



ADDENDUM #3

February 16, 2011

Re: Harrisburg Area Community College
Public Safety Center – Law Enforcement Complex & Site Improvements
Solicitation # 11-13

From: Eastern PCM, LLC
Construction Manager – HACC
645 N. 12th Street, Suite 200
Lemoyne, PA 17043

To: All Planholders

This Addendum is hereby made part of the Plans and Project Manual dated January 21, 2011 for the above referenced project. The provisions of this Addendum are intended to supplement the provisions of the Plans and Project Manual and/or supersede them where contradictory thereto.

This Addendum contains changes to the requirements of the Plans and Project Manual. Such changes shall be incorporated into the Plans and Project Manual and shall apply to work with the same meaning and force as if they had been included in the original Plans and Project Manual. Where this Addendum modifies a portion of a paragraph or phrase of the Project Manual, the remaining unmodified portion of the paragraph or phrase shall remain in force.

The conditions and terms of the Plans and Project Manual shall govern work described in this Addendum. Whenever the conditions of work, or the quality or quantity of materials or workmanship are not fully described in this Addendum, the conditions of work etc. included in the Plans and Project Manual for similar items of work shall apply to the work described in this Addendum. If no similar items of work are included in the Plans and Project Manual, the quality of material and workmanship shall be subject to the written acceptance of the Architect.

3.1 BID DATE RESCHEDULED

Section 00100 – Invitation to Bid – CHANGE FOURTH PARAGRAPH TO READ:

HACC will receive sealed bids for the work at Three Penn Center, 349 Wiconisco Street, Harrisburg, PA 17110 in Room 224 until **2:00pm on March 3, 2011**. Bids received after this time will not be accepted. **ONLY BONAFIDE BIDS WILL BE ACCEPTED**. Bids will be opened and read aloud immediately following the bid receipt time.

3.2 LAST DAY FOR QUESTIONS RESCHEDULED

The last day for questions has been extended to February 23, 2011. All questions are to be directed to Justin Kovaleski in the office of the Construction Manager in writing via fax or E-mail: Fax (717) 233-3816, E-mail: epcm@easternpcm.com .

3.3 CHANGES TO THE PROJECT MANUAL

A. Section 00010 – Table of Contents:

a. ADD: 10155 TOILET COMPARTMENTS

b. ADD: 10650 OPERABLE PARTITIONS

B. Section 01125, Summary of Contracts: REPLACE this section in its entirety.

C. Section 02510 – Water Distribution

Paragraph 3.4.B: REVISE to read: “Water-Main Extension: Installation of the water-main extension from the existing water-main to the water meter pit and fire hydrants to be performed by the contractor. Installation of fire and domestic water service piping from the water meter pit to the building to be performed by the contractor.”

D. Section 15732 – Packaged, Outdoor, Central-station Air Handling Units

Paragraph 2.1.A: ADD “Valent” as an acceptable manufacturer.

E. Section 15785 – Air-to-Air Energy Recovery Equipment

Paragraph 2.1.A: ADD “Innovent” as an acceptable manufacturer.

F. Section 16271 – Medium-Voltage Transformers

Paragraph 2.1.A: ADD “Siemens” as an acceptable manufacturer.

G. Section 16341 – Medium-Voltage Switchgear

Paragraph 2.3.A: ADD “Siemens” as an acceptable manufacturer.

H. Section 16410 – Enclosed Switches

Paragraph 2.1.A and 2.2.A: ADD “Siemens” as an acceptable manufacturer.

I. Section 16420 – Enclosed Controllers

Paragraph 2.1.B.1, 2.1.C.1, 2.1.D.1, and 2.1.E.1: ADD “Siemens” as an acceptable manufacturer.

J. Section 16433 – Integrated Low-Voltage Switchboard

Paragraph 2.2.A: ADD “Siemens” as an acceptable manufacturer.

K. Section 16442 – Panelboards

Paragraph 2.2.A: ADD “Siemens” as an acceptable manufacturer.

L. Section 16461 – Low-Voltage Transformers

Paragraph 2.1.A: ADD “Siemens” as an acceptable manufacturer.

3.4 CHANGES TO THE DRAWINGS

- A. Drawing C3: REPLACE Demolition Note 2 with the following: “Light pole removal includes removal of light pole base. Electrical Contractor shall stockpile all light poles and bases on site.”
- B. Drawing C4: REPLACE Demolition Note 2 with the following: “Light pole removal includes removal of light pole base. Electrical Contractor shall stockpile all light poles and bases on site.”
- C. Drawing C5: REPLACE Demolition Note 2 with the following: “Light pole removal includes removal of light pole base. Electrical Contractor shall stockpile all light poles and bases on site.”
- D. Drawing C6: REPLACE Demolition Note 2 with the following: “Light pole removal includes removal of light pole base. Electrical Contractor shall stockpile all light poles and bases on site.”
- E. Drawing C8: REVISE concrete scoring pattern around running track. Clarification on limits of heavy duty concrete provided. Refer to sketch SC-4 included in this Addendum #3.
- F. Drawing C11: ADD grass area clarifications. Refer to sketch SC-8 included in this Addendum #3.
- G. Drawing C18: REVISE fire hydrant line size. Refer to sketch SC-6 included in this Addendum #3.
- H. Drawing C31: ADD Riprap at confined space/trench prop area. Refer to sketch SC-7 included in this Addendum #3.
- I. Drawing C8 (E&S Plans Phase 1):
 - a. REVISED trap outlet detail. Refer to sketch SC-3.
 - b. ADD Standard Construction Detail #9, Baffles. Refer to sketch SC-5 included in this Addendum #3.
- J. Drawing AC1.2: DELETE “ALTERNATE” All work on this sheet is to be included in the base bid.
- K. Drawing AC1.5: DELETE “ALTERNATE” All work on this sheet is to be included in the base bid.

- L. Drawing AC6.1: DELETE "ALTERNATE" All work on this sheet is to be included in the base bid.
- M. Drawing MA6.1: ADD EF 8 to exhaust fan schedule: Greenheck GB-240-15; roof type, 3,600 cfm @ 1.5" ESP; 1 ½ hp, 1725 rpm, 480v/3φ/60Hz, 3.0 FLA, No VFD, switch control, 13.6 sones, 26.5x26.5 roof opening, 132#.
- N. Drawing EA0.1: REVISE lighting fixture WG1 with the following catalog number: FLD EDG 25 AA 24 C UL * F
- O. Drawing EA2.5: REVISE feeder designation for RTU-3 to read MHA-2.
- P. Drawing EA6.2: ADD sketch SK-EA6.2-1, Panel Schedule EA included in this Addendum #3.
- Q. Drawing EA7.2:
 - a. DELETE the reference to bollard on all other base details. Refer to sketch SK-EA7.2-2 for bollard base included in this Addendum #3.
 - b. REVISE pole base diameter to read 12" on Detail 1 and 6.
- R. Drawing EA7.3:
 - a. ADD sketch SK-EA7.3-3 included in this Addendum #3.
 - b. ADD sketch SK-EA7.3-4 included in this Addendum #3.
- S. Drawing EA7.4: ADD sketch SK-EA7.4-2 included in this Addendum #3.

3.5 ATTACHMENTS

- A. Specification Section 01125 – Summary of Contracts
- B. Specification Section 10155 – Toilet Compartments
- C. Specification Section 10650 – Operable Partitions
- D. Sketch SC-3 – Riser Sediment Trap
- E. Sketch SC-4 – Revision to Sheet 8
- F. Sketch SC-5 – Standard Construction Detail #9, Baffles
- G. Sketch SC-6 – Revised Fire Hydrant Line Size
- H. Sketch SC-7 – Revision to Sheet 31
- I. Sketch SC-8 – Revision to Sheet 11
- J. Sketch SK-EA6.2-1 – Panel Schedule EA
- K. Sketch SK-EA7.2-2 – Bollard Base Detail (typ.)

- L. Sketch SK-EA7.3-3 – Revision to Sheet EA7.3
- M. Sketch SK-EA7.3-4 – Revision to Sheet EA7.3
- N. Sketch SK-EA7.4-2 – Revision to Sheet EA7.4

3.6 QUESTIONS

- A. **Q:** Specification Section 00150-2, 5.A.iii - please correct the date.
A: Refer to Addendum #2 for corrected date.
- B. **Q:** Specification Section 01125-2, 1.3.F – Please correct that the building permit will be by Owner.
A: The building permit will be obtained by the Owner. All trade specific permits shall be obtained by the respective contractors.
- C. **Q:** Specification Section 01125-2, 1.3.G – I am assuming that the site contractor is responsible for the water and sewer tap fees from the city and street cut permit.
A: The site contractor shall be responsible for all utility tap fees and street cut permits as required.
- D. **Q:** Specification Section 00125-2, 1.3.H – Testing services 02300-11 and 02310-4 comp. testing by owner, 02741-6, 3.10.A bit testing by owner, 02751-3, 3.5.A conc. testing by owner. Is the Owner paying for the above testing services?
A: All soil compaction and asphalt testing will be performed by a 3rd party testing agency contracted directly with the Owner.
- E. **Q:** Specification Section 02300, 3.1.E and 3.22.A settlement platforms – Who installs and takes readings?
A: The site contractor will be responsible for installation, maintenance, monitoring and reading of settlement platforms.
- F. **Q:** Civil Drawing 31 of 37 - is the confined space/trench as shown completely by the General Trades contractor? Whose responsibility is final restoration?
A: The confined space/trench prop is the responsibility of the Site Contractor. Refer to revised Specification Section 01125 - Summary of Contract for clarification.

- G. **Q:** Utility drawings – Who is responsible for site gas piping? to new building? To live fire props? Civil Drawing 21 indicates to flashover prop by General Trades.
- A:** The Site Contractor is responsible for site gas piping up to and within 5' of the new building. The Mechanical Contractor is responsible for interior gas piping and final connections within 5' of the new building. All work associated with alternates 5 and 6 are the responsibility of the General Trades Contractor.
- H. **Q:** The detail shows a base for a bollard fixture that is 66" below finished grade. The bollard itself is only 43" high. Is the depth of this base necessary/required?
- A:** This is the car extrication bollard detail on sheet 29. The depth is necessary since cars will be placed against the bollard for training purposes
- I. **Q:** Telephone Pole Prop – Civil Drawing 11 of 37: Is that completed by the General Trades and is it to include any restoration?
- A:** The telephone pole prop is the responsibility of the Site Contractor. Refer to revised Specification Section 01125 – Summary of Contract for clarification.
- J. **Q:** Car Extraction Prop – Civil Drawing 11: Is the concrete base the responsibility of the S.C. or the G.C.? Is there a heavy duty concrete detail? Are the car extraction bollards the responsibility of the S.C. or G.C.? How many are required? Is the guiderail the responsibility of the S.C. or G.C.? Is the chain link fence the responsibility of the S.C. or G.C.?
- A:** The concrete base for the car extraction prop is the responsibility of the site contractor. A heavy duty concrete detail is provided on sheet 29. A single bollard, as shown, is required. The guiderail is the responsibility of the site contractor. Chain link fencing is the responsibility of the site contractor, refer to Specification Section 00125 – Summary of Contracts for clarification.
- K. **Q:** Civil Drawing 11, I assume that the new concrete paving shown between water storage and confined space is heavy duty concrete paving.
- A:** The paving shown is heavy duty concrete.
- L. **Q:** Civil Drawings 7 through 11 and 30, is the site signage by the S.C. or the G.C.?
- A:** All site signage, as identified on the civil drawings, shall be the responsibility of the Site Contractor. Refer to revised Specification Section 01125 – Summary of Contracts for clarification.
- M. **Q:** Civil Drawings, All guiderail by site contractor?
- A:** All guiderails are the responsibility of the site contractor.

- N. **Q:** Demo Drawings – Note No. 6, Inspect existing pipes and inlets, what do you mean? T.V.?
- A:** The note states “existing oil separator and existing storm pipes/inlets shall be inspected, flushed and cleaned upon completion of construction.” Any structures or pipes that appear deficient upon visual inspection shall be brought to the attention of the construction manager.
- O. **Q:** Specification Section 01500-7 3.3.C, is snow removal the responsibility of the S.C. or G.C.?
- A:** As outlined in Specification Section 01500-1, 1.2.A, the “General Trades Contractor shall provide all temporary facilities and controls not specified to be by others herein, or elsewhere.” This includes snow removal.
- P. **Q:** Spec 00410 – Bid Forms, all the contracts except No 1. Sitework is to be submitted in duplicate. Is that correct?
- A:** All bid forms and attachments are to be submitted in duplicate as identified on each of the bid forms.
- Q. **Q:** Will the GC paint the light tenons to match building steel for the Type WG1 fixture?
- A:** As defined in Specification Section 01125, 1.7.B.2.ggg, the General Trades Contractor is responsible for painting including mechanical and electrical materials.
- R. **Q:** During signage installation on the Training Tower, will scaffolding or a lift be available for the EC's portion of the work, or shall we include a lift for our work?
- A:** All scaffolding, lifts, etc. will be the responsibility of the respective contractors.
- S. **Q:** Are the masonry walls and concrete footings at the memorial plaza to be by the general trades contractor?
- A:** The masonry walls and concrete footings at the memorial plaza are the responsibility of the General Trades contractor.
- T. **Q:** In section 01125 the summary for the general trades contractor lists spec section ‘10436 Post and Panel Signs’. This spec isn’t listed in the table of contents and was not found with the bid documents we received. Is this spec to be included?
- A:** The specification for post and panels signs was eliminated from the project.
- U. **Q:** Who has the stone base for the shed relocation?
- A:** All work associated with the shed relocation is the responsibility of the Site Work Contractor. Refer to revised Specification Section 01125 – Summary of Contracts for clarification.

- V. **Q:** Who has the excavation and backfill of the propane gas lines for alternates 5 and 6?
- A:** ALL work associated with alternates 5 and 6 are the responsibility of the General Trades Contractor.
- W. **Q:** Since we are to bid this project unclassified, will a geotechnical report be provided?
- A:** The geotechnical reports have been provided with the Specifications in Appendix A and B.
- X. **Q:** The location of the ductbank for the services to the new building will be directly under one or more of the new SPA1 fixtures. The ductbank will affect the placement of the light(s). Should the ductbank be located to miss the pole base, or shall the fixture(s) be relocated to miss the ductbank?
- A:** Coordinate the location of the site lighting fixtures and the electrical service duct bank in the field as needed.
- Y. **Q:** Is all phase 2 work to be included with the Base Bid?
- A:** The base bid should include all work associated with both Phase 1 and 2.
- Z. **Q:** The following specification sections are listed in the Division 2 section- Specification #'s 02300, 02310, 02584 and 03300. Does the placement of these sections indicate that the Site Contractor (Contract 1) will provide and install all underground ducts for signal and electric and all pole bases for site lighting?
- A:** The Electrical Contractor will be responsible for utility trenching and underground ducts and raceways for electrical systems including pole bases for site lighting. Refer to Specification Section 01125 – Summary of Contractors for further clarification.
- AA. **Q:** Civil Drawing – General Notes No. 1, Drawing 1, Property corner monuments, is this to include the entire campus or this project location?
- A:** This refers to project location.
- BB. **Q:** Civil Drawing 1, Live gas props – By S.C. or G.C.? Drawing 11 shows concrete within curbed area?
- A:** The live gas props (base bid) are the responsibility of the Site Contractor. Refer to revised Specification Section 01125 – Summary of Contracts for clarification. Concrete is shown within the 6"curbed Area north of the open water storage area.

- CC. **Q:** Spec 01500-7 3.3.B5, gravel roadway for crane travel, please provide a length, width, and depth.
- A:** Temporary paved gravel roadways for crane travel, if necessary, shall meet the requirements for the type of crane used. Construction details shall be submitted to the engineer for approval.
- DD. **Q:** E&S Drawings phase 1 and 2 – I see no mention of detention basin along industrial road. Please provide a detail of the temp riser and out pipe, and emergency spillway.
- A:** The detention basin along Industrial Road (Detention Basin #3) is not proposed to be utilized as a sediment basin. It should be installed during Step #16 of the Sequence of Construction on Sheet 1 of Phase 1 E&S plans.
- EE. **Q:** E&S Drawings Phase 1, sheet 8, detail of riser and outlet for trap no. 2, there is no manhole at end of outlet.
- A:** Refer to sketch SC-3 for revised detail.
- FF. **Q:** E&S Drawings phase 2, Existing detention pond. Is there a temp riser and outlet detail? Please provide an emergency spillway detail.
- A:** There is no temporary riser or temporary outlet for the existing detention pond. Refer to Sheet 33 “Grass-Lined Basin Spillway” detail for the emergency spillway detail.
- GG. **Q:** E&S Drawings phase 2, sheet 6, vegetated channels, cannot find swale 5 and 6.
- A:** Swales 5 and 6 have been removed from the plan.
- HH. **Q:** E&S Drawings Phase 2, sheet 6, rock filters – don’t match up with HW locations. Cannot find rock filter 2 and 3.
- A:** Rock filters 2 and 3 have been removed from the plan.
- II. **Q:** E & S Drawings phase 2, sheet 4, please correct designations 4 and 5 to read SSF no SF.
- A:** Revise the legend on Sheet 3 of 6 to remove RSF and SSF designations. Refer to detail on Sheet 6 of 6 for correct silt fence size.
- JJ. **Q:** E & S Drawings phase 1, please correct all 30” silt fence to read RSF no SF.
- A:** Revise the legend on Sheet 3 of 8 to remove RSF and SSF designations. Refer to detail on Sheet 8 of 8 for correct silt fence size.
- KK. **Q:** Civil Drawing sheet 8, in front of new center you indicate sidewalk as heavy duty conc. Paving. Could you better define where 5” sidewalk is located?
- A:** Refer to sketch SC-4 for clarification.

- LL. **Q:** Civil Drawings sheet 29 and spec 02751. Curb and sidewalk per PennDOT 408. PennDOT does not have a 3000 psi or a 4000 psi mix. It is either CIA or CIAA, which one.
- A:** All concrete curbing shall be Class AA, all heavy duty sidewalk and concrete pad shall be Class AA and all remaining sidewalk not designated as heavy duty shall be Class A.
- MM. **Q:** Civil Drawings, sheet 32, should the outfall piping have watertight joints?
- A:** All basin outfall piping shall have watertight joints.
- NN. **Q:** Civil Drawings, sheet 30, fence detail – Note no. 2, Steel safety cable, Please provide more information (spec or detail).
- A:** Provide 7-strand stainless steel aircraft safety cable.
- OO. **Q:** Civil drawings – E & S phase 1, sheet 3. Please explain infiltration testing.
- A:** The infiltration testing chart refers to the locations where infiltration testing was performed.
- PP. **Q:** Civil Drawings – E & S phase 1, sheet 5, Please provide a detail of the baffle.
- A:** Refer to sketch SC-5 for baffle detail.
- QQ. **Q:** Civil Drawings, sheet 32 – outlet structures, can we use a standard 2'x4' inside dim. pre-cast box?
- A:** Use of the “Standard Box” per Penndot RC-46M is acceptable.
- RR. **Q:** Railroad Track Prop – Civil Drawing 11 of 37: Which contractor installs the 20' x 40' concrete pads? Which contractor is responsible for final restoration? What type of restoration is required?
- A:** The Site Contractor is responsible for all site concrete including equipment pads. Refer to revised Specification Section 01125 – Summary of Contracts for clarification. Refer to sketch SC-8 for the type of restoration required.
- SS. **Q:** After the prebid meeting there was a walk through conducted and the depth of existing pavement came into question. Is there any information as to existing conditions on the site (i.e. depth of existing pavement or trail material)
- A:** Refer to Appendix A and B for geotechnical reports.

- TT. **Q:** The phase 1/2 line cuts through the parking lot at the southern end of the site. 1. Does that parking lot area in phase 1 construction need to be completed up to and including final asphalt course? If parking space is necessary during span of construction, a stone base can be placed until phase 2 permit is obtained and final construction of entire lot can begin. Will that be allowed?
- A:** No work located in Phase 2 shall be performed before Phase 2 permits are obtained. The final asphalt course for the parking area near Industrial Drive should be applied once Phase 2 is complete.
- UU. **Q:** The concrete pavement drawings call for a 3000 and 3250 PSI mix, and the section 2751 call for PennDot Material. Penndot Class A meets both requirements, and that's what we plan to quote. If this doesn't work, please let me know.
- A:** All concrete curbing shall be Class AA, all heavy duty sidewalk and concrete pad shall be Class AA and all remaining sidewalk not designated as heavy duty shall be Class A.
- VV. **Q:** Civil Drawing 29 – Please provide a paving joint detail for the Heavy Duty concrete paving, Drawing 9 joint layout.
- A:** Refer to Appendix A for concrete paving joint information. Refer to Sheet AA1.7 of the Architectural plan for Joint Detail layout.
- WW. **Q:** Specification Section 02751-1, 1.2.A.4 – Loading dock by site or general trades contract?
- A:** All references to “Loading Dock” shall be removed from the specifications.
- XX. **Q:** Are the 20'x20' concrete pads shown on site plan 11 of 37 to be by the general trades contractor as part of alternates 5 & 6?
- A:** ALL work associated with alternates 5 and 6 are the responsibility of the General Trades Contractor.
- YY. **Q:** The General Notes on the site lighting drawings state that the Electrical Contractor is to obtain existing light fixtures from the owner. Does this refer to just the light head and not the light fixture, arm and pole as a total assembly?
- A:** This note refers to the light fixture as a total assembly.
- ZZ. **Q:** Demo Drawings – Light pole & base removal, who cuts the power? S.C. or E.C.?
- A:** Removal of light poles, bases, and associated work is the responsibility of the Electrical Contractor. Refer to revised Specification Section 01125 – Summary of Contracts for clarification.

- AAA. **Q:** Drawings AC1.2, AC1.5, and AC6.1 show an alternate plan for area B of North Hall. This alternate is not listed on the bid form. Is alternate pricing required?
- A:** ALL work shown on 'AC' Drawings is to be included in the base bid.
- BBB. **Q:** Section 1.5C describes grout testing. Is it the intent for the owners engineer to perform these tests or is it the grouting contractors responsibility?
- A:** All testing associated with the compaction grouting will be performed by an engineer employed by the Owner.
- CCC. **Q:** Addendum No. 2 – Pre-bid Minutes – 1.15 site plan showing construction offices, parking, fencing and access. Would it be possible to get a full size drawing?
- A:** The site plan showing construction offices, parking, fencing and access is for coordination. A full size drawing will not be provided.
- DDD. **Q:** Civil Drawing sheet 6 – Lights on north side of skid pad area. Who is responsible to maintain electrical service?
- A:** The Site Contractor will be responsible to ensure existing lighting is maintained. Site Contractor to coordinate with other trades as needed.
- EEE. **Q:** The specifications indicate that a LEED AP is required for the LEED credit. Is there already one on the project team between the architects and/or engineers or are the primes required to have a LEED AP? If so, what primes are required to have a LEED AP?
- A:** The LEED AP requirements have already been met. This will not be the responsibility of the contractors.
- FFF. **Q:** What does the dashed boxes shown crossing the walkways represent, just below the Handicap parking spaces, and two more crossings south of that point on Drawing EA7.5?
- A:** The dashed lines indicate existing underground storm drainage. Refer to the civil drawings for further clarification.
- GGG. **Q:** Telecom distribution shown on Dwg EA5.2- Shall we assume all notes in ovals as being existing (instead of just 1 thru 9)? Also, in the existing conduits, are there any existing pull strings installed with the cables noted in ovals?
- A:** All conduit and cable notes in oval callouts are existing. It is unknown if the existing conduits contain pull strings. The contractor is to verify and provide if required
- HHH. **Q:** Is a panel schedule available for Panel EA shown on the one line diagram? (fed from ATS switch) Drwg E6.1?
- A:** Refer to sketch SK-EA6.2-1 for schedule for Panel EA.

- III. **Q:** The fixture schedule has an incorrect catalog number for the Type WG1 fixtures. The number X-AL-3-C-24-C-U-*⁻⁷ does not correspond with their catalog. I will need to know the optic degree desired, 10, 15, 25 or 40 degrees, adjustable arm or side arm, Whether 20 or 40 LED's are desired (the 3 would designate 30 LED's-20 or 40 are available).
- A:** Fixture type WG1 catalog number shall be as follows: FLD EDG 25 AA 24 C UL * F (* Architect to select color)
- JJJ. **Q:** Will the EC be required to re adjust these lights, after signage is complete. And, if required, will this work need to be performed after sunset?
- A:** Refer to Specification Section 16251 – Exterior Lighting, paragraph 3.1.C.
- KKK. **Q:** In section 3300 the specs call for a 3500 PSI slab on grade with 520lbs of cementitious material and a water cement ratio of .54. Also, suspended slabs call for a 4000 PSI with 520 lbs of cementitious material and a water cement ratio of .52. But the drawings (SB0.1) call for all concrete floors and slab on grade to be a 4000 PSI with no mention of minimum cementitious or water cement ratio. My question is what mix should we use for the slabs, 3500 or 4000.
- A:** Use 3500 PSI for slab on grade concrete per the specifications in lieu of 4000 PSI shown on the drawings.
- LLL. **Q:** There is a Kirk Key interlock system shown on drawing EA5.1. What wiring is required from K4 back to K2?
- A:** The Kirk Key system for the project is mechanical only. No wiring is required. The detail shows the mechanical interconnection requirements.
- MMM. **Q:** On the roof there is an exhaust fan tagged as EF-8. This fan is not identified on the exhaust fan schedule. Please provide information
- A:** Exhaust fan EF-8 as follows: Greenheck GB-240-15; roof type, 3,600 cfm @ 1.5" ESP; 1 ½ hp, 1725 rpm, 480v/3φ/60Hz, 3.0 FLA, No VFD, switch control, 13.6 sones, 26.5x26.5 roof opening, 132#.
- NNN. **Q:** On drawing MA1.2 some of the spiral duct has an inner dashed line and some does not have the inner dashed line. Does that mean that the duct with the inner dashed line is the only double wall duct that there is on the project or is all the spiral duct in the shooting range to be double wall duct?
- A:** All spiral ductwork in area B will be double wall construction as specified. Round ductwork in other areas will be single wall.
- OOO. **Q:** On drawing EA2.5, RTU-3 is shown on the roof being fed from MDP1. The one line diagram on EA6.1 does not list it. Please provide conduit size and wiring required for this unit.
- A:** Change the feeder designation for RTU-03 from MDP1 to panel MHA-2.

- PPP. **Q:** Insulation spec calls for all blanket insulation, but the drawing shows the spiral as some double wall and some not. Please specify. Seems it would be easier for all spiral to be double wall insulated.
- A:** All spiral ductwork in area B will be double wall construction as specified. Round ductwork in other areas will be single wall.
- QQQ. **Q:** Note #10 on Drawing EA3.1 states that we are to transition from the cable tray to conduit before entering a room. Does this statement require us to run conduit from the cable tray to each device, regardless of the system? The specifications for the Fire Alarm system state we may run plenum rated cable above accesible ceilings, which I would assume would include individual rooms (unless with exposed ceilings-Mechanical rooms, range). If we are to run conduit from each device to the cable tray, we will require conduit size required for the security cameras
- A:** Plan note 10 is not intended to conflict with cabling specifications. Install noted system cabling as required in the specifications.
- RRR. **Q:** The schedule indicates the building pad will not be ready until June. If that is the case is the GC required to be onsite if there is no work for them? Please clarify to all bidder
- A:** All Prime Contractors are required to be on site as needed to complete the requirements of their respective contracts.
- SSS. **Q:** The detail on drawing EA5.2 shows Cat 6E cable to workstation outlets. The specifications say Cat 5E. Which is correct?
- A:** Change the LEC Telecom Detail cable legend item 3 from Cat 6E to Cat 5E per the specifications.
- TTT. **Q:** On drawing EA2.4, there is a single pole switch located near room B101 for EF-8 control. EF-8 is a three phase unit. Is a combination motor starter, similar to the one shown for EF-5 on drawing EA 5.2 required instead?
- A:** Typical starter wiring detail shall also apply to EF-8.
- UUU. **Q:** Civil Drawing 37 show temp. contr parking area, office trailer, parking area, and a laydown area. By S.C. or by G.C.? Please provide a detail.
- A:** All temporary parking, staging, and laydown areas are the responsibility of the Site Contractor. A detail will be provided in the next Addendum.
- VVV. **Q:** Can you please provide a signage schedule.
- A:** Signage will be provided and installed by the Owner.
- WWW. **Q:** There is a substantial completion date listed but no liquidated damages listed. Are there liquidated damages on this project?
- A:** There are no liquidated damages.

- XXX. **Q:** Can we dig test pits on-site to confirm what the geotechnical report states? Who do we need to contact to be able to access the site for the test pits?
- A:** Test pits will be allowed at the convenience of the Owner. Contractor shall contact the office of the Construction Manager to schedule.
- YYY. **Q:** The specifications indicate that the GC is responsible for use charges for water, electric, and heat. Is this correct?
- A:** Yes. Refer to Specification Section 01500 – Temporary Facilities and Controls for clarification.

END OF ADDENDUM



Please sign and return this page, via fax, to Eastern PCM, LLC at (717) 233-1666 indicating receipt of this Addendum.

Public Safety Center – Law Enforcement Complex and Site Improvements

Addendum # _____ has been received.

Company: _____
Print Company Name

Received By: _____
Print Name Signature

Date: _____

Please check one:

- _____ We are bidding as a prime contractor
- _____ We are not bidding
- _____ We are a sub-contractor

SECTION 01125 - SUMMARY of CONTRACTS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

1.2 SUMMARY

- A. This Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements of each contract are also indicated in individual Specification Sections and on Drawings.
- C. Related Sections include the following:
 - 1. Division 1 Section "Project Management and Coordination" for general coordination requirements.
 - 2. Division 1 Section "Temporary Facilities and Controls" for specific requirements for temporary facilities and controls.

1.3 DESCRIPTION OF CONTRACTS

- A. The work of this project shall be performed under Multiple Prime Contracts and consists of the Work which will be performed under six (6) Prime Contracts and consists of the construction of a new 47,000 SF Law Enforcement Complex including 25 land indoor firing range, administrative areas, classroom, and support areas; renovations to the existing training tower, smoke building, and North Hall; installation of a new running track, site props, and training elements; expansion of asphalt drives, parking, and a new entrance off Industrial Road; and the construction of a new pedestrian bridge over Paxton Creek including all related site improvements. The project in its entirety will pursue LEED Silver Certification.

Contract No.1 – Site Work
Contract No.2 – General Trades
Contract No.3 – Mechanical
Contract No.4 – Electrical
Contract No.5 – Specialty Construction & Training Props
Contract No.6 – Testing, Adjusting & Balancing

- B. The General Conditions, Supplementary Conditions and Division 1 - General Requirements shall apply to all Prime and/or Subcontracts.
- C. The Contractor shall supervise their own Work, using their best skills and attention and shall be solely responsible for construction means, methods, techniques, sequences, dimensions and procedures and/or coordinating all portions of the Work.

- D. The Contractor shall provide all items of work listed under the Contract unless specifically noted as furnished or installed only.
- E. The Construction Manager shall maintain, manage, and update the Construction schedule as required. The Construction Manager shall be responsible to lead and manage Prime Contractors and their major subcontractors via acknowledgement by signature of each update to the construction schedule.
- F. The Contractor shall be responsible for securing all permits required by their work.
- G. The Contractor shall be responsible for utility tap-in fees required for the work of their contract.
- H. The Contractor responsible for the installation of materials shall be responsible for providing all testing services required for the work indicated in the technical specifications, unless noted otherwise.
- I. If the applicable Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be tested, inspected, or approved by someone other than the installing Contractor, Contractor shall give the Owner and their Representative timely notice of readiness. The Contractor will then furnish the Owner the required certificates of inspection, testing or approval.
- J. Inspection, tests, or approvals by the Owner or their Representative shall not relieve the Contractor from their obligation to perform the work in accordance with the requirements of the Contract Documents.
- K. The Contractor shall be responsible to maintain all staging, storage and work areas in clean and orderly condition.
- L. The Contractor shall provide temporary enclosures of building openings as required to maintain the schedule of the project.
- M. Definitions:

Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weather tight; exterior walls are insulated and weather tight; and all openings are closed with permanent construction or substantial temporary closures.

Coordinate: The term "coordinate" means "to cooperate with related contractors to furnish and install all connections between the work of separate contractors in correct sequence, size and location to create a complete system ready for intended use."

Verify The term "verify" means "to measure, investigate, review, test,

check the accuracy or correctness of and prove by demonstration, evidence, or testimony the location, size, dimension and condition of an item."

1.4 COORDINATION

- A. Project Coordination shall be the responsibility of the Contractor.

1.5 PROJECT COORDINATOR – (NOT USED)

1.6 GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract: Unless the Agreement contains a more specific description of the Work, names and terminology on Drawings and in Specification Sections determine which contract includes a specific element of Project.
- B. The following conditions and items are considered to be part of the Contractor's responsibility. Each Contractor will fully review the responsibilities of each contract to ensure a complete understanding of the limits and scopes of work for each.
1. Local custom and trade-union jurisdictional settlements do not control the scope of the Work of each contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, affected contractors shall negotiate a reasonable settlement to avoid or minimize interruption and delays, all at no additional cost to the Owner.
 2. Coordinate their work with the work of other Contractors.
 3. Provide all fees, Federal, State and Local taxes, special permits, inspections, etc. as required to perform the work of the Prime Contract unless this item is specifically identified as being provided by the Owner.
 4. Provide safety and protection of persons and property per OSHA, local and state requirements. Provide maintenance of all safety provisions throughout the work of this Contract. Provide protection at floor and roof penetrations not shown on the drawings, but required for work of this Contract. Provide all safety signage required by OSHA for the work of this Contract. Furnish Company Safety Plan, Hazard Communication Plan, MSDS information and other OSHA required documents to the General Trades Contractor and Owner's representative prior to the start of work.
 5. Submit shop drawings, samples, schedules, data, manuals, as-built drawings, etc., required by the Contract Documents. Update, on a weekly basis, a record set of drawings to be located in Contractor's field office.
 6. Coordinate transmittal of approved Submittals to other Contractors as required to provide complete operation at installation.
 7. Provide all stakes, templates and labor required in laying out the work and for proper execution of the work to the lines and grades shown on the drawings and as indicated by the Architect and / or Engineer.
 8. Verify existing conditions prior to start of work and notify Architect of any discrepancies found in field prior to starting work.
 9. Provide protection of existing structure, finishes and landscaping from damage resulting from the work of their contract. Repair any damage promptly to the satisfaction of the Owner.

10. Clean construction vehicle wheels to keep paved surfaces free and clear of mud and debris.
11. Provide disposal of all hazardous materials in accordance with Federal, State, County and Local requirements. No hazardous materials shall be placed in the General Trade Contractor's, Owner's or other parties waste containers or dumpsters.
12. Provide all scaffolding, hoisting, shoring, barricades, ramps, etc., as necessary to perform the work of their contract.
13. Provide dewatering as required to perform the work.
14. Provide utility trenching for Contractor's work.
15. Provide cutting and patching as required to perform the work.
16. Provide through-penetration fire stopping for its work.
16. Provide access panels required for the work of its contract.
17. Normal working hours will be from 7:00 a.m. to 5:00 p.m. Work performed outside these hours must receive prior approval from the Construction Manager.
18. Coordinate with and receive approval from the Construction Manager and the Owner prior to any utility shutdowns.
19. Clean up debris generated from its activities and participate in a proportional amount of the general clean up. The General Trades Contract will provide a dumpster for normal construction debris throughout the course of the project. Each Contractor is responsible for the disposal of all demolition debris resulting from its scope of work.
20. Protect installed work.
21. Construction Manager must approve all field offices, trailers, storage facilities, and materials stored on-site.
22. Deliveries must be coordinated with the Construction Manager.
23. Attendance is required at weekly foremen's meeting for all on-site Contractors. Contractors who are not on-site will attend the meeting upon request; a minimum of 48-hours notice will be given.
24. Furnish a list of key personnel including 24-hour emergency contact information to the Construction Manager.
25. Requests for Information (RFI's) shall be submitted to the Construction Manager for recording and dissemination to the appropriate entities. Construction Manager will facilitate, record and disseminate RFI replies.
26. Submit daily construction reports to the Construction Manager. At a minimum, reports must include manpower quantities and a description of the work performed for both the Contractor and its subcontractors.
27. Parking is available at the project site at the direction of the Construction Manager.
28. Delivery of materials, equipment, and manpower must be coordinated with the Construction Manager so as not to interrupt the Owner's ongoing operations.
29. Cutting and patching required for its work unless otherwise noted.
30. LEED provisions associated with its work.

1.7 SCOPE OF THE WORK

- A. The work shall be done in strict accordance with the Contract Documents prepared by Crabtree Rohrbaugh Architects, Kurowski & Wilson, LLC, and their consultants for Harrisburg Area Community College, Owner.

- B. Work shown on the Contract Documents and not expressly mentioned in the specifications and all work specified and not shown on the drawings, but obviously necessary to the proper execution of same, shall be performed by the Contractor, as it is not the intent to delineate or describe every detail or feature of the Work. No additions to the Contract Sum will be approved for any materials, equipment, and/or labor to perform work hereunder unless it can be clearly shown to be beyond the scope and intent of the drawings and specifications and essential to the proper prosecution of the work. CONTRACTORS SHALL REVIEW ALL BIDDING DOCUMENTS FOR A COMPLETE UNDERSTANDING OF THE WORK OF ANY PARTICULAR CONTRACT.
- C. The sum of the Contracts form the total construction work and includes, but is not necessarily limited to, the furnishing of all labor, superintendence, material, tools, and equipment necessary to complete the work as shown on the Contract Documents.
- D. The work of the Contract is not restricted by the division of drawings and specifications, shall be based on the schedule milestones given, and shall be extensively coordinated with the work of other bid packages. Failure of Contractor to request specifications referred to by reference shall not relieve Contractor of its responsibility to comply with all provisions contained therein.
- E. Where delineation of the scope of work contained below conflicts with a reference to Contractor responsibility listed on the Contract Documents, the scope of work shall govern.

Specific Scopes of Work

A. Bid Package No. 1 – Site Work

1. Work shall include, but not be limited to, the work contained in the following specification sections:
 - a. Division 1, in its entirety.
 - b. 02210 Field Engineering, in its entirety.
 - c. 02230 Site Clearing, in its entirety.
 - d. 02300 Earthwork, in its entirety.
 - e. 02310 Utility Trenching, limited to the work of this Contract.
 - f. 02510 Water Distribution, in its entirety.
 - g. 02530 Sanitary Sewerage, in its entirety.
 - h. 02539 Running Track, in its entirety.
 - i. 02630 Storm Drainage, in its entirety.
 - j. 02741 Asphalt Paving, in its entirety.
 - k. 02751 Cement Concrete Pavement, in its entirety.
 - l. 02763 Pavement Markings, in its entirety.
 - m. 02764 Pavement Joint Sealants, in its entirety.
 - n. 02821 Chain Link Fencing, in its entirety.
 - o. 02833 Steel Truss Bridge, in its entirety.
 - p. 02834 Steel Truss Bridge Abutments - Cast in Place Concrete, in its entirety.
 - q. 02920 Lawns and Grasses, in its entirety.

- r. 02930 Exterior Plants, in its entirety.
2. Scope of work items include, but are not limited to, providing the following:
- a. Layout of the work performed by a surveyor registered in the Commonwealth of Pennsylvania.
 - b. Compliance with the sequencing provisions outlined in the documents.
 - c. Clearing, grubbing and demolition of the site including: protection of existing features to remain; stripping, stockpiling and redistribution of topsoil; removal of unsuitable soil and excess earth; importation of common and/or structural fill; removal of above and below grade impediments; site utility removal and/or capping and/or abandonment; erosion and sedimentation controls, maintenance and removal. Foregoing items shall be performed as indicated and required for the work of all trades.
 - d. Excavating operations on an unclassified basis including bulk cut, trench and/or bulk rock removal, bulk fill, bulk imported fill, compaction, trenching, base and drainage courses as indicated and required for the work of this Contract. Provide a fully compacted building pad ready for a stone drainage course (stone drainage course is by others). Remove compaction grouting tops that extend above sub-grade.
 - e. Utility trenching on an unclassified basis.
 - f. Water distribution system including excavation, piping, bedding, backfill, testing and appurtenances necessary to complete the work.
 - g. Sanitary sewerage system including excavation, piping, bedding, backfill, testing and appurtenances necessary to complete the work.
 - h. Resilient running track surface including track line painting.
 - i. Storm drainage system including excavation, piping, manholes, cleanouts, catch basins, inlets, outlets, bedding, backfill, testing and appurtenances necessary to complete the work.
 - j. Asphalt paving system including compacted stone subbase, sand, paving geotextile fabric and joint sealant.
 - k. Cement concrete pavement including sidewalks, driveways, curbs and gutters, equipment pads and skid pad.
 - l. **Pavement markings.**
 - m. Pavement joint sealants.
 - n. Chain link fencing.
 - o. Testing of topsoil, adding required topsoil amendments and providing additional topsoil as necessary.
 - p. Fine grading of topsoil including removal of materials harmful to plant growth.
 - q. Seeding and mulches including fertilizer and lawn renovations.
 - r. Trees, shrubs, ground cover and tree stabilization.
 - s. Maintenance of lawns and plantings.
 - t. Surcharge the building pad with earth to achieve compaction. Refer to Structural Plans for building pad foundation preparation work.
 - u. Steel truss bridge including concrete abutments and concrete deck.
 - v. Reset concrete outlet structure on a compacted stone base at the existing detention pond.
 - w. Temporary site provisions including installation, maintenance, removal and restoration of stone **paths**, lots, the Greenbelt pathway **and associated improvements**.

- x. Temporary fencing of wetlands areas.
 - y. Protect existing exterior lighting until relocated by the Electrical Contractor.
 - z. Maintain site lighting throughout training grounds until site work is complete.
 - aa. **Guide rails.**
 - bb. **Methane vent extensions.**
 - cc. **Relocated gas regulators, live fire gas props, associated piping and tie-in to existing piping.**
 - dd. **Install Owner-supplied utility markers.**
 - ee. **Relocated brick pavers.**
 - ff. **Site signage.**
 - gg. **Gas piping trench, bedding, backfill, warning tape and compaction.**
 - hh. **Confined space/trench prop including excavation, stone bedding, compacted backfill, removal of excess earth, stone, reinforced concrete pipe, HDPE pipe, pipe fittings, manholes, utility vaults, headwall, metal stairs, railings and cast-in-place trench structure.**
 - ii. **Railroad track prop as indicated on the civil drawings.**
 - jj. **Telephone pole prop as indicated on the civil drawings.**
 - kk. **Pipe and removable bollards including footings.**
 - ll. **Car extrication bollard including footing.**
 - mm. **Relocate shed onto new stone base.**
 - nn. **Relocate railroad car and trailer tankers.**
 - oo. **Relocate rubble pile.**
3. Work not included in this bid package:
- a. Building foundation excavation and backfill.
 - b. Stone drainage course under interior building slabs.
 - c. Trenching for underground electrical or telecommunication systems.
 - d. Temporary fencing of construction areas.
 - e. **Removal of site lighting, bases and conduit.**
 - f. **Trenching within the building footprint.**

B. Bid Package No. 2 – General Trades

1. Work shall include, but not be limited to, the work contained in the following specification sections:
- a. Division 1, in its entirety.
 - b. 02260 Compaction Grouting, in its entirety.
 - c. 02300 Earthwork, limited to foundation excavation.
 - d. 03300 Cast-in-Place Concrete, in its entirety.
 - e. 03356 Concrete Floor Sealer, in its entirety.
 - f. 03532 Concrete Floor Topping, in its entirety.
 - g. 03542 Cement Based Underlayerment, in its entirety.
 - h. 04720 Cast Stone Masonry, in its entirety.
 - i. 04810 Unit Masonry, in its entirety.
 - j. 05120 Structural Steel, in its entirety.
 - k. 05210 Steel Joists, in its entirety.
 - l. 05310 Steel Deck, in its entirety.
 - m. 05400 Cold Formed Metal Framing, in its entirety.
 - n. 05500 Metal Fabrications, in its entirety.

- o. 05810 Expansion Joint Cover Assemblies, in its entirety.
- p. 06100 Rough Carpentry, in its entirety.
- q. 06400 Interior Architectural Woodwork, in its entirety.
- r. 07111 Composite Sheet Waterproofing, in its entirety.
- s. 07141 Cold Fluid Applied Waterproofing, in its entirety.
- t. 07210 Building Insulation, in its entirety.
- u. 07211 Spray Applied Foam Cavity Insulation, in its entirety.
- v. 07214 Foamed-In-Place Masonry Insulation, in its entirety.
- w. 07412 Exposed Fastener Metal Wall Panel, in its entirety.
- x. 07413 Perforated Metal Screen, in its entirety.
- y. 07423 Aluminum Faced Composite Metal Panels, in its entirety.
- z. 07543 Thermoplastic Polyolefin (TPO) Roofing, in its entirety.
- aa. 07615 Aluminum Soffit System, in its entirety.
- bb. 07620 Sheet Metal Flashing & Trim, in its entirety.
- cc. 07720 Roof Accessories, in its entirety.
- dd. 07841 Through Penetration Firestop Systems, in its entirety.
- ee. 07920 Joint Sealants, in its entirety.
- ff. 08111 Standard Steel Doors and Frames, in its entirety.
- gg. 08211 Flush Wood Doors, in its entirety.
- hh. 08305 Special Doors, in its entirety.
- ii. 08310 Armory Door, in its entirety.
- jj. 08311 Access Doors & Frames, in its entirety.
- kk. 08331 Overhead Coiling Doors, in its entirety.
- ll. 08410 Aluminum Entrances and Storefronts, in its entirety.
- mm. 08520 Bullet Resistant Windows, in its entirety.
- nn. 08710 Door Hardware, in its entirety.
- oo. 08800 Glazing, in its entirety.
- pp. 08810 Fire-Rated Glazing, in its entirety.
- qq. 08920 Glazed Aluminum Curtain Walls, in its entirety.
- rr. 09255 Gypsum Board Assemblies, in its entirety.
- ss. 09310 Ceramic Tile, in its entirety.
- tt. 09402 Terrazzo Flooring, in its entirety.
- uu. 09511 Acoustical Panel Ceilings, in its entirety.
- vv. 09622 Resilient Athletic Tile Flooring, in its entirety.
- ww. 09651 Resilient Floor Tile, in its entirety.
- xx. 09656 Rubber Flooring, in its entirety.
- yy. 09671 Resinous Flooring, in its entirety.
- zz. 09681 Carpet Tile, in its entirety.
- aaa. 09900 Painting, in its entirety.
- bbb. 09960 High Performance Coatings, in its entirety.
- ccc. 10100 Visual Display Boards, in its entirety.
- ddd. 10110 Specialty Building Products, in its entirety.
- eee. 10200 Louvers and Vents, in its entirety.
- fff. 10350 Flagpoles, in its entirety.
- ggg. 10425 Signs, in its entirety.
- hhh. 10505 Metal Lockers, in its entirety.
- iii. 10520 Fire Protection Specialties, in its entirety.
- jjj. 10550 Postal Specialties, in its entirety.
- kkk. 10704 Exterior Sun Shade, in its entirety.

- lll. 11132 Projection Screens, in its entirety.
 - mmm. 12361 Solid Polymer Fabrications, in its entirety.
 - nnn. 12495 Motorized Roller Blinds, in its entirety.
 - ooo. 12353 Display Casework, in its entirety.
 - ppp. 12690 Floor Mats and Frames, in its entirety.
 - qqq. 13000 Interior Structural Fire Trainer, in its entirety.
 - rrr. 13040 High Temperature Lining Systems, in its entirety.
 - sss. 13050 Smoke Distribution System, in its entirety.
 - ttt. 13080 Structural Live Fire Car Trainer, in its entirety.
 - uuu. 13090 Flammable Liquid and Gas Trainer, in its entirety.
 - vvv. 13125 Portable Aluminum Bleachers, in its entirety.
2. Scope of work items include, but are not limited to, providing the following:
- a. Layout of the work performed under the supervision of a surveyor registered in the Commonwealth of Pennsylvania in accordance with the *Manual of Practice for Professional Surveyors in the Commonwealth of Pennsylvania* dated July 10, 1998 (available for review at <http://www.psls.org/publications/manual-of-practice>).
 - b. Temporary fencing of construction areas, including, but not limited to, what is depicted on the drawing.
 - c. Compaction grouting.
 - d. Foundation excavation including over-excavation, removal and disposal of compaction grouting tops, stone bedding, compacted backfill, stone drainage course under slabs-on-grade, removal of excess earth and testing assistance.
 - e. Exterior benches **including footings**.
 - f. Bicycle racks **including footings**.
 - g. Cast-in-place concrete including masonry grout and testing assistance.
 - h. Concrete floor sealer.
 - i. Concrete floor topping including testing assistance.
 - j. Cement-based underlayment.
 - k. Cast stone and trim pieces including testing.
 - l. Unit masonry including protection against staining of masonry adjacent to the ground. *Stain protection shall be installed immediately after installation of veneer and consist of 6 mil polyethylene sheeting installed from below grade to a minimum of 60" above grade and secured with 1x3 wood furring and masonry anchors. Rips and tears in the protection shall be repaired immediately. At the direction of the Construction Manager and when the threat of staining no longer exists, remove protection and patch anchor holes to match adjacent materials. Staining that occurs as a result of failure to comply with this requirement will be remedied to the Owner's complete satisfaction at the Contractor's sole expense.*
 - m. Structural steel including testing assistance.
 - n. Steel joists including testing assistance.
 - o. Steel deck including testing assistance.
 - p. Cold-formed metal framing including testing assistance.
 - q. Metal fabrications.
 - r. Expansion joint cover assemblies.
 - s. Rough carpentry.
 - t. Interior architectural woodwork including shop finishing.
 - u. Composite sheet waterproofing.

- v. Cold fluid-applied waterproofing including manufacturer's field inspection and approval of the substrate prior to application.
- w. Building insulation including vapor retarders.
- x. Spray applied foam cavity insulation including testing.
- y. Foamed-in-place masonry insulation.
- z. Exposed fastener metal wall panels.
- aa. Perforated metal screen.
- bb. Aluminum faced composite metal panels including testing.
- cc. Thermoplastic Polyolefin (TPO) roofing including testing.
- dd. Aluminum soffit system.
- ee. Sheet metal flashing & trim.
- ff. Roof accessories.
- gg. Through penetration firestop systems.
- hh. Joint sealants.
- ii. Steel doors and frames.
- jj. Flush wood doors including factory fitting and finishing.
- kk. Armory door including training.
- ll. Access doors & frames.
- mm. Overhead coiling doors including training.
- nn. Special sliding doors including training.
- oo. Aluminum entrances and storefronts.
- pp. Bullet resistant windows.
- qq. Door hardware including testing assistance.
- rr. Glazing.
- ss. Fire-rated glazing.
- tt. Glazed aluminum curtain walls.
- uu. Gypsum board assemblies including above ceiling observation by Architect.
- vv. Ceramic tile including cementitious backer units.
- ww. Terrazzo flooring.
- xx. Acoustical panel ceilings.
- yy. Resilient athletic tile flooring.
- zz. Resilient floor tile.
- aaa. Rubber flooring.
- bbb. Resinous flooring including testing assistance.
- ccc. Carpet tile.
- ddd. Painting including mechanical and electrical materials and testing assistance.
- eee. Visual display boards and accessories.
- fff. Specialty building products (LCD ceiling projector mounts).
- ggg. Louvers and vents including screens.
- hhh. Flagpoles.
- iii. Signs.
- jjj. Metal lockers.
- kkk. Fire protection specialties.
- lll. Postal specialties.
- mmm. Exterior sun shades.
- nnn. Projection screens.
- ooo. Solid polymer fabrications.
- ppp. Motorized roller blinds including training.
- qqq. Floor mats and recessed frames.

- rrr. Interior structural fire trainer including **concrete pad, piping, piping appurtenances, tanks, pipe bollards** and training (**Alternate No. 5**).
- sss. High temperature lining systems.
- ttt. Smoke distribution system including training.
- uuu. **Structural live fire car trainer and flammable liquid and gas trainer including concrete pad, piping, piping appurtenances, tanks, pipe bollards and training (Alternate No. 6).**
- vvv. Portable aluminum bleachers.
- www. **9/11 Memorial and masonry seating.**
- xxx. **Exterior entry pads with frost walls.**
- yyy. **Pipe bollards located in exterior entry pads.**
- zzz. **Cooling tower concrete pad.**
- aaaa. Control and interconnect wiring for equipment installed under this Contract.

- 3. Work not included in this bid package:
 - a. Final electrical power connections to equipment installed under this Contract.
 - b. Unistrut required for installing the work of Bid Package No. 5.
 - c. Temporary fencing of wetlands areas.

C. Bid Package No. 3 – Mechanical

- 1. Work shall include, but not be limited to, the work contained in the following specification sections:
 - a. Division 1, in its entirety.
 - b. 02310 Utility Trenching, for the work of this Contract.
 - c. 15050 - Common Work Results for HVAC, in its entirety.
 - d. 15051 - Common Work Results for Plumbing, in its entirety.
 - e. 15057 - Common Motor Requirements for Plumbing Equipment, in its entirety.
 - f. 15058 - Common Motor Requirements for HVAC Equipment, in its entirety.
 - g. 15061 - Hangers and Supports for Plumbing Piping and Equipment, in its entirety.
 - h. 15062 - Hangers and Supports for HVAC Piping and Equipment, in its entirety.
 - i. 15073 – Vibration & Seismic Controls for Plumbing Piping and Equipment
 - j. 15074 – Vibration Controls for HVAC Piping and Equipment
 - k. 15076 - Identification for Plumbing Piping and Equipment, in its entirety.
 - l. 15077 - Identification for HVAC Piping and Equipment, in its entirety.
 - m. 15085 - Plumbing Piping Insulation, in its entirety.
 - n. 15086 - Duct Insulation, in its entirety.
 - o. 15087 - HVAC Equipment Insulation, in its entirety.
 - p. 15088 - HVAC Piping Insulation, in its entirety.
 - q. 15092 - Sleeves and Sleeve Seals for Plumbing Piping, in its entirety.
 - r. 15093 - Sleeves and Sleeve Seals for HVAC Piping, in its entirety.
 - s. 15097 - Escutcheons for Plumbing Piping, in its entirety.
 - t. 15098 - Escutcheons for HVAC Piping, in its entirety.
 - u. 15111 - General-Duty Valves for Plumbing Piping, in its entirety.
 - v. 15112 - General-Duty Valves for HVAC Piping, in its entirety.
 - w. 15124 - Expansion Fittings and Loops for HVAC Piping, in its entirety.
 - x. 15126 - Meters and Gages for Plumbing Piping, in its entirety.
 - y. 15127 - Meters and Gages for HVAC Piping, in its entirety.

- z. 15140 - Domestic Water Piping, in its entirety.
 - aa. 15145 - Domestic Water Piping Specialties, in its entirety.
 - bb. 15150 - Sanitary Waste and Vent Piping, in its entirety.
 - cc. 15155 - Sanitary Waste Piping Specialties, in its entirety.
 - dd. 15160 - Storm Drainage Piping, in its entirety.
 - ee. 15165 - Storm Drainage Piping Specialties, in its entirety.
 - ff. 15181 - Hydronic Piping, in its entirety.
 - gg. 15185 - Hydronic Pumps, in its entirety.
 - hh. 15189 - HVAC Water Treatment, in its entirety.
 - ii. 15195 - Facility Natural-Gas Piping, in its entirety.
 - jj. 15211 - General-Service Compressed-Air Piping, in its entirety.
 - kk. 15400 - Plumbing Fixtures, in its entirety.
 - ll. 15441 - Domestic Water Pumps, in its entirety.
 - mm. 15486 - Fuel-Fired Water Heaters, in its entirety.
 - nn. 15513 - Condensing Boilers, in its entirety.
 - oo. 15550 - Breechings, Chimneys, and Stacks, in its entirety.
 - pp. 15555 - Draft Control Devices, in its entirety.
 - qq. 15640 - Cooling Towers, in its entirety.
 - rr. 15732 - Packaged, Outdoor, Central-Station Air-Handling Units, in its entirety.
 - ss. 15745 - Water-Source Heat Pumps, in its entirety.
 - tt. 15762 - Unit Heaters, in its entirety.
 - uu. 15764 - Convection Heating Units, in its entirety.
 - vv. 15779 - Heat Tracing for HVAC Piping, in its entirety.
 - ww. 15785 - Air-to-Air Energy Recovery Equipment, in its entirety.
 - xx. 15815 - Metal Ducts, in its entirety.
 - yy. 15820 - Duct Accessories, in its entirety.
 - zz. 15837 - Centrifugal Fans, in its entirety.
 - aaa. 15840 - Air Terminal Units, in its entirety.
 - bbb. 15855 - Diffusers, Registers, and Grilles, in its entirety.
 - ccc. 15861 - Particulate Air Filtration, in its entirety.
 - ddd. 15900 - HVAC Instrumentation and Controls, in its entirety.
 - eee. 15930 – Wet-Pipe Fire Suppression Sprinklers
 - fff. 15940 - Sequence of Operation, in its entirety.
 - ggg. 15951 – Commissioning of Plumbing
 - hhh. 15960 – Commissioning of HVAC
2. Scope of work items include, but are not limited to, providing the following:
- a. Shop drawings for underslab plumbing supports are to be provided and coordinated with the General Trades Contractor.
 - b. Utility trenching for the work of this Contract.
 - c. Common work results for HVAC including demolition, patching, firesafing, fire-stopping and concrete equipment bases.
 - d. Common work results for plumbing including demolition, patching, firesafing, fire-stopping and concrete equipment bases.
 - e. Common motor requirements for plumbing equipment.
 - f. Common motor requirements for HVAC equipment.
 - g. Hangers and supports for plumbing piping and equipment.
 - h. Hangers and supports for HVAC piping and equipment.

- i. Identification for plumbing piping and equipment including coordination and approval from the HACC Facilities plumbing representative.
- j. Identification for HVAC piping and equipment including coordination and approval from the HACC Facilities HVAC representative.
- k. Plumbing piping insulation including testing.
- l. Duct insulation including testing.
- m. HVAC equipment insulation including testing.
- n. HVAC piping insulation including testing.
- o. Sleeves and sleeve seals for plumbing piping.
- p. Sleeves and sleeve seals for HVAC piping.
- q. Escutcheons for plumbing piping.
- r. Escutcheons for HVAC piping.
- s. General-duty valves for plumbing piping.
- t. General-duty valves for HVAC piping.
- u. Expansion fittings and loops for HVAC piping.
- v. Meters and gages for plumbing piping.
- w. Meters and gages for HVAC piping.
- x. Domestic water piping including testing.
- y. Domestic water piping specialties including testing.
- z. Sanitary waste and vent piping including stainless steel slab pipe hangars and testing.
- aa. Sanitary waste piping specialties.
- bb. Storm drainage piping including stainless steel slab pipe hangars and testing.
- cc. Storm drainage piping specialties.
- dd. Hydronic piping including testing.
- ee. Hydronic pumps including startup and training.
- ff. HVAC water treatment including testing and training.
- gg. Facility natural-gas piping including testing.
- hh. General-service compressed-air piping including testing.
- ii. Plumbing fixtures.
- jj. Domestic water pumps including startup.
- kk. Fuel-fired water heaters including approvals, testing, inspection and training.
- ll. Condensing boilers including boiler certification, manufacturer's inspection, testing and training.
- mm. Breechings, chimneys, and stacks.
- nn. Draft control devices including training.
- oo. Cooling towers including startup, testing and training.
- pp. Packaged, outdoor, central-station air-handling units including manufacturer's inspection, startup, testing and training.
- qq. Water-source heat pumps including manufacturer's inspection, startup, testing and training.
- rr. Unit heaters including testing and training.
- ss. Convection heating units including testing.
- tt. Heat tracing for HVAC piping including testing.
- uu. Air-to-air energy recovery equipment including manufacturer's inspection, testing and training.
- vv. Metal ducts including inspections, testing, cleaning and painting per 15815, 3.6.A.
- ww. Duct accessories including inspections and testing.

- xx. Centrifugal fans including manufacturer's inspection, testing and training.
- yy. Air terminal units including manufacturer's inspection, startup, testing and training.
- zz. Diffusers, registers, and grilles.
- aaa. Particulate air filtration including manufacturer's inspection, testing and cleaning.
- bbb. HVAC instrumentation and controls including manufacturer's inspection, commissioning, adjusting and training.
- ccc. Sequence of operation.
- ddd. Underground utilities shall run 5'-0" beyond the building perimeter for connection by this Contractor to site utilities provided by other Contractors.
- eee. Control and interconnect wiring for equipment installed under this Contract.

3. Work not included in this bid package:

- a. Painting except as noted.
- b. Final electrical power connections to equipment installed under this Contract.

D. Bid Package No. 4 – Electrical

1. Work shall include, but not be limited to, the work contained in the following specification sections:

- a. Division 1, in its entirety.
- b. 02310 Utility Trenching, for the work of this Contract.
- c. 02584 Underground Ducts and Raceways for Electrical Systems, in its entirety.
- d. 07841 Through Penetration Firestop Systems, for the work of this Contract.
- e. 15900 HVAC Instrumentation and Controls. All scopes noted in BMS responsibility matrix.
- f. 16055 - Overcurrent Protective Device Coordination Study, in its entirety.
- g. 16060 - Grounding and Bonding for Electrical Systems, in its entirety.
- h. 16073 - Hangers and Supports for Electrical Systems, in its entirety.
- i. 16075 - Identification for Electrical Systems, in its entirety.
- j. 16120 - Low-Voltage Electrical Power Conductors and Cables, in its entirety.
- k. 16124 - Medium-Voltage Cables, in its entirety.
- l. 16130 - Raceways and Boxes for Electrical Systems, in its entirety.
- m. 16136 - Cable Trays for Communication Systems, in its entirety.
- n. 16140 - Wiring Devices, in its entirety.
- o. 16145 - Lighting Control Devices, in its entirety.
- p. 16200 - Area Protection Panel, in its entirety.
- q. 16231 - Engine Generators, in its entirety.
- r. 16269 - Variable-Frequency Motor Controllers, in its entirety.
- s. 16271 - Medium-Voltage Transformers, in its entirety.
- t. 16289 - Transient-Voltage Suppression for Low-Voltage Electrical Power Circuits, in its entirety.
- u. 16341 - Medium-Voltage Switchgear, in its entirety.
- v. 16410 - Enclosed Switches, in its entirety.
- w. 16415 - Transfer Switches, in its entirety.
- x. 16420 - Enclosed Controllers, in its entirety.
- y. 16433 - Integrated Low-Voltage Switchboard, in its entirety.
- z. 16442 - Panelboards, in its entirety.
- aa. 16461 - Low-Voltage Transformers, in its entirety.

- bb. 16511 - Interior Lighting, in its entirety.
 - cc. 16521 - Exterior Lighting, in its entirety.
 - dd. 16544 - Sleeves and Sleeve Seals for Electrical Raceways and Cabling, in its entirety.
 - ee. 16555 - Firing Range Lighting Control System, in its entirety.
 - ff. 16714 - Telecommunication System, in its entirety.
 - gg. 16721 - Addressable Fire Alarm and Mass Notification System, in its entirety.
 - hh. 16960 - Commissioning of Electrical, in its entirety.
2. Scope of work items include, but are not limited to, providing the following:
- a. Utility trenching for the work of this Contract.
 - b. Underground ducts and raceways for electrical systems.
 - c. Common work results for electrical including demolition, patching, firesafing, fire-stopping and concrete equipment bases.
 - d. Overcurrent protective device coordination study including training.
 - e. Grounding and bonding for electrical systems including testing and inspection.
 - f. Hangers and supports for electrical systems.
 - g. Identification for electrical systems including coordination and approval from HACC Facilities electrical representative.
 - h. Low-voltage electrical power conductors and cables including testing and inspection.
 - i. Medium-voltage cables including testing.
 - j. Raceways and boxes for electrical systems.
 - k. Cable trays for electrical systems including testing and inspection.
 - l. Wiring devices including testing and inspection.
 - m. Lighting control devices including manufacturer's inspection, testing, training and adjusting.
 - n. Area protection panel.
 - o. Engine generators including inspection, testing and training.
 - p. Variable-frequency motor controllers including inspection, testing, startup, adjusting and training.
 - q. Medium-voltage transformers including manufacturer's inspection, testing and adjusting.
 - r. Transient-voltage suppression for low-voltage electrical power circuits including inspection, testing, startup and training.
 - s. Medium-voltage switchgear including inspection, testing and training.
 - t. Enclosed switches including inspection, testing and adjusting.
 - u. Transfer switches including inspection, testing and training.
 - v. Enclosed controllers including inspection, testing and training.
 - w. Integrated low-voltage switchboard including testing, certification and adjusting.
 - x. Panelboards including inspection, testing and adjusting.
 - y. Low-voltage transformers including inspection, testing and adjusting.
 - z. Interior lighting including testing and inspection.
 - aa. Exterior lighting including concrete bases, inspection and training.
 - bb. Sleeves and sleeve seals for electrical raceways and cabling.
 - cc. Firing range lighting control system including manufacturer's inspection, testing, cleaning, adjusting, training and commissioning.
 - dd. Firing Range video surveillance system including all necessary cables and accessories, testing and training.

- ee. Telecommunication system including testing.
- ff. Addressable fire alarm and mass notification system including inspection, testing and training.
- gg. Conduit and utility boxes for Owner provided security systems.
- hh. Maintain existing exterior lighting.
- ii. Final electrical power connections to equipment installed in other Contracts.
- jj. **Removal of existing site lighting, concrete bases and conduit including backfill, compaction and refurbishment of fixtures to be reused. Dispose of items not reused.**

- 3. Work not included in this bid package:
 - a. Painting except as noted.
 - b. Control and interconnect wiring for equipment installed in other Contracts.

E. Bid Package No. 5 – Specialty Construction & Training Props

- 1. Work shall include, but not be limited to, the work contained in the following specification sections:
 - a. Division 1, in its entirety.
 - b. 11485 Shooting Range Target Systems, in its entirety.
 - c. 11486 Shooting Range Containment Trap, in its entirety.
 - d. 11487 Shooting Range Control Systems, in its entirety.
 - e. 11488 Shooting Range Baffles, in its entirety.
 - f. 11587 Weapons Clearing Trap, in its entirety.
- 2. Scope of work items include, but are not limited to, providing the following:
 - a. Shooting range target systems including testing and training provisions.
 - b. Shooting range containment trap including testing and training provisions.
 - c. Shooting range control systems including testing and training provisions.
 - d. Shooting range baffles including structural framing required to secure equipment to the building structure.
 - e. Weapons clearing trap including training provisions.
 - f. Mounting systems, including Unistrut, as shown and/or necessary for installing the work of this Contract.
 - g. Control and interconnect wiring for equipment installed under this Contract.
- 3. Work not included in this bid package:
 - a. Final electrical power connections to equipment installed under this Contract.

F. Bid Package No. 6 – Testing, Adjusting & Balancing

- 1. Work shall include, but not be limited to, the work contained in the following specification sections:
 - a. Division 1, in its entirety.
 - b. 15950 – Testing, Adjusting, and Balancing, in its entirety.
- 2. Scope of work items include, but are not limited to, providing the following:
 - a. Testing, adjusting, and balancing.

3. Work not included in this bid package:
 - a. Not applicable.

1.8 CONTRACTS (NOT USED)

1.9 PRODUCTS (Not Used)

PART 2 - EXECUTION (Not Used)

END OF SECTION 01125

SECTION 10155 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes stock, manufactured toilet compartments.
- B. Types of toilet compartments and urinal screens include:
 - 1. Solid-polymer, homogenous color.
- C. Styles of toilet compartments include:
 - 1. Floor-anchored, overhead-braced.
- D. Toilet accessories, such as toilet paper holders and grab bars are specified in another Division 10 Section.

1.3 SUBMITTALS

- A. General: Submit the following.
- B. LEED Submittals:
 - 1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating costs for each product having recycled content.
- C. Product data for materials, fabrication, and installation including catalog cuts of anchors, hardware, fastenings, and accessories.
- D. Shop drawings for fabrication and erection of toilet compartment assemblies not fully described by product drawings, templates, and instructions for installation of anchorage devices built into other work.
 - 1. Show locations for compartment-mounted toilet accessories.
- E. Samples of full range of colors in form of pieces of plastic.
- F. Warranty: Manufactures to supply a written warranty covering all plastic components

and plastic hardware against breakage, corrosion and delamination for a period of fifteen (15) years.

1.4 QUALITY ASSURANCE

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible, to ensure proper fitting of work. However, allow for adjustments where taking of field measurements before fabrication might delay work.
- B. Coordination: Furnish inserts and anchorages which must be built into other work for installation of toilet compartments and related items. Coordinate delivery with other work to avoid delay.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: The design for toilet compartments is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
 - 1. Solid-Polymer Units:
 - a. Comtec Industries – Protec Series P300
 - b. Santana Products Co.
 - c. Capitol Partitions, Inc.
 - d. Sanatec Industries, Inc.
 - e. Sanymetal Products Corp.

2.2 MATERIALS

- A. General: Provide materials which have been selected for surface flatness and smoothness. Exposed surfaces which exhibit pitting, seam marks, roller marks, stains, discolorations, or other imperfections on finished units are not acceptable.
- B. Solid-Polymer: High density, solid polymer resin with homogenous color throughout. Provide material not less than 1 inch thick with seamless construction with edges eased.
 - 1. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range of colors and patterns.
- C. Pilaster Shoes and Caps: ASTM A 167, Type 302/304 stainless steel, not less than 3 inches high, 0.0396 inch thick (20 gage), finished to match hardware.
- D. Stirrup Brackets: Manufacturer's standard design for attaching panels to walls and pilasters anodized aluminum. Full-height (continuous) type.

- E. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
- F. Hardware and Accessories: Manufacturer's standard design, heavy duty operating hardware and accessories of chromium-plated, nonferrous cast alloy ("Zamac").
- G. Overhead Bracing: Continuous extruded aluminum, antigrip profile, with clear anodized finish.
- H. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, with theft-resistant-type heads and nuts. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized, cadmium-plated, or other rust-resistant protective-coated steel.

2.3 FABRICATION

- A. General: Furnish standard doors, panels, screens, and pilasters fabricated for compartment system. Furnish units with cutouts, drilled holes, and internal reinforcement to receive partition-mounted hardware, accessories, and grab bars, as indicated.
- B. Door Dimensions: Unless otherwise indicated, furnish 24-inch-wide in-swinging doors for ordinary toilet stalls and 32-inch-wide (clear opening) out-swinging doors for stalls equipped for use by handicap persons.
- C. Overhead-Braced Compartments: Furnish galvanized steel supports, leveling bolts, fasteners, and anchors at pilasters as recommended by manufacturer to suit floor conditions. Make provisions for setting and securing continuous, extruded, aluminum, antigrip, overhead bracing at top of each pilaster. Provide shoe at each pilaster to conceal supports and leveling mechanism.
- D. Floor-Supported Compartments: Furnish galvanized steel anchorage devices complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters to permit structural connection at floor. Provide shoe at each pilaster to conceal anchorage.
- E. Hardware: Furnish hardware for each compartment to comply with ANSI A117.1 for handicap accessibility and as follows:
 - 1. Hinges: Cutout inset type, adjustable to hold door open at any angle up to 90 degrees. Provide gravity type, spring-action cam type, or concealed torsion rod type to suit manufacturer's standards.
 - 2. Latch and Keeper: Manufacturer's standard surface-mounted latch unit, designed for handicap accessibility, with combination rubber-faced door strike and keeper.
 - 3. Coat Hook: Manufacturer's standard unit, combination hook and rubber-tipped bumper, sized to prevent door hitting mounted accessories.
 - 4. Door Pull: Manufacturer's standard unit for out-swinging doors. Provide pulls on both faces of handicap compartment doors.
 - 5. Door Bumper: Manufacturer's standard rubber-tipped bumpers at out-swinging doors or entrance screen doors.

PART 3 - EXECUTION

3.1 INSTALLATION

- C. General: Comply with manufacturer's recommended procedures and installation sequence. Install compartment units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch between pilasters and panels, and not more than 1 inch between panels and walls. Secure panels to walls with not less than two stirrup brackets attached near top and bottom of panel. Locate wall brackets so that holes for wall anchorages occur in masonry or tile joints. Secure panels to pilasters with not less than two stirrup brackets located to align with stirrup brackets at wall. Secure panels in position with manufacturer's recommended anchoring devices.
- D. Overhead-Braced Compartments: Secure pilasters to floor and level, plumb, and tighten installation with devices furnished. Secure overhead brace to each pilaster with not less than two fasteners. Hang doors and adjust so that tops of doors are parallel with overhead brace when doors are in closed position.
- C. No evidence of drilling, cutting, or patching shall be visible in the finished work.
- D. Finished surfaces shall be cleaned after installation and left free of imperfections.
- E. Authorized factory installers to be utilized.

3.2 ADJUST AND CLEAN

- A. Hardware Adjustment: Adjust and lubricate hardware for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors (and entrance swing doors) to return to fully closed position.
- B. Clean exposed surfaces of toilet compartment assemblies using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

END OF SECTION 10155

SECTION 10650 OPERABLE PARTITIONS

PART 1: GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

- 1. Manually operated, paired panel operable partitions.

- B. Related Sections include the following:

- 1. Division 3 Sections for concrete tolerances required.
 - 2. Division 5 Sections for primary structural support, including pre-punching of support members by structural steel supplier per operable partition supplier's template.
 - 3. Division 6 Sections for wood framing and supports, and all blocking at head and jambs as required.
 - 4. Division 9 Sections for wall and ceiling framing at head and jambs.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified in writing by the operable partition manufacturer, as qualified to install the manufacturer's partition systems for work similar in material, design, and extent to that indicated for this Project.
- B. Acoustical Performance: Test operable partitions in an independent acoustical laboratory in accordance with ASTM E90 test procedure to attain no less than the STC rating specified. Provide a complete and unedited written test report by the testing laboratory upon request.
- C. Preparation of the opening shall conform to the criteria set forth per ASTM E557 "Standard Practice for Architectural Application and Installation of Operable Partitions."

1.4 SUBMITTALS

- A. Product Data: Material descriptions, construction details, finishes, installation details, and operating instructions for each type of operable partition, component, and accessory specified.
- B. Shop Drawings: Show location and extent of operable partitions. Include plans, sections, details, attachments to other construction, and accessories. Indicate dimensions, weights, conditions at openings, and at storage areas, and required installation, storage, and operating clearances. Indicate location and installation requirements for hardware and track,

including floor tolerances required and direction of travel. Indicate blocking to be provided by others.

C. Setting Drawings: Show imbedded items and cutouts required in other work, including support beam punching template.

D. Samples: Color samples demonstrating full range of finishes available by architect. Verification samples will be available in same thickness and material indicated for the work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Clearly mark packages and panels with numbering systems used on Shop Drawings. Do not use permanent markings on panels.

B. Protect panels during delivery, storage, and handling to comply with manufacturer's direction and as required to prevent damage.

1.6 WARRANTY

A. Provide written warranty by manufacturer of operable partitions agreeing to repair or replace any components with manufacturing defects.

B. Warranty period: Two (2) years from date of shipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS, PRODUCTS, AND OPERATIONS

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

1. Modernfold, Inc. (Basis of Design)
2. Panelfold, Inc.
3. Advanced

B. Products: Subject to compliance with the requirements, provide the following product

1. Acousti-Seal #932 manually operated paired panel operable partition.

2.2 OPERATION

A1. Acousti-Seal #932: Series of paired flat panels hinged together in pairs, manually operated, top supported with operable floor seals.

B. Final Closure:

1. Horizontally expanding panel edge with removable crank

2.3 PANEL CONSTRUCTION

A. Nominal 3-inch (76mm) thick panels in manufacturer's standard 48-inch (1220mm) widths. All panel horizontal and vertical framing members fabricated from minimum 16-gage formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.

B. Panel skin shall be:

1. 0.50-inch (13mm) medium density fiberboard, single material or composite layers continuously bonded to panel frame. Acoustical ratings of panels with this construction:

a. 50 STC

C. Hinges for Panels, Closure Panels, Pass Doors, and Pocket Doors shall be:

1. Full leaf butt hinges, attached directly to the panel frame. Welded hinge anchor plates within panel shall further support hinge mounting to frame. Hinges mounted into panel edge or vertical astragal are not acceptable.

D. Panel Trim: No vertical trim required or allowed on edges of panels; minimal groove appearance at panel joints.

E. Panel Weights:

1. 50 STC - 8 lbs./square foot

2.4 PANEL FINISH

A. Panel finish shall be factory applied, Class "A" rated material. Finish shall be:

1. Maple Wood veneer on MDF board.

B. Panel Trim: Exposed panel trim of one consistent color:

1. To Be Advised

2.5 SOUND SEALS

A. Vertical Interlocking Sound Seals between panels: Roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic astragals or astragals in only one panel edge are not acceptable.

B. Horizontal Top Seals: Continuous contact extruded vinyl bulb shape with pairs of non-

contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.

C. Horizontal bottom floor seals shall be:

1. Modernfold IA2 Bottom seal. Automatic operable seals providing nominal 2-inch (51mm) operating clearance with an operating range of +0.50-inch (13mm) to -1.50-inch (38mm) which automatically drop as panels are positioned, without the need for tools or cranks.

2.6 SUSPENSION SYSTEM

A. #17 Suspension System

1. Suspension Tracks: Minimum 11-gauge, 0.12-inch (3.04mm) roll-formed steel track, suitable for either direct mounting to a wood header or supported by adjustable steel hanger brackets, supporting the load-bearing surface of the track, connected to structural support by pairs of 0.38-inch (10mm) diameter threaded rods. Aluminum track is not acceptable.
 - a. Exposed track soffit: Steel, integral to track, and pre-painted off-white.
2. Carriers: One all-steel trolley with steel tired ball bearing wheels per panel (except hinged panels). Non-steel tires are not acceptable.

2.7 OPTIONS

A. Available accessories/options:

1. Pocket Doors: Acousti-Seal Pocket Doors by Modernfold, Inc., with same construction, finish, and appearance as the adjacent panels.
Pocket Door configuration shall be manually operated: Type II double door hinged to a jamb on each side and closing in the center.

PART 3: EXECUTION

3.1 INSTALLATION

- A. General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings and approved Shop Drawings.
- B. Install operable partitions and accessories after other finishing operations, including painting have been completed.
- C. Match operable partitions by installing panels from marked packages in numbered sequence indicated on Shop Drawings.
- D. Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

3.2 CLEANING AND PROTECTION

- A. Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions in a manner acceptable to the manufacturer and installer that insure operable partitions are without damage or deterioration at time of Substantial Completion.

3.3 ADJUSTING

- A. Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

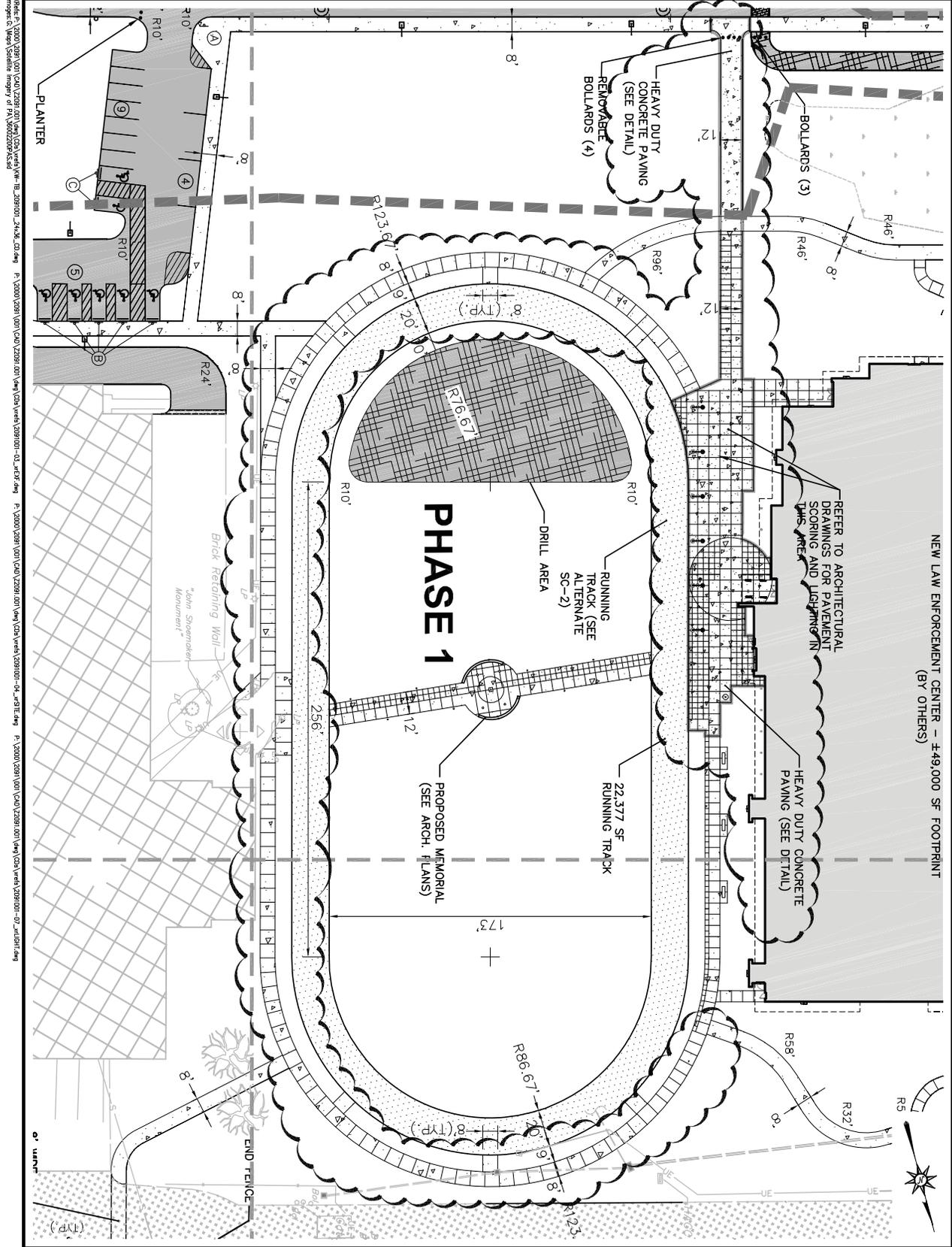
3.4 EXAMINATION

- A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

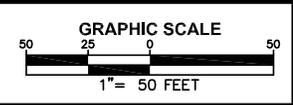
3.5 DEMONSTRATION

- A. Demonstrate proper operation and maintenance procedures to Owner's representative.
- B. Provide Operation and Maintenance Manual to Owner's representative.

END OF SECTION 10650

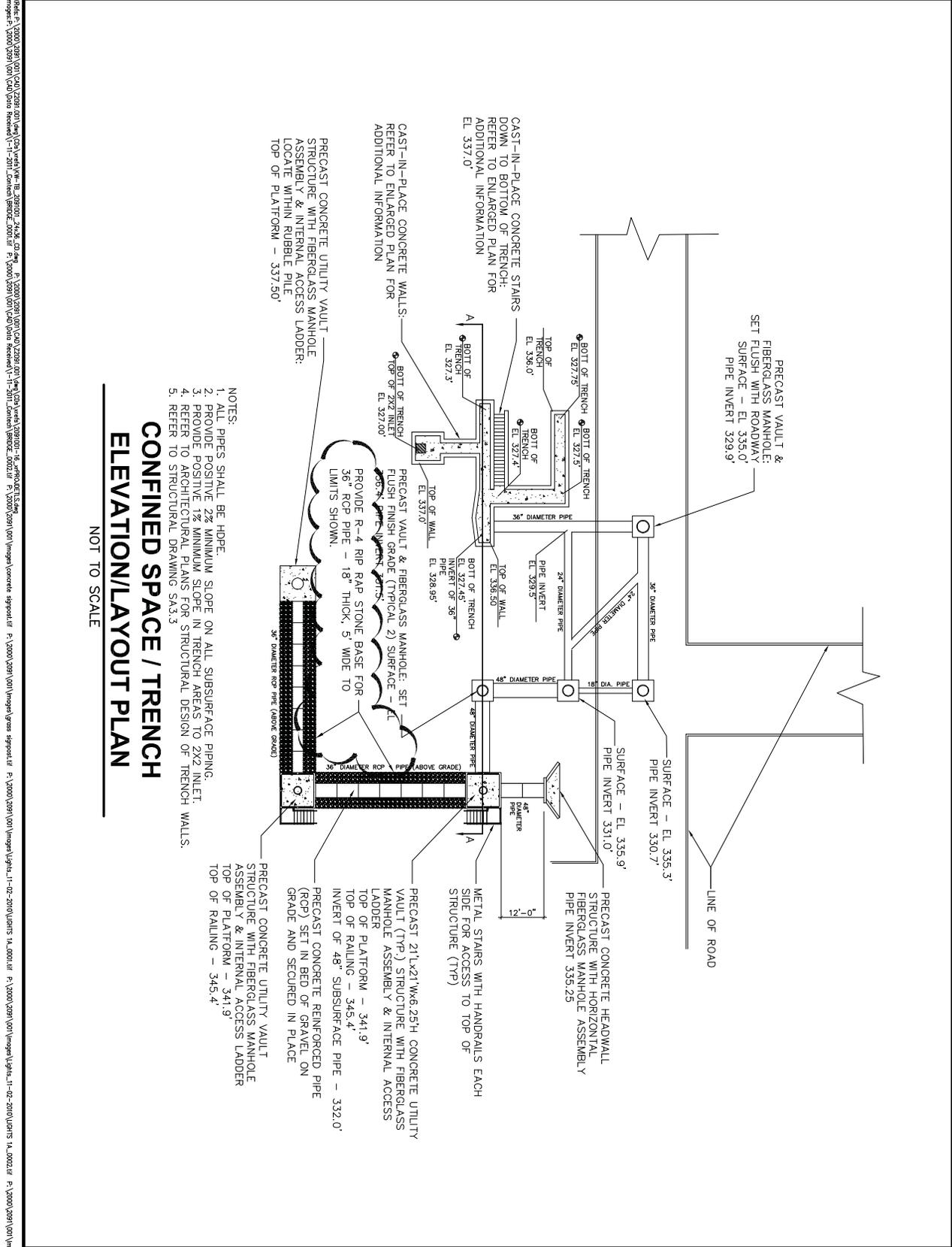


ADDENDUM NOTES:
 1. LIMITS OF HEAVY DUTY CONCRETE IN FRONT OF BUILDING.
 2. CONCRETE SCORING PATTERN AROUND TRACK EXTENDED



ADDENDUM NO.: 3	REFER TO PLAN SHEET NO.: 8
PUBLIC SAFETY CENTER - SITE IMPROVEMENTS SENATOR JOHN J. SHUMAKER PUBLIC SAFETY CENTER OPTION 1B - PHASE 1 & 2 IMPROVEMENTS FOR HACC - CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE	
SCALE: 1"=50 FEET DATE: FEB. 11, 2011 K&W PROJECT: 2091.001 DRAWN BY: ROE CAD DRAWING: 2091001-C-cs1E.dwg SHEET: SC-4	ENGINEERS • CONSULTANTS K&W 470 Friendship Road, Suite 100 Harrisburg, PA 17111 phone / 717.653.2863 fax / 717.653.2860 CITY OF HARRISBURG DAUPHIN COUNTY, PA

P:\2000\2091\001\CAD\22091.001.dwg\CDs\2091001-C-cs1E.dwg P:\2000\2091\001\CAD\22091.001.dwg\CDs\2091001-C-cs1E.dwg P:\2000\2091\001\CAD\22091.001.dwg\CDs\2091001-C-cs1E.dwg P:\2000\2091\001\CAD\22091.001.dwg\CDs\2091001-C-cs1E.dwg



ADDENDUM NOTES:
 1. ADDED R-4 RIP RAP BASE

ADDENDUM NO.: 3 REFER TO PLAN SHEET NO.: 31

PUBLIC SAFETY CENTER - SITE IMPROVEMENTS
SENATOR JOHN J. SHUMAKER PUBLIC SAFETY CENTER
OPTION 1B - PHASE 1 & 2 IMPROVEMENTS
 FOR
HACC - CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE

CITY OF HARRISBURG DAUPHIN COUNTY, PA

ENGINEERS • CONSULTANTS
K&W
 470 Friendship Road, Suite 100
 Harrisburg, PA 17111
 phone // 717.653.2883
 fax // 717.653.2880

<p>SCALE: AS SHOWN DATE: FEB. 11, 2011 K&W PROJECT: 2091.001 DRAWN BY: ROE CAD DRAWING: 2091001-1_cddLTS.dwg SHEET: SC-7</p>	<p>PRECAST CONCRETE UTILITY VAULT STRUCTURE WITH FIBERGLASS MANHOLE ASSEMBLY & INTERNAL ACCESS LADDER: TOP OF PLATFORM - 341.9' PRECAST CONCRETE UTILITY VAULT STRUCTURE WITH FIBERGLASS MANHOLE ASSEMBLY & INTERNAL ACCESS LADDER: TOP OF PLATFORM - 345.4' PRECAST CONCRETE REINFORCED PIPE (RCP) SET IN BED OF GRAVEL ON GRADE AND SECURED IN PLACE: INVERT OF 48" SUBSURFACE PIPE - 332.0' PRECAST 21'x21'x6.25'H CONCRETE UTILITY VAULT (TYP.) STRUCTURE WITH FIBERGLASS MANHOLE ASSEMBLY & INTERNAL ACCESS LADDER: TOP OF PLATFORM - 341.9' TOP OF RAILING - 345.4' PRECAST CONCRETE UTILITY VAULT STRUCTURE WITH FIBERGLASS MANHOLE ASSEMBLY & INTERNAL ACCESS LADDER: TOP OF PLATFORM - 345.4'</p>
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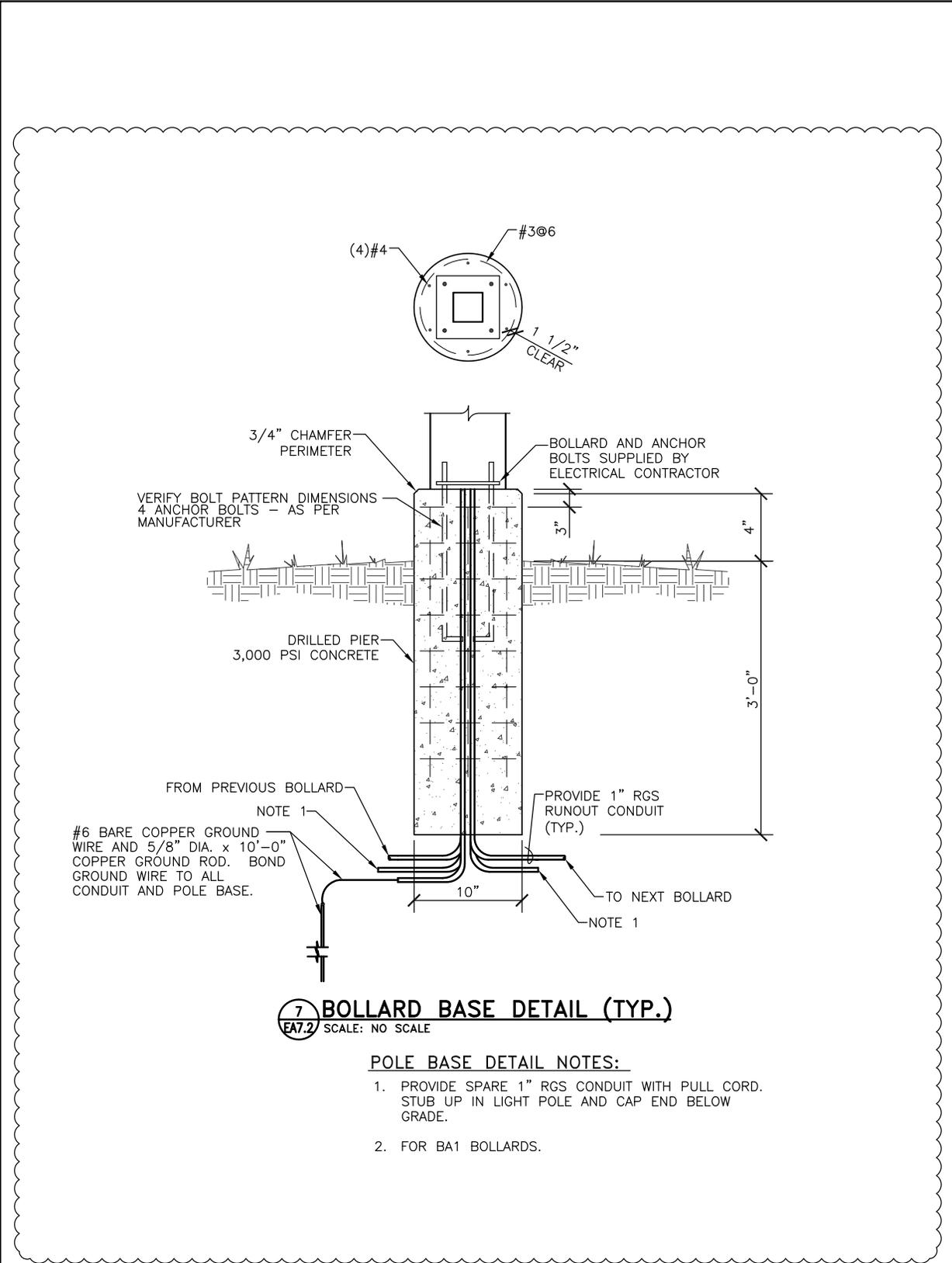


CODE LOAD DESCRIPTION		PANELBOARD LOAD SUMMARY		D.F.		DEM.	
		CONN.					
0	SPACE	0.0	0%	0.0	0.0	0.0	0.0
1	PANELS	0.0	0%	0.0	0.0	0.0	0.0
2	RECEPTACLES (100% UP TO 10KVA)	0.0	100%	0.0	0.0	0.0	0.0
3	RECEPTACLES (50% OVER 10KVA)	0.0	50%	0.0	0.0	0.0	0.0
4	MISCELLANEOUS	0.0	40%	0.0	0.0	0.0	0.0
5	KITCHEN	0.0	60%	0.0	0.0	0.0	0.0
6	EF/FAHU	0.0	80%	0.0	0.0	0.0	0.0
7	PANELS	0.0	100%	0.0	0.0	0.0	0.0
8	UV/FCU/H	0.0	100%	0.0	0.0	0.0	0.0
9	PANELS	0.0	100%	0.0	0.0	0.0	0.0
TOTAL PANEL LOAD		1.5	100%	1.5	100%	1.5	100%

PANEL DESIGNATION: EA LOCATION: A117
 PANEL TYPE: TVSS: N/A
 SERVICE: 480Y/277 VOLTS 3 PHASE 4 WIRE
 MAIN BUS: 100 AMPS MAIN RATING: 30 AMPS
 MOUNTING: SURFACE MIN. K.A.I.C.: 14

CODE		BRANCH CIRCUITS		LOAD DESCRIPTION		FEEDER		Branch Connected Load	
Circuit #	No. of Poles	Trip Amps	No.	Size	Conduit Size	No.	Size	Conduit Size	Load
2	1	20	2	12	3/4	2	12	3/4	0.1
2	3	1	2	12	3/4	2	12	3/4	0.8
2	5	1	2	12	3/4	2	12	3/4	0.1
0	7								0.0
0	9								0.0
0	11								0.0
0	13								0.0
0	15								0.0
0	17								0.0
0	19								0.0
0	21								0.0
0	23								0.0
0	25								0.0
0	27								0.0
0	29								0.0
2	2	20	2	12	3/4	2	12	3/4	0.1
2	4	1	2	12	3/4	2	12	3/4	0.5
0	6								0.0
0	8								0.0
0	10								0.0
0	12								0.0
0	14								0.0
0	16								0.0
0	18								0.0
0	20								0.0
0	22								0.0
0	24								0.0
0	26								0.0
0	28								0.0
0	30								0.0

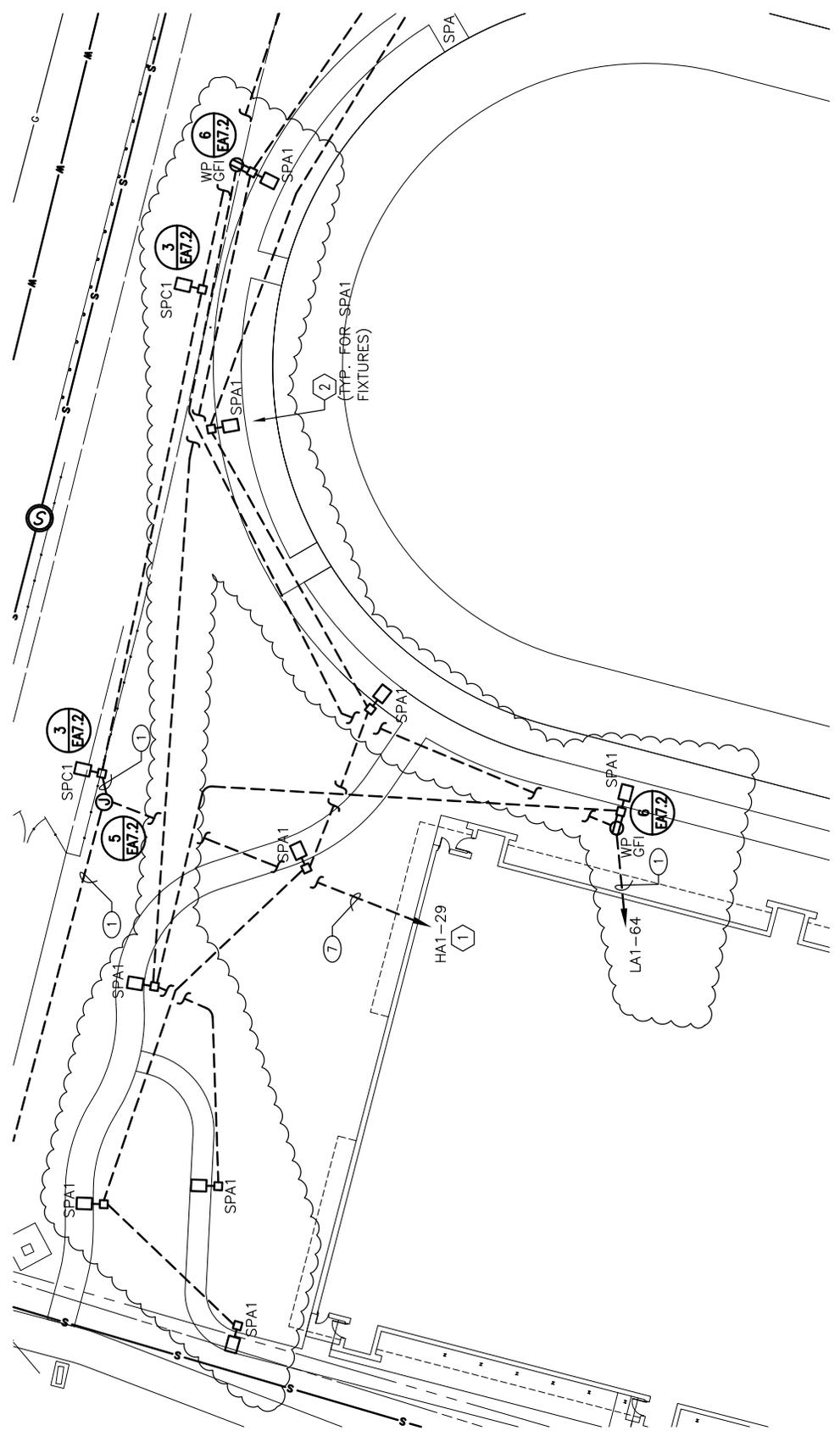
•Measure steady state load currents at each panelboard feeder; re-arrange circuits in the panelboard to balance the phase loads to within 5% of each other. Maintain proper phasing for multi-wire branch circuits.



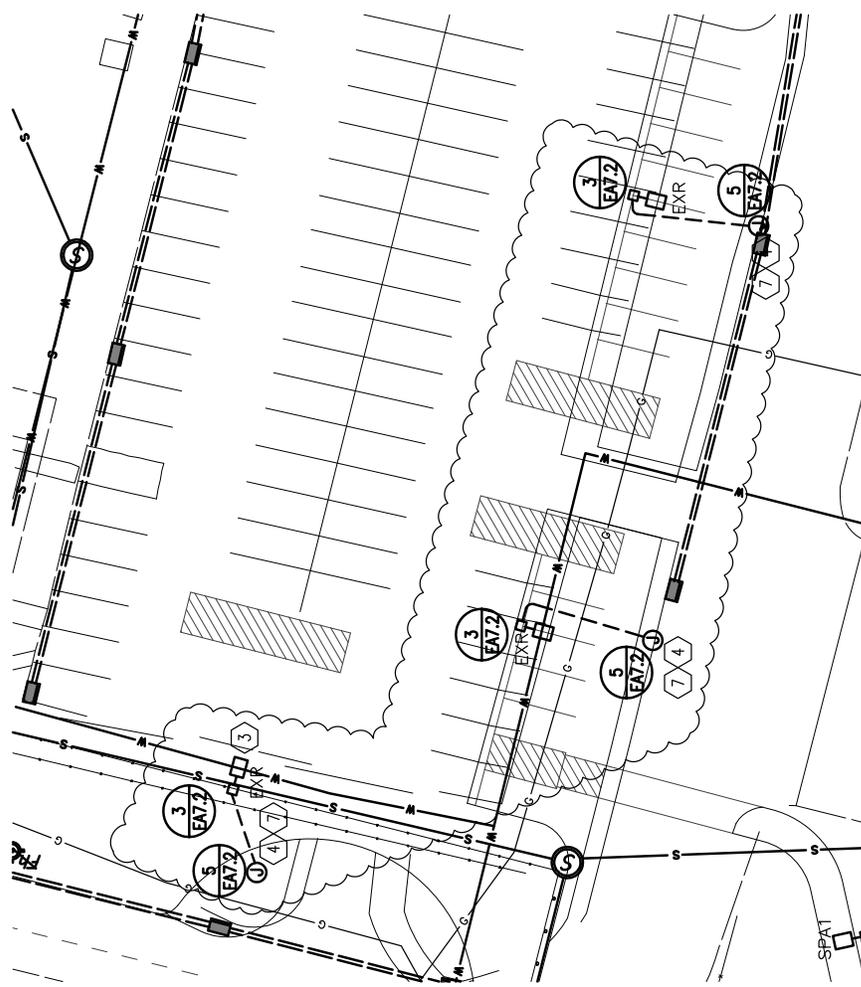
7 BOLLARD BASE DETAIL (TYP.)
 EA7.2 SCALE: NO SCALE

POLE BASE DETAIL NOTES:

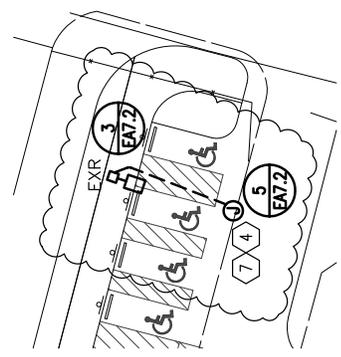
1. PROVIDE SPARE 1" RGS CONDUIT WITH PULL CORD. STUB UP IN LIGHT POLE AND CAP END BELOW GRADE.
2. FOR BA1 BOLLARDS.



PARTIAL SITE PLAN - BUILDING - LIGHTING
 SCALE: 1"=30'-0"



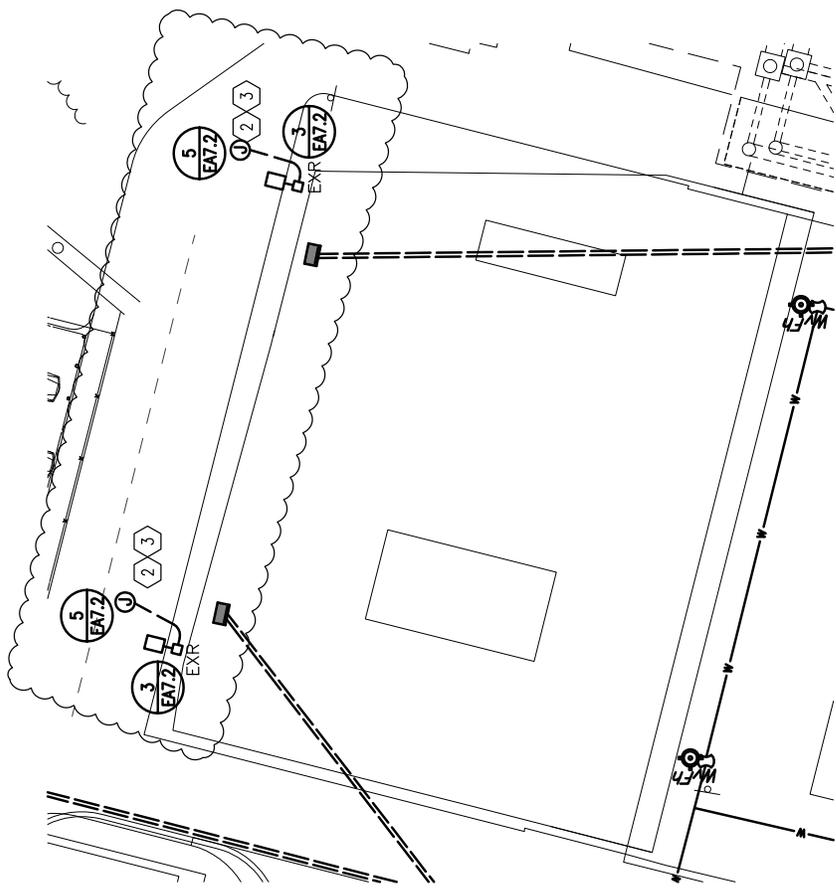
SITE PLAN -- TEACHER PARKING -- LIGHTING
 SCALE: 1"=30'-0"



**SITE PLAN --
 NORTH HALL PARKING -- LIGHTING**
 SCALE: 1"=30'-0"

PLAN NOTES:

- ④ REMOVE EXISTING LIGHT POLE AND PROTECT FOR FUTURE USE. PROTECT EXISTING CONDUCTORS.
- ⑦ PROVIDE NEW HANDHOLE AND INTERCEPT EXISTING UNDERGROUND LIGHTING CIRCUIT. EXTEND EXISTING CONDUIT AND CONDUCTORS TO NEW LIGHT POLE LOCATION AS REQUIRED TO COMPLETE LIGHTING CIRCUIT.



SITE PLAN - FIRE TOWER - LIGHTING
 SCALE: 1"=30'-0"

PLAN NOTES:

- ② REMOVE EXISTING LIGHT POLE AND PROTECT FOR FUTURE USE. PROTECT EXISTING CONDUCTORS.
- ③ PROVIDE NEW HANDHOLE AND INTERCEPT EXISTING UNDERGROUND LIGHTING CIRCUIT. EXTEND EXISTING CONDUIT AND CONDUCTORS TO NEW LIGHT POLE LOCATION AS REQUIRED TO COMPLETE LIGHTING CIRCUIT.