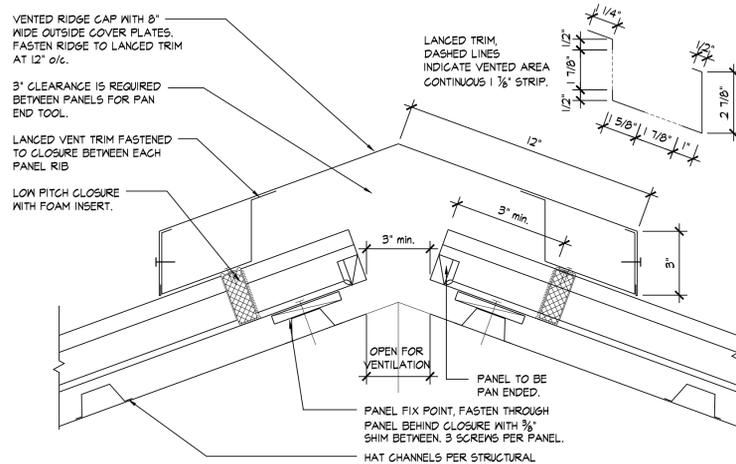
8 Typical Snow Retention Detail  
1/2"=1'-0"



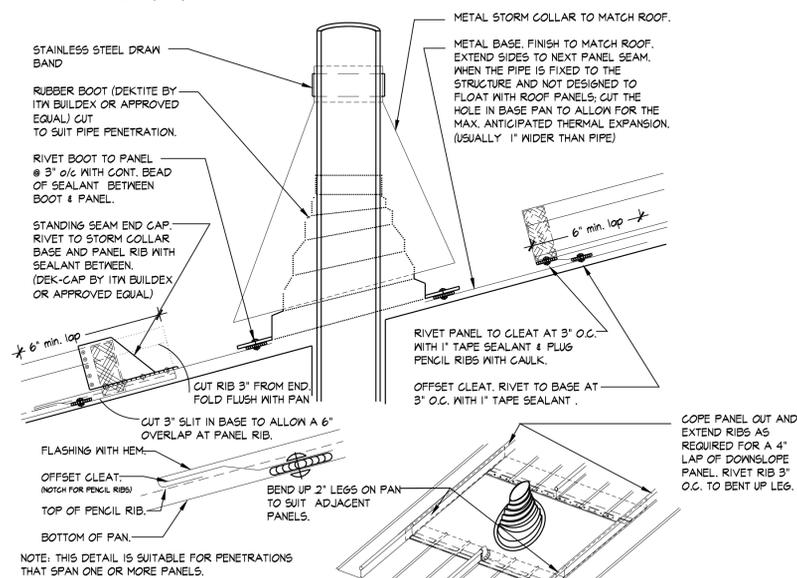
7 Headwall Detail  
3"=1'-0"



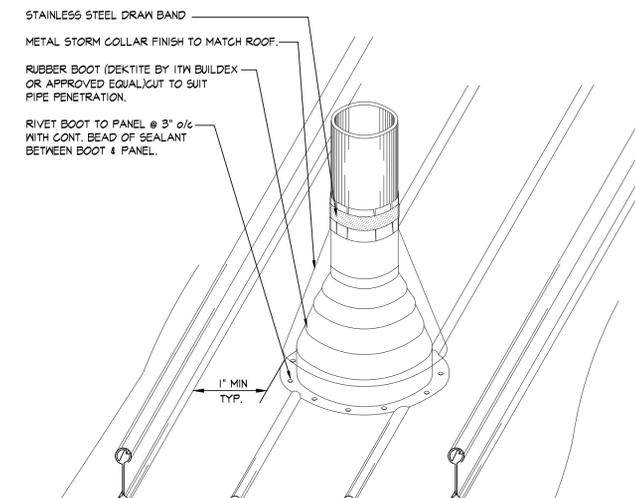
6 Duct Penetration Curb Detail  
3"=1'-0"



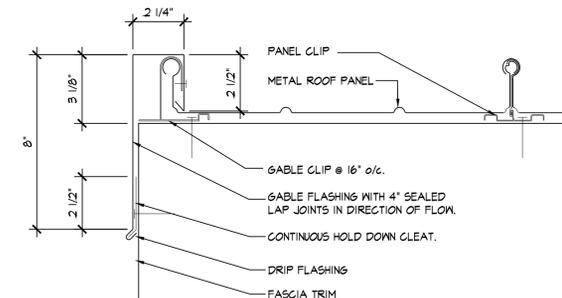
5 Ridge and Hip Detail  
3"=1'-0"



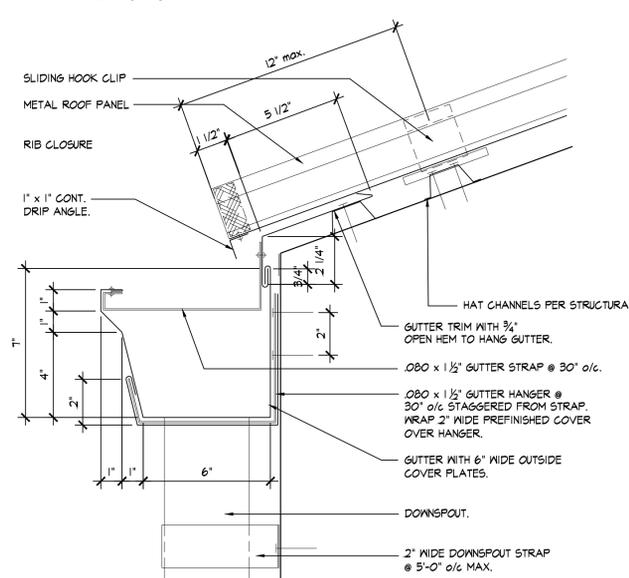
4 Eave Detail  
3"=1'-0"



3 Penetration Detail  
3"=1'-0"



2 Gable Detail  
3"=1'-0"



1 Gutter Detail  
3"=1'-0"

REV.: DATE: DESCRIPTION:

Roof Details

PROJECT NO.: 1231 DRAWN BY: DS

DATE ISSUED: 2/28/13

SHEET NO.:





PROFESSIONAL ENGINEERS

ADDRESS: P.O. BOX 628 FARMINGDALE, NJ 07727  
PHONE: 732.938.2666  
FAX: 732.938.2661  
CERTIFICATE OF AUTHORIZATION NO. 24GA28128300

KEYVIN C. SOMMONS  
NEW JERSEY PROFESSIONAL ENGINEER  
LICENSE NUMBER: GE-41789

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE ORIGINAL AND UNPUBLISHED WORK OF THE ENGINEER. THE REPRODUCTION OF THIS DRAWING FOR THE PURPOSE OF COPYING THIS WORK OR REVISING SAID DRAWING SHALL BE CONSIDERED A VIOLATION OF BOTH THE PROFESSIONAL CODE OF ETHICS AND A TRIFLE OF COMPANY ASSETS. BOTH OF WHICH SHALL BE PERMITTED TO THE FULLEST EXTENT OF CURRENT STATUTES.

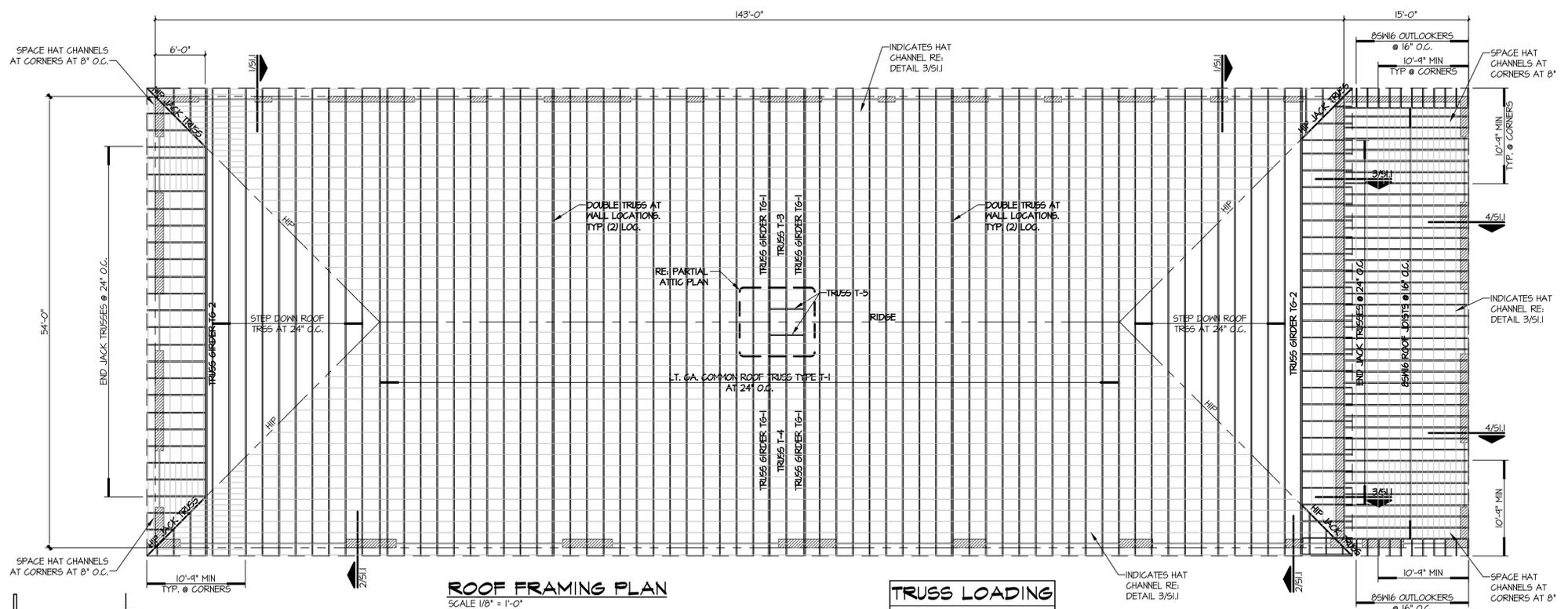
PROJECT TITLE:

ROOF REPLACEMENT FOR CAPE MAY FIELD MAINTENANCE SHOP  
CAPE MAY COURT HOUSE  
CAPE MAY, NJ

ISSUED FOR COORDINATION

DATE: REVISION:  
DRAWING TITLE:  
DESIGNED BY: KCS  
DRAWN BY: DMD  
DATE: 02/27/13  
SCALE: AS NOTED  
DRAWING NUMBER:

S1.1

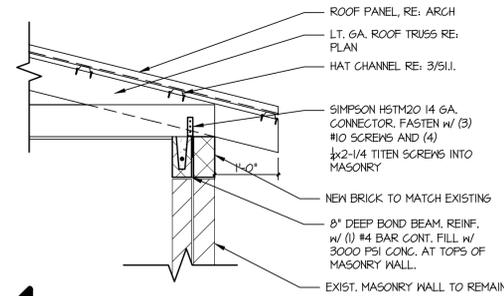


ROOF FRAMING PLAN  
SCALE 1/8" = 1'-0"

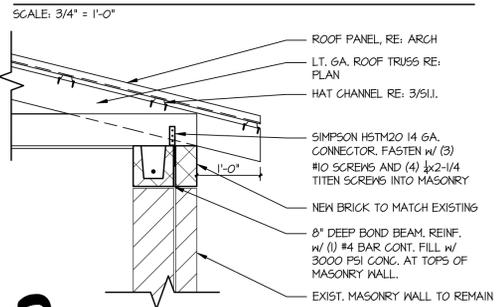
TRUSS LOADING

TCLL	20 PSF
TGDL	15 PSF
ECCL	10 PSF
ECDL	10 PSF

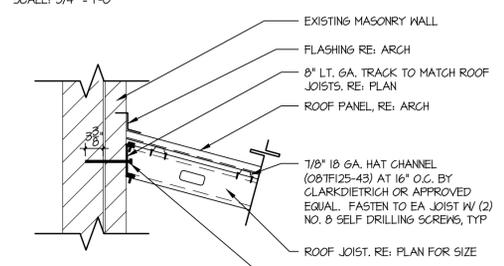
- NOTES:
- TYPICAL ROOF CONSTRUCTION TO BE LIGHT GA. ROOF TRUSSES RE: PLAN AND TRUSS PROFILES THIS SHEET.
  - REFER TO ARCH SECTIONS AND ELEVATIONS FOR PLATE HEIGHTS.
  - FOR TYPICAL DETAILS SEE DRAWING S11
  - GENERAL CONTRACTOR IS RESPONSIBLE TO INSTALL ALL PROPRIETARY FRAMING IN ACCORDANCE WITH ALL MANUFACTURER'S REQUIREMENTS. TYPICAL FOR ALL ROOF FRAMING IS PRE-ENGINEERED LT. GA. ROOF TRUSS CONSTRUCTION.
  - INSTALL PROPER LIGHT GA. HANGERS AT ALL ROOF TRUSSES AND ROOF JOISTS. THE INSTALLATION OF THE HANGERS SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDED DETAILS.
  - PROVIDE CONT. 8" DEEP BOND BEAM. REINF. W/ (1) #4 CONT. FILL W/ 3000 PSI CONC. AT THE TOPS OF ALL CMU WALLS.
  - ALL HEADERS AND WALLS ARE EXISTING
  - LIGHT GA. TRUSS MANUFACTURER IS RESPONSIBLE FOR THE TEMPORARY BRACING OF THE TRUSS UNTIL THE PERMANENT BRACING IS INSTALLED.



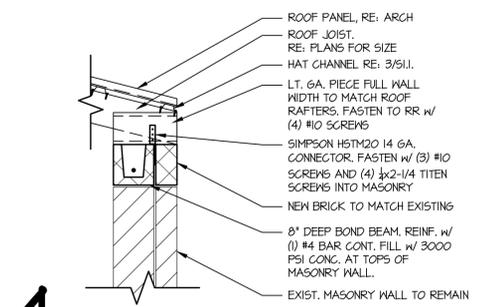
1 DETAIL AT 8" MASONRY WALL CNX  
SCALE: 3/4" = 1'-0"



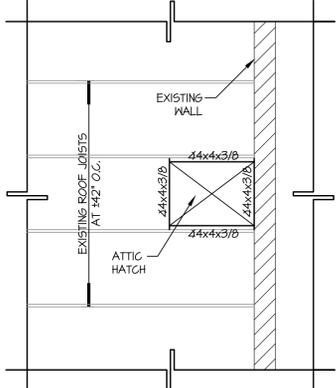
2 DETAIL AT 12" MASONRY WALL CNX  
SCALE: 3/4" = 1'-0"



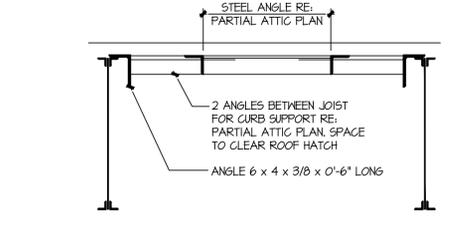
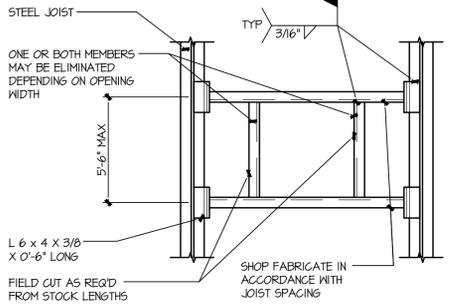
3 DETAIL AT SHED ROOF CNX  
SCALE: 3/4" = 1'-0"



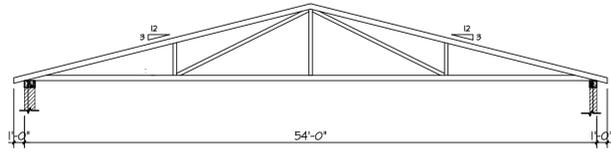
4 DETAIL AT SHED ROOF CNX  
SCALE: 3/4" = 1'-0"



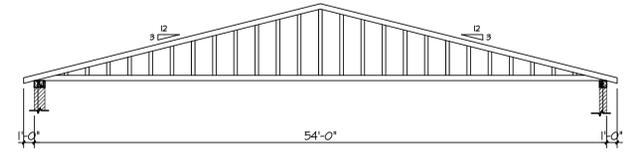
PARTIAL ATTIC PLAN  
SCALE: 1/4" = 1'-0"



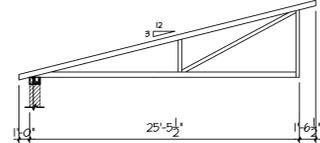
5 TYPICAL ROOF DECK OPENING  
NOT TO SCALE



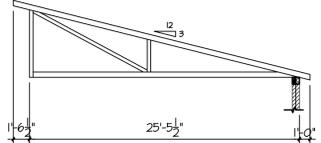
TRUSS PROFILE T-1  
SCALE: 1/8" = 1'-0"



TRUSS PROFILE T-2  
SCALE: 1/8" = 1'-0"



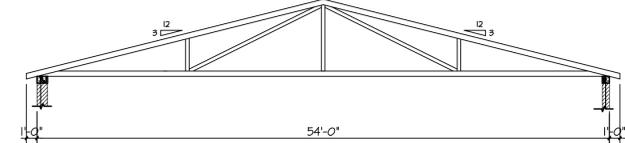
TRUSS PROFILE T-3  
SCALE: 1/8" = 1'-0"



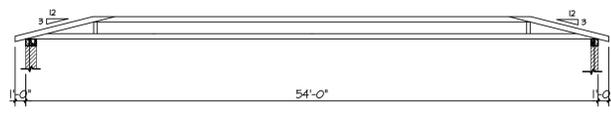
TRUSS PROFILE T-4  
SCALE: 1/8" = 1'-0"



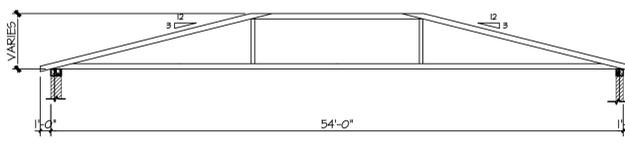
TRUSS PROFILE T-5  
SCALE: 1/8" = 1'-0"



TRUSS PROFILE T6-1  
SCALE: 1/8" = 1'-0"



TRUSS PROFILE T6-2  
SCALE: 1/8" = 1'-0"



STEP DOWN TRUSS PROFILE  
SCALE: 1/8" = 1'-0"