



HURST-ROSCHE, INC.

PROJECT MANUAL FOR

TOILET RENOVATIONS
NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS
HR# 150-2821

Prepared for

Northwestern C.U.S.D. No. 2
30953 Route 111
Palmyra, Illinois 62674

Dr. Kevin Bowman, Superintendent

October 28, 2021

Bid Package No. _____

HURST – ROSCHE INC.

1400 E. Tremont St.

Hillsboro, IL 62049

217-532-3959

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NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS

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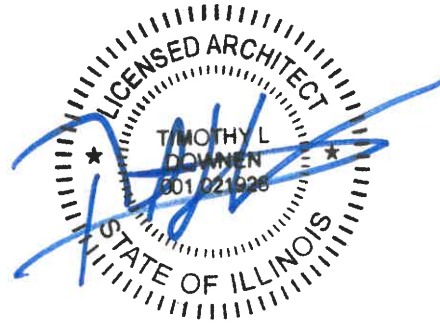
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Specifier: Timothy L. Downen, AIA, LEED AP

Phone: 217-532-3959



Date: 10-28-2021
Expires: 11-30-2022

END OF SECTION

DOCUMENT 00 11 16 - INVITATION TO BID

Project: **TOILET RENOVATIONS
NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS
HR# 150-2821**

Owner: **NORTHWESTERN C.U.S.D. NO. 2
30953 ROUTE 111
PALMYRA, ILLINOIS 62674**

Architect/Engineer: **HURST-ROSCHE, INC.
1400 E. TREMONT STREET
HILLSBORO, ILLINOIS 62049**

Date: **October 28, 2021**

The Owner will receive Bids until 2:00 PM local prevailing time on **Wednesday, the 10th day of November, 2021, at Northwestern C.U.S.D. No. 2, 30953 Route 111, Palmyra, IL 62674** for the following work:

BASE BID SCOPE OF WORK includes the replacement of toilet fixtures and toilet partitions, including partition mounted accessories throughout Northwestern High School and Northwestern Elementary School. The work does include demolition and removal of flooring and concrete slab as necessary for below slab plumbing work.

ALTERNATE BID #1 SCOPE OF WORK consists of replacement of urinal flush valves throughout Northwestern High School and Northwestern Elementary School.

Contractor will be responsible for ordering fixtures and material immediately after contract execution and shop drawing approvals, regardless of the first day available for construction. Contractor will be responsible for storing and insuring fixtures and materials until the first day available for construction (approximately June 1, 2022). See Section 01 20 00 for additional information.

A Pre-bid Meeting will be held on Wednesday, the 3rd day of November, 2021, at 9:00 AM, prevailing time, at Elementary School Conference Room at Northwestern C.U.S.D. No. 2, 30953 Route 111, Palmyra, Illinois 62674.

Drawings and specifications may be obtained at the office of Hurst-Rosche, Inc., 1400 E. Tremont St. Hillsboro, Illinois, after October 28, 2021, by paying a non-refundable amount of \$30.00 (\$40.00 if mailed) for each set of drawings and specifications.

Bidding Documents, Drawings and Specifications may be examined by prospective bidders and material suppliers at the offices of Hurst-Rosche, Inc., 1400 East Tremont Street, Hillsboro, Illinois, and the following Plan Rooms:

Central Illinois Plan Room, 1620 S. 5th Street, Springfield, Illinois 62703
Southern Illinois Builders Association, 1468 Green Mount Road, O'Fallon, Illinois 62269
McGraw Hill Construction, www.dodgeprojects.construction.com
Greater Peoria Contractors & Suppliers Assoc., 1811 West Altorfer, Peoria, Illinois 61615

Drawings and specifications will be available for viewing on the internet at: www.hurst-rosche.com. The documents are being provided for reference purposes only. Bidders are encouraged to obtain a signed and sealed hard copy set of the bidding documents. At a minimum, bidders must obtain clean copies of bid forms from the offices of Hurst-Rosche, Inc. by paying a non-refundable amount of \$10.00 to submit a bid for this project.

The Owner requires the project to be substantially complete by July 29, 2022. Should the Contractor fail to complete the Work within such time, contractor agrees to compensate and will apply to the Owner for each and every day of such delay in completion of the Work beyond the Contract Time the sum of Five Hundred Dollars (\$500.00) per day for Work not completed by the substantial completion date as liquidated damages.

Bidders will be required to provide Bid security of a sum no less than 10 percent of the Bid Sum. The bid security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Illinois. Hereinafter this bid security shall be referred to as the bid bond.

Submit two copies of your Bid on the Bid Form provided. Bidders may supplement this form as appropriate.

Your Bid will be required to be submitted under a condition of irrevocability for a period of 45 days after submission.

The Owner reserves the right to accept or reject any or all Bids or any part thereof, to waive any informality in bidding, and to accept bids deemed most favorable to the Owner.

NORTHWESTERN CUSD NO. 2

DR. KEVIN BOWMAN, SUPERINTENDENT

END OF DOCUMENT

DOCUMENT 00 21 14 - INSTRUCTIONS TO BIDDERS – AIA

1.1. SUMMARY

- A. Document Includes:
 - 1. Instructions to Bidders.
 - 2. Site examination.
 - 3. Prebid conference.
- B. Related Documents:
 - 1. Document 00 11 16 - Invitation To Bid.
 - 2. Document 00 41 13 - Bid Form - Stipulated Sum.
 - 3. Document 00 43 00 - Procurement Form Supplements: Appendices A and B.
 - 4. Document 00 72 14 - General Conditions - AIA Stipulated Sum.
 - 5. Document 00 73 13 - Supplementary Conditions - AIA.

1.2. INSTRUCTIONS TO BIDDERS

- A. These Instructions to Bidders amend or supplement AIA Document A701-1997 - Instructions to Bidders and other provisions of Bidding Documents and Contract Documents.
- B. To be considered all bids must in accordance with these Instructions to Bidders.
- C. Those interested parties may obtain sets of Drawings and Specifications from the Architects upon non-refundable deposit of \$30.00 per set (\$40.00 if mailed). At a minimum, bidders must obtain clean copies of bid forms by paying a non-refundable amount of \$10.00 to submit a bid for this project.

1.3. SITE EXAMINATION

- A. Bidders shall carefully examine documents and construction site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions which can be determined by examining site and these documents.
- B. A visit to Project site has been arranged for Bidders immediately following the Pre-Bid Meeting on Wednesday, November 3, 2021 at 10:00 AM.

1.4. THE SCHEDULE FOR BIDDING THIS PROJECT IS AS FOLLOWS

- A. **Plans Available:** October 28, 2021
- B. **Pre-Bid Meeting:** November 3, 2021
9:00 AM
Conf. Room at Elem. School
- C. **Latest Time to Submit Request for Interpretation:** November 4, 2021

- D. Latest Time to Issue an Addendum:** November 5, 2021
- E. Bid Opening** November 10, 2021
2:00 PM
Northwestern C.U.S.D. No. 2

- F. All requests for interpretations shall be in writing via mail or e-mail addressed to the Architect/Engineer. All questions must be submitted on the "Request for Interpretation Pre-Bid Question and Comment Form" included at the end of this section, and questions not submitted in accordance with this form and specified time frame will not be accepted. Any and all interpretations and supplemental instructions will be made by addendum to the Drawings and Specifications and forwarded to all bidders either by mail or e-mail transmittal. All responses by the Architect/Engineer must be in writing to be binding. Any response general in nature or affecting these Instructions to Bidders shall be sent via addendum as previously described. All bidders are required to return the signature page of the addendum signed to the Architect within 24 hours after receipt. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from an obligation under the bid as submitted. All addenda so issued shall become part of the Contract Documents. Oral interpretations, changes or corrections will not be binding and Bidders shall not rely upon such interpretations, changes and corrections. Each Bidder shall ascertain prior to submitting Bid that all addenda issued have been received and shall acknowledge receipt in Bid.

Questions shall be directed to:
e-mail: tdownen@hurst-rosche.com

- G. Materials, products and equipment described in Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Each such request shall include name of material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other work that incorporation of the substitute would require shall be included. The burden of proof of the merit of proposed substitute is upon the proposer. Architect's decision of approval or disapproval of a proposed substitution shall be final. If the Architect approves any proposed substitution prior to receipt of Bids, such approval will be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner. No substitutions will be considered after the contract award unless specifically provided in the Contract Documents.
- H. Bids shall be made on unaltered Bid Forms furnished by the Architect. Fill in all blank spaces and submit two (2) copies. Bids shall be signed with name typed below signature. Where bidder is a corporation, bids must be signed with legal name of corporation

followed by name of state of incorporation and legal signature of an officer authorized to bind the corporation to a contract.

- I. Each bidder submitting a bid shall submit on form provided a list of any subcontractors and major suppliers he proposes to use with the bid. Failure to do so could disqualify the bid.
- J. Each bidder shall designate on the attached bid form one person who shall serve as the bidders contact person for all matters pertaining to the bid. In absence of such designation, the person who signs the bid shall be deemed the bidder contact.
- K. For those projects which are bid on a unit price basis, in the event in which a bidder does not fill out the extension of the unit price, or a math error has occurred in calculation, the unit prices listed shall govern.
- L. Each bid shall be accompanied by bid bond made payable to the Owner, in the amount of ten percent of the bid sum. Security shall be either certified check, cashier's check, bank money order or bid bond issued by surety licensed to conduct business in the State of Illinois. Successful bidder's security will be retained until he has signed the contract and furnished required payment and performance bonds. Owner reserves the right to retain security of the next two (2) lowest bidders until the lowest bidder enters into contract or until forty-five (45) days after bid opening, whichever is shorter. All other bid security will be returned as soon as practicable. If any bidder refuses to enter into a contract, Owner will retain bid security as liquidated damages, but not as a penalty.
- M. All costs associated with the preparation and submission of a bid are the sole responsibility of the bidder. These costs shall not be chargeable to the Owner by any successful or unsuccessful bidder. All bids become the property of the Owner and shall not be returned except in the case of a late submission.
- N. Simultaneously, with delivery of the executed contract, the successful bidder, at its own expense, shall furnish surety in the form of a performance bond and a labor and material payment bond in the amount of one hundred percent (100%) of the contract amount. Surety for such bonds shall be a company duly authorized and licensed in the State of Illinois and acceptable to the Owner. The Attorney-In-Fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.
- O. All copies of the bid, bid security and any other documents required to be submitted with bid shall be enclosed in a sealed opaque envelope. Envelope shall be addressed to NORTHWESTERN CUSD No. 2, 30953 ROUTE 111, PALMYRA, IL 62674, and shall be identified with project name, project number, bidder's name and address. Mailed bid envelopes shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof. Oral, telephonic or telegraphic Bids are invalid and will not receive consideration. Bids shall be deposited at the location designated in the Invitation to Bid prior to time and date designated for opening, or any extension thereof made by addendum. Bidder shall assume full responsibility for timely delivery at location designated for receipt of Bids. Bids received after time and date for receipt of

bids will be returned unopened.

- P. A bid may not be modified, withdrawn or canceled during the forty-five (45) days immediately following bid opening, and each bidder so agrees in submitting his Bid. Any bidder may withdraw, cancel or modify its bid, at any time prior to scheduled time for opening of bids, by letter or telegram actually received by Owner prior to bid time, or, with proper identification, by personally securing bid submitted; if by telegram, written confirmation over signature of bidder shall be mailed and postmarked on or before date and time of bid opening. Withdrawn bids may be resubmitted up to bid opening time provided that they are in full compliance with these Instructions to Bidders.
- Q. Protests
1. Any bidder who submitted a bid and believes the bid was improperly rejected or that the bid selected by the Owner is not in the best interest of the Owner may submit a written notice of intent to protest the bid to the Owner within seven (7) days. The Owner shall consider all protests before execution of a contract. Each protest must specify the reasons supporting the protest. The Owner may require that additional information be provided. Failure to supply such required information shall be cause for dismissal of the protest.
 2. The Owner shall immediately investigate the allegations against the Owners actions and shall issue a written response to the protest.
 3. This provision allowing for the submission of protest shall not confer any right on any bidder but is intended solely to assist the Owner in determining the best responsible bid.
- R. Any complaint or protest of the bidding procedure must be filed by the bidder to the Owner. Within 7 days of bid opening the bidder shall notify the Owner in writing of his intent to protest bidding. The bidder shall perfect this notice of intent within 7 days.
- S. Owner reserves right to disqualify bids and bidders, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon part of bidder, lack of responsibility as evidenced by poor workmanship and progress of past work, incomplete work which, in judgment of Owner, might hinder or prevent prompt completion of additional work if awarded, for being in arrears on existing contracts, in litigation with the Owner, or having defaulted on a previous contract.
- T. Bidder's attention is directed to the fact that all Federal and Illinois State Laws, municipal ordinances and regulations of any and all authority having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full. Successful Bidders shall be required to comply with 775 ILCS 10 concerning equal employment opportunities; comply with 30 ILCS 570 concerning the employment of citizens of the State of Illinois; comply with 820 ILCS 265 concerning substance abuse prevention on public works projects; and comply with 820 ILCS 130 concerning prevailing wages.
- U. Any successful bidder that is a corporation organized in a state other than Illinois shall furnish to the Owner, upon request, a properly certified copy of its current Certificate of Authority to do business in the State of Illinois, such certificate is to remain on file with

the Owner.

- V. Any successful bidder that is a corporation organized in the State of Illinois shall furnish at its own cost to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate is to remain on file with the Owner.
- W. Owner is exempt from payment of Federal & Illinois Department of Revenue's Use and Sales Tax on material entering permanently into structure. Retail sales tax shall not be included in the bid amount.
- X. Bids will be opened as announced in Invitation for Bids.
- Y. Owner reserves the right to reject any or all bids or any part thereof, to waive any informalities in bidding and to accept bids deemed most favorable to the Owner.
- Z. Notwithstanding any delay in preparation and execution of the formal Contract Agreement, each bidder shall be prepared, upon written notice of bid acceptance, to commence work within ten (10) days following receipt of official written Notice to Proceed, or on date stipulated in such notice.
- AA. Any work in providing or preparing to provide the services specified herein that is commenced by the successful bidder prior to execution of a written contract agreement shall be at the bidders expense.
- BB. Accepted bidder shall assist and cooperate with the Owner in preparing the formal Contract Agreement, and, within fifteen (15) days following its presentation, shall execute same and return it to Owner.
- CC. Contractor will be responsible for ordering fixtures and material immediately after contract execution and shop drawing approvals, regardless of the first day available for construction. Contractor will be responsible for storing and insuring fixtures and materials until the first day available for construction (approximately June 1, 2022). See Section 012000 for additional information.
- DD. The Owner requires the project to be substantially complete by July 29, 2022. Should the Contractor fail to complete the Work within such time, contractor agrees to compensate and will apply to the Owner for each and every day of such delay in completion of the Work beyond the Contract Time the sum of Five Hundred Dollars (\$500.00) per day for Work not completed by the substantial completion date as liquidated damages.

1.5 REQUIRED CONTRACTOR/SUBCONTRACTOR BACKGROUND SCREENING

- A. Northwestern C.U.S.D. No. 2 requires background screening to be completed on all contractor/subcontractor employees. All employees must have documentation that a background screening has been completed on them prior to working on any district projects. All costs associated with the background screening are to be the responsibility of the contractor. The background screening must be conducted by a company acceptable to the Northwestern C.U.S.D. No. 2.

- B. All contractor/subcontractor employees working on the school grounds of Northwestern C.U.S.D. No. 2 are required to submit to Background Screening. Each employee must complete, sign, and date the Consent and Waiver Release form. These forms will be submitted and the applicant cleared before the applicant may work on any part of the school grounds.

- C. The Contractor is responsible for submitting the forms to a company acceptable to the Northwestern C.U.S.D. No. 2, and for any costs involved in the screening. All information received as a result of a background check will be strictly confidential. A notice of automatic disqualification will be sent to the hiring or using entity. After the screenings, the Contractor is also responsible for sending Northwestern C.U.S.D. No. 2 copies of approved background checks for their records.

END OF DOCUMENT

DOCUMENT 00 41 13 - BID FORM - STIPULATED SUM

To: **NORTHWESTERN C.U.S.D. NO. 2**
30953 ROUTE 111
PALMYRA, ILLINOIS 62674

Project: **TOILET RENOVATIONS**
NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS
HR # 150-2821

Date: _____

Submitted by: _____
(full name)

(full address) _____

Contact Name: _____

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Architect for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of _____ dollars, \$ _____ in lawful money of the United States of America.

We have included the security Bid Bond as required by the Instruction to Bidders.

All applicable federal taxes are excluded, and State of Illinois and City of Palmyra taxes are excluded from the Bid Sum.

2. REVIEW OF BID DOCUMENTS

The bidder represents that he is skilled and experienced in the use and interpretation of drawings and specifications such as those included in the bid documents for this contract. He has carefully reviewed the drawings, specifications and other bid documents, and has found them free of ambiguities and sufficient for bid purposes. Further, the Bidder has carefully examined the site of the work and, from his own observations, has satisfied himself as to the nature and location of the work; the character, quality and quantity of materials; the difficulties likely to be encountered; and any other items which may affect the performance of the Work. He has based his bid solely on these documents and observations, and has not relied in any way on any explanation or interpretation, oral or written, from any other source.

3. CONTRACTOR'S FEE FOR CHANGES IN WORK

Undersigned herein indicates a single percentage, not to exceed 12% for own forces and not to exceed 8% for subcontractors, for overhead and profit to be added to net extra job cost for

changes in the work required to be performed by:

- a) Own Forces ___%
- b) Subcontractors ___%

Undersigned herein indicates a single percentage, not less than 10% for own forces and not less than 5% for subcontractors, for overhead and profit to be added to net credit for job costs for changes in the work required to be performed by:

- a) Own Forces ___%
- b) Subcontractors ___%

Percentages named above shall not include any items of insurance, bond or taxes since these are considered job cost items in contractor's quotations for changes in the work.

Any percentages indicated which are higher or lower than the maximum or minimum in the typewritten language herewith, shall be disregarded and typewritten figure used.

4. CONTRACT TIME

Undersigned agrees that, if awarded the Contract for Work bid upon herein, work will start on date designated in a written Notice to Proceed order issued by the Architect and will be completed in accordance with the contract documents, with all phases of work completed and operational and ready for acceptance by the Owner no later than as required by the Contract Agreement.

5. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum # _____ Dated _____; Addendum # _____ Dated _____
 Addendum # _____ Dated _____; Addendum # _____ Dated _____

6. APPENDICES

The following documents are attached to and made a condition of the Bid:

- Bid Security in the form of _____
- Document 00 43 00 - Procurement Form Supplements including:
 - Appendix A – List of Subcontractors.
 - Appendix B – List of Alternates.

7. EQUAL EMPLOYMENT OPPORTUNITY

During performance of this contract, Contractor agrees as follows:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates

of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

- b. 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, color, religion, sex or national origin.
 - c. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, notice advising the labor union or worker's representative of the contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 - d. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor.
 - e. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and order of the Secretary of Labor pursuant thereto, and will permit access to his books, records and accounts by the Department of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
 - f. In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
 - g. The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with the subcontractor or vendor as a result of such direction by the Department, the contractor may request the United States to enter into such litigation to protect the interest of the United States.
8. NOT BARRED

The contractor by submitting its bid certifies that the Contractor is not barred from bidding on the contract as a result of a conviction for either bid-rigging or bid-rotating. 720 ILCS 5/33/E-11.

9. DRUG FREE WORKPLACE

The Contractor by submitting its bid certifies that it will provide a drug free workplace and that it is in compliance with the requirements of the Drug Free Workplace Act 30 ILCS 580.1 et. seq., and the Substance Abuse Prevention on Public Works Projects Act PA095-0635.

10. SEXUAL HARASSMENT POLICY

The Contractor by submitting its bid certifies that it has a written sexual harassment, (ii) a description of sexual harassment, utilizing examples; (iv) an internal complaint process including penalties (v) the legal resource, investigative and compliant process through the Illinois Department of Human Rights; (vi) directions on how to contact the Department and Commission; and (vii) protection against retaliation for exercising rights under the policy in accordance with 775 ILCS 5/2-105(A)(4).

11. CRIMINAL RECORDS CHECKS

The Contractor by submitting its bid certifies that it will submit to background screening those employees, including subcontract employees, which will be working on any district project. This information is to be provided in accordance with the requirements of 105 ILCS 5/10-21.9. The Contractor by submitting its bid understands that employees found to be in violation of the Illinois School Code will not be permitted to work on school grounds.

12. BID FORM SIGNATURES

The Corporate Seal of

(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

(Authorized signing officer Title)

(Seal)

(Authorized signing officer Title)

(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF DOCUMENT

DOCUMENT 00 43 00 - PROCUREMENT FORM SUPPLEMENTS

To: **NORTHWESTERN CUSD NO. 2**
30953 ROUTE 111
PALMYRA, ILLINOIS 62674

Project: **TOILET RENOVATIONS**
NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS
HR # 150-2821

Date: _____

Submitted by: _____
(full name)

(full address) _____

Contact Name: _____

In accordance with Document 00 21 14 - Instructions to Bidders - AIA and Document 00 41 13 - Bid Form - Stipulated Sum, we include the Appendices to Bid Form Supplements listed below. The information provided shall be considered an integral part of the Bid Form.

The following Appendices are attached to this document:

Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.

Appendix B – List of Alternates: Include cost variation to Bid Sum applicable to the Work described in Section 01 20 00-Price and Payments.

BID FORM SUPPLEMENTS SIGNATURES

The Corporate Seal of

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

(Authorized signing officer Title)

(Seal)

(Authorized signing officer Title)

(Seal)

DO NOT COPY

APPENDIX B - LIST OF ALTERNATES

The following is the list of alternates referenced in the bid submitted by:

(Bidder) _____

To (Owner) **NORTHWESTERN C.U.S.D. NO. 2**
30953 ROUTE 111
PALMYRA, ILLINOIS 62674

Dated _____ and which is an integral part of the Bid Form.

The following amounts shall be added to or deducted from the Bid Sum. Refer to Section 01 20 00 - Price and Payment Procedures: Schedule of Alternates for description of alternates.

Alternate Bid #1 (Add) \$ _____

END OF DOCUMENT

DOCUMENT 00 52 14 - AGREEMENT FORM – AIA

1.1. SUMMARY

- A. Document Includes:
 - 1. Contract Agreement.
- B. Related Documents:
 - 1. Document 00 72 14 - General Conditions – AIA Stipulated Sum.
 - 2. Document 00 73 13 - Supplementary Conditions - AIA.

1.2 CONTRACT AGREEMENT BETWEEN OWNER AND CONTRACTOR

A. THIS AGREEMENT, made and entered into as of the _____ day of _____ in the year of Two Thousand and _____ by and between _____ hereinafter and in the Contract Documents called "Contractor" and the Northwestern C.U.S.D. No. 2, hereinafter and in the Contract Documents called "Owner."

B. WITNESSETH: That for and in consideration of the mutual covenants and agreements, hereinafter stated, Contractor and Owner covenant and agree as follows:

C. THE CONTRACT WORK:

- 1. Contractor covenants and agrees to furnish all labor, materials, equipment, transportation, construction plant and facilities necessary to perform all Work required by the Contract Documents, for the Project entitled:

- a. TOILET RENOVATIONS
NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS

as shown on Drawings and described in Specifications prepared by Hurst-Rosche, Inc., 1400 E. Tremont St., Hillsboro, IL 62049, acting as, and in these Contract Documents referred to as Architect/Engineer and covenants and agrees to do and perform all acts and things required of Contractor by this Contract and the Contract Documents.

D. TIME OF COMPLETION:

- 1. The Owner requires the Project to be substantially complete by July 29, 2022. Should the Contractor fail to complete the Work within such time, contractor agrees to compensate and will apply to the Owner for each and every day of such delay in completion of the Work beyond the Contract Time the sum of Five Hundred Dollars (\$500.00) per day for Work not completed by the substantial completion date as liquidated damages.

E. CONTRACT SUM AND TERMS OF PAYMENT:

1. Contract Sum: The Owner, if Contractor shall faithfully fulfill and perform this Contract, covenants and agrees to pay Contractor in current funds, subject to additions and deductions by Change Order as provided in the Contract Documents, the sum of _____ Dollars (\$ _____), which sum shall constitute the Contract Sum, said Contract Sum being derived from Contractor's Bid dated _____. It is understood and agreed that should there be any increase in wage rates, or in cost of materials or equipment, or in any other of Contractor's costs or should Contractor be compelled to pay premium wages, or for overtime work, during the life of this Contract and/or prior to completion of Contractor's work thereunder, Contractor shall absorb all such increased costs, without addition to the Contract Sum except when otherwise expressly provided in Contract Documents.
2. Payments: Owner shall make payments for work performed under the Contract as provided in Article Nine of the General Conditions and in accordance with other applicable articles of the Supplementary Conditions and Contract Documents.
3. Contractor's Fees for Changes in Work: In accordance with Contractor's bid, it is agreed that the following percentages for overhead and profit shall be applied on work added to or omitted from the Contract by written Change Order approved by Architect and Owner in advance of performance of the work.

Additional Work performed by:

- | | |
|---------------------|-------------------------|
| 1. Own Forces ____% | 2. Subcontractors ____% |
|---------------------|-------------------------|

Omitted Work originally required by:

- | | |
|---------------------|-------------------------|
| 1. Own Forces ____% | 2. Subcontractors ____% |
|---------------------|-------------------------|

Note: Taxes (when applicable) are considered as incidentals, as well as bonds and insurance costs and are not included in the percentages listed above nor should they be added to change orders submitted.

F. CONTRACT DOCUMENTS:

1. Contract Documents include the Contract Agreement, Contractor's Bid as accepted by Owner, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to and all Modifications issued after execution of the Contract Agreement.
2. Bidder's attention is directed to the fact that all Federal and Illinois State Laws, municipal ordinances and regulations of any and all authority having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written

out in full. Successful Bidders shall be required to comply with 777 ILCS 10 concerning equal employment opportunities; comply with 30 ILCS 570 concerning the employment of citizens of the State of Illinois; comply with 820 ILCS 265 concerning substance abuse prevention on public works projects; and comply with 820 ILCS 130 concerning prevailing wages.

G. ILLINOIS LABOR:

Contractor shall comply with all Illinois statutory requirements regarding labor, including, but not limited to, the following:

1. Illinois Public Act 77-1552 and Chapter 48, Sections 39S-1 through 39S-12 of the Illinois Revised Statutes regulating wages of laborers, mechanics and other workers employed in any public works and known as the "Prevailing Wage Act," which provides in part that all laborers, mechanics and workers performing work under the Contract shall be paid not less than the prevailing rate of wages as determined by the Illinois Department of Labor (820 ILCS 130).
2. Illinois Public Act 83-1472, Article 2 and Chapter 48, Sections 2201 through 2207, 1984 of the Illinois Revised Statutes pertaining to hiring of Illinois labor and known as the "Illinois Preference Act (30 ILCS 570)."
3. "Illinois Human Rights Act of 1980," Chapter 68, Illinois Revised Statutes, and the Rules and Regulations, Title 44, Section 750 of the Illinois Administrative Code, Illinois Department of Human Rights; pertaining to equal employment opportunity (777 ILCS 10).

H. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND:

1. Within ten (10) days immediately following date of his receipt of this contract, Contractor shall furnish Owner the signed Contract and Performance Bond and Labor and Material Payment Bond as required by and in accordance with the terms of Contract Documents in a penal sum of one hundred percent (100%) of the Contract sum.
2. In the event Contractor fails to furnish Owner such Contract and Bonds within said period, this Contract shall thereupon become null and void at Owner's option, exercised by written registered notice and mailed to Contractor by said Owner within five (5) days thereafter. Owner may then retain and enforce as liquidated damages, bid guarantee heretofore deposited with it in connection with Contractor's proposal for this Contract or the difference between his bid and a subsequent awarded bid, whichever is lesser.

I. IN WITNESS HEREOF, the parties hereto have executed this agreement as of the day and year first written above.

OWNER:

NORTHWESTERN C.U.S.D. NO. 2

BY _____

TITLE _____

CONTRACTOR:

Attest:

BY _____
Secretary

BY _____

TITLE _____

END OF DOCUMENT

CONTRACTOR'S AFFIDAVIT FOR FINAL COMPLETION
(To be filed with final request for payment)

STATE OF _____)

COUNTY OF _____)

_____, being
first duly sworn upon oath deposes and says:

That he/she is _____ of _____

hereinafter termed "The Contractor" for all work upon the hereinafter termed "Said Project," work for the NORTHWESTERN C.U.S.D. NO. 2, under that certain contract between said Contractor and said Owner, bearing date of _____ pertaining to said work.

Affiant further states, of his/her own knowledge, that all bills incurred by the Contractor, for services, labor and material furnished, for work done by the Contractor under said Contract, or in connection with said project have been paid and all subcontractors who have furnished services, labor or materials have no claim or demand against Owner for any services, labor and/or materials furnished and/or work done by them upon said Project.

Affiant further states that this affidavit is made on behalf of the Contractor for the purpose of obtaining payment of the sum of _____ (\$ _____) dollars, which affiant states, upon his/her own knowledge, constitutes the full balance due the Contractor for all services, labor and materials furnished and work done to and upon Said Project by the Contractor whether under and pursuant to provisions of said Contract and all subsequent modifications thereof and changes therein or otherwise; and that payment of the sum to the Contractor will constitute payment in full on everything due for such services, labor, materials and work, and will fully satisfy any and all claims or demands which Contractor may have or assert against said Owner, arising out of anything done or furnished by the Contractor or occurring in connection with said Project and/or Contract.

CONTRACTOR

By _____

Title _____

Subscribed and Sworn to before me the _____ day of _____, 20____.

NOTARY PUBLIC

(PARTIAL) (FINAL)
WAIVER OF LIEN

STATE OF _____)
COUNTY OF _____)SS

TO WHOM IT MAY CONCERN:

WHEREAS the undersigned has been employed by NORTHWESTERN C.U.S.D. NO. 2, hereinafter known as the OWNER,

To Furnish: _____

For the project known as: TOILET RENOVATIONS

For the premises known as: NORTHWESTERN ELEMENTARY AND HIGH SCHOOLS

Address: 30953 ROUTE 111, PALMYRA, ILLINOIS

THE undersigned, for and in consideration of the dollar amount shown below and other good and valuable considerations, do(es) hereby waive and release under the mechanics' lien statutes of the State where the project premises are located, to the extent of the payment recited below is received by the undersigned and is applicable to lienable labor, services, materials, fixtures, or apparatus, any and all lien or claim or right of lien on the above-described premises and the improvements, fixtures and appurtenances thereon, and on the monies or other considerations due or to become due from the Owner and on all other project-related monies from whatever source, on the account of the above-mentioned labor, services, materials, fixtures, or apparatus furnished by the undersigned for or in connection with the above-described premises.

(Payment amount written in long form)

PAYMENT AMOUNT _____

(Company Name)

(Address)

(City/State/Zip)

(Signature of Officer)

Sworn to and subscribed before me this _____ day of _____.

(Notary Public)

My commission expires: _____

AFFIDAVIT OF PAYMENT TO MATERIAL SUPPLIERS AND SUBCONTRACTORS

STATE OF _____

COUNTY OF _____

_____, being first duly sworn upon oath
deposes and says, that he/she entered into a Contract with the NORTHWESTERN C.U.S.D. NO. 2,
known as the Owner, for furnishing of labor, work services, materials, fixtures, and supplies for TOILET
RENOVATIONS at the following described real estate: NORTHWESTERN ELEMENTARY AND
HIGH SCHOOLS.

That for the purpose of said Contract, the following persons, firms or corporations have been contracted
with to furnish, have furnished or prepared, or will furnish or prepare labor, services, materials, fixtures,
apparatus, machinery or supplies, or are furnishing and preparing material for said construction; that there
are due or to become due to them respectively, the amounts set opposite their names for said labor,
services, materials, fixtures, apparatus, machinery and supplies as stated; that there are no other
contractors outstanding and there is nothing due or to become due any person, firm, or corporation, for
labor, services, materials, fixtures, machinery, apparatus, or supplies, other than as stated herewith.

MATERIAL SUPPLIER AND/OR SUBCONTRACTOR	CONTRACT ITEM	CONTRACT AMOUNT	AMOUNT PAID TO DATE	AMOUNT DUE OR TO BECOME DUE
--	------------------	--------------------	---------------------------	-----------------------------------

CONTRACTOR

Subscribed and sworn to before me, a Notary Public, this _____ day of _____; A.D.
20____.

NOTARY PUBLIC

DOCUMENT 00 72 14 - GENERAL CONDITIONS – AIA STIPULATED SUM

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
- B. Related Documents:
 - 1. Document 00 52 14 – Agreement Form – AIA Stipulated Sum.
 - 2. Document 00 73 13 – Supplementary Conditions - AIA.

1.2 GENERAL CONDITIONS

- A. AIA Document A201-2007, General Conditions of the Contract for Construction, is the General Conditions of the Contract.

1.3 SUPPLEMENTARY CONDITIONS

- A. Refer to Document 00 73 13 for modifications to General Conditions.

END OF DOCUMENT

DOCUMENT 00 73 13 - SUPPLEMENTARY CONDITIONS - AIA

1.1 SUMMARY

- A. Document Includes:
 - 1. General Conditions.
 - 2. Supplementary Conditions.
- B. Related Documents:
 - 1. Document 00 41 13 – Bid Form – Stipulated Sum
 - 2. Document 00 52 14 – Agreement Form - AIA

1.2 GENERAL CONDITIONS

- A. The General Conditions of the Contract for Construction, AIA Document A201, Sixteenth Edition, 2007, Articles 1 through 15, is a part of this Contract and is incorporated herein as fully as if here set forth. Copies of the General Conditions are on file and may be reviewed at the offices of the Architect, or may be obtained from the American Institute of Architects, St. Louis Chapter, 911 Washington St., #225, St. Louis, Missouri 63101-1203.

1.3 SUPPLEMENTARY CONDITIONS

- A. The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction," AIA Document A201, Sixteenth Edition, 2007. Where any Article of the General Conditions is modified or changed or any Paragraph, Subparagraph or Clause thereof is modified, changed or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

1.4 REFERENCE TO DIVISION 01

- A. Where provisions of General Conditions relate to project administrative or work-related requirements of the Contract, and those provisions differ from those specified in Division 01, provisions outlined in Division 01 shall prevail.

1.5 ARTICLE 1: GENERAL PROVISIONS

- A. 1.5.1 In the second line following the word "Specifications" insert the words "and Project Manual,".
- B. 1.6 TRANSMISSION OF DATA IN DIGITAL FORM: Add new subparagraph 1.6.1:

1.6.1 Electronic drawings provided by the Owner or Architect are for informational purposes only and are not intended for any other use. The paper copies provided are a true representation of the completed design and if discrepancies should exist

between the paper copy and the electronic copy, the paper copy shall govern.

- C. Delete Subparagraph 1.1.8 its entirety and substitute the following:

1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2. If the Initial Decision Maker is not specifically identified in the Agreement, the responsibilities of the Initial Decision Maker shall default to the Architect.

- D. DEFINITIONS: Add Paragraph 1.1.9

1.1.9 PROJECT MANUAL

The Project Manual is the collection of documents which includes the bidding requirements, sample forms and, certain Contract Documents such as the Conditions of the Contract and the Specifications.

1.6 ARTICLE 2: OWNER

- A. 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER:

- B. Delete Subparagraphs 2.2.3 and 2.2.5 in their entireties and substitute the following:

2.2.3 The Owner shall, at the request of the Contractor, furnish to Contractor any survey or other similar descriptive information of project site that Owner has in his possession. Upon demonstration of need by Contractor for specific additional survey information, Owner shall obtain and furnish such information to Contractor.

2.2.5 Contractor will be furnished, free of charge, 4 copies of Drawings, Specifications, and Project Manual as set forth in Division 1 of the Specifications. Additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

1.7 ARTICLE 3: CONTRACTOR

- 3.2. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR: Add Subparagraphs 3.2.5 and 3.2.6:

3.2.5 The Contractor by executing the Contract represents that he has carefully examined the Site of the Work at each location and that he has full knowledge of and fully understands the facilities, site conditions, difficulties and restrictions attending performance of the Work. Contractor further represents that he has taken all required measurements and carefully inspected existing constructions, irregularities and interferences which may affect the Work. No additional compensation will be allowed for conditions increasing Contractor's cost which were not known to or appreciated by him prior to executing the Contract if they

could have been discovered by him following the foregoing procedures and thoroughly informing himself of all existing conditions affecting the Work.

3.2.6 Contractor will not, however, be required to excavate, penetrate or demolish any constructions or other work and conditions prior to executing the Contract in order to uncover and/or expose concealed conditions that affect the Work. If, during course of construction, Contractor uncovers conditions that affect the work that could not have been known and understood by the above described careful examination of conditions affecting the Work, he shall promptly notify the Architect, in writing, who will determine if claims for additional costs or extensions of time are justified. If such claims are found to be justified, Contract will be modified in accordance with Article 7 of the General Conditions.

1.8 ARTICLE 4: ARCHITECT

A. 4.1 GENERAL: Delete Subparagraph 4.1.1 in its entirety and substitute the following:

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

1.9 ARTICLE 5: SUBCONTRACTORS

A. 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK: Add new Subparagraph 5.2.1.1.:

5.2.1.1. Within ten (10) days of notification of acceptance of his proposal, Contractor shall submit the names of those to whom he intends to award a Subcontract.

1.10 ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

A. 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS: Delete Subparagraph 6.1.3 in its entirety and substitute the following:

6.1.3 General Contractor shall have responsibility of coordinating efforts of all contractors and to maintain overall direction of job progress. Each Contractor shall coordinate operational methods with other contractors and encourage communications among all trades. All Contractors shall make other contractors aware of any problems, delays in materials shipments or lack of work force, and assist other contractors in maintaining job momentum and direction of overall project.

1.11 ARTICLE 9: PAYMENTS AND COMPLETION

A. 9.3 APPLICATIONS FOR PAYMENT: Add new Subparagraph 9.3.1.3

9.3.1.3.: Until Substantial Completion, the Owner will pay 90 percent of the amount due Contractor on account of approved progress payments.

1.12 ARTICLE 11: INSURANCE AND BONDS

A. 11.1.1 In the first line following the word "maintain," insert the words "in a company or companies licensed to do business in the state in which the project is located."

B. Add new Subparagraph 11.1.1.9:

11.1.1.9 General Liability Insurance shall be comprehensive, on occurrence, and shall include:

- Premises and Operations.
- Independent Contractors.
- Products and Completed Operations.
- Broad Form Property Damage.
- Personal Injury.
- Explosion, Collapse and Underground damage where the hazard exists.
- Contractual liability.

C. Add the following Sub-Subparagraphs to Subparagraph 11.1.2:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

1. Worker's Compensation:

- a. State: Statutory
- b. Applicable Federal: Statutory
- c. Employer's Liability: \$500,000

2. Comprehensive General Liability:

a. Bodily Injury:

\$ 500,000	Each Person
\$1,000,000	Aggregate

b. Property Damage:

\$ 500,000	Each Occurrence
\$1,000,000	Aggregate

- c. \$1,000,000 Combined Single

Limit Coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

3. Personal Injury:

\$ 1,000,000 Combined single limit including owned non-owned, and hired motor vehicle.

4. Comprehensive Automobile Liability:

a. Bodily Injury:

\$1,000,000 Each Person
\$1,000,000 Each Occurrence

b. Property Damage:

\$ 500,000 Each Occurrence
\$1,000,000 Aggregate

c. \$1,000,000 Combined Single

Limit coverage for bodily injury and property damage per occurrence and in the same aggregate limit will be accepted in lieu of the separate limits specified above.

11.1.2.2 Umbrella Form Liability Coverage:

An Umbrella Form Liability coverage to not less than \$2,000,000 for any one occurrence and subject to the same aggregate over the Employer's Liability, Comprehensive General Liability, and Comprehensive Automobile Liability coverage is required.

D. Add the following Subparagraph 11.1.3.1:

11.1.3.1 Contractor shall furnish one copy each of Certificates of Insurance herein required for each copy of the Agreement which shall specifically set forth evidence of all coverage required by Paragraph 11.1. The form of the Certificate shall be AIA Document G705, Certificate of Insurance. Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits. The Contractor shall furnish to the Owner notice of any policy cancellation at least 30 days prior to the effective date of cancellation. The Contractor shall submit copies of subcontractor's Certificates of Insurance prior to the beginning of work.

- E. Add the following Subparagraph 11.1.4.1:

11.1.4.1 The Owner and Architect shall be named as additional insureds by endorsement for the purpose of coverage only with no liability for premium payments.

- F. 11.3. PROPERTY INSURANCE: Delete Subparagraph 11.3.1 in its entirety and substitute the following:

11.3.1: The General Contractor shall be responsible to maintain property (builder's risk) insurance upon the completed value of all work at the site under this contract to the full insurable value thereof. This insurance shall include the interests of the Owner, the General Contractor, Subcontractors, and Sub-subcontractors in the work and as their interests may appear in the work, and shall be an all-risk type policy, including theft, subject to the exclusions generally accepted in the insurance industry. This coverage is not intended to, and shall not, provide coverage for tools, equipment, scaffolding, forms, or other devices used by the Contractors or Subcontractors in performing work under this contract.

11.3.1.2 Delete this Paragraph in its entirety.

- G. Delete Subparagraphs 11.3.1.3 in its entirety and substitute the following:

11.3.1.3 If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles.

1.13 ARTICLE 13: MISCELLANEOUS PROVISIONS

- A. Add new paragraph 13.8 as follows:

13.8 REFERENCED STANDARDS

13.8.1 No provision of any referenced standard specification, manual or code; whether or not specifically incorporated by reference in the Contract Documents; shall be effective to change the duties and responsibilities of Owner, Contractor or Architect, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to Architect, or any of Architect's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Articles 1 through 15.

END OF SECTION

ARTICLE 25: PREVAILING RATE OF WAGES

- 25.1 Pursuant to Illinois Compiled Statutes 820 ILCS 130/0.01 et seq., these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

Macoupin County Prevailing Wage Rates posted on 10/4/2021

Trade Title	Rg	Type	C	Base	Foreman	M-F Overtime	H/W	Pension	Vac	Trng
ASBESTOS ABT-GEN	All	ALL		31.25	31.75	1.5	7.25	20.09	0.00	0.80
ASBESTOS ABT-MEC	All	BLD		32.60	33.60	1.5	9.70	6.25	0.00	0.50
BOILERMAKER	All	BLD		39.75	43.25	1.5	7.07	25.26	0.00	1.06
BRICK MASON	N	BLD		32.90	34.55	1.5	9.80	11.70	0.00	0.89
BRICK MASON	S	BLD		34.38	36.44	1.5	9.50	14.35	0.00	0.88
CARPENTER	All	BLD		33.58	35.83	1.5	9.20	20.00	0.00	0.74
CARPENTER	All	HWY		35.62	37.37	1.5	9.20	20.00	0.00	0.71
CEMENT MASON	All	ALL		36.00	37.00	1.5	10.25	16.25	0.00	0.50
CERAMIC TILE FINISHER	All	BLD		27.16	27.16	1.5	8.35	8.00	0.00	0.82
ELECTRIC PWR EQMT OP	N	ALL		49.37	58.58	1.5	8.23	13.82	0.00	0.74
ELECTRIC PWR EQMT OP	SE	ALL		49.22	59.33	1.5	6.95	13.79	0.00	0.49
ELECTRIC PWR EQMT OP	SW	ALL		47.24	47.24	1.5	6.75	13.23	0.00	0.47
ELECTRIC PWR GRNDMAN	N	ALL		33.54	58.58	1.5	7.76	9.40	0.00	0.51
ELECTRIC PWR GRNDMAN	SE	ALL		36.74	59.33	1.5	5.19	10.29	0.00	0.37
ELECTRIC PWR GRNDMAN	SW	ALL		31.10	31.10	1.5	6.75	8.71	0.00	0.31
ELECTRIC PWR LINEMAN	N	ALL		54.95	58.58	1.5	8.40	15.39	0.00	0.82
ELECTRIC PWR LINEMAN	SE	ALL		56.59	59.33	1.5	7.99	15.85	0.00	0.57
ELECTRIC PWR LINEMAN	SW	ALL		55.18	58.31	1.5	6.75	15.46	0.00	0.55
ELECTRIC PWR TRK DRV	N	ALL		35.21	58.58	1.5	7.81	9.86	0.00	0.53
ELECTRIC PWR TRK DRV	SE	ALL		40.17	59.33	1.5	5.67	11.25	0.00	0.40
ELECTRIC PWR TRK DRV	SW	ALL		35.24	35.24	1.5	6.75	9.87	0.00	0.35
ELECTRICIAN	N	BLD		38.41	40.91	1.5	8.02	11.85	0.00	0.70
ELECTRICIAN	SE	ALL		44.09	46.74	1.5	7.99	13.47	0.00	1.22
ELECTRICIAN	SW	ALL		45.14	47.39	1.5	10.25	12.87	0.00	0.23
ELECTRONIC SYSTEM TECH	N	BLD		34.08	37.08	1.5	7.25	11.27	0.00	0.40
ELECTRONIC SYSTEM TECH	SE	BLD		36.27	39.27	1.5	4.00	11.10	0.00	0.40
ELECTRONIC SYSTEM TECH	SW	BLD		34.00	37.00	1.5	10.25	8.35	0.00	0.40
ELEVATOR CONSTRUCTOR	All	BLD		53.46	60.14	2.0	15.87	19.31	4.28	0.64
GLAZIER	N	BLD		37.00	39.00	1.5	6.95	11.47	0.00	0.68
GLAZIER	S	BLD		37.00	39.00	1.5	6.95	11.47	0.00	0.68
HEAT/FROST INSULATOR	All	BLD		40.18	41.18	1.5	11.04	13.25	0.00	0.85

Trade Title	Rg	Type	C	Base	Foreman	M/F Overtime	H/W	Pension	Vac	Trng
IRON WORKER	N	BLD		33.55	35.55	1.5	10.57	16.82	0.00	0.90
IRON WORKER	N	HWY		34.92	36.67	1.5	10.57	18.16	0.00	0.90
IRON WORKER	S	ALL		36.50	38.50	1.5	10.46	18.50	0.00	0.42
LABORER	All	ALL		30.75	31.25	1.5	7.25	20.09	0.00	0.80
LATHER	All	BLD		33.58	35.83	1.5	9.20	20.00	0.00	0.74
MACHINIST	All	BLD		50.68	53.18	1.5	8.93	8.95	1.85	1.47
MARBLE FINISHER	All	BLD		27.16	27.16	1.5	8.35	8.00	0.00	0.82
MARBLE MASON	All	BLD		34.29	34.29	1.5	9.00	11.95	0.00	0.40
MILLWRIGHT	All	BLD		33.60	35.85	1.5	9.20	20.44	0.00	0.74
MILLWRIGHT	All	HWY		37.36	39.11	1.5	9.20	21.21	0.00	0.71
OPERATING ENGINEER	All	BLD	1	40.85	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	2	39.72	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	3	35.24	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	4	41.85	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	5	42.85	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	6	43.40	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	7	43.70	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	8	44.00	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	BLD	9	44.65	43.85	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	1	39.35	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	2	38.22	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	3	33.74	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	4	40.35	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	5	41.35	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	6	41.90	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	7	42.20	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	8	42.50	42.35	1.5	14.10	18.80	0.00	1.45
OPERATING ENGINEER	All	HWY	9	43.15	42.35	1.5	14.10	18.80	0.00	1.45
PAINTER	All	BLD		32.45	33.95	1.5	6.95	12.77	0.00	0.70
PAINTER	All	HWY		33.65	35.15	1.5	6.95	12.77	0.00	0.70
PAINTER OVER 30 FT.	All	BLD		33.45	34.95	1.5	6.95	12.77	0.00	0.70
PAINTER PWR EQMT	All	BLD		33.45	34.95	1.5	6.95	12.77	0.00	0.70
PAINTER PWR EQMT	All	HWY		34.65	36.15	1.5	6.95	12.77	0.00	0.70
PILEDRIIVER	All	BLD		34.58	36.83	1.5	9.20	20.00	0.00	0.74

Trade Title	Rg	Type	C	Base	Foreman	M/F Overtime	H/W	Pension	Vac	Trng
PILEDRIVER	All	HWY		35.62	37.37	1.5	9.20	20.00	0.00	0.71
PIPEFITTER	N	BLD		43.29	47.29	1.5	8.25	11.84	0.00	1.30
PIPEFITTER	S	BLD		45.21	47.47	1.5	5.00	10.40	0.00	0.60
PLASTERER	All	BLD		34.50	36.00	1.5	10.25	11.00	0.00	0.50
PLUMBER	N	BLD		43.29	47.29	1.5	8.25	11.84	0.00	1.30
PLUMBER	S	BLD		45.21	47.47	1.5	5.00	10.40	0.00	0.60
ROOFER	All	BLD		32.21	35.31	1.5	10.40	11.41	0.00	0.50
SHEETMETAL WORKER	All	ALL		37.54	39.04	1.5	10.75	9.50	2.25	0.71
SPRINKLER FITTER	All	BLD		45.78	49.53	2.0	9.95	14.75	0.00	1.10
STONE MASON	All	BLD		32.90	34.55	1.5	9.80	11.70	0.00	0.89
TERRAZZO FINISHER	All	BLD		27.16	27.16	1.5	8.35	8.00	0.00	0.82
TERRAZZO MASON	All	BLD		32.66	32.66	1.5	8.35	9.20	0.00	0.91
TILE MASON	All	BLD		34.29	34.29	1.5	9.00	11.95	0.00	0.40
TRUCK DRIVER	All	ALL	1	39.96	44.32	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	ALL	2	40.54	44.32	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	ALL	3	40.86	44.32	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	ALL	4	41.21	44.32	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	ALL	5	42.32	44.32	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	O&C	1	31.97	35.46	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	O&C	2	32.43	35.46	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	O&C	3	32.69	35.46	1.5	14.02	7.14	0.00	0.25
TRUCK DRIVER	All	O&C	4	32.97	35.46	1.5	14.02	7.14	0.00	0.00
TRUCK DRIVER	All	O&C	5	33.86	35.46	1.5	14.02	7.14	0.00	0.25
TUCK POINTER	N	BLD		32.90	34.55	1.5	9.80	11.70	0.00	0.89

END OF SECTION

<u>DRAWING NO.</u>	<u>TITLE</u>
G-101	Cover
A-001	ADA Guidelines
A-101	Elementary School Floor Plans
A-102	Elementary School Toilet Elevations and Schedules
A-201	High School Overall Floor Plan
A-202	High School Demo Floor Plans
A-203	High School Proposed Floor Plans
A-204	High School Toilet Elevations and Schedules

All drawings dated October 28, 2021.

END 00 86 00.

SECTION 01 10 00 - SUMMARY

1. GENERAL

1.1. SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and premises.
- C. Owner occupancy.
- D. Specification conventions.
- E. Contractor's duties.
- F. Contract documents.

1.2. CONTRACT DESCRIPTION

- A. Base Bid Scope of Work includes the replacement of toilet fixtures and toilet partitions, including partition mounted accessories through Northwestern High School and Northwestern Elementary School. The work does include demolition and removal of flooring and concrete slab as necessary for below slab plumbing work.

Alternate Bid #1 Scope of Work consists of replacement of urinal flush valves throughout Northwestern High School and Northwestern Elementary School.

Contractor will be responsible for ordering fixtures and material immediately after contract execution and shop drawing approvals, regardless of the first day available for construction. Contractor will be responsible for storing and insuring fixtures and materials until the first day available for construction (approximately June 1, 2022). See Section 01 20 00 for additional information.

1.3. CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Use of site and premises by the public.
- B. Allow for public use of all adjoining streets and sidewalks.
- C. Light duty vehicle parking is permitted. All parking lots and sidewalks are to be restored to their original condition.

1.4. OWNER OCCUPANCY

- A. The Owner will occupy the site premises during the entire period of construction for the conduct of normal operations.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.5. SPECIFICATION CONVENTIONS

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words shall be included by inference where a colon (:) is used within sentences or phrases.

1.6. CONTRACTOR'S DUTIES

- A. Except as specifically noted, Contractor shall provide and pay for:
 - 1. All labor, materials, and equipment used for construction of and/or incorporated into the project.
 - 2. All tools, construction equipment and machinery.
 - 3. Required building permits, and all inspection fees by governmental authorities.
 - 4. Other facilities and services necessary for proper execution and complete of work.
- B. Owner is exempt from sales tax on product permanently incorporated in work.
 - 1. Obtain sales tax exemption certificate number from Owner.
 - 2. Place exemption certificate number on invoices for materials incorporated in work.
 - 3. Upon completion of work, file with Owner a notarized statement that all purchases made under exemption certificate were entitled to be exempt and furnish copies of invoice to Owner.
 - 4. Pay legally assessed penalties for improper use of exemption certificate number.
- C. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of work.
- D. Promptly submit written notice to Architect/Engineer of observed variance of contract documents from legal requirements.
 - 1. It is not the Contractors responsibility to make certain that drawings and specifications comply with codes and regulations.
 - a. Appropriate modifications to contract documents will account for/reflect necessary changes.
 - b. Assume responsibility for work known to be contrary to such requirements if written notice is not provided by the Contractor to the Architect.

- E. Enforce strict discipline and good order among employees.
- F. Do not unreasonably encumber site with materials or equipment.
- G. Do not load structure with weight that will endanger structure.
- H. Assume full responsibility for protection and safe-keeping of products stored on premises.
- I. Move any stored products which interfere with operations of Owner or other Contractors.
- J. Obtain and pay for use of additional storage or work areas needed for operations.
- K. The School Board shall prohibit the use of tobacco on school property when the property is being used for any school purposes. Tobacco shall mean cigarette, cigar, pipe or tobacco in any other form including smokeless tobacco which is any loose, cut, shredded, ground, powdered, compressed or leaf tobacco that is intended to be placed in the mouth without being smoked. All members of work crews must remain fully clothed and refrain from using obscene or profane language during these same time parameters. School purposes include, but are not limited to, all interscholastic or extracurricular athletic, academic, or other events sponsored by the School Board or in which students of the District participate.
- L. Contractor shall maintain building free from entrance of water at all times during construction.
- M. Contractor shall furnish, erect and maintain temporary ladders, ramps, or hoists as may be required for performance of his work.
 - 1. All such equipment shall be substantially designed, constructed, and maintained in accordance with applicable federal, state, and local laws, ordinances, and regulations, and shall be promptly removed when no longer needed.
- N. Contractor shall design, furnish, erect, maintain, and move all ladders and scaffolding required for this work.
 - 1. All ladders and scaffolding shall be designed, constructed, and maintained in accordance with applicable federal, state, and local law, ordinances, and regulations, and shall be promptly removed when no longer needed.

1.7. CONTRACT DOCUMENTS

- A. Contractor will be furnished free of charge four (4) copies of drawings and specifications.
- B. On request, additional copies will be furnished to Contractor at cost of reproduction, postage and handling.

2. PRODUCTS

Not Used.

3. EXECUTION

Not Used.

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

1. GENERAL

1.1. SECTION INCLUDES

- A. Schedule of values.
- B. Applications for payment.
- C. Change procedures.
- D. Defect assessment.
- E. Alternates.

1.2. SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance.
- D. Include separately from each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.3. APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on AIA Form G702-Application and Certificate for Payment Contractor's standard form or electronic media printout will be considered.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit applications for payment to Architect/Engineer for processing no later than 10 days prior to date established for progress payment meeting.
- E. Submit with transmittal letter as specified for Submittals in Section 01 33 00.

- F. Submit lien waivers.
- G. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
1. Partial release of liens from major subcontractors and vendors.
 2. Affidavits attesting to off-site stored products.
- H. Application for Progress Payment No. 1 shall be accompanied by a notarized statement on Contractor's letterhead as follows:
1. I certify that the funds requested for the accompanying Pay Request No. 1 will be used to pay all just and lawful bills against the undersigned and his subcontractors for labor, material and equipment employed in the performance of the work. I further certify that such bills will be paid no later than ten (10) calendar days from date of receipt of the Owner's disbursement.
 2. Execute statement with signature of a responsible officer of contracting firm.
- I. Each subsequent application for progress payment shall be accompanied by the following supporting documents:
1. Partial or final waivers of lien in monetary amount from Contractor, each material supplier and/or subcontractor reflecting amounts incorporated into preceding request for progress payment.
 2. A notarized Affidavit of Payment to Material Suppliers and Subcontractors.
 - a. Affidavit shall be submitted in exact text as exhibit furnished by Architect/Engineers, signed by Contractor or Subcontractor.
 - b. Include unit item, actual amount of contract without overhead or profit, amount paid to date, and amount to become due (balance of account).
- J. Progress payments will be made for materials and equipment not incorporated in the work provided that:
1. Such materials and equipment have been delivered to and suitable stored at site or some other location approved in writing by Owner and Architect/Engineer. All such materials stored off-site shall be marked or tagged with identification of project to which they are assigned.
 2. Contractor submits evidence of title to such materials and equipment.
 3. Care and custody of such materials and equipment and all costs incurred for movement and storage shall be responsibility of Contractor.
 4. Such materials and equipment are suitably insured by Contractor. Contractor shall submit a certificate of insurance showing the Owner as an additional insured and showing amount of insurance coverage of suitable proof that material and equipment are stored in a bonded warehouse.
- K. Refer to Section 01 70 00 for submittal requirements for application for final payment and related closeout procedures.

1.5. CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions in writing.
- C. The Architect/Engineer may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with stipulation of overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within seven days.
- D. Contractor may propose changes by submitting a request for change to Architect/Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation. Document requested substitutions in accordance with Section 01 60 00.
- E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Architect/Engineer.
- F. Architect/Engineer may issue directive, on **Hurst-Rosche, Inc.** Change Order form signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- G. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- H. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- I. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- J. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- K. Correlation Of Contractor Submittals:

1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

1.6. DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer.
- D. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Authority of Architect/Engineer to assess defects and identify payment adjustments, is final.
- F. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
 1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products not completely unloaded from transporting vehicle.
 4. Products placed beyond lines and levels of required Work.
 5. Products remaining on hand after completion of the Work.
 6. Loading, hauling, and disposing of rejected products.

1.7 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work.
- C. Schedule of Alternates:
 1. Alternate No. 1: Replacement of urinal flush valves throughout Northwestern High School and Northwestern Elementary School.

2. PRODUCTS

Not Used.

3. EXECUTION

Not Used.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Pre-installation meetings.
- E. Cutting and patching.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- C. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Architect/Engineer will schedule meeting after Notice of Award.
- B. Attendance Required: Owner, Architect/Engineer, and Contractor.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing parties in Contract, and Architect/Engineer.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.

- D. Architect/Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with copies to Owner and those affected by decisions made.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Architect/Engineer will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Architect/Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
- E. Architect/Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with copies to Owner and those affected by decisions made.

1.5 PRE-INSTALLATION MEETINGS

- A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Architect/Engineer will record minutes and distribute copies with reasonable promptness after meeting to participants, with copies to Owner and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- H. Refinish or restore surfaces and finished to match existing finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- I. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.

1.2 SUBMITTAL PROCEDURES

- A. **Transmit each submittal with shop drawing submittal form found at the end of this section.**
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Architect/Engineer at business address. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Architect/Engineer review stamps.

- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within 15 days after date of Owner-Contractor Agreement. After review, resubmit required revised data within ten days.
- B. Submit revised Progress Schedules with each Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit computer generated horizontal bar chart with separate line for each section of Work, identifying first work day of each week.
- F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- G. Indicate estimated percentage of completion for each item of Work at each submission.
- H. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.
- I. Revisions To Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.

1.4 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus 3 copies Architect/Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus 3 copies Architect/Engineer will retain.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00.

1.7 SAMPLES

- A. Samples: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples For Selection as Specified in Product Sections:
 - 1. Submit to Architect/Engineer for aesthetic, color, or finish selection.

2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect/Engineer selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Architect/Engineer will retain one sample.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.
- H. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.

1.8 DESIGN DATA

- A. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.9 TEST REPORTS

- A. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.

1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Architect/Engineer for delivery to Owner in quantities specified for Product Data.

- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SHOP DRAWING SUBMITTAL



HURST-ROSCHE, INC.

PROJECT: TOILET RENOVATIONS - NORTHWESTERN
ELEMENTARY AND HIGH SCHOOLS
NORTHWESTERN C.U.S.D. NO. 2
PALMYRA, MACOUPIN COUNTY, ILLINOIS

DATE: _____

A/E PROJECT NO: 150-2821

CONTRACTOR: _____

PRESENTED BY: _____
(Subcontractor/Supplier) Company Name

Address

Phone/Fax

Contact Person

ITEM: _____

SPEC SECTION: _____

By approving and submitting these shop drawings, product data and samples, we represent that we have determined and verified all materials, field measurements and field construction criteria related thereto, or will do so, and that we have checked and coordinated information contained within submittal with requirements of the work and contract documents.

Contractor's Signature

Date

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances
- C. References.
- D. Examination.
- E. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

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

1.3 TOLERANCES

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

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary heating.
 - 4. Temporary cooling.
 - 5. Temporary ventilation.
 - 6. Temporary water service.
 - 7. Temporary sanitary facilities.
- B. Construction Facilities:
 - 1. Parking.
 - 2. Progress cleaning and waste removal.
- C. Temporary Controls:
 - 1. Barriers.
 - 2. Dust control.
 - 3. Noise control.

1.2 TEMPORARY ELECTRICITY

- A. Owner will pay cost of energy used. Exercise measures to conserve energy. Utilize Owner's existing power service.
- B. Complement existing power service capacity and characteristics as required for construction operations.
- C. Provide power outlets, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.
- D. Permanent convenience receptacles may be utilized during construction.

1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain lighting for construction operations to achieve minimum lighting level of 2 watt/sq ft.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
- C. Maintain lighting and provide routine repairs.

- D. Permanent building lighting may be utilized during construction.
- 1.4 TEMPORARY HEATING
- A. Existing facilities may be used.
 - B. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.
- 1.5 TEMPORARY COOLING
- A. Existing facilities may be used.
 - B. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
- 1.6 TEMPORARY VENTILATION
- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
 - B. Utilize existing ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.
- 1.7 TEMPORARY WATER SERVICE
- A. Owner will pay cost of temporary water. Exercise measures to conserve energy. Utilize Owner's existing water system, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations.
- 1.8 TEMPORARY SANITARY FACILITIES
- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.
- 1.9 PARKING
- A. Use of existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.
 - B. Use of existing parking facilities used by construction personnel is permitted.
 - C. Do not allow heavy vehicles or construction equipment in parking areas.
 - D. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

2. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

E. Repair:

1. Repair existing facilities damaged by use, to original condition.

F. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.10 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.12 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.13 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise from and noise produced by construction operations.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.
- F. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.

- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

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

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Bidder:
 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 2. Will provide same warranty for Substitution as for specified product.
 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.

- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 - 3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Protecting installed construction.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Manual for materials and finishes.
- G. Spare parts and maintenance products.
- H. Product warranties and product bonds.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer's review.
- B. Provide submittals to Architect/Engineer required by authorities having jurisdiction.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Provide a notarized Affidavit for Final Completion in exact text as exhibit furnished by Architect/Engineer, signed by Contractor.
- E. Owner will occupy all of building as specified in Section 01 10 00.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,
- C. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.
- D. Replace filters of operating equipment.

- E. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.5 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 3. Field changes of dimension and detail.
 4. Details not on original Contract drawings.
- G. Submit documents to Architect/Engineer with claim for final Application for Payment.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Originals of warranties and bonds.

1.7 MANUAL FOR MATERIALS AND FINISHES

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy will be reviewed and returned, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form within 10 days after final inspection.
- E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations.
- F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- H. Additional Requirements: As specified in individual product specification sections.
- I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.8 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to Project site and place in location as directed by Owner; obtain receipt prior to final payment.

1.9 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.

- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.
- F. Submit prior to final Application for Payment.
- G. Time Of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
 - 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 07 90 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing sealant substrate surfaces.
2. Sealant and backing.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C717 - Standard Terminology of Building Seals and Sealants.
2. ASTM C834 - Specification for Latex Sealants.
3. ASTM C920 - Specification for Elastomeric Joint Sealants.
4. ASTM D1056 - Flexible Cellular Material- Sponge or Expanded Rubber.

B. Federal Specifications (FS):

1. FS SS-S-200 - Sealing Compounds, Two Component, Elastomeric, Polymer Type, Jet-Fuel Resistant, Cold Applied.
2. FS TT-S-1657 - Sealing Compound, Single Component Butyl Rubber Based Solvent Release Type (for Buildings and other Types of Construction).
3. COORDINATION

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work of this Section with Sections referencing this Section.

1.4 SUBMITTALS

A. Section 01 33 00 – Submittal Procedures: Procedures for submittals.

1. Product Data: Product chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing Work of this Section with minimum 5 years documented experience.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Section 01 60 00 - Product Requirements: Transport, handle, store, and protect products.
- B. Deliver Products in manufacturer's original unopened containers or packages with labels intact, identifying product and manufacturer, date of manufacture, lot number, shelf life, curing time, and mixing instructions, where applicable.
- C. Store and handle materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, or other causes.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Provide additional protection according to manufacturer instructions.

1.7 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Environmental Requirements: Install sealant during manufacturer's recommended temperature ranges and weather conditions for application and cure. Consult manufacturer when sealant cannot be applied during recommended conditions.

1.8 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.
- B. Warranty:
 - 1. Submit written warranty signed by sealant manufacturer agreeing to replace sealants and accessories which fail because of loss of cohesion or adhesion or which do not cure.
 - 2. Warranty Period: 5 years or longer per the manufacturers' standard warranties.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated into the work include the following:
 - 1. Bostik, Inc, Huntingdon Valley, PA, (800) 523-2678, (125) 674-5600.
 - 2. Dow Corning, Midland, MI (517) 496-4000.
 - 3. GE Silicones, Waterford, NY (518) 233-3330.
 - 4. Mameco International, Cleveland, OH, (800) 321-6412, (216) 752-4400.
 - 5. W.R. Meadows, Inc, Elgin, IL (800) 342-5976, (847) 683-4500.
 - 6. Nomaco, Inc., Zebulon, NC, (919) 269-6500.
 - 7. Pecora Corporation, Harleysville, PA, (800) 523-6688, (215) 723-6051.

8. Sika Corporation, Lyndhurst, NJ, (800) 933-7452, (201) 933-8800.
9. Sonneborn Building Products Div. ChemRex, Inc., Shakopee, MN (800) 243-6739, (612) 496-6000.
10. Tremco, Beachwood, OH, (800) 852-3821, (216) 292-5000.
11. USG Corp., Chicago, IL (800) 874-4968, (312) 606-4000.

2.2 BUILDING SEALANTS (See Sealant Schedule at the end of this Section for specific use of sealants.)

A. Urethanes:

1. Type 1: Two-Part Urethane: Self-Leveling, ASTM C920, Type M, Grade P, Class 25.
 - a. Chem-Calk CC-550, by Bostik.
 - b. Vulkem 245, by Mameco.
 - c. Vulkem 255, Wide-Joint, by Mameco.
 - d. NR-200 Urexpan, by Pecora Corporation.
2. Type 2: Two-Part Urethane: Non-Sag, ASTM C920, Type M, Grade NS, Class 25.
 - a. Chem-Calk 500, by Bostik.
 - b. Vulkem 227, by Mameco.
 - c. Sonolastic NP 2, by Sonneborn Building Products, ChemRex Inc.
3. Type 3: One-Part Urethane: Self-Leveling, ASTM C920, Type S, Grade P, Class 25.
 - a. Vulkem 45, by Mameco.
 - b. Urexpan NR-201, by Pecora Corporation.
 - c. Sonolastic SL1, by Sonneborn Building Products, ChemRex Inc.
 - d. Sikaflex 1C-SL by Sika.
4. Type 4: One-Part Urethane: Non-Sag, ASTM C920, Type S, Grade NS, Class 25.
 - a. Chem-Calk 900, by Bostik.
 - b. Vulkem 116, by Mameco.
 - c. Sonolastic NP I, by Sonneborn Building Products, ChemRex Inc.

B. Silicones:

1. Type 1: One-Part Silicones: ASTM C920, Type S, Grade NS, Class 50.
 - a. 795 Silicone Building Sealant, by Dow Corning.
 - b. 864 Architectural Silicone Sealant, by Pecora Corporation.
2. Type 2: One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25.
 - a. 999-A Silicone Building & Glazing Sealant, Dow Corning.
 - b. Construction 1200 Sealant, General Electric Company.
3. Type 3: One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25. Vertical Surfaces Only.
 - a. Construction 1200 Sealant, General Electric Company.
 - b. 999-A, Dow Corning.
 - c. 860 Glaziers and Contractors Silicone Sealant, by Pecora Corporation. (colors only)
4. Type 4: One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25 or 50.
 - a. 786 Mildew Resistant Silicone Sealant, Dow Corning.
 - b. SCS 1700 Sanitary Sealant, General Electric.
 - c. 898 Silicone Sanitary Sealant, Pecora Corporation.

- C. Acrylics, Latex:
 - 1. Type 1: One-Part Acrylic Latex, Non-Sag, ASTM-C-834-76.
 - a. Chem-Calk 600, by Bostik.
 - b. LC-130, by MACCO Adhesives, The Glidden Company.
 - c. Easa-ply ALS, by W. R. Meadows, Inc.
 - d. AC-20+Silicone Acrylic Latex, by Pecora Corporation.
 - e. Sonolac, Sonneborn Building Products, ChemRex Inc.

- D. Acoustical Sealants:
 - 1. Type 1: AC-20 FTR Acoustical and Insulation Sealant, by Pecora Corporation.
 - 2. Type 2: 60+ Unicrylic, by Pecora Corporation.
 - 3. Type 3: Sheetrock Acoustical Sealant, by United States Gypsum.

- E. Butyls:
 - 1. Type 1: One-Part Butyl, Non-Sag, FS TT-S-1657.
 - a. Chem-Calk 300, by Bostik.
 - b. BC-158 Butyl Rubber, by Pecora Corporation. (ASTM C1085)

- F. Preformed Compressible & Non-Compressible Fillers:
 - 1. Type 1: Backer Rod - Closed cell polyethylene foam:
 - a. HBR Backer Rod, by Nomaco.
 - b. #92 Greenrod, by Nomaco.
 - c. Sonofoam Closed-Cell Backer Rod, Sonneborn Building Products, ChemRex Inc.
 - 2. Type 2: Backer Rod - Open cell polyurethane foam:
 - a. Denver Foam, by Backer Rod Mfg Inc.
 - b. Foam Pack II, by Nomaco.
 - 3. Type 3: Neoprene compression seals:
 - a. WE, WF, and WG Series, by Watson Bowman & Acme Corp.
 - b. Will-Seal 150 Precompressed Expanding Foam Sealants, by Will-Seal, a Division of Illbruck.
 - 4. Type 4: Butyl Rod: Kirkhill Rubber Co. (714)529-4901.

- G. Bond Breaker Tape: Polyethylene tape of plastic as recommended by sealant manufacturer, to be applied to sealant-contact surfaces where bond to substrate of joint filler must be avoided for proper performance of sealant

2.3 COLORS

- A. Generally use sealant colors matching color of material joint is located in.

Where a joint occurs between two materials of differing colors and Contractor cannot determine which material to match, contact Architect / Engineer for selection.

2.4 ACCESSORIES

- A. Joint Cleaner: Provide type of non-corrosive and non-staining joint cleaning compound recommended by sealant manufacturer for joint surfaces to be cleaned.
- B. Primer: Non-staining as recommended by sealant manufacturer.
- C. Masking tape and similar accessories to protect surfaces from damage.
- D. Joint Backing:
 - 1. Round foam rod, compatible with sealant.
 - 2. Size: Oversized 30 to 50 percent larger than joint width.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for application examination.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify that joint widths are in conformance with sealant manufacturer allowable limits.
 - 2. Verify that contaminants capable of interfering with adhesion have been cleaned from joint and joint properly prepared.
 - 3. Verify that joint backing and release tapes are compatible with sealant.
- C. Report in writing to Architect / Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

3.2 PREPARATION

- A. Section 01 70 00 – Execution and Closeout Requirements: Requirements for application preparation.
- B. Comply with ASTM C1193.
- C. Clean and prime joints.
- D. Prepare and size joints in accordance with manufacturer's instructions. Clean substrates of dirt, laitance, dust, or mortar using solvent, abrasion, or sandblasting as recommended by manufacturer. Remove loose materials and foreign matter which might impair adhesion of sealant.

- E. Verify that joint backing and release tapes are compatible with sealant. Verify sealant is suitable for substrate. Verify that sealant is paintable if painted finish is indicated.
- F. Protect materials surrounding work of this Section from damage or disfiguration.

3.3 INSTALLATION

- A. Comply with ASTM C1193.
- B. Install sealant in accordance with manufacturer's published instructions.
- C. Prime or seal joint surfaces where recommended by sealant manufacturer. Do not allow primer or sealer to spill or migrate onto adjoining surfaces.
- D. Install backer rod and bond breaker tape where required by manufacturer.
- E. Install preformed compressible and non-compressible fillers in accordance with manufacturer's published instructions.
- F. Install sealants to depths recommended by sealant manufacturer in uniform, continuous ribbons free of air pockets, foreign embedded matter, ridges, and sags, "wetting" joint bond surfaces equally on both sides.
- G. Tool joints concave unless shown otherwise. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form slight cove so that joint will not trap moisture and foreign matter. Dry tool joints. Do not use soap, water, or solvent to tool joints.

3.4 CURING

- A. Cure sealants in compliance with manufacturer's published instructions.

3.5 CLEANING

- A. Section 01 70 00 – Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Remove excess and spillage of sealants promptly as the work progresses, using materials and methods as recommended by sealant and substrate manufacturers. Clean adjoining surfaces to eliminate evidence of spillage without damage to adjoining surfaces or finishes.

3.6 SEALANT SCHEDULE

A. Interior Joints:

1. Seal interior perimeters of exterior openings.
2. Perimeters of interior hollow metal and aluminum frames.
3. For all of the above interior joints:
 - a. Sealant Urethane Type 2
 - b. Sealant Urethane Type 4
 - c. Sealant Silicone Type 1 (for prefinished materials only)
4. Exposed interior control joints in drywall and concealed joints.
 - a. Sealant Acrylic, Latex, Type 1
 - b. Sealant Acoustical Type 1
 - c. Sealant Acoustical Type 3
 - d. Sealant Butyl Type 1
5. Joints of underside of precast beams or planks.
 - a. Sealant Urethane Type 2
 - b. Sealant Urethane Type 4
6. Joints at tops of non-load bearing masonry walls at underside of cast-in-place concrete.
 - a. Sealant Urethane Type 2
 - b. Sealant Urethane Type 4
7. Interior expansion and control joints in floor surfaces exposed to foot traffic.
 - a. Sealant Urethane Type 2
 - b. Sealant Urethane Type 4
 - c. Preformed Compressible & Non-Compressible Filler Type 1
8. Interior non-moving joints, including control, contraction, or construction joints, in interior floor slabs exposed to heavy duty traffic.
 - a. Paving Sealant Type 1
9. Painted metal lap joints.
 - a. Sealant Silicone Type 1

END OF SECTION

SECTION 09 65 00 - RESILIENT FLOORING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes resilient tile flooring and resilient base.

1.2 REFERENCES

- A. ASTM International:

1. ASTM D 543 - Standard Practices for Evaluating Resistance to Chemical Reagents.
2. ASTM D5116 - Standard for Determination of Organic Emissions From Indoor Materials/Products.
3. ASTM D2047 - Standard Test Method for Static Coefficient of Friction as Measured by the James Machine.
4. ASTM E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
5. ASTM E 1155 - Standard Test Method for Determining FF (Floor Flatness) and FL (Floor Levelness) Numbers.
6. ASTM F 710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
7. ASTM F 970 - Standard Test Method for Static Load Limit.
8. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
9. ASTM F1344 - Standard Specification for Rubber Floor Tile.
10. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile.
11. ASTM F1861 - Standard Specification for Resilient Wall Base.
12. ASTM F2169 - 12 Standard Specification for Resilient Stair Treads.

- B. National Fire Protection Association:

1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

- B. Shop Drawings: Indicate custom patterns and inlay designs.

- C. Product Data: Submit data describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

- D. Samples:

1. Submit manufacturer's complete set of color samples for initial selection.
2. Submit two samples, 2 x 2 inch size illustrating color and pattern for each product specified.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Installer: Company specializing in performing Work of this section with minimum five years experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect roll materials from damage by storing on end.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- C. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.8 EXTRA MATERIALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Furnish 10 square feet of flooring and 5 lineal feet of base of each type and color specified.

PART 2 PRODUCTS

2.1 VINYL COMPOSITION TILE FLOORING

- A. Manufacturers:
 - 1. Armstrong World Industries, Inc. – Excelon Series.
 - 2. Substitutions: Not permitted.

- B. Elementary School shall be Armstrong #51899031 Cool White provided and installed by Contractor.
- C. High School shall be Armstrong product supplied by District and installed by Contractor.
- D. Vinyl Composition Tile: ASTM F1066:
 - 1. Size: 12 x 12 inch.
 - 2. Thickness: 0.125 inch.
 - 3. Pattern: Marbleized.
 - 4. Color: As selected by Architect / Engineer.

2.2 RESILIENT BASE

- A. Manufacturers:
 - 1. Armstrong.
 - 2. Flexco.
 - 3. Johnsonite Inc.
 - 4. Roppe Corp.
 - 5. Inpro.
 - 6. Substitutions: Not Permitted.
- B. Base: ASTM F1861 Type TS – Vulcanized Rubber; coved style:
 - 1. Height: 4 inch.
 - 2. Thickness: 0.125 inch thick.
 - 3. Finish: Matte.
 - 4. Length: Roll.
 - 5. Accessories: Premolded external corners and end stops.
 - 6. Color: As selected by Architect / Engineer.

2.3 ACCESSORIES

- A. Subfloor Filler: Premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer for high moisture content concrete slab.**
- C. Moldings and Edge Strips: Same material as flooring.
- D. Feature Strips: Of same material as flooring.
- E. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting Work.

- B. Verify concrete floors are dry to maximum moisture content as recommended by manufacturer, and exhibit negative alkalinity, carbonization, and dusting.
- C. Verify floor and lower wall surfaces are free of substances capable of impairing adhesion of new adhesive and finish materials.

3.2 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- B. Prohibit traffic until filler is cured.
- C. Clean substrate.
- D. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances cannot be removed.

3.3 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed.
- B. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.
- C. Install tile to pattern as shown on Drawings. Allow minimum 1/2 full size tile width at room or area perimeter. Multiple colors and random layouts may be required in areas scheduled to receive tile where no pattern is indicated.
- D. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- E. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.
- F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
- G. Install flooring in recessed floor access covers. Maintain floor pattern.
- H. Install feature strips and floor markings where indicated. Fit joints tightly.

3.4 INSTALLATION - BASE

- A. Fit joints tightly and make vertical.
- B. Miter internal corners. At external corners, use premolded units. Premolded boots or blocks are not acceptable. At exposed ends, use premolded units.

- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

3.5 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Remove excess adhesive from floor, base, and wall surfaces without damage.
- C. Clean, seal, and maintain resilient flooring products.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 10 21 15

PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes solid plastic toilet compartment, urinal screens, and shower partitions.
- B. Related Sections:
 - 1. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM A 240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - 2. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - 3. ASTM A 743/A 743M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.
 - 4. ASTM B 86 - Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings.
 - 5. ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 6. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. International Code Council (ICC)/American National Standards Institute (ANSI):
 - 1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities, as applicable to toilet compartments designated as accessible.
- C. National Fire Protection Agency:
 - 1. NFPA 286 – Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.
- D. 2018 Illinois Accessibility Code.
- E. United States Department of Justice:
 - 1. ADA - Americans with Disabilities Act, Excerpt from 28 CFR Part 36 - ADA Standards for Accessible Design.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate partition plan, elevation views, section views, dimensions, details of wall and floor supports, door swings and attachment details. Show centerline of plumbing fixtures. Include choice of options with details.
- C. 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. Installation methods.
- D. Warranty: Submit sample of warranty.
- E. Samples: Submit two 2x2 inch in size illustrating panel finish, color, and sheen for color selection. Submit samples of hardware and accessories if material and color selection is required.
- F. Manufacturer's Installation Instructions: Submit special procedures and perimeter conditions requiring special attention.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance and cleaning instructions.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents and source.
 - 1. Door Hinges: One hinge with associated fasteners.
 - 2. Latch and Keeper: One latch and keeper with associated fasteners.
 - 3. Door Bumper: One bumper with associated fasteners.
 - 4. Door Pull: One door pull with associated fasteners.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.
- B. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimal results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.7 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with placement of support framing and anchors in wall.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Store in an upright condition.

1.9 WARRANTY

- A. Manufacturer guarantees its plastic against breakage, corrosion and delamination under normal conditions for a period of 15 years from the date of substantial completion.

1.10 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 5 years' experience in the manufacture of toilet compartments. Manufacturers seeking approval must submit the following in accordance with Instructions to Bidders and Division 01 requirements:
 - 1. Product data, including test data from qualified independent testing agency indicating compliance with requirements.
 - 2. Samples of each component of product specified.
 - 3. List of successful installations of similar products available for evaluation by Architect / Engineer.
- B. Installers Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum 3 years.
- C. Source Limitations: Obtain toilet compartment components and accessories from single manufacturer.
- D. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- E. Materials: Doors, panels and pilasters shall be constructed of High Density Polyethylene (HDPE) resins. Partitions shall be fabricated from polymer resins compounded under high pressure, forming a single component which is waterproof, nonabsorbent and has a self-lubricating surface that resists marks from pens, pencils, markers and other writing instruments. All plastic components shall be covered with a protective plastic masking.

PART 2 PRODUCTS

2.1 SOLID PLASTIC TOILET COMPARTMENTS

- A. Manufacturers:
 - 1. Bradley.
 - 2. Columbia Partitions.
 - 3. Accurate Partitions Corp.
 - 4. Scranton Products.

- B. Product Description: Floor mounted, overhead braced.

2.2 COMPONENTS

- A. Toilet Compartments: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch thick, seamless, with eased edges and with homogenous color and pattern throughout thickness of material.
 - 1. Color: As selected by Architect / Engineer from manufacturer's full color range.
 - 2. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains or other imperfections.
 - 3. Provide aluminum heat sink at bottom edge of panels and doors.

- B. Door and Panel Dimensions:
 - 1. Door Width: 24 inch.
 - 2. Accessible Door Width: 36 inch, out-swinging.
 - 3. Height: 55 to 58 inches, unless noted otherwise on Drawings.

2.3 MATERIALS

- A. Stainless Steel Sheet: ASTM A 240 or A 666, Type 304.

- B. Stainless Steel Castings: ASTM A 743 or ASTM A 167, Type 304.

- C. Aluminum: ASTM B 221 or ASTM 6463-T5 alloy.

- D. Aluminum Castings" ASTM B 26.

2.4 ACCESSORIES

- A. Pilaster Shoe: Formed of solid plastic of color to match partition or 20 gage Type 305 stainless steel, 3 to 4 inches high, concealing floor fastenings. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.

- B. Head Rails shall be made of heavy-duty extruded aluminum (6463-T5 alloy) with anti-grip design. The headrail shall have a clear anodized finish and shall be fastened to the headrail bracket by a stainless steel tamper resistant sex bolt, and fastened at the top of the pilaster with stainless steel tamper resistant screws.
 - 1. Headrail brackets shall be 20 gauge stainless steel with a satin finish and secured to the wall with a stainless steel tamper resistant screws.

- C. Wall Brackets: Full height, continuous stainless steel channel.
- D. Anchorage and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.
- E. Hardware: Heavy duty extruded aluminum (6463-T5 alloy):
 1. Hinges: Manufacturer's minimum 0.0781 inch thick stainless steel continuous, cam type that swings to a closed or partially open position, allowing emergency access by lifting door. Mount with through-bolts.
 2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast stainless steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
 3. Coat Hook: Manufacturer's heavy-duty combination cast stainless steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
 4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast stainless steel bumper at out-swinging doors. Mount with through-bolts.
 5. Door Pull: Manufacturer's heavy-duty cast stainless steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Overhead Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

PART 3 EXECUTION

2.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Do not begin installation until substrates have been properly prepared for compliance with requirements for fastening, support, alignment, operating clearances and other conditions affecting performance.
- C. If substrate preparation is the responsibility of another installer, notify the Architect / Engineer of unsatisfactory preparation before proceeding.
- D. Verify field measurements are as indicated on shop drawings and as instructed by manufacturer.

- E. Verify correct spacing of and between plumbing fixtures.
- F. Verify correct location of built-in framing, anchorage, and bracing.

2.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

2.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilaster and Panels: ½ inch.
 - b. Panels and Walls: 1 inch.
 - 2. Full Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Located bracket fasteners so holes for wall anchors occur in masonry or tile joints.
- B. No evidence of cutting, drilling and / or patching shall be visible on the finished Work. Replace damaged or scratched materials with new materials.
- C. Overhead Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

2.4 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation From Indicated Position: ¼ inch.
- C. Maximum Variation From Plumb: 1/8 inch.

2.5 ADJUSTING

- A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.
- B. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.
- C. Adjust adjacent components for consistency of line or plane.

2.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

2.7 FINAL CLEANING

- A. Remove packaging and construction debris and legally dispose of off-site.
- B. Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes toilet room accessories.

1.2 REFERENCES

- A. ASTM International:
 1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 2. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 3. ASTM A269 - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
 4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 5. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 6. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
 7. ASTM C1036 - Standard Specification for Flat Glass.
- B. Federal Specification Unit:
 1. FS A-A-3002 - Mirrors, Glass.

1.3 DESIGN REQUIREMENTS

- A. Design grab bars and attachments to resist minimum 250 pound concentrated load applied at any point in any direction, forces as required by applicable code.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, and details of function, attachment methods.
- C. Manufacturer's Installation Instructions: Submit special procedures, and conditions requiring special attention.

1.5 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate the Work with placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

PART 2 PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

- A. Manufacturers:
 - 1. A & J Washroom Accessories.
 - 2. American Specialties, Inc.
 - 3. Bobrick Washroom Accessories.
 - 4. Bradley Corp.
 - 5. Substitutions: Not permitted.

2.2 COMPONENTS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
 - 1. Grind welded joints smooth.
 - 2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.
- B. Keys: Furnish 6 keys for each accessory to Owner; master key accessories.
- C. Stainless Steel Sheet: ASTM A666, Type 304.
- D. Stainless Steel Tubing: ASTM A269, stainless steel.
- E. Mirror Glass: Float glass, Type I, Class 1, Quality q2 (ASTM C 1036), with silvering, copper coating, and suitable protective organic coating to copper backing in accordance with FS A-A-3002.
- F. Adhesive: Contact type, waterproof.
- G. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof.
- H. Expansion Shields: Fiber, or rubber as recommended by accessory manufacturer for component and substrate.

2.3 TOILET ROOM ACCESSORIES (Provide accessories as indicated on Drawings)

- A. Toilet Paper Dispenser: Salvage and re-install existing units.
- B. Towel Dispenser: Salvage and re-install existing units.
- C. Soap Dispenser: Salvage and re-install existing units.
- D. Mirrors: Stainless steel framed, 6 mm thick prison grade glazing.
 - 1. Size: As indicated on Drawings.
 - 2. Frame: 0.05 inch angle shapes, with mitered and welded and ground corners, and tamperproof hanging system; No. 4 finish.
 - 3. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and non-absorptive filler material.
- E. Grab Bars: Stainless steel, 1 1/4 inches outside diameter, minimum 0.05 inch wall thickness, nonslip grasping surface finish, concealed flange mounting; 1 1/2 inches clearance between wall and inside of grab bar.
 - 1. Length and configuration: As indicated on Drawings.
- F. Sanitary Napkin Disposal Unit: Salvage and re-install existing units. Supplement existing units with new as necessary. Stainless steel, surface mounting with self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.

2.4 FACTORY FINISHING

- A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.
- B. Chrome/Nickel Plating: ASTM B456, Type SC 2, satin finish, unless otherwise noted.
- C. Back paint components where contact is made with building finishes to prevent electrolysis.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify exact location of accessories for installation.
- C. Verify field measurements are as indicated on product data.
- D. See Section 06 10 53 for installation of blocking, reinforcing plates and concealed anchors in walls.

3.2 INSTALLATION

- A. Install plumb and level, securely and rigidly anchored to substrate.
- B. Mounting Heights and Locations: As indicated on Drawings and as required by accessibility codes.

3.3 SCHEDULES

- A. Framed Mirror, 18 x 30 inches x ¼ inch prison grade glass:
 - 1. ASI: Model 0620.
 - 2. A & J: Model U711.
 - 3. Bradley: Model 780.
 - 4. Bobrick: Model B-2990.
- B. Grab Bars, length as indicated on Drawings.
 - 1. ASI: Model 3100.
 - 2. A & J: Model G20.
 - 3. Bradley: Model B-8320.
 - 4. Bobrick: Model B-4806
- C. Sanitary Napkin Disposal, surface mounted:
 - 1. ASI: Model 0473-1A.
 - 2. A & J: Model U582.
 - 3. Bradley: Model 4722-15.
 - 4. Bobrick: Model B-254.

END OF SECTION

SECTION 22 05 53 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Nameplates.
 - 2. Tags.
 - 3. Stencils.
 - 4. Pipe markers.
 - 5. Ceiling tacks.
 - 6. Labels.
 - 7. Lockout devices.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME A13.1 - Scheme for the Identification of Piping Systems.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturers catalog literature for each product required.
- B. Shop Drawings: Submit list of wording, symbols, letter size, and color coding for mechanical identification and valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.
- C. Manufacturer's Installation Instructions: Indicate installation instructions, special procedures, and installation.
- D. Project Record Documents: Record actual locations of tagged valves; include valve tag numbers.

1.4 QUALITY ASSURANCE

- A. Conform to ASME A13.1 for color scheme for identification of piping systems and accessories.

PART 2 PRODUCTS

1.5 TAGS

- A. Metal Tags:
 - 1. Brass or Stainless Steel with stamped letters; tag size minimum 1-1/2 inches diameter or square, with finished edges.

1.6 PIPE MARKERS

- A. Color and Lettering: Conform to ASME A13.1.
- B. Plastic Pipe Markers:
 - 1. Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering. Larger sizes may have maximum sheet size with spring fastener.
- C. Plastic Tape Pipe Markers:
 - 1. Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

1.7 LABELS

- A. Description: Aluminum or Laminated Mylar, size 1.9 x 0.75 inches, adhesive backed with printed identification.

PART 2 EXECUTION

2.1 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

2.2 INSTALLATION

- A. Install identifying devices after completion of coverings and painting.
- B. Install labels with sufficient adhesive for permanent adhesion and seal with clear lacquer. For unfinished canvas covering, apply paint primer before applying labels.
- C. Install tags using corrosion resistant chain. Number tags consecutively by location.
- D. Identify valves in main and branch piping with metallic tags.
- E. Identify piping, concealed or exposed, with plastic pipe markers. Use tags on piping 3/4 inch diameter and smaller. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

2.3 SCHEDULES

A. Identification:

1. Domestic Cold Water Piping.
 - a. Identification Type: Tape
 - b. Background Color: Green
 - c. Lettering Size: Varies
 - d. Lettering Color: White
2. Domestic Hot Water.
 - a. Identification Type: Tape
 - b. Background Color: Yellow
 - c. Lettering Size: Varies
 - d. Lettering Color: Black

B. Valve Tags:

1. Domestic Cold Water.
 - a. Tag Material: Metal
 - b. Tag Shape: Round
 - c. Tag Color: N/A
2. Domestic Hot Water.
 - a. Tag Material: Metal
 - b. Tag Shape: Round
 - c. Tag Color: N/A

END OF SECTION

SECTION 22 07 00 - PLUMBING INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Piping system insulation.
 - 2. Pipe insulation jackets.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
 - 2. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation.

1.3 SUBMITTALS

- A. Product Data: Submit product description, thermal characteristics and list of materials and thickness for each service, and location.
- B. Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures.
- C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Test pipe insulation for maximum flame spread index of 25 and maximum smoke developed index of not exceeding 50 in accordance with ASTM E84.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 PRODUCTS

2.1 ELASTOMERIC CELLULAR FOAM

- A. Manufacturers:
 - 1. Armacell, AP/Armaflex sheet and tubular.
 - 2. Nomaco, Nomalock and Nomaco sheet.
 - 3. Substitutions: Section 01 60 00 - Product Requirements.
- B. Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular form: ASTM C534; Type I, Tubular form.
- C. 'K' factor: ASTM C177, max. 0.27 at 75 degrees F.
- D. Conform to ASTM E84 with a flame spread of less than 25 and a smoke spread of less than 50.
- E. Elastomeric Foam Adhesive:
 - 1. Manufacturers: Same as insulation manufacturer.
 - 2. Air dried, contact adhesive, compatible with insulation.

2.2 PIPE INSULATION AND EQUIPMENT JACKETS

- A. PVC Plastic Pipe Jacket:
 - 1. Manufacturers:
 - a. Johns Manville, Zeston 2000
 - b. Ceel-co.
 - c. Proto.
 - d. Manufacturer of insulation to be covered.
 - e. Substitutions: Section 01 60 00 - Product Requirements.
 - 2. Product Description: ASTM D1784, One piece molded type fitting covers and sheet material, off-white color.
 - 3. Thickness: 20 mil.
 - 4. Connections: Brush on welding adhesive.
- B. Covering Adhesive Mastic:
 - 1. Compatible with insulation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify piping and equipment has been tested before applying insulation materials.
- B. Verify surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

- A. Exposed Piping: Locate insulation and cover seams in least visible locations.
- B. Insulated pipes conveying fluids below ambient temperature: Insulate entire system of all new piping and any altered existing piping, including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.
- C. For hot piping conveying fluids over 140 degrees F, insulate flanges and unions at equipment.
- D. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces: Finish with PVC jacket and fitting covers.
- E. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface.
- F. Finish insulation at supports, protrusions, and interruptions.

3.3 SCHEDULES

- A. Plumbing Systems:
 - 1. Domestic Hot Water Supply and Return:
 - a. Elastomeric Cellular Foam Insulation:
 - 1) Thickness: 3/4 inch.
 - 2. Domestic Cold Water:
 - a. Elastomeric Cellular Foam Insulation:
 - 1) Thickness: 1/2 inch.
 - 3. Plumbing Vents Within 10 feet of Exterior:
 - a. Elastomeric Cellular Foam Insulation:
 - 1) Thickness: 3/4 inch.

END OF SECTION

SECTION 22 11 00 - FACILITY WATER DISTRIBUTION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Domestic water piping, above grade.
 2. Unions and flanges.
 3. Valves.
 4. Pipe hangers and supports.
 5. Water hammer arrestors.
 6. Thermostatic mixing valves.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
1. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
 2. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
 3. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
- B. American Society of Sanitary Engineering:
1. ASSE 1010 - Performance Requirements for Water Hammer Arresters.
- C. ASTM International:
1. ASTM B32 - Standard Specification for Solder Metal.
 2. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
 3. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
 4. ASTM F2014-00 – Standard Specification for Non-Reinforced Extruded Tee Connections for Piping Applications.
 5. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
 6. ASTM F1807 – Brass Insert Fittings.
- D. Manufacturers Standardization Society of the Valve and Fittings Industry:
1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 3. MSS SP 80 - Bronze Gate, Globe, Angle and Check Valves.
 4. MSS SP 85 - Cast Iron Globe & Angle Valves, Flanged and Threaded.
 5. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
 6. MSS SP 110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

- E. Plumbing and Drainage Institute:
 - 1. PDI WH201 - Water Hammer Arrestor Standard.

1.3 SUBMITTALS

- A. Product Data:
 - 1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturer's catalog information.
 - 2. Valves: Submit manufacturers catalog information with valve data and ratings for each service.
 - 3. Hangers and Supports: Submit manufacturers catalog information including load capacity.
 - 4. Domestic Water Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.
- B. Manufacturer's Installation Instructions: Submit installation instructions for valves and accessories.
- C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- D. Project Record Documents: Record actual locations of valves and equipment.
- E. Operation and Maintenance Data: Submit spare parts list, exploded assembly views and recommended maintenance intervals.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Illinois Plumbing Code, (Illinois Department of Public Health) current edition.
- B. Maintain one copy of each document on site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves and equipment on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.7 EXTRA MATERIALS

- A. Furnish two packing kits for each size valve.

PART 2 PRODUCTS

2.1 DOMESTIC WATER PIPING, ABOVE GRADE

- A. Copper Tubing: ASTM B88, Type L or K, hard drawn.
 - 1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
 - 2. Press Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze, O-rings for copper press fittings shall be EPDM. Joints shall be compression type made with manufacturer's tool.
 - 3. Tee Connections: Mechanically formed extruded outlet collars with notched and dimpled branch tube. Joints: Solder, lead free, ASTM B32, 95-5 tin-antimony, or tin and silver, with melting range 430 to 535 degrees F.

2.2 UNIONS

- A. Unions for Pipe 2 inches and Smaller:
 - 1. Copper Piping: Class 150, bronze unions with soldered.
 - 2. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.3 BALL VALVES

- A. Manufacturers:
 - 1. Crane Valve, North America.
 - 2. Hammond Valve.
 - 3. Milwaukee Valve Company.
 - 4. NIBCO, Inc.
 - 5. Stockham Valves & Fittings.
 - 6. Substitutions: Not Permitted.
- B. 2 inches and Smaller: MSS SP 110, Class 150, bronze, two piece body, type 316 chrome-plated brass ball, full port, teflon seats, blow-out proof stem, solder or threaded ends with union, lever handle with balancing stops.

2.4 PIPE HANGERS AND SUPPORTS

- A. Manufacturers:
 - 1. Carpenter & Paterson Inc.
 - 2. Creative Systems Inc.
 - 3. Flex-Weld, Inc.
 - 4. Globe Pipe Hanger Products Inc.
 - 5. Michigan Hanger Co.
 - 6. Superior Valve Co.
 - 7. Substitutions: Not Permitted.
- B. Plumbing Piping: Conform to ASME B31.9, ASTM F708, MSS SP 58, MSS SP 69, and MSS SP 89.
- C. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron or Carbon steel, adjustable swivel, split ring.
- D. Hangers for Cold Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
- E. Hangers for Hot Pipe, Sizes 2 to 4 inches: Carbon steel, adjustable, clevis.
- F. Multiple or Trapeze Hangers: Steel channels with welded supports or spacers and hanger rods.
- G. Wall Support for Pipe Sizes 3 inches and Smaller: Cast iron hooks.
- H. Wall Support for Pipe Sizes 4 inches and Larger: Welded steel bracket and wrought steel clamps.
- I. Vertical Support: Steel riser clamp.
- J. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
- K. Floor Support for Hot Pipe Sizes 4 inches and Smaller: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
- L. Copper Pipe Support: Carbon steel ring, adjustable, copper plate.

2.5 WATER HAMMER ARRESTORS

- A. Manufacturers:
 - 1. Zurn.
 - 2. Wade.
 - 3. Watts.
 - 4. Mifab.
 - 5. Josam.
 - 6. Substitutions: Not Permitted.

- B. ASSE 1010; stainless steel or copper construction, bellows or piston type sized in accordance with PDI WH-201.
- C. Pre-charged suitable for operation in temperature range 34 to 250 degrees F and maximum 150 psi working pressure.

2.6 THERMOSTATIC MIXING VALVES

- A. Manufacturers:
 - 1. Lawler.
 - 2. Leonard.
 - 3. Symmons.
 - 4. Powers.
 - 5. Wilkens
 - 6. Substitutions: Not Permitted.
- B. Valve: Cast brass (chrome plated where indicated) body, stainless steel or copper alloy bellows, integral temperature adjustment.
- C. Capacity: As required.
- D. Accessories:
 - 1. Check valve on inlets.
 - 2. Volume control shut-off valve on outlet.
 - 3. Stem thermometer on outlet.
 - 4. Strainer stop checks on inlets.

PART 3 EXECUTION

3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.

3.2 INSTALLATION - HANGERS AND SUPPORTS

- A. Inserts:
 - 1. Provide inserts for placement in concrete forms.
 - 2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
 - 3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe 4 inches and larger.
 - 4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
 - 5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.

B. Pipe Hangers and Supports:

1. Install in accordance with ASME B31.9, ASTM F708 and MSS SP 89.
2. Support horizontal piping as schedule.
3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
4. Place hangers within 12 inches of each horizontal elbow.
5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
6. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
7. Where piping is installed in parallel and at same elevation, provide multiple pipe or trapeze hangers.
8. Provide copper plated hangers and supports for copper piping.
9. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

3.3 INSTALLATION - ABOVE GROUND PIPING

- A. Install non-conducting dielectric connections wherever jointing dissimilar metals.
- B. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- C. Install piping to maintain headroom without interfering with use of space or taking more space than necessary.
- D. Group piping whenever practical at common elevations.
- E. Slope piping and arrange systems to drain at low points.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Refer to Section 22 07 00.
- H. Provide access where valves and fittings are not accessible.
- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- J. Prepare exposed, unfinished pipe, fittings, supports, and accessories ready for finish painting.
- K. Provide mechanically formed extruded outlet tees per ASTM F2014 and in accordance with tool manufacturer's recommendations.

- L. Provide copper press fittings connections in accordance with manufacturer's recommendations, using manufacturer's approved tools. Joints: Remove burrs and clean ends. Fully insert tubing into fitting and mark pipe ends to ensure full insertion into coupling or fitting. Check alignment against mark to assure tubing is fully inserted. Press joint using manufacturer's tool.
- M. Install domestic water piping in accordance with ASME B31.9.
- N. Provide all proper adapters and fittings for transitions between different piping materials as required.
- O. Sleeve pipes passing through partitions, walls and floors.
- P. Install unions downstream of all valves and equipment or apparatus connections.
- Q. Install valves with stems upright or horizontal, not inverted.
- R. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.
- S. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- T. Install ball valves for throttling, bypass, or manual flow control services.
- U. Install potable water protection devices on plumbing lines where contamination of domestic water may occur; on boiler feed water lines, janitor rooms, fire sprinkler systems, irrigation systems, flush valves, interior and exterior hose bibs.
- V. Install water hammer arrestors complete with accessible isolation valve on hot and cold water supply piping at all long supply piping runs as required by the Illinois Plumbing Code (Illinois Department of Public Health).
- W. Install air chambers on hot and cold water supply piping to each fixture or group of fixtures. Fabricate same size as supply pipe or 3/4 inch minimum, and minimum 18 inches long.

3.4 FIELD QUALITY CONTROL

- A. Test domestic water piping system in accordance with Illinois Plumbing Code and any additional requirements by the local authority having jurisdiction.

3.5 CLEANING

- A. Disinfect water distribution system.
- B. Prior to starting work, verify system is complete, flushed and clean.
- C. Verify pH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).

- D. Inject disinfectant, free chlorine in liquid, powder and tablet or gas form, throughout system to obtain residual from 50 to 80 mg/L.
- E. Bleed water from outlets to obtain distribution and test for disinfectant residual at minimum 15 percent of outlets.
- F. Maintain disinfectant in system for 24 hours.
- G. When final disinfectant residual tests less than 25 mg/L, repeat treatment.
- H. Flush disinfectant from system until residual concentration is equal to incoming water or 1.0 mg/L.
- I. Take samples no sooner than 24 hours after flushing, from 5 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

3.6 SCHEDULES

- A. Pipe Hanger Spacing:

PIPE MATERIAL	MAXIMUM HANGER SPACING	HANGER ROD DIAMETER
Copper Tube, 1-1/4 inches and smaller	6'-0"	1/2"
Copper Tube, 1-1/2 inches and larger	10'-0"	1/2"

END OF SECTION

SECTION 22 13 00 - FACILITY SANITARY SEWERAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Sanitary sewer piping above grade.
 2. Unions and flanges.
 3. Pipe hangers and supports.
 4. Cleanouts.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
1. ASME A112.21.1 - Floor Drains.
 2. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
 3. ASME B31.9 - Building Services Piping.
- B. ASTM International:
1. ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings.
 2. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
 3. ASTM A746 - Standard Specification for Ductile Iron Gravity Sewer Pipe.
 4. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
 5. ASTM D1784 - Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Poly Vinyl Chloride (CPVC) Compounds.
 6. ASTM D2564 - Standard Specification for Solvent Cements for Polyvinyl Chloride (PVC) Plastic Piping Systems.
 7. ASTM D2665 - Standard Specification for Polyvinyl Chloride (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
 8. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Polyvinyl Chloride (PVC) Pipe and Fittings.
 9. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
 10. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications.
- C. Manufacturers Standardization Society of the Valve and Fittings Industry:
1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
 3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.

1.3 SUBMITTALS

- A. Product Data:
 - 1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturers catalog information.
 - 2. Hangers and Supports: Submit manufacturers catalog information including load capacity.
 - 3. Sanitary Drainage Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.
- B. Manufacturer's Installation Instructions: Submit installation instructions for material and equipment.
- C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- D. Project Record Documents: Record actual locations of equipment and clean-outs.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with the Illinois Plumbing Code, (Illinois Department of Public Health) current edition.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: ASTM A74, service weight.
 - 1. Fittings: Cast iron, ASTM A74.
 - 2. Joints: ASTM C564, rubber gasket joint devices or lead and oakum.
- B. Cast Iron Pipe: CISPI 301, hub-less, service weight.
 - 1. Fittings: Cast iron, CISPI 301.
 - 2. Joints: CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.

- C. PVC Pipe: ASTM D2665, polyvinyl chloride (PVC) material.
 - 1. Fittings: ASTM D2665, PVC.
 - 2. Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement.

2.2 UNIONS AND FLANGES

- A. Unions for Pipe 2 inches and Smaller:
 - 1. PVC Piping: PVC.
- B. Flanges for Pipe 2-1/2 inches and Larger:
 - 1. PVC Piping: PVC flanges.
 - 2. Gaskets: 1/16 inch thick preformed neoprene gaskets.

2.3 PIPE HANGERS AND SUPPORTS

- A. Manufacturers:
 - 1. Carpenter & Paterson Inc.
 - 2. Creative Systems Inc.
 - 3. Flex-Weld, Inc.
 - 4. Globe Pipe Hanger Products Inc.
 - 5. Michigan Hanger Co.
 - 6. Superior Valve Co.
 - 7. Substitutions: Not Permitted.
- B. Drain, Waste, and Vent: Conform to ASME B31.9, ASTM F708, MSS SP 58, MSS SP 69, MSS SP 89.
- C. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron or Carbon steel, adjustable swivel, split ring.
- D. Hangers for Pipe Sizes 2 inches and Larger: Carbon steel, adjustable, clevis.
- E. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- F. Wall Support for Pipe Sizes 3 inches and Smaller: Cast iron hooks.
- G. Wall Support for Pipe Sizes 3 inches and Larger: Welded steel bracket and wrought steel clamp.
- H. Vertical Support: Steel riser clamp.
- I. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
- J. Copper Pipe Support: Carbon-steel, copper-plated adjustable ring.

2.4 CLEANOUTS

- A. Manufacturers:
 - 1. Zurn.
 - 2. Wade.
 - 3. Watts.
 - 4. Mifab.
 - 5. Josam.
 - 6. Jay R. Smith.
 - 7. Substitutions: Not Permitted.
- B. Cleanout to Floor (COTF & COTF-2): Adjustable, epoxy coated cast body, tapered bronze plug, round, non-skid, nickel bronze cover (recessed top for floor finish where required, verify with A/E & owner).
- C. Cleanout to Wall (COTW): Line type with lacquered cast iron body and bronze plug, and round stainless steel access cover secured with machine screw.
- D. Interior Unfinished Accessible Areas (CO-1): Line type with lacquered cast iron body and bronze plug.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.3 INSTALLATION - HANGERS AND SUPPORTS

- A. Pipe Hangers and Supports:
 - 1. Install in accordance with ASME B31.9, ASTM F708, and MSS SP 89.
 - 2. Support horizontal piping as scheduled.
 - 3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
 - 4. Place hangers within 12 inches of each horizontal elbow.

5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
6. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.
7. Where installing several pipes in parallel and at same elevation, provide multiple pipe hangers or trapeze hangers.
8. Provide copper plated hangers and supports for copper piping.
9. Prime coat exposed steel hangers and supports. Refer to Section 09 90 00. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
10. Install hangers adjacent to motor driven equipment with vibration isolation; refer to Section 21 05 48.

3.4 INSTALLATION - ABOVE GROUND PIPING

- A. Establish invert elevations, slopes for drainage to 1/8 inch per foot minimum. Maintain gradients.
- B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Provide clearances at cleanout for snaking drainage system.
- C. Install floor cleanouts at elevation to accommodate finished floor.
- D. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- E. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- F. Install piping to maintain headroom. Do not spread piping, conserve space.
- G. Group piping whenever practical at common elevations.
- H. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- I. Provide access where fittings are not accessible.
- J. Provide membrane on floor drains on all above grade floor drains.
- K. Install piping penetrating roofed areas to maintain integrity of roof assembly.
- L. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- M. Install bell and spigot pipe with bell end upstream.
- N. Sleeve pipes passing through partitions, walls and floors.

- O. Install firestopping at fire rated construction perimeters and openings containing penetrating sleeves and piping.
- P. Support cast iron drainage piping at every joint.

3.5 FIELD QUALITY CONTROL

- A. Test sanitary waste and vent piping system in accordance with current edition of Illinois Plumbing Code (Illinois Department of Public Health).

3.6 SCHEDULES

PIPE HANGER SPACING

<u>PIPE MATERIAL/SIZE (INCHES)</u>	<u>MAXIMUM SPACING (FEET)</u>	<u>HANGER ROD DIAMETER (INCHES)</u>
Cast Iron (All Sizes)	5	5/8
Cast Iron - 10ft. Length (All Sizes)	10	5/8
PVC (All Sizes)	4	3/8

Note for Cast Iron Pipe: Provide close to joint on barrel. Also provide hanger at each change of direction and each branch connection.

END OF SECTION

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water closets.
 - 2. Lavatories.

1.2 REFERENCES

- A. American Society of Mechanical Engineers:
 - 1. ASME A112.6.1 - Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use.
 - 2. ASME A112.18.1 - Plumbing Fixture Fittings.
 - 3. ASME A112.19.2M - Vitreous China Plumbing Fixtures.
 - 4. ASME A112.19.5 - Trim for Water-Closet Bowls, Tanks and Urinals.

1.3 SUBMITTALS

- A. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- B. Samples: Manufacturer's standard color selection charts.
- C. Manufacturer's Installation Instructions: Submit installation methods and procedures.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- E. Operation and Maintenance Data: Submit fixture, trim, exploded view and replacement parts lists.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Illinois Plumbing Code, (State of Illinois Department of Public Health) current edition.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Accept fixtures on site in factory packaging. Inspect for damage.
- B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.7 EXTRA MATERIALS

- A. Furnish one set of each type faucet service kits, flush valve service kits, lavatory supply fittings, and toilet seats.

PART 2 PRODUCTS

2.1 FLOOR MOUNT FLUSH VALVE WATER CLOSETS (WC-1)

- A. Manufacturers:
 - 1. American Standard.
 - 2. Eljer.
 - 3. Kohler.
 - 4. Zurn.
 - 5. Substitutions: Not Permitted.
- B. Bowl: ASME A112.19.2M; white, floor mount, siphon jet, ADA accessible, vitreous china closet bowl, designed for use with 1.6 gallon per flush valve, with elongated rim, 1-1/2 inch top spud, china bolt caps.
- C. Sensor Operated Flush Valve: ASME A112.18.1; exposed chrome plate, diaphragm type with battery operated solenoid operator, infrared sensor and over-ride button in chrome plated metal cover, vacuum breaker, 1.6 gallon flush volume. Coordinate flush valve installation height with ADA grab bar locations
 - 1. Manufacturers:
 - a. Sloan; 8111-G2 Optima Plus Series.
 - b. Zurn.
- D. Seat: Solid white anti-microbial plastic, elongated with open front, self-sustaining hinge, extended back, self-sustaining hinge, brass or stainless steel bolts, with cover.

2.2 TANK TYPE WATER CLOSETS (WC-2)

- A. Manufacturers:
 - 1. American Standard.
 - 2. Eljer.
 - 3. Kohler.
 - 4. Zurn.
 - 5. Substitutions: Not Permitted.
- B. Bowl: ASME A112.19.2M; floor mounted, siphon jet, vitreous china, 18 inch rim height close-coupled closet combination with elongated rim, insulated vitreous china closet tank with locking lid, fittings and lever flushing, 1.28 gpf flush volume, bolt caps.
- C. Seat: Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, with cover.

2.3 ALTERNATE BID URINALS

- A. Manufacturers: Existing fixtures.
 - 1. Flush Valve:
 - a. Sloan, 186-SMO Optima Series.
 - b. Zurn, ZER6003AV-CP AquaSense Series.
 - B. Sensor Operated Flush Valve: ASME A112.18.1; exposed, chrome plated, diaphragm type with battery operated solenoid operator, infrared sensor and over-ride button in chrome plated plate, screwdriver stop and vacuum breaker; 1.0 gallon flush volume.

2.4 LAVATORIES (LAV-1 & LAV-2)

- A. Manufacturers:
 - 1. Bowl:
 - a. American Standard.
 - b. Eljer.
 - c. Kohler.
 - d. Zurn.
 - e. Substitutions: Not Permitted.
 - 2. Faucet:
 - a. Bradley-S53-304, Aerada 1100 Series.
 - b. Gerbeit/Chicago, 115.727.21.1 Series.
 - c. Kohler, K-10950-4 Series.
 - d. Zurn, Z6916-ADM AquaSense Series.
- B. Vitreous China Wall Hung Basin: ASME A112.19.2M; white vitreous china, wall hung lavatory 20x18 inch minimum, center faucet hole, drilled for concealed arm carrier, rectangular basin with splash lip, front or rear overflow.

- C. Electronic Metered Faucet: ASME A112.18.1; chrome plated metered, single tempered supply faucet with battery powered, solenoid operator and infrared sensor, single hole mounting design, 2.0-2.2 gpm laminar flow device, side mounted, ADA compliant, open grid strainer.
- D. Accessories:
 - 1. Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon.
 - 2. Chrome plated, perforated open strainer.
 - 3. Chrome plated, wheel handle, quarter-turn stops.
 - 4. Rigid supplies.
 - 5. Pre-manufactured, ADA compliant, supply, trap and waste insulation kit. See LAVATORY INSULATION KIT, this specification section.
- E. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, concealed arm supports, bearing plate and studs.

2.5 LAVATORY INSULATION KIT

- A. Manufacturers:
 - 1. Truebro.
 - 2. Plumberex.
 - 3. Substitutions: Not Permitted.
- B. Product Description: Where Lavatories are noted to be insulated for ADA compliance, furnish the following: Safety Covers conforming to ANSI A177.1 and consisting of insulation kit of molded closed cell vinyl construction, 3/16 inch thick, white color, for insulating tailpiece, P-trap, valves, and supply piping. Furnish with weep hole and angle valve access covers.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify walls and floor finishes are prepared and ready for installation of fixtures.

3.2 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Install Work in accordance with Illinois Plumbing Code (Illinois Department of Public Health), current edition.

- B. Install each fixture with trap, easily removable for servicing and cleaning.
- C. Provide chrome plated rigid or flexible supplies to fixtures with wheel-handle, quarter-turn stops, reducers, and escutcheons.
- D. Install components level and plumb.
- E. Install and secure fixtures in place with wall supports, wall carriers and bolts.
- F. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 90 00, color to match fixture.
- G. Solidly attach floor mounted water closets to floor. Lead flashing is not intended to hold fixture in place.
- H. For accessible water closets, install flush handle to wide side of stall or room.
- I. Install piping insulation kits at all accessible lavatories and sinks.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Review toilet partition shop-drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.5 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

- A. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Do not permit use of fixtures before final acceptance.

3.8 SCHEDULES

- A. Fixture Mounting Heights:
 - 1. Lavatory:
 - a. Accessible (LAV-1): 34 inches to top of basin rim.

END OF SECTION

SECTION 23 34 00 - HVAC FANS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cabinet exhaust fans.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, furnished specialties, and accessories for each fan.
2. Certified fan performance curves with system operating conditions indicated.
3. Certified fan sound-power ratings.
4. Motor ratings and electrical characteristics, plus motor and electrical accessories.
5. Material thickness and finishes.
6. Fan speed controllers.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1.3 CLOSEOUT SUBMITTALS

- ##### A. Operation and Maintenance Data: For fans, include manufacturer's published operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- ##### A. Electrical Components, Devices, and Accessories: Listed and labeled by a qualified testing agency, and marked for intended location and application.
- ##### B. Sound-Power Level Ratings: Comply with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data." Factory test fans in accordance with AMCA 300, "Reverberant Room Method for Sound Testing of Fans." Label fans with the AMCA-Certified Ratings Seal.

- C. Fan Performance Ratings: Establish flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests and ratings in accordance with AMCA 210/ASHRAE 51, "Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating."
- D. ASHRAE Compliance:
 - 1. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

2.2 CABINET FANS

- A. Ratings: See schedule on drawings.
- B. Description: V-Belt drive with galvanized steel housing, removable side panel for access, inlet and outlet duct collars, gravity backdraft damper on discharge, horizontal hanging brackets.
- C. Fan Wheel: Backward inclined centrifugal type.
- D. Motor and Drive Mounting: Out of air stream.
- E. Motor: Open drip-proof type mounted on vibration isolators.
- F. Bearings: ABMA 9 life at 200,000 hours.
- G. Accessories:
 - 1. Belt guard.
 - 2. Motor cover.
 - 3. Disconnect switch: NEMA 250 Type 1.
 - 4. Flanged inlet and outlet.
 - 5. Fan speed controller.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install fans level and plumb.
- B. Suspended Cabinet Fans: Install flexible connections between fan and ductwork. Ensure metal bands of connectors are parallel with minimum 1 inch flex between ductwork and fan when fan is running.
- C. Provide backdraft dampers on outlet.
- D. Install units with adequate clearances for service and maintenance.
- E. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors.

3.2 ELECTRICAL CONNECTIONS

- A. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.
- B. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

3.3 ADJUSTING

- A. Adjust damper linkages for proper damper operation.
- B. Adjust belt tension.
- C. Lubricate bearings.
- D. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."

3.4 CLEANING

- A. After completing system installation and testing, adjusting, and balancing and after completing startup service, clean fans internally to remove foreign material and construction dirt and dust.

END OF SECTION

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Copper building wire rated 600 V or less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.2 SUBMITTALS

- A. Product Data: No submittals required when using specified materials with testing agency markings visible for inspection during construction.
- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Standards:
 - 1. Listed and labeled by a qualified testing agency, and marked for intended location and use.
 - 2. RoHS compliant.
- C. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.
- D. Conductor Insulation:
 - 1. Type THHN and Type THWN-2: Comply with UL 83.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled by a qualified testing agency, and marked for intended location and use.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

3.2 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

3.3 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

3.4 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

3.5 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 - 1. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - 3) Thermographic survey.
 - c. Inspect for correct identification.
 - d. Continuity test on each conductor and cable.
- B. Cables will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports to record the following:
 - 1. Procedures used.
 - 2. Results that comply with requirements.
 - 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

2.3 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Water Pipe Clamps:
 - 1. Mechanical type, two pieces with stainless-steel bolts.
 - a. Material: Die-cast zinc alloy.
 - 2. U-bolt type with malleable-iron clamp and copper ground connector.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 10 AWG and smaller, and stranded conductors for No. 8 AWG and larger unless otherwise indicated.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code.
- B. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

END OF SECTION

SECTION 26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal conduits, tubing, and fittings.
 - 2. Surface raceways.
 - 3. Boxes, enclosures, and cabinets.

1.2 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. FMC: Flexible metallic conduit.
- C. IMC: Intermediate metal conduit.
- D. LFMC: Liquidtight flexible metallic conduit.
- E. RGS: Rigid galvanized steel conduit.

1.3 SUBMITTALS

- A. Product Data: No submittal required when using listed materials with testing agency markings visible for inspection during construction.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. RGS: Comply with ANSI C80.1 and UL 6.
- C. IMC: Comply with ANSI C80.6 and UL 1242.
- D. EMT: Comply with ANSI C80.3 and UL 797.
- E. FMC: Comply with UL 1; zinc-coated steel or aluminum.
- F. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

- G. Fittings for Metal Conduit:
 - 1. Comply with NEMA FB 1 and UL 514B.
 - 2. Fittings for EMT:
 - a. Material: Steel or die cast.
 - b. Type: Compression type only.
- H. Joint Compound for IMC and RGS: Approved by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 SURFACE RACEWAYS

- A. Listing and Labeling: Listed and labeled by a qualified testing agency, and marked for intended location and application.
- B. Surface Metal Raceways: Galvanized steel with snap-on covers complying with UL 5. Prime coated, ready for field painting.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.
- D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- E. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized cast iron with gasketed cover.
- F. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- G. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- H. Gangable boxes are prohibited.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- E. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- F. Support conduit within 12 inches of enclosures to which attached.
- G. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT, IMC, or RGS for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- H. Threaded Conduit Joints, Exposed to Wet, Damp, or Corrosive Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- I. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- J. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4 inch trade size and insulated throat metal bushings on 1-1/2 inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- K. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- L. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- M. Cut conduit perpendicular to the length. For conduits 2 inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- N. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200 lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

- O. Surface Raceways:
 - 1. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- P. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 - 1. Use LFMC in damp or wet locations.
- Q. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- R. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- S. Locate boxes so that cover or plate will not span different building finishes.
- T. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.2 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies.

3.3 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich primer.

END OF SECTION

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Color and legend requirements.
 - 2. Labels.
 - 3. Tape.

PART 2 - PRODUCTS

2.1 COLOR AND LEGEND REQUIREMENTS

- A. Conductor Color Coding for Phase Voltage-Level Identification, 600 V or Less: Use colors listed below.
 - 1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG.
 - 2. Colors for 208Y/120V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - d. Neutral: White
 - 3. Color for Insulated Equipment Grounds: Green.

2.2 LABELS

- A. Self-Adhesive Labels: Thermal, transfer-printed, 3 mil thick, multicolor, weather and UV resistant, pressure-sensitive adhesive labels, configured for intended use and location.

2.3 TAPE

- A. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils thick. Compounded for outdoor use.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Verify identity of each item before installing identification products.
- C. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- D. Apply identification devices to surfaces that require finish after completing finish work.
- E. Self-Adhesive Labels:
 - 1. On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch high letters on 1-1/2-inch high label; where two lines of text are required, use labels 2 inches high.
- F. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.
 - 1. Field-Applied, Color Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.

3.3 IDENTIFICATION SCHEDULE

- A. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.
- B. Instructional Signs: Self-adhesive labels, including NEC required conductor color code identification for grounded and ungrounded conductors.

END OF SECTION