Specifications for

Parkland Park Comfort Station
2500 Parkland Street
Dearborn Heights, MI 48127

George J. Hartman Architects, P.C. Project # 1625

Architect

George J. Hartman Architects, P.C.
6905 Telegraph Road Suite 101
Bloomfield Hills, MI 48301
248-258-5811

Owner

City of Dearborn Heights
6045 Fenton Avenue
Dearborn Heights, Michigan 48127

March 13, 2017

SPECIFICATIONS
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ADVERTISEMENT FOR BIDS

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station
2500 Parkland Street
Dearborn Heights, Michigan 48127

Sealed bids will be received in the Comptroller's Office, City of Dearborn Heights, 6045 Fenton Ave., Dearborn Heights, MI 48127, until: Wednesday, April 19, 2017
BEFORE 3:00 p.m.

at which time, all bids will be publicly opened and read aloud.

Specifications must be obtained on line by registering (free registration available) on BidNet. Go to www.govbids.com. Select the Michigan MITN System. Search for Dearborn Heights under Open Bids.

This project is funded by community development block grant funds and has specific payroll requirements.

JOHN LAUB, COMPTROLLER
CITY OF DEARBORN HEIGHTS

PROPOSALS MUST BE SUBMITTED IN TRIPLICATE

Any questions relating to this project should be directed as follows:

George Hartman, President, George J. Hartman Architects, P.C.
@ (248) 258-5811 or email hartmanarchitects@ameritech.net

PUBLISH: April 5, 2017

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

INSTRUCTIONS TO BIDDERS

Sealed bids will be received by the City of Dearborn Heights, Michigan as owner, until **3:00 P.M., Wednesday, April 19, 2017** at the Comptroller's Office at the Dearborn Heights City Hall, 6045 Fenton Avenue, Dearborn Heights, Michigan, 48127, at which time said proposals will be opened and publicly read.

Proposals shall be for items as specified in the Specifications and Drawings prepared by George J. Hartman Architects, P.C. A Manufacturer Specification Sheet for each model or style of item to be supplied shall accompany the bid.

BRAND NAME: If and wherever, in the Specifications a brand name, make, name of any manufacturer, trade name, or vendor catalog number is mentioned it is for the purpose of establishing a grade or quality of material only. However, if a product other than that specified is bid, it is the vendor's responsibility to name such a product within his bid and to prove to the City that said product is equal to that specified. Evidence in the form of samples may be requested if brand is other than specified. Such samples are to be furnished after the date of bid opening only upon request of the City. If samples should be requested, such samples must be received by the City no later than seven (7) days after formal request is made.

Proposal shall be addressed to ***John Laub***, **Comptroller, City of Dearborn Heights, 6045 Fenton Avenue, Dearborn Heights, Michigan, 48127**, in a sealed envelope for each proposal, marked "Bid for City of Dearborn Heights, Parks and Recreation Department, Parkland Park Comfort Station." Such proposals shall be submitted in strict accordance with the City of Dearborn Heights Specifications for the items listed herein. Any and all variations from Dearborn Heights Specifications are to be stated in the bids.

Each proposal must be submitted in duplicate on forms furnished on-line at the MITN site, on: www.govbids.com.

The City of Dearborn Heights reserves the right to reject or accept any or all proposals, in whole or in part, and waive any irregularities or formalities therein.

EACH BID MUST BE ACCOMPANIED BY A CERTIFIED OR CASHIER'S CHECK IN THE AMOUNT OF 5% OR 5% BID BOND OF THE GROSS SUM BID. SHOULD THE GROSS SUM BID BE $5,000.00 OR LESS, THEN A CERTIFIED, CASHIER'S CHECK OR BID BOND WILL NOT BE REQUIRED TO VALIDATE THE BID PROPOSAL. **EXCEPT MOTOR VEHICLES AND SINGLE AXLE TRUCK BIDS**, WHICH ONLY REQUIRE A BID BOND OR CASH BOND IF THE VEHICLE YOU ARE BIDDING IS OVER $30,000.00. WHERE THE PROPOSAL CALLS FOR APPROXIMATE QUANTITIES OF WORK TO BE PERFORMED, THE CHECK WILL BE BASED ON THE TOTAL APPROXIMATE QUANTITY OF WORK SPECIFIED. WHEN A DEFINITE OR APPROXIMATE QUANTITY IS NOT LISTED, THE CHECK WILL BE BASED ON THE PRIOR YEAR'S TOTAL EXPENDITURE FOR THIS PROPOSAL WHICH WILL BE SPECIFIED ON THE BID FORM.

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

INSTRUCTIONS TO BIDDERS

PLEASE TAKE SPECIAL NOTE OF THE FOLLOWING PARAGRAPH:

AT THE TIME OF OPENING ANY BID THAT DOES NOT MEET THE REQUIREMENTS OF THE ABOVE PARAGRAPH WILL NOT BE READ BY THE COMPTROLLER OR TABULATED BY THE PURCHASING DIVISION. THESE BIDS WILL BE RETURNED TO THE BIDDER BY THE COMPTROLLER MARKED, "DOES NOT MEET BID SPECIFICATIONS".

It is agreed, if the bidder to whom the Contract shall have been awarded shall refuse or neglect to execute the Contract or Purchase Order and properly secure the same within ten (10) days, the amount of the bid deposit shall be forfeited to and retained by the Owner as liquidated damages for such neglect or refusal.

Further, if the successful bidder fails to comply with the terms of the bid proposal, contract or purchase order the City has the option to hold the successful bidder to the terms of the proposal or forfeit the bid deposit as liquidated damages.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership (Naming Partners), Corporation, Foreign or Domestic (Naming Principal Officers), and indicate capacity or person executing proposal and bid.

Revised:

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

ADDITIONAL INSTRUCTIONS TO BIDDERS

A. FOR YOUR SEALED BID TO BE ACCEPTED:
SEALED BID MUST BE RECEIVED ON TIME (TIME STATED IN "ADVERTISEMENT FOR BIDS") Proposal shall be addressed to Vince Macari, Comptroller, City of Dearborn Heights, 6045 Fenton Avenue, Dearborn Heights, Michigan, 48127, in a sealed envelope for each proposal, marked "Bid for **CITY OF DEARBORN HEIGHTS, PARKS AND RECREATION DEPARTMENT, PARKLAND PARK COMFORT STATION."**

B. FOR YOUR BID TO BE CONSIDERED, PLEASE SUBMIT THE FOLLOWING **THREE (3) ITEMS ONLY**:

1. SEALED BIDS MUST CONTAIN **THE "FORM OF PROPOSAL"** (COMPLETED, SIGNED AND NOTARIZED).

2. SEALED BIDS MUST CONTAIN **THE MANDATORY SITE VISIT ACKNOWLEDGEMENT.**
ALL BIDDER'S SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING BID. BIDDER SHALL FILL OUT MANDATORY SITE VISIT ACKNOWLEDGEMENT FORM AND SUBMIT WITH BID.

3. SEALED BIDS MUST CONTAIN A **CERTIFIED OR CASHIER'S CHECK IN THE AMOUNT OF 5% OR 5% BID BOND OF THE GROSS SUM BID**. SHOULD THE GROSS SUM BID BE $5,000.00 OR LESS, A CERTIFIED CASHIER'S CHECK OR BID BOND WILL NOT BE REQUIRED TO VALIDATE THE BID PROPOSAL.

C. **IF YOU ARE THE LOWEST OF THE CONSIDERED BIDDERS, YOU WILL BE CONTACTED TO SUBMIT THE FOLLOWING QUALIFICATION DOCUMENTS WITHIN TEN (10) BUSINESS DAYS FROM DATE OF REQUEST. ATTENTION: PLEASE DO NOT SUBMIT THESE DOCUMENTS IN THE SEALED BID!** FAILURE TO SUBMIT THE FOLLOWING DOCUMENTS WITHIN THE ALLOTTED TIME WILL CONSTITUTE DISQUALIFICATION. (THE BID WINNER WILL BE THE LOWEST MOST QUALIFIED BIDDER.)

1. NON-DISCRIMINATION CLAUSE

2. REFERENCE FORM (3 REFERENCES FROM SIMILAR PROJECTS)

3. BID ITEMIZATION/SPECIFICATIONS (MUST REFLECT BID RESPONSE FORM "TOTAL BID AMOUNT")

4. MANDATORY SITE VISIT ACKNOWLEDGEMENT/S

5. COPY OF CERTIFICATE OF GOOD STANDING (MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC GROWTH, BUREAU OF COMMERCIAL SERVICES, CORPORATION DIVISION P.O. BOX 30054 LANSING, MICHIGAN 48909-7554 PHONE - (517) 241-6470 FOR COPIES, CERTIFICATES, OR GENERAL INFORMATION)

6. COPY OF ARTICLES OF INCORPORATION (MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC GROWTH, BUREAU OF COMMERCIAL SERVICES, CORPORATION DIVISION P.O. BOX 30054 LANSING, MICHIGAN 48909-7554 PHONE - (517) 241-6470 FOR COPIES, CERTIFICATES, OR GENERAL INFORMATION)

7. A VALID CERTIFICATE OF LIABILITY INSURANCE NAMING THE CITY OF DEARBORN HEIGHTS AS A HOLDER. ALL GENERAL CONTRACTORS AND SUBCONTRACTORS, ON ALL WORK DONE UNDER THE CONTRACT, ARE REQUIRED TO CARRY FULL WORKMAN'S COMPENSATION INSURANCE AND COMPREHENSIVE PUBLIC LIABILITY INSURANCE COVERAGE, PROTECTING THE OWNER FOR NOT LESS THAN $1,000,000 IN THE EVENT OF BODILY INJURY, INCLUDING DEATH, AND $1,000,000 IN THE EVENT OF PROPERTY DAMAGE ARISING OUT OF THE WORK PERFORMED BY THE CONTRACTOR.

8. COPIES OF ALL APPLICABLE LICENSES (DRIVER, STATE ISSUED I.D., BUILDING, ELECTRICAL, PLUMBING, MECHANICAL, ASBESTOS, LEAD, ETC…)

9. ANY OTHER SUPPORTIVE DOCUMENTATION THE CITY REQUESTS TO QUALIFY THE BIDDER.

D. IF YOU ARE THE BID WINNER, BEFORE CONTRACT SIGNING, YOU MUST SUBMIT A WORK PERFORMANCE BOND FOR THE AMOUNT OF 25 % OF THE TOTAL WINNING BID AMOUNT.

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

NON-DISCRIMINATION CLAUSE

NOTE: Failure to respond will cause your firm to be placed in "non-compliance" status and you will not be eligible to receive City contracts.

In connection with the performance of work under this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age* or sex*. The contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, color, national origin, age* or sex*. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(2) The contractor 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 race, religion, color, national origin, age* or sex*.

(3) The contractor or his collective bargaining representative will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this section.

(4) The contractor will comply with all published rules, regulations, directives, and orders of the Michigan Civil Rights Commission relevant to Section 4, Act No. 251, Public Acts of 1955, as amended which may be in effect prior to the taking of bids for any individual state project.

(5) The contractor will furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission, said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor as well as the contractor himself, and said contractor will permit access to his books, records, and accounts by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain compliance with this contract and with rules, regulations, and orders of the Michigan Civil Rights Commission relevant to Section 4, Act No. 251, Public Acts of 1955, as amended.

(6) In the event that the Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this agreement, the Civil Rights Commission may, as part of its order based upon such findings, certify said findings to the Administrative Board of the State of Michigan, which Administrative Board may order the cancellation of the contract found to have been violated, and/or declare the contractor ineligible for future contracts with the state and its political and Civil subdivisions, departments, and officers, and including the governing boards of institutions of higher education, until the contractor complies with said order of the Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Civil Rights Commission in which, cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Civil Rights Commission to participate in such proceedings.

(7) The contractor will include, or incorporate by reference the provisions of the foregoing paragraphs (1) through (6) in every subcontract or purchase order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission. **And will provide in every subcontract or purchase order that said provisions will be binding upon each subcontractor or seller.

*** SECTION 3a (a) ACT NO. 344, PUBLIC ACTS OF 1965, AS AMENDED BY ACT NO. 349, PUBLIC ACTS OF 1966, READS:**

"IT IS AN UNFAIR EMPLOYMENT PRACTICE:

(a) FOR ANY EMPLOYER, BECAUSE ANY INDIVIDUAL IS BETWEEN THE AGES OF 35 AND 60, OR BECAUSE OF THE SEX OF ANY INDIVIDUAL, TO REFUSE TO HIRE OR OTHERWISE TO DISCRIMINATE AGAINST HIM WITH EMPLOYMENT. ANY SUCH REFUSAL TO HIRE OR DISCRIMINATION SHALL NOT BE AN UNFAIR EMPLOYMENT PRACTICE IF BASED ON LAW, REGULATION, THE REQUIREMENTS OF ANY FEDERAL OR STATE TRAINING OR EMPLOYMENT PROGRAM OR ON A BONA FIDE OCCUPATIONAL QUALIFICATION AND EXCEPT IN SELECTING INDIVIDUALS FOR AN APPRENTICE PROGRAM OR AN ON-THE-JOB TRAINING PROGRAM INTENDED TO HAVE A DURATION OF MORE THAN 4 MONTHS."

** Except for those:

1. Subcontracts for goods or services in any amount of less than $5,000.

2. Subcontracts entered into with parties employing less that three employees.

I acknowledge that I have reviewed and understand the seven (7) foregoing clauses and We (the company) will adhere to the City's non-discrimination policy.

Name of Company_____

Signature_____ Title_____ Date_____

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

REFERENCE FORM

PROJECT OWNER

Project Owner Name:_____

Project Total Value: $_____

Project Owner Contact Information:
Phone #: _____ Fax #: _____
E-Mail: _____

Did the Project Start on Projected Starting Date: YES / NO, If No please give reason:

_____

_____

Was the project completed, and accepted by the owner with no pending conditions:
YES / NO, If No please give reason:

_____

_____

PROJECT COMPLETED BY:

Bidder Name:

_____

Address _____Zip: _____

Phone #: _____ Fax #: _____E-Mail: _____

Project Name: _____

Project Address: _____

Project description:

_____

_____

I/We hereby certify that all data provided in this form is correct and authorize the City of Dearborn Heights to investigate, collect and verify as needed.

Name: _____ Official Title: _____

Signature: _____ Date: ___ /___/___

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

REFERENCE FORM

PROJECT OWNER

Project Owner Name:_____

Project Total Value: $_____

Project Owner Contact Information:
Phone #: _____ Fax #: _____
E-Mail: _____

Did the Project Start on Projected Starting Date: YES / NO, If No please give reason:

_____

_____

Was the project completed, and accepted by the owner with no pending conditions:
YES / NO, If No please give reason:

_____

_____

PROJECT COMPLETED BY:

Bidder Name:

_____

Address _____Zip: _____

Phone #: _____ Fax #: _____E-Mail: _____

Project Name: _____

Project Address: _____

Project description:

_____

_____

I/We hereby certify that all data provided in this form is correct and authorize the City of Dearborn Heights to investigate, collect and verify as needed.

Name: _____ Official Title: _____

Signature: _____ Date: ___ /___/___

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

REFERENCE FORM

PROJECT OWNER

Project Owner Name:_____

Project Total Value: $_____

Project Owner Contact Information:
Phone #: _____ Fax #: _____
E-Mail: _____

Did the Project Start on Projected Starting Date: YES / NO, If No please give reason:

_____

_____

Was the project completed, and accepted by the owner with no pending conditions:
YES / NO, If No please give reason:

_____

_____

PROJECT COMPLETED BY:

Bidder Name:

_____

Address _____Zip: _____

Phone #: _____ Fax #: _____E-Mail: _____

Project Name: _____

Project Address: _____

Project description:

_____

_____

I/We hereby certify that all data provided in this form is correct and authorize the City of Dearborn Heights to investigate, collect and verify as needed.

Name: _____ Official Title: _____

Signature: _____ Date: ___ /___/___

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT

Parkland Park Comfort Station

General Bid Conditions and Obligations

All work shall be done in accordance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). All work shall be done in accordance with the foregoing applicable ordinances, and all related City, County, State codes/ordinances, along with the attached drawings, item descriptions and general bid Itemization/specifications. Where differences occur program bid information package shall apply. (Where applicable)

Contractor shall be responsible for repairing all work related damages and replace same in kind to the satisfaction of the City of Dearborn Heights at no additional cost.

PERMITS:
The Contractor is required to secure the necessary PERMITS AND INSPECTIONS from the City Building and Engineering Department, County and State, if necessary, for all work. No permit or inspection fees will be charged.

CHANGE ORDERS:
In the event of a situation in the field that requires extra work, a change order may be requested. The program administrator will approve all change orders.

START OF WORK:
A pre-construction / installation meeting is required before start of work.

QUALIFICATION:
Bidder shall not be debarred from participating in federally funded projects if project is federally funded. http://www.epls.gov/

The City shall reserve the right to correct, adjust and extend the bid at any time before the bid submission due time/date.

The City shall reserve the right to request additional information and documentation related to this bid from bidders and bidders shall provide all requests of additional information and documentation within ten (10) business days from date of request.

The City shall reserve the right to cancel, re-bid, accept, and or postpone the bid in whole or in part, waive any irregularities or formalities without explanation.

PAYMENT/COMPENSATION:
Please refer to the Services Agreement Sample Document.

GENERAL DAMAGES/LIQUIDATED DAMAGES/DEFAULT:
Please refer to the Services Agreement Sample Document.

DOCUMENTATION:

Please refer to "ADDITIONAL INSTRUCTIONS TO BIDDERS" Page of the Bid Package

MISCELLANEOUS:
All bid documents will become property of the City of Dearborn Heights and will not be returned to bidders.

All materials necessary to complete the work in accordance with the bid shall be part of unit prices as submitted in the bid documents.

Only the winning bidder will be notified.

Any questions relating to this project should be directed as follows:

George Hartman, President, George J. Hartman Architects, P.C.
@ (248) 258-5811 or email hartmanarchitects@ameritech.net

CITY OF DEARBORN HEIGHTS
PARKS AND RECREATION DEPARTMENT
MANDATORY SITE VISITATION ACKNOWLEDGEMENT

Mandatory Site Visit Tuesday, April 11, 2017 at 3:00 p.m.

I_____On behalf of_____
(Print name) (Print company name)

have visited the locations specified in this bid packet and made all the appropriate measurements, quotations, pictures, etc., as deemed necessary for this bid.

Pre-Bid Meeting Date Attended: _____

CITY OF DEARBORN HEIGHTS
Parkland Park Comfort Station
2500 Parkland Street
Dearborn Heights, MI 48127

_____
Authorized City Representative

To answer any questions for this Bid please contact:
George Hartman, President, George J. Hartman Architects, P.C.
Phone: (248) 258-5811
Email: hartmanarchitects@ameritech.net

CITY OF DEARBORN HEIGHTS
WORK PERFORMANCE BOND

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

City of Dearborn Heights
6045 Fenton Avenue
Dearborn Heights, MI 48127

CONSTRUCTION CONTRACT
Date:

Description : CITY OF DEARBORN HEIGHTS, PARKLAND PARK COMFORT STATION

BOND:
Date:
Amount:

CONTRACTOR AS PRINCIPAL	**SURETY**
Company:	**Company:**
Signature: _____	**Signature:** _____

The Contractor and the Surety, jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

KNOW ALL MEN BY THESE PRESENTS, THAT WE_____

as principal. and_____
as surety, we held and firmly bound unto the City of Dearborn Heights in the penal sum of **:**
_____ Dollars ($) (25% of the total bid amount $XXXXXXXX)
lawful money of the United States of America, to be paid to said City for which payment

well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns jointly and severally firmly by these presents.
SIGNED, WITH OUR HAND AND SEALED THIS _____day of _____.

_____20_____.

WHEREAS, a license has been granted, subjected to execution, delivery and acceptance of this bond, by the City of Dearborn Heights, to the above bonded principal, authorizing the conduce, management, operation and carrying on the business of Facilities Improvement Project in the City of Dearborn Heights, as defined in and under ordinance of said City.

Now, THEREFORE, the conditions of this obligation is such that if the said _____Principal, shall faithfully observe the terms and conditions of the ordinances, rules and regulations now in effect or hereafter enacted with reference to Facilities Improvement Project during 20_____ in good condition or repair and fit for Facilities Improvement Project for a period of two (2) years from and after the date of completion of the construction of said Facilities Improvement Project ; and further shall faithfully observe the requirements of the City of Dearborn Heights for Facilities Improvement Project within said City; which said ordinance and requirements are hereby incorporated herein by reference; then this obligation to be void, otherwise to remain in full force and effect.

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:

CONTRACTOR AS PRINCIPAL
Company:

Signature: _____
Name and Title:
Address:

SURETY
Company:

Signature: _____
Name and Title:
Address:

CITY OF DEARBORN HEIGHTS
COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT (CEDD)

CDBG Requirements
Parkland Park Comfort Station

FREE COPIES OF THE FULL BID PACKAGE ARE AVAILABLE AT THE COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTEMENT, 26155 RICHARDSON DEARBORN HEIGHTS, MI 48127 PLEASE CALL (313) 791-3500 FOR DETAILS.

BIDDERS MAY ALSO FIND INFORMATION ON THE FOLLOWING WEB SITES:

- CONTRACTORS GUIDE TO DAVIS-BACON

http://www.hud.gov/offices/adm/hudclips/guidebooks/HUD-LR-4812/4812-LR.pdf

- DAVIS BACON WAGE DETERMINATIONS

http://www.wdol.gov/

- 24 CFR 85 SUBPART 36 - "PROCUREMENT"

http://www.hud.gov/offices/cpo/grantees/cfr8536.pdf

- FEDERAL LABOR STANDARDS PROVISIONS

http://www.hud.gov/offices/adm/hudclips/forms/files/4010.pdf

FEDERAL PREVAILING WAGE & HUD REQUIREMENTS

A. **Documents to be Included with Bid**

(1) The Bidder shall execute the Contractor's Certification Concerning Labor Standards and Prevailing Wage Requirements as contained in these Specifications. This form must be completed and signed, and submitted with the Proposal the Bidder submitting to the OWNER.

(2) If the Bidder is engaging any Subcontractor(s), the Subcontractor(s) shall execute the Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements as contained in these Specifications. This form must be completed and signed, and submitted with the Proposal the Bidder submitting to the OWNER.

B. **CDBG Requirements**

A. The Bidder agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the Equal Opportunity Clause and Standard Federal EEO Construction Grant Specifications as set forth in the Contracting Requirements Section of these specifications.

B. The CONTRACTOR shall conform to all provisions of the "Federal Labor Standards Provisions" as set forth in the Contracting Requirements Section of these specifications.

C. The CONTRACTOR for the employment of mechanics or laborers shall comply with Section 103 and 107 of the Contract Work Hours and Safety Standards Act (40 USC 327-330), as supplemented by the Department of Labor Regulation (29 CFR, Part 5). Under Section 103 of the Act, each CONTRACTOR shall be required to compute the wages of every mechanic and laborer on the basis of a standard work day of eight hours and a standard work week of forty hours. Work in excess of the standard work day or work week is permissible provided that the worker is compensated at a rate of not less than 1-1/2 times the basic rate of pay for all hours worked in excess of forty hours in the work week. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required 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. These requirements do not apply to the purchase of materials or articles ordinarily available on the open market, or Contracts for transportation or transmission of intelligence.

D. The CONTRACTOR for any Contract in an amount in excess or $100,000 shall comply with all applicable standards, or regulations issued pursuant to the Clean Air Act of 1970 (42 USC 1857 et. seq.) and the Federal Water Pollution Control Act (33 USC 1251 et. seq.), as amended.

E. The CONTRACTOR shall abide by the Federal Wage Rate Determination that is referred to or contained in these Specifications. The CONTRACTOR will be required to certify that all laborers and mechanics engaged in the construction of the Project, including those employed by subcontractors, have been paid not less than the wage rates required by the applicable wage decision.

F. The CONTRACTOR shall comply with Federal Regulations outlined above included in the Contract Documents or as required by the Department of Housing and Urban Development, who is funding

this project under the provisions of the Housing and Community Development Act of 1974. The CONTRACTOR shall complete all forms as required.

G. The CONTRACTOR shall submit to the OWNER weekly payrolls for every work week from the beginning to the end of the Project. The CONTRACTORS are urged to use Department of Labor Form WH-347.

H. The acceptable Bidder awarded a HUD-assisted Contract shall comply with all Federal Regulations mandated under the Housing and Community Development Act of 1974.

I. The CONTRACTOR will ensure that all federal paperwork is submitted on a timely basis and in accordance with timing schedules covered in HUD regulations.

J. The Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity Clause in any Contract resulting from acceptance of this Bid.

K. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he will retain such certifications in his files.

L. The block grant funded Project must comply with all engineering, building, and other township department requirements prior to any payment authorization being made. The approvals must be noted in writing.

M. CONTRACTOR must comply with the requirements of the Drug Free Workplace Act of 1988 (PL 100-690)

N. No Federal appropriated funds have been paid or will be paid, by or on behalf of it, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

Federal Wage Determination and Weekly Payroll

A. Attention is called to the fact that not less than the minimum salaries and wages must be paid on this Project, and that the CONTRACTOR shall ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, or national origin. The CONTRACTOR shall abide by the Federal Wage Rate Determination which is referred

to or contained in these Specifications.

B. The CONTRACTOR shall complete and submit to the OWNER, weekly payroll forms as required by HUD. A sample copy of these payroll forms is included in these Specifications.

C. The Federal Wage Determination which is included in these documents is the determination which was in effect at the time this project went out for bids. However, if another Federal Wage Determination is in effect at the time of Bid opening, that Wage Determination shall apply to this Project.

Section 3 Requirements

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.

F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

END OF SECTION

Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development
Office of Labor Relations

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 this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by 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 at 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 a part 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 l(b)(2) of the 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 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 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 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 therefor 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 action 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 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 the 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)(ii)(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 a plan or program, Provided, That 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, 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, disburse such amounts withheld for and on account of 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. 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 l(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 l(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 shall set out accurately and completely all of the information required to be maintained under 29 CFR 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 a "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 required to be maintained under 29 CFR 5.5 (a)(3)(i) and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the 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 as 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 subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution 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 subparagraph A.3.(i) 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 to 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 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, 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 Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen 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 a 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 classification of 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 a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman'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 Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the 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, evidenced 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 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 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance 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. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 of this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, 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 this paragraph.

7. Contract 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 Act 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 the labor standards 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 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 (nor 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 1 01 0, 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 standards 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 Standards Act. The provisions of this paragraph B are applicable only where the amount of the prime contract exceeds $100,000. 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 40 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 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subpara-

graph (1) of this paragraph, the contractor and any subcontractor responsible therefor 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 day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (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 other 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 liabilities 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 subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable only where the amount of the prime contract exceeds $100,000.

(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 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, 40 USC 3701 et seq.

(3) The Contractor shall include the provisions of this paragraph 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.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CONTRACTOR'S CERTIFICATION
CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

TO (Appropriate Recipient):	DATE
	Project Number (if any)
c/o	Project Name

1. The undersigned, having executed a contract with _____

   for the construction of the above-identified project, certifies that:

   (a) The Labor Standards Provisions are included in the aforesaid contract;

   (b) Correction of any infractions of the aforesaid conditions, including infractions by any of his subcontractors and any lower tier subcontractors, is his responsibility;

2. **He certifies that:**

   (a) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 U.S.C. 276a-2 (a)).

   (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to the aforesaid regulatory or statutory provisions.

3. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements, executed by the subcontractors.

4. **He certifies that:**

   (a) The legal name and the business address of the undersigned are:

   (b) The undersigned is:

(1) A SINGLE PROPRIETORSHIP:	(3) A CORPORATION ORGANIZED IN THE STATE OF:
(2) A PARTNERSHIP:	(4) OTHER ORGANIZATION (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS

(c) The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (If none, so state):

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are (If none, so state):

NAME	ADDRESS	TRADE CLASSIFICATION

_____

(Contractor)

Date_____

By_____

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S.C., provides in part: "Whoever . . . . . makes, passes, 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."

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

TO (Appropriate Recipient):	DATE
	Project Number (if any)
c/o	Project Name

The undersigned, having executed a contract with

_____
(Contractor or Subcontractor)

_____for _____
(Nature of work)

_____in the amount of $_____

in the construction of the above-identified project, certifies that:

(a) The Labor Standards Provisions of The Contract For Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 U.S.C.. 276a-2 (a)).

(c) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to the aforesaid regulatory or statutory provisions.

2. He agrees to obtain and forward to the contractor, for transmittal to the recipient, within ten days after the execution of any lower subcontract, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements, executed by the lower tier subcontractor, in duplicate.

(a) The workmen will report for duty on or about _____
(Date)

3. He certifies that:

(a) The legal name and the business address of the undersigned are:

(b) The undersigned is:	
(1) A SINGLE PROPRIETORSHIP:	(3) A CORPORATION ORGANIZED IN THE STATE OF:
(2) A PARTNERSHIP:	(4) OTHER ORGANIZATION (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS

(d) The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (If none, so state):

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are (If none, so state):

NAME	ADDRESS	TRADE CLASSIFICATION

_____
(Subcontractor)

By_____ _____
(Signature) (Typed Name and Title)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S.C., provides in part: "Whoever . . . . . makes, passes, 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."

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions, Form WH-347 Inst.)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

OMB No.: 1215-0149
Expires: 03/31/2006

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐	ADDRESS	
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION / PROJECT OR CONTRACT NO.

(1) NAME, ADDRESS, AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
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We estimate that it will take an average of 56 minutes to complete this collection of information, 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 of information, 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.

00 6278-1

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Start. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. 276c), 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 rates 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, of 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 wage 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.

* U.S. G.P.O.:1997 519.861

Dearborn Heights
Parkland Park Comfort Station

FEDERAL WAGE DETERMINATION

General Decision Number: MI170101 02/24/2017 MI101

Superseded General Decision Number: MI20160101

State: Michigan

Construction Type: Building

County: Wayne County in Michigan.

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 $10.20 for calendar year 2017 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 $10.20 (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 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/20/2017
2	02/03/2017
3	02/17/2017
4	02/24/2017

ASBE0025-002 06/01/2016

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 31.51	31.04

BOIL0169-001 01/01/2014

	Rates	Fringes
BOILERMAKER	$ 32.78	28.39

BRMI0001-001 06/01/2016

	Rates	Fringes
BRICKLAYER	$ 33.02	20.38
TILE FINISHER	$ 26.65	18.21
TILE SETTER	$ 33.00	18.21

CARP0687-003 06/01/2016

	Rates	Fringes
CARPENTER (Including Acoustical Ceiling Installation, Drywall Hanging, Form Work, Metal Stud Installation & Scaffold Building)	$ 31.16	26.56

CARP1045-001 06/01/2016

	Rates	Fringes
CARPENTER (Floor Layer - Carpet, Resilient, & Vinyl Flooring)	$ 28.00	23.02

CARP1102-002 06/01/2013

	Rates	Fringes
MILLWRIGHT	$ 31.11	28.64

ELEC0058-001 07/03/2016

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring and Installation of Alarms)		
Installer	$ 24.25	12.38
Technician	$ 33.08	10.91
ELECTRICIAN	$ 38.73	22.05

ELEV0036-002 01/01/2017

	Rates	Fringes
ELEVATOR MECHANIC	$ 48.82	31.585

ENGI0324-017 06/01/2016

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1	$ 39.64	22.90
GROUP 2	$ 38.14	22.90
GROUP 3	$ 36.64	22.90
GROUP 4	$ 36.34	22.90
GROUP 5	$ 35.52	22.90
GROUP 6	$ 34.66	22.90
GROUP 7	$ 33.69	22.90
GROUP 8	$ 31.98	22.90
GROUP 9	$ 23.64	22.90

FOOTNOTES:

Tower cranes: to be paid the crane operator rate determined by the combined length of the mast and the boom. If the worker must climb 50 ft. or more to the work station, $.25 per hour additional.

Derrick and cranes where the operator must climb 50 ft. or

more to the work station, $.25 per hour additional to the applicable crane operator rate.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane with boom and jib or leads 400' or longer

GROUP 2: Crane with boom and jib or leads 300' or longer

GROUP 3: Crane with boom and jib or leads 220' or longer

GROUP 4: Crane with boom and jib or leads 140' or longer

GROUP 5: Crane with boom and jib or leads 120' or longer

GROUP 6: Regular crane operator, and concrete pump with boom operator

GROUP 7: Backhoe/Excavator/Trackhoe, bobcat/skid Loader, broom/sweeper, bulldozer, grader/blade, highlift, hoist, loader, roller, scraper, tractor & trencher

GROUP 8: Forklift & extend-a-boom forklift

GROUP 9: Oiler

IRON0025-019 06/01/2015

	Rates	Fringes
IRONWORKER		
REINFORCING	$ 28.30	24.60
STRUCTURAL	$ 33.78	27.84

IRON0025-022 04/01/2014

	Rates	Fringes
IRONWORKER STRUCTURAL (Metal Building Erection Only)	$ 23.39	21.13

LABO0259-002 08/01/2016

	Rates	Fringes
LABORER: Asbestos Abatement (Removal from Floors, Walls & Ceilings)	$ 27.50	13.22

LABO0334-005 06/01/2015

	Rates	Fringes
LABORER: Landscape & Irrigation		
GROUP 1	$ 19.76	9.15
GROUP 2	$ 15.54	9.15

CLASSIFICATIONS

GROUP 1: Landscape specialist, including air, gas and diesel equipment operator, lawn sprinkler installer, skidsteer (or equivalent)

GROUP 2: Landscape laborer: small power tool operator, material mover, truck driver and lawn sprinkler installer tender

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LABO1191-002 06/01/2016

	Rates	Fringes
LABORER		
Common or General; Grade Checker; Mason Tender - Brick/Cement/Concrete; Pipelayer; Sandblaster	$ 24.10	20.27

PAIN0022-003 06/01/2015

	Rates	Fringes
PAINTER: Brush and Roller	$ 26.06	17.66
PAINTER: Drywall Finishing/Taping	$ 27.05	18.26
PAINTER: Spray	$ 26.86	17.66

PAIN0357-002 06/01/2015

	Rates	Fringes
GLAZIER	$ 30.05	18.10

PAID HOLIDAYS: New Year's Day, Decoration Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day; provided that the employee has worked the last full regular scheduled work day prior to the holiday, and the first full regular scheduled work day following the holiday, provided the employee is physically able to work.

PLAS0067-001 04/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 30.63	14.07

PLAS0067-004 04/01/2014

	Rates	Fringes
PLASTERER	$ 30.63	14.07

PLUM0098-001 06/01/2016

	Rates	Fringes
PLUMBER, Excludes HVAC Pipe and Unit Installation	$ 38.87	27.23

PLUM0636-003 06/06/2016

	Rates	Fringes
PIPEFITTER, Includes HVAC		

Pipe and Unit Installation.....$ 39.91 27.15

ROOF0149-001 06/01/2014

	Rates	Fringes
ROOFER	$ 29.10	20.83

SFMI0704-001 01/01/2017

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 43.25	22.42

SHEE0080-004 07/01/2015

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation; Excluding HVAC System Installation)	$ 37.24	26.56

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* TEAM0247-001 06/01/2016

	Rates	Fringes
TRUCK DRIVER		
GROUP 1		
Flatbed; Pickup; Dump & Tandem	$ 25.94	0.60+a
GROUP 2		
Semi	$ 26.09	0.60+a
GROUP 3		
Lowboy	$ 26.19	0.60+a

PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If any of the above holidays fall on a Sunday, the following Monday shall be considered the holiday and, if work is performed, the rate shall be double time.

FOOTNOTE:
a. $418.45 per week, plus $62.00 per day.

SUMI2011-026 02/01/2011

	Rates	Fringes
INSTALLER - OVERHEAD DOOR	$ 27.98	0.00
IRONWORKER, ORNAMENTAL	$ 18.48	7.93
TRUCK DRIVER: Tractor Haul Truck	$ 13.57	1.18

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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.

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END OF GENERAL DECISION

(Submit One Original and Two Copies)
FOR

City of Dearborn Heights
PARKS AND RECREATION DEPARTMENT
Parkland Park Comfort Station

NAME OF BIDDER: _____

ADDRESS: _____

PHONE #: _____ FAX #: _____

DATE: _____

ALL BIDS SHALL BE
SUBMITTED TO:

DELIVERY:

City of Dearborn Heights
Comptroller's Office
Parkland Park Comfort Station - Bid
6045 Fenton Avenue
Dearborn Heights, Michigan 48127

MAIL:

City of Dearborn Heights
Comptroller's Office
Parkland Park Comfort Station - Bid
6045 Fenton Avenue
Dearborn Heights, Michigan 48127

TOTAL BASE PROPOSAL

The undersigned, hereinafter referred to as the Contractor, proposes to furnish all labor, material, weather protection, temporary heat, tools, equipment, permits, inspections, testing, and supervision required for the complete construction of the City of Dearborn Heights Parkland Park Comfort Station, in strict accordance with the Drawings and Specifications prepared by George J. Hartman Architects, P.C., dated March 13, 2017 and including all addenda and accepted alternates listed for the lump sum firm price of:

_____Dollars $_____

The said amount, which constitutes the Total Base Proposal, includes all Sales and/or Use Taxes or other taxes of whatever character or description. The Contractor agrees to abide by all Federal funding requirements as listed in the specifications and advertisement to bid.

BASE BID

The Contractor shall provide a cost for each of the following items.

Site Work	$ _____
Concrete Flatwork	$ _____
Pre-Engineered Shelter	$ _____
Roofing	$ _____
Overhead and Profit	$ _____
Total Base Proposal	$ _____

TIME SCHEDULE:

Legal Publishing:	April 5, 2017
BidNet Posting:	March 29, 2017
Mandatory Site Visit:	April 11, 2017 @ 3:00 p.m.
Bids Due:	April 19, 2017 @ 3:00 p.m.
Contract Award by Council:	April 25, 2017

Construction Schedule:

Construction Start:	May 1, 2017
Substantial Completion:	July 14, 2017
Full Completion:	July 28, 2017. All work to be 100% complete by this date.

The Contractor hereby affirms that he has examined the documents and premises including the drawings, specifications, general and supplementary conditions, and other requirements, and that his proposed lump-sum bid includes all costs to complete all portions of the work within the negotiated time limits. The contractor also affirms and states that he has the equipment, manpower, tools and knowledge to complete the requirements of this Project within the time limits established.

NOTICE

FAILURE TO COMPLETE THIS FORM SHALL RESULT IN YOUR RESPONSE BEING DEEMED NON-RESPONSIVE AND REJECTED WITHOUT ANY FURTHER EVALUATION.

OBLIGATION:

The undersigned, by submission of this Offer, hereby agrees to be obligated, if selected as the Contractor, to provide the stated goods and/or services to the City, and to enter a Contract with the City, in accordance with all terms and bid documents as indicated in the bid table of content, and addenda in the Request for Response, as well as the Form of Contract, together with any written addendum as specified above.

COMPLIANCE:

The undersigned hereby accepts all administrative requirements of the Sealed Bid and will be in compliance with such requirements. By submitting this Response Form, the Respondent represents that: 1) the Respondent is in compliance with any applicable City regulations, and 2) if awarded a contract to provide the services required in the Sealed Bid, the Respondent will comply with the requirements set forth in the Sealed Bid and (3) Respondent will sign the Construction / installation / installation Contract (attached to Bid Package for reference) if awarded the Contract. Failure to sign the Construction / installation / installation Contract within fourteen (14) days of notification of award of contract will result in a breach and Respondent will forfeit his/her bid bond.

NONCOLLUSION:

The undersigned, by submission of this Response Form, hereby declares that this Response is made without collusion with any other business making any other Response, or which otherwise would make a Response.

SUBMITTAL REQUIREMENTS:

The undersigned certifies it has attached a complete response to each of the submittal requirements of this SEALED BID. The undersigned also certifies it has read and understands all Bid Documents as outlined in the “Bid Index Page”.

No Response shall be accepted which has not been manually signed in ink in the appropriate space below:

I certify, under penalty of perjury, that I have the legal authorization to bind the firm hereunder:

_____
Company Name

_____
Address

_____
City State Zip

_____
Signature of Person Authorized to Sign

_____
Printed Name

_____
Title

_____
Federal Tax ID

For clarification of this offer, contact:

Name: _____

Phone: _____

Fax: _____

Acknowledged before me by _____ (name) as _____ (title) of

_____ (Company) this _____ (day) of_____(month), 20___.

Notary Signature: _____
My Commission Expires: _____
Affix Seal

ADDENDA ACKNOWLEDGMENT

BIDDER'S NAME and ADDRESS

NAME OF BIDDER: _____

ADDRESS: _____

PHONE #: _____ FAX #: _____

DATE: _____

Addendum No.	Addendum Date	Received		Included in Bid	
		Yes	No	Yes	No

ADDENDA:

The undersigned has read, understands and is fully cognizant of the information to Respondents, Offer and Form of Contract, all Sections thereto, together with any written addendum issued in connection with any of the above. The undersigned hereby acknowledges receipt of the addendum(s) listed above.

SIGNED _____ **DATE** _____

TITLE _____

SECTION 01010 - SUMMARY OF WORK/GENERAL NOTES

PART 1 - GENERAL

1.1 PROJECT DESCRIPTION

A. The Project consists of the Construction of a Comfort Station. All work shall be done in accordance with the Plans and Specifications prepared by **GEORGE J. HARTMAN ARCHITECTS, P.C.**, dated March 13, 2017.

Project Description: The complete demolition of the existing park comfort station and the construction of a new built-in-place comfort station as described in the bid documents. Site work is included in project. Site is located at 2500 Parkland Street, Dearborn Heights, Michigan 48127.

1. The location of the comfort station in Parkland Park is the same as the former park comfort station, in the northeast corner of the loop off the main drive.
2. The grade varies slightly at the proposed comfort station location. The level of the slab shall be placed at or slightly above the existing slab elevation so that water does not flow from surrounding areas onto the slab. The perimeter grade shall pitch slightly away from the comfort station.
3. Assume 4" generally of topsoil removal and 4" of compacted sand base for the slab, however extra costs for a moderate amount of extra sand installation or topsoil removal will not be considered. If excessive amounts of topsoil or unsuitable soils are encountered, the contractor shall immediately notify the owner before proceeding with work.
4. There are no soils borings available.

1.2 CONTRACTOR USE OF PREMISES

A. General: Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public.

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. Keep driveways and entrances serving the premises clear and available to the Owner and the Owner's employees at all times. Do not use these areas for parking or storage of materials unless approved by the Owner. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
3. Waste Materials: Contractor is responsible for removal of all waste materials and construction or demolition debris from site on a daily basis. **Do Not** stockpile debris on site.
4. Contractor is responsible for all weather protection and shelters necessary to complete this work. Extensions in the contract time **will not be allowed** for inclement weather or other conditions.
5. Saturday or Sunday work will be permitted only with the Owner's prior permission.

1.3 OWNER OCCUPANCY

A. Full Owner Occupancy: The Owner will occupy the site and existing buildings during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

1.4 COMPLETION DATE

A. Substantial completion must be achieved per schedule in form of proposal.

1.5 APPLICATION FOR PAYMENT

A. Submit the Application for Payment at substantial completion of the Work. Payments will be issued within 30 (thirty) days of the application.

B. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment or similar forms itemizing work performed.

C. Transmittal: Submit 4 executed copies of each Application for Payment to the Architect. One copy shall be complete with original copies of waivers of lien and similar attachments.

D. Waivers of Mechanics Lien: With Application for Payment submit conditional waivers of mechanics liens from subcontractors or sub- subcontractors and suppliers.

1. Submit waivers on each item for the amount requested, prior to deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to Owner.

E. Retention- 10% retention shall be held on all progress payments.

F. Submit certified payroll as required by Federal Standards.

1. Payments to contractor may be withheld if certified payrolls have not been submitted.

G. Final Payment Application: Final Payment Application will not be accepted until all work is 100% complete. Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion.
3. Assurance that unsettled claims will be settled.
4. Proof that taxes, fees and similar obligations have been paid.
5. Removal of temporary facilities and services.
6. Removal of surplus materials, rubbish and similar elements.
7. Delivery of Warranties, Bonds, and Guarantees.

1.6 MINOR CHANGES IN THE WORK

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Architect on AIA form G710, Architect's Supplemental Instructions.

1.7 PROJECT COORDINATION

A. Coordination: Coordinate construction activities to assure efficient and orderly installation of each part of the Work. Coordinate construction operations that are dependent upon each other for proper installation, connection, and operation.

B. Staff Names: Within 3 days of Notice to Proceed, submit a list to the Owner of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

1.8 GENERAL INSTALLATION PROVISIONS

A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and movement.

E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

F. Re-check measurements and dimensions, before starting each installation.

G. Install each component during Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated.

J. All work shall conform to A.D.A. and Michigan Barrier Free Requirements. Advise Owner and Architect if conflicts are encountered.

K. Maintain on-site Fire Protective Measures and Devices as required to safeguard the building and occupants.

1.9 PROJECT MEETINGS

A. Pre-Construction Meeting: The Owner will schedule a pre-construction conference and organizational meeting at the Project site no later than 3 days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.

B. Agenda: Discuss items of significance that could affect progress including such topics as:

1. Tentative construction schedule.
2. Critical Work sequencing.
3. Designation of responsible personnel.
4. Procedures for processing field decisions and Change Orders.
5. Procedures for processing Applications for Payment.
6. Distribution of Contract Documents.
7. Submittal of Shop Drawings, Product Data and Samples.
8. Preparation of record documents.
9. Access to site.
10. Equipment deliveries and priorities.
11. Safety procedures.
12. First aid.
13. Security.
14. Housekeeping.
15. Working hours.

C. Progress Meetings: Conduct progress meetings at the Project site at weekly scheduled intervals. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

1.10 ALTERNATES – See Section 01030 – Alternates

1.11 SHOP DRAWINGS AND PRODUCT DATA

A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings.

1. Include the following information:

a. Dimensions.
b. Identification of products and materials included.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.

C. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

a. Manufacturer's printed recommendations.
b. Compliance with recognized trade association standards.
c. Compliance with recognized testing agency standards.
d. Application of testing agency labels and seals.
e. Notation of dimensions verified by field measurement.
f. Notation of coordination requirements.

D. Submittal Required: Submit the following product data, drawings and/or samples:

1. Concrete mix design and batch ticket for footings and slabs.
2. Metal roof sample.
3. Truss drawings sealed by a Michigan Engineer
4. Lumber grade list
5. Block & masonry materials
6. Insulation materials and certification
7. Gypsum wallboard
8. Doors & hardware
9. Accessories & partitions
10. Paint
11. Epoxy
12. Plumbing fixtures and equipment
13. Electrical fixtures and equipment
14. Mechanical fixtures and equipment
15. Soils testing (contractor to pay for soils engineer)

1.12 TEMPORARY FACILITIES

A. The contractor shall provide his own temporary support facilities or services for the project, including, but not limited to:

1. Contractor's telephone service.
2. Field offices and storage sheds.
3. Temporary safety and weather enclosures.
4. Temporary Project identification signs and bulletin boards.
5. Waste disposal services.
6. Construction aids and miscellaneous services and facilities.
8. Security and protection facilities required.
9. Temporary fire protection.
10. Barricades, warning signs, lights.
11. Enclosure fence for the site if required.
12. Environmental protection.
13. Directional and safety signage to meet Owner's requirements.

B. Contractor is responsible for all construction debris and refuse removal. The Owner's "dumpster" shall not be used by the Contractor.

C. Contractor is responsible for repairing any damage caused by his temporary services or facilities.

D. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.

E. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform

personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.

F. Contractor shall provide all necessary weather protection, including shelters, to ensure that the project completion date will not be exceeded. Additional contract time due to weather or other conditions will not be allowed.

1.13 PRODUCT SELECTION

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

1.14 FINAL CLEANING

A. General: General cleaning during construction is required by the General Conditions.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

1. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 01010

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1..1 RELATED DOCUMENTS

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

1..2 SUMMARY

A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

1. Inspection procedures.
2. Project record document submittal.
3. Operating and maintenance manual submittal.
4. Submittal of warranties.
5. Final cleaning.
6. As built drawings.
7. All required payroll records.

1..3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

    a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

2. Advise Owner of pending insurance change-over requirements.
3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.
6. Deliver tools, spare parts, extra stock, and similar items.
7. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
8. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The Architect will repeat inspection when requested and assured that the Work has been substantially completed.
2. Results of the completed inspection will form the basis of requirements for final acceptance.

1..4 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
4. Submit consent of surety to final payment.
5. Submit a final liquidated damages settlement statement.
6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.

1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, reinspection will be repeated.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

1..1 FINAL CLEANING

A. General: General cleaning during construction is required by the General Conditions.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

1..2 AS BUILT DRAWINGS

A. Contractor shall submit an AAs-Built@ drawing to Owner for the following items or as may be specified elsewhere:

1. Electrical as-built drawings showing all circuiting that was installed differently than indicated on constructions documents. Show location of all underground conduits and primary service entrance cables or conduits. Indicate any deviations for switchgear or panel locations.
2. Plumbing as-built drawings showing any significant underground or overhead piping deviations from construction documents.
3. Mechanical / HVAC as-built drawings showing any significant ductwork deviations from construction documents.
4. Structural framing as-built drawings showing any significant deviations from construction documents.
5. Underground sewer, water, etc. utility piping as-built drawings showing any significant deviations from construction documents.

B. All as-built drawings to be prepared by contractor on reproducible mylar drawing. Submit one mylar copy and two blueline copies.

END OF SECTION 01700

SECTION 02070 - DEMOLITION

PART 1 - GENERAL:

1..1 RELATED DOCUMENTS:

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

1..2 DESCRIPTION OF WORK:

A. Extent of selective demolition work is indicated on drawings.
B. Types of Demolition Work: Demolition requires the removal and subsequent offsite disposal of the following:

1. Complete removal of building structure as indicated on drawings and as required to accommodate new construction.
2. Removal of existing plumbing, HVAC, and electrical fixtures and equipment.
3. Cutting existing sitework paving and grade as necessary for underground utilities and new construction.

1..3 SUBMITTALS:

A. Schedule: Submit schedule indicating proposed methods and sequence of operations for demolition work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of services as required, together with details for dust, safety, and noise control protection.

1. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
2. Coordinate with Owner's continuing occupation of portions of site.

1..4 JOB CONDITIONS:

A. Occupancy: Owner and General Public may be occupying areas around the building and of the park immediately adjacent to areas of demolition. Conduct demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities which will severely impact Owner's normal operations.

B. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.

1. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable.

C. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to demolition work.

D. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.

E. Explosives: Use of explosives will not be permitted.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

1..1 INSPECTION:

A. Prior to commencement of demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.

1..2 PREPARATION:

A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

1..3 DEMOLITION:

A. Perform demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.

1..4 DISPOSAL OF DEMOLISHED MATERIALS:

A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.

1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
2. Burning of removed materials is not permitted on project site.

1..5 CLEAN-UP AND REPAIR:

A. Upon completion of demolition work, remove tools, equipment and demolished materials from site.
B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

1..6 BACKFILL:
A. Backfill trenches with clean granular fill materials compacted to 98% density.
B. Verify compaction with on-site testing by soils engineer. Submit test report.
C. Re-compact soils where required by testing.

END OF SECTION 02070

SECTION 03310 - CONCRETE WORK

PART 1 - GENERAL

1..1 RELATED DOCUMENTS

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

1..2 SUMMARY

A. Extent of concrete work is shown on drawings.

1..3 SUBMITTALS:

A. Product Data: Submit data for proprietary materials and items, including reinforcement, joint systems, curing compounds.

B. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test.

C. Materials Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Architect. Materials certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

1..4 QUALITY ASSURANCE

A. Concrete Testing Service: Contractor to engage a testing laboratory to perform material evaluation tests on concrete.

1..5 PROJECT CONDITIONS

A. Protection of Concrete Against Freezing: Cover completed work at grade level with sufficient temporary or permanent cover as required to protect against possibility of freezing; maintain cover for time period as necessary.

B. Protect adjacent finish materials against spatter during concrete placement.

PART 2 - PRODUCTS

1..1 FORM MATERIALS

A. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

B. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

1..2 REINFORCING MATERIALS

A. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.

B. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

C. All reinforcing steel shall conform to ASTM A 615, Grade 60. Reinforcing steel shall be continuous U.N.O. and have anchorage laps per ACI class C splices, with minimum laps of 36 bar diameters. Fabrication and placement shall be in accordance with ACI 315, latest edition. Hook top bars at discontinuous ends.

1..3 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I.

B. Use one brand of cement throughout project, unless otherwise acceptable to Architect.

C. Fly Ash: ASTM C 618, Type C or Type F.

D. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.

1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
2. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to Architect.

E. Lightweight Aggregates: ASTM C 330.

F. Water: Drinkable.

G. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work to achieve 6% air entrainment include, but are not limited to, the following:

a. "Air-Mix"; Euclid Chemical Co.
b. "Sika Aer"; Sika Corp.
c. "MB-VR or MB-AE"; Master Builders.
d. "Darex AEA" or "Daravair"; W.R. Grace.
e. "Edoco 2001 or 2002"; Edoco Technical Products.
f. "Air-Tite"; Gifford-Hill/American Admixtures.

H. Prohibited Admixtures: Calcium chloride thyocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

1..4 RELATED MATERIALS

A. Granular Base: Evenly graded mixture of fine and coarse aggregates to provide, when compacted, a smooth and even surface below slabs on grade.

B. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

1. Waterproof paper.
2. Polyethylene-coated burlap.

C. Liquid Membrane-Forming Curing Compound: Liquid type membrane- forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.

1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following.

a. "Masterseal"; Master Builders.
b. "A-H 3 Way Sealer"; Anti-Hydro Waterproofing Co.
c. "Ecocure"; Euclid Chemical Co.
d. "Clear Seal"; A.C. Horn, Inc.
e. "Sealco 309"; Gifford-Hill/American Admixtures.
f. "J-20 Acrylic Cure"; Dayton Superior.
g. "Spartan-Cote"; The Burke Co.
h. "Sealkure"; Toch Div. - Carboline.
i. "Kure-N-Seal"; Sonneborn-Rexnord.
j. "Polyclear"; Upco Chemical/USM Corp.
k. "L&M Cure"; L & M Construction Chemicals.
l. "Klearseal"; Setcon Industries.
m. "LR-152"; Protex Industries.
n. "Hardtop"; Gifford-Hill.

1..5 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs.

B. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

C. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules:

1. Exterior slabs on grade: 4000 psi 28-day compressive strength, air entrained 6%.
2. Interior slabs on grade: 3500 psi 28-day compressive strength.
3. Foundations: 3500 psi 28-day compressive strength.

D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

E. Admixtures:
1. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg F (10 deg C).
2. Use air-entraining admixture in exterior exposed concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus-or- minus 1-1/2 percent within following limits:

a. Concrete structures and slabs exposed to freezing and thawing, deicer chemicals, or subjected to hydraulic pressure:

1) 6.0 percent (severe exposure) 3/4" max. aggregate.

F. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:

1. Subjected to freezing and thawing; W/C 0.50.
2. Subjected to deicers/watertight; W/C 0.45.

G. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. Ramps, slabs, and sloping surfaces: 3".

1..6 CONCRETE MIXING

A. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

B. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

C. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

PART 3 - EXECUTION

1..1 GENERAL

A. Coordinate the installation of joint materials and vapor retarders with placement of forms and reinforcing steel.

1..2 FORMS

A. Construct forms to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment,

location, grades, level and plumb work in finished structures

B. Fabricate forms for easy removal without hammering or prying against concrete surfaces.

1..3 PLACING REINFORCEMENT

A. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

B. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

1..4 JOINTS

A. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect.

B. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use saw cuts 1/8" x 1/4 slab depth or inserts 1/4" wide x 1/4 of slab depth, unless otherwise indicated.

C. If joint pattern not shown, provide joints not exceeding 5' in either direction.

1..5 CONCRETE PLACEMENT

A. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation. Moisten wood forms immediately before placing concrete where form coatings are not used.

1. Apply temporary protective covering to adjacent surfaces to poured floor slabs and similar conditions, and guard against spattering during placement.

B. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.

C. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

D. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

E. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

F. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

G. Maintain reinforcing in proper position during concrete placement operations.

H. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

I. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C), and not more than 80 deg F (27 deg C) at point of placement.

J. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

K. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

L. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

M. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F (32 deg C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.

N. Use water-reducing retarding admixture (Type D) when required by high temperatures, low humidity, or other adverse placing conditions.

1..6 MONOLITHIC SLAB FINISHES

A. Float Finish: Apply float finish to monolithic slab surface to receive trowel finish and other finishes as hereinafter specified.

B. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to tolerances of F_F 18 - F_L 15. Cut down high spots and fill low spots. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

C. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete sidewalks, platforms, steps, and ramps, and elsewhere as indicated.

D. Concrete Finish:

1. Exterior Slabs: Light Broom, Non-slip finish.
2. Interior Slabs: Smooth trowel finish.

1..7 CONCRETE CURING AND PROTECTION

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Start initial curing as soon as free water has disappeared from concrete surface after placing and

finishing. Weather permitting, keep continuously moist for not less than 7 days.

C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

D. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as herein specified.

E. Provide moisture-cover curing as follows:

1. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape of adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

F. Provide curing and sealing compound to exposed interior slabs and to exterior slabs, walks, and curbs, as follows:

1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

1..8 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Replace defective slab areas promptly by sawcutting and removing.

1..9 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. The Contractor will employ a testing laboratory to perform tests and to submit test reports.

B. Sampling and testing for quality control during placement of concrete may include the following, as directed by Architect.

C. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
2. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.
3. Concrete Temperature: Test hourly when air temperature is 40 deg F (4 deg C) and below, and when 80 deg F (27 deg C) and above; and each time a set of compression test specimens made.
4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
5. Compressive Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

6. Provide one test for every other truck load of concrete.

D. Test results will be reported in writing to Architect and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

E. Contractor shall pay for such tests.

END OF SECTION 03310

SECTION 04200 - UNIT MASONRY

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. Extent of each type of masonry work is indicated on drawings.

B. Types of masonry work required include:

1. Concrete unit masonry.

1.2 QUALITY ASSURANCE:

A. Single Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.

B. Single Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

1.3 PROJECT CONDITIONS:

A. Do not apply concentrated loads for at least 3 days after building masonry walls or columns.

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. Protect sills, ledges and projections from droppings of mortar.

1.4 SUBMITTALS:

A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.

B. Samples for Verification Purposes: Submit the following samples:

1. Concrete Block samples for integral color concrete block, mortar is to match block color.

PART 2 - PRODUCTS

1.1 CONCRETE MASONRY UNITS:

A. General: Comply with referenced standards and other requirements indicated below applicable to each form of concrete masonry unit required.

1. Provide special shapes where required for lintels, corners, jambs, sash, control joints, headers, bonding and other special conditions.

B. Standard 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 size as required.
3. Type I, moisture-controlled units.

    a. Cure units by autoclave treatment at a minimum temperature of 350 deg.F (176 deg.C) and a minimum pressure of 125 psi.

4. Hollow Loadbearing Block: ASTM C 90 and as follows:

    a. Weight Classification: Normal weight.

5. Solid Loadbearing Block: ASTM C 145 and as follows:

    a. Weight Classification: Normal weight.

C. Grand Blanc Cement Sealed Burnished Masonry Unit: 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 size as required.
3. Type I, moisture-controlled units.

    a. Cure units by autoclave treatment at a minimum temperature of 350 deg.F (176 deg.C) and a minimum pressure of 125 psi.

4. Hollow Loadbearing Block: ASTM C 90 and as follows:

    a. Weight Classification: Normal weight.
    b. Burnished Masonry Units shall comply with the recommendations of the National concrete Masonry Associaation, and conform to ASTM C 90, for hollow and solid load bearing units. All faces of Burnished Masonry shall be ground to a depth sufficient to uniformly expose the aggregates.
    c. Units shall meet or exceed requirements for ASTM C-55-06e1.

5. Units to be factory sealed on burnished face. After installation and cleaning and before applying anti-graffiti coating, units shall be field sealed per factory instructions.

1.2 MORTAR AND GROUT MATERIALS:

A. Portland Cement: ASTM C 150, 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 to match existing mortars.

B. Hydrated Lime: ASTM C 207, Type S.

C. Aggregate for Mortar: ASTM C 144, except for joints less than 1/4" use aggregate graded with 100% passing the No. 16 sieve.

D. Aggregate for Grout: ASTM C 404.

E. Colored Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in masonry mortars. Color to match block color.

F. Water: Clean and potable.

1.3 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:

1. Zinc-Coated (galvanized) Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 641 for zinc coating of class indicated below:

a. Class 3 (0.80 oz. per sq. ft. of wire surface).
b. Application: Use where indicated.

2. Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 153, Class B-2 (1.5 oz. per sq. ft. of wire surface) for zinc coating applied after prefabrication into units.

B. Joint Reinforcement: Provide welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10', with prefabricated corner and tee units, and complying with requirements indicated below:

1. Width: Fabricate joint reinforcement in units with widths of approximately 2" less than nominal width of walls and partitions as required to provide mortar coverage of not less than 5/8" on joint faces exposed to exterior and 1/2" elsewhere.
2. Wire Size for Side Rods: 0.1875" diameter.
3. Wire Size for Cross Rods: 0.1875" diameter.
4. Ladder design with perpendicular cross rods spaced not more than 16" o.c.

C. Masonry Veneer Anchors: Two-piece assemblies which permit vertical or horizontal differential movement between wall and framework parallel to, but resist tension and compression forces perpendicular to, plane of wall; consisting of wire tie section and metal anchor section for attachment over sheathing to metal studs and complying with the following requirements:

1. Wire Size: 0.1875" diameter.
2. Wire Tie Shape: Triangular.
3. Wire Tie Length: As required to extend within 1" of masonry veneer face.
4. Anchor Section: Rib-stiffened sheet metal plate with screw holes top and bottom, 0.0747" (14 gage) x 2-3/4" x 3" high fabricated into tee shape with 2" projecting tabs, 3/4" wide by 1" long, with slotted holes for connection of vertical legs of triangular wire tie specially formed to fit anchor section.

D. Rigid Anchors: Provide straps of form and length indicated, fabricated from sheet metal strips of following width and thickness, unless otherwise indicated.

1. Width: 1-1/4".
2. Thickness: 1/8".

E. Anchor Bolts: Provide steel bolts with hex nuts and flat washers complying with ASTM A 307, Grade A, hot-dip galvanized to comply with ASTM C 153, Class C, in sizes and configurations indicated.

F. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

1. AA Wire Products Co.
2. Dur-O-Wall, Inc.
3. Heckman Building Products, Inc.
4. Hohmann & Barnard, Inc.
5. Masonry Reinforcing Corp. of America.
6. National Wire Products Corp.

1.4 CONCEALED FLASHING MATERIALS:

A. Vinyl Sheet Flashing: Flexible sheet flashings especially formulated from virgin polyvinyl chloride with plasticizers and other modifiers to remain flexible and waterproof in concealed masonry applications, black in color and of thickness indicated below:

1. Thickness: 20 mils.

B. Solder and Sealants for Sheet Metal Flashings: As specified in Division-7 section "Flashing and Sheet Metal".

C. Adhesive for Flashings: Of type recommended by manufacturer of flashing material for use indicated.

D. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

1. Vinyl Sheet Flashing:

a. W.R. Grace Therma Barrier

1.5 MISCELLANEOUS MASONRY ACCESSORIES:

A. Reinforcing Bars: Deformed steel, ASTM A 615, Grade 60 for bars No. 3 to No. 18.

B. Non-Metallic Expansion Joint Strips: Premolded, flexible cellular neoprene rubber filler strips complying with ASTM D 1056, Grade RE41E1, capable of compression up to 35%, of width and thickness indicated.

C. 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. Styrene-butadiene rubber compound complying with ASTM D 2000, Designation 2AA-805.

D. Bond Breaker Strips: Asphalt-saturated organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

E. Weepholes: Provide the following for weepholes:

1. Plastic Tubing: Medium density polyethylene, outside diameter and length as indicated below:

a. 1/4" x 4".

1.6 MASONRY CLEANERS:

A. Job-Mixed Detergent Solution: Solution of trisodium phosphate (1/2 cup dry measure) and laundry detergent (1/2 cup dry measure) dissolved in one gallon of water.

B. Acidic Cleaner: Manufacturer's standard strength general purpose cleaner designed for new masonry surfaces of type indicated; composed of blended organic and inorganic acids combined with special wetting systems and inhibitors; expressly approved for intended use by manufacturer of masonry units being cleaned.

1. Available Products: Subject to compliance with requirements, a product which may be used to clean unit masonry surfaces includes, but is not limited to, the following:

a. Prior to first coat of sealant applied in the field, units shall be cleaned with Custom Masonry Cleaner by PROSOCO (never use acid). Clean each block face equally, do not spot clean. Allow wall to dry completely before applying coat of sealant.

1.7 MORTAR AND GROUT MI:

A. Mixing: Combine and thoroughly mix cementitious, water and aggregates in a mechanical batch mixer; comply with referenced ASTM standards for mixing time and water content.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar required, unless otherwise indicated.

1. Limit cementitious materials in mortar to portland cement-lime.
2. Use Type N mortar

PART 3 - EXECUTION

1.1 INSTALLATION, GENERAL:

A. Do not wet concrete masonry units.

B. Cleaning Reinforcing: Before placing, remove loose rust, ice and other coatings from reinforcing.

C. Thickness: Build cavity and composite walls, floors and other masonry construction to the full thickness shown. Build single- wythe walls (if any) to the actual thickness of the masonry units, using units of nominal thickness indicated.

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.

1.2 CONSTRUCTION TOLERANCES:

A. Variation from Plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4" in 10', or 3/8" in a story height not to exceed 20', nor 1/2" in 40' or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story or 20' maximum, nor 1/2" in 40' or more. For vertical alignment of head joints do not exceed plus or minus 1/4" in 10', 1/2" maximum.

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 any bay or 20' maximum, nor 1/2" in 40' or more. For top surface of bearing walls do not exceed 1/8" between adjacent floor elements in 10' or 1/16" within width of a single unit.

C. Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8", with a maximum thickness limited to 1/2". Do not exceed head joint thickness indicated by more than plus or minus 1/8".

1.3 LAYING MASONRY WALLS:

A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths 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 exposed masonry in the bond pattern shown or, if not shown, lay in running bond with vertical joint in each course centered on units in courses above and below. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2". Bond and interlock each course of each wythe at corners. Do not use units with less that nominal 4" horizontal face dimensions at corners or jambs.

1.4 MORTAR BEDDING AND JOINTING:

A. Lay solid brick size masonry units with completely filled bed and head joint; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.

B. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or filled with concrete or grout. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.

C. Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8" joints.

D. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated. Tool joints on interior walls.

E. Remove masonry units disturbed after laying; clean and reset in fresh mortar. Do not pound corners or jambs to shift adjacent stretcher units which have been set in position. If adjustments are required,

remove units, clean off mortar and reset in fresh mortar.

F. **DO NOT TOOL OR RAKE MORTAR JOINTS IN EXPOSED AGGREGATE FACE.**

1.5 FLASHING OF MASONRY WORK:

A. General: Provide concealed flashing in masonry work at, or above, shelf angles, lintels, ledges and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior. Prepare masonry surfaces smooth and free from projections which could puncture flashing. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing with mastic before covering with mortar. Extend flashings through exterior face of masonry and turn down to form drip.

B. Extend flashing the full length of lintels and shelf angles and minimum of 4" into masonry each end. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 4", and through the inner wythe to within 1/2" of the interior face of the wall in exposed work. Where interior surface of inner wythe is concealed by furring, carry flashing completely through the inner wythe and turn up approximately 2". At heads and sills turn up ends not less than 2" to form a pan.

C. Interlock end joints of deformed metal flashings by over-lapping deformations not less than 1-1/2" and seal lap with elastic sealant.

D. Install flashing to comply with manufacturer's instructions.

E. Provide weep holes in the head joints of the first course of masonry immediately above concealed flashings. Space 24" o.c., unless otherwise indicated.

F. Install reglets and nailers for flashing and other related work where shown to be built into masonry work.

END OF SECTION 04200

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1..1 RELATED DOCUMENTS

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

1..2 SUMMARY

A. Types of work in this section include rough carpentry for:

1. Wood framing.
2. Wood grounds, nailers, and blocking.
3. Sheathing.

1..3 DEFINITIONS

A. Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated.

1..4 PRODUCT HANDLING

A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

1. For lumber and plywood pressure treated with waterborne chemicals, sticker between each course to provide air circulation.

1..5 PROJECT CONDITIONS

A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

PART 2 - PRODUCTS

1..1 LUMBER, GENERAL

A. Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

B. Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:

1. RIS - Redwood Inspection Service.
2. NLGA - National Lumber Grades Authority (Canadian).

3. SPIB - Southern Pine Inspection Bureau.
4. WCLIB - West Coast Lumber Inspection Bureau.
5. WWPA - Western Wood Products Association.

C. Grade Stamps: Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.

1. Provide dressed lumber, S4S, unless otherwise indicated.
2. Provide lumber with 15 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

1..2 DIMENSION LUMBER

A. For structural light framing (2" to 4" thick, 2" to 4" wide), provide the following grade and species:
1. No. 2 grade, Spruce-Pine-Fir or better.
a. Fb (minimum extreme fiber stress is bending); 1250 psi.
b. E (minimum modulus of elasticity); 1,400,000 psi.

B. Plywood roof sheathing.
1. 5/8" cdx, 5 ply fir, 48/24 rated.

C. Soffits
1. 3/4" a/c exterior grade plywood, smooth.

D. Fascia & Frieze
1. Clear cedar, smooth, S4S

E. Ceiling Backer
1. 3/4" cdx, 48/24 rated.

1..3 MISCELLANEOUS LUMBER

A. Provide wood for support or attachment of other work including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

B. Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

C. Grade: Standard Grade light framing size lumber of any species or board size lumber as required.

1..4 CONSTRUCTION PANELS

A. Construction Panel Standards: Comply with PS 1 "U.S Product Standard for Construction and Industrial Plywood" for plywood panels and, for products not manufactured under PS 1 provisions, with American Plywood Association (APA) "Performance Standard and Policies for Structural-Use Panels", Form No. E445.

B. Concealed APA Performance-Rated Panels: Where construction panels will be used for the following concealed types of applications, provide APA Performance-Rated Panels complying with requirements indicated for grade designations, span rating, exposure durability classification, edge detail (where applicable) and thickness.

1..5 MISCELLANEOUS MATERIALS

A. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

1. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).

1..6 WOOD TREATMENT BY PRESSURE PROCESS

A. Preservative Treatment: Where lumber or plywood is indicated as "Trt-Wd" or "Treated", or is specified herein to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber) and C9 (Plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.

B. Fire-Retardant Treatment: Where fire-retardant treated wood ("FRTW") is indicated, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWPA C20 and C27, respectively, for treatment type indicated below; identify "FRTW" lumber with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection or other testing and inspecting agency acceptable to authorities having jurisdiction.

PART 3 - EXECUTION

1..1 INSTALLATION, GENERAL

A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

B. Set carpentry work to required levels and lines, with members plumb and true and cut and fitted.

C. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards.

D. Countersink nail heads on exposed carpentry work and fill holes.

E. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

1..2 WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS

A. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

C. Provide permanent grounds of dressed, preservative treated, key-bevelled lumber not less than 1-1/2" wide and of thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.

1..3 WOOD FRAMING, GENERAL

A. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of "Manual for House Framing" of National Forest Products Association (N.F.P.A). Do not splice structural members between supports.

B. Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and "National Design Specifications for Wood Construction" published by N.F.P.A.

C. Firestop concealed spaces of wood framed walls and partitions at each floor level and at the ceiling line of the top story. Where firestops are not automatically provided by the framing system used, use closely-fitted wood blocks of nominal 2" thick lumber of the same width as framing members.

END OF SECTION 06100

SECTION 07214 - FOAMED-IN-PLACE MASONRY WALL INSULATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Foam-in-place insulation in core-cells of Concrete Masonry Unit (CMU) walls, wythe cavities of exterior walls and exterior stud-framed walls.

B. Foam-in-place sound control insulation for interior and exterior walls.

1.2 RELATED SECTIONS: 042000 – UNIT MASONRY

1.3 REFERENCED STANDARDS

A. ASTM E-84 “Standard Test Method for Surface Burning Characteristics of Building Materials.”

B. ASTM C-518 “Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.”

C. NFPA 259 “Standard Test Method for Potential Heat of Building Materials”

1.4

A. Submit under provisions of Section 01 30 00.
B. Product Data: Manufacturer’s data on product, including:
   1. “Product Information” Sheet from Manufacturer.
   2. Material Safety Data Sheet (MSDS) Masonry Foam Insulation.
   3. Upon request by the Architect, Installer shall provide test data showing compliance of the product with referenced standards.

1.5 Quality Assurance

A. Installer Qualifications: A firm with experience installing insulation systems of the type specified and authorized by the foam manufacturer.

1.6 Delivery, Storage and Handling

A. Delivery
   1. Materials shall be delivered to installer in manufacturer’s original, unopened, undamaged containers with identification labels intact.
   2. Installer will blend resin and foaming catalyst according to the manufacturer’s instructions prior to arriving at the jobsite and/or at the jobsite, at the installer’s discretion.

B. Storage and Handling
   1. Materials should be stored in original paper packages and boxes protected from moisture until used by installer.
   2. Once blended with water by installer, materials must be maintained at a minimum temperature of 75ºF.

1.7 Project/Site Conditions

A. The wall assembly must be essentially dry with no standing water in the CMU core cells and no visible wetness on exterior surfaces.
B. Mortar must be adequately cured prior to installation of foam insulation.

PART 2 - PRODUCTS

2.1 Manufacturers
A. Acceptable Manufacturer: cfiFOAM, Polymaster or equal
B. Occupied and/or soon to be occupied structures shall be insulated with InsulSmart Interior Foam Insulation.

2.2 Materials
A. Foamed-in-Place Insulation
1. Description: Cellular plastic insulation comprised of a spray-dried polymeric resin and a foaming catalyst concentrate that are combined with water for injection, along with compressed air, into the wall cavity by an authorized installer.
2. Surface Burning Characteristics – ASTM E84: Class A or Class I
a. Flame Spread: 25 or Less
b. Smoke Generated: Less than 450
c. Thickness: 3.5 inches (maximum thickness per test apparatus).
d. Tests performed by an independent, accredited laboratory located within the USA.
3. Thermal Performance (foam) – ASTM C177 or ASTM C518:
a. k-Value: k-0.23/inch @ 75ºF mean temperature.
b. R-Value: R-4.60/inch @ 75ºF mean temperature.
4. Potential Heat – NFPA 259
a. Potential Heat ≤ 8000 Btu/lb.
5. Dimensional Stability (Shrinkage)
a. ≤ 0.5% - 12x8x16 CMU Enclosed Core Cell
6. Density of Foam:
a. Wet Foam 12” x 12” x 12” box weight: 2-½ to 3-¼ lbs.
b. Cured Foam: 0.5-1.0 lbs./ft^3

2.3 Product Substitutions
A. Substitutions: None permitted.

PART 3 - EXECUTION

3.1 General
A. Comply with the instructions and recommendations of the foam-in-place insulation manufacturer.

3.2 Examination
A. Site Verification
1. Verify that the wall assembly is essentially dry.
2. Verify that no water is standing in core cells within the wall assembly.
3. Verify that mortar is adequately cured.

3.3 Preparation
A. Select the best location(s) to inject foam:
1. Preferably through wall surfaces to be covered.
2. $^5/_8$”-$^7/_8$” holes to be drilled in masonry joints or directly through CMU face walls.

3.4 Installation Guidelines
A. All empty core cells and voids within each insulated wall shall be filled with foam insulation as shown on the drawings.
B. Walls can be filled using either top-fill or by pressure-injection techniques.
1. For top-fill, the installer must use an extension tube to begin installing foam from the bottom of the cavity, withdrawing the extension tube as foam fills the cavity.

2. For pressure-injection, holes are drilled in each CMU—3/8" holes for visually sensitive areas for use with a low-volume touch-up gun, 5/8" holes for use with a standard foam gun, or 7/8" holes for use with a high-volume production gun—at an approximate height of four feet from finished floor level. Normally each vertical cell column is drilled and injected with foam in 10'-24' lifts.
3. Masonry Foam Insulation is injected until it completely fills each vertical cell column, as evidenced by foam exiting adjacent injection holes. Repeat steps 1 and 2 at intervals of 10' to 14' above the initial row of injection holes, or as needed, until the wall is completely filled. Exit holes may be drilled beneath bond beams and at tops of walls to help visually verify complete foam filling.

C. After foam insulation sets, remove excess foam from outside of cavity, sweeping the wall and floor as needed. Cured foam is an inert material and, therefore, can be disposed of with other construction waste or worked into soils on-site in accordance with local regulations.
D. Patch holes with mortar to resemble adjacent surfaces.

3.5 Field Quality Control

A. Testing
1. Verify insulation density by random sampling of foam
a. Fill a 12x12x12 box with foam
b. Foam weight should be 2 ½ - 3 ¼ lb.

B. Inspection
1. Verify complete filling of voids by drilling block face upon request.
2. Upon request by the Architect, Installer shall provide IR scans of all insulated masonry walls prepared and interpreted by IR technicians who are "BlockWallScanIR" trained and certified.
3. Correct all portions of the installation not in compliance with the Architect's requirements at no added cost to the Owner.

3.6 Protection

A. Product should be protected from excess moisture during initial 24-hour curing period after installation. A 72-hour curing period is normally required prior to painting.
B. Foam should not be exposed to surfaces over 190°F for sustained periods of time.

END OF SECTION 07214

SECTION 07610 - METAL ROOFING

PART 1 - GENERAL

1..1 RELATED DOCUMENTS

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

1..2 SUMMARY

A. Extent of standing seam metal roofing system is indicated on the drawings.

B. This Section includes the following:

1. Standing seam metal roofing system.

1..3 QAULITY ASSURANCE

A. Metal roofing systems and flashings are to be compatible with fascia and soffit systems and with adjoining roofing systems. Contractor shall provide systems from a single source to assure continuity for color, attachment, and watertightness.

B. Provide products and materials which comply with applicable industry standards for metal roofing systems, including SMACNA "Architectural Sheet Metla Manual", unless noted otherwise.

C. Menufacturer and installer shall both be qualified and experienced in standing seam metal roofing systems, and upon request, provide sufficient data to prove a minimum of 10 years minimum experience in this type of work.

1..4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

B. Product data, seam details, and accessories: Manufacturer's technical product data, installation instructions and general recommendations for metal roofing system. Provide details of valleys, hips, seams, attachments, terminations, penetrations, etc.

C. Samples of the following roofing:

1. 8-inch-square samples of specified sheet materials to be exposed as finished surfaces.

D. Shop drawings showing layout, profiles, methods of joining, and anchorages details, including major counterflashings, trim units, seaming patterns, etc. Provide layouts at 1/4-inch scale and details at 3-inch scale.

E. On request, provide testing data indicating compliance with the following:

1. Roof panel and attachments resist wind pressure per building code.
2. Air Infiltration per ASTM E 283-84
3. Water Infiltration per ASTM E 331-86
4. Wind Uplift per U.L. 580 Class 90
5. Design Loads per ASTM 1592

1..5 PROJECT CONDITIONS

A. Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

B. Store metal roofing panels and accessories in a clean, dry location. Maintain sloped elevation to prevent water or moisture collecting on the panels. Do not store panels with a strippable protective film in sunlight. Remove film only immediately prior to installation (or per manufacturers requirements). Store panels in method to prevent damage and maintain ventilation.

1..6 PRODUCT WARRANTY

A. Standing Seam Metal Roofing system shall have a 30 year warranty against cracking, peeling, and color fade.

B. Roofing installer shall provide written warranty for a minimum of 2 years for watertightness. Warranty shall cover all materials and labor.

PART 2 - PRODUCTS

1..1 SHEET METAL ROOFING PANELS, FASCIA, SOFFITS, GUTTERS & DOWNSPOUTS

A. Sheet Aluminum: ASTM B 209, alloy 3003, temper H14, AA-C22A41, Kynar 500 Finish; 0.032-inch thick (20 gage) except as otherwise indicated.

1..2 MISCELLANEOUS MATERIALS AND ACCESSORIES:

A. General: Provide the following miscellaneous products or equal.

1. Fasteners: Same metal as flashing/sheet metal or other non-corrosive metal as recommended by metal roof manufacturer. Match finish of exposed heads with material being fastened.

2. Sealant and Adhesives: Generic type recommended by manufacturer of metal roofing components being sealed or adhered and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealers."

3. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gauge required for performance.

1..3 STANDING SEAM METAL ROOF PANELS

A. General: Provide standing seam metal roofing panels by the following or equal.

1. Berridge.
2. PAC-Clad
3. Met-Fab.
4. Vincent Metals.

B. Metal Roofing Panel Criteria: Roofing shall meet the following or equal:

1. PAC-Clad "Snap Clad" System
2. Color shall be equal to Kynar 500 Finish, Medium Bronze, 12" rib spacing

C. Expansion Provisions: Fabricate metal roofing to allow controlled expansion in running lengths not only for movement of metal components in relationship to one another but also to adjoining dissimilar materials, including flashing and roofing membrane materials, in a manner which is sufficient to prevent water leakage, deformation or damage.

D. Metal Roofing Support System: Provide manufacturer's standard metal attachments, fasteners, and support system. Install system as necessary to prevent oil-canning, buckling, etc.

E. Install manufacturers standard clear ice / snow guards at sidewalk roof areas.

1..4 FABRICATED UNITS

A. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

B. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. For metal other than aluminum, tin edges to be seamed, form seams, and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.

C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

D. Sealant Joints: Where movable, nonexpansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

E. Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

PART 3 - EXECUTION

1..1 INSTALLATION REQUIREMENTS

A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations. Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated, and adequately to substrate to withstand lateral and thermal stresses as well as inward and outward loading pressures. Install work with laps, joints, and seams that will be permanently watertight and weatherproof.

B. Inspection: Prior to installation of metal roofing system, contractor shall verify roofing sheathing is properly secured and the appropriate underlayment has been installed and is adequately fastened. Verify all screws and fasteners are flush with roof surfaces prior to installing roofing system.

C. Isolation: Where metals surfaces are installed in contact with dissimilar metal or corrosive substrates, provide manufacturers recommended permanent, concealed, separation method.

1..2 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Protection: Advise Contractor of required procedures for surveillance and protection of metal roofing work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION 07600

SECTION 08110 - STEEL DOORS AND FRAMES

PART 1 - GENERAL

1..1 RELATED DOCUMENTS:

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

1..2 DESCRIPTION OF WORK:

A. Extent of standard steel frames is indicated and scheduled on drawings.

B. Finish hardware is specified elsewhere.

1..3 QUALITY ASSURANCE:

A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.

1..4 SUBMITTALS:

A. Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements.

1..5 DELIVERY, STORAGE AND HANDLING:

A. Deliver hollow metal work cartoned or crated to provide protection during transit and job storage.

B. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.

PART 2 - PRODUCTS

1..1 ACCEPTABLE MANUFACTURERS:

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering steel doors and frames which may be incorporated in the work include; but are not limited to, the following:

1. Steel Frames and Doors:

a. Allied Steel Products, Inc.
b. Anweld/Div. American Welding & Mfg. Co.

c. Ceco Corp.
d. Copco Door Co.
e. Curries Mfg., Inc.
f. Dittco Products, Inc.
g. Fenestra Corp.
h. Kewanee Corp.
i. Mesker Industries, Inc.
j. Pioneer Bldrs. Products Corp./Div. CORE Industries, Inc.
k. Steelcraft/Div. American Standard Co.
l. Trussbilt, Inc.
m. Republic Builders Products Corp./Subs. Republic Steel.

1..2 MATERIALS:

A. Supports and Anchors: Fabricate of not less than 18 gage galvanized sheet steel.

B. Inserts, Bolts, and Fasteners: Manufacturer's standard units.

C. Cold-Rolled Steel Sheets: Commercial quality carbon steel, galvanized, complying with ASTM A 366 and ASTM A 568.

D. Provide doors with factory bored holes for locksets and hinge mounts.

E. Shop Applied Paint:

1. Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

F. Fabricate steel frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory- assembled before shipment, to assure proper assembly at project site.

G. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot- rolled steel (at fabricator's option).

H. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.

I. Provide metal frames for doors as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16-gage cold-rolled furniture galvanized steel.

1. Fabricate frames with mitered and welded corners.

J. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs.

1..3 FABRICATION, GENERAL:

A. Fabricate steel frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory- assembled before shipment, to assure proper assembly at project site.

B. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot- rolled steel (at fabricator's option).

C. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.

1..4 STANDARD STEEL FRAMES:

A. Provide metal frames for doors as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16-gage cold-rolled furniture galvanized steel.

1. Fabricate frames with mitered and welded corners.

B. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs.

C. Provide insulated doors and weatherstripping.

PART 3 - EXECUTION

1..1 INSTALLATION:

A. General: Install standard frames, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.

B. Placing Frames: Comply with provisions of SDI-105 "Recommended Erection Instructions For Steel Frames", unless otherwise indicated.

1. Except for frames located at in-place concrete or masonry and at drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set.
2. In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels.

1..2 ADJUST AND CLEAN:

A. Prime Coat Touch-Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

B. Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

END OF SECTION 08110

SECTION 08330
OVERHEAD COILING SERVICE DOORS
STORMTITE™ 620 SERIES SERVICE DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Overhead coiling service doors.

1.2 RELATED SECTIONS

A. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.

B. Section 09900 - Painting: Field applied finish.

1.3 REFERENCES

A. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

B. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Overhead coiling service doors:
   1. Wind Loads: Design door assembly to withstand wind/suction load of 20 psf (958 Pa) without damage to door or assembly components in conformance with ASTM E 330.
   2. Operation: Design door assembly, including operator, to operate for not less than 20,000 cycles.

1.5 SUBMITTALS

A. 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 instructions.

B. Shop Drawings: Include detailed plans, elevations, details of framing members, anchoring methods, required clearances, hardware, and accessories. Include relationship with adjacent construction.

C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and patterns.

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 performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.

B. Installer Qualifications: Installer Qualifications: Company specializing in performing Work of this section with minimum three years and approved by manufacturer.

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 COORDINATION

A. Coordinate Work with other operations and installation of adjacent materials to avoid damage to installed materials.

1.10 WARRANTY

A. Warranty: Manufacturer’s limited door and operator system, except the counterbalance spring and finish, to be free from defects in materials and workmanship for 3 years or 20,000 cycles, whichever occurs first.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Overhead Door Corp., 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.

B. Substitutions: Equals to be submitted prior to bid submittal.

2.2 OVERHEAD COILING SERVICE DOORS

A. Heavy Duty Industrial Doors: Overhead Door Corporation, Model 620 Stormtite Service Doors.
   1. Curtain: Interlocking roll-formed slats as specified following. Endlocks shall be attached to each end of alternate slats to prevent lateral movement.
      a. Flat profile type F-265 for doors up to 18 feet 4 inches (5.59 m) wide, fabricated of:
         1) 18 gauge galvanized steel.
   2. Finish:
      a. Galvanized Steel: Slats and hood galvanized in accordance with ASTM A 653 and receive rust-inhibitive, roll coating process, including 0.2 mils thick baked-on prime paint, and 0.6 mils thick baked-on polyester top coat.
         1) Powder coat: PowderGuard

(a) PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.

3. Weatherseals:
   a. Vinyl bottom seal, exterior guide and internal hood seals.
   b. Interior guide weatherseal.
   c. Lintel weatherseal.
4. Bottom Bar:
   a. Extruded aluminum for doors up to 15 feet 4 inches (4.67 m) wide.
5. Guides: Three structural steel angles.
   a. Finish: PowderGuard Weathered finish with iron/black powder.
   b. Finish: PowderGuard Zinc Finish for guides, bottom bar and head plate.
6. Brackets:
   a. Galvanized steel to support counterbalance, curtain and hood.
7. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03 inch per foot of span. Counterbalance is adjustable by means of an adjusting tension wheel.
8. Hood: Provide with internal hood baffle weatherseal.
   a. 24 gauge galvanized steel with intermediate supports as required.
9. Manual Operation:
   a. Chain hoist for doors up to 96 SF.
10. Windload Design:
    a. Standard windload shall be 20 PSF.
11. Locking:
    a. Two interior bottom bar slide bolts for manually operated doors.
12. Wall Mounting Condition:
    a. Face-of-wall mounting.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify opening sizes, tolerances and conditions are acceptable.

B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.

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 to wall construction and building framing without distortion or stress.

C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

E. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.

F. Install perimeter trim and closures.

G. Instruct Owner's personnel in proper operating procedures and maintenance schedule.

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 curtain and components using non-abrasive materials and methods recommended by manufacturer.

B. Remove labels and visible markings.

C. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION

SECTION 08710 - FINISH HARDWARE

PART 1 - GENERAL

1..1 RELATED DOCUMENTS:

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

1..2 DESCRIPTION OF WORK:

A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.

B. Extent of finish hardware required is indicated on drawings and in schedules.

C. Types of finish hardware required include the following:

1. Hinges
2. Lock cylinders and keys
3. Bolts
4. Push/pull units
5. Closers
6. Door trim units
7. Protection plates
8. Thresholds

1..3 QUALITY ASSURANCE:

A. Manufacturer: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer where possible, although several may be indicated as offering products complying with requirements.

1..4 SUBMITTALS:

A. Product Data: Submit manufacturers technical product data for each item of hardware in accordance with Division-1 section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finishes.

B. Hardware Schedule: Submit final hardware schedule in manner indicated below. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.

1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:

a. Type, style, function, size and finish of each hardware item.
b. Name and manufacturer of each item.
c. Fastenings and other pertinent information.
d. Location of hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.
e. Explanation of all abbreviations, symbols, codes, etc. contained in schedule.
f. Mounting locations for hardware.
g. Door and frame sizes and materials.
h. Keying information.

2. Submittal Sequence: Submit schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.

3. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.

C. Samples: Prior to submittal of the final hardware schedule and prior to final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finished as required, and tagged with full description for coordination with schedule.

PART 2 - PRODUCTS

1..1 SCHEDULED HARDWARE:

A. Refer to Hardware Schedule at the end of this section for selection of items.

B. ANSI/BHMA designations used elsewhere in this section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this section.

a. Butts and Hinges: ANSI A156.1 (BHMA 101)
b. Locks and Lock Trim: ANSI A156.2 (BHMA 601)
c. Exit Devices: ANSI A156.3 (BHMA 701)
d. Door Controls - Closers: ANSI A156.4 (BHMA 301)
e. Architectural Door Trim: ANSI A156.6 (BHMA 1001)
f. Template Hinge Dimensions: ANSI A156.7
g. Mortise Locks & Latches: ANSI A156.13 (BHMA 621)
h. Closer Holder Release Devices: ANSI A156.15 (BHMA 321)
i. Materials & Finishes: ANSI A156.18 (BHMA 1301)

1..2 MATERIALS AND FABRICATION:

A. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish

or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.

C. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.

1..3 HINGES, BUTTS AND PIVOTS:

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template- produced units.

B. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.

C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

1. Steel Hinges: Steel pins.
2. Non-ferrous Hinges: Stainless steel pins.
3. Exterior Doors: Non-removable pins.
4. Out-swing Corridor Doors: Non-removable pins.
5. Interior Doors: Non-rising pins.
6. Tips: Flat button and matching plug, finished to match leaves, except where hospital top (HT) indicated.
7. Number of hinges: Provide number of hinges indicated but not less than 3 hinges for door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.

1..4 LOCK CYLINDERS AND KEYING:

A. General: Supplier shall meet with Owner to finalize keying requirements and obtain final instructions in writing. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.

B. Permanently inscribe each key with number or lock that identifies cylinder manufacturer key symbol, and notation "DO NOT DUPLICATE".

C. Key Material: Provide keys of nickel silver only.

D. Key Quantity: Furnish 3 change keys for each lock; 5 master keys for each master system; and 5 grandmaster keys for each grandmaster system.

1. Furnish one extra blank for each lock.

E. Equip locks with manufacturer's standard 6-pin tumbler cylinders.

F. Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.

1..5 LOCKS, LATCHES AND BOLTS:

A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set.

B. Lock Throw: Provide 5/8" minimum throw of latch and deadbolt used on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.

1. Provide 1/2" minimum throw on other latch and deadlock bolts.

C. Flush Bolt Heads: Minimum of 1/2" diameter rods of brass, bronze or stainless steel, with minimum 12" long rod for doors up to 7'-0" in height. Provide longer rods as necessary for doors exceeding 7'-0" in height.

1..6 CLOSERS AND DOOR CONTROL DEVICES:

A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.

1. Where parallel arms are indicated for closers, provide closer unit one size larger than recommended for use with standard arms.

B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ANSI A117.1 provisions for door opening force and delayed action closing.

C. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage.

1..7 DOOR TRIM UNITS:

A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screw.

B. Fabricate protection plates (armor, kick or mop) not more than 1- 1/2" less than door width on stop side and not more than 1/2" less than door width on pull side, x the height indicated.

1. Metal Plates: Stainless steel, .050" (U.S. 18 ga.).

1..8 THRESHOLDS:

A. General: Except as otherwise indicated provide standard metal threshold unit of type, size and profile as shown or scheduled.

B. Exterior Hinged/Pivoted Doors: Provide units not less than 4" wide, formed to accommodate change in floor elevation where indicated, fabricated to accommodate door hardware and to fit door frames. All sills to be A.D.A. and Michigan Barrier Free compliant.

1..9 HARDWARE FINISHES:

A. Provide matching finishes for hardware units at each door or opening, to the greatest extent possible,

and except as otherwise indicated. Reduce differences in color and textures as much as commercially possible where the base metal or metal forming process is different for individual units of hardware exposed at the same door or opening. In general, match items to the manufacturer's standard finish for the latch and lock set (or push-pull units if no latch-lock sets) for color and texture.

B. All hardware to be US - 26 D.

PART 3 - EXECUTION

1..1 INSTALLATION:

A. Mount Hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.

B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.

C. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

1..2 ADJUST AND CLEAN:

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

1..3 FINISH HARDWARE SCHEDULE

A. Refer to schedule on drawings.

END OF SECTION 08710

SECTION 09250 - GYPSUM DRYWALL

PART 1 - GENERAL

1..1 RELATED DOCUMENTS:

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

1..2 SUMMARY:

A. Extent of each type of gypsum drywall construction required is indicated on Drawings.

B. This Section includes the following types of gypsum board construction:

1. Wood framing members to receive gypsum board.
2. Gypsum board screw-attached to wood framing and furring members.

1..3 DEFINITIONS:

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA 505 for definitions of terms for gypsum board construction not otherwise defined in this section or other referenced standards.

1..4 QUALITY ASSURANCE:

A. Fire-Resistance Ratings: Where indicated or required by code, provide materials and construction which are identical to those of assemblies whose fire resistance rating has been determined per ASTM E 119 by a testing and inspecting organization acceptable to authorities having jurisdiction.

B. Single Source Responsibility: Obtain each type of gypsum board and related joint treatment materials from a single manufacturer.

1..5 PROJECT CONDITIONS:

A. Environmental Conditions, General: Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.

B. Minimum Room Temperatures: For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board maintain not less than 50 deg F (10 deg C) for 48 hours prior to application and continuously thereafter until drying is complete.

C. Ventilate building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials form drying too rapidly.

PART 2 - PRODUCTS

1..1 MANUFACTURERS:

A. Manufacturer: Subject to compliance with requirements, provide products of one of the following or equal:

1. Gypsum Boards and Related Products:

    a. Georgia-Pacific Corp.
    b. Gold Bond Building Products Div., National Gypsum Co.
    c. United States Gypsum Co.

1..2 GYPSUM BOARD:

A. General: Provide gypsum board of types indicated in maximum lengths available to minimize end-to-end joints.

1. Thickness: Provide gypsum board in 5/8 inch thicknesses to comply with ASTM D 3273 and ASTM C 840 for application system and support spacing indicated.

B. Gypsum Wallboard: Exterior grade, Firecode, moisture and mold resistant ceiling rated or equal.

1. Type: Moisture Resistant, unless otherwise indicated.
2. Edges: Tapered.
3. Thickness: 5/8 inch, unless otherwise indicated.

1..3 TRIM ACCESSORIES:

A. Cornerbead and Edge Trim for Interior Installation: Provide corner beads, edge trim and control joints which comply with ASTM C 1047 as required.

1..4 GYPSUM BOARD JOINT TREATMENT MATERIALS:

A. General: Provide materials complying with ASTM C 475, ASTM C 840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.

B. Joint Tape: Paper reinforcing tape, unless otherwise indicated.

C. Setting-Type Joint Compounds: Factory-prepackaged, job-mixed, chemical-hardening powder products formulated for uses indicated.

1. Where setting-type joint compounds are indicated for use as taping and topping compounds, use formulation for each which develops greatest bond strength and crack resistance and is compatible with other joint compounds applied over it.

D. Drying-Type Joint Compounds: Factory-prepackaged vinyl-based products complying with the following requirements for formulation and intended use.

1. Ready-Mix Formulation: Factory-premixed product.
2. Taping compound formulated for embedding tape and for first coat over fasteners and flanges of corner beads and edge trim.
3. Topping compound formulated for fill (second) and finish (third) coats.

1..5 MISCELLANEOUS MATERIALS:

A. General: Provide auxiliary materials for gypsum drywall construction which comply with referenced standards and the recommendations of the manufacturer of the gypsum board.

B. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.

C. Fastening Adhesive for Wood: ASTM C 557.

D. Fastening Adhesive for Metal: Special adhesive recommended for laminating gypsum boards to steel framing.

E. Gypsum Board Screws: ASTM C 1002.

F. Gypsum Board Nails: ASTM C 514.

PART 3 - EXECUTION

1..1 PREPARATION:

A. Ceiling Anchorages: Coordinate installation of ceiling suspension system with installation of overhead structural systems to ensure that inserts and other structural anchorage provisions have been installed to receive ceiling anchors in a manner that will develop their full strength and at spacing required to support ceiling.

1..2 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL:

A. Gypsum Board Application and Finishing Standard: Install and finish gypsum board to comply with ASTM C 840.

B. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.

C. Install ceiling boards across framing in the manner which minimizes the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.

D. Install wall/partition boards in manner which minimizes the number of end-butt joints or avoids them entirely where possible.

E. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place.

F. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

G. Attach gypsum board to steel studs so that leading edge or end of each board is attached to open (unsupported) edge of stud flange first.

H. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.

I. Form control joints and expansion joints at locations indicated, with space between edges of boards, prepared to receive trim accessories.

J. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations.

1..3 INSTALLATION OF DRYWALL TRIM ACCESSORIES:

A. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.

B. Install corner beads at external corners.

C. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where "U" bead (semi-finishing type) is indicated.

1..4 FINISHING OF DRYWALL:

A. General: Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.

B. Prefill open joints and rounded or beveled edges, if any, using setting-type joint compound.

C. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.

D. Finish interior gypsum wallboard by applying the following joint compounds in 3 coats (not including prefill of openings in base), and sand between coats and after last coat:

1. Embedding and First Coat: Setting-Type Joint Compound.
2. Fill (Second) Coat: Setting-type joint compound.
3. Finish (Third) Coat: Ready-mix drying-type all-purpose or topping compound.

1..5 PROTECTION:

A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of Substantial Completion. Repair any damage caused by construction activities before completion of project.

END OF SECTION 09250

SECTION 09900 - PAINTING

PART 1 - GENERAL

1..1 RELATED DOCUMENTS

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

1..2 SUMMARY

A. This Section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.
   1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

1..3 SUBMITTALS

A. Samples for verification purposes: Provide samples of each color and material to be applied for Owners review.

1..4 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

B. Coordination of Work: Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

   1. Notify the Architect of problems anticipated using the materials specified.

C. Material Quality: Provide the manufacturer's best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1..5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

   1. Product name or title of material.
   2. Product description (generic classification or binder type).
   3. Manufacturer's stock number and date of manufacture.
   4. Contents by volume, for pigment and vehicle constituents.
   5. Thinning instructions.
   6. Application instructions.
   7. Color name and number.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

PART 2 - PRODUCTS

1..1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide products by the following:

1. Benjamin Moore and Co. (Moore).
2. PPG Industries, Pittsburgh Paints
3. Sherwin Williams Co.

1..2 MASONRY BLOCK FILLER

A. High-Performance Latex Block Filler: Heavy-duty latex block fillers used for filling open textured interior and exterior concrete masonry block before application of top coat.

1..3 PRIMERS

A. Interior Flat Oil-Based Paint: Flat oil paint used as a primer over metal and masonry under gloss enamel.

1..4 FINISH PAINT MATERIAL

A. Oil-Based Interior and exterior gloss epoxy enamel paint: Ready-mixed, oil-based paint for use as a finish over masonry, drywall, wood and metal surfaces.

1..5 ANTI-GRAFFITI COATING MATERIAL

A. Sherwin-Williams Anti-Graffiti Coating siloxane based coating.

PART 3 - EXECUTION

1..1 EXAMINATION

A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.

1..2 PREPARATION

A. General Procedures: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

1. Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

B. Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.

C. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.

1. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
3. Use only thinners approved by the paint manufacturer, and only within recommended limits.

1..3 APPLICATION

A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

1. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.
2. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
3. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.
4. Do not paint over electrical switches or outlets. Painter is responsible for the cost of cleaning or replacing items so damaged.

C. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

D. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.

E. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.

F. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

G. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, or other surface imperfections.

H. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

I. Do not spray apply primer or paint to drywall surfaces.

1..4 CLEANING

A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

1..5 PROTECTION

A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

B. Provide "wet paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.
   1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

1..6 PAINT SCHEDULE

A. General: Provide the following paint systems for the various substrates, as indicated (color as selected by Owner).
B. Concrete Masonry Units - Typical:
   1. Masonry block filler - minimum one coat; Primer - minimum one coat; Oil-based Gloss Epoxy Enamel Finish - minimum two finish coats over filled surface to cover completely.
C. Plywood / Trim:
   1. Wood primer/sealer - minimum one coat; Oil-based Semi-Gloss Enamel Finish - minimum two finish coats to cover completely.
D. Gypsum Drywall:
   1. Drywall primer/sealer - minimum one coat; Oil-based Semi-Gloss Enamel Finish - minimum two finish coats to cover completely.
E. Metal Surfaces (doors, frames, diffusers, lintels):
   1. Metal surface primer - minimum one coat; Oil-based Gloss Enamel Finish - minimum two coats to cover completely.

F. Anti-graffiti coating minimum two coats.

END OF SECTION 09900

SECTION 096726-QUARTZ FLOORING

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 the following:

1. Quartz flooring system as shown on the drawings and in schedules.

1.3 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of an epoxy based multi roller applied flooring system with Q28 or Q11 colored quartz aggregate and urethane topcoat. The system shall have the color and texture as specified by the Owner with a nominal thickness of 1/8 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
B. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted.

1.4 SUBMITTALS

A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
B. Manufacturer’s Material Safety Data Sheet (MSDS) for each product being used.
C. Samples: A 3 x 3 inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

1.5 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 10 years experience in the production, sales, and technical
support of epoxy and urethane industrial flooring and related materials.
B. The Applicator shall have experience in installation of the flooring system as confirmed by the manufacturer in
all phases of surface preparation and application of the product specified.

C. No requests for substitutions shall be considered that would change the generic type of the specified System.
D. System shall be in compliance with requirements of United States Department of Agriculture (USDA),
Food, Drug Administration (FDA), and local Health Department.
E. System shall be in compliance with the Indoor Air Quality requirements of California section 01350 as verified by a qualified independent testing laboratory.

F. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping

1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.

B. Storage and Protection

1. The Applicator shall be provided with a storage area for all components. The area shall be between 60 F and 90 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal

1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.7 PROJECT CONDITIONS

A. Site Requirements

1. Application may proceed while air, material and substrate temperatures are between 60 F and 90 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
2. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
3. The Applicator shall ensure that adequate ventilation is available for the work area.
4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with epoxy material.

1. Concrete shall be moisture cured for a minimum of 7 days and have fully cured a minimum of twenty eight days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary or desirable).
3. Sealers and curing agents should not to be used.
4. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

C. Safety Requirements

1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
2. "No Smoking" signs shall be posted at the entrances to the work area.

3. The Owner shall be responsible for the removal of foodstuffs from the work area.
4. Non-related personnel in the work area shall be kept to a minimum.

1.8 WARRANTY

A. Warrant product for 3 years.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Epoxy-Coat or equal Part A & Part B two part system.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION

A. General
1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
2. Moisture Testing: Perform tests recommended by manufacturer and as follows.
. a. Perform relative humidity test using is situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75% relative humidity level measurement.
3. There shall be no visible moisture present on the surface at the time of application of the system. Compressed oil-free air and/or a light passing of a propane torch may be used to dry the substrate.
4. Mechanical surface preparation
a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 as described by the International Concrete Repair Institute.
b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch
key cut shall be made to properly seat the system, providing a smooth transition between areas. The
detail cut shall also apply to drain perimeters and expansion joint edges.
d. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.

5. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.3 APPLICATION

A. General
1. The system shall be applied in seven distinct steps as listed below:
   a. Substrate preparation
   b. Priming
   c. First broadcast coat application with first aggregate broadcast
   d. Second broadcast coat with second aggregate broadcast
   e. Grout coat application, sand floor (if required)
   f. First topcoat application
   g. Second topcoat application
2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

B. Primer
1. The primer shall consist of a liquid resin and hardener that is mixed at the ratio of 1 part resin to 4 parts hardener per the manufacturer’s instructions.
2. The primer shall be applied by 1/8 inch notched squeegee and back rolled at the rate of 200 sf/gal to yield a dry film thickness of 4 mils.

C. Broadcast Coat
1. The broadcast coat shall be applied as a double broadcast system as specified by the Architect.
2. The broadcast coat shall be comprised of two components, a resin, and hardener as supplied by the Manufacturer and mixed in the ratio of 2 parts resin to 1 part hardener.
3. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.
4. The broadcast coat shall be applied over horizontal surfaces using “v” notched squeegee and back rolled at the rate of 90-100 sf/gal.
5. Colored quartz aggregate shall be broadcast to excess into the wet material at the rate of 0.5 lbs/sf.
6. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.
7. Apply a second coat of resin with a coverage rate of 90 sf/gal (Q28) or 50 sf/gal (Q11). and broadcast aggregate to excess at the rate of 0.5 lbs/sf.
8. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

D. Grout Coat
1. The grout coat shall be comprised of liquid components, combined at a ratio of 2 parts resin to 1 part
2. The grout coat shall be squeegee applied with a coverage rate of 90 sf/gal (Q28) or 50 sf/gal (Q11).
   hardener by volume and shall be thoroughly blended by mechanical means such as a high speed paddle mixer.

3. The grout coat will be back rolled and cross rolled to provide a uniform texture and finish.

*** Specifier's Note *** If an orange-peel texture is desired, sand screen the floor and apply a second grout coat of epoxy. The epoxy shall be applied by squeegee and back-roll with a coverage rate of 200 sf/gal (Q28) or 70 sf/gal (Q11).

E. Topcoat
1. The topcoat shall be roller applied at the rate of 500 sf/gal to yield a dry film thickness of 3 mils.
2. The topcoat shall be comprised of a liquid resin, hardener and grit that is mixed per the manufacturer's instructions.
3. The finish floor will have a nominal thickness of 1/8 inch.

3.4 FIELD QUALITY CONTROL

A. Tests, Inspection

1. The following tests shall be conducted by the Applicator:
   a. Temperature
      1. Air, substrate temperatures and, if applicable, dew point.
   b. Coverage Rates
      1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION

A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION 01010

SECTION 10800 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1..1 RELATED DOCUMENTS:

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

1..2 DESCRIPTION OF WORK:

A. Extent of each type of toilet accessory is indicated on drawings and schedules.

1..3 QUALITY ASSURANCE:

A. Inserts and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry; coordinate delivery with other work to avoid delay.

B. Accessory Locations: Coordinate accessory locations with other work to avoid interference and to assure proper operation and servicing of accessory units.

C. All products and installations to comply with A.D.A. and Michigan Barrier Free Requirements.

1..4 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data and installation instructions for each toilet accessory.

B. Setting Drawings: Provide setting drawings, templates, instructions, and directions for installation of anchorage devices and cut-out requirements in other work.

PART 2 - PRODUCTS

1..1 ACCEPTABLE MANUFACTURERS:

A. Manufacturers: Subject to compliance with requirements, provide toilet accessories by one of the following:
   1. Bobrick Washroom Equipment, Inc.
   2. Bradley Corporation.
   3. McKinney/Parker.
   4. C. D. Sparling Co.

1..2 SCHEDULE OF RESTROOM FIXTURES:

A. See plans for specifications, quantity, and mounting heights.

PART 3 - EXECUTION

1..1 INSTALLATION:

A. Install toilet accessory units in accordance with manufacturers' instructions, using fasteners which are appropriate to substrate and recommended by manufacturer of unit. Install units plumb and level, firmly anchored in locations and at heights indicated.

END OF SECTION 10800

SECTION 15015 - MECHANICAL MATERIALS, METHODS, AND EXECUTION

PART 1 – GENERAL – **Note: Specifications on drawings take precedence over conflicts in these written specifications.**

1.1 DOCUMENTATION

A. The requirements of the "General Conditions" and the "Supplementary General Conditions" shall form a part of this Division of Specifications as if written in full herein.

1.2 WORK INCLUDED

A. Furnish all labor and material, appliances, equipment, and supervision to put in place a complete and functioning mechanical installation ready for operation, as specified herein and as indicated on the Drawings. Systems shall include but not necessarily limited to the following major equipment or operations:

1. Plumbing.
2. Heating, Ventilating, and Air Conditioning.

1.3 DEFINITIONS

A. "Provide": To furnish and completely install specified products and incidentals, whether specifically indicated or not, necessary for a complete, functional installation. Includes all general and specialized labor, equipments and tools necessary to complete the installation.

B. "Piping": A complete system, including pipe, tubing, fittings, hangers, supports, valves, and all specialties that comprise a fully functional piping system, whether specifically indicated or not.

1.4 CODES, ORDINANCES, AND STANDARDS

A. All work shall conform in all respects to the requirements of the referenced codes, ordinances, and standards having jurisdiction over the work.

B. Where Contract Document requirements exceed the requirements of the referenced codes, ordinances, and standards, the Contract Document requirements shall be taken as minimum.

C. All equipment containing electrical wiring and/or electrical components shall have an Underwriters Laboratory (UL) "package" label.

D. All gas fired equipment shall have the American Gas Association (AGA) label.

1.5 PERMITS, FEES, AND INSPECTIONS

A. Secure all necessary permits and arrange for all inspections, include all related costs.

B. Furnish certificates of final inspection and approval upon completion of project.

1.6 EXAMINATION OF THE SITE

A. Visit project site and become fully cognizant of all existing Architectural, Mechanical, Electrical, Structural, and Site conditions, or existing code violations which may affect the work.

B. Notify architect prior to submitting bid if revisions to Contract Documents are necessary to rectify any of the aforementioned existing conditions.

C. No "extras" to Contract price will be allowed after receiving bid in order to rectify existing conditions in order to meet the design intent of the Contract Documents or satisfy code requirements.

1.7 COORDINATION WITH OTHER TRADES

A. Coordinate all work before and during construction with all other affected Trades.

B. Where interferences develop, notify Architect for resolution of conflict.

C. Relocation of conflicting installed work, due to lack of coordination, or poor coordination will not be considered extra work.

1.8 APPROVED MANUFACTURERS

A. Use only materials specifically indicated in Contract Documents or comparable materials by other listed acceptable manufacturers. Note that "acceptable manufacturer" does not construe automatic approval of specific materials by one or all of the listed acceptable manufacturers. The Architect reserves the right of final determination of acceptability of each item.

B. Furnishing of materials and manufacturers other than those indicated as acceptable in the Contract Documents will be considered voluntary substitutes.

C. Submit all voluntary substitutes to Architect for review no later than fifteen (15) days prior to the bid due date. If acceptable, Architect will authorize use of substitute in written form by letter or Addendum to Contract Documents.

D. Approved voluntary substitutes must only be indicated on Form of Proposal with appropriate "add" or "deduct" to Contract price. Do NOT use voluntary substitutes for base bid.

E. After fifteen (15) days prior to the bid due date, no consideration will be given to voluntary substitutes.

1.9 SHOP DRAWINGS

A. Submit complete shop drawings for all materials and equipment intended for use on this project.

B. Shop drawings shall clearly indicate all physical, performance, and electrical characteristics for all materials and equipment.

C. Submit a minimum of three (3) copies of all shop drawings for review by Architect. One (1) copy will be retained by Architect, one (1) copy to be included in operation and maintenance manual, and minimum of one (1) copy to be used by the Mechanical Trades.

D. No work is to be installed prior to return of Architect reviewed shop drawings.

1.10 OPERATION AND MAINTENANCE MANUALS

A. Upon completion of project, submit two (2) complete bound sets of operating and maintenance manuals for all equipment and systems installed in this project.

B. Manuals shall include guarantee(s), complete operation instructions, repair parts list, preventative maintenance schedule, belt and filter schedule, and list of all Subcontractors associated with the work, including telephone number and contact person.

1.11 OPERATING AND MAINTENANCE INSTRUCTIONS

A. Prior to final acceptance by the Owner, provide all personnel, equipment, and labor as necessary to instruct Owner's personnel in proper operation and maintenance of the systems and equipment installed in this project. Provide instructional session during time period agreed with Owner.

1.12 CUTTING AND PATCHING

A. All cutting and patching shall be provided by the General Trades under the direction of the Mechanical Trades. Cost will be paid by the Mechanical Trade requesting this work.

B. Restored surfaces shall be of same material and quality as adjacent surfaces, and shall match surrounding surfaces, and/or be restored to pre-construction condition.

1.13 PROTECTION OF EXISTING SERVICES

A. Protect existing services (i.e. gas, water, electrical, etc.) from all damage encountered in the work, not specifically indicated to be demolished. Include all related costs.

B. Repair and/or replace existing active services intended to remain in service, but damaged during the course of construction. Absorb all related costs. No "extras" will be paid to restore existing active services damaged during construction.

C. Architect will determine course of action when existing inactive services are damaged during the course of construction. Absorb all costs relative to additional demolition, termination, relocation, and/or restoration of existing, damaged inactive services as directed by the Architect.

1.14 ELECTRICAL WORK

A. Provide all electrical work associated with, and necessary to complete this project, which is NOT included as Electrical Trades work.

B. Provide all electrical work, as applicable, in accordance with Division 16 requirements.

1.15 CLEANING AND FINISHING

A. Prior to final acceptance by Owner, thoroughly clean all work inside and out as applicable, and leave all systems and equipment in perfect working order. Thoroughly clean all plumbing fixtures, exposed piping, floor drain grates, and cleanout covers as applicable.

1.16 GUARANTEE

A. Provide a (1) year guarantee covering all labor and material provided in this project. Guarantee shall include all shipping and transportation charges necessary to return defective materials to manufacturer, as well as labor charges necessary to remove and replace defective materials.

B. Defective materials and/or equipment may be repaired in lieu of replaced with prior approval of Architect and/or Owner.

PART 2 - PRODUCTS

2.1 PIPE

A. Sanitary Waste and Vent Pipe and Fittings
   1. Below grade and/or below floor slabs within building walls:
      a. Pipe: ANSI A21.6 service weight cast iron, hub and spigot, bituminous coated.
      b. Fittings: ANSI A21.10 hub and spigot.
      c. Joints: Neoprene gaskets, Tyler "TY-Seal", service weight.
      d. Schedule 40 PVC piping may be used if code approved.
   2. Aboveground
      a. Pipe: ASTM A53, Schedule 40 galvanized steel.
      b. Fittings: ANSI B16.12 cast iron threaded drainage fittings.
      c. Joints: ANSI B2.1 threads.
      d. Schedule 40 PVC piping may be used if code approved.
   3. Aboveground
      a. Pipe: ANSI A21.6 service weight cast iron, Tyler "No-Hub", hubless, bituminous coated.
      b. Fittings: ANSI A21.10, Tyler"No-Hub", hubless.
      c. Joints: Tyler "No-Hub", neoprene sleeve, stainless steel shield conforming to CISPI 301 and ASTM C564.
      d. Schedule 40 PVC piping may be used if code approved.

B. Supply Water Pipe and Fittings
   1. Domestic Hot and Cold Water
      a. Pipe: ASTM B88, Type "L" hard copper tube.
      b. Fittings: ANSI B16.22 wrought copper, socket type.
      c. Joints: Lead free sweat, solder joint, 95-5.

2.2 VALVES

A. Domestic Hot and Cold Water
   1. Gate Valves: Industrial service, 125 lb. 200 lb. SWP, WOG, all bronze, solid wedge disk, union bonnet, threaded ends, rising stem, malleable hand wheel, Milwaukee No. 1152M.
   2. Check Valves: Industrial service, 150 lb., SWP 300 lb., WOG composition disc, threaded ends, Milwaukee No. 510.

2.3 PLUMBING FIXTURES

A. See drawings.

B. Install fixture in accordance with Michigan Department of Labor Construction Code "Barrier Free" requirements and A.D.A. requirements.

2.4 LOW PRESSURE DUCTWORK

A. Duct Construction
   1. All ductwork shall be constructed and supported in accordance with the requirements of the latest SMACNA's issue of "Low Pressure Duct Construction Standards". In addition, all joints and seams shall be sealed with duct sealant equal to Foster #23-14. Minimum 18 gauge.
   2. Approved sealant manufacturers:

a. 3M Company.
b. Benjamin Foster Company.
c. United Sheet Metal Company.
d. Flintkote.

PART 3 - EXECUTION

3.1 GENERAL

A. Install all products in strict accordance with manufacturer's published installation instructions.

3.2 PRODUCT HANDLING

A. Deliver materials to project site in original containers and packages bearing manufacturer's labels indicating name, type, and brand.

3.3 PIPING INSTALLATION

A. Install all piping parallel or perpendicular to building walls and columns in location to avoid interference with ductwork, structure, other piping, lighting and electrical equipment, or other equipment.

B. Do not locate piping above or within 3 feet horizontally of electrical panels or equipment.

C. For piping passing through walls, pack void between pipe and structure with approved, non-combustible material.

D. Do not allow contact between piping and masonry or concrete surfaces.

E. Provide all the necessary hangers, rods, supports, channels, angles, structural members, and concrete inserts to properly secure piping and related equipments. All piping systems shall be installed with approved hangers and supports to prevent vibration, maintain required pitch, provide proper vertical adjustment and allow for free an ample expansion and contraction. Hangers shall be spaced so that no excessive bending or shear stresses result from the pipe weight or concentrated loads between supports. All supports and parts shall conform to the latest requirements of ANSI Code for Pressure Piping B31.1 and MSS Standard Practice SP-58.

F. Protect all insulated pipe lines against insulation damage at all hangers by the use of 1 foot long, 12 gauge steel semi-circular shields for pipe sizes with 12" OD and less (including insulation) and 2 foot long, 1/2" steel semi-circular shields for pipe sizes over 12" OD (including insulation). Securely cement all shields to the insulation. Provide rigid pipe insulation at each hanger.

3.4 INSULATION

A. Insulation shall be applied by experienced pipe coverers as per best Trade practice.

B. Exposed supply and sanitary piping below sinks and lavatories to be insulated with shrink-wrap insulation for exposed use as required by A.D.A. and Michigan Barrier Free.

C. Insulation shall be applied in locations as follows:
1. Barrier Free pipe protection wrap by Pro-Wrap or Owner Approved Equal
2. Insulation over ceilings to be 1" thick minimum, closed cell foam insulation with appropriate

fasteners.

3.5 TESTING

A. General

1. Test and adjust all new piping systems installed in this project.
2. Provide all testing instruments, gauges, pumps, and other equipment required or necessary for tests.
3. Notify Architect in advance of all tests. Architect shall be represented at all tests.
4. Repair all defects disclosed by tests without additional cost to the Owner.
5. Repeat tests after any defects disclosed are repaired or replaced, unless waived by Architect.
6. All repairs to piping systems shall be made with new material. No caulking of screwed joints, cracks, holes, or peening of welds will be acceptable. Where it becomes necessary to replace pipe, new pipe shall be same length as defective piece.
7. Arrange and pay the cost of all utilities used on tests.
8. Complete all tests before covering is applied.
9. Isolate piping system components not constructed to withstand test pressures.

B. Water Systems Test

1. Test at 150 PSIG for eight (8) hours with zero loss in pressure. Check joints and fittings for leaks with liquid soap solution.

C. Drainage System Test

1. The drainage systems shall be tested in accordance with all local codes and regulations, and in the presence of the proper inspector. Air test shall be 5 PSIG and shall remain in operation for a period of 15 minutes.

END OF SECTION 15015

SECTION 16015 - ELECTRICAL MATERIALS, METHODS, AND EXECUTION

PART 1 – GENERAL - **Note: Specifications on drawings take precedence over conflicts in these written specifications.**

1.1 DOCUMENTATION

A. The requirements of the "General Conditions" and the "Supplementary General Conditions" shall form a part of this Division of Specifications as if written in full herein.

1.2 WORK INCLUDED

A. Furnish all labor and material, appliances, equipment, and supervision to put in place a complete and functioning mechanical installation ready for operation, as specified herein and as indicated on the Drawings. Systems shall include but not necessarily limited to the following major equipment or operations:

1. Lighting, branch power distribution, wiring, and connections.

1.3 CODES, ORDINANCES, AND STANDARDS

A. All work shall conform in all accordance with the National Electrical Code, latest edition, and all local, state, and national bodies having jurisdiction thereof.

B. Contractor shall take out all required permits and arrange for all necessary inspections by local or state laws and shall pay all fees and expenses in connection therewith, and shall include same in the base bid price.

1.4 EXAMINATION OF THE SITE

A. Examination of the Site is mandatory. Contractor is hereby held to have examined the site and have satisfied himself as to the conditions under which the work will be performed and have included in his/her bid price all costs related hereto.

1.5 IDENTIFICATION

A. Identify all electrical system components with the name or designation given on design drawings. Identification shall be legible, accurate, and subject to final approval by Architect/Engineer. Plastic laminate nameplates shall be used.

1.6 SHOP DRAWINGS

A. Refer to Architectural Documents for shop drawings to be submitted in transparency form, procedure, and other pertinent data. For brochures and other non-reproducible forms of shop drawings, submit to the Architect for review, the required number of copies of shop drawings, of each piece of equipment and/or apparatus to be used, together with such descriptions and/or explanatory notes as may be required to give a clear idea of its arrangement and construction.

1.7 SUBSTITUTION

A. Proposal submitted shall be based on equipment and material specified. Substitute equipment and material submittals shall be complete and clear and shall include all data required to establish quality and equality.

B. Substitutions will be considered only once and if found lacking in detail or required supportive data they will be rejected outright and such rejection shall be final.

1.8 TEMPORARY LIGHT AND POWER

A. Existing facilities may be used for temporary light and power. Provide temporary light and power in accordance with NEC and OSHA. Remove temporary facilities when no longer needed.

PART 2 - PRODUCTS

2.1 MOUNTING HEIGHTS

A. Height of all control and wiring devices shall be in accordance with A.D.A. Switches shall not be more than 48" above finished floor (AFF). General purpose convenience receptacles shall not be less than 15" to center and no more than 48" AFF.

B. Receptacles in toilet room shall be installed at 36" AFF. Height of special devices shall be as indicated on the Drawings or as directed.

2.2 LIGHTING FIXTURES

A. Luminaires as described and scheduled on the Drawings shall be furnished and installed complete with all necessary wiring, sockets, lamps, reflector, ballasts, auxiliaries, plaster frames, recessing boxes, hangers, supplemental supports, lenses, diffusers, and other accessories essential for complete working installation in accordance with the Specifications and Drawings.

B. All lighting fixtures mounted on or in hung ceiling shall be supported from the building structure and not from any work of other Trades.

C. In general, all plastic shielding for interior fluorescent fixtures shall be virgin acrylic.

D. All fixture diffusers or louvers shall be in accordance with the State of Michigan, Department of State Police requirements for "Plastic Materials as Interior Finishes, Life Safety Code, NFPA 101 Application" as described in the Department of State Police memorandum date March 24, 1992, copy attached to the end of these specifications.

2.3 MAGNETIC BALLASTS

A. Fluorescent luminaire ballasts shall be H.P.F., premium ballasts, Class P, energy saving type as manufactured by Advance, G.E. or Universal and shall carry the UL and CBM labels. They shall be 120 or 227 volts, with lamps as indicated in the Lighting Fixture Schedule.

2.4 LAMPS

A. Fluorescent lamps, in general, shall be as specified on the Lighting Fixture Schedule or they shall be 3500 degrees K, T12, rapid start, 15,000 hours lamp life and not less than 2800 initial lumens.

B. All incandescent lamps shall be inside frosted for 130 volt operation, except as noted on the plans.

C. Lamps shall be manufactured by:
   1. Sylvania/Osram.
   2. General Electric.
   3. Phillips.

2.5 MATERIAL AND EQUIPMENT STANDARDS

A. All material and equipment shall bear Underwriters Laboratory (UL) label for intended use. Design and manufacture of material and equipment shall be in accordance with the latest standard of NEMA, IEEE, IPCEA, and ANSI.

2.6 GROUNDING

A. Maintain ground continuity of existing system throughout new installation.

B. Provide grounding means for telephone service as required.

2.7 SAFETY SWITCHES, FUSES, AND HEATERS

A. Safety and disconnect switches shall be 250 volts, heavy duty, 3 pole as indicated, "quick-make", "quick-break" switch mechanism and cover interlock.

B. Switches shall be fused or unfused as indicated on the Drawing and they shall be provided with NEMA 1 enclosure. All switches exposed to weather shall have NEMA-3R "raintight" enclosure.

C. Provide all necessary fuses and replace all those blown during construction. All fuses shall be dual element, time lag type except where otherwise specified for specific pieces of equipment. All fuse sizes shall be in accordance with NEC and shall be as manufactured by:

   1. Bussman.
   2. Chase-Shawmut.
   3. Economy.

D. Heaters shall be thermal alloy melting type and shall be used for all motors provided with starters.

2.8 CONDUIT SYSTEMS

A. Conduit systems shall consist of an electrically continuous raceway system, suitable for the installation of electrical wiring and may be made up of rigid conduit, "thin wall" electric metallic tubing as specified herein.

B. All metallic conduit shall be hot dip galvanized. Minimum conduit size shall be 1/2" diameter.

C. Flexible conduit shall be used for final short connections to motors, vibrating equipment, between outlet boxed in hung or furred ceiling and flush lighting fixtures. Flexible conduit shall be galvanized single strip steel equal to Greenfield or Flexsteel with single screw type fittings equal to Appleton #7265V. In damp locations, flexible conduit shall be liquid tight, neoprene jacketed, grounded type equal to "Sealtite" Type #UA with Appleton Type "ST" fittings or equal.

2.9 BOXES AND OUTLETS

A. Provide outlet boxes for all work. Boxes shall be stamped galvanized steel or cast metal. Outlet boxes exposed to weather shall be cast metal with gasketed covers.

B. Where two or more devices are called for at one location, they shall be installed in gang boxes and provided with suitable gang plates. All boxes in finished areas shall be flush mounted. Boxes shall be suitable to receive the devices specified.

C. Lighting fixture outlets shall consist of a pressed steel 4" octagonal outlet box not less than 1 1/2" deep, equipped with ears for cover screws, and suitable cover.

D. Outlet boxes in brick, tile, block, or stone shall be square to facilitate cutting and providing a neatly finished job.

E. Floor boxes for power and communication services shall be flush type, formed metal with cast hub, fully adjustable and provided with proper cover for use/device indicated. Flanges shall be for type of floor covering installed. Boxes in general shall be Walker 886 Series.

2.10 CONDUIT INSTALLATION

A. All conduit shall be run concealed in building construction except in unfinished areas where it may be exposed. Exposed conduit shall be run parallel to building lines. All new conduit to be run above bottom chord of roof trusses where possible.

B. All conduit shall be securely fastened in place, carefully reamed before installation, and provided with suitable protection of wire against edge of conduit equal to Thomas & Betts "Insuline" bushings and connectors.

C. Conduit running through expansion joints of building shall be provided with expansion fittings as required. All conduit installed and capped for future use shall be identified with metal tags indicating purpose and provided with "pull" rope.

2.11 600 VOLT WIRE AND CABLE

A. All conductors shall be AWG, soft draw copper of sizes indicated on the Drawings. All conductors shall be insulated for 600 V and with 75 degrees C code grade insulation.

B. All main feeders and conductor #8 AWG and larger, in dry locations, shall be made up of stranded single conductor cable and shall have THHN insulation. Underground and damp location feeders shall have THWN or XHHW insulation. All branch circuit wiring feeding continuous rows of fixture within the fixture raceway shall be type THHN rated 90 degrees C (NEC 410).

C. Branch circuit conductors #10 and smaller shall be code grade insulation type THHN or THWN, 75 degrees C. Conductors #10 and #12 are preferred to be solid. Whenever stranded conductors are used, pressure type crimp-on terminals shall be used.

D. Branch circuit conductors shall not be less than #12 AWG on 20 ampere lighting and acceptable circuits. Where the home run wire exceeds 150 feet on 150 feet on 480 volt system of 100 feet on 208 volt system, the home run wire shall be #10 AWG minimum. Control wiring for push buttons, relays, thermostats, etc. may be #14 AWG.

E. All wires and cables shall be installed in conduit without the use of any oil or grease lubricant. Conductors terminating in outlets shall be extended no less than 8" beyond outlet.

2.12 WIRING METHODS

A. All wiring shall be installed in an approved raceway system.

2.13 WIRING DEVICES

A. Local wall switches shall be 20 ampere, 120/277 volt specification grade, toggle type, quiet operation and shall be single pole, double, or 3-way as indicated. Switches shall be Hubbell #1221/22/23 or approved equal.

B. Receptacles, in general, shall be brown, duplex, specification grade, 2 pole, 3 wire, self-grounding type, 20 ampere, 125 volt, Hubbell #5262 Series or approved equal.

C. Cover plates shall be beveled edge, brush finish stainless steel, Hubbell or approved equal.

PART 3 - EXECUTION

3.1 DEMOLITION AND RENOVATION REQUIREMENTS

A. Disconnect, remove, relocate, rewire, or dispose of any equipment interfering with new construction of affected by renovation work.

B. All services indicated to remain shall be maintained in safe and satisfactory operation whether detailed requirements are indicated or not.

C. All removed equipment shall remain the property of the Owner and shall be disposed of as directed, either to storage or "off" the site.

D. Relocated equipment shall be inspected, repaired when required, and thoroughly cleaned prior to installation.

E. All surfaces damaged by this Contractor in the course of performing his/her work shall be restored to satisfactory condition, as directed by the Architect, and all costs of repairs shall be paid for by the Contractor.

END OF SECTION 16015