

## HARFORD COUNTY PUBLIC SCHOOLS

102 South Hickory Avenue  
Bel Air, Maryland 21014

### BID ANNOUNCEMENT

BID TITLE: **New Ticket Booth at Aberdeen High School**

BID NUMBER: **25-JHP-021**

BID OPENING DATE AND TIME: **April 22, 2025, 2:30 pm local time**

BID OPENING /  
BID EMAIL SUBMITTAL ADDRESS: Bid Opening will be online via Teams at the following:  
**Microsoft Teams [Need help?](#)**  
**[Join the meeting now](#)**  
Meeting ID: 270 090 181 092  
Passcode: 6n8dZ2zC

**Dial in by phone**  
**[+1 240-600-1475..136413390#](#)** United States, Bethesda  
**[Find a local number](#)**  
Phone conference ID: 136 413 390#

Submit your bid via electronically to [bids@hcps.org](mailto:bids@hcps.org).

PROCUREMENT AGENT: Jennifer Horner, CPPB  
410-809-6044  
[Jennifer.Horner@hcps.org](mailto:Jennifer.Horner@hcps.org)

QUESTIONS DUE DATE AND  
TIME: Questions must be emailed to [Jennifer.Horner@hcps.org](mailto:Jennifer.Horner@hcps.org) no later than 2:30  
pm on **April 1, 2025**.

ADDENDUM ISSUED: No later than **April 4, 2025**.

SITE INSPECTION: Contact Brittney Mattlin at 410-638-4090 or [Brittney.Mattlin@hcps.org](mailto:Brittney.Mattlin@hcps.org) to  
schedule a site visit.

**BONDING REQUIRED:** Bonds Are Not Required.

**MBE DOCUMENTS:** MBE Documents Are Not Required.

TIMELY DELIVERY OF BID  
DOCUMENTS: Bids must be received in the Procurement e-mail box, [bids@hcps.org](mailto:bids@hcps.org), on or  
before the bid opening day and time. (PDF format Only)

**It is the Bidder(s) responsibility to verify that the Bid has been received  
at [bids@hcps.org](mailto:bids@hcps.org), prior to the Bid Opening. 'Read Receipts' are not  
sufficient. Bidders may contact the Buyer listed within the solicitation,  
by email or phone, to confirm receipt of bids.**

INCLEMENT WEATHER: If Harford County Public Schools Administrative Offices are closed on the day  
a proposal is DUE, that proposal will be due at the same time the next day the  
Administrative Offices are open.

Bidders may obtain the Solicitation Documents by downloading the information at our website:  
[www.hcps.org/departments/BusinessServices/purchasing.aspx](http://www.hcps.org/departments/BusinessServices/purchasing.aspx). Bidders shall continue to check the HCPS website for  
possible addenda to the bid(s) prior to the bid opening date.

The Contract Award Report, will be posted on the HCPS webpage at  
<https://www.hcps.org/departments/BusinessServices/procurement.aspx> (Solicitation Results) after evaluation and approval by  
the Board of Education of Harford County, if required.

### **LATE BIDS WILL BE REJECTED AND RETURNED UNOPENED**

#### ***Harford County Public Schools Nondiscrimination Statement***

The Board of Education of Harford County Public does not discriminate on the basis of age, ancestry/national origin, color, disability, pregnancy, gender identity/expression, marital status, race, religion, sex or sexual orientation in matters affecting employment or in providing access to programs and activities and provides equal access to the Boy Scouts and other designated youth groups.

In accordance with the requirements of Title IX of the Education Amendments of 1972 (20 U.S.C. §1681, *et seq.*), Harford County Public Schools does not discriminate on the basis of sex in any of its programs or activities or with regard to employment. Inquiries about the application of Title IX, and its implementing regulations to Harford County Public Schools may be referred to Renee McGlothlin, Harford County Public Schools Title IX Coordinator, by mail to 102 S. Hickory Avenue, Bel Air, Maryland 21014, or by telephone to [410-809-6087](tel:410-809-6087) or by email to [Renee.McGlothlin@hcps.org](mailto:Renee.McGlothlin@hcps.org) or the Assistant Secretary for the Office of Civil Rights in the United States Department of Education by mail to 400 Maryland Avenue, SW, Washington, DC 20202 or by telephone [1-800-421-3481](tel:1-800-421-3481), or both.

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**Board of Education of Harford County, Maryland  
Procurement Department  
102 South Hickory Avenue, Third Floor, Suite 310  
Bel Air, Maryland 21014**

**INSTRUCTION TO BIDDERS**

*The following provisions, where applicable, will become part of any contractual relationship developed as a result of the solicitation.*

**1.0 AN INVITATION TO BID SUBMISSION**

- 1.1 The Board of Education of Harford County hereinafter referred to as Harford County Public Schools or HCPS, invites all interested and qualified Contractors/Bidders to submit a bid. These specifications and requirements are intended to cover the procurement of services and/or commodities requested and include, but are not limited to, providing labor, materials, equipment and supervision of labor and subcontractors to complete requirements as identified by HCPS.
- 1.2 In accordance with State law and HCPS policies, solicitations shall be published a minimum of fourteen (14) calendar days in advance of due date for any bid having a potential award value of \$50,000 or more.
- 1.3 Unless otherwise indicated, HCPS shall receive sealed bids until the date and time indicated on bid or as modified by addenda. Bids must be e-mailed to [bids@hcps.org](mailto:bids@hcps.org). Bids must be clearly marked on the subject line: Name of Bidder, Bid Number and Solicitation Title. **Late bids will be rejected.**
- 1.4 Brand name and model numbers are offered as a reference for bidders as to the style, size, weight, and other characteristics of the item(s) in the Brand name and model numbers are offered as a reference for bidders as to the style, size, weight, and other characteristics of the item(s) in the Specifications. The use of such brand names should not be interpreted as the exclusive brand desired unless so stated. The determination of the acceptability and/or the criteria for acceptability of an alternate is solely the responsibility of HCPS.
- 1.5 The Bidder or their authorized representatives are expected to fully inform themselves as to the conditions, requirements, circumstances, prerequisites, qualifications and/or specifications before submitting their bid. A bidder's failure to become fully informed is at the Bidder's sole and complete risk of loss. The Bidder shall have no right to any damages, cost and/or any other remedy at law or equity against HCPS for any miscalculation, misunderstanding, error (either omissions or commissions), mistake, misinterpretation, and/or the failure by the Bidder to obtain an award of bid, award of contract and/or profits, fees or money from HCPS when the Bidder failed to fully inform themselves. In the case of error in extension of prices in the Bid, the unit price shall govern or the entire bid may be declared non-responsive.
- 1.6 Where provision is made on the Bid Form for bidding items on an individual, group or aggregate basis, the award will be made on whichever basis is in the best interest of HCPS. When an aggregate bid is requested, the unit prices for each item shall be identified on the Bid Form for accounting purposes. The unit prices in an aggregate bid should be consistent with the total quoted price for an aggregate bid.
- 1.7 The product offered by the Bidder shall be new, not used, and the latest version unless otherwise requested by HCPS. Should a product be discontinued and/or upgraded during the course of the Contract, the Awarded Bidder shall offer to HCPS a new alternate product meeting and/or exceeding the established specifications, under the same terms, conditions and prices as the originally offered item.
- 1.8 The Awarded Bidder, after award and before manufacture and/or shipment, may be required to submit working drawings or detailed descriptive data identified as acceptable to HCPS, which provide sufficient data to enable HCPS to judge the Bidder's compliance with specifications.

**2.0 BID PREPARATION, PROPOSAL SHEET, AND BID OPENING**

- 2.1 Bidder must submit one (1) original with original signatures of the Bid using HCPS bid forms. The Bidder should make and retain one (1) copy of the Bid for their files. Bids must be signed and submitted by an authorized representative of the Bidder. Each bidder may attach a letter of explanation to the Bid, if so

desired, to provide an explanation of any detail(s) in the Bid.

- 2.2 Signed bids must be returned electronically via e-mail to [bids@hcps.org](mailto:bids@hcps.org), ONLY. HCPS will not accept any facsimile transmission or electronic submissions to HCPS Procurement Agents, representatives, or employees. Bids must be submitted in **PDF format, ONLY**, links to documents will not be accepted. Multiple emails may be sent if files are too large for one email. It is the Bidder(s) responsibility to verify that the Bid has been received at [bids@hcps.org](mailto:bids@hcps.org), prior to the Bid Opening. 'Read Receipts' are not sufficient. Bidders may contact the Procurement Agent listed within the solicitation, by email or phone, to confirm receipt of bids.
- 2.3 Each bid must show the full business address, telephone number, fax number, email address, and federal tax identification number of the Bidder and be signed by the person or persons legally authorized to sign contracts. All correspondence concerning the Bid and Contract, including Letter of Intent, copy of Contract, and Purchase Order, will be mailed or delivered to the contact information shown on the Bid in the absence of written instructions from the Bidder to the contrary.
- 2.4 All bidders shall be required to complete the certificates and/or affidavits, and/or acknowledgements that are incorporated into the proposal pages of this specification. Such documents are required by Local, State or Federal funding agencies of HCPS as part of the bidding process. The documents may include but are not limited to: Anti-Bribery Affidavit, Debarment Certificate, Employment of Sex Offenders and Other Criminal Offenders Affidavit, Sales Tax Certification, Minority Bidder Status, and when applicable, Asbestos Free Certification and any others that may be required.
- 2.5 Bid Opening
  - 2.5.1 At the public opening of the Bid, the Bidder's names and their pricing will be read and recorded. All bids submitted by the required time will be accepted for further evaluation. Following complete evaluation of the Bids following opening, bids may be rejected due to major irregularities or omissions and will be rendered as non-responsive.
  - 2.5.2 Complete evaluations of the Bids will not take place at the bid opening and no indication of award will be made. HCPS reserves the right to review all responses and analyze the results of the procurement process. Any tabulation provided at this time is draft status only.
  - 2.5.3 A final recommendation(s) for contract award may be prepared for review and when required, approval by the Board of Education of Harford County.
  - 2.5.4 The Board of Education of Harford County must approve contract awards of \$100,000 or more. Formal contract award is contingent upon the required Board approval.
  - 2.5.5 Bidders may correct a minor irregularity and minor irregularities may be waived. A minor irregularity is one that is merely a matter of form and not of substance or pertains to an immaterial or inconsequential defect or variation in a bid, the correction or waiver of which would not be prejudicial to other bidders. When so noted, minor irregularities may be corrected within forty-eight (48) hours following notification. The Procurement Supervisor will be the final determinate of what is a minor irregularity.
  - 2.5.6 HCPS also reserves the right to reject any or all bids and/or waive technical defects and minor irregularities at the discretion of the Supervisor of Procurement, HCPS or designee if, in its judgment the interests of HCPS shall so require. Bids may be withdrawn before the scheduled time of opening. Withdrawal is not permitted after the scheduled time of opening.
  - 2.5.7 Any omissions, errors, conflicts, or discrepancies in this document shall be called to the attention of HCPS IN WRITING within five (5) working days prior to the bid opening.
  - 2.5.8 Omission of any specification or details of any specification which would normally apply to the supplies and/or equipment described herein, shall not relieve the Bidder from fulfilling those required specifications needed to provide an end product or service best suited to the intended purpose of this contract as determined by the Supervisor of Procurement.
  - 2.5.9 Up to and including the time for bid opening, a bidder may correct a defect or variation with

respect to the Bid Bond, acknowledgement or addenda or MBE submission material.

- 2.6 At the time of the bid opening each bidder will be presumed to have read and to be thoroughly familiar with the specifications and related documents (including all Addenda). The failure or omission of any bidder to receive or examine any form, instrument, or document, shall in no way relieve them from any obligation in respect of its bid.

### **3.0 AWARD OR REJECTION OF BIDS**

- 3.1 Bids will be awarded to the lowest responsive and responsible bidder whose bid meets the requirements and evaluation criteria set forth in the invitation for bid and is in the best interest of HCPS.
- 3.2 HCPS reserves the right to reject a bid of bidders pursuant to Section 5-112 of the Education Article of the Annotated Code of Maryland.
- 3.3 Bidder SHALL NOT offer more than one price on each item even though they may feel that they have two or more types or styles that will meet specifications. If Bidder submits more than one price per item specified, Bidder may be deemed non-responsive. Bidders are allowed to also offer incentives, discounts, and promotional pricing, however; if conditions are attached to pricing, the pricing may be rejected.
- 3.4 Each bidder cannot offer more than one (1) bid submittal.
- 3.5 HCPS also reserves the right to reject a bid of firms who have demonstrated performance deficiencies or who have previously failed to perform properly or complete on time other Board contracts.
- 3.6 HCPS reserves the right to reject any or all bids.
- 3.7 HCPS reserves the right to re-advertise for other bids for the identical requirement if it is in the best interest of HCPS.
- 3.8 For Information Technology (IT), Operational Technology (OT), and Software solicitations **ONLY**. Should HCPS receive responses that offer products of similar cost and functionality, HCPS reserves the right to award a contract to the more secure offering and/or supplier to meet cybersecurity requirements as outlined by the National Institute of Standards and Technology.

### **4.0 ANNULMENTS AND RESERVATIONS**

- 4.1 Conditional proposals will not be considered.
- 4.2 HCPS reserves the right to waive technical defects within submittals.
- 4.3 HCPS may conduct any necessary investigation to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to HCPS all such information and data requested. HCPS reserves the right to reject any proposal if the evidence submitted by the Bidder or investigation of such bidder fails to satisfy HCPS that such bidder is properly qualified to carry out the obligations of the Contract and to complete all stipulated requirements.
- 4.4 HCPS reserves the right to annul any contract, if in its opinion there shall be a failure, at any time, to perform faithfully any of its stipulations, or in case of any willful attempt to impose upon HCPS, materials, products and/or workmanship inferior to that required by the Awarded Bidder, and any action taken in pursuance of this latter stipulation shall not affect or impair any rights or claims of HCPS to damages for the breach of any covenant of the Contract by the Awarded Bidder.
- 4.5 Unbalanced proposals will not be accepted.
- 4.6 HCPS shall have the right to reject any or all bids, reject a bid not accompanied by a required bid security or by other data required by the bidding documents, or reject a bid which is in any way incomplete or irregular.

## **5.0 MULTI-AGENCY PROCUREMENT**

- 5.1 HCPS reserves the right to extend the terms and conditions of this solicitation to any and all other government agencies. All purchase and payment transactions will be made directly between the Contractor and the requesting public agency.
- 5.2 Each participating jurisdiction or agency shall enter into its own contract if necessary, with the Awarded Bidder(s). HCPS assumes no obligation on behalf of any other entity.

## **6.0 TIE BIDS**

In the event of tie bids, the award(s) shall be made as per the procedure specified in the Harford County Public Schools Procurement Manual.

## **7.0 WAIVER OF TECHNICALITIES**

Minor differences in the specifications or other minor technicalities may be waived at the discretion of the Supervisor of Procurement.

## **8.0 BID PRICES**

- 8.1 All pricing must remain firm for sixty (60) days from date of bid opening unless otherwise specified.
- 8.2 Unit Prices must be rounded off to no more than two (2) decimal places, unless otherwise specified.
- 8.3 HCPS reserves the right to accept price reductions from the Awarded Bidder during the term of this contract.
- 8.4 HCPS will not accept any bid responses with bidder escalator clauses, unless specifically stated in the solicitation specifications.

## **9.0 ADDENDA**

- 9.1 All changes to the Bid Specifications will be made through appropriate Addenda issued from the Procurement Department.
- 9.2 Addenda notices will be posted on the Procurement Department web site at [www.hcps.org](http://www.hcps.org), as well as eMaryland Marketplace.
- 9.3 No Addenda will be issued later than five (5) days prior to the date for receipt of bids except an Addendum withdrawing the request for bids or one which postpones the date for receipt of bids.
- 9.4 Each bidder shall ascertain prior to submitting a Bid that they have received all Addenda issued and the Bidder shall acknowledge their receipt on the Addenda Form. The Addenda Form shall be completed and returned with the Bid response. Failure to return the signed Addenda Form may be reason for rejection of the Bid.

## **10.0 RIGHT OF SELECTION**

HCPS reserves the right to accept this bid by items or as a whole or lump sum. HCPS also reserves the right to increase or decrease the estimated quantities. HCPS reserves the right to reject any and all bids which comply with these specifications or to accept a higher bid which complies, provided that, in the judgment of HCPS the bid offered under the higher bid is in the best interest of HCPS and the additional price can be justified.

## **11.0 DISSEMINATION OF INFORMATION**

This section intentionally omitted.

## 12.0 INSURANCE

Please review in detail the insurance requirements contained in the attached document. These requirements are recommended by the Maryland Association of Boards of Education Group Insurance Pool. Please have your insurance agent/company receive these insurance requirements prior to submitting a bid. Failure to comply with these insurance requirements may render the bid as non-responsive.

## 13.0 BID SECURITY – WHEN REQUIRED

- 13.1 If so, stipulated in the Advertisement, Bid Announcement, or supplementary instructions to bidders, each Proposal/Bid shall be accompanied by a Bid Bond in the dollar amount of five Percent (5%) of the Base Bid. This Bid Bond pledges that the Bidder will enter into a Contract with HCPS on the terms stated in the Solicitation and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising hereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, where required, the amount of the Bid Security/Bid Bond/Surety Bond shall be forfeited to HCPS as liquidated damages, not as a penalty. **This bond must be provided with the Proposal/Bid submission and failure to do so may be cause for rejection of the Bid as being non-responsive. The cost of the Bid Bond will be borne by the Bidder(s) in all instances.**
- 13.2 If a surety bond is required, it shall be written on the appropriate AIA Document, Bid Bond, unless otherwise provided in the Bidding Documents and the attorney-in-fact who executes the Bond on behalf of the surety shall affix to the Bond a certified and current copy of the power of attorney. *Individual surety bonds as detailed in State of Maryland COMAR 21.06.07.01 are also acceptable through an authorized individual surety agent.*
- 13.3 HCPS will have the right to retain the Bid Security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished or (b) the specified time has elapsed so that bids may be withdrawn or (c) all proposals/bids have been rejected.
- 13.4 All bonds must be approved by surety companies, which are in the most current Circular 570 "Surety Companies Acceptable on Federal Bonds" as issued by the U.S. Treasury, Bureau of Government Finance Operations, Division of Banking and Cash Management, Washington, D.C. 20011. If a bonding company is used that is not on this list, the Contract will be *Terminated for Default* or if the required bond is a bid bond, this is just cause for rejection of the Bid as being non-responsive.
- 13.5 Performance Bonds and/or Payment Bonds may be required for proposals/bids meeting the following conditions. The Award Bidder(s) of this contract may be required to submit either one or both of these bonds within ten (10) days of receipt of the Notice of Intent to Award and in accordance with the terms stated below. The cost of the Performance Bond and/or Payment Bond will be borne by the Bidder(s) in all instances.
- 13.5.1 Performance Bond may be required for contracts and/or awards of contracts in excess of \$100,000.00 for the amount of 100% of the contract price to cover faithful performance of the Contract. Simultaneously with their delivery of the executed contract, the Award Bidder must deliver to HCPS an executed bond in the amount of one hundred percent (100%) of the accepted bid as security for the faithful performance of their contract and for the payment of all persons performing labor or furnishing materials in connection therewith, prepared on the Standard Bond Form A-311 as approved and issued by the American Institute of Architects and having as surety thereon such surety company or companies as are acceptable on bonds given to the United States Government and approved by the Harford County Public Schools and are authorized to transact business in this State. **Performance Bonds shall be made out in the name of the "Board of Education of Harford County".**
- 13.5.2 Payment Bonds may be required for contracts and/or awards of construction contracts in excess of \$100,000.00 for the amount of 100% of the contract price as security for the payment of all persons performing labor and furnishing materials in connection therewith when required by HCPS. Payment Bonds shall be made out in the name of the "**Board of Education of Harford County**".

**Board of Education of Harford County, Maryland  
Procurement Department  
102 South Hickory Avenue, Third Floor, Suite 310  
Bel Air, Maryland 21014**

**GENERAL TERMS AND CONDITIONS  
Construction**

**1.0 TERMINATIONS FOR CAUSE OR CONVENIENCE**

- 1.1 HCPS reserves the right to terminate any contract, if in its opinion there shall be a failure at any time to perform faithfully any of its stipulations, or in case of any willful attempt to impose upon HCPS, materials, products and/or workmanship inferior to that required by the Awarded Bidder, and any action taken in pursuance of this latter stipulation shall not affect or impair any rights or claims of HCPS to damages for the breach of any covenant of the Contract by the Awarded Bidder.
- 1.2 Any cost and/or expense incurred under this section above shall be deducted from and paid by the Board of Education of Harford County out of such monies as may be due or become due to the Contract, if the same had been completed by the Contractor, it or its surety shall pay the amount of any excess to the Board of Education of Harford County.
- 1.3 The performance of work under this contract may be terminated for convenience by the Board of Education of Harford County in accordance with this clause in whole or part, whenever the Supervisor of Procurement shall determine that such termination is in the best interest of HCPS. Any such termination shall be affected by mailing to the Contractor a Notice of Termination specifying the extent to and conditions under which performance of work under the Contract is terminated and the date upon which such termination becomes effective. Upon termination of this contract in accordance with this section, the Contractor may be entitled to an equitable adjustment.
- 1.4 Termination for Non-Appropriation. HCPS reserves the right to terminate this contract, in whole or part, due to non-appropriation of funds or funds that are otherwise made unavailable to support continuation in any fiscal year succeeding the first fiscal year. Notification of contract termination will be given to the Contractor thirty (30) days in advance and will be in effect at the beginning of the fiscal year for which funds are not available. The Contractor may not recover anticipatory profits or costs incurred after termination.

**2.0 DRUG, TOBACCO, AND ALCOHOL**

All HCPS properties are "drug, tobacco, and alcohol-free zones" as designated by Local and State laws. Neither the Consultant or their employees (or sub-Consultants) are permitted to have any tobacco products, vaporizers, e-cigarettes, illegal or prescription drugs, or alcohol products on HCPS property. Use or possession of such items on HCPS property will result in immediate termination of the Agreement.

**3.0 PROTEST AND APPEAL PROCESS**

Any bidder objecting to the recommendation for award or the award of a contract may appeal the action to the Supervisor of Procurement by formal notification in writing within seven (7) calendar days of award. A protest must include: the name, address, and contact information of the protestor; signature of the protestor or an authorized representative of the protestor; identification of the solicitation or proposal number; detailed statement of reasons for the protest; supporting documentation to substantiate the claim; and the remedy sought. A formal written response to the appeal shall be issued within ten (10) calendar days following receipt of the formal protest. The decision of the Supervisor of Procurement may be appealed to the Superintendent of Schools within five (5) business days following receipt of decision from the Supervisor of Procurement. The decision of the Superintendent is final and conclusive.

**4.0 NON-DISCRIMINATION**

- 4.1 The Contractor shall comply with all Federal and State anti-discrimination laws in the performance of this contract.



- 4.2 The Board of Education of Harford County Public does not discriminate on the basis of age, ancestry/national origin, color, disability, pregnancy, gender identity/expression, marital status, race, religion, sex or sexual orientation in matters affecting employment or in providing access to programs and activities and provides equal access to the Boy Scouts and other designated youth groups.
- 4.3 In accordance with the requirements of Title IX of the Education Amendments of 1972 (20 U.S.C. §1681, *et seq.*), Harford County Public Schools does not discriminate on the basis of sex in any of its programs or activities or with regard to employment. Inquiries about the application of Title IX, and its implementing regulations to Harford County Public Schools may be referred to Renee McGlothlin, Harford County Public Schools Title IX Coordinator, by mail to 102 S. Hickory Avenue, Bel Air, Maryland 21014, or by telephone to 410-809-6087 or by email to [Renee.McGlothlin@hcps.org](mailto:Renee.McGlothlin@hcps.org) or the Assistant Secretary for the Office of Civil Rights in the United States Department of Education by mail to 400 Maryland Avenue, SW, Washington, DC 20202 or by telephone 1-800-421-3481, or both.
- 4.4 The Awarded Bidder shall furnish, if requested by HCPS, a compliance report concerning their employment practices and policies in order for HCPS to ascertain compliance with the special provisions of this contract concerning discrimination in employment.
- 4.5 In the event the Awarded Bidder is deemed noncompliant with the nondiscrimination clause of this contract, this contract may be canceled, terminated, or suspended in whole or in part and the Awarded Bidder may be declared ineligible for further/future HCPS' work.

**5.0 NON-HIRING OF EMPLOYEES BY AWARDED BIDDER OR HCPS**

- 5.1 No employee of the HCPS or any unit thereof, whose duties as such employee include matters relating to or affecting the subject matter of this contract, shall, while so employed, become or be an employee of the party or parties hereby contracting with the HCPS or any unit thereof.
- 5.2 No employee of the Awarded Bidder or any unit thereof, whose duties as such employee include matters relating to or affecting the subject matter of this contract, shall, while so employed, become or be an employee of the party or parties hereby contracting with the Awarded Bidder or any unit thereof.

**6.0 FINANCIAL DISCLOSURE**

The Awarded Bidder shall comply with the provisions of Section 13-221 of the State Finance and Procurement Article, Annotated Code of Maryland, which requires that every business that enters into contracts, leases or other agreements with the State of Maryland or its agencies, including school districts, during a calendar year under which the business is to receive in the aggregate \$100,000 or more, shall within thirty (30) days of the time when the aggregate value of these contracts, leases or other agreements reached \$100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

**7.0 POLITICAL CONTRIBUTION DISCLOSURE**

Awarded Bidder shall comply with the provisions of Section 14-101 et seq. of the Election Law Article of the Maryland Code, which require that every person that enters into contracts, leases, or other agreements with the State of Maryland, including its agencies or a political subdivision of the State, including school districts, during a calendar year under which the person receives in the aggregate \$10,000 or more, shall, on or before February 1 of the following year, file with the Secretary of State of Maryland certain specified information to include disclosure of political contributions in excess of \$100 to a candidate for elective office in any primary or general election.

**8.0 RETENTION OF RECORDS**

The Awarded Bidder shall retain and maintain all records and documents relating to this contract for three (3) years after final payment by HCPS hereunder or any applicable statute of limitations, whichever is longer, and shall make them available for inspection and audit by authorized representatives of HCPS or designee, at all reasonable times.

## **9.0 LANGUAGE/GENDER**

- 9.1 Bidder, proposer, offeror, vendor and contractor all have the same meaning and may be used interchangeably.
- 9.2 The Board of Education of Harford County is also referred to as HCPS, Harford County Public Schools, and Board of Education which may be used interchangeably.
- 9.3 Bid, proposal and offer all have the same meaning and can be used interchangeably.

## **10.0 COMPLIANCE WITH THE LAW**

The Bidder hereby represents and warrants:

- 10.1 That it is qualified to do business in the State of Maryland and that it will take such action as, from time-to-time hereafter, may be necessary to remain so qualified.
- 10.2 That it shall comply with all Federal, State and Local law ordinances and legally enforceable rules and regulations applicable to its activities and obligations under this agreement.
- 10.3 That it shall procure, at its expense, all licenses, permits, insurance and governmental approval, if any are necessary to the performance of its obligations under this agreement.

## **11.0 SAFETY AND CODE REQUIREMENTS**

- 11.1 Contractor shall comply with all Federal, State, and Local laws, ordinances and regulations pertaining to work under their charge and these shall be construed as the minimum requirements of these specifications.
- 11.2 The Contractor shall provide all equipment and machinery furnished and delivered to HCPS complying with the safety regulations as required by OSHA and the Maryland State Safety Health Act known as MOSHA meeting the CFR-1910 MOSHA Standard.
- 11.3 Safety Data Sheets (SDS) shall be submitted for all supplies, materials, equipment or any other substances furnished and/or installed under this proposal in accordance with the OSHA Hazardous Communication Standard 29 CFR 1910.101, 29 CFR 1910.1200 and 20 CFR 1926.58 or any other applicable State, Federal or Local regulation. The Contractor, when required, must submit SDS sheets to each school or facility that receives any such supplies, materials, equipment or any other substances furnished and/or installed by the Contractor.

## **12.0 CONTRACTOR'S OBLIGATION**

- 12.1 The Awarded Bidder shall abide by and comply with the true intent of the specifications and not take advantage of any unintentional error or omission but shall fully complete every part as the true intent and meaning of the specifications, as decided by HCPS, and as described herein. Deviations, exceptions, alternates, etc., may render the bid as non-responsive.
- 12.2 The Awarded Bidder, after award and prior to starting work, may be required to submit working drawings or detailed descriptive data identified as acceptable to HCPS, which provide sufficient data to enable HCPS to judge the Awarded Bidder's compliance with the specifications.
- 12.3 In case of any apparent conflict between the specifications and such laws, ordinances, etc., the Awarded Bidder shall call the attention of the applicable HCPS designee(s) to such conflict for a decision before proceeding with any work.
- 12.4 Any deviation(s) from the specifications or scope of work must be clearly noted in detail by the Bidder, in writing, at the time of submittal of the formal bid. The absence of a written list of deviation(s) at the time of submittal will hold the Bidder accountable to HCPS to the specifications or scope of work as written by HCPS. Any deviation(s) from the specifications or statement of work without prior documented approval will be grounds for rejection of any material, equipment, and/or services when delivered and/or

performed.

- 12.5 The Awarded Bidder shall and will, in good professional manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings covered by this contract and any and all supplemental plans and drawings, and in accordance with the directions of the Board of Education as given from time to time during the progress of the work. The Contractor shall observe, comply with and be subject to all terms and conditions, requirements and limitations of the Contract and Specifications and shall do, carry on and complete the entire work to the complete satisfaction of the Board of Education.
- 12.6 Awarded Bidder may be required pursuant to the Business Regulation Article of the Maryland Code, to provide proof of Certificate of Registry.
- 12.7 Awarded Bidder is responsible to protect all existing and newly installed supplies and/or equipment. Any HCPS property damaged shall be replaced or repaired to the satisfaction of HCPS.
- 12.8 Contractors and any of its subcontractors shall advise HCPS of its intention to use any employees, which are hired or obtained from any penal, pre-release or work release program. In the event that such employees are used, notification to HCPS shall include the name and violation for each individual. The reasonable precautions, when selecting such individuals and provide strict supervision and proper safeguards. Contractor's employees are not permitted inside school buildings when the nature of the Contract is for outside work.

**13.0 PROTECTION OF WORK AND PROPERTY**

- 13.1 The Contractor will be held responsible for any and all damage to Harford County Public Schools property done or caused by the Contractor or other personnel engaged in the execution of this contract, except and unless damage, loss, injury or illness is caused by the negligence or tortious misconduct of HCPS employees. They shall be similarly responsible for all injury to any person that occurs as a result of their actions or negligence. They shall take proper safety and health precautions to protect the work, the workers, the public and the property of others. The Contractor shall also be responsible for any and all damage to adjacent property incurred in the performance of the Contract and hold Harford County Public Schools free from any and all claims for damages arising from the execution of the work.
- 13.2 Limit use of premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
- 13.3 Keep driveways and entrances serving the premises clear and available to HCPS, HCPS's employees and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
- 13.4 The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by its employees or work, and at the completion of the work, all trash will be removed from and about the work site and all tools, scaffolding and surplus materials shall leave the area clean and neat unless more exactly specified. In case of disputes, HPCS may remove trash, rubbish, etc. and charge the cost to the Contractor.
- 13.5 The Awarded Bidder shall protect all HCPS property, materials, equipment, improvements, utilities, structures, and vegetation at all times. Any property or incidentals damaged during the shall be repaired or replaced by Awarded Bidder to the satisfaction of HCPS.

**14.0 DIRECT DAMAGES**

HCPS reserves the right to pursue any and all damages against the Awarded Bidder or against any bond or surety relating to the contract in the event of a breach of the Contract by the Awarded Bidder.

**15.0 PERMITS & LICENSE**

The Contractor awarded this contract must, at its expense, obtain any and all permits required by Local, State

and Federal authorities. The Contractor at the time of bid opening must be fully licensed in all trades or special areas that require a license by Local, State, Federal authorities. It is the contractor's responsibility to notify HCPS of lapses in, suspension of or termination of special permits and licenses required under the Contract.

**16.0 SUBSTITUTIONS**

Bids shall be based upon the materials, systems, and equipment required by the bidding documents without exception.

**17.0 GUARANTEE AND WARRANTY**

- 17.1 The Awarded Bidder shall unconditionally guarantee the materials and workmanship of all equipment and materials furnished by the Awarded Bidder, its subcontractors or suppliers for a period of at least one (1) year from the date of acceptance of the installation by HCPS. If the manufacturer warrants equipment for a period longer than one year, the Awarded Bidder shall pass through this extended warranty to HCPS.
- 17.2 In the event the Awarded Bidder fails to repair, replace, adjust, rectify, remedy, correct or complete the items, defects, deterioration, and/or installation, then HCPS may have the right to secure the services of another vendor to correct the work or complete the performance required by the award of this bid. The Awarded Bidder shall be solely responsible for any and all cost, expenses and monies due to the new vendor.
- 17.3 The Awarded Bidder must act as the manufacturer's agent for all warranty claims.

**18.0 AWARDED BIDDER'S RESPONSIBILITY**

- 18.1 Awarded Bidders may be required pursuant to the Business Regulation Article of the Maryland Code, to provide proof of Certificate of Registry.
- 18.2 Awarded Bidders are responsible to protect all existing and newly installed work, materials, equipment and landscaping. Any HCPS property damaged shall be replaced or repaired to the satisfaction of HCPS.
- 18.3 Awarded Bidders are responsible for having all employees sign-in and sign-out at the work site. Use the appropriate form provided by the school office.
- 18.4 Awarded Bidders are responsible for daily removal of all debris from the work site and to keep the work site tidy as work progresses. Under no circumstance shall Awarded Bidders use HCPS garbage and/or recycling dumpsters to dispose of debris.
- 18.5 Unless otherwise stipulated, HCPS shall provide and pay for water, heat, telephone and utilities used or consumed by the Awarded Bidder during the performance of the work or services hereunder if they are currently available at the work site. However, the Awarded Bidder shall install and pay for the costs of any temporary facilities not already in existence, which will be required during construction for accessing such water, heat and utilities.
- 18.6 Awarded Bidders are responsible for coordinating planned interruptions of utility service with HCPS.
- 18.7 Awarded Bidders are responsible to notify HCPS of any occurrence of pre-existing condition that would prevent the completion of work as specified. Any changes in the scope of work and any resulting changes in cost shall be agreed to in writing by HCPS. HCPS assumes no responsibility for verbal changes in the Scope of Work or cost. Contract/Scope changes must be reflected in an authorized change order approved by the Supervisor of Procurement.
- 18.8 Awarded Bidders may be responsible at the discretion of HCPS to complete the American Institute of Architects (AIA) Abbreviated Form of Agreement between HCPS and Awarded Bidder.
- 18.9 Awarded Bidders are responsible to provide their own materials, tools and equipment. HCPS assumes no responsibility for vandalism or theft of Awarded Bidder's property.

- 18.10 At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Solicitation, Specifications, Plans and Contract Documents (including all Addenda). The failure or omission of any bidder to receive or examine any form, instrument, or document, shall in no way relieve any bidder from any obligation in respect of his bid.
- 18.11 Awarded Bidder shall be responsible for ensuring that employees assigned to HCPS sites, either employed by Awarded Bidder or their subcontractor(s), have successfully passed a criminal background check, to the satisfaction of Harford County Public Schools. The Awarded Bidder shall not use any employees, including subcontractor employees that are hired or obtained from any penal pre-release or work-release programs.

**19.0 SAFETY AND CODE REQUIREMENTS**

All materials and labor shall comply with the following requirements:

- 19.1 Awarded Bidder shall comply with all Federal, State, and Local laws, ordinances and regulations pertaining to work under their charge and these shall be construed as the minimum requirements of these specifications.
- 19.2 Awarded Bidder shall provide all equipment and machinery furnished and delivered to HCPS complying with the safety regulations as required by OSHA and the Maryland State Safety Health Act known as MOSHA meeting the CFR-1910 MOSH Standard.
- 19.3 Awarded Bidder shall submit Safety Data Sheets (SDS) for all supplies, materials, equipment or any other substances furnished and/or installed under this proposal in accordance with OSHA Hazardous Communication Standard 29 CFR 1910.101, 29 CFR 1910.1200 and 29 CFR 1926.58 or any other applicable state, federal, or local regulation. The Awarded Bidder must submit SDS sheets to each school or facility that receives any such supplies, materials, equipment or any other substances furnished and/or installed by the Awarded Bidder. Failure on the part of the Awarded Bidder to furnish the necessary SDS sheets will result in the withholding of final payment.
- 19.4 Standards are as defined in the latest issue from the following:

AABC	Associated Air Balance Council
ADC	Air Diffusion Council
AGA	American Gas Association
ADA	American's With Disabilities Act
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BOCA	Building Officials and Code Administrators
COBA	Council of American Building Officials
CPSC	Consumer Product Safety Commission
CS	Commercial Standard
FM	Factory Mutual
IBR	Institute of Boiler and Radiator Manufacturers
IEEE	Institute of Electrical and Electronics Engineers
MSSP	Manufacturers Standards Society of the Valve and Fittings Industry
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
TEMA	Tubular Exchanger Manufacturers Association
TIMA	Thermal Insulation Manufacturers Association
UL	Underwriters Laboratories

- 19.5 No new, replacement or restoration materials shall contain asbestos or asbestiform minerals in an amount greater than 0.0% as determined by Polarized Light Microscopy (PLM) as prescribed in Federal Regulation 40 CFR 763.87. For materials that are tightly bound (e.g. floor tile, roofing asphalt and felts, adhesive/mastic, caulk, glaze, etc.) and for which PLM analysis is not conclusive, transmission electron microscopy must be used for analysis. If no commercially available material meets this criterion, written authorization for use of the material shall be obtained from the HCPS Project Manager. All materials delivered to or used on HCPS property must be accompanied by a manufacturer's certification to be asbestos free, based upon criterion above. The Material Safety Data Sheet may not be used for this purpose.
- 19.6 No new, replacement or restoration materials shall contain lead in an amount greater than 0.00 milligrams per liter or 0.00 milligrams per kilogram. If no commercially available material meets either criterion, written authorization for use of the material shall be obtained from the HCPS Project Manager.
- 19.7 All Harford County codes and regulations including the latest edition of The International Building Code are relevant.
- 19.8 Awarded Bidder shall insure that all modifications address the provisions of the ADA.

**20.0 CONCEALED OR UNKNOWN CONDITIONS**

In the performance of any work or services, if the Awarded Bidder encounters conditions at the Facilities that are (1) subsurface if otherwise concealed physical conditions that differ materially from those indicated on the drawings furnished by HCPS or (2) unknown physical conditions of an unusual nature that differ materially from those conditions normally found to exist and generally recognized as inherent in the construction activities if the type and character as that which is described, then the Awarded Bidder shall notify HCPS of such conditions promptly, prior to significantly disturbing the same, and in no event later than 2 days after the first observation the conditions. If such conditions differ materially and cause an increase or decrease in the Awarded Bidder's cost of, or time required for, performance of any part of the work or services, the Awarded Bidder shall be entitled to, and HCPS shall consent in writing to, an equitable adjustment in the amounts paid to the Awarded Bidder pursuant to this Agreement, the times for performance or both.

**21.0 INDEMNIFICATION**

- 21.1 To the fullest extent permitted by law, the Indemnitor shall indemnify, defend and hold the Indemnitee and its employees, agents, officials or volunteers harmless from and against any and all claims, losses, damages, expenses, causes of action and liabilities including without limitations, attorney's fees arising out of or related to the Indemnitor's occupancy or use of the Indemnitee's premises or operations incidental thereto, provided that any such claim, loss, damage, expense, cause of action or liability is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting there from. Indemnitor expressly indemnifies indemnitee for the consequences of any negligent act or omission of the Indemnitor or any of the Indemnitor's employees, agents, officials or volunteers or anyone for whose acts the Indemnitor may be liable, unless such act or omission constitutes gross negligence or willful misconduct.
- 21.2 In claims against any person or entity indemnified within this indemnification by an employee of the Awarded Bidder, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Awarded Bidder or a subcontractor under Workers' Compensation Acts, Disability Benefit Acts, or other employee benefit acts.
- 21.3 The obligations of the Awarded Bidder within this indemnification shall not extend to the liability of the Construction Manager, Architect, their consultants and agents and employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs, or specifications, or (2) the giving of or the failure to give directions or instructions by the Construction Manager, Architect, their consultants, and agents and employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

**22.0 INTELLECTUAL PROPERTY**

The Contractor represents and warrants that all goods and services that it will furnish under this Contract do not and will not infringe on any valid copyright, patent, service mark or trademark. The Contractor shall pay all royalties and license fees which may be due on the inclusion of any patented or copyrighted materials, methods or systems selected by the Contractor or used by the Contractor in the performance of its services. The Contractor shall defend, hold harmless and indemnify HCPS from all suits or claims for infringement of any patent rights or copyrights arising out of such selection.

**23.0 ACCESS TO FACILITIES FOR PERFORMANCE**

From the date hereof and throughout the term of this agreement, the Awarded Bidder shall have reasonable access to the Facilities and relevant personnel of HCPS to perform its obligations and to investigate performance of the equipment, systems and operations of the Facilities.

**24.0 SUSPENSION OF WORK**

- 24.1 HCPS may unilaterally order the Awarded Bidder in writing to suspend, delay, or interrupt all or any part of the work for such period of time as may be appropriate for the convenience of the HCPS. Such suspensions, delays or interruptions should be for less than sixty (60) days unless there are extenuating circumstances.
- 24.2 The times required, and the completion of work shall be equitably adjusted to take into account the period of such suspensions, delay or interruption.
- 24.3 HCPS will compensate the Awarded Bidder only for the cost(s) to re-mobilize to the Facilities any equipment that had to be leased or rented for the suspension period that was critical to the operation of the Facility and any offsite storage cost(s) besides the Awarded Bidder's facility that had to be used to store materials related to the work. The Awarded Bidder shall, at the suspension of work, notify the HCPS of any such charges stating the monetary damages that will incur and shall document weekly in writing to the HCPS the cumulative costs during the delay period. In no way will any approved delay effect the warranty period regarding any accepted completion by the HCPS relating to equipment installed by the Awarded Bidder, its subcontractors and suppliers.

**25.0 DELAYS, EXTENSIONS OF TIME**

- 25.1 The Bidder agrees to perform all work and provide all supplies or materials, in accordance with all the sections of this bid in a timely, continuous and diligent manner in order to comply with the time requirements set forth in this bid and/or the Contract. The Bidder acknowledges and agrees that the only party that may grant a legally binding time extension or agree to a substitution of products, materials, equipment and/or supplies is the Supervisor of Procurement. Any and all time extensions and/or changes/substitutions of products, materials, equipment and/or supplies must be requested in writing by the Bidder before the extension and/or change takes place and approved in writing by HCPS.
- 25.2 Any delays by the Awarded Bidder to commence work will not change the Completion Date or relinquish the Awarded Bidder from the responsibility of meeting the established completion requirements by the Completion Date unless written permission has been granted from the Supervisor of Procurement.

**26.0 HAZARDOUS MATERIALS**

- 26.1 The Awarded Bidder's work and other services pursuant to or in connection with this Agreement includes work connected and associated with asbestos, lead, polychlorinated biphenyl ("PCB"), fluorescent light bulbs, or other hazardous materials (hereinafter, collectively, "Hazardous Materials"). The Awarded Bidder shall be required to perform identification, abatement, cleanup, control, and removal of Hazardous Materials. HCPS warrants and represents that, except as set forth in the Technical Proposal, there are no Hazardous Materials on the Facilities that will in any way affect the Awarded Bidder's work or any other services and HCPS has disclosed to the Awarded Bidder the existence and location of any Hazardous Materials in all areas within which the Awarded Bidder will be performing any part of the work or other services. The existence or location of any Hazardous Materials that have been disclosed by HCPS to the

Awarded Bidder prior to the execution hereof, or that were otherwise identified in the Technical Specifications, shall be the exclusive responsibility of the Awarded Bidder.

- 26.2 Should the Awarded Bidder become aware of or suspect the presence of Hazardous Materials, other than already disclosed by HCPS within the Technical Specifications, the Awarded Bidder shall immediately stop work in the affected area and notify HCPS. HCPS will be responsible for taking any and all actions necessary to correct the condition in accordance with all applicable laws and regulations. The Awarded Bidder shall be required to resume performance of the work or any HCPS requested work in the affected areas only in the absence of Hazardous Materials or when the affected area has been rendered harmless. Except as set forth in the Technical Specifications, the Awarded Bidder shall not be obligated to transport or handle Hazardous Material, to provide any notices to any governmental authority or agency, or to inspect or examine the Facilities for the presence of Hazardous Material.

## **27.0 LEGISLATED BID REQUIREMENTS**

Award of contracts over \$50,000 shall be awarded to the lowest responsive and responsible bidder who conforms to the Specifications with consideration given to: (1) the quantities involved, (2) the time required for delivery, (3) the purpose for which it is required, (4) the competency and responsibility of the Bidder, (5) the ability of the Bidder to perform satisfactory service, and (6) the plan for utilization of minority contractors (certified by M-DOT). [REF: State of Maryland Senate Bill 202, Section 5-112-Education Article, Sub. C effective 7-1-00]

## **28.0 PREVAILING WAGE-SCHOOL CONSTRUCTION**

If the estimated cost of the Contract is \$250,000 or more and if State funds will be 25% or more, the Contract shall meet the prevailing wage requirements contained in Chapter 57, 2020 Md. Laws, effective October 1, 2021. Prevailing wage rates are required for the appropriate trades included in the project and must be reflected in the Bids submitted. HCPS is required to include a notation in the Bid Announcement and advertisement that, "PREVAILING WAGE RATES ARE APPLICABLE TO THIS PROJECT". Questions regarding the prevailing wage rate process or procedure may be directed to the Administrator of the Prevailing Wage Program, State of Maryland.

## **29.0 ROYALTIES AND PATENTS**

The Awarded Bidder shall pay all royalties and license fees. The Awarded Bidder shall defend suits or claims for infringement of patent rights and shall hold HCPS, Construction Manager, and/or the Architect/Engineer/Designer harmless from loss on account thereof but shall not be responsible for such defense or loss when a particular design process or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Awarded Bidder has reason to believe that the required design process or product is an infringement of a patent, the Awarded Bidder shall be responsible for such loss unless such information is promptly furnished to HCPS and/or the Architect/Engineer/Designer.

## **30.0 ILLEGAL IMMIGRANT LABOR**

The use of illegal immigrant labor to fulfill contracts solicited by HCPS is in violation of the law and is strictly prohibited. Contractors and subcontractors must verify employment eligibility of workers in order to ensure that they are not violating Federal/State/Local laws regarding illegal immigration. A compliance audit may be conducted.

## **31.0 FOREIGN LANGUAGE TRANSLATOR REQUIREMENT**

- 31.1 HCPS requires an awarded bidder to have on site, a full-time interpreter that is fluent in speaking and understanding an employee's native language if the Contractor has on site an employee that does not speak English.
- 31.2 Failure of an awarded bidder to have on site, full time, an interpreter that is fluent in speaking and understanding an employee's native language for those employees that do not speak English is reason for immediate Termination for Cause.



### **32.0 EMPLOYMENT OF CHILD SEX OFFENDERS AND OTHER CRIMINAL OFFENDERS**

- 32.1 **If a child sex offender, as determined by the definitions contained in the Criminal Law Article of the Annotated Code of Maryland, is employed by the Awarded Bidder, the Awarded Bidder is prohibited from assigning that employee to perform management, delivery, installation, repair, construction or any other type of services on any HCPS property, including the project property. Violation of this provision may result in Termination for Cause.**
- 32.2 Contractor acknowledges and agrees that, pursuant to Section §6-113 of the Education Article of Maryland Code, Contractor is prohibited from knowingly assigning or permitting its Subcontractors from knowingly assigning any of the Contractor's or Subcontractor's employees to work in, on or about school premises if such employee may or would have direct, unsupervised and uncontrolled access to children if the employee has been convicted of, pled guilty or *nolo contendere*, to any of the following crimes.
- 32.2.1 A sexual offense in the third or fourth degree under §3-307 or §3-308 of the Criminal Law Article of the Maryland Code or an offense under the laws of another state that would constitute an offense under §3-307 or §3-308 of the Criminal Law Article if committed in Maryland;
- 32.2.2 Child sexual abuse under §3-602 of the Criminal Law Article, or an offense under the laws of another state that would constitute child sexual abuse under §3-602 of the Criminal Law Article if committed in Maryland; or
- 32.2.3 A crime of violence as defined in §14-101 of the Criminal Law Article, or an offense under the laws of another state that would be violation of §14-101 of the Criminal Law Article if committed in Maryland, including: (1) abduction; (2) arson in the first degree; (3) kidnapping; (4) manslaughter, except involuntary manslaughter; (5) mayhem; (6) maiming; (7) murder; (8) rape; (9) robbery; (10) carjacking; (11) armed carjacking; (12) sexual offense in the first degree; (13) sexual offense in the second degree; (14) use of a handgun in the commission of a felony or other crime of violence; (15) child abuse in the first degree; (16) sexual abuse of a minor; (17) an attempt to commit any of the crimes described in items (1) through (16) of this list; (18) continuing course of conduct with a child under §3-315 of the Criminal Law Article; (19) assault in the first degree; (20) assault with intent to murder; (21) assault with intent to rape; (22) assault with intent to rob; (23) assault with intent to commit a sexual offense in the first degree; and (24) assault with intent to commit a sexual offense in the second degree.
- 32.3 Direct unsupervised and uncontrolled access with students is prohibited. If you, as the Contractor/Site Supervisor, witness or suspect your employee(s) entering into a student area, action must be taken immediately to rectify the situation.
- 32.4 Section §11-722 of the Criminal Procedure Article of the Maryland Code prohibits any person with a contract with a local Maryland school system from knowingly employing an individual to work at the school if the individual is registered as a sex offender pursuant to Section §11-704 of the Criminal Procedure Article. Violation of this paragraph may result in termination of the agreement at HCPS's discretion.

### **33.0 CRIMINAL BACKGROUND CHECKS FOR CONTRACTORS**

Amendments to Section §5-561 of the Family Law Article of the Maryland Code effective July 1, 2015, require each Contractor and Sub-Contractor with a local school system to ensure that any individuals in their work force undergo a criminal background check and fingerprinting if such individual will work in, on or about school premises and the individual will have direct, unsupervised and uncontrolled access to children.

The term "**work force**" means any of the Contractor's employees or the Contractor's Sub-Contractors and their employees.

Contractor shall cause any member of Contractor's work force to undergo a criminal history background check, including fingerprinting, if such work force member may or will work in, on or about school premises and may, or will have direct, unsupervised and uncontrolled access to children. Such background check and fingerprinting shall meet the requirements of Section §5-560 to §5-569 of the Family Law Article of the Maryland Code.

The cost of such criminal background check and fingerprinting shall be paid by Contractor.

HCPS shall have the right, in its sole discretion, to prohibit any individual from performing any work at, or in or about school premises based on such individual's criminal background check.

- 33.1 IN ADDITION to the above requirements, Contractors shall comply with the requirements of House Bill 486 passed by the General Assembly in 2019, regarding screening of applicants for employment.
- 33.1.1 Effective July 1, 2019
  - 33.1.2 MSDE Guidance for House Bill 486 – Child Sexual and Sexual Misconduct Prevention) can be found online at [www.marylandpublicschools.org](http://www.marylandpublicschools.org).
  - 33.1.3 Submission of Section 000325 Contract Affidavit (HB 486/SB 541 Compliance) is required to be submitted prior to award of contract.

#### **34.0 MINORITY BUSINESS ENTERPRISE PARTICIPATION**

Minority participation is encouraged on all contracts and non-minority prime contractors are encouraged to use minority subcontractors. Specific requirements may apply to certain bids when State of Maryland School Construction Program funds are utilized.

When applicable, a special section in the bid documents will be included as "Minority Business Enterprise Procedures". When this requirement is included in the bid documents the required certificate, waiver forms, schedule for participation forms must be submitted. Failure to submit said documents may result in a determination that the Bid is non-responsive. If the Contractor is deemed the apparent low bidder, the Minority Business Enterprise documentation described in the bid documents must be submitted within ten (10) working days of receiving notification of potential award.

**For projects estimated to be over \$50,000, "The Bidder or Offeror is required to submit with its bid or proposal a completed Attachment 1A - MBE Utilization and Fair Solicitation Affidavit and MBE Participation Schedule, as described in the solicitation documents. If Attachment 1A, MBE Utilization and Fair Solicitation Affidavit and MBE Participation Schedule, are not submitted with the Bid at the time of opening, the Bid will be deemed non-responsive and not considered. The Bidder or Offeror recognizes that their efforts made to initiate contact to solicit and to include MBE firms in this project will be reviewed carefully and evaluated based upon the actions taken by them prior to and up to 10 days before the Bid or Proposal opening.**

**The Contractor shall perform the Contract in accordance with the representations made in Attachment 1A – Minority Business Enterprise Utilization and Fair Solicitation Affidavit and MBE Participation Schedule submitted as part of the Bid or Proposal. Failure to perform the Contract as specified and presented in the Bid or Proposal submission without prior written consent of the Owner shall constitute a violation of a material term of the Contract.**

#### **35.0 LABOR AND RATES OF PAY**

- 35.1 The Awarded Bidder agrees that it shall abide by all applicable provisions of Federal and State law and regulation pertaining to workplace conditions, child labor and that all employees will be treated with dignity and respect.
- 35.2 The Awarded Bidder agrees to comply with all applicable Federal and State law and regulation relating to payment of wages.

#### **36.0 PROCUREMENT-INVESTMENT ACTIVITIES IN IRAN**

The Awarded Bidder agrees that it shall abide by and comply with Section 17-701 et seq. of the State Finance and Procurement Article of the Maryland Code, regarding business in Iran.

#### **37.0 CONTRACT**

The Bid with respect to all items accepted, addenda, agreements and all papers and documents accompanying the same, including these general and special conditions shall constitute the Formal Contract between the Bidder and HCPS.

**38.0 TAXES**

- 38.1 Materials, which are incorporated into work under formal or informal contracts, are not exempt from the Maryland State Sales or Use Tax. Awarded Bidders shall be responsible for paying such taxes when purchasing materials. HCPS tax-exempt certificates cannot be used by contract awardees.
- 38.2 No charge will be allowed for Federal, State or municipal sales and excise taxes from which HCPS is exempt. The price bid shall be net and shall not include any tax. Exemption certificates, if required, will be furnished on forms provided by the Bidder. HCPS is specifically exempt from retail sales tax under Maryland Certificate 3000120-1. Harford County Public Schools, Maryland is a political organization of the State of Maryland under the "Code of Maryland-Title 13A". The Internal Revenue Code Section 501 specifically exempts political organizations from Federal Income Tax. Harford County Public Schools, Maryland Federal Tax ID is #52-6000955.

**39.0 DELIVERIES**

All supplies and/or materials must be held by the Awarded Bidder until needed at the site unless they can be stored in the area in which the work is to be done and that area has been closed to occupant usage. The Awarded Bidder shall obtain the permission of the HCPS representative regarding any needed storage of materials and equipment. Such storage shall be done in such a manner as not to interfere with the building schedule. The Awarded Bidder shall be responsible for any and all accidents caused by negligence from this source. HCPS does not accept responsibility for losses of material or equipment, regardless of approval to store, in any institution's facilities or grounds.

**40.0 INSPECTIONS/CORRECTION OF WORK**

All work and materials, all processes of manufacturer, and all methods of construction shall be at all times and places subject to the inspection of HCPS who shall be the final judge of the quality and suitability of the work, materials, process of manufacturer and methods of construction for the purposes for which they are contracted and used. Should they fail to meet the necessary approval, they shall be corrected, made good or replaced at the Contractor's expense, and to the complete satisfaction of HCPS. Rejected material shall be immediately removed from the site. Failure to correct the work shall be grounds for immediate termination of the Contract.

**41.0 COMPLIANCE WITH SPECIFICATIONS**

- 41.1 The Awarded Bidder shall abide by and comply with the true intent of the specifications and not take advantage of any unintentional error or omission, but shall fully complete every part as the true intent and meaning of the drawings and specifications as described.
- 41.2 The Awarded Bidder, after award and prior to starting work, may be required to submit working drawings or detailed descriptive data identified as acceptable to HCPS, which provide sufficient data to enable HCPS to judge the Awarded Bidder's compliance with the specifications.
- 41.3 Where the requirements of the specifications call for higher grade and are not in conflict with the laws, ordinances, etc., the specifications shall govern.
- 41.4 Where the requirements of the laws, ordinances, etc., are mandatory, they shall govern.
- 41.5 In case of any apparent conflict between the specifications and such laws, ordinances, etc., the Awarded Bidder shall call the attention of the applicable HCPS designee(s) to such conflict for a decision before proceeding with any work.
- 41.6 Any deviations to the Specifications or Statement of Work must be clearly noted in detail by the Bidder/Officer, in writing, at the time of submittal of the formal proposal. Any deviations, alternations or changes to the bid document or from the specifications as written may result in rejection of the Bidder's/Officer's proposal or materials delivered.

**42.0 BILLING AND PAYMENT**

- 42.1 Each invoice shall list the purchase order number or contract number of HCPS and the items on the

invoice shall be listed in the same order as on the purchase order. The original invoice shall be submitted to the Accounts Payable email address at [APIInvoice@hcps.org](mailto:APIInvoice@hcps.org), unless otherwise specified.

- 42.2 Payment in full will only be made upon final acceptance of items as shown on Purchase Order. Partial payments may be paid if partial shipments have been made and received.
- 42.3 Standard HCPS payment terms are net thirty (30) days.
- 42.4 HCPS will not pay freight bills, unless stated otherwise. Delivery shall be F.O.B., to the destination(s) as noted on Purchase Order.

**43.0 GOVERNING LAW AND DISPUTE RESOLUTION**

- 43.1 The Bid shall be construed in accordance with, and interpreted under, the laws of the State of Maryland. Any lawsuits arising out of such bid shall be filed in the appropriate State Court located in Harford County, Maryland.
- 43.2 Alternative Dispute Resolution (ADR) may be used at HCPS's sole discretion, but HCPS is not obligated to utilize ADR.

**44.0 CONFLICTS OF INTEREST**

No employee of Harford County Public Schools shall engage in or have a financial interest in any Contract that conflicts or raises a reasonable question of conflict with their duties and responsibilities. Further, Harford County Public Schools may, by written notice of default to the supplier, terminate in whole or in part the Contract if a determination is made that obtaining the Contract was influenced by an employee of Harford County Public Schools having received a gratuity, or promise thereof, in any way or form.

**45.0 ORDER OF PRECEDENCE**

In the event of an inconsistency among provisions of this solicitation, the inconsistency shall be resolved by the following order of precedence:

- Specifications
- Terms and Conditions
- General Provisions

**46.0 IT ACCESSIBILITY PROGRAM**

- 46.1 Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended in 1998, is a federal law that requires agencies to provide individuals with disabilities equal access to electronic information and data comparable to those who do not have disabilities, unless an undue burden would be imposed on the agency. The Section 508 standards are the technical requirements and criteria that are used to measure conformance within this law. More information on Section 508 and the technical standards can be found at [www.section508.gov](http://www.section508.gov).
- 46.2 Section 508 requires agencies, during the procurement, development, maintenance, or use of ICT, to ensure that individuals with disabilities have access to and use of ICT information and data comparable to the access and use afforded to individuals without disabilities (i.e., "ICT accessibility"), unless an undue burden would be imposed on the agency. The Section 508 standards are the technical requirements and criteria that are used to measure conformance with the law and incorporate the W3C Web Content Accessibility Guidelines (WCAG) 2.1.

**47.0 TECHNOLOGY-BASED INSTRUCTIONAL PRODUCTS**

- 47.1 HCPS is committed to ensuring that digital technology (hardware, instructional software, online resources, and computer-based equipment) is accessible to individuals with disabilities. The Vendor guarantees that all digital tools supplied under this contract meet the accessibility requirements of the Web Content Accessibility Guidelines ("WCAG") 2.1 Level AA and conform to the most recent Section

508 standards for information technology accessibility under the federal Rehabilitation Act of 1973. "Digital tool" is defined pursuant to Md. Code Ann., Educ., § 7-910.

47.2 All online platforms must conform to the guidelines for accessibility as set forth in the WCAG version 2.1 (minimum Level AA conformance). HCPS will only consider vendors whose products conform to these standards. Conformance to the specified standards can be documented through the submission of an up-to-date, complete, and accurate Accessibility Conformance Report (ACR). The ACR must address the leading ICT accessibility standards: Section 508 (U.S.), EN 301 549 (EU), and W3C/WAI WCAG. The ACR must include the latest version of the [Voluntary Product Accessibility Template](#) (VPAT®), which can be obtained from the Information Technology Industry Council (ITI) website (<https://www.itic.org/>).

47.3 For digital tools, vendors are required to submit an accessibility conformance report that includes a Voluntary Product Accessibility Template for any invitation for bids, requests for proposals, procurement contracts, grants, or modifications to contracts or grants. The accessibility conformance report must explain how information and communication technology products, including software, electronic content, and support documentation, conform to the most recent ICT accessibility standards: Section 508 (U.S.), EN 301 549 (EU), and W3C/WAI WCAG. The instructions and the required forms can be found at the General Services Administration (GSA) Section 508 website at <https://www.section508.gov/sell/how-to-create-acr-with-vpat/>.

#### 47.4 **Vendor Notice of Equivalent Access Standards**

In accordance with Md. Code Ann., Educ., § 7-910, "equivalent access" includes the ability to receive, use, and manipulate information and operate controls necessary to access and use information technology, including by nonvisual means, so that a student with disabilities can access the same services as a student without disabilities with substantially equivalent ease of use.

"Equivalent access" includes:

1. Keyboard controls used for input and synthesized speech;
2. Braille; and
3. Other audible or tactile means used for output.

"Nonvisual access" means the ability to receive, use, and manipulate information and operate controls necessary to access information and communications technology through keyboard controls, synthesized speech, braille, or other methods not requiring sight.

#### 47.5 **Accessibility Indemnification and Guarantees**

47.5.1 The Vendor agrees to indemnify and hold harmless HCPS from any costs, expenses, liabilities, or obligations arising from accessibility-related issues involving the digital tools provided under this contract. This indemnification includes the defense of any legal action or proceedings alleging non-compliance with federal or State of Maryland accessibility laws and regulations and payment of any resulting liabilities. This clause will survive the termination of the contract.

47.5.2 Vendors failing to meet the equivalent access standards established under Subsection (a)(2) of Section 508 of the federal Rehabilitation Act of 1973 or WCAG 2.1 Level AA may face civil penalties set forth in Md. Code Ann., Educ., § 7-910.

47.5.3 For all technology based instructional products, online platforms, and digital tools, Vendors must maintain and improve their digital accessibility in compliance with evolving standards and best practices. Vendors will provide a listing of timelines for expected improvements to the programs. Vendors will establish a mechanism for users to report accessibility issues and ensure prompt resolution of reported problems.

#### 47.6 **Third-Party Technology**

The Vendor acknowledges that supplying third-party technology does not exempt the Vendor from ensuring product compliance with this clause. The Vendor bears sole responsibility for determining the

accessibility of such technology and must ensure that it can be edited or remediated as necessary to comply with accessibility standards.

**48. FORCE MAJEURE**

- 48.1 A party shall not be liable for any failure of or delay in the performance of this agreement for the period that such failure or delay is beyond the reasonable control of a party, materially affects the performance of any of its obligations under this agreement and could not reasonably have been foreseen or provided against but will not be excused for failure or delay resulting from only general economic conditions or other general market effects.
- 48.2 The list of events to be included is a matter of negotiation between the parties. Such causes may include, but are not limited to, acts of God, nature or the public enemy, terrorism, invasion, insurrection, order of court, judge, or civil authority, strike, stoppage of labor, riot, and unusually severe weather, significant fires, floods, earthquakes, storms, epidemics, pandemics, quarantine restrictions, strikes, freight embargos, government regulation, or governmental authorities, and delays which are not caused by any act or omission.
- 48.3 If either party is delayed by force majeure, the time of contract completion may be extended by contract modification, for a period of time equal to that delay caused under this condition. HCPS may also consider requests for price increase for raw materials that are directly attributable to the cause of delay. HCPS reserves the right to cancel the contract and/or purchase materials, equipment or services from the best available source during the time of force majeure, and Contractor shall have no recourse against HCPS. Further, except for payment of sums due, neither party shall be liable to the other or deemed in default under this contract, if and to the extent that such party's performance of this contract is prevented by reason of force majeure as defined herein.

**Board of Education of Harford County, Maryland  
Procurement Department  
102 South Hickory Avenue, Third Floor, Suite 310  
Bel Air, Maryland 21014**

**INSURANCE REQUIREMENTS  
Construction General**

1. **General Insurance Requirements**

- 1.1 The Vendor shall not commence any supply, delivery or installation of any products or materials purchased by the Board of Education of Harford County (the Board) under this Contract until the Vendor has obtained at the Vendor's own expense all of the insurance as required hereunder and such insurance has been approved by the Board; nor shall the Vendor allow any Subcontractor to commence work on any subcontract until all insurance required of the Subcontractor has been so obtained and approved by the Vendor. Approval of insurance required of the Vendor will be granted only after submission to the Board of original certificates of insurance signed by authorized representatives of the insurers or, at the Board's request, certified copies of the required insurance policies.
- 1.2 Insurance as required hereunder shall be in force throughout the term of the Contract and, in accordance with 2.1.1.iii., for two years after final payment by the Board under this Contract. Original certificates signed by authorized representatives of the insurers or, at the Board's request, certified copies of insurance policies, evidencing that the required insurance is in effect, shall be maintained with the Board throughout the term of the Contract and for two years after final payment by the Board under this Contract.
- 1.3 The Vendor shall require all Subcontractors to maintain during the term of the Contract commercial general liability insurance, business auto liability insurance, and workers compensation and employers liability insurance to the same extent required of the Vendor in 2.1.1, 2.1.2 and 2.1.3 unless any such requirement is expressly waived or amended by the Board in writing. If any Subcontractor is storing, transporting, and/or delivering the products or materials purchased by the Board under this Contract, the Vendor shall require such Subcontractor(s) to maintain during the term of the Contract transportation (cargo) insurance and employee dishonesty insurance to the same extent required of the Vendor in 3.1 and 3.2. The Vendor shall furnish Subcontractors' certificates of insurance to the Board immediately upon request.
- 1.4 All insurance policies required hereunder shall be endorsed to provide that the policy is not subject to cancellation, non-renewal or material reduction in coverage until sixty (60) days prior written notice has been given to the Board.
- 1.5 No acceptance and/or approval of any insurance by the Board shall be construed as relieving or excusing the Vendor from any liability or obligation imposed upon the Vendor by the provisions of this Contract.
- 1.6 If the Vendor does not meet the insurance requirements of this Contract, the Vendor shall forward a written request to the Board for a waiver in writing of the insurance requirement(s) not met or approval in writing of alternate insurance coverage, self-insurance, or group self-insurance arrangements. If the Board denies the request, the Vendor must comply with the insurance requirements as specified in this Contract.
- 1.7 All required insurance coverages must be underwritten by insurers allowed to do business in the State of Maryland and acceptable to the Board. The insurers must also have a policyholders' rating of "A-" or better, and a financial size of "Class VII" or better in the latest evaluation by A. M. Best Company, unless Board grants specific approval for an exception. The Board hereby grants specific approval for the acquisition of workers compensation and employers liability insurance from the Injured Workers Insurance Fund of Maryland.

- 1.8 Any deductibles or retentions in excess of \$10,000 shall be disclosed by the Vendor, and are subject to Board's written approval. Any deductible or retention amounts elected by the Vendor or imposed by the Vendor's insurer(s) shall be the sole responsibility of the Vendor.
- 1.9 Any and all return premiums and/or dividends for insurance or coverage directly charged to the Board by the Vendor in connection with this Contract shall belong to and be payable to the Board.
- 1.10 If the Board is damaged by the failure or neglect of the Vendor to purchase and maintain insurance as described and required herein, without so notifying the Board, then the Vendor shall bear all reasonable costs properly attributable thereto.

2. **Vendor's Liability Insurance**

2.1 The Vendor shall purchase and maintain the following insurance coverages at not less than the limits specified below or required by law, whichever is greater:

2.1.1 **Commercial general liability** insurance or its equivalent for bodily injury, personal injury and property damage including loss of use, with minimum limits of:

\$1,000,000	Each Occurrence;
\$1,000,000	Personal and Adv Injury;
\$2,000,000	General Aggregate; and
\$2,000,000	Products/Completed Operations Aggregate

This insurance shall include coverage for all of the following:

- i. Liability arising from premises and operations;
- ii. Liability arising from the actions of independent contractors;
- iii. Liability arising from products and completed operations with such coverage to be maintained for two years after final payment by the Board under this Contract; and
- iv. Contractual liability protection for the Vendor from bodily injury and property damage claims arising out of liability assumed under this Contract.

2.1.2 **Business auto liability** insurance or its equivalent with a minimum limit of **\$1,000,000** per accident and including coverage for all of the following:

- i. Liability arising out of the ownership, maintenance or use of any auto (if no owned autos, then hired and non-owned autos only); and
- ii. Automobile contractual liability.

2.1.3 **Workers compensation insurance** or its equivalent with statutory benefits as required by any state or Federal law, including standard "other states" coverage; employers liability insurance or its equivalent with minimum limits of:

\$100,000	Each accident for bodily injury by accident;
\$100,000	Each employee for bodily injury by disease; and
\$500,000	Policy limit for bodily injury by disease.

2.1.4 **Umbrella excess liability** or excess liability insurance or its equivalent with minimum limits of:

\$5,000,000	Per occurrence;
\$5,000,000	Aggregate for other than products/completed operations and auto liability; and
\$5,000,000	Products/completed operations aggregate.



And including all of the following coverages on the applicable schedule of underlying insurance:

- i. Commercial general liability;
- ii. Business auto liability; and
- iii. Employers liability

2.1.5 **Contractors pollution liability** insurance or its equivalent for bodily injury, property damage, including loss of use, and clean -up costs on and off the Project site, with minimum limits of:

- \$ 1,000,000 Each Pollution Incident; and
- \$ 2,000,000 Annual Aggregate.

2.1.6 The Board of Education of Harford County and its elected and appointed officials, officers, employees and authorized volunteers shall be named as additional insureds on the Vendor's commercial general liability insurance and umbrella excess or excess liability insurance policies, if any, with respect to liability arising out of the products and/or materials, their installation or delivery, or related services provided under this Contract by Vendor. Such coverage shall extend to cover the additional insured(s) for liability arising out of the following:

- i. On-going operations;
- ii. Board's general supervision of installation, delivery and/or other services as provided by the Vendor under this Contract; and
- iii. Products and completed operations.

The commercial general liability policy and the umbrella excess liability or excess liability policies, if required herein, must include additional insured language, which shall afford liability coverage for all of the exposures listed above in i., ii. and iii., as follows:

"The Board of Education of Harford County and its elected and appointed officials, officers, employees and authorized volunteers are named as additional insureds on this commercial general liability insurance with respect to liability arising out of the services provided by the Named Insured under Contract:

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(Enter specific identifying information such as project name, Board's contract number and/or date of contract)."

**Special Notes:** ISO form CG 2026 12/19 or its Equivalent, entitled "Additional Insured – Owners, Lessees or Contractors – Scheduled Person or Organization" (previously Forms A and B respectively) are **NOT ACCEPTABLE**. ISO form CG 2026 entitled "Additional Insured – Designated Person or Organization" **or a manuscript endorsement with the above wording is required.**

2.1.7 Insurance or self-insurance provided to the Board of Education of Harford County and its elected and appointed officials, officers, employees and authorized volunteers under any Vendor's liability insurance of self-insurance required herein, including, but not limited to, umbrella and excess liability or excess liability policies, shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of insurance or self-insurance. (Any cross suits or cross liability exclusion shall be deleted from Vendor's liability insurance policies required herein.)

2.1.8 Insurance or self-insurance provided to the Board of Education of Harford County and its elected and appointed officials, officers, employees and authorized volunteers as specified herein shall be primary, and any other insurance, self-insurance, coverage or indemnity available to the Board and its elected and appointed officials, officers, employees and authorized volunteers shall be excess of and non-contributory with insurance of self-

insurance provided to the Board and its elected and appointed officials, officers, employees and authorized volunteers as specified herein.

- 2.2 If any liability insurance purchased by the Vendor has been issued on a “claims made” basis, the Vendor must comply with the following additional conditions:
- i. The Vendor shall agree to provide certificates of insurance evidencing the above coverages for a period of two years after final payment by the Board under this Contract. Such certificates shall evidence a retroactive date no later than the inception date of this Contract; or
  - ii. The Vendor shall purchase an extended (minimum two years) reporting period endorsement for each such “claims made” policy in force as of the expiration or termination date of this Contract and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself. Such certificate or copy of the endorsement shall evidence a retroactive date no later than the inception date of this Contract.

3. **Vendor’s Property Insurance**

- 3.1 The Vendor (or Subcontractor) storing, transporting and/or delivering the products or materials purchase by the Board under this Contract shall purchase and maintain transportation (cargo) insurance on incoming goods in its care, custody or control, while such property is being loaded, is in transit, is being unloaded and until such time property is set at its final destination.

Such insurance shall value incoming goods in transit at the amount of the selling invoice plus prepaid or advanced freight charges. Property not under invoice shall be valued at the cost to repair or replace the lost or damaged incoming goods. Such insurance shall be written at per conveyance and per occurrence limits equal to or in excess of the total selling price value of the largest shipment of incoming goods purchased under this Contract or at other limits acceptable to the Board.

- 3.2 The Vendor (or Subcontractor) storing, transporting and/or delivering the products or materials purchased by the Board under this Contract shall purchase and maintain blanket employee dishonesty insurance, which shall pay for loss of the products or materials purchased by the Board under this Contract when caused by the dishonest acts of the Vendor’s (or subcontractor’s) employees, at a limit equal to or in excess of the total selling price value of the largest shipment of incoming goods purchased under this Contract or at another limit acceptable to the Board.

- 3.3 The Vendor (or Subcontractor) storing, transporting and/or delivering the products or materials purchased by the Board under this Contract shall be responsible for payment of any deductibles applicable under this transportation insurance, employee dishonesty insurance or other property insurance applicable to the incoming goods.

4. **Indemnification**

To the fullest extent permitted by law, Vendor agrees to defend, indemnify, pay on behalf of and save harmless the Board of Education of Harford County, its elected and appointed officials, agents, employees and authorized volunteers against any and all claims, liability, demands, suits or loss, including attorneys’ fees and all other costs connected therewith, arising out of or connected to the supply, delivery or installation of any products or materials provided by Vendor under this Contract.

5. **Waiver of Subrogation**

To the fullest extent permitted by law, the Vendor and its invitees, employees, officials, volunteers, agents and representatives waive any right of recovery against the Board of Education of Harford County for any and all claims, liability, loss, damage, costs or expense (including attorneys’ fees) arising out of the supply,

delivery or installation of any products or materials provided by Vendor under this Contract. Vendor specifically waives any right of recovery against the Board and its elected and appointed officials, officers, volunteers, agents and employees for personal injury (and any resulting loss of income) suffered while working on behalf of the Board as an independent contractor. Such waiver shall apply regardless of the cause of origin of the injury, loss or damage, including the negligence of the Board and its elected and appointed officials, officers, volunteers, agents and employees. The Vendor shall advise its insurers of the foregoing.

6. **Acknowledgment of Vendor's Independent Contractor Status and no Coverage For Vendor Under Board's Workers Compensation Coverage**

Vendor hereby acknowledges its status as an independent contractor while supplying, delivering or installing products or materials on behalf of the Board and that the Board's workers compensation coverage or self-insurance is not intended to and will not respond to cover any medical or indemnity loss arising out of injury to the Vendor or its employees during the Vendor's provision of goods or services to the Board. To the fullest extent permitted by law, the Vendor specifically waives any right of recovery against the Board and its elected and appointed officials, officers, volunteers, agents and employees for personal injury (and any resulting loss of income) suffered during the Vendor's provision of goods or services as an independent contractor for the Board. Such waiver shall apply regardless of the cause of original of the injury, loss or damage, including the negligence of the Board and its elected and appointed officials, officers, volunteers, agents and employees. The Vendor shall advise its insurers of the foregoing.

7. **Damage To Property of The Vendor And Its Invitees**

To the fullest extent permitted by law, the Vendor shall be solely responsible for any loss or damage to property of the Vendor or its invitees, employees, officials, volunteers, agents and representatives while such property is on, at or adjacent to the premises of the Board.

**HARFORD COUNTY PUBLIC SCHOOLS  
102 South Hickory Avenue  
Bel Air, MD 21014**

**BID SPECIFICATIONS**

**BID #25-JHP-021**

**New Ticket Booth at Aberdeen High School**

1. **INTENT**

- 1.1 These specifications in addition to and/or in place of similar paragraphs in the Board of Education of Harford County (hereafter referred to as Harford County Public Schools or HCPS), Instruction to Bidders, are intended to furnish all necessary permits, plant, labor, equipment, materials, supervision, tools, insurance, services, and all related incidentals required to perform all work necessary to provide a new ticket booth at Aberdeen High School located at 251 Paradise Road, Aberdeen, MD 21001.
- 1.2 It is the intent of these specifications to provide prospective bidders with complete information relative to the total performance of any resulting Contract. Bidders are obligated to read and understand all parts of this Invitation for Bid and to obtain clarification of any part not thoroughly understood.
- 1.3 The contract resulting from this solicitation will be coordinated through the Planning and Construction Department.

2. **SCOPE OF WORK**

- 2.1 This solicitation and the specifications that follow are being offered to qualify and select a contractor to perform all work necessary to provide a prefabricated ticket booth on a new concrete pad near the existing stadium entrance at Aberdeen High School to include power, low voltage, heating and cooling. The requirements outlined herein are intended as an aid to acquaint Bidders with what could be required to execute the work on this contract. These specifications will serve as the source documents for services for the Contract.
- 2.2 All work shall be approved by HCPS Facilities Department. HCPS reserves the right of final approval for any work at the time of job completion. If the work is not acceptable, the Awarded Bidder will be called in to review and correct all problem areas without additional cost to HCPS. Any work necessary will be performed in accordance with a schedule jointly agreed upon. Failure of the Awarded Bidder to correct deficiencies, in a timely manner, may result in HCPS contracting with another vendor to correct deficiencies. The Awarded Bidder may then be responsible for the associated cost(s).

3. **TECHNICAL SPECIFICATIONS**

Please find attached the following engineer specifications and drawings:

- 3.1 Engineer Specifications
  - 3.1.1 Section 000002 – Table of Contents
    - 3.1.1.1 000001 – Title Page
    - 3.1.1.2 000002 – Table of Contents
  - 3.1.2 Division 1 – General Requirements
    - 3.1.2.1 011000 - Summary
    - 3.1.2.2 012200 – Unit Prices

- 3.1.2.3 012600 – Contract Modification Procedures
- 3.1.2.4 012900 – Payment Procedures
- 3.1.2.5 013100 – Project Management and Coordination
- 3.1.2.6 013300 – Submittal Procedures
- 3.1.2.7 013516 – Alteration Project Procedures
- 3.1.2.8 014000 – Quality Requirements
- 3.1.2.9 015000 – Temporary Facilities and Controls
- 3.1.2.10 016000 – Product Requirements
- 3.1.2.11 017300 – Execution
- 3.1.2.12 017400 – Warranties and Bonds
- 3.1.2.13 017419 – Construction Waste Management and Disposal
- 3.1.2.14 017700 – Closeout Procedures
- 3.1.2.15 017823 – Operation and Maintenance Data
- 3.1.2.16 017839 – Project Record Documents
- 3.1.2.17 017900 – Demonstration and Training
  
- 3.1.3 Division 03 – Concrete
  - 3.1.3.1 033000 – Cast-In-Place Concrete
  
- 3.1.4 Division 05 – Metals
  - 3.1.4.1 055213 – Pipe and Tube Railings
  
- 3.1.5 Division 13 – Special Condition
  - 3.1.5.1 133423.16 – Fabricated Control Booths
  
- 3.1.6 Division 26 – Electrical
  - 3.1.6.1 260519 – Low-Voltage Electrical Power Conductors and Cables
  - 3.1.6.2 260533 – Raceways and Boxes for Electrical Systems
  
- 3.2 Engineer Drawings
  - 3.2.1 T1.0 – Cover Sheet
  - 3.2.2 C01 – Existing Conditions and Site Plan
  - 3.2.3 A1.0 – Architectural Floor Plan
  - 3.2.4 A1.7 – Ticket Booth Plans & Elevations
  - 3.2.5 A3.1 – Slab Sections & Elevations
  - 3.2.6 A5.1 – Ticket Booth Details
  - 3.2.7 A5.2 – Ticket Booth Details
  - 3.2.8 E1.0 – Electrical Plan and Power Riser
  - 3.2.9 E2.0 – Panel Schedules, Symbols List and General Notes

#### 4. **CONTRACTOR RESPONSIBILITY**

- 4.1 The plans and specifications are intended to cover a complete project. It shall be distinctly understood that failure to mention any work which normally would be required to complete the project shall not relieve the Awarded Bidder of their responsibility to perform such work without extra payment.
- 4.2 The Awarded Bidder shall perform site visits to verify the scope of the work with the Owner before ordering any materials or doing any work. No extra charge or compensation will be considered for any construction performed prior to this verification.
- 4.3 Note that the Awarded Bidder is responsible for all measurements. Errors and omissions will be the

Awarded Bidder's responsibility.

4.4 The Owner has the right to inspect the site and perform testing of work and construction materials. The Awarded Bidder shall assist the Owner in performing such inspections.

4.5 Submit shop drawings and submittals as per the Technical Specifications.

5. **SITE INSPECTION**

5.1 Contact Brittney Mattlin, Planning and Construction, at 410-638-4090 or by e-mail at [Brittney.Mattlin@hcps.org](mailto:Brittney.Mattlin@hcps.org) to schedule a site visit.

5.2 Bidders are responsible for site visitation and confirmation of existing conditions.

5.3 Failure to become familiar with the site will not relieve a successful bidder of their obligation to furnish all materials, labor, and services necessary to carry out the provisions of the specifications herein.

5.4 The Awarded Bidder shall be responsible for total requirements and must submit their bid based on a completed installation ready for its intended use.

6. **GENERAL INFORMATION**

6.1 It may be necessary for part of the work to be done during the regular school year. Proper identification is a necessity at all times. Safety and security for students and staff is a priority. Contractors and visitors must report to the main office, present photo identification and sign in when entering the building. School-assigned visitor badges must be worn at all times.

6.2 It will be necessary for the Contractor to coordinate with the Planning and Construction Department to set up a schedule of work during the entire course of the job, so as not to interfere with the normal operation of the school.

6.3 All passageways and means of egress must be kept open during school hours except where special permission is granted.

6.4 Work Hours

6.4.1 Normal work hours during the school year are from 7:00 am until 4:00 pm, local time, Monday through Friday, except holidays.

6.4.2 Summer work hours are from 7:00 am until 5:00 pm, local time, Monday through Thursday, during the school system's four (4), 10-hour days, except holidays.

7. **SPECIFIC CONDITIONS**

7.1 It is the sole responsibility of the Bidder to call to the attention of Jenifer Horner at [Jennifer.Horner@hcps.org](mailto:Jennifer.Horner@hcps.org), of any discrepancies in specifications, **IN WRITING**, at least **FIVE (5)** working days **PRIOR TO THE OPENING OF THE BID**. Any errors, omissions or incompatibilities noted after the bid opening shall be the Bidder's responsibility and shall in no way release them from performing all work in accordance with good practices and in accordance with the true meaning and intent of the Scope of Work and the Specifications for this project.

7.2 No bid will be considered from any person, firm or corporation who has defaulted in the performance of any contract or agreement made with Harford County Public Schools, or conclusively shown to have failed to perform, or complete on time, a contract(s) or project(s) of similar nature. HCPS will consider past performance, i.e. the quality of services of bidders who have previously contracted with HCPS for similar services.

- 7.3 The Awarded Bidder shall, without additional cost to Harford County Public Schools, be responsible for obtaining all necessary licenses and permits. The Awarded Bidder shall comply with all FEDERAL, STATE, AND LOCAL LAWS, CODES AND REGULATIONS in connection with the performance of the work. Licenses and permits shall apply to the Contract throughout and shall be deemed to be included in the Contract the same as through herein written out in full.
- 7.4 All work is to be handled in complete compliance with OSHA and MOSHA requirements. Every effort is to be made to ensure the safety of all individuals during work, as well as, during operation.
- 7.5 Awarded Bidder(s) shall assume full responsibility and liability for protection of workers and people occupying areas adjacent to the delivery and pick-up sites, except and unless damage, loss, injury or illness is caused by the negligence or tortious misconduct of HCPS employees.
- 7.6 Awarded Bidder(s) shall have available copies of all applicable codes, regulations, standards, documents and this specification.
- 7.7 Where conflicts among the requirements of the codes, regulations, standards, documents and this specification exist, the most stringent requirement shall be utilized by the Awarded Bidder(s).
- 7.8 All work shall be performed in a neat, workmanlike manner in full compliance with standards acceptable to the trade. Adequate precautions shall be taken for the safety of personnel and for prevention of damage or defacing of any portion of the building or property.
- 7.9 The Contractor shall be responsible for their work until its completion and final acceptance.
- 7.10 Storage of any tools, equipment or materials incidental to the performance of the Contract must be coordinated with the Planning and Construction Department and will be at the Contractor's risk. NO TOOLS, EQUIPMENT OR MATERIALS MAY BE STORED IN THE SCHOOL. The Contractor shall repair or replace any of the same, which may be damaged, lost or stolen without additional cost to HCPS.
- 7.11 All materials furnished in carrying out this contract shall be of the quality required by the specifications. Any unsatisfactory or damaged materials furnished shall be removed and satisfactorily replaced by the Contractor when notified in writing to do so by Harford County Public Schools. If the Contractor shall neglect or refuse to remove such unsatisfactory or damaged materials within a reasonable amount of time after the serving of the above-mentioned notice, Harford County Public Schools may remove said materials, or cause the same to be removed. And satisfactorily replaced by contract, or otherwise, as may be considered expedient, and the expense thereof shall be charged to the Contractor and such expense so charged shall be deducted from any money due or to become due under the Contract. No such rejected material shall be again offered for use on any contract with Harford County Public Schools.
- 7.12 All hazardous waste will be identified as defined by Federal, State and Local laws, regulations and guidelines currently in effect. Additionally, all hazardous waste resulting from work at this site under these specifications must be removed and properly disposed of in accordance with all applicable Federal, State and Local laws, guidelines and regulations.
- 7.13 The documents contained within this Invitation for Bid constitutes the only terms and conditions agreed upon between HCPS and the Awarded Bidder. Modifications, alterations, changes or amendments must be agreed upon in writing and signed by both parties.
- 7.14 Any and all exceptions to the bid documents must be clearly noted at the time of bid submission and included under a separate submission labeled "Exceptions". Exceptions may deem the bid non-responsive.
- 7.15 Bidders providing incomplete or inaccurate information to HCPS are subject to immediate termination of the contract or rejection of their bid as non-responsive.

- 7.16 Bidders are solely responsible for their expenses, if any, in preparing a response to this Invitation for Bid.

8. **FORM OF PROPOSAL**

- 8.1 All pricing must be submitted on the Bid Form; all blank spaces shall be filled in and properly signed.
- 8.2 Due to possible changes and/or additions to the solicitation package, HCPS requests that bidders delay submission of their bid package until after the date that questions are due, to allow time for the possible issuance of an addendum. All changes will be processed through appropriate addenda.

9. **AWARD**

- 9.1 Harford County Public Schools intends to award to the lowest responsive and responsible bidder(s) meeting the specifications. The intent is to award the Contract in its entirety to one (1) bidder for all services requested.
- 9.2 HCPS reserves the right to award by line item or in total or make no award. HCPS is not obligated, but reserves the right, to award to one or more responsive and responsible bidder(s) offering the lowest pricing and is deemed to be in the best interest of HCPS.
- 9.3 HCPS may reject any bid which contains omissions, altered forms, additions, or imposes conditions or offers alternate items. HCPS may make any award which is deemed in the best interest of Harford County Public Schools or make no award at all, at its sole discretion.
- 9.4 Harford County Public Schools reserves the right to accept or reject any or all bids and to waive any informalities in bids received whenever such rejection or waiver is in the best interest of HCPS.
- 9.5 Conditional or unbalanced bids will not be accepted and may be deemed non-responsive.
- 9.6 HCPS reserves the right to reject any bid if the evidence submitted by a bidder, or from the investigation of such bidder, fails to satisfy HCPS that such bidder is qualified to perform the obligations of the contract.
- 9.7 HCPS does not guarantee that all or any work will be done and reserves the right to reject all bids and to re-bid at its sole discretion.
- 9.8 Submission of a bid, in response to this request, shall mean that the Bidder can complete all work "as specified" within the specified time frame.
- 9.9 HCPS reserves the right to add awarded bidder(s) to this contract, within one (1) year of contract award, if the initial awarded bidder(s) cannot fulfill all of the requirements.
- 9.10 HCPS reserves the right to utilize the services of the next favorably priced responsive and responsible bidder, if for any reason the preceding Awarded Bidder is unable to fulfill their contractual obligations within one (1) year of contract award.
- 9.11 In the event the Awarded Bidder(s) cannot deliver the services of the Contract in accordance with the specifications, HCPS reserves the right to purchase the services on the open market to assure the continued operation of HCPS. The difference in the open market cost and bid price will be at the expense of the Awarded Bidder.

10. **PROJECT TIMELINE**

Project shall start on or around **June 23, 2025** and **must** be completed by **August 29, 2025**.



11. **DISCOUNTS**

It shall be the responsibility of the Awarded Bidder to provide notification of any promotional allowances, volume incentives, and/or rebates. The Awarded Bidder(s) shall also provide any necessary forms and documentation needed to redeem such discounts.

12. **BILLING AND PAYMENT**

- 12.1 Harford County Public Schools will issue a Purchase Order for work to be completed listed on the Bid Form.
- 12.2 Invoices must be submitted to the Accounts Payable Department via email to [APInvoice@hcps.org](mailto:APInvoice@hcps.org), referencing the Contract and/or Purchase Order number.
- 12.3 Copies of all invoices are to be sent to the Planning and Construction Department, 2209 Conowingo Road, Bel Air, MD 21015, referencing the contract number and/or Purchase Order number.
- 12.4 Progress payments may be made throughout the project at the discretion of HCPS.
- 12.5 Invoice must reflect amount provided on the Purchase Order.
- 12.6 Awarded Bidder must accept payment by PCard, conventional check, or other electronic means at HCPS' option.
- 12.7 Standard HCPS payment terms are net thirty (30) days, after receipt of an approved invoice.

13. **GUARANTEE/WARRANTY**

- 13.1 From the date of acceptance of the items delivered, the Contractor shall unconditionally guarantee the materials of all equipment furnished by them, for a minimum period of one (1) year or throughout the manufacturer's warranty period, whichever is longer.
- 13.2 If within the guarantee period, any defects or signs of deterioration are noted, which, in the opinion of Harford County Public Schools are due to faulty design, upon notification, the Contractor, at his expense, shall repair and/or adjust the equipment or parts to correct the conditions, or he shall replace the part or entire unit to the complete satisfaction of HCPS. These repairs, replacements, or adjustments shall be made only at such times as designated by the authorized representative of HCPS and least detrimental to the school's program.
- 13.3 All warranties, expressed or implied, shall survive delivery, inspection, acceptance, and payment.

14. **TAXES AND PERMITS**

- 14.1 Sales to the State of Maryland or any of its political subdivisions are exempt from retail sales tax. However, contractors or builders purchasing tangible personal property in the performance of their contract for the construction, repair or alteration of real property for the State of Maryland or any of its political subdivisions are not tax exempt.
- 14.2 Awarded Bidder(s) shall obtain and pay for any permits required and provide a copy to HCPS as well as post a copy on site.

15. **PROTECTION OF WORK AND PROPERTY**

- 15.1 The Awarded Bidder will be held responsible for any and all damage to Harford County Public Schools property done or caused by the Awarded Bidder or other personnel engaged in the execution of this contract. They shall be similarly responsible for all injury to any person that

occurs as a result of their actions or negligence. They shall take proper safety and health precautions to protect the work, the workers, the public and the property of others. The Awarded Bidder shall also be responsible for any and all damage to adjacent property incurred in the performance of the Contract and hold Harford County Public Schools free from any and all claims for damages arising from the execution of the work.

- 15.2 HCPS will occupy the site and existing building during the entire work period. The Awarded Bidder shall cooperate with HCPS during the work to minimize conflicts and facilitate HCPS usage. To the satisfaction of the school, the Awarded Bidder is to move and/or protect all school equipment, furnishings and occupied areas from work-related debris and noise. The Awarded Bidder shall perform the work so as not to interfere with HCPS operations. The Awarded Contractor is aware that this work shall be performed on school grounds, where students, staff and parents will be present and is responsible for maintaining a safe clean worksite.
- 15.3 Limit use of premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
- 15.4 Keep driveways and entrances serving the premises clear and available to HCPS, HCPS's employees and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
- 15.5 The Awarded Bidder shall at all times keep the premises free from accumulation of waste materials or rubbish caused by its employees or work, and at the completion of the Work, all trash will be removed from and about the work site and all tools, scaffolding and surplus materials shall leave the area clean and neat unless more exactly specified. In case of disputes, HCPS may remove trash, rubbish, etc. and charge the cost to the Contractor.
- 15.6 The Awarded Bidder shall protect all HCPS property, materials, equipment, improvements, utilities, structures, and vegetation at all times during the course of this contract. Any property or incidentals damaged during the course of this contract shall be repaired or replaced by Awarded Contractor to the satisfaction of HCPS.
- 15.7 Deliveries of equipment and other materials must be done with the Awarded Bidder present and stored on site as indicated by the Facilities Department.

16. **PROFESSIONALISM**

- 16.1 HCPS requires all work to be completed utilizing "Professional Workmanship". HCPS shall monitor and examine the services provided and shall only accept "Professional Workmanship". The following shall be considered some reasons for immediate termination of a company.
  - 16.1.1 Failure of the Awarded Bidder to have the required materials and equipment with them to execute a project without undue delay to leave the project and pick-up supplies or equipment. HCPS reserves the right to bring in any other contractor in order to complete work that is not complete in a timely fashion.
  - 16.1.2 Failure of the Awarded Bidder to utilize qualified personnel to do the work for HCPS. The individuals doing the work at HCPS shall:
    - 16.1.2.1 be properly trained and experienced to perform services as specified.
    - 16.1.2.2 refrain from any comments or gestures to the students and/or staff; and refrain from making any comments and/or gestures to fellow workers that could be interpreted as inappropriate and/or obscene.
    - 16.1.2.3 be dressed appropriately to work in a "school environment" with student, teacher, staff, and parents present. The employee shall prominently display the name of their company on a shirt or hat.

16.1.2.4 abide by the HCPS no smoking policy. HCPS maintains a Tobacco-Free environment. Furthermore, HCPS policy prohibits gambling, alcohol, drugs and obscene or abusive language.

16.2 Immediate termination of a company for not providing "Professional Workmanship" as determined by HCPS, using criteria determined by HCPS and not necessarily industry standards, shall result in:

16.2.1 Awarded Bidder being paid for all work completed to date. Any monies required to complete the repairs or installations in progress shall be deducted from those owed, prior to final payment. In the event the monies due exceed the amount HCPS owes that Awarded Bidder, the monies required to complete services in progress shall be owed HCPS by that Awarded Bidder.

17. **SUBCONTRACTORS**

17.1 All subcontractors, prior to their use by the Awarded Bidder in any HCPS facility, must be approved by HCPS. **Awarded Bidder shall submit with their bid a list of subcontractors that they will employ and utilize for HCPS work.** The responsibility for updating this list is the Awarded Bidder and utilization of a HCPS non-approved subcontractor is grounds for suspension or termination. This is in addition to any special provisions, which may apply as a result of MBE/WBE requirements, which may become part of this solicitation.

17.2 The Awarded Bidder shall give their constant personal attention to the faithful execution of this contract, shall keep the same under their own control, and shall not assign by power of attorney or otherwise, the work or any part thereof. The Awarded Bidder shall provide the name of the Subcontractor(s) they intend employing, the portion of the materials/labor to be furnished, their place of business, and such other information as requested by the Bid Specifications and/or HCPS. The information may be used in considering the potential performance capabilities of the Subcontractor(s).

18. **INSURANCE**

Please review in detail the insurance requirements contained in the attached document. These requirements are recommended by the Maryland Association of Boards of Education Group Insurance Pool. Please have your insurance agent/company receive these insurance requirements prior to submitting a response. Failure to comply with these insurance requirements may render your submittal as non-responsive.

A Certificate of Insurance verifying coverage and limits as specified in "Insurance Requirements" or a letter committing to obtain the required coverage and limits as specified, **must be submitted** with your response. **Failure to provide this information may deem your submittal as non-responsive.**

19. **QUALIFICATION OF BIDDER**

19.1 Bidder must have a minimum of three (3) years of experience related to construction/renovation. Failure to provide this information on your Bid Form may deem your bid non-responsive.

19.2 All bidders submitting a bid shall be authorized to transact business in Maryland and considered in "Good Standing" (all fees, taxes, and penalties owed to Maryland are paid). Any respondent not considered in "Good Standing" may be deemed non-responsive. Visit the following website to ensure compliance or to register: <https://egov.maryland.gov/businessexpress>. (HCPS bears no responsibility for the accuracy, legality or content of the external site or for that of subsequent links. Contact the external site for answers to questions regarding its content.)

19.3 All bidders must not have any "Exclusions" (bidder cannot be debarred or suspended). If the indicator box is "green" and states "Entity" this vendor is not suspended or debarred. If a bidder's name does not appear after searching, the bidder does not have an "Exclusion". Visit the following

website to ensure compliance: <https://sam.gov/SAM/pages/public/index.jsf> (HCPS bears no responsibility for accuracy, legality or content of the external site or for that of subsequent links. Contact the external site for answers to questions regarding its content). If the indicator box is “purple” and states “Exclusion” the bidder may be deemed non-responsible.

- 19.4 Bidders shall furnish to HCPS any requested information and data/documentation. HCPS reserves the right to reject any bid if the information or documentation submitted by the bidder or investigation of such bidder fails to satisfy HCPS that such bidder is properly qualified to carry out the obligations of the Contract and to complete all requirements contemplated therein.
- 19.5 Bidders shall complete and return with their bid the “Reference Form” included in this solicitation (see Bid Form – Reference Form). Bidders shall have a minimum of three (3) references completed from clients of similar size and needs, within the past three (3) years. Business Name, contact name, type of work performed, e-mail addresses and phone numbers are required. Failure to submit relevant references may deem bidder as non-responsible.
- 19.5.1 The references listed will be checked by HCPS. All references must include a contact person who can comment on your organization’s ability to provide this service and their impression of how well your organization fulfilled its obligations under the contract. It is imperative that contact names and information be accurate. HCPS reserves the right to request additional references.
- 19.5.2 HCPS will not be responsible for errors, non-working phone numbers, inaccurate email addresses or persons no longer employed with the firm or do not respond.

20. **PROCUREMENT ADMINISTRATOR**

Jennifer Horner, CPPB, Purchasing Agent, will administer the solicitation process. The Procurement Administrator will be the sole point of contact for purposes of this bid. Questions and inquiries should be e-mailed to the Procurement Administrator: Jennifer Horner, at [Jennifer.Horner@hcps.org](mailto:Jennifer.Horner@hcps.org).

All questions must be e-mailed and received no later than 2:30 pm local time **April 1, 2025**. Questions will not be accepted by phone.

Questions that are deemed to be substantive in nature will be answered in writing, with both the question(s) and answer(s) being addressed in the form of an Addendum and posted on our website on or before **April 4, 2025** at [www.hcps.org](http://www.hcps.org) as well as eMaryland Marketplace Advantage.

**HARFORD COUNTY PUBLIC SCHOOLS**  
**102 South Hickory Avenue**  
**Bel Air, MD 21014**

**CONTRACT SAMPLE**

**BID #**  
**BID NAME**

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the Board of Education of Harford County, acting herein through its Superintendent, hereafter called "Owner" and \_\_\_\_\_, a corporation located at \_\_\_\_\_, hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR, hereby agrees with the OWNER to commence and to furnish and deliver in accordance with the accompanying specifications, for the prices listed on the Bid Form.

Project shall start on or around **June 23, 2025** and **must** be completed by **August 29, 2025**.

Hereinafter called the contract, in the amount of \_\_\_\_\_ provided, and all related work in connection therewith, under the terms as stated in the General and Special Conditions of the Bid Document and all related documents; and at their own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in **Bid # \_\_\_\_\_**, and printed or written explanatory matter thereof, the specifications and contract documents therefore as prepared by the Board of Education of Harford County, and as enumerated in the General Conditions, all of which are made a part hereof and collectively evidence and constitute the Contract.

**IWE** certify that this bid is made without any previous understanding, agreement, or connection with any other person, firm, or corporation making a bid for the same supplies, and, in all respects, is fair and without collusion or fraud.

In compliance with the above and subject to all terms and conditions thereof, the undersigned offers and agrees, if the bid be awarded, to furnish items at the prices indicated within the time specified.

IN WITNESS WHEREOF, the parties to these presents have executed this Contract in two (2) counterparts, each of which shall be deemed an original.

Seal in Signature

**Board of Education of Harford County**

\_\_\_\_\_  
Board of Education of Harford County  
Witness

\_\_\_\_\_  
Sean W. Bulson, Ed.D., Superintendent of Schools

\_\_\_\_\_  
Date

\_\_\_\_\_  
Board of Education of Harford County – Board President  
(if over \$100k)

Seal in Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Authorized Contractor Signature

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Contractor Witness

\_\_\_\_\_  
City, State, Zip

**HARFORD COUNTY PUBLIC SCHOOLS  
102 SOUTH HICKORY AVENUE  
BEL AIR, MD 21014**

**CHECK LIST**

**BID #25-JHP-021**

**New Ticket Booth at Aberdeen High School**

- Signed and included all Addenda (if applicable)
- Reviewed and provided a sample Certificate of Insurance (Proving coverages and limits as specified in "Insurance Requirements" **or** a letter committing to obtain the required coverages and limits as specified)
- Provided a list of subcontractors - Section 17.1 (if applicable)
- Signed and Submitted Contract Page
- Completed and Submitted Bid Form
- Completed and Submitted Reference Form
- Signed and included State of Maryland Anti-Bribery
- Signed and included Debarment, Suspension, Ineligibility, and Voluntary Exclusion
- Signed and included Employment of Sex Offenders and Other Criminal Offenders Affidavit

**Items that are in bold and indicated with an (\*) above must be submitted in proper form and content at the time of bid opening or the bid may be deemed non-responsive.**

Acknowledgement of Addenda (if applicable)  
I/We acknowledge receipt of the following Addenda:

No. \_\_\_\_\_, Dated \_\_\_\_\_

No. \_\_\_\_\_, Dated \_\_\_\_\_

No. \_\_\_\_\_, Dated \_\_\_\_\_

No. \_\_\_\_\_, Dated \_\_\_\_\_

\_\_\_\_\_  
 Company Name

**HARFORD COUNTY PUBLIC SCHOOLS  
 102 SOUTH HICKORY AVENUE  
 BEL AIR, MD 21014**

**BID FORM**

**BID #25-JHP-021**

**New Ticket Booth at Aberdeen High School**

In compliance with the Invitation for Bid, and subject to all terms and conditions thereof, the undersigned offers and agrees to furnish all necessary permits, labor, equipment, materials, supervision, tools, insurance, services, and all related incidentals required to provide a new ticket booth at Aberdeen High School, in full compliance with the accompanying specifications in accordance with the price listed below.

DESCRIPTION	AMOUNT
<b>Total Price to Provide a New Ticket Booth at Aberdeen High School</b>	\$
<b>Estimated Lead Time for Completion of Scope of Work</b>	
<b>Number of Years of experience with construction/renovation (minimum of three (3) years of experience)</b>	

**ADDITIONAL INFORMATION:**

<b>Contract Contact/Sales Rep Name:</b>	
<b>Phone Number:</b>	
<b>E-Mail Address:</b>	

**FORM OF PAYMENT (mark those you will accept)\*:**

	<b>Do you accept credit card?</b>
	<b>Is there a fee for using a credit card?</b>
	<b>If yes, what is the fee amount?</b>
	<b>ACH Payment</b>
	<b>Conventional Check</b>

**\*NOTE:** Must request changes to payment method or bank information in writing.

25-JHP-021  
New Ticket Booth at  
Aberdeen High School

\_\_\_\_\_  
Company Name

**ANY EXCEPTIONS TO THE SPECIFICATIONS MUST BE CLEARLY INDICATED.**

**ANY ALTERATIONS ON THE PROPOSED COST DATA ON THE BID FORM MUST BE INITIALED IN SCRIPT,  
IN INK, BY THE PERSON SIGNING THE BID.**

\_\_\_\_\_  
COMPANY

\_\_\_\_\_  
NAME (TYPE OR PRINT)

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
CITY, STATE and ZIP

\_\_\_\_\_  
AUTHORIZED REPRESENTATIVE SIGNATURE

\_\_\_\_\_  
TELEPHONE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
FEDERAL TAX ID NUMBER

\_\_\_\_\_  
E-MAIL ADDRESS



\_\_\_\_\_  
 Company Name

**HARFORD COUNTY PUBLIC SCHOOLS  
 102 SOUTH HICKORY AVENUE  
 BEL AIR, MD 21014**

**REFERENCE FORM**

**BID #25-JHP-021**

**New Ticket Booth at Aberdeen High School**

List at least three (3) projects/contracts of similar size and scope within the past three (3) years. Attach additional pages if necessary. **Please type or print clearly.**

	Reference 1	Reference 2	Reference 3
<b>Name of Organization</b>			
<b>Address</b>			
<b>Description of Project or Services Provided</b>			
<b>Dollar Amount</b>			
<b>Contact Person</b>			
<b>Phone Number</b>			
<b>Email Address</b>			

**HARFORD COUNTY PUBLIC SCHOOLS**

Sean W. Bulson, Ed.D., Superintendent

102 S. Hickory Ave, Bel Air, Maryland 21014

**STATE OF MARYLAND ANTI-BRIBERY AFFIDAVIT**

I HEREBY CERTIFY that:

1. I am the \_\_\_\_\_ and the duly authorized representative of the firm of \_\_\_\_\_ whose address is \_\_\_\_\_ and that I possess the legal authority to make this affidavit on behalf of myself and the firm for which I am acting.
2. Except as described in paragraph 3 below, neither I, nor to the best of my knowledge, the above firm, nor any of its officers, directors or partners, or any of its employees directly involved in obtaining contracts with the State or any county, bi-county, or multi-county agency, or subdivision of the State have been convicted of, or have pleaded nolo contendere to a charge of, or have during the course of an official investigation or other proceeding admitted in writing or under oath acts or omissions committed, which constitute bribery, attempted bribery, or conspiracy to bribe under the provisions of Section 9-201 in the Criminal Law Article of the Annotated Code of Maryland or under the laws of any state or federal government.
3. (State "none" or, as appropriate, list any conviction, plea, or admission described in paragraph 2 above, with the date; court, official, or administrative body; and the sentence or disposition, if any.

\_\_\_\_\_

I acknowledge that this affidavit is to be furnished to the requesting agency, and where appropriate, to the Board of Public Works and the Attorney General under §16-202, S.F. of the Annotated Code of Maryland. I acknowledge that, if the representations set forth in this affidavit are not true and correct, Harford County Public Schools may terminate any contract awarded and take any other appropriate action. I further acknowledge that I am executing this affidavit in compliance with §16-203, S.F. of the Annotated Code of Maryland, which provides that certain persons who have been convicted of or have admitted to bribery, attempted bribery, or conspiracy to bribe may be disqualified, either by operation of law or after a hearing, from entering into contracts with the State or any of its agencies or subdivisions.

I do solemnly declare and affirm under the penalties of perjury that the contents of this affidavit are true and correct.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

**HARFORD COUNTY PUBLIC SCHOOLS**

Sean W. Bulson, Ed.D., Superintendent

102 S. Hickory Ave, Bel Air, Maryland 21014

**CERTIFICATION REGARDING U.S. GOVERNMENT  
DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR, part 85, Section 85.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988, Federal Register (pages 19160-19211).

- (1) The prospective participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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Name and Title of Authorized Agency/Organization Representative

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Signature

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Date

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Agency/Organization

\*Above certification instituted by the U. S. Department of Education for all grantees and subgrantees as of fiscal year 1990.

**HARFORD COUNTY PUBLIC SCHOOLS**

**EMPLOYMENT OF SEX OFFENDERS AND OTHER CRIMINAL OFFENDERS AFFIDAVIT**

I AFFIRM THAT:

I am aware of, and the business listed below will comply with, the following requirements of Section §11-722 of the Criminal Procedure Article, and Section §6-113 of the Education Article, Annotated Code of Maryland:

- A. Maryland Law requires sex offenders to register with the State and with the local law enforcement agency in the county in which they will reside, work, or attend school. An HCPS contractor agrees and acknowledges that it/he/she is prohibited from knowingly employing an individual to work at a school if the individual is registered as a sex offender pursuant to Section §11-704 of the Criminal Procedures Article of Maryland Code.
  
- B. An HCPS contractor or subcontractor may not knowingly assign an employee to work on school premises with direct, unsupervised, and uncontrolled access to children, if the employee has been convicted of:
  - 1) Section §3-307 of the Criminal Law Article, Maryland Annotated Code, *Sexual Offense in the Third Degree*;
  - 2) Section §3-308 of the Criminal Law Article, Maryland Annotated Code, *Sexual Offense in the Fourth Degree*;
  - 3) An offense under the laws of another state that would constitute a violation of Sections §3-307 or §3-308 of the Criminal Law Article if committed in Maryland;
  - 4) Child sexual abuse under Section §3-602 of the Criminal Law Article, Annotated Code of Maryland;
  - 5) An offense under the laws of another state that would constitute child sexual abuse under Section §3-602 of the Criminal Law Article if committed in Maryland;
  - 6) A crime of violence as defined in Section §14-101 of the Criminal Law Article, Annotated Code of Maryland; or
  - 7) An offense under the laws of another state that would constitute a crime of violence under Section §14-101 of the Criminal Law Article if committed in Maryland.
  - 8) Contractors shall comply with the requirements of House Bill 486 passed by the General Assembly in 2019, regarding screening of applicants for employment.
    - a. Effective July 1, 2019
    - b. MSDE Guidance for House Bill 486 – Child Sexual and Sexual Misconduct Prevention) can be found online at [www.marylandpublicschools.org](http://www.marylandpublicschools.org).
    - c. Submission of Section 000325 Contract Affidavit (HB 486/SB 541 Compliance) is required to be submitted prior to award of contract.

*See Section §6-113 of the Education Article, Annotated Code of Maryland*

Violations of any of these provisions may result in Termination for Cause.

I AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

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

By: \_\_\_\_\_ (printed name of Authorized Representative and affiant)

\_\_\_\_\_ (signature of Authorized Representative and affiant)

\_\_\_\_\_ (Company Name)



**New Ticket Booth at  
Aberdeen High School**

**FOR**

**HARFORD COUNTY PUBLIC SCHOOLS**

**Project Manual**

**January 22th, 2025  
Construction Documents**

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133423.16	Fabricated Control Booths
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**DIVISION 26 – ELECTRICAL**

260519	Low-Voltage Electrical Power Conductors and Cables
260533	Raceways and Boxes for Electrical Systems

**End of 000002**

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Contractor's use of site and premises.
4. Coordination with occupants.
5. Work restrictions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 017300 "Execution" for coordination of Owner-installed products.

#### 1.2 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

#### 1.3 PROJECT INFORMATION

- A. Project Identification: 2241105.00 - HCPS New Ticket Booth at Aberdeen HS.

1. Project Location: 251 PARADISE ROAD, ABERDEEN, MD 21001.

- B. Owner: Harford County Public Schools.

1. Owner's Representative: Chris Morton, Supervisor of Facilities Management.

- C. Architect: Frederick Ward Associates.

1. Architect's Representative: Bill Starr, Project Manager.

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:

1. Work under this contract will consist of providing a pre-fabricated 8'-0" x 8'-0"

ticket booth on a new concrete pad near the existing stadium entrance. Booth will be provided with power, low voltage, heating and cooling. and other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

A. Restricted Use of Site: **[Each]** Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Limits on Use of Site: Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Limit site disturbance, including earthwork and clearing of vegetation, to **40 feet** beyond building perimeter; **15 feet** beyond surface walkways, patios, surface parking, and utilities; and **25 feet** beyond constructed areas with permeable surfaces that require additional staging areas to limit compaction in the constructed areas.

2. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
- b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy Project site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or



- used facilities without written permission from Owner and approval of authorities having jurisdiction.
- 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

## 1.7 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
  - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 7 a.m. to 10 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
  - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Nonsmoking Building: Smoking is not permitted within the building or within **25 feet** of entrances, operable windows, or outdoor-air intakes.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products , alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with Owner's requirements for background screening of Contractor personnel working on Project site.
  - 1. Maintain list of approved screened personnel with Owner's representative.

## 1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.

3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
  4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
  3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

## SECTION 012200 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
  - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
  - 2. Section 014000 "Quality Requirements" for field testing by an independent testing agency.

#### 1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

#### 1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.
1. Description: Unsatisfactory soil excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
  2. Unit of Measurement: <Insert cubic yard> of soil excavated, based on in-place surveys of volume before and after removal.
  3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."
- B. Unit Price No. 2: Mass rock excavation and replacement with satisfactory soil material.
1. Description: Classified mass rock excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
  2. Unit of Measurement: <Insert cubic yard> of rock excavated, based on in-place surveys of volume before and after removal.
  3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."
- C. Unit Price No. 3: Trench rock excavation and replacement with satisfactory soil material.
1. Description: Classified trench rock excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
  2. Unit of Measurement: <Insert cubic yard> of rock excavated, based on survey of in-place surveys volume of before and after removal.
  3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."
- D. Unit Price No. 4: Cutting and patching of concrete slabs-on-grade.
1. Description: Cutting of new or existing concrete slabs-on-grade up to [6 inches]<Insert dimension> thick, removal and excavation as required, and subsequent backfill, compaction, and patching of concrete in accordance with Section 017300 "Execution." not otherwise indicated in the Contract Documents.
  2. Unit of Measurement: <Insert square feet> of concrete removed.

END OF SECTION 012200

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
  - 1. Section 013100 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

#### 1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form included in Project Manual .

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

- c. Include costs of labor and supervision directly attributable to the change.
  - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - e. Quotation Form: Use forms acceptable to Architect .
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect .
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  4. Include costs of labor and supervision directly attributable to the change.
  5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
  7. Proposal Request Form: Use form acceptable to Architect .
- 1.5 ADMINISTRATIVE CHANGE ORDERS
- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
  - B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.
- 1.6 CHANGE ORDER PROCEDURES
- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on form included in Project Manual .
- 1.7 CONSTRUCTION CHANGE DIRECTIVE
- A. Construction Change Directive: Architect may issue a Construction Change Directive .

Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

## SECTION 012900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
  - 1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
  - 2. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
  - 3. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 4. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

#### 1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

#### 1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.



4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
5. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract, as described in Section 011000 "Summary."

## 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
  1. Other Application for Payment forms proposed by the Contractor may be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- D. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
  1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.
  1. Transmit each copy with a transmittal form listing attachments and recording

appropriate information about application.

- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).
  4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
  5. Products list (preliminary if not final).
  6. Sustainable design action plans, including preliminary project materials cost data.
  7. Schedule of unit prices.
  8. Submittal schedule (preliminary if not final).
  9. List of Contractor's staff assignments.
  10. List of Contractor's principal consultants.
  11. Copies of building permits.
  12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  13. Initial progress report.
  14. Report of preconstruction conference.
  15. Certificates of insurance and insurance policies.
  16. Performance and payment bonds.
  17. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
    - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."

2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
    1. Evidence of completion of Project closeout requirements.
    2. Certification of completion of final punch list items.
    3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
    4. Updated final statement, accounting for final changes to the Contract Sum.
    5. AIA Document G706.
    6. AIA Document G706A.
    7. AIA Document G707.
    8. Evidence that claims have been settled.
    9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
    10. Final liquidated damages settlement statement.
    11. Proof that taxes, fees, and similar obligations are paid.
    12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. RFIs.
  - 3. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
  - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 2. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

#### 1.3 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.

- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

## 1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination of Multiple Contracts: Each contractor shall cooperate with Project coordinator, who shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its own operations with operations included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's construction schedule.
  - 2. Preparation of the schedule of values.

3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

## 1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    - f. Indicate required installation sequences.
    - g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
  2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other

- components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms, showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
  4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
  5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
  6. Mechanical and Plumbing Work: Show the following:
    - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    - c. Fire-rated enclosures around ductwork.
  7. Electrical Work: Show the following:
    - a. Runs of vertical and horizontal conduit **1-1/4 inches** in diameter and larger.
    - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
    - c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor-control center locations.
    - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
  8. Fire-Protection System: Show the following:
    - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
  9. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
  10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."
- C. Coordination Drawing Process: Prepare coordination drawings in the following manner:
1. Schedule submittal and review of Fire Sprinkler, Plumbing, HVAC, and Electrical Shop Drawings to make required changes prior to preparation of coordination drawings.
  2. Commence routing of coordination drawing files with HVAC Installer, who will provide drawing plan files denoting approved ductwork. HVAC Installer will locate ductwork and piping on a single layer, using orange color. Forward drawings to Plumbing Installer.

3. Plumbing Installer will locate plumbing and equipment on a single layer, using blue color.
4. Fire Sprinkler Installer will locate piping and equipment, using red color. Fire Sprinkler Installer shall forward drawing files to Electrical Installer.
5. Electrical Installer will indicate service and feeder conduit runs and equipment in green color. Electrical Installer shall forward drawing files to Communications and Electronic Safety and Security Installer.
6. Communications and Electronic Safety and Security Installer will indicate cable trays and cabling runs and equipment in purple color. Communications and Electronic Safety and Security Installer shall forward completed drawing files to Contractor.
7. Contractor shall perform the final coordination review. As each coordination drawing is completed, Contractor will meet with Architect to review and resolve conflicts on the coordination drawings.

#### 1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
  1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
  2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  1. Project name.
  2. Owner name.
  3. Owner's Project number.
  4. Name of Architect.
  5. Architect's Project number.
  6. Date.
  7. Name of Contractor.
  8. RFI number, numbered sequentially.
  9. RFI subject.
  10. Specification Section number and title and related paragraphs, as appropriate.
  11. Drawing number and detail references, as appropriate.
  12. Field dimensions and conditions, as appropriate.
  13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  14. Contractor's signature.
  15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.



- C. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

## 1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings will be provided by Architect for Contractor's use during construction.
  - 1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
  - 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
  - 3. The following digital data files will be furnished for each appropriate discipline:
    - a. Floor plans.
    - b. Reflected ceiling plans.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
  - 1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  - 2. Name file with submittal number or other unique identifier, including revision identifier.
  - 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

## 1.9 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of seven days prior to meeting.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Responsibilities and personnel assignments.
    - b. Tentative construction schedule.
    - c. Phasing.
    - d. Critical work sequencing and long lead items.
    - e. Designation of key personnel and their duties.
    - f. Lines of communications.
    - g. Use of web-based Project software.
    - h. Procedures for processing field decisions and Change Orders.
    - i. Procedures for RFIs.
    - j. Procedures for testing and inspecting.
    - k. Procedures for processing Applications for Payment.
    - l. Distribution of the Contract Documents.
    - m. Submittal procedures.
    - n. Sustainable design requirements.
    - o. Preparation of Record Documents.
    - p. Use of the premises and existing building.
    - q. Work restrictions.
    - r. Working hours.
    - s. Owner's occupancy requirements.
    - t. Responsibility for temporary facilities and controls.
    - u. Procedures for moisture and mold control.
    - v. Procedures for disruptions and shutdowns.
    - w. Construction waste management and recycling.
    - x. Parking availability.
    - y. Office, work, and storage areas.
    - z. Equipment deliveries and priorities.
    - aa. First aid.
    - bb. Security.
    - cc. Progress cleaning.
  3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
  2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    - a. Preparation of Record Documents.
    - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    - c. Procedures for completing and archiving web-based Project software site data files.
    - d. Submittal of written warranties.
    - e. Requirements for completing sustainable design documentation.
    - f. Requirements for preparing operations and maintenance data.
    - g. Requirements for delivery of material samples, attic stock, and spare parts.
    - h. Requirements for demonstration and training.
    - i. Preparation of Contractor's punch list.
    - j. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    - k. Submittal procedures.
    - l. Coordination of separate contracts.
    - m. Owner's partial occupancy requirements.
    - n. Installation of Owner's furniture, fixtures, and equipment.
    - o. Responsibility for removing temporary facilities and controls.
  4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- D. Progress Meetings: Conduct progress meetings at monthly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
  2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      - 1) Review schedule for next period.
    - b. Review present and future needs of each entity present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.

- 3) Resolution of BIM component conflicts.
  - 4) Status of submittals.
  - 5) Status of sustainable design documentation.
  - 6) Deliveries.
  - 7) Off-site fabrication.
  - 8) Access.
  - 9) Site use.
  - 10) Temporary facilities and controls.
  - 11) Progress cleaning.
  - 12) Quality and work standards.
  - 13) Status of correction of deficient items.
  - 14) Field observations.
  - 15) Status of RFIs.
  - 16) Status of Proposal Requests.
  - 17) Pending changes.
  - 18) Status of Change Orders.
  - 19) Pending claims and disputes.
  - 20) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- E. Coordination Meetings: Conduct Project coordination meetings at monthly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report

- of each meeting.
- c. Review present and future needs of each contractor present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Resolution of BIM component conflicts.
    - 4) Status of submittals.
    - 5) Deliveries.
    - 6) Off-site fabrication.
    - 7) Access.
    - 8) Site use.
    - 9) Temporary facilities and controls.
    - 10) Work hours.
    - 11) Hazards and risks.
    - 12) Progress cleaning.
    - 13) Quality and work standards.
    - 14) Status of RFIs.
    - 15) Proposal Requests.
    - 16) Change Orders.
    - 17) Pending changes.
  - 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
- 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
- 2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
- 3. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
- 4. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
- 5. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
- 6. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
- 7. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

#### 1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.
  4. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal Category: Action; informational.
    - d. Name of subcontractor.
    - e. Description of the Work covered.
    - f. Scheduled date for Architect's final release or approval.
    - g. Scheduled dates for purchasing.
    - h. Scheduled date of fabrication.
    - i. Scheduled dates for installation.
    - j. Activity or event number.

#### 1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
  2. Date.
  3. Name of Contractor.
  4. Name of firm or entity that prepared submittal.
  5. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  6. Other necessary identification.
  7. Remarks.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations

from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

## 1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
    - a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  - 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
  - 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review



- of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
    - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
  2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## 1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least **8-1/2 by 11 inches** , but no larger than **30 by 42 inches** .
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
  4. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
  5. Paper Transmittal: Include paper transmittal, including complete submittal information indicated.
  6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual

- Specification Sections. Such Samples must be in an undamaged condition at time of use.
- b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
7. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
- a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
  2. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
  3. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
- H. Test and Research Reports:

1. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

#### 1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp . Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
  1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

#### 1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required , and return.
  1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action .
  2. Submittals by Web-Based Project Management Software: Architect will indicate, on Project management software website, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

Harford County Public Schools  
Aberdeen High School Ticket Booth

Frederick Ward Associates, Inc.  
Construction Documents

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

## SECTION 013516 - ALTERATION PROJECT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes special procedures for alteration work.

#### 1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep an element or detail secure and intact.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

### 1.3 COORDINATION

- A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.
1. Schedule construction operations in sequence required to obtain best Work results.
  2. Coordinate sequence of alteration work activities to accommodate the following:
    - a. Owner's continuing occupancy of portions of existing building.
    - b. Owner's partial occupancy of completed Work.
    - c. Other known work in progress.
    - d. Tests and inspections.
  3. Detail sequence of alteration work, with start and end dates.
  4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
  5. Use of elevator and stairs.
  6. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.
- B. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns and adjacent to restricted areas . Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

### 1.4 PROJECT MEETINGS FOR ALTERATION WORK

- A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site .
1. Attendees: In addition to representatives of Owner, Architect, and Contractor, testing service representative, specialists, and chemical-cleaner manufacturer(s) shall be represented at the meeting.
  2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
    - a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
    - b. Fire-prevention plan.
    - c. Governing regulations.
    - d. Areas where existing construction is to remain and the required protection.

- e. Hauling routes.
  - f. Sequence of alteration work operations.
  - g. Storage, protection, and accounting for salvaged and specially fabricated items.
  - h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
  - i. Qualifications of personnel assigned to alteration work and assigned duties.
  - j. Requirements for extent and quality of work, tolerances, and required clearances.
  - k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.
3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.
- B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to alteration work.
  2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.
    - a. Alteration Work Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
    - b. Schedule Updating: Revise Contractor's Alteration Work Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    - c. Review present and future needs of each entity present, including review items listed in the "Preliminary Conference for Alteration Work" Paragraph in this article and the following:
      - 1) Interface requirements of alteration work with other Project Work.
      - 2) Status of submittals for alteration work.
      - 3) Access to alteration work locations.
      - 4) Effectiveness of fire-prevention plan.



- 5) Quality and work standards of alteration work.
  - 6) Change Orders for alteration work.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

#### 1.5 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.
  1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed at Project site .

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Alteration Work Subschedule:
  1. Submit alteration work subschedule within seven days of date established for commencement of alteration work .
- B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.
- C. Alteration Work Program: Submit 30 days before work begins.
- D. Fire-Prevention Plan: Submit 30 days before work begins.

#### 1.7 QUALITY ASSURANCE

- A. Specialist Qualifications: An experienced firm regularly engaged in specialty work similar in nature, materials, design, and extent to alteration work as specified in each Section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.
  1. Field Supervisor Qualifications: Full-time supervisors experienced in specialty work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on-site when specialty work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.
    - a. Construct new mockups of required work whenever a supervisor is replaced.

- B. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- C. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
  - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
  - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- D. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- E. Safety and Health Standard: Comply with ANSI/ASSP A10.6.

#### 1.8 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
  - 1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
  - 2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area on-site .
  - 5. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
  - 1. Repair and clean items for reuse as indicated.
  - 2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in

the vicinity is complete.

- D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.
1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
  2. Secure stored materials to protect from theft.
  3. Control humidity so that it does not exceed 85 percent. Maintain temperatures **5 deg F** or more above the dew point.
- E. Storage Space:
1. Owner will arrange for limited on-site location(s) for free storage of salvaged material. This storage space does not include security and climate control for stored material.
  2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

## 1.9 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs .
1. Comply with requirements specified in Section 013233 "Photographic Documentation."
- B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.
- C. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by **12 inches** or more.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

## 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
1. Use only proven protection methods, appropriate to each area and surface being protected.
  2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
  3. Erect temporary barriers to form and maintain fire-egress routes.

4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection as indicated on Drawings.

### 3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
  2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
    - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Use of open-flame equipment is not permitted. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
  2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
  3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
  4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
  5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
  6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
    - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
    - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
    - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
    - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
    - e. Maintain fire-watch personnel at each area of Project site until two hours after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.
- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to

sprinklers, shield them temporarily with guards.

1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

### 3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

### 3.4 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs . Comply with requirements in Section 013233 "Photographic Documentation."
- D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
  1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

## SECTION 014000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
  - 1. Section 012100 "Allowances" for testing and inspection allowances.

#### 1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
  - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.

1. Mockups are used for one or more of the following:
    - a. Verify selections made under Sample submittals.
    - b. Demonstrate aesthetic effects.
    - c. Demonstrate the qualities of products and workmanship.
    - d. Demonstrate successful installation of interfaces between components and systems.
    - e. Perform preconstruction testing to determine system performance.
  2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
  3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) in accordance with 29 CFR 1910.7, by a testing agency accredited in accordance with NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."
- I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.
- 1.3 ACTION SUBMITTALS
- 1.4 INFORMATIONAL SUBMITTALS
- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
  - B. Qualification Data: For Contractor's quality-control personnel.
  - C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:



1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

D. Reports: Prepare and submit certified written reports and documents as specified.

#### 1.5 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities and to coordinate Owner's quality-assurance and quality-control activities. Coordinate with Contractor's Construction Schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
1. Project quality-control manager may also serve as Project superintendent .
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
1. Contractor-performed tests and inspections, including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
  2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
  3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring the Work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports, including log of approved and rejected results. Include Work Architect has indicated as nonconforming

or defective. Indicate corrective actions taken to bring nonconforming Work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

## 1.6 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, telephone number, and email address of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Description of the Work and test and inspection method.
  6. Identification of product and Specification Section.
  7. Complete test or inspection data.
  8. Test and inspection results and an interpretation of test results.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of technical representative making report.
  2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  3. Statement of whether conditions, products, and installation will affect warranty.
  4. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
  2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  3. Other required items indicated in individual Specification Sections.

## 1.7 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service

representative requirements.

- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.
  - 1. Requirements of authorities having jurisdiction supersede requirements for specialists.
- F. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

## 1.8 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
  - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
  - 2. Payment for these services will be made from testing and inspection allowances specified in Section 012100 "Allowances," as authorized by Change Orders.
  - 3. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
  - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  - 2. Engage a qualified testing agency to perform quality-control services.
    - a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. **Contractor's Associated Requirements and Services:** Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspection equipment at Project site.
- E. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- F. **Schedule of Tests and Inspections:** Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's Construction Schedule. Update and submit with each Application for Payment.
1. **Schedule Contents:** Include tests, inspections, and quality-control services, including Contractor- and Owner-retained services, commissioning activities, and other Project-required services paid for by other entities.
  2. **Distribution:** Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Description of the Work tested or inspected.
  - 3. Date test or inspection results were transmitted to Architect.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and authorities' having jurisdiction reference during normal working hours.
  - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.
  - 2. Section 011200 "Multiple Contract Summary" for responsibilities for temporary facilities and controls for projects utilizing multiple contracts.
  - 3. Section 012100 "Allowances" for allowance for metered use of temporary utilities.

#### 1.2 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities to be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- B. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
  - 1. Locations of dust-control partitions at each phase of work.
  - 2. HVAC system isolation schematic drawing.
  - 3. Location of proposed air-filtration system discharge.
  - 4. Waste-handling procedures.
  - 5. Other dust-control measures.
- C. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by Owner. Include the following:
  - 1. Methods used to meet the goals and requirements of Owner.
  - 2. Concrete cutting method(s) to be used.
  - 3. Location of construction devices on the site.

4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with Owner.
6. Indicate locations of sensitive areas or other areas requiring special attention as identified by Owner. Indicate means for complying with Owner's requirements.

#### 1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

#### 1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats, minimum **36 by 60 inches**.
- B. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

#### 2.2 TEMPORARY FACILITIES

- A. Field Offices:
  1. Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
  2. Owner will provide conditioned interior space for field offices upon completion of demolition and enclosure.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents, including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and **4-foot-** square tack and marker boards.
3. Drinking water and private toilet.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of **68 to 72 deg F**.
5. Lighting fixtures capable of maintaining average illumination of **20 fc** at desk height.

## 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

## PART 3 - EXECUTION

### 3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
  1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

### 3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
  1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.



1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
  - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
  - b. Maintain negative air pressure within work area, using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

### 3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
  1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service:
  1. Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
  1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities is not permitted .
- D. Electric Power Service:
  1. Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
  - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Temporary Erosion and Sedimentation Control:
  - 1. Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 311000 "Site Clearing."
  - 2. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, in accordance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
    - a. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
    - b. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
    - c. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
    - d. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.
- C. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
  - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

### 3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control,

ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
  - 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
  - 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. The Work of This Section Includes: Administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for Contractor requirements related to Owner-furnished products.
  - 2. Section 012100 "Allowances" for products selected under an allowance.
  - 3. Section 012300 "Alternates" for products selected under an alternate.
  - 4. Section 012500 "Substitution Procedures" for requests for substitutions.
  - 5. Section 014200 "References" for applicable industry standards for products specified.
  - 6. Section 017700 "Closeout Procedures" for submitting warranties.

#### 1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products unless otherwise indicated.
  - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluating Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. [**Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.**]
  - C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
  - D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
    1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
    2. Data indicating compliance with the requirements specified in "Comparable Products" Article.
  - E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
  - F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.
- 1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
  1. Resolution of Compatibility Disputes between Multiple Contractors:
    - a. Contractors are responsible for providing products and construction methods compatible with products and construction methods of other contractors.
    - b. If a dispute arises between the multiple contractors over concurrently selectable but incompatible products, Architect will determine which products will be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of

products or equipment that will be exposed to view in occupied spaces or on the exterior.

1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is inconspicuous.
2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
  - a. Name of product and manufacturer.
  - b. Model and serial number.
  - c. Capacity.
  - d. Speed.
  - e. Ratings.
3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

#### 1.4 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

#### 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.
- C. Storage:
  1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
  2. Store products to allow for inspection and measurement of quantity or counting of

units.

3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

## 1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections are to be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of Owner or endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
  3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
  1. Provide products complete with accessories, trim, finish, fasteners, and other

- items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," Architect will make selection.
  5. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.
  6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
    - a. Submit additional documentation required by Architect through Construction Manager in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by Architect, whose determination is final.

B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
  - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
  - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."



- b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
  5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
    - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
  6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
    - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
    - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
  7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
    - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
  1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- E. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated

requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.

## 2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
  5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for a comparable product. Architect will notify Contractor through Construction Manager of approval or rejection of proposed comparable product within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
1. Architect's Approval of Submittal: Marked with approval notation from Architect's action stamp. See Section 013300 "Submittal Procedures."
  2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 017300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
  - 1. Installation.
  - 2. Cutting and patching.
  - 3. Coordination of Owner's portion of the Work.
  - 4. Progress cleaning.
  - 5. Starting and adjusting.
  - 6. Protection of installed construction.
  - 7. Correction of the Work.
  
- B. Related Requirements:
  - 1. Section 011000 "Summary" for coordination of , and limits on use of Project site.
  - 2. Section 013300 "Submittal Procedures" for submitting surveys.
  - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
  - 4. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

#### 1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
  
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

#### 1.3 PREINSTALLATION MEETINGS

- A. Cutting and Patching Conference: Conduct conference at Project site .
  - 1. Prior to submitting cutting and patching plan , review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Inform Architect of scheduled meeting. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:
    - a. Contractor's superintendent.
    - b. Trade supervisor responsible for cutting operations.

- c. Trade supervisor(s) responsible for patching of each type of substrate.
  - d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affected by cutting and patching operations.
2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
  1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
  2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  3. Products: List products to be used for patching and firms or entities that will perform patching work.
  4. Dates: Indicate when cutting and patching will be performed.
  5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
    - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

#### 1.5 CLOSEOUT SUBMITTALS

#### 1.6 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Professional Engineer Qualifications: Refer to Section 014000 "Quality Requirements."
- C. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
  2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or

safety. Operational elements include the following:

- a. Primary operational systems and equipment.
  - b. Fire separation assemblies.
  - c. Air or smoke barriers.
  - d. Fire-suppression systems.
  - e. Plumbing piping systems.
  - f. Mechanical systems piping and ducts.
  - g. Control systems.
  - h. Communication systems.
  - i. Fire-detection and -alarm systems.
  - j. Conveying systems.
  - k. Electrical wiring systems.
  - l. Operating systems of special construction.
  - m. .
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
- a. Water, moisture, or vapor barriers.
  - b. Membranes and flashings.
  - c. Exterior curtain-wall construction.
  - d. Sprayed fire-resistive material.
  - e. Equipment supports.
  - f. Piping, ductwork, vessels, and equipment.
  - g. Noise- and vibration-control elements and systems.
  - h. .
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- D. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
  1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable

design requirements.

- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
  - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
  2. List of detrimental conditions, including substrates.
  3. List of unacceptable installation tolerances.
  4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  2. Establish limits on use of Project site.
  3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  4. Inform installers of lines and levels to which they must comply.
  5. Check the location, level and plumb, of every major element as the Work progresses.
  6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

### 3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

### 3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb, and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  - 4. Maintain minimum headroom clearance of **96 inches** in occupied spaces and **90 inches** in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.



- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

### 3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  - 3. Floors and Walls: Where walls or partitions that are removed extend one finished

area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

- a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.7 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
  1. Provide temporary facilities required for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products.
  2. Refer to Section 011000 "Summary" for other requirements for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
  1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  2. Preinstallation Conferences: Include Owner's construction personnel and Owner's separate contractors at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### 3.8 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  1. Comply with requirements in NFPA 241 for removal of combustible waste

- materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above **80 deg F**.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, in accordance with regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
  2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces in accordance with written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls." Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.9 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

### 3.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

### 3.11 CORRECTION OF THE WORK

- A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

## SECTION 017400 - WARRANTIES AND BONDS

### PART 1 - RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
- B. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
- C. General closeout requirements are included in Section "Project Closeout."
- D. Specific requirements for warranties for the Work and products and installation that are specified to be warranted, are included in the individual Sections of Divisions-2 through -16.
- E. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- F. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.3 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

#### 1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been

corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

- C. **Replacement Cost:** Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. **Owner's Recourse:** Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- E. **Rejection of Warranties:** The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- F. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

## 1.5 SUBMITTALS

- A. **Submit written warranties to the Architect prior to the date certified for Substantial Completion.** If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
  - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within fifteen days of completion of that designated portion of the Work.
  - 2. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.
  - 3. Refer to individual Sections of Divisions-2 through -16 for specific content requirements, and particular requirements for submittal of special warranties.
- B. **Form of Submittal:** At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl



- covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.
2. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
  3. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS," the Project title or name, and the name of the Contractor.
  4. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS  
PART 3 - EXECUTION

- 3.1 Provide warranties and bonds on products and installations as required under the various sections of this specification.

END OF SECTION 017400

## SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Recycling nonhazardous demolition and construction waste.
  - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
  - 1. Section 011200 "Multiple Contract Summary" for coordination of responsibilities for waste management.
  - 2. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
  - 3. Section 044313.13 "Anchored Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
  - 4. Section 044313.16 "Adhered Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
  - 5. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

#### 1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
  - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

#### 1.5 ACTION SUBMITTALS

#### 1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Universal certified by EPA-approved certification program.
- B. Refrigerant Recovery Technician Qualifications-1: Comply with requirements in Section 024119 "Selective Demolition."
- C. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.
- D. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
  - 1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.
  - 2. Review requirements for documenting quantities of each type of waste and its disposition.
  - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - 5. Review waste management requirements for each trade.

#### 1.7 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

PART 2 - PRODUCTS  
PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  - 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
  - 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.

END OF SECTION 017419

## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final Completion procedures.
  - 3. List of incomplete items.
  - 4. Submittal of Project warranties.
  - 5. Final cleaning.
  
- B. Related Requirements:
  - 1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
  - 2. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
  - 3. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 4. Section 017900 "Demonstration and Training" for requirements to train Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

#### 1.2 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.

1.5 MAINTENANCE MATERIAL SUBMITTALS  
1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list will state that each item has been completed or otherwise resolved for acceptance.
  2. Submit Final Completion photographic documentation.

1.8 LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listed by room or space number.
  2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following format:
    - a. PDF Electronic File: Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner

during construction period by separate agreement with Contractor.

- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
  - 1. Submit by email to Architect.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
  - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.

- e. Remove snow and ice to provide safe access to building.
- f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- h. Clean flooring, removing debris, dirt, and staining; clean in accordance with manufacturer's instructions.
- i. Vacuum and mop concrete.
- j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean in accordance with manufacturer's instructions if visible soil or stains remain.
- k. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- l. Remove labels that are not permanent.
- m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
  - 1) Clean HVAC system in compliance with NADCA ACR. Provide written report on completion of cleaning.
- q. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
- r. Clean strainers.
- s. Leave Project clean and ready for occupancy.

### 3.2 CORRECTION OF THE WORK

- A. Complete repair and restoration operations required by "Correction of the Work" Article in Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700



## SECTION 017823 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory manuals.
  - 2. Emergency manuals.
  - 3. Systems and equipment operation manuals.
  - 4. Systems and equipment maintenance manuals.
  - 5. Product maintenance manuals.
- B. Related Requirements:
  - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

#### 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
  - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:

1. Submit on digital media acceptable to Architect . Enable reviewer comments on draft submittals.
- C. Initial Manual Submittal: Submit draft copy of each manual at least days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
  1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

#### 1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
  1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

#### 1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  1. Title page.
  2. Table of contents.
  3. Manual contents.
- B. Title Page: Include the following information:
  1. Subject matter included in manual.

2. Name and address of Project.
  3. Name and address of Owner.
  4. Date of submittal.
  5. Name and contact information for Contractor.
  6. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."
- 1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL
- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
  2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
  3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- 1.8 EMERGENCY MANUALS
- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below,

include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
  2. Gas leak.
  3. Water leak.
  4. Power failure.
  5. Water outage.
  6. System, subsystem, or equipment failure.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
  2. Shutdown instructions for each type of emergency.
  3. Operating instructions for conditions outside normal operating limits.
  4. Required sequences for electric or electronic systems.
  5. Special operating instructions and procedures.

#### 1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
  2. Operating standards.
  3. Operating procedures.
  4. Wiring diagrams.
  5. Control diagrams.
  6. Piped system diagrams.
  7. Precautions against improper use.
  8. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

#### 1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title

in Project Manual and drawing or schedule designation or identifier where applicable.

- D. **Manufacturers' Maintenance Documentation:** Include the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
    - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
- E. **Maintenance Procedures:** Include the following information and items that detail essential maintenance procedures:
1. Aligning, adjusting, and checking instructions.
  2. Demonstration and training video recording, if available.
- F. **Maintenance and Service Schedules:** Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. **Scheduled Maintenance and Service:** Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
  2. **Maintenance and Service Record:** Include manufacturers' forms for recording maintenance.
- G. **Spare Parts List and Source Information:** Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. **Maintenance Service Contracts:** Include copies of maintenance agreements with name and telephone number of service agent.
- I. **Warranties and Bonds:** Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.
- J. **Drawings:** Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of maintenance manuals.

#### 1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
  1. Inspection procedures.
  2. Types of cleaning agents to be used and methods of cleaning.
  3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

## SECTION 017839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Requirements:
  - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
  - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set(s) of marked-up record prints.
  - 2. Number of Copies-1: Submit copies of Record Drawings as follows:
    - a. Initial Submittal:
      - 1) Submit PDF electronic files of scanned record prints and one set(s) of file prints.
      - 2) Submit Record Digital Data Files and one set(s) of plots.
      - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit PDF electronic files of scanned Record Prints and set(s) of file prints.
      - 2) Print each drawing, whether or not changes and additional information were recorded.



- c. Final Submittal-1:
  - 1) Submit one paper-copy set(s) of marked-up record prints.
  - 2) Submit Record Digital Data Files and set(s) of Record Digital Data File plots.
  - 3) Plot each drawing file, whether or not changes and additional information were recorded.

B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.

C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

- 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

#### 1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

- 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
  - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
  - b. Accurately record information in an acceptable drawing technique.
  - c. Record data as soon as possible after obtaining it.
  - d. Record and check the markup before enclosing concealed installations.
  - e. Cross-reference record prints to corresponding photographic documentation.
- 2. Content: Types of items requiring marking include, but are not limited to, the following:
  - a. Dimensional changes to Drawings.
  - b. Revisions to details shown on Drawings.
  - c. Locations and depths of underground utilities.
  - d. Revisions to routing of piping and conduits.
  - e. Revisions to electrical circuitry.
  - f. Duct size and routing.
  - g. Locations of concealed internal utilities.
  - h. Changes made by Change Order or Construction Change Directive.
  - i. Changes made following Architect's written orders.
- 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use

- personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Annotated PDF electronic file.
  2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  3. Refer instances of uncertainty to Architect for resolution.
  4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
    - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
    - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file.
  3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect.
    - e. Name of Contractor.

## 1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders , Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as annotated PDF electronic file .

#### 1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders , Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as annotated PDF electronic file .

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

#### 1.7 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file .

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

Harford County Public Schools  
Aberdeen High School Ticket Booth

Frederick Ward Associates, Inc.  
Construction Documents

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

## SECTION 017900 - DEMONSTRATION AND TRAINING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
  - 2. Demonstration and training video recordings.

#### 1.2 INFORMATIONAL SUBMITTALS

- A. Attendance Record: For each training module, submit list of participants and length of instruction time.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit 1 copies within seven days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:
    - a. Name of Project.
    - b. Name and address of videographer.
    - c. Name of Architect.
    - d. Name of Construction Manager.
    - e. Name of Contractor.
    - f. Date of video recording.
  - 2. Transcript:
    - a. Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
    - b. Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
  - 3. At completion of training, submit complete training manual(s) for Owner's use prepared in same PDF file format required for operation and maintenance

manuals specified in Section 017823 "Operation and Maintenance Data."

1.4 QUALITY ASSURANCE

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.6 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
  - 1. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Systems and equipment operation manuals.
    - c. Systems and equipment maintenance manuals.
    - d. Product maintenance manuals.
    - e. Project Record Documents.
    - f. Identification systems.
    - g. Warranties and bonds.
    - h. Maintenance service agreements and similar continuing commitments.
  - 2. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 3. Operations: Include the following, as applicable:

- a. Startup procedures.
  - b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
4. Adjustments: Include the following:
    - a. Alignments.
    - b. Checking adjustments.
    - c. Noise and vibration adjustments.
    - d. Economy and efficiency adjustments.
  5. Troubleshooting: Include the following:
    - a. Diagnostic instructions.
    - b. Test and inspection procedures.
  6. Maintenance: Include the following:
    - a. Inspection procedures.
    - b. Types of cleaning agents to be used and methods of cleaning.
    - c. List of cleaning agents and methods of cleaning detrimental to product.
    - d. Procedures for routine cleaning.
    - e. Procedures for preventive maintenance.
    - f. Procedures for routine maintenance.
    - g. Instruction on use of special tools.
- 1.7 PREPARATION
- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
  - B. Set up instructional equipment at instruction location.
- 1.8 INSTRUCTION
- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.

- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
  - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
  - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner , through Construction Manager, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

#### 1.9 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
  - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode with vibration reduction technology.
  - 1. Submit video recordings on CD-ROM or thumb drive .
  - 2. File Hierarchy: Organize folder structure and file locations in accordance with Project Manual table of contents. Provide complete screen-based menu.
  - 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.
  - 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged in accordance with Project Manual table of contents:
    - a. Name of Contractor/Installer.
    - b. Business address.
    - c. Business phone number.
    - d. Point of contact.



- e. Email address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
- 1. Film training session(s) in segments not to exceed 15 minutes.
    - a. Produce segments to present a single significant piece of equipment per segment.
    - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
    - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
- 1. Furnish additional portable lighting as required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017900

## SECTION 033000 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Concrete standards.
2. Concrete materials.
3. Admixtures.
4. Accessories.
5. Concrete mixing.

##### B. Related Requirements:

1. Section 031000 "Concrete Forming and Accessories" for form-facing materials, form liners, insulating concrete forms, and waterstops.
2. Section 032000 "Concrete Reinforcing" for steel reinforcing bars and welded-wire reinforcement.
3. Section 035300 "Concrete Topping" for concrete floor toppings.
4. Section 312000 "Earth Moving" for drainage fill under slabs-on-ground.

#### 1.2 DEFINITIONS

##### A. Cementitious Materials: Portland cement or blended hydraulic cement alone or in combination with one or more of the following:

1. Fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

##### B. Water/Cementitious Materials (w/cm) Ratio: The ratio by weight of mixing water to cementitious materials.

#### 1.3 PREINSTALLATION MEETINGS

##### A. Preinstallation Conference: Conduct conference at Project site.

1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
  - a. Contractor's superintendent.
  - b. Independent testing agency responsible for inspections and acceptance testing of concrete at Project site.
  - c. Ready-mix concrete manufacturer.
  - d. Concrete Subcontractor.
  - e. Special concrete finish Subcontractor.

2. Review the following:
  - a. Special inspection and testing and inspecting agency procedures for field quality control.
  - b. Construction joints, control joints, isolation joints, and joint-filler strips.
  - c. Semirigid joint fillers.
  - d. Vapor-retarder installation.
  - e. Anchor rod and anchorage device installation tolerances.
  - f. Cold- and hot-weather concreting procedures.
  - g. Concrete finishes and finishing.
  - h. Curing procedures.
  - i. Forms and form-removal limitations.
  - j. Shoring and reshoring procedures.
  - k. Methods for achieving specified floor and slab flatness and levelness.
  - l. Floor and slab flatness and levelness measurements.
  - m. Concrete repair procedures.
  - n. Concrete protection.
  - o. Initial curing of standard-cured and field curing of field-cured test cylinders (ASTM C31/C31M.)
  - p. Protection of field cured field test cylinders.
  - q. Distribution of test reports.

#### 1.4 ACTION SUBMITTALS

- A. Product Data:
  1. Portland cement.
  2. Aggregates.
  3. Admixtures:
  4. Vapor retarders.
  5. Curing materials.
  6. Joint fillers.
- B. Design Mixtures: For each concrete mixture, include the following:
  1. Mixture identification.
  2. Compressive strength at 28 days or other age as specified.
  3. Slump or slump flow limit.
  4. Air content.
  5. Nominal maximum aggregate size.
  6. Intended placement method.
  7. Submit adjustments to design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant changes.
- C. Shop Drawings:
  1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
    - a. Location of construction joints is subject to approval of the Architect.

- D. Concrete Schedule: For each location of each class of concrete indicated in "Concrete Mixture Class Types" Article, including the following:
  - 1. Concrete class designation.
  - 2. Location within Project.
  - 3. Exposure class designation.
  - 4. Formed surface finish designation and final finish.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
  - 1. Installer: Include copies of applicable ACI certificates.
  - 2. Testing Agency: Include documentation indicating compliance with ASTM E329 or ASTM C1077 and copies of applicable ACI certificates for testing technicians or ACI Concrete Construction Special Inspector - MH, ASCC.
- B. Material Certificates: For each of the following:
  - 1. Cementitious materials.
  - 2. Bonding agents.
  - 3. Adhesives.
  - 4. Semirigid joint filler.
  - 5. Joint-filler strips.
- C. Material Test Reports: For the following:
  - 1. Portland cement.
  - 2. Aggregates.
  - 3. Admixtures.
- D. Floor surface flatness and levelness measurements report, indicating compliance with specified tolerances in accordance with ACI 117 and in compliance with **ASTM E1155**.
- E. Research Reports:
  - 1. For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
- F. Preconstruction Test Reports: For each mix design.
- G. Field quality-control reports.
- H. Minutes of preinstallation conference.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified Installer who employs Project personnel qualified as an ACI-certified Concrete Flatwork Associate and Concrete Flatwork Finisher and a supervisor who is a certified ACI Advanced Concrete Flatwork Finisher/Technician or an ACI Concrete Flatwork Finisher with experience installing and finishing concrete.

1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.
- B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
  1. Manufacturer's production facilities and delivery vehicles certified in accordance with NRMCA's certification requirements or equivalent approval by a State DOT.
- C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing that performs duties on behalf of the Architect/Engineer.
  1. Personnel performing laboratory tests to be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Level 1. Testing agency laboratory supervisor tests to be an ACI-certified Concrete Laboratory Testing Technician, Level 2.
- D. Field Quality-Control Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.
  1. Personnel conducting field tests on plastic concrete properties are to be qualified as an ACI Concrete Field Testing Technician, Grade 1, in accordance with policies from ACI CPP 610.1 or an equivalent certification program.

#### 1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.
  1. Include the following information in each test report:
    - a. Admixture dosage rates.
    - b. Slump.
    - c. Air content.
    - d. Seven-day compressive strength.
    - e. 28-day compressive strength.
    - f. Evaluation of permeability-reducing admixtures.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94/C94M and **ACI 301**.

#### 1.9 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with **ACI 301** as follows:

1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
2. When air temperature has fallen to, or is expected to fall below **40 deg F** during the protection period, maintain delivered concrete mixture temperature within the temperature range required by **ACI 301**.
3. Do not use frozen materials or materials containing ice or snow.
4. Do not place concrete in contact with surfaces less than **35 deg F**, other than reinforcing steel.

B. Hot-Weather Placement: Comply with **ACI 301** and **ACI 305.1**, and as follows:

1. Maintain concrete temperature at time of discharge to not exceed **95 deg F**.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

#### 1.10 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to furnish replacement sheet vapor retarder/termite barrier material and accessories for sheet vapor retarder/ termite barrier and accessories that do not comply with requirements or that fail to resist penetration by termites within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 CONCRETE STANDARDS

A. ACI Publications: Comply with **ACI 301** unless modified by requirements in the Contract Documents.

#### 2.2 CONCRETE MATERIALS

A. Source Limitations:

1. Obtain all concrete mixtures from a single ready-mixed concrete manufacturer for entire Project.
2. Obtain each type of admixture from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, Type I, gray.

C. Normal-Weight Aggregates:

1. Coarse Aggregate: ASTM C33/C33M, Class 1N
2. Maximum Coarse-Aggregate Size: **3/4 inch** nominal.
3. Fine Aggregate: ASTM C33/C33M.

4. Alkali-Silica Reaction: Comply with one of the following for each aggregate used:
  - a. Expansion Result of Aggregate: Not more than 0.04 percent at one year when tested in accordance with ASTM C1293.
  - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567. Do not use this option with fly ash with an alkali content greater than 4.0 percent. Submit supporting data for each aggregate showing expansion in excess of 0.10 percent when tested in accordance with ASTM C1260.
  - c. Alkali Content in Concrete: Not to exceed **4 lb./cu. yd.** for aggregate with expansion greater than or equal to 0.04 percent and less than 0.12 percent or **3 lb./cu. yd.** for aggregate with expansion greater than or equal to 0.12 percent and less than 0.24 percent. Test aggregate reactivity in accordance with ASTM C1293. Calculate alkali content of concrete in accordance with **ACI 301**. Do not use this option with natural pozzolan or fly ash that has a calcium oxide content greater than 18 percent or an alkali content greater than 4.0 percent; or for an aggregate with expansion at one year greater than or equal to 0.24 percent when tested in accordance with ASTM C1293.
  
- D. Ground Calcium Carbonate or Aggregate Mineral Filler: ASTM C1797. Unless otherwise permitted, do not use mineral filler derived from carbonate sources in concrete for members assigned to Exposure Class S1, S2, or S3.

## 2.3 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C260/C260M.
- B. Chemical Admixtures: Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.
  1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
  2. Retarding Admixture: ASTM C494/C494M, Type B.
  3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
  5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
  6. Admixtures with special properties, with documentation of claimed performance enhancement, ASTM C494/C494M, Type S.
- C. Mixing Water for Concrete Mixtures and Water Used to Make Ice: ASTM C1602/C1602M. Include documentation of compliance with limits for alkalis, sulfates, chlorides, or solids content of mixing water from Table 2 in ASTM C1602/C1602M.

## 2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately **9 oz./sq. yd.** when dry.

- B. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
  - 1. Color:
    - a. Ambient Temperature Below 50 deg F (10 deg C): Black.
    - b. Ambient Temperature between 50 and 85 deg F (10 and 29 deg C): Any color.
    - c. Ambient Temperature Above 85 deg F (29 deg C): White.
- C. Water: Potable water that does not cause staining of the surface.

## 2.5 ACCESSORIES

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 in accordance with ASTM D2240.
- C. Bonding Agent: ASTM C1059/C1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C881/C881M, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade and class to suit requirements, and as follows:
  - 1. Types I and II, nonload bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

## 2.6 CONCRETE MIXTURE MATERIALS

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with **ACI 301**.
  - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland or hydraulic cement in concrete assigned to Exposure Class F3 as follows:
  - 1. Fly Ash or Other Pozzolans: 25 percent by mass.
  - 2. Slag Cement: 50 percent by mass.
  - 3. Silica Fume: 10 percent by mass.
  - 4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.
  - 5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.



- C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.
  - 1. Use corrosion-inhibiting admixture in concrete mixtures where indicated.
  - 2. Use permeability-reducing admixture in concrete mixtures where indicated.
- D. Color Pigment: Add color pigment to concrete mixture in accordance with manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

## 2.7 CONCRETE MIXTURE CLASS TYPES

- A. Class J: Normal-weight concrete used for exterior walks and slabs.
  - 1. Exposure Class: **ACI 318** Class F1.
  - 2. Minimum Compressive Strength: **4000 psi** at 28 days.
  - 3. Maximum w/cm Ratio: 0.50.
  - 4. Slump Limit: **5 inches**, plus or minus **1.5 inches** for concrete <Insert limits>.
  - 5. Slump Flow Limit: **30 inches**, plus or minus **2.5 inches**.
  - 6. Air Content:
    - a. Exposure Class F1: 5.0 percent, plus or minus 1.5 percent at point of delivery for concrete containing **3/4-inch** nominal maximum aggregate size.
    - b. Exposure Classes F2 and F3: 6.0 percent, plus or minus 1.5 percent at point of delivery for concrete containing **3/4-inch** nominal maximum aggregate size.
  - 7. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

## 2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and furnish delivery ticket.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in accordance with ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of **1 cu. yd.** or smaller, continue mixing at least 1-1/2 minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For mixer capacity larger than **1 cu. yd.**, increase mixing time by 15 seconds for each additional **1 cu. yd.**.
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

#### A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, reinforcement, and embedded items is complete and that required inspections have been performed.
2. Do not proceed until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

#### A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:

1. Daily access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
4. Security and protection for test samples and for testing and inspection equipment at Project site.

### 3.3 TOLERANCES

#### A. Comply with **ACI 117**.

### 3.4 INSTALLATION OF EMBEDDED ITEMS

#### A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install reglets to receive waterproofing and through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

### 3.5 INSTALLATION OF CAST-IN-PLACE CONCRETE

#### A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.

1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
2. Provide continuous inspection of vapor retarder during concrete placement and

make necessary repairs to damaged areas as Work progresses.

- B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Water addition in transit or at the Project site must be in accordance with ASTM C94/C94M and must not exceed the permitted amount indicated on the concrete delivery ticket.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
  - 1. If a section cannot be placed continuously, provide construction joints as indicated.
  - 2. Deposit concrete to avoid segregation.
  - 3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
  - 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with **ACI 301**.
    - a. Do not use vibrators to transport concrete inside forms.
    - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least **6 inches** into preceding layer.
    - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
    - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Do not place concrete floors and slabs in a checkerboard sequence.
  - 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 3. Maintain reinforcement in position on chairs during concrete placement.
  - 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
  - 5. Level concrete, cut high areas, and fill low areas.
  - 6. Slope surfaces uniformly to drains where required.
  - 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
  - 8. Do not further disturb slab surfaces before starting finishing operations.

### 3.6 INSTALLATION OF JOINTS

- A. Construct joints true to line, with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.

1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
  2. Place joints perpendicular to main reinforcement.
    - a. Continue reinforcement across construction joints unless otherwise indicated.
  3. Form keyed joints as indicated. Embed keys at least **1-1/2 inches** into concrete.
  4. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  6. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
  7. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  8. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of **1/8 inch**. Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut **1/8-inch** wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.
- D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
  2. Terminate full-width joint-filler strips not less than **1/2 inch** or more than **1 inch** below finished concrete surface, where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints:
1. Install dowel bars and support assemblies at joints where indicated on Drawings.
  2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.

- F. Dowel Plates: Install dowel plates at joints where indicated on Drawings.

### 3.7 APPLICATION OF FINISHING FLOORS AND SLABS

- A. Trowel and Fine-Broom Finish: First apply a trowel finish to surfaces [indicated on Drawings][where ceramic or quarry tile is to be installed by either thickset or thinset method]. While concrete is still plastic, slightly scarify surface with a fine broom perpendicular to main traffic route.

1. Coordinate required final finish with Architect before application.
2. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

### 3.8 APPLICATION OF FINISHING FORMED SURFACES

- A. As-Cast Surface Finishes:

1. ACI 301 (ACI 301M) Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
  - a. Patch voids larger than **1-1/2 inches** wide or **1/2 inch** deep.
  - b. Remove projections larger than **1 inch**.
  - c. Tie holes do not require patching.
  - d. Surface Tolerance: **ACI 117**, Class D.
  - e. Apply to concrete surfaces for metal lap pan deck formed surfaces and those surfaces that are buried or covered with subsequent installed surfaces.
2. ACI 301 (ACI 301M) Surface Finish SF-2.0: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams.
  - a. Patch voids larger than **3/4 inch** wide or **1/2 inch** deep.
  - b. Remove projections larger than **1/4 inch**.
  - c. Patch tie holes.
  - d. Surface Tolerance: **ACI 117**, Class B.
  - e. Locations: Apply to concrete surfaces exposed to public view,.
3. ACI 301 (ACI 301M) Surface Finish SF-3.0:
  - a. Patch voids larger than **3/4 inch** wide or **1/2 inch** deep.
  - b. Remove projections larger than **1/8 inch**.
  - c. Patch tie holes.
  - d. Surface Tolerance: **ACI 117** Class A.
  - e. Locations: Apply to concrete surfaces exposed to public view,.

### 3.9 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

- A. Filling in:

1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
  2. Mix, place, and cure concrete, as specified, to match color and texture with in-place construction exposed to view.
  3. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
1. Coordinate sizes and locations of concrete bases with actual equipment provided.
  2. Construct concrete bases **4 inches** high unless otherwise indicated on Drawings, and extend base not less than **6 inches** in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated on Drawings, or unless required for seismic anchor support.
  3. Minimum Compressive Strength: **4000 psi** at 28 days.
  4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on **18-inch** centers around the full perimeter of concrete base.
  5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
  6. Prior to pouring concrete, place and secure anchorage devices.
    - a. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
    - b. Cast anchor-bolt insert into bases.
    - c. Install anchor bolts to elevations required for proper attachment to supported equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items.
1. Cast-in inserts and accessories, as shown on Drawings.
  2. Screed, tamp, and trowel finish concrete surfaces.
- 3.10 APPLICATION OF CONCRETE CURING
- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
1. Comply with **ACI 301** for cold weather protection during curing.
  2. Comply with **ACI 301** and **ACI 305.1** for hot-weather protection during curing.
  3. Maintain moisture loss no more than **0.2 lb/sq. ft. x h**, calculated in accordance with ACI 305R, before and during finishing operations.
- B. Curing Formed Surfaces: Comply with **ACI 308.1** as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period as follows:
  - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
  - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
  - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
  - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
  - e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
    - 1) Recoat areas subject to heavy rainfall within three hours after initial application.
    - 2) Maintain continuity of coating and repair damage during curing period.

### 3.11 INSTALLATION OF JOINT FILLING

- A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.
  1. Defer joint filling until concrete has aged at least one month(s).
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least **2 inches** deep in formed joints.
- D. Overfill joint, and trim joint filler flush with top of joint after hardening.

### 3.12 INSTALLATION OF CONCRETE SURFACE REPAIRS

- A. Defective Concrete:
  1. Repair and patch defective areas when approved by Architect.
  2. Remove and replace concrete that cannot be repaired and patched to meet specification requirements.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to

2-1/2 parts fine aggregate passing a **No. 16** sieve, using only enough water for handling and placing.

- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks in excess of **0.01 inch** spalls, air bubbles exceeding surface finish limits, honeycombs, rock pockets, fins and other projections on the surface exceeding surface finish limits, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than **1/2 inch** in any dimension to solid concrete.
    - a. Limit cut depth to **3/4 inch**.
    - b. Make edges of cuts perpendicular to concrete surface.
    - c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
    - d. Fill and compact with patching mortar before bonding agent has dried.
    - e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.
    - a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
    - b. Compact mortar in place and match surrounding surface.
  3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance, as determined by Architect.
- D. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- E. Repair materials and installation not specified above may be used, subject to Architect's approval.

### 3.13 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
1. Testing agency to be responsible for providing curing facility for initial curing of strength test specimens on-site and verifying that test specimens are cured in accordance with standard curing requirements in ASTM C31/C31M.
  2. Testing agency to immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
  3. Testing agency to report results of tests and inspections, in writing, to Owner,



Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.

a. Test reports to include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and **ACI 301**, including the following as applicable to each test and inspection:

- 1) Project name.
- 2) Name of testing agency.
- 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
- 4) Name of concrete manufacturer.
- 5) Date and time of inspection, sampling, and field testing.
- 6) Date and time of concrete placement.
- 7) Location in Work of concrete represented by samples.
- 8) Date and time sample was obtained.
- 9) Truck and batch ticket numbers.
- 10) Design compressive strength at 28 days.
- 11) Concrete mixture designation, proportions, and materials.
- 12) Field test results of fresh concrete, including slump or slump flow, air content, temperature and density.
- 13) Information on storage and curing of samples at the Project site, including curing method and maximum and minimum temperatures during initial curing period.
- 14) Type of fracture and compressive break strengths at seven days and 28 days.

4. Provide a space and source of power or other resources for curing and access to test specimens by the testing agency.

C. Delivery Tickets: comply with ASTM C94/C94M.

D. Inspections:

1. Headed bolts and studs.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.
5. Verification of concrete strength before removal of shores and forms from beams and slabs.
6. Batch Plant Inspections: On a random basis, as determined by Architect.

E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M to be performed in accordance with the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding **5 cu. yd.**, but less than **25 cu. yd.**, plus one set for each additional **150 cu. yd.** or fraction thereof.

a. When frequency of testing provides fewer than five compressive-strength

tests for each concrete mixture, testing is to be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C143/C143M:
  - a. One test at point of delivery for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  - b. Perform additional tests as needed.
3. Slump Flow: ASTM C1611/C1611M:
  - a. One test at point of delivery for each composite sample when strength test specimens are cast, but not less than one test for each day's pour of each concrete mixture.
  - b. Perform additional tests as needed.
4. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete; ASTM C173/C173M volumetric method, for structural lightweight concrete.
  - a. One test for each composite sample when strength test specimens are cast, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C1064/C1064M:
  - a. One test hourly when air temperature is **40 deg F** and below or **80 deg F** and above, and one test for each composite sample when strength test specimens are cast.
6. Concrete Density: ASTM C138/C138M:
  - a. One test for each composite sample when strength test specimens are cast.
7. Unit Weight: ASTM C138/C138M density of fresh structural lightweight concrete.
  - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture. The fresh density should be consistent with that associated with the equilibrium density within a tolerance of plus or minus 4 lb/ft.<sup>3</sup>.
8. Compression Test Specimens: ASTM C31/C31M:
  - a. Cast and standard cure two sets of two **6 inches** by **12-inches** or **4-inch** by **8-inch** cylindrical specimens for each composite sample.
9. Compressive-Strength Tests: ASTM C39/C39M.
  - a. Test one set of two standard cured specimens at seven days and one set of two specimens at 28 other age days.
  - b. Test one set of two field-cured specimens at seven days and one set of two specimens at 28 days.

- c. A compressive-strength test to be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
10. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor to evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
11. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests of standard cured cylinders equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than **500 psi** if specified compressive strength is **5000 psi**, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than **5000 psi**.
12. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
13. Additional Tests:
  - a. Testing and inspecting agency to make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
  - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.
    - 1) Acceptance criteria for concrete strength to be in accordance with **ACI 301**, Section 1.7.6.3.
14. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
15. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- F. Measure floor and slab flatness and levelness in accordance with **ASTM E1155** within 72 hours of completion of floor finishing and promptly report test results to Architect.

### 3.14 PROTECTION

- A. Protect concrete surfaces as follows:
  1. Protect from petroleum stains.
  2. Diaper hydraulic equipment used over concrete surfaces.
  3. Prohibit vehicles from interior concrete slabs.
  4. Prohibit use of pipe-cutting machinery over concrete surfaces.
  5. Prohibit placement of steel items on concrete surfaces.
  6. Prohibit use of acids or acidic detergents over concrete surfaces.
  7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using floor slab protective covering.

END OF SECTION 033000

## SECTION 055213 - PIPE AND TUBE RAILINGS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Aluminum railings.

B. Related Requirements:

1. Section 055113 "Metal Pan Stairs" for steel tube railings associated with metal pan stairs.
2. Section 057300 "Decorative Metal Railings" for ornamental railings fabricated from pipes and tubes and guard-infill metals.
3. Section 096900 "Access Flooring" for railings included with access flooring.

#### 1.2 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

#### 1.3 ACTION SUBMITTALS

A. Product Data:

1. Manufacturer's product lines of mechanically connected railings.
2. Expanded metal infill panels.
3. Perforated metal infill panels.
4. Woven-wire mesh infill panels.
5. Fasteners.
6. Post-installed anchors.
7. Handrail brackets.
8. Shop primer.
9. Intermediate coats and topcoats.
10. Bituminous paint.
11. Nonshrink, nonmetallic grout.
12. Anchoring cement.
13. Metal finishes.
14. Paint products.

- B. Sustainable Design Submittals:
- C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- D. Samples for Initial Selection: For products involving selection of color, texture, or design[, **including mechanical finishes**].
- E. Samples for Verification: For each type of exposed finish required.
  - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters, including finish.
  - 2. Fittings and brackets.
  - 3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
    - a. Show method of [**connecting**][**and**][**finishing**] members at intersections.
- F. Delegated Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For delegated design professional engineer.
- B. Welding certificates.
- C. Mill Certificates: Signed by manufacturers of stainless steel products, certifying that products furnished comply with requirements.
- D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- E. Product Test Reports: For tests on railings performed by a qualified testing agency, in accordance with ASTM E894 and ASTM E935.
- F. Research Reports: For post-installed anchors, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

#### 1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
  - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces of railings from damage by applying a strippable, temporary protective covering before shipping.

## 1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.
- B. Structural Performance: Railings, including attachment to building construction, withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Handrails and Top Rails of Guards:
    - a. Uniform load of **50 lbf/ ft.** applied in any direction.
    - b. Concentrated load of **200 lbf** applied in any direction.
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
  - 2. Infill of Guards:
    - a. Concentrated load of **50 lbf** applied horizontally on an area of **1 sq. ft.**
    - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change: **120 deg F**, ambient; **180 deg F**, material surfaces.

### 2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
  - 1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides **1-1/2-inch** clearance from inside face of handrail to

finished wall surface.

## 2.3 ALUMINUM RAILINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. ATR Technologies, Inc.
  - 2. Julius Blum & Co., Inc.
  - 3. Superior Aluminum Products, Inc
  - 4. Tubular Specialties Manufacturing, Inc.
- B. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- C. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.
- D. Extruded Bars and Tubing: **ASTM B221**, Alloy 6063-T5/T52.
- E. Extruded Structural Pipe and Round Tubing: ASTM B429/B429M, Alloy 6063-T6.
  - 1. Provide Standard Weight (Schedule 40) pipe unless otherwise indicated.
- F. Drawn Seamless Tubing: ASTM B210/B210M, Alloy 6063-T832.
- G. Plate and Sheet: **ASTM B209**, Alloy 6061-T6.
- H. Die and Hand Forgings: **ASTM B247**, Alloy 6061-T6.
- I. Castings: ASTM B26/B26M, Alloy A356.0-T6.

## 2.4 FASTENERS

- A. Fastener Materials:
  - 1. Ungalvanized-Steel Railing Components: Plated steel fasteners complying with ASTM F1941/F1941M, Class Fe/Zn 5 for zinc coating.
  - 2. Hot-Dip Galvanized Railing Components: Type 304 stainless steel or hot-dip zinc-coated steel fasteners complying with ASTM A153/A153M or ASTM F2329/F2329M for zinc coating.
  - 3. Aluminum Railing Components: Type 304 stainless steel fasteners.
  - 4. Stainless Steel Railing Components: Type 304 stainless steel fasteners.
  - 5. Finish exposed fasteners to match appearance, including color and texture, of railings.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type,



grade, and class required to produce connections suitable for anchoring railings to other types of construction and capable of withstanding design loads.

- C. Fasteners for Interconnecting Railing Components:
1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
  2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
  3. Provide tamper-resistant flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193 or ICC-ES AC308.
1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
  2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless steel bolts, ASTM F593, and nuts, ASTM F594.

## 2.5 MISCELLANEOUS MATERIALS

- A. Handrail Brackets: Cast aluminum, center of handrail 3-1/8 inches from wall.
- B. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for metal alloy welded.
1. For aluminum railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- C. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- D. Galvanizing Repair Paint: High-zinc-dust-content paint, complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- E. Shop Primers: Provide primers that comply with Section 099113 "Exterior Painting."
- F. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- G. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- H. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

- I. Intermediate Coats and Topcoats: Provide products that comply with Section 099113 "Exterior Painting."
- J. Epoxy Intermediate Coat: Complying with MPI #77 and compatible with primer and topcoat.
- K. Polyurethane Topcoat: Complying with MPI #72 and compatible with undercoat.
- L. Bituminous Paint: Cold-applied asphalt emulsion, complying with ASTM D1187/D1187M.
- M. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout, complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- N. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
  - 1. Water-Resistant Product: At exterior locations and where indicated on Drawings, provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

## 2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.
  - 1. Clearly mark units for reassembly and coordinated installation.
  - 2. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately.
  - 1. Remove burrs and ease edges to a radius of approximately **1/32 inch** unless otherwise indicated.
  - 2. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water.
  - 1. Provide weep holes where water may accumulate.
  - 2. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove flux immediately.
  - 4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Finish #2 welds; good appearance, completely sanded joint, some undercutting and pinholes okay.
- I. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- J. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
  - 1. Fabricate splice joints for field connection, using an epoxy structural adhesive, if this is manufacturer's standard splicing method.
- K. Form changes in direction as follows:
  - 1. As detailed.
  - 2. By bending to smallest radius that will not result in distortion of railing member.
- L. Bend members in jigs to produce uniform curvature for each configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- M. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.
- N. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is **1/4 inch** or less.
- O. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
  - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- P. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work.
  - 1. Fabricate anchorage devices capable of withstanding loads imposed by railings.

2. Coordinate anchorage devices with supporting structure.

Q. For railing posts set in concrete, provide stainless steel sleeves not less than **6 inches** long with inside dimensions not less than **1/2 inch** greater than outside dimensions of post, with metal plate forming bottom closure.

R. For removable railing posts, fabricate slip-fit sockets from stainless steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height.

1. Provide socket covers designed and fabricated to resist being dislodged.
2. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.

## 2.7 ALUMINUM FINISHES

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

B. Mill Finish: AA-M12, nonspecular as fabricated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

### 3.2 INSTALLATION, GENERAL

A. Perform cutting, drilling, and fitting required for installing railings.

1. Fit exposed connections together to form tight, hairline joints.
2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
5. Set posts plumb within a tolerance of **1/16 inch in 3 feet**.
6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed **1/4 inch in 12 feet**.

- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
  - 1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

### 3.3 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws, using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article, whether welding is performed in the shop or in the field.
- C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve, extending **2 inches** beyond joint on either side; fasten internal sleeve securely to one side; and locate joint within **6 inches** of post.

### 3.4 ANCHORING POSTS

- A. Use stainless steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Form or core-drill holes not less than **5 inches** deep and **3/4 inch** larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- C. Leave anchorage joint exposed with **1/8-inch** buildup, sloped away from post.
- D. Anchor posts to metal surfaces with flanges, angle type, or floor type, as required by conditions, connected to posts and to metal supporting members as follows:
  - 1. For steel railings, weld flanges to post and bolt to metal supporting surfaces.
  - 2. For aluminum railings, attach posts as indicated, using fittings designed and engineered for this purpose.
  - 3. For stainless steel railings, weld flanges to post and bolt to supporting surfaces.

- E. Install removable railing sections, where indicated, in slip-fit stainless steel sockets cast in concrete.

### 3.5 ATTACHING RAILINGS

- A. Anchor railing ends to concrete and masonry with brackets on underside of rails connected to railing ends and anchored to wall construction with anchors and bolts.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends, using nonwelded connections.
- C. Attach handrails to walls with wall brackets[, **except where end flanges are used**]. Provide brackets with 2-1/4-inch clearance from inside face of handrail and finished wall surface.
  - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
  - 2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- D. Secure wall brackets and railing end flanges to building construction as follows:
  - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
  - 2. For hollow masonry anchorage, use toggle bolts.
  - 3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.
  - 4. For steel-framed partitions, use hanger or lag bolts set into fire-retardant-treated wood backing between studs. Coordinate with stud installation to locate backing members.
  - 5. For steel-framed partitions, fasten brackets directly to steel framing or concealed steel reinforcements, using self-tapping screws of size and type required to support structural loads.
  - 6. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.
- E. Install railing gates level, plumb, and secure for full opening without interference.
  - 1. Attach hardware using tamper-resistant or concealed means.
  - 2. Adjust hardware for smooth operation.

### 3.6 REPAIR

- A. Touchup Painting:
  - 1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

- a. Apply by brush or spray to provide a minimum **2.0-mil** dry film thickness.
2. Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Section 099113 "Exterior Painting."

### 3.7 CLEANING

- A. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A780/A780M.

### 3.8 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 055213

## SECTION 133423.16 - FABRICATED CONTROL BOOTHS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Fabricated aluminum control booths.

#### 1.2 ACTION SUBMITTALS

A. Product Data:

1. Fabricated steel control booths.
2. Fabricated aluminum control booths.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for control booths.
2. Include rated capacities, operating characteristics, and electrical characteristics, for included systems.

C. Shop Drawings: For control booths. Include plans, elevations, sections, details, accessories, and fastening and anchorage details, including mechanical fasteners.

1. Anchor-Bolt Plans: Submit anchor-bolt plans and templates. Include location, diameter, and projection of anchor bolts required to attach control booths to foundation. Indicate post reactions at each location.

D. Samples: For each exposed product and for each color and texture specified, approximately **8-1/2 by 11 inches** in size.

E. Samples for Initial Selection: For each type of exposed finish.

F. Samples for Verification: For each type of exposed finish in manufacturer's standard sizes.

1. Include Samples of wall panels and accessories to verify finish selection.

G. Delegated Design Submittals: For fabricated control booths, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.



### 1.3 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.

### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For control booths to include in maintenance manuals.

### 1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair finish or replace control booths that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Five years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design fabricated control booths.
- B. Structural Performance: Fabricated control booths to withstand the following loads and stresses within limits and under conditions indicated in accordance with ASCE/SEI 7:
  - 1. Loads: As indicated on Drawings.
- C. Seismic Performance: Fabricated control booths to withstand the effects of earthquake motions determined in accordance with ASCE/SEI 7.
  - 1. Loads: As indicated on Drawings.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- E. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70 and marked for intended location and application.
- F. Safety Glazing: Comply with 16 CFR 1201, Category II.
  - 1. Safety Glazing Labeling: Permanently mark glazing with certification label of manufacturer, indicating manufacturer's name, glass type, thickness, and safety glazing standard with which glass complies.
- G. Regulatory Requirements: Comply with applicable provisions in the U.S. Department of

Justice's "2010 ADA Standards for Accessible Design".

## 2.2 FABRICATED ALUMINUM CONTROL BOOTHS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Guardian Booth Company of Waynesboro, PA or comparable product by one of the following:
1. Keystone Structures, Inc.
  2. Portafab Corporation
- B. Building Style: As indicated on Drawings.
- C. Structural Framework: Fabricated from **1.5" x 1.5" x .125** steel tubing, channel, angle, or tee extrusions; with **[clear][color]** anodic finish. Connect framework with **[exposed]** mechanical fasteners.
- D. Swinging Doors: **1-3/4 inches** thick; tubular-frame design fabricated from clear-anodized aluminum; with top half of door glazed. Equip door with deadlock, three butt hinges, closer, and full weather stripping. **[Provide door on back of booth.]**
1. Glazing: Fixed unit with clear insulating glass.
  2. Deadlock: Mortised, with lever handle and removable cylinder capable of being master keyed.
- E. Windows: Extruded-aluminum sash frames glazed with clear tempered insulating glass.
1. Frame Finish: Manufacturer's standard mill or clear anodic.
  2. Operable Windows: Equip windows with cam locks, weather stripping, and stainless steel ball-bearing rollers.
  3. Screens: Insect screens for each window.
  4. Corner Shape: Square.
- F. Wall Panel Assembly: Assembly consisting of exterior face panel fabricated from **0.032-inch-** thick aluminum sheet, and interior face panel fabricated from **0.032-inch-** thick aluminum sheet; with **2-inch-** thick polyisocyanurate board insulation in cavity between exterior and interior face panels.
- G. Raised Base Assembly: **4-inch-** high assembly consisting of perimeter frame welded to structural framework of booth. Fabricate frame from **1.5-by-1.5-by-0.125-inch** steel tubing or angles. Include anchor clips fabricated from **1/4-inch-** thick steel, predrilled and welded to exterior of integral floor frame.
1. Insulated Floor Assembly: Assembly consisting of **0.032-inch-** thick, aluminum sheet underside with plywood and rigid insulation core; covered by **0.125-inch-** thick, aluminum rolled tread plate; with overall assembly thickness of **2 inches**.
- H. Flat Roof/Ceiling Assembly: Assembly consisting of exterior roof panels, interior ceiling panels, and insulation between exterior and interior panels; sloped to drain at booth perimeter.

1. Exterior Roof Panel: Fabricated from **0.032-inch**- thick aluminum sheet; with protective plastic sheet finish and full-perimeter gutter.
  2. Interior Ceiling Panel: Fabricated from **0.125-inch**- thick hardboard; with polyisocyanurate board insulation in cavity between ceiling and roof.
  3. Insulated Composite Panel: Fabricated from **0.032-inch**- thick aluminum sheet faces and expanded-foam insulation core.
  4. Canopy Fascia: Fabricated from **0.063-inch**- thick aluminum sheet, of manufacturer's standard design.
  5. Downspouts: Integral, extending **3 inches** beyond booth walls.
- I. Work Counters: Full width of control booth, reinforced; with **16-inch**- wide storage drawer below each counter and an access opening for electrical cords at each rear corner of counter.
1. Material: **1/2-inch**- thick particleboard with plastic-laminate finish.
  2. Depth: **22 inches**.
- J. Electrical Power Service:
1. Single-Point Connection: Service-entrance-rated, fused safety switch located on exterior for connection of 125 A, 120/240 V, single-phase, three-wire feeder with equipment ground conductor.
  2. Grounding: Grounding electrode bonded to equipment ground conductor at single-point connection in accordance with NFPA 70 and Section 260526 "Grounding and Bonding for Electrical Systems."
  3. Power Distribution: Readily accessible panelboard in accordance with Section 262416 "Panelboards" installed at interior location[ **coordinated with Architect**]. Include 25 percent provisions for installation of additional future devices.
- K. Heating Unit: Wall-mounted, thermostatically controlled, 110-V electric heater with fan-forced operation and with capacity of not less than **5000 Btu/h**. Enclose in enameled-steel cabinet[ **and mount under work counter**].
- L. Cooling Unit: Wall-mounted, thermostatically controlled air conditioner with cooling capacity of not less than **10,000 Btu/h**. Enclose in enameled-steel cabinet.
- M. Anchorage: Postinstalled anchors fabricated from stainless steel, with allowable load or strength design greater than or equal to the design load, as determined by testing conducted by a qualified testing agency.
- N. Materials:
1. Aluminum: Alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated, and as follows:
    - a. Sheet: ASTM B209/B209M.
    - b. Extruded Shapes: **ASTM B221**.
    - c. Rolled Tread Plate: ASTM B632/B632M, Alloy 6061-T4 or Alloy 6061-T6.
  2. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304.
  3. Plastic Laminate: ISO 4586-3, Grade HGS or HGL.

4. Plywood: DOC PS 1, Exterior grade.
  5. Particleboard: ANSI A208.1, Grade M-2.
  6. Clear Insulating Glass: ASTM E2190. Factory-assembled units consisting of two lites of 2.5-mm-thick clear float glass, ASTM C1036, Type I, Class 1, Quality q3, and dehydrated air space, with a total overall unit thickness of **1 inch** and with manufacturer's standard dual seal. Provide tempered lites where indicated.
- O. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
- P. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
1. Color: As selected by Architect from full range of industry colors and color densities.
- Q. Baked-Enamel or Powder-Coat Finish: AAMA 2603, except with a minimum dry film thickness of **1.5 mils**. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
1. Color and Gloss: As selected by Architect from manufacturer's full range.

## 2.3 FABRICATION

- A. Factory fabricate complete control booths, with accessories and options installed at factory.
- B. Factory preglaze windows and doors.
- C. Factory prewire control booths, ready for connection to service at Project site.
- D. Fabricate control booths with forklift pockets in base of booth.
- E. Accessible Control Booths: Where indicated to be accessible, fabricate control booths as follows:
1. Provide service windows located no higher than **34 inches** above exterior grade.
  2. Provide door opening with minimum **32-inch** clear width.
  3. Provide minimum **60-inch** clear turning spacing within the booth.
  4. Provide minimum **27-inch** clearance beneath interior work surfaces. Locate work surfaces **28 inches** minimum and **34 inches** maximum above the floor.
  5. Locate controls and operable parts no lower than **15 inches** and no higher than **48 inches** above the floor where reach is unobstructed. Where side reach is obstructed, locate controls and operable parts no lower than **15 inches** and no higher than **46 inches** above the floor.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with

requirements for installation tolerances, including concrete bases; accurate placement, pattern, and orientation of anchor bolts; critical dimensions; and other conditions affecting performance of the Work.

- B. Examine roughing-in for electrical and communication systems to verify actual locations of connections before control booth installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install control booths in accordance with manufacturer's written instructions.
- B. Accessible Control Booths: Install with interior floor surface at same elevation as adjacent paved surfaces.
- C. Set control booths plumb and aligned. Level baseplates true to plane, with full bearing on concrete bases.
- D. Fasten control booths securely to concrete base with anchorage indicated.
- E. Connect to electrical power service and communication systems.
- F. Perform startup checks of heating and cooling units in accordance with manufacturer's written instructions.

### 3.3 ADJUSTING

- A. Adjust doors, operable windows, and hardware to operate smoothly, easily, properly, and without binding. Confirm that locks engage accurately and securely without forcing or binding.
- B. Adjust interior and exterior lighting controls.
- C. Lubricate hardware and other moving parts.
- D. After completing installation, inspect exposed finishes and repair damaged finishes.

END OF SECTION 133423.16

## SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.

#### 1.2 ACTION SUBMITTALS

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

### PART 2 - PRODUCTS

#### 2.1 CONDUCTORS AND CABLES

- A. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.
- B. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2, TYPE USE and Type SER.

#### 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.

#### 2.3 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

### 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, except electric range branch circuit wiring, which shall be No. 8 AWG Aluminum.

#### 3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-2-THWN-2, single conductors in raceway or Metal-clad cable, Type MC.
- B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-2-THWN-2, single conductors in raceway.

#### 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.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.

#### 3.4 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

END OF SECTION

## SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Metal conduits, tubing, and fittings.

### 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. EMT: Comply with ANSI C80.3 and UL 797.
- C. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
  1. Fittings for EMT:
    - a. Material: Steel.
    - b. Type: set screw.

### PART 3 - EXECUTION

#### 3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
  1. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
  2. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
  3. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated.
  1. Exposed, Not Subject to Physical Damage: EMT.



2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
  3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
  2. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
  3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F. Install surface raceways only where required.
- G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

### 3.2 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 NECA 102 for aluminum conduits. 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. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- D. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- 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. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- H. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.

- 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 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.
- L. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
- M. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
  - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
  - 2. Where an underground service raceway enters a building or structure.
  - 3. Where otherwise required by NFPA 70.
- N. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
  - 1. Use LFMC in damp or wet locations subject to severe physical damage.
  - 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- O. 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.
- P. Locate boxes so that cover or plate will not span different building finishes.
- Q. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.

END OF SECTION





# HCPS ABERDEEN HIGH SCHOOL TICKET BOOTH

251 PARADISE ROAD, ABERDEEN, MD 21001

## PROJECT TEAM

**OWNER**  
HARFORD COUNTY PUBLIC SCHOOLS  
102 SOUTH HICKORY AVE  
BEL AIR, MD 21014  
PHONE: 410.838.7300

**MEP ENGINEER**  
TELEGENT ENGINEERING INC.  
2216 COMMERCE RD, SUITE 1  
FOREST HILL, MD 21050  
PHONE: 410.692.5816

**ARCHITECT**  
FREDERICK WARD ASSOCIATES  
5 S. MAIN STREET  
BEL AIR, MD 21014  
PHONE: 410.838.7900

**CIVIL ENGINEER**  
FREDERICK WARD ASSOCIATES  
5 S. MAIN STREET  
BEL AIR, MD 21014  
PHONE: 410.838.7900

## ARCHITECTURAL SYMBOLS

**ALIGN CONSTRUCTION**  
ALIGN CONSTRUCTION  
VIEW TITLE  
1/8" = 1'-0"

**CEILING HEIGHT AND TYPE**  
CEILING HEIGHT AND TYPE  
CALLOUT

**CENTER LINE**  
CENTER LINE  
CALLOUT

**DOOR TAG**  
DOOR TAG  
FULL BUILDING SECTION

**FURNITURE TAG**  
FURNITURE TAG  
WALL SECTION

**MATERIAL TAG**  
MATERIAL TAG  
REFERENCE GRID

**WALL TAG**  
WALL TAG  
REFERENCE LEVEL

**STOREFRONT TAG**  
STOREFRONT TAG  
DETAIL SECTION

**EQUIPMENT AND TOILET ACCESSORY TAG**  
EQUIPMENT AND TOILET ACCESSORY TAG  
BUILDING ELEVATION

**GLAZING TAG**  
GLAZING TAG  
EXTERIOR ELEVATION

**WINDOW TAG**  
WINDOW TAG

**ROOM NAME**  
ROOM NAME  
ROOM TAG

**ROOM OCCUPANCY TAG**  
ROOM OCCUPANCY TAG

**EGRESS TAG**  
EGRESS TAG

**DEMOLITION KEYNOTE**  
DEMOLITION KEYNOTE

**NEW PLAN / RCP KEYNOTE**  
NEW PLAN / RCP KEYNOTE

**REVISION NUMBER**  
REVISION NUMBER

**REFERENCE GRID**  
REFERENCE GRID

**REFERENCE LEVEL**  
REFERENCE LEVEL

**NOTE:** SEE INDIVIDUAL DRAWING SHEETS FOR ADDITIONAL GRAPHIC SYMBOL LEGENDS.

## DRAWING INDEX

NO.	NAME
GENERAL	
T1.0	COVER SHEET
CIVIL	
C01	EXISTING CONDITIONS AND SITE PLAN
ARCHITECTURAL	
A1.0	ARCHITECTURAL FLOOR PLAN
A1.7	TICKET BOOTH PLANS & ELEVATIONS
A3.1	SLAB SECTIONS & ELEVATIONS
A5.1	TICKET BOOTH DETAILS
A5.2	TICKET BOOTH DETAILS
ELECTRICAL	
E1.0	ELECTRICAL PLAN AND POWER RISER
E2.0	PANEL SCHEDULES, SYMBOLS LIST AND GENERAL NOTES

## CODE INFORMATION

**AUTHORITY HAVING JURISDICTION**  
HARFORD COUNTY PERMITS AND LICENSES (DILP)  
220 S. MAIN STREET  
BEL AIR, MD 21014

**APPLICABLE CODES**

BUILDING	2021 INTERNATIONAL BUILDING CODE
LIFE SAFETY	STATE OF MARYLAND FIRE PROTECTION CODE, COMAR 29.06.01
ACCESSIBILITY	COMAR 09.12.53 MARYLAND ACCESSIBILITY CODE
ENERGY	2021 INTERNATIONAL ENERGY CONSERVATION CODE
PLUMBING	2021 INTERNATIONAL PLUMBING CODE
MECHANICAL	2021 INTERNATIONAL MECHANICAL CODE
ELECTRICAL	2023 NATIONAL ELECTRICAL CODE

**CODE INFORMATION**

USE GROUP (IBC, SECTION 302): USE: E (ACCESSORY STRUCTURE)

CONSTRUCTION TYPE (IBC, SECTION 601): TYPE: V

CONDITIONED SPACE: 56 SF

FIRE RESISTIVE RATING REQUIREMENTS FOR BUILDING ELEMENTS (IBC, TABLE 601): STRUCTURAL FRAME: 0  
BEARING WALLS: 0  
NONBEARING WALLS EXTERIOR: 0  
NONBEARING WALLS INTERIOR: 0  
FLOOR CONSTRUCTION: 0  
ROOF CONSTRUCTION: 0

FIRE RESISTIVE RATING REQUIREMENTS FOR EXTERIOR WALLS (IBC, 602): NO

AUTOMATIC SPRINKLER SYSTEM (IBC, SECTION 903): NO

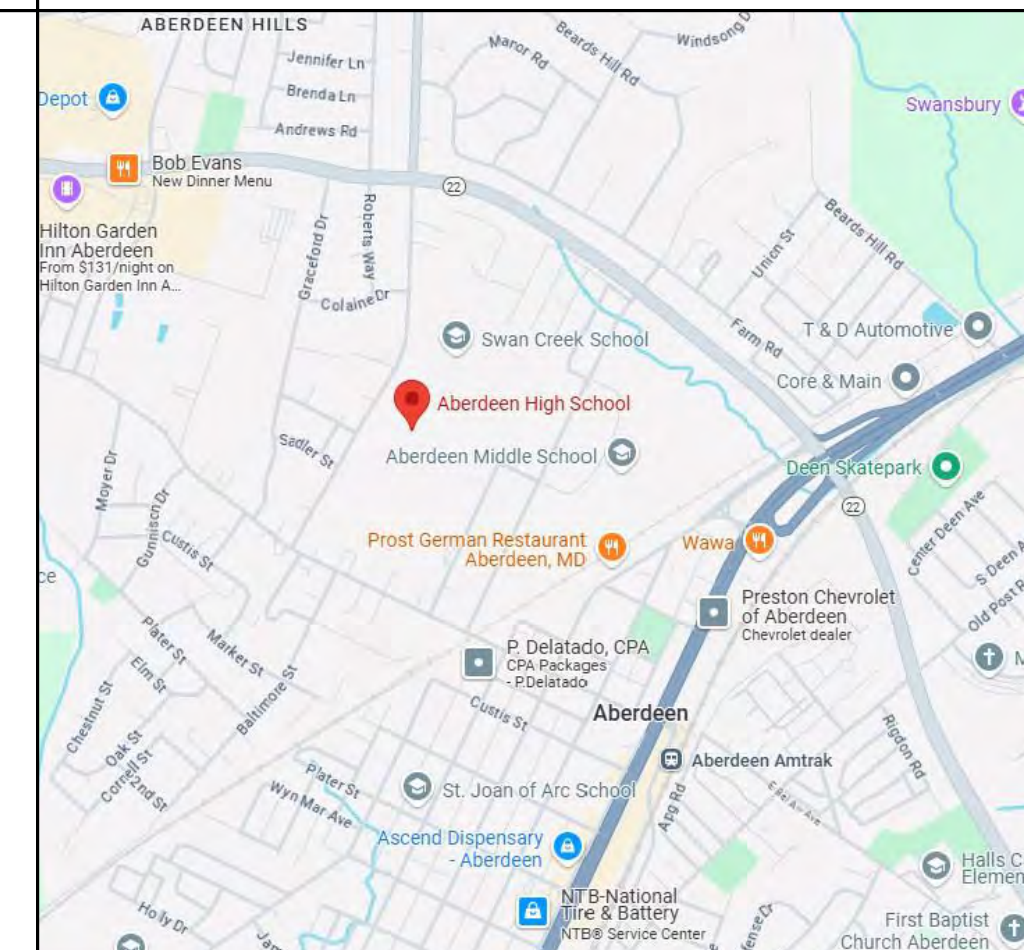
ALLOWABLE MAX. DISTANCE: PROVIDED DISTANCE:

## STANDARD ABBREVIATIONS

**NOTE:** ADDITIONAL ABBREVIATIONS USED IN THESE DOCUMENTS ARE IDENTIFIED ON APPLICABLE SHEETS.

<b>A</b> ABOVE	<b>ABV</b> ABOVE FINISH FLOOR	<b>ACC</b> ACCESSIBLE	<b>ACT</b> ACOUSTICAL CEILING TILE	<b>ALT</b> ALTERNATE	<b>ALUM</b> ALUMINUM	<b>APPROX</b> APPROXIMATE	<b>ARCH</b> ARCHITECTURAL	<b>BRG</b> BEARING	<b>BFF</b> BELOW FINISH FLOOR	<b>BD</b> BOARD	<b>BOD</b> BOTTOM OF DECK	<b>BOF</b> BOTTOM OF FOOTING	<b>BUR</b> BUILT UP ROOF	<b>CAB</b> CABINET	<b>CPT</b> CARPET (ED)	<b>CLG</b> CEILING	<b>CTR</b> CENTER	<b>CL</b> CENTER LINE	<b>CT</b> CERAMIC TILE	<b>COL</b> COLUMN	<b>CONC</b> CONCRETE	<b>CMU</b> CONCRETE MASONRY UNIT	<b>CONT</b> CONTINUOUS or CONTINUE	<b>CJ</b> CONTROL JOINT	<b>CORR</b> CORRIDOR	<b>CU FT or CF</b> CUBIC FEET	<b>CU YD or CY</b> CUBIC YARD	<b>F</b> FEET OR FOOT	<b>FND</b> FEMININE NAPKIN DISPOSAL	<b>FF</b> FINISH FLOOR	<b>FE</b> FIRE EXTINGUISHER	<b>FLR</b> FLOOR	<b>FTG</b> FOOTING	<b>FDN</b> FOUNDATION	<b>FURN</b> FURNITURE	<b>J</b> JANITORS CLOSET	<b>JOINT</b> JOINT	<b>JAN</b> JAN	<b>JT</b> JANITORS CLOSET	<b>KIT</b> KITCHEN	<b>L</b> LAMINATE (D)	<b>LAV</b> LAVATORY	<b>LT</b> LIGHT	<b>LN FT</b> LINEAR FEET	<b>LSD</b> LIQUID SOAP DISPENSER	<b>L</b> LONG or LENGTH	<b>LVR</b> LOUVER	<b>M</b> MANUFACTURER	<b>MFR</b> MASONRY OPENING	<b>MO</b> MATERIAL	<b>MATL</b> MAXIMUM	<b>MECH</b> MECHANICAL	<b>MTL</b> METAL	<b>MIN</b> MINIMUM	<b>MIR</b> MIRROR	<b>MISC</b> MISCELLANEOUS	<b>MTD</b> MOUNTED	<b>MEP</b> MECHANICAL ELECTRICAL and PLUMBING	<b>NOM</b> NOMINAL	<b>NA</b> NOT APPLICABLE	<b>NIC</b> NOT IN CONTRACT	<b>NTS</b> NOT TO SCALE	<b>NUMBER</b> NUMBER	<b>O</b> ON CENTER	<b>OPP</b> OPPOSITE	<b>OD</b> OUTSIDE DIAMETER	<b>OH</b> OVERHEAD	<b>P</b> PAINTED	<b>PAIR</b> PAIR	<b>PLAS</b> PLASTIC OR PLASTER	<b>PLAM</b> PLASTIC LAMINATE	<b>PL</b> PLATE	<b>PLYWD</b> PLYWOOD	<b>PRE-ENG</b> PREENGINEERED	<b>PREFAB</b> PREFABRICATED	<b>PREFIN</b> PREFINISH	<b>PT</b> PRESSURE TREATED	<b>Q</b> QUARRY TILE	<b>QT</b> QUARRY TILE	<b>R</b> RAIN LEADER	<b>REF</b> REFERENCE	<b>REFR</b> REFRIGERATOR	<b>REINFC (NG) (ED)</b> REINFORCE (ING) (ED) REQUIRED	<b>RESILIENT</b> RESILIENT	<b>REVISE</b> REVISE	<b>ROOF DRAIN</b> ROOF DRAIN	<b>ROOM</b> ROOM	<b>ROUGH OPENING</b> ROUGH OPENING	<b>S</b> SANITARY NAPKIN DISPENSER	<b>SCHEDULE</b> SCHEDULE	<b>SIM</b> SIMILAR	<b>SD</b> SOAP DISPENSER	<b>SC</b> SOLID CORE	<b>SPEC</b> SPECIFICATION	<b>SB</b> SPLASH BLOCK	<b>SQ</b> SQUARE	<b>SQ FT or SF</b> SQUARE FOOT	<b>SQ YD or SY</b> SQUARE YARD	<b>SS</b> STAINLESS STEEL	<b>STD</b> STANDARD	<b>STL</b> STEEL	<b>STOR</b> STORAGE	<b>STRUCT</b> STRUCTURAL	<b>SUSP (ED)</b> SUSPEND (ED) SYSTEM	<b>SND</b> SCHEDULE	<b>SIM</b> SIMILAR	<b>SD</b> SOAP DISPENSER	<b>SC</b> SOLID CORE	<b>SPEC</b> SPECIFICATION	<b>SB</b> SPLASH BLOCK	<b>SQ</b> SQUARE	<b>SQ FT or SF</b> SQUARE FOOT	<b>SQ YD or SY</b> SQUARE YARD	<b>SS</b> STAINLESS STEEL	<b>STD</b> STANDARD	<b>STL</b> STEEL	<b>STOR</b> STORAGE	<b>STRUCT</b> STRUCTURAL	<b>SUSP</b> SUSPEND (ED)	<b>SYS</b> SYSTEM	<b>T</b> TO BE DETERMINED	<b>TOWEL DISPENSER</b> TOWEL DISPENSER	<b>TEL</b> TELEPHONE	<b>TV</b> TELEVISION	<b>THK</b> THICK	<b>TTD</b> TOILET TISSUE DISPENSER	<b>T&amp;G</b> TONGUE AND GROOVE	<b>TOS</b> TOP OF STEEL	<b>TOP</b> TOP OF FOOTING	<b>TYP</b> TYPICAL	<b>UNO</b> UNLESS NOTED OTHERWISE	<b>VERT</b> VERTICAL	<b>VB</b> VINYL BASE	<b>VCT</b> VINYL COMPOSITION TILE	<b>WC</b> WATER CLOSET	<b>WH</b> WATER HEATER	<b>WT</b> WEIGHT	<b>WWF</b> WELDED WIRE FABRIC	<b>W/O</b> WITHOUT	<b>WD</b> WOOD	<b>Y</b> YARD	<b>YD</b> YARD
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## VICINITY MAP



## PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.

WILLIAM STARR 20121  
PROJECT ARCHITECT  
STATE OF REGISTRATION AND REG. NUMBER

10-20-25  
EXPIRATION DATE

REVISIONS	DESCRIPTION	DATE

**ARCHITECTS**  
**ENGINEERS**  
**PLANNERS**  
**SURVEYORS**  
**FREDERICK WARD ASSOCIATES**  
410-838-7900  
www.fredrickward.com

FREDERICK WARD ASSOCIATES  
P.O. Box 727, 6 South Main Street, Bel Air, Maryland 21014

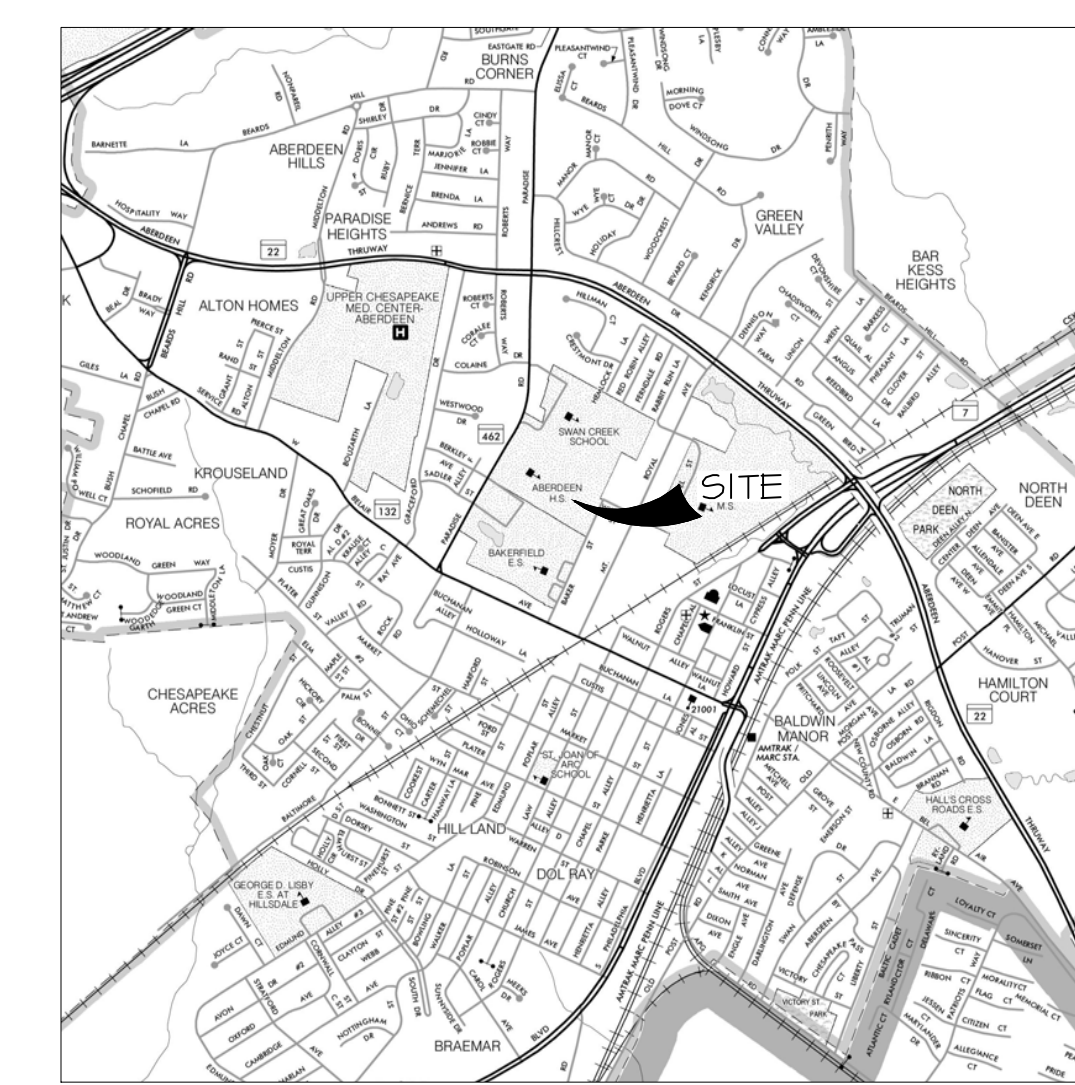
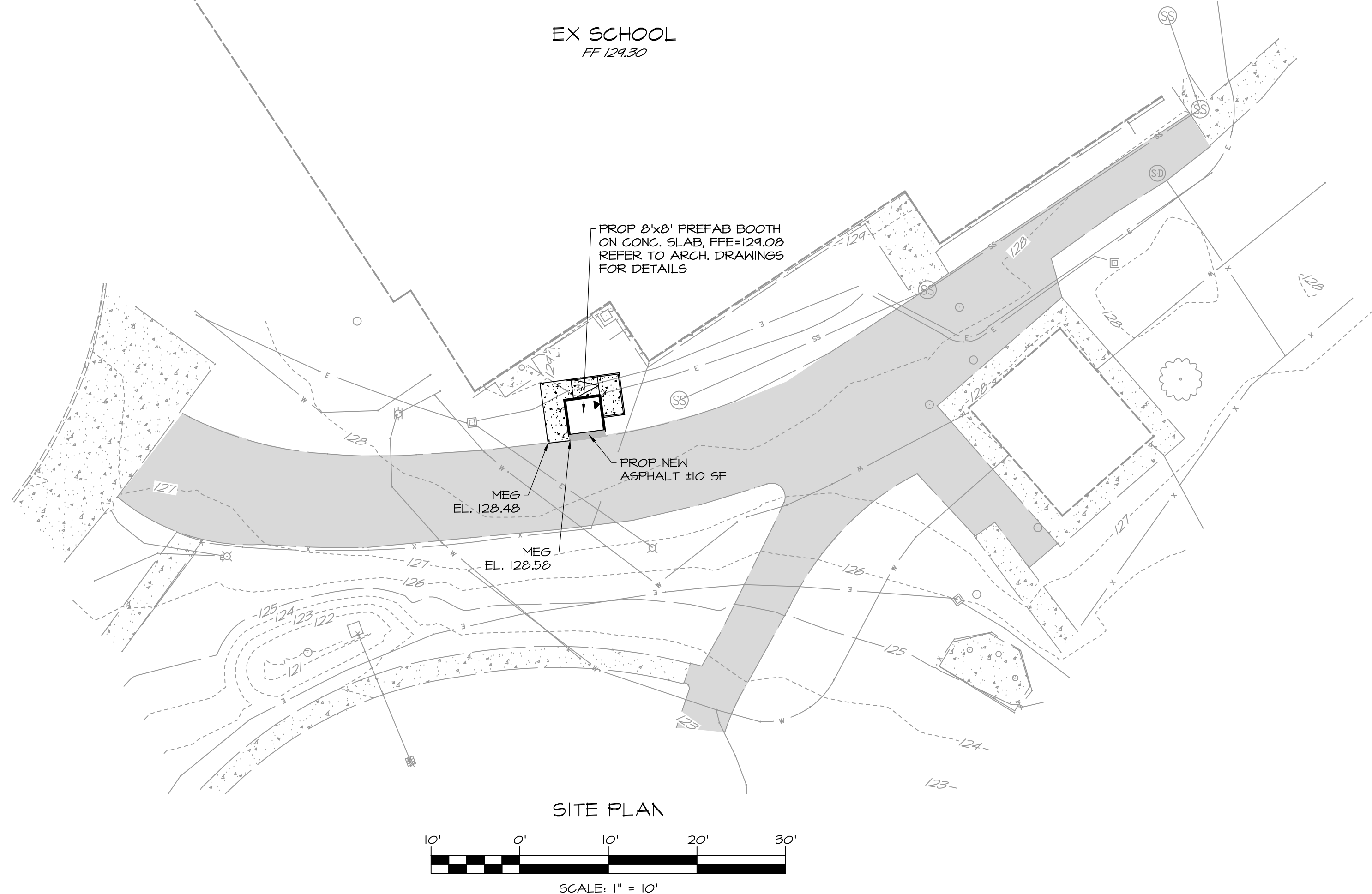
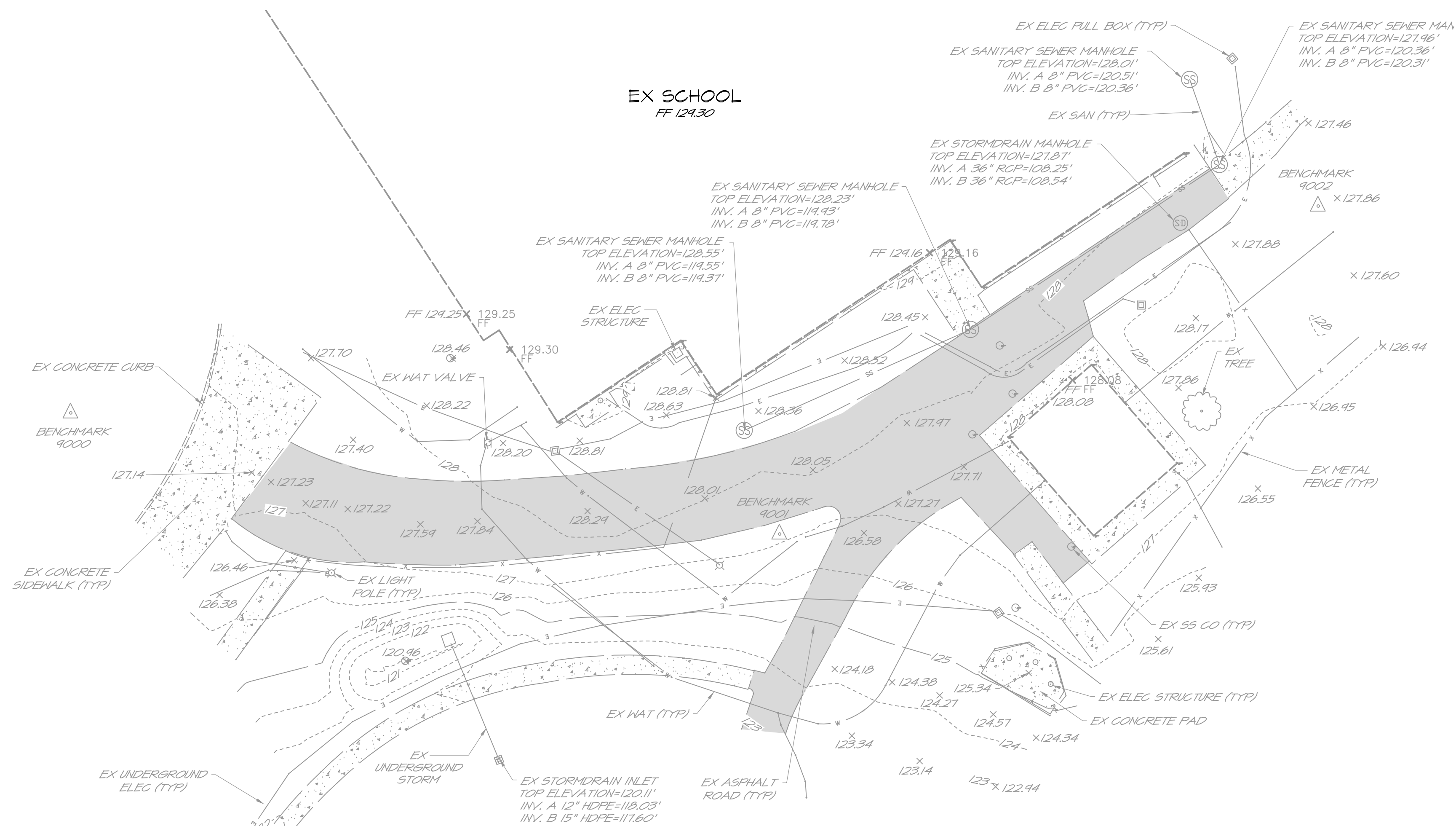
**CLIENT:**  
HARFORD COUNTY PUBLIC SCHOOLS  
102 SOUTH HICKORY AVENUE, BEL AIR, MD 21014

**COVER SHEET**  
HCPS ABERDEEN HIGH SCHOOL  
TICKET BOOTH  
251 PARADISE ROAD, ABERDEEN, MD 21001

DATE: 02/06/2025  
DRAWING NO: T1.0  
SCALE: AS NOTED  
DRAWN BY: RG  
CHECKED BY: BS  
FVA JOB NUMBER: 2241105.00



M:\PROJECTS\241105.00 HCPS NEW TICKET BOOTH AT ABERDEEN HS\DESIGN\ENGINEERING\CAD\C01 - EXISTING CONDITIONS.DWG, LAYOUT.1, 11/8/2024 7:46 AM, WASHINGTON



**LEGEND**

- EX ASPHALT PAVEMENT
- EX CONCRETE PAVEMENT
- EX EDGE OF PAVING/CURB
- EX CHAIN LINK FENCE
- EX SANITARY LINES
- EX WATER LINES
- EX STORM DRAIN
- EX UNDERGROUND ELECTRIC
- EX SANITARY MANHOLE
- EX STORM MANHOLE
- EX BUILDING
- PROP BUILDING
- EX LIGHT POLE
- EX WATER VALVE
- EX SINGLE INLET
- EX TREE
- EX ELEC PULL BOX
- EX SANITARY CLEANOUT
- PROP ASPHALT PAVEMENT
- PROP CONCRETE PAVEMENT

**SITE DEVELOPMENT DATA**

1. OWNER: BOARD OF EDUCATION OF HARFORD COUNTY  
102 HICKORY AVE  
BEL AIR, MD 21014
2. PROPERTY ADDRESS: 251 PARADISE ROAD  
ABERDEEN, MD 21001
3. TAX ID: 02005182  
TAX MAP: 02025  
GRID: N/A  
PARCEL: 07190  
DEED REF: N/A  
TOTAL ACRES: ± 63.43 AC  
CURRENT ZONE: R-1 (LOW DENSITY RESIDENTIAL)
4. USE:  
EXISTING: EMPTY LAND  
PROPOSED: TICKET BOOTH

**BENCH MARKS:**

FWA #9000 TR N: 674404.97 E: 1546043.80 ELEV: 127.21	FWA #9001 TR N: 674380.05 E: 1546219.12 ELEV: 127.30	FWA #9002 TR N: 674461.10 E: 1546352.32 ELEV: 127.97
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THE COORDINATES SHOWN HEREON ARE BASED ON NAD88/CORS96 OF THE MARYLAND STATE COORDINATE SYSTEM

**MISS UTILITY**



NOTE YOU DO NOT CALL 811 IN MD  
or 1-800-257-7777  
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE  
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

REV#	DATE	DESCRIPTION

**ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS**  
410.879.2090  
Frederickward.com

FREDERICK WARD ASSOCIATES  
PO Box 727, 5 South Main Street, Bel Air, Maryland 21014

**OWNER/DEVELOPER**  
BOARD OF EDUCATION OF HARFORD COUNTY  
102 HICKORY AVE  
BEL AIR, MD 21014

**EXISTING CONDITIONS AND SITE PLAN**  
**HCPS TICKET BOOTH AT ABERDEEN HS**  
HARFORD COUNTY, MD  
FIRST ELECTION DISTRICT

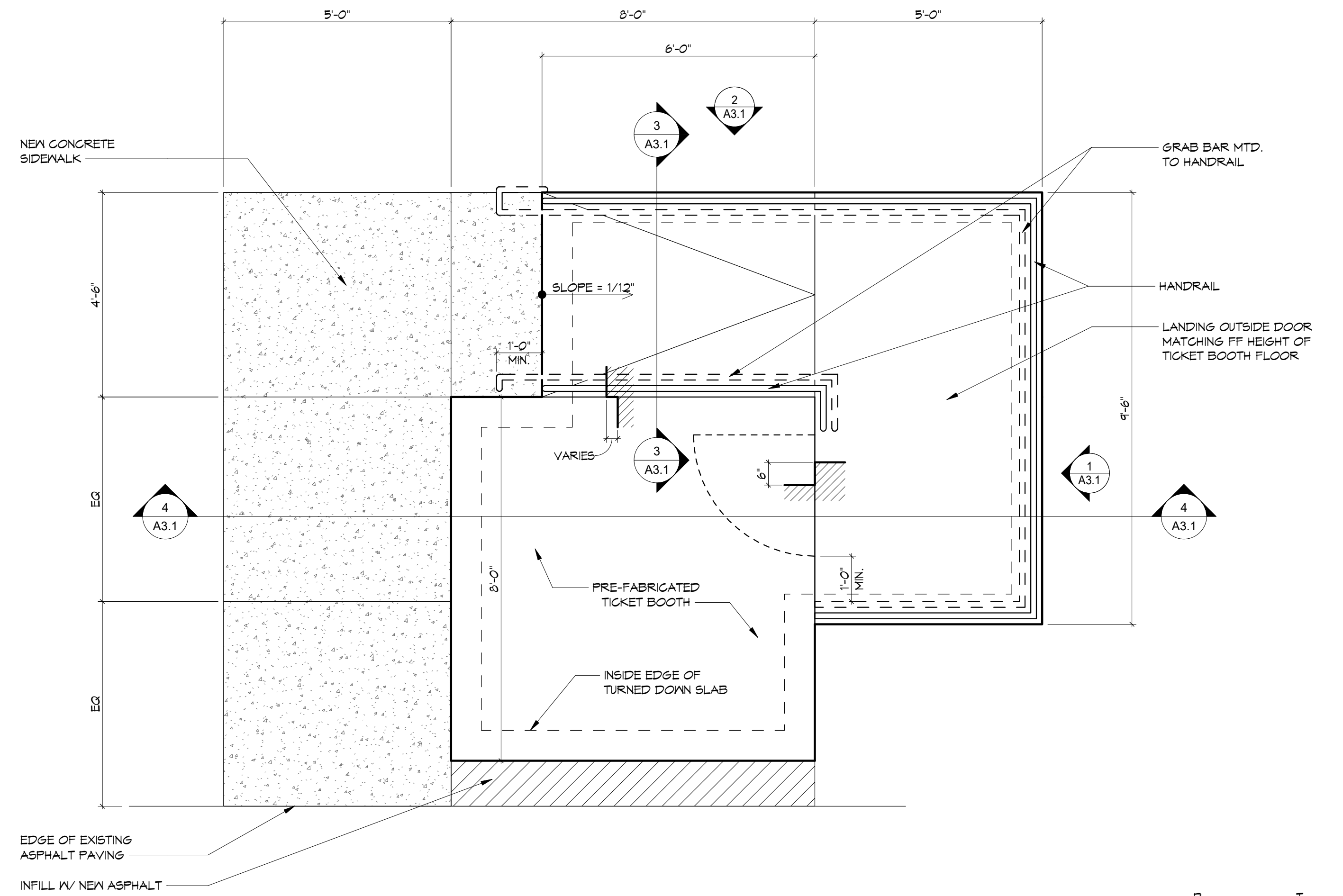


DATE: 02/06/2025	DRAWING NO:
SCALE: AS NOTED	<b>C01</b>
DESIGNED BY: VH	
DRAWN BY: REH	SHEET 1 OF 1
CHECKED BY: VH	FWA JOB NUMBER: 2241105.00

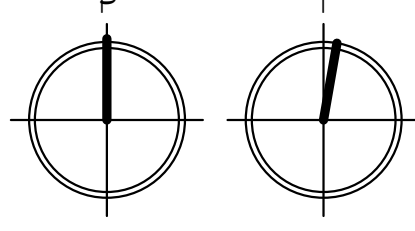
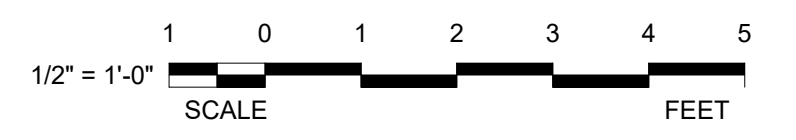


**GENERAL CONSTRUCTION NOTES**

- A CONTRACTOR AND ANY SUB-CONTRACTOR HAVING SUBMITTED A PROPOSAL FOR THIS WORK SHALL BE HELD AS HAVING CLEAR AND COMPLETE UNDERSTANDING OF REQUIREMENTS FOR THEIR WORK UNDER THE CONTRACT. THIS IS TO INCLUDE, BUT NOT LIMITED TO, SITE/CIVIL, ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, INFORMATION TECHNOLOGY, ETC., SO AS TO AVOID COORDINATION ERRORS, OMISSIONS AND MISINTERPRETATIONS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS, WHETHER THEY ARE A RESULT OF A FAILURE TO OBSERVE THESE REQUIREMENTS OR NOT. CONTRACTOR IS ALSO REQUIRED TO COORDINATE WITH ANY OWNER SUPPLIED EQUIPMENT REQUIREMENTS.
- B WHERE DISCREPANCIES EXIST BETWEEN VARIOUS DRAWINGS, THE CONTRACTOR WILL CONTACT ARCHITECT AND OWNER IN WRITING BEFORE PROCEEDING. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ANY REASONABLE INTERPRETATION AT NO ADDITIONAL COST TO THE OWNER.
- C CONTRACTORS ARE RESPONSIBLE AND LIABLE FOR SAFETY AND PROTECTION OF SITE, PROJECT, WORKMEN, SUB-CONTRACTORS, THE PUBLIC AND PUBLIC PROPERTY AGAINST INJURY OR DAMAGE OF ANY TYPE, FROM ANY CAUSE, UNTIL FINAL ACCEPTANCE OF THE PROJECT. CONTRACTOR SHALL CARRY INSURANCE TO FULLY PROTECT THEIR INTERESTS AND THOSE OF THE OWNER.
- D ALL WORK SHALL CONFORM TO LOCAL BUILDING CODES AND REGULATIONS AND SHALL BE INSTALLED ACCORDING TO THE JOINT REQUIREMENTS AND DECISIONS OF ALL LOCAL AUTHORITIES. IF ANY CONTRACTOR OR SUBCONTRACTOR PERFORMS ANY WORK CONTRARY TO THE LOCAL BUILDING CODE AND ORDINANCES, RULES AND REGULATIONS, THEY SHALL BEAR ALL COSTS ARISING THEREFROM.
- E COORDINATE AND SCHEDULE WORK WITH THE OWNER TO ACCOMMODATE THE OWNER'S NORMAL ACTIVITIES AND TO MAINTAIN THE SAFETY OF THE OWNER'S PROPERTY, STAFF AND OTHERS USING THE SITE.
- F CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE BEFORE STARTING THE WORK. DIMENSIONS SHOWN ARE FROM FACE OF FINISH OR FACE OF MASONRY WALL UNLESS OTHERWISE NOTED. EXISTING WALLS ARE DIMENSIONED FACE OF FINISH TO FACE OF FINISH.
- G NOT EVERY CONDITION IS DETAILED. WHERE SPECIFIC DETAILING IS NOT SHOWN, EXECUTE THE CONSTRUCTION IN A SOUND, WORKMANLIKE MANNER IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION METHODS & PROCEDURES.
- H ADJACENT BUILDING SPACES NOT IN THE PROJECT AREA SHALL BE KEPT CLEAN AND PROTECTED. REMOVAL OF ALL EXISTING CONSTRUCTION, MECHANICAL AND ELECTRICAL EQUIPMENT AND FIXTURES SHALL BE EXECUTED IN A CAREFUL AND ORDERLY MANNER WITH THE LEAST POSSIBLE DISTURBANCE OF ADJOINING AREAS. ALL EXISTING WORK DISTURBED OR DAMAGED BY THE PROCESS OF DEMOLITION AND NEW CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. EVERY MEANS SHALL BE USED BY EACH TRADE TO PROTECT THE WORK AND MATERIALS OF ALL OTHERS. IN THE EVENT OF DAMAGE, IMMEDIATE REPAIRS AND REPLACEMENTS SHALL BE MADE TO THE SATISFACTION OF THE ARCHITECT.
- I DUST RESULTING FROM THE WORK SHALL BE CONTROLLED TO PREVENT THE SPREAD OF DUST TO THE OTHER PORTIONS OF THE BUILDING. THE USE OF WATER WILL NOT BE PERMITTED. PROVIDE DROP CLOTHS, DUST CURTAINS OR OTHER SUITABLE BARRIERS TO PREVENT THE DUST TRAVELING TO OTHER PORTIONS OF THE BUILDING. SEAL OFF ALL RETURN AIR REGISTERS AND OTHER MECHANICAL SYSTEMS TO PREVENT DUST FROM ENTERING SUCH SYSTEMS. IN ALL AREAS WHERE CONSTRUCTION DIRT AND/OR DUST IS PRODUCED AS A RESULT OF THE WORK, SHALL BE VACUUMED AND/OR DAMP MOPPED WITH APPROPRIATE EQUIPMENT.
- J MAINTAIN THE PREMISES FREE FROM ACCUMULATION OF WASTE, DEBRIS, AND RUBBISH. AT COMPLETION OF THE WORK REMOVE ALL WASTE MATERIALS, TOOLS AND CONSTRUCTION EQUIPMENT, LEAVING THE AREA CLEAN AND READY FOR NEW OCCUPANCY.
- K THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION, AND/OR MISALIGNMENT IN ACCORDANCE WITH APPLICABLE CODE STANDARDS AND GOOD PRACTICE. THE GENERAL CONTRACTOR SHALL BE SOLELY AND EXCLUSIVELY RESPONSIBLE FOR THE ADEQUACY OF ALL SHORING AND BRACING. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION SHORING AND BRACING OF ALL STRUCTURAL WORK AS REQUIRED FOR THE STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OF ANY CONDITION IN WHICH, IN THEIR OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
- L CONTRACTOR TO COORDINATE BLOCKING REQUIREMENTS FOR ALL WALL MOUNTED EQUIPMENT AND ACCESSORIES.



**1 FLOOR PLAN**  
A1.0 1/2" = 1'-0"



ARCHITECTURAL FLOOR PLAN LEGEND	
	NEW CONCRETE SIDEWALK
	NEW ASPHALT
	NEW DOOR

REV#	DATE	DESCRIPTION

**ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS**

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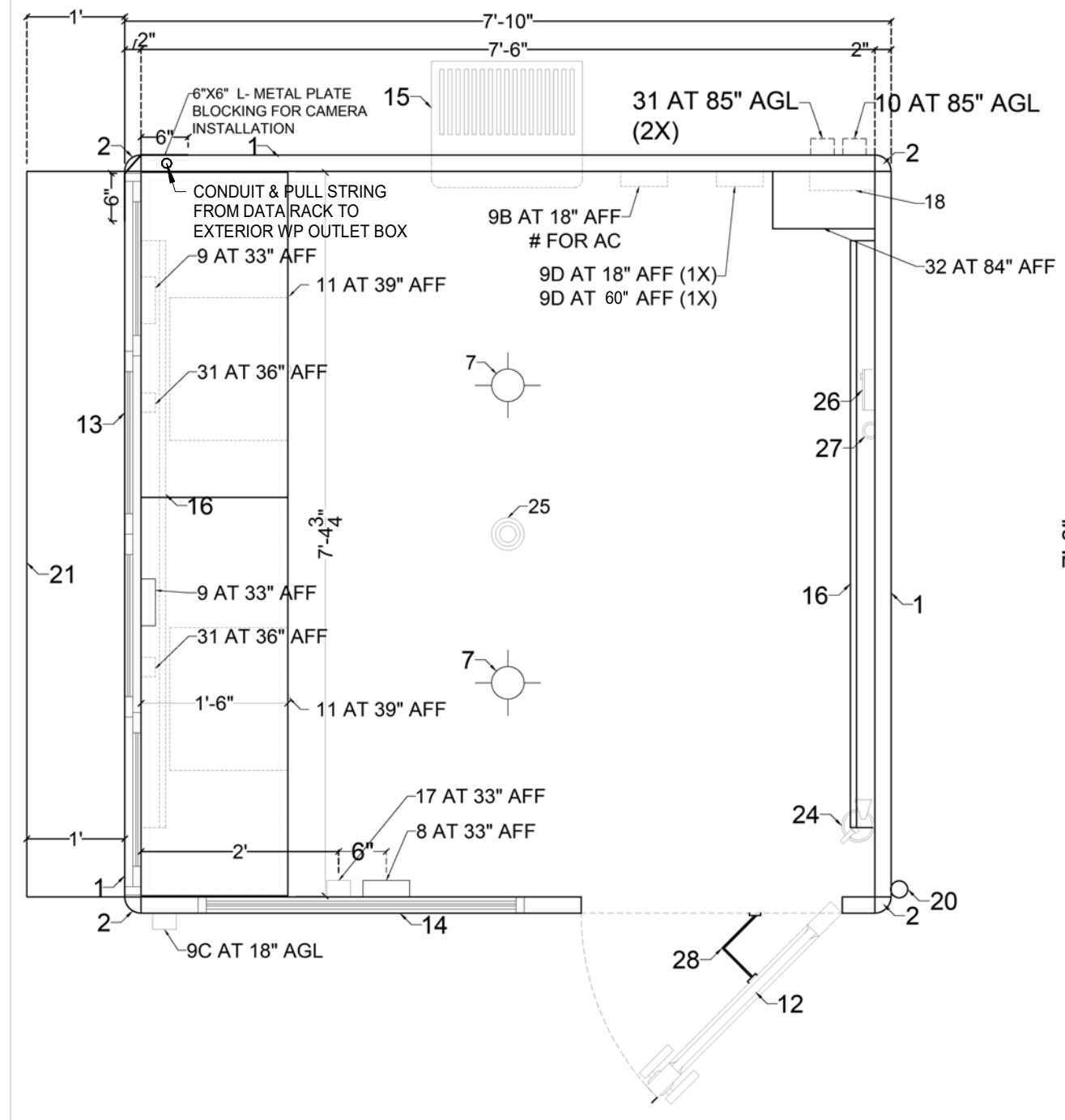
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102 SOUTH HICKORY AVENUE, BEL AIR, MD 21014

**ARCHITECTURAL FLOOR PLAN**  
HCPS ABERDEEN HIGH SCHOOL  
TICKET BOOTH  
251 PARADISE ROAD, ABERDEEN, MD 21001

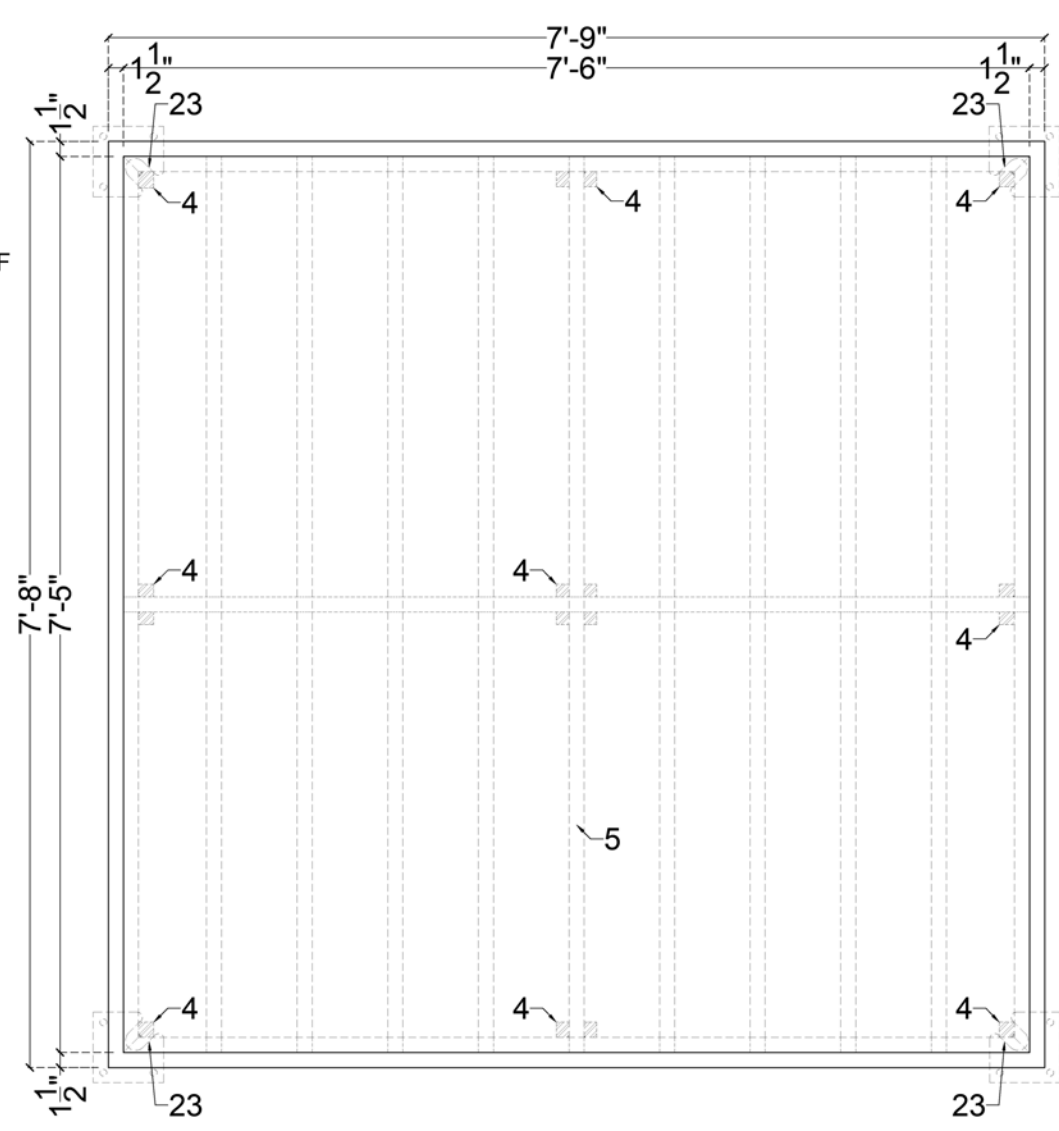


I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 20121 EXPIRATION DATE: 06/30/2025	
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DRAWN BY: RG	
CHECKED BY: BS	FWA JOB NUMBER 2241105.00

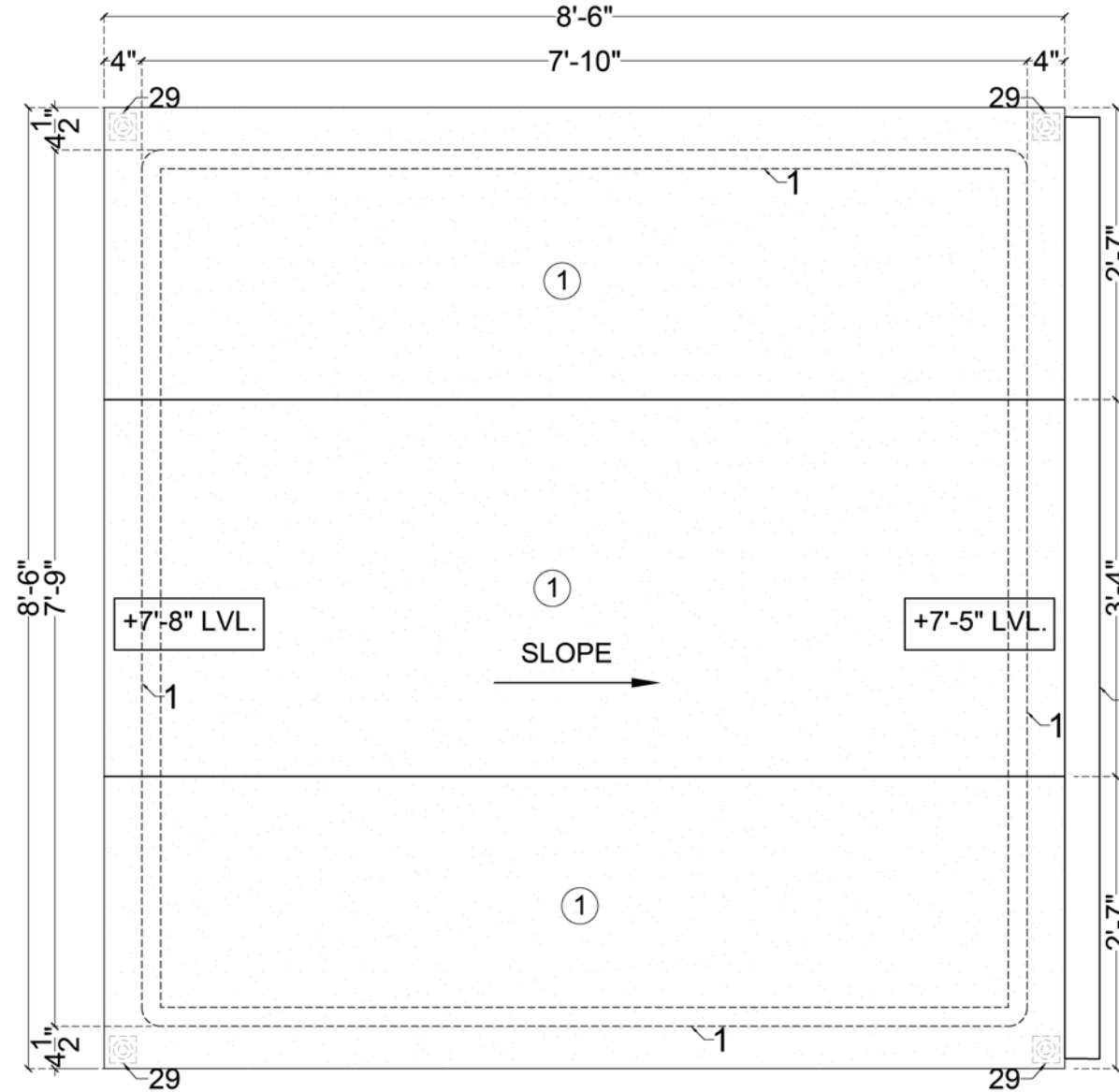




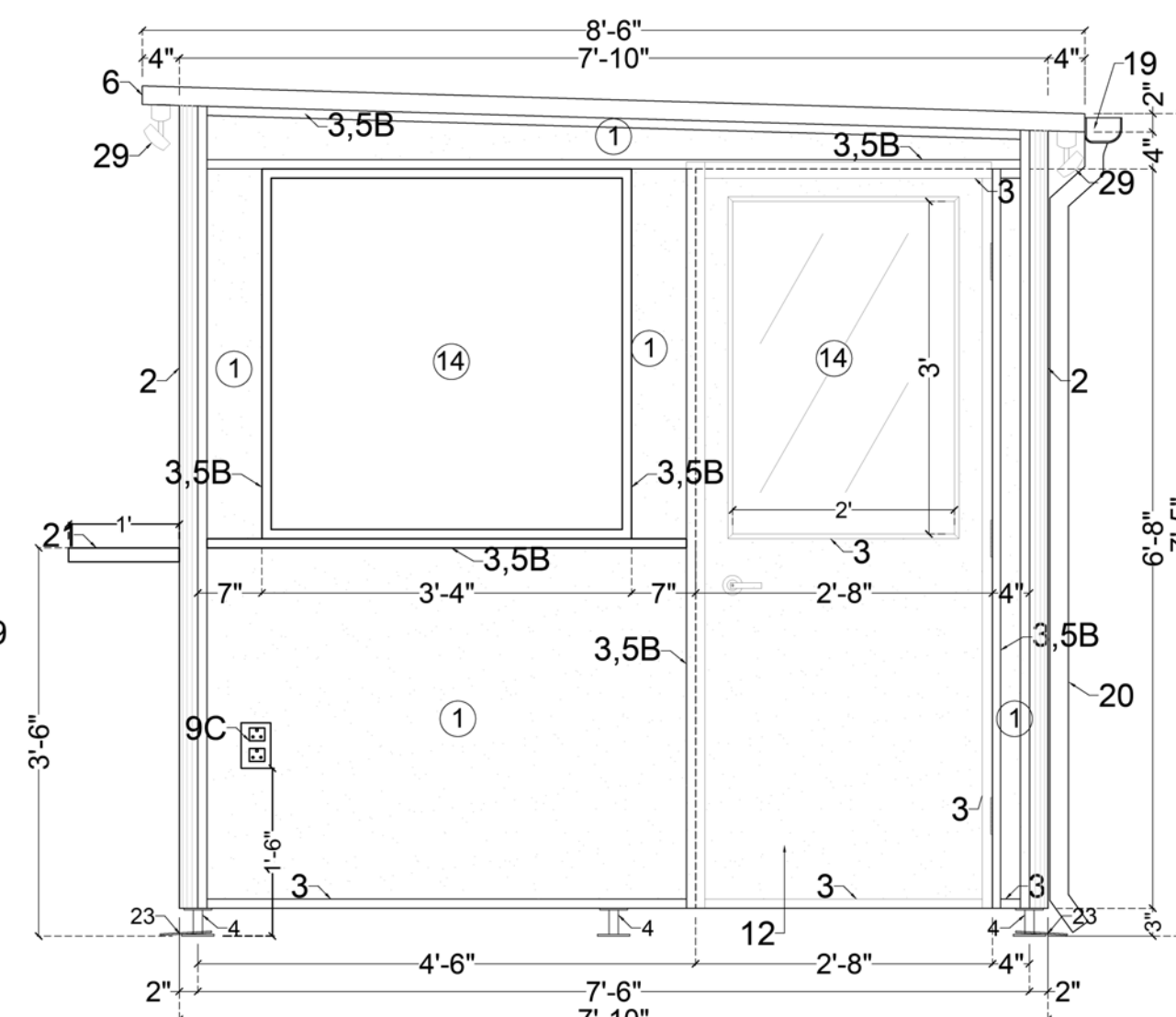
1 FLOOR PLAN



2 FLOOR FRAMING



3 ROOF PLAN



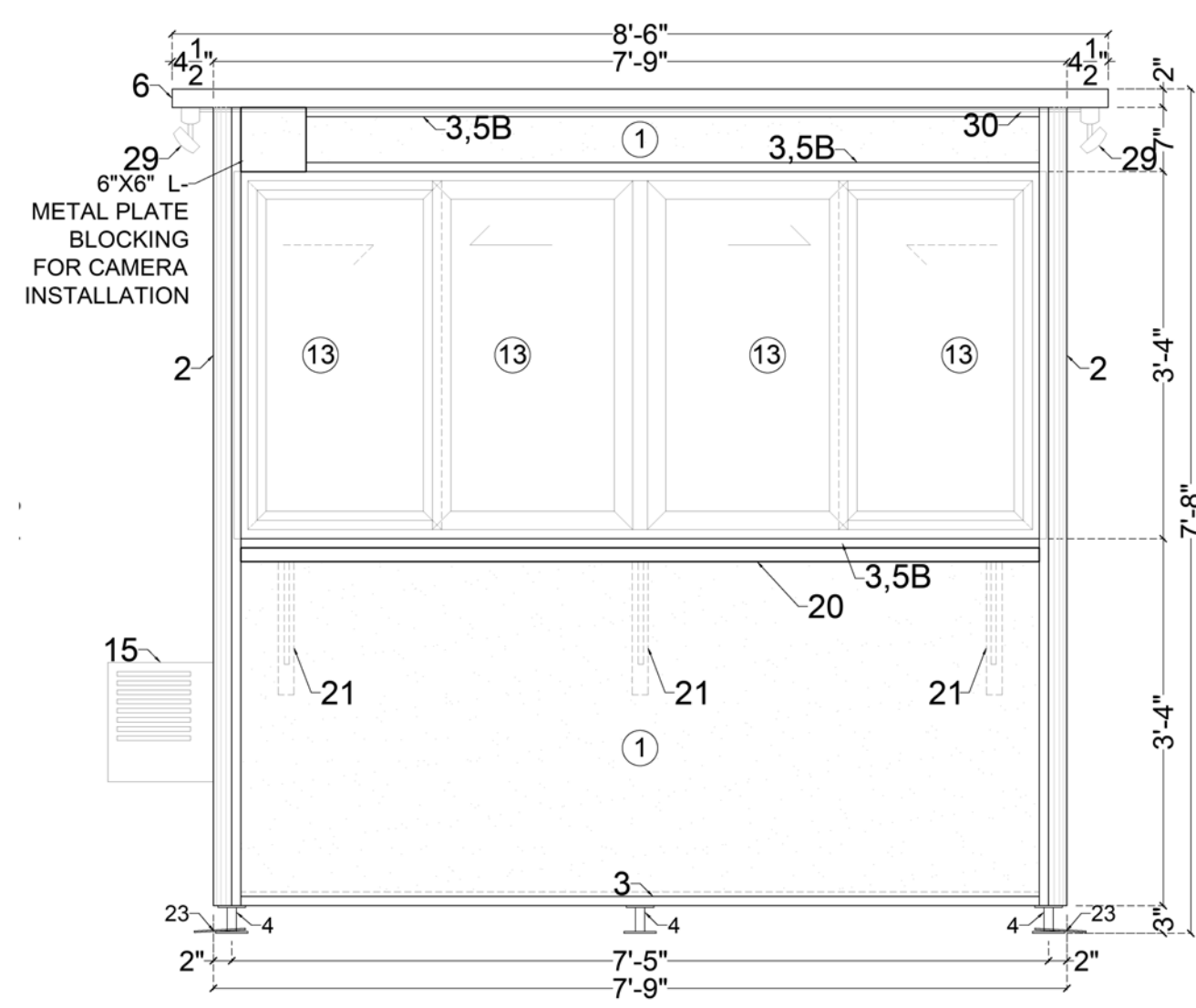
4 FRONT ELEVATION

**LEGEND:**

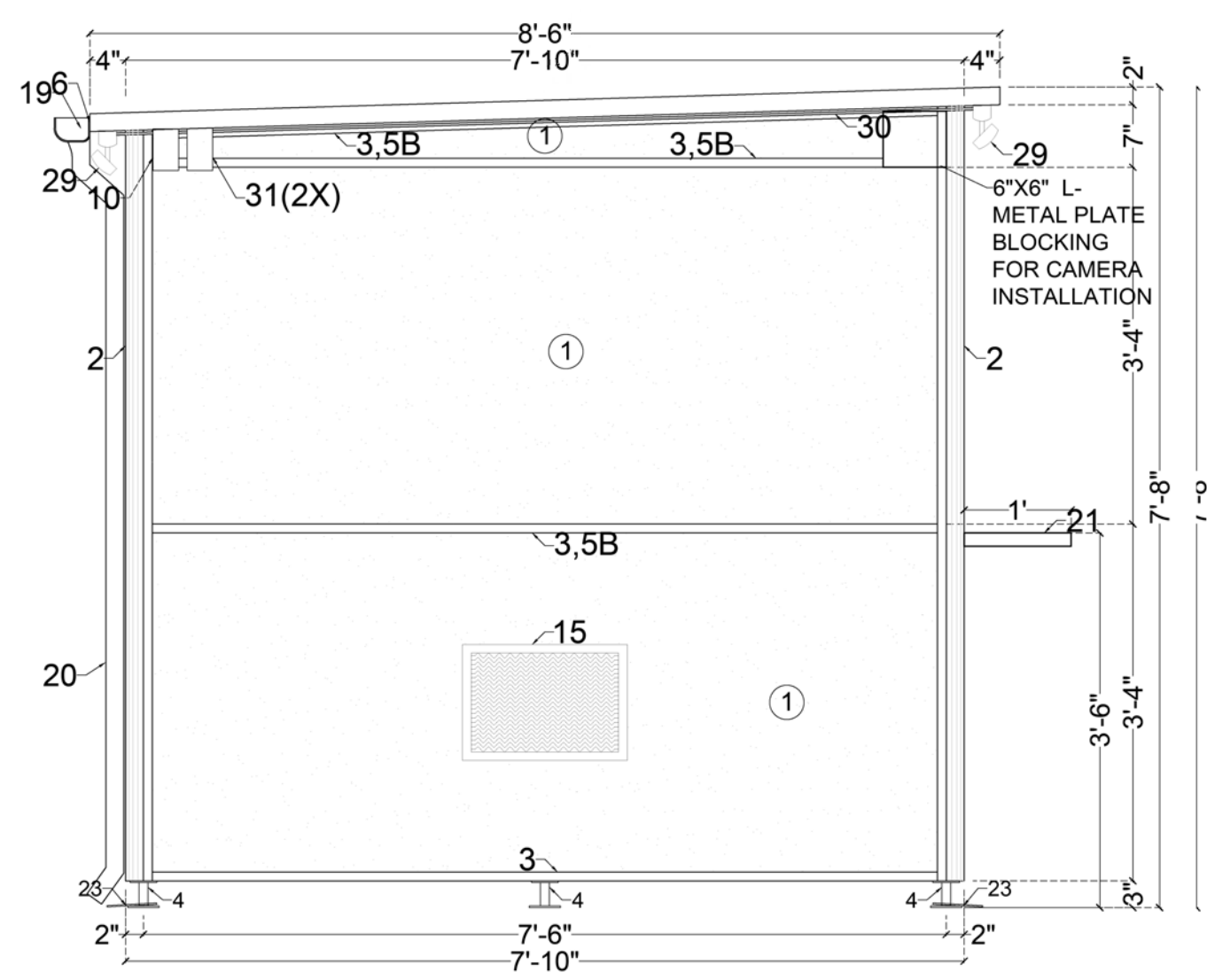
1. (1500)(WRAP8X8)\_ SANDWICH PANEL-ALUMINUM FRAME WITH 2" DOUBLE LAYER ISOPIANO PANELS AND R-10 XPS FORM INSULATION (WRAPPED) (WALL - 128 SQ.FT.) (ROOF - 73 SQ.FT.)
2. (4100)\_ CORNER COLUMN
3. (4001)\_ C-CHANNEL
4. (9001)\_ LEGS
5. (S8X8F)\_ BASE-FRAME:WELDED 1.5" X 1.5" X0.05" SQUARE STEEL TUBING, COVERED WITH 0.12" THK. DIAMOND FLOOR PLATE
- 5B. SUPPORT TUBE 1-1/2" X 1-1/2" X 1/8"
6. (S8X8R)\_ PITCH ROOF WITH 4" OVERHANG
7. (3101)\_ INTERIOR LIGHTING
8. (2305)\_ LIGHT SWITCH
9. (2303)\_ QUAD OUTLET (2X)
- 9B. RECEPTACLE FOR AC
- 9C. GFCI OUTLET
- 9D. DUPLEX OUTLET (2X)
10. (EXTJUNCTIONBOX)\_ EXTERIOR ELECTRICAL CONNECTION CONNECTION BOX
11. (DESK5)\_ DESK WITH DRAWER (18" DEEP)(39" HT. FROM AFF)(2X)
12. (7001)\_ 32" SWING DOOR WITH FIXED GLASS
13. (9403-04)\_ SLIDING WINDOW
14. FIXED WINDOW
15. (9104)\_ WALL MOUNTED AC (12000 BTU)
16. (BH8X8)\_ ELECTRIC BASEBOARD HEATER (2x1500 WATT)
17. (2302)\_ THERMOSTAT
18. (3402)\_ CIRCUIT BREAKER PANEL RATED 125 AMP MAIN LUG (8 SPACE)
19. GUTTER (WHITE)
20. DOWNSPOUT (WHITE)
21. EXTERIOR DESK 4' WIDE (12" DEEP)
22. SUPPORT BRACKET FOR EXTERIOR DESK
23. (BRACKETS)\_ ANCHORING BRACKETS
24. (11009)\_ FIRE EXTINGUISHER
25. (11008)\_ SMOKE DETECTOR
26. (11011)\_ FIRST AID KIT
27. (11010)\_ WALL MOUNTED FLASHLIGHT
28. (7009)\_ DOOR CLOSER
29. (EXTLGH1)\_ EXTERIOR LIGHTING
30. CONDUIT
31. DATA PORT & PHONE LINE (2X)
32. WALL MOUNTED DATA RACK BY OWNER (PROCURE AND INSTALL BY CLIENT)

**NOTE:**

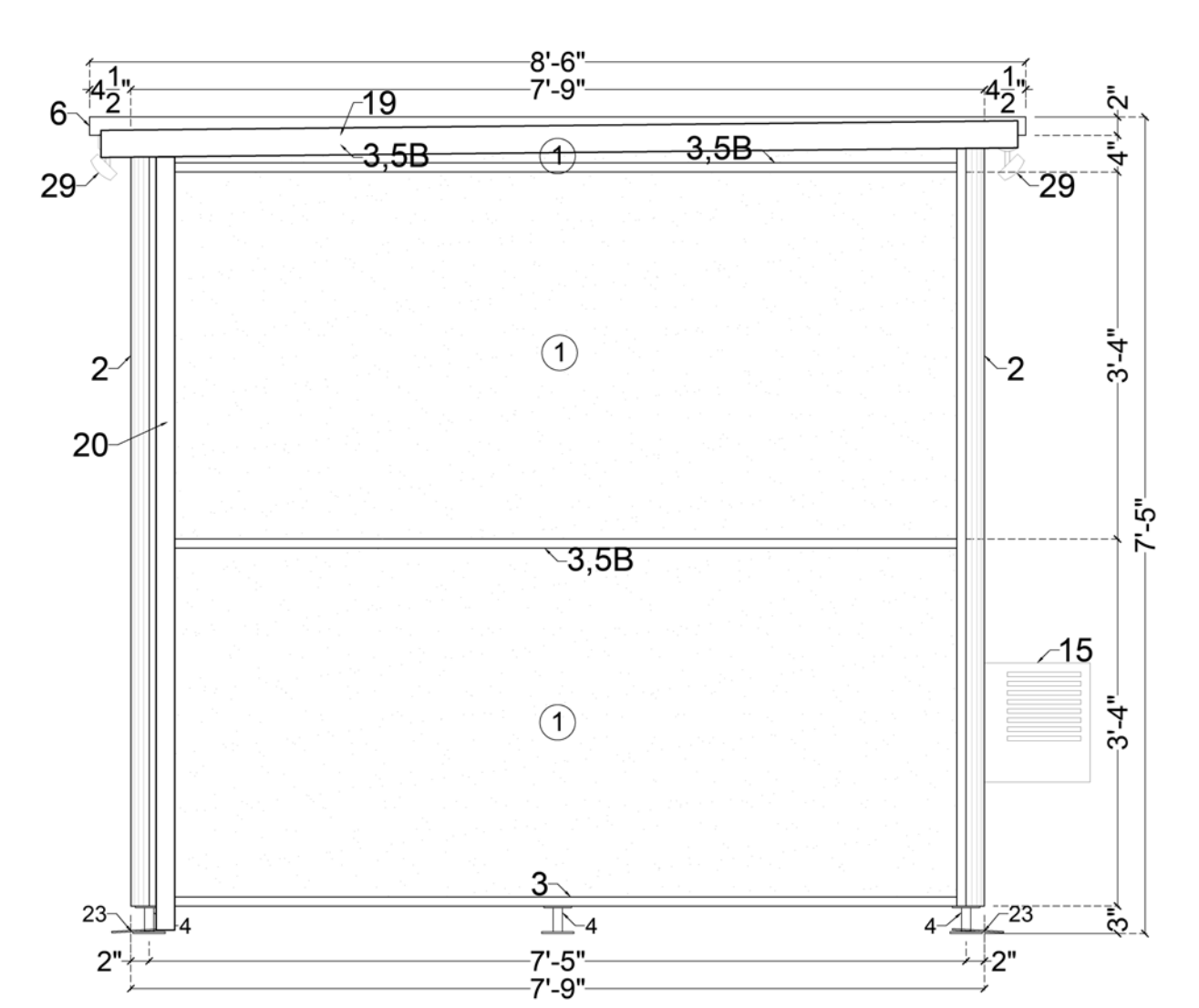
1. DO NOT SCALE THE DRAWING, FOLLOW ONLY FIGURED DIMENSIONS.
2. ALL DIMENSIONS GIVEN IN THIS DRAWING ARE IN FEET & INCH
3. EXTERIOR TO BE WRAP WITH VINYL
4. PITCH ROOF
5. AC TO BE INSTALL ON SITE BY CLIENT DUE TO OVERSIZED ISSUE.



5 LEFT ELEVATION



6 REAR ELEVATION



7 RIGHT ELEVATION

**8' X 8' CUSTOM BOOTH**

REVISIONS	DESCRIPTION
REV#	DATE

ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS

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102 SOUTH HICKORY AVENUE, BEL AIR, MD 21014

TICKET BOOTH PLANS & ELEVATIONS

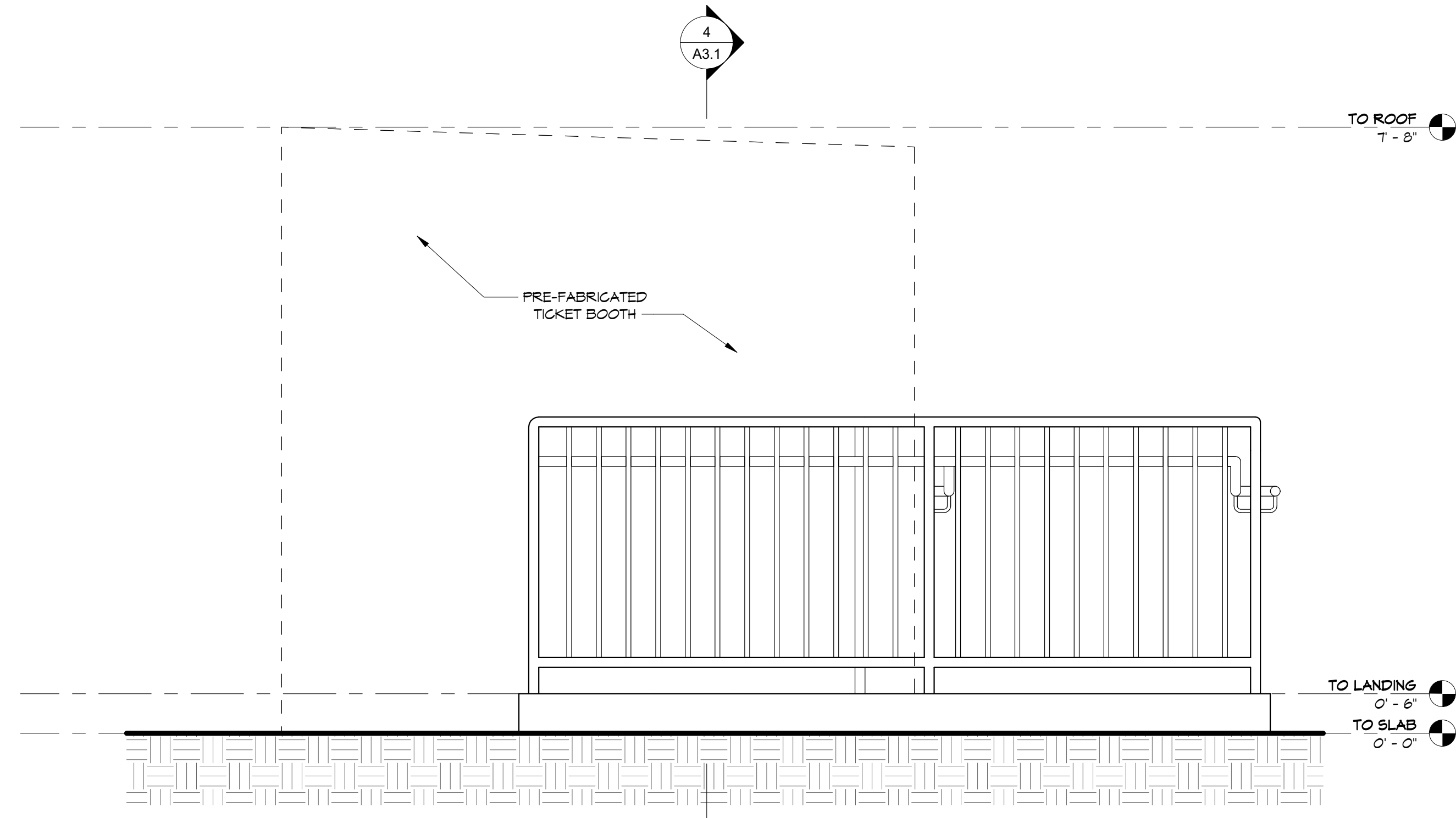
HCPs ABERDEEN HIGH SCHOOL  
TICKET BOOTH

251 PARADISE ROAD, ABERDEEN, MD 21001

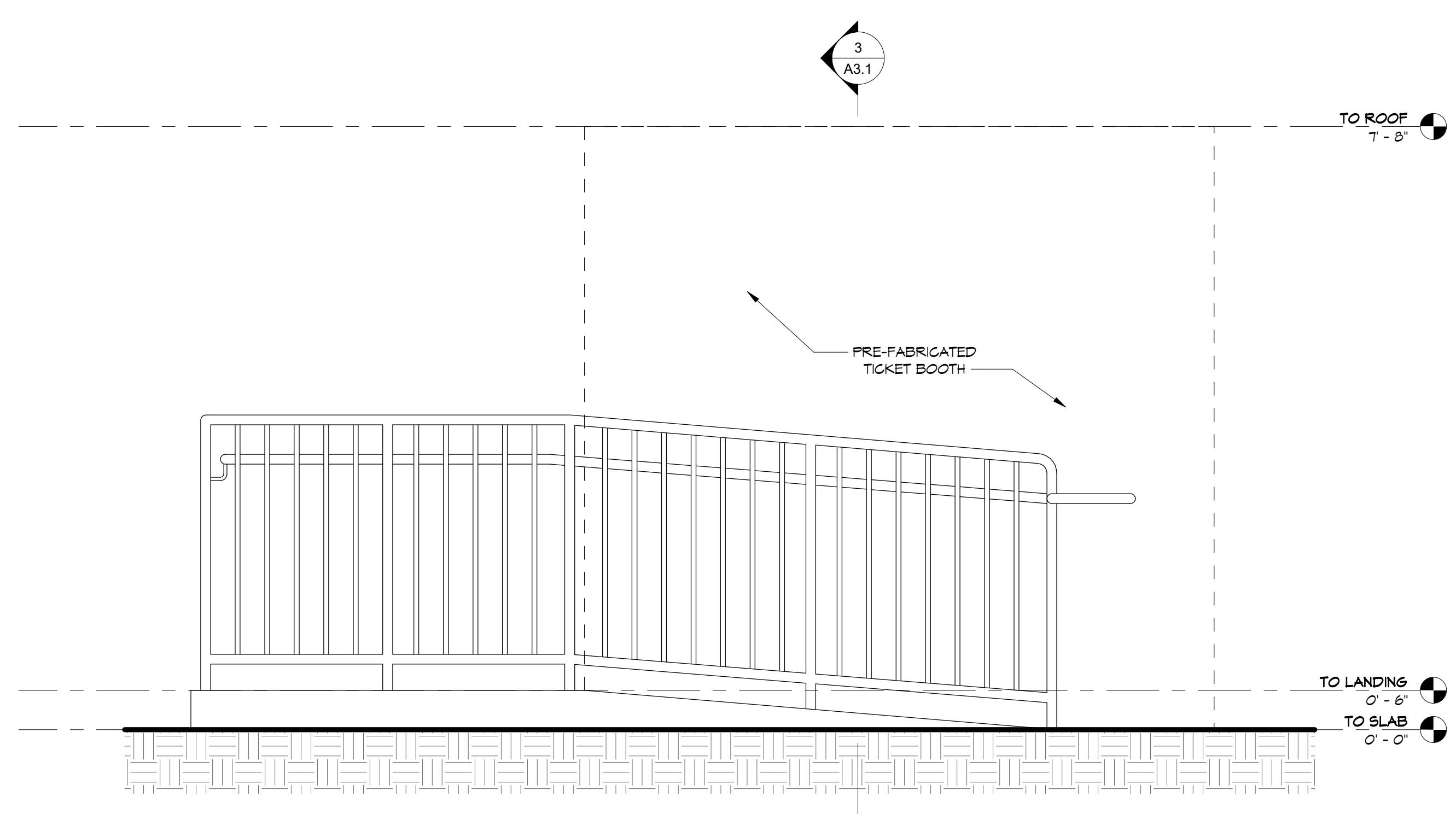


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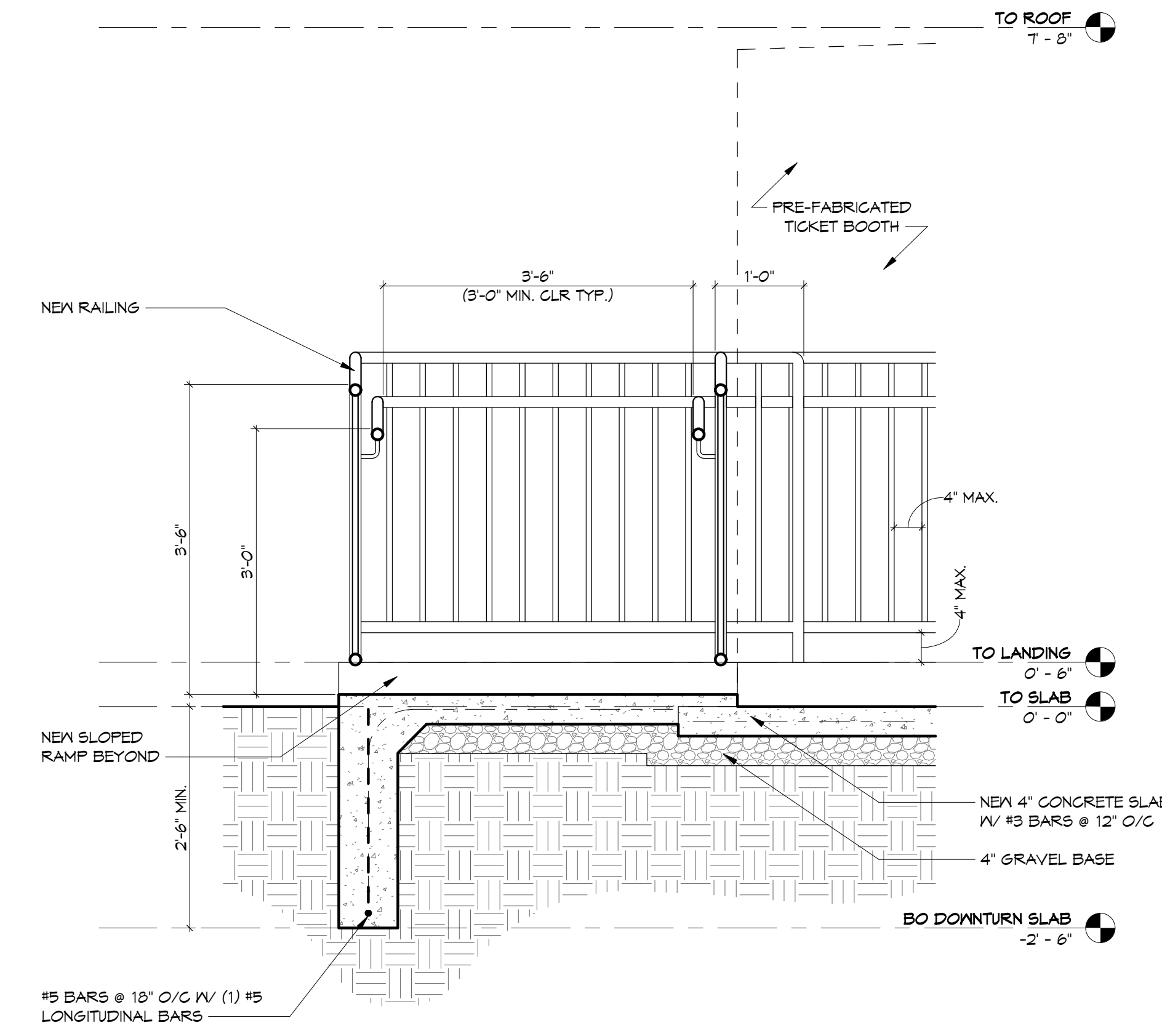




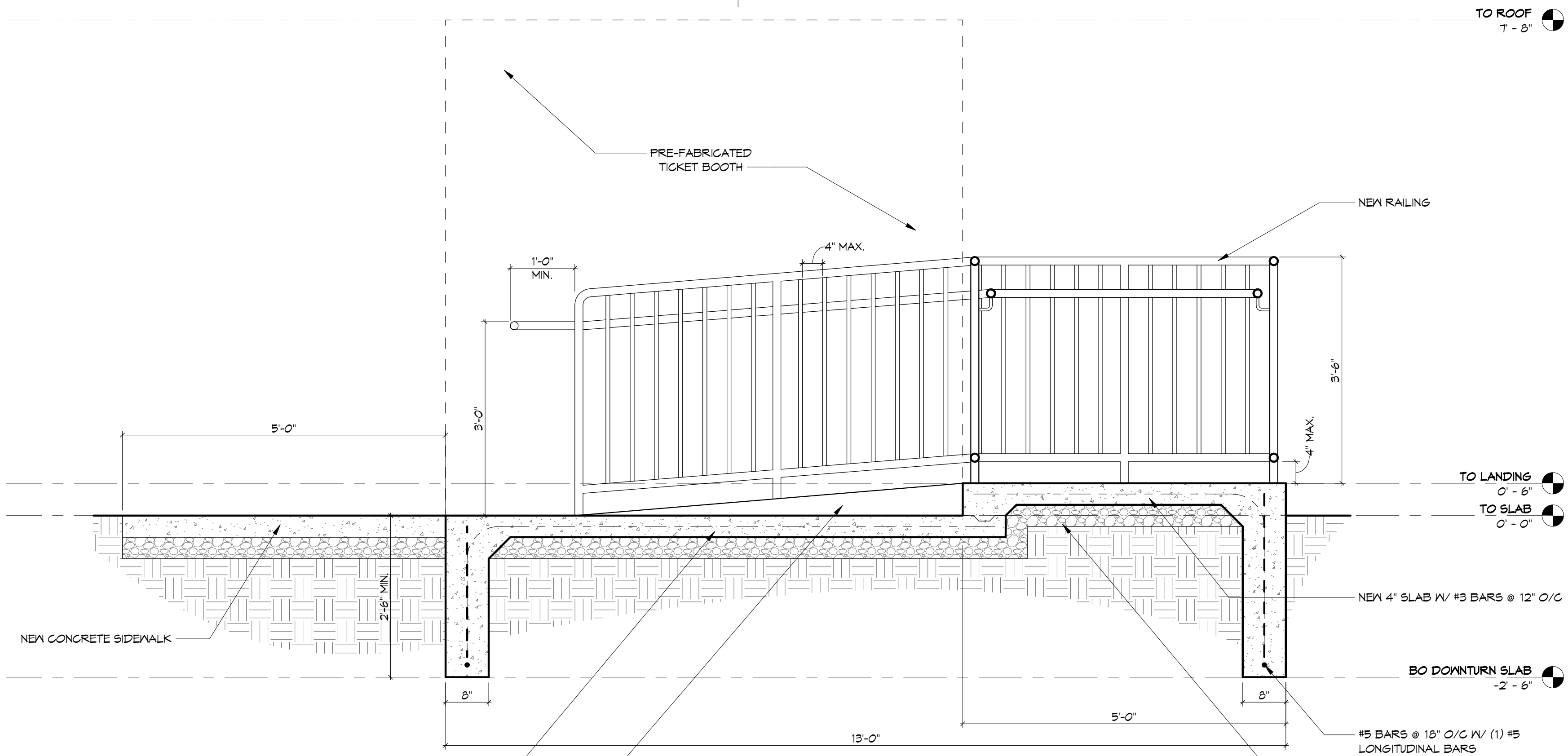
1 EAST ELEVATION  
A3.1 3/4" = 1'-0"



2 NORTH ELEVATION  
A3.1 3/4" = 1'-0"



3 SLOPED RAMP  
A3.1 3/4" = 1'-0"



4 LONGITUDINAL SLAB SECTION  
A3.1 3/4" = 1'-0"

REVISIONS	DESCRIPTION
REV#	DATE

ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS  
FREDERICK WARD ASSOCIATES  
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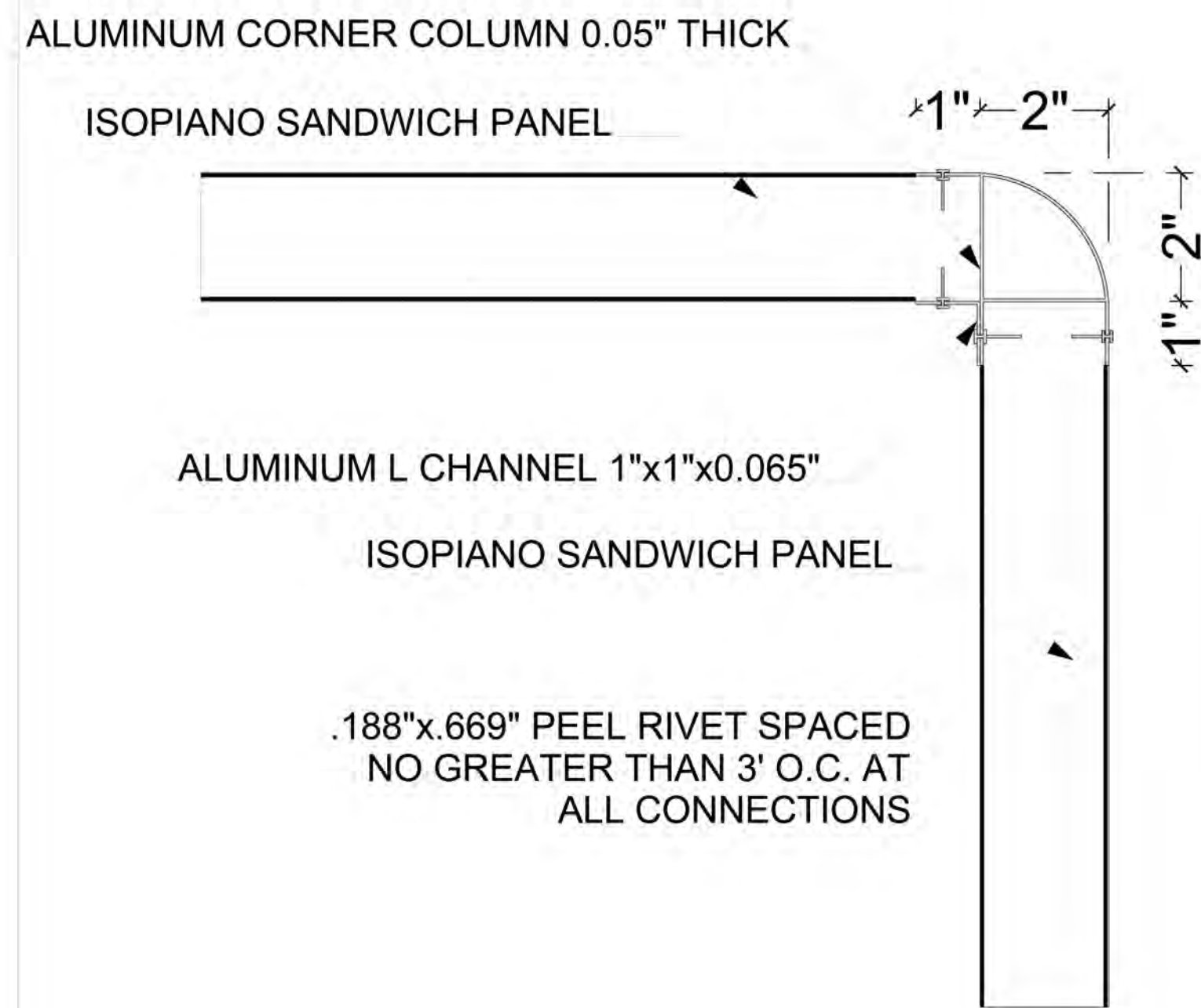
CLIENT:  
HARFORD COUNTY PUBLIC SCHOOLS  
102 SOUTH HICKORY AVENUE, BEL AIR, MD 21014

SLAB SECTIONS & ELEVATIONS  
HCPS ABERDEEN HIGH SCHOOL  
TICKET BOOTH  
251 PARADISE ROAD, ABERDEEN, MD 21001



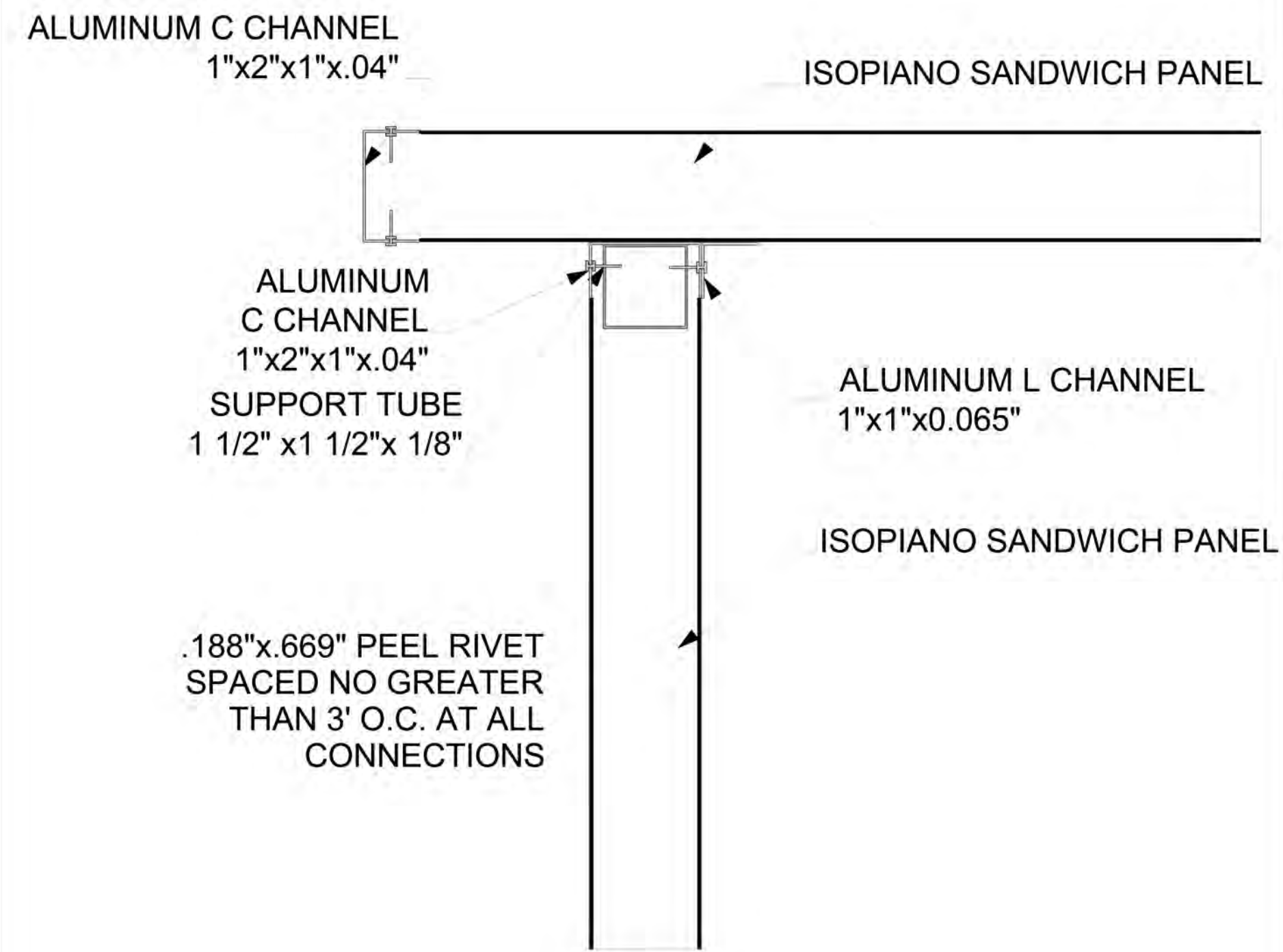
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CHECKED BY: BS	FWA JOB NUMBER: Z241105.00





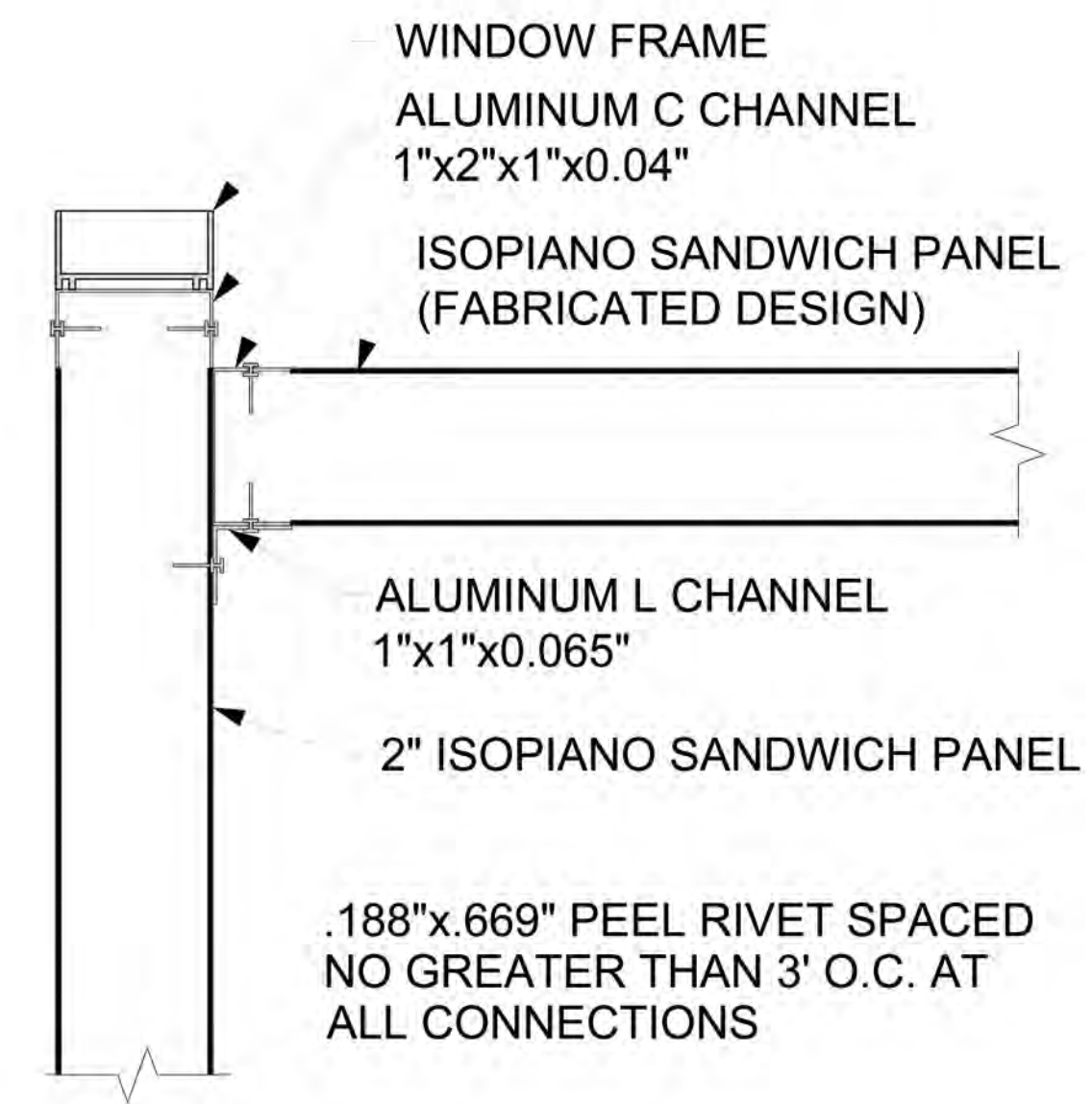
1 CORNER SECTION VIEW

— METAL  
□ FOAM



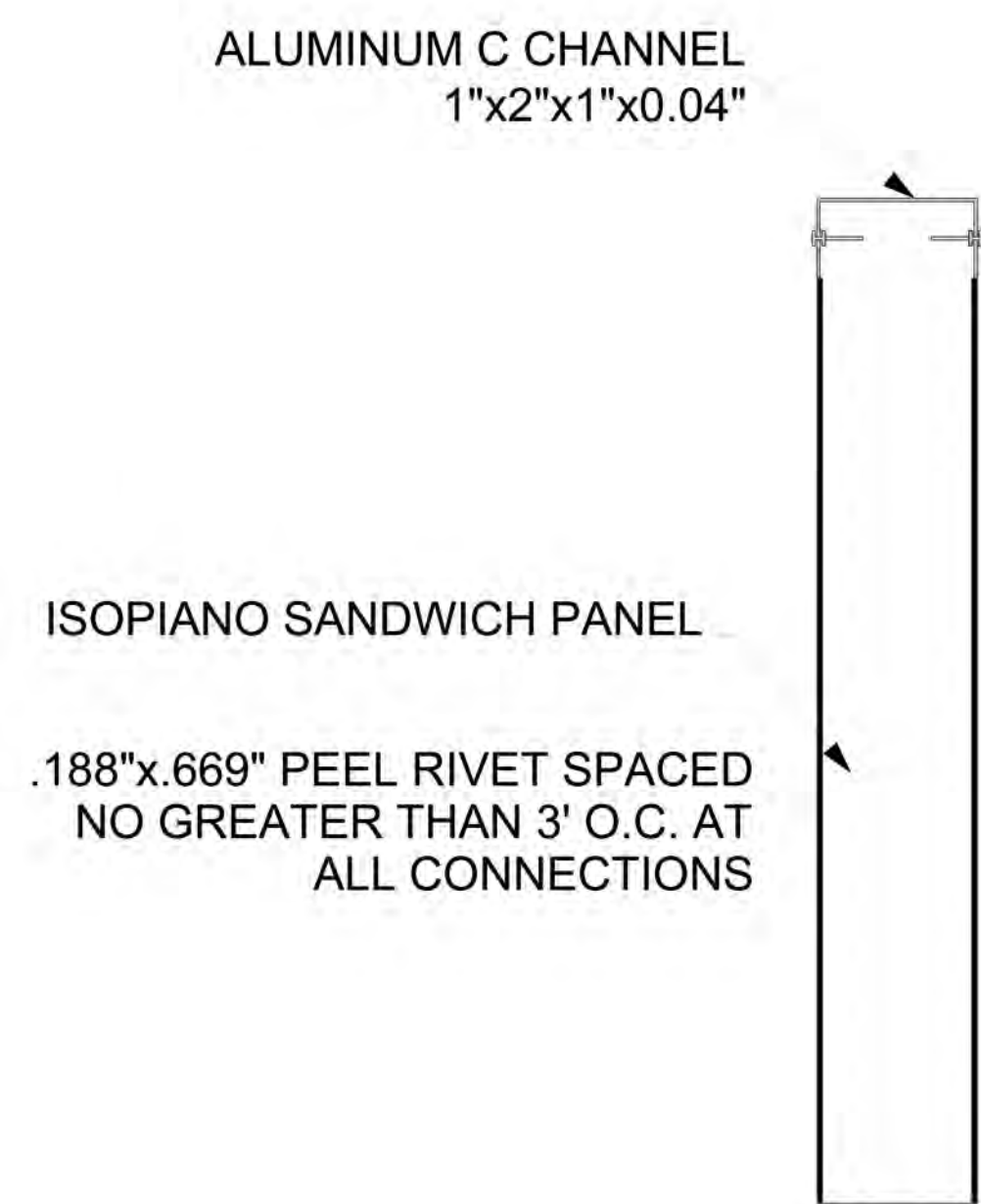
2 ROOF WALL CONNECTION SECTION VIEW

— METAL  
□ FOAM



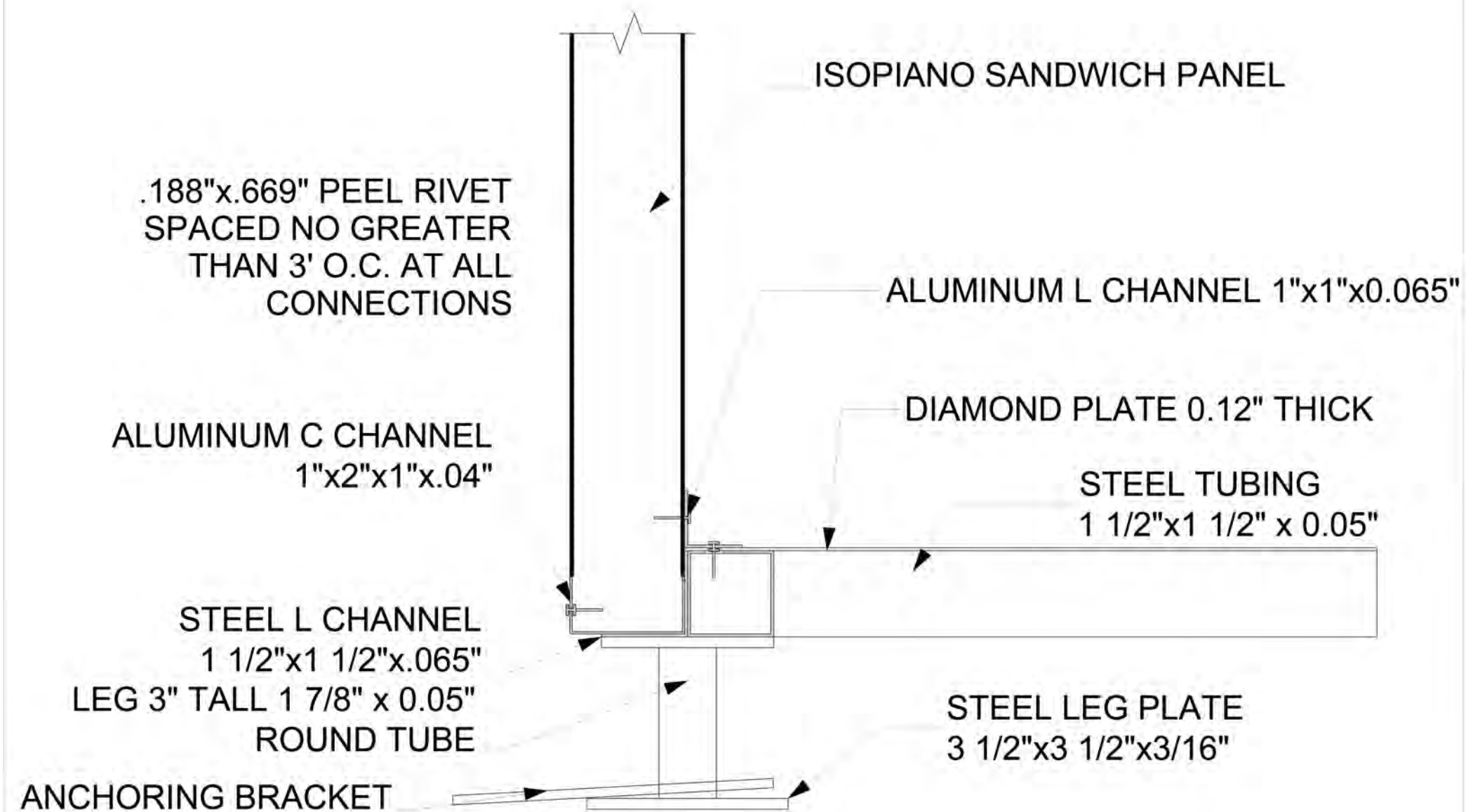
3 DESK WALL CONNECTION

— METAL  
□ FOAM



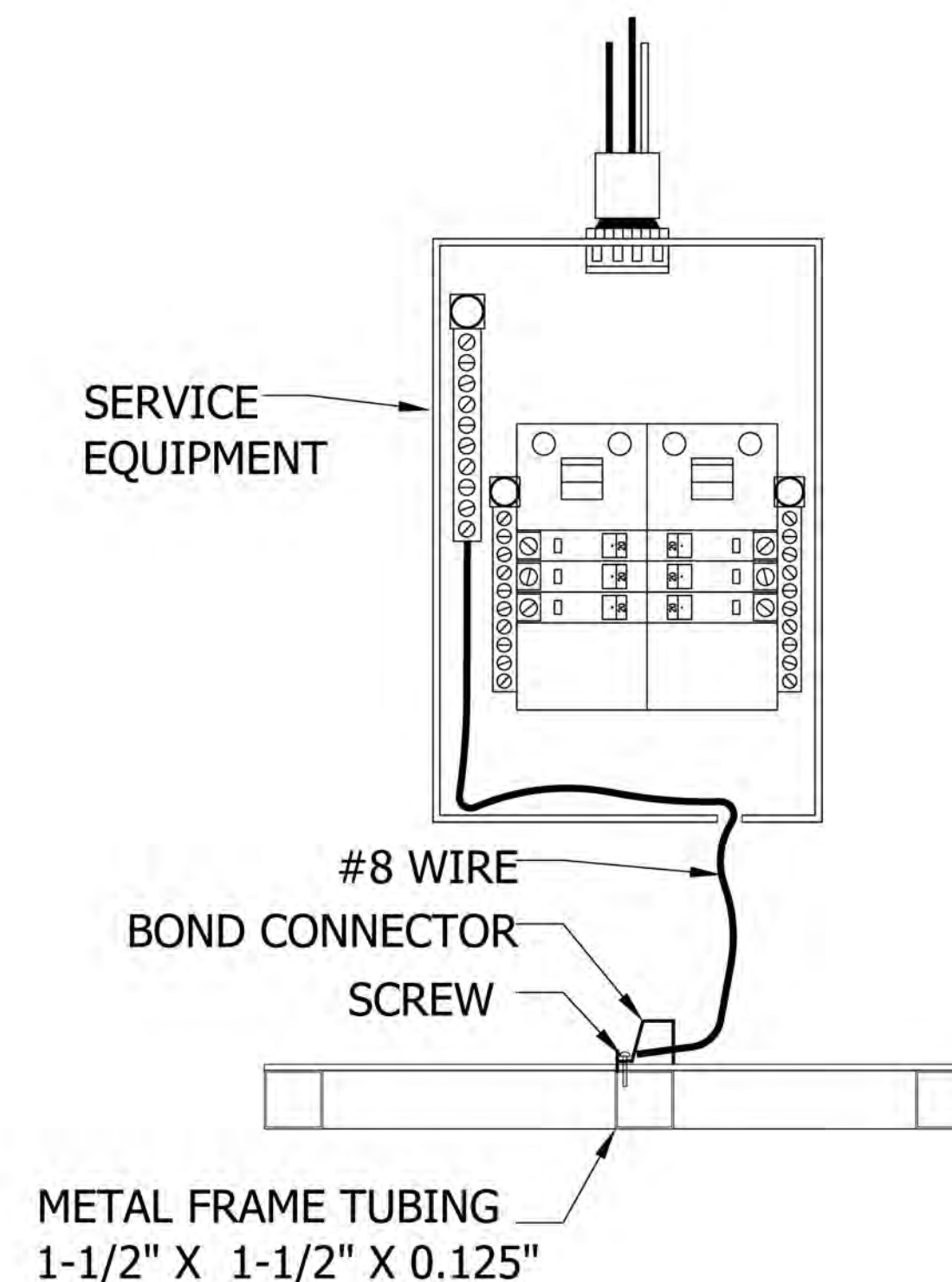
4 WINDOW FRAMING SECTION VIEW

— METAL  
□ FOAM



5 FLOOR WALL CONNECTION SECTION VIEW

— METAL  
□ FOAM



6 GROUNDING ELECTRODE DETAIL

LEGEND:

- (1500)(WRAP8X8)\_ SANDWICH PANEL-ALUMINUM FRAME WITH 2" DOUBLE LAYER ISOPIANO PANELS AND R-10 XPS FORM INSULATION (WRAPPED) (WALL - 128 SQ.FT.) (ROOF - 73 SQ.FT.)
- (4100)\_ CORNER COLUMN
- (4001)\_ C-CHANNEL
- (9001)\_ LEGS
- (S8X8F)\_ BASE-FRAME:WELDED 1.5" X 1.5" X0.05" SQUARE STEEL TUBING, COVERED WITH 0.12" THK. DIAMOND FLOOR PLATE
- (S8X8R)\_ PITCH ROOF WITH 4" OVERHANG
- (3101)\_ INTERIOR LIGHTING
- (2305)\_ LIGHT SWITCH
- (2303)\_ QUAD OUTLET (2X)
- RECEPTACLE FOR AC
- GFCI OUTLET
- DUPLEX OUTLET (2X)
- (EXT)JUNCTIONBOX)\_ EXTERIOR ELECTRICAL CONNECTION BOX
- (DESKS)\_ DESK WITH DRAWER (18" DEEP)(39" HT. FROM AFF)(2x)
- (7001)\_ 32" SWING DOOR WITH FIXED GLASS
- (9403-04)\_ SLIDING WINDOW
- FIXED WINDOW
- (9104)\_ WALL MOUNTED AC (12000 BTU)
- (B8X8)\_ ELECTRIC BASEBOARD HEATER (2x1500 WATT)
- (2302)\_ THERMOSTAT
- (3402)\_ CIRCUIT BREAKER PANEL RATED 125 AMP MAIN LUG (8 SPACE)
- GUTTER (WHITE)
- DOWNSPOUT (WHITE)
- EXTERIOR DESK 4' WIDE (12" DEEP)
- SUPPORT BRACKET FOR EXTERIOR DESK
- (BRACKETS)\_ ANCHORING BRACKETS
- (11009)\_ FIRE EXTINGUISHER
- (11008)\_ SMOKE DETECTOR
- (11011)\_ FIRST AID KIT
- (11010)\_ WALL MOUNTED FLASHLIGHT
- (7009)\_ DOOR CLOSER
- (EXTLGH)\_ EXTERIOR LIGHTING
- CONDUIT
- DATA PORT & PHONE LINE (2X)
- WALL MOUNTED DATA RACK BY OWNER (PROCURE AND INSTALL BY CLIENT)

NOTE:

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- PITCH ROOF
- AC TO BE INSTALL ON SITE BY CLIENT DUE TO OVERSIZED ISSUE.

REVISIONS	DESCRIPTION
REV	DATE

ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS

**FWA**

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TICKET BOOTH DETAILS

HCPs ABERDEEN HIGH SCHOOL  
TICKET BOOTH

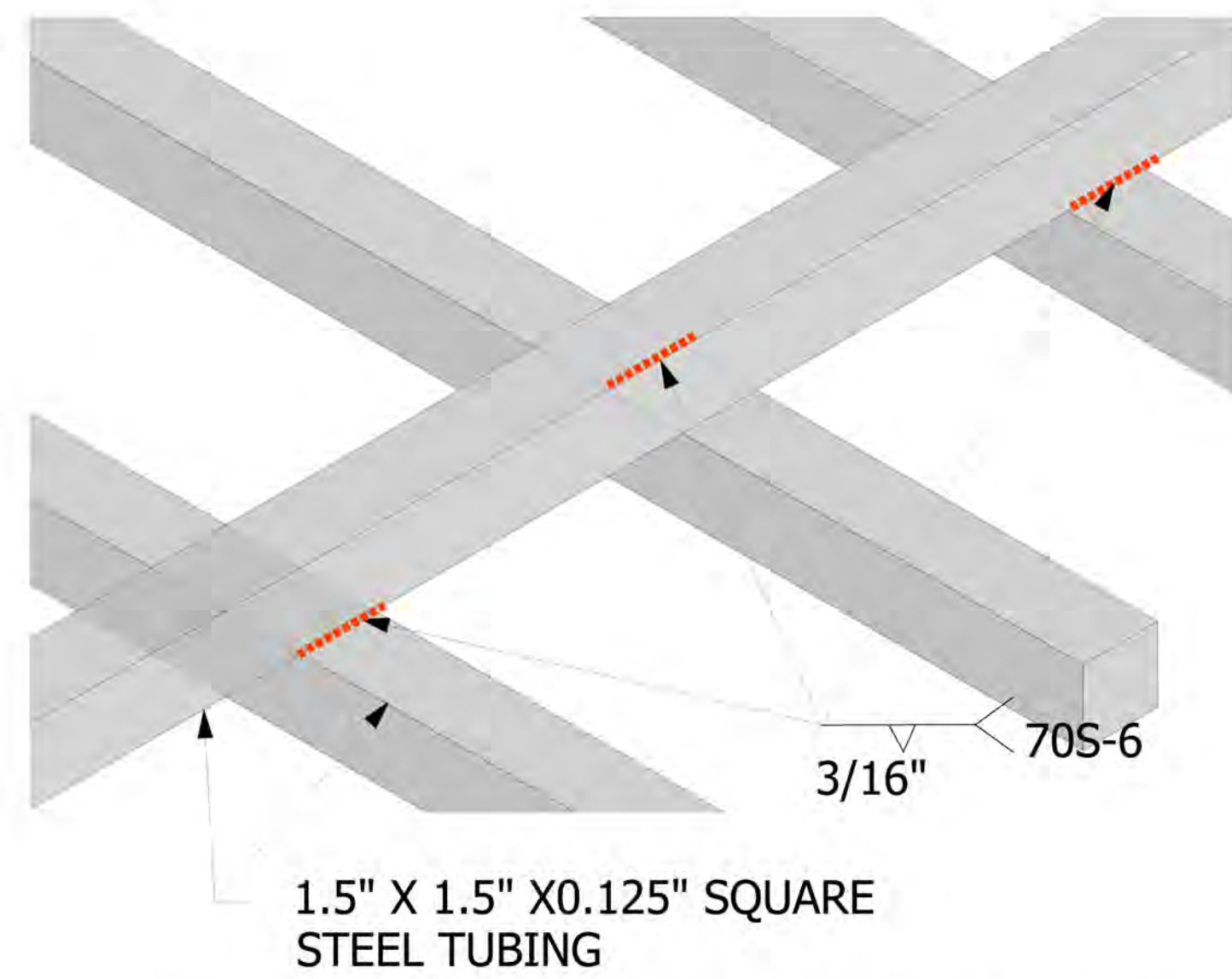
251 PARADISE ROAD, ABERDEEN, MD 21001



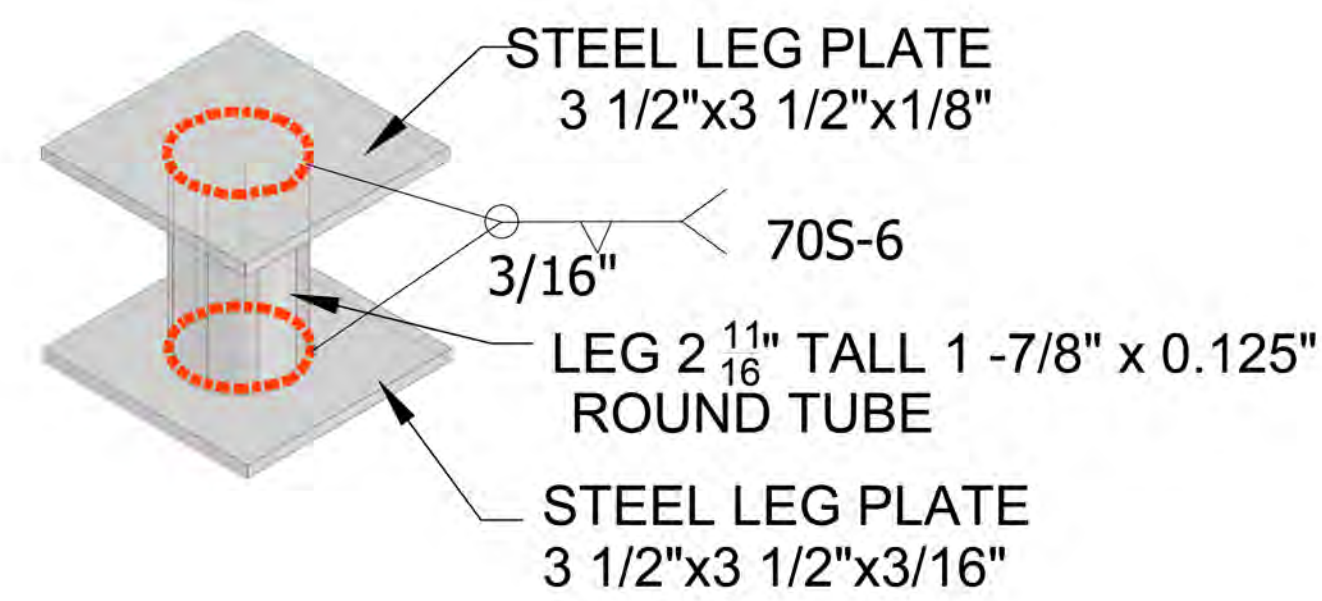
DATE: 02/06/2025	DRAWING NO.:
SCALE: AS NOTED	<b>A5.1</b>
DRAWN BY: RG	
CHECKED BY: BS	FWA JOB NUMBER 2241105.00

**8' X 8' CUSTOM BOOTH**

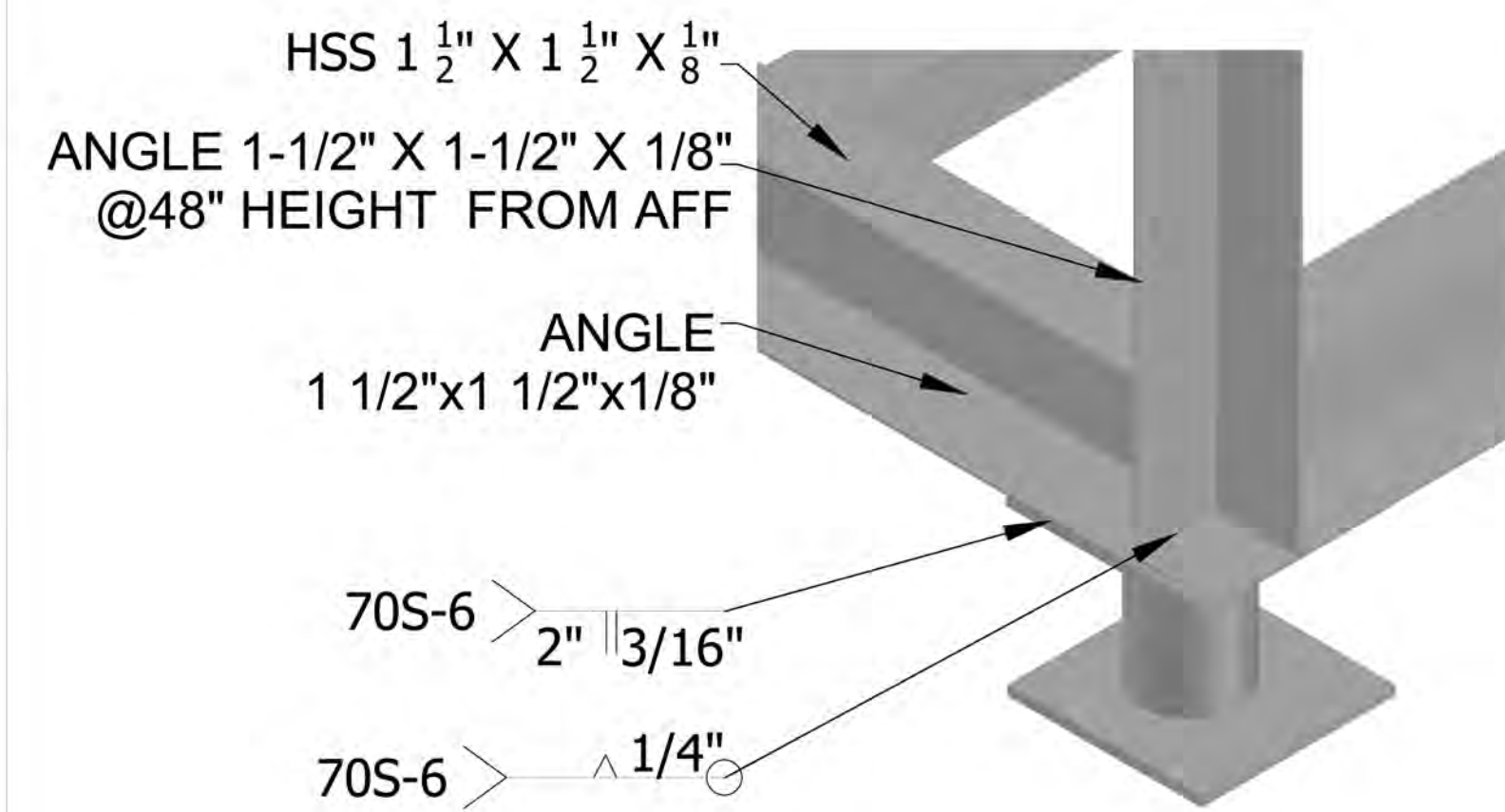




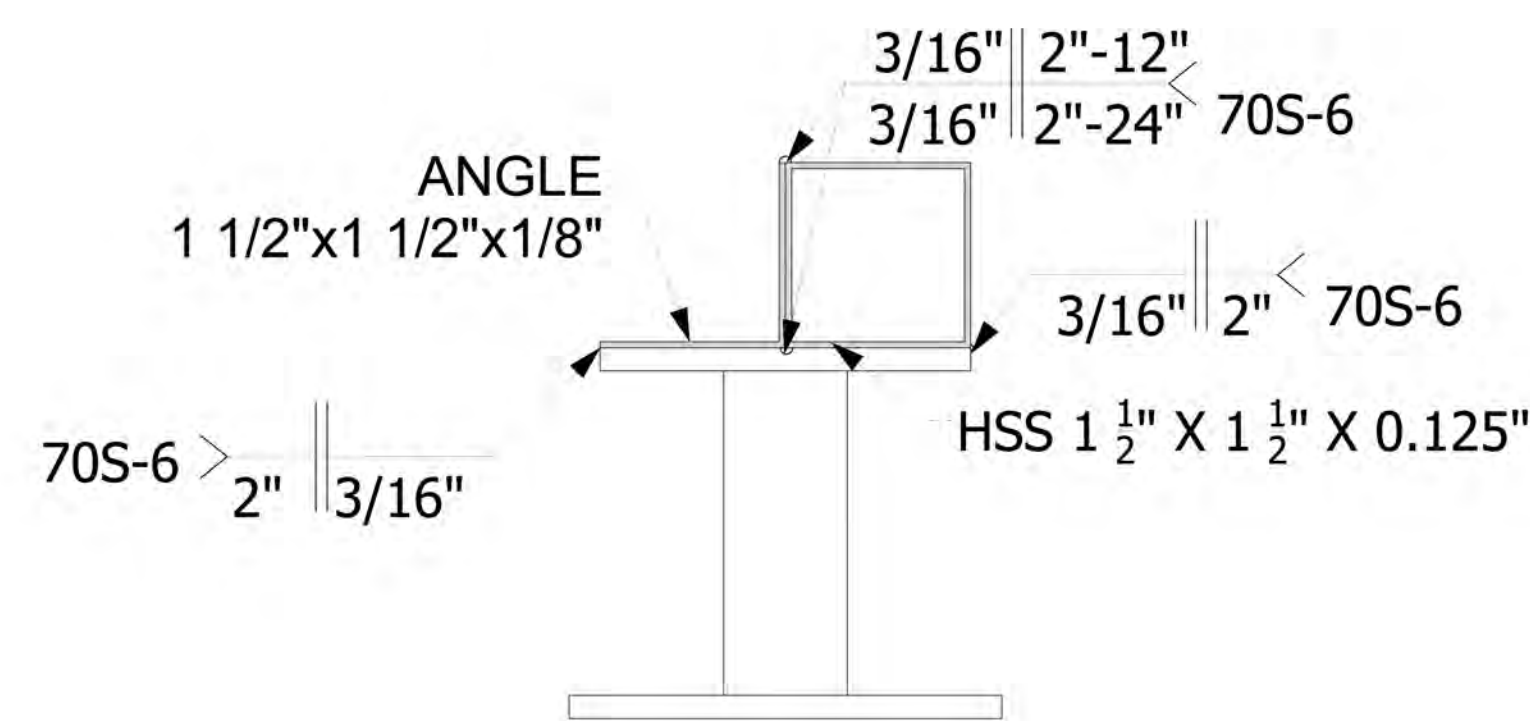
**6** TUBING WELD DETAIL- FLOOR FRAMING  
(INSTALLED BY GUARDIAN BOOTH)



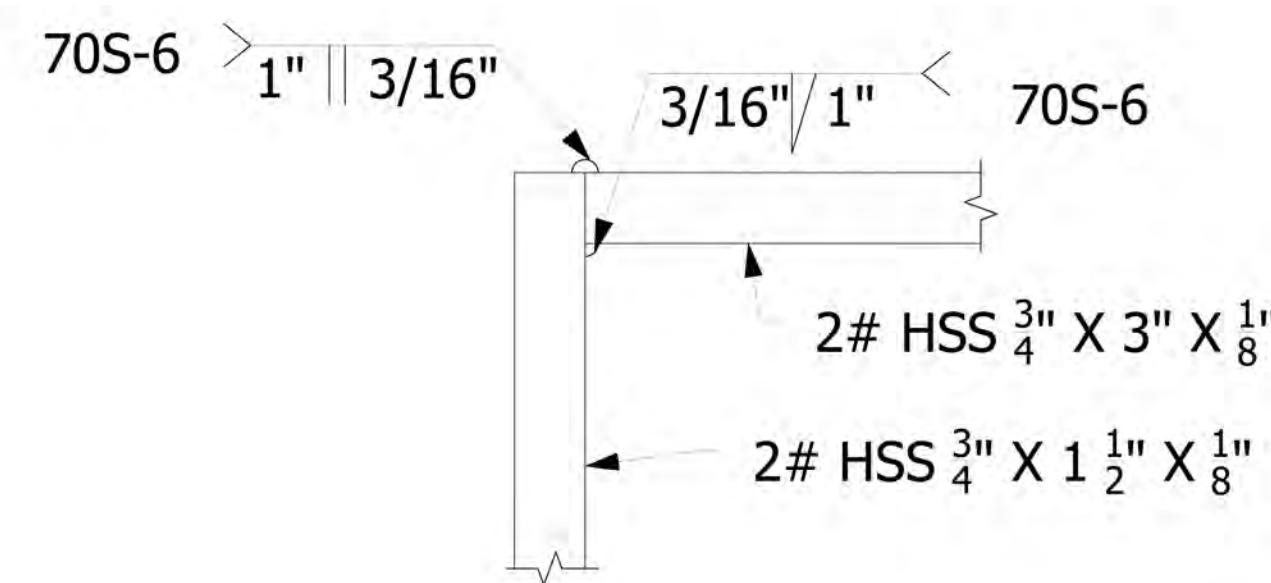
**7** WELD DETAIL- LEGS  
(INSTALLED BY GUARDIAN BOOTH)



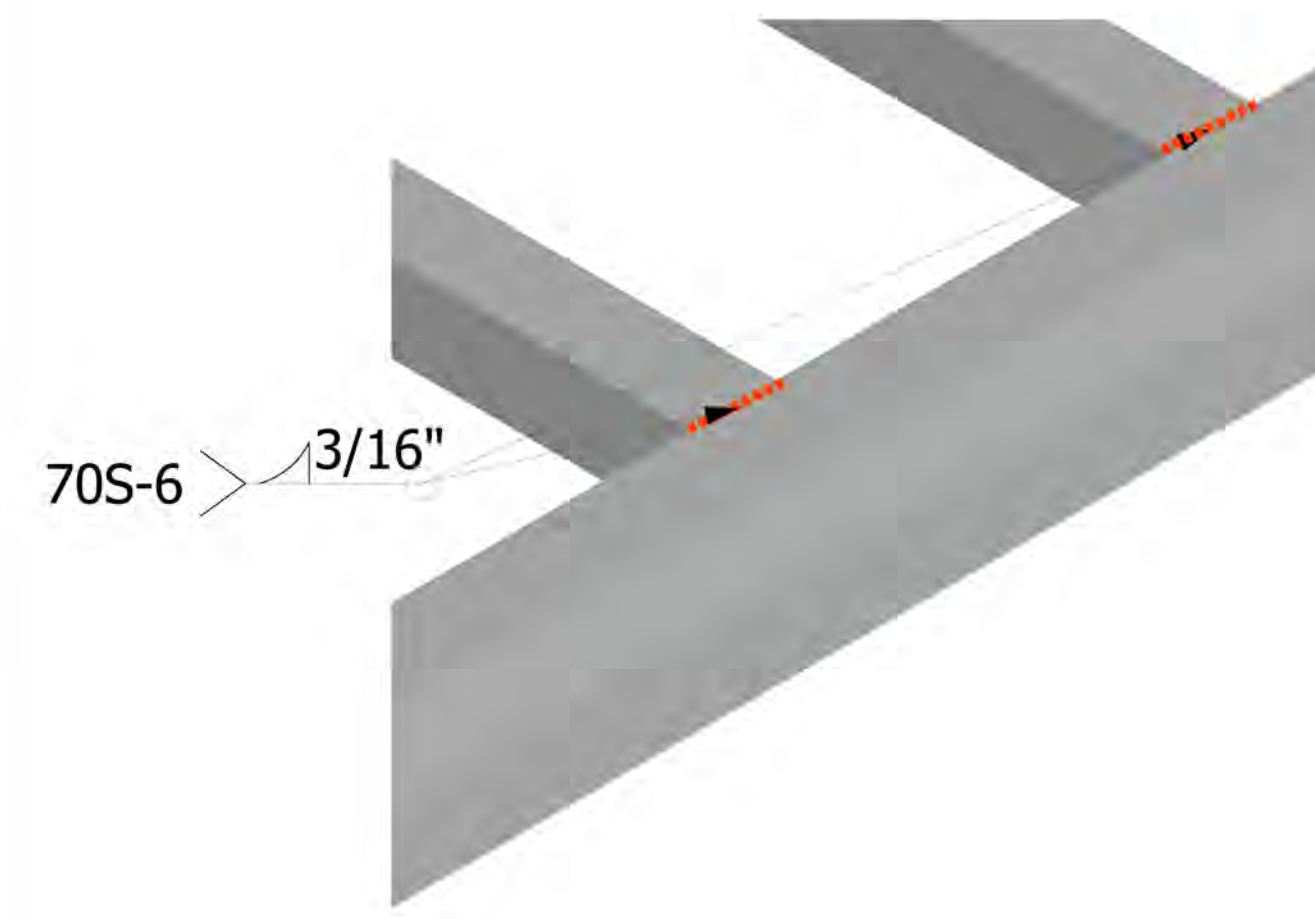
**8** ANGEL WITH LEG & CORNER COLUMN  
(SCALE : 2"=1')



**9** TUBING WELD - FLOOR FRAMING  
(INSTALLED BY GUARDIAN BOOTH) (SCALE: 3"=1')



**10** HSS TO HSS  
(INSTALLED BY GUARDIAN BOOTH)



**11** TUBING WELD- FLOOR FRAMING  
(SCALE : 2"=1')

**LEGEND:**

1. (1500)(WRAP8X8)\_ SANDWICH PANEL-ALUMINUM FRAME WITH 2" DOUBLE LAYER ISOPIANO PANELS AND R-10 XPS FORM INSULATION (WRAPPED) (WALL - 128 SQ.FT.) (ROOF - 73 SQ.FT.)
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3. (4001)\_ C-CHANNEL
4. (9001)\_ LEGS
5. (S8X8F)\_ BASE-FRAME:WELDED 1.5" X 1.5" X0.05" SQUARE STEEL TUBING, COVERED WITH 0.12" THK. DIAMOND FLOOR PLATE
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6. (S8X8R)\_ PITCH ROOF WITH 4" OVERHANG
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14. FIXED WINDOW
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18. (3402)\_ CIRCUIT BREAKER PANEL RATED 125 AMP MAIN LUG (8 SPACE)
19. GUTTER (WHITE)
20. DOWNSPOUT (WHITE)
21. EXTERIOR DESK 4' WIDE (12" DEEP)
22. SUPPORT BRACKET FOR EXTERIOR DESK
23. (BRACKETS)\_ ANCHORING BRACKETS
24. (11009)\_ FIRE EXTINGUISHER
25. (11008)\_ SMOKE DETECTOR
26. (11011)\_ FIRST AID KIT
27. (11010)\_ WALL MOUNTED FLASHLIGHT
28. (7009)\_ DOOR CLOSER
29. (EXTLGHT)\_ EXTERIOR LIGHTING
30. CONDUIT
31. DATA PORT & PHONE LINE (2X)
32. WALL MOUNTED DATA RACK BY OWNER (PROCURE AND INSTALL BY CLIENT)

**NOTE:**

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2. ALL DIMENSIONS GIVEN IN THIS DRAWING ARE IN FEET & INCH
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4. PITCH ROOF
5. AC TO BE INSTALL ON SITE BY CLIENT DUE TO OVERSIZED ISSUE.

**8' X 8' CUSTOM BOOTH**

REVISIONS	DESCRIPTION
REV#	DATE

ARCHITECTS  
ENGINEERS  
PLANNERS  
SURVEYORS

**FWA**

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CLIENT:  
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102 SOUTH HICKORY AVENUE, BEL AIR, MD 21014

TICKET BOOTH DETAILS

HCPA ABERDEEN HIGH SCHOOL  
TICKET BOOTH

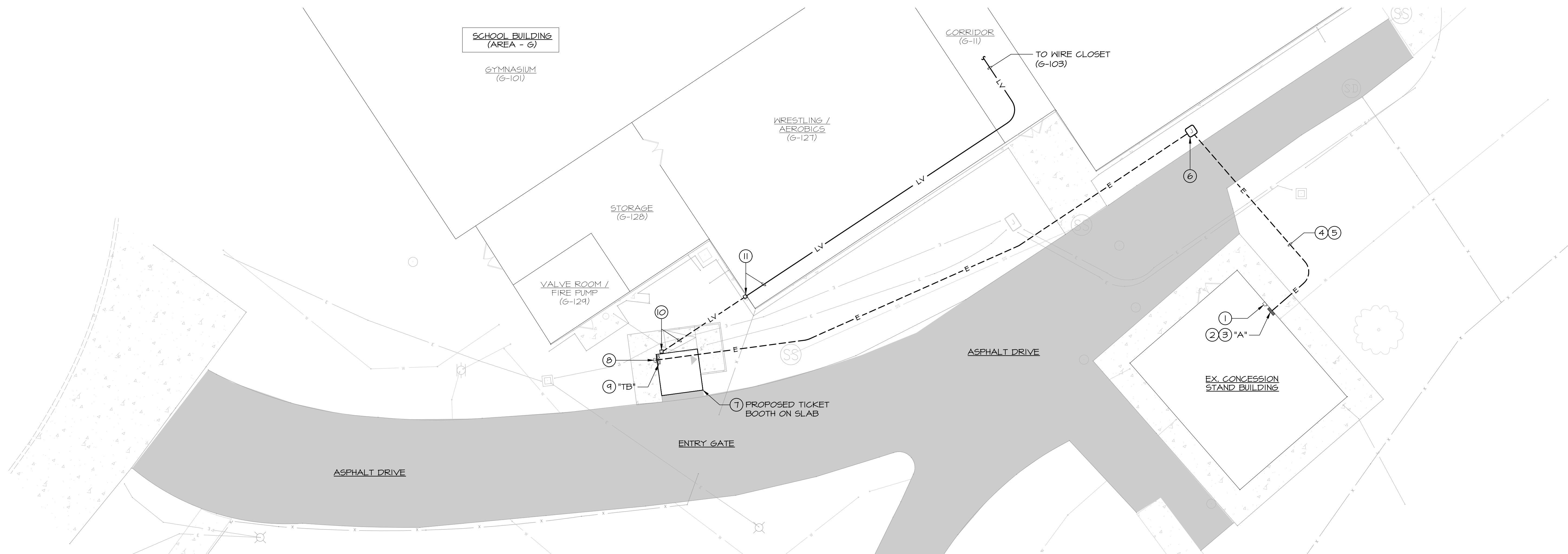
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I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.

DATE:	02/06/2025	DRAWING NO.:	A5.2
SCALE:	AS NOTED		
DRAWN BY:	RG		
CHECKED BY:	BS	FWA JOB NUMBER:	2241105.00

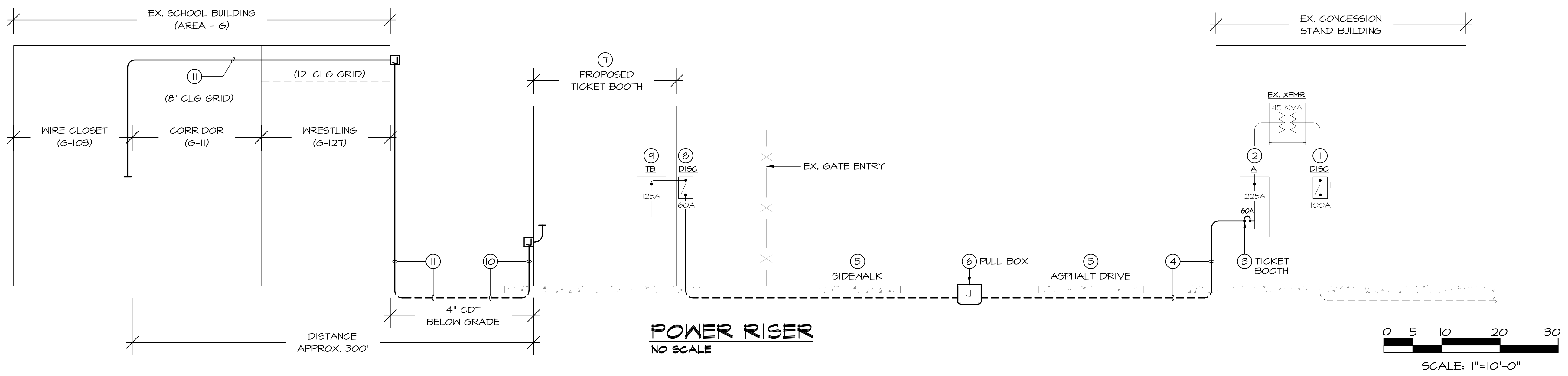




**ELECTRICAL SITE PLAN**  
 SCALE: 10' = 1'-0"  
 REFER TO CIVIL DRAWINGS FOR DETAILED INFORMATION

**DRAWING NOTES**

- 1 EXISTING 600V, 100A RATED DISCONNECT SWITCH / MAIN AND ASSOCIATED INCOMING FEEDER FOR CONCESSION STAND BUILDING TO REMAIN.
- 2 EXISTING PANEL "A" IN CONCESSION STAND BUILDING ELECTRIC CLOSET. REFER TO SCHEDULE ON SHEET E2.0.
- 3 PROVIDE 2 POLE, 60AMP CIRCUIT BREAKER IN EXISTING PANEL "A" AND LABEL "TICKET BOOTH - PANEL TB". REFER TO SCHEDULE ON SHEET E2.0.
- 4 EXTEND 3#4 + #8 GRD FEEDER WIRING IN 1-1/2" CONDUIT AND TERMINATE IN DISCONNECT SWITCH PROVIDED ON TICKET BOOTH EXTERIOR. REFER TO MANUFACTURERS CUSTOM DRAWINGS, FOR FINAL STUB-UP AND TERMINATION LOCATIONS ON STRUCTURE, PRIOR TO INSTALLATION OF NEW SUPPORT SLAB.
- 5 ROUTE 1-1/2" CONDUIT BELOW GRADE, EXISTING CONCRETE WALKS AND ASPHALT DRIVE (S&M CUT / BORE). CONTACT MISS UTILITY AND HAND DIG AS REQUIRED.
- 6 PROVIDE 18"x18" RECESSED FULL BOX (JUNCTION) WHERE NECESSARY (QUAZITE #FG1818HA) PROVIDE LID ENGRAVING READING "ELECTRIC - TICKET BOOTH".
- 7 PROPOSED PRE-FABRICATED 8' x 8' TICKET BOOTH, COMPLETELY ASSEMBLED STRUCTURE INCLUDING ELECTRICAL EQUIPMENT, WIRING, DEVICES AND LIGHTING. AIR CONDITION UNIT TO BE SHIPPED LOOSE AND INSTALLED ON SITE. REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE TICKET BOOTH PLANS.
- 8 EXISTING 240V, 60A RATED DISCONNECT SWITCH / MAIN PRE-INSTALLED (BY FACTORY) ON TICKET BOOTH EXTERIOR. ELECTRICAL CONTRACTOR SHALL COORDINATE TERMINATION OF PROPOSED FEEDER CONNECTION AS REQUIRED.
- 9 EXISTING PANEL "TB" PRE-INSTALLED (BY FACTORY) ON TICKET BOOTH INTERIOR. REFER SCHEDULE ON SHEET E2.0.
- 10 ROUTE 4" EMPTY CONDUIT AND PULL STRING FOR BELOW GRADE SECTION FROM BOOTH EXTERIOR TO WALL EXTERIOR, FOR ROUTING TO WIRE CLOSET G-103 (ELECTRIC ROOM), FOR FUTURE LOW VOLTAGE WIRING (SECURITY SYSTEM CABLING). FIELD COORDINATE FINAL TERMINATION.
- 11 ROUTE 4" CONDUIT UP EXTERIOR WALL AND THROUGH SCHOOL BUILDING INTERIOR CEILING SPACE (APPROXIMATELY 300'). PROPERLY SECURE THROUGHOUT AS REQUIRED PER NEC.



REV#	DATE	DESCRIPTION

ARCHITECTS  
 ENGINEERS  
 PLANNERS  
 SURVEYORS  
**F.W.A.**  
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 OF HARFORD COUNTY  
 102 S. HICKORY AVE  
 BEL AIR, MD 21014

ELECTRICAL PLAN AND POWER RISER  
**HCPS TICKET BOOTH  
 AT ABERDEEN HS**  
 HARFORD COUNTY, MD  
 FIRST ELECTION DISTRICT

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, TIMOTHY SMIDT, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21505, EXPIRATION DATE: MAY 8, 2025.



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DATE: 02/06/2025	DRAWING NO. E1.0
SCALE: AS NOTED	
DRAWN BY: KWN	
CHECKED BY: TJS	TEI JOB NUMBER: 24120



## GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH ALL CURRENT NATIONAL AND LOCAL ELECTRICAL AND ENERGY CODES.
- ALL WIRING SHALL BE COPPER, #12 AWG MINIMUM, TYPE THHN/THHN INSULATION, INSTALLED IN CONDUIT (3/4" MINIMUM). NO ROMEX CABLE PERMITTED. MC CABLE MAY BE USED, WHERE PERMITTED BY CODE, FOR WORK ABOVE CEILINGS AND CONCEALED IN WALLS.
- THE WIRE SIZE INDICATED IN THE HOMERUN SHALL BE USED THROUGHOUT THE CIRCUIT.
- SEAL ALL CONDUIT PENETRATIONS THRU RATED WALLS AND FLOORS TO MAINTAIN FIRE INTEGRITY. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE WALL LOCATIONS WHERE APPLICABLE.
- ALL LOW VOLTAGE WIRING AND JACKS SHALL BE PROVIDED AND INSTALLED BY THE OWNER'S COMMUNICATIONS VENDOR. ALL EXPOSED CABLING ABOVE CEILING SHALL BE PLENUM RATED WHEN THOSE CONDITIONS APPLY.
- CONTRACTOR SHALL PROVIDE UPDATED PANEL SCHEDULES OF ALL CIRCUITS AFFECTED BY PROJECT SCOPE OF WORK. WHERE APPLICABLE, IDENTIFY ALL MISCELLANEOUS CIRCUITS NOT INDICATED ON SCHEDULES. PANEL DIRECTORIES SHALL PROVIDE ACCURATE AND LEGIBLE DESCRIPTIONS OF CIRCUITS TO IDENTIFY THEIR SPECIFIC PURPOSE/USE (WHAT IS BEING SERVED) AND SPECIFIC LOCATION DISTINGUISHABLE FROM ALL OTHER CIRCUITS PER NEC ARTICLE 408.4.
- CLARIFICATION: IF THE CONTRACT DOCUMENTS ARE FOUND TO BE UNCLEAR, AMBIGUOUS, OR CONTRADICTORY, THE CONTRACTOR MUST REQUEST CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH THAT PART OF THE WORK.
- THE ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT IN ACCORDANCE WITH THE INTENT OF THESE DRAWINGS.
- EXISTING CONDITIONS CLARIFICATION: ALL EXISTING CONDITION FLOOR PLANS, EXISTING EQUIPMENT/DEVICE LOCATIONS AND SIZES, ETC. SHOWN ON THE CONTRACT DOCUMENTS INDICATE EXISTING CONDITIONS AS KNOWN. THE EXISTING CONDITIONS ARE NOT INTENDED TO BE "AS BUILT" AND MAY DIFFER FROM THAT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY ALL EXISTING CONDITIONS, PARTICULARLY WHERE THEY IMPACT THE PROPOSED WORK, PRIOR TO CONSTRUCTION. MINOR VARIATIONS CAN BE EXPECTED. ANY REQUIRED DEVIATION FROM THE CONTRACT DOCUMENTS AS A RESULT OF DIFFERING SITE CONDITIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- CLARIFICATION OF DRAWINGS DURING BID PHASE: SHOULD A BIDDER FIND DISCREPANCIES IN OR OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS, OR SHOULD HE BE IN DOUBT WITH REGARD TO THEIR INTENT, HE SHALL NOTIFY THE ENGINEER BEFORE SUBMITTING HIS BID PROPOSAL. THE ENGINEER SHALL THEN SEND WRITTEN INSTRUCTIONS TO ALL BIDDERS. ORAL INSTRUCTIONS SHALL NOT BE BINDING TO EITHER THE ENGINEER OR OWNER. IF THIS CONTRACTOR FAILS TO COMPLY WITH THIS REQUIREMENT, HE SHALL ACCEPT THE ENGINEER'S INTERPRETATION REGARDING THE INTENT OF THE CONTRACT DOCUMENTS.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY, AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK, AND IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777 AND THE HARFORD COUNTY PUBLIC SCHOOL OFFICE OF FACILITIES CONSTRUCTION AND IMPROVEMENT, 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL CONSTRUCTION TO CONFORM TO THE LATEST HARFORD COUNTY PUBLIC WORKS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- OWNER AND ENGINEER HAVE NOT PERFORMED SUBSURFACE INVESTIGATION TO DETERMINE LOCATIONS OF ROCK, DIFFERENT SOIL TYPES, WATER TABLE, UTILITIES, ETC. SHOULD THE CONTRACTOR FIND ANY PROBLEM CONDITIONS, HE OR SHE SHOULD NOTIFY THE OWNER AND ENGINEER IMMEDIATELY.
- THE CONTRACTOR IS REQUIRED TO INSPECT THE SITE PRIOR TO BOTH BIDDING AND CONSTRUCTION. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE OWNER AND ENGINEER ARE TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR PROCEED WITH THE WORK, MAKING FIELD CORRECTIONS OR MAKING ADJUSTMENTS WITHOUT NOTIFYING OWNER AND ENGINEER OF ANY DISCREPANCIES, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITIES FOR THOSE RESULTING CHANGES.
- ALL DISTURBED AREAS, WHETHER DISTURBED DIRECTLY OR INDIRECTLY BY THE CONSTRUCTION, TO BE RETURNED TO EQUAL OR BETTER THAN THE ORIGINAL CONDITION PRIOR TO THE FINAL ACCEPTANCE OF WORK.
- RAKE GRADE, SEED AND MULCH ALL GROUND AREAS WHICH HAVE BEEN DISTURBED OR ARE WITHIN THE LIMITS OF DISTURBANCE. CONTRACTOR TO COMPACT ALL TRENCHED AREAS PRIOR TO FINAL GRADING, SEEDING AND MULCHING.
- MAKE ALL FINAL ELECTRICAL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS AND NEC.
- WHERE APPLICABLE, NEW CIRCUIT BREAKERS TO BE COMPATIBLE WITH EXISTING PANELS, AND A.I.C. RATING TO MATCH EXISTING BREAKERS.

## ELECTRICAL SYMBOLS LIST

SYMBOL	DESCRIPTION
	PANELBOARD 120/208 VOLTS
	PANELBOARD 120/208 VOLTS
	SAFETY DISCONNECT SWITCH
	JUNCTION BOX - WALL / RECESSED IN-GRADE
	CONDUIT - ELECTRIC
	CONDUIT - ELECTRIC - BELOW GRADE
	CONDUIT - LOW VOLTAGE
	CONDUIT - LOW VOLTAGE - BELOW GRADE
	DRAWING NOTE

## ABBREVIATIONS

GRD	- GROUND	DWG	- DRAWING
M.H.	- MOUNTING HEIGHT	C, CDT	- CONDUIT
AFF	- ABOVE FINISHED FLOOR	T	- TRANSFORMER
GFI	- GROUND FAULT INTERRUPTER	NL	- NIGHT LIGHT
TYP	- TYPICAL	LTS	- LIGHTS
cd	- CANDELA RATING	RECP	- RECEPTACLE
U.O.N.	- UNLESS OTHERWISE NOTED	DED	- DEDICATED
EX.	- EXISTING	LED	- LIGHT EMITTING DIODE
OCC	- OCCUPANCY	N.I.C.	- NOT IN CONTRACT
AHJ	- AUTHORITY HAVING JURISDICTION	AL	- ALUMINUM

EXISTING CONCESSION * PANEL A											
		120 / 208 VOLTS		3 Ø		4 WIRE		125 AMP		MAIN LUG ONLY	
DESCRIPTION	KVA	CB	CKT	CKT	CB	KVA	DESCRIPTION				
SPARE	-	20	1	2	20	.75	LIGHTS - OUTSIDE - EF 42				
SPARE	-	20	3	4	20	.30	WATER FOUNTAIN				
ICE MAKER	1.25	20	5	6	20	.30	LIGHTS - KITCHEN - EF43				
RECEPTACLES	.90	20	7	8	20	.60	LIGHTS - BATHROOMS				
RECEPTACLES	.90	20	9	10	20	.50	HAND DRYER				
WALL HEATER #1	3.00	20	11	12	20	.50	HAND DRYER				
			13	14	20	3.00	WALL HEATER #3				
			15	16							
WALL HEATER #2	3.00	20	17	18	20	3.00	WALL HEATER #4				
			19	20							
WATER HEATER	9.00	30	21	22	20	-	SPARE				
			23	24	20	-	SPARE				
SPARE	-	20	25	26	20	-	SPARE				
SPARE	-	20	27	28	20	-	SPARE				
SPARE	-	20	29	30	20	-	SPARE				
SPARE	-	20	31	32	20	-	SPARE				
SPARE	-	20	33	34	20	-	SPARE				
SPARE	-	20	35	36	20	-	SPARE				
SPARE	-	20	37	38	20	-	SPARE				
SPARE	-	20	39	40	20	-	SPARE				
TICKET BOOTH - PANEL 'TB'	7.54	60	41	42	20	-	SPARE				
			43	44	20	-	SPARE				
LIGHTING LOAD:						1.65	KVA x 125%	2.06	KVA		
RECEPTACLE LOAD:						1.80	(1.00 x 50%)	1.80	KVA		
MISC LOAD:								2.98	KVA		
MECHANICAL LOAD:								12.00	KVA		
WATER HEATER LOAD:								4.00	KVA		
ELECTRIC HEAT LOAD:								0.00	KVA		
SUB-PANEL 'TB':								1.54	KVA		
** TOTAL LOAD:								35.00	KVA =	96.46	A @
								120/208V	3Ø, 4W		

\* PANELBOARD FEEDERS ARE SIZED FOR MAIN OVERCURRENT DEVICE PER N.E.C. ARTICLE 215-2.  
\*\* ALL LOADS ARE BASED UPON N.E.C. ARTICLE 220

### NOTES:

- CONTRACTOR SHALL PROVIDE UPDATED, TYPED PANEL DIRECTORY AFTER PROJECT COMPLETION, PER N.E.C. ARTICLE 408.4.
- USE AVAILABLE SPACE IN PANEL, VERIFY IN THE FIELD, PROVIDE AND INSTALL NEW CIRCUIT BREAKER, MATCH EXISTING IN TYPE, STYLE, AND A.I.C. RATING.

PRE-INSTALLED TICKET BOOTH * PANEL TB											
		120 / 240 VOLTS		1 Ø		3 WIRE		125 AMP		MAIN LUG ONLY	
DESCRIPTION	KVA	CB	CKT	CKT	CB	KVA	DESCRIPTION				
LIGHTING	.50	20	1	2	20	1.50	BASEBOARD HEATER				
RECEPTACLES	.36	20	3	4	20	1.50	BASEBOARD HEATER				
	-	-	5	6	20	3.60	AIR CONDITION UNIT				
	-	-	7	8	20		12,000 BTU				
LIGHTING LOAD:						0.50	KVA x 125%	0.63	KVA		
RECEPTACLE LOAD:						0.36	(1.00 x 50%)	0.36	KVA		
MISC LOAD:								0.00	KVA		
MECHANICAL LOAD:								3.60	KVA		
ELECTRIC HEAT LOAD:								3.00	KVA		
** TOTAL LOAD:								7.54	KVA =	31.60	A @
								120/240V	1Ø, 3W		

\* PANELBOARD FEEDERS ARE SIZED FOR MAIN OVERCURRENT DEVICE PER N.E.C. ARTICLE 215-2.  
\*\* ALL LOADS ARE BASED UPON N.E.C. ARTICLE 220

### NOTES:

- CONTRACTOR SHALL PROVIDE UPDATED, TYPED PANEL DIRECTORY AFTER PROJECT COMPLETION, PER N.E.C. ARTICLE 408.4.
- PANEL, CIRCUIT BREAKERS AND ASSOCIATED BRANCH WIRING ARE ALL PRE-INSTALLED (BY FACTORY) AND REQUIRES FEEDER CONNECTION ONLY.

REVISIONS  
DATE  
REV#

ARCHITECTS  
ENGINEERS  
PLANNERS  
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OF HARFORD COUNTY  
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PANEL SCHEDULES, SYMBOLS LIST  
AND GENERAL NOTES

HCPs TICKET BOOTH  
AT ABERDEEN HS

HARFORD COUNTY, MD

FIRST ELECTION DISTRICT

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, TIMOTHY SMIDT, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21503, EXPIRATION DATE: MAY 8, 2025.



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DATE: 02/06/2025  
DRAWING NO:  
SCALE: AS NOTED  
**E2.0**  
DRAWN BY: KWN  
CHECKED BY: TJS  
TEI JOB NUMBER: 24120