

PROJECT SPECIFICATIONS

FOR:

**CDBG YEAR 39
RENOVATION OF EXISTING FIRE HOUSE
BOROUGH OF WOODLYNNE
FIRE DEPARTMENT
STATION 173 CO. NO. 1**

200 Cooper Avenue
Woodlynne, New Jersey 08107

PREPARED FOR

BOROUGH OF WOODLYNNE
200 Cooper Avenue
Woodlynne, New Jersey 08107

PREPARED BY



304 White Horse Pike, Haddon Heights, NJ 08035
(856) 546-8611 • Fax (856) 546-8612

February 8, 2021

Dirk Muits III, AIA, NCARB
NJ Registered Architect No. AI 15840
Bach Project No. WDLYN2020-2

PROJECT DIRECTORY

OWNER

Borough of Woodlynne
200 Cooper Avenue, Woodlynne, NJ 08107
Telephone: (856) 962-8300

ARCHITECT

Bach Associates
304 White Horse Pike
Haddon Heights, New Jersey 08035
Telephone: (856) 546-8611
Fax: (856) 546-8612

TABLE OF CONTENTS

VOLUME 1 OF 2

	# PAGES
PROJECT DIRECTORY	1
TABLE OF CONTENTS	3
INVITATION TO BID	1
INSTRUCTIONS TO BIDDERS	56
BID FORM	4

APPENDICES

A101-2007 STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR	7
A201-2007 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION	54
STATE AND COUNTY PREVAILING WAGE RATES	1
FEDERAL WAGE RATES	9
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM – MUNICIPAL CONSTRUCTION PROJECT GUIDELINES	24
CONTRACTOR'S COMPLIANCE PACKET FOR COMMUNITY DEVELOPMENT PROGRAM FUNDED PROJECTS FUNDED BY THE CAMDEN COUNTY CDBG PROGRAM	24

DIVISION 1 - GENERAL REQUIREMENTS

003003	SCHEDULE OF DRAWINGS	2
005000	AGREEMENT FORM	1
005001	DEFINITIONS	1
009000	GENERAL CONDITIONS	1
012000	SUMMARY OF WORK	4
011000	MEASUREMENT AND PAYMENT	3
013010	SUBMITTAL PROCEDURES	4
013000	PROJECT MANAGEMENT AND COORDINATION	5
014000	QUALITY CONTROL	3
016000	MATERIAL / MANUFACTURER SUBSTITUTION POLICY	1
017000	EXECUTION REQUIREMENTS	4
017001	CLOSE-OUT SUBMITTALS	5

TABLE OF CONTENTS (CONTINUED)

DIVISION 2 – EXISTING CONDITIONS

024100	DEMOLITION	4
024119	SELECTIVE DEMOLITION	6

DIVISION 3 – CONCRETE

033000	CAST IN PLACE CONCRETE	19
--------	------------------------	----

DIVISION 4 – MASONRY

040516	MORTAR AND MASONRY GROUT	3
042000	UNIT MASONRY	10

DIVISION 5 – METALS

051200	STRUCTURAL STEEL FRAMING	8
--------	--------------------------	---

DIVISION 6 – NOT USED

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

079200	JOINT SEALANTS	7
--------	----------------	---

DIVISION 8 – OPENINGS

080671	DOOR HARDWARE	15
081113	METAL DOORS AND FRAMES	3
083614	OVERHEAD SECTIONAL STEEL DOOR	4
087113	COMMERCIAL DOOR OPERATORS	7
088100	GLASS AND GLAZING	5
088101	GLASS INSTALLATION	8

DIVISION 9 – FINISHES

095123	ACOUSTICAL TILE CEILINGS	5
099123	PAINTING	6

DIVISIONS 10 THRU 14 – NOT USED

DIVISIONS 21 THRU 23 – NOT USED

DIVISION 25 – NOT USED

DIVISION 26 – ELECTRICAL

TABLE OF CONTENTS (CONTINUED)

260500	GENERAL ELECTRICAL PROVISIONS	16
260519	WIRES AND CABLES	4
260526	GROUNDING	3
260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	2
262416	PANELBOARDS	4
262726	WIRING DEVICES	5
262813	FUSES	1
262816	MOTOR AND CIRCUIT DISCONNECTS	2

DIVISIONS 27 THRU 28 – NOT USED

DIVISIONS 31 – 35 NOT USED

DIVISION 40 THROUGH 46 – NOT USED

DIVISION 48 – NOT USED

END OF SECTION

INVITATION TO BID

For the CDBG Year 39 Renovation of Existing Fire House
200 Cooper Avenue
Woodlynne, Camden County, New Jersey

PUBLIC NOTICE IS HEREBY GIVEN that sealed bids will be received by the **Borough of Woodlynne** for the **CDBG YEAR 39 Renovation of Existing Fire House** project in the **Borough of Woodlynne**, Camden County, New Jersey.

Bid forms, contracts and specifications are on file at the office of Bach Associates, PC, 304 White Horse Pike, Haddon Heights, New Jersey 08035. Said documents may be obtained from Bach Associates, PC, by prospective bidders by mail or may be picked up by scheduled appointment only. Please contact Bach Associates, PC at (856) 546-8611 beforehand to schedule for bid pick-up.

Payment of the sum of \$50.00 (nonrefundable) is required for each physical set, plus \$25.00 (nonrefundable) postage and handling if mailed. Electronic CD copies are available free of charge, however the \$25.00 (nonrefundable) postage and handling fee is still required if mailed.

PAYMENT MUST BE RECEIVED PRIOR TO OBTAINING SAID SPECIFICATIONS, EITHER BY MAIL OR IN PERSON.

Said Bids will be received at the **Borough of Woodlynne Municipal Building, 200 Cooper Avenue, Woodlynne, New Jersey 08107**. Bids may be mailed to the attention of **Mr. Luis Pastoriza, Borough Clerk**, or dropped off at the Municipal Building Monday through Thursday from 9:00 A.M. to 3:00 P.M. by scheduled appointment only. Please contact the Borough administrative staff at (856) 962-8300 beforehand to schedule for bid drop-off.

Bids will be opened and read aloud in public on **Thursday, March 4, 2021 at 11:00 A.M.** prevailing time via a Zoom meeting which can be joined electronically using the following information:

Link:

<https://us02web.zoom.us/j/81497464363?pwd=b2R5ZW8vZWtEbTFMS2hHeEo3UU1JZz09>

Meeting ID: 814 9746 4363

Passcode: 1Xb3cs

NO BIDS ARE TO BE DROPPED OFF AT THE ENGINEER'S OFFICE.

There will be a **pre-bid meeting** for this project on **Friday February 12, 2021, at 10:00 AM**, at the project location, 200 Cooper Avenue, Woodlynne, New Jersey 08107. **Bidders are strongly encouraged to attend the pre-bid meeting.**

Deadline for submission of bidder questions to Bach Associates is 4:00 PM on Friday February 19, 2020.

The **Borough of Woodlynne** reserves the right to consider the bids for sixty (60) days after the receipt thereof, and further reserves the right to reject any or all bids, either in whole or in part and also to waive any informality in any and make such awards or take action as may be in the best interest of the **Borough of Woodlynne**.

Bids must be on the bid form prepared by Bach Associates, PC, in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes bearing the name and address of the bidder on the outside and also bearing on the outside reference to the particular work bid upon. Said bids shall be addressed to **Mr. Luis Pastoriza, Borough Clerk, Borough of Woodlynne, 200 Cooper Avenue, Woodlynne, New Jersey 08107**.

Each bid shall be accompanied by a certified check, cashier's check or bid bond duly executed by the bidder as principal and having as surety thereon a surety company approved by the **Borough of Woodlyne** in an amount not less than ten percent (10%) but in no case in excess of \$20,000.00 of the amount bid. Any such bid bond shall be without endorsement or conditions. Bid shall also be accompanied by a certificate letter from a surety company stating that it will provide the bidder with the completion bond.

The award of the contract shall be made subject to the necessary moneys to do the work being provided by the **Borough of Woodlyne** in a lawful manner. The contract to be executed by the successful bidder will provide that it shall not become effective until the necessary moneys to do the work have been provided by the **Borough of Woodlyne** in a lawful manner. The award shall further be subjected to the securing of necessary State, Federal or Local permits governing the work.

Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et. seq. (P.L. 1975, C. 127) and N.J.A.C. 17:27 (Affirmative Action), P.L. 1963, C. 150 (New Jersey Prevailing Wage Act) and 42 U.S.C. 12101, et. seq. (Americans with Disabilities Act of 1990).

The contractor is further notified that he must comply with P.L. 1977, C. 33, and submit a Disclosure Statement listing stockholders with his bid.

The contractor is further notified that he must comply with P.L. 1999, C. 238 Public Works Contractor Registration Act and he and any subcontractors must be registered in accordance with the act.

The contractor is also further notified that he must comply with P.L. 2004, C. 57 and submit proof of business registration and submit proof of business registration for any named subcontractor's in accordance with the act.

Sealed bids for this project are being solicited through a fair and open process in accordance with N.J.S.A. 19:44A-20.5 et. seq.

This contract is subject to the provisions of the New Jersey Local Public Contracts Law, N.J.S.A. 40A:11-1, et. seq.

Attention of bidders is called to all of the requirements contained in this bid packet, particularly to the Federal Labor Standards Provisions and Davis-Bacon Wages, various insurance requirements, various equal opportunity provisions, and the requirement for a payment bond and performance bond for 100% of the contract price.

The right is reserved to reject any or all proposals, in whole or in part, or to make awards to such bidder or bidders who, in the judgment of the **Borough of Woodlyne**, is the lowest responsible bidder and to waive such informalities as may be permitted by law.

Business entities are advised of their responsibility to file an annual disclosure statement of political contributions with the New Jersey Law Enforcement Commission (ELEC) pursuant to the requirements of N.J.S.A. 19:44A-20.27 (New Jersey "Pay-To-Play" Law) if they receive contracts in excess of \$50,000 from public entities in a calendar year. Business entities are responsible for determining if filing is necessary. Additional information on this requirement is available from ELEC at 888-313-3532 or at www.elec.state.nj.us.

By Order of the Borough of Woodlyne
Luis Pastorizo, Borough Clerk

Dated: February 8, 2021

BOROUGH OF WOODLYNNE
CDBG YEAR 39 RENOVATION OF EXISTING FIREHOUSE
200 Cooper Avenue, Woodlynne, New Jersey 08107
(856) 962-8300

DATE February 8, 2021

Bid No. and Title: Borough of Woodlynne – CDBG Year 39 Renovation of Existing Firehouse

BIDS MUST BE RETURNED NO LATER THAN 11 O'CLOCK, PREVAILING TIME

ON Thursday, March 4, 2021 TO THE BOROUGH OF WOODLYNNE, 200 COOPER AVENUE, WOODLYNNE, NEW JERSEY 08107.

1. PRICES MUST INCLUDE DELIVERIES SET FORTH HEREIN.
2. Quotations must be made on these sheets. Borough of Woodlynne is not responsible for any expenses incurred by any firm in preparing or submitting a bid proposal.
3. Prices may be submitted on any or all of the items listed unless otherwise specified. Award will be made on the basis of the lowest responsible bid on each item or on an aggregate basis, whichever is in the best interest of the Borough of Woodlynne.
4. Insert NET UNIT PRICES. Bids must be firm for a minimum of 60 days. Contract prices may not be increased during the term of the contract.
5. The Borough of Woodlynne is exempt from sales tax.
6. The Borough of Woodlynne reserves the right to accept or reject any part or parts of the responses to this bid in accordance with law.
7. To the extent that any of these instructions directly contradict the bid specifications, the bid specifications shall prevail.
8. Regardless of any language to the contrary, the Borough of Woodlynne shall not be responsible for the payment of any interest or late fees.
9. Bid forms, contracts and specifications can be reviewed at no charge at the office of Bach Associates PC, 304 White Horse Pike, Haddon Heights, NJ 08035. Hard copies of the bid forms, contracts and specifications may be purchased from Bach Associates, PC, by prospective bidders upon request, upon payment of the sum of \$50.00 (nonrefundable) for each set, payable to Bach Associates, PC. PDF copies of the bid forms, contracts and specifications on a CD may be picked up from Bach Associates, PC, by prospective bidders upon request at no charge. If shipping of Bid Documents is requested, bidders shall provide a direct shipping account number and provide a \$25.00 (nonrefundable) fee for postage and handling.

Deadline for submission of bidder questions is Friday, February 19, 2021 @ 4:00 PM, all questions shall be submitted in writing to the office of the Architect / Engineer, Bach Associates, PC, 304 White Horse Pike, Haddon Heights, New Jersey 08035 to the attention of:

Dirk Muits III, AIA, NCARB
Vice President of Architecture
Tel: (856) 546-8611
Fax: (856) 546-8612

All addenda are issued by the Architect / Engineer. Potential bidders are cautioned that they are bidding at their own risk if a third party supplied the bid specifications. Such specifications may or may not be complete. The Borough of Woodlynne is not responsible for third party supplied bid specifications.

10. Bidders are required to comply with the requirements of P.L. 1999, c. 238 (N.J.S.A. 34:11-56.25 et seq.) regarding prevailing wages, where applicable.
11. Bidders are hereby noticed that the Borough of Woodlynne shall correct certain types of clerical errors if found in submitted bids. For example, if the quantity needed or the standard unit of measurement used, times the unit price, is incorrectly calculated in reaching a total or final price, the Borough of Woodlynne will correct the computational mistake.

WE SUBMIT HEREWITH our prices as indicated on the following bid.

Submitted on _____, 20____ BY _____
(Name of Company)

Fax No. _____ PER _____
(Signature and Title of
Authorized Representative)

E-Mail: _____ Phone No. _____

BIDDER'S CHECKLIST

THIS BIDDER'S CHECKLIST MUST BE COMPLETED, SIGNED AND SUBMITTED WITH YOUR BID PACKAGE.

1. Bid Guarantee deposit in the form of a certified check, cashier's check or bid bond. See Paragraph 4.1 and **Exhibit A. (Must be submitted with bid)** _____
2. Certificate from a Surety Company or Financial Institution stating that if bid is accepted they will provide the required performance bond or Letter of Credit. See Paragraphs 4.2, 8.1 and 8.2, and **Exhibits B, C, and D. (Must be submitted with bid)** _____
3. Statement of Corporate Ownership listing the names and addresses of all individuals owning ten percent (10%) or more of corporation or partnership stock. See **Exhibit E. (Must be submitted prior to or with bid)** _____
4. Non-collusion Affidavit properly notarized. See **Exhibit F.** _____
5. Debarment Certification Form. See **Exhibit G.** _____
6. Construction Subcontractor Disclosure Requirements
 - a. Disclosure of subcontractors. See Paragraph 24 and **Exhibit H. (Must be submitted with bid)** _____
7. Proof of compliance with the State Contractor Business Registration Program. See Paragraph 28. _____
8. Americans with Disabilities Act of 1990 Form, pursuant to 42 U.S.C. 12101 (et. seq.) See **Exhibit I.** _____
9. Acknowledgement of Receipt of Addenda, whether or not issued. See Paragraph 29 and **Exhibit J. (Form must be submitted with bid)** _____
10. Background Questionnaire. See **Exhibit K.** _____
11. Questionnaire on Supply/Service Contracts. See **Exhibit L.** _____
12. Affirmative Action Questionnaire with available evidence submitted. See Paragraph 5 and **Exhibit M.** _____
13. Mandatory Equal Employment Opportunity Language. See **Exhibit N.** _____

[BIDDER'S CHECKLIST CONTINUED ON NEXT PAGE]

- | | | |
|-----|--|------------------------|
| 14. | Affirmative Action MBE/WBE Tracking Form. See Paragraph 5 and Exhibit O . | _____ |
| 15. | Uniformed Law Enforcement Officer requirement form. Exhibit P . | _____ <u>N/A</u> _____ |
| 16. | Disclosure of Investment Activities in Iran. See Exhibit Q .
(Must be submitted prior to or with bid) | _____ |
| 17. | Proof of compliance with The Public Works Contractor Registration Act, if applicable. See Paragraph 22.
(Must be submitted with bid). | _____ |
| 18. | Bidder Certificate showing ability to perform contract, pursuant to <u>N.J.S.A.</u> 40A:11-20. See Exhibit R | _____ |

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

Name of Bidder: _____

By Authorized Representative:

Signature: _____

Print Name and Title: _____

Date: _____

INSTRUCTIONS TO BIDDERS

1. RECEIPT, OPENING, WITHDRAWAL OF BIDS, AND FAILURE TO RESPOND

- 1.1 Sealed Bids will be received by the Borough of Woodlynne on the date, time, location and in the manner as listed in the advertisement.
- 1.2 Bids must be received at the Borough of Woodlynne no later than the due date and time indicated therein. It is recommended that bids be hand delivered to that department. The Borough of Woodlynne assumes no responsibility for delays in any form of courier or mail order delivery service causing the bid to be received at the **department stipulated** later than the due date and time. All late bids will be rejected in accordance with the law.
- 1.3 Any bid may be withdrawn prior to the time for openings of bids or the authorized postponement thereof. Any bid received after the opening of bids will not be considered. No bidder may withdraw a bid within sixty (60) days after the actual opening thereof.

2. QUALIFICATION OF BIDDERS

- 2.1 The Borough of Woodlynne may make such investigation as it deems necessary to determine the ability of the bidder to perform the work and the bidder shall furnish to the Borough of Woodlynne all such information and data for this purpose as the Borough of Woodlynne may request. The Borough of Woodlynne reserves the right to reject any bids if the evidence submitted by, or investigation of such bidder, fails to satisfy the Borough of Woodlynne that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein.

3. PREPARATION OF BID

- 3.1 **Bids must be submitted on the prescribed form.** The bidder shall fill in all blank spaces in ink or by typewriter, both in words and figures. Bids must be signed in ink by authorities with capacity to legally bind the bidder to its bid proposal.
- 3.2 Each bid shall be based upon the specifications prepared by the Borough of Woodlynne. The bidder accepts the obligation to become familiar with the Borough of Woodlynne Fire Department New Garage Door specifications and plans.
- 3.3 Each bid must list the full business address of the bidder and be signed by an authorized representative. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations must be signed in the legal name of the corporation, followed by the name of the State of Incorporation and must contain the signature and designation of the President, Secretary or other person authorized to bind the corporation in the matter. When requested by the Borough of Woodlynne, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished.

- 3.4** Bids containing any conditions, omissions, unexplained erasures or alterations, items not called for in the proposal form, attachment of additive information not required by the bid documents, or irregularities of any kind, may be rejected by the Borough of Woodlynne. Any changes, white-outs, strike-outs, etc. on the proposal page must be clear as to meaning and initialed by the person responsible for signing the bid.
- 3.5** The Borough of Woodlynne reserves the right to reject any or all bids or to waive any informalities in the bids received as permitted by law.
- 3.6** All bids must be submitted in sealed envelopes bearing on the outside the name of the bidder, address and subject and title of the specifications. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope, addressed as set forth in the advertisement. The Borough of Woodlynne assumes no responsibility for mailings not received on time at the department stipulated in the advertisement to receive bids. It is therefore recommended that bids be hand delivered.
- 3.7** Bidders must insert prices for furnishing all of the materials and/or labor required by these specifications whether or not such requirement is specifically set forth. Prices shall be net, including any charges for packing, crating, containers, etc. and all transportation charges fully pre-paid by the contractor F.O.B. destination and placement at locations specified by the Borough of Woodlynne. No additional charges will be allowed for any transportation costs resulting from partial shipments made at the contractor's convenience when single shipment is ordered.
- 3.8** Payments will be made upon the approval of vouchers submitted by the successful bidder in accordance with the requirements of the Borough of Woodlynne and subject to the Borough of Woodlynne's customary billing procedures.
- 3.9** The Borough of Woodlynne reserves the right to grant up to three (3) business days additional time to bidders after the bid opening to provide the following documents required by the bid specifications:
- a. Non-collusion affidavit. See **Exhibit F**;
 - b. Debarment Certification Form (Certification regarding the Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions). See **Exhibit G**.

Such additional time may not in any way affect the price or cost of the bid. All other documents required by the bid specifications must be submitted at the time of the bid opening specified herein or in accordance with law.

4. BID BOND/CONSENT OF SURETY OR LETTER OF CREDIT

4.1 BID BOND

Each bid must be accompanied by the Certified Check of the bidder or by a Cashier's Check, or by a Bid Bond prepared on the form of bid bond attached hereto as **Exhibit A** (or similar form), duly executed by the bidder as principal and having surety thereon, a surety company approved by the Borough of Woodlynne, in an amount not less than ten percent (10%) of the amount of the base bid submitted, said 10% not to exceed \$20,000.00, payable to the Borough of Woodlynne.

4.2 CONSENT OF SURETY OR LETTER OF CREDIT

In addition, the bid must also be accompanied by a Certificate (Consent of Surety) from a Surety Company stating that it will provide said bidder with a Performance Bond in the full amount of the bid and substantially similar to the Borough of Woodlynne's form of performance bond. A form of Consent of Surety is attached hereto as **Exhibit B**. A form of Performance Bond is attached hereto as **Exhibit C**. As an alternative to the aforementioned consent of surety, bidders may provide a letter from a bank or similar financial institution stating that it will issue a Letter of Credit in the full amount of the bid and pursuant to the terms of the Letter of Credit in the specifications (See **Exhibit D**).

4.3 Such checks or bid bonds shall be returned to all bidders except the three lowest bidders within three (3) days after the formal opening of bids. The remaining checks or bid bonds will be returned to the three lowest bidders within forty-eight (48) hours after the Borough of Woodlynne and the accepted bidder have executed the contract or, if no contract has been so executed, within thirty (30) 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.

5. AFFIRMATIVE ACTION

5.1 The successful bidder shall adhere to the mandatory affirmative action language required by P.L. 1975, c.127 (N.J.A.C. 17:27) and N.J.S.A. 10:5-31 et seq.

5.2 For procurement, professional and service contracts, the above-referenced mandatory language shall be that set forth in **Exhibit M**.

5.3 For construction contracts, the above-referenced mandatory language shall be that set forth in **Exhibit N**.

5.4 All bidders should complete the Affirmative Action Questionnaire set forth in **Exhibit L** and follow its instructions.

5.5 All bidders should complete the Affirmative Action Plan MBE/WBE Tracking Form in **Exhibit O**.

6. ADDENDA AND INTERPRETATIONS

- 6.1** No interpretation of the meaning of any bid document will be made to any bidder orally. Any request for interpretation shall be in writing, addressed to the Borough of Woodlynne's representative stipulated in the bid and must be received at least ten (10) 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, and will be distributed to all prospective bidders in accordance with statute. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

7. MISCELLANEOUS

- 7.1** At the time of the opening of bids, each bidder will be presumed to have read and to be thoroughly familiar with the specifications and all other bid documents (including addenda). The failure or omission of any bidder to receive or examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his bid.
- 7.2** In case of default by the successful bidder, the Borough of Woodlynne may procure the articles or services from other sources and hold the successful bidder responsible for any excess cost occasioned thereby.
- 7.3** For purposes of evaluation where an equivalent is being furnished, the bidder must indicate any variation to the Borough of Woodlynne's specifications no matter how slight. If no variations are indicated, it will be construed that the bid fully and exactly complies with the Borough of Woodlynne's specifications.
- 7.4** All bids submitted shall include in price any applicable permits, or fees required by any other government entity that has jurisdiction to require the same.
- 7.5** In submitting its bid, the bidder certifies that the merchandise to be furnished will not infringe upon any valid patent or trademark and that the successful bidder shall, at its own expense, defend any and all actions or suits charging such infringement, and will save the Borough of Woodlynne harmless from any damages resulting from such infringement.
- 7.6** The bidder understands and agrees that, if awarded any contract by the Borough of Woodlynne, it shall be responsible for insuring that it and any and all subcontractors meet minimum safety, health and equipment requirements including provisions for protecting employees and the public from any hazards encountered in performing its obligations pursuant to this bid.

8. SECURITY FOR FAITHFUL PERFORMANCE

- 8.1** Simultaneously with his delivery of the executed contract, the successful bidder shall deliver to the Borough of Woodlynne an executed bond in the amount of one hundred percent (100%) of the accepted bid as security for the faithful performance of this contract and for the payment of all persons performing labor or furnishing materials in connection therewith, prepared in the form of contract bond attached hereto and having a surety thereon such surety company or companies as are acceptable on bonds approved by the Borough of Woodlynne, and as are authorized to transact business in this State.
- 8.2** In the event that the successful bidder chooses to supply a Letter of Credit in lieu of the performance bond required by Section 7.1 above, said Letter of Credit shall be delivered to the Borough of Woodlynne simultaneously with the delivery of the executed contract. The Letter of Credit shall be for the full amount of the bid and shall conform to the terms set forth in the terms of Letter of Credit in these specifications.

9. INSURANCE REQUIREMENTS

9.1 Workers Compensation and Employer's Liability Insurance

This insurance shall be maintained in force during the life of the contract and shall cover all employees engaged in the performance of the contract. This insurance shall comply with all applicable statutes and regulations. Minimum Employer's Liability insurance of \$500,000.00.

9.2 General Liability Insurance

This insurance shall have limits of not less than \$1,000,000.00 per occurrence and \$3,000,000.00 aggregate for bodily injury and property damage, and shall be maintained in force during the life of the contract. The Borough of Woodlynne shall be named as an Additional Insured on this policy.

9.4 Automobile Liability Insurance

This insurance shall cover the Contractor for claims arising from owned, hired and non-owned vehicles and shall have limits of not less than \$1,000,000.00 per occurrence for bodily injury and property damage. Coverage shall be maintained in force during the life of the contract.

9.5 Insurance Requirements for Subcontractors

On any construction, reconstruction, alteration, or similar project, the Contractor shall require each Subcontractor to carry insurance coverage equal to or exceeding the type and level of coverage required to be carried by the Contractor. This coverage shall be in addition to the coverage carried by the Contractor and shall list the Borough of Woodlynne and Bach Associates, PC as Additional Insured on the policy.

9.6 Certificates of the Required Insurance

Certificates for the above listed insurance shall be submitted along with the contract as evidence that such insurance is in force. Such coverage shall be with acceptable insurance companies operating on an admitted basis in the State of New Jersey and shall carry a financial rating of "A" or better.

9.7 Cancellation

Certificates for the above-listed insurance shall contain a provision that coverage afforded under the policies will not be cancelled without at least thirty (30) days prior written notice to the Borough of Woodlynne.

10. INDEMNIFICATION

10.1 The successful bidder shall defend, indemnify and hold harmless the Borough of Woodlynne, its officers, agents and employees from any and all claims, suits, actions, damages or costs, of any nature whatsoever, whether for personal injury, property damage or other liability, arising out of or in any way connected with the successful bidder's acts or omissions in connection with this agreement.

11. AWARD

11.1 Award of contract will be made by the Borough of Woodlynne within sixty (60) days after the bid opening or within the time allowed by law.

11.2 Upon award of the contract, appropriate documents shall be forwarded to the successful bidder. The return of the executed contracts and the bonds required by law within thirty (30) days is an element essential to the bid. At the expiration of such time, the Borough of Woodlynne may elect to award the bid to the second bidder and accept as liquidated damages the bid security.

12. QUANTITIES

12.1 Quantities shown are approximate and the Borough of Woodlynne reserves the right to increase or decrease them in any amount. Such change, however, will only be upon the written order of the Borough of Woodlynne.

13. PREVAILING WAGE ACT

13.1 Pursuant to N.J.S.A. 34:11-56.25 et seq., P.L. 2009, c.249, and as amended, successful bidders on projects for public work shall adhere to all requirements of the New Jersey Prevailing Wage Act.

13.2 The contractor on any public works project for the Borough shall be required to submit a certified payroll record to the Borough Department administering said public works project. Such certified payroll record must be submitted within ten (10) days of the payment of the wages. The contractor is also responsible for obtaining

and submitting all subcontractors' certified payroll records within the aforementioned time period. The contractor shall submit said certified payrolls in the form set forth in N.J.A.C. 12:60 Appendix A. It will be the contractor's responsibility to obtain any additional copies of the certified payroll form to be submitted by contacting the Office of Administrative Law, CN 049, Trenton, New Jersey 08625 or the New Jersey Department of Labor, Division of Workplace Standards.

14. METHOD OF AWARD

14.1 The Borough of Woodlynne shall award the work on the basis of the Base Bid only, to the responsible bidder or bidders whose base bid is most advantageous to the Borough of Woodlynne.

15. TERM OF CONTRACT

15.1 The time to complete the work under the contract to be awarded as the result of this bid shall be for one hundred fifty (150) calendar days from the date of Notice to Proceed. The time for substantial completion shall within one hundred twenty (120) calendar days of the Notice to Proceed.

16. TERMINATION

16.1 The Borough of Woodlynne may terminate the agreement for any reason upon thirty (30) days written notice to the contractor. The Borough of Woodlynne shall only be responsible for payment up to the effective date of termination.

17. AMERICAN GOODS AND PRODUCTS TO BE USED WHERE AVAILABLE

17.1 Only manufactured and farm products of the United States wherever available, shall be used in the execution of the work or supply of goods as specified herein.

18. AVAILABILITY OF FUNDS

18.1 Any contract resulting from this bid shall be subject to the availability and appropriation of sufficient funds annually.

19. PURCHASING FROM STATE CONTRACT

19.1 The Borough reserves the right to purchase, during the term of any contract to be awarded, any of the specified materials and/or services through the New Jersey State Cooperative Purchasing Agreement (State Contract) if it is in the Borough's best interest to do so.

20. BRAND NAMES AND/OR PRODUCT DESCRIPTION

20.1 Brand names and/or descriptions used in this specification for bid proposal are to acquaint prospective bidders with the type of equipment (or commodity) described and will be used as a standard by which alternate or competitive materials offered will be judged. Competitive items must be equal to the standard described and be

of the same reputation for quality and workmanship. Variations between the equipment described and material offered are to be fully explained by the bidder in an accompanying letter. In the absence of any changes by the bidder, it will be presumed and required that materials as described in these specifications be delivered.

21. WORKER AND COMMUNITY RIGHT TO KNOW

21.1 The successful bidder shall comply with all provisions of the Worker And Community Right To Know Act, N.J.S.A. 34:5A-1 et seq., as well as the regulations under the Act (N.J.A.C. 8:59-1.1 et seq.).

22. COMPLIANCE WITH PUBLIC WORKS CONTRACTOR REGISTRATION ACT

The bidder shall comply with The Public Works Contractor Registration Act, P.L. 1999, c. 238 on all bids for public works as defined in the law. Proof of compliance with this law, when it applies, must be submitted with the bid. Please note that this law defines how a bidder submits proof of compliance. This provision shall apply to all bids opened on or after April 11, 2000 and also to all contractors performing covered public work on or after April 11, 2000. Questions regarding this law may be directed to the New Jersey Department of Labor, Contractor Registration Unit at 609-292-9464.

23. REQUEST FOR TAXPAYER IDENTIFICATION NUMBER AND CERTIFICATION

Upon execution of the contract with the Borough of Woodlynne, the successful bidder shall be required to complete and submit IRS Form W-9, Request For Taxpayer Identification Number And Certification to the Borough of Woodlynne. This requirement shall only apply to the successful bidder. Failure by the successful bidder to meet this requirement shall result in the Borough of Woodlynne withholding such funds as required by IRS regulations.

24. BIDS FOR CONSTRUCTION/DISCLOSURE OF SUBCONTRACTORS

24.1 Definition of Construction Bid.

“Construction” means construction, alteration or repair of any public building when the entire cost of the work will exceed the bid threshold. In addition to construction bids, the Borough of Woodlynne specifically requires that bidders identify all subcontractors in specialty trade categories for all bids where such specialty trades may be required (see below).

24.2 Disclosure of Subcontractors.

a. Bidders must list in **Exhibit H**, all subcontractors that they intend to use in the specialty trade categories of: Plumbing and Gas Fitting, and All Kindred Work; Steam Power Plants, Steam and Hot Water Heating and Ventilating Apparatus, and All Kindred Work; Electrical Work; and Structural Steel and Ornamental Iron Work. **FAILURE TO LIST THESE REQUIRED SUBCONTRACTORS SHALL BE CAUSE FOR REJECTION OF BID.** Bidders with questions regarding this process should consult their counsel.

b. Substitution of subcontractors shall be permitted only in cases of impossibility, e.g., the death of the subcontractor or where the subcontractor goes out of business.

c. The bidder's proposal will be rejected if the subcontractors listed do not comply with the requirements for the designated work tasks.

d. A general contractor that intends to utilize a specific subcontractor to perform work in one or more of the above-referenced specialty trade categories, shall provide the required information with regard to that subcontractor in the appropriate spaces for each specialty trade category applicable to the contract.

A general contractor that intends to perform work in one or more of the above-referenced specialty trade categories (See **Exhibit H**) through the use of its own employees or the general contractor himself rather than through utilization of a subcontractor shall write the word "In-House" next to each applicable category and then insert the name, and the license number where required, of each such employee of the general contractor or the general contractor himself in the appropriate spaces for each specialty trade category applicable to the contract.

If the contract does not involve any of the above-referenced specialty trade categories, the contractor shall insert the word "None" in each appropriate space provided.

e. In the event that the bidder proposes to perform **plumbing, gas fitting and all kindred work** with its own personnel, it shall follow the requirements of N.J.S.A. 45:14C-1 et seq. and N.J.A.C. 13:32-1.1 et seq.

f. In the event that the bidder proposes to perform **electrical work** with its own personnel, it shall follow the requirements of N.J.S.A. 45:5A-1 et seq. and N.J.A.C. 13:31-1.1 et seq.

25. NO DAMAGES FOR DELAY

Notwithstanding anything to the contrary in the contract documents, any extension of the contract time shall be the sole remedy of the Contractor for any: (1) delay in the commencement, prosecution or completion of the work; (2) hindrance or obstruction in the performance of the work; (3) loss of productivity; or (4) other similar claims whether or not such delays are foreseeable. In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any delay including without limitation consequential or special damages, lost opportunity cost, impact damages or other remuneration. The aforementioned condition shall apply to any contract awarded as the result of this bid including but not limited to contracts for construction, goods, or services.

26. ALTERNATIVE DISPUTE RESOLUTION

For construction contracts, disputes arising under the contract shall be submitted to mediation or non-binding arbitration pursuant to industry standards prior to being submitted to a court for adjudication.

27. COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT

The successful bidder shall comply with the mandatory language of the Americans With Disabilities Act as set forth in **Exhibit I** attached hereto.

28. COMPLIANCE WITH CONTRACTOR BUSINESS REGISTRATION PROGRAM

Effective September 1, 2004, P.L. 2004, c. 57 expands the State Contractor Business Registration Program to contracting units as defined in the Local Public Contracts Law (see attached sample Business Registration Certificate). Effective January 18, 2010, P.L. 2009, c.315 revises the State Contractor Business Registration requirement and permits filing a BRC prior to award of contracts if not filed with bid. **ALL BIDDERS (AND THEIR SUBCONTRACTORS) COMPETING FOR THE BOROUGH OF WOODLYNNE CONTRACTS MUST PROVIDE A COPY OF THEIR BUSINESS REGISTRATION CERTIFICATE BY THE DATE THE BID IS AWARDED. FAILURE TO DO SO WILL RESULT IN A REJECTION OF YOUR BID.** Questions regarding this law may be directed to the New Jersey Department of Taxation. To obtain a Business Registration Certificate go to: www.state.nj.us/treasury/revenue. Click on: Business Registration & Formation. Click on: Obtain a certificate of registration. Click on: Obtain a certificate online.

The Borough of Woodlynne strongly recommends that all vendors provide their BRC (and BRC's for each subcontractor) with submission of bids.

STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS		DEPARTMENT OF TREASURY DIVISION OF REVENUE PO BOX 352 TRENTON, N.J. 08646-0452
TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT	TRADE NAME: CLIENT REGISTRATION	
TAXPAYER IDENTIFICATION#: 970-097-382/500	SEQUENCE NUMBER: 0107330	
ADDRESS: 847 ROEBLING AVE TRENTON NJ 08611	ISSUANCE DATE: 07/14/04	
EFFECTIVE DATE: 01/01/01		
FORM BRC(08-01)		

This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.

STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE	
Taxpayer Name:	TAX REG TEST ACCOUNT
Trade Name:	
Address:	847 ROEBLING AVE TRENTON, NJ 08611
Certificate Number:	1093907
Date of Issuance:	October 14, 2004
For Office Use Only:	
	20041014112823533

29. ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

The bidder shall complete, sign and return with bid **Exhibit J** attached hereto. Form must be completed and returned with bid regardless of whether addenda were issued by the Borough of Woodlynne.

30. UNIFORMED LAW ENFORCEMENT OFFICERS REQUIREMENT FORM

Pursuant to N.J.S.A. 40A:11-23.1(c) if uniformed law enforcement officers are required for the project, **Exhibit P** will be completed by the Borough and indicate a good faith estimate of the total cost of traffic control personnel, vehicles, equipment, administrative, or any other costs associated with additional traffic control requirements as determined by Borough of Woodlynne with input from any other public entity affected by the project. These estimated amounts reflect those costs above and beyond the bidder's traffic control costs.

31. APPROVAL AND CERTIFICATION OF BILLING

Authorization for payment of periodic billing, final payments or retainage monies require approval and certification by formal resolution of the Borough of Woodlynne. All billing amounts due under a contract with the successful bidder and all required purchasing documents must be received at least ten (10) days in advance of the next scheduled meeting of Borough of Woodlynne for the month in which payment is requested. Approved and certified amounts due will be paid during the Borough of Woodlynne's subsequent payment cycle.

32. PROPRIETARY GOODS

_____ **Borough to Check if applicable**

If checked off above, the goods set forth in the technical specifications have been certified as proprietary goods in accordance with the Local Public Contracts Law, N.J.S.A. 40A:11-1 et seq. No substitutions or equivalents will be accepted. Please see the technical specifications attached hereto.

33. Pursuant to N.J.S.A. 40A:11-16(d) &(e), if the bid requires the use of hot mix asphalt in excess of 1,000 tons, or where use may exceed this quantity, such use shall be subject to a price adjustment reflecting changes in the cost of asphalt cement.

34. Pursuant to N.J.S.A. 40A:11-16.6, all construction contracts issued by the Borough when the total price of the originally awarded contract equals or exceed \$5,000,000, shall allow for value engineering construction change orders to be approved after the award of the contract.

35. PERMISSION FOR BIDDER TO WITHDRAW A PUBLIC WORKS BID DUE TO A MISTAKE IN CERTAIN CIRCUMSTANCES

Effective March 4, 2011, N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a **public works bid** due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to the Procurement Officer of Borough of Woodlynne, 200 Cooper Avenue, Woodlynne, New Jersey 08107, Telephone: (856) 962-8300. Writing request must be provided within five business days after the receipt and opening of the bids. The bid withdrawal shall be effective as of the postmark of the certified or registered mailing.

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

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

If a bidder is granted a bid withdrawal, the bidder shall be disqualified from future bidding on the same project, including whenever all bids are rejected pursuant to N.J.S.A. 40A:11-13.2

**END OF INSTRUCTIONS TO BIDDERS
EXHIBITS BEGIN ON NEXT PAGE**

EXHIBIT A

SAMPLE FORM OF BID BOND

A. We, the undersigned

_____ as Principal and
_____ as Surety, are hereby held and firmly bound unto
_____ in the penal sum of _____ Dollars

(\$ _____), lawful money of the United States for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 20 _____.

B. THE CONDITION of the above obligation is such that whereas the Principal has submitted to the _____, a certain bid attached hereto and hereby made a part of hereto and hereby made a part of hereof, to enter into a contract in writing for the (insert type of work)
_____.

C. **NOW THEREFORE:**

If said bid shall be rejected, or in the alternate, if said bid shall be accepted and the Principal shall execute and deliver a contract in the form of Agreement required by the Bid Documents and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all respects perform the agreement created by the acceptance of said bid. Then this obligation shall be void, otherwise the same shall remain in 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.

D. THE SURETY for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by an extensions of the time within the "OBLIGEE" may accept such bid. And said Surety does hereby waive notice of any such extension.

E. IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as corporations have caused their corporate seals to be hereto fixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

(SEAL)

BY

NOTE: Bid Bond must be signed by an authorized agent or representative of a surety company and not by the individual or company submitting the bid.

EXHIBIT B

SAMPLE FORM OF CONSENT OF SURETY

BOND NO. _____
(INSERT YOUR BOND NO. HERE)

The _____, a Corporation organized and _____ (NAME OF YOUR INSURANCE COMPANY) existing under the laws of the State of _____

and licensed to do business in the State of New Jersey, hereby consents and agrees that if the contract for the _____ (INSERT BID NO.

_____ AND ITEMS WHICH YOU ARE BIDDING).

be awarded to _____ (NAME OF YOUR COMPANY)

the undersigned Corporation agrees with the said Borough of Woodlynne, 200 Cooper Avenue, Woodlynne, New Jersey 08107, to execute the final bond as required by the specifications and to become the surety in the full amount of the price bid for the faithful performance of the contract.

In Witness Whereof, the undersigned Corporation has caused this agreement to be signed by its duly authorized representative and its Corporate Seal to be hereto affixed this _____ day of _____, 20 ____.

The _____ (NAME OF INSURANCE COMPANY)

By _____ (ATTORNEY-IN-FACT)

Countersigned by:

NOTE: Consent of Surety must be signed by an authorized agent or representative of a surety company and not by the individual or company submitting the bid.

EXHIBIT C

SAMPLE FORM OF PERFORMANCE BOND

We, the Undersigned

as Principal, and _____

a Corporation organized and existing under the laws of the State of _____ and authorized to do business in the State of New Jersey as surety are held and firmly bound unto _____ hereinafter called the Owner as hereinafter set forth, in the full and just several sums of

(a) _____

_____ Dollars(\$ _____)
for faithful performance of the contract as hereinafter designated in Paragraph "A" and

(b) _____

_____ Dollars(\$ _____)
for payment of labor and material as hereinafter designated in Paragraph "B" and

(c) _____

_____ Dollars(\$ _____)
for maintenance as hereinafter designated in Paragraph "C"; lawful money of the United States of America; to be paid to the Owner, or its Assigns, to which payment well and truly to be made and done, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this _____ day of _____, 20 _____.

WHEREAS, the above bonded Principal has entered into a contract with the
Owner dated the _____ day of _____, 20
for _____

upon certain terms and conditions in said contract more particularly mentioned; and

(Sample Form of Performance Bond – continued)

WHEREAS, it is one of the conditions of the award of the Owner pursuant to which said contract is about to be entered into, that these presents be executed.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH:

A. That if the Principal shall faithfully perform the contract on its part to be performed according to the terms of said contract, or any changes or modifications therein made as therein provided; and shall indemnify and save harmless the party of the first part mentioned in the contract aforesaid, its officers, agents and servants, and each and every one of them against and from all suits and costs of every kind and description and from all damages which the said party of the first part in said contract mentioned, or any of its officers, agents or servants may be put by reason of injury to the person or property of others resulting from the performance of said work or through the negligence of the said party of the second part to said contract, or through any improper or defective machinery, implements or appliances used by the said party of the second part in the aforesaid work or through any act or omission on the part of the said party of the second part of its agents, servants or employees, and shall further indemnify and save harmless the party of the first part mentioned in the contract aforesaid its officers, agents and servants from all suits and actions of any kind or character whatsoever, which may be brought or instituted by any subcontractor, materialman or laborer who has performed work or furnished materials in or about the work required to be done pursuant to the said contract or by or on account of, any claims or amount recovered for any infringement of patent, trademark, or copyright; then this part of this obligation designated as part "A" 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.

B. That if the said Principal shall pay all lawful claims of subcontractors, materialmen, laborers, persons, firms or corporations for labor performed or materials, provisions, provender or other supplies or items, 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, materialman, laborer, person, firm or corporation having a just claim, as well as for the obligee herein; whether or not the said material and labor enter into and become component parts of the work or improvement or in any amendment, extension or addition to said contract, then this part of this obligation designated part "B", shall be void, otherwise the same shall remain in full force and effect.

C. That if the said Principal shall well and truly keep and perform all the obligations, agreements, terms, and conditions of such contract, on the Principal's part to be kept and performed and said Principal shall be responsible for poor workmanship done or poor materials furnished under said contract for a period of one year from the date of the completion and final acceptance by the party of the first part and mentioned in the contract, and said Principal shall pay for all labor performed and furnished and for all materials used in correcting any poor workmanship done and replacing any poor materials furnished, then this part of this obligation designated part "C", shall be void; otherwise the same shall remain in full force and effect.

(Sample Form of Performance Bond – continued)

It is further agreed that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Owner of any extension of time for the performance of the Contract or the reduction of the retained percentages as permitted by the Contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the

Surety or Sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the Surety or Sureties of any alterations, extension or forbearance being hereby waived.

It is further agreed that in case of default in, and/or any action arising out of rights and liabilities secured by this obligation or any part hereto or any person claiming by or through it, either may use for the purpose of establishing its, or their claim, a copy of this obligation certified by the Owner, and the action, or actions, if any, arising on the within bond, shall not be a bar to any subsequent action that may arise through any liability incurred in any other action herein, and based upon any other part of this obligation.

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under their seals the day and year above written.

If Principal is an individual:

Witness:

By _____ (SEAL)

Surety

By _____
Attorney-in-fact
(Corporate Seal)

If Principal is a partnership:

Witness:

Principal

(SEAL)

Partner

(SEAL)

Partner

Surety

By _____
Attorney-in-fact
(Corporate Seal)

(Sample Form of Performance Bond – continued)

If Principal is a corporation:

Attest:

Secretary

Corporate Seal:

Attest:

Principal

By _____

President

By _____

Attorney-in-fact
(Corporate Seal)

Approved as to Form _____, 20____

EXHIBIT D

SAMPLE FORM OF TERMS OF LETTER OF CREDIT

1. **AMOUNT:** The amount of this letter of credit shall be for the sum of _____.

(Amount of Contract)

2. **TERM:** The term of this letter of credit shall be in effect and irrevocable for a period commencing on the date of execution of the agreement between the Borough of Woodlynne and _____.

(Name of Contractor)

and terminating one (1) year after the date of completion and final acceptance by the Borough of Woodlynne of the work performed pursuant to Borough of Woodlynne Bid No.:

_____.

(Bid No. and description of services/material to be provided)

3. **CAUSES FOR PROCEEDING AGAINST LETTER OF CREDIT:** The Borough of Woodlynne shall have the absolute right to proceed against this letter of credit if:

(a) Contractor shall fail to faithfully perform according to the terms of the contract and the Borough of Woodlynne Bid No. _____, or any changes or modifications therein made as therein provided; or Contractor shall fail to indemnify and save harmless the Borough of Woodlynne, its officers, agents and servants, and each and every one of them against and from all suits and costs of every kind and description and from all damages which the Borough of Woodlynne, or any of its officers, agents or servants may be put by reason of injury to the person or property of others resulting from the performance of said work or through the negligence of Contractor, or through any improper or defective machinery, implements or appliances used by contractor in the aforesaid work or through any act or omission on the part of Contractor, its agents, servants or employees; or contractor shall fail to further indemnify and save harmless the Borough of Woodlynne, its officers, agents and servants from all suits and actions of any kind or character whatsoever, which may be brought or instituted by any subcontractors, materialman or laborer who has performed work or furnished materials in or about the work required to be done pursuant to said

contract, or by or on account of, any claims or amount recovered for any infringement of patent, trademark, or copyright; or _____

(Name of Bank)

agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or corporation having a just claim, as well as for the Borough of Woodlynne, whether or not the said material and labor enter into and become component parts of the work or improvement or in any amendment, extension or addition to said contract; or

(b) Contractor shall fail to pay all lawful sums of subcontractors, materialman, 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; or

(c) Contractor shall fail to well and truly keep and perform all the obligations, agreements, terms and conditions of such contract, on its part to be kept and performed and Contractor shall be responsible for poor workmanship done or poor materials furnished under said contract for a period of one (1) year from the date of the completion and final acceptance by the Borough of Woodlynne, and Contractor shall pay for all labor performed and furnished and for all materials used in correcting any poor workmanship done and replacing any poor materials furnished.

It is further agreed that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Borough of Woodlynne of any extension of time for the performance of the contract shall not in any way release Contractor, its heirs, executors, administrators, successors or assigns, from its liability hereunder.

NOTE: Letter of Credit must be signed by an authorized agent or representative of a bank or similar financial institution and not by the individual or company submitting the bid.

EXHIBIT E

STATEMENT OF CORPORATE OWNERSHIP

In order to conform to N.J.S.A. 52:25-24.2, the Bidder must **complete and sign one** of the following statements:

1. Stockholders or Partners owning 10% or more of the company submitting the bid:

NAME

ADDRESS

(If additional space is needed, please attach a separate sheet of paper)

Signature_____ Date_____

2. No Stockholder or Partner owns 10% or more of the company submitting the bid:

Signature_____ Date_____

3. This bid is being submitted by an individual who operates as a sole proprietorship:

Signature_____ Date_____

4. This bid is being submitted by a corporation or partnership that operates as a (check one of the following):

_____ Limited Partnership _____ Limited Liability Company

_____ Limited Liability Partnership _____ Subchapter S Corporation

Stockholders or Partners owning 10% or more of the form of corporation or partnership checked above shall provide the following information:

NAME

ADDRESS

(If additional space is needed, please attach a separate sheet of paper)

Signature_____ Date_____

EXHIBIT F

NON-COLLUSION AFFIDAVIT

STATE OF NEW JERSEY)
COUNTY OF)

I, _____ of the City of _____ in the County of _____ and the State of _____ of full age, being dully sworn according to law on my oath depose and say that: I am _____ of the firm of _____ the bidder making this Proposal for the above named project, and that I executed the said Proposal with full authority to do so; that said bidder had 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 contained in said Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by _____ (N.J.S.A. 52:34-15) (Name of Contractor)

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

Notary Public

(Also type or print name of bidder under signature)

EXHIBIT G

**CERTIFICATION REGARDING THE DEBARMENT, SUSPENSION,
INELIGIBILITY AND VOLUNTARY EXCLUSION**

I am _____ of the firm of _____,
(your title) (name of your organization)

(state the address of your organization)

CHOOSE ONE OF THE FOLLOWING

() A. I hereby certify on behalf of _____ that
(name of your organization)
neither it nor its principals are debarred, suspended, proposed for
debarment, declared ineligible, or voluntarily excluded from
participation in this transaction by any federal or state department,
agency, or office.

() B. I am unable to certify to any of the statements set forth in this
certification. I have attached an explanation to this form.

(Signature)

(Type Name & Title)

(Date)

INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this certification, the contracting firm is providing the certification as set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the contracting firm knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government and/or State Government, the Borough of Woodlynne may pursue available remedies including suspension and/or debarment.
3. The contracting firm shall provide immediate written notice to the Borough of Woodlynne if at any time it learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction", "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the Borough of Woodlynne for assistance in obtaining a copy of those regulations.
5. The contracting firm agrees by submitting this certification that, should the covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction.
6. The contracting firm further agrees by submitting this certification that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion", without modification, in all subcontracts to this agreement as authorized by the Borough of Woodlynne.

EXHIBIT H
BIDS FOR CONSTRUCTION
DISCLOSURE OF SUBCONTRACTORS

Please list the subcontractors for the specialty trade categories listed below. If you intend to perform the work through your own employees or by yourself rather than through utilization of a subcontractor, write the word "IN-HOUSE" next to each applicable category and insert the name, and license number where required, of each person in the appropriate spaces. If the contract does not involve a specialty trade listed below, write the word "**NONE**" in the appropriate space. For further instructions, see Paragraph 26 herein. **DO NOT LEAVE ANY SPACE BLANK.**

1. Plumbing and Gas Fitting and All Kindred Work:

Name: _____

Address: _____

License Number: _____

2. Steam Power Plants, Steam and Hot Water Heating and Ventilating Apparatus, and All Kindred Work:

Name: _____

Address: _____

License Number: Not Applicable

3. Electrical Work:

Name: _____

Address: _____

License Number: _____

4. Structural Steel and Ornamental Iron Work:

Name: _____

Address: _____

License Number: Not Applicable

EXHIBIT I

AMERICANS WITH DISABILITIES ACT OF 1990 (Equal Opportunity for Individuals with Disability)

The contractor and Borough of Woodlynne (hereafter "owner") do hereby agree that the provisions of Title 11 of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. 12101 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 there unto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event 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 owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages, of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the owner's grievance procedure, the contractor agrees to abide by any decision of the owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the owner, or if the owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

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

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

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

Subscribed and sworn to before me this

_____ day of _____, 20____,

Notary Public of _____

My Commission expires:

_____ Date

Signature

Name & Title
(Type or Print)

EXHIBIT J

**BOROUGH OF WOODLYNNE
ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA**

**BIDDER REQUIRED TO COMPLETE AND RETURN FORM WITH BID REGARDLESS OF
WHETHER ADDENDA WAS ISSUED.
FAILURE TO COMPLETE AND RETURN FORM IS A FATAL DEFECT WHICH CANNOT BE
CURED AND BID WILL BE REJECTED.**

A. Bidder hereby acknowledges receipt of the following Addenda:

<u>Addendum Number</u>	<u>Dated</u>	<u>Initial</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

OR:

B. Bidder acknowledges to the best of his/her knowledge no addendum has been issued by the Borough of Woodlynne: _____ Dated _____ Initial _____

Bidder is required to complete, sign and submit form with bid regardless of whether addenda were issued. Failure to complete and return form is a fatal defect which cannot be cured and bid will be rejected.

By: _____
(Print or Type Name of Authorized Individual)

Signature: _____

Title: _____

EXHIBIT K

BACKGROUND QUESTIONNAIRE

In accordance with paragraph entitled "Qualifications of Bidders" of "Information for Bidders", provide the following information:

Date of Organization of Company _____

Name and address of officers: _____

President _____

Vice President _____

Secretary _____

Treasurer _____

EXPERIENCE

1. How many years has your organization been in business as a general contractor under your present business name? _____

2. How many years experience in this type of construction work has your organization had?

3. What are the latest projects (within the last five years) your organization has completed?
(Attach additional pages if necessary)

	<u>Contract Amount</u>	<u>Date Work Completed</u>	<u>For Whom</u>
A.	\$ _____	_____	_____
B.	\$ _____	_____	_____
C.	\$ _____	_____	_____
D.	\$ _____	_____	_____
E.	\$ _____	_____	_____

Names, Addresses and Telephone Numbers of Reference for items listed above:

	<u>Name and Address</u>	<u>Telephone No.</u>
A.	_____	_____
B.	_____	_____
C.	_____	_____
D.	_____	_____
E.	_____	_____

4. Have you ever failed to complete any work awarded to you (within the last ten years)?

If so, where and why? _____

5. Have you or has any officer of your organization ever been an officer or partner of some other contracting organization that failed to complete any work (within the last ten years)? _____

If so, state the name of individual, position and the name of the other organization

Did this other contracting organization ever fail to complete any work awarded it (within the last ten years)? _____

If so, where and why? _____

6. Give list of uncompleted contracts at present held by you:

<u>Name of Contract</u>	<u>Contracting Agency</u>	<u>Amount</u>
_____		\$ _____
_____		\$ _____
_____		\$ _____
_____		\$ _____
_____		\$ _____

7. State approximately the largest amount of work you have done in any one year (within the last five years) of a similar nature to the work being bid on.

8. List the equipment available for the performance of work under the proposed contract (attach additional sheets if necessary)

EXHIBIT L

QUESTIONNAIRE ON SUPPLY/SERVICE CONTRACTS

Please complete this questionnaire and submit it with your bid. Any necessary forms will be sent to you by the Borough upon award.

1. Our Company has a Federal Affirmative Action Plan Approval.

YES _____ NO _____

A. If yes, submit a photostatic copy of said approval.

B. If no, submit a photostatic copy of the New Jersey Certificate of Employee Information Report.

NONE OF THE ABOVE _____

2. We have neither State nor Federal Affirmative Action evidence. Please send us Form AA-302 (Affirmative Action Employee Information Report application). (Check if applicable _____).

I certify that the above information is correct to the best of my knowledge.

NAME: _____

SIGNATURE: _____

TITLE : _____

DATE: _____

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT M

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

GOODS, PROFESSIONAL SERVICE AND GENERAL 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, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, 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, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

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

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

The contractor or subcontractor agrees to make good faith efforts to meet targeted employment goals established in accordance with N.J.A.C. 17:27-5.2.

The contractor or subcontractor agrees to inform in writing its appropriate recruitment agencies including, but not limited to, employment agencies, placement bureaus, colleges, universities, and labor unions, that it does not discriminate on the basis of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, 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.

In conforming with the targeted employment goals, 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, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor shall submit to the public agency, after notification of award but prior to execution of a goods and services contract, one of the following three documents:

1. Letter of Federal Affirmative Action Plan Approval
2. Certificate of Employee Information Report
3. Employee Information Report Form AA302 (electronically provided by the Division and distributed to the public agency through the Division's website at www.state.nj.us/treasury/contract_compliance)

The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the 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 Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code at N.J.A.C. 17:27.**

EXHIBIT N

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

CONSTRUCTION CONTRACTS

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

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

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

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

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

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the

Division, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

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

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

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

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

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

(4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

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

court decisions;

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

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

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

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

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

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

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the

area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

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

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

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

EXHIBIT O

AFFIRMATIVE ACTION PLAN MBE/WBE TRACKING FORM

Definitions:

A **Minority Business Enterprise (MBE)** is as "a business which is independently owned and operated and is at least 51% owned and controlled by minority group members". Minority group members are defined as "persons who are Black, Hispanic, Portuguese, Asian-American, American Indian or Alaskan Natives"

A **Women Business (WBE)** is defined as "a business which is independently owned and operated and is at least 51% owned and controlled by women".

Using the definitions above, please check the following space which best describes your firm:

- _____ **Minority Business Enterprise (MBE)**
- _____ **Women Business Enterprise (WBE)**
- _____ **Neither**

EXHIBIT P

**BOROUGH OF WOODLYNNE
UNIFORMED LAW ENFORCEMENT OFFICERS REQUIREMENT**

Pursuant to N.J.S.A. 40A:11-23.1(c), the Borough has determined the following:

- (x) Uniformed law enforcement officers **are not required** for the project.
- () Uniformed law enforcement officers **are required** for the project.

Reasonable estimate of costs for the following:

traffic control personnel	\$ _____
vehicles	\$ _____
equipment	\$ _____
administrative	\$ _____
other (specify)	
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
Total costs	\$ _____

The above costs associated with additional traffic control required by the Borough have been reasonably estimated in cooperation and consultation with the following municipalities affected by the project.

Name of Municipality	Contact person
_____	_____
_____	_____
_____	_____
_____	_____

EXHIBIT Q

STATE OF NEW JERSEY – DIVISION OF PURCHASE AND PROPERTY DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN	
Quote Number: _____	Bidder/Offeror: _____
PART 1: CERTIFICATION BIDDERS MUST COMPLETE PART 1 BY CHECKING EITHER BOX. FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE.	
<p>Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division's website at http://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the below certification. Failure to complete the certification will render a bidder's proposal non-responsive. If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party</p>	
<p>PLEASE CHECK THE APPROPRIATE BOX:</p> <p><input type="checkbox"/> I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is <u>listed</u> on the N.J. Department of the Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. I will skip Part 2 and sign and complete the Certification below.</p> <p>OR</p> <p><input type="checkbox"/> I am unable to certify as above because the bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. <u>Failure to provide such will result in the proposal being rendered as non-responsive</u> and appropriate penalties, fines and/or sanctions will be assessed as provided by law.</p>	
PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.	
EACH BOX WILL PROMPT YOU TO PROVIDE INFORMATION RELATIVE TO THE ABOVE QUESTIONS. PLEASE PROVIDE THOROUGH ANSWERS TO EACH QUESTION. IF YOU NEED TO MAKE ADDITIONAL ENTRIES, CLICK THE "ADD AN ADDITIONAL ACTIVITIES ENTRY" BUTTON.	
Name _____ Relationship to Bidder/Offeror _____ Description of Activities _____ _____ Duration of Engagement _____ Anticipated Cessation Date _____ Bidder/Offeror Contact Name _____ Contact Phone Number _____	
<input type="button" value="ADD AN ADDITIONAL ACTIVITIES ENTRY"/>	
<p><small>Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above-referenced person or entity. I acknowledge that the State of New Jersey is relying on the information contained herein and thereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with the State of New Jersey and that the State at its option may declare any contract(s) resulting from this certification void and unenforceable.</small></p>	
Full Name (Print): _____	Signature: _____
Title: _____	Date: _____

EXHIBIT R

CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT

AFFIDAVIT

I, _____ of the (City, Town, Township, Borough, etc.)

of _____ in the County of _____ and the

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

1. I am a(n) owner, partner, shareholder or officer of the company set forth below and am duly authorized to execute this affidavit on its behalf.

(Check appropriate Statement(s))

_____ I own, lease or control the necessary equipment required by the plans, specifications, and advertisements under which bids are asked for.

_____ I do not own, lease or control all the necessary equipment required by the plans, specifications, and advertisements under which bids are asked for. If the bidder is not the actual owner or lessee of all the necessary equipment provide the source from which the equipment will be obtained (Attach additional sheets if necessary)

(Attach certification from the owner or person in control of the equipment definitely granting to the bidder the control of the equipment required during such time as may be necessary for the completion of that portion of the contract for which it is necessary)

SEAL

Title:

Name of Company

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

Notary Public of _____

My commission expires:

(Date)

BID FORM

The Bidder has carefully examined the specifications, plans and form of contract for the project named above. The Bidder has carefully examined the site of the project and will contract to carry out and complete said project as specified and delineated at the price per unit measure or lump sum for each scheduled item of work stated in the following proposal.

It is understood that the Total Price for the entire contract stated by the undersigned in the Schedule is based on the estimated quantities and will control in the awarding of the contract. It is further understood that the quantities stated in this Schedule of Prices for the various items are estimated only and may be increased or decreased. Payment will be made only for the actual quantity of authorized work done under each scheduled item.

The Bidder agrees that the price bid shall apply to actual quantities required, approved and used during the Work, including Addenda. He further agrees to complete the entire work for this Contract within **ONE HUNDRED FIFTY (150) CALENDAR DAYS** from the date specified in the Notice-to-Proceed. He further agrees that the work will be substantially completed for this Contract within **ONE HUNDRED TWENTY (120) CALENDAR DAYS** from the date specified in the Notice-to-Proceed.

The Bidder hereby agrees to be bound by the award of the Bid, and if awarded the Contract on this Bid, to execute the Contract and the required Bonds and Insurance Certificates, and to furnish all other information and documents required by the Contract Documents within the time limits specified.

The Bidder understands that the Borough of Woodlynne reserves the right to reject any or all Bids, or to waive any informality or technicality of any Bid, in the interest of the Borough of Woodlynne.

If this Bid shall be accepted by the Borough of Woodlynne, and the Bidder shall fail to execute the Contract as aforesaid, then the Borough of Woodlynne shall be entitled to recover from the Bidder the Bid Bond, and any other penalty specified in the Contract Documents.

The signer of this Proposal as Bidder declares:

That he has received and examined the Contract Documents, including the Advertisement for Bidders, Instructions to Bidders, Contract Agreement, General Conditions, Supplementary Conditions, Specifications & Project Drawings, and Addenda, if any.

That he/she has examined the site of the work.

In submitting this Proposal, Bidder agrees:

To accept the provisions of the Instructions for Bidders including disposition of Bid Security.

BID FORM (CONTINUED)

To enter into and execute a Contract, if awarded on the basis of this Proposal, and to furnish the Surety Bonds required by the General and Supplementary Conditions.

To accomplish the work in accordance with the Contract Documents and to complete the work in the time stipulated in the Information for Bidders.

The bidder understands that a detailed and balanced schedule of values will be required under this contract. He understands and agrees that not all items under the Owner approved schedule of values will be necessary under this contract and that the Owner may elect not to authorize the Contractor to perform work under an individual item(s). The bidder also understands that the Owner may increase or decrease the quantity of work to be done under any item and that the Contractor will only be paid for actual quantity of work provided based on the prices delineated under the Owner approved schedule of values.

The Bidder proposes to furnish all labor, materials and equipment required to complete the work in every detail, in accordance with the plans, specifications and other contract documents prepared by Bach Associates, at and for the following Prices:

Base Bid

The below (in numbers) and the following (in words) base bid includes all labor, superintendence, materials, tools, transportation, plant and equipment and all means of construction necessary and reasonably incidental to complete all the work and installation to be performed under the Bid Documents and Specifications for "CDBG Year 39 Renovation of Existing Firehouse" as prepared by Bach Associates, PC and dated February 8, 2021.

Materials and labor obviously, a part of the work and necessary for the proper installation and/or operation of same, although not specifically indicated on the Contract Drawings, the specifications, and /or listed on this Proposal bid form and will be provided as if called out in detail at no additional cost to the Owner.

Construction Allowance

A \$3,000 lump sum allowance is to be included in the total price bid for Bid Item No.1 and is intended to be used if and where directed for work associated with the project, throughout the course of construction.

BID FORM (CONTINUED)

Total Contract Amount BASE BID including \$3,000 CONSTRUCTION ALLOWANCE:

\$

(Amount in Numbers)

(Amount in Words)

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern).

Any or all Bids for this Project may be rejected if they are non-conforming, non-responsive or conditional. A Bid may be rejected for failure to comply with requirements of the Contract Documents.

Acknowledgement is hereby made of the following Addenda received since the issuance of the Contract Documents.

Addendum No. 1 _____ Date _____

Addendum No. 2 _____ Date _____

Addendum No. 3 _____ Date _____

BID FORM (CONTINUED)

Add Alternate Bid # 1 NEW ENTRY DOOR

The below (in numbers) and the following (in words) lump sum bid includes all labor, superintendence, materials, tools, transportation, plant and equipment and all means of construction necessary and reasonably incidental to the complete all the work and improvements to be performed under the Bid Documents and Specifications for "CDBG Year 39 Renovation of Existing Firehouse" as specifically detailed in the Summary of Work, Section 1.3D "ADD ALTERNATE BID NO. 1 NEW ENTRY DOOR" as prepared by Bach Associates, PC and dated February 8, 2021.

Materials and labor obviously a part of the work and necessary for the proper installation and/or operation of same, although not specifically indicated on the Contract Drawings, the specifications, and /or listed on this Proposal bid form and will be provided as if called out in detail at no additional cost to the Owner.

TOTAL ADD ALTERNATE BID #1 PRICE (In Numbers) \$_____

-

(In words)_____

Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern).

BID FORM (CONTINUED)

BIDDER'S SIGNATURE:

A. If a Corporation:

Name of Bidder: _____

Authorized Signature: _____

Name of Person Signing: _____

Title of Person Signing: _____

Dated: _____

Business Address: _____

Business Telephone Number: _____

Incorporated under the laws of the State of: _____

B. If a Partnership, Individual, or Non-Incorporated Organization:

Name of Business Entity: _____

Authorized Signature: _____

Name of Person Signing: _____

Title of Person Signing: _____

Dated: _____

Business Address: _____

Business Telephone Number: _____

Pursuant to N.J.S.A. 40A:11-21, all Bidders are required to submit a Bid Bond in the amount of 10% of the "Total Potential Contract¹", but not in excess of \$20,000.00 and may be given, at the option of the Bidder, by certified check, cashier's check or Bid Bond.

Attach the Bid Bond as required.

¹ Bid Bond – To determine the "Total Potential Contract", the bidder must include the value of the base bid plus all alternate bids (if applicable). The bid bond must equal 10% of the "Total Potential Contract", but not in excess of \$20,000.

END OF DOCUMENT

APPENDIX

A101 OWNER/CONTRACTOR AGREEMENT FORM (Draft)	7 pages
A201 GENERAL CONDITIONS	54 pages
STATE AND COUNTY PREVAILING WAGE RATES	1 page
FEDERAL WAGE RATES	9 pages
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM – MUNICIPAL CONSTRUCTION PROJECT GUIDELINES	24 pages
CONTRACTOR'S COMPLIANCE PACKET FOR COMMUNITY DEVELOPMENT PROGRAM FUNDED PROJECTS FUNDED BY THE CAMDEN COUNTY CDBG PROGRAM	24 pages

A101 OWNER/CONTRACTOR AGREEMENT FORM (Draft)

AIA[®] Document A101[™] – 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the [] day of [] in the year 2020
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Borough of Woodlynne
200 Cooper Avenue
Woodlynne, New Jersey 08107
Telephone Number: (856) 962-8300

and the Contractor:
(Name, legal status, address and other information)

Telephone Number:

for the following Project:
(Name, location and detailed description)

CDBG Year 39 Renovation of Existing Firehouse
200 Cooper Avenue
Woodlynne, New Jersey 08107

The Architect:
(Name, legal status, address and other information)

Bach Associates, PC
304 White Horse Pike
Haddon Heights, New Jersey 08035
Telephone Number: (856) 546-8611
Fax Number: (856) 546-8612

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201[™]-2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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

TABLE OF ARTICLES

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

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

Shop drawings, submittals, etc can be commenced after Notice to Proceed has been given by Owner or Architect.

(Paragraph deleted)

3.3 § The Contractor shall achieve Substantial Completion of the entire Work not later than **One Hundred Twenty (120)** days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

Liquidated damages shall be \$500.00 per calendar day.

ARTICLE 4 CONTRACT SUM

1.4 §The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor’s performance of the Contract. The Contract Sum shall be XXXXX (\$ 00.00) including the base bid and allowance, subject to additions and deductions as provided in the Contract Documents.

4.2 §The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

Add/Alt #1 New Entry Door

§ 4.3 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
NA	NA	NA

§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
Construction Allowance (Included in base Bid)	\$3,000

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

The exact schedule of Application for Payment submittals will be established at the Pre-Construction Meeting.

3.1.5 §Provided that an Application for Payment is received by the Architect not later than two weeks prior to the first Wednesday of a month, the Owner shall authorize same payment of the certified amount to the Contractor not later than the first day of the next month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1** Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ten percent (10%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;
- .2** Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ten percent (10%);
- .3** Subtract the aggregate of previous payments made by the Owner; and
- .4** Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1** Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2** Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1** the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2** a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made as follows:

The Contractor shall submit a separate voucher for the full amount of the retainage along with the Consent of Surety, A.I.A. Form G707A and the Contractor shall be required to furnish a Maintenance Bond for 100% of the Project Cost for a period of two (2) years from the Date of Final Acceptance.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 NON-BINDING DISPUTE RESOLUTION

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of non-binding dispute resolution shall be as follows:

(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

Non-binding Arbitration pursuant to Section 15.4 of AIA Document A201–2007

Litigation in a court of competent jurisdiction

Other *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

No interest

§ 8.3 The Owner's representative:

(Name, address and other information)

Joseph Chukwueke - Mayor
200 Cooper Avenue
Woodlynne, New Jersey 08107

§ 8.4 The Contractor's representative:
(Name, address and other information)

Contractor...

8.5 § Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

8.6 § Other provisions:

The Drawings, Specifications and any addendums shall be considered as part of this Contract.

DOCUMENTS CONTRACT OF 9 ENUMERATION ARTICLE

9.1 § The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

9.1.1 § The Agreement is this executed AIA Document A101–2007, Standard Form of Agreement Between Owner and Contractor.

9.1.2 § The General Conditions are AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.) See Specification Section 003002 TABLE OF CONTENTS of the Project Specifications for the Borough of Woodlynne – CDBG Year 39 Renovation of Existing Firehouse, dated February 8, 2021 for a complete list of specification sections.

Section	Title	Date	Pages

9.1.5 § The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.) See Specification Section 003003 SCHEDULE OF DRAWINGS of the Project Specifications for the Borough of Woodlynne – CDBG Year 39 Renovation of Existing Firehouse, dated February 8, 2021, for a complete list of plans and exhibits.

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

- .1** The Drawings, Specifications and any addendums shall be considered as part of this Contract.
- .2** Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor’s bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

N/A

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007. The contractor shall also purchase and maintain bonds as set forth in Article 12 of AIA Document A201–2007

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)

Type of insurance or bond	Limit of liability or bond amount (\$0.00)
Performance and Payment	100% Contract Value
Maintenance Bond	100% Final Contract Value - 2 year

This Agreement entered into as of the day and year first written above.

OWNER (Signature) *Joseph Chukwueke*

Joseph Chukwueke, Mayor

(Printed name and title)

CONTRACTOR (Signature) .

(Printed name and title)

A201 GENERAL CONDITIONS



AIA[®]

Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

CDBG Year 39 Renovation of Existing Firehouse
200 Cooper Avenue,
Woodlynne, New Jersey 08107

THE OWNER:

(Name, legal status and address)

Borough of Woodlynne
200 Cooper Avenue
Woodlynne, New Jersey 08107

THE ARCHITECT:

(Name, legal status and address)

Bach Associates, PC
304 White Horse Pike
Haddon Heights, New Jersey 08035

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,
10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11.1

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10,
11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10,
4.2.7, 9.3.2, 13.5.1

Arbitration

8.3.1, 11.3.10, 13.1.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and

Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,
9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4.1, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4.1, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,
3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18,
4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5,
15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1,
15.3.2, 15.4.1

Boiler and Machinery Insurance

11.3.2

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,

9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3

Certificates of Inspection, Testing or Approval

13.5.4

Certificates of Insurance

9.10.2, 11.1.3

Change Orders

1.1.1, 2.4.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8,

5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.6, 7.3.9, 7.3.10,

8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9,

12.1.2, 15.1.3

Change Orders, Definition of

7.2.1

CHANGES IN THE WORK

2.2.1, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,

11.3.9

Claims, Definition of

15.1.1

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4

Claims and Timely Assertion of Claims

15.4.1

Claims for Additional Cost

3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, **15.1.4**

Claims for Additional Time

3.2.4, 3.7.4.6.1.1, 8.3.2, 10.3.2, **15.1.5**

Concealed or Unknown Conditions, Claims for

3.7.4

Claims for Damages

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,

11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Claims Subject to Arbitration

15.3.1, 15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to

2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,

6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,

15.1.4

Commencement of the Work, Definition of

8.1.2

Communications Facilitating Contract

Administration

3.9.1, **4.2.4**

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,

9.10, 12.2, 13.7, 14.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,

12.2, 13.7

Compliance with Laws

1.6.1, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4,

10.2.2, 11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,

14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,

9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, **6**

Construction Change Directive, Definition of

7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**,

9.3.1.1

Construction Schedules, Contractor's

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.3

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 11.3.9, **14**

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating

to

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

Contract Documents, Copies Furnished and Use of

1.5.2, 2.2.5, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, **9.1**, 9.4.2, 9.5.1.4,

9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4,

15.2.5

Contract Sum, Definition of

9.1

Contract Time

3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,

8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,

15.1.5.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction Schedules

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3.1, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

9.7

Contractor's Right to Terminate the Contract

14.1, 15.1.6

Contractor's Submittals

3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction

Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.2.5, 3.11

Copyrights

1.5, 3.17

Correction of Work

2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2

Correlation and Intent of the Contract Documents

1.2

Cost, Definition of

7.3.7

Costs

2.4.1, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching

3.14, 6.2.5

Damage to Construction of Owner or Separate

Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4.1, 11.3.1, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

Date of Commencement of the Work, Definition of

8.1.2

Date of Substantial Completion, Definition of

8.1.3

Day, Definition of

8.1.4

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, 9.5, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1

Delays and Extensions of Time

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of

3.11

Effective Date of Insurance

8.2.2, 11.1.2

Emergencies

10.4, 14.1.1.2, 15.1.4

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1, 3.15.1,
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
Execution and Progress of the Work
1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5,
3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
Extensions of Time
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,
10.4.1, 14.3, 15.1.5, 15.2.5

Failure of Payment

9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

Final Completion and Final Payment

4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.3.1, 11.3.5,
12.3.1, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

Fire and Extended Coverage Insurance

11.3.1.1

GENERAL PROVISIONS

1

Governing Law

13.1

Guarantees (See Warranty)

Hazardous Materials

10.2.4, 10.3

Identification of Subcontractors and Suppliers

5.2.1

Indemnification

3.17, 3.18, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,
11.3.7

Information and Services Required of the Owner

2.1.2, 2.2, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Initial Decision

15.2

Initial Decision Maker, Definition of

1.1.8

Initial Decision Maker, Decisions

14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,
15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4.1

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,
9.9.2, 9.10.1, 12.2.1, 13.5

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2

Instruments of Service, Definition of

1.1.7

Insurance

3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 11

Insurance, Boiler and Machinery

11.3.2

Insurance, Contractor's Liability

11.1

Insurance, Effective Date of

8.2.2, 11.1.2

Insurance, Loss of Use

11.3.3

Insurance, Owner's Liability

11.2

Insurance, Property

10.2.5, 11.3

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy

9.9.1

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4

Interest

13.6

Interpretation

1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12, 15.1.4

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13.1, 4.1.1, 9.6.4, 9.9.1,

10.2.2, 11.1.1, 11.3, 13.1.1, 13.4, 13.5.1, 13.5.2,

13.6.1, 14, 15.2.8, 15.4

Liens

2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 13.7, 15.4.1.1

Limitations of Liability

2.3.1, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,

4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,

11.1.2, 11.2, 11.3.7, 12.2.5, 13.4.2

Limitations of Time

2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3.1, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,

11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15

Loss of Use Insurance

11.3.3

Material Suppliers
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5

Materials, Hazardous
10.2.4, **10.3**

Materials, Labor, Equipment and
1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12,
3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2,
9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1,
14.2.1.2

Means, Methods, Techniques, Sequences and
Procedures of Construction
3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien
2.1.2, 15.2.8

Mediation
8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**,
15.4.1

Minor Changes in the Work
1.1.1, 3.12.8, 4.2.8, 7.1, **7.4**

MISCELLANEOUS PROVISIONS
13

Modifications, Definition of
1.1.1

Modifications to the Contract
1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,
10.3.2, 11.3.1

Mutual Responsibility
6.2

Nonconforming Work, Acceptance of
9.6.6, 9.9.3, **12.3**
Nonconforming Work, Rejection and Correction of
2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3,
9.10.4, 12.2.1

Notice
2.2.1, 2.3.1, 2.4.1, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1,
9.7, 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1,
13.5.2, 14.1, 14.2, 15.2.8, 15.4.1

Notice, Written
2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7,
9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14,
15.2.8, 15.4.1

Notice of Claims
3.7.4, 10.2.8, **15.1.2**, 15.4

Notice of Testing and Inspections
13.5.1, 13.5.2

Observations, Contractor's
3.2, 3.7.4

Occupancy
2.2.2, 9.6.6, 9.8, 11.3.1.5

Orders, Written
1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1,
13.5.2, 14.3.1

OWNER
2

Owner, Definition of
2.1.1

Owner, Information and Services Required of the
2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1,
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Owner's Authority
1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,
4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3,
7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4,
9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2,
12.3.1, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Financial Capability
2.2.1, 13.2.2, 14.1.1.4

Owner's Liability Insurance
11.2

Owner's Relationship with Subcontractors
1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work
2.4, 14.2.2

Owner's Right to Clean Up
6.3

Owner's Right to Perform Construction and to
Award Separate Contracts
6.1

Owner's Right to Stop the Work
2.3

Owner's Right to Suspend the Work
14.3

Owner's Right to Terminate the Contract
14.2

Ownership and Use of Drawings, Specifications
and Other Instruments of Service

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11.1, 3.17,
4.2.12, 5.3.1

Partial Occupancy or Use
9.6.6, **9.9**, 11.3.1.5

Patching, Cutting and
3.14, 6.2.5

Patents
3.17

Payment, Applications for
4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,
14.2.3, 14.2.4, 14.4.3

Payment, Certificates for
4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,
9.10.3, 13.7, 14.1.1.3, 14.2.4

Payment, Failure of
9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2

Payment, Final
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3.1,
13.7, 14.2.4, 14.4.3

Payment Bond, Performance Bond and
7.3.7.4, 9.6.7, 9.10.3, **11.4**

Payments, Progress
9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

PAYMENTS AND COMPLETION
9

Payments to Subcontractors
5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
PCB
10.3.1
Performance Bond and Payment Bond
7.3.7.4, 9.6.7, 9.10.3, 11.4
Permits, Fees, Notices and Compliance with Laws
2.2.2, 3.7, 3.13, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION OF
10
Polychlorinated Biphenyl
10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
3.11, 3.12, 4.2.7
Progress and Completion
4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.3
Progress Payments
9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
Project, Definition of
1.1.4
Project Representatives
4.2.10
Property Insurance
10.2.5, 11.3
PROTECTION OF PERSONS AND PROPERTY
10
Regulations and Laws
1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,
10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14,
15.2.8, 15.4
Rejection of Work
3.5, 4.2.6, 12.2.1
Releases and Waivers of Liens
9.10.2
Representations
3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1,
9.8.2, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1,
5.1.2, 13.2.1
Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field Conditions by Contractor
3.2, 3.12.7, 6.1.3
Review of Contractor's Submittals by Owner and Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
Review of Shop Drawings, Product Data and Samples by Contractor
3.12

Rights and Remedies
1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,
6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4,
13.4, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3.1, **10.1**, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
Schedules, Construction
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5
Site Visits, Architect's
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
Special Inspections and Testing
4.2.6, 12.2.1, 13.5
Specifications, Definition of
1.1.6
Specifications
1.1.1, **1.1.6**, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14
Statute of Limitations
13.7, 15.4.1.1
Stopping the Work
2.3, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,
9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3,
9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, **11.3.7**
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3,
12.2, 13.7
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
4.1.3
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3
Surety
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7
Surety, Consent of
9.10.2, 9.10.3
Surveys
2.2.3
Suspension by the Owner for Convenience
14.3
Suspension of the Work
5.4.2, 14.3
Suspension or Termination of the Contract
5.4.1.1, 14
Taxes
3.6, 3.8.2.1, 7.3.7.4
Termination by the Contractor
14.1, 15.1.6
Termination by the Owner for Cause
5.4.1.1, **14.2**, 15.1.6
Termination by the Owner for Convenience
14.4
Termination of the Architect
4.1.3
Termination of the Contractor
14.2.2
TERMINATION OR SUSPENSION OF THE
CONTRACT
14

Tests and Inspections
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,
9.10.1, 10.3.2, 11.4.1.1, 12.2.1, **13.5**
TIME
8
Time, Delays and Extensions of
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7,
10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5
Time Limits
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5,
13.7, 14, 15.1.2, 15.4
Time Limits on Claims
3.7.4, 10.2.8, **13.7**, 15.1.2
Title to Work
9.3.2, 9.3.3
Transmission of Data in Digital Form
1.6
UNCOVERING AND CORRECTION OF
WORK
12
Uncovering of Work
12.1
Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3
Unit Prices
7.3.3.2, 7.3.4
Use of Documents
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3
Use of Site
3.13, 6.1.1, 6.2.1
Values, Schedule of
9.2, 9.3.1
Waiver of Claims by the Architect
13.4.2
Waiver of Claims by the Contractor
9.10.5, 13.4.2, 15.1.6
Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6
Waiver of Consequential Damages
14.2.4, 15.1.6
Waiver of Liens
9.10.2, 9.10.4
Waivers of Subrogation
6.1.1, **11.3.7**
Warranty
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7
Weather Delays
15.1.5.2
Work, Definition of
1.1.3
Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5,
9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2
Written Interpretations
4.2.11, 4.2.12

Written Notice

2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7,
9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, **13.3**, 14,
15.4.1

Written Orders

1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,
15.1.2



ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.7 EXECUTION OF CONTRACT DOCUMENTS

§ 1.7.1 The Contract Documents shall be signed by the Owner and Contractor. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon Request. ***The Agreement shall be signed in not less than quadruplicate by the Owner and Contractor.***

§ 1.7.2 Execution of the contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with the local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. ***Execution of the contract by the Contractor is a representation that said Contract Documents are full and complete, are sufficient to have enabled the Contractor to determine the cost of the Work therein to enter into the Contract and that the Contract Documents are sufficient to enable it to construct the Work outlined therein, and otherwise to fulfill all its obligations hereunder, including, but not limited to, Contractor's obligation to construct the Work for an amount not in excess of the Contract Sum on or before the date(s) of Substantial Completion established in the Agreement. The Contractor further acknowledges and declares that it has visited and examined the site, examined all physical, legal, and other conditions affecting the Work and is fully familiar with all of the conditions thereon and thereunder affecting the same. In connection therewith, Contractor specifically represents and warrants to Owner that it has, by careful examination, satisfied itself as to: (1) the nature, location and character of the Project and the site, including, without limitation, the surface and subsurface conditions of the site and all structures and obstructions thereon and thereunder, both natural and man-made, and all surface and subsurface water conditions of the site and the surrounding area; (2) the nature, location, and character of the general area in which the Project is located, including without limitation, its climatic conditions, available labor supply and labor costs, and available equipment supply and equipment costs; and (3) the quality and quantity of all materials, supplies, tools, equipment, labor, and professional services necessary to complete the Work in the***

manner and within the cost and time frame required by the Contract Documents, In connection with the foregoing, and having carefully examined all Contract Documents, as aforesaid, and having visited the site, the contractor acknowledges and declares that it has no knowledge of any discrepancies, omissions, ambiguities, or conflicts in said Contract Documents and that if it becomes aware of any such discrepancies, omissions, ambiguities, or conflicts, it will promptly notify Owner and Architect of such fact.

§ 1.7.3 *The Contract Documents include all items necessary for the proper execution and completion of the Work by the Contractor. The Work shall consist of all items specifically included in the Contract Documents as well as all additional items of work which are reasonably inferable from that which is specified in order to complete the Work in accordance with the Contract Documents, The Contract Documents are complementary, and what is required by any one Contract Document shall be as binding as if required by all. Any differences between the requirements of the Drawings and the Specifications or any differences noted within the Drawings themselves or within the Specifications themselves have been referred to the Owner and Architect by Contractor prior to the submission of bids and have been clarified by an Addendum issued to all bidders.*

If any such differences or conflicts were not called to the Owner's and Architect's attention prior to submission of bids, the Architect shall decide which of the conflicting requirements will govern based upon the most stringent of the requirements, and, subject to the approval of the Owner, the Contractor shall perform the Work at no additional cost and/or time to the Owner in accordance with the Architect's decision. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefrom as being necessary to produce the intended results.

§ 1.7.3.1 The term "reasonably inferable" includes work necessary to "provide" work indicated or specified, as defined in section: Definitions and Standards; that is: furnish and install, complete, in place and ready for use.

§ 1.7.3.2 Details referenced to portions of the Work shall apply to other like portions of the Work not otherwise details.

§ 1.7.3.3 The Contractor shall request the Architect/Engineer's interpretation of apparent discrepancies, conflicts, or omissions in the Specifications and Drawings. Subcontractors shall forward such requests through the Contractor. Such requests, and the Architect/Engineer's interpretation, shall be in written form; other forms of communications shall be used to expedite resolution of concerns, but will not be binding.

§ 1.7.4 Explanatory notes shall take precedence over conflicting drawn note indications. Large scale drawings shall take precedence over small scale drawings. Figured dimensions shall take precedence over scaled measurements. Should contradictions be found, the Architect shall determine which indication is correct.

§ 1.7.5 When more than one material, brand, or process is specified for a particular item of Work, the choice shall be the Contractor's. Contractor may, after notifying the Architect and Owner, select the one it considers to be the best. Approval by Architect or Owner of materials, suppliers, processes, or Subcontractors does not imply a waiver of any Contract requirements including, without limitation, Contractor's warranty.

§ 1.7.6 In all cases, the details, drawings, and specifications shall be checked with existing conditions and with work in place, and variations, if any, shall be referred by the Contractor to the Architect for adjustment, as the Contractor will be responsible for the fit or work in place.

§ 1.7.7 When a profile, section or other finished condition is shown, furring or other method of obtaining such finished conditions shall be provided. The drawings may show work fully drawn out or only a portion thereof, the remainder being in outline, the drawn out portions apply to other like or similar places.

§ 1.7.8 Where it is required in the specifications that materials, products, processes, equipment, or the like be installed or applied in accordance with manufacturer's instructions, directions, or specifications, or words to this effect, it shall be construed to mean that said application or installation shall be in strict accordance with printed material concerned for use under conditions similar to those at the job site. Three copies of such instructions shall be furnished to the Architect and his written approval thereof obtained before work is begun.

§ 1.7.9 Any material specified by reference to the number, symbol, or title of a Commercial Standard, Federal Specification, ASTM Specification, trade association standard, or other similar standards, shall comply with the requirements in the latest revision thereof and any amendments or supplements thereto in effect one month prior to the date on which bids are opened and read except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the specifications, shall have full force and effect as through printed in the specifications. The Architect will furnish upon request information as to how copies of the standards referred to may be obtained.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

(Paragraph deleted)

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.2 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

(Paragraphs deleted)

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or fails to carry out Work in accordance with the Contract Documents, *or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to be able to complete the Work within the Contract Time or fails to remove and discharge (within ten days) any lien filed upon Owner's property by anyone claiming by, through, or under Contractor, or disregards the instructions of Architect or Owner when based on the requirements of the Contract Documents*, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

(Paragraph deleted)

§ 3.1.1.1 The term "Contractor" shall mean the respective Prime Contract person or entity identified as such in the Owner Contractor Agreement, for each respective Prime Construction Contract, as responsible for the supervisory control over allocation, coordination of all SubContractors or trades, performance and completion of all portions of the Work, including cooperation with those doing portions of the Work under Separate Contract with the Owner.

§ 3.1.1.2 The term "Contractor" shall mean and apply with equal force to each respective Prime Contractor and all other Contractors having a direct Contract with the Owner, or with each respective Contractor or other Prime Contractor for other branches of the Work, or his authorized representative.

§ 3.1.2 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 In addition to and not in derogation of Contractor's duties under Paragraph 1.7.2 and 1.7.3, the Contractor shall carefully study and compare the Contract Documents with each other and shall at once report to the Architect errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner or Architect for damage resulting from errors, inconsistencies or omissions in the Contract Documents that could not have been discovered by a prudent and experienced contractor in advance and that are not in the nature of items described in and intended to be covered in Paragraph 1.7.2 and 1.7.3 unless the Contractor recognized or reasonably should have recognized such error, inconsistency or omission and failed to report it to the Architect. If the Contractor performs any construction activity involving an error, inconsistency or omission in the Contract Documents that the Contractor recognized or reasonably should have recognized without such notice to the Architect, the Contractor shall Assume Complete Responsibility for such performance and shall bear the full amount of the attributable costs for correction.

§ 3.2.1.1 If any errors, inconsistencies, or omissions in Contract Documents are recognized or reasonably should have been recognized by the Contractor, any member of its organization, or any of its Subcontractors, the Contractor shall be responsible for notifying the Architect in writing of such error, inconsistency, or omission before proceeding with the Work. The Architect will take such notice under advisement and within a reasonable time commensurate with job progress render a decision. If Contractor fails to give such notice and proceeds with such Work, it shall correct any such errors, inconsistencies, or omissions at no additional cost to the Owner.

§ 3.2.1.2 Deviations from the Construction documents must be noted by the Prime Contractor at the time of shop drawing submission. Failure to do so will result in the implication of Section 3.2 of the General Conditions and Paragraph 3.2.1 and 3.2.1.1 above.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor

shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor, when requested by the Architect, shall meet with representative of the Architect at all times and furnish all information requested; he shall allow the Architect to inspect the work at all times. Neither the Owner, nor the Architect shall be liable to the Contractor for extra compensation or damages for interference or delays on account of any such meetings, information, or inspections so requested or other acts of the Architect done in good faith and within the scope of their employment by the Owner.

§ 3.3.4.1 In addition the Contractor is entrusted with the oversight, management control, and general direction of this project to insure that all contract completion dates are met. In the event that there are any delays caused to any subcontractor on this project, liability shall lie with the Contractor and not with the Owner.

§ 3.3.5 The contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery conditions and that they provide materials on time. The Contractor shall coordinate its Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation.

§ 3.3.6 The Contractor shall establish and maintain bench marks and all other grades, lines and levels necessary for the Work, report errors or inconsistencies to the Architect before commencing Work, and review the placement of the building(s) and permanent facilities on the site with the Owner and Architect after all lines are staked out and

before foundation Work is started. Contractor shall provide access to the Work for the Owner, the Architect, other persons designated by Owner, and governmental inspectors. Any encroachments made by contractor or its Subcontractor (of any tier) on adjacent properties due to construction as revealed by an improvement survey, except for encroachments arising from errors or omissions not reasonably discoverable by Contractor in the Contract Documents, shall be the sole responsibility of the Contractor, and Contractor shall correct such encroachments within thirty (30) days of the improvement survey (or as soon thereafter as reasonably possible), at contractor's sole cost and expense, either by the removal of the encroachment (and subsequent reconstruction on the Project site) or agreement with the adjacent property owner(s) (in form and substance satisfactory to Owner in its sole discretion) allowing the encroachments to remain.

§ 3.3.7 Coordination:

§ 3.3.7.1 In the case of a single prime Contract, the General Contractor becomes the sole responsible party for the coordination of the entire project, and all other prime contractors shall mean subcontractors; In the case of a multiple Prime Contract, the General Contractor shall also be responsible to coordinate the relationships among the Prime Contractors.

§ 3.3.7.2 The General Contractor shall be responsible to coordinate and expedite the total construction process and all of its parts. The Owner relies upon the organization, management, skill, cooperation and efficiency of the General Contractor to supervise, direct, control and manage the work and to coordinate and expedite the efforts of the other prime contractors and subcontractors so as to deliver the work conforming to the contract within the schedules time. The General Contractor is responsible for Proper sequence and coordination. It shall determine the location of work and resolve conflicts amongst Contractors.

§ 3.3.7.3 The General Contractor and all other prime contractors shall provide a qualified full-time staff member or members (i.e.: project managers, superintendent, or foreman) to oversee their own work and the work of their sub-contractors. Should the Prime contractor be responsible for multiple projects at different sites, then such prime contractor shall provide a separate qualified superintendent for each of the projects. In addition, the General Contractor shall provide a qualified full-time superintendent or members to provide mechanical and electrical coordination and perform coordination with all their subcontractors.

§ 3.3.7.4 The Contractor's superintendent and/or foreman will at all times be subject to the approval of the Architect and Construction manager. The Architect and Construction Manager reserves the right to require the contractor to replace the superintendent and/or foreman if, in the opinion of the Architect and Construction Manager, the superintendent and/or foreman is not performing satisfactorily.

§ 3.3.7.5 Each prime contractor shall coordinate his activities with the activities of other contractors.

§ 3.3.7.6 All questions pertaining to the work are to be made to the Architect/Engineer sufficiently in (via an RFI Form) advance of construction to permit comparisons, investigations, or references to drawings and shop drawings as necessary.

§ 3.3.7.7 The General Contractor is required to submit a site logistics plan coordinating all Owner functions with the access and safety of the job site.

§ 3.3.7.8 The Contractor is required to coordinate all the inspection and material testing to meet the contract document specifications.

§ 3.3.7.9 The Contractor has full and sole responsibility for construction methods and implementation of a "quality control system" to insure coordination.

§ 3.3.7.10 The Contractor is responsible for field verification of all dimensions/measurements for the coordination of materials and trades. Check field dimensions, clearances, relationships to available space, and anchors.

§ 3.3.7.11 The Contractor shall make all necessary arrangements to conduct work so that all parts shall be carried harmoniously and simultaneously or sequentially, so as components or increments of the same shall not interfere or retard the progress of others.

§ 3.3.7.12 Minor changes in locations of equipment, parts, etc due to field conditions shall be made, if so directed, at no additional cost.

§ 3.3.7.13 The Contractor shall coordinate the delivery, unloading, movement, relocation, storage and protection of all materials.

§ 3.3.7.14 The Contractor shall examine the drawings and dimensions and is responsible for satisfactory joining and fitting of all parts of the work.

§ 3.3.7.15 Accurate dimensions, sleeved and opening drawings are to submitted prior to placement in the field.

§ 3.3.7.16 Prepare coordination drawings for all above ceiling areas throughout the entire project. Drawings showing all piping, duct, cabletrays, electrical ductbanks, and similar items, but not electrical conduit less than 4 inches in diameter. Complete architectural, mechanical and electrical reflected ceiling layouts, (including ductwork, conduits, piping, lighting, etc.).

§ 3.3.7.17 The Contractor is responsible for any omissions of the subcontractors and is required to provide a complete operating facility.

§ 3.3.7.18 The General Contractor shall be responsible for preserving the integrity of ceiling heights and room sizes.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the

proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified

materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.12.11 Detailed requirements are specified in the Division 1 section 01300 relating to "Submittals".

§ 3.12.12 All shop drawings are to include manufacturer's data. All shop drawings and samples are to be submitted by the Contractor to the Architect for review. Each sheet of the shop drawings shall identify the project, contractor, subcontractor, and fabricator or manufacturer and the date of the drawings. All shop drawings shall be numbered in consecutive sequence and each sheet shall indicate the total number of sheets in the set.

§ 3.12.13 Substitutions: All substitutions or deviations from plans and specifications must be clearly noted as such on all shop drawings. Contractor shall identify, coordinate and pay for any additional requirements as a result of substitutions, deviations, etc. including necessary change orders. In addition, substitution submittals shall be made no later than 30 days after Notice to Proceed in order to provide time for comparison review.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.1 Location and weights of all equipment and materials that the Contractor intends to place on the slab shall be submitted to the Architect for review.

§ 3.13.2 Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor.

§ 3.13.3 The contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

§ 3.13.4 Contractor shall ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any provision of the Contract Documents, Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of (1) any areas and buildings adjacent to the site of the Work or (2) the Building in the event of partial occupancy, as more specifically described in Paragraph 9.9.

§ 3.13.5 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including without limitation, lavatories, toilets, entrances and parking areas other than those designated by the Owner. Without limitation of any other provision of the Contract Documents, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and the Building, as amended from time to time.

§ 3.13.6 The Contractor shall immediately notify the Owner in writing if during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable, setting forth the problems of such and suggest alternatives through which the same results can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives or require compliance with the existing requirements and collective bargaining agreements applicable to use and occupancy of the Project site and the Building

§ 3.13.7 The General Contractor shall provide a temporary construction fence whether shown on the Contract Documents or not as required to separate the area or areas under construction from the Owners area or areas used by the public. The temporary fencing shall be approved by the Owner prior to installation.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 Each Prime Contractor shall perform all daily clean up and removal of debris from the site including that of his subcontractors. Each Prime Contractor shall maintain an adequate supply of laborers to accomplish daily clean up and removal of debris from the site and work areas. No debris will be allowed to accumulate in or around the building including masonry debris. This building site must be maintained free of all litter and debris on a daily basis. No accumulation of flammable material is permitted. Prior to installation of finishes the floors will be swept and kept free of dust and dirt until turned over to the owner.

§ 3.15.4 Cleaning and debris removal may be considered a safety concern by judgment of the Owner or his agents and as such the work may be stopped to provide time and labor for immediate clean up.

§ 3.15.5 Final Clean-Up: The General Construction Contractor has the responsibility for the final clean-up and policing of the entire site after other contractors have removed their own waste materials, rubbish, equipment, tools and plant. In addition thereto, the General Construction Contractor shall have a professional cleaning company perform the following immediately prior to the Architect's inspection for Substantial Completion:

§ 3.15.5.1 Removal of all manufacturer's temporary labels from materials, equipment and fixtures.

§ 3.15.5.2 Removal of all stains from glass and mirrors; wash, polish, inside and outside.

§ 3.15.5.3 Removal of marks, stains, finger prints, other soil, dust, dirt, from painted, decorated, or stained woodwork, plaster or plasterboard, metal, acoustic tile, and equipment surfaces.

§ 3.15.5.4 Remove spots, paint, soil, from resilient flooring.

§ 3.15.5.5 Remove temporary floor protections; clean, strip and provide three (3) coats of wax on new VCT floors or otherwise treat as directed by the material manufacturer's recommendation, all finished floors. Final vacuum all carpet.

§ 3.15.5.6 Clean all interior finished surfaces, including doors and window frames, and hardware required to have a polished finish, of oil, stains, dust, dirt, paint, and the like; leave without finger prints, blemishes.

§ 3.15.5.7 Final site clean-up shall extend beyond the Contract Limit Lines as reasonably required to insure the complete removal of all construction debris from the entire site, including staging areas.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.16.1 The Contractor shall promptly notify the Architect/Engineer and Owner of the presence of hazardous conditions at the site, including the start of hazardous operations or the discovery or exposure of hazardous substances.

§ 3.16.2 Contractor shall be responsible for snow plowing and snow removal as required to maintain access/egress to construction area.

§ 3.16.3 Contractor shall keep only necessary equipment on site and shall cooperate with the Owner regarding location of stored material.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.1.1 Contractor for itself, its successors and assigns, agrees to indemnify and save Owner, its successors, assigns, employees, agents, architects and engineers, harmless from, and against any and all claims, demands, damages, actions or causes of action, together with any and all losses, costs or expenses in connection therewith or related thereto, including but not limited to attorney fees for costs of suit, for bodily injuries, death or property damage arising in or in any manner growing out of the work performed, or to be performed under this Contract whether or not caused by fault or negligence of Owner. Contractor, for itself, its successors and assigns, hereby expressly agrees to waive any provision of the applicable State's Workers' Compensation Act, including Section 303(b), whereby the contractor could preclude its joinder as an additional defendant or avoid liability for damages, Contribution or Indemnity in any action at law, or otherwise where Contractor's employee or employees, heirs, assigns or anyone otherwise entitled to receive damages by reason of injury or death brings an action at law against the Owner, its successors, assigns employees, agents, engineers or architects, Contractor, of itself, its successors and assign, agrees to indemnify the Owner, its successors, assigns, employees, agents, architects, Construction Manager and engineers against all fines, penalties or losses incurred for, including but not limited to attorney fees and costs of suit, or by reason of the violation by Contractor in the performance of this Contract, of any ordinance, regulation, rule of law of any political subdivision or duly constituted public authority. Without limiting the foregoing, the Contractor, at the request of Owner, its successors, assigns, employees, agents, architect, Construction Manager or engineers, agrees to defend at the Contractor's expense any suit or proceeding brought against Owner, its successors, assigns, employees, agents, architect, Construction Manager or engineers, due to, or arising out of the work performed by the Contractor.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment.

The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

(Paragraph deleted)

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by

terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

(Paragraphs deleted)

§ 5.3.1 The Contractor shall obligate each subcontractor specifically to comply with the New Jersey Plan of Affirmative Action to avoid discriminatory practice in employment.

§ 5.3.2 The Contractor shall obligate each subcontractor to comply with the applicable prevailing wage schedule of the Department of Labor of the State of New Jersey.

§ 5.3.3 The Contractor shall obligate each Subcontractor to comply with the Public Works Contractor Registration Act of the State of New Jersey.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK. All trades have a mutual obligation to coordinate their work with the other trades and cooperate as necessary with the Contractor, Construction Manager if applicable, and the Construction schedule – to complete the work as required by the Owner. The Construction Manager if applicable will provide assistance to the Contractor for coordination between their work and the Owner. The Contractor is required to have their superintendent or foreman on site at all times when their work or that of their subcontractors is in progress.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, *should the Contractor be damaged by any other separate Contractor on the work by reason of such other Contractor's failure to perform properly his Contract with the Owner, no action will lie against the Owner and the Owner shall have no liability therefore, but the Contractor may assert his claim for damage against such separate Contractor as a third party beneficiary under the Contract between such other Contractor and the Owner.*

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5, *should the Contractor be damaged by any other separate Contractor on the work by reason of such other Contractor's failure to perform properly his Contract with the Owner, no action will lie against the Owner and the Owner shall have no liability therefore, but the Contractor may assert his claim for damage against such separate Contractor as a third party beneficiary under the Contract between such other Contractor and the Owner.*

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible as the Owner determines to be just, based on the recommendation of the Architect.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.1.1 A field directive or field order shall not be recognized as having any impact upon the Contract Sum or the Contract Time and the Contractor shall have no claim therefor unless it shall, prior to complying with same and in no event no later than 10 working days from the date such direction or order was given, submit to the Owner for the Owner's approval its change proposal.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone in accordance with Section 7.4.1.

§ 7.1.2.1 **"Neither this Contract nor the Work to be performed hereunder can be changed by oral agreement. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work and no claims that the Owner has been unjustly enriched by any alteration or addition to the Work, whether there is, in fact, any unjust enrichment to the Work, shall be the basis for any alleged implied agreement by the Owner to the change, any alleged waiver of the Owner's rights under this Contract**

or any increase in any amounts due under the Contract or any or a change in any time period provided for in the Contract Documents."

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 A directive or order from the Owner or the Architect, other than a Change Order, a Construction Change Directive or any Order for a minor change pursuant to this Article 7, shall not be recognized as having any impact on the Contract Sum or the Contract Time and the Contractor shall have no claim therefore. If the Contractor believes that a directive or order would require it to perform work not required by the Contract Documents, the Contractor shall so inform the Owner and Architect in writing prior to complying with the same and in no event any later than five (5) working days from the day such direction or order was given, and shall submit to the Owner and Architect for the Owner's and Architect's approval its change proposal.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Any change in work authorized in writing by the Owner and Architect that will require a change in the cost of the work, whether an additive or deductive change in cost, shall show a complete cost breakdown of labor, material, equipment and insurance, and appropriate overhead and profit in accordance with 7.3.6 and 7.3.6.1.

§ 7.2.3 When a Change Order involves both additions and deletions in material, the net quantity is to be determined and the overhead and profit is to be applied to the net quantity in accordance with 7.3.6 and 7.3.6.1.

§ 7.2.4 When a Change Order involves deletions in materials and labor, the amount of the credit will be equal to the line item on the Schedule of Values or a unit of the value if only a portion of the value is being deleted.

§ 7.2.5 When any change in the Work, regardless of the reason therefore, requires or is alleged to require an adjustment in Contract Time, such request for time adjustment shall be submitted by the Contractor as part of the change proposal. Any Change Order approved by the Owner and for which payment is accepted by the Contractor, in which no adjustment in Contract Time is stipulated, shall be understood to mean that no such adjustment is required by reason of the change, and any and all rights of the Contractor or any subsequent request of adjustment of Contract Time by reason of the change is waived.

§ 7.2.6 Request by the Contractor for adjustment of the Contract Amount regardless of the reason therefore, shall be submitted to the Architect and the Owner with itemized labor and material quantities and unit prices to permit proper evaluation of the request. A submission by the Contractor containing unsubstantiated lump sum requests for adjustment of the Contract Amount will not be considered by the Owner and Architect. The Owner and Architect will not be liable for any delay incurred by reason of the Contractor's failure to submit satisfactory justification and back-up with any request for adjustment to the Contract Amount.

§ 7.2.7 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the initial Work which is the subject of the Change Order, including, but not limited to, all direct or indirect costs associated with such change and any and all adjustment to the Contract Sum and the Construction Schedule. The contractor will not be entitled to any compensation for additional work or delays in the Construction Schedule not included in the Change Order

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes

in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation as prepared by the Architect;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an allowance for overhead in accordance with the schedule set forth in Subparagraph 7.3.7.1 below, or if no such amount is set forth, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

§ 7.3.7.1 In Subparagraph 7.3.7 the allowance for overhead and profit combined, included in the total cost to the Owner, shall be based upon the following schedule and may only include a Contractor, his Subcontractor and his sub-subcontractor:

7.3.7.1.1 For the Contractor, for any work performed by the Contractor's own forces, 15% of the cost.

7.3.7.1.2 For the Contractor, for any work performed by his Subcontractor, 5% of the amount due the Subcontractor.

7.3.7.1.3 For each Subcontractor or Sub-subcontractor involved, for any Work performed by that contractor's own forces, 10% of the cost.

7.3.7.1.4 For each Subcontractor, for any Work performed by his Sub-subcontractor 10% of the amount due the Subcontractor.

7.3.7.1.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.7.

7.3.7.1.6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor, materials and subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are subcontractors, they shall be itemized also. In no case will a change involving over \$200.00 be approved without such itemization.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

(Paragraph deleted)

§ 8.1.2.1 The work to be performed under this Contract shall commence after the required insurance has been obtained and approved and within three days after issuance of the Notice to Proceed by the Owner. The Contract Time shall commence as of the date of the Notice to Proceed unless otherwise specified in the agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article II to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 Owner, or his representative, in coordination with the Contractor, shall set work hours. Contractor may be required to work nights, weekends or holidays as necessary to complete the work in accordance with the Schedule or in coordination with the Owner's activities. Under no circumstances shall the Contractor begin or continue with work that is adversely impacting activities or operations. All utility shutdowns, interruptions, work in or adjacent to existing buildings will be coordinated through the Owner. Or his representative, and may have to be performed during hours when the Owner's activities are not in operation. All cutting, hammering or other activity that is noisy, produces smoke or fumes or is otherwise disruptive to the Owner's operations may have to be done during hours when the Owner's activities are not in operation. Work required to be performed during non-operating hours, as determined by the Owner or his representative, will be performed at no additional cost to the Owner.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by occurrences beyond the control and without the fault or negligence of the Contractor and which by the exercise of reasonable diligence the Contractor is unable to prevent or provide against, including labor disputes (other than disputes limited to the work force of, or provided by, the Contractor or its Subcontractors), fire, unusual delay in deliveries not reasonably anticipatable, unavoidable casualties, or by other occurrences which the Architect, subject to the Owner's approval, determines may justify delay, then, provided that the Contractor is in compliance with Subparagraph 4.3.3 hereof, the Contract Time shall be extended by Change Order or Construction Change Directive for the length of time actually and directly caused by such occurrence as determined by the Architect and approved by the Contractor and Owner (such approval not to be unreasonably withheld, delayed or conditioned); provided, however, that such extension of Contract Time shall be net of any delays caused by or due to the fault or negligence of the Contractor or which are otherwise the responsibility of the Contractor and shall also be net of any contingency or "float" time allowance included in the Contractor's construction Schedule. The Contractor shall, in the event of any occurrence likely to cause a delay, cooperate in good faith with the Architect and Owner to minimize and mitigate the impact or any such occurrence and do all things reasonable under the circumstances to achieve this goal.

(Paragraph deleted)

§ 8.3.2.1 Any claim for extension of time should be made in writing to the Architect not more than five (5) days after the commencement of the delay, otherwise, it should be waived. The Contractor shall provide an estimate of the possible effect of such delay on the progress of the work. No claim made beyond the five (5) days shall be valid.

§ 8.3.2.2 The Contractor agrees that if any delay in the Contractor's works unnecessarily delays the work of any other Contractor of Contractors, the Contractor shall in that case pay all costs and expenses incurred by such parties due to such delays and hereby authorizes the Owner to deduct the amount of such costs and expenses from any moneys due or to become due the Contractor under this Contract. The Architect shall be responsible for ascertaining whether the Contractor is responsible for delaying any of the work of any other Contractor. His decision shall be final.

§ 8.3.2.3 Notwithstanding anything to the contrary in the Contract Documents, any extension of the Contract Time, to the extent permitted under Paragraph 8.3.1, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity or (4) other similar claims (collectively referred to in this Paragraph 8.3.2.3 as "delays"), whether or not such delays are foreseeable, unless a delay is caused by acts of the Owner constituting active interference with the Contractor's performance of the Work and only to the extent such acts continue after the Contractor furnishes the Owner with written notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any delay including without limitation consequential damages, lost opportunity cost, impact damages or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including without limitation ordering changes in the Work or directing suspension, rescheduling or correction of the Work) regardless of the extent or frequency of the

Owner's exercise of such rights or remedies shall not be construed as an act interference with the Contractor's performance of the Work.

§ 8.3.2.4 The Contractor agrees that the Owner can deduct from the Contract Sum, any wages paid by the Owner to any Inspector or Architect or other professional necessarily employed by the Owner for any number of days in excess of the number of days allowed in the specifications for completion of work.

§ 8.3.2.5 Where the cause of delay is due to weather conditions, extension of time shall be granted only for unusually severe weather, as determined by reference to historical data. The term "historical data" as used in the previous sentence shall be construed according to this formula: Average rainfall (or snow or low temperature) for the past five years.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.1 Payment Procedures shall be as follows:

9.1.1.1 Contractor shall submit Schedule of Values to Construction Manager and Architect for review

9.1.1.2 Prior to end of each pay period, Contractor shall submit a rough draft ("pencil copy ") for their payment application for review and approval by the Architect and the Construction Manager.

9.1.1.3 Upon approval of pencil copy, Contractor shall submit at least five copies of their payment application to the Architect for approval along with their certified payrolls and monthly manning reports.

9.1.1.4 Architect and Construction Manager will approve payments and forward to the Owner.

§ 9.2 SCHEDULE OF VALUES

§ 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, which in the aggregate equals that total Contract Sum, divided so as to facilitate payments to Subcontractors, supported by such evidence of correctness as the Architect may direct or as required by the Owner. These schedules, when approved by the Architect, Construction Manager (if applicable) and Owner, shall be used to monitor the progress of the Work and as a basis for Certificates for Payment. All items with entered values will be transferred by the Contractor to the "Applications and Certificate for Payment", and shall include the latest approved Change Orders and Construction Change Directives. Change Order values and Construction Change Directive values shall be broken down to show the various subcontracts. The Application for Payment shall be on AIA Document G702 and G703 and the approved Voucher obtainable from the Owner. Each Item shall show its total scheduled value, value of previous applications, value of the application, percentage completed, value completed and value yet to be completed. All blanks and columns must be filled in, including every percentage complete figure.

§ 9.3 APPLICATIONS FOR PAYMENT

The Contractor shall submit to the Architect an itemized Application for Payment for their Contract on AIA Document G702 and G703 and the approved Voucher obtainable from the Owner. Payroll Certification for all employees of all of the workers on the project shall be submitted as well as other such data for the purposes of summarizing the work and tracking the project. The architect and Construction Manager (if applicable) will process the application and forward it with his recommendations to the Owner.

(Paragraphs deleted)

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Until substantial completion, the Owner will pay 98% of the amount due the Contractor on account of progress payments. The retainage will be held until final acceptance of the project by the Architect and the Owner. The Contractor shall submit a separate voucher for the full amount of the retainage along with the Consent of Surety, AIA Form G707A and the Contractor shall be required to furnish a Maintenance Bond for 100% of the Project Cost for a period of two (2) years from the Date of Final Acceptance.

§ 9.3.1.4 Upon acceptance of the Work performed pursuant to this Contract for which the Contractor has agreed to the withholding of payments pursuant to Article 9 of this Contract, all amounts being withheld by the Owner shall be paid in accordance with Paragraph 9.3.1.3 without further withholding of any amounts for any purposes whatsoever, provided that the Contract has been satisfactorily completed.

§ 9.3.1.5 Each application for payment shall be accompanied by the following, all in form and substance satisfactory to the Owner and Architect:

§ 9.3.1.5.1 A current contractor's lien waiver and duly executed and acknowledged sworn statement by an officer of the Contractor showing all subcontractors and materialmen with whom the Contractor has entered into subcontracts, the amount of each such subcontract, the amount requested for any subcontractor and materialmen in the requested progress payment and the amount to be paid to the Contractor from such progress payment together with similar sworn statements from all such subcontractors and materialmen

§ 9.3.1.5.2 Duly executed waivers of mechanic's and materialmen's liens from all subcontractors and when appropriate, from materialmen and lower tier subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous application for payment; and

§ 9.3.1.5.3 All information and materials required to comply with the requirements of the Contract Documents or reasonably requested by the Owner or the Architect.

§ 9.3.2 At the Owner's option, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with paragraphs 9.3.2.1, 9.3.2.2, 9.3.2.3, and 9.3.2.4 satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.2.1 With each Application for Payment the Contractor shall submit to the Architect and Owner a written list identifying each location where materials are stored off the Project site and the value of materials at each location. The Contractor shall procure insurance satisfactory to the Owner for materials stored off the Project site in an amount not less than the total value thereof.

§ 9.3.2.2 The consent of any surety shall be obtained to the extent required prior to the payment for any materials stored off the Project site.

§ 9.3.2.3 Representatives of the Owner shall have the right to make inspections of the off site storage areas at any time.

§ 9.3.2.4 Materials stored off site shall be protected from diversion, destruction, theft and damage to the satisfaction of the Owner, shall specifically be marked for use on the Project and shall be segregated from other materials at the storage facility.

§ 9.3.3 The Contractor warrants and agrees that title to all Work will pass to the Owner either by incorporation in the construction or upon receipt of payment therefor by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests, or encumbrances whatsoever, that the vesting of such title shall not impose any obligation on Owner or relieve Contractor of any of its obligations under the Contract, that the Contractor shall remain responsible for damages to or loss of the Work, whether completed or under construction, until responsibility for the Work has been accepted by Owner in the manner set forth in the Contract Documents, and that no Work

covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.1.1 The Owner will issue payment to the Contractor pursuant to the Owner's administrative policy at the time that a duly approved Payment Certificate is presented.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

§ 9.5.1.1 defective Work not remedied;

§ 9.5.1.2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;

§ 9.5.1.3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;

§ 9.5.1.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

§ 9.5.1.5 damage to the Owner or a separate contractor;

§ 9.5.1.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or

§ 9.5.1.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.1.8 The failure of any Contractors to comply with mandatory requirements for maintaining record drawings. The Contractor shall be required to check record drawings each month. Written confirmation that the record drawings are up-to-date shall be required by the Architect before approval of the Contractors monthly payment requisition will be considered.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect. Notwithstanding Certification by the Architect, the Owner may refuse to make payment based on any default by the Contractor including, but not limited to those defaults set forth in Subparagraphs 9.5.1 through 9.5.1.8. The Owner shall not be deemed in default by reason of withholding payment while any of such defaults by the Contractor remain uncured.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not for reasons other than a default of the Contract, including but not limited to those defaults set forth in Subparagraphs 9.5.1.1 through 9.5.1.8 pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by a court of law, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof which the Owner agrees to accept separately is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Work will not be considered substantially complete until all project systems included in the Work are operational as designed and scheduled, all designated or required inspections, certifications, permits, approvals, licenses and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial use and occupancy of the Project are received, designated instruction of Owner's personnel has been completed, and all final finishes within the Contract are in place. In general, the only remaining Work shall be minor in nature, so that the Owner can occupy the building on that date and the completion of the Work by the Contractor would not materially interfere or hamper the Owner's (or those claiming by, through or under the Owner) normal operations. Contractor recognizes that normal operation requires the use and occupancy of the Work by departmental employees without interruption and that any punchlist or corrective work shall be done at times when the Work is not to be occupied. As a further condition of substantial completion acceptance, the Contractor shall certify that all remaining Work will be completed within thirty (30) consecutive calendar days or as agreed upon following the date of substantial completion.

§ 9.8.1.1 In addition to the above, the following items must be completed in order to deem the work Substantially Complete:

- § 9.8.1.1.1 All required final inspections have been completed by the authority having jurisdiction resulting in a TCO or CO.
- § 9.8.1.1.2 Air Balancing Reports: Reports can be hand written field notes but must be reviewed and approved via the shop drawing process by the Mechanical engineer. Final Air and Water Balancing Reports certified by the licensed balancer are required for "Final Acceptance" and the start of the warranty period. (These reports must be submitted in accordance with the shop drawing process to Architect so that they can be tracked and approved and distributed to all applicable parties).
- § 9.8.1.1.3 Equipment Start Up Reports: Reports can be hand written field notes but must be reviewed and approved via the shop drawing process by the Mechanical Engineer. (These reports must be submitted in accordance with the shop drawing process to Architect so that they can be tracked and approved and distributed to all applicable parties).
- § 9.8.1.1.4 Completion of the Owner On-Site ATC Training: Refer to the ATC specifications for training requirements on-site and off-site. The Owner does not have beneficial use of the mechanical system until they can operate it following this training.
- § 9.8.1.1.5 Completion of Commissioning: Refer to the Start-up and Adjustment specifications. This process will require the Owner's Operator, Construction Manager (if applicable) and the Mechanical Engineer on site to witness a demonstration and operation of every mechanical device. The devices shall be operated from the on-site Owner's ATC Computer and verified by the Mechanical Contractor's field personnel to confirm proper operation. In addition to this demonstration, the contractor shall demonstrate Owner required maintenance of all mechanical equipment to maintain the manufacturer's warranty. This should include but not be limited to belt tension/adjustments, filters, etc. Please schedule several days for the commissioning process.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected along with all special warranties required by the Contract Documents endorsed by the Contractor prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.4.1 The Architects Certificate of Substantial Completion shall be subject to the Owner's final approval.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage sufficient to increase the total payments to 100% of the Contract Sum, less such amounts as the Architect shall determine for all incomplete work and unsettled claims. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. All warranties and guarantees required pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Owner as part of the final application for payment. The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees have been received and accepted by the Owner.

§ 9.10.1.1 The Architect's Certificate of Final Completion shall be subject to the Owner's final approval.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed

to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, and (6) evidence of compliance with all requirements of the Contract Documents: notices, certificates, affidavits, other requirements to complete obligations under the Contract Documents: including but not limited to (a) instruction of Owner's representatives in the operation of mechanical, electrical, plumbing and other systems, (b) delivery of keys to Owner with keying schedule: master, sub-master and special keys, (c) delivery to Architect of Contractor's General Warranty (as described in Paragraph 3.5) and each written warranty and assignment thereof prepared in duplicate, certificates of inspections, and bonds for Architect's review and delivery to Owner, (d) delivery to Architect a printed or typewritten operating, servicing, maintenance and cleaning instructions for all Work; parts lists and special tools for mechanical and electrical Work, in approval form, (e) delivery to the Architect of specified Project record documents and (f) delivery to Owner of a Final Waiver of Liens (AIA Document G706 or other form satisfactory to Owner), covering all Work including that of all Subcontractors, vendors, labor, materials and services, executed by an authorized officer and duly notarized. In addition to the foregoing, all other submissions required by other articles and paragraphs of the Specifications including final construction schedule shall be submitted to the Architect before approval of final payment.. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.11 LIQUIDATED DAMAGES

§ 9.11.1 The Contractor understands and agrees that all work must be performed in an orderly and closely coordinated sequence so that the date for substantial completion is met.

§ 9.11.2 If the Contractor fails to complete his work or fails to complete a portion of his work, he shall pay the Owner, as liquidated damages and not as a penalty, the sum as specified in the technical portion of the Contract Documents. Such amount is agreed upon as a reasonable and proper measure which the Owner will sustain each calendar day by failure of the Contractor to complete work within the stipulated time.

§ 9.11.3 Substantial Completion will be determined by the Architect and shall be deemed to be completion of the whole work for purposes of tolling the Municipal Mechanics Lien Law.

§ 9.11.4 For damage occurring at the time of delay, the Owner may retain the amount due to him under this clause from any payments due to the Contractor.

§ 9.11.5 The Owner will suffer financial loss if the project is not substantially complete on the date set forth in the Contract Documents. The Contractor (and the Contractor's Surety) shall be liable for and pay to the Owner the sum of \$500.00 stipulated and fixed, agreed as liquidated damages for each calendar day of delay until the Work is substantially complete.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

§ 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.1.1.1 The Contractor must fully comply with the job safety requirements in addition to all Federal, State and Local safety guidelines. All cost associated with complying with all safety requirements shall be included in each contractor's base bid.

§ 10.1.1.2 The General Contractor will serve as the overall Project Safety Coordinator and shall be responsible for all issues of safety and protection. The Contractor shall designate a safety person at the job site while the contractor is working on the project site. The designated safety person shall be responsible for the safety of their work and for their workers and to make continuous inspections for all safety issues relating to his work. The Construction Manager (if applicable) is not responsible for safety on this project but will endeavor to promote safety. Each Contractor must comply with job Safety Requirements in addition to OSHA and local agency requirements. Failure to comply with safety issues will be grounds for withholding of payments.

§ 10.1.1.3 Contractor will comply with all reasonable requests of the Owner and Construction Manager (if applicable) with respect to additional security and protections required for work interfacing with Facility Operations. Safety is of the utmost importance on this project and all issues relative to safety and protection of the Facility, Staff and Occupants will be treated as emergency needs and will not be subject to the 7 day notice requirements of Article 14.

§ 10.1.1.3.1 General Contractor to provide, maintain, relocate and remove in coordination with Construction Manager if applicable, a 6 foot high, perimeter security fence. Fence will surround the building and proposed parking areas and will have signage attached at 100' intervals advising "Construction Area – Please Keep Out". General Contractor to be responsible for opening and securing site each day.

§ 10.1.1.3.2 Orange safety fencing will be installed around the entire area of any and all earthwork, excavations, etc. and will be maintained until the work is complete.

§ 10.1.1.3.3 This is a hard hat job. Identifying hard hats shall be worn at all times.

§ 10.1.1.3.4 Hot work permits will be issued by foreman for all activities involving open flames, Construction Manager (if applicable) will provide copy of Hot Work Permit Forms.

§ 10.1.1.4 The proper execution of the required safety provisions is directly related to the general condition safety line item on the schedule of values.

§ 10.1.1.5 The Contractor shall be responsible for the immediate investigation and resolution of all safety and environmental complaints / issues generated by contractor employees, owners, owner's representatives or members of the public.

§ 10.1.1.6 Contractor shall be maintain all egress routes throughout building. Contractor shall post exit signs as coordinated with Construction Manager (if applicable). Contractor shall provide wall hung fire extinguishers throughout building as deemed necessary by Construction Manager (if applicable) and fire officials.

§ 10.1.1.7 Contractor's safety representative shall perform a daily safety inspection walk through to ensure that all requirements of the OSHA Standards, Fire Protection Standards and Safe Work Practices are being complied with

and/or corrected. The responsibility of the Contractor is to provide a safe and healthy work environment for construction personnel. Owner's personnel and representative, and the public.

§ 10.1.1.8 Upon written receipt of safety concerns and/or issues, the Contractor shall respond in writing addressing how the safety concerns or issues were resolved. The Construction Manager (if applicable) shall be copied on all safety related correspondence.

§ 10.1.1.9 Prime Contractor's response and compliance with Construction manager's Project Manager (if applicable) and correction of deficiencies noted in Construction Manager's Safety Report is mandatory. Failure to comply will be grounds for withholding of progress payments until the conditions are acceptable to Construction Manager and OSHA.

§ 10.1.1.10 The Contractor shall submit to Construction Manager (if applicable) a copy of all licenses (welding, power nailer, asbestos, etc,) as required by applicable agencies.

§ 10.1.1.11 Contractor shall have all required personal protective equipment and materials available for and used by each employee as required by Federal, State and Local guidelines.

§ 10.1.1.12 Contractor shall supply proper equipment and crew sizes as necessary to safely complete the work.

§ 10.1.1.13 Contractor shall provide documented safety training for each of their employees and subcontractor's employees no later than the first day they arrive on site. The training shall be documented and signed by the trainer and employee. A copy of all safety-training documents is to be provided to Construction Manager (if applicable) and updated as manpower loading increases.

§ 10.1.1.14 The Contractor shall supply two (2) OSHA approved means of access / egress to each floor and roof for the course of the entire project for use by all applicable parties. The Contractor shall erect and maintain OSHA approved pedestrian walking bridges, for emergency access / egress and as necessary to protect personnel from overhead work. The number of protected entrances will be as determined by Construction Manager (if applicable).

§ 10.1.1.15 The Contractor shall be responsible for providing and maintaining all temporary emergency egress routes. The Contractor shall obtain the approval of the Building and Fire Departments for all temporary emergency egress routes. General Contractor to provide for fire separation walls between occupied areas as required by local officials.

§ 10.1.1.16 Contractor shall provide OSHA approved pedestrian walking bridges as necessary (determined by Construction Manager – if applicable) to protect against overhead hazards.

§ 10.1.1.17 Contractor shall provide, relocate and / or maintain barricades, signage, provide flagmen etc. as necessary to ensure public safety and safe egress. Contractor to provide, maintain, relocate and remove in coordination with Construction Manager, if applicable to protect against overhead hazards.

§ 10.1.1.18 Notify Construction Manager (if applicable) immediately upon arrival of OSHA to the site.

§ 10.1.1.19 Contractor shall submit to Construction Manager (if applicable), all MSDS sheets and shall cooperate in the posting of all required notifications relative to the use of hazardous substances on the property. Contractor to comply with NJ Law regarding the use or storage of hazardous substances in Buildings. MSDS sheets shall be posted prior to product being delivered to site.

§ 10.1.1.10 Contractor, subcontractor, vendor, etc should enforce a full time no smoking or alcohol use policy for all employees during the entire course of the project. Any worker found violating these reflections, or being belligerent, will be subject to removal from the site at the sole discretion of Construction Manger, if applicable.

§ 10.1.1.11 Contractor shall be responsible to secure the site at the end of each workday by an effective means and maintain until all parties determine no longer required.

§ 10.1.1.12 For the safety of occupants, staff, and the public, the steel erection must be scheduled and coordinated with the Owner and Construction Manager (if applicable). Swinging of steel and crane boom over occupied space will not be allowed. Steel contractor shall provide additional barricades and fencing around his crane and steel at all times.

§ 10.1.1.13 Contractor must submit an acceptable OSHA compliant site specific written safety plan to Construction Manger (if applicable) for review within fourteen (14) days from the notice to proceed or prior to mobilizing on site, which ever comes first. The written safety plan shall include (as applicable to their work) but is not limited to the following:

- Full time no smoking policy or alcohol use is allowed on the project. Any worker violating these restrictions, or being belligerent, will be subject to removal from the site. (Contractors shall post required signs).
- Full time hard hat policy (identifying hard hats shall be worn at all times).
- Site specific emergency action plan with contractor phone numbers, active 24 hours a day, 7 days a week.
- Competent on site safety representative, named and active (Provide alternate)
- Scaffold erection plan, including a log of daily inspections.
- Full time fall protection plan and exposures over 6'-0"
- Job site signage plan (perimeter fence warning signs posted 50'-0" o.c.
- First aid and CPR provisions
- OSHA 200 log and Job Safety and Health Protection Poster
- Daily clean up.
- Hazard Communication Program with MSDS logged and maintained.
- Hazard Communication program.
- Daily diary of work, issues, and incident, etc.
- Sheeting, shoring and excavations protection line.
- GFI safety program
- Hazardous Energy Control Lock out tag out program
- Required safety clothes; Eye and ear protection, respirators, boots, belts, gloves etc. as appropriate to their work requirement.
- Fire Extinguishers.
- Removal guard rail and protection at material loading areas, 200lb force minimum requirement.
- All stairs and platforms must have railings, 200lb force minimum requirement. Stair pans and landings must be filled prior to their use.
- Daily inspection of tools and equipment; verify safety devises are operational.
- Ladder usage plan
- Weekly tool box meetings, documented and signed by each employee.
- Temporary heat procedures.

§ 10.1.1.14 Contractor shall maintain and submit a complete copy of the written safety plan, logs, diaries, plans and programs on site for the Construction Manager (if applicable).

§ 10.1.1.15 The speed limit within the project property is 5MPH. Contractor employees operating vehicles in excess of the speed limit or in any otherwise unsafe manner will be directed to leave the site and not permitted to return.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction as well as any other real or personal property of the Owner.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.2.1 Contractor shall comply with all regulations required by the Federal Occupational Safety and Health Act (OSHA).

§ 10.2.2.2 The Contractor shall conform to all applicable New Jersey Department of Environmental Protection regulations.

§ 10.2.2.3 Contractors must comply with Construction and Environmental Standards contained in Federal and State Regulations and other applicable laws.

§ 10.2.2.4 It is the Contractor's responsibility to determine the existence of potentially hazardous materials, including lead, and to protect his workmen and the work area.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.2.9 The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment, and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief for fire marshal. The area within the site limits under the Contractor's control shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site. Contractor will comply with all reasonable requests of the Owner and Construction Manager with respect to additional security and protections required for work interfacing with Owner's Operations. Safety is of the utmost importance on this project and all issues relative to safety and protection of the staff and public will be treated as emergency needs and will not be subject to the 7-day notice requirements of Article 14.

§ 10.2.10 The Contractor shall remove snow or ice which may accumulate on the site within areas under his control which might result in damage or delay.

§ 10.2.11 The Contractor shall take all precautions necessary to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner and Contractor, whether or not forming part of the Work, located within those areas of the Project to which the Contractor has access. Whenever unattended, including nights and weekends, mobile equipment and operable machinery shall be kept locked and made inoperable and immovable.

§ 10.2.12 Neither the Owner nor the Architect shall be responsible for providing a safe working place for the Contractor, the Subcontractors or their employees, or any individual responsible to them for the work.

§ 10.2.13 The Contractor shall conform to requirements of OSHA, the Construction Safety Code of the State Department of Labor and those of the AGC Manual. The requirements of the New Jersey and Local Building Construction Codes shall apply where there are equal to or more restrictive than the requirements of the Federal Act.

§ 10.2.14 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work as necessary from injury or any cause.

§ 10.2.15 The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work which caused death, personal injury or property damage giving full details and statements of any witnesses. In addition, if death, serious personal injury or serious property damage is caused, the accident shall be reported immediately by telephone or messenger to the Owner and Architect.

§ 10.2.16 Contractor is required to follow and enforce the work rules set forth below. Failure to comply with or enforce any of these rules will be grounds for suspension and/or termination of this contract:

§ 10.2.16.1 No use of alcoholic beverages prior to or during working hours.

§ 10.2.16.2 No use of illegal drugs or prescription medications which could induce drowsiness or otherwise impair perception or performance. Use of illegal drugs may result in prosecution to the fullest extent of the law. Any warning associated with use of prescription drugs must be complied with, particularly warning against operation of machinery and equipment.

§ 10.2.16.3 No horseplay or rough-housing will be allowed.

§ 10.2.16.4 No sexual, racial, or ethnic harassment, or similar conduct will be tolerated.

§ 10.2.16.5 All employees shall use proper sanitation habits including use of toilet facilities and garbage cans.

§ 10.2.16.6 All employees shall dress in clothing appropriate for the work they are to perform. All personnel are to wear hardhats, safety shoes, glasses, gloves, masks or respirators, noise protection devices, and other protective clothing and equipment as required by OSHA standards.

§ 10.2.16.7 All equipment is to be properly stored and/or secured at the end of the work day or if it is to remain idle for greater than one hour.

§ 10.2.16.8 All personnel are to be made aware of the availability of Material Safety Data Sheets for materials used at the Project site. This information is available from the Contractor using the product. The Contractor shall maintain a copy of all MSDS forms at the construction site office for all personnel to review.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death

to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1

(Paragraphs deleted)

Contractor shall without in any way altering Contractor's liability under the Contract or applicable law, obtain, pay for and maintain insurance for the coverages and amounts of coverage not less than those set forth below in the Instructions to Bidders and shall provide to Owner certificates issued by insurance companies satisfactory to Owner to evidence such coverage no later than 7 days from the date of the execution of this Contract and prior to any personnel or equipment being brought onto and/or before any work commences at the job site. The coverage afforded under any insurance obtained pursuant to this paragraph shall be primary to any valid and collectible insurance carried separately by any of the indemnities. Such certificates shall provide that there shall be no

termination, nonrenewal, modification, or expiration of such coverage without thirty (30) days prior written notice to Owner. In the event of any failure by Contractor to comply with the provisions of this Paragraph 11.1, Owner may, at its option, on notice to Contractor, suspend the Contract for cause until there is full compliance with this Paragraph 11.1 and/or terminate the Contract for cause. Alternatively, Owner may purchase such insurance at Contractor's expense, provided that Owner shall have no obligation to do so, and if Owner shall do so, Contractor shall not be relieved of or excused from the obligation to obtain and maintain such insurance amounts and coverages. Contractor shall provide to Owner a copy of any and all applicable insurance policies. Architect and the State of New Jersey shall be named as an additional insured on all Insurance Policies to be provided by the Contractor. The Owner shall be named as an additional primary insured on all Insurance Policies to be provided by the Contractor..

§ 11.1.2 Contractor shall require all Subcontractors to carry similar insurance coverages and limits of liability as required under this Article 11, adjusted to the nature of Subcontractors' operations and submit same to Owner for approval before any personnel or equipment is brought onto the site and/or before any work commences.

§ 11.1.3 In the event Contractor fails to obtain the required certificates of insurance from the Subcontractor and a claim is made or suffered, the Contractor shall indemnify, defend and hold harmless the Owner, Architect, and the State of New Jersey from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

(Paragraphs deleted)

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 Contractor shall furnish a performance bond and labor and material payment bond meeting all statutory requirements of the State of New Jersey in form and substance satisfactory to the Owner and without limitation complying with requirements set forth in the Instructions to Bidders.

§ 11.4.2 If any of the foregoing insurance coverages are required to remain in force after final payment, including, but not limited to coverage for completed operations, an additional certificate evidencing continuation of such coverage shall be submitted with the Final Application for Payment.

§ 11.4.3 In no event shall any failure of the Owner to receive certified copies or certificates of policies required under Paragraph 11.1 or to demand receipt of such certified copies or certificates prior to the Contractor commencing Work be construed as a waiver of the Owner or the Architect of the Contractor's obligations to obtain insurance pursuant to this Article 11. The obligation to procure and maintain any insurance required by this Article 11 is a separate responsibility of the Contractor and independent of the duty to furnish a certified copy or certificate of such insurance policies.

§ 11.4.4 If the Contractor fails to purchase and maintain or require to be purchased and maintained any insurance required under this Paragraph 11.1, the Owner may, but shall not be obligated to, upon 5 days written notice to the Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to deduct said cost from the Contractor's Contract Sum.

§ 11.4.5 When any required insurance due to the attainment of a normal expiration date or renewal date shall expire the Contractor shall supply the Owner with certificates of insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection and scope as was provided by the previous policy. In the event any renewal or replacement policy for whatever reason obtained or required is written by a carrier other than that with whom the coverage was previously placed or the subsequent policy differs in any way from the previous policy, the Contractor shall also furnish replacement policy unless the Owner provided the Contractor with prior written consent to submit only a certificate of insurance for any such policy. All renewal and or replacement policies shall be in form and substance satisfactory to the Owner and written by carriers acceptable to the Owner.

§ 11.4.6 The Contractor shall cause each subcontractor to (1) procure insurance in the amounts set forth in Paragraph 11.2 and (2) name the indemnities under Paragraph 3.18 as additional insureds under the subcontractor's comprehensive general liability policy. The additional insured endorsements included on the subcontractor's comprehensive general liability policy shall state that coverage is afforded the additional insureds with respect to claims arising out of operations performed by or on behalf of the Contractor. If the additional insureds have other insurance which is applicable to the claims, such other insurance shall be on an excess or contingent basis. The amount of the insurance liability under this insurance policy shall not be reduced by the existence of such other insurance.

§ 11.4.7 Property insurance provided by the Owner shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring, or other similar items commonly referred to as construction equipment which may be on the site and the capital value of which is not included in the work. The Contractor shall make its own arrangements for any insurance it might require on such construction requirement. Any such policy obtained by the Contractor under this Paragraph 11.4.7 shall include a waiver of subrogation.

§ 11.4.8 The Contractor may carry whatever additional insurance he deems necessary to protect himself against hazards not covered for theft, collapse, water damage, materials and equipment stored on the site, and for materials and equipment stored off site, and against loss of owned or rented capital equipment and tools owned by mechanics or any tools, equipment, scaffolding, stagings, towers and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the Work.

§ 11.4.9 All insurance coverage procured by the Contractor shall be provided by insurance companies having policy holder ratings no lower than "A" and financial rating no lower than "X" in the Best's Insurance guide, latest edition in effect as of the date of the Contract and subsequently in effect at the time of the renewal of the policies required by the Contract Documents.

§ 11.4.10 If the Owner or the Contractor is damaged by the failure of the other party to purchase or maintain insurance required under Article 11, then the party who failed to purchase or maintain the insurance shall bear all reasonable costs (including attorneys fees and court and settlement costs) properly attributable thereto.

§ 11.4.11 The Contractors must remove all "X, C & U" exclusions from their policies.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time or Contract Sum.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense. If prior to the date of Substantial Completion the Contractor, a subcontractor or anyone for whom either is responsible, uses or damages any portion of the Work, including without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause each such item to be restored to "like new conditions" at no expense to the Owner.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Final Acceptance of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.1.1 The obligations under Paragraph 12.2 shall cover any repairs and replacement to any part of the Work or other property caused by the defective Work.

§ 12.2.2.1.2 Upon completion of any work under or pursuant to this Paragraph 12.2, the two year correction period in connection with the work requiring correction shall be renewed and recommenced.

§ 12.2.2.2 The two-year period for correction of Work shall be extended with respect to portions of Work first performed after Final Acceptance by the period of time between Final Acceptance and the actual completion of that portion of the Work.

§ 12.2.2.3 The two-year period for correction of Work shall be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

§ 12.3.1 This Subparagraph relates exclusively to the knowing acceptance of nonconforming work by the Owner. It has no applicability to work accepted by the Owner or Architect without the knowledge that such work fails to conform to the requirements of the Contract Documents.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense. The Contractor also agrees that the cost of testing services required for the convenience of the Contractor in his scheduling and performance of the Work and the cost of testing services related to remedial operations performed to correct deficiencies in the Work shall be borne by the Contractor.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

§ 13.6.1 The Contractor shall not be entitled to any payment of interest for any reason, action or inaction by the Architect or the Owner.

§ 13.6.2 Any payments withheld for time delays, faulty materials, or workmanship, shall not bear interest for period of delay or non-acceptance.

§ 13.7 TIME LIMITS ON CLAIMS

Owner and Contractor issues including the applicable statute of limitations shall be as governed by New Jersey Law.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract in the manner provided in Subparagraph 14.1.2 if repeated suspensions, delays or interruptions by the Owner as described in Paragraph 14.3 constitute in the aggregate more than 100% of the total number of days scheduled for completion or 120 days in any 365 day period, whichever is less, or if all the Work is entirely stopped for a continuous period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities

performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 because the Architect has not issued certificate for payment and has not notified the Contractor of the reason for withdrawing certification as provided in Subparagraph 9.4.1, or because the Owner has not made payment on a certificate for payment (without cause) within the time stated in the Contract Documents.
- .4

§ 14.1.2 If one of the above reasons exist, the Contractor may upon fourteen (14) days written notice to the Owner and Architect, terminate the Contract unless this reason is cured prior to the expiration of the notice, and recover from the Owner payment of Work properly executed in accordance with the Contract Documents (the basis for such payment shall be as provided in the Contract) and for payment for cost directly related to work thereafter performed by Contractor in terminating such work including reasonable demobilization and cancellation charges provided said Work is authorized in advance by Architect and Owner.

§ 14.1.3 The Owner shall not be responsible for damages for loss of anticipated profits on work not performed on account of any termination described in Subparagraph 14.1.1 and 14.1.2.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 refuses or fails to supply enough properly skilled workers or proper materials and/or equipment;
- .2 fails to make proper payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 Disregards the instructions of Architect or Owner (when such instructions are based on the requirements of the Contract Documents;
- .5 Is adjudged bankrupt or insolvent, or makes a general assignment for the benefit of Contractor's creditors, or a trustee or a receiver is appointed for Contractor or for any of its property, or files a petition to take advantage of any debtor's act, or to recognize under bankruptcy or similar laws; or
- .6 Breaches any warranty made by the Contractor under or pursuant to the Contract Documents.
- .7 Fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with the requirements of the Contract Documents.
- .8 Fails after the commencement of the Work to proceed continuously with the construction and completion of the work for more than 10 days except as permitted under the Contract Documents.
- .9 Otherwise does not fully comply with the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and

after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

§ 14.4.4 If Owner terminates the Contract for cause pursuant to Paragraph 14.2 and it is subsequently determined that the Owner was not authorized to terminate the Contract as provided in Paragraph 14.2, the Owner's termination shall be treated as a termination for convenience under this Paragraph 14.4 and the rights and obligations of the parties shall be the same as if the Owner has issued a notice of termination to the Contractor as provided in this Paragraph 14.4.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in

question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 5 days after occurrence of the event giving rise to such Claim or within 5 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make Claim for an increase in the Contract Sum written notice as provided herein shall be given to the Owner, Architect and Construction Manager (if applicable) before proceeding to execute the Work and within five (5) days after the occurrence of the event giving rise to such Claim for increase in the Contract Sum. The foregoing written notice shall contain a written statement from the Contractor setting forth in detail the nature and cause of the Claim and an itemized statement of the increase requested. No such written notice shall form the basis of an increase to the Contract Sum unless and until such increase has been authorized by a written Change Order executed and issued according to the terms and conditions set forth herein. The Contractor hereby acknowledges that the Contractor shall not have any right to and the Owner will not consider any requests for an increase in the Contract Sum that is not submitted in compliance with the foregoing requirements. Prior notice is required for Claims relating to an emergency endangering life or property arising under Section 10.6.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make Claim for an increase in the Contract Time, written notice as provided herein shall be given. Said notice shall itemize all claims and shall contain sufficient detail and substantiating data to permit evaluation of same by Owner and Architect. No such claim shall be valid unless so made. The Contractor's Claim shall include an estimate of cost and probably effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary. Any change in the Contract Sum resulting from such Claim shall be authorized only by Change Order or Construction Change Directive, as the case may be. All required notices for additional costs shall be made by Certified Mail.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Owner may claim consequential damages arising out of or relating to this Contract. This includes

- 1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons;

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through litigation mediation, to binding dispute resolution.

§ 15.2.5.1 Any dispute arising under the Contract shall be resolved in accordance with and subject to the limitations contained in N.J.S.A. 40A:11-41.1 as follows:

§ 15.2.5.1.1 All remedies provided elsewhere in the Contract Documents to resolve disputes, claims and protests shall be exhausted. Where the Engineer or Architect is required to issue a decision, such decision shall be a condition precedent to proceeding to resolve the dispute in accordance with Paragraph 2.

§ 15.2.5.1.2 Prior to litigation, the Owner and Contractor shall endeavor to settle disputes by mediation in accordance with the current Construction Industry Mediation Rules of the American Arbitration Association. Demand for mediation shall be filed in writing by the party requesting mediation with the other party to this Agreement and with the American Arbitration Association. The Engineer or Architect shall be provided with an information copy of the demand unless the Engineer or Architect is joined. In no event shall such demand be made more than 30 days after completion, acceptance and final payment nor after the date when institution of legal or equitable proceeding regarding the matter in dispute would be barred as a matter of law.

§ 15.2.5.1.3 Nothing herein shall be construed to prevent the Owner and Contractor from agreeing to utilize any other alternative dispute resolution procedure in lieu of or in addition to mediation.

§ 15.2.5.1.4 Nothing herein shall be construed to prevent the Owner from notifying any performance guarantor (Surety) of, and requesting the Surety's assistance in resolving any disputes which involve the Contractor's performance.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the

demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to non-binding dispute resolution.

§ 15.3.2 The mediation shall be pursuant to industry standards prior to being submitted to a court for adjudication.

(Paragraph deleted)

§ 15.4 NON-BINDING ARBITRATION

§ 15.4.1 If agreed to by Owner, non-binding arbitration shall be pursuant to industry standards prior to being submitted to a court for adjudication.

(Paragraphs deleted)

STATE AND COUNTY PREVAILING WAGE RATES

PREVAILING WAGE RATES

1. To obtain current New Jersey Statewide and Camden County prevailing wage rates, visit the following website:
http://lwd.dol.state.nj.us/labor/wagehour/wagerate/prevailing_wage_determinations.html

END OF SECTION

FEDERAL WAGE RATES

"General Decision Number: NJ20210028 01/01/2021

Superseded General Decision Number: NJ20200028

State: New Jersey

Construction Type: Building

County: Camden County in New Jersey.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021

ASBE0014-004 05/01/2020

Rates	Fringes
-------	---------

ASBESTOS WORKER/HEAT & FROST INSULATOR (Includes the application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems; also, the application of firestopping material to openings and penetrations in walls, floors, ceilings and curtain walls; also, all lead abatement).....	\$ 54.20	36.70
--	----------	-------

BRNJ0002-013 11/01/2019

Rates Fringes

Bricklayer.....\$ 43.56 32.50

Work on high stacks: 22% per hour additional.

BRNJ0007-012 07/16/2018

Rates Fringes

Marble setter.....\$ 58.91 36.47

BRNJ0007-014 07/01/2018

Rates Fringes

TERRAZZO WORKER/SETTER.....\$ 55.38 35.55

BRNJ0007-017 06/04/2018

Rates Fringes

Tile finisher.....\$ 40.22 27.07
Tile setter.....\$ 46.56 32.69

Tile finisher:

Work grouting all epoxy: \$10.00 additional per day.

CARP0006-009 11/01/2018

Rates Fringes

CARPENTER (Scaffold Builder).....\$ 49.51 57%

The first sixty feet at the regular rate, 10% per hour additional for each additional fifty feet thereafter.

CARP0006-010 11/01/2018

Rates Fringes

CARPENTER

Including Acoustical Ceiling Installation, Drywall Hanging, Formwork, Batt and Blown Insulation...\$ 49.51 57%

CARP0029-006 11/01/2018

Rates Fringes

Soft floor layer.....\$ 49.51 57%

CARP0454-009 05/01/2016

Rates Fringes

PILEDRIVERMAN.....\$ 43.95 31.32

PAID HOLIDAYS:

New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day; provided that the worker works any of the three days

in the five-day work week preceding the holiday and the first work day after the holiday.

CARP0715-007 05/01/2020

	Rates	Fringes
Millwright.....	\$ 51.58	58%+0.25

Work of erection and dismantling of elevators and towers, such as concrete conveyors and temporary material elevators, scaffolding or other structures to be used as scaffolding inside or outside of buildings: the first sixty feet at the regular rate, 10% per hour additional for each additional fifty feet thereafter.

ELEC0351-007 09/30/2019

	Rates	Fringes
Electricians: (Including Low Voltage Wiring)		
Cable splicer on lead cable.	\$ 46.51	72.54% + .65
Electrician and cable splicer.....	\$ 47.52	79.72%+.65

ELEC0351-009 01/01/2020

	Rates	Fringes
ELECTRICIAN (Teledata Technicians)		
15 Voice Data Lines or Less.	\$ 37.36	30.95%+15.08
16 Voice or Data Lines or more and Fiber Optics.....	\$ 47.52	79.72%+.65

ELEV0005-004 01/01/2018

	Rates	Fringes
Elevator mechanic.....	\$ 55.76	32.65

PAID HOLIDAYS:

New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day.

PAID VACATION:

Employer contributes 2% of basic hourly rate as vacation pay credit for 6 months to 5 years of service, and 4% for 5 years or more of service.

ENGI0825-020 07/01/2018

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 51.77	30.45
GROUP 2.....	\$ 50.18	30.45
GROUP 3.....	\$ 48.27	30.45
GROUP 4.....	\$ 46.64	30.45

GROUP 5.....\$ 44.93 30.45

Hazardous waste removal work:

Work on a state or federally designated hazardous waste site, where the worker is in direct contact with hazardous material, and when personal protective equipment is required for respiratory, skin and eye protection: 20% per hour additional.

PAID HOLIDAYS:

New Year's Day, Washington's Birthday observed, Memorial Day, Independence Day, Labor Day, Presidential Election Day, Veteran's Day, Thanksgiving Day and Christmas Day; provided 1) that the worker works three of the preceding five work days before the holiday; or, the work day before the holiday and the work day after the holiday; and, 2) that the worker works the work day before and the work day after the holiday.

DEFINITION OF GROUPS:

GROUP 1:

Backhoe, Including Backhoe Track; Boom; Concrete Paving Machine; Crane (all types, including overhead and straddle traveling type); Drill (down-the-hole drill, rotary drill, self-propelled hydraulic drill, self-powered drill); Elevating Grader; Excavator; Front End Loader (5 cu. yd. and over); Piledriver (length of boom, including length of leads, shall determine premium rate applicable); Trencher

GROUP 2:

Backhoe Loader Combo; Concrete Pumper; Grader/Blade (Finish); Hoist; Hydraulic Crane, 10 Tons and under; Front End Loader (2 cu. yd. but less than 5 cu. yd.); Scraper; Side Boom

GROUP 3:

Asphalt Spreader; Bulldozer; Compressor(2 or 3) (in Battery) (within 100 ft.); Forklift; Front End Loader (1 cu. yd. and over but less than 2 cu. yd.); Lull; Mechanic; Paver, Asphalt; Roller, Blacktop; Tractor;

GROUP 4:

Bobcat/Skid Loader; Compressor (Single); Farm Tractor; Front End Loader (under 1 cu. yd.); Hydroseeder; Roller, Grade; Pump, Hydraulic

GROUP 5:

Oiler

IRON0399-007 07/01/2018

	Rates	Fringes
IRONWORKER (Structural, Reinforcing and Ornamental).....\$	49.43	29.70

LAB00008-001 05/01/2011

	Rates	Fringes
Asbestos Removal Laborer.....\$	28.37	21.62

The removal, abatement, enclosure and decontamination of personal protective equipment, chemical protective clothing and machinery relating to asbestos and/or toxic and hazardous waste or materials which shall include but not necessarily be limited to: the erection, moving, servicing and dismantling of all enclosures, scaffolding and barricades; the operation of all tools and equipment normally used in the removal or abatement of asbestos and toxic or hazardous waste or materials; the labeling, bagging, cartoning, crating, or other packaging of materials for disposal; the clean-up of the worksite; and all other work incidental to the removal, abatement, encapsulation, enclosure, and decontamination of asbestos and toxic or hazardous waste or materials; and, in addition, all work tasks involved in the maintenance and operation of energy resource recovery plants (co-generation plants)

 LAB00222-006 07/01/2012

	Rates	Fringes
LABORER		
MASON TENDER:		
Brick/Cement/Concrete.....	\$ 29.85	23.07

 LAB00222-009 07/01/2012

	Rates	Fringes
Laborers:		
Asphalt Shoveler, Asphalt		
Spreader, Common or		
General Laborer, Landscape		
Laborer, Pipelayer, Power		
Tool Operator and		
Screedman.....	\$ 29.35	23.07

 PAIN0711-018 05/01/2020

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 40.39	26.26

 PAIN0711-019 05/01/2017

	Rates	Fringes
PAINTER (Brush & Roller).....	\$ 39.25	22.66
PAINTER (Spray).....	\$ 40.28	19.98

 PLAS0592-035 05/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 40.30	37.56

 PLUM0322-009 05/01/2019

	Rates	Fringes
PIPEFITTER (Including HVAC		
Pipe Installation).....	\$ 44.77	42.49

PLUMBER (Excluding HVAC Pipe Installation).....\$ 46.17 40.34

 * ROOF0030-027 05/01/2020

	Rates	Fringes
Roofer		
SHINGLES.....	\$ 29.50	20.90
SLATE AND TILE.....	\$ 32.50	20.90
ALL OTHER WORK.....	\$ 39.50	31.80

Mopper, and operator of felt-laying machine: \$.50 per hour additional.

Work applying roofing material, on any new construction job, on those days on which a felt-laying machine or slag dispensing machine is used: \$.50 per hour additional.

PAID HOLIDAY:

The last working day before Christmas, to be paid at the rate of four hours pay.

 SFNJ0692-003 01/01/2018

	Rates	Fringes
Sprinkler fitter (Fire Sprinklers).....	\$ 53.60	26.27

 SHEE0019-018 07/01/2010

	Rates	Fringes
Sheet metal worker (Including HVAC Duct Installation).....	\$ 38.36	31.82
SHEET METAL WORKER (Sign Makers & Hangers).....	\$ 23.92	16.72

Paid Holiday:

Election Day.

 TEAM0676-003 05/01/2020

	Rates	Fringes
Truck drivers:		
Dump Truck Drivers.....	\$ 37.75	28.421
Off the Road Truck.....	\$ 38.10	28.421

Hazardous waste removal work:

Work on a state or federally designated hazardous waste site, where the worker is in direct contact with hazardous materials, and when personal protective equipment is required for respiratory, skin and eye protection: \$3.00 per hour additional.

Work on a state or federally designated hazardous waste site, where personal protection A, B, C or D is NOT required: \$1.00 per hour additional.

SHIFT WORK:

An owner mandated irregular shift starting any time other than

between 6:00 am and 8:00 am to receive \$1.00 per hour, for each hour worked, in addition to the regular rate of pay.

PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Presidential Election Day, Veteran's Day (or the day after Thanksgiving, at the option of the contractor), Thanksgiving Day, the afternoon of the day before Christmas (Dec. 24) provided that the worker works in the morning, and Christmas Day, provided that the worker works or is available for work on at least two days in the week in which the holiday occurs.

BEREAVEMENT PAY:

In case of a death in the worker's immediate family (mother, father, wife, husband, children, brother, sister, current mother-in-law, current father-in-law, grandparents), the worker shall be allowed leave not to exceed three (3) days straight-time pay, provided that he or she shall receive no pay unless the day of death and the burial day falls on a regular work day, and not on days off, holidays, vacation, Saturdays or Sundays.

SUNJ2004-004 01/02/2009

	Rates	Fringes
GLAZIER.....	\$ 30.82	15.60
PLASTERER.....	\$ 42.33	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION

..

COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
– MUNICIPAL CONSTRUCTION PROJECT GUIDELINES

Municipal Construction Project Guidelines

CAMDEN COUNTY
COMMUNITY DEVELOPMENT PROGRAM
Municipal Construction Project - Procedure Guidelines

All Community Development Block Grant Funded and Partially Funded Municipal Construction Projects shall follow these Procedures. **If not, vouchers will not be processed for payment and funding will be withdrawn.**

A. Project Clearance.

1. The Clearance Process for all Camden County Community Development Block Grant (CDBG) funded projects consists of several processes, including but not limited to; Project Eligibility, Citizen Participation, Environmental Reviews, and Removal of Grant Conditions.
2. No projects may begin before clearance is given (*this includes drawings and specifications*) by the Clearance Officer of the Community Development Program. Each local project manager, who may be the municipal engineer, architect, or local appointed official, shall contact the Community Development Office for approval of all required procedures outlined in these guidelines.
3. The clearance officer will work with each local project manager to assure that the following requirements are in order:
 - a) Citizen Participation Records (*Ordinance*);
 - b) Environmental Review Records (*ERR*);
 - c) Removal of Grant Conditions.

B. Pre-Bidding Procedures.

1. After authorization of project, the local project manager (*architect, engineer or local municipal official*) shall notify the CDBG Office, **in writing** (E-mails are acceptable) of their intent to bid or solicit quotations for a project, prior to advertisement.

Note. *A sample form to notify the CDBG Office is available*

2. The local project manager needs to insert the latest US Department of Labor Wage Decision into the bid package. Project managers may request wage rates from CDBG Office (Use Form SF-308) or obtain a copy themselves from the internet and insert it into bid package. The only know current site to check for the latest US DOL Wage Determination is listed below:

<http://www.wdol.gov/dba.aspx#0>

Note. *Please be aware that the wage determinations can change daily. You can find when determinations are due to change by visiting the following site:*

<http://www.wdol.gov/currentdba.aspx>

The CDBG program is NOT RESPONSIBLE for compliance with NJ State Regulations. The Municipality is responsible for compliance with all State Wage and Labor Requirements. The project manager shall obtain the state wage directly from the state office for their inclusion in the bid package if required.

3. The CDBG Office will submit a copy of their checklist to the project manager. This checklist list the items, documents, etc. that will be required to be in the project file.
4. Bid Documents, including drawings, proposals, and specifications no longer need to be reviewed by the Community Development Program prior to bidding, or solicitation of quotations. However all projects shall follow all CDBG requirements. If requested the CDO will review the bid documents for completeness. The Bid Documents shall include, but are not limited to:
 - a) Advertisement for Bids;
 - b) Instructions to Bidders;
 - c) Proposal for base bid and alternates, if any (Project Sign shall be listed in proposal as a separate item);
 - d) Sample Contract (optional);
 - e) General Conditions of Contract (*AIA-201 is acceptable*) and Special Instructions including provision for Equal Employment Opportunity, and Affirmative Action Plan;
 - f) Applicable U.S. Department of Labor Wage Decision (It is up to the Municipality to insert the appropriate NJ State Wage Determination);
 - g) Non Collusion Affidavit;
 - h) Chapter 33 Disclosure;
 - i) Affirmative Action Plan Form and HUD-4010 Form;
 - j) Federal CDBG Provisions;
 - k) Sample Copies of All Bond Forms (*optional*);
 - l) Project Sign Specifications;

C. Project Bid and Award.

1. The project shall be bid in accordance with all relevant local, state, and federal regulations and requirements. All bid packages, proposals, requests for quotations, etc. shall be written, and shall be itemized. Lump sum bids will normally not be accepted. (Projects will be allowed to be broken out after award, *ie Schedule of values* with prior approval). The CDBG Office will not accept Telephone Quotes.
2. All proposals shall contain a line item for a project sign.
3. After bids are received, the project manager shall submit a copy of the bid tabulation sheet, and a recommendation of award by the project manager shall be included.
4. The CDBG Program will check the awarded contractor against the U.S. Department of Labor's Excluded Parties List System
5. All contracts shall be awarded, by local **Resolution** or **Ordinance**, according to all applicable local, state, and federal requirements. An **original certified copy** of such Resolution / Ordinance shall be in the project file (*Certified copies of municipal minutes awarding contracts will not be accepted in lieu of municipal resolution*).

D. Pre-construction Phase.

1. The Local Project Manager shall schedule a Pre-construction Conference Meeting. The Local Project Manager shall notify Community Development in writing at least seven (7) calendar days prior to a scheduled Pre-construction Conference. This meeting shall be held at either the

Local Project Manager's Office or it can be in the Municipal Building. **Pre-construction Meetings will no longer be held at the Site, unless a covered climate-controlled area is accessible.** A representative of the Project Manager, the Prime Contractor(s) and any available subcontractors shall attend this meeting. While it is not required, a representative of the Municipality should also attend. This conference shall be held between 10:00 AM and 2:00 PM to ensure attendance by a representative of the Community Development Office. **Any projects that begin without this conference shall forfeit funding.** The County CDBG Office must be represented to ensure that all Federal Requirements are clear to the contractor, and other parties. The CDBG Office will provide to all Prime Contractors, a Contractor's Compliance Packet containing information to aid in compliance, and the following forms;

- a) WH-347 Payroll Forms;
- b) WH-348 Statement of Compliance;
- c) WH-1321 Notice to Employees Poster;
- d) CC-257 Monthly Employment Utilization Form;
- e) CK-1 Checklist Certification Form;
- f) CQ-1 Contractor's Questionnaire;
- g) AP-1 Affirmative Action Plan Form;
- h) SQ-1 Subcontractor's Questionnaire;
- i) EEO Equal Opportunity Poster;
- j) JSH Job Safety and Health Protection Poster.

2. The Contractor, prior to the start of construction, *(to include any clearance or prep work of site)*, shall submit the following completed forms from the Compliance Packet:

- a) CK-1 Checklist Certification;
- b) CQ-1 Contractor's Questionnaire;
- c) SQ-1 Subcontractor's Questionnaire *(if applicable from each subcontractor)*;
- d) AP-1 Affirmative Action Plan Form *(1 each from Contractor and each Subcontractor)*.

3. The Contractor is responsible for the submission of all Sub-contractors' Forms. He is to ensure that all such forms are on file with CDBG office **prior to** beginning any work. **Failure to clear subcontractors could jeopardize funding of project, and will certainly delay any payment authorization.**

E. Construction Phase.

- 1. If a project sign is a requirement of the project, the project sign shall be erected **prior** to any other work on the project.
- 2. All necessary permits, licenses, and materials *(Wage Determinations, Posters, etc.)* required for construction shall be visible on the job site at all times.
- 3. The CDBG Office will conduct inspections of the job site at random, as well as upon request. Contractors and their subcontractors are required to cooperate with the CDBG Office Inspector. If there are any questions whatsoever, please contact the CDBG Office.

4. The Project Manager (Architect, Engineer, or other) will conduct interviews (HUD-11 form) with employees to verify payment of prevailing wages during the project, and submit completed forms to CDBG Office.
5. All appropriate forms, as described in the Compliance Packet distributed at the pre-construction meeting, shall be submitted to the CDBG Office according to the instructions in the packet. Authorization to pay will not be issued until such forms are reviewed and are on file at the County CDBG Office. The Municipality should not make any payments to Contractors until all required documents have been reviewed by the CDBG Office.
6. Upon partial completion of the project, the project manager (architect, engineer or other designated official), may inspect the portion of the work completed and certify in writing that it meets all applicable building codes and/or contract specifications. Once certified, the municipality shall submit **Invoices from the Contractor**, itemizing cost breakdowns to the CDBG Office. Certification from Project Manager shall accompany the Invoice. (*Architect's and Engineer's Certification Forms are acceptable.*) The CDBG Office will schedule a meeting with the appropriate official to review the project folder and if all is in order will prepare a proper voucher and return voucher to Municipality for signature. In order not to delay payments to contractors, municipalities should not hold invoices until payment has been approved by local level. All payments by county will be payable to local municipality. (The CDBG Office does not issue checks to Contractors). Municipalities should begin steps to authorize payment to contractor concurrently with submission of voucher to County CDBG Office. The CDBG Office will supply a checklist for reviewing projects.
7. Should Change Orders become necessary during Construction, the local project manager shall inform the CDBG Office of the intended change order for review and approval. **All change orders shall be within the original scope of the contract. Changes that deviate from the original scope of the project will no longer be accepted.**

Change orders must be in writing and must include a cost reasonableness determination. All Change Orders shall be approved (in writing) by the County. Change orders are required for any "substitution" of products, materials or methods. Change Orders shall state the additions, deletions, from original contract, and state the new contract amount. A sample Change Order Form is available from the CDBG Office.

The municipality shall award all change orders by **Resolution or Ordinance**. (If project was originally awarded by Resolution, or Ordinance likewise shall the Change Order be awarded)

Please be aware that state contract guidelines limit the amount of change orders to an increase of 20% of original contract amount. Change orders that exceed 20% will need to be documented by the Municipality as to the reason why and the Municipal Solicitor shall sign off on all such change orders. Fully Executed Copies of Change Orders should be in the project folder, along with a certified copy of the Local Resolution authorizing it.

Project Completion.

In addition to the payment procedures outlined in Section E-6 above, the project manager shall conduct a final inspection and shall report in writing to the CDBG office his or her findings. Should it be necessary the county shall be present at such final inspection. A Final Invoice (clearly indicated) may be used as substitution for a final inspection

The Municipality shall maintain a copy of the project file for 5 years after the final payment has been issued. The CDBG Program may store the completed folders if requested by the municipality.

Should any problems, questions, or difficulties arise with these Community Development Guidelines, Please contact Tracy Wilson at 856-374-6200 or tracy.wilson@camdencounty.com as soon as possible.

These Guidelines supersede all previous Municipal Project Guidelines, Public Works Guidelines, and Construction Project Guidelines, published by the Camden County Improvement Authority Community Development Program. All such editions are obsolete and should be discarded.

July 1, 2018

**U.S. Department of Housing and Urban Development
FEDERAL LABOR STANDARDS PROVISIONS HUD 4010 Form**

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in the Contract pursuant to the provisions applicable to such Federal assistance.

1 (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1949 in the construction or development of the project), 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 regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due of time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made apart of hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5 (a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1)** The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2)** The classification is utilized in the area by the construction industry; and
- (3)** The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that the additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the

Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under plan or program, provided the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act) daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii)(a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted should set out accurately and completely all of

the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington DC. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).

(b) Each payroll submitted shall be accompanied by "Statement of Compliance", signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information to be maintained under 29 CFR Part 5.5(a)(3)(i) and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice or trainee) employed on the contract during the payroll period has been paid full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance", required by paragraph A.3.(ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal persecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph A.3.(i) of this section available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

4. (i) Apprentices and Trainees. Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are an employed pursuant to 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 or her first 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 journeyman on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on the payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where contractor is performing construction on a project locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeymen's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency

recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidence by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event of the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

- 5. Complaints with Copeland Act Requirements.** The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.
- 6. Subcontract.** The contractor or subcontractor will insert in any subcontract the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee may be appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.
- 7. Contracte termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- 8. Compliance with Davis-Bacon and Related Acts Requirements.** All rulings and interpretations of the Davis-Bacon and related acts contained in 29 CFR Parts 1,3 and 5 are herein incorporated by reference in this contract.
- 9. Disputes concerning labor standards.** Disputes arising out of labor standard provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5,6,and 7. Disputes within the meaning of this clause include disputes between the contractor (or and any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.
- 10. (i) Certification of Eligibility.** By entering into this contract, the contractor certifies that neither it (he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of... influencing in any way the action of such administration... makes, utters or publishes any statement, knowing the same to be false..... Shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standard provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this contract to his employer.

B. Contract Work Hours and Safety Standard Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is greater.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such district or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph 1 of this paragraph, in the sum of \$10 for each calendar on which such individual was required or permitted to work in excess of eight hours or in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any Federal contract with the same prime contract, or any other Federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liability of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph 2 of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any other subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety.

- (1)** No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
- (2)** The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly Part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96).
- (3)** The Contractor shall include the provisions of this article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

FEDERAL COMMUNITY DEVELOPMENT BLOCK GRANT PROVISIONS

1. TERMINATION PROVISIONS.

A. Termination for Cause.

If for any reason, the Contractor fails to fulfill in timely and proper manner its obligations under this agreement, or if the Contractor violates any of conditions, covenants, agreements, or stipulations of this agreement, the municipality shall thereupon have the right to terminate this agreement by giving written notice to the Contractor of such termination and specifying the effective date of such termination. In such event, all of any part of finished or unfinished materials prepared by the Contractor shall by the option of the Municipality become its property and Contractor shall be entitled to just and equitable compensation for the materials accepted by the Municipality.

Notwithstanding the above, the Contractor shall not be relieved of liability to the Municipality for damages sustained by the Municipality by virtue of any breach of this agreement. The Municipality may withhold any payments due to Contractor for the purpose of setoff until the exact amount due the Municipality for damages is ascertained.

B. Termination for Convenience of Municipality.

The Municipality may terminate this Agreement at its convenience at any time by giving written notice to the Contractor of such termination and specifying the effective date thereof at least twenty (20) days before the effective date of such determination. In that event all finished or unfinished materials prepared under this agreement shall at the option of the Municipality become its property. If the Agreement is terminated by the Municipality as provided herein, the Contractor shall be paid an amount which bears the same ratio to the total compensation as the services actually performed bear to the total services of the Contractor covered by this Agreement, less payments of compensation previously made; Provided however, that if less than sixty percent of the services covered by this Agreement have been performed upon the effective date of such determination, the Contractor shall be reimbursed (in addition to the above payment) for that portion of the actual out-of-pocket expenses (not otherwise reimbursed under this Agreement) incurred by the Contractor during the Contract period which are directly attributable to the uncompleted portion of the services covered by the Agreement. If this Agreement is terminated due to the fault of the Contractor Paragraph A hereof relative to termination shall apply.

2. EQUAL OPPORTUNITY.

During the Performance of this Agreement the contractor agrees as follows:

- A. The contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor shall take affirmative action to ensure that applicants are employed without regard to their 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 by the contracting officer setting forth provisions of this non-discrimination clause.
- B. The contractor shall, in all solicitations or advertisements placed by or on behalf of the contractor, state that all qualified applicants shall receive consideration for employment without regard to race, color, religion, sex, or national origin.
- C. The contractor shall 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 by the Contract Compliance Officer advising the said labor union or workers' representative of the contractors' commitment under this section and shall post copies of the notice in conspicuous places available to the employees and applicants for employment.

- D. The contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965 and all of the rules, regulations, and relevant orders of the Secretary of Labor.
- E. The contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and shall permit access to his books, records, and accounts by the Department and the Secretary of Labor for such purposes of investigation to ascertain compliance with such rules, regulations and orders.
- F. In the event of the contractor's non-compliance with the non-discrimination clauses of this contract or with any such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further government contracts or federally assisted construction contract procedures authorized by law.
- G. The contractor shall include the portion of the sentence immediately preceding paragraph (A) and the provisions of paragraphs (A) through (G) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of the Executive Order 11246 of September 24, 1965, so that such provisions shall be binding upon each contractor or vendor. The contractor shall take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including such sanctions for non-compliance; 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 Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.
- H. The Contractor further agrees that it shall be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the Contractor 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 contract.
- I. The Contractor agrees that it shall assist and cooperate actively with the Department and the Secretary of Labor in obtaining the compliance of the contractors and subcontractors with equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor for such compliance; and that it shall otherwise assist the Department in the discharge of its primary responsibility for securing compliance.
- J. The Contractor further agrees that it shall refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965 with a contractor debarred from, or who has not demonstrated eligibility for government contracts and federally assisted construction contracts, pursuant to executive order and shall carry out such sanctions and penalties for violation to the equal opportunity clause as may be imposed upon contractor and subcontractors by the Department or Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the Contractor agrees that if it fails or refuses to comply with these undertakings the Department may take any or all of the following actions; cancel, terminate, or suspend in whole or in part the grant or loan guarantee; refrain from extending any further assistance to the sub-grantee under the Program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such Contractor; and refer the case to the Department of Justice for appropriate legal proceedings.

3. LOWER INCOME GROUP EMPLOYMENT OPPORTUNITY REQUIREMENTS.

- A. The Work performed under this contract is on a project assisted under a program providing federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1707u. Section 3 requires to the greatest extent feasible for opportunities, training and employment to lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.

- B. The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or disability which would prevent them from complying with these requirements.
- C. Contractor will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative or its commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment and training.
- D. Contractor will include this Section 3 clause in every Sub-Contract for work in connection with the project and will, at the discretion of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the sub-contract upon a finding that the sub-contract is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR 135. Contractor will not sub-contract with any sub-contractor where it has knowledge that the latter has been found in violation of regulations under 24 CFR 135 and will not let any sub-contract unless the sub-contract has first provided him with a preliminary statement of ability to comply with the requirements of these regulations.
- E. Compliance with the provisions of Section 3, the Regulations set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract is a condition of the Federal financial assistance provided to the project, binding upon the Contractor for or recipient of such assistance, its success and assigns to those sanctions through which Federal assistance is provided, and to such sanctions as are specified by 24 CFR 135.

4. FLOOD DISASTER PROGRAM.

This Agreement is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93-234). No portion of the assistance provided under this Agreement is approved for acquisition or construction purposes as defined under Section 3 (a) of said Act, for use in an area identified by the Secretary as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the national flood insurance program pursuant to Section 201 (a) of said act; and the use of any assistance provided under this Agreement for such acquisition or construction in such identified areas in communities then participating in the national flood insurance program shall be subject to the mandatory purchase of flood insurance requirements of Section 102 (a) of said act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared, or improved with assistance provided under this Agreement shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended 42 USC 4001 et seq. provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with the respect to financial assistance for acquisition or construction purposes under Section 102 (a) of the Flood Disaster Protection Act of 1973. Such provisions shall be required notwithstanding the fact that the construction on such land is not itself funded with assistance provided under this Agreement.

5. COMPLIANCE WITH AIR AND WATER ACTS.

This Agreement is subject to the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended from time to time.

- A. A stipulation by the contractor or subcontractor that any facility to be utilized in the performance of any non-exempt contract or subcontract is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.
- B. Agreement by the contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended 42 USC 1857, and Section 308 of the Federal Water Pollution Control Act, as amended, 33 USC 1318, relating to inspection, monitoring, entry, reports, and information as well as all other

requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

- C. A stipulation that as a condition for the award of the contract prompt notice shall be given of any notification received by the Director, Office of Federal Activities, EPA indicating that a facility utilized or to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
- D. Agreement by the contractor that he shall include or cause to be included the criteria and requirements in paragraph (A) through (D) of this section in every non-exempt subcontract and requiring that the contractor shall take such action as the Government may direct as a means of enforcing such provisions.

In no event shall any amount of the assistance provided under this Agreement be utilized with respect to a facility which has given rise to a conviction under Section 113 (c) (1) of the Clean Air Act or Section 309 (c) of the Federal Water Pollution Act.

6. LEAD-BASED PAINT HAZARDS.

The construction or rehabilitation of residential structures with assistance provided under this Agreement is subject to the HUD Lead-Based Paint Regulations, 24 CFR Part 35. Any grants or loans made by the sub-grantee for the rehabilitation of residential structures with assistance provided under this Agreement shall be made subject to the provisions for the elimination of lead-based paint hazards under Subpart B of said regulations, and the grantee shall be responsible for the inspections and certifications responsible under section 35.14 (f) thereof.

7. FEDERAL LABOR STANDARDS PROVISIONS.

Except with respect to the rehabilitation of residential property designed for residential use for less than eight families, the Municipality and all contractors engaged under contracts in excess of \$2,000 for the construction, protection, completion, or repair of any building or work financed in whole or in part with assistance under this Agreement shall comply with HUD requirements pertaining to such contracts and the applicable requirements of the regulations of the Department of Labor under 29 CFR Parts 3, 5, and 5a, governing the payment of wages and the ratio of apprentices and trainees to journeymen; Provided, that if wage rates higher than those required under such regulations are imposed by state or local law, nothing hereunder is intended to relieve the sub-grantee of its obligation, if any, to require to be inserted in full, in all such contracts subject to such regulations, provisions, meeting the requirements of 29 CFR 5.5 and, for such contracts in excess of \$10,000 , 29 CFR 5a. 3.

No award of the contracts covered under this section of the Agreement shall be made to any contractor who is at the time ineligible under the provisions of applicable regulations of the Department of Labor to receive an award of such contract.

8. NONDISCRIMINATION UNDER TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 AND TITLE VIII OF THE CIVIL RIGHTS ACT OF 1968.

This Agreement is subject to the requirements of Titles VI of the Civil Rights Act of 1964, and Title VIII of the Civil Rights Act of 1968 (P.L. 88-352) and HUD regulations with respect thereto including the regulations under 24 CFR Part 1. in the sale, or lease, or other transfer of land acquired, cleared, or improved, with the assistance provided under this Agreement, the Municipality shall cause or require a covenant running with the land to be inserted in the deed or lease for such transfer, prohibiting discrimination upon the basis of race, color, religion, sex, or national origin in the sale, lease or rental, or in the use or occupancy of such land or any improvements erected thereon, and providing that the sub-grantee and the United States are beneficiaries of and entitled to enforce such covenant. The Municipality in undertaking its obligation in carrying out the Program assisted hereunder agrees to take such measures as are necessary to enforce such covenant and shall not itself so discriminate.

9. COMPLIANCE WITH COPELAND REGULATIONS.

The Contractor and Sub-Contractors shall comply with the Copeland Regulations of the Secretary of Labor 29 CFR Part 3, which are incorporated herein by reference. In addition, the Weekly Statement of Compliance required by these regulations shall also contain a statement that the fringe benefits paid are

equal to or greater than those set forth in the minimum wage decision. This payroll statement does not apply to any contract of \$2,000 or less.

10. HISTORIC PRESERVATION.

The Contractor shall make every effort to eliminate or minimize any adverse effect on a historic property listed on, or nominated for listing on the National Register of Historic Places, maintained by the National Park Service of the U. S. Department of the Interior. All activities affecting such properties are subject to the provisions of 24 CFR 507.604.

11. ARCHITECTURAL BARRIERS ACT OF 1968.

This Contract is subject to the requirements of the Architectural Barriers Act of 1968 (42 U.S.C. 4151). The design of any facility constructed in this project shall comply with the "American Standard Specification for Making Building and Facilities Accessible, and Usable by the Physically Handicapped", (41 CFR 101-19.603).

12. INTEREST OF CERTAIN FEDERAL OFFICIALS.

No member of or resident to the Congress of the United States and no resident Commissioner shall be admitted to any share or part of this contract or to benefit to arise from the same.

13. INTEREST OF MEMBERS, OFFICERS, OR EMPLOYEES OF GRANTEE, MEMBERS OF LOCAL GOVERNING BODY, OR OTHER PUBLIC OFFICIALS.

No member, officer, or employee of the Municipality or its designees or agent, no member of the governing body of the locality in which the Program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Program during his tenure or for one year thereafter shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the work assisted under this Agreement. The Municipality shall incorporate, or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purposes of this section.

14. PRE-CONSTRUCTION CONFERENCE.

The principal contractor(s) and all available sub-contractors shall attend a pre-construction conference at which time all parties shall be informed of their responsibilities and obligations regarding labor standards provisions and the federal wage decision contained in the construction documents. This meeting is required by Federal Regulations and must be held prior to construction start. Any projects that begin without this meeting will forfeit funding.

15. AUDIT AND MONITORING.

The County Improvement Authority, HUD, the Comptroller General of the United States, or any of their duly authorized representatives shall have access to any and all contracts, books, documents, papers, and records of the Municipality which are directly pertinent to the specific grant program for the purpose of making audit, examination, excerpts, and transcriptions. The Municipality agrees to permit the County the right to make on-site visits to any project.

Notwithstanding Paragraph 1 herein, the County shall have the right to require the Municipality to modify or amend any contract said Municipality enters in at full expense or cost to the Municipality, in the event the County determines that said Municipality has violated or caused to violate any covenant agreement or stipulation of this Agreement.

16. "SECTION 3" COMPLIANCE WITH PROVISIONS OF TRAINING, EMPLOYMENT, AND BUSINESS OPPORTUNITIES.

This Agreement is subject to the regulations of Section 3 of the Housing and Development Act of 1968 (12 USC 1701 U), as amended, the HUD regulations issued pursuant thereto at 24 CFR Part 135, and any applicable rules and orders of HUD issued thereunder prior to the HUD authorization of the funding approval.

The Municipality shall cause or require to be inserted in full in all contracts and subcontracts for work financed in whole or in part with assistance provided under this Agreement, the Section 3 clause set forth in 24 CFR 135.201.

The Municipality shall provide such copies of 24 CFR Part 135 as may be necessary for the information of parties to contracts required to contain the Section 3 clause.

Request for Wage Determination and Response to Request

(Davis Bacon Act as Amended and Related Statutes)

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

For Department of Labor Use

Response to Request

Use area determination issued for this area

The attached decision noted below is applicable to this project

Decision Number _____

Date of Decision _____

Expires _____

Supersedes Decision Number _____

Approved _____

Mail Or Fax Your Request To:

Tracy Wilson

Requesting Officer (Typed or printed name and signature)

Department, Agency, or Bureau

Phone Number

Estimated Advertising Date

Estimated Bid Opening Date

Prior Decision Number (if any)

Estimated \$ Value of Contract

Type of Work

Under 1/2 Mil 1 to 5 Mil Highway
 1/2 to 1 Mil Over 5 Mil Residential Heavy

Address to which wage determination should be mailed: (Print or type)

**Camden County Improvement Authority
Community Development Program
2220 Voorhees Town Center
Voorhees, NJ 08043**

Location of Project (City, County, State, Zip Code)

Description of Work (Be specific. Print or type)

Check or List Crafts Needed

(Attach continuation sheet if needed)

- Asbestos workers
- Boilermakers
- Bricklayers
- Carpenters
- Cement masons
- Electricians
- Glaziers
- Ironworkers
- Laborers (specify classes)

- Lathers
- Marble & tile setters, terrazzo workers
- Painters
- Piledrivers
- Plasterers
- Plumbers
- Roofers
- Sheet metal workers
- Soft floor layers
- Steamfitters
- Welders - rate for craft
- Truck drivers
- Power equipment operators (specify types)

Other Crafts _____

NON COLLUSION AFFIDAVIT

STATE OF _____

ss

COUNTY OF _____

Project: _____

I, _____ of the Municipality of _____, in the County of _____, and the State of _____, of full age, being duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____ (sole proprietor, partner, or officer)

_____, 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 contained in this affidavit and the contract for the said project.

I further warrant that no persons or selling agency has been employed or retained to solicit, or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee except bona fide employees or bona fide established commercial or selling agencies maintained by _____.

(Name of Business Firm)

(N.J.S.A. 52:34-15)

SIGNATURE _____ DATE: ___ / ___ /20___

TYPED OR PRINTED NAME _____

Subscribed and sworn to me

this _____ day of _____ 20__.

Notary Public of _____

My commission expires _____ 20__

STOCKHOLDERS STATEMENT

CORPORATION AND/OR PARTNERSHIP HOLDERS

Chapter 33 of the Public Laws of 1977 provides that no corporation or partnership shall be awarded any State, County, Municipal, or School District contracts for the performance of any work or the furnishing of any materials or supplies, unless prior work or the furnishing of any materials or supplies, unless prior to the receipt of the bid or accompanying the bid of said corporation or partnership, there is submitted a statement. The statement shall set forth the name and addresses of **all** stockholders in the corporation or partnership who own ten percent or more of its stock of any class, or of **all** individual partners in the partnership who own a ten percent or greater interest therein.

If additional space is necessary, list on an attached sheet. If there are no owners with 10% or more interest in your company enter "None" below.

Company: _____

1. Name _____ Percentage _____ %

Address _____

Town _____ State _____ Zip Code _____

2. Name _____ Percentage _____ %

Address _____

Town _____ State _____ Zip Code _____

3. Name _____ Percentage _____ %

Address _____

Town _____ State _____ Zip Code _____

4. Name _____ Percentage _____ %

Address _____

Town _____ State _____ Zip Code _____

5. Name _____ Percentage _____ %

Address _____

Town _____ State _____ Zip Code _____

**Signature of
Authorized
Representative:** _____

Title _____

Date: _____

AFFIRMATIVE ACTION PLAN

To ensure equal opportunity in hiring and employment for all work funded or partially funded through the Camden County, Community Development Program.

All contractors and subcontractors agree to take the following actions:

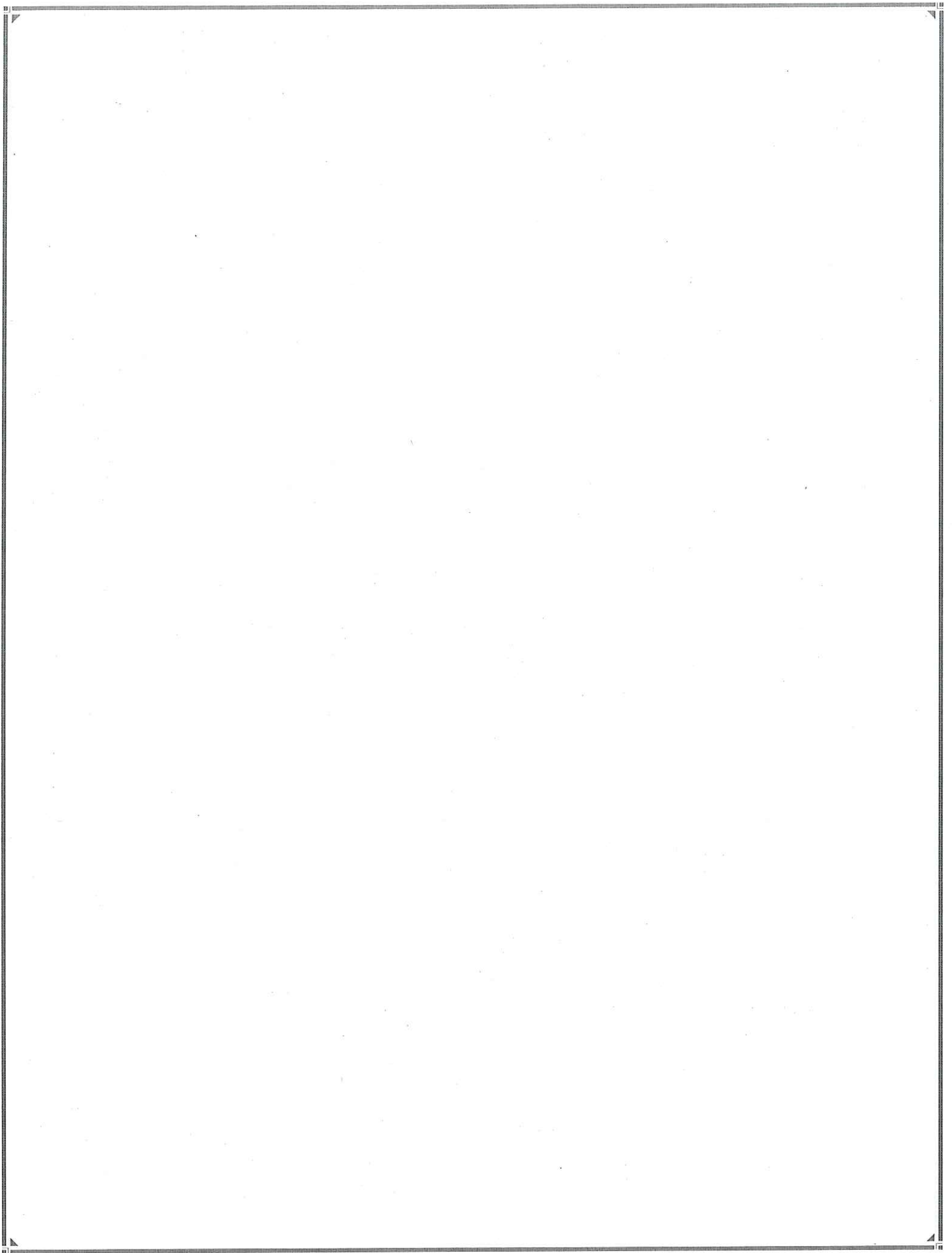
1. Endorse the following statement:
 - A. The undersigned contractor/subcontractor has agreed that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin and will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, national origin, handicap or familiar status;
 - B. Furthermore, this contractor/subcontractor has agreed, to the greatest extent feasible, opportunities for training and employment will be given to lower income residents of the project area and contracts for work in connection with the project will be awarded to business concerns which are located in, or owned in substantial part by persons residing in, the area of the project;
2. When hiring any subcontractors, to provide an opportunity for any minority owned firms located within Camden County to bid for the job.
3. Report to the County Community Development Program the firm's total employees, by race and sex.
4. Send a copy of this Affirmative Action Plan to any collective bargaining organization with which the contractor has an agreement.
5. Post the Equal Opportunity Poster and this Affirmative Action Plan in a conspicuous location available to employees.

_____ (Name of Firm) hereby agrees to abide by the provisions of this Affirmative Action Plan.

Signature

Title

Date



Project Name
Borough of _____

This Improvement Funded By The:



Camden County Improvement Authority
Community Development Block Grant Program

Louis Cappelli, Jr.
Freeholder Director
Program Liaison

Christopher Orlando
Improvement Authority
Exec. Director

Mayor _____
Borough of _____



*Funds for this project were provided by the
U.S. Department of Housing and Urban Development*

Project Sign Specification Page

All Projects Funded or Partially Funded with Community Development Block Grant (CDBG) Funds shall have a Project Sign.

This sign is to be 4' High X 8' Wide.

Any color scheme acceptable to the Owner may be used. The sign shall be legible and installed in a conspicuous location during the life of the project.

The above sign contains the minimum acceptable requirements. Additions such as the names of the Project Manager, Contractor, and Subcontractor(s), Municipal Officials, etc. may be included below the above text.

Please clear all additions through the Improvement Authority CDBG Program.

Contractors are advised to take careful consideration regarding spelling of County and Municipal Official's Names.

camden  county
NEW JERSEY

Making It Better, Together.



CONTRACTOR'S COMPLIANCE PACKET FOR COMMUNITY
DEVELOPMENT PROGRAM FUNDED PROJECTS FUNDED BY
THE CAMDEN COUNTY CDBG PROGRAM

Contractor Compliance Packet
Camden County Improvement Authority
For Community Development Program
Funded Projects

Tracy Wilson

856-374-6200 Phone

tracy.wilson@camdencounty.com

July 01, 2018



CAMDEN COUNTY
Community Development
Block Grant Program
Camden County Improvement Authority
2220 Voorhees Town Center

Camden County

Community Development

Contractor Compliance Packet

This packet is supplied as an aid in complying with special federal and state provisions contained in all Community Development Block Grant (CDBG) assisted contracts. **Failure to comply with these directives shall cause the forfeiture of all CDBG funding on the project.** The contents in this packet are as follows:

1. **Pre-Construction Checklist for Contractors:
Meeting Federal Labor Standards Contract Requirements.**
These procedures are to be followed for all federally assisted contracts in excess of \$2,000. The checklist is provided for the convenience of the contractor, it is not necessary to submit a completed checklist to the Division of Community Development (DCD).
Note: However, you are required to submit a copy of the Checklist Certification Form stating that you have read and understand the checklist.
2. **Contractor's and Subcontractor's Questionnaire.**
All prime contractors must complete this questionnaire and submit it to the DCD **prior** to commencement of work. The contractor is also responsible to assure that all Subcontractors Questionnaires are on file at DCD before they commence work.
3. **Affirmative Action Plan.**
The Affirmative Action Plan must be endorsed by the contractor and all subcontractors. It shall also be displayed on the job site, unless the contractor and/or all subcontractors have an established plan. If another plan is to be utilized it must first be approved by the DCD.
4. **Department of Labor Form WH-347 (Payroll) and Instructions.**
This form is to be completed weekly and submitted to the DCD. **Contractors are responsible for collecting and submitting their subcontractors' forms.**
5. **Statement of Compliance.**
To be utilized for all computerized payrolls. Please submit one completed statement of compliance with each payroll.
6. **Posters.**
The following will be posted on the job site:
 - A. Federal and State Wage Determinations;
 - B. OSHA Poster.
 - C. EEO Poster
 - D. Davis-Bacon Poster

**This packet is also available in Microsoft Word Format (doc)
or Portable Document Format (pdf) if needed.**

PRECONSTRUCTION CHECKLIST FOR CONTRACTORS MEETING LABOR STANDARDS CONTRACT REQUIREMENTS

1. INTRODUCTION

The following checklist has been prepared to assist contractors and subcontractors in meeting contractual labor standards responsibilities. All major administrative and procedural activities have been covered in the sequence they will occur as the construction project proceeds. Careful attention to and use of the checklist should result in a minimum number of problems with respect to labor standards.

2. EXPLANATORY NOTES

The word "employer" as used below refers to the project contractor, each subcontractor, or each lower-tier subcontractor. Payrolls and other documentary evidence of compliance [marked with (asterisk *) are required to be sent to the recipient for review (all to be submitted through the project contractor)]. The delivery procedure is as follows:

- A. Each lower tier subcontractor, after careful review, submits required documents to the respective subcontractor.
- B. Each subcontractor, after checking his own and those of each lower-tier subcontractor he may have, submits required documents to the contractor.
- C. The contractor after reviewing all payrolls and other documentation, including his own, and correcting violations where necessary, submits all to the recipient.

All employers should check each of the following statements as being true. If any statement is not true, the contractor or his representative should contact the recipient for special guidance.

3. BEFORE CONSTRUCTION BEGINS EACH EMPLOYER HAS:

- A. Not been debarred or otherwise made ineligible to participate in any Federal, New Jersey State, or any Federal, or New Jersey State assisted project.
- B. Received appropriate contract provisions covering labor standards requirements.
- C. Reviewed and understands all labor standards contract provisions.
- D. Received both the Federal and New Jersey State wage decision as part of the Bid Specifications.
- E. Requested through the recipient and received the minimum wage for each classification to be worked on the project which was not included on the wage decision by the additional classification process and before allowing any such trade(s) to work on the project.

- F. Requested and received certification of his apprentice program from the State's Bureau of Apprenticeship and Training (recognized by the United States Bureau of Apprenticeship and Training U.S.B.A.T.) and submitted copy thereof to the recipient prior to employment on the project. Likewise, "trainee program certification" from U.S.B.A.T. as applicable, must be submitted.

4. AT CONSTRUCTION START THE CONTRACTOR HAS:

- A. * Has submitted the following to the recipient:
- 1) Contractor's Questionnaire
 - 2) Subcontractor's Questionnaire (If applicable)
 - 3) Affirmative Action Plan Form (From Contractor and 1 each from any subcontractors)
 - 4) Preconstruction Checklist Certification
- B. Has placed each of the following on a bulletin board prominently located on the project which can be seen easily by the workers (and replaced if lost or unreadable any time during construction):
- 1) Federal Wage Decision
 - 2) OSHA Poster
 - 3) Employee Rights Poster
 - 4) Equal Opportunity Poster
- C. Before assigning each project worker to work, has obtained workers name, best mailing address, and Social Security Number (for payroll purposes)
- E. *Has obtained a copy of each apprentice's certification with the apprentice's registration number and his year of apprenticeship from an approved BAT
- F. Has informed each worker of:
- 1) His Work Classification as it will appear on the payroll
 - 2) His duties of work.
 - 3) The US Department of Labor's requirement on this project that he is either a journeyman, apprentice, or laborer:
 - a. If journeyman he is to be paid journeyman's minimum wage rate or more;
 - b. If apprentice, he is to be paid not less than the apprentice's rate for the trade based on his year of apprenticeship; or

- c. If laborer, he is to do laborer's work only - not use any tool or tools of the trade - and not perform any part of a journeyman's work and is to be paid the laborers minimum wage rate or more.
- F. Understands the requirements that each laborer or mechanic who performs work on the project in more than one classification within the same work week shall be classified and paid at the highest wage rate applicable to any of the work which he performs unless the following requirements are met:
 - 1) Accurate daily time records shall be maintained. These records must show the time worked in each classification and the rate of pay for each classification, and must be signed by the workman.
 - 2) The payroll shall show the hours worked in each classification and the wage rate paid for each classification.
 - 3) The payroll shall be signed by a workmen or a signed copy of the daily time record shall be attached thereto.
- G. Has informed each worker of his hourly wages (not less than the minimum wage rate for his work which is stated in the applicable Wage Decisions).
 - 1) Time and a half for all work over 8 hours any day or over 40 hours any work week (see Contract Work Hours Safety Standards Act).
 - 2) Fringe benefits, of any (see Wage Decision for any required).
 - 3) Deductions from his pay.
- H. Has informed each worker that he is subject to being interviewed on the job by the recipient or a HUD, Department of Labor, or other United States or New Jersey State Inspector, to confirm that his employer is complying with all labor requirements
- I. Has informed each journeyman and each apprentice that a journeyman must be on the job at all times when an apprentice is working.

5. DURING CONSTRUCTION

- A. Each Employer;
 - 1) Has not selected, assigned, paid different pay rates to, transferred, upgraded, demoted, laid off, nor dismissed any project worker because of race, color, religion, sex, or national origin.
 - 2) Has employed all registered apprentices referred to him through normal channels up to the applicable ratio of apprentices in each trade used by the employer
 - 3) Will maintain basic employment records accessible to inspection by the recipient NJ State, or US Government representatives.
 - 4) Is complying with all health and safety standards.

- 5) Has paid all workers weekly.
- 6) Has submitted weekly payrolls:
 - a. Prepared on recommended Form WH-347:

Available from this office in Microsoft Word Format.

You may also access this form on-line at

<http://www.dol.gov/whd/forms/wh347.pdf>

Some employers place all project workers on Payroll Form WH-347. The recipient does not review those project workers listed on the payroll who perform work which is descriptive of any of the following job titles which are exempt from labor requirements:

- [1] Project Superintendent.
- [2] Project Engineer.
- [3] Supervisory Foreman. (Less than 20% of time as a working foreman)
- [4] Messenger.
- [5] Clerical workers.
- [6] Timekeepers.
- [7] Payroll Clerks.
- [8] Bookkeepers.

Any alternate payroll form should be cleared with CDBG OFFICE before employer starts work on project. A project printout by computer, for example, is acceptable provided all data shown and required on the front and back of Payroll Form WH-347 is on, or included with, payroll submitted to recipient.

b. Front Page of Payroll (Form Wh-347)

Heading (6 Blocks of Information)

- [1] Name of Employer. Name of employer is stated, showing whether contractor or subcontractor.
- [2] Address. Street address or P.O. Box, City, State, and Zip Code of Employer is stated.
- [3] Payroll Number. Each weekly payroll is numbered in sequential order (starting with Payroll No. 1-Initial)

If employer's workers perform no physical work on the project during work week, he has submitted a "No work" letter for that work week.

Payroll of employer's final work week on the project (completion of his work) is marked Final.

- [4] For Week Ending The last date of the work week is stated in this "block"
- [5] Project and Location. Name of project and city in which is stated.
- [6] Column 1 - Worker's Name as it appears on his pay check is stated.

Worker's best mailing address and social security number (**XXX-XX-9999 - last 4 numbers of social security number is sufficient**) is stated on Payroll No, 1 Initial or the payroll on which his name first appears.

If worker changes his residential address while working on the project, his new address is stated on next applicable payroll.

If any two or more workers have the same name, their social security numbers are included on each payroll to note separate identification.

- [7] Column 2 - No. of Withholding Exemptions is for employer's convenience - not required by HUD to be completed.
- [8] Column 3 - The Work Classification (job title) for the worker is included in the Wage Decision and denotes the work that worker actually performed.

Note: If the applicable classification is not included in the Wage Decision, contractor should call the CDBG Office immediately, and request classification by Additional Classification.

Apprentice. If worker is an apprentice, his approved BAT program registration number and year of apprenticeship is included in this column the first time the apprentice's name appears on the payroll. **A copy of his BAT certification form should also be submitted by contractor or subcontractor.** If not registered in an approved BAT program he should be paid journeyman's wages.

Split Classification. If worker has performed more than one class of work during the work week, such as carpenter and laborer, the division of work will be shown on separate lines of the payroll.

Accurate daily time records show the exact hours of work performed daily in each class of work, and are signed by the affected workman.

Each class of work he performed is stated in Column 3 in separate "blocks"

His name is repeated in corresponding "blocks" in Column 1.

The breakdown of hours worked daily under each work classification is stated in Column 4, and total for week in Column 5.

The applicable wage rate for each classification is stated in Column 6.

The payroll is signed by the workman in the related "blocks" or a signed copy of the daily time records are attached to the payroll.

If the above is not done, the worker is paid at least the highest minimum wage rate of all of the classes of work performed for all hours worked.

Note:

Average Pay of Two Classes of Work Not Accepted. The employer shall not pay a semi-journeyman or semiskilled laborer the average journeyman's and laborer's rates. The actual hours each worker uses tools of trade (journeyman) and each hour he does not use tools of the trade (laborer) must be recorded in separate "blocks" in Column 3 of the payroll

Helper: *The work classification of "helper" is not accepted by the US Department of HUD, unless included in the Wage Decision issued by the Secretary of Labor for the project. Any employee listed as "helper" in absence of such classification in Wage Decision must be paid the journeyman's rate for hours he uses tools of the trade.*

[9] Column 4 - Hours Worked. Each Day and Date, for work week are stated

Overtime Hours ("O"), if any, are stated separately from straight hours ("S") over 8 hours any day or over 40 hours any work week.

[10] Column 5 - Total Hours worked during the work week are stated (the sum of Sub- columns in Column 4) - straight and overtime hours recorded separately.

[11] Column 6 - Rate of Pay not less than the minimum wage rate for the work classification (see Wage Decision) is stated.

The Overtime Rate of Pay is not less than 1-1/2 times the worker's basic (straight) hourly rate of pay (Contract Work Hours Safety Standards Act)

Apprentices: If a copy of the apprentice's registration certificate from and approved BAT has not been submitted to recipient by employer (through contractor), apprentice must be paid journeyman's rate.

Piece Worker: Piece Work must be stated in Column 6 at an hourly rate, the gross pay for the work week (work on the project) divided by the total number of hours worked on the project during the work week

[12] Column 7 - Gross Amount Earned equals straight hours shown in Column 5 times straight rate of pay shown in Column 6, plus overtime hours (if any) shown in Column 5 times overtime rate of pay shown in Column 6.

[13] Column 8 - Deductions. Each deduction made is required by law, voluntarily authorized by the worker in writing before the work week began, or provided in a bargaining agreement to be deducted from the respective worker's pay.

[14] Column 9 - Net Wages stated are Column 7 minus total deductions shown in Column 8.

c. Back of Payroll (WH-348)

Each employer has;

Completed all blank spaces and understands the penalties for falsification.

Checked Item 4 if fringe benefits are included in the Wage Decision for any of his workers.

4(a) - if fringe benefits are paid to approved funds (s), or

4(b) - paid directly to each affected worker -included in pay check for the work week - his paycheck representing at least the pay of the applicable minimum wage rate plus the amount of required fringe benefits.

Manually signed the payroll in the "block" marked signature, and stated his title.

The person who signed the payroll is the employer or an official of the employer who legally is authorized to act for the employer.

d. Weekly Payroll Review Each employer has promptly:

Reviewed the weekly payroll for compliance with all labor requirements (using this check list) and made necessary corrections.

Each Lower-tier Subcontractor has submitted his weekly payroll or "**NO WORK**" letter to the respective subcontractor for the subcontractor to have received within 3 calendar days from the last date of the work week.

Each Subcontractor has received a payroll or "**NO WORK**" letter from each subcontractor and each lower-tier subcontractor, monitored each including his own payroll, required necessary corrections, and collectively submitted them to the recipient within 7 work days of the last date of the respective work week.

5. AFTER PROJECT COMPLETION

Each employer will: Keep all weekly payrolls on the project for a minimum 3 years after the contractor's project completion date.

**Camden County Improvement Authority
Community Development Program
2220 Voorhees Town Center
Voorhees, NJ 08043
Phone: 856-374-6200
Email: tracy.wilson@camdencounty.com**

Project: _____

Municipality: _____

Checklist Certification:

I have reviewed and understand the Procedures for meeting Labor Standards Contract Requirements that are contained in the Pre-Construction Checklist for **Contractors that is contained in the Camden County Community Development Contractor's Compliance Packet that was received by a representative of my firm at the pre-construction conference.**

Please Type or Print

Name of Firm: _____

Address: _____

City: _____

State: _____

Submitted By: _____

Title: _____

Signature: _____

Date: _____

CONTRACTOR'S QUESTIONNAIRE

Contractors must **complete both sides** of this form and return to:

Community Development Block Grant Program
2220 Voorhees Town Center
Voorhees, NJ 08043

Section I. - General Information

1. Name of Company: _____

Address: _____ Town/City: _____

State: _____ Zip Code: _____ Phone # _____ Fax # _____

E-Mail Address: _____

Federal IRS ID # _____

2. Project Name & Location _____

3. Type of Work _____

4. Amount of Contract \$ _____ 5. Date of Award _____

6. Was Bidding competitive: Yes No N/A

7. Are any of the principle owners of this contracting firm

a. Members of a minority group? Yes No c. Resident of project municipality? Yes No

b. Female? Yes No d. Resident of Camden County? Yes No

8. How many subcontractors will be employed on this project? _____

List below:

9. Estimated Starting Date: _____ 201

10. Estimated Completion Date: _____ 201

The above dates in Questions 9 and 10 are simply estimated times for program reporting purposes and are not to be considered for any contractual deadlines.

11. Go to Section II. (On Back)

Section II. - Contractor Employment

All contractors undertaking projects funded or partially funded through the Community Development Program will indicate the **NUMBER** of their employees, by race and sex, on this form. **INCLUDE ALL EMPLOYEES of the firm**, not just those working on this project. Also indicate whether any of the employees are Camden County Residents.

GROUP CAMDEN County	MALE		FEMALE	
	<u>RESIDENT</u>	<u>NON-RESIDENT</u>	<u>RESIDENT</u>	<u>NON-RESIDENT</u>
WHITE	_____	_____	_____	_____
BLACK	_____	_____	_____	_____
SPANISH Speaking	_____	_____	_____	_____
OTHER*	_____	_____	_____	_____

* If other, please qualify. _____

Enter the **number** of training positions (apprentices) to be used on this project and the **number** that will be filled by Section 3 area residents. Section 3 area resident is a resident whose family income does not exceed 90% of the median income established for the County of Camden.

Training Positions: _____ **Filled by Local Residents:** _____

=====

Enter the **titles of all positions**, by skill level, which are planned for this project. Enter the total # of workers for each listed position for this project:

Positions /Titles	Total # Projected for this Project	Total # Currently Filled by Regular Permanent Employees	Total Projected to be filled by new employees	Total projected new employees that are Section 3 Area Residents

Authorized Signature: _____

Name: _____

Title: _____

Date: _____

SUBCONTRACTOR'S QUESTIONNAIRE

All subcontractors are required to complete both sides of this form and return it to the Prime Contractor.

Section I. - General Information.

1. Name of Company: _____

Address: _____ Town/City: _____

State: _____ Zip Code: _____ Phone # _____ Fax # _____

E-Mail Address: _____

Federal IRS ID # _____

2. Project Name & Location _____

3. Type of Work _____

4. Amount of Contract \$ _____ 5. Date of Award _____

6. Are any of the principle owners of this contracting firm:

a. Members of a minority group? Yes 0 No 0 c. Resident of project municipality? Yes 0 No 0

b. Female? Yes 0 No 0 d. Resident of Camden County? Yes 0 No 0

7. Estimated Starting Date: _____ 8. Estimated Completion Date: _____

The above dates in Questions 7 and 8 are simply estimated times for program reporting purposes and are not to be considered for any contractual deadlines.

Section II. - Subcontractor Employment.

All contractors undertaking projects funded or partially funded through the Community Development Program will indicate the **number** of their employees, by race and sex, on this form. **Include all employees of the firm**, not just those working on this project. Also indicate whether any of the employees live in Camden County.

GROUP	MALE		FEMALE	
	<u>RESIDENT</u>	<u>NON-RESIDENT</u>	<u>RESIDENT</u>	<u>NON-RESIDENT</u>
CAMDEN County	_____	_____	_____	_____
WHITE	_____	_____	_____	_____
BLACK	_____	_____	_____	_____
SPANISH Speaking	_____	_____	_____	_____
OTHER*	_____	_____	_____	_____

* If other, please qualify. _____

GO TO SIDE 2

Enter the **number** of training positions (apprentices) to be used on this project and the **number** that will be filled by Section 3 area residents. Section 3 area resident is a resident whose family income does not exceed 90% of the median income established for the County of Camden.

Training Positions: _____ **Training Positions Filled by Local Residents:** _____

=====

Enter the **titles of all positions**, by skill level, which are planned for this project. Enter the total # of workers for each listed position for this project:

Positions /Titles	Total # Projected for this Project	Total # Currently Filled by Regular Permanent Employees	Total Projected to be filled by new employees	Total projected new employees that are Section 3 Area Residents

Authorized Signature: _____

Name: _____

Title: _____

Date: _____

AFFIRMATIVE ACTION PLAN

To ensure equal opportunity in hiring and employment for all work funded or partially funded through the Camden County Improvement Authority, Community Development Program.

All **contractors** and **subcontractors** agree to take the following actions:

1. Endorse the following statement:
 - A. The undersigned contractor/subcontractor has agreed that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin and will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, national origin, handicap or familiar status;
 - B. Furthermore, this contractor/subcontractor has agreed, to the greatest extent feasible, opportunities for training and employment will be given to lower income residents of the project area and contracts for work in connection with the project will be awarded to business concerns which are located in, or owned in substantial part by persons residing in, the area of the project;
2. When hiring any subcontractors, to provide an opportunity for any minority owned firms located within Camden County to bid for the job.
3. Report to the Camden County Community Development Program the firm's total employees, by race and sex.
4. Send a copy of this Affirmative Action Plan to any collective bargaining organization with which the contractor has an agreement.
5. Post the Equal Opportunity Poster and this Affirmative Action Plan in a conspicuous location available to employees.

_____ (Name of Firm) hereby agrees to abide by the provisions of this Affirmative Action Plan.

Signature

Title

Date

**CAMDEN COUNTY IMPROVEMENT AUTHORITY
COMMUNITY DEVELOPMENT BLOCK GRANT
Instructions for Completion of WH-347 Payroll Report Form.**

The following instructions are for the proper completion of payroll form WH-347. By completing the form step-by-step as outlined below, the contractor will have adequately met payroll reporting requirements under the Davis-Bacon and Contract Work Hours Standard Acts.

The Use of WH-347 is not mandatory, but is recommended for use by the Division of Community Development. A contractor may use a substitute form providing that all the information contained in I and II below is given and certification for WH-348 accompanies each submission. Certification form WH-348 may be acquired from the Division of Community Development. Any optional forms must be approved by the Community Development Office prior to its use. Approval may be acquired at the Pre-Construction conference by providing the Contract Compliance Officer with a sample copy.

Failure on the part of the contractor and/or any subcontractor to accurately and completely comply with the reporting requirements as prescribed below could result in delay of payment and other sanctions against the contractor as provided by contract and federal regulations.

I. General Information.

- A. **Employer's I.R.S. Identification Number.** The employer's I.R.S. identification number is to be included in the first report submitted. It should be located on the face of the report in the lower right hand corner. It is not necessary to include the number in subsequent reports.
- B. **Name of Contractor.** State the full name of the firm. Please make certain that the appropriate identification block is checked for prime contractor and subcontractor.
- C. **Address.** Fill in the firm's full address, including the zip code. Also list the firm's phone number in the right hand margin in the initial report.
- D. **Payroll Number.** Each payroll is to be consecutively numbered. The first report is to be marked "#1-Initial" and the last "#?-Final".
- E. **Week Ending.** The final date of the payroll reporting period is to be recorded here.
- F. **Project and Location.** List project's name as worded in the contract and its general location.

II. Wage Reporting.

- A. **Column #1.** List the employee's full name, address, and Social Security number (It is now acceptable to list only the last 4 digits of the employee's social security number {ex xxx-xx-9999}). It is not necessary to show the employee's address and SS# in subsequent weekly payrolls after the first that he is reported in, unless the employee has a change in any information.

- B. Column #2.** This column is for withholding exemptions. It has been inserted for employer's convenience and is not a requirement.
- C. Column #3.** List complete description of work classification actually performed by the employee; e.g. Class I Truck Driver. Consult classifications and minimum wage schedule set forth in the contract specifications. If additional classifications are deemed necessary, contact the Division of Community Development. If an employee has worked in more than one classification, provide an accurate breakdown of hours so worked on separate line entries and submit time slips certified by the employee of the highest classification rate for all hours worked.
- D. Column #4.** In this column the contractor is to list the number of all hours worked, both straight and overtime, for each employee listed. On all contracts subject to the Contract and Work Hours Standards Act the contractor must pay at least time and a half for all hours worked in excess of eight per day and forty per week.
- E. Column #5.** This column is for the reporting if total hours worked by each employee.
- F. Column #6.**
- (a) In the straight time box, list the actual hourly rate paid the employee for straight time plus any cash paid in lieu of contributions to approved employee benefit plans by the employer. When recording the straight time rate, any cash in lieu of fringe benefits must be shown separately from the base rate, thus \$33.50/4.40. This method of reporting is of assistance in computing overtime, since the contractor need not pay time and one half on fringe benefits. All overtime fringe benefits are to be paid at the straight time rate.
- (b) In the overtime box list the rate of pay. This must equal at least time and one-half. Contractors who pay cash in lieu of benefits are to indicate payment in this box in the same manner as the straight time box thus \$51.25/4.40.
- G. Column #7.** Enter gross amount earned on this project by each employee. If part of the employee's weekly wage was earned on another project not described on this payroll, enter in Column #7 first the amount earned on the Community Development project and then the gross amount earned during the week on all projects, thus \$75.00/\$200.00.
- H. Column #8.** Five sub-columns are provided for the reporting of deductions. If more than five deductions are to be reported use the first four columns and show the balance under "Other" Describe the deductions reported under "Other" on a separate attachment. Show the sum if all deductions under "Total Deductions" If the total deductions are made on gross wages that include wages earned on Non-Community Development Projects, indicate this by placing a small "g" next to the amount in the total column.
- I. Column #9** Enter the employee's total net wage amount for all work done during the week reported.

III. Contractor's Certification (Reverse side of form).

- A.** Complete in full item number one, including a complete listing of all deductions on the four lines provided at the end of the item.
- B.** If the contractor is contributing to approve fringe benefit plans (a) is to be checked. If the contractor is paying cash in lieu of benefits (b) is to be checked.

- C. Part (c) "Exceptions" is to be used if the contractor's contributions to approved plans are below the prevailing rate. In such cases, the contractor must show that he is paying the difference between his contributions and the prevailing rate in cash. The amount paid in cash should be shown in the "Explanation" column.
- D. Only an owner or officer of the firm may sign the certification, unless the owner or officer submits written authorization for an employee to sign to the Camden County Division of Community Development. This authorization must be submitted before or with the first payroll report.

IV. Other General Requirements.

- A. The prime contractor is responsible for the compliance of his subcontractors. This may be accomplished by requiring subcontractors to submit separate reports or by including them on the prime contractor's report as employees.
- B. Each contractor and subcontractor must complete and submit prior to commencing work a "Contractor's / Sub-Contractor's Certification Concerning Labor Standards and Prevailing Wage Requirements." These forms will be provided by the Division of Community Development at the pre-construction conference.
- C. All contractors are required to attend a pre-construction conference prior to commencing work.
- D. The contractor must submit a WH-347 report for each week of the contract. If no work is done during any week of the contract, a report must still be submitted stating "No Work". The contractor has one week from the end of the week being reported to submit a WH-347. Delay in submissions will cause delays in contract payments and could jeopardize the contractor's ability to undertake future federally assisted contracts.



(Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number)

NAME OF CONTRACTOR <input type="checkbox"/>	OR SUBCONTRACTOR <input type="checkbox"/>	ADDRESS
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION
		PROJECT OR CONTRACT NO.

OMB No.: 1215-0149
Expires: 12/31/2011

(1) NAME, AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) # OF EXEMPTIONS	(3) WORK CLASSIFICATION	(4) DAY AND DATE			(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS			(9) NET WAGES PAID FOR WEEK	
			O	T	S				WITH-HOLDING TAX	OTHER	TOTAL DEDUCTIONS		
													HOURS WORKED EACH DAY

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a), The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, ESA, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W., Washington, D.C. 20210

STATEMENT OF COMPLIANCE

Date: _____

I, _____ do hereby state:
 (Name of signatory party) (Title)

(1) That I pay or supervise the payment of the persons employed by _____ on the _____
 (Contractor or Subcontractor) (Building or project)
 _____; that during the payroll period commencing on the _____ day of _____, 201__ and ending on the _____ day of _____, 201__, all persons employed on said project have been paid the full weekly wages earned by any person and that no rebates have been or will be made either directly to or on behalf of said _____ from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the (Contractor or Subcontractor) full wages earned by any person, other than permissible deductions, as defined in the Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat 967. 76 Stat 357; U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rate for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4 (c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

Each Laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll an amount not less than the sum of the applicable basic hourly rate plus the amount of the required fringe benefits as listed in the contract, except as noted in Section 4 (c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS

NAME AND TITLE	SIGNATURE
----------------	-----------

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE

Job Safety and Health It's the law!

OSHA
Occupational Safety
and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health



Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 3165-12-06R

EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State approved apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

Beth Pugh
Camden County Community Development
Michael J. DiPiero Building • Suite 211
512 Lakeland Road
Blackwood, NJ 08012

or contact the U.S. Department of Labor's Wage and Hour Division.



For additional information:

1-866-4-USWAGE
(1-866-487-9243) TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

camden  county
N E W J E R S E Y

Making It Better, Together.

SCHEDULE OF DRAWINGS

The following contract drawings are herein made part of the project specifications:

C-1 COVER SHEET AND INDEX OF DRAWINGS, AND LEGEND

D-1 DEMOLITION PARTIAL FLOOR PLAN AND ELEVATION

D-2 DEMOLITION SECTION

D-3 DEMOLITION PARTIAL CEILING PLAN

A-1 PARTIAL FLOOR PLAN AND ELEVATION

A-2 SECTIONS AND DETAILS

A-3 SECTIONS AND DETAILS

S-1 FLOOR PLAN, ELEVATION, AND DETAILS

END OF SECTION

AGREEMENT FORM

1. Owner-Contractor Agreement Form: AIA A101, Owner-Contractor Agreement Form - Stipulated Sum. A draft of the agreement is included as an appendix to these specifications.

END OF SECTION

DEFINITIONS

For the purposes of these specifications, and the accompanying drawings, the following definitions shall apply. This listing of definitions is not intended to be all-inclusive, but rather a clarification of several terms which are commonly used within these documents to describe the contractor's responsibilities under this contract. All other terms shall be defined by the current edition of Webster's unabridged dictionary, and, where appropriate, the best standards of the construction industry.

- 1.1 ALLOWANCE - Final scope for a certain item will be made in the future by the Owner. The Contractor is to include a specified amount of funds in the base contract to cover each identified task in the base bid. Expenditure of Allowance funds shall be substantiated by paid invoices or other means prior to being approved for payment. Unspent Allowance funds shall be credited back to the Owner.
- 1.2 BID ALTERNATE - A specifically stated portion of the work which is to be bid separately from the base bid, and which the owner may, at their sole discretion, decide to accept or reject in order to meet budgetary requirements. A *bid alternate* will be an "Add Alternate" describing work which would result in a more costly project.
- 1.3 BUILDER'S OPTION - Where an alternative material/method may be identified as equally satisfactory, a *builder's option* may be stated, which allows the contractor to choose among the stated alternatives in order to achieve the best price for the work. The Contractor shall identify which method will be utilized, and remain consistent throughout the project. No change orders shall be awarded if a contractor elects to use the more costly material/method available from the stated *builder's option(s)*.
- 1.4 UNIT PRICE - Due to the undefined nature of certain aspects of the work (especially so in renovation projects where it is likely that concealed conditions will exist which will have an impact on the scope of repair work), the Owner may request *Unit prices* in order to predetermine the costs associated with specific products or activities of the Contractor. *Unit prices* will be established for selected items and/or specific improvements and will be referred to as the basis of approval for any change orders requested, where applicable. A list of *unit prices* will be provided to each subcontractor by the Owner, as applicable for their trade(s), and the costs will be negotiated prior to commencement of the work.

END OF SECTION

GENERAL CONDITIONS

1. General Conditions: AIA A201, General Conditions of the Contract for Construction. Refer to Appendix A201 as amended and as included as an appendix to these specifications.

END OF SECTION

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General Notes.
2. Work covered by Contract Documents.
3. Contractor use of premises.
4. Occupancy requirements.

1.2 GENERAL NOTES

Project Name: CDBG Year 39 Renovation of Existing Firehouse, Woodlynne, Camden County, New Jersey

Project Number: WDLYN2020-2

Location: 200 Cooper Avenue, Woodlynne, New Jersey 08107

Existing masonry building, 1-story Fire Department with three (3) overhead doors, connected to 1-story with basement Municipal building. Demolition work includes demolition of one (1) existing overhead garage door; one (1) existing entry door and frame (to be reinstalled); existing precast header over entry door; existing steel header and lintel above overhead door; all related hardware, operating equipment, frames, etc. to prepare openings for new doors; and a portion of block and brick wall between the entry door and overhead door being demolished. Other related demolition work includes limited demolition or relocation of ceiling grid, lights, and wall mounted electrical and accessory equipment. Demolition will include limited demolition of portion of existing interior and exterior slabs for installation of new column footing. New work includes installation of new overhead door in expanded opening; installation of new structural elements for support of new overhead door header and new header over new entry door, installation of new concrete column footing and repair of existing concrete slabs where removed for new footing, construction of new masonry wall elements including brick veneer, soldier coursing over new doors, concrete block wall around new lintels and headers, new or modified ceiling grid to accommodate new expanded overhead door, reinstallation of existing wall and ceiling mounted electrical and accessory equipment. New work will require new wire and conduit for new electrical equipment or where existing equipment is relocated and requires new circuitry. All materials shall be provided and installed in the manner described in the plans and specifications or according to industry best practices.

A. This project is subject to the provisions of the New Jersey Uniform Construction Code [N.J.A.C. 5:23]. The Contractor shall verify all code requirements and bring any discrepancies between code requirements and the construction documents to the attention of the Architect prior to commencing with construction.

B. It is the Contractor's responsibility to inspect and assess the project and to fulfill the intent of the work indicated by the contract documents. Contractor shall verify all conditions and dimensions within the contract limits. Deviations from

the contract documents necessitated by field conditions shall be brought to the attention of the Architect.

- C. Contractor shall bring errors and omissions which may occur in contract documents to the attention of the Architect and instructions shall be obtained from the Architect before proceeding with affected work. The Contractor will be held responsible for the results of any errors, discrepancies, or omissions in the contract documents which can readily or reasonably be determined and for which the Contractor failed to notify the Architect before construction and/or fabrication of subject work.
- D. Details and sections on the drawings are taken at specific locations and are intended to serve as typical construction for all similar conditions. Modifications shall be made by Contractor to accommodate minor variations.
- E. Do not scale the drawings. Refer to written text and dimensions for information. The Contractor and Sub-Contractor shall verify all dimensions and job conditions at the job site sufficiently in advance of work to be performed to assure the orderly progress of the work.
- F. All dimensions are to face of GWB and face of block unless noted otherwise drawings.
- G. The Contractor shall make no structural changes without written approval of the Architect. Contractor shall insure safety and stability of structure(s) at all times during the construction period.
- H. The Contractor shall limit the use of the premises to the areas indicated. Portions of the site beyond areas on which work is indicated are not to be disturbed. The Contractor shall maintain the premises clean and free of all trash, debris and shall protect all adjacent work from damage, soiling, paint overspray, etc. All fixtures, equipment, glazing, floors, etc., shall be left clean and remain ready for occupancy throughout the duration of the project.
- I. Do not unreasonably encumber the work area with materials or equipment. Confine stockpiling of materials to the areas approved by the Owner. If additional storage is necessary, obtain and pay for such storage off site. Maintain the site in a clean and sanitary condition.
- J. Contractor to provide temporary protection to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent spaces from damage.
- K. Contractor to keep project area clean and free of debris. Contractor shall maintain a supply of hardhats for use by visitors to the site and enforce the use thereof.
- L. The Contractor shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality. Comply fully with manufacturers' instructions. Protect installed

work and provide special protection where specified in individual specification Sections.

- M. All applicable local, state and federal regulations shall be met for handicap accessible buildings.
- N. The Contractor shall review the Contract Drawings and Specifications for other items of work required to provide a complete project and shall provide them in his Total Price Bid so as to impose no additional cost to the Owner for the completion of this project.
- O. The Contractor shall be responsible for obtaining all necessary local approvals, permits, registrations and/or certifications and construction. The Contractor must follow and comply with all applicable requirements and standards as required under the approvals, permits, registrations and/or certifications and construction permits obtained for this project. Also, reference the "Supplementary Conditions" for additional permit requirements.
- P. The Owner and its Architect shall not be responsible for job safety. The Contractor shall be responsible for all job safety requirements for his employees and sub-contractors in the performance of the work under this project.
- Q. The Contractor shall supply, place, and maintain at all times during the term of the Contract such safety equipment and procedures as are required for protection of persons and property.
- R. The Contractor is responsible for all lines, elevations, and measurements, exercising precaution to verify all dimensions shown on the Contract Drawings.
- S. The Contractor shall be responsible for surface restoration work as required to complete the installation and restore all areas affected due to the performance of the work under this contract. All affected areas shall be left in the same or in a condition better than existed before the start of construction or as shown on the Contract Drawings.

1.3 WORK COVERED BY CONTRACT DOCUMENTS – BASE BID & ADD/ALTERNATES

- A. Provide and pay for all labor, superintendence, materials, tools, transportation, services, licenses, taxes, equipment and all means of construction necessary and reasonably incidental to the completion of the improvements required for the "CDBG Year 39 Renovation of Existing Firehouse", in Woodlynne, New Jersey as specified herein and as shown on the Contract Drawings.
- B. All materials and labor obviously a part of the work, and as necessary for proper installation and/or operation of same, although not specifically indicated on the Contract Drawings and/or in the Specifications shall be provided by the Contractor as if called in detail without additional cost to the Owner.
- C. The work for this project under the Base Bid includes the following:

1. The preparation of an existing site and building for construction of new overhead garage door including steel and masonry work.
2. The work includes, but is not limited to: limited building demolition, cast-in-place concrete, masonry walls, wall, ceiling, and floor finishes as indicated, lighting, doors and hardware, low voltage systems, lighting, power, safety devices.
3. Without intending to limit or restrict the amount of work included and solely for the convenience of the Contractor, the major items of work included shall comprise the following:
 - i. Limited building demolition; masonry, steel, and concrete construction.
 - ii. New exterior walls, doors, ceilings, electrical components, infrastructure as indicated and required.
 - iii. Complete finish of all building and site elements including floor, wall, and ceiling finishes, envelope components, cladding and lighting, and any other items required for a complete project, and other items shown and/or listed on the attached contract drawings. Installation shall include all labor required by the manufacturer to provide a completed project as described on the attached contract drawings. All final dimensions shall be confirmed by the Contractor in the field prior to beginning construction.

C. The work for this project under ADD ALTERNATE BID NO. 1 "NEW ENTRY DOOR" includes the following:

1. Add Alternate Bid No. 1 shall include all labor (based on Prevailing Wages as specified herein), superintendence, materials, tools, transportation, plant and equipment, overhead and profit, and all means of construction necessary and reasonably incidental to the complete and fully operational ADD ALTERNATE BID NO. 1 for the CDBG Year 39 Renovation of Existing Firehouse in accordance with the Contract Documents. No additional or separate payments will be allowed under this contract.
2. All materials and labor obviously a part of the work, and as necessary for proper installation and/or operation of same, although not specifically indicated on the Contract Drawings and/or in the Specifications shall be provided by the Contractor as if called out in detail without additional cost to the Owner and shall be considered to be included in the total price bid by the Contractor.
3. Measurement and payment will be made in accordance with the approved schedule of values for work and materials that are installed and accepted by the Architect.
4. Add the following:

Demolish and dispose of existing 36-inch entry door that is noted to be reinstalled. Demolish all related hardware not otherwise required to be reinstalled. Provide and install new 36-inch steel door and

frame with all hardware and accessories as indicated. Installation of new steel entry door to include frame and accessories with new hardware as indicated and reconnection of existing electrical security equipment.

1.4 CONTRACTOR USE OF PREMISES

- A. Limit use of the premises to construction activities in areas indicated.
1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
 2. Contractor to secure and protect work area from rest of the facility for dust and noise control.
 3. Contractor to coordinate work under this bid with other work being performed at the project location to maintain access and project schedules throughout duration of the work under this bid.

END OF SECTION

SECTION 012000

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 BID/PAY ITEMS / SCHEDULE OF VALUES

- A. All payments or credits shall be made on the basis of the TOTAL PRICE BID by the Contractor. The Contractor shall submit a detailed and balanced schedule of values. Following the acceptance of the schedule of values by the Owner, progress payments may be requested based on the approved schedule.
- B. The Contractor shall prepare his schedule of values so that it reflects the actual costs which the bidder anticipates the performance of work under each item delineated so that the item includes all costs associated with the bidders anticipated profit, overhead and costs to perform the work.
- C. The Owner may increase or decrease the quantity of work to be done under any item and that the Contractor will only be paid for actual quantity of work provided based on the prices delineated under the Owner approved schedule of values.
- D. The schedule of values will be considered materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.
- E. No progress payments will be made for Lump Sum items for which the Contractor has not included a price breakdown in the Owner approved schedule of values.
- F. Measurement for partial payments will be made by the Architect and will be based on the work that the Architect considers complete, and the assigned values in the Owner approved schedule of values. The Architect shall be the sole judge of the percentage of completion of a Lump Sum item.
- G. Individual schedule of value items will not be considered complete until installation and testing are complete and the item is placed in service, or in the Architect's judgment is available to be placed in service.

1.2 PROGRESS PAYMENTS (PARTIAL PAYMENTS)

- A. Progress payments for the approved and measured quantities of an item will be subject to the retainage as set forth in the General conditions.
 - 1. Progress payments approved for temporary measures are made based on the temporary measure being maintained by the Contractor until replaced by permanent measures or until no longer required and the Contractor is directed by the Architect to remove the temporary measure.
 - 2. When in the opinion of the Architect, the Contractor is not maintaining the temporary measure, the Contractor shall be so notified by the Architect.

3. Following notice to the Contractor the Architect will increase retainage on Contractors future application or applications for progress payments in an amount equal to or exceeding that previously approved for the temporary measures that are not being maintained by the Contractor.

1.4 MEASUREMENT OF QUANTITIES

- A. The Architect shall be the sole judge of the completeness of the work as well as the quantity of the item installed in the work.
- B. Completed work shall be measured for payment by the Contractor. The measurement shall be performed in the presence of the Architect. The measurement shall be certified by the Contractor and witnessed by the Architect.
- C. Method of measurements shall be as delineated on the Owner approved schedule of values.
- D. The day the measurement is performed the Contractor shall provide to the Architect one copy of the certified and witnessed measurements.
- E. Contractors application for payment shall be accompanied by certified and witnessed measurement records covering all work for which payment is requested.

1.5 CREDITS

- A. No payments will be made for items or quantities of items not installed in the work. The Contractor will be paid only for work and materials that are installed and accepted.

1.6 WORK INCLUDED IN PRICE BID

- A. The total price bid by the Contractor shall include all labor (based on NJ Prevailing Wages), superintendence, materials, tools, transportation, plant and equipment, overhead and profit, and all means of construction necessary and reasonably incidental to the complete and fully operational "CDBG Year 39 Renovation of Existing Firehouse" in accordance with the Contract Documents. No additional or separate payments will be allowed under this contract.
- B. All materials and labor obviously a part of the work, and as necessary for proper installation and/or operation of same, although not specifically indicated on the Contract Drawings and/or in the Specifications shall be provided by the Contractor as if called out in detail without additional cost to the Owner and shall be considered to be included in the total price bid by the Contractor.
- C. Measurement and payment will be made in accordance with the approved schedule of values for work and materials that are installed and accepted by the Architect.

1.7 WORK INCLUDED IN PRICE BID – ADD ALTERANTE BID #1 "NEW ENTRY DOOR"

- A. The total price bid by the Contractor shall include all labor (based on NJ Prevailing Wages), superintendence, materials, tools, transportation, plant and equipment, overhead and profit, and all means of construction necessary and reasonably incidental to the complete and fully operational "CDBG Year 39 Renovation of Existing Firehouse" in accordance with the Contract Documents. No additional or separate payments will be allowed under this contract.
- B. All materials and labor obviously a part of the work, and as necessary for proper installation and/or operation of same, although not specifically indicated as Add Alternate Bid #1 work on the Contract Drawings and/or in the Specifications shall be provided by the Contractor as if called out in detail without additional cost to the Owner and shall be considered to be included in the total price bid by the Contractor.
- C. Measurement and payment will be made in accordance with the approved schedule of values for work and materials that are installed and accepted by the Engineer (Architect).
- D. For description of work included under this Item, reference "SECTION 1.3D –ADD ALTERNATE BID NO. 1" in section 011000 SUMMARY OF WORK in these specifications.

END OF SECTION

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section Includes:
 - 1. Submittal procedures.
 - 2. Product Data, Shop Drawings, and Samples.
 - 3. Assurance/Control submittals.
 - a. Certificates.
 - b. Manufacturer's installation instructions.
 - 4. Architect's action.

1.2 SUBMITTALS

- A. Submit two copies of proposed Schedule of Submittals to Architect within 30 days after receipt of Notice to Proceed. List all items require submittal for review and approval by Architect. Utilize Submittal Schedule, AIA Document G712, or other approved format.
- B. Schedule of Submittals: Include the following.
 - 1. Indicate type of submittal; product data, shop drawing, sample, certificate, or other submittal.
 - 2. Identify by Plan and/or Detail number where item is specified, and description of item being submitted.
 - 3. Indicate scheduled date for initial submittal.
- C. Coordinate Schedule of Submittals with Construction Schedule. Revise and update Schedule of Submittals when required by changes in the Construction Schedule. Provide Architect with updated schedules within 2 days of date schedule is revised.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Architect accepted form. Submit the number of opaque reproductions which the Contractor requires, plus two (2) copies which shall be retained by the Architect.
- B. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.

- C. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- D. For each submittal for review, allow 10 days excluding delivery time to and from the Contractor.
- E. Revise and resubmit when required, identify all changes made since previous submission.

1.4 PRODUCT DATA

- A. Product data includes printed information such as catalog cuts, manufacturer's published instructions, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, performance curves and other similar items.
- B. Submit the number of copies which the Contractor requires, plus two copies which will be retained by Architect.
- C. Mark each copy to identify applicable products, models, options, and other data. Submissions which do not specifically indicate the products being used from among multiple products shown will be rejected without review for resubmittal. Supplement manufacturers' standard data to provide information unique to this Project.

1.5 SHOP DRAWINGS

- A. Submit in the form of one reproducible transparency and one opaque reproduction.
- B. Shop Drawings: Submit for review. After review, produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article above.
- C. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.6 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes in colors selected, textures, and patterns for Architect selection.
- C. Include identification on each sample, with full Project information.

- D. Submit four (4) samples; one of which will be retained by the Architect, minimum of three (3) sets.

1.7 CERTIFICATES

- A. When specified on the Construction Drawings or requested by the Owner, submit certification by manufacturer to Architect, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

1.8 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified on the Construction Drawings, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Architect in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.9 ARCHITECT ACTION

- A. For submittals where action and return is required or requested, Architect will review each submittal, mark to indicate action taken, and return promptly; generally within 10 calendar days from date of receipt.
 - 1. Compliance with specified characteristics is the Contractor's responsibility.
 - 2. Submittals for information, closeout documents, record documents and other submittals for similar purposes, no action will be taken.
- B. Action Stamp: Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken.
 - 1. "No Exceptions Taken": Final Unrestricted Release. Where submittals are marked "No Exceptions Taken", that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 - 2. "Approved as Noted": Final-But-Restricted Release. When submittals are marked "Approved as Noted", that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.

3. "Rejected" or "Resubmit": Returned for Resubmittal. When submittal is marked "Rejected" or "Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
4. Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be retained for the Architect's reference purposes and/or discarded. No return to the Contractor will occur.

END OF SECTION

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Administrative and supervisory personnel.
 2. Submittals.
 3. Contractor quality control.
 4. Coordination.
 5. Project coordination.
 6. Preconstruction meeting.
 7. Progress meetings.
 8. Progress Reports.
 9. Pre-installation meetings.
 10. Schedule of Values.
 11. Application for Payment.
 12. Change Procedures.

1.2 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. Project Manager/Administrator: Contractor Representative experienced in administration, supervision, and quality control of building expansion and alteration construction, similar to Work of this Project, including electrical work.
- B. Project Field Superintendent: Contractor Representative experienced in general field supervision of building construction, similar to Work of this Project, including electrical work, to supervise, direct, inspect and coordinate Work of Contractor, subcontractors, suppliers and installers, and expedite Work to assure compliance with Construction Schedules. Project Field Superintendent shall be a full-time on-site job assignment.

1.3 SUBMITTALS

- A. Submit shop drawings, product data, samples, and other required submittals, in accordance with Section 013000 - Submittal Procedures, for review and compliance with Contract Documents, and for conformance to field dimensions and clearances.
- B. Submit Requests for Information and interpretation of Contract Documents in a timely manner and obtain replies from Architect prior to proceeding with the work in question.
- C. Submit schedule of values not less than seven (7) days prior to first payment request. Submit "pencil copy" of proposed Payment Application (fax or email is acceptable) not less than 96 hours prior to the scheduled site meeting at which the Payment Application is to be presented.

1.4 CONTRACTOR QUALITY CONTROL

- A. Coordinate all program activities through the representatives of the local utility companies, or their assigned agents as required.
- B. Coordinate scheduling of inspection and testing required by individual specification Sections and in accordance with Section 014000 - Quality Control.
- C. Coordinate schedule for testing to be performed by the Owner under separate contract.

1.5 COORDINATION DRAWINGS

- A. Prepare and distribute coordination drawings where close coordination is required for installation of Products and materials fabricated off-site by separate entities, and where limited space availability requires maximum utilization of space for efficient installation of different components. Show interrelationship of components shown on separate shop drawings. Indicate required installation sequences.

1.6 PROJECT COORDINATION

- A. Coordinate construction activities and work of all trades under the construction documents and Work of Contract to facilitate orderly installation of each part of Work. Coordinate construction operations included under the construction documents and Contract that are dependent upon each other for proper installation, connection, and operation.
- B. Where installation of one part of Work is dependent on installation of other components, either before or after that part of Work, schedule construction activities in sequence required to obtain uninterrupted installation.
- C. Obtain drawings, manufacturer's product data, instructions, and other data to provide a complete and proper installation.
 - 1. Check field dimensions prior to installing products. Verify necessary clearances and means of access from equipment storage to final position.
 - 2. Make data and information available to trades involved.
- D. Ensure that utility requirements for the installation of service laterals, meter locations, etc. are compatible current regulations.
- G. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination.
- H. After Owner occupancy of Project, coordinate access to project for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.7 PRE-CONSTRUCTION MEETING

- A. Owner and Architect will schedule a meeting after Notice of Award.
- B. Attendance: Owner, Architect, Contractor, Project Superintendent, and Contractor Quality Control Representative, plus others at the invitation of the Owner.
- C. Agenda:
 - 1. Submission of executed bonds and insurance certificates.
 - 2. Distribution of Contract Documents.
 - 3. Submission of schedule of values.
 - 4. Designation of personnel representing the parties in Contract.
 - 5. Procedures and processing of Requests for Information, field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and contract closeout procedures.
 - 6. Scheduling.
 - 7. Review of any special conditions or requirements for interim inspections.
 - 8. Construction facilities and temporary controls.
- D. Architect or authorized representative will record minutes and distribute copies to participants, and those affected by decisions made.

1.8 PROGRESS MEETINGS

- A. Architect or authorized representative will schedule and administer meetings throughout progress of Work at intervals as agreed upon by the Owner, Architect and Contractor.
- B. Architect or authorized representative will make arrangements for meetings, prepare agenda with copies for participants and preside at meetings.
- C. Attendance: Job Superintendent, Contractor Quality Control Representative, major Subcontractors and suppliers, and Architect as appropriate to agenda topics for each meeting.
- D. Architect or authorized representative will record minutes and distribute copies to participants, and those affected by decisions made.

1.9 PROGRESS REPORTS

- A. Construction Progress Schedules
 - 1. Submit initial progress schedule in duplicate within 15 days after "Commencement of Work" for Owner/Architect review.

2. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.
3. Submit a horizontal bar chart with separate line for each section of Work, identifying first work date of each week.

1.10 SCHEDULE OF VALUES

- A. Submit a construction cost breakdown after contract award to the Architect using AIA Form G703, or other approved format. Contractor may be required to utilize established formats as may be required by entities providing funding for the project.

1.11 APPLICATION FOR PAYMENT

- A. Submit three (3) original copies of each application in the prescribed format for review, signature & processing at the Project Meeting assigned for that purpose. Submit "pencil copy" of proposed Payment Application (fax or email is acceptable) not less than 96 hours prior to the scheduled site meeting at which the Payment Application is to be presented.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Following completion of the following requirements, final payment request may be submitted:
 1. Complete work listed as incomplete at time of substantial completion, or otherwise assure Owner of subsequent completion of individual incomplete items.
 2. Settle liens and other claims, or assure Owner of subsequent settlement.
 3. Submit proof of payment on fees, taxes and similar obligations.
 4. Transfer operational, access, security and similar provisions to Owner; and remove temporary facilities, tools and similar items.
 5. Completion of requirements specified in "Project Closeout" section.
 6. Obtain consent of surety for final payment.

1.12 CHANGE PROCEDURES

- A. Submit backup materials and costs associated with any proposed Change Order to the Owner & Architect for review. DO NOT proceed with any work for which a Change Order is necessary without written approval to do so. Failure to obtain written approval may void Contractor's claim associated with the changed work, or the acceptance thereof.
- B. Change Procedures: Change Order Forms - AIA G701 or other approved format.

END OF SECTION

QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 2. Quality control procedures.
 - 3. Contractor's testing and inspection reports.
 - 4. Non-compliance check-off list.
 - 5. Completion and inspection of Work.
 - 6. Field samples.

1.2 QUALITY CONTROL PROCEDURES

- A. Monitor quality control over Contractor staff, subcontractors, suppliers, manufacturer's, products, services, site conditions, and workmanship.
- B. Comply fully with manufacturer's published instructions, including each step in sequence of installation.
- C. Should manufacturer's published instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as a minimum quality for Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons who are thoroughly qualified and trained in their respective trade, to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- G. Perform tests required by governing authorities having jurisdiction and utilities having jurisdiction.

1.3 CONTRACTOR FIELD INSPECTION AND TESTING

- A. Contractor: Test and Inspect Work provided under this Contract to ensure Work is in compliance with Contract requirements.
- B. Preparatory Inspection: Performed prior to beginning Work and prior to beginning each segment of Work and includes:

- C. Initial Inspection: Performed when representative portion of each segment of Work is completed and includes:
 - 1. Performance of required tests.
 - 2. Quality of workmanship.
 - 3. Review for omissions or dimensional errors.
 - 4. Examination of products used, connections and supports.
 - 5. Approval or rejection of inspected segment of Work.
- D. Follow-Up Inspections: Performed daily, and more frequently as necessary, to assure non-complying Work has been corrected.
- E. Testing and Inspection: Perform testing and inspection in accordance with Owner's and/or Municipal requirements.

1.5 CONTRACTOR'S TEST AND INSPECTION REPORTS

- A. Prepare and submit, to Architect, a written report of each test or inspection signed by Contractor Quality Control Representative performing inspection within 2 days following day inspection was made.
- B. Include the following on written reports of inspection:
 - 1. Cover sheet prominently identifying that inspection "CONFORMS" or "DOES NOT CONFORM" to Contract Documents.
 - 2. Date of inspection and date of report.
 - 3. Project name, location, solicitation number, and Contractor.
 - 4. Names and titles of individuals making inspection, if not Contractor's Project Field Superintendent.
 - 5. Description of Contract requirements for inspection by referencing Specification Section.
 - 6. Description of inspection made, interpretation of inspection results, and notification of significant conditions at time of inspection.
 - 7. Requirements for follow-up inspections.

1.6 NON-COMPLIANCE CHECK-OFF LIST

- A. Maintain check-off list of Work that does not comply with Contract Documents, stating specifically what is non-complying, date faulty Work was originally discovered, and date Work was corrected. No requirement to report deficiencies

corrected same day it was discovered. Submit copy of Non-Compliance Check-Off List of non-complying work items to Architect on a weekly basis.

1.7 COMPLETION AND INSPECTION OF WORK

- A. Prior to final acceptance by Architect, submit a certification signed by Contractor to Architect stating that all Work has been inspected and all Work, except as specifically noted, is complete and in compliance with Contract Documents.
- B. Record Documents: By Contractor Quality Control Representative. Ensure that "As-Builts" required by Section 017001 - Closeout Submittals, are marked to show any deviations which have been made during the course of construction and are kept current on a daily basis. Upon completion of the Work, certify the accuracy of the "As-Builts" and submit to Architect.

1.8 FIELD SAMPLES

- A. Construct field samples at the site for review as requested by the Owner or Owner's representative. Acceptable samples represent a quality level for work. Field samples shall remain in place until subject project work is completed and accepted.

END OF SECTION

MATERIAL / MANUFACTURER SUBSTITUTION POLICY

PART 1 - GENERAL

1.1 MATERIALS AND EQUIPMENT

A. Products:

1. Products: Means new material, machinery components, equipment, fixtures, and systems forming the Work but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
2. Use interchangeable components of the same manufacture for similar components.

B. Product Options:

1. Products specified by Reference Standards or by Description Only: Any product meeting those standards or description and approved by the Architect.
2. Products specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named by the Architect.

1.2 SUBSTITUTION POLICY

- A. Contractor must take note that certain provisions within the drawings for these projects have been designed to utilize a specific product(s) available only through the designated manufacturer(s). The products and materials specified in this manner have been identified by the Owner and/or the Architect as the "basis of design" for the project(s), and may not be substituted unless specifically agreed to in writing by the Owner and/or the Architect. This policy will be strictly adhered to in order to maintain uniform appearance, function, and maintenance considerations for the project.
- B. If a specified product or material is no longer available, or a substitution is desired for other reasons, for items specified as a specific model number, color, and/or manufacturer, the proposed product will be required to be equivalent in every respect to the item specified. The criteria for approval as an "equivalent" shall include, but not be limited to, performance, dimension, appearance, finish, warranty, and/or the interchangeability of replacement parts with the product originally specified.
- C. Proposed substitutions shall be submitted to the Architect in writing, including detailed shop drawings and product data for the proposed product, as applicable.

END OF SECTION

EXECUTION REQUIREMENTS

1.1 SUMMARY

A. Section Includes:

1. Installation.
2. Cleaning.
3. Starting and adjusting.

B. Installation:

1. Refer to installation requirements included on the drawings or indicated in the manufacturers written specifications.
2. For each Product, inspect substrate and conditions under which the Work will be performed. Do not proceed until unsatisfactory conditions have been corrected.
3. Comply with manufacturer's published installation instructions and recommendations, to extent that instructions and recommendations are more explicit or stringent than requirements in Contract Documents.
4. Inspect Products immediately upon delivery to Project Site ready for installation.
 - a. Inspect Products immediately before start of application, installation, or erection.
 - b. Reject damaged and defective Products.
5. Verify and check dimensions and measurements before start of installation or erection.
6. Coordinate closing-in of Work with required inspections and tests.
 - a. Do not cover Work until inspected and approved by appropriate person or entity.
7. Provide fasteners, attachments, connection devices, and methods as indicated on Drawings or as specified.
 - a. Where not indicated or specified provide appropriate methods necessary for securing Work.
 - b. Secure Work plumb, true to line and level.
 - c. Provide for expansion and building movement.

1.2 CLEANING

- A. Cleaning During Construction: Maintain the project site as clean as practicable throughout construction period, including the removal of debris, trash, etc.
- B. Final Cleaning:
 - 1. Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.
 - 2. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's published instructions.
 - 3. Complete following cleaning operations before requesting Punchlist inspection for Substantial Completion of Project by Architect. Project shall be "move-in" ready for Punchlist inspection.
 - a. Clean Project Site, yard and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste materials, litter and foreign substances. Sweep paved areas broom clean. Remove petro-chemical spills, stains and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even-textured surface.
 - b. Remove tools, construction equipment, machinery and surplus material from Project Site.
 - c. Remove snow and ice to provide safe access to building.
 - d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - e. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - g. Vacuum clean carpet and similar soft surfaces, removing debris and excess nap. Shampoo if required.
 - h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - i. Remove labels that are not permanent labels.

- j. Touch-up and otherwise repair and restore marred exposed finishes and surfaces. Replace finishes and surfaces that can not be satisfactorily repaired or restored, or that show evidence of repair or restoration. Do not paint over "UL" and similar labels, including mechanical and electrical name plates.
 - k. Wipe surfaces of mechanical and electrical equipment, and other similar equipment. Remove excess lubrication, paint and mortar droppings and other foreign substances.
 - l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - m. Replace air disposable filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - n. Clean light fixtures, lamps, globes and reflectors to function with full efficiency. Replace any burned out bulbs, and defective and noisy starters in fluorescent and mercury vapor fixtures.
 - o. Leave Project clean and ready for occupancy.
4. Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from Project Site and dispose of in accordance with requirements of local authorities having jurisdiction.

1.3 STARTING AND ADJUSTING

A. Starting Systems:

- 1. Coordinate schedule for start-up of various equipment and systems.
- 2. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- 3. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.
- 4. Verify wiring and support components for equipment are complete and tested.
- 5. Execute start-up under supervision of applicable Contractors' personnel in accordance with manufacturers' instructions.
- 6. When specified in individual specification Sections, require manufacturer to provide authorized representative be present at Project Site to inspect,

check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

B. Demonstration and Instruction:

1. Demonstrate operation and maintenance of Products to Owner's personnel 2 weeks before Date of Final Acceptance.
2. Demonstrate Project equipment and provide operation instruction by qualified installer representative who is knowledgeable about Project.
3. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

END OF SECTION

CLOSE-OUT SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Operation and Maintenance manuals.
 2. Product warranties.
 3. "Record As-Built Drawings".

1.2 OPERATION AND MAINTENANCE MANUALS

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
1. Prepare data in the form of an instructional manual.
 2. Binders: Commercial quality, 8-1/2 x 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
 3. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
 4. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
 5. Text: Manufacturer's published data, or typewritten data on 20 pound paper.
 6. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
 7. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, in three parts as follows:
 - a. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - b. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - 1) Significant design criteria.

- 2) List of equipment.
 - 3) Parts list for each component.
 - 4) Operating instructions.
 - 5) Maintenance instructions for equipment and systems.
 - 6) Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
- c. Part 3: Project documents and certificates, including the following:
- 1) Shop drawings and product data.
 - 2) Certificates.
 - 3) Photocopies of warranties.

1.3 PRODUCT WARRANTIES

- A. Submit Warranties required for specific Products or Work as specified in each individual Section.
- B. List of Minimum Required Warranties and Guarantees (where applicable):
1. General Contractor - One (2) two guarantee for all labor and materials for the entire project.
 2. HVAC Contractor - One (2) two guarantee for all labor and materials and manufacturer's standard guarantees for equipment within the scope of this contract.
 3. Electrical Contractor - One (2) two guarantee for all labor and materials, and manufacturer's standard guarantees for all equipment and fixtures within the scope of this contract.
 4. Windows and Doors - Manufacturer's standard guarantee, one (1) year minimum.
 5. Carpeting - Manufacturer's standard guarantee, one (1) year minimum for material and installation.
 6. Major Appliances - e.g., range, range hood, refrigerator, disposal, washer and dryer, thru-wall A.C. units, dishwashers, etc. - Manufacturer's standard guarantees, one (1) year minimum.
- C. Form of Submittals:

1. Bind in commercial quality 8-1/2 x 11 inch three D side ring binders with durable plastic covers.
2. Cover: Identify each binder with typed or printed title WARRANTIES with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
3. Table of Contents: Neatly typed, in sequence of Table of Contents of Project Manual, with each item identified with number and title of specification Section in which specified, and name of Product or Work item.
4. Separate each warranty with index tab sheets keyed to Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

D. Time of Submittals:

1. For equipment or component parts of equipment put into service during construction with Architect approval, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Final Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Final Completion, submit within 10 days after acceptance.

1.4 "PROJECT RECORD AS-BUILT DRAWINGS"

A. Project Record Documents required include:

1. Marked-up copies of Contract Drawings.
2. Marked-up copies of Shop Drawings.
3. Marked-up copies of Contract Modifications.
4. Marked-up Product Data submittals.
5. Field records for variable and concealed conditions.
6. Record information on Work that is recorded only schematically.

B. Maintenance of Documents: Store record documents in field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain and protect record documents from damage in a clean, dry, legible condition. Make documents available at all times for inspection.

C. Record Drawings:

1. During construction, maintain a set of black-line white-prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
 - a. Mark these Drawings to indicate actual installation where installation varies from installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - 1) Dimensional changes to Drawings.
 - 2) Revisions to details shown on Drawings.
 - 3) Depths of foundations below first floor.
 - 4) Locations and depths of underground utilities.
 - 5) Revisions to routing of piping and conduits.
 - 6) Revisions to electrical circuitry.
 - 7) Actual equipment locations.
 - 8) Duct size and routing.
 - 9) Locations of concealed internal utilities.
 - 10) Changes made by Contract Modification.
 - 11) Details not on original Contract Drawings.
 - b. Mark completely and accurately record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 - c. Mark record sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of Work at same location.
 - d. Mark important additional information which was either shown schematically or omitted from original Drawings.
 - e. Note construction change directive numbers, alternate numbers, Contract Modification numbers and similar identification.
 - f. Contractor bears full Responsibility for Markup and Supervision of the As-Built documentation throughout the course of the project. Where feasible, individual or entity who obtained record data,

whether individual or entity is installer, subcontractor, or similar entity, is required to prepare mark-up on Record Drawings.

- 1) Accurately record information in an understandable Drawing technique.
 - 2) Record data as soon as possible after it has been obtained. In case of concealed installations, record and check mark-up prior to concealment.
- g. At time of Final Acceptance, submit record Drawings to Architect for Owner's records. Organize into sets, bind and label sets for Owner's continued use.
2. Copies and Distribution: After completing preparation of Record Drawings, print 3 black-line prints of each Drawing, whether or not changes and additional information were recorded. Organize copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.
- a. Organize and bind original marked-up set of prints that were maintained during construction in same manner.
 - b. Organize record transparencies into sets matching print sets. Place each set in durable tube-type Drawing containers with end caps. Mark end cap of each container with suitable identification.

D. Additional Record Submittals:

1. Refer to other specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Final Acceptance, complete additional records and place in order, properly identified and bound or filed, ready for use and reference.
 - a. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
 - 1) Load and performance testing.
 - 2) Inspections and certifications by governing authorities.
 - 3) Fire resistance and flame spread test results.
 - 4) Final inspection and correction procedures.

END OF SECTION

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide all labor, superintendence, materials, tools, transportation, plant and equipment and all means of construction necessary and reasonably incidental to:

Bid Item – New overhead garage door for Woodlynne Fire Department. Partial demolition of the existing building includes demolition of portions of the existing exterior masonry wall, overhead door and header, entry door and lintel, partial floor slab, partial ceiling grid, various wall and ceiling mounted items. Existing masonry walls, door openings, roof construction, and all other elements will require shoring or other means of support during demolition. Demolition of overhead door, entry door, and existing lintels and headers is in preparation to expand the width of the existing overhead door and install new column, header, and lintel.

- B. The Contractor shall be responsible for obtaining all necessary approvals, permits, registrations and/or certifications and construction permits including, fees for the same. The Contractor must follow and comply with all applicable requirements and standards as required under the approvals, permits, registrations and/or certifications and construction permits obtained for this project.

1.2 PROJECT CONDITIONS

- A. Dust Control: To prevent unnecessary spread of dust during performance of demolition work (including crushing of concrete footings and foundations), thoroughly moisten surfaces and debris as required to prevent dust being a nuisance to the public, neighbors and concurrent performance of other work on the site. Contractor shall be responsible for securing a supply of water in accordance with applicable regulations. Contractor shall be responsible for providing all water required at his cost.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials needed or required for temporary protection in the form of barricades, fences, enclosures, etc., may be "used" construction materials of sound condition and reasonably clean. However, the condition of same materials shall meet or exceed the requirements of governing agencies or approving bodies as may be involved with the work.
- B. Equipment, machinery and apparatus, motorized or otherwise, used to perform the demolition work may be used as chosen at the Contractor's discretion, but which will perform the work within the limits of the Contract requirements for the

duration of the project.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to performance of the actual work, carefully inspect the entire site and structures and locate, and verify with the Architect / Engineer those structures and objects designated to be demolished and removed and those structures and objects to be preserved.
- B. Locate existing exposed and buried active utilities and determine the requirement for their protection, or their disposition with respect to the demolition work. Refer to Section 3.7 for additional requirements.

3.2 PERFORMANCE

- A. Conduct demolition to minimize interference with adjacent structures or properties and protect existing structures/surfaces to remain.
- B. Cease operations immediately if adjacent structures appear to be in danger. Notify Project Manager and authority having jurisdiction; do not resume operations until directed.
- C. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.
- D. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
- E. Sprinkle demolition areas with water to minimize dust. Provide hoses and water connections for this purpose.

3.3 DEBRIS REMOVAL

- A. Dispose of demolition debris off site in a lawfully approved landfill area. Licensed to receive demolition materials including asbestos and lead.

3.4 ABANDONED EQUIPMENT AND MACHINERY

- A. Existing equipment and machinery in or on the structures shall become the property of the Contractor and may not be disposed of on the site but shall be removed and disposed of in a lawful manner off site.

3.5 CONCRETE AND MASONRY REMOVAL

- A. Under the base bid, the Contractor must demolish all existing concrete foundations, footings, and floor slabs that are indicated to be demolished. The Contractor is responsible for removing all foundation, footing, and slab materials from the site and providing fill of equivalent volume. All non concrete debris and other materials must be removed from the demolished or crushed concrete

foundations and floor slabs.

- B. Where concrete building or site elements are demolished as a part of the work, the Contractor may crush demolished concrete material to pieces 3" or smaller and place the crushed concrete materials to bring area of demolition up to level of adjacent grade after demolition and crushing of the existing building concrete foundations and floor slabs if doing so is approved as a base for future work and agreed to by Owner. The crushed concrete fill materials shall be in layers not more than 8" loose depth and shall be compacted by heavy equipment.
- C. Any excess crushed concrete material not used on site in a manner approved by Owner shall be removed from the project site by the Contractor and disposed of at the Contractor's cost.
- D. Demolition and crushing of concrete foundation and slab materials must be performed to meet the requirements of DUST CONTROL as specified herein.
- E. Under base bid, the contractor shall be required to install clean top soil and grass seed to all disturbed areas.

3.6 BACKFILLING

- A. Where soil and site elements are removed, the Contractor must provide and install all required imported fill and earthwork operations to bring area of demolition up to level of adjacent grade after demolition and removal of any existing building footings, foundations, or floor slabs in accordance. Any fill material must be suitable as fill for intended purpose of area being filled. Areas to be seeded or landscaped must receive suitable topsoil material; areas to be built upon must receive suitable compactible fill.

3.7 UTILITIES

- A. Contractor must notify the various utility companies when the work is to begin so that gas and electric services may be discontinued if necessary and all wires and equipment may be disconnected in accordance with the rules and regulations of the utility companies. IN NO CASE SHALL CONTRACTOR UNDERTAKE EXCAVATION WITHOUT UNDERGROUND UTILITY PROPERTY BEING MARKED BY THE VARIOUS UTILITY COMPANIES.
- B. The Contractor shall plug, cap or otherwise disconnect all existing utilities as indicated on the Contract Drawings or as may enter the existing building in accordance with the individual utility company requirements. In the absence of specific utility company requirements, the Contractor shall use acceptable industry means and methods.

3.8 PERMITS AND LICENSES

- A. Contractor shall obtain and pay for all permits, fees and other charges required by the municipality, county or state, and / or utility companies' regulations.

3.9 PROTECTION

- A. Exercise care during demolition work to confine demolition operations to the site. The physical means and methods used for protection are at the Contractor's option. However, the Contractor will be completely responsible for replacement and restitution work of whatever nature at no expense to the Owner.
- B. Additionally, if public safety is endangered during the progress of the demolition work, provide adequate protective measures to protect public pedestrian and vehicular traffic on streets and walkways.
- C. Signs, signals and barricades used shall conform to requirements of Federal, State and local laws, rules, regulations, and precautions.

3.10 EXPLOSIVES AND BLASTING

- A. Not permitted in performance of demolition work.

END OF SECTION

SECTION 024119
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section for the Woodlynne Fire Department New Garage Door project for partial building demolition as indicated on the contract drawings and as specified herein.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Predemolition Photographs: Submit before Work begins.
- D. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

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.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
- C. 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.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.

2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- 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.
1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site 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.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

**SECTION 033000
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - B. Slabs-on-grade.
 - C. Footings and foundations.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- D. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Steel reinforcement and accessories.
 - 4. Fiber Reinforcement.

5. Curing compounds.
 6. Floor and slab treatments.
 7. Bonding agents.
 8. Adhesives.
 9. Repair materials.
- E. Field quality-control test and inspection reports.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5.
 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 - 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Chamfer Strips: Wood, metal, PVC, or rubber strips, **3/4 by 3/4 inch (19 by 19 mm)**, minimum.
- D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than **1 inch (25 mm)** to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than **1 inch (25 mm)** in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Wire: ASTM A 82.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut bars true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.5 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
- B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
 - 1. Maximum Coarse-Aggregate Size: 1-1/2 inches (38 mm) for foundations and walls, 3/4 inch (19 mm) nominal for slabs.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.6 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble

chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.7 VAPOR RETARDERS

- A. Plastic Vapor Retarder: ASTM E 1745, Class C, or polyethylene sheet, ASTM D 4397, not less than **15 mils (0.25 mm)** thick. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.
 1. Products (or equivalent):
 - a. Fortifiber Corporation; Moistop Plus.
 - b. Raven Industries Inc.; Dura Skrim.
 - c. Reef Industries, Inc.; Griffolyn Type.
 - d. Stego Industries, LLC; Stego Wrap, 10 mils.
- B. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a **1-1/2-inch (37.5-mm)** sieve and 0 to 5 percent passing a **No. 8 (2.36-mm)** sieve.

2.8 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
 1. Available Products (or equivalent):
 - a. Burke by Edoco; BurkeFilm.
 - b. ChemMasters; Spray-Film.
 - c. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Aquafilm.
 - d. Dayton Superior Corporation; Sure Film.
 - e. Euclid Chemical Company (The); Eucobar.
 - f. L&M Construction Chemicals, Inc.; E-Con.
 - g. Meadows, W. R., Inc.; Sealtight Evapre.

- h. Sika Corporation, Inc.; SikaFilm.
 - i. Symons Corporation, a Dayton Superior Company; Finishing Aid.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
 - 1. Available Products (or equivalent):
 - a. Anti-Hydro International, Inc.; AH Clear Cure WB.
 - b. Burke by Edoco; Spartan Cote WB II.
 - c. ChemMasters; Safe-Cure & Seal 20.
 - d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Cure and Seal WB.
 - e. Dayton Superior Corporation; Safe Cure and Seal (J-18).
 - f. Euclid Chemical Company (The); Aqua Cure VOX.
 - g. L&M Construction Chemicals, Inc.; Dress & Seal WB.
 - h. Meadows, W. R., Inc.; Vocomp-20.
 - i. Symons Corporation, a Dayton Superior Company; Cure & Seal 18 Percent E.

2.9 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.10 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.

4. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
 4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.11 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.
- C. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Footings: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.50.
 3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
 4. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.
- B. Foundation Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
4. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.

C. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3500 psi at 28 days.
2. Minimum Cementitious Materials Content: 520 lb/cu. yd.
3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
4. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.
5. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.5 lb/cu. yd. (0.90 kg/cu. m).

2.13 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.14 CONCRETE MIXING

A Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 1. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces.
 2. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.

- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces.
 - 1. Install keyways, reglets, recesses, and the like, for easy removal.
 - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 VAPOR RETARDERS

- A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.
 - 1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.
- B. Granular Course: Cover vapor retarder with granular fill, moisten, and compact with mechanical equipment to elevation tolerances of plus 0 inch (0 mm) or minus 3/4 inch (19 mm).

3.5 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 1. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
 - 2. Terminate full-width joint-filler strips not less than **1/2 inch (13 mm)** or more than **1 inch (25 mm)** below finished concrete surface where joint sealants, specified in Division 7 Section "Joint Sealants," are indicated.
 - 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- D. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least **6 inches (150 mm)** into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below **40 deg F (4.4 deg C)** for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- F. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below **90 deg F (32 deg C)** at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.8 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces exposed to public view locations and locations to be covered with a coating or covering material applied directly to concrete.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.9 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of **1/4 inch (6 mm)** in 1 direction.
1. Apply scratch finish to surfaces to receive mortar setting beds for bonded cementitious floor finishes or concrete floor toppings.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 2. Finish surfaces to the following tolerances, according to **ASTM E 1155 (ASTM E 1155M)**:
 - a. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade.

- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.
 - 1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
 - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.10 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.11 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching **0.2 lb/sq. ft. x h (1 kg/sq. m x h)** before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.

 - b. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

3. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than **1/2 inch (13 mm)** in any dimension in solid concrete, but not less than **1 inch (25 mm)** in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of **0.01 inch (0.25 mm)** wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of **1/4 inch (6 mm)** to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.

5. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- C. Inspections:
1. Steel reinforcement placement.
 2. Verification of use of required design mixture.
 3. Concrete placement, including conveying and depositing.
- D. Measure floor and slab flatness and levelness according to ASTM E 1155 (ASTM E 1155M) within 48 hours of finishing.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.

- a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
9. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION

SECTION 040516

MORTAR AND MASONRY GROUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Mortar and grout for masonry.

1.2 SUBMITTALS

- A. Samples: Submit two (2) samples of mortar, installed with brick, on site.

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 530 and ACI 530.1.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Cold Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.
- B. Hot Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Hot Weather Masonry Construction.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: ASTM C150, Type I, gray or white color.
- B. Masonry Cement: ASTM C91, Type S, gray or white color.
- C. Premix Mortar: ASTM C387, Type S, using gray or white cement, normal strength.
- D. Mortar Aggregate: ASTM C144, standard masonry type.
- E. Hydrated Lime: ASTM C207, Type S.
- F. Grout Aggregate: ASTM C404.
- G. Water: Clean and potable.
- H. Mortar Color: Mineral oxide pigment; color to be selected by Architect.

2.2 MORTAR MIXES

- A. Ready Mixed Mortar: ASTM C1142, Type RS.
- B. Mortar for Load Bearing Walls and Partitions: ASTM C270, Type S, using the Property Method.
- C. Mortar for Non-Load Bearing Walls and Partitions: ASTM C270, Type N, using the Property Method.
- D. Mortar for Reinforced Masonry: ASTM C270, Type S, using the Property Method.
- E. Pointing Mortar for Masonry: ASTM C270, Type N using the Property Method.
- F. Stain Resistant Pointing Mortar: One (1) part Portland Cement, 1/8 part hydrated lime, and two (2) parts graded (80 mesh) aggregate, proportioned by volume.

2.3 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270 and C780.
- B. Do not use anti-freeze compounds to lower the freezing point of mortar.
- C. Add mortar color at exterior building walls only, in accordance with manufacturer's recommendations.

2.4 GROUT MIXES

- A. Typical Masonry: 2,000 psi strength at 28 days; 8-10 inches slump; premixed type in accordance with ASTM C94 mixed in accordance with ASTM C476 fine and coarse grout.

2.5 GROUT MIXING

- A. Mix grout in accordance with ASTM C94.
- B. Do not use anti-freeze compounds to lower the freezing point of grout.

2.6 MIX TESTS

- A. Test mortar and grout in accordance with Section 01001, Paragraph B.5 - Quality Control.
- B. Testing of Mortar Mix: In accordance with ASTM C780 for compressive strength, consistency, mortar aggregate ratio, water content, air content, and splitting tensile strength.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Apply bonding agent to existing concrete surfaces.

3.2 INSTALLATION

- A. Install mortar and grout in accordance with premix mortar manufacturer's instructions.
- B. Work grout into masonry cores and cavities to eliminate voids. Do not displace reinforcement.

END OF SECTION

SECTION 042000

UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
1. Mortar.
 2. Reinforcing.
 3. Flashing.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. ASTM C 144 - Specification for Aggregate for Masonry Mortar.
 2. ASTM C 150 - Specification for Portland Cement.
 3. ASTM C 207 - Specification for Hydrated Lime for Masonry Purposes.
 4. ASTM C 270 - Specification for Mortar for Unit Masonry.
 5. ASTM C 387 - Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
 6. ASTM C 404 - Specification for Aggregates for Masonry Grout.
 7. ASTM C 476 - Specification for Grout for Masonry.
 8. ASTM C 1019 - Method of Sampling and Testing Grout.
 9. IMIAC - International Masonry Industry All-Weather Council: Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.
 10. Building Code Requirements for Masonry Structures ACI 530-95/ASCE 5-95/TMS 402-95.
 11. Specification for Masonry Structures ACI 530.1-95/ASCE 5-95/TMS 402-95.

1.3 SUBMITTALS

- A. Masonry Unit Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certification that each type complies with specified requirements.
- B. Face Brick and/or Exposed Concrete Masonry Veneers: Submit manufacturer's sample boards of colors/textures available within specified cost range. Contract shall include selection of multiple colors/textures for use on separate buildings throughout the project.
- C. Submit mix designs and color samples for grout and mortar.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.

1.5 PROJECT CONDITIONS

- A. Protection of Work: During erection, cover top of walls with waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.
- B. Staining: Prevent grout or mortar or soil from staining the face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with such masonry.
- C. Cold Weather Protection:
 - 1. Do not lay masonry units which are wet or frozen.
 - 2. Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.
 - 3. Remove masonry damaged by freezing conditions.
- D. Environmental Requirements:
 - 1. Cold Weather Requirements: IMIAC - Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.
 - 2. Specific Cold Weather Requirements: When the ambient air temperature is below 40 degrees F, heat mixing water to maintain mortar temperature between 40 degrees F and 120 degrees F until placed. When the ambient air temperature is below 32 degrees F, heat the sand and water to maintain this mortar temperature.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- A. General: Comply with referenced standards and other requirements indicated below applicable to each form of concrete masonry unit required.
- B. Concrete Block: Provide units complying with characteristics indicated below for Grade, Type, face size, exposed face and, under each form of block included, for weight classification.
 - 1. Grade N.
 - 2. Size: Manufacturer's standard units with nominal face dimensions of 16 in. long x 8 in. high (15-5/8 in. x 7-5/8 in. actual) x thickness' indicated.
 - 3. Type I, moisture-controlled units.

4. Hollow Loadbearing Block: ASTM C 90, Type 1. (Solid where shown on plans)
 5. Weight Classification: Normal weight.
 6. Minimum 28-day compressive strength of 1,900 psi.
 7. All block below grade shall be filled solid with grout.
- D. Pre-Cast Sills & Lintels: Provide pre-cast concrete sills and lintels where indicated on the elevation drawings. Typical locations include horizontal transitions between brick base and siding, at window/door heads, and window sills, water table caps. Brick facades to have brick soldier course headers and sloped rowlock sills. All pre-cast sills MUST be set to slope away from the face of the building for positive drainage.
1. Units shall comply with requirements of ASTM C1364-17.
- E. Face Brick:
1. Face Brick: ASTM C216
 - a. Grade SW, 2500 psi minimum compressive strength.
 - b. Type FBS
 2. Size
 - a. Modular: 2 1/4" (57.2mm) high, 7 5/8" (193.7mm) long, 3 5/8" (92.1mm) deep.
 - b. Utility: 3 5/8" (92.1mm) high, 11 5/8" (295.3mm) long, 3 5/8" (92.1mm) deep.
 3. Maximum Initial Rate of Absorption (IRA): 30 g / min / 30 sq. in.
 4. Cored and Solid Brick: Face brick may be either cored or solid, except that only solid brick shall be used for corbelling and where cores will be exposed to view. If cored brick is furnished, core holes shall be not less than 3/4 inch from any edge and no more than 25 percent of the gross area of the brick.
 5. Special Molded Shapes: Provide special shapes as shown and required.

2.2 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150, Type I, except Type III may be used for cold weather construction. Provide natural color or white cement as required to produce required mortar color.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144, except for joints less than 1/4 in. use aggregate graded with 100 percent passing the No. 16 sieve.
- D. Aggregate for Grout: ASTM C 404.

- E. Water: Clean and potable.

2.3 JOINT REINFORCEMENT, TIES AND ANCHORING DEVICES

- A. Materials: Comply with requirements indicated below for basic materials and with requirements indicated under each form of joint reinforcement, tie and anchor for size and other characteristics:
- B. Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 123, Class B-2 (1.5 oz per sq ft of wire surface) for zinc coating applied after prefabrication into units.
- C. Joint Reinforcement: Provide welded-wire units prefabricated with deformed continuous rods and plain cross rods into straight lengths of not less than 10 in. with prefabricated corner and tee units, and complying with requirements indicated below:
 - 1. Width: Fabricate joint reinforcement in units with widths of approximately 2-in. less than nominal width of walls and partitions as required to provide mortar coverage of not less than 5/8 in. on joint faces exposed to exterior and 1/2 in. elsewhere.
 - 2. Wire Size for Side Rods: 3/16 in. diameter
 - 3. Wire Size for Cross Rods: 3/16 in. diameter
 - 4. For single-width masonry provide type as follows with single pair of side rods:
 - a. Truss design type Dur-O-Eye or Ladur-Eye by Dur-O-Wal Inc., or equal, spaced not more than 16-in. o.c.
- D. Premolded Control Joint Strips: Material as indicated below, designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
 - 1. Polyvinyl chloride complying with ASTM D 2287, General Purpose Grade, Designation PVC-63506.

2.4 MORTAR AND GROUT MIXES

- A. General: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated.
- B. Mortar:
 - 1. Mortar: Type "S", in accordance with the Proportion specification of ASTM C 270.
 - a. Mixing of components on-site is acceptable.
 - b. Mixing on-site water and packaged dry blended mix for mortar (ASTM C 387), that contains no masonry cement, is acceptable.

2. Pointing Mortar: Duplicate original mortar proportions. Add aluminum tristearate, calcium stearate, or ammonium stearate equal to 2 percent of Portland cement weight.

C. Mixing – Mortar:

1. Thoroughly mix mortar ingredients in accordance with ASTM C 270, in quantities needed for immediate use.
 - a. Maintain sand uniformly damp immediately before the mixing process.
 - b. Provide uniformity of mix and coloration.
 - c. Do not use anti-freeze compounds.
 - d. If water is lost by evaporation, retemper only within 2 hours of mixing. Do not retemper mortar more than 2 hours after mixing.
 - e. Add motor color at exterior building wall only, in accordance with manufacturer's recommendations. Color to be selected by Architect.

D. Mixes - Grout Fill:

1. Grout fill is for concrete masonry unit bond beams, lintels, and reinforced cells with reinforcing bars and embedded plates.
 - a. Compressive Strength: 2000 psi minimum at 28 days, as determined in accordance with the provisions of ASTM C 1019.
 - b. Slump: 8 inches, minimum; 10 inches, maximum, taken in accordance with ASTM C 143.
 - c. Use coarse grout when grout space is equal to or greater than 4 inches in both directions.
 - d. Use fine grout when grout space is smaller than 4 inches in either direction.
 - e. Do not use air-entrainment admixtures.

E. Mixing – Grout:

1. Grout: Batch and mix grout in accordance with ASTM C 94 or ASTM C476 for site batched and mixed grout. Do not use anti-freeze compounds to lower the freezing point of grout.
2. Calcium chloride is not permitted in mortar or grout. Admixtures or other chemicals containing Thiocyanates, Calcium Chloride or more than 0.1 percent chloride ions are not permitted.

2.5 FLEXIBLE FLASHING

- A. Materials for flashing all heads, sills, and thru-wall conditions as shown on drawings shall be copper, 3 oz per square foot in weight permanently bonded on both sides by asphalt to heavy, waterproofed, creped Kraft paper.

- B. Acceptable Products:
 - 1. COP-R-TEX Duplex as manufactured by York Manufacturing, Inc., Sanford, Maine 04073.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not wet concrete masonry units.
- B. Thickness: Build single-width walls to the actual thickness of the masonry units, using units of nominal thickness indicated.
- C. Build chases and recesses as shown or required for the work of other trades. Provide not less than 8-in. of masonry between chase or recess and jamb of openings, and between adjacent chases and recesses.
- D. Leave openings for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- E. Cut masonry units using motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.
 - 1. Use dry cutting saws to cut concrete masonry units.
- F. Provide temporary bracing during installation of masonry work. Maintain in place until building structure providing permanent bracing.
- G. Verification of existing conditions before starting.
- H. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- I. Report in writing to Architect prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- J. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.2 PLACING REINFORCEMENT

- A. General: Clean reinforcement of loose rust, mill scale, earth, ice or other materials which will reduce bond to mortar or grout. Do not use reinforcing bars with kinks or bends not shown on drawings or final shop drawings, or bars with reduced cross-section due to excessive rusting or other causes.

- B. Position reinforcement accurately at the spacing shown. Support and secure vertical bars against displacement. Horizontal joint reinforcement shall be placed as the masonry work progresses. Where vertical bars are shown in close proximity, provide a clear distance between bars of not less than the nominal bar diameter or 1 in. (whichever is greater).
- C. Splice reinforcement bars where shown; do not splice at other points unless acceptable to the Architect. Provide lapped splices of 40 bar diameters. In splicing vertical bars, lap ends, place in contact and wire tie.

3.3 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4 in. in 10 ft.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4 in. in any bay or 20 ft maximum, nor 1/2 in. in 40 ft or more. For top surfaces of bearing walls do not exceed 1/8 in. between adjacent floor elements in 10 ft or 1/16 in. within width of a single unit.
- C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2-in. in any bay or 20 ft maximum, nor 3/4 in. in 40 ft or more.
- D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4 in. nor plus 1/2 in.
- E. Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8 in.. Do not exceed head joint thickness indicated by more than plus or minus 1/8 in.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint width and to accurately locate openings, movement-type joints, returns and offsets. Avoid the use of less-than-half size units at corners, jambs and wherever possible at other locations.
- B. Lay up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.
- C. Pattern Bond: Lay all masonry in running bond with vertical joint in each course centered on units in courses above and below, unless specifically indicated otherwise on plans.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells.

- B. Maintain joint widths shown, except for minor variations required to maintain bond alignment. Mortar joints to match existing.
- C. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated.
- D. Tool exposed joints slightly concave using a jointer larger than joint thickness, unless otherwise indicated.
- E. Install weeps at 32 inches on center horizontally above lintels and at bottom of exterior walls.

3.6 HORIZONTAL JOINT REINFORCEMENT

- A. General: Provide continuous horizontal joint reinforcement as indicated. Install longitudinal side rods in mortar for their entire length with a minimum cover of 5/8 in. on exterior side of walls, 1/2 in. elsewhere. Lap reinforcing a minimum of 6 in.

3.7 ANCHORING MASONRY WORK

- A. Anchor masonry work to supporting structure as indicated.

3.8 GROUTING

- A. General:
 1. Use "Fine Grout" for filling spaces less than 4 in. in both horizontal directions.
 2. Use "Coarse Grout" for filling 4 in. spaces or larger in both horizontal directions.
- B. Low-Lift Grouting:
 1. Provide minimum clear dimension of 2-in. and clear area of 8 sq in. in vertical cores to be grouted.
 2. Place vertical reinforcement prior to laying of CMU. Extend above elevation of maximum pour height as required to allow for splicing. Support in position at vertical intervals not exceeding 192 bar diameters nor 10 ft.
 3. Lay CMU to maximum pour height. Do not exceed 5 ft height.
 4. Pour grout using container with spout or by chute. Rod or vibrate grout during placing. Place grout continuously; do not interrupt pouring of grout for more than one hour. Terminate grout pours 1-1/2 in. below top course of pour.
 5. Provide cleanout holes in first course at all vertical cells which are to be filled with grout. After reinforcing of masonry is securely tied in place, plug cleanout holes with masonry units. Brace against wet grout pressure.
 6. Place horizontal wall reinforcement as the masonry units are laid.
 7. Preparation of Grout Spaces: Prior to grouting, inspect and clean grout spaces. Remove dust, dirt, mortar droppings, loose pieces of masonry and other foreign materials from grout spaces. Clean reinforcing and adjust to

proper position. Clean top surface of structural members supporting masonry to ensure bond. After final cleaning and inspection, close cleanout holes and brace closures to resist grout pressures.

8. Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist displacement of masonry units and breaking of mortar bond. Install shores and bracing, if required, before starting grouting operations.
9. Place grout by pumping into grout spaces unless alternate methods are acceptable to the Architect.
10. Limit grout pours to sections which can be completed in one working day with not more than one hour interruption of pouring operation. Place grout in lifts which do not exceed 5 ft. Allow not less than 30 minutes, or more than one hour between lifts of a given pour. Rod or vibrate each grout lift during pouring operation.
 - a. Place grout in lintels or beams over openings in one continuous pour.
11. When more than one pour is required to complete a given section of masonry, extend reinforcing beyond masonry as required for splicing. Pour grout to within 1-1/2 in. of top course of first pour. After grouted masonry is cured, lay masonry units and place reinforcing for second pour section before grouting. Repeat sequence if more pours are required.
12. Inspection: All reinforced masonry walls shall be "Engineered Masonry" and shall be inspected in accordance with ACI-530-88. Test masonry prisms in accordance with ASTM E 447, and provide quality control as required by ASTM C780. Prism strengths shall be as noted on the drawings.

3.9 PLACING FLEXIBLE FLASHING

- A. Heads and Sills: Flashing for heads and sills shall be cut flush with the exterior face of the wall after being left exposed for inspection purposes only. Flashing shall be carried through the wall and turned up at the inside not less than 2". Head flashing shall be carried 6" beyond both ends of the steel lintel. Both head and sill flashing shall be turned up at the sides to form a pan. All corners shall be folded, not cut. Install weepholes.
- B. Spandrels: Spandrel flashing shall start from the outside toe of the shelf angle, go up the face of the beam and then through the wall, turning up on the inside not less than 2". Install weepholes.

3.10 CLEANING

- A. Final Cleaning: After mortar is thoroughly set and cured, clean masonry as follows:
 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 2. Test cleaning methods on sample wall panel; leave 1/2 panel uncleaned for comparison purposes. Obtain Owner's approval of sample cleaning before proceeding with cleaning of masonry.

3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
- B. Protection: Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures unit masonry work being without damage and deterioration at time of substantial completion.

3.11 QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. The Construction Contractor will employ a testing laboratory to perform tests and submit test reports.
- B. Testing - Masonry Grout: Conduct strength tests in accordance with ASTM C 1019.
- C. Testing - Masonry Mortar: Conduct strength tests in accordance with the following:
1. Spread mortar on the masonry units $\frac{1}{2}$ inch to $\frac{5}{8}$ inch thick, and allow to stand for one minute.
 2. Remove mortar and place in a 2-inch by 4-inch cylinder in two layers, compressing the mortar into the cylinder using a flat-end stick or fingers. Lightly tap mold on opposite sides, level off and immediately cover molds and keep them damp until taken to the laboratory.
 3. After 48 hours' set, have the laboratory remove molds and place them in the fog room until tested in damp condition.

END OF SECTION

SECTION 051200

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Structural steel.
- 2. Grout.

- B. Related Sections:

- 1. Section 014000 "Quality Requirements" for independent testing agency procedures and administrative requirements.
- 2. Section 055000 "Metal Fabrications".

1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 ACTION SUBMITTALS

- A. Shop Drawings: Show fabrication of structural-steel components.

- 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
- 2. Include embedment drawings.
- 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
- 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

1.5 QUALITY ASSURANCE

- A. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 341 and AISC 341s1.
 - 3. AISC 360.
 - 4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.7 COORDINATION

- A. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992/A 992M.
- B. Channels, Angles, M, S-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.

- D. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
 - 1. Weight Class: Standard, unless noted otherwise on Drawings.
 - 2. Black except where indicated to be galvanized.
- E. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
- B. Unheaded Anchor Rods: ASTM F 1554, Grade 36
 - 1. Configuration: Straight.
 - 2. Nuts: ASTM A 563 (ASTM A 563M) heavy.
 - 3. Plate Washers: ASTM A 36/A 36M carbon steel.
 - 4. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
 - 5. Finish: Plain.

2.3 PRIMER

- A. Low-Emitting Materials: Paints and coatings 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."
- B. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
- C. Galvanizing Repair Paint: ASTM A 780.

2.4 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 3, "Power Tool Cleaning."
- F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened.

- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
 - 2. Surfaces to be field welded.
 - 3. Surfaces to be high-strength bolted with slip-critical connections.
 - 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
 - 5. Galvanized surfaces.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

2.8 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
 - 1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
 - 2. Galvanize lintels, shelf angles and all structural steel exposed to weathers attached to structural-steel frame and located in exterior walls.

2.9 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Bolted Connections: Shop-bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 - 1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of baseplate.
 - 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 - 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.
 1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- D. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes joint sealants for the following applications, including those specified by reference to this Section: following applications:
 - 1. Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 2. Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Preconstruction field test reports.
- D. Compatibility and adhesion test reports.
- E. Product test reports.

1.4 QUALITY ASSURANCE

- A. Preconstruction Compatibility and Adhesion Testing: Submit samples of materials that will contact or affect joint sealants to joint-sealant manufacturers for testing according to ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.

1.5 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric 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 elastomeric sealant manufacturer agrees to furnish elastomeric 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: Ten years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.
- B. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric 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.

- C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- E. Multi-Component Polyurethane:
 - 1. Products (or equivalent):
 - a. Tremco Dymeric 240 FC
 - b. Or equal
 - 2. Type and Grade: M (multi-component) and NS (non sag).
 - 3. Class: 50.
 - 4. Use Related to Exposure: NT (nontraffic).
 - 5. Uses Related to Joint Substrates: T, NT, M, A and O.
- F. Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant:
 - 1. Products (or equivalent):
 - a. Pecora Corporation; 890.
 - b. Dow Corning; 790.
 - c. Or equal.
 - 2. Type and Grade: S (single component) and NS (nonsag).
 - 3. Class: 25.
 - 4. Use Related to Exposure: NT (nontraffic).
 - 5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

2.4 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products (or equivalent):
 - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
 - b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.
 - c. Or equal.

B. Acoustical Sealant for Concealed Joints: Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Products (or equivalent):
 - a. Pecora Corporation; BA-98.
 - b. Tremco; Tremco Acoustical Sealant.
 - c. Or equal.

2.5 PREFORMED JOINT SEALANTS

A. Preformed Silicone-Sealant System: Manufacturer's standard system consisting of precured low-modulus silicone extrusion, in sizes to fit joint widths indicated, combined with a neutral-curing silicone sealant for bonding extrusions to substrates.

1. Products (or equivalent):
 - a. Dow Corning Corporation; 123 Silicone Seal.
 - b. GE Silicones; UltraSpan US 1100.
 - c. Pecora Corporation; Sil-Span.
 - d. Tremco; Spectrem Ez Seal.
 - e. Or equal.

B. Preformed Foam Sealant: Manufacturer's standard mildew-resistant, nonmigratory, nonstaining, preformed, precompressed, open-cell foam sealant that is manufactured from high-density urethane foam impregnated with a nondrying, water-repellent agent.

1. Products (or equivalent):
 - a. EMSEAL Joint Systems, Ltd.; Emseal25V.
 - b. Illbruck Sealant Systems, Inc.; Wilseal 600.
 - c. Polytite Manufacturing Corporation; Polytite B.
 - d. Polytite Manufacturing Corporation; Polytite Standard.
 - e. Sandell Manufacturing Co., Inc.; Polyseal.
 - f. Density: Manufacturer's standard 5.5 to 6.5 lb/cu. ft. (90 to 110 kg/cu. m).

2.6 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. 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:

- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.7 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, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

DO NOT INSTALL BELOW 40° F

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.
 - a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
 - 2. Remove laitance and form-release agents from concrete.
 - a. Clean nonporous 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 in writing by joint-sealant manufacturer, based on 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 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. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install 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.
- F. Tooling of Non sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified 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 configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- G. Installation of Preformed Silicone-Sealant System: Comply with manufacturer's written instructions.
- H. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.
- I. 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.

END OF SECTION

SECTION 080671

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including general and supplementary conditions and division 1 specifications, apply to this section.

1.2 SUMMARY OF WORK INCLUDED

- A. Sections "General Conditions", "Special Requirements" and "General Requirements" form a part of this section by this reference thereto and shall have the same force and effect as if printed herewith in full.
- B. Furnish, deliver, and coordinate all mechanical and electronic finish hardware as indicated, specified and required. Include all hardware under this section that is not specified in other sections, whether or not such hardware is scheduled herein, and include all trim, attachments and fastenings specified or required for proper and complete installation for given application. Items of hardware (specifically, mounting accessories required by door or frame details and required to properly install hardware and have it function properly and in conjunction with specified interacting hardware) not definitely specified herein and necessary for completion of the work shall be provided. Such items shall be of type and quality suitable to the service required and comparable to adjacent hardware. Where size and shape of member is such as to prevent the use of types specified, hardware shall be furnished of suitable types having as nearly as practicable the same operation and quality as the type specified.
- C. Type: Typical finish hardware required includes the following:
 - 1. Hinges
 - 2. Lock cylinders and keys
 - 3. Lock and Latchsets
 - 4. Bolts
 - 5. Exit Devices
 - 6. Push/pull handles and plates/ kickplates
 - 7. Closers
 - 8. Overhead holders
 - 9. Door trim
 - 10. Seals, including Astragals or meeting seals on door pairs
 - 11. Weather-stripping for exterior doors
 - 12. Thresholds
 - 13. Security products and Misc. Items
 - 14. Electrical and electronic materials and systems

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Specifications sections directly related shall be effectively coordinated:

1. Metal Doors and Frames: Section 081113

1.4 REFERENCES

A. Documents and Institutes that shall be used in estimating, detailing and installing the items specified.

1. BHMA A156 – Builders Hardware Manufacturers Association
2. ANSI A117.1 – American National Standard Institute
3. NFPA 80 – Fire Doors and Windows 1999 Edition
4. NFPA 101 – Life Safety Code 2000Edition
5. NFPA 105 – Installation of Smoke Control Door Assemblies 1993 Edition
6. Local and State Building Codes
7. Underwriters Label for Fire Rated Doors and Assemblies
8. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames
9. Door Hardware Institute (DHI); 1990
10. Specifications for Making Buildings and Facilities Accessible to And Usable by Physically Challenged People CABO/ANSI A117.1 – 1999

1.5 SUBMITTALS

A. Manufacturer: Products of finish hardware supplied shall be selected from manufacturers mentioned in this document as approved by the architect/owner's representative prior to bid date.

B. Suppliers shall be recognized architectural finish hardware suppliers, with warehousing facilities who have been furnishing hardware in the projects vicinity for a period of not less than 2 years and who is or employs an experienced A.H.C. (or equal experience and technical skills), who is available at reasonable times during the course of the work for consultation about products, hardware requirements, to owner, professional, contractor or other contracted party.

C. Installer Qualifications: Must be qualified to install all Builders Hardware to the extent that all hardware is installed and properly operates to the manufacturers standards; including operational, functional, within dimensional parameters, to the manufacturer's templates, and strictly within the guidelines offered by manufacturer's product's instructions. Final adjustment shall be responsibility of installer, and shall be within tolerances as set by the product manufacturer's guidelines, both written and verbal, if applicable.

D. Product Data: Manufacturer's data for each different piece of hardware, with installation instructions. Two (2) complete sets of catalog cuts shall accompany the finish hardware schedule. The list of cuts shall include the item, manufacturer, and item number.

E. Hardware Schedule: Show manufacturer's complete identification for every item for every door.

1. Supplier shall submit three (3) copies of a complete hardware schedule referencing location of door, by door number, room number, corridor number, exterior or interior, door size, door swing, door and frame type, and any more significant information required for the professional to identify door, frame, hardware, and any other pertinent information required to evaluate compliance of materials. As noted below, only a vertical type hardware schedule shall be deemed acceptable.
2. Cross-reference to item names and designations in contract documents.
3. Indicate door/frame materials and sizes.
4. Explain number codes and abbreviations.
5. Indicate hardware mounting heights or locations, if different from those specified or if not specified.
6. Indicate finish for each item.
7. Preliminary schedule will be reviewed and accompanied by product data.
8. Provide Door and Hardware Institute's format vertical type hardware schedule showing door number, location, to and from rooms, swing of door, and list all hardware provided for that specific door type of operation. Horizontal type hardware schedules shall not be considered due to the cross-referencing required.

F. Keying Schedule:

1. Supplier required to meet with owner to finalize keying requirements and to propose final instructions in writing for owner's approval. Upon approval supplier shall prepare a final keying schematic chart and a listing of all key changes by door and lock showing all levels of keyed cylinders and approved expansion, and furnish to owner in duplicate. Construction keyed or temporary cores shall be furnished as required by the owner's representative during the construction phase.

G. Operation and Maintenance Data: For operating parts and finishes.

1. Supplier shall furnish manufacturer's maintenance and parts manuals (as available from manufacturers) for all hardware items furnished. Manuals shall be delivered to owner's representative prior to project closeout.

1.6 QUALITY ASSURANCE

- A. The quality of all items of hardware has been clearly indicated by the manufacturer's name and/or product number. Certain products are specified without substitution, and shall be furnished as specified. Requests for substitution must be in writing, submitted through a bidding contractor and received by the architect at least 10 days prior to bid date. The acceptance of any substitution shall be by addendum. Quality levels as specified herein shall be assured and warranted by the supplier.

1. Single source responsibility: Obtain each type of hardware (locksets, exit devices and closers) from a single manufacturer.

1.7 PROJECT CONDITIONS

- A. Sequence submittal of hardware schedule and door and frame submittals, allowing adequate time for review and resubmittals, if required, so that construction is not delayed; provide adequate information for review.
- B. Provide hardware installation templates to installers of hardware and to fabricators of other work, which is required to be prepared in the shop or factory for hardware installation.
- C. Coordinate shop drawings of other work so that proper preparation is made. Coordination of the following trades shall be included as applicable.
 - 1. Wood Door Manufacturer.
 - 2. Hollow Metal Manufacturer
 - 3. Aluminum manufacturer and/or supplier
 - 4. Electrical (and associated trades such as Security and Alarms) where electronic hardware is specified

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hardware at the times and to the locations required for timely installation.
- B. Provide a locked storage area controlled by the contractor for hardware not yet installed; take special care to prevent loss of long-lead items.

1.9 MAINTENANCE

- A. Provide all adjustment and maintenance tools recommended by hardware manufacturers.
- B. Final adjustment shall be responsibility of installer, and shall be within tolerances as set by the product manufacturer's guidelines and templates, both written and verbal, if applicable. It is the responsibility of the aluminum installer / supplier to make all adjustments to the hardware, installed on their doors and frames, for a period of one year from installation. All other adjustments to hardware on the project shall be the responsibility of the General Contractors Installer for a period of one year from installation.

PART 2 - PRODUCTS

- A. In addition to requirements of the hardware schedule, comply with the requirements below.

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements of all previous sections and conditions; manufacturers (or suppliers) offering products that may

be incorporated in this work shall be as approved by addendum by Architect. Requests for substitution shall be made in writing to Architect with sufficient product details, cross-references testing data, and any additional supportive materials (including samples if required) as Architect shall require.

1. Butts and Hinges(or equivalent).
 - a. McKinney Manufacturing Co (Assa Abloy)
 - b. Stanley Hardware
 - c. YKK AP
 - d. Bommer Manufacturing
 - e. Ives (Ingersoll-Rand)
 - f. Hager
2. Pivots (or equivalent):
 - a. Rixon (Assa Abloy)
 - b. Glynn- Johnson (Ingersoll-Rand)
3. Cylinders (or equivalent) - Furnished as a new key system by supplier.
 - a. Yale (Assa Abloy)
 - b. Corbin-Russwin (Assa Abloy)
 - c. Sargent (Assa Abloy)
 - d. Schlage (Ingersoll-Rand)
 - e. Falcon (Ingersoll-Rand)
4. Cylindrical Locks (or equivalent):
 - a. Yale PB5400LN, PB5300LN & PB4300LN (Assa Abloy)
 - b. Corbin Russwin, CL3300PZD, CL3900PZD, CL3300PZD (Assa Abloy)
 - c. Sargent 10G LP, 7GLP (Assa Abloy)
 - d. Schlage ND Series , AL Series, S Series , F Series (Ingersoll-Rand)
 - e. Falcon T Series, B Series, W Series, Y Series (Ingersoll-Rand)
5. Wall & Floor Stops (or equivalent):
 - a. Trimco (Assa Abloy)
 - b. Rockwood Manufacturing Co.
 - c. Burns Manufacturing
 - d. Ives (Ingersoll-Rand)
6. Overhead Stops (or equivalent):
 - a. Trimco Manufacturing (Assa Abloy)
 - b. Sargent (Assa Abloy)
 - c. Glynn-Johnson (Ingersoll-Rand)
7. Exit Devices and Trim (or equivalent):
 - a. Yale 70000 x PB600F Series 605 (Assa Abloy)
 - b. Corbin Russwin ED 5000S x PR900 Series 605 (Assa Abloy)
 - c. Sargent 80 x ETP series x 605 (Assa Abloy)
 - d. Von Duprin 98/99 series x 996L Trim
 - e. Monarch 18 Series Device and 18 XX Series Trim (Ingersoll-Rand)
8. Surface Closers (or equivalent):
 - a. Norton Door Controls 7500BF ALUM (Assa Abloy)
 - b. Corbin Russwin DC2200 ALUM (Assa Abloy)
 - c. Sargent 351 ALUM (Assa Abloy)

- d. LCN 4000 Series, 1000 Series (CAST IRON) (Ingersoll-Rand)
- e. Dor-o-matic SC70 Series, SC80 Series ALUM Ingersoll-Rand)
- 9. Flat Goods (or equivalent):
 - a. Trimco (Assa Abloy)
 - b. Rockwood Manufacturing Co.
 - c. Burns Manufacturing
 - d. Ives (Ingersoll-Rand)

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Sets" at the end of this section. Products are identified by using hardware designation numbers of the following:
 - 1. Manufacturers Product Designations: The product designation and name is listed for each type of hardware. Provide either the product designated or where more than one manufacturer is specified in part 2 under the article "Manufacturers" for each hardware type, the comparable product of one of the manufacturers.

2.3 MATERIALS AND FABRICATION

- A. Manufacturer's Names and Trade Names: Display of names, logos, or other identification is acceptable on lock or hinge edge of door, but not where visible on either face of door.
 - 1. Exception: As directed by or acceptable to the architect.
 - 2. Exception: Manufacturer's name or other identification on face of lock cylinders.
- B. Fasteners: Provide hardware prepared by the manufacturer with fastener holes for machine screws, unless otherwise indicated.
 - 1. Provide all fasteners required for secure installation. Utilize concealed fasteners wherever possible. Where through bolts are utilized, provide finish-threaded caps to fully conceal nuts.
 - a. Select fasteners appropriate to substrate and material being fastened.
 - 2. Use Flathead Phillips screws unless otherwise indicated. - At all secure areas provide security fasteners (Security head) of same type.
 - 3. Use wood screws or through bolts dependent on wood door and hardware manufacturer's requirements for installation in wood.
 - 4. Use fasteners impervious to corrosion outdoors and on exterior doors.
 - 5. Self-drilling "Tek" type screws are not acceptable. Use only fasteners supplied by hardware manufacturer.
 - 6. Where it is not possible to reinforce substrate adequately for screws, use through-bolts with sleeves or use sex bolts.

- a. Do not use where head or nut would be exposed on face of door, unless specifically indicated or made necessary by other requirements.
- b. Finish exposed heads and nuts the same as hardware on that side of the door.

7. Use expansion shield anchors in concrete and masonry.

2.4 HINGES, BUTTS, CONTINUOUS HINGES AND PIVOTS

A. Manufacturers:

- 1. Provide products complying with requirements of the contract document. Acceptable products shall be as specifically listed in the hardware sets herein by manufacturer's number and series. Provide either the product designated or where more than one manufacturer is specified in part 2, under the article "Manufacturers" for each hardware type, the comparable product of one of the manufacturers.

B. Butt Hinges: American made five-knuckle, exposed tip butt hinges.

- 1. Comply with applicable requirements of BHMA A156.1.
- 2. Use heavy weight hinges where scheduled at high frequency entrances.
- 3. Use full mortise hinges unless otherwise specified.
- 4. Dimensions: As indicated, within limits prescribed by ANSI/BHMA A 156.7.
 - a. Size(s): As prescribed by ANSI/BHMA A 156.7. - Finish as specified.
 - b. Size hinges to suit thickness of door, including applied facings.
 - c. Provide non-removable pins or safety studs for out-swinging doors with keyed lock or exit function.
 - a. Quantity: Provide minimum of 3 hinges or pivots on each door for doors up to and including 90". Add one additional hinge or Pivot for each 30" height increment increase.

C. Pivots - Provide type as specified in hardware sets.

2.5 LOCKS, LATCHES, AND BOLTS

A. Manufacturers:

- 1. Locksets, Latchsets, and Exit Devices:

- a. Provide products complying with requirements of the contract document. Acceptable products shall be as specifically listed herein by manufacturer's number and series.
 - b. All locksets shall be as listed in hardware sets. Neither plastic inserts nor tubular levers shall be furnished in the either levers or latches. All locksets shall be furnished with solid lever handles.
 - c. All cylindrical lever locksets shall feature a freewheeling locking mechanism to help extend the life of the lock and reduce maintenance.
 - d. Provide copy of 1 year written warranty for all cylindrical locksets when submitting hardware schedule for architect's approval.
2. Exit Devices: All exit devices for this project shall carry a written five-year manufacturer warranty. Provide copy of warranty when submitting hardware schedule for architect's approval. Use devices of only one manufacturer. All exit devices shall be provided with a guarded main latch. Standard (pullman, or other non-guarded) type latches (rim, vertical rod, or mortise device) lacking guard, shall not be acceptable.
- a. At hollow metal, wood doors or wide stile doors provide wide stile exit devices (with spacers as required) to clear raised trim as required by door details.
 - b. Locate exit devices at vertical location on door per architect's instructions at those doors where multiple lites occur to offer horizontal lines as per architect's design intent. Exit devices on doors with center cross rail shall be mounted centerline in rail.
 - c. Comply with requirements of BHMA A156.3, Grade 1.
 - d. Style: Modern push-pad type, narrow stile or wide stile as scheduled. Where scheduled, provide security type exit device from either of the manufacturers listed. Standard exit devices utilizing Pullman type latches shall not be acceptable where security exit devices are scheduled. Only active case heads utilizing an interlocked guarded and main latch shall be acceptable.
 - e. All exposed materials shall be architectural grade metals. Neither white metals, nor plastic shall be acceptable on any exposed surface.
 - f. Outside trim: All lever trim at exit devices, except where indicated as rigid dummy trim, shall be furnished with either breakaway or clutch-type freewheeling levers for durability and longevity.
 - g. Where cylinder only or where 121NL is indicated, provide outside trim employing a cylinder and cylinder collar only. This function (ANSI F03) shall result in key retraction of latchbolt.
 - h. All devices shall be supplied with Extra Heavy Duty Lever Release Trim. Trim shall have ramped (beveled) sides and a flush cylinder to resist abuse and extend the product life.
 - i. Locate exit devices at vertical location on door per architect's instructions at those doors where multiple lites occur to offer horizontal lines as per architect's design intent.

3. Flush bolts: Lever-extension flush bolts complying with BHMA A156.16, Grade 1.
 - a. Manual:
 - 1) Lower actuator centered 12 inches from door bottom; upper actuator centered 72 inches from door bottom. All flushbolts shall be furnished with stainless steel actuating fingers for durability.
 - 2) All flushbolts shall be furnished with dustproof strikes and mounting plates as required to secure to finished floor.
 - b. Automatic:
 - 1) All automatic flushbolts shall operate and function efficiently and smoothly when door closers are adjusted to meet and comply with ADA and Barrier Free closing and opening forces. Units that require door closers to be excessively adjusted to operate are not acceptable.
4. Strikes: Provide strike for each latch bolt and lock bolt.
 - a. Finish to match other hardware on door.
 - b. Use wrought box strikes with curved lips unless otherwise indicated.
 - c. Open strike plates may be used on interior wood
 - d. In floors, use dustproof strikes unless threshold is supplied and strike hole shall be provided with clean and dimensionally correct bolthole.
 - e. At all pairs of doors requiring astragals, strikes shall be furnished such that lip of strike is flush with door edge and will not interfere with a flush astragal condition when active door is in a closed position, or astragal shall be coped around strike lip for proper operation of astragal.

2.6 LOCK CYLINDERS AND KEYING

A. Keying:

1. Keying shall be into a new master key system. Contractor may require temporary cores or temporary locks during construction phase for usage and lock-up. Furnish temporaries, as contractor requires.
2. Architectural Grade Locksets and cylinders: Provide products complying with requirements of the contract documents

B. Keys - Architectural:

1. All keys to be stamped "Do Not Duplicate" and key code number as set by the factory.
2. Provide 6 masterkeys, 4 copies each key change, 6 CMK & 100 each

extra stamped *Do Not Duplicate* key blanks for owner's use. – Deliver all final keys and key blanks directly to owner's representative.

2.7 DOOR CONTROL DEVICES

A. Manufacturers:

1. Provide products complying with requirements of the contract document. Acceptable products shall be as specifically listed herein by manufacturer's number and series.
2. Wall and floor-mounted stops and holders: Provide products complying with requirements of the contract documents and made by one of the following:

B. Closers - General: Provide metal, plastic, painted or plated door closers as schedule indicates.

1. Use closers of sizes recommended by manufacturer, unless a larger size is specified. All closer for this project to carry a minimum written "10 Year Warranty". All closers shall be manufactured in the USA of domestic metals, and supplied with a 1 ½" diameter piston.
2. Size closer or adjust closer opening force to comply with applicable codes. Furnish barrier free compliant door closer at all interior doors, whether listed specifically in hardware sets or not. Furnish all brackets and drop plates required to affix door closers as scheduled according to specific door top rails and frame face dimensions, whether listed in hardware specification or not.
3. Provide door closer mounting brackets, arms, plates, and misc. equipment as necessary to mount all door closers inside room, or out of corridor at every instance where a door closer is specified. No door closers (nor parts, nor accessories of) shall be visible from corridor side unless architect has authorized specific and formal approval for that mounting application, and has clear understanding closer is visible through lite, and has approved such. Provide top jamb mounted units where hardware schedule lists closer functions that are not available in regular arm mounting configurations.

C. Surface-Mounted, Concealed Closers and auto operated low power closers:

1. Comply with requirements of BHMA A156.4, Grade 1. Provide the following features:
 - a. Warranty - Lifetime of body and 10 Year written warranty on parts on all closers.
 - b. Adjustable hydraulic back check and barrier free closers at all doors.
 - c. Style: Modern with cover.
 - d. Parallel arms: Provide for all closers; use larger size than normal.
 - e. Provide manual hold-open feature as specified.
 - f. Unitrol door closers - provide spring-loaded spring-stop, spring

Cush or Unitrol arm where specified. Provide arm-mounting accessories as required to properly secure Unitrol arm 6190, 2022 or 6191 kits shall be furnished where Unitrol door closers - provide spring-loaded spring-stop, spring Cush or Unitrol arm where specified. Provide arm-mounting accessories as required too properly secure Unitrol arm. 6190, 2022 or 6191 kits shall be furnished where dimensions require. An alternative closer and overhead stop may be furnished in lieu of the Unitrol specified. Furnish closer as scheduled used in conjunction with Rixson #1 overhead stop where Unitrol type closer is scheduled and supplier desires an alternate substitution.

- g. Finish: All door closers to be finished in metallic powder coated paint finish, similar to metal hardware on same door. All covers screws and arms are to be plated to match adjacent hardware.

D. Wall/Floor-Mounted Stops/holders: Comply with requirements of ANSI A156.16.

- 1. Resilient bumpers: Trimco 1229A silencers shall be furnished at all hollow metal and wood frames whether scheduled in hardware sets or not. Each single door to be supplied with three (3) each. Each double opening shall be furnished with two (2) each. Exceptions: Exterior doors and sound sealed doors.

2.8 ARCHITECTURAL DOOR TRIM

A. Manufacturers:

- 1. Architectural door trim: Provide products complying with requirements of the contract documents. Products submitted shall meet requirements as specified herein and shall be designated by manufacturer's number and series.

2.9 SEALS

A. Manufacturers:

- 1. Seals: Provide products complying with requirements of the contract document. Acceptable products shall be as specifically listed herein by manufacturer's number and series.

B. Seals:

- 1. At jambs and head: As scheduled.
- 2. At bottom: As scheduled.
- 3. Housing finish: as scheduled.
- 4. Silicon or neoprene as scheduled adhered with self-adhesive, or mechanically fastened, shall be UL fire listed and provided as scheduled. Provide as listed in schedule, door schedule, and floor plans and as is typical of the balance of scheduled hardware as indicated by and thus required by usage of rooms.

2.11 FINISHES

- A. Finish on All Exposed Metal Items: All finishes must match finish as listed in the Hardware sets. Supply similar painted finish only at typical painted hardware materials.
- B. Exceptions:
 - 1. At all exterior, wet or moisture-laden areas use hinges of nonferrous base metal, whether scheduled herein or not. Where specified, use Stainless Steel. At all painted finishes at wet areas (pool, exercise and at exterior) use rust resistant paint (SRI) or paint must be powder coated type to assure superior paint performance at these areas.
 - 2. Items specified with the same finish shall match as closely as possible using standard manufactured products.
 - 3. Provide finishes matching BHMA A156.18 designations.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Non-fire-rated wood doors and wood frames may be field-prepared for installation; all other types of doors and frames are to be factory- or shop-prepared.

3.2 INSTALLATION

- A. Follow hardware manufacturer's recommendations and instructions.
- B. Provide the services of an architectural hardware consultant to advise on proper installation, to inspect the finished work, and either to adjust or to instruct those who are adjusting.
- C. Install surface-mounted items after substrates have been completely finished; install recessed items and recessed portions of items before finishes are applied and provide suitable, effective protection.
 - 1. When surface-mounted items are installed before final finish, remove, store, and reinstall, or apply suitable effective protection.
- D. Mount at heights specified in the Door and Hardware Institute's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
- E. Install hardware in correct location, plumb and level.
- F. Reinforce substrates as required for secure attachment and proper operation.

- G. Thresholds: Apply continuous bead of sealant to all contact surfaces before installing.

3.3 ADJUSTMENT

- A. It shall be the supplier's responsibility to be available to Installers and/or owner's representative to council and demonstrate proper hardware adjustment prior to job closeout. Supplier shall offer on-site instruction of all final adjustment if so required by the installers or owners representative. Final adjustment shall result in performance, function and operation, as manufacturer shall deem sufficient to have full warranty coverage for the time as specified herein. Project installers shall adjust each operable unit for correct function and smooth, free operation to manufacturer's required operational and functional qualitative level of performance. Readjust hardware not more than one week before substantial completion.
- B. Adjust door closers to overcome air pressure produced by HVAC systems. If HVAC pressure, whether negative or positive, negates proper operation or function of any closing or latching device, or inhibits manufacturer's intended performance (in any manner), supplier shall inform the GC in writing that type of hardware cannot operate nor function as manufacturer has designed and tested due to HVAC condition.

3.4 INSTRUCTION OF OWNER'S PERSONNEL

- A. Instruct the Owner's personnel in operation and maintenance of hardware, including finishes.

3.5 CLEANING

- A. Clean hardware; clean other work soiled during hardware installation.

3.6 CONTRACT CLOSEOUT

- A. Deliver all Bitting List, keys, and extra blanks to the Owner.
- B. Contractor to furnish a binder, delivered to the owner or the owners rep, complete with:
 1. Manufacturer's data for each different piece of hardware (Catalog sections).
 2. One set of complete installation instructions of each piece of hardware furnished.
 3. Most recent hardware schedule, complete with all changes.
 4. Two complete set of Wiring diagrams (riser diagrams) per door, and door # with all supplied hardware shown.
 5. Deliver complete Bitting list for all locks furnished on the project.
 6. Provide all adjustment and maintenance tools recommended by hardware manufacturers.

7. Provide copy of one-year warranty for locks, five-year for exit devices and ten-year warranty for closers.

3.7 HARDWARE SETS

Refer to door schedule for number and location.
Manufacturers as listed, or equivalent.

Hardware Set 100 (as part of Add/Alt Bid #1)

Single 3'-0" x 7'-0" Steel Door and HM Frame – LH			
1	ea	Exit Device	Adams Rite 8700C36 US32D
1	ea	Entry Device	Adams Rite 3080-02 US32D
1	ea	Cylinder	Adams Rite 4036-01 629
1	ea	Door Closer	LCN 1460 -
3	ea	Hinge	Hager BB1191 US32D
1	ea	Threshold/stop	Pemko 171a Saddle, 1842 APK Alum
3	ea	Silencers	Ives SR64 Rubber
1	ea	Weather Strip	Pemko 2815CM (w/ 2815MAG) Silicone
1	ea	Door Bot. Sweep	Pemko 18061CNB Alum
1	ea	Kick Plate	Rockwood K1038 8" x 34 US32D

Lockset Key:

Panic Bar: Spring loaded, horizontal bar mounted to push side of exit door. No operating entrance device on exterior of door.

Entrance Lockset: Lever handle with keyed entrance from the exterior and push button lock on the interior.

Passage Lockset: Lever handle with no locking mechanism on either side.

Storeroom Lockset: Lever handle with keyed entrance from the exterior and no locking mechanism on the interior. Interior lever always free.

Double Cylinder: Deadbolt cylinder with keyed entrance from both sides, no thumb turn.

Keyed Deadbolt: Deadbolt cylinder with keyed entrance from one exterior and thumb turn on the interior.

END OF HARDWARE SCHEDULE

END OF SECTION

SECTION 081113

METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Filled core steel doors (flush, with glazing and embossed, 6 panel).
- B. Flush hollow metal doors.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate door and frame elevations, internal reinforcement, cut-outs for glazing, louvers, and finish.
- B. Product Data: Indicate door and frame configurations, location of cut-outs for hardware reinforcement.

1.3 QUALITY ASSURANCE

- A. Conform to the following:
 - 1. SDI-100 - Standard Steel Doors and Frames.
 - 2. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
 - 3. Handicapped: ANSI A117.1.

1.4 WORK INCLUDED

- A. Provide all labor, superintendence, materials, tools, transportation, and equipment and all means of construction necessary and reasonably incidental to complete the work as specified herein and as shown on the Contract Drawings.
- B. All materials and labor obviously a part of the work, and as necessary for proper installation and/or operation of same, although not specifically indicated on the Contract Drawings and/or in the Specifications shall be provided by the Contractor as if called in detail without additional cost to the Owner.

PART 2 - PRODUCTS

2.1 DOORS AND FRAMES

- A. Door Manufacturers: Subject to compliance with requirements, provide standard steel doors (hollow metal and insulated) and frames by one (1) of the following, or approved equal:
 - 1. Steelcraft, A14 Series, flush, polystyrene core.

B. Frame Manufacturers: Subject to compliance with requirements, provide standard steel frames (hollow metal) by one (1) of the following, or approved equal:

1. Steelcraft, DW16 and F16 Series, knock-down.

2.2 MATERIALS

A. Standard Steel Doors and Frames:

1. Provide steel doors of types and styles indicated on drawings or schedules.
2. Standards: In addition to other specified requirements, comply with Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" (SDI-100), for the following classifications:
 - a. Interior Doors: SDI-100, Grade II, heavy duty, Model 1, minimum 18-gauge faces. Glazing: 1/4" clear tempered glass at non-fire rated doors; 1/4" clear wire glass at fire rated doors.
 - b. Exterior Door: SDI-100, Grade III, extra heavy-duty, Model 2, minimum 16-gauge faces. Insulated with manufacturer's standard insulated material and provide thermal break. Glazing: Minimum 5/8" thick, clear insulating glass. Reinforce all exterior doors per SDI Bulletin #107.
3. Provide hollow metal frames for doors, transoms, sidelights, borrowed lights, and other openings of types and styles as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 18-gauge, cold-rolled furniture steel. Provide 16 gauge, welded frames with thermal break at exterior locations. Grout solid when in full brick.
 - a. Form exterior frames of hot dip, galvanized steel.
4. Steel Doors and Frames: Hot-rolled, pickled and oiled per ASTM A569 and A568; cold-rolled per ASTM A366 and A568.
5. Prepare steel doors and frames to receive mortised and concealed finish hardware, including cutouts, reinforcing, drilling and tapping, complying with ANSI A115 "Specifications for Door and Frame Preparation for Hardware".
 - a. Reinforce units to receive surface-applied finish hardware to be field applied.
 - b. Locate finish hardware as indicated or, if not indicated, per DHI "Recommended Locations for Builder's Hardware".
6. Shop paint exposed surfaces of doors and frame units, including galvanized surfaces, using manufacturer's standard, baked-on rust inhibitive primer.

7. Plaster Guards: Provide 26 gauge steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.

2.3 ACCESSORIES

- A. Silencers: Resilient rubber (3 per steel frame).
- B. Removable Stops: Rolled steel channel shape.
- C. Bituminous Coating: Fibered asphalt emulsion.
- D. Primer: Zinc chromate type.
- E. Hardware: Supply finish hardware per Section 08710.

2.4 FABRICATION

- A. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel (at fabricator's option).
- B. Exposed Fasteners: Unless otherwise indicated, provide countersunk, flat, Phillips head for exposed screws and bolts.
- C. Finish Hardware Preparation: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
- D. Locate finish hardware as shown on final show drawings or, if not shown, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.

2.5 FINISH

- A. Steel Sheet: Galvanized to ASTM A525 G60 (exterior doors only).
- B. Factory Finish: Primed.
- C. Field Finish: Paint in field.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install doors and frames in accordance with ANSI/SDI-100.
- B. Coordinate with masonry wall construction for frame anchor placement.

END OF SECTION

SECTION 083614

OVERHEAD SECTIONAL STEEL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Overhead Sectional Steel Doors

1.2 RELATED SECTIONS

- A. Section 042000 - Unit Masonry
- B. Section 051200 - Structural Steel Framing
- C. Section 087113 – Commercial Door Operators
- C. Section 099123 - Painting
- E. Division 26 – Electrical

1.3 REFERENCES

- A. ANSI/DASMA 102-American National Standard Specifications for Sectional Overhead Type Doors.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013000
- B. Shop Drawings: Show in detail opening and clearance dimensions. Include elevations of sections and track. Include section finish, gauge and non standard options. Show detail of jamb material and connections.
- C. Verification Samples: Two samples, minimum 6 inches square, representing actual product selected.
- D. Operation and Maintenance data.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products in this section with minimum five years experience.
- B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging until installation.
- B. Store materials in a dry, weathertight location.

PART 2 PRODUCTS

2.1 MANUFACTURERS

Acceptable Manufacturers: General Doors Corporation, which is located at One Monroe St.; Bristol, PA 19007; Tel: 215-788-9277; Fax 215-788-9450; Email: sales@general-doors.com; Web: www.general-doors.com.

2.2 INSULATED STEEL SECTIONAL OVERHEAD DOORS

- A. General Doors Corporation Model Weather Breaker 175.
 - 1. Door Assembly: Steel/Polyurethane/Steel sandwich panel construction. Doors comply with:
 - a. ANSI/DASMA 102 – American National Standard Specifications for Sectional Overhead Type Doors.
 - 2. Door Model: Weather Breaker 175
 - 3. Panel Thickness: 1.75 inches
 - 4. Exterior Surface: Ribbed pattern with a non-repeating random stucco surface texture.
 - 5. Exterior Steel: Pre-Painted 0.019 inches, hot dipped galvanized. Two coat baked on paint system, enamel primer and polyester finish coat.
 - 6. Interior Surface: Rib pattern with a non-repeating random stucco surface texture.
 - 7. Interior Steel: Pre-painted 0.016 inches, hot dipped galvanized.
 - 8. End Stiles:
 - a. Single end caps: 16 gauge galvanized
 - 9. Torsion Springs:
 - e. 100,000 cycle
 - i. mounted on 1" tube (14ga. min)
 - 10. Insulation: Foamed in place CFC-free and HCFC-free polyurethane, fully encapsulated.

11. Thermal Value: R=16.4, U=0.061
12. Windows:
 - a. sealed glass 24 inches by 12 inches
13. Exterior Colors:
 - a. manufacturer's standard white
14. Wind Load Design:
 - a. 20psf/105mph
15. Track and Operating Hardware:
 - a. standard lift
16. Hardware: Heavy duty galvanized hinges and fixtures. Floating ball bearing rollers with hardened steel races. Galvanized aircraft cables, 7x19 construction, minimum 5:1 safety factor.
17. Lock:
 - a. inside lock, spring activated
18. Track:
 - a. 3" wide, roll formed galvanized
19. Seals:
 - a. Vinyl weatherseal full width of door, bottom and top sections.
 - b. Standard continuous, replaceable dual seals between sections.

2.3 FABRICATION

- A. Check site dimensions prior to fabrication

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify opening dimensions, jambs plumb, level and square.

3.2 INSTALLATION

- A. Install assembly in accordance with manufacturer's instructions.
- B. Assemble work plumb, true, square, straight, level and accurate as per drawings

C. Position jamb weather seal to contact door when closed.

3.4 ADJUSTING

A. Adjust door to ensure smooth operation through open and close cycle. Use manufacturer approved lubricant on all bearings.

3.5 DEMONSTRATION

A. Demonstrate proper operation to user.

END OF SECTION

SECTION 087113

COMMERCIAL DOOR OPERATORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Overhead Sectional Door Operators.

1.2 RELATED SECTIONS

- A. Section 051200 – Structural Steel Framing.
- B. Section 083614 - Overhead Sectional Steel Door.
- C. Section 099123 - Painting.
- D. Division 26 - Electrical.

1.3 REFERENCES

- A. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- B. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.
- C. NEMA MG 1 - Motors and Generators.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.
- B. Electric Motors shall be alternating-current squirrel-cage motors conforming to NEMA MG 1.
- C. Fire Door Operators: Provide with Factory Mutual approval and complying to and listed in UL Directory.
- D. Explosion-proof Electric Motors shall be UL and CSA listed for hazardous location use in areas classified as Class I, Division I, Group D, T2C and Class II, Division I, Groups F and G, T2C.
- E. Explosion-proof Operators: Provide with Factory Mutual approval.
- F. Wiring Connections: Requirements for electrical characteristics.
 - 1. 115 volts, 60 Hz single phase.
 - 2. 208 volts, 60 Hz single phase or three phase.
 - 3. 230 volts, 60 Hz single phase or three phase.
 - 4. 460 volts, 60 Hz three phase.
 - 5. 575 volts, 60 Hz three phase.

1.5 SUBMITTALS

- A. Submit under provisions of Section 013000 – Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Details of construction and fabrication.
 - 4. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, and required clearances and accessories. Include relationship with adjacent construction.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- E. Operation and Maintenance Data: Submit lubrication requirements and frequency, and periodic adjustments required.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified with minimum of five years documented experience.
- B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Install in areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship and installation is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Provide operators with a 2 year or 20,000 cycle limited warranty on motor and parts.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Napoleon/Lynx, 613 Industrial Road, Carlstadt, NJ 07072. Tel. Toll Free: (800) 234-5969. Web Site: www.lynx-nsw.com.
- B. Requests for substitutions will be considered in accordance with provisions of Section 016000 – Material Manufacturer Substitution Policy.

2.2 OVERHEAD SECTIONAL DOOR OPERATORS

- A. Heavy Duty Sectional Door Operator: Model HDCJ Jackshaft Operator:
 - 1. Application:
 - a. Standard Lift Sectional Door.
 - 2. Electric Motor: UL listed.
 - a. Rating:
 - 1) 1/2 horsepower single phase or three phase with automatic thermal reset overload.
 - b. Motor frame comply with:
 - 1) NEMA 48 for 1/2 hp single phase.
 - 2) NEMA 56 for 1/2 hp three phase.
 - c. Construction:
 - 1) Totally Enclosed Non Ventilated - TENV construction.
 - d. Reduction: Primary reduction is worm gear in oil bath. Secondary reduction is by chain and sprocket on trolley model only.
 - e. Duty cycle: Accommodate heavy usage, up to 60 cycles per hour under a large constant load.
 - 1) Brake: DC Disc type with selectable Progressive Braking for smooth stopping.
 - 2) Clutch: Adjustable torque-limiter type. Standard on trolley models (optional on hoist models).
 - 3) Limit System: Limit Lock limit system, magnetic type providing absolute positioning with push to set and remote setting capabilities. Limit System shall remain synchronized with the door during manual operation and supply power interruptions.
 - 3. Control System: Microprocessor based with relay motor controls on a single board. System incorporates a 16 character Liquid Crystal Display (LCD) to display the system status. System shall include the following:
 - a. Acceptable Manufacturer: Lynx LX 100 Programmable Interface complete with three (3) two (2) button remotes and two (2) vehicle sensors.
 - b. Capable of monitoring and reporting on a variety of operating conditions, including: Current operating status, Current command status, Motor movement status, Current error status (if applicable), Hoist Interlock status (if applicable), External Interlock status, and 24VDC status.
 - c. A delay-on-reverse operating protocol.

- d. Maximum run timers in both directions of travel that limit motor run time in the event a clutch slips or some other problem occurs.
 - e. Provisions for the connection of a 2-wire monitored photo-eye or a 2-wire monitored edge sensor, as well as non-monitored 2-wire sensing edges, photo-eyes or other entrapment protection devices.
 - f. Control action will be constant contact close until a monitored entrapment device is installed, allowing for selection of momentary contact.
 - g. Provisions for connection of single and/or 3-button control stations.
 - h. Provisions for connection of an external 3-wire radio controls and related control devices.
 - i. On board open, close and stop control keys for local operation.
 - j. Trolley operators with an inherent secondary reversal system.
 - k. CodeDodger radio receiver that is dual frequency cycling at 315 Mhz and 390 Mhz capable of storing 250 single button and/or 250 Open-Close-Stop transmitters with the ability to add and/or delete transmitters individually, identify and store activating transmitter IDs.
4. Mounting:
- a. Sectional Steel Doors:
 - 1) Jackshaft/Hoist that is side or center mounted with:
 - a) Chain/sprocket coupling to door.
5. Release:
- a. Release shall be a pull and hold type mechanism with single cable operation and an integrated interlock switch on hoist units.
6. Hoist: Chain hoist consists of chain pocket wheel, chain guard and smooth hand chain on hoist units.
7. Entrapment Protection:
- a. Control system shall have provisions to connect monitored entrapment protection devices such as monitored electric sensing edge, or monitored photo-eye and to provide constant contact close control operation in lieu of such devices.
8. Secondary Reversal:
- a. Control system designed to accept an optional non-monitored external reversing device.
9. Control accessories:
- a. Operator Controls:
 - 1) Push-button operated control stations with open, close, and stop buttons.
 - 2) Controls for interior location.
 - 3) Controls surface mounted.
 - b. Special Operation:
 - 1) Vehicle detector operation.
 - 2) Radio control operation.
 - 3) OHD monitored photo-eyes.
 - 4) Commercial photo-eyes.

- 5) Timer Close Module for unattended timed door closing. Auxiliary control inputs, safety inputs, timer hold input and automatic door closing feature with selectable time delay. Safety inputs can be configured using on board keypad.
- 6) Commercial light package.
- 7) Auxiliary Output Module for up, down, and mid-stop limit status via several auxiliary sets of dry contacts that are microprocessor controlled. ADA compliant outputs that activate when door is moving up, down, or both directions and can be configured using the on board keypad.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify door sizes, configuration, tolerances and conditions are acceptable.
- B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly without distortion or stress.
- C. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- D. Coordinate installation of electrical service with Division 26 - Electrical. Complete wiring from disconnect to unit components.

3.4 ADJUSTING

- A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Clean components using non-abrasive materials and methods recommended by manufacturer.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 088100

GLASS GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. High performance glass of the following types:
 - 1. Low-e insulating glass.

1.2 RELATED SECTIONS

- A. Section 081416 – FLUSH WOOD DOORS
- B. Section 084113 – ALUMINUM FRAMED STOREFRONTS

1.3 REFERENCES

- A. ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.
- B. ASCE 7 - "Minimum Design Loads for Buildings and Other Structures".
- C. ASTM International (ASTM):
 - 1. ASTM C 162 - Standard Terminology of Glass and Glass Products.
 - 2. ASTM C 1036 - Standard Specification for Flat Glass.

1.4 DEFINITIONS

- A. Manufacturers of Glass Products: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
- C. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or other specified gas.
- D. Sealed Insulating Glass Unit Surface Designations:
 - 1. Surface 1 - Exterior surface of the outer glass lite.
 - 2. Surface 2 - Interspace surface of the outer glass lite.
 - 3. Surface 3 - Interspace surface of the inner glass lite.
 - 4. Surface 4 - Interior surface of the inner glass lite.

1.5 PERFORMANCE REQUIREMENTS

- A. General: Provide glass capable of withstanding thermal movement and wind and impact loads (where applicable) as specified in paragraph B following.

- B. Glass Design: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
 - 1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
 - a. Design Wind Loads: Determine design wind loads applicable to the Project according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade indicated on Drawings.
 - 1) Ultimate Design Wind Speed, 120 mph.
 - 2) Nominal Design Wind Speed: 92 mph
 - 3) Importance Factor: 1.15.
 - 4) Exposure Category: B.
 - b. Specified Design Snow Loads: As indicated on Drawings, but not less than snow loads applicable to Project as required by ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 7.0, "Snow Loads."
- C. Thermal Movements: Provide glazing that allows for thermal movements resulting from ambient and surface temperatures changes acting on glass framing members and glazing components.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
 - 1. For monolithic-glass lites, properties are based on units with lites 1/4 inch (6.0 mm) thick.
 - 2. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
 - 3. Center-of-Glass Values: Based on using LBL-44789 WINDOW 5.0 computer program for the following methodologies:
 - a. U-Factors: NFRC 100 expressed as Btu/ sq. ft. per h per degree F.
 - b. Solar Heat Gain Coefficient: NFRC 200.
 - c. Solar Optical Properties: NFRC 300.

1.6 SUBMITTALS

- A. Submit under provisions of Section 013000 – SUBMITTAL PROCEDURES.
- B. Product Data: For each glass product and glazing material indicated.
- C. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.
- D. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements. For solar-control low-e-coated glass, provide documentation demonstrating that manufacturer of coated glass is certified by coating manufacturer.

- E. Qualification Data: For installers.
- F. Product Test Reports: For each type of glazing.
- G. Warranties: Special warranties specified in this Section.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Vitro Architectural Glass Certified Fabricator Network, as acceptable to the manufacturer.
- B. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).
- C. Source Limitations for Glass: Obtain the following through one source from a single manufacturer for each glass type: clear float glass, coated float glass and insulating glass.
- D. Glass Product Testing: Obtain glass test results for product test reports in "Submittals" Article from a qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
- E. Glazing Publications: Comply with published recommendations of glass product manufacturers and industry organizations, including but not limited to those below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. IGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."
 - 2. GANA Publications: "Laminated Glazing Reference Manual"; "Glazing Manual."
 - 3. AAMA: "Sloped Glazing Guidelines."
 - 4. IGMA: "Guidelines for Sloped Glazing."
- F. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following testing and inspecting agency:
 - 1. Insulating Glass Certification Council.
 - 2. Associated Laboratories, Inc.
- G. Safety Glazing Products: Comply with testing requirements in 16 CFR 1201 and, for wired glass, ANSI Z97.1.
 - 1. Subject to compliance with requirements, obtain safety glazing products permanently marked with certification label of the Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
 - 2. Lites more than 9 square feet (sf) (0.84 sq. m) in area are required to be Category II materials.
 - 3. Where glazing units, including Kind FT glass and laminated glass, are specified in Part 2 articles for glazing lites more than 9 sf in area, provide

glazing products that comply with Category II materials, and for lites 9 sf. or less in area, provide glazing products that comply with Category I or II materials.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. For insulating-glass units that will be exposed to substantial altitude changes, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures.

1.9 WARRANTY

- A. Manufacturer's Warranty for Coated-Glass Products: Manufacturer's standard form, made out to the glass fabricator in which the coated glass manufacturer agrees to replace coated glass units that deteriorates during normal use within the specified warranty period. Deterioration of the coated glass is defined as peeling and/or cracking, or discoloration that is not attributed to glass breakage, seal failure, improper installation, or cleaning and maintenance that is contrary to the manufacturer's written instructions.
 - 1. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Warranty on Insulating Glass: Manufacturer's standard form in which the insulating glass unit manufacturer agrees to replace insulating-glass units that deteriorate during normal use within the specified warranty period. Deterioration of insulating glass units is defined as an obstruction of vision by dust, moisture, or a film on the interior surfaces of the glass caused by a failure of the hermetic seal that is not attributed to glass breakage, improper installation, or cleaning and maintenance that is contrary to the manufacturer's written instructions.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Vitro Architectural Glass., www.vitroglazings.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 016000 – Material Manufacturer Substitution Policy.

2.2 GLASS PRODUCTS

- A. Annealed Float Glass: ASTM C 1036, Type I (transparent flat glass), Quality-Q3; of class indicated.
- B. Tempered Glass: ASTM C 1048, Kind FT (fully tempered), Class 1 (clear); and of quality, finish, and pattern specified.

2.3 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with

edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

2.4 LOW-E INSULATING GLASS

- A. Type: Low-E Clear Insulating Glass. Clear color, low-reflective glass outdoor appearance.
 - 1. Product: "Solarban " 60 (2) Clear + "Sungate®" 600 (4) Clear by Vitro Architectural Glass
 - 2. Insulating Unit Construction: 1/4 inch (6mm) Clear Glass, "Solarban" 60 Solar Control (Sputtered) on second surface (2) + 1/2 inch (13mm) air space + 1/4 inch (6mm) Clear (transparent) Float Glass "Sungate" 600 (Pyrolitic) Coated on fourth surface (4).
 - 3. Performance Values: Visible Light Transmission - 63 percent; SHGC - 0.36; Shading Coefficient - 0.41; Outdoor Visible Light Reflectance - 12 percent; U-Value Winter - 0.23; U-Value Summer - 0.21.

2.5 CLEAR INTERIOR GLASS

- A. Type: Clear float Glass. Clear color, low-reflective glass outdoor appearance.
 - 1. Product: "Starphire " Clear low-iron float glass by Vitro Architectural Glass
 - 2. Performance Values: Visible Light Transmission - 91 percent; Visible Light Reflectance - 8 percent;.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Refer to Section 088100 – GLASS AND GLAZING

END OF SECTION

SECTION 088000
GLASS INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY

A. Related Documents:

1. Drawings and general provisions of the Subcontract apply to this Section.
2. Review these documents for coordination with additional requirements and information that apply to work under this Section.

B. Section Includes:

1. Glass and glazing required throughout Project and not specified as a part of other Sections.

C. Related Sections:

1. Section 088110 GLASS AND GLAZING.

D. Glass and glazing is specified with the following components. Unless otherwise noted, glass and glazing specified elsewhere shall conform to materials and glazing requirements and procedures specified in this Section.

1.2 REFERENCES

A. General:

1. The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.
2. Unless otherwise noted, the referenced standard edition is the current one at the time of commencement of the Work.
3. Refer to Division 01 Section "General Requirements" for the list of applicable regulatory requirements.

B. "Glazing Manual" published by Flat Glass Marketing Assn.

C. "Safety Standard for Architectural Glazing Materials (16 CFR 1201) CI and CII issued by the Consumer Product Safety Commission.

D. ANSI Z 97.1, "Safety Glass Test Requirements".

- E. ASTM International.
 - 1. ASTM C864 Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
 - 2. ASTM C1036 Standard Specification for Flat Glass.
 - 3. ASTM E774 Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units. (This standard is withdrawn and no replacement has been issued).
- F. DD-G-1403.
- G. Sealed Insulating Glass Manufacturers Association (SIGMA) Recommendations.
- H. BAAQMD Regulation 8-51 - Adhesive and Sealant Products.

1.3 SYSTEM DESCRIPTION

- A. Install each piece of glass watertight and airtight. Each installation shall withstand local, normal temperature changes, wind loading, impact loading (for operating sash and doors) without failure of any kind, including loss or breakage of glass, failure of sealants or gaskets to remain watertight, deterioration of glazing materials, and other defects of work.
- B. Where no thickness of glass is given in the glass schedule, it shall be determined by glass manufacturer for the wind loads specified.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013000 Submittal Procedures.
- B. Product Data: Manufacturer's product data, material safety data sheets, and specifications for installations indicated, listing specific materials proposed. Indicate completely, recommendations for use of primers, joint preparation and sealant dimensions, and shall state shelf life (from date of shipment by manufacturer to expiration date for use on a project) for the material. Provide necessary information required to translate batch number code into date of manufacture and to thereby determine the latest date of usage from manufacturer's shelf life requirements.
- C. Certifications:
 - 1. Certification that all insulating units furnished comply with Class CBA of ASTM E774 and the performance specified.
 - 2. Certification that all sealants are fully compatible with the surfaces and finishes with which they are in contact.
- D. Closeout Submittals: Material Safety Data: Sealant and adhesive quantity use for in accordance with requirements of BAAQMD Regulation 8-51.
 - 1. Inside of the weatherproofing system, including printed statement of VOC content.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Glazing materials and installation shall comply with the requirements of Bay Area Air Quality Management District Regulation 8-51.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Package and deliver glass in manufacturer's sealed unopened containers, fully identified, and each pane clearly labeled with manufacturer's name and product designation.
- B. Protect glass from damage and store in accordance with manufacturer's recommendations. Keep handling to a minimum. Protect edges of laminated and insulated glass from damage.
- C. Glazing Sealants:
 - 1. Deliver sealants and related accessories to the job site in factory sealed, unopened containers bearing manufacturer's name, product designation and batch number.
 - 2. Store in unopened containers. Follow manufacturer's recommendations for storage temperatures and shelf life (see "Submittals" above).
 - 3. Follow manufacturer's recommendations for handling products containing toxic materials. Keep flammable material away from heat, sparks and open flame. Use recommended solvents and cleaning agents for cleaning tools, equipment and skin.

1.7 ENVIRONMENTAL CONDITIONS

- A. Perform no glazing operations when ambient temperature is at or below 40 deg F (4.4 deg C).

1.8 WARRANTIES

- A. Insulating Glass Units: Warrant for 10 years from date of acceptance of Project to be free from delamination and failure of seals and not to develop material obstruction of vision as a result of dust, moisture or film formation on internal glass surfaces.
- B. Low-E Glass: Warrant for 10 years from date of acceptance of Project to be free of peeling or other deterioration of the Low-E coating.
- C. Glazing Sealants: Warrant for 10 years per sealant manufacturer's standard warranty of merchantable quality. Warranty shall certify that cured sealants:
 - 1. Will perform as a watertight weatherseal.
 - 2. Will not become brittle or crack due to weathering or normal expansion and contraction of adjacent surfaces.

3. Will not harden beyond a Shore A durometer of 50, nor soften below a durometer of 10.
4. Will not change color when used with compatible back-up materials.
5. Will not bleed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Glass Manufacturers: PPG, LOF, Guardian Industries, Ford Glass, Hordis Brothers Inc., or equivalent. Provide all tinted and Low-E glass from the same manufacturer for the entire project.

2.2 MATERIALS

- A. Glass types, as indicated in Section 088100. Where no thickness is given, it shall be determined by glass manufacturer as specified in Article 1.04 System Description of this Section. Adjacent tinted and Low-E glass shall have the same light transmittance.
 1. Glazing Materials and Accessories: Glazing materials and accessories shall be fully compatible with the materials and finishes with which they are in contact. Neoprene and EPDM materials shall not come in contact with silicone sealant materials. Silicone rubber spacers, setting and edge blocks and gaskets shall be either Type I (designed to prevent adhesion) or Type II (designed for adhesion) as per glazing system manufacturer's recommendations for each condition of use.
 - a. Glazing Tapes: Preformed, preshimmed polyisobutylene-butyl tape, 1/2 inch (13 mm) wide x thickness to suit proper face clearance of glass, black color; "Pecora BB-50 Extru-Seal", PTI "606", Tremco Preshimmed #440, or "Polyshim" ("Polyshim" only where glass lites exceed 150 united inches), or equal.
 - b. Glazing Sealants: One component, silicone based sealant, black color; Dow-Corning "795" or General Electric "Silpruf 2000", or equal. Sealants shall be recommended by the manufacturer for the particular condition of use.
 - c. Glazing Sealants (Butt Glazing And Steel Windows): One component, silicone based sealant, black color except clear color at butt glazing; Dow-Corning "795" or "999-A", or General Electric "Gesil N 2600", "SCS 100" or "SCS 1200", or equal, as per manufacturer's recommendations for the particular condition of use.
 - d. Primers (If Required For Sealants): Non-staining and non-etching type as recommended by sealant manufacturer.
 - e. Setting Blocks: Neoprene, EPDM or silicone rubber conforming to ASTM C 864, 80-90 Shore A durometer hardness, and which will permit permanent mounting. Blocks shall be 0.1 inch (2.5 mm) long for each square foot of glass area (but no less than 4 inches (100 mm)) x 1/16 inches (1.6 mm) less than full channel width and of thickness to provide proper bite and minimum edge clearance for glass. Where length of block may become excessive, lead blocks

having a length of 0.05" for each square foot of glass (4 inches (100 mm) minimum) may be used. Do not use lead blocks for insulating, laminated or wire glass.

- f. Edge Blocks: Neoprene, EPDM or silicone rubber conforming to ASTM C 864, 60-70 Shore A durometer hardness, and which will permit permanent mounting. Blocks shall be 3 inches (75 mm) minimum length x full channel width and of thickness or configuration to provide 1/8 inch (3 m) (nom.) clearance between block and glass edge.
- g. Glazing Spacers: Neoprene, EPDM or silicone rubber conforming to ASTM C 864, 60-70 Shore A durometer hardness, size as required by glazing conditions, continuous (do not use intermittent spacers).
- h. Insulation (Glass Spandrels): Owens-Corning Fiberglas "CW 225-FSK", or approved equal, fiberglass, semi-rigid, friction fit board with integral aluminum foil vapor barrier, "R" value as indicated on Drawings. Include galvanized steel mounting channels as required by job conditions.

2.3 FABRICATION

- A. Cut glass to full fit and play, consistent with glass and glazing material manufacturers' recommendations and the requirements of the Drawings and References, Codes and Standards Article.
- B. Follow code requirements and glass manufacturer's recommendations for minimum bite and edge and face clearances.
- C. Cut lights to smooth straight edges, clean, free of nicks and flares; nipping not permitted. Follow glass manufacturer's directions exactly for tinted and Low-E glass.
- D. Where glass edges (including cut openings) are required to be exposed, grind smooth and polish.
- E. Tempered and heat strengthened glass shall be horizontally treated only. Fabrication and treatment shall, where at all possible, be such that roller distortion lines (where they may occur) will run horizontally (parallel to sill and head) after installation.
- F. Glass Identification:
 - 1. Tempered and heat strengthened glass shall bear the manufacturer's identification as to type and thickness.
 - 2. Glazing in fire rated doors and fire rated windows shall bear UL classification marking in accordance with UL 9.
 - 3. Manufacturer's and UL identifications for glazing shall be permanently etched so as to be visible after glass has been set in place and glazed.
 - 4. Glass other than tempered, heat strengthened and UL-marked glass shall not have labels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect surfaces to receive glazing materials and report defects which might adversely affect the glazing work. Commencing work implies acceptance of surfaces as satisfactory.
- B. Weep systems shall be open.
- C. Surfaces shall be free of condensation and moisture.
- D. Steel surfaces shall be primed and dry.

3.2 PREPARATION

- A. Clean rebates and glazing reveals free of foreign matter, special coatings, dust, grease, projections and irregularities prior to setting glass. Solvents used for cleaning shall not etch or damage glass or metal surfaces.
- B. Wipe glass free of dust and oil.

3.3 INSTALLATION

- A. Conform to recommendations of glass manufacturer where such covers points not shown on Drawings or specified herein.
- B. Remove "loose" stops furnished with the units and reinstall as a part of the glazing operation.
- C. Handle lites so as to prevent nicks and flares on glass edges.
- D. Install glass exceeding 1/8" thickness on identical setting blocks permanently mounted and centered at 1/4 points. If necessary to reduce deflection of horizontal supporting member, blocks may be placed at 1/8 points or with the nearest end 6" (whichever is greater) from edge of glass unit. Ensure that blocks are equidistant from centerline of glass. Do not obstruct weep holes.
- E. Provide permanently mounted edge blocks at head and jambs of dry-glazed lights to prevent damage to glass edges during installation and lateral shifting of glass due to thermal and seismic loads and vibrations. Follow recommendations of Flat Glass Marketing Assn. Glazing Manual.
- F. Set glass to maintain bite, edge and face clearance stipulated by code and the glass manufacturer.
- G. Take special precautions to protect laminated glass edges from deterioration of vinyl interlayer by moisture.
- H. Glaze dry-glazed aluminum doors and frames as per manufacturer's directions using glazing gaskets and seals furnished with the units.

- I. Miter gaskets at corners, and install so as to prevent pulling away at corners. Gaskets with gaps or other visible irregularities on door and window units shall be corrected by manufacturer or fabricator at no additional cost to University.
- J. Set interior non-wired glass in fixed stops with glazing tape one face.
- K. Wire glass installed in metal frames and stops shall be embedded in metal sash putty, and all exposed joints between the metal and the glass struck and pointed.
- L. Close and tightly seal all partly used sealant containers, and store protected in well-ventilated area at temperature recommended by sealant manufacturer.

3.4 FIELD QUALITY CONTROL

- A. Conduct field check (test) of glazing in exterior for water leakage in accordance with AAMA 501.2.
- B. After substantial cure of exterior glazing sealants which are exposed to the weather, test for water leaks. Flood the joint exposure with water directed from a 3/4 inch (38 mm) garden hose held perpendicular to the wall face, 24 inches (600 mm) from the joint, connected to a water system with 43 psf minimum static water pressure. Move stream of water along joint at an approximate rate of 20 feet (6 m) per minute.
- C. Test approximately 5 percent of total glazing system in locations which are typical of every joint condition and which can be inspected easily for leakage on opposite face. Conduct tests in presence of the Project Manager, who will determine actual percentage of joints to be tested and the actual period of exposure to water from hose, based upon extent of observed leakage or lack thereof.
- D. Repair glazing installation at leaks or, where leakage is excessive, replace glazing sealants.
- E. Where nature of observed leakage indicates possibility of inadequate glazing joint bond strength, the Project Manager may direct that additional testing be performed at a time when joints have been fully cured, followed by natural exposure through both extreme temperatures, and returned to range of temperature in which it is feasible to conduct testing. Repair or replace work as required for permanent elimination of leakage.

3.5 WASTE MANAGEMENT

- A. Separate float glass and place in designated containers for recycling.
- B. Separate tempered glass and place in designated containers for recycling.
- C. Place used sealant containers in designated containers for legal disposal.

3.6 CLEANING

- A. Initial cleaning of glass surfaces is a part of this Section. Follow glass manufacturer's directions exactly for cleaning tinted and Low-E glass. Do not use abrasive cleaners or sharp instruments. Final cleaning and periodic cleaning of glass for protection from etching due to alkaline runoff from cementitious surfaces or due to construction soil is a part of the General Subcontract and is specified as a part of Division 01.

3.7 PROTECTION

- A. Protect installed glass from damage due to subsequent construction operations.
- B. Identification or caution markers shall not be applied to glass surfaces nor shall they be applied to metal surfaces in any way which would damage or stain the metal.
- C. Replace glass broken or damaged prior to acceptance of Project. Costs occasioned by replacement shall be borne by those causing the damage.

END OF SECTION

SECTION 095123

ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes acoustical tiles for ceilings:
- B. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Coordination Drawings: Reflected ceiling plans drawn to scale and coordinating penetrations and ceiling-mounted items. Show the following:
 - 1. Ceiling suspension assembly members.
 - 2. Method of attaching hangers to building structure.
 - 3. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 - 4. Minimum Drawing Scale: 1/8 inch = 1 foot.
- C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
 - 1. Acoustical Tile: Set of full-size Samples of each type, color, pattern, and texture.
 - 2. Exposed Moldings and Trim: Set of 12-inch- (300-mm-) long Samples of each type and color.

1.4 QUALITY ASSURANCE

- A. Acoustical Testing Agency Qualifications: An independent testing laboratory, or an NVLAP-accredited laboratory, with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548. NVLAP-accredited laboratories must document accreditation, based on a "Certificate of Accreditation" and a "Scope of Accreditation" listing the test methods specified.
- B. Fire-Test-Response Characteristics: Provide acoustical tile ceilings that comply with the following requirements:

1. Fire-Resistance Characteristics: Where indicated, provide acoustical tile ceilings identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - a. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical tiles, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical tiles, permit them to reach room temperature and a stabilized moisture content.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical tile ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.7 COORDINATION

- A. Coordinate layout and installation of acoustical tiles and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Acoustical Ceiling Units: Full-size units equal to 5.0 percent of quantity installed.
 2. Suspension System Components: Quantity of each concealed grid and exposed component equal to 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Armstrong World Industries, Inc. Grenoble or equivalent.

2.2 ACOUSTICAL TILES, GENERAL

- A. Acoustical Tile Standard: Provide manufacturer's standard tiles of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.
- B. Tile-Based Antimicrobial Treatment: Provide acoustical tiles treated with manufacturer's standard antimicrobial solution that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria.

2.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL TILE CEILING ATC

- A. Products: Subject to compliance with requirements, provide the following:

1. Acoustical Panels Type AP

- a. Surface Texture: Medium
 - b. Composition: Mineral Fiber
 - c. Color: White
 - d. Size: 24 in x 48 in
 - e. Edge Profile: Square Lay-In 15/16 in
 - f. Noise Reduction Coefficient(NRC): ASTM C 423; Classified with UL label on product carton 0.55
 - g. Ceiling Attenuation Class (CAC) : ASTM C 1414; Classified with UL label on product carton 35
 - h. Sabin: N/A
 - i. Articulation Class (AC):
 - j. Flame Spread: ASTM E 1264; Fire Resistive
 - k. Light Reflectance (LR) White Panel: ASTM E 1477; 0.79
 - l. Dimensional Stability: Standard
 - m. Recycle Content: Post-Consumer - 1% Pre-Consumer - 40%
 - n. Acceptable Product: FISSURED, 895 as manufactured by Armstrong World Industries
- B. Direct-Hung, Suspension System: Main and cross runners roll formed from and capped with cold-rolled steel sheet, prepainted, electrolytic zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, **G30 (Z90)** coating designation.

1. Structural Classification: Intermediate-duty system.

2.4 METAL EDGE MOLDINGS AND TRIM

A. Manufacturers:

1. Armstrong.
2. Chicago Metallic Corporation.
3. Fry Reglet Corporation.
4. Gordon, Inc.
5. MM Systems, Inc.
6. USG Interiors, Inc.
7. Or equivalent

- ### B. Roll-Formed Sheet-Metal Edge Moldings and Trim:
- Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that fit acoustical tile edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners.

PART 3 - EXECUTION

3.1 EXAMINATION

- #### A. Examine substrates, areas, and conditions, including structural framing and substrates to which acoustical tile ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical tile ceilings.

3.2 PREPARATION

- #### A. Testing Substrates:
- Before installing adhesively applied tiles on wet-placed substrates such as cast-in-place concrete or plaster, test and verify that moisture level is below tile manufacturer's recommended limits.
- #### B. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION, SUSPENDED ACOUSTICAL TILE CEILINGS

- #### A. General:
- Install acoustical tile ceilings to comply with ASTM C 636 UBC Standard 25-2, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- #### B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 3. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 4. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
 5. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 6. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both structure to which hangers are attached and type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 7. Space hangers not more than **48 inches (1200 mm)** o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than **8 inches (200 mm)** from ends of each member.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical tile ceiling area and where necessary to conceal edges of acoustical units.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical tile ceilings, including trim and edge moldings. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace tiles and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 099123

PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Paint.
 - 2. Wood sealant.
 - 3. Wood stains.

1.2 ENVIRONMENTAL CONDITIONS

- A. Utilize a low VOC product, (less than 100 g/1), for semi-gloss and gloss. Use a water-based, "zero VOC" product (less than 10 g/1), for flat and egg shell. All interior and exterior paints shall be lead and VOC free.

1.3 SUBMITTALS

- A. Product Data: Provide material specifications, characteristics, and instructions for using adhesives and grouts.

1.4 EXTRA MATERIALS

- A. Provide one gallon of each color and sheen in unopened cans, sealed and labeled by manufacturer.

1.5 DELIVERY, STORAGE AND HANDLING

- A. All materials must be of commercial grade made by reputable, recognized manufacturers, and delivered to the job in original containers bearing brand name and manufacturer's name with seals unbroken and unusable materials.
- B. Store materials and equipment only at locations as directed. Keep storage spaces clean and orderly and free of debris and unusable materials.
- C. Deliver materials in original packages, containers, or bundles bearing brand names and identification of manufacturer or supplier.
- D. Store materials in dry location, fully protected from weather and direct exposure to sunlight.
- E. Use paint directly from manufacturer – Do not add water or otherwise thin paint materials.

1.6 WARRANTY

- A. The Contractor shall furnish written guarantee that all work, materials and workmanship required by this section of the contract be free from defects for a period of one (1) year after the acceptance of the building.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Manufacturers:
 - 1. PPG paint and coating systems (or equivalent).
 - 2. MAB (M. A. Bruder) paint systems (or equivalent).
 - 3. Benjamin Moore "Pristine" paint line with zero VOC content (or equivalent).
- B. Coatings: All coatings shall be pre-mixed, except field catalyzed coatings of good flow and brushing properties, capable of drying or curing free of streaks or sags. All coatings shall be lead-free.
- C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials required to achieve the finishes specified.

2.2 FINISHES

- A. All colors shall be selected by Owner.
- B. Refer to schedule at end of section for surface finish schedule.
- C. All new wood and steel doors shall be primed and painted with semi-gloss finish.
- D. Interior walls shall be primed and painted with eggshell or low luster finish.
- E. All exterior trims shall be primed and painted with semi-gloss finish.
- F. Provide three (3) color paint system for interior spaces; one (1) color for walls and ceilings, one (1) color for doors, and one (1) color for trim.

2.3 CLEAR FINISH / STAINS

- A. Stains shall be vegetable oil based, non-polyurethane, waterborne for exterior use with UV protection.
- B. Clear finish interior wood to be 2 coats clear shellac, plus 1 coat MAB Dull-Glo Varnish (or equivalent).

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that substrate conditions are ready to receive work.
- B. Measure moisture content of porous surfaces using an electronic moisture meter. Do not apply finishes unless moisture content is less than 12 percent.
- C. Correct minor defects and clean surfaces which affect work of this Section.
- D. Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- E. Gypsum Board Surfaces: Fill minor defects with latex compounds. Spot prime defects after repair.
- F. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- G. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove foreign matter. Remove oil and grease with a solution of tri-sodium phosphate, rinse well and allow to dry.
- H. Uncoated Ferrous Surfaces: Remove scale by wire brushing, sandblasting, clean by washing with solvent. Apply treatment of phosphoric acid solution. Prime paint after repairs.
- I. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust, hand power tool clean, clean surfaces with solvent. Prime bare steel surfaces.
- J. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
- K. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lighting between coats.
- L. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.
- M. Protect adjacent work from damage.
- N. Prepare all surfaces in accordance with manufacturer's requirements.

3.2 APPLICATION

- A. All paints shall be premixed. Paints shall not be thinned with water.

- B. New painting shall be performed by experienced mechanics using roller, spray (with back roll on second coat) or brush, applying paint according to manufacturer's instructions, free of runs, sags, holidays and brush or roller markings.
- C. Sand transparent finishes lightly between coats to achieve required finish.
- D. Where clear finishes are required, tint fillers to match wood.
- E. Back prime interior and exterior wood work scheduled to receive paint finish with primer paint.
- F. Back prime interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
- G. Finished surfaces shall be finished to a straight line where adjoining other colors or unpainted surfaces.
- H. Fill cracks, nail holes, and other defects in wood with whiting putty after prime coat has been applied.
- I. No exterior work to be done in rainy, damp, or frosty weather. No interior work to be done until building is dry.
- J. All wood doors shall be primed and painted with a high gloss protective finish. Give top and bottom edges of doors the same number of finish coats as face. Paint prime coated butts the same as door frame unless otherwise directed.
- K. Paint access doors, panelboards, grilles, exposed piping and similar items to match adjacent surfaces unless otherwise directed.
- L. Give any finished work that does not have full coverage or is not neat and workmanlike additional coats of finish or remove entirely and re-do as required by Architect until it presents a satisfactory and acceptable appearance.

3.3 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Paint shop primed equipment.
- B. Remove unfinished louvers, grilles, covers, and access panels and paint separately.
- C. Prime and paint exposed pipes, exposed ducts, hangers, brackets, collars and supports, except where items are pre-finished.
- D. Paint both sides and edges of plywood backboards.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 CLEANING

- A. As work proceeds, promptly remove finishes where spilled, splashed, or spattered.
- B. Store paint rags and waste in tightly covered metal containers or remove from job site at end of each day's work.

3.5 PAINT SCHEDULE - EXTERIOR SURFACES

- A. Steel - ferrous metal (or equivalent):
 - 1. Two (2) coats PPG 3330 Durethane Mastic Urethane, self priming.
- B. Steel - galvanized metal:
 - 1. Two (2) coats PPG 3330 Durethane Mastic Urethane, self priming.
- C. Garage Door
 - 1. One (1) coat PPF Paints Amerlock Sealer at 1.0 mils dry.
 - 2. One (1) coat PPF Paints Durethane DTM 95-3330 Series.

3.6 PAINT SCHEDULE - INTERIOR SURFACES

- A. Steel - Unprimed:
 - 1. One (1) coat PPG 4020PF, PitTech Plus Primer/Finish w/ Acrylic.
 - 2. Two (2) coats PPF 4216HP, Acrylic Enamel Sem-Gloss.
- B. Concrete, concrete block:
 - 1. One (1) coat of block filler, PPG 6-15XI.
 - 2. Two (2) coats of PPG Sun-Proof 7 Series, semi-gloss
- C. Gypsum Board:
 - 1. One (1) coat of acrylic enamel primer. PPG 4-4900 (or equivalent).
 - 2. Two (2) PPG 4310 XI Speedhide, No VOC, eggshell (or equivalent).
- D. Concrete floors (not receiving another flooring)
 - 1. PPG Perma Crete Plexseal WB Interior/Exterior Clear Sealer

- E. Exposed Pipe and Fittings:
 - 1. Two (2) coats semi-gloss enamel

END OF SECTION

SECTION 260500

GENERAL ELECTRICAL PROVISIONS

PART 1 - GENERAL

1.1 REFERENCE TO CONDITIONS OF THE CONTRACT

- A. The Conditions of the Contract (General, Supplementary and other Conditions) and Division 1 - General Requirements, apply to the work specified in this Division. Unless the specifications contain statements which are more definitive or more restrictive than those contained in the Conditions of the Contract, the specifications shall not be interpreted as waiving or overruling any requirements expressed in the Conditions of the Contract.
- B. No claim or additional compensation shall be entertained on behalf of or paid on account of failure to be informed of the above conditions and requirements.
- C. Should a bidder find discrepancies in or omissions from the drawings or specifications, or should he be in doubt as to their meaning, he should at once notify the Architect who shall send written instructions to bidders. If these are ignored by the Contractor, he shall be responsible for furnishing the proper or workable equipment as necessary.
- D. Before submitting a bid, bidders shall be held responsible to have visited the site of work, attend the Pre-Bid Meeting, and fully inform themselves as to existing conditions and limitations, including rules, rates and fringe benefits, travel pay, affiliation fees and transportation expense prevailing in the local labor market, and no allowance shall subsequently be made on behalf of the bidder by reason of any error on his part.
- E. Carefully examine the architectural, structural, heating, ventilating and air conditioning, kitchen, and plumbing drawings and any other contract documents. If any discrepancies occur between the drawings or between the drawings and the specifications, report such discrepancies to the Architect in writing and obtain written instructions as to the manner in which to proceed. No departures from the contract drawings shall be made without prior written approval of the Architect and Owner.
- F. Obtain any additional reference drawings and/or information required for installation prior to installing equipment.

1.2 WORK INCLUDED

- A. Provide and install a complete and operating electrical installation in accordance with these specifications and accompanying contract drawings. This shall include required labor, material, apparatus and supervision.
- B. Without limiting or restricting the volume of work and solely for convenience, the work to be performed will, in general, comprise of the following:
 - 1. Power and/or lighting panels.
 - 2. Branch wiring.
 - 3. Temporary service lighting and power.
 - 4. Wiring of equipment furnished by others and final connections to same.

5. Grounding
 6. Lighting fixtures, lamps and controls.
 7. Fire alarm system.
 8. Installation of equipment supplied by the Owner.
- C. Items of labor, material, and equipment not specified in detail or shown on drawings, but incidental to or necessary for the complete installation and proper operation of the several branches of work and described herein, or reasonably implied in connection herewith, shall be furnished as if called for in detail by the specifications or drawings. This includes electrical work associated with mechanical and plumbing work whether indicated on electrical drawings or not.

1.3 WORK NOT INCLUDED

- A. The following items of Electrical Construction are not included in this contract:
1. Certain low voltage wiring of mechanical equipment shall be done by the respective Contractor.
 2. Certain motors and equipment, such as pumps, fans, etc., shall be provided by others, complete with motor and built-in or separate controllers as covered by such contracts. The extent of work required by this Contractor in connection with the provisions of this equipment is described hereinafter under "Electrical Powered Equipment."
 3. Motors connected to driven equipment shall be set by respective Contractor furnishing same.
 4. Certain line voltage electrical apparatus such as switches, starters, controllers, transformers, etc., furnished by others shall be delivered to the curb by the Contractor furnishing the equipment, unless specifically noted otherwise. Unload and transport to installation location.
 5. Electric heating equipment.

1.4 DEFINITIONS AND ABBREVIATIONS

- A. Definitions
1. "Furnish" shall mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
 2. "Install" shall be used to describe operations at project site including unloading, packing, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning, and similar operations, as applicable in each instance.
 3. "Provide" shall mean furnish and install, complete and ready for intended use, as applicable in each instance.
 4. "Directed" shall mean as directed by Owner prior to installation of equipment.
 5. "Indicated" shall mean "indicated on Contract Drawings".
 6. "Shown" shall mean "shown on Contract Drawings".

7. "Section" shall mean one of the Specification Sections.
8. "Division" shall mean one of the Specification Divisions.
9. "Article" shall mean one of the numbered paragraphs of the Specification Section.
10. "Work" or "Electrical Work" herein includes products, labor, equipment, tools, appliances, transportation and related items, directly or indirectly required to complete the specified and/or indicated electrical installation.
11. "Code" shall mean any and all regulations and requirements of regulatory bodies, public or private, having jurisdiction over the work involved.
12. "Product" used in Division 26 means material, equipment, machinery, and/or appliances directly or indirectly required to complete the specified and/or indicated Electrical Work.
13. "Standard Product" shall mean a manufactured product, illustrated and/or described in catalogs or brochures, which are in general distribution prior to the date of issue of construction documents for bidding. Products shall generally be identified by means of a specific catalog number and manufacturer's name.
14. "Wiring" shall mean fittings, conduits, wires, junction boxes, connections to equipment, splices, and other accessories required to complete the work.
15. Abbreviations and Symbols: See lists for both on drawings.
16. "This Contractor" shall mean the Contractor responsible for Division 16 work.
17. Contract Documents: drawings, specifications, bid forms, addendum, and change orders.
18. Whenever the phrases "approved by the Architect or Owner," "approved equivalent," or "equivalent to" appear in these specifications, they shall be interpreted as meaning "as recommended by the Architect and approved by the Authority."

B. Reference to the following codes and standards shall mean:

<u>Reference</u>	<u>Definition</u>
NEC	National Electrical Code Current Edition
ASTM	American Society for Testing Materials
NEMA	National Electrical Manufacturers Association
ANSI	American National Standards Institute
FS	Federal Specification, US Government
CS	Commercial Standards issued by US Department of
Commerce	
NESC	National Electrical Safety Code
NETA	National Electrical Testing Association
ADA	Americans with Disabilities Act

1.5 CODES, PERMITS, AND INSPECTIONS

- A. Electrical work, equipment, and materials furnished and installed under this contract shall conform to the requirements of the Power Company, the latest edition of the National Electrical Code, the National Fire Protection Association, and any other

governmental or local authorities having jurisdiction. Pay any fees required for the installation of Division 26 work. Certificates of approval shall be obtained in duplicate from any department or agency issuing same, and shall be turned over to the Owner at the completion of the work.

- B. Provide any labor, materials, services, apparatus and drawings required to comply with applicable laws, ordinances, rules and regulations, whether or not shown on the drawings and/or specified.
- C. Obtain certificates of inspection and approval from authorities having jurisdiction and deliver same to Owner as a prerequisite for final acceptance of the work. Provide record copies of permit applications, permits and other items for which certification is indicated.

1.6 SPECIAL ENGINEERING SERVICES

- A. In the instance of complex or specialized electrical systems such as fire alarm, or similar miscellaneous systems; the installation, final connections and testing of such systems shall be made under the direct supervision of competent authorized service engineers who shall be in the employ of the respective equipment manufacturer. Provide the Owner with copies of instruction manuals and booklets for each system and piece of equipment installed. Provide any additional instructions to the Owner over and above that listed above in the care, adjustment and operation of parts of the electrical systems.
- B. Pay any and all expenses incurred by these equipment manufacturers' representatives.

1.7 SUBMITTALS

- A. Shop drawings, product data, and samples shall be submitted to the Architect for approval.
 - 1. Shop drawings shall be new drawings, and not reproductions or tracings of the Contract Documents. In preparing shop drawings, establish lines and levels for the work specified, and check the drawings to avoid interference with structural features and other work. Immediately call to the attention of the Engineer any interferences for clarification in writing.
 - 2. Manufacturer's literature and data sheets shall be submitted indicating the necessary installation dimensions, weights, materials, and performance information. Each piece of literature shall be identified with the specific specification number, paragraph, and equipment schedule identification.
 - 3. Layout and detail drawings shall be submitted in the form of a sepia reproducible and paper prints. Manufacturer's drawings shall be standard drawings. Equipment shop drawings shall show specific data and other special features required for review consideration.
 - 4. Equipment shop drawings (8-1/2 by 11 inch sheets) shall be bound together in sets, in loose leaf binders, and shall be indexed in accordance with Specification Section. Additional shop drawings may be submitted at a later date for insertion therein, and the original submittal shall note which shop drawings shall be submitted later. Marked-up catalogs are not acceptable, and shall be rejected.

5. Materials and equipment shop drawings shall be submitted within 30 calendar days of Contract receipt.
 6. Manufacturers' instruction manuals shall be submitted together with shop drawings. Furnish instruction manuals and parts listed for each piece of electrical equipment, on 8-1/2 by 11 inch sheets, or catalogs, suitable for loose leaf side binding, packaged separately, and clearly identified. Instructions shall include information pertaining to installation, operation, and maintenance of equipment as applicable. Each piece of literature shall be clearly identified with the specific job equipment identification. Literature shall be factory printed and not reproduced copies.
 7. Any characteristic of any piece of equipment which deviates from the characteristics of the equipment specified shall be hi-lighted and circled in red.
- B. Submit manufacturers' data, and/or shop drawings of the following:
1. Lighting and Power Panels and Cabinets
 2. Wiring Devices
 3. Lighting Fixtures
 4. Fire Alarm System
 5. Distribution Equipment

1.8 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. After final tests and adjustments have been completed, furnish the services of qualified personnel to fully instruct representatives of the Owner in the operation and maintenance procedures for equipment installed. Operation and maintenance instructions for major items of equipment shall be directly supervised by the equipment manufacturer's representative. Supply qualified personnel to operate equipment for sufficient length of time as required to meet governing authorities' operation and performance tests and as required to assure that the Owner's representatives are properly qualified to take over operation and maintenance procedures.
1. Notify the Architect, the Owner's representatives and equipment manufacturers' representatives, by letter, as to the time and date of operating and maintenance instruction periods at least one week prior to conducting same.
 2. Forward to the Architect the signatures of all present for the instruction periods.
- B. Furnish three (3) copies of recommended equipment operation and maintenance procedures manuals as specified herein, assembled and bound together in 8-1/2 by 11 inch three-ring binders. The ring binders shall be submitted to the Architect in accordance with procedures established for shop drawing submittals.
1. The operation and maintenance procedures manuals shall include the following:
 - a. Project Title
 - b. Architect's Name and Address
 - c. Date Submitted
 - d. Contractor's Name and Address

- e. Index (in alphabetical order, with page numbers)
- f. General Description of Each System
- g. Parts List, identifying the various parts of equipment for repair and replacement purposes.
- h. List of spares recommended for normal service requirements.
- i. Operating instructions outlining step-by-step procedures required for system start-up and operation. The instructions shall include the manufacturer's name, model number, service manual, and brief description of each piece of equipment and its basic operating features.
- j. Maintenance instructions describing routine maintenance and lubrication procedures and schedules, and simplified diagrams which illustrate the systems as installed.
- k. Wiring and control diagrams for each piece of equipment, showing "as installed" conditions.

1.9 SINGULAR NUMBER

- A. References made to any item in the singular number shall apply equally to as many identical items that the work may require.

1.10 PROTECTION OF SERVICES

- A. Repair, replace and maintain in service any new or existing utilities, facilities or services (underground, overground, interior or exterior) damaged, broken or otherwise rendered inoperative during the course of construction. The method used in repairing, replacing or maintaining the services shall be approved by the Owner and Architect.

1.11 PROTECTION OF FLOORS

- A. Protect existing flooring from damage during the construction period. Provide plywood or similar material under equipment or materials stored on floors, and in areas where construction may damage the floor surfaces. Replace floor surfaces (including sealer) damaged during the construction.

1.12 TEMPORARY LIGHT AND POWER SERVICES

- A. Refer to the Division 1, General Requirements, of these specifications to determine responsibility for temporary lights, power, water and heat.
- B. The Electrical Contractor is responsible for all temporary power and lighting requirements throughout construction. The Electrical Contractor shall review all associated phasing plans and schedules and provide any and all equipment, either temporary or permanent, required to maintain or provide temporary power and lighting to all areas of this facility, throughout the construction process.

In addition to minimal temporary lighting and power needed for construction operations, areas that will be Owner-occupied throughout construction shall be provided with temporary power and lighting services that meet or exceed the existing services that currently serve these areas.

- C. The electrical documents indicate the final arrangement for the power/lighting/communication/ signal/data systems and do not reflect equipment, devices, etc., needed to provide the required temporary power and lighting services.
- D. At the completion of this project, all temporary lighting, temporary receptacles, and temporary wiring shall be removed in their entirety.

1.13 SUBSTITUTIONS

- A. It is the intent of these specifications that wherever a manufacturer or product is specified, and the term "or approved equivalent" is used, the substituted item must conform in respects to the specified item. Consideration shall not be given to claims that the substituted item meets the performance requirements with lesser construction. Performance indicated in schedules, drawings and specifications shall be interpreted as minimum performance.
- B. Note that where specific manufacturers' products are indicated in the Contract Documents, the associated systems have been designed on the basis of that product's physical characteristics. Where specific manufacturers' products are indicated in the Contract Documents and other manufacturers' names are listed, the associated systems have been designed on the basis of the first-named manufacturer's product. When products other than those used as the basis of design are provided, pay additional costs related to modifications to the systems and/or structure required by the use of that product.
- C. Equipment of one type shall be the products of one manufacturer; similar items of the same classification shall be identical, including equipment, assemblies, parts and components.
- D. Materials furnished shall be determined safe by a nationally recognized testing organization, such as Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corporation, and materials shall be labeled, certified or listed by such organizations.
- E. Where a specific manufacturer is specified and other manufacturers' names are listed as equivalent, the bid shall be based upon the specified or equivalent manufacturers only. Any substitutions from the specified or equivalent manufacturers shall be offered as a Bidder's Initiative.
- F. Final acceptance of substitutions shall be at the discretion of the Architect/Engineer.

1.14 PERFORMANCE OF EQUIPMENT

- A. Materials, equipment and appurtenances of any kind, shown on the drawings, hereinafter specified or required for the completion of the work in accordance with the intent of these specifications, shall be completely satisfactory and acceptable in operation, performance and capacity. No approval either written or verbal of any drawings, descriptive data or samples or such material, equipment and/or appurtenance shall relieve the Contractor of his responsibility to turn over the same to the Owner in perfect working order at the completion of the work.
- B. Any material, equipment or appurtenances, the operation, capacity or performance of which does not comply with the drawings and/or specification requirements or which is damaged prior to acceptance by the Owner shall be held to be defective material and shall be removed and replaced with proper and acceptable materials, equipment

and/or appurtenances or put in proper and acceptable working order, satisfactory to the Architect and Owner, without additional cost to the Owner.

1.15 WEATHERPROOFING LOCATIONS (WP)

- A. Electrical apparatus, such as outlet boxes, switches, thermal switches or manual starters, disconnect switches, combination switches and starters, motor control centers, and motor starters shall be weatherproof gasketed type, NEMA Types 3 or 4 in the following instances:
 - 1. On surface of exterior face of building, including areas where not under canopies, cast boxes with threaded hubs must be used and under canopies steel boxes with gasket connections to devices.
 - 2. In any areas where specifically noted "WP" or required by the NEC or Electrical Regulations mentioned herein.
 - 3. Within air conditioning enclosures.
 - 4. In underground splice boxes.
 - 5. On building roof.

1.16 CLEANING, PROTECTING AND ADJUSTING

- A. Materials shall be stored in a manner that shall maintain an orderly, clean appearance. If stored on-site in open or unprotected areas, equipment and material shall be kept off the ground by means of pallets or racks, and covered with tarpaulins.
- B. Equipment and material, if left unprotected and damaged, shall be repainted or otherwise refurbished at the discretion of the Owner. Equipment and material is subject to rejection and replacement if, in the opinion of the Architect or the manufacturer's engineering department, the equipment has deteriorated or been damaged to the extent that its immediate use or performance is questionable, or that its normal life expectancy has been curtailed.
- C. During the construction period, protect ductwork, raceways, conduit and equipment from damage and dirt. Properly cap ductwork and conduit.
- D. Vacuum cabinets, switch boards, distribution panels, lighting and power panels, etc., after completion of work.

1.17 ACCESSIBILITY

- A. Coordinate to ensure the adequacy of the size of shafts and chases, and the adequacy of clearances in hung ceilings and other areas required for the proper installation of this work.
- B. Locate equipment which must be serviced, operated or maintained in fully accessible positions. Equipment requiring access shall include, but is not necessarily limited to, motors, junction boxes, fire dampers, controllers and switchgears.
- C. Provide, as required, the exact locations of access doors. Provide access doors in finished construction for installation by others. Locations of access doors in finished construction shall be submitted in sufficient time to be installed in the normal course of the work. Keep conduit and other electrical devices clear of access door openings to allow adequate space to work in or enter the concealed space.

- D. Access panels shall not be smaller than 12 inches by 16 inches and shall be all-steel construction with a No. 16 gauge wall or ceiling frame and a No. 14 gauge panel door with not less than 1/8 inch fireproofing secured to the inside of the door. Doors shall be provided with concealed hinges and be secured with suitable clips and countersunk screws. Outside of access panels shall finish flush with finished wall or ceiling surfaces. Covers shall be factory primed with two (2) coats of primer.

1.18 GUARANTEE

- A. Guarantee material, equipment and workmanship for a period of one (1) year from date of final acceptance by Architect and Owner. Replace defective material and workmanship furnished and installed and other work and equipment damaged thereby.
- B. In addition to the one (1) year guarantee, furnish any warranties or guarantees that normally come with specific pieces of equipment that exceed the one (1) year guarantee. These additional warranties shall be given to the Owner for the time period specified.

1.19 OWNER COORDINATION

- A. Coordinate any and all activities with the designated Owner's representative, which involves a tie to existing electrical systems or which, in any way, may interfere with or interrupt existing electrical systems. Where there are scheduled ties or interruptions or where there is a reasonable chance of interruption, written notice must be obtained from the Owner prior to work commencing.

1.20 COORDINATION

- A. Coordinate and furnish in writing to others, including the Architect, any information necessary to permit the work of all contractors to be installed satisfactorily and with the least possible interference or delay.
- B. Because of the complexity of the construction of this project, each Contractor shall participate in the preparation of coordination drawings. The procedure shall be supervised by the Construction Manager. No installation of permanent systems shall proceed until the coordination drawings are approved by the Construction Manager and the Architect. No extra charges shall be allowed for changes required to accommodate installation of system by other contractors.
- C. Coordination drawings shall be prepared for each floor level and shall be of a scale not less than 1/4 inch - 1 foot. Coordination drawings shall include equipment, lighting, conduit and raceway plans, and elevations with dimensions. Coordination drawings shall also include required access points through ceiling panels, access doors, cover plates, etc.
- D. Devices and appurtenances which are to be installed in finished areas shall be coordinated with the Architect for final approval as it relates to location, finish, materials, color, and texture.
- E. When work is installed without proper coordination, changes to this work deemed necessary by the Architect shall be made to correct conditions without any extra cost to the Owner.

1.21 PRE-BID SITE VISIT

- A. Bidders shall visit the site and become completely familiar with existing conditions prior to submitting their bid. No extra charges shall be allowed as a result of existing conditions.

PART 2 - PRODUCTS

2.1 MATERIALS AND WORKMANSHIP

- A. Equipment shall be so built and installed as to deliver its full rated capacity at the efficiency for which it was designed. Equipment shall meet the detailed requirements indicated, and shall be suitable for the installation shown.
- B. Where two or more units of the same class of equipment are furnished in same Section of Specifications, provide each from the same manufacturer. Furnish equipment and materials new and free from defects of size, make, type and quality herein specified, or as reviewed. Work shall be installed in a neat and workmanlike manner.
- C. Capacities, dimensions, or sizes specified or indicated are minimum, unless otherwise stated. Tolerances used in rating or testing standards specified shall not be allowed in determining capacities of equipment.
- D. Materials shall be listed by the Underwriters' Laboratories, Inc. where applicable and shall be manufactured in accordance with applicable standards established by ANSI, NEMA, ASTM, and IEEE.
- E. Any products judged not in accordance with the Specifications either before or after installation shall be rejected.
- F. Where products are specified with no reference to a particular manufacturer's product, the product used shall meet or exceed industry construction and testing procedure standards applicable to the product, for life expectancy, performance and safety.
- G. Where electrical products are a fabricated assembly, the fabricator shall assume responsibility for correct operation of the entire assembly and of its individual components.
- H. Tools: Provide special tools for proper operation and maintenance of the equipment.

2.2 IDENTIFICATION

- A. Switchgear, panels, relays, terminal control cabinets, junction boxes, contactors, circuit breakers, safety switches, motor starters, and similar items shall be identified with a single plastic nameplate made up of two laminated black plastic sheets bonded with a middle sheet of white plastic and characters engraved in one black sheet to the depth of the white plastic. Nameplate shall read as follows:
 1. First line shall be 1/2 inch letters stating panel/equipment name.
 2. Second line (if applicable) shall be 1/4 inch letters stating the existing panel name in parentheses ().
 3. Third line shall be 1/4 inch letters stating voltage/phase.
 4. Fourth line shall be 1/4 inch letters stating breaker number, panel number, and room name/room number (Owner's room number) from which it is fed.

5. Fifth line shall be 1/4 inch letters stating function and/or equipment which it controls.
- B. A typewritten list of nameplates shall be submitted to the Owner and the Architect for approval before ordering same.
- C. Label receptacle plates with identification showing panel and breaker number from which it is fed. Labels shall be made using the Dymo Posiprinter System.
- D. Label junction boxes and pull boxes, showing circuit numbers contained in the enclosure. Use an approved marking device.
- E. Label wire with an identification tag showing panel and breaker number from which it is fed at splices, junctions, and terminations as explained in this specification.
- F. Label fire alarm device bases with identification showing device address number assigned by fire alarm system manufacturer. Labels shall be made using the Dymo Posiprinter system.

2.3 ANCHOR BOLTS

- A. Provide and set in place, at the time of pouring of concrete foundations, necessary anchor bolts as required for the equipment called for under these specifications. Anchor bolts shall be of the hook type, of proper size and length to suit the equipment. Anchor bolts shall be set in pipe sleeves of approximately twice the bolt diameter and one half the embedded length of the bolt. Assume full responsibility for proper emplacement of the bolts.

2.4 INSERTS

- A. Provide inserts of an approved metallic type for hangers. Where two or more parallel conduits are installed, continuous inserts may be used. Where required to distribute the load on the inserts, a piece of reinforcing steel of sufficient length shall be passed through the insert.

2.5 SLEEVES

- A. Provide sleeves in all roofs, floors, and any fire-rated walls. Each sleeve shall extend through its respective floor, wall or partition and shall be cut flush with each surface unless otherwise required.
- B. Sleeves in bearing and masonry walls, floors and partitions shall be standard weight steel pipe finished with smooth edges. For other than masonry partitions, through suspended ceilings, and for concealed vertical piping, sleeves shall be No. 22 USG galvanized iron.
- C. Sleeves shall be properly installed and securely cemented in place.
- D. Floor sleeves shall extend 1 inch above the finished floor, unless otherwise noted. Space between floor sleeves and passing conduit shall be caulked with graphite packing and waterproof caulking compound.
- E. Where conduits pass through waterproofed floor or walls, design of sleeves shall be such that waterproofing can be flashed into and around the sleeves.

- F. Where conduits pass through roofs, sleeves shall be installed and flashed and made watertight by the General Contractor unless otherwise specified or shown on the drawings.
- G. Sleeves through exterior walls below grade shall have the space between conduit and sleeve caulked watertight using an approved method.

2.6 FIREPROOFING

- A. Where sleeves or other penetrations pierce floors or walls having specific fire ratings, the space between the sleeve and passing conduit shall be fireproofed using 3M Series 7900 Penetration Fire Stop putty. Where a cable tray passes through fire-rated walls, use seal bags as manufactured by International Protection Coatings Company. Installation method shall be per manufacturer's recommendations and approved by the Architect/Engineer.

2.7 WIRE GAUGE

- A. The sizes of conductors and thickness of metals shown on the drawings or mentioned herein shall be understood to be American Wire Gauge.

2.8 MISCELLANEOUS METAL AND STRUCTURAL STEEL

- A. Scope of Work: Furnish labor, materials, equipment and services necessary for the installation of miscellaneous metal and structural steel work required to complete this contract. Erect structural steel required for the proper support of equipment required under this contract.
- B. Supports, brackets, and clamps and other items specified herein shall be installed in strict accordance with the best practices and recognized code.
- C. Materials: Structural steel members required under this part shall conform to ASTM Standard Specification A-7. Other materials shall be as specified hereinafter.
- D. Priming: steel and iron work shall be primed with Rust-Oleum 769 or approved equivalent. Before priming, metal shall be thoroughly cleaned free from scale, rust and dirt.
- E. Anchors: Provide anchors, bolts, screws, dowels and connecting members, and do cutting and fitting necessary to secure the work to adjoining construction. Build in connecting members to masonry, concrete and structural steel as the work progresses.
- F. Supports and Brackets: shall be neatly constructed to structural shapes to adequately support the equipment intended. Supports must be approved prior to installation. Attention is directed to the proper rigid support required for conduit. Field conditions shall regulate the type of support required.

2.9 VIBRATION ISOLATION MOUNTS

- A. Provide vibration isolation mounts for all substations, power centers, transformers, etc. All vibration isolation mounts shall be Amber-Booth spring type applicable for the size and weight of the equipment.

2.10 GRADING, FERTILIZING, AND SEEDING

- A. Provide labor, materials, equipment, and services required to strip and store topsoil, replace topsoil, and rough and finish grade and fertilize and seed areas disturbed

beyond the work area of the General Contract. Topsoil must be stored where directed on the site.

2.11 BITUMINOUS PAVING

- A. Provide labor, materials, equipment, and services necessary to repair pavements disturbed under the Contract.
- B. Materials, methods, and workmanship shall conform with the requirements of the PA Department of Highways, as published in its specifications Form 408, as amended to date.
- C. All patching of existing areas shall match existing materials.

2.12 MOTORS

- A. Motors shall be built in accordance with the latest standards of NEMA and as specified. Motors shall be tested in accordance with ASA C50 and conform thereto with respect to insulation resistance and dielectric strength.
- B. Each motor shall be provided with conduit terminal box and adequate starting and protective equipment as specified or required. The capacity shall be sufficient to operate associated driven devices under conditions of operation and load and without overload, and shall be at least the horsepower indicated or specified. Each motor type shall be for quiet operation.
- C. Motor starting equipment must be selected so that starting currents or transients do not have an adverse effect on lighting or other electrical equipment. No open transition wye-delta starting of motors shall be permitted.

PART 3 - EXECUTION

3.1 GENERAL

- A. Provide information to the General Contractor for any chases or openings required under this Contract. No cutting shall be done which may affect the building structurally or architecturally without the prior approval of the Architect. Damaged construction shall be restored to its original conditions and finished to match the surrounding work. Refer to "Supplementary General Conditions" for the disposition of Cutting and Patching.
- B. Grades, elevations, and dimensions shown on the drawings are approximately correct; however, field check and otherwise verify such data at the site before proceeding with the work. Make necessary survey equipment available at all times and make use of such equipment wherever necessary to properly install equipment.
- C. The Contractor shall be entirely responsible for apparatus, equipment, and appurtenances furnished by him or his subcontractors in connection with the work and special care shall be taken to protect parts thereof in such manner as may be necessary or as may be directed. Protection shall include covers, crating, sheds or other means to prevent dirt, grit, plaster or other foreign substances from entering the working parts of machinery or equipment. Special care shall be taken to keep open ends of pipes closed while in storage and during installation. Where equipment must be stored outside the building, it shall be totally covered and secured with heavy weatherproofing tarps and kept dry at all times. Where equipment has been subjected

to moisture, it shall be removed from the site and replaced with new equipment. Protect open excavating until covered over.

- D. Due to the schematic nature and small scale of the electrical drawings, it is not possible to indicate exact locations, offsets, fittings, access panels, pull boxes, and miscellaneous parts which may be required to form a complete system. The drawings are generally indicative of the work to be installed. Arrange work accordingly furnishing necessary parts and equipment as may be required to meet the various conditions and to provide a complete circuit from end use device to circuit protective device in panel.
- E. When new electrical panels or subpanels are installed, the Contractor shall include in his bid price, the cost to furnish and install six (6) additional 20 amp circuits for each new panel or new subpanel shown on the drawings. Each circuit shall include up to eight (8) receptacles along with circuit breakers, conductors, ground, conduits, wall plates, junction boxes, and all other appurtenances necessary for a complete and usable installation.
- F. Within thirty (30) days after acceptance of bids, submit to the Architect for approval, a complete list of equipment and materials to be furnished under this contract, giving names and addresses of manufacturers and material they intend to furnish. This source of supply shall be listed on forms available from the Architect.

3.2 CLEARANCES

- A. Take caution when on routing conduit and location of equipment. In many cases, clearances in ceiling plenums is limited due to ductwork and other mechanical lines and systems and steel. The Contractor shall be responsible for routing around mechanical equipment and ducts in order that everything can remain concealed in finished areas.

3.3 CUTTING AND PATCHING

- A. Provide cutting and patching necessary to install the work specified herein. Patching shall match adjacent surfaces. Refer to Section 01045, Cutting and Patching, for specific direction.
- B. No structural members shall be cut without prior approval of the Architect, and such cutting shall be done in a manner directed by the Architect.
- C. Provide ceiling removal and replacement where work above ceilings is required. Replace ceiling components damaged in the process.
- D. Provide patching where electrical devices are removed from walls, ceilings or floors as required under demolition.

3.4 PAINTING

- A. Finished painting shall be performed by others except for standard factory finishes.
- B. Electrical motors, pump casings, and other similar items shall be provided with three coats of machinery enamel at the factory, and shall be carefully cleaned, rubbed down, and oiled after installation.

3.5 LOCATIONS

- A. Apply for detailed and specific information regarding the location of equipment as the final location may differ from that indicated on the drawings. Outlets, equipment or

wiring improperly placed because of failure to obtain this information shall be relocated and re-installed without additional expense to the Owner. Determine the actual direction of door swings, so that local switches and other controls shall be installed at the lockside of doors, unless otherwise noted. Improperly located switches shall be relocated without additional expense to the Owner.

- B. The design shall be subject to such revisions as may be necessary to overcome building obstructions. No changes shall be made in location of outlets or equipment without written consent of the Architect and Owner.
- C. Unless otherwise mentioned or indicated, mounting heights of outlets are shown on the drawings or in the specification. Dimensions given shall be considered to be from center of outlet to finished floor.
- D. Coordinate the exact location and elevation of all electrical devices and fixtures with the architectural interior elevation plan and reflective ceiling plan prior to installation.
- E. Properly rough for the electrical conduit and equipment under this contract and modify as required for coordination during the construction period.

3.6 DUST, DIRT AND NOISE

- A. Carry out new work and make changes, relocations, and installations with a minimum of noise. Site areas and new equipment, floors and walls, shall be adequately protected from dust and dirt caused by the work. Protection shall include suitable temporary barriers or coverings. The exterior and interior premises of each building shall be kept clean as possible during construction. Damages to surfaces or equipment as a result of negligence shall be replaced or corrected as required.

3.7 RECORD DRAWINGS

- A. During the construction period, maintain in good order a complete set of blue line electrical contract drawings. Record the actual electrical installation as the work progresses. Include changes to the contract and to equipment sizes and types. Keep these drawings available at the site at all times for inspection.
- B. Take proper caution against the use of superseded drawings. Check such copies and mark "void." Where drawings have been corrected by memorandum, assume the responsibility for marking all drawings so affected with the changes; such marked drawings shall remain in use until revised drawings are issued.
- C. At the conclusion of the work, obtain a set of sepias from the Architect. Incorporate "as built" data in a clearly legible manner. Return such marked prints or sepias within 30 days to the Architect.
- D. At the conclusion of the work, provide to the Architect a complete set of drawings which indicate precisely how the electrical single line and riser diagram equipment has been installed. Return such reproducible drawings within 30 days to the Architect.

3.8 EQUIPMENT, FOUNDATIONS, SUPPORTS, PIERS AND ATTACHMENTS

- A. Provide necessary foundations, supports, pads, bases and piers required for equipment specified in this division; submit drawings in accordance with Shop Drawing Submittal requirements prior to the purchase, fabrication or construction of same.

- B. Provide concrete pads for base-mounted transformers and rotating equipment, and for floor-mounted equipment located in equipment rooms and as indicated on the drawings. Pads shall be extended 6 inches beyond matching base in all directions with top edge chamfered. Inset 6 inch steel dowel rods into floors to anchor pads.
- C. Construction of foundations, supports, pads, bases and piers, where mounted on the floor, shall be of the same materials and same quality of finish as the adjacent and surrounding floor material.
- D. Equipment shall be securely attached to the building structure in an approved manner. Attachments shall be of a strong and durable nature and any attachments that are, in the opinion of the Architect, not strong and durable shall be replaced as directed.

3.9 SCAFFOLDING

- A. Furnish and erect scaffolding and ladders required in the installation of wiring, equipment and fixtures.

3.10 ENVIRONMENTAL AIR PLENUMS

- A. In spaces over hung ceiling which are used for environmental air handling purposes as defined by Article 300.22C of the National Electric Code, power data and communications cable must be in conduit or of the type cable rated for air plenum use. Cable type and/or raceway is generally indicated on the electrical drawings and specifications although the Contractor shall be responsible to clearly define ceiling space used for environmental air purposes.

END OF SECTION

SECTION 260519

WIRES AND CABLE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide wires and cables in accordance with the Contract Documents.
- B. This section includes cable requirements for systems below 600 volt insulation.
- C. Conductors shall be soft drawn copper having conductivity not less than 98 percent.
- D. No aluminum conductors or lugs or splicing devices shall be permitted.
- E. All wiring and cables shall be installed in raceway unless otherwise noted.

PART 2 - PRODUCTS

2.1 600 VOLT WIRE

- A. Insulation and conductor types shall be as follows:
 - 1. Conductors shall have a 600 volt insulation 90°C heat resistant type THHN.
 - 2. All wire shall be stranded, unless otherwise noted.
- B. Manufacturers:
 - 1. Cablec Continental Cable Company
 - 2. Pirelli Cable Corporation
 - 3. Southwire Corporation
 - 4. The Okonite Company

2.2 TYPE MC CONDUCTOR CABLE

- A. Conductors connecting receptacle and switch circuits in partitions to lighting and power grid boxes in finished areas only, in accordance with the NEC, may be 3-, 4-, or 5-wire, Type MC, consisting of #12 AWG copper THHN insulated phase conductors and one full size green insulated conductor, where acceptable to the authority having jurisdiction. Ground conductor shall be terminated to grounding system as required by NEC and authority having jurisdiction. All conductors shall be stranded, unless otherwise noted, and shall be enclosed in the flexible steel armored cover.
- B. Manufacturers:
 - 1. AFC/A Nortek Company
 - 2. Rome Cable Company
- C. Permitted Uses
 - 1. From building wiring junction box to each light fixture in lengths not to exceed 6 feet.
 - 2. Branch circuit wiring to room electrical devices.

2.3 PLENUM CONDUCTOR CABLE

- A. Plenum conductor cable may be used for NEC Class 2 or 3 wiring if conductor cable is UL listed in accordance with UL 910 and UL 1820 and is installed in accordance with the NEC and is acceptable to the Authority having jurisdiction. Insulation types, UL listing, and written acceptance by the local authority shall be submitted for review.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide circuit wiring complete as shown on the drawings, and as hereinafter specified or required. The minimum size of wire for branch circuits shall be No. 12, except 120 volt circuits over 100 feet in length shall be No. 10; 120 volt circuits over 150 feet in length shall be No. 8. Wiring shall be increased in size if so demanded by wattage of load.
- B. 600 volt wiring shall be color coded. Consistent phase identification of wires from service feeders to branch circuit wires shall be maintained as follows:
 - 1. 120/208 volts - Normal - Phase A..... Black
 - 2. 120/208 volts - Normal - Phase B..... Red
 - 3. 120/208 volts - Normal - Phase C Blue
 - 4. 120/208 volts - Neutral White
 - 5. 120/208 volt - Ground Wire Green
- C. Fire alarm wiring color coding shall be per manufacturer's recommendation or as directed by the Owner to match existing.
- D. Do not pull wires into raceways until raceways are permanently in place and termination points are not subject to damage.
- E. Do not use uninsulated wire conductors.
- F. Provide excess free conductor end length at termination points, adequate to make up splices and terminations, permitting neatly training conductors, and in any case not less than:
 - 1. No. 14 through 10 AWG - 6 inches
 - 2. No. 8 or 6 AWG - 10 inches
 - 3. Larger than No. 6 AWG - 18 inches
- G. Support vertical cables as required by Code. Use lock type cable support bushings having internal wedges and retaining collars. Locate support points in readily accessible pull boxes sized to code requirements.
- H. Circuit wiring in cabinets, panels, pull boxes, etc., shall be tied and held with Thomas & Betts Nylon Self-Locking Ty-Raps, or approved equal.
- I. Equip large pull, junction or terminal boxes with suitable racks to support, arrange, and retain wire and cable in an orderly manner.
- J. Equip conductors smaller than No. 4 AWG, in wireways, gutters, pull boxes, terminations, etc., with Thomas & Betts E-Z-code wire markers. Designate panel and circuit number on each individual marker.

- K. Equip conductors No. 4 AWG or larger size, and feeder conductors with metal, fibre or fireproof linen tags or with wrap around markers. Designate panel circuit number on each individual marker. In addition, designate use of each set of conductors on a common tag or on each individual conductor marker. Tagging shall include panel source and feeder size of equipment supply.
- L. Where the single pole work is used on branch circuits, circuit wiring may be grouped in accordance with the NEC. The drawings are schematic and diagrammatic and indicate the general method of installing circuit wiring and the outlets which are to be supplied.
- M. Lighting and convenience outlet circuiting are indicated on the drawings separately as single pole work for clarity; however, grouping circuits in accordance with the NEC and connecting to circuit boxes at any convenience point as required by the NEC, providing a minimum of 20 percent spare future capacity in each raceway, is permitted.
- N. The minimum sizes of wire on an installation shall be as follows:

Lighting and Power Circuits	12 AWG
Signal Circuits - with common or individual leads	14 AWG
Remote Control Leads	As recommended by manufacturer
Low Voltage Light Control, Intercom, Nurse Call, and Fire Alarm Systems	Twisted Pair, Non-Shielded or Shielded as shown on drawings or recommended by manufacturer
Fixtures	14 AWG Min. and as required by Underwriters Laboratories
- O. Install in each empty interior conduit, one nylon measuring fish line for the future installation of wire and cable.
- P. Great care shall be exercised in pulling wires into the conduits so as not to injure the insulation. Only UL approved lubricants shall be used to assist in the pulling in of wires with an outer covering or braid.
- Q. Where switch boxes are used as the termination of the "home runs" in addition to the switch legs, not less than a two-gang box shall be used, in order to provide ample room for wiring.
- R. Branch lighting circuits feeding exterior yard lights and parking lot lights shall be direct burial cable type UF moisture resistant with 600 volt insulation. Where drawings indicate use of conduit, the cable feeding these lights shall be pulled in rigid steel conduit and shall utilize standard type THHN wire. This conduit shall not require a concrete envelope, however, it shall have each joint sealed watertight with a suitable mastic and sealing compound. Install the cable feeding exterior in PVC conduit with a concrete envelope as described elsewhere in the specifications in "Underground Raceways."
- S. The size and general location of the various feeders are shown on the drawings; however, determine the exact location and routing of feeders at the site.
- T. Communications, sound and other low voltage wiring shall be of size and insulation recommended by the manufacturer of the equipment being served.

- U. In every pull or splice box and all other places where wires and cables may not be readily identified by nameplate on the equipment to which they connect, each circuit shall be identified with a permanent identification tag securely fastened to the conductors. Conductors of a feeder or branch circuit shall be laced together prior to tagging. Identification tags shall have the number of conductors, gauge and circuit identification stamped thereon in 1/4 inch high letters. Tags shall be made of a non-metallic material and shall be approved before installation.
- V. Where Type MC conductor cable is used, provide proper support from building structure or install in "power" section of cable tray.
- W. Each 120 volt designated circuit shall have its own individual full size neutral and insulated equipment ground throughout the circuit.

END OF SECTION

SECTION 260526

GROUNDING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide all system equipment and static grounding in accordance with the Contract Documents and in full compliance with Article 250 of the National Electric Code 2014 Edition, and local codes.
- B. Ground every device and metal part of the electrical system.
- C. Maintain continuity of system and equipment grounds throughout the electrical installation unless specifically shown otherwise. Provide ground bushings and jumpers where normal metallic ground paths are interrupted.
- D. Grounding shall be accomplished by means of a grounding triod as indicated on the drawings and generally outlined in the subsequent paragraphs. In addition, grounding shall be connected to the city water feed.
- E. All electrical equipment, cabinets, boxes, conduit and metal raceways shall be grounded in accordance with the NEC, NFPA 99 and as shown on the drawings and as specified herein.
- F. All connections to apparatus and conduits shall be made with an approved type of solderless connector. Connectors shall be securely bolted or clamped to the equipment. All contact surfaces shall be thoroughly cleaned and bright before connections are made in order to insure a good metal-to-metal contact.
- G. All underground cable splicing shall be thermite welded.
- H. Tie all grounding systems together at their origins as shown on the Drawings and as called for by the NEC.
- I. Provide an insulated ground wire sized in accordance with the NEC in every conduit carrying 100 amps or over, whether or not it is shown on Drawings.
- J. A solid ground shall be provided for the complete conduit system, feeder neutrals, motor frameworks, transformer cases, neutral of 480 volt and 208 volt building service, heating equipment enclosures, and other items as required.

1.2 GROUNDING TRIOD

- A. Driven rod assembly shall consist of four (4) ground rods with three (3) spaced 6 feet apart forming an equilateral triangle and one (1) in the center.
- B. One of the rods shall be equipped with a clamp at the top to accommodate a No. 4/0 bare stranded copper ground cable to the system ground base. A No. 4/0 bare stranded copper cable shall circle the three rods and be brazed to each rod. Cable shall tie into system neutrals and switchgear cases, and other metallic parts as required.
- C. Upper portions of the ground rods shall be located near the surface. Cables connecting ground rod assemblies shall be installed 2 feet below grade. Grounding conductors shall be installed in such a manner as to allow the shortest and most direct path between equipment and ground.

1.3 CITY WATER PIPE CONNECTION

- A. The supplemental grounding system shall be comprised of a common ground bus cable interconnected to an acceptable metallic cold water service pipe. The water pipe connection shall be made with a clamp type ground fitting that bonds the cable to the water pipe. Around the water meter, a bonding jumper shall be installed and connected by means of approved ground clamps.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Ground conductors shall be of size indicated or required by code and type/manufacturer as listed in Section 16120, Wires and Cables.
- B. Ground rods shall be copper-clad steel, 3/4 inch diameter and 10 feet long.
- C. Connectors shall be as manufactured by Burndy, O.Z. Gedney, or Erico.
- D. Exothermic welding shall be Erico, Burndy, or O.Z. Gedney.
- E. Accessible connections shall be made with multiple bolt silicon bronze connectors specifically designed and approved for the connection to be made.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The neutral wire for the electrical system shall not be used to ground miscellaneous conduits.
- B. Ground wires required by the National Electrical Code and/or the utility company.
- C. The resistance between the grounding system and absolute earth shall not exceed 10 ohms and shall be measured in the presence of the Architect's representative.
- D. The equipment grounding terminal bars of the normal and essential electrical system panel boards shall be bonded together with an insulated continuous copper bonding jumper not smaller than No. 4 copper.

3.2 EQUIPMENT GROUNDING

- A. Cable shielding, metallic conduits, wireways, metal enclosures of busways, cable boxes, electrical equipment housings and all noncurrent carrying metallic parts shall be grounded. Run a separate ground wire to all equipment.
- B. All conduit stub-ups shall be grounded and where multiple stub-ups are made within an equipment enclosure, such as a switchboard, they shall be equipped with grounding bushings and bonded together and to the enclosure and the enclosure ground bus.
- C. Provide bonding devices, fittings or jumpers at expansion fitting, isolation sections or wherever continuity of ground is broken.
- D. Install all grounding conductors with sufficient slack, to avoid breaking due to settlement or movement of conductors or attached points.
- E. Motors shall be grounded by means of a grounding conductor in the same raceway with the motor feeder connected to a grounding bushing at the motor terminal box and the ground bus in the motor control center or to the incoming conduit grounding bushing of an individually mounted motor starter.

- F. Where flexible conduit is used for all or part of a conduit run, except lighting branch circuits, a grounding conductor shall be provided in the conduit and connected to grounding bushings at each end of the run.
- G. Under no circumstances shall a neutral conductor or neutral bar in an enclosure be grounding.

3.3 FEEDER GROUNDING

- A. Run a separate insulated ground for feeders.
- B. Size grounds in accordance with the NEC or as noted on the drawings.

END OF SECTION

SECTION 260529

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide products to suspend, attach, support and otherwise retain in location, electrical work.
 - 1. The specified requirements herein include support and hardware information of a general nature. Where additional requirements are stated elsewhere in the specification related to specific products and conditions, such additional requirements shall supersede these general specifications.
- B. Approvals: Obtain approval before cutting, drilling, or welding to, structural members. Where cutting, drilling, or welding is permitted, this work, as required for product support, is a part of product installation electrical work.
- C. Welding: Use certified welders for welded installation. Steel in weld area shall be cleaned before and after welding operations, and refinished after welding.
 - 1. Do not weld raceway pipe straps to structure.
- D. Use electrically driven MG set for welding. No solid state welders shall be permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Use expansion shield anchors or toggle bolts of the following manufacturers.
 - 1. Phillips Drill Company, Inc. "Red Head Self Drilling"
 - 2. Rawl Products Company "Saber Tooth"
 - 3. McCulloch Industries "Kwik Bolt"

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide common support trapezes for parallel raceways.
- B. Use manufactured preformed U-Channel system having accessory connecting and clamping devices available where parallel raceways are to be supported. Load channel system not to exceed manufacturer's recommendation.
- C. Fabricate supports for transformers, panel boards, cable tray, lighting fixtures, cabinets, pull and junction loads, and similar electrical products from preformed U-Channel systems. Load channel system not to exceed manufacturer's recommendations.
- D. Use preformed U-Channel concrete inserts preset into forms to secure hangers suspended from slabs.
- E. Use concrete expansion shield anchors or preformed U-Channel cast-in-place concrete inserts for attaching electrical products to concrete walls.

- F. Support loads from stud anchors or concrete inserts at not to exceed manufacturer's live loading recommendations.
- G. Do not use powder-charge driven fasteners.
- H. Do not drill holes or install driven fasteners in concrete at less than 12 inches from prestressed steel.
- I. Do not use nylon or similar concrete inserts without prior approval, except for supporting 1 inch or smaller individual runs of conduit or tubing.
- J. Use toggle bolts to attach supports for electrical products to hollow masonry walls. Do not attach products weighing more than 50 pounds to hollow masonry walls, without prior approval.
- K. Use toggle bolts in hollow tile.

END OF SECTION

SECTION 262416

PANELBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide electric service with capacity as shown on the drawings.
- B. Power Company Coordination: coordinate service arrangements and pay associated fees necessary to provide a complete operating system. Provide meter socket and/or CT cabinet of size and type dictated by the power company.
- C. Interrupting Capacities: Panel boards to have interrupting capacity capable of handling fault current which is available at the point in the circuit where the panel is installed.
- D. Interrupting ratings are listed in the Schedule of Panels on the drawings or in Appendix A of these specifications. These capacities are based on feeder sizes and panel locations shown on drawings. If major changes are made, these ratings must be adjusted.

PART 2 - PRODUCTS

2.1 120/208 PANEL BOARDS

- A. 120/208 volt panel boards shall be of the dead front type and have branch circuit protectors in the quantity and of ratings indicated on the drawings and panel schedules. Panel boards shall be designed for use on a 3 phase, 4 wire, 120/208 volt system. Panel boards shall be provided with ground bar bonded to the steel cabinet, separate neutral bar, and main lugs or breaker as noted.
- B. 120/208 panel boards, unless otherwise noted, shall be Square D Type NQOD 120/208 volts, 3 phase, 4 wire, s/n with main breaker or main lugs only as noted with single pole, individual trip and 2 and/or 3 pole common trip bolt-on type branch circuit breakers and as per drawings and panel schedules. Certain panels may be double with feed through lugs as indicated.
- C. Bus bars and current carrying parts of panel boards exclusive of circuit breaker, shall be hard drawn copper sized in accordance with the requirements of the Underwriters' Laboratories, Inc.
- D. The branch circuit portions of each panel board shall comprise the required and indicated number of interchangeable bolt-on non-combustible thermal-magnetic circuit breaker sections; single or multiple pole, rated not less than 20 amperes, 125 volts and higher as noted. Breakers as required to provide I.C. sym. amp as shown on the panel schedule(s).
- E. Circuit breakers shall be readily removable from the front of panel board without disturbing adjacent units. They shall have quick-make and quick-break toggle mechanisms, non-fusible contacts, with inverse time, short circuit characteristics. Breakers shall trip free on overload. They shall indicate clearly whether they are in the open, tripped or closed position. Multipolar units shall have thermal element in each pole and shall have a single handle. Closely grouped circuit breakers and thermal tripping devices mounted in a common cabinet shall be de-rated when necessary in

accordance with NEMA standard recommended practices for high ambient temperatures.

- F. Panel boards with breakers larger than 100 amp., shall be Square D Type I-Line panel with breakers of the rating and frame size as noted on plan.
- G. Circuit breakers protecting circuits supplying receptacles, signaling devices, clocks, special equipment and other similar circuits not requiring switch control shall be equipped with an approved locking device.

2.2 PANEL BOARD CABINETS

- A. Panel boards shall be mounted in a sheet steel enclosing cabinet designed for surface or flush mounting as indicated on the drawings. Cabinets shall be fabricated of code gauge, galvanized sheet steel. The rear of the cabinets shall be provided with a suitable means of supporting the panel board in such a manner that adjustments may be made in all directions.
- B. Cabinets shall have suitable lugs for mounting and be provided with hinged steel trims and doors. Doors and trim shall be hung with heavy flush butt hinges. Doors and trims shall be of integral door-in-door construction or piano hinge trim and so designed that doors shall close without a rabbet. Doors 48 inches high or less shall be equipped with spring locks and catches. Doors larger than 48 inches in height shall be provided with a vault type handle having 3-point shoot bolts. Doors shall be finished with factory coat of baked enamel.
- C. In general, cabinets shall be installed so that the operating handle of the top branch circuit protector shall not exceed 78 inches above finished floor and the bottom of the cabinet be not less than 12 inches above finished floor.
- D. Fronts of cabinets shall have adjustable indicating type clamps and angle iron rests near the bottom to aid in installation and removal.
- E. Cabinets shall be provided with proper number and size openings for conduits installed. No openings shall be permitted which are not to be activated.
- F. In instances where it is necessary to group install cabinets, a common trim shall be employed.
- G. Circuit directory holders shall be attached to the inside of each cabinet door and have transparent cover under which shall be placed a neatly typed schedule outlining circuit control. Schedule shall use Owner-designated room numbers, not drawing room numbers.
- H. Extend two (2) spare empty 1 inch conduits from each recessed panel in finished areas to space above ceiling for future use.

2.3 LOCKS AND KEYS

- A. Locks for lighting, power, and miscellaneous panel boards, telephone cabinets and other electrical systems having locked apparatus shall be similarly keyed to institutional keying system. Panel door to have keyed metal latch and lock. Plastic locks are not acceptable.

2.4 SHUNT TRIP BREAKERS

- A. Panels in certain areas where shown on plan shall be equipped with main breakers with shunt trip devices with 120 volt coils. Connect emergency stop buttons in parallel to the shunt trip devices so that pushing any of the stop buttons in a given area shall

de-energize the power feeding the panel mains. Power restoration shall be made at the panel by resetting the main breaker. Extend an independent local source of 120 volt power to each shunt trip coil. Switch shall be an integral part of the panel and shall be ASCO #920 mechanically held switch or approved equal. Size as indicated on panel schedule(s).

- B. The emergency stop buttons shall be momentary contact, NEMA I, heavy duty, red, mushroom head, 1 N.O. pushbutton. Provide pilot light in pushbutton box to indicate when panel is energized.

2.5 CIRCUITING

- A. Each and every outlet, device, box and system requiring power shall be circuited to the respective panels as shown on plan. Refer to plan and schedules for sizes of wire, conduit and breakers. In instances where a specific circuit has not been assigned to a box requiring same, a circuit shall be provided for the load served as directed by the Architect at no additional cost to the Owner.

2.6 MAIN SWITCHBOARD

- A. Provide where indicated, a dead front type, completely metal enclosed, self-supporting structure independent of wall supports. It shall consist of the required number of vertical sections bolted together to form one rigid switchboard 90-3/8 inches high incorporating switching and protective devices of the number, ratings and type noted herein or shown on the drawings with necessary interconnections. Switchboard construction shall be of the universal frame type using die-formed members bolted and braced through the exclusive use of self-tapping bolts which shall not loosen during shipment. Ventilation openings shall be provided where required. Covers shall be secured by self-tapping screws. Properly anchor to floor.
- B. The bus shall be tin plated copper of sufficient size to limit the temperature rise to 55°C based on UL tests, and adequately braced and supported to withstand mechanical forces exerted during short circuit conditions when directly connected to a power source having the indicated available short circuit current. Connections shall be tightly bolted.
- C. A ground bus and lug shall be furnished firmly secured to each vertical section structure and shall extend the entire length of the switchboard.
- D. Switchboard shall be provided with adequate lifting means and shall be capable of being rolled or moved into installation position and bolted directly to the floor without the use of floor sills.
- E. A-B-C type bus arrangement, left-to-right, top-to-bottom, and front-to-rear, as viewed from the front, shall be used throughout.
- F. Record drawings shall be furnished providing the following information: switchboard voltage/current rating; overall outline dimensions including available conduit space; switching and protective device ampere ratings; and one line diagram.
- G. Adequate conduit space shall be provided to meet NEC requirements.
- H. Each switching and protective device shall be provided with visible means of ON-OFF identification. Terminals shall be of the anti-turn solderless type suitable for copper cable of sizes indicated.

- I. Exterior and interior steel surfaces of the switchboard shall be properly cleaned and finished with two-toned gray baked enamel over a rust-inhibiting phosphatized coating. Two-toned gray shall be ANSI 61 and ANSI 49.
- J. Switchboard shall be of construction Square D Type QED, 3 phase, 4 wire, voltage as specified on drawings, in which:
 - 1. Sections of the switchboard shall be 30 inches deep except service sections containing large ampacity main circuit breakers.
 - 2. Construction shall allow maintenance of incoming line terminations, main device connections and main bus bolted connections to be performed without rear access.
 - 3. The feeder or branch devices shall be removable from the front and shall be panel mounted with the necessary device line and load connections front accessible.
 - 4. The main horizontal bus bars shall be mounted on glass polyester insulators with all three phases arranged in the same vertical plane. The main bus shall have a maximum ampacity and shall be braced for short circuits as indicated on the drawings. Main bus splices shall be supplied between adjacent distribution sections.
 - 5. Vertical sections shall be completely factory assembled, wired and tested before delivery and shall bear UL labels where qualified. Design shall meet NEC and NEMA standards as well as OSHA requirements. Individual vertical sections shall be designed for bolting together at installation site.
 - 6. All interconnecting wires for connecting of vertical sections shall be field installed.
- K. Provide switchboard with solid state, digital metering with KW, KWH, voltage, amperage, power factor, and THD capability.
- L. Provide switchboard with integral service entrance (Category C) transient voltage surge suppressor (TVSS). See Section 16650.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install new service feeders, panel boards and switch boards as required to provide a complete operating system.
- B. Unless otherwise stated, install equipment in accordance with manufacturer's recommendations.
- C. Completely vacuum and clean all panels before energizing and before covers are permanently installed.

END OF SECTION

SECTION 262726

WIRING DEVICES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers power-related devices such as receptacles, switches, and plug strips.
- B. Devices listed in this section may or may not be used on this project. Specifications for devices not included in the Contract Documents are included in case they are needed during construction phase.

1.2 LOCATION OF DEVICES

- A. The approximate schematic location of devices is given on the drawings. The exact location shall be determined at the building as the work progresses. Refer to Architectural plans for any special details, elevations, and reflective ceiling plan. Verify door swings at job site. In no case shall switches be located behind door swings. Any switch so located shall be changed. Field verify equipment locations and adjust device and outlet locations to avoid inaccessibility. Relocate inaccessible outlets.
- B. Unless otherwise indicated, or otherwise decided at the site, outlet boxes in walls shall be located with centerline at elevation above the finished floor as shown on table.

Fire Alarm Strobe Light.....	6 feet 8 inches
Fire Alarm Pull Stations	3 feet 6 inches (to activation handle)
.....	3 feet 8 inches (to top of device)
Fire Alarm Horn	8 feet or 6 inches below ceiling in low-ceiling (wall mounted) areas
Wall Switch Outlets.....	4 feet
Convenience Outlets	1 foot 6 inches
Counter Outlets.....	8 inches above countertop

- C. The Architect and the Owner reserve the right to change the location of any outlet, before it has been installed.

1.3 DESCRIPTION

- A. Wiring Device Requirements
 - 1. Use the products of a single manufacturer for each type of wiring device.
 - 2. Use the products of a single manufacturer of all device plates. Obtain prior approval for any variations from this requirement, except that plate variations are allowed for the following devices:
 - a. Where the selected plate manufacturer does not manufacture a suitable finish plate.
 - b. For clock receptacles.
 - c. For heavy-duty receptacles rated at more than 30 amperes.

- d. Where the raceway system enclosure employs a non-standard finish plate.
- e. Where non-standard plates are specified or indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Representative general purpose wiring devices and device plates as listed herein are intended to indicate type, function, and quality of the products. Provide the products specified.

2.2 SWITCHES

A. General

1. Switches mounted vertically shall have the "ON" position at the top and horizontal-mounted switches shall have the "ON" position at the left.
2. Tumbler switches shall be the AC heavy-duty, specification grade, 120/277 volts, flush toggle type switch rated at 20 amperes, Underwriters' approved and meeting NEMA Standard WD-1 1965 and Federal Specifications W-S-896d (Type III). The operating mechanism shall be totally enclosed in a high-heat, non-inflammable, non-hygroscopic molded compound case with terminal screws located on the side of the switch. Operating handles shall be made of high heat phenolic compound. Switches shall have wide plaster ears.

B. Manufacturers

1. Single pole toggle switch, 20 ampere, 120/277 volt, specification grade, Hubbell Catalog No. 1221-I, Pass & Seymour Catalog No. 20AC1-W, or Bryant Catalog No. 4621-I.
2. Three-way toggle switch, 20 ampere, 120/277 volt, specification grade, Hubbell Catalog No. 1223-I, Pass & Seymour Catalog No. 20AC3-W, or equal of Bryant.
3. Four-way toggle switch, 20 ampere, 120/277 volt, specification grade, Hubbell Catalog No. 1224-I, Pass & Seymour Catalog No. 20AC4-W, or equal of Bryant.
4. Double pole toggle switch, 20 ampere, 120/277 volt, specification grade, Hubbell Catalog No. 1222-I, Pass & Seymour Catalog No. 20AC2-W, or equal of Bryant.
5. Single pole key lock switch, 20 ampere, 120/277 volt, specification grade, Hubbell Catalog No. 1221-L, Pass & Seymour Catalog No. 20AC1-L, or equal of Bryant.

C. Miscellaneous Switch Appurtenances

1. Weatherproof cover - Hubbell 1795
2. Locking cover - Hubbell 96061

2.3 CONVENIENCE RECEPTACLES

- A. Receptacles shall be specification grade receptacles in all locations.
- B. Receptacles for convenience outlets shall be duplex self-aligning grounding type rated for 20 amperes at 125 volts. Contacts shall be made of heavy spring copper or bronze so designed as to securely grip both sides of each receptacle blade and shall be enclosed in high heat, non-inflammable, non-hygroscopic molded compound case,

provided with wide plaster ears. Each terminal shall be provided with two (2) binding screws located on the side of the receptacle.

C. Manufacturer(s)

1. Duplex receptacle, 20 ampere, 125 volts, 2 pole, 3 wire grounding type, NEMA 5-20R; Hubbell Catalog No. 5362-I, Pass & Seymour Catalog No. 5362-AW, or Bryant Catalog No. 5362-I.
2. Emergency duplex receptacle, 20 ampere, 125 volt, 2 pole, 3 wire grounding type, NEMA 5-20R, and connected to the normal/emergency system; Hubbell Catalog No. 5362-R, Pass & Seymour Catalog No. 5362-ARED with smooth finish red cover plate. The cover plate shall have the word "emergency" engraved at the top with white filled lettering.
3. Ground fault interrupter type duplex receptacle, 20 ampere, 125 volt, 2 pole, 3 wire grounding type, NEMA 5-20R; Hubbell Catalog No. GF-5362-I, Pass & Seymour Catalog No. 2091 W.
4. Single receptacle, 20 ampere, 125 volt, 2 pole, 3 wire grounding type, NEMA 5-20R ("EWC" denotes electric water cooler--coordinate mounting height with the equipment supplier.); Hubbell Catalog No. 5361-I, Pass & Seymour Catalog No. 5361-I.

D. Appurtenances

1. Weatherproof covers - use Hubbell WP26 or WPSF26, Pass & Seymour Catalog No. WPH8 or Bryant Catalog No. 4510D for GFI-WP locations; or Hubbell 5205WO or 5206WO, Pass & Seymour Catalog No. WPH26 for non-GFI-WP locations.

2.4 COVER PLATES

- A. Unless otherwise specified, switch, receptacles, special purpose outlets, telephone, and other outlet plates shall be Bureau of Standards No. 302-18.8 brushed or satin stainless steel with beveled edges so as to lie flat against the wall. Where more than one (1) switch occurs at one point, gang plates shall be used.
- B. Zinc-coated plates may be used in unfinished spaces.
- C. Plates shall be set true and plumb and shall fit tight against finished wall surfaces and outlet boxes.
- D. Manufacturers: Hubbell 97000 Series, Pass & Seymour SL1 Series, or Bryan 5600 Series.
- E. Narrow jamb switch to have Leviton 1794 plate.

2.5 WALL SWITCH SENSORS

A. General

1. Wall switch sensors shall be installed as shown on the drawings to control light fixtures in toilet rooms, corridors, mechanical rooms, electrical rooms, etc., that are less than 1200 square feet in size.

B. Manufacturers

1. Wall switch sensors shall have a field adjustable time delay from one (1) to twenty (20) minutes, cover a maximum of 1200 square feet, have a 180 degree field of view, have a three (3) position override switch (off-auto-on) and have a LED system test.
2. Wall switch sensors, 20 ampere, 120/277 volt 1500 watt, shall be Bryant Catalog No. MSFL1200I.

2.6 CEILING MOUNT SENSORS AND LOW VOLTAGE CONTROL PACKS

A. General

1. Ceiling mount sensors and low voltage control packs shall be installed as shown on the drawings to control light fixtures in corridors, mechanical rooms, electrical rooms, stairways, etc., that are larger than 1200 square feet in size.

B. Manufacturers

1. Ceiling mount sensors shall cover 600 square feet of area and shall be Bryant Catalog No. MSCM-600.
2. Low voltage control panels shall be rated at 20 ampere, 120/277 volt and shall be Bryant Catalog No. CP120-277.

2.7 OCCUPANCY SENSORS

A. Provide occupancy sensor devices in accordance with Contract Documents.

B. Wall Mounted Switch / Occupancy Sensor

1. Switch shall fit in standard wallbox and be gangable with other units. Unit shall have manual on/off pushbutton light switching which shall operate at any time.
2. Passive infrared occupancy sensor devices shall have a 180° field of view with a maximum coverage of 2100 square feet. The maximum sensing distance in front of the sensor is 40 feet and at each side is 30 feet.
3. Sensor shall have self-adjusting delayed-off time interval for real-time occupancy patterns.

C. Ceiling Mounted Occupancy Sensor

1. Sensor shall be all-digital with passive infrared technology designed for ceiling mounting.
2. Sensor shall have 360° pattern sensing with coverage area of 530 square feet.
3. Sensor shall have self-adjusting delayed-off time interval for real-time occupancy patterns. Manual time adjustment shall be 20 seconds -15 minutes with ambient override ON.
4. Input voltage shall be 120 volts AC and shall have a load rating of 1000 watts.

D. Manufacturers:

1. Wall Mounted: Leviton #ODS15-ID or equivalent.
2. Ceiling mounted: Leviton #ODC0S-I1W or equivalent

2.8 GFI PROTECTED RECEPTACLES

- A. Receptacles shall be GFI protected via GFI receptacle or GFI breaker in the following locations:
 - 1. Where shown on the drawings.
 - 2. In toilet and bathrooms.
 - 3. Exterior receptacles within 15 feet of ground level or on roof.
- B. Receptacles installed above any counter within 6 feet of sink.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Devices shall be flush mounted unless otherwise noted. Properly align and plumb devices and plates. Plates shall fit flat against wall and tight against device surface without strain on plate.
- B. Code sized (#12 minimum) bonding jumper shall connect grounded outlet box to receptacle grounding terminal on flush-mounted units.
- C. Where receptacles are indicated as split-wired and half of the receptacle is on a wall switch, the top receptacle shall be switched and bottom shall be on normal power.
- D. Circuits to wiring devices feeding data processing equipment shall have a dedicated neutral for each 120 volt circuit. No common neutrals for data processing equipment shall be permitted.
- E. Mount occupancy sensors according to manufacturer's recommendations.
- F. Switches mounted vertically shall have the "ON" position at the top and all horizontal-mounted switches shall have the "ON" position at the left.
- G. Where receptacles are mounted in the vertical position, the ground terminal shall be on the top, and where receptacles are mounted in the horizontal position, the ground terminal shall be on the left.

END OF SECTION

SECTION 262813

FUSES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide fuses in accordance with the contract documents in motor starters, switchgear assemblies, panel boards and disconnect switches.
- B. Fuses in equipment shall be furnished by the respective contractor supplying the device and installed under this Division.
- C. Provide a complete set of three (3) spare fuses for each fuse size and type used.
- D. All fuses provided shall be of the indicating type, employing either an indicating window or a mechanical indicator striker pin.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Fuses shall be of the high interrupting rating, current limiting type and manufactured by the Bussman Company, Chase Shawmut, or Littelfuse.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ensure that fuses are firmly and completely inserted into fuse holders and that mechanical joints are tightened.

END OF SECTION

SECTION 262816

MOTOR AND CIRCUIT DISCONNECTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide motor and circuit disconnect switches in accordance with the Contract Documents.
- B. Switches shall be of proper horsepower rating as applicable for the load served and have dual interlocks designed to interlock the switch box door with the switch operating mechanism. Unit shall be provided for locking the operating handle in the "ON" or "OFF" position.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Disconnect switches shall comply with the following requirements, unless otherwise indicated or specified:
 - 1. Enclosure: NEMA 1, surface type in dry locations. Use NEMA-3R for exterior locations and wet locations where walls are washed.
 - 2. Ratings: Voltage, ampacity, horsepower and inductive ratings complying with power source voltage and characteristics of load controlled.
 - 3. Mechanism: Heavy duty, quick-make, quick-break, with voidable interlock to prevent opening enclosure in "ON" position. External lockable handle operation with provision for not less than two padlocks.
 - 4. Poles and Fusing: Comply with load requirements. Provide unfused switches except where fusing is indicated or required to comply with Code requirements. Where fuses are installed, use dual-element fuses.
 - 5. Poles and Overcurrent Protection: Comply with load requirements. Provide unfused switches except where overcurrent protection is indicated or required to comply with Code requirements. When required, install breaker type disconnects. Breaker shall be designed and rated for motor load protection specifically.
 - 6. NEMA Standard: Comply with KSI-1969, Part Four.
 - 7. Switches in hazardous areas shall be in enclosure bearing UL label for installation in class and division of hazard.
 - 8. Finishes: Light gray ANSI-61.
- B. Provide power disconnect switches of the following manufacturers with characteristics complying with load and power source indicated:
 - 1. Square D: Type HU.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide the number of poles necessary to include a pole for each ungrounded conductor. Equip switch with neutral terminal point where neutral is present. Do not switch neutral.
- B. In finished areas, disconnect switches shall be flush mounted. Use circuit breaker type if switch type is not available for flush mounting.
- C. In areas remote from the distribution panel board necessary to meet code provide non-fused disconnect switches for motors and equipment not already shown to be furnished by others.

END OF SECTION