Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements - Questions/RFIs

ADDENDUM ACKNOWLEDGMENT

ADDENDUM NO. 02 **Dated: July 17th, 2023**
Opening Date: July 20th, 2023 @3:00 pm

NOTICE

It is the sole responsibility of the bidder to ensure that it has received any and all Addenda and the Philadelphia Redevelopment Authority may in their sole discretion reject any bid for which Addenda have not been executed and returned.

PROPOSAL FOR

Project No.: 16368E-02-03
Description: Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements

IS AMENDED AS FOLLOWS:

1. Amendments will be posted in **[http://www.phdcphila.org**]. Each Bidder shall ascertain prior to submitting a proposal that Bidder has received all Amendments issued and shall acknowledge their receipt in their proposal submission.
2. SPECIFICATION CHANGE - Revised and Reissued Specifications: The following Specifications are revised and reissued by this Addendum. The revised Specifications void and supersede previously issued Specifications with like number:
    - 00 4114 Construction Bid Proposal Form
    - 08 7100 Door Hardware
    - 08 7100.01 Door Hardware Schedule
    - 32 1813 Synthetic Turf

3. DRAWING SHEET CHANGES - Revised and Reissued Sheets: The following Sheets are revised and reissued by this Addendum. The revised Sheets void and supersede previously issued Sheets of like number:
    - A452-R.2 Vertical Circulation
    - A502-R.2 Interior Elevations
    - A702-R.2 Reflected Ceiling Plan – 1st Floor
    - A901-R.2 Window, Door, And Partition Schedules
    - A910-R.2 Storefront Entrance
    - C-603-R Civil Site Details
    - C-604-R Civil Site Details
    - C-605-R Civil Site Details
    - Fp101-R.2 Fire Protection Proposed – First Floor

Kingsessing Recreation Center Building & Site Improvements Package 2: Interior Envelope Repairs & Improvements - Questions/RFIs

1. E401-R.2: What is the location of existing 100A safety switch for Field Lighting?
   Ans: Field lighting scope is not as part of the Package 2 RFP. Existing 100A safety switch for field lighting to remain as is.
2. What is location of new Field Lighting panel? Do you have a panel schedule for breakers required?
   Ans: Field lighting scope is not as part of the Package 2 RFP.
3. Where on the Cival Drawings do we coordinate Field Lighting work?
   Ans: Field lighting scope is not as part of the Package 2 RFP.
4. E501-R.2: MDP does not show a circuit breaker for Field Lighting Panel. Where do we feed from?
   Ans: Field lighting scope is not as part of the Package 2 RFP.
5. E300B-R.2: Drawing states this is "Alternate R-3". Bid form does not have this alternate. Is this alternate R1, 2, Part D?
   Ans: E300B-R.2 provides scope of work for R1 deduct alternate scope.
6. E301-R.2: Are wire guards required in gym and boxing for exit and emergency lights?
   Ans: Wire guards are not required. Provide polycarbonate vandal shield for exit signs and emergency lights.
7. E301-R.2: New Work Note: Where do we include cost for Key Switch Control? Bid form does not have a line item for this cost.
   Ans: Base scope includes centralized lighting control. Provide alternate scope for local key switch control. Bid form to be updated.
8. E300C-R.2: What are light fixtures designated as "L2-9"?
   Ans: L2-9 is the panel/circuit designation for the light fixtures. Light fixtures are type C2.
9. FA200B-R.2: Drawing shows Alternate R-3 for fire alarm, bid form does not have Alt. R-3. Where do we insert alternate costs for fire alarm work?
   Ans: FA200B-R.2 provides scope of work for R1 deduct alternate scope.

To All Interested Bidders,

Please completed and returned within ten (5) working days before Bid Due Date your intentions via email to:

[ ] Yes, we intend to submit a bid.

We are sorry to inform you that we are unable to submit a bid in response to the above-mentioned invitation to bid due to the reason(s) listed below:

[ ] We are unable to submit a competitive offer for the requested services at the moment.
[ ] Insufficient time is allowed to prepare a bid.
[ ] We cannot meet the project delivery requirements.
[ ] The information provided for bid purposes is insufficient.
[ ] Others (please specify) _____

Bidder must acknowledge receipt of Addenda in their proposal submission.

Name of Firm: _____

Signature of Authorized Agent: _____

Date _____

KELLY MAIELLO ARCHITECTS
1420 Walnut Street, 15th Floor
Philadelphia, PA 19102
www.kmarchitects.com

ADDENDUM NO. 2

PROJECT: KINGSESSING RECREACTION CENTER BUILDING AND SITE IMPROVEMENTS – PACKAGE 2: INTERIOR AND SITE

DATE OF ISSUANCE: 7/13/2023

OWNER: Rebuild Philadelphia / Philadelphia Parks and Recreation

These drawings, specifications and instructions form a part of and modify the Drawings, Specifications, and Instructions issued for Packages to the extent noted herein:

Careful note of these Drawings, Specifications, and Instructions shall be taken by all parties of interest so that proper allowance is made in all computations, estimates, and contracts so that all trades affected are fully advised in the performance of Work that will be required of them.

These Drawings, Specifications, and Instructions supersede all previous Drawings, Specifications, and Instructions pertaining to these items.

All Drawings, Specifications and Instructions not amended as part of Addendum No. 2 dated 07/13/23 remain valid.

BIDDER QUESTIONS:

See document: Questions and Answers (Kingsessing Package 2 RFP)-PAI

DRAWINGS:

A452-R.2	VERTICAL CIRCULATION	ADD: Draft curtains at stairs 2 and 5. Callout added to stair sections
A502-R.2	INTERIOR ELEVATIONS	ADD: Overhead concealed door operator at door 113B on drawing (7) “Lobby Elevation – West” REV: Add midrail to door 113B for egress hardware on drawing (7) “Lobby Elevation – West” ADD: Draft curtains at stairs 2 and 5 shown in elevation on drawing (5) “Lobby Elevation – East” ADD: Note to paint / refinish portable stair at stage on drawing (1) “Stage Elevation”.
A702-R.2	REFLECTED CEILING PLAN – 1ST FLOOR	ADD: Draft curtains at stairs 2 and 5 – indicated on RCP and tagged. ADD: Keynote for new draft curtains and to see detail. ADD: Draft curtain detail (NB.: Draft Curtain and Smoke Baffle are used interchangeably.)
A901-R.2	WINDOW, DOOR, AND PARITION SCHEDULES	REV: Door details at door 001B (remove (E) mtl channel, widen opening to make 3’-0” door REV: Door types 5 and 6 – add mid rail for egress hardware

		REV: Frame types B, B.1 – add subtype B.2 for metal panel transom REV: Frame type E – Adjust frame height to account for overhead concealed door operator
A910-R.2	STOREFRONT ENTRANCE	REV: Door and frame details at alum/glass exterior entry door
C-603-R	CIVIL SITE DETAILS	REVISED OUTLET PIPE ON SECTOIN A-A OF UNDERGROUND BASIN DETAIL TO BE 18" INSTEAD OF 24"
C-604-R	CIVIL SITE DETAILS	REMOVED UNDERDRAIN DETAIL. REFER TO SHEET C-605-R FOR CORRECT DETAIL.
C-605-R	CIVIL SITE DETAILS	UPDATED UNDERDRAIN DETAIL TO BE 18" INSTEAD OF 24"
FP101-R.2	FIRE PROTECTION PROPOSED – FIRST FLOOR	ADDED CLOSE SPACED SPRINKLER HEADS AT TWO OPEN STAIRCASES ON THE FIRST FLOOR.

SPECIFICATIONS:

00 4114	CONSTRUCTION BID PROPOSAL FORM	ADD: Add Alt R3: Lighting Controls
08 7100	DOOR HARDWARE	Add concealed door operators; other updates
08 7100.01	DOOR HARDWARE SCHEDULE	Updated hardware sets.
32 1813	SYNTHETIC TURF	REV: Section updated to correct footer as well as updated to include/clarify the add alternate bid item for a natural turf infill in lieu of crumb rubber/sand infill.

This is the last page of Addendum No. 2.

PHILADELPHIA REDEVLOPMENT AUTHORITY

KINGSESSING RECREATION CENTER BUILING AND SITE IMPROVEMENTS
1201 S 51ST ST
PHILADELPHIA, PA 19143

THIS BID FORM IS COMPLETE AND MUST NOT BE SEPARATED. IF ANY SHEET OR SHEETS ARE DETACHED WHEN SUBMITTED AS A BID, THE PHILADELPHIA REDEVELOPMENT AUTHORITY RESERVES THE RIGHT TO REJECT YOUR BID.

_____

FIRM NAME

_____

FIRM ADDRESS

_____ _____

FEDERAL EIN **TOTAL BASE BID**

_____

PHILADELPHIA BUSINESS TAX ID

To the Philadelphia Redevelopment Authority:

I, the undersigned Bidder, hereby propose to furnish all the labor, materials and equipment, perform the whole of the work, and submit to all conditions, as represented, intended and implied, both particularly and generally, by the Plans, Special Specifications, Standard Specifications, Standard Details, Standard Contract Requirements, Form of Agreement, the Ordinance authorizing the work and this bid at the prices herein stated, and agrees that each item bid shall be complete in itself, and the Philadelphia Redevelopment Authority may increase or diminish the amount of work thereunder, or omit the item without invalidating the unit price bid for it or any other item, on the following terms to wit:

BID AMOUNT

We will complete the Work in accordance with the Contract Documents for the following Bid Amount as defined in Section 00700, Standard Contract Requirements. (Insert Bid Amount in words as well as figures.)

Div 01	General Conditions	$
Div 02	Interior Demolition	$
Div 02	Site Demolition	$
Div 03	Concrete	$
Div 04	Masonry	$
Div 05	Metals	$
Div 05	Metals – Structural Steel (Material Only)	$
Div 05	Metals – Cold Formed Metal Framing (Material Only)	$
Div 05	Metals – Exterior Stairs (Materials Only)	$
Div 05	Metals – Ext. Mechanical Enclosures	$
Div 06	Wood, Plastics, and Composites	$
Div 07	Thermal and Moisture Protection	$
Div 08	Openings	$
Div 08	Openings – Doors/Frames/Hardware (Material Only)	$
Div 08	Openings – Window Security Screens (Material Only)	$
Div 08	Openings – Glazing (Material Only)	$
Div 08	Openings – Louvers (Material Only	$
Div 09	Finishes – Plastering (Gyp + Cement)	$
Div 09	Finishes – Tiling	$
Div 09	Finishes – Resinous Flooring	$
Div 09	Finishes – Resilient Flooring	$
Div 09	Finishes – Resilient Athletic Flooring	$
Div 09	Finishes – Paints & Coatings	$

Div 10	Specialties – Interior/Exterior Signage	$
Div 10	Specialties – Toilet Compartments/Accessories	$
Div 10	Specialties – Fire Extinguishers/Cabinets	$
Div 10	Specialties – Wall Mounted Standards/Closet + Utility Shelving	$
Div 10	Specialties – Wire Mesh Partitions/Ext. Enclosures	$
Div 11	Equipment	$
Div 11	Equipment – Play Equipment + Structures	$
Div 12	Furnishings	$
Div 13	Special Construction - Fabricated Structures	$
Div 14	Hydraulic Elevator & Wheelchair Lift	$
Div 14	Conveying Equipment – Elevator (Material Only)	$
Div 14	Conveying Equipment – Wheelchair Lifts (Material Only)	$
Div 21	Fire Protection – Sprinkler System	$
Div 22	Plumbing	$
Div 22	Plumbing – Equipment (Material Only)	$
Div 22	Plumbing – Fixtures (Material Only)	$
Div 23	HVAC	$
Div 23	HVAC – Ductwork	$
Div 23	HVAC – Equipment AHU's, Condensing Units, (Material Only)	$
Div 26	Electrical	$
Div 26	Electrical – Light Fixtures (Material Only)	$
Div 26	Electrical – Switchgear (Material Only)	$
Div 27	Telecom	$
Div 28	Electronic Security Systems - Video Surveillance	$
Div 28	Electronic Security Systems - Fire Alarms	$
Div 31	Earthwork	$
Div 32	Exterior Improvements – Asphalt Paving	$
Div 32	Exterior Improvements – Concrete Paving	$
Div 32	Exterior Improvements – Protective Playground Surfacing	$
Div 32	Exterior Improvements – Site Furnishings	$
Div 32	Exterior Improvements – Synthetic Turf	$
Div 32	Exterior Improvements – Gazebo	$
Div 32	Exterior Improvements – Soil Prep/Turfs & Grass	$
Div 33	Site Utilities	$

TOTAL BASE BID AMOUNT $ _____

(in words)_____

_____DOLLARS

1. ALLOWANCE No. 1: Bidders are to include the amount equal to Two Percent (2%) of their base bid amount for payment of Permit and License fees to all regulatory agencies. Refer to Allowances, Section 01210 for more details. ALLOWANCE AMOUNT _____ DOLLARS, $_____

2. ALLOWANCE No. 2: Bidders are to include the amount of $30,000.00 to their base bid amount for new site signage. Refer to Allowances, Section 012100 for more details. THIRTY THOUSAND DOLLARS, $30,000.00.

3. ALLOWANCE No. 3: Bidders are to include the amount of $50,000.00 to their base bid amount for site security. Refer to Allowances, Section 012100 for more details. ALLOWANCE AMOUNT _____ DOLLARS, $_____

4. ALLOWANCE No. 4: Bidders are to include the amount of $25,000.00 to the base bid amount for Moving and Storage. Refer to Allowances, Section 012100 for more details. TWENTY-FIVE THOUSAND DOLLARS, $25,000.00.

TOTAL BASE BID PLUS ALLOWANCES.$_____

(in words) _____ DOLLARS

SCHEDULE OF ALTERNATES (*please refer to spec section 012300 UNIT PRICES for description*)

A. Alternate No. R1: DEDUCT ALT - Architectural Reductions (Lower Level)
   1. Base Bid: Interior renovations at the Lower Level per Package 2 set,
   2. Alternate: See also drawing AD101B-R.2, A101B-R.2; Respective MEP/FP/IT drawings
      a. Reduction of scope at Lower Level (LL) as shown on drawings
      b. Do not demolish existing walls except as required for (LL) restrooms and elevator modifications.
      c. Provide abuse resistant GWB on furring at interior side of exterior walls in lieu of plaster repair at LL areas to be renovated.
      d. Elec: same as base bid, except provide new lighting only at areas to be renovated and at stairs and as needed for egress/exits. See Electrical drawings.
      e. Mech: No change from Base Bid. See Mech. drawings.
      f. Plumb: No change from Base Bid. See Plumbing drawings
      g. Fire Protection: No change from Base Bid. See Fire Protection drawings.
      h. Fire Alarm: No change from Base Bid. See FA drawings
      i. Telecom: No change from Base Bid. See Telecom drawings.

AMOUNT _____ DOLLARS, $_____

B. Alternate No. R2: ADD ALT – Additional scope at Lower Level
   1. Base Bid: Interior renovations at the Lower Level per Package 2 set
   2. Alternate: See also drawing AD101C-R.2, A101C-R.2; Respective MEP/FP/IT drawings per Base Bid.
      a. Full lower-level renovation: Remove additional walls / reconfigure space at lower level as shown on drawings.

AMOUNT _____ DOLLARS, $_____

C. Alternate No. R3: ADD ALT – Electrical localized lighting control.
   1. Base Bid: Centralized lighting control
   2. Alternate: Provide localized lighting control at public spaces as noted on drawings.

AMOUNT _____ DOLLARS, $_____

D. Alternate No. S1: DEDUCT ALT – Playing Fields
   1. Base Bid: Artificial turf field including underground storm-water management.
   2. Alternate: Provide Natural Turf Field; reduce storm basin by 50%

AMOUNT _____ DOLLARS, $_____

E. Alternate No. S2:DEDUCT ALT – Rec Center Frontage Paving
   1. Base Bid:
      a. New concrete vehicular paving – extent as indicated on drawings.
      b. Repairs to existing brick paving – extent as indicated on drawings.
   2. Alternate:
      a. Provide asphalt vehicular paving in lieu of concrete.

AMOUNT _____ DOLLARS, $_____

F. Alternate No. **S3**:ADD ALT – Tennis Courts
   1. Base Bid: No Scope
   2. Alternate:
      a. Color coating and white line striping only.

AMOUNT _____ DOLLARS, $_____

G. Alternate No. **S4**: ADD ALT – Diagonal path from 51st and Chester to playground
   1. Base Bid:
      a. Diagonal Vehicular path: asphalt paving
      b. Lighting: Install (5) PPR Standard pedestrian light posts

AMOUNT _____ DOLLARS, $_____

   2. Alternate (Add):
      a. Install concrete pads, PPR Standard backless benches – (3) location as shown on landscape drawings L100-R.2

b. Trash (1) and recycling (1) receptacles
c. Install (5) Canopy trees

AMOUNT _____ DOLLARS, $_____

SCHEDULE OF UNIT PRICES (*please refer to spec section 012200 UNIT PRICES for description*)

A. Unit Price No. 1: Repair of plaster – level 1 repair
Description: Hairline cracks, small holes/bubbles:
Unit of Measurement: Square foot of damage. $ _____

B. Unit Price No. 2: Repair of plaster – level 2 repair
Description: Large cracks, loose plaster, water damage
Unit of Measurement: Square foot of damage. $ _____

C. Unit Price No. 3: New openings in masonry walls
Description: Provide opening and steel lintel per structural drawings.
Unit of Measurement: Square foot of opening. $ _____

D. Unit Price No. 4: New furring over masonry walls
Description: metal stud wall and 5/8" abuse-resistant GWB, installed full height to underside of structure.
Unit of Measurement: Square foot of wall$ _____

E. Unit Price No. 5: Wood Floor repair
Description: Repair of wood floors at gyms, and 2nd floor
Unit of Measurement: Square foot of surface. $ _____

F. Unit Price No. 6: Underlayment
Description: Provide new underlayment; remove deteriorated underlayment and install new.
Unit of Measurement: Square foot of surface. $ _____

G. Unit Price No. 7: Brick Replacement – Site wall and select areas indicated on drawings.
Description: Remove damaged brick and replace with new matching brick according to:
Unit of Measurement: Each brick replaced. $ _____

H. Unit Price No. 8: Crack and spall repair - Brick – Site wall
Description: Repairs per detail 1/S304-R.2
Unit of Measurement: Lineal foot of crack. $ _____

I. Unit Price No. 9: Mortar joint crack repair - Brick – Site wall
Description: Repairs per detail 2/S304-R.2

Unit of Measurement: Lineal foot of crack. $ _____

J. Unit Price No. 10: Dutchman repair – Limestone
Description: Remove damaged stone and replace with new limestone dutchman with profiled and flat surfaces to match existing limestone according to the following Section and as indicated on structural Drawings.
Unit of Measurement: Square foot of dutchman repair. $ _____

K. Unit Price No. 11: Dutchman repair – Granite.
Description: Remove damaged stone and replace with new Granite dutchman with profiled and flat surfaces to match existing Granite according to the following Section and as indicated on structural Drawings.
Unit of Measurement: Square foot of dutchman repair. $ _____

L. Unit Price No. 12: Repair of cracks with composite patching material – Granite.
Description: Cut out material in surface crack and apply composite patching material and crushed granite to fill crack and shed water away from surface of building according to:
Unit of Measurement: Lineal foot of crack repaired. $ _____

M. Unit Price No. 13: Repair of cracks with composite patching material – Granite.
Description: Cut out material in surface crack and apply composite patching material and crushed granite to fill crack and shed water away from surface of building according to:
Unit of Measurement: Lineal foot of crack repaired. $ _____

B. I will substantially complete the Work, ready for final payment, in accordance with the Contract Documents within 250 consecutive calendar days counting from the date stated in the Notice to Proceed.

C. ADDENDA

Bidder must attach Addendum Acknowledgement sheets for all Addenda, if applicable.

EXECUTION OF CONTRACT

This contract consists of the Standard Contract Requirements; the Department's Standard Details and Specifications, as they apply; the Department's General Bidding and Contract Requirements; the Technical Specifications; the Bid; the Plans with all of the notes thereon (excluding any records or reports of test borings, underground structures, and test piles); any additional exhibits or attachments to any of the foregoing; and any addenda thereto issued by the PRA/City (collectively, the "Contract").

NOTE: ANY CONTRACT THAT IS NOT EXECUTED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED BELOW, MAY, IN THE SOLE DISCRETION OF THE PHILADELPHIA REDEVELOPMENT AUTHORITY, BE REJECTED.

SIGNING OF CONTRACT

If Contractor is an INDIVIDUAL or a PARTNERSHIP, date and sign the Contract here, with original signatures, in ink.

This _____day of _____ 2019

_____ _____

(Signature of Owner, Partner) (Type or Print Name and Title)

_____

(Business Name of Bidder)

If Contractor is a CORPORATION, date and sign the Contract here with original signatures, in ink, by (a) President or Vice-President of the corporation AND (b) Secretary, Assistant Secretary, Treasurer or Assistant Treasurer of the corporation; and (c) affix the seal of the corporation. If the Contract is not signed by the President or Vice-President; and Secretary, Assistant Secretary; Treasurer or Assistant Treasurer, attach a duly certified corporate resolution authorizing the person signing in place of such officers to execute this Contract for the corporation.

This_____day of _____2019

CORPORATE SEAL _____

(Corporate or Business Name of Bidder)

_____

(Address, Including Zip Code)

_____

(Telephone Number)

_____ _____

(Signature of President or Vice President) (Signature of Secretary, Asst. Secretary, Treasurer or Assistant Treasurer

_____ _____

(Type or Print Name and Title) (Type or Print Name and Title)

SECTION 08 7100.01
DOOR HARDWARE SCHEDULE

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 references specification sections relating to commercial door hardware for the following:

1. Swinging doors.
2. Sliding Doors.
3. Other doors to the extent indicated.

B. Commercial door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical and access control door hardware.
3. Electromechanical and access control door hardware power supplies, back-ups and surge protection.
4. Automatic operators.
5. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section “Door Hardware”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

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

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.

D. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.

F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.5 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1.6 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Refer to “PART 3 – EXECUTION” for required specification sections.

PART 3 - EXECUTION

3.1 DOOR HARDWARE SETS

A. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Products listed in the hardware sets shall be supplied by and in accordance with the requirements described in the specification section as noted for each item.

1. Section 08 71 00 – Door Hardware.

C. Manufacturer's Abbreviations:

1. MK - McKinney
2. MR - Markar
3. PE - Pemko
4. RO - Rockwood
5. YA - Arrow, formerly known as Yale
6. RU - Corbin Russwin
7. BE - BEST Locks & Closers
8. RF - Rixson
9. NO - Norton
10. OT - Other
11. SU - Securitron

Hardware Sets

Set: 1.0

Doors: 113A

2	Continuous Hinge	CFM-SLF-HD1-M		PE
1	Concealed Vert Rod Exit, Exit Only	ED5860 EO M52	630	RU
1	Concealed Vert Rod Exit, Nightlatch	ED5860 K157ET M52	630	RU
3	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
2	Pull	RM201 Mtg-Type 12XHD	US32D-316	RO
2	Conc Overhead Stop	6-X36	630	RF
1	Surface Closer	DC6220 x mounting plate to suit application	689	RU
1	Double Door Operator	SW200i (concealed double)	689	BM
1	Threshold	1715AK MSES25SS		PE
1	Weatherstrip	- Integral within construction of door and frame assembly		OT
2	Sweep	29326CNB TKSP		PE
2	Position Switch	DPS-M-BK		SU
1	Wiring Diagram	- Elevation and Point to Point as Specified		OT

Notes:

Door position switches to monitor / report open closed status of opening to security system. Automatic operator to be manually turned on / off each day at toggle switch at side of unit. Automatic operator by actuator.

Set: 4.0

Doors: 205A

6	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
2	Fire Rated Conc Vert Rod, Classroom	ED5860B L955ET M55	630	RU
2	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
2	Surface Closer	DC6210 A4	689	RU

2	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE
1	Astragal	S772C		PE

Set: 5.0

Doors: 205B

6	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
2	Fire Rated Conc Vert Rod, Classroom	ED5860B L955ET M55	630	RU
2	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
2	Surface Closer	DC6210 A4	689	RU
2	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE
1	Astragal	S772C		PE

Set: 5.1

Doors: 101, 121

6	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Dust Proof Strike	570	US26D	RO
1	Flush Bolt	555- 12"/72" AFF	US26D	RO
1	Mortise Exit Device, Classroom	ED5600L L9M55ET CT7SD	630	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A3	689	RU
2	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
2	Silencer	608/609 (As Needed)		RO

Set: 7.0

Doors: 101A, 121A

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Rim Exit Device,	ED5200 L910ET	630	RU

	Passage			
1	Surf Overhead Stop	10-X36	689	RF
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 8.0

Doors: 205C, 205D

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Fire Rated Rim Exit, Passage	ED5200A L910ET	630	RU
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 8.1

Doors: 105

3	Hinge, Wide Throw	TA2798 4-1/2" x __ (supplier to confirm dimension)	US26D	MK
1	Fire Rated Rim Exit, Passage	ED5200A L910ET	630	RU
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 9.0

Doors: 008A, 033

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Fire Rated Rim Exit, Passage	ED5200A L910ET	630	RU
1	Surf Overhead Stop	10-X36	689	RF
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO

1	Gasketing	S88_ (Head & Jambs)		PE

Set: 9.1

Doors: 118

3	Hinge, Wide Throw	TA2798 4-1/2" x __ (supplier to confirm dimension)	US26D	MK
1	Fire Rated Rim Exit, Passage	ED5200A L910ET	630	RU
1	Surf Overhead Stop	10-X36	689	RF
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 10.0

Doors: 001B, 017A, 017B, 025

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Rim Exit Device, Classroom	ED5200 L955ET	630	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A3	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 11.0

Doors: 204

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Fire Rated Rim Exit, Passage	ED5200A L910ET	630	RU
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 12.0

Doors: 113B

2	Continuous Hinge	FM300	630	MR
2	Dummy Bar, Exit Only	ED5000DB EO	630	RU
2	Pull	RM201 Mtg-Type 12XHD	US32D-316	RO
1	Surface Closer	DC6210 A4	689	RU
2	Double Door Operator	SW200i (concealed double)	689	BM
2	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
2	Silencer	608/609 (As Needed)		RO

Notes:

Automatic operator by actuator.

Set: 13.0

Doors: 007A

1	Continuous Hinge	FM300	630	MR
1	Dummy Bar, Exit Only	ED5000DB EO	630	RU
1	Pull Plate	BF 111x70C	US32D	RO
1	Surface Closer	DC6210 A4	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 14.0

Doors: 006A, 020, 026, 028, 036, 037A, A-003A

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 15.0

Doors: 001A, 015A, 015B, ST1-1

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A3	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 16.0

Doors: 120, ST6-1

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A4	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 16.1

Doors: ST5-4

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 17.0

Doors: 204A

3	Hinge, Full	TA2714 [NRP]	US26D	MK

	Mortise			
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A4	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 18.0

Doors: 106A, 108, 110, 112A, 203A

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Entrance Lock	ML2053 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 19.0

Doors: 119, 210B

6	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Dust Proof Strike	570	US26D	RO
2	Flush Bolt	555- 12"/72" AFF	US26D	RO
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
2	Wall Stop	RM860/PM861 (As Needed)	US32D	RO

Set: 20.0

Doors: 009A, 108B, 110B, 112B, 115, 206C, 206D

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 21.0

Doors: 034A, 108A, 110A, 112C, 112D, 112E, 112F, 119A, 207

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Conc Overhead Stop	5-x36	689	RF
3	Silencer	608/609 (As Needed)		RO

Set: 22.0

Doors: 206A, 206B

4	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A3	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 23.0

Doors: 202A

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Privacy Lock	ML2060 LWA V20	626	RU
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO
1	Coat Hook	RM823	US32D	RO

Set: 24.0

Doors: 003B, 031

6	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Mortise Deadlock	B 357	626	YA
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
2	Push Pull	111x73C/73CL Mtg-Type 1HD	US32D	RO
1	Surface Closer	DC6210 A3	689	RU
1	Surface Closer	DC6210 A4	689	RU
2	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
2	Silencer	608/609 (As Needed)		RO

Set: 25.0

Doors: 104A, 117A

3	Hinge, Full Mortise	TA2714 [NRP]	US26D	MK
1	Mortise Deadlock	B 357	626	YA
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Push Pull	111x73C/73CL Mtg-Type 1HD	US32D	RO
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 26.0

Doors: 010B, 013B, 019

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Storeroom Lock	ML2057 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 27.0

Doors: 034B

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 28.0

Doors: 210A

4	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 29.0

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 30.0

Doors: 201, 208, 209A

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Classroom Lock	ML2055 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO

1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
1	Gasketing	S88_ (Head & Jambs)		PE

Set: 31.0

Doors: 005A

4	Hinge, Full Mortise, Hvy Wt	T4A3386 [NRP]	US32D	MK
1	Entrance Lock	ML2053 LWA CT7SD	626	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Surface Closer	DC6210 A3	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO
3	Silencer	608/609 (As Needed)		RO

Set: 32.0

Doors: 022, 024

3	Hinge, Full Mortise, Hvy Wt	T4A3786 [NRP]	US26D	MK
1	Mortise Deadlock	B 357	626	YA
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE
1	Pull Plate	BF 111x70C	US32D	RO
1	Push Pull	111x73C/73CL Mtg-Type 1HD	US32D	RO
1	Surface Closer	DC6200	689	RU
1	Kick Plate	K1050 = 10" H x 2" LDW CSK BEV	US32D	RO
1	Wall Stop	RM860/PM861 (As Needed)	US32D	RO

Set: 34.0

Doors: G1, G2, G3, G4, G5, G6, ST2-1, ST5-1

1	Rim Exit Device, Classroom	ED5200 L955ET	630	RU
1	Permanent Cylinder	Match existing (5C7DD - High Security)		BE

Notes:

All other hardware to be provided with Gate / Screen.

END OF SECTION 080671

SECTION 08 7100
DOOR HARDWARE

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 commercial door hardware for the following:

1. Swinging doors.
2. Sliding doors.
3. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Automatic operators.
4. Cylinders specified for doors in other sections.

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
8. State Building Codes, Local Amendments.

D. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

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

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.

b. Complete (risers, point-to-point) access control system block wiring diagrams.
c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Please note that ASSA ABLOY is transitioning the Yale Commercial brand to Arrow. This affects only the brand name; the products and product numbers will remain unchanged. The brand transition is expected to be complete in or about May of 2024, and products shipping after that time will be branded Arrow.

D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.
b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

   a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
   b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

   a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:

   a. Hager Companies (HA) - BB Series, 5 knuckle.
   b. McKinney (MK) - TA/T4A Series, 5 knuckle.
   c. dormakaba Best (ST) - F/FBB Series, 5 knuckle.

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:.

   a. Hager Companies (HA).
   b. Pemko (PE).
   c. Dormakaba Best (ST).

C. Pin and Barrel Continuous Hinges: ANSI/BHMA A156.26 Grade 1-600 pin and barrel continuous hinges with minimum 14 gauge Type 304 stainless steel hinge leaves, concealed stainless pin, and twin self-lubricated nylon bearings at each knuckle separation. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:

   a. Hager Companies (HA).
   b. Markar Products; ASSA ABLOY Architectural Door Accessories (MR).
   c. Pemko (PE).
   d. Dormakaba Best (ST).

2.3 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

5. Manufacturers:

    a. Door Controls International (DC).
    b. Rockwood (RO).
    c. Trimco (TC).

B. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls, where applicable, shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

6. Manufacturers:

    a. Hiawatha, Inc. (HI).
    b. Rockwood (RO).
    c. Trimco (TC).

2.4 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

1. Manufacturers:

    a. dormakaba Best (BE).
    b. Match Existing, Field Verify.
    c. No Substitution.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer's Standard.

C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

D. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. New System: Key locks to a new key system as directed by the Owner.

E. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

F. Construction Keying: Provide construction master keyed cylinders.

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Heavy duty mortise locks shall have a ten-year warranty.

2. Where specified, provide status indicators with highly reflective color and wording for "locked/unlocked" or "vacant/occupied" with custom wording options if

required. Indicator to be located above the cylinder with the inside thumb-turn not blocking the visibility of the indicator status. Indicator window size to be a minimum of 2.1” x 0.6” with a curved design allowing a 180-degree viewing angle with protective covering to prevent tampering.

3. Manufacturers:

   a. Arrow, formerly known as Yale (YA) - 8800FL Series.
   b. Corbin Russwin Hardware (RU) - ML2000 Series.
   c. dormakaba Best (BE) - 45H Series.
   d. Sargent Manufacturing (SA) - 8200 Series.

B. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Operational Grade 1 Certified Products Directory (CPD) listed.

1. Vertical Impact: Exceed 100 vertical impacts (20 times ANSI/BHMA A156.2 requirements).

2. Furnish with solid cast levers, standard 2 3/4” backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.

3. Locks are to be non-handed and fully field reversible.

4. Manufacturers:

   a. Corbin Russwin Hardware (RU) - CLX3300 Series.
   b. dormakaba Best (BE) - 9K Series.
   c. Sargent Manufacturing (SA) - 10X Line.

2.6 AUXILIARY LOCKS

A. Mortise Deadlocks, Small Case: ANSI/BHMA A156.36, Grade 1, small case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. Steel or stainless steel bolts with a 1" throw and hardened steel roller pins. Deadlocks to be products of the same source manufacturer and keyway as other specified locksets.

1. Manufacturers:

   a. Arrow, formerly known as Yale (YA) - 350 Series.
   b. dormakaba Best (BE) - 48H Series.
   c. Corbin Russwin Hardware (RU) - DL4000 Series.
   d. Sargent Manufacturing (SA) - 4870 Series.

2.7 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.8 ELECTRIC STRIKE & DOOR OPERATOR

A. Standard Electric Strikes: Electric strikes conforming to ANSI/BHMA A156.31, Grade 1, for use on non-rated or fire rated openings. Strikes shall be of stainless steel construction tested to a minimum of 1500 pounds of static strength and 70 foot-pounds of dynamic strength with a minimum endurance of 1 million operating cycles. Provide strikes with 12 or 24 VDC capability, fail-secure unless otherwise specified. Where specified provide latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.
   1. Manufacturers: Subject to compliance with requirements for compliant and complete system.
      a. Basis of Design LCN -2850 Model with concealed mounting beneath the door head.
         1) As required to accommodate field conditions and with approval provide surface mounted equivalent.
      b. Besam – SW200i
      c. HES (HS) - 1006 Series.
      d. Von Duprin (VD) - 6200/6400 Series.
      e. Dormakaba https://www.dormakaba.com/us-en/solutions/products/entrance-systems
      f. Beacon https://www.beaconcdl.com/automatic-door-operators-simplified/

2.9 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.

2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.

3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.

4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.

5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

6. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.

7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

9. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.

10. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

11. Rail Sizing: Provide exit device rails factory sized for proper door width application.

12. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:

    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.

c. dormakaba Best (PR) - Apex 2000 Series.
d. Von Duprin (VD) - 35A/98 XP Series.

2.10 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.

2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.

4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.

5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard..

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - DC6000 Series.
b. dormakaba (DO) - 8900 Series.
c. Norton Rixson (NO) - 7500 Series.
d. Sargent Manufacturing (SA) - 351 Series.

2.11 ELECTROMECHANICAL DOOR OPERATORS

A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.

1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.

B. Standard: Conforming to ANSI/BHMA A156.19.

C. Performance Requirements:

1. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.

D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.

E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19.

F. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.

G. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.

H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.

I. Wireless Interface: Operator units shall have a wireless interface via a mobile device for ease of installation and setup.

J. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Norton Rixson (NO) - 6300 Series.

2.12 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.

2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.

4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:

   a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.

6. Manufacturers:

   a. Hiawatha, Inc. (HI).
   b. Rockwood (RO).
   c. Trimco (TC).

2.13 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

   a. Hiawatha, Inc. (HI).
   b. Rockwood (RO).
   c. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

a. Norton Rixson (RF).
b. Rockwood (RO).
c. Sargent Manufacturing (SA).

2.14 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. National Guard Products (NG).
2. Pemko (PE).
3. Reese Enterprises, Inc. (RE).

2.15 ELECTRONIC ACCESSORIES

A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.

1. Manufacturers:

   a. Sargent Manufacturing (SA) - 3280 Series.
   b. Security Door Controls (SD) - DPS Series.
   c. Securitron (SU) - DPS Series.

2.16 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.17 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final

operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.5 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.6 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.7 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Refer to Section 080671, Door Hardware Sets, for hardware sets.

END OF SECTION 087100

SECTION 321813 - SYNTHETIC TURF

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Furnish all labor, materials, tools and equipment necessary to install all synthetic turf as indicated on the plans and as specified herein and other related specifications. The installation of all new materials shall be performed in strict accordance with the manufacturer's installation instructions and in accordance with all approved shop drawings.

B. Related Sections:

1. Division 31 Section "Earth Moving"
2. Division 33 Section "Storm Drainage"

1.2 REFERENCES

A. FM P7825 - Approval Guide; Factory Mutual Research Corporation; current edition

B. ASTM – American Society for Testing and Materials.

1.3 SUBMITTALS

A. Submittals shall be provided to Architect, Engineer, and Owner for approval.

B. Shop Drawings:

1. Field layout including all line packages, logos, and lettering.
2. Roll/ Seaming Marking Plan
3. Show installation methods and construction indicating field-verified conditions, clearances, measurements, terminations, drainage including any details of construction that deviate from the plans and specifications.
4. Football turf system (2.25" turf system)
5. Subdrainage system layout and details.
6. Plan drawing showing location of permeability testing of aggregate base.

C. Product Data:

1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
3. Submit data in sufficient detail to indicate compliance with the contract documents.
4. Submit manufacturer's instructions for installation.

5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.
6. Submit product data sheets for the following:
   a) Permeable Liner
   b) Subdrain System and all standard fittings
   c) Collector Drain.
   d) Permeable Stone Aggregate Base Course

D. Samples:

1. Submit one 12x12 inch (minimum) loose carpet sample without infill. Loose sample should demonstrate seaming and include an inlaid line.
2. Submit a sample of sand infill and a sample of selected infill and a sample of the final sand/selected infill mixture, including ratio by volume and by weight equivalent per square foot and method of installation. Sample of each shall represent the exact quantity per square foot. Particle size gradation charts must also be included.
3. Underlayment: One 12x12 inch (minimum) piece of permeable resilient polypropylene drainage layer.

E. Product Certification:

1. Submit manufacturer’s certification that products and materials comply with requirements of the specifications.
2. Submit test results indicating compliance with Reference Standards.
3. Submit certificates certifying that all materials used in the permeable aggregate base course work are as specified; submit all sieve gradations etc.

F. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Division 1 Specifications Series, General Requirements.

G. List of existing installations: Submit list including respective owner’s representative and telephone number.

H. Warranties: Per section 1.12, Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.

I. Submit a written “Certification of Acceptance of the Base Construction” from the manufacturer of the infill turf system prior to installation of the synthetic turf system.

J. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:

1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
2. Primary & Secondary Backing Weights, ASTM D5848.
3. Tuft Bind, ASTM D1335.
4. Grab Tear Strength, ASTM D1682 or D5034.
5. Shock Attenuation, ASTM F1936

6. Water Permeability, ASTM D4491
7. Lead Content, ASTM F2765

K. Prior to Final Acceptance, the Contractor shall submit to the Owner:

1. Three (3) copies of Maintenance Manuals, which will include all necessary instructions for the proper care and preventive maintenance of the turf system, including painting and markings.
2. Project Record Documents: Record actual locations of seams, drains or other pertinent information.
3. Warranty: Submit Manufacturer Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer and Insurance Carrier. Submit information confirming that 3rd Party Insurance Policy, non-cancelable and pre-paid, is in effect covering this installation, and underwritten by a Best "A++" Rated Insurance Carrier. Insurance carrier must confirm that the policy is in force and premiums paid. (See Section 1.12)

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section. The Turf Contractor and/or the Turf Manufacturer:

1. Must be experienced in the manufacture and installation of this type of tall pile synthetic infill turf systems as outlined below:

   a) A minimum of twenty-five (25) multi-purpose fields installed of 65,000 square feet or more in the United States, using the specified fiber.

2. Approved turf manufacturer must be one of the following, or equal approved by the Philadelphia Dept. of Parks and Recreation.

a)	Sprinturf	www.sprinturf.com
b)	A-Turf	www.aturf.com
c)	AstroTurf	www.astroturf.com
d)	Shaw Sports Turf	www.shawsportsturf.com
e)	Field Turf	www.fieldturf.com

B. Turf Contractor/ Installer Qualifications: Company specializing in performing the work of this section.

1. The Synthetic Turf Contractor shall have experience of twenty-five (25) acceptable installations (minimum 65,000 sq.ft.) of fields that are at least eight years old. Submit a list of all applicable installations with the bid, including dates of install, owner contact info and phone numbers with the bid.
2. The designated Supervisory Personnel on the project must be certified, in writing by the Turf Manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the infill mixture with a minimum of 5 years of experience in turf installations.

3. Installer shall be certified by the manufacturer and licensed.
4. The Manufacturer shall have a representative visit the site to certify, in writing, the installation and Warranty compliance.

C. Prior to the beginning of installation of synthetic turf, the installer shall inspect the sub-base. The installer will accept the sub-base in writing when the base contractor provides test results for compaction, planarity and permeability that are in compliance with the synthetic turf manufacturer's recommendations.

D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:

1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.

E. The Turf Contractor shall provide the necessary testing data to the owner that the finished field meets the required initial shock attenuation, as per ASTM F1936.

1. Shall provide third party certification confirming minimum requirement of 9 lbs. tuft bind.

F. The Owner reserves the right to reject and/ or refuse acceptance of any or all aspects of the synthetic turf installation if it fails to meet the requirements of this specification section.

1.5 DELIVERY, STORAGE, AND PROTECTION

A. Deliver products to project site in wrapped condition.

B. Store materials/ products in a safe and secure place, under cover and elevated above grade.

C. Deliver and store components with labels intact and legible.

D. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.

E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

F. Comply with manufacturer's recommendations.

1.6 EXISTING CONDTIONS

A. The contractor shall review and accept existing conditions prior to bidding. The contractor shall again review and accept existing conditions prior to beginning the installation.

B. The contractor shall protect all existing conditions that are not part of the scope of work and repair any damage to existing conditions that occurs during this scope of work.

1.7 SUBDRAINAGE

A. Provide subdrainage system to collect drain-through stormwater and conduct it to dispersal area(s) or manholes as indicated on the drawings

1.8 SUBGRADE VERIFICATION

A. Prior to any permeable aggregate base course construction, check the subgrade for accuracy, uniform bearing strength and crown (slope) toward the subdrainage system as required on the drawings. Verify that all subdrains, utilities, etc. have been properly installed and shall fill and tamp any traces of utility trenches. Maintain all subgrades in a satisfactory condition until superimposed construction is placed. Do not place base on a frozen or muddy subgrade.

3.1 1.9 GRADE CONTROL

A. Establish and maintain the required lines and grades. Provide crown or cross slope as indicated. Adjust the tops of utility/communication structures to be flush with proposed finish turf grades or as appropriate.

B. Subgrade for aggregate base must be established by dual plane laser grading equipment; coordinate with EARTH MOVING section.

3.2 1.10 BASE COURSE THICKNESS

A. Provide the thickness of the stone aggregate course as indicated on the drawings. The thickness indicated is the minimum at any point.

1.11 SEQUENCING AND SCHEDULING

A. Coordinate the Work with installation of work of related trades as the Work proceeds.

B. Sequence the Work in order to prevent deterioration of installed system.

1.12 WARRANTIES

A. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a minimum period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of nature beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; pre-paid for the entire 8 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written

directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. A rated carrier and must reflect the following values:

1. Must provide full coverage for eight (8) years from the date of Substantial Completion.
2. Must warrant materials and workmanship, including but not limited to, gravel base stability, drainage rates, seaming materials and adhesives.
3. No maximum per claim coverage amount.
4. Minimum of twenty-five-million dollar ($25,000,000) annual aggregate, and a per incident limit of no less than $1 million per claim. The third party insurer must have an AM Best rating of A++ or better.
5. Must warrant that the finished and accepted playing field elevation shall not vary by more than 0.1' due to instability of the gravel foundation (unrelated to existing, pre- developed subgrade soil conditions) or drainage system and that the field drainage rates will remain at or above design capacity for the life of the warranty.
6. Must cover full 100% replacement value of total square footage installed, minimum of $7.00 per sq. ft. (in case of complete product failure, which will include removal and disposal of the existing surface) The warranty shall include all necessary materials, labor, transportation costs, dumping fees, etc to complete any repairs under such warranty.
7. Must have a provision to either make a cash refund or repair or replace such portions of the installed materials that are no longer serviceable to maintain a serviceable and playable surface.
8. Must be a warranty from a single source covering workmanship and all self-manufactured or procured materials of the turf, turf system, base, and drainage.
9. Warrant that the yarn used to make the grass-like tufts will maintain its UV stability and tensile strength such that the strength of the fiber when measured in accordance with ASTM D-2256 will not decrease by more than 50% during the warranty period due to breakdown of UV stability.
10. Policies that include self insurance or self retention clauses shall not be considered.
11. Sample policy must be provided at time of bid to prove that policy is in force. A letter from an agent or a sample Certificate of Insurance will not be acceptable.

B. The warranty coverage shall not place limits on the amount of the field's usage.

C. The synthetic turf system must maintain a G-max of less than 120 for the life of the Warranty as per ASTM F1936. The manufacturer's warranty shall include annual G-Max Testing.

D. Permeable Resilient Polypropylene Drainage Base

1. Sports field underlayment panels shall be warranted by the manufacturer against warping, cracking, shattering, splitting or deteriorating. They shall not displace turf, deform, buckle from heat or moisture, or form gaps in cold or dry conditions that can be seen through the turf, under normal and proper use. They shall be free

from defects in material and workmanship for a period of twenty (20) years after date of installation.

2. The Panels shall not compress by more than ten percent (10%) during the Warranty Period unless they are subjected to stress loads in excess of those that ordinarily occur during use for athletic performance [35 pounds per square inch].

1.13 MAINTENANCE SERVICE

A. Contractor shall train the Owner's facility maintenance staff in the use of the turf manufacturer's recommended maintenance equipment.

B. Manufacturer must provide maintenance guidelines and a maintenance video to the facility maintenance staff.

1.14 TESTING

A. Turf Manufacturer shall be responsible to provide independent laboratory G-max testing (ASTM 355, 1936 method) at substantial completion, to verify that the shock attenuation properties of the field meet the requirements set forth in this specification.

1. The field must maintain an ASTM F1936 G-max of less than 120 for the life of the Warranty.
2. In addition to testing at time of completion, the Turf Manufacturer shall be responsible for annual Gmax testing as described above at its own cost. If at anytime the G-max ranges reach unacceptable levels, it is the responsibility of the Turf Manufacturer (or its 3rd party warranty) to bring the field back into the required ranges at no cost to the Owner.

B. Turf Manufacturer shall be responsible to provide independent laboratory Lead Content testing prior to substantial completion and final acceptance by Owner.

1. Two representative samples of fiber(s) and locations on the field shall be tested by the test methods below. The total lead content measured shall be less than 300 mg/ kg (ppm). Sample locations shall be chosen by the Owner.

a. The testing shall be conducted by an independent environmental laboratory accredited for heavy metal testing in solid and hazardous waste.
b. Prepare samples as outlined in EPA Method 3052 with the temperature modified from 180 +/- 5 deg C to 210 +/- 10 deg C.
c. Analyze prepared samples for lead using inductively coupled plasma- atomic emission spectrometry (AAS) as outlined in Test Method E 1613.
d. Report total lead content as mg/kg (ppm).

C. Turf Manufacturer shall be responsible to provide independent drainage testing of installed field gravel base and turf carpet with infill prior to substantial completion and final acceptance by Owner. The combined tests shall prove installed artificial turf system's drainage capability shall allow water flow through the system at a rate of not less than 10 inches per hour.

1. ASTM test WK22081- Test Methods for Vertical Permeability of Synthetic Turf Sports Field Base Stone and System by Nonconfined Area Flood Test Method. This test does not require special equipment and can be done in the field to test the vertical permeability before the synthetic turf is installed and after installation of the base is complete. This method does not require the application of a head and more accurately mimics rainwater conditions..
2. ASTM F1551 -Water Permeability of Synthetic Turf Systems and Permeable Bases. Test will provide permeability of synthetic turf carpet with infill.
3. Provide written report of permeability of base, and carpet with infill over base. Report shall include inches per hour rate.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The component materials of the synthetic turf system consist of:

1. A carpet made of dual filament polyethylene fibers (spinneret, extruded) tufted into a backing. All backing must meet the drainage requirements below.
2. All proposed synthetic turf systems shall be a 50/50 blend of arched monofilament yarn, having a 230 to 300 micron thickness and a nominal filament width of 1.5mm inter-tufted with a 100 micron parallel fibrillated slit film yarn. Turf carpet shall have a minimum stitch (tufting) gauge of 1/4” and a maximum stitch gauge of 1/2”. All fibers shall be polyethylene or co-polymer fiber tufted into a permeable backing system, and coated with a secondary backing of high-grade polyurethane.
3. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The materials as hereinafter specified should be able to withstand full climatic exposure in all climates, be resistant to insect infestation, rot, fungus, mildew, ultraviolet light and heat degradation, and shall have the basic characteristics of flow-through drainage, allowing free movement of surface runoff through the synthetic turf fabric where such water may flow to the existing base and into the field drainage system.
4. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional athletic shoes of all types. The finished surface shall resist abrasion and cutting from normal use. The pitcher’s mound, batter’s boxes, and basepaths shall include removable turf sections to allow for replacement and repair of worn or damaged sections.
5. Glue, thread, paint, seaming fabric and other materials may be used to install and mark the artificial turf. All adhesives used in bonding the system together shall be resistant to moisture, bacterial and fungus attacks, and resistant to ultraviolet rays at any location upon installation.
6. Field shall consist of a line package with the following four (4) sports:
    a. Football
    b. Soccer

c. Baseball
d. Softball

B. The installed artificial grass fabric system shall have the following specified properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	>10000 nominal
ASTM D3218	Yarn Thickness	>100 microns (slit); >230 microns (mono)
ASTM D2256	Yarn Breaking Strength	>8 lbs. (slit); >25lbs (mono)
ASTM D5793	Stitch Gauge	min. 1/4"- max 1/2"
ASTM D418/D5848	Pile Height	2" min.
ASTM D5848	Pile Weight	min. 44 oz. / square
yard ASTM D5848	Primary Backing	min. 6 oz. / square yard
ASTM D5848	Secondary Backing	min. 20 oz. / square
yard ASTM D5848	Total Weight	min. 70 oz. / square
yard ASTM D1335	Tuft Bind (without infill)	min. 9 lbs.
ASTM D1682/D5034	Grab Tear (width)	200 lbs. force
ASTM D1682/D5034	Grab Tear (length)	200 lbs. force
ASTM F1015	Relative Abrasiveness Index	<25
ASTM D4491	Carpet Permeability	>30 inches / hour
ASTM F355/F1936	Impact Attenuation, Gmax	90 min. – 120 max. at installation; 90 min. – 120 max. over field life (including pad beneath)

C. The Carpet shall consist of fibers tufted into a primary backing with a secondary coating.

1. Synthetic turf shall be loose-laid across the field, stretched, and attached to the perimeter edge detail. Synthetic turf shall be of sufficient length to permit full cross-field installation. No head or cross seams will be allowed except as needed for inlaid fabric striping or to accommodate programmed cut-outs.
2. All seams shall be flat, tight, and permanent with no separation or fraying. Edges of all panels must be cut and discarded prior to being joined together. Inlaid markings shall be adhered to seaming tape with a high strength polyurethane adhesive applied per the Synthetic Turf Manufacturer's standard procedures for outdoor applications. All main fabric seams shall be transverse to the field direction (i.e. run perpendicularly across the field).
3. Porous Backing:
   a. Primary backing shall be double-layered polypropylene fabric treated with UV inhibitors.
   b. The secondary backing shall consist of an application of porous, heat- activated urethane to permanently lock the fiber tufts in place.
4. Perforated Backing:
   a. The primary backing shall consist of two layers of woven fabric and one layer of non-woven fabric.
   b. The secondary backing of high-grade polyurethane shall be applied to the primary backing at a minimum of 20 oz./yd. Secondary

backing adds resistance to water degradation and strengthens grip on fibers.

c. The entire backing shall be coated with holes perforated throughout the backing at a minimum 3" interval to allow for drainage. Partially coated materials shall not be acceptable.

d. Hole spacing must allow for water drainage of a minimum of 30" an hour. The 30" per hour must account for infill blockage. Turf manufacturer must submit product data for hole spacing and hole size for rate of permeability.

D. The Infill materials shall be as approved by the Manufacturer and as per the following specifications: The Infill shall consist of a resilient granular system, comprised of selected/graded dust-free silica sand or mineral aggregate and rubber granules. The infill may be a homogeneous mixture of sand and rubber or installed as a layered system per the manufacturer. The silica sand component of the infill shall represent 50% of the total infill, by weight. Total infill amount shall be approx. 10.0 lbs. per square foot but not be less than 9.0 lbs. per square foot (depending on manufacturer stitch gauge) to achieve a +/-
2.000 inch infill depth.

1. Rubber: The rubber shall be dust and contaminant free. Recycled tires shall not be used. The clean, uniformly sized particles shall be consistent in shape and particle size distribution.
2. Sand: Silica Sand shall be whole and not conglomerated or grounded. The shape of the sand particles shall be rounded or sub-angular so as to minimize abrasion to field users and synthetic turf fibers. Size of sand shall be per manufacturer based on selected infill and based on performance of sports specified herein.
3. The particles shall resist abrasion in high traffic and excessive wear applications and provide stability to artificial sports turf applications.
4. The particles shall be structurally pure and consistently uniform in size distribution for predictable performance.
5. ADD ALTERNATE BID ITEM: Provide eco-friendly infill in lieu of rubber/sand. This shall include any modifications necessary to the turf assembly necessary to accommodate the alternative infill material, such as shock pad, underlayment or other components. Specific infill alternatives by manufacturer are as follows:

a.	Sprinturf	Greenplay Organic Fill
b.	A-Turf	Ecore A-R
c.	AstroTurf	Brockfill or Supernatural
d.	Shaw Sports Turf	Natural Play
e.	Field Turf	Pure Select Olive

E. Permeable Polypropylene Drainage Base:

1. Athletic field synthetic underlayment, a molded polypropylene base composite material designed specifically for use with synthetic infill turf.
2. Underlayment shall ensure safety of the playing surface (impact attenuation/shoe traction) and high capacity subsurface drainage of the installed playing field.

3. Shall be composed of expanded Polypropylene edge interlocking panels with molded Impact-absorbing pistons and bi-directional channel drainage system
4. Description: The specified material must have both impact absorption and drainage properties that meet the following performance requirements.

Standard	Property	Specification
FIFA 1 and 2 Star		Meets requirements with approved synthetic infilled turf
	Density	3.63 lbs. / cubic ft. (58.2 grams / liter)
EN12616	Vertical drainage	200" per hour
	Surface contact	50% minimum with synthetic turf backing
ISO 8295	Friction coefficient	movement of artificial turf over 50mm distance 8.92N maximum force
ASTM D4716	Lateral drainage	0.00583 m2/sec @ 0.5% slope
ISO 4897	Thermal stability	not to exceed 3mm per 30 degree C change
ISO 8301, EN 12664/7	Thermal resistance (R Value)	minimum 0.6
ISO 1798	Tensile strength	min 700 Kpa or 110 psi
ASTM F355	G-Max; system test under infill turf	120G maximum average
EN 14809	Shock Absorption	60-70%
EN14809	Vertical Deformation	<4mm
ISO 1856C	Compression set - 25% strain, 22hrs, 23°C after 24 hrs.	9% (0.083 ")
	Repeated impact compression resistance	7.45kg/cm2 or 106psi, repeated load, 10,000 cycles system test with infill turf; not to exceed 3%
ASTM G22-76/G21-96	Bacteria and Fungi resistance	Pass
ESSM 105d/1997	Environmental testing-ground water protection	Pass
ASTM F925	Chemical Resistance to the following: Gasoline, Brake Fluid, Chlorine, Underbody coating, Transmission Fluid, Motor Oil, Zinc Chloride, Tar and Oil Solvents, Windshield Washer Fluid, Kerosene, Ethylene and	no change to material

	Propylene Glycols	

5. Material shall be 100% recyclable; recycling for energy not acceptable.

6. Material shall be manufactured in an ISO-9000 certified facility.

F. Aggregate Base Course

1. To guarantee structural stability it is important that both gradations meet the following criteria:
   100% Fragmentation
   $D_{60}/D_{10} > 5$
   $1 < D^2_{30}/D_{10}/D_{60} < 3$

2. To guarantee separation between finishing stone and base stone, it is important that the gradations meet the following criteria:

   $D_{85\ \text{FINISHING COURSE}} / D_{15\ \text{BASE COURSE}} > 2$
   $3 < D_{50\ \text{BASE COURSE}} / D_{50\ \text{FINISHING COURSE}} < 6$

3. To guarantee proper drainage both stones should meet the following criteria when saturated and compacted to 95% Proctor:

   Permeability > 10 in/hr (7x10-3 cm/sec)
   Porosity > 25%
   "Dx" is the size of the sieve (in mm) that lets pass x% of the stone. For example: D60 is the size of the sieve that lets 60% of the stone pass. These sizes, for calculation purposes, may be obtained by interpolation on a semi-log graph of the sieve analysis.

4. Aggregate Base shall be AASHTO #57 Stone to be used.

5. Leveling Layer (AKA D85 or Finish Stone):

   a. Product resulting from the artificial crushing of rocks, boulders or large cobblestones, substantially all faces of which have resulted from the crushing operation. Material shall consist of sound, tough, durable, angular stones, free from soft, thin, elongated, laminated, friable, micaceous or disintegrated pieces, limestone, marble, mud, dirt, organic matter, or other deleterious material. The presence of soft, thin, elongated, laminated, friable, micaceous or disintegrated pieces, feldspar, limestone, marble, mud, dirt, organic matter, or other deleterious material will be cause for rejection at Engineer's discretion.
   b. Testing and evaluation of material by the testing laboratory shall evaluate material composition for the presents of feldspar or micaceous materials and note same on testing report. Material may be rejected due to the presence of feldspar or micaceous materials.
   c. Test for Resistance to Abrasion, ASTM C131. Materials shall show a loss on abrasion of not more than 20%. C. Soundness, ASTM C88. Coarse aggregate shall not have a loss of more than 15% at the end of five cycles.

6. Stone Gradation Specifications:

Sieves	#57 Base Layer (AVG % PASSING)	Leveling Layer (AKA Finish Stone or D85 Stone) (AVG % PASSING)
1½" or 38mm	100	-
1" or 25mm	95 +/-5	-
¾ or 19mm	-	-
½" or 12.5mm	43 +/-17	100
3/8" or 9.5mm	-	85-100
¼" or 6.3mm		75-95
US #4 or 4.76mm	Max. 7	60-85
US #8 or 2.38mm	Max. 3	35-70
US #16 or 1.19mm	-	10-45
US #30 or .595mm	-	5-15
US # 40 or .420mm	-	0-10
US #100 or .149mm	-	0-5
US #200 or .074mm	-	0-2

2.2 PERFORATED UNDERDRAIN

A. Basis-of-Design Product: Subject to compliance with requirements, provide 4" horizontal perforated geotextile-wrapped underdrain system.

B. Product Requirements:

1. The underdrain system shall be of flexible, prefabricated, rounded, perforated composite product. Nominal Size: 4 inches high by approximately 3/8 inches thick. The underdrain system shall be made of a high-density polyethylene. The underdrain piping shall be constructed using corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The collection system pipes shall conform to the following physical property requirements:

Thickness, inches	ASTM D-1777	0.8
Flow Rate, gpm/ft	ASTM D-4716	30
Compressive Strength, psf	ASTM D-1621 (modified sand method)	6000

2. The collection system shall be wrapped with a non-woven geotextile and shall be a non-woven needle-punched construction and consist of long-chain polymeric fibers composed of polypropylene, polyethylene or polyamide. The fibers shall be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric shall be free of any chemical treatment or coating, which reduces permeability and shall be inert to chemicals commonly found in soil. The geotextile shall conform to the following minimum average roll values.

Weight	ASTM D-3776	4.0
Tensile Strength	ASTM D-4632	120
Elongation %	ASTM D-4632	50
Puncture, lb	ASTM D-751	50
Mullen Burst, psi	ASTM D-3786	225
Trapezoidal Tear, lb	ASTM D-4533	42
Coefficient of Permeability	ASTM D-4491	.1 cm/sec
Flow Rate, gpm/ft2	ASTM D-4491	95
Permittivity, 1/sec	ASTM D-4491	1.8
Apparent Opening Size	ASTM D-4751	70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No growth
UV Resistance after 500 Hrs	ASTM-D4355	70% minimum

4. The fittings used with the collection system shall be of a "snap together" design. In no case shall any product be joined without the use of the manufacturer's connector designed specifically for the purpose.

2.3 COLLECTOR DRAIN PIPE SYSTEM

A. The Contractor shall provide the Owner the following materials:

1. AASHTO M 252, Type CP; smooth interior, corrugated exterior double-wall, for coupled joints.
2. Couplings: Manufacturer's standard, band type.
3. Filter Fabric: Nonwoven, needle-punched Geotextile.

2.4 ADDITIONAL MATERIAL

A. The Contractor shall provide the Owner the following materials:

1. Turf fabric two hundred square feet (200) to be used for emergency repairs of turf. Owner to set forth min size requirements during submittal phase.
2. All usable remnants of new material shall become the property of the Owner and may satisfy the 200 square feet requirement.
3. In-fill material as required to fill two hundred square feet (200). This material may not be used by the Contractor as top dressing as required to maintain depth and Gmax values during the warranty period.

2.5 FIELD MAINTENANCE EQUIPMENT

A. The following field maintenance equipment shall be provided to the Owner, in a fully operational and assembled state, with proper manuals, instruction to the Owner's maintenance staff prior to final acceptance of the project.

1. Four-wheel utility vehicle, equal to John Deere TX 4x2 or equivalent. https://www.deere.com/en/gator-utility-vehicles/traditional-gators/tx-4x2-utility-vehicle/
2. Snow plow compatible with and for attachment to the Four-Wheel Utility Vehicle. Equal to the Meyer Utility Vehicle 6' Drive Pro Angling Snow Plow with Rec Hitch: https://www.meyerproducts.com/snow-plows/contractor-off-road-plows/utility-vehicle-snow-plow
3. Field sweeper device for use on an infill synthetic turf system, to be attached to the Four-Wheel Utility Vehicle. Equal to the Greens Groomer LitterKat Synthetic Turf Sweeper: http://www.greensgroomer.com/LitterKat.html
4. Field groomer device for use on an infill synthetic turf system, to be attached to the Four-Wheel Utility Vehicle. Equal to the Greens Groomer Integrated Synthetic Sports Turf Groomer, Model No. 926 GreensGroomer - Integrated Synthetic Sports Turf Groomer

PART 3 - EXECUTION

3.3 GENERAL

A. The installation shall be performed in full compliance with approved shop drawings.

B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer/manufacturer supervisors, shall undertake any cutting, sewing, gluing, shearing, topdressing or brushing operations.

C. The designated Supervisory personnel on the project must be certified, in writing by the turf Manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the Infill mixture.

D. Manufacturer of Pad shall provide supervision for pad installation. Pad Manufacturer must approve pad installation prior to installation of synthetic turf carpet.

3.4 SUBGRADE

A. Subgrade for installation of permeable aggregate base course and synthetic turf as required in the Earthwork section of these specifications and as set by the approved drawings.

B. Proof roll subgrade in accordance with the Earthwork specifications and correct unacceptable subgrade as specified.

C. Examine surfaces and areas for suitable conditions where subdrainage systems are to be installed.

D. Locate and mark existing utilities, underground structures, and aboveground obstructions before beginning installation and avoid disruption and damage of services

3.5 INSTALLATION OF PERMEABLE LINER

A. Verify that surface elevations of finished subgrade conform to elevations shown on Drawings prior to underdrain system construction and that the subgrade surface is uniform and free of depressions, voids, and irregularities. Install permeable liner in accordance with liner manufacturer's written recommendations.

1. Overlap joints a minimum of eight inches. Overlap all laps in direction the stone aggregate is to be spread.
2. Securely bond joints in accordance with the liner manufacturer's recommendations. Joint bonding may be delayed until aggregate placement is completed to minimize joint stress.
3. Place a suitable amount of ballast on liner to prevent movement by wind. Form ballast to not damage liner.
4. Do not permit direct loading on the fabric by traffic.
5. Repair punctured or torn fabric by overlapping additional fabric and jointing in accordance with manufacturer's recommendations.
6. Completely cover collector drain trench with liner.

3.6 PERMEABLE AGGREGATE BASE COURSE

A. Moisture Content: Provide aggregate that contains 3.5% to 4.0% moisture content to ensure that fines do not migrate and to facilitate proper compaction. Ensure that aggregate leaving the source plant meets this requirement and is required to apply water to aggregate on site to attain and maintain this minimum moisture content.

B. Placement: Prior to aggregate placement, remove any excess or contaminated backfill from the drainage trenches or subgrade. Provide a subgrade surface free of standing water prior to aggregate placement.

1. Place the aggregate in a minimum two (2) lifts, each three (3") in compacted depth.
2. Spread each layer uniformly with equipment that will not cause perceptible separation in gradation (segregation of the aggregates), preferably by a self-propelled paving machine.
3. Should a separation of the materials or particles occur during any stage of the spreading or stockpiling, immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation.
4. Utilize a laser plane control system for the grading of the permeable aggregate to ensure accuracy in the grade tolerances.

C. Compaction

1. Compact each layer to a minimum density of not less than 95% of maximum dry density as determined by ASTM 0698 and measured using a nuclear method.
2. Proof roll and mark “soft spots” for additional compaction. Use static tandem drum-type roller of not less than five (5) tons weight.

D. Surface Tolerance

1. Do not deviate from the tolerance of the finished surface (tolerance-to-grade) from designated compacted grade. Do not deviate more than 1/8” in 10’ (any direction) when placed under a 10 foot long straight edge. This tolerance is required over the entire field.
2. Mark areas that deviate with spray paint and correct with 1/4” limestone or similar chips and rolled tight to achieve density. Perform remedial actions by hand.

3.7 SUBDRAIN INSTALLATION

A. Inspect delivered subdrain piping. Do not use damaged subdrains in the work.

B. Install as detailed on drawing and per manufacturer’s written instructions.

C. All ends/joints of any open geotextile fabric must be completely taped closed with 2” wide (minimum) duct tape or the underdrain manufacturer’s PVC tape to prevent any soil fines from entering the drain system. Tape all joints at:
1. Ends of perforated drain.
2. End of drain at collector/header pipe.
3. End of drain at fittings.
4. Any tear, rip or damage to the geotextile fabric.
5. Any additional openings of the geotextile fabric

3.8 COLLECTION DRAIN INSTALLATION

A. Install collector drain pipe where shown and as detailed on the drawings. Provide watertight connections at existing inlets/manholes/cleanouts and/or piping.

3.9 TESTING OF INSTALLED AGGREGATE DRAINAGE LAYER

A. The permeability of the installed aggregate must be field tested by a third party geotechnical service/testing agency prior to installation of the turf system. Test samples must be taken at one sample minimum per 10,000 SF of surface area. Final in-place aggregate must have a percolation rate of not less than 20” per hour.

B. All test results must be delivered in writing to the Owner, Contractor and Owner’s Representative/Project Engineer. If any areas do not meet the minimum infiltration requirements, the Contractor is responsible for corrective action to improve the infiltration rate including the restoring the stone base to required grade, cross-section and density.

C. When the Contractor has confirmed that the aggregate base is in compliance with all requirements (planarity and elevation verified by a licensed Surveyor and compaction, gradient, and permeability verified by the specified tests) the Contractor to notify the Owner’s Representative/Project Engineer to schedule a final inspection by the

Synthetic Turf System Installer. During this inspection, the Contractor shall make available an orbital laser system for checking grades. Any deficiencies uncovered during this inspection must be remedied to the satisfaction of the Synthetic Turf System Installer before the aggregate base will be considered acceptable.

3.10 FIELD QUALITY CONTROL

A. Tests and Inspections:
1. Test drain piping and entire drainage system with water to ensure free flow before backfilling.
2. Remove obstructions, replace damaged components, and repeat test until results are satisfactory.

B. Collector drain piping will be considered defective if it does not pass tests and inspections

3.11 EXAMINATION

A. Verify that all sub-base, drainage and leveling is complete prior to installation of synthetic turf.

B. The surface to receive the synthetic turf must be inspected by the Installer, and prior to the beginning of installation, the Installer must accept the sub-base in writing. The acceptance will depend on the base contractor providing the installer with test results indicating that compaction, planarity and permeability are in compliance with the synthetic turf manufacturer's specifications. The surface must be perfectly clean as installation commences and shall be maintained in that condition throughout the process. Acceptance shall be for tolerance to grade (1/4 inch in 10 feet in all directions).

C. The compaction of the aggregate base shall be 95%, according to the Modified Proctor procedure (ASTM D1557), and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 1/4" from design grade. All must be verified by means of ASTM testing and surveys to the satisfaction of the turf contractor and Owner.

3.12 INSTALLATION OF TURF SYSTEM

A. Install in accordance with Manufacturer's instructions. The Turf Contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted, in writing, by the onsite representative of the Manufacturer/Installer, and submitted to the Engineer, Architect, and Owner, verifying that the changes do not in any way affect the warranty or performance of the system. Infill materials shall be approved by the Manufacturer and installed in accordance with the Manufacturer's standard procedures.

B. The carpet rolls are to be installed directly over the properly prepared aggregate base. Extreme care should be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity. It is suggested that a 2.5 ton static roller be placed on site and made available to repair and properly compact any disturbed areas of the aggregate base.

C. The rolls of turf shall be rolled out a minimum of six hours (4 hours if mostly sunny) prior to starting seaming procedures to allow for carpet to expand and relax.

A. All visible wrinkles shall be stretch out before seaming. If wrinkles cannot be stretched properly, material shall either be removed or allowed to sit long enough to be stretched.
B. Seams shall be flat, tight and permanent with no separation or fraying.

D. The full width rolls shall be laid out across the field. Turf shall be of sufficient length to permit full cross-field installation (from end to end or side to side). No “head” or cross seams will be allowed. Utilizing standard state of the art sewing procedures, each roll shall be attached to the next.

E. This is basically a sewn installation. Gluing of fabric rolls shall not be acceptable. Minimal gluing will be permitted and only to repair problem areas, corner completions, and install logos as required by the specifications. All seams shall be sewn using double bagger stitches and polyester thread. Seams shall be flat, tight, and permanent with no separation or fraying.

F. Infill materials shall be applied in thin lifts. The turf shall be brushed as the mixture is applied. The mix shall be uniform and even in thickness to assure proper playing characteristics. The Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional.

G. Synthetic turf shall be attached to the perimeter edge, both glued and nailed, in accordance with the Manufacturer’s standard procedures and construction details provided in the Bid Documents.

3.13 SYNTHETIC BASE

A. Job Conditions:

a. Base Acceptance: The Owner and Contractor must jointly approve the base before synthetic drainage underlayment can begin.

b. Do not install surface in temperatures above 90 degrees Fahrenheit.

B. Product Requirements:

a. Obtain and install the product in accordance with written installation instructions from the manufacturer.

b. Use only new materials manufactured and shipped for the specific installation. No used, recycled or refurbished materials are to be installed.

c. Product to be shipped as flat panels on prepackaged pallets. Pallets to be wrapped with heavy-duty barrier for protection from moisture and UV exposure. Do not stack pallets.

C. Installation:

a. Place surface directly onto geotextiles.

b. Install panels perpendicular to the sidelines, in accordance with manufacturer's instructions. When trimming for the edges of the field, panels must be within 3mm (1/8 inch) of the curb in height and distance.

c. Panels shall be fitted together as tightly as possible. Panels are to be overlapped and fit together against the four soft protrusions molded along the overlapping edge of the panels. Panels may have gaps not greater than 3mm (0.125 inch) maximum.

d. Seams should be mechanically fastened by hand without use of additional materials, glue, fasteners or secondary processes and equipment.

D. Turf carpet installation shall begin within 7 days after underlayment installation to avoid prolonged exposure to sun.

3.14 UTILITY COVERS/LIDS

A. Cover all manhole covers/lids and/or any additional utility boxes within the area of the synthetic turf with turf system and infill.

3.15 CLEAN UP AND PROTECTION OF THE SITE

A. Protect installed turf from subsequent construction operations.

B. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.

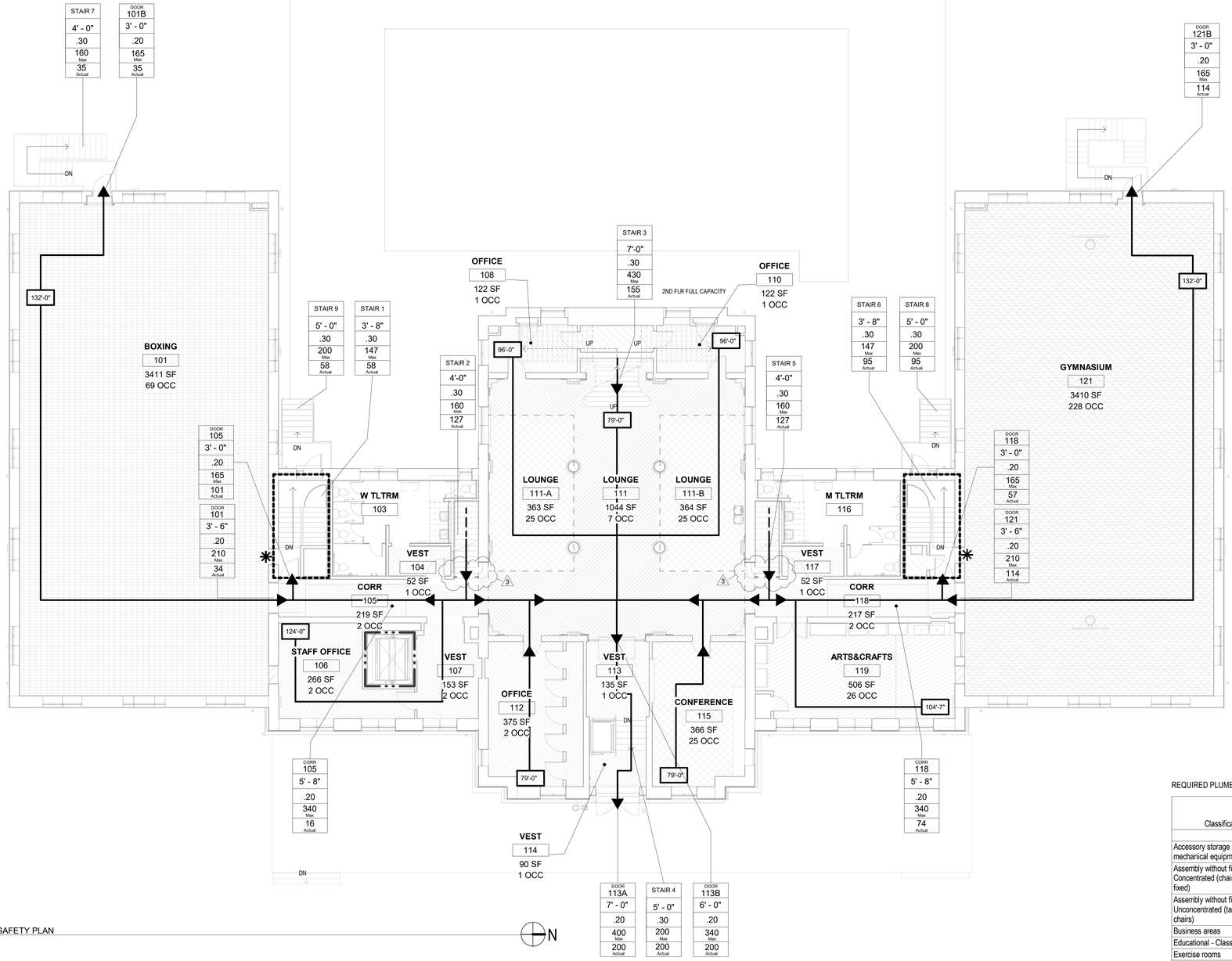
C. All usable remnants of new material shall become the property of the Owner.

D. The Contractor shall keep the area clean throughout the project and clear of debris.

E. Surfaces, recesses, enclosures, etc., shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

F. Contractor shall be fully responsible for any damages outside the Limits of Disturbance.

END OF SECTION 321813



1 1ST FLOOR LIFE SAFETY PLAN
1/8" = 1'-0"

N

STAMP AREA

DOOR CAPACITY
36" — DOOR WIDTH
0.15 — EGRESS WIDTH PER OCCUPANT (IBC 2018 1005.3.2)
165 — MAXIMUM CAPACITY*
43 — ACTUAL OCCUPANT LOAD

*MAXIMUM CAPACITY CALCULATED USING CLEAR WIDTH.
FOR SINGLE DOOR: [DOOR WIDTH - 3"]: FOR DOUBLE DOOR [DOOR WIDTH - 4"]

250'-0" — MAXIMUM TRAVEL DISTANCE
FIRE EXTINGUISHER
2 HR RATING
1 HR RATING
SMOKE RATED
EGRESS PATH
EGRESS PATH (BELOW)
(N) DRAFT CURTAIN @ STAIRS 2 & 5
SEE RCP FOR DETAILS

OCCUPANCY LOADS CALCULATED - CALCULATED VS POSTED

SPACE / AREA	Area	FLOOR AREA PER OCCUPANT (SF)	CALCULATED OCCUPANT LOAD	PRORATED OCCUPANT LOAD (BASED ON POSTED OCC)
Accessory storage areas, mechanical equipment room	3,084 SF	300 SF Gross	**18**	**11**
Assembly without fixed seats - Concentrated (chairs only - not fixed)	2,158 SF	7 SF Net	**309**	**178**
Assembly without fixed seats - Unconcentrated (tables and chairs)	6,515 SF	15 SF Net	**439**	**251**
Business areas	5,149 SF	150 SF Gross	**46**	**25**
Educational - Classroom area	1,350 SF	20 SF Net	**69**	**37**
Exercise rooms	6,642 SF	50 SF Gross	**136**	**80**
Locker rooms	961 SF	50 SF Gross	**21**	**13**
Stages and platforms	651 SF	15 SF Net	**44**	**25**
	26,510 SF		1082	611

EGRESS AND OCCUPANT LOAD AS REVIEWED AND APPROVED IN PRELIMINARY PLAN REVIEW

OCCUPANT LOAD SUMMARY (CALUCATED)
(ALL SPACES OCCUPIED AT MAX. CAPACITY AT SAME TIME)

LOWER LEVEL	**211**
FIRST FLOOR	**424** OCC
SECOND FLOOR	**447** OCC
	1082 OCC

BUILDING IS ASSEMBLY USE. PER CODE 1/2 OCC LOAD IS REQUIRED TO EGRESS THROUGH MAIN ENTRANCE.

MAX. CAPACITY AT MAIN ENTRANCE IS GOVERNED BY MOST RESTRICTIVE ELEMENT.

PROPOSED CAPACITY (GOVERNED BY MOST RESTRICTIVE ELEMENT): 200 OCC

INTERIOR DOOR: 6'-0" WIDE AT 0.2"/OCC = 360

NEW STAIR WIDTH: 5'-0" AT 0.3"/OCC = 200
EXTERIOR DOOR: 7'-0" AT 0.2"/OCC = 420

MAX. CAPACITY AT MAIN ENTRANCE: 200 OCC.

PER PRELIMINARY REVIEW: ALL LOWER LEVEL OCCUPANTS MAY BE CALCULATED TO EGRESS THROUGH LOWER LEVEL SIDE DOORS, AND STAIRS 1 AND 6, NOT THROUGH UPPER LEVEL. TO EXIT TO MAIN ENTRY AT FIRST FLOOR, OCCUPANTS WOULD PASS THE EXIT DOORS TO THE POOL, THEREFORE IT IS NOT REQUIRED TO EGRESS TO MAIN ENTRY. OCCUPANT LOAD EGRESSING THROUGH MAIN ENTRY CAN BE REDUCED BY LOWER LEVEL OCCUPANT LOAD NUMBER.

PER PRELIMINARY REVIEW: OCCUPANT LOAD AT LOBBY AND OTHER SPACES CAN BE COUNTED NON-CONCURRENTLY; THAT IS, FOR EXAMPLE, FOR LARGE EVENTS, THE PEOPLE IN THE LOBBY ARE THE SAME AS IN THE AUDITORIUM, AND THEREFORE DO NOT HAVE TO BE COUNTED CUMULATIVELY.

PER PRELIMINARY REVIEW: IT IS ACCEPTABLE FOR FACILITY TO STATE A MAXIMUM OCCUPANCY - THIS CAN BE DUE TO A STAFFING OR OTHER ISSUE AFFECTING ABILITY TO HAVE FULL CAPACITY.

REQUIRED POSTED OCCUPANCY: 611
LOWER LEVEL LOAD: 211
FIRST AND SECOND FLOOR = ENTRY CAPACITY (200) x 2: 400

SEE LS-101-R FOR ADDITIONAL CODE SYNOPSIS INFORMATION

PLUMBING FIXTURE COUNT SUMMARY

1. FIXTURE COUNT IS BASED ON THE PRORATED OCCUPANT LOAD FOR EACH OCCUPANCY TYPE BASED ON POSTED OCCUPANCY
2. PER SECTION 2902.1.1 FIXTURE CALCULATIONS. "CALCULATIONS INVOLVING MULTIPLE OCCUPANCIES, SUCH FRACTIONAL NUMBERS FOR EACH OCCUPANCY SHALL FIRST BE SUMMED AND THEN ROUNDED UP TO THE NEXT WHOLE NUMBER"

REQUIRED PLUMBING COUNT - CALCULATED BY OCCUPANCY LOAD

Classification	WATER CLOSETS M	F	SINGLE USE	LAVATORIES M	F	SINGLE USE
Accessory storage areas, mechanical equipment room	0.1	0.1		0.1	0.1	
Assembly without fixed seats - Concentrated (chairs only - not fixed)	1.2	2.4		0.8	0.8	
Assembly without fixed seats - Unconcentrated (tables and chairs)	1.8	3.4		1.1	1.1	
Business areas	0.9	0.9		0.6	0.6	
Educational - Classroom area	0.7	0.7		0.7	0.7	
Exercise rooms	0.5	1.0		0.3	0.3	
Locker rooms	0.4	0.4		0.3	0.3	
Stages and platforms	0.2	0.3		0.1	0.1	
REQUIRED:	5.8	9.3		3.9	3.9	
REQUIRED FIXTURES	6	10		4	4	
PROVIDED (BASE BID):	9 **	9	1*	4	4	1*

* Single Use WC & Lav contributes to the F requirement = 10 TOTAL PROVIDED WC; 5 LAV
** 4 Urinals + 5 Water Closets

PROVIDED (ADD ALT):	6 **	9	2*	2	4	2*

** 4 Urinals + 4 Water Closets

POOL ONLY FIXTURES	3 **	3	1*	2	2	1*

** 1 Urinal + 2 Water Closets

CALCULATED BY POSTED OCCUPANCY

WATER CLOSETS M	F	SINGLE USE	LAVATORIES M	F	SINGLE USE
0.05	0.05		0.05	0.05	
0.7	0.4		0.4	0.4	
0.9	0.6		0.6	0.6	
0.5	0.3		0.3	0.3	
0.3	0.3		0.3	0.3	
0.3	0.1		0.1	0.1	
0.06	0.06		0.06	0.06	
0.1	0.06		0.06	0.06	
3.1	2.1		2.1	2.1	
4	3		3	3	
9 **	9	1*	4	4	1*

* Single Use WC contributes to the F requirement
** 4 Urinals + 5 Water Closets

6 **	9	2*	2	4	2*

** 4 Urinals + 4 Water Closets

3 **	3	1*	2	2	1*

** 1 Urinal + 2 Water Closets

Accessory storage areas, mechanical equipment room
Assembly without fixed seats - Unconcentrated (tables and chairs)
Business areas
Educational - Classroom area
Exercise rooms

REVISIONS

ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	7/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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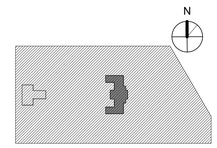
CITY OF PHILADELPHIA
REBUILD / PHILADELPHIA PARKS AND RECREATION
1515 ARCH STREET
5TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE
KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

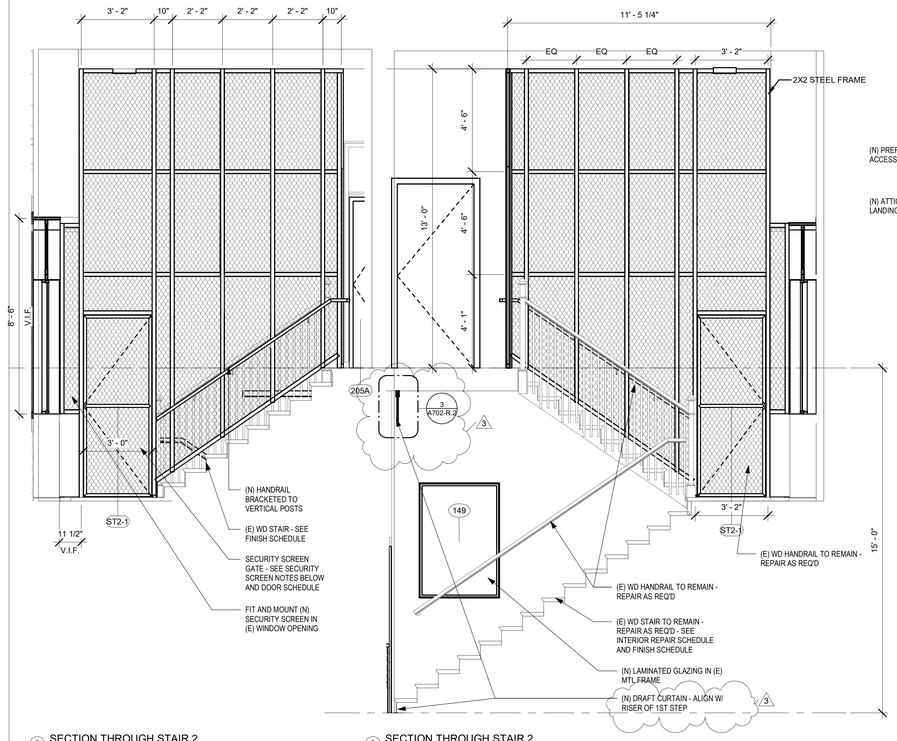
KEY PLAN



DRAWING TITLE
LIFE SAFETY PLAN - FIRST FLOOR

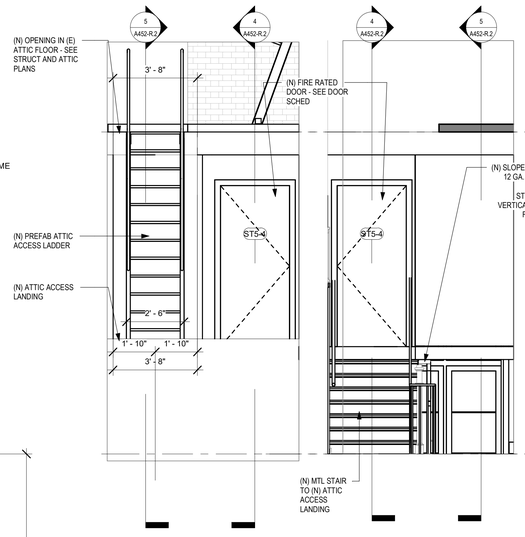
PROJECT NO. 21070
DRAWING NO. LS102-R.2
DATE 06/02/23
SCALE 1/8" = 1'-0"
DRAWN BY: AF
CHECKED BY: DB

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

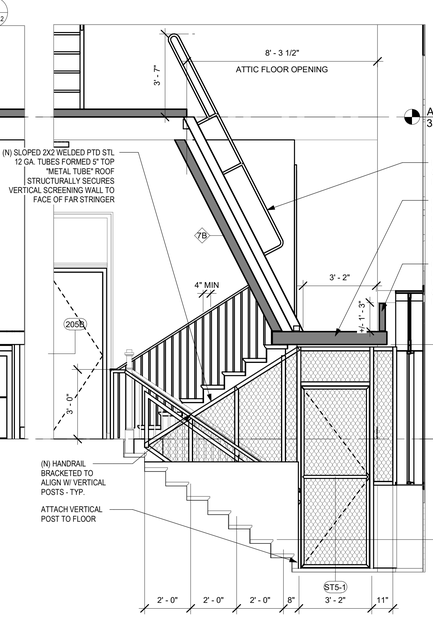


9 SECTION THROUGH STAIR 2
3/8" = 1'-0"

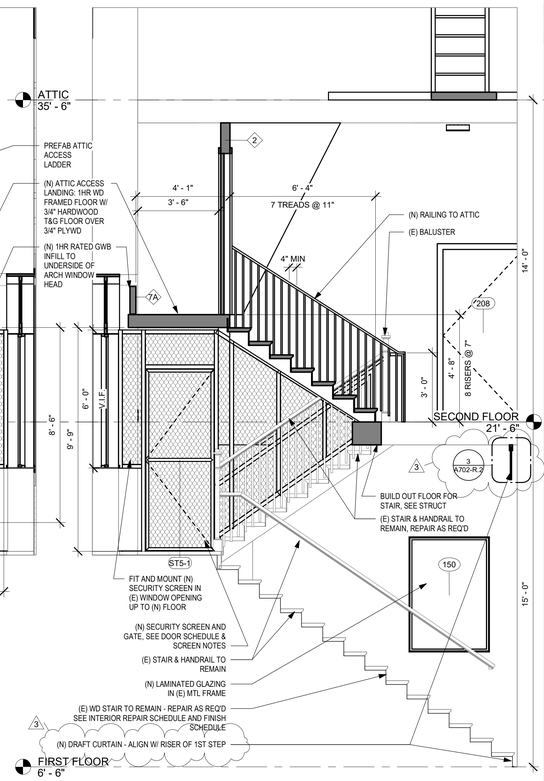
8 SECTION THROUGH STAIR 2
3/8" = 1'-0"



7 ELEVATION STAIR 5 SHIP LADDER
3/8" = 1'-0"

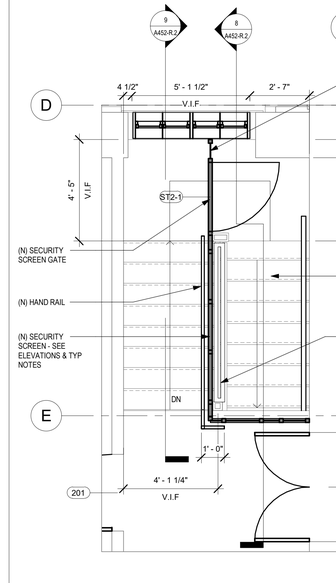


6 ELEVATION STAIR 5 TO ATTIC
3/8" = 1'-0"

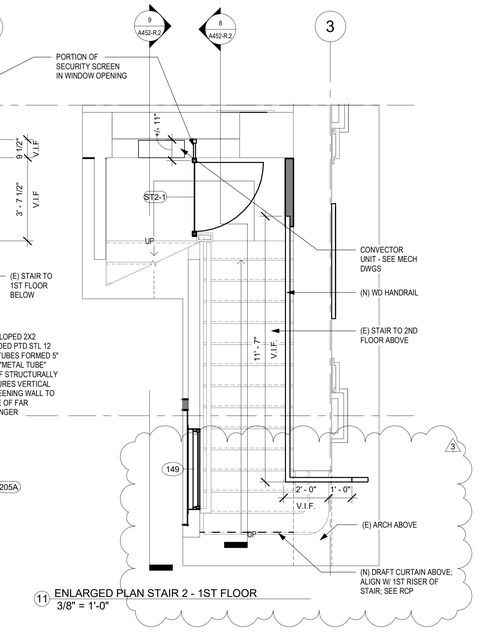


5 SECTION THROUGH STAIR 5 2
3/8" = 1'-0"

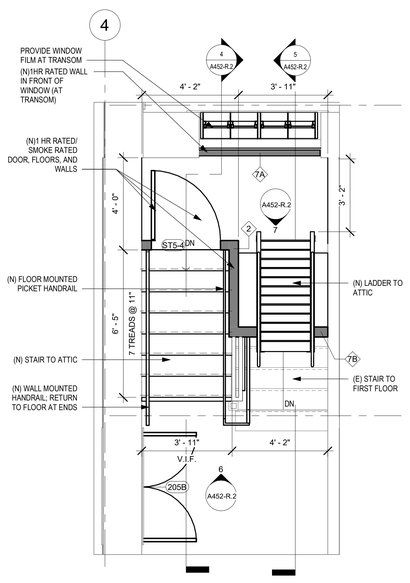
4 SECTION THROUGH STAIR 5
3/8" = 1'-0"



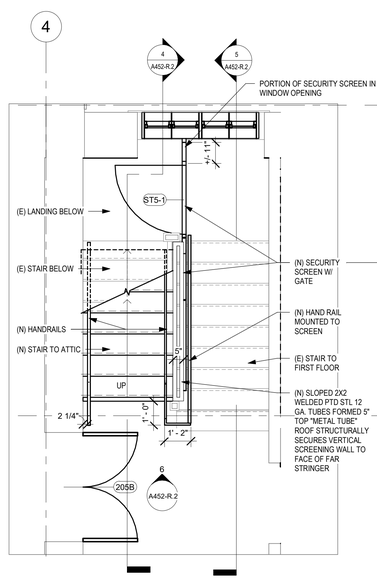
10 ENLARGED PLAN STAIR 2 - 2ND FLOOR
3/8" = 1'-0"



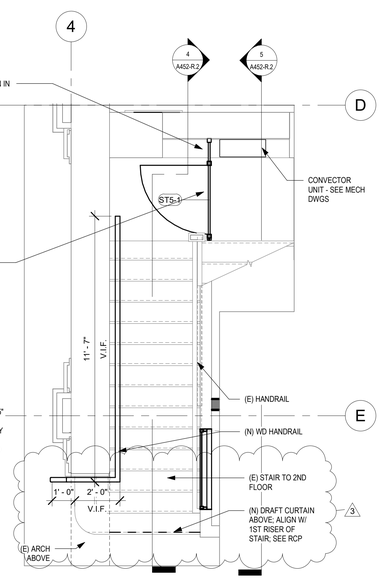
11 ENLARGED PLAN STAIR 2 - 1ST FLOOR
3/8" = 1'-0"



3 ENLARGED PLAN STAIR 5 TO ATTIC
3/8" = 1'-0"



2 ENLARGED PLAN STAIR 5 2ND FLOOR
3/8" = 1'-0"



1 ENLARGED PLAN STAIR 5 - 1ST FLOOR
3/8" = 1'-0"

STAMP AREA

SECURITY SCREENING NOTES:

TYP SECURITY SCREEN:

2X2 WELDED PTD STL 14 GA TUBES W/ 10 GA PTD PLAIN STEEL, INTER CRIMPED AND WOVEN INTO A 1 1/2" DIAMOND MESH. MESH IS PASSED THROUGH AND SECURELY WELDED INTO FRAME. TYP.

TYP HINGED DOOR:

VERTICAL POSTS: 1 1/4" X 5/8" WELDED PTD STL 13 GA. "C" CHANNEL

HORIZONTAL AND MID RAIL:
1" X 1/2" 11 GA STL CHANNEL

CAPPING: 1/8" X 1 1/4" STL

FLAT BAR AND LOCK: MARKS 3700 SERIES W/ 10 GA. PTD PLAIN STEEL. INTER CRIMPED AND WOVEN INTO A 1 1/2" DIAMOND MESH. MESH IS PASSED THROUGH AND SECURELY WELDED INTO FRAME

B.O.D NEWARK WIRE WORKS - SEE SPEC

REVISIONS

ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	7/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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LEED CONSULTANT:
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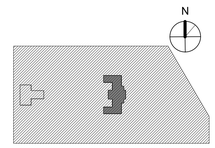
PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN

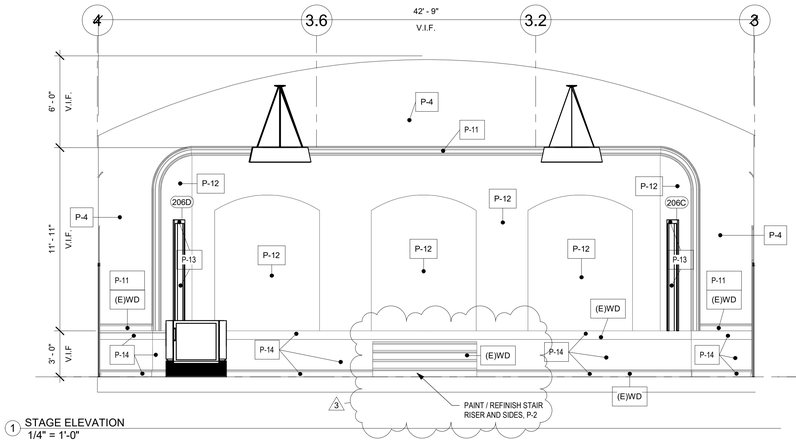


DRAWING TITLE

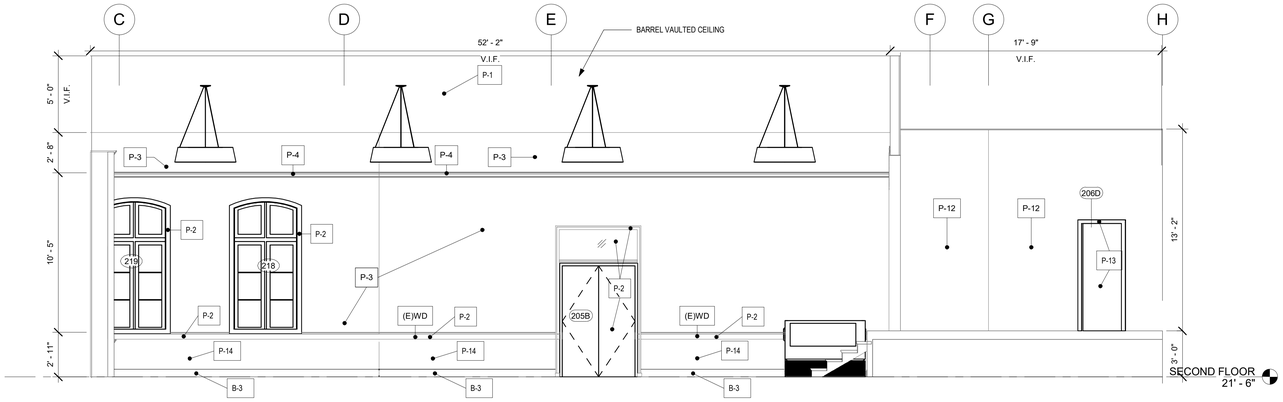
VERTICAL CIRCULATION - STAIRS, PLANS & SECTIONS

PROJECT NO.	21070
DRAWING NO.	A452-R.2
DATE	06/02/23
SCALE	As indicated
DRAWN BY:	AF
CHECKED BY:	DB

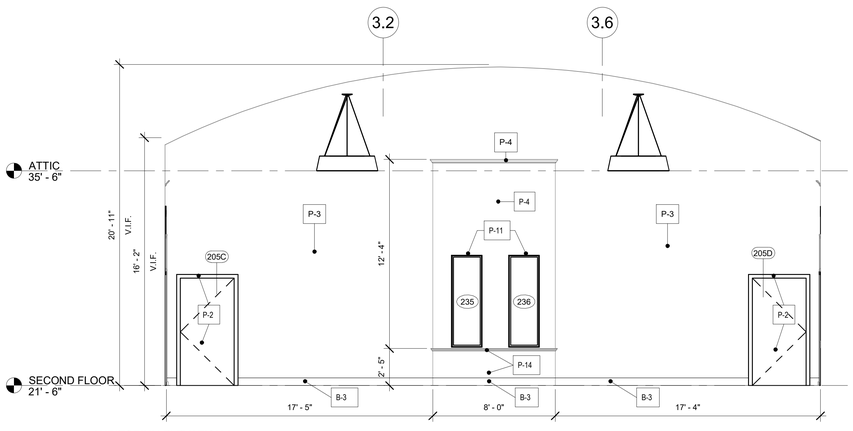
NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.



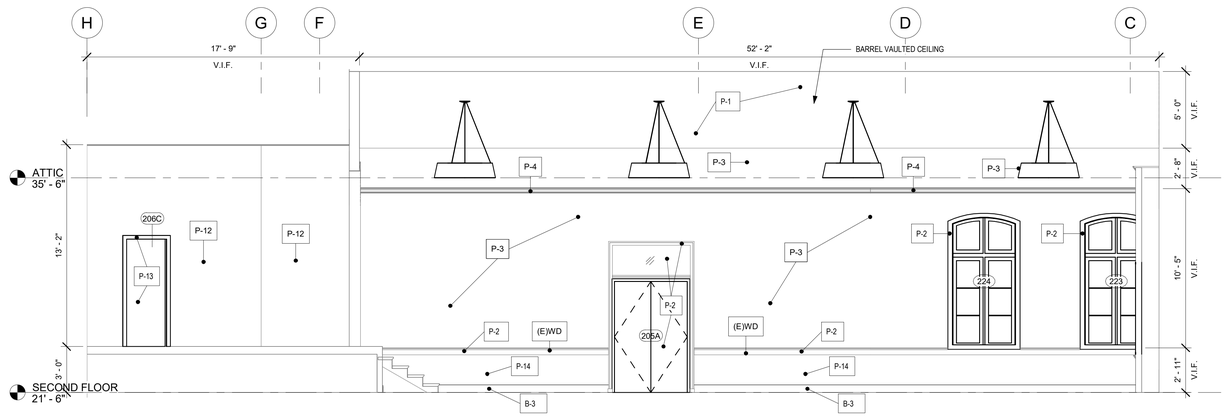
1 STAGE ELEVATION
1/4" = 1'-0"



2 AUDITORIUM ELEVATION 2
1/4" = 1'-0"



3 AUDITORIUM ELEVATION 3
1/4" = 1'-0"



4 AUDITORIUM ELEVATION 4
1/4" = 1'-0"

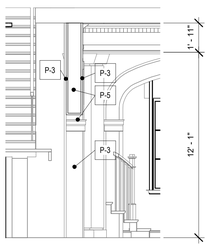
***ACCESSORIES NOTES**

AC-1 :
OPTIMA COMPANIES ALUMINUM FRAMED VINYL BULLETIN BOARD
SIZE: 36"H x 60"W
COLOR: 181 CARAMEL

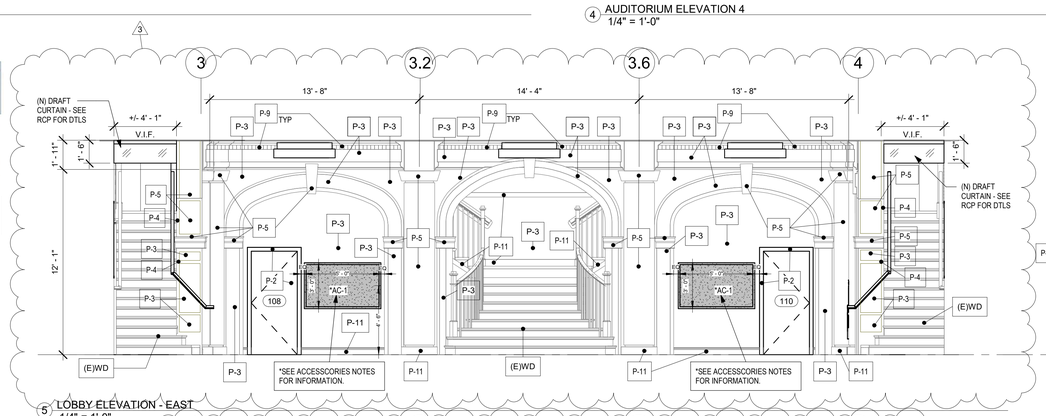
AC-2:
DELUXE ENCLOSED VINYL BULLETIN BOARD WITH SLIDING DOORS
SIZE: 36"H x 60"W
COLOR: STERLING

GENERAL NOTES:
1. SEE DWG A804-R.2 FOR MATERIAL SCHEDULE

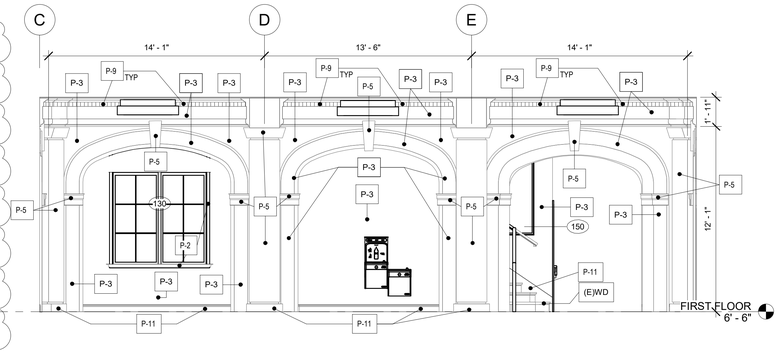
P-X
P-X
FINISH TAG - SEE MATERIAL SCHEDULE A804-R.2



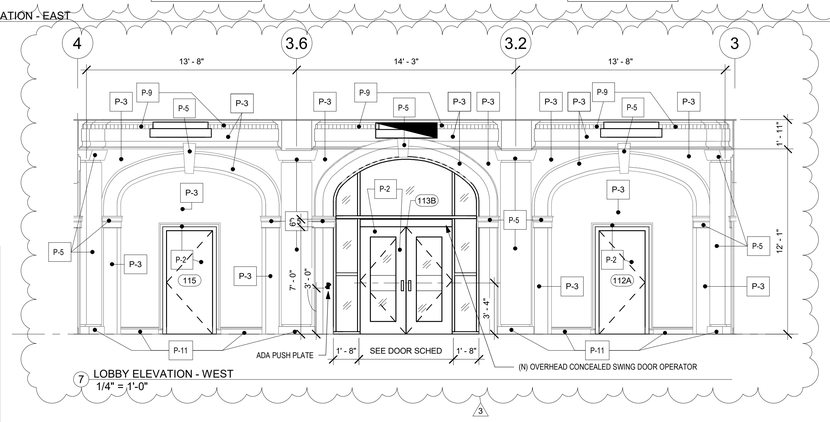
9 STAIR 3 ELEVATION - NORTH
1/4" = 1'-0"



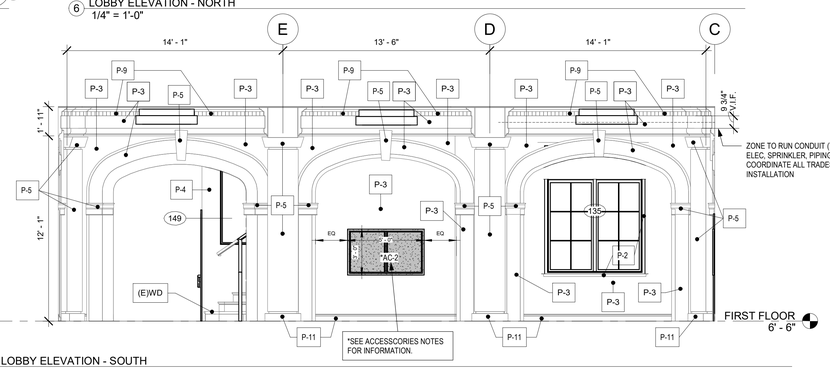
5 LOBBY ELEVATION - EAST
1/4" = 1'-0"



6 LOBBY ELEVATION - NORTH
1/4" = 1'-0"



7 LOBBY ELEVATION - WEST
1/4" = 1'-0"



ZONE TO RUN CONDUIT (TELECOM, ELEC, SPRINKLER, PIPING) COORDINATE ALL TRADES PRIOR TO INSTALLATION

8 LOBBY ELEVATION - SOUTH
1/4" = 1'-0"

STAMP AREA

REVISIONS

ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	7/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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STRUCTURAL / M.E.P./ F.P./ SITE CIVIL ENGINEERS:
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1635 Market Street Suite 1600
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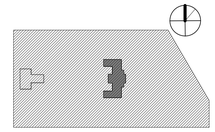
CITY OF PHILADELPHIA
REBUILD / PHILADELPHIA PARKS AND RECREATION
1515 ARCH STREET
5TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN

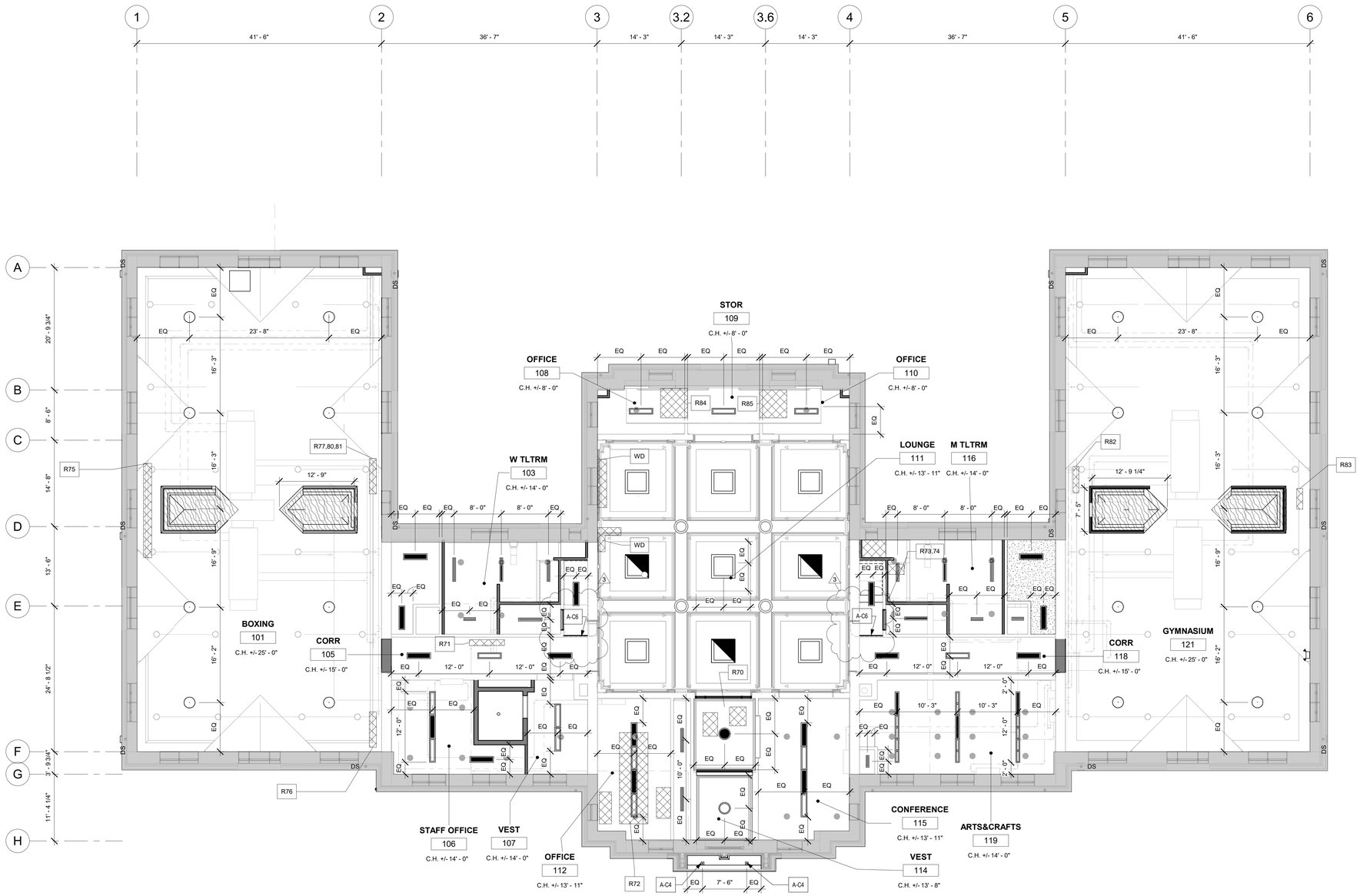


DRAWING TITLE

INTERIOR ELEVATIONS

PROJECT NO.	DRAWING NO.
21070	A502-R.2
DATE: 06/02/23	
SCALE: 1/4" = 1'-0"	
DRAWN BY: AF/MW	
CHECKED BY: DB	

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.



1 1ST FLOOR NEW WORK
1/8" = 1'-0"

GENERAL NOTES: RCP NEW WORK

1. PATCH AND REPAIR AREA OF DEMO'D PARTITIONS - TYP
2. PROVIDE LOUVERS AT EXTERIOR WALLS - SEE MECH DWGS AND NEW WORK ELEVATIONS
3. HALFTONE ELEMENTS INDICIATE MEP EQUIPMENT - SEE MEP DWGS FOR SCOPE
4. SEE A105-R.2 THROUGH A107-R.2 FOR INTERIOR REPAIR PHOTOS AND KEY

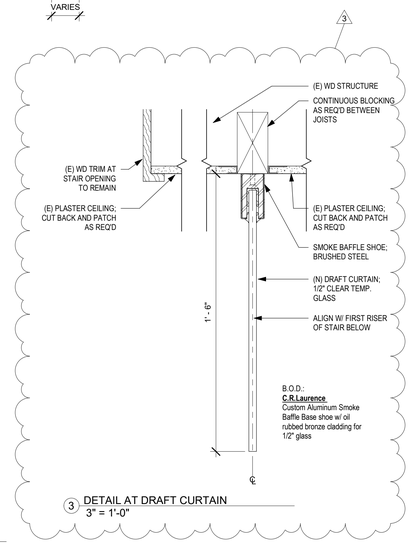
KEY NOTES: RCP NEW WORK

A-C1 PROVIDE NEW GWB CEILING. PAINT.
A-C2 PROVIDE NEW FIRE-RATED GWB CEILING AT STAIR 5. PAINT.
A-C3 PROVIDE SOFFITS, OPENINGS AND OTHER WALL AND CEILING MODIFICATIONS FOR NEW MECH, ELEC, PLUMBING SYSTEMS -SEE MEP
A-C4 INSTALL NEW LIGHT FIXTURES IN UNDERSIDE OF BALCONY
A-C5 NEW SECURITY GRID ROOF FOR MECH ENCLOSURE - SEE STRUCT DWGS
A-C6 NEW DRAFT CURTAIN; SEE DTL.3/A702-R.2

3

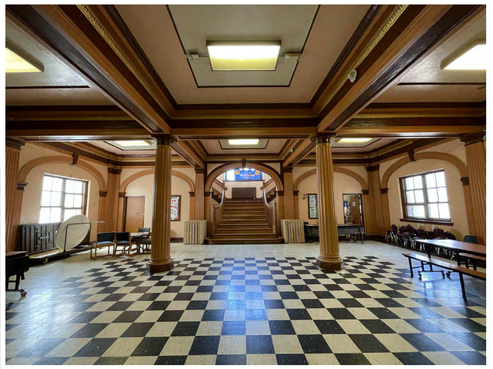
LEGEND

- AREA / CEILING OF EXTREME DISREPAIR - SEE A105-R.2 THROUGH A107-R.2 FOR INTERIOR REPAIR PHOTOS AND KEY
- NEW GWB CEILING
- NEW T&G CEILING
- N.I.C. - DOCUMENTED WITH PACKAGE 1
- CEILING MOUNTED LIGHT
- PENDANT LIGHT FIXTURE
- CEILING MOUNTED LIGHT FIXTURE
- EXTERIOR WALL MOUNTED LIGHT FIXTURE
- (N) SPRINKLER - SEE FP DWGS
- (N) DIFFUSERS - SEE MECH DWGS

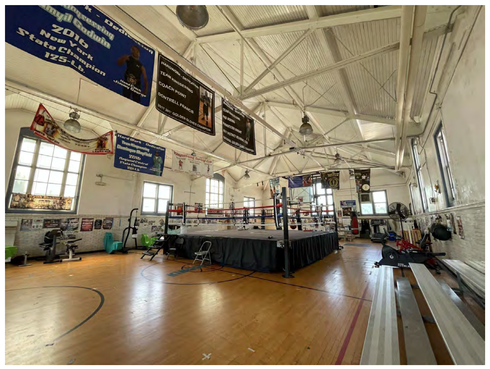


3 DETAIL AT DRAFT CURTAIN
3" = 1'-0"

STAMP AREA



LOUNGE



BOXING

BOXING/GYM

REPAIR SCOPE KEY: RXX

NOTE: REPAIR QUANTITIES ARE ESTIMATES ONLY AND FULL EXTENT OF REPAIR WORK & LOCATIONS MUST BE VERIFIED IN FIELD

KEY # | MATERIAL | APPROX SQ FT OF REPAIR

R #: (REPAIR) 1 (NUMBER): REFER TO PHOTO
PL1 : PLASTER LEVEL 1 REPAIR
HAIRLINE CRACKS, SMALL HOLES/ BUBBLES: CLEAN JOINT OR AREA, APPLY JOINT COMPOUND & MESH, SAND / PREP FOR SCHEDULED FINISHES.
PL2: PLASTER LEVEL 2 REPAIR
LARGE CRACKS, LOOSE PLASTER, WATER DAMAGE: REMOVE LOOSE PLASTER BACK TO SOLID MATERIAL; APPLY 3-COAT PLASTER SYSTEM, FINISH AS SCHEDULED.
PL3: PLASTER LEVEL 3 REPAIR
ALL NEW PLASTER
(FOR DEDUCT ALT: ABUSE RESISTANT GWB)
SGT: STRUCTURAL GLAZED TILE
AT AREAS OF EXTREME DISREPAIR, REPLACE BROKEN MISSING BRICK
REPOINT BRICK. FINISH PER FINISH SCHEDULE.
WD: WOOD
BR: BRICK

REPAIR QUANTITIES (SF) FIRST FL:

PL1: N/A
PL2: 241 SF
WD: 55 SF

REVISIONS

ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	7/13/23	ADDENDUM 2

REVIEWED BY:

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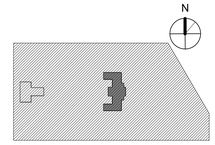
PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN



DRAWING TITLE

REFLECTED CEILING PLAN - 1ST FLOOR

PROJECT NO.	DRAWING NO.
21070	A702-R.2
DATE: 06/02/23	
SCALE: As indicated	
DRAWN BY: AF	
CHECKED BY: DB	

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

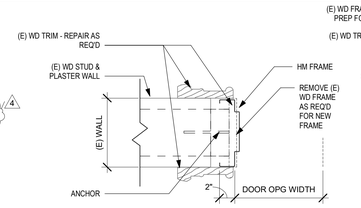
DOOR SCHEDULE_INTERIOR_NEW

DOOR NUMBER	To Room: Name	DOORS SIZE HEIGHT	WIDTH	THICK	TYPE	DOORS MATERIAL	Vision PANEL	FRAME TYPE	FRAME MATERIAL	RATING	TREATMENT	NOTES
001A	ELEC RM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 5/A901-R
001B	VESTIBULE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	B.2	HM		-	SEE DTL 13/A901-R
003A	STORAGE / LOCKER RM	7' - 0"	3' - 0"	-	-	-	-	-	-		-	MASONRY OPENING
003B	LOCKER ROOM	7' - 0"	5' - 0"	1 3/4"	1	HM	-	A	HM		-	SEE DTL 5/A901-R
005	LOCKER ROOM	6' - 8"	3' - 0"		-	-	-	-	-		-	MASONRY OPENING
005A	CLOS	7' - 0"	2' - 6"	1 3/4"		HM	-	A	HM		-	SEE DTL 5/A901-R
006A	TELECOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
007A	VEST	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
008A	STAIR 1	7' - 0"	3' - 0"	1 3/4"	2	HM	-	D	HM	SMOKE	-	SEE DTL 5/A901-R
009A	MULTI SPACE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
010B	W TLTRM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
013B	M TLTRM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
015A	STOR	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 5/A901-R
015B	STOR	7' - 0"	3' - 6"	1 3/4"	2	HM	-	A.1	HM		-	COORD W/ ELEVATOR MANUFACTURER
015C	ELEVATOR ACCESS	1' - 8"	1' - 8"		-	-	-	-	-		-	ELEVATOR ACCESS PANEL - COORD W/ ELEVATOR MANUFACTURER
016	VEST	7' - 0"	6' - 0"		-	-	-	A	HM		-	CASED OPENING - SEE DTL 5/A901-R
017A	DOJO RM	7' - 0"	3' - 6"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
017B	DOJO RM	7' - 0"	3' - 6"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
019	STORAGE	7' - 0"	3' - 2"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
020	STORAGE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
022	W TLTRM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
024	M TLTRM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
025	CORR	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
025A	CORR	7' - 0"	5' - 0"		-	-	-	-	-		-	MASONRY OPENING
026	BOILER ROOM	7' - 0"	3' - 0"	1 3/4"	2	MTL	-	A	HM		-	SEE DTL 5/A901-R
026B	BOILER ROOM	6' - 8"	4' - 0"		-	-	-	-	-		-	MASONRY OPENING
028	TELECOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
031	EXERCISE ROOM	7' - 0"	5' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
031A	EXERCISE ROOM	6' - 8"	4' - 0"		-	-	-	-	-		-	MASONRY OPENING
032A	EXERCISE ROOM	7' - 0"	3' - 6"	1 3/4"	2	MTL	-	A	HM		-	MASONRY OPENING
032B	EXERCISE ROOM	6' - 8"	4' - 0"		-	-	-	-	-		-	MASONRY OPENING
033	STAIR 6	7' - 0"	3' - 0"	1 3/4"	2	HM	-	D	HM		-	SEE DTL 5/A901-R
034A	MULTI SPACE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
034B	MULTI SPACE	7' - 0"	3' - 6"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
036	EXERCISE ROOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
037A	EXERCISE ROOM	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
101	BOXING	7' - 0"	5' - 1"	2 1/2"	2	HM	-	B.1	HM		-	SEE DTL 7/A901-R - UNEVEN LEAFS 1 @ 42"
101A	BOXING	7' - 0"	2' - 8"	1 3/4"	4	HM	MTL PANEL	A	HM		-	SEE DTL 12/A901-R FIXED MTL PANEL IN NEW HM FRAME
104A	VEST	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		2	SEE DTL 9/A901-R
104B	W TLTRM	7' - 0"	3' - 0"	-	-	-	-	-	-		-	CASED OPENING - SEE DTL 1/A901-R
105	STAIR 1	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM	SMOKE	1	SEE DTL 4/A901-R
106A	STAFF OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
107	VEST	10' - 0"	6' - 0"		-	-	-	A	HM		-	CASED OPENING - SEE DTL 2/A901-R
108	OFFICE	6' - 9"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
108A	STOR	6' - 1"	2' - 10"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
108B	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
110	OFFICE	6' - 9"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
110A	STOR	6' - 1"	2' - 10"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
110B	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
112A	OFFICE	6' - 9"	3' - 0"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 3/A901-R
112B	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
112C	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
112D	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
112E	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
112F	OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
113A	VEST	8' - 0"	7' - 0"	2"	5	ALUM	GL-E1	C	ALUM		-	EXTERIOR STOREFRONT WITH GLAZED TRANSOM - SEE A910-R
113B	VEST	7' - 0"	6' - 0"	1 3/4"	6	HM	GL-1	E	HM			TWO SIDELIGHTS AND TRANSOM
115	CONFERENCE	6' - 9"	3' - 0"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 3/A901-R
116	M TLTRM	7' - 0"	3' - 0"		-	-	-	-	-		-	CASED OPENING - SEE DTL 1/A901-R
117A	VEST	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM		2	SEE DTL 9/A901-R
118	STAIR 6	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM	SMOKE	1	SEE DTL 4/A901-R
119	ARTS&CRAFTS	6' - 9"	5' - 1"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 3/A901-R
119A	CLO	7' - 0"	2' - 6"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
120	JAN CLO	7' - 0"	2' - 6"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 5/A901-R
121	GYMNASIUM	7' - 0"	5' - 1"	2 1/2"	2	HM	-	B.1	HM		-	SEE DTL 7/A901-R - UNEVEN LEAFS 1 @ 42"
121A	GYMNASIUM	7' - 0"	2' - 8"	1 3/4"	4	HM	MTL PANEL	A	HM		-	SEE DLT 12/A901-R - FIXED MTL PANEL IN NEW HM FRAME
121C	GYMNASIUM	8' - 0"	3' - 0"	1' - 6"	4	HM	MTL PANEL	A	HM		-	SEE DLT 12/A901-R - FIXED MTL PANEL IN NEW HM FRAME
201	COMPUTER ROOM	8' - 0"	3' - 4"	1 3/4"	2	HM	-	A	HM	SMOKE	1	SEE DTL 3/A901-R
202A	GN TLT	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
203A	PPR STAFF OFFICE	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A.1	HM		-	SEE DTL 6/A901-R
204	STAIR 1	7' - 3"	3' - 1"	1 3/4"	2	HM		A	HM	SMOKE	1	SEE DTL 3/A901-R
204A	R. ACCESS	7' - 0"	2' - 6"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 3/A901-R
205A	AUDITORIUM	7' - 3"	4' - 9"	1 3/4"	3	HM	-	B	HM	SMOKE	1	SEE DTL 3/A901-R - W/ HOLLOW METAL TRANSOM PANEL
205B	AUDITORIUM	7' - 3"	4' - 9"	1 3/4"	3	HM	-	B	HM	SMOKE	1	SEE DTL 3/A901-R - W/ HOLLOW METAL TRANSOM PANEL
205C	AUDITORIUM	7' - 0"	3' - 6"	1 3/4"	3	HM	GL-1	A.1	HM		-	SEE DTL 6/A901-R
205D	AUDITORIUM	7' - 0"	3' - 6"	1 3/4"	3	HM	GL-1	A.1	HM		-	SEE DTL 6/A901-R
206A	STAGE L	7' - 6"	3' - 0"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 4/A901-R
206B	STAGE R	7' - 6"	3' - 0"	1 3/4"	2	HM	-	A	HM		1	SEE DTL 4/A901-R
206C	STAGE L	7' - 0"	2' - 8"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
206D	STAGE R	7' - 0"	2' - 8"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
207	KITCHEN	7' - 0"	2' - 6"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
207A	KITCHEN	4' - 6"	6' - 0"	-	-	MTL	-	-	ALUM		-	OVERHEAD COUNTER DOOR
208	STAIR 5	7' - 6"	3' - 6"	1 3/4"	2	HM	-	A	HM	SMOKE	1	SEE DTL 3/A901-R
209A	GAME ROOM 1	7' - 6"	3' - 6"	1 3/4"	2	HM	-	A	HM	SMOKE	1	SEE DTL 3/A901-R
210A	VEST	8' - 0"	3' - 4"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
210B	GAME ROOM 2	7' - 0"	6' - 0"	1 3/4"	2	HM	-	A	HM		-	SEE DTL 6/A901-R
G1	EXTERIOR STAIR 7	8' - 0"	3' - 0"	-	7	CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A451-R & CIVIL
G2	STAIR 10	7' - 8"	3' - 0"	-	7	CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A451-R & CIVIL
G3	MECH UNIT	8' - 0"	3' - 0"	-	-	CHAINLINK	-	-	-		-	EXTERIOR LOUVERED GATE - SEE A455-R
G4	MECH UNIT	8' - 0"	3' - 0"	-	-	CHAINLINK	-	-	-		-	EXTERIOR LOUVERED GATE - SEE A455-R
G5	POOL DECK	8' - 0"	10' - 0"	-	7	CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A202-R & CIVIL
G6	POOL DECK	7' - 11 1/2"	9' - 8"	-	7	CHAINLINK	-	-	-		-	EXTERIOR GATE - SEE A202-R & CIVIL
ST1-1	STAIR 1	7' - 0"	2' - 6"	1 3/4"	1	HM	-	A	HM		-	CLOSET IN STAIR SEE DTL 3/A901-R
ST2-1	STAIR 2	7' - 11"	3' - 0"	-	-	SEC SCRN	-	-	-		-	STAIR SECURITY SCREEN GATE - SEE A452-R
ST5-1	STAIR 5	7' - 11"	3' - 0"	-	-	SEC SCRN	-	-	-		-	STAIR SECURITY SCREEN GATE - SEE A452-R
ST5-4	STAIR 5	7' - 0"	3' - 0"	1 3/4"	2	HM	-	A	HM	1 HR		SEE A452-R
ST6-1	STAIR 6	7' - 0"	2' - 6"	1 3/4"	1	HM	-	A	HM		-	CLOSET IN STAIR SEE DTL 3/A901-R

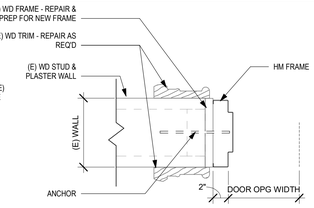
TREATMENT TYPES:
1. NEW HM FRAME IN EXISTING WOOD FRAME AND TRIM
2. NEW HM FRAME WITH NEW WOOD TRIM. REPLICATE EXISTING WOOD TRIM FROM ADJACENT DOORS NOTED IN TREATMENT TYPE 1
3. REINSTALL (E) WOOD TRIM AND FINISH AS SCHEDULED
4. REMOVE (E) WOOD FRAME TO WIDEN OPENING. INSTALL NEW HM FRAME IN SAME OPENING.

GLAZING TYPES:
GL-E1: TEMPERED INSULATED
GL-1: TEMPERED
GL-2: LAMINATED W/ OBSCURED INNER LAYER

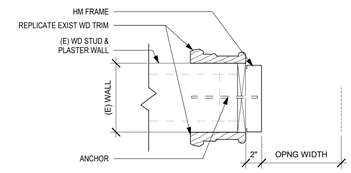
STAMP AREA



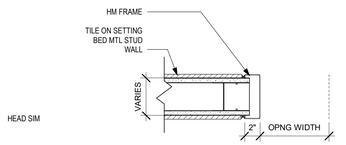
4 TYP HM JAMB W/ EXIST WD TRIM - EXIST WALL
1 1/2" = 1'-0"



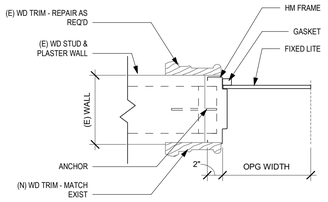
3 TYP HM JAMB W/ EXIST WD TRIM & FRAME - EXIST WALL
1 1/2" = 1'-0"



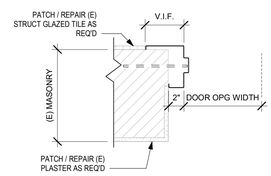
2 TYP HM CASED OPNG W/ NEW WD TRIM - EXIST WALL
1 1/2" = 1'-0"



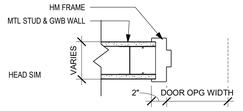
1 TYP HM CASED OPNG - TILE
1 1/2" = 1'-0"



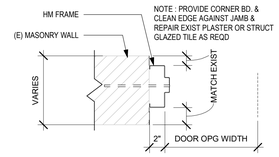
8 TYP HM JAMB W/ EXIST WD TRIM - EXIST WALL FIXED LIGHT
1 1/2" = 1'-0"



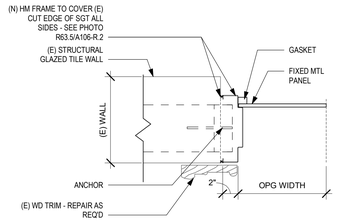
7 TYP HM JAMB - GYM/ BOXING DOORS
1 1/2" = 1'-0"



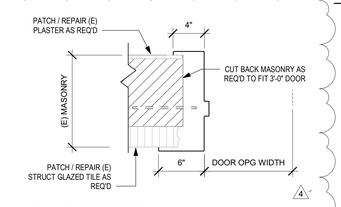
6 TYP HM JAMB - GWB
1 1/2" = 1'-0"



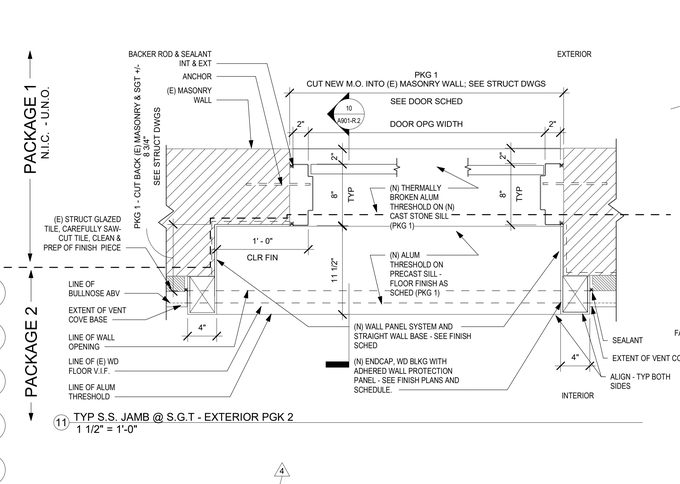
5 TYP HM JAMB - EXIST MASONRY
1 1/2" = 1'-0"



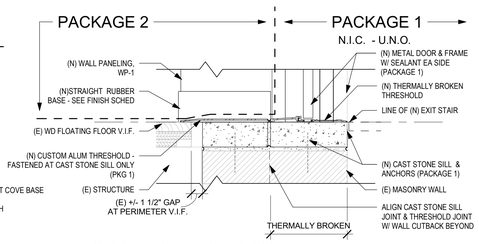
12 TYP HM JAMB W/ EXIST WD TRIM - MTL PANEL INFILL
1 1/2" = 1'-0"



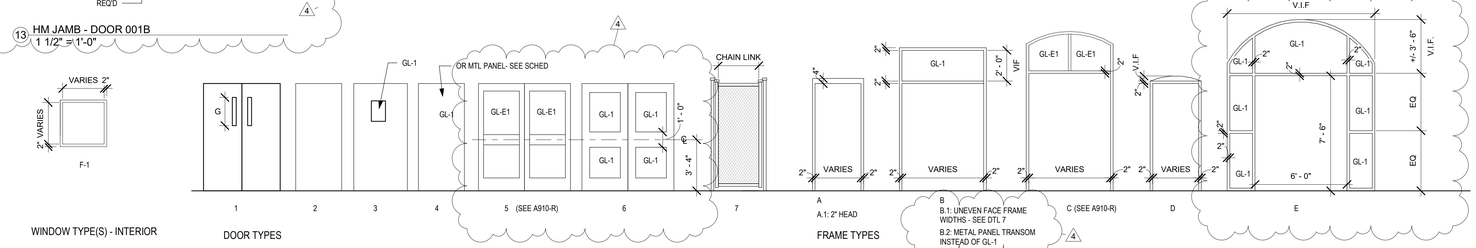
13 HM JAMB - DOOR 001B
1 1/2" = 1'-0"



11 TYP S.S. JAMB @ S.G.T - EXTERIOR PGK 2
1 1/2" = 1'-0"



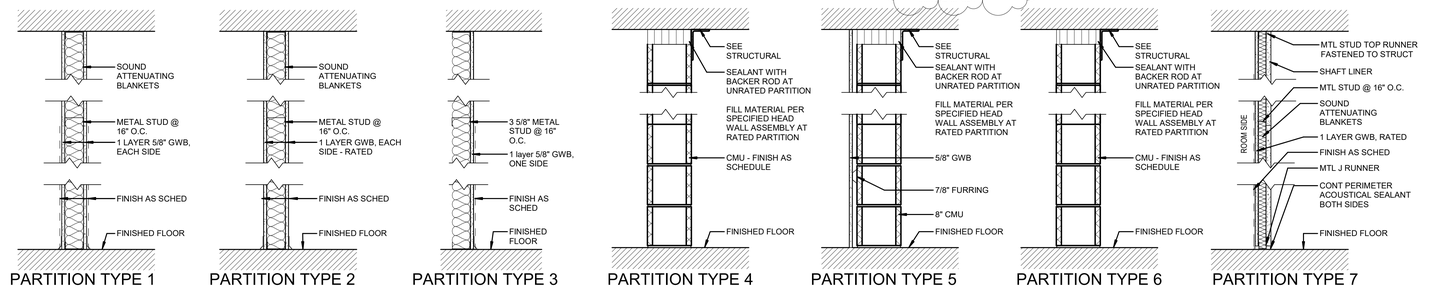
10 THRESHOLD DETAIL @ NEW EGRESS DOOR SILL
1 1/2" = 1'-0"



WINDOW TYPE(S) - INTERIOR

DOOR TYPES

FRAME TYPES



PARTITION TYPE 1

1A	3 5/8" STUD
1B	6" STUD

PARTITION TYPE 2

PARTITION TYPE 3

PARTITION TYPE 4
2 HR. RATED, UL U905

PARTITION TYPE 5
2 HR. RATED, UL U905

PARTITION TYPE 6

6A	8" CMU
6B	4" CMU

PARTITION TYPE 7

7A	2 1/2" C-H STUD
7B	4" C-H STUD

PARTITION TYPES

NOTES:
1. ALL GWB IS TO BE ABUSE-RESISTANT
2. AT ALL TILE LOCATIONS PROVIDE TILE BACKERBOARD (B.O.D. - DENS SHIELD)

N.T.S.

WINDOW SCHEDULE INTERIOR

NO.	TYPE	DIMENSION HEIGHT	WIDTH	HEAD	JAMB	SIll	MATERIAL	GLAZING	TREATMENT	NOTES
149	F-1	5' - 0"	3' - 6"	11/A901	11/A901	11/A901	HM	GL-2	-	(E) FRAME TO REMAIN
150	F-1	5' - 0"	3' - 6"	11/A901	11/A901	11/A901	HM	GL-2	-	(E) FRAME TO REMAIN
151	F-1	5' - 0"	4' - 0"	10/A901	10/A901	10/A901	HM	-	3	METAL PANEL INFILL
235	F-1	6' - 0"	2' - 0"	11/A901	11/A901	11/A901	HM	GL-1	3	
236	F-1	6' - 0"	2' - 0"	11/A901	11/A901	11/A901	HM	GL-1	3	

TREATMENT TYPES:
1. NEW HM FRAME IN EXISTING WOOD FRAME AND TRIM
2. NEW HM FRAME WITH NEW WOOD TRIM. REPLICATE EXISTING WOOD TRIM FROM ADJACENT DOORS NOTED IN TREATMENT TYPE 1
3. REINSTALL (E) WOOD TRIM AND FINISH AS SCHEDULED
4. REMOVE (E) WOOD FRAME TO WIDEN OPENING. INSTALL NEW HM FRAME IN SAME OPENING.

REVISIONS

ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	6/28/23	ADDENDUM 1
4	7/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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LEED CONSULTANT:
Verde Architecture Consulting
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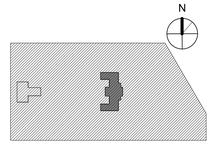
Philadelphia PA 19103

CITY OF PHILADELPHIA
REBUILD / PHILADELPHIA PARKS AND RECREATION
1515 ARCH STREET
5TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN

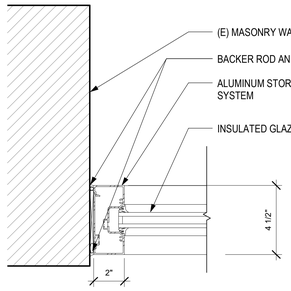


DRAWING TITLE

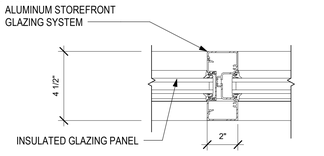
WINDOW, DOOR AND PARTITION SCHEDULES

PROJECT NO.	DRAWING NO.
21070	A901-R.2
DATE: 06/02/23	
SCALE: As indicated	
DRAWN BY: AF	
CHECKED BY: DB	

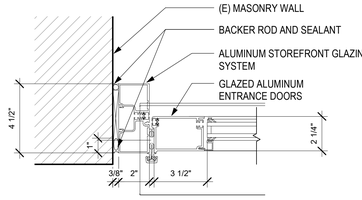
NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.



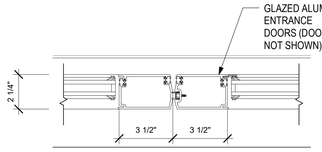
6 ENTRANCE TRANSOM JAMB DETAIL
3" = 1'-0"



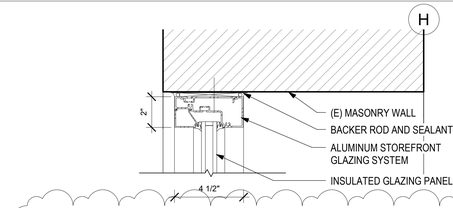
5 ENTRANCE TRANSOM VERTICAL MULLION
3" = 1'-0"



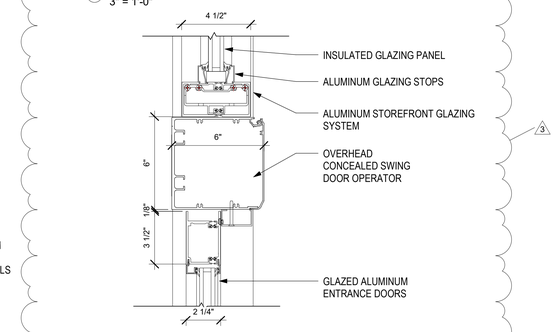
7 ENTRANCE DOOR JAMB
3" = 1'-0"



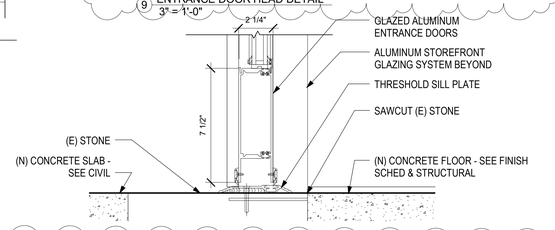
8 ENTRANCE DOOR DETAIL
3" = 1'-0"



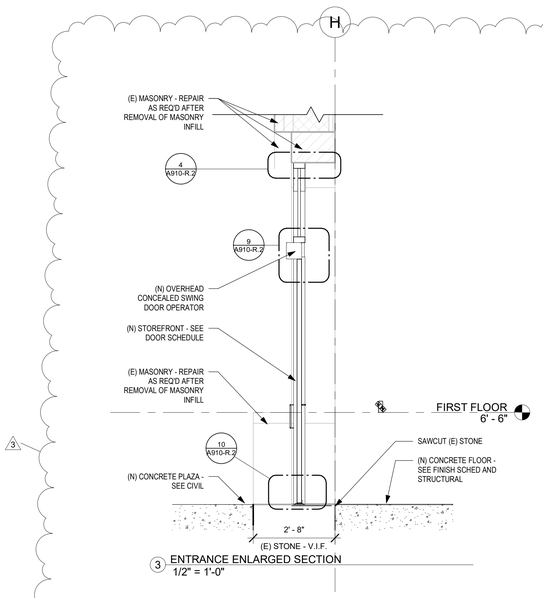
4 ENTRANCE TRANSOM HEAD DETAIL
3" = 1'-0"



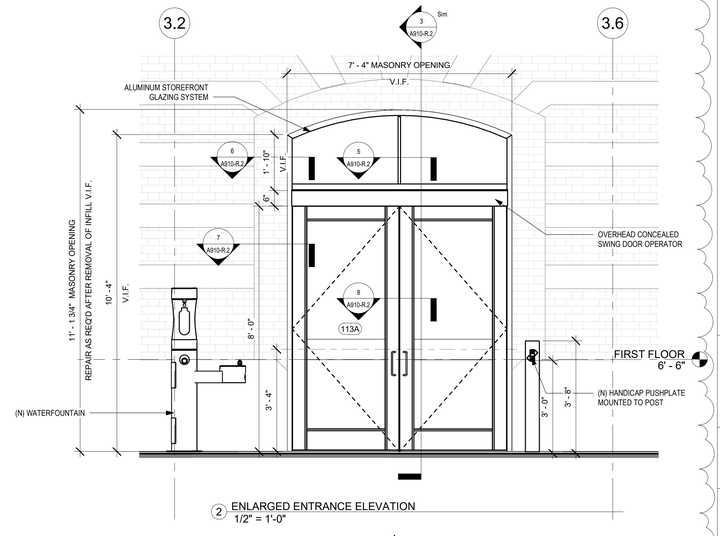
9 ENTRANCE DOOR HEAD DETAIL
3" = 1'-0"



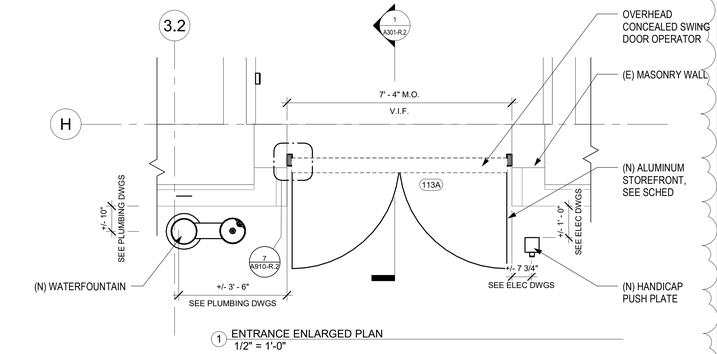
10 ENTRANCE DOOR SILL DETAIL
3" = 1'-0"



3 ENTRANCE ENLARGED SECTION
1/2" = 1'-0"



2 ENLARGED ENTRANCE ELEVATION
1/2" = 1'-0"



1 ENTRANCE ENLARGED PLAN
1/2" = 1'-0"

STAMP AREA

REVISIONS		
ISSUE	DATE	DESCRIPTION
1	6/2/23	ISSUE FOR BID
2	6/14/23	ISSUE FOR PERMIT
3	7/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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LEED CONSULTANT:
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Philadelphia PA 19103

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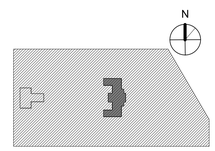
REBUILD / PHILADELPHIA PARKS AND RECREATION
1515 ARCH STREET
5TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN

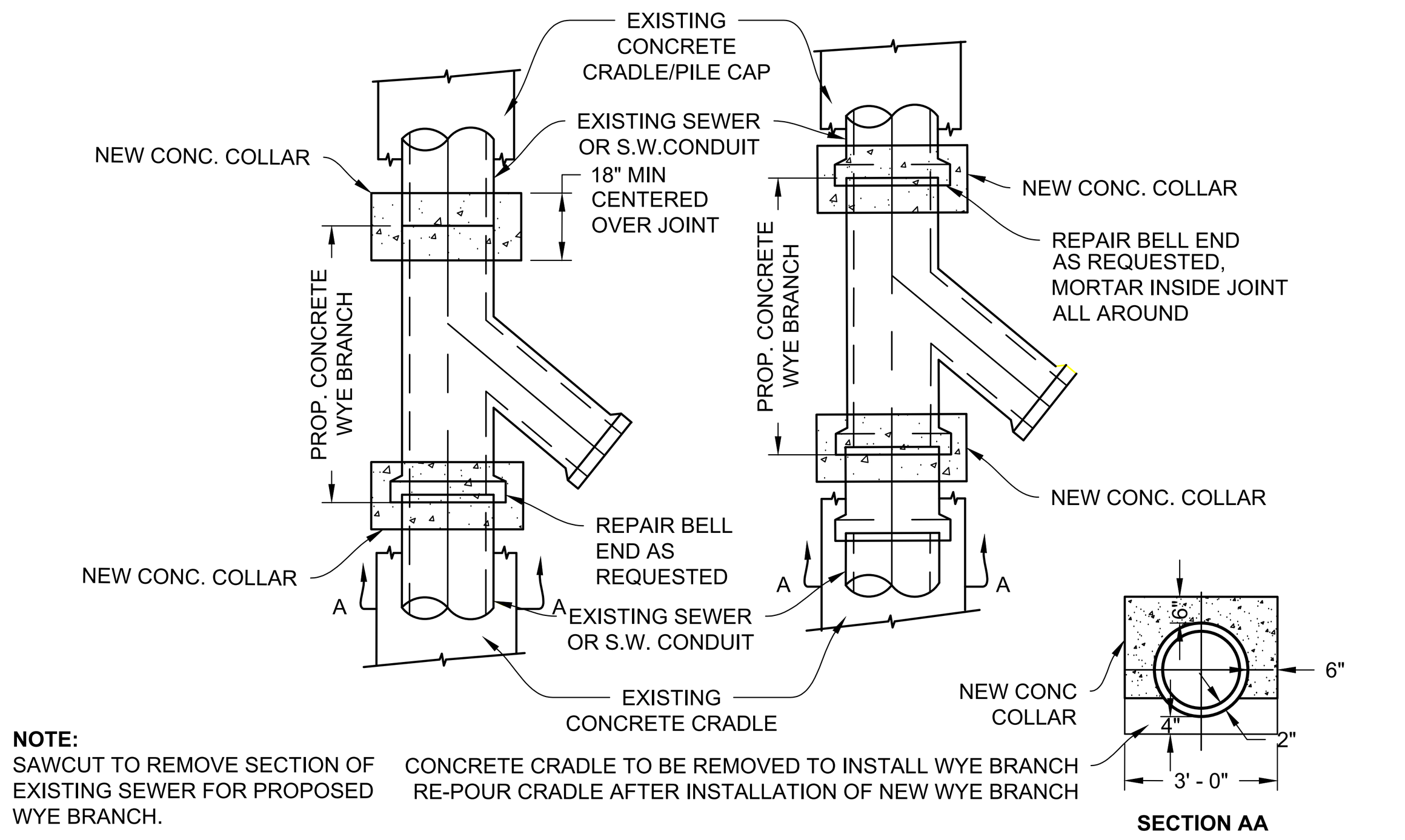


DRAWING TITLE

STOREFRONT ENTRANCE

PROJECT NO.	DRAWING NO.
21070	A910-R.2
DATE: 06/02/23	
SCALE: As indicated	
DRAWN BY: AF	
CHECKED BY: DB	

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.



NOTE:
SAWCUT TO REMOVE SECTION OF EXISTING SEWER FOR PROPOSED WYE BRANCH.

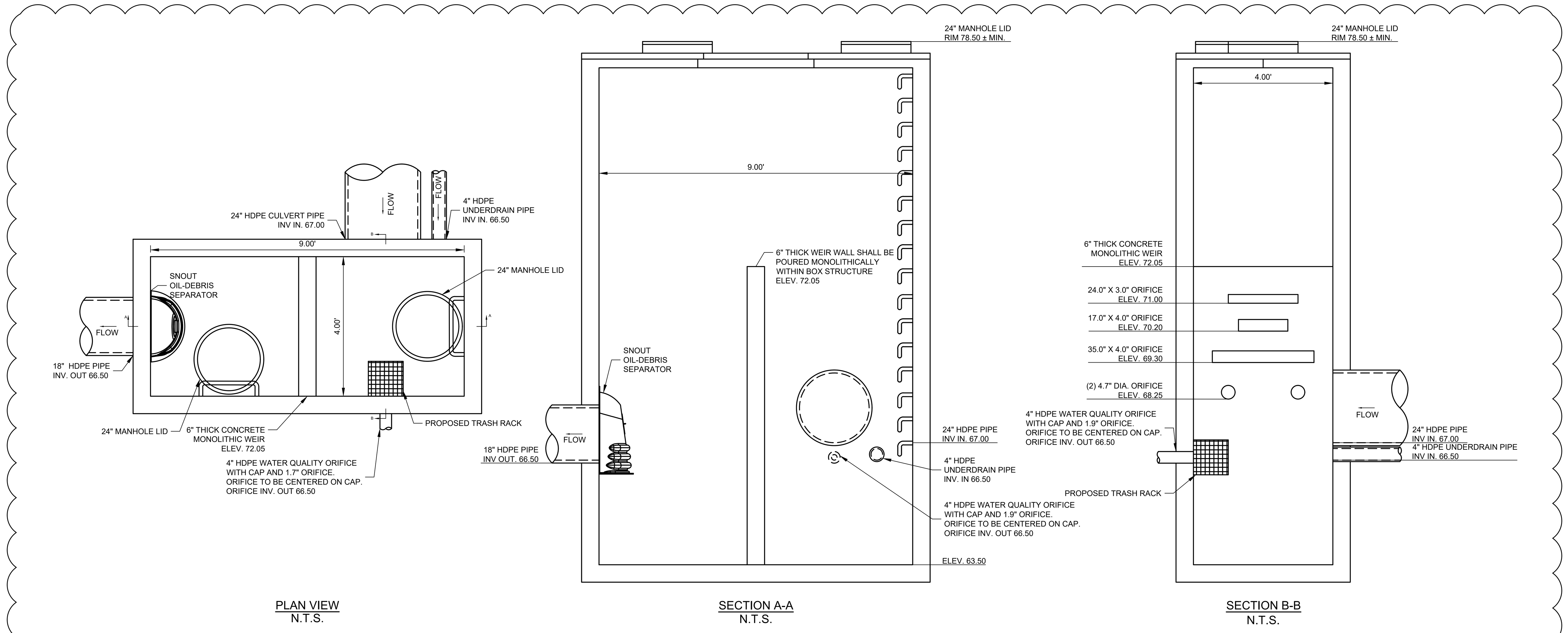
CONCRETE CRADLE TO BE REMOVED TO INSTALL WYE BRANCH RE-POUR CRADLE AFTER INSTALLATION OF NEW WYE BRANCH

WYE BRANCH INSTALLATION PROCEDURE:

1. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE FLOW DURING THE CONNECTION.
2. THE CONTRACTOR IS TO OBTAIN INFORMATION ABOUT THE FLOW RATE PRIOR TO COMMENCING THE CONNECTION. THIS MAY BE OBTAINED BY OPENING A MANHOLE AND MEASURING THE FLOW (FLOW CAN VARY).
3. FOR HIGH FLOW RATE THE CONTRACTOR SHALL SUBMIT A BY-PASS METHOD FOR APPROVAL.
4. FOR LOW FLOW RATE THE CONTRACTOR MAY BE ABLE TO DIRECT THE FLOW THROUGH THE OPENED SECTION.
5. THE CONTRACTOR MUST SELECT THE PROPER SIZE WYE AND ALIGN THE INVERTS.
6. EXCAVATE SAFELY TO EXPOSE THE EXISTING SEWER PIPE WITHOUT DAMAGING IT.
7. EXCAVATE A DITCH WIDE ENOUGH TO ACCOMMODATE THE WYE AND THE CUT-OFF WALLS.
8. CONTRACTORS SHOULD PERFORM THE CONNECTION IN A SAFE MANNER AND PER OSHA REGULATIONS.
9. SHORING SHALL BE INSTALLED IN DITCHES AND TRENCHES AS PER OSHA REGULATIONS OR AS REGULATED BY PWD. VIOLATION OF THIS PROVISION WILL RESULT IN A STOP WORK ORDER AND/OR PENALTIES PRESCRIBED BY LAW. (REFER TO PHILADELPHIA PLUMBING CODE 2004 SECTION P- 1503.2 SHORING).
10. FOR CONNECTIONS TO BRICK SEWER, CONSTRUCT A 2-FOOT WIDE BY 8-INCH HIGH, CONCRETE CUTOFF WALL TO THE SPRING LINE, ON BOTH SIDES OF THE WYE, 12-INCH FROM THE LOCATION TO CUT THE SEWER PIPE.
11. USE A MINIMUM OF 3,500 PSI CONCRETE FOR THE CONCRETE CUT-OFF WALL.
12. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO CURE BEFORE CUTTING THE SEWER PIPE.
13. CUT THE SEWER PIPE SO THAT THE WYE SECTION WILL FIT IN TIGHTLY.
14. PREVENT ANY DEBRIS FROM FLOWING INTO THE SEWER.
15. CLEAN THE BOTTOM OF THE OPENED AREA FROM LOOSE AND SOFT SOIL IF NO CRADLE, AND PLACE STONE IN THE MIDDLE LEAVING 12 INCH BELOW THE JOINTS FOR CONCRETE COLLAR.
16. INSERT THE WYE SECTION IN PLACE IMMEDIATELY, SEAL THE JOINTS AND CONSTRUCT A 24-INCH CONCRETE COLLAR AROUND BOTH JOINTS.
17. USE A MINIMUM OF 3,500 PSI CONCRETE COLLAR, 12 INCH DEEP AND EXTENDING 24 INCH WIDE AROUND THE JOINT.
18. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO CURE BEFORE BACKFILLING.
19. ANY OTHER PIPELINE EXPOSED AND UNDERMINED DURING THIS OPERATION MUST BE SUPPORTED IMMEDIATELY AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) AFTER THE COMPLETION OF THE CONNECTION.

DETAIL- WYE CONNECTION

N.T.S.



7

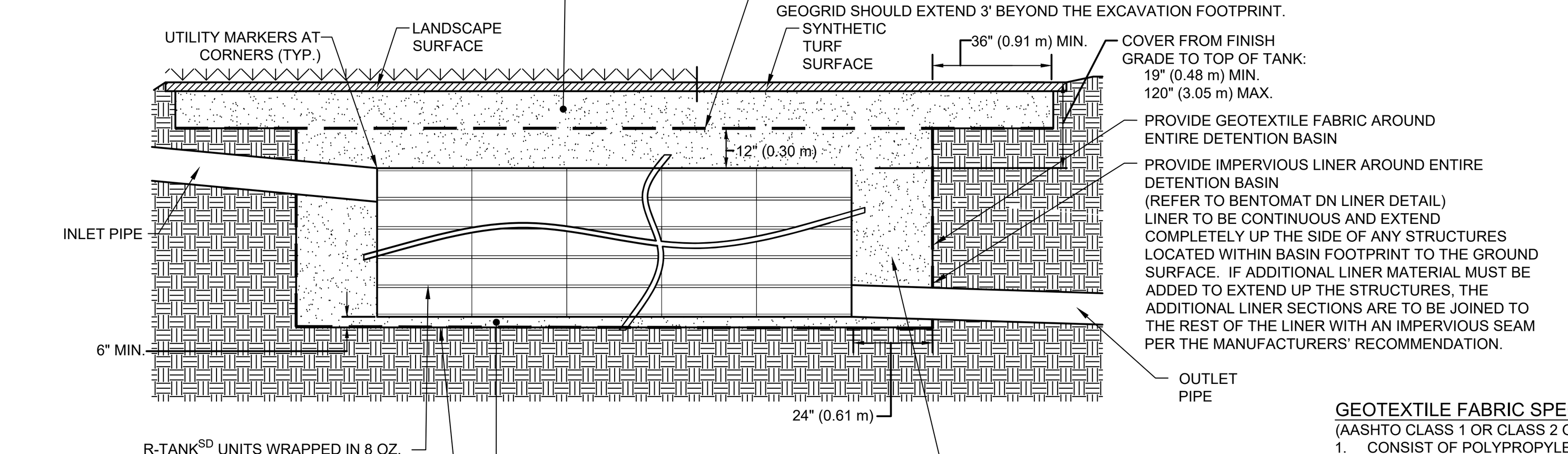
DETAIL- UNDERGROUND BASIN - OUTLET CONTROL STRUCTURE

1" = 2'

TOTAL COVER: 19" MINIMUM AND 120" MAXIMUM. FIRST 12" MUST BE FREE DRAINING BACKFILL (SPEC SECTION 2.03B): STONE <1.5" OR SOIL (USCS CLASS GW, GP, SW OR SP). ADDITIONAL FILL MAY BE STRUCTURAL FILL (SPEC SECTION 2.03C): STONE OR SOIL (USCS CLASS SM, SP, SW, GM, GP OR GW) WITH MAX CLAY CONTENT<10%, MAX 25% PASSING NO. 200 SIEVE, AND MAX PLASTICITY INDEX OF 4. A MIN. 12" COVER MUST BE MAINTAINED BETWEEN BACKFILL EQUIPMENT AND THE TOP OF THE R-TANK™ SYSTEM AT ALL TIMES. TOTAL HEIGHT OF TOP BACKFILL SHOULD NOT EXCEED 10'. CONTACT ACF ENVIRONMENTAL IF MORE THAN 10' OR LESS THAN 18" OF TOP BACKFILL IS REQUIRED (FROM TOP OF TANK TO TOP OF PAVEMENT).

NOTES:
1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK[SD] MODULE SHEET .
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK[SD] FOOTPRINT.

GEOGRID (TENSAR BX-1200 OR EQUAL) PLACED 12" ABOVE THE R-TANK[SD] SYSTEM. OVERLAP ADJACENT PANELS BY 18" MIN. GEOGRID SHOULD EXTEND 3' BEYOND THE EXCAVATION FOOTPRINT.



COVER FROM FINISH GRADE TO TOP OF TANK:
19" (0.48 m) MIN.
120" (3.05 m) MAX.

PROVIDE GEOTEXTILE FABRIC AROUND ENTIRE DETENTION BASIN

PROVIDE IMPERVIOUS LINER AROUND ENTIRE DETENTION BASIN (REFER TO BENTOMAT DN LINER DETAIL) LINER TO BE CONTINUOUS AND EXTEND COMPLETELY UP THE SIDE OF ANY STRUCTURES LOCATED WITHIN BASIN FOOTPRINT TO THE GROUND SURFACE. IF ADDITIONAL LINER MATERIAL MUST BE ADDED TO EXTEND UP THE STRUCTURES, THE ADDITIONAL LINER SECTIONS ARE TO BE JOINED TO THE REST OF THE LINER WITH AN IMPERVIOUS SEAM PER THE MANUFACTURERS' RECOMMENDATION.

R-TANK[SD] UNITS WRAPPED IN 8 OZ. NONWOVEN GEOTEXTILE (OR EQUAL) LOAD RATING: 42.9 PSI (MODULE ONLY)

SUBGRADE / EXCAVATION LINE: COMPACT PER SPEC SECTION 3.02 D. A BEARING CAPACITY OF 2,000 PSF MUST BE ACHIEVED PRIOR TO INSTALLING R-TANK[SD]

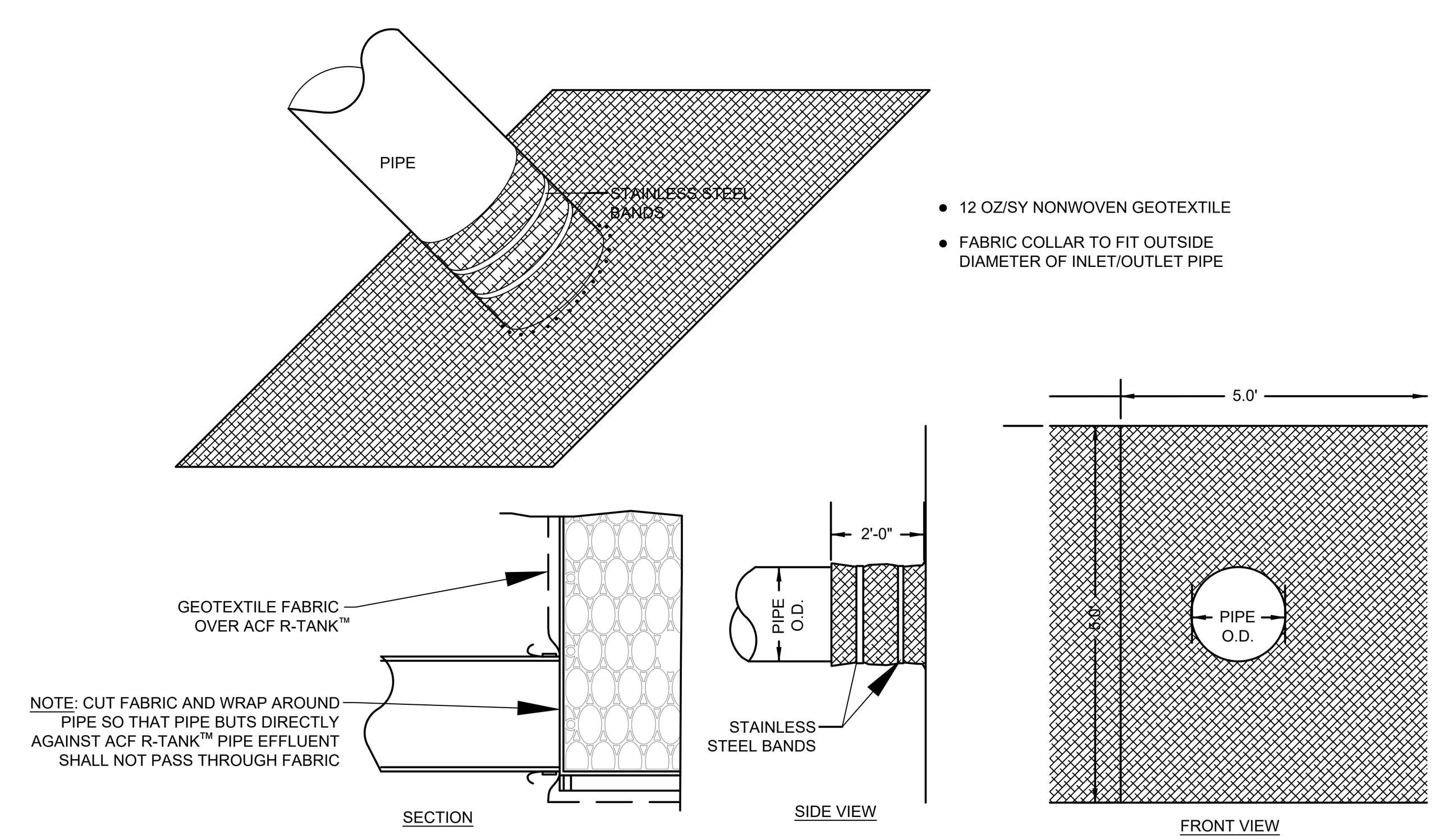
BASE: 6" MIN. BEDDING MATERIAL (SPEC SECTION 2.03A) MAY BE STONE (<1.5") OR SOIL (USCS CLASS GW, GP, SW OR SP). MUST BE FREE OF LUMPS AND DEBRIS, AND EXTEND 2' BEYOND R-TANK[SD]. COMPACT PER SPEC SECTION 3.03 A. NATIVE SOILS MAY BE USED IF THEY MEET THE REQUIREMENTS OF SPEC SECTION 2.03A AND ARE ACCEPTED BY OWNER'S ENGINEER.

SIDE BACKFILL: 24" MIN. OF FREE DRAINING BACKFILL (SPEC SECTION 2.03B): STONE <1.5" OR SOIL (USCS CLASS GW, GP, SW OR SP). MUST BE FREE FROM LUMPS, DEBRIS AND OTHER SHARP OBJECTS. SPREAD EVENLY TO PREVENT R-TANK[SD] MOVEMENT. COMPACT SIDE BACKFILL WITH POWERED MECHANICAL COMPACTOR IN 12" LIFTS (PER SPEC SECTION 3.05 A2).

GEOTEXTILE FABRIC SPECIFICATIONS
(AASHTO CLASS 1 OR CLASS 2 GEOTEXTILE)
1. CONSIST OF POLYPROPYLENE FIBERS.
2. GRAB TENSILE STRENGTH (ASTM-D4632): ≥ 120 LBS
3. MULLEN BURST STRENGTH (ASTM-D3786): ≥ 225 PSI
4. FLOW RATE (ASTM-D4491): ≥ 95 GAL/MIN/FT²
5. UV RESISTANCE AFTER 500 HOURS (ASTM-D4355): ≥ 70%
6. HEAT-SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

DETAIL- R-TANK SD HS-25 LOADING - SECTION VIEW

N.T.S.

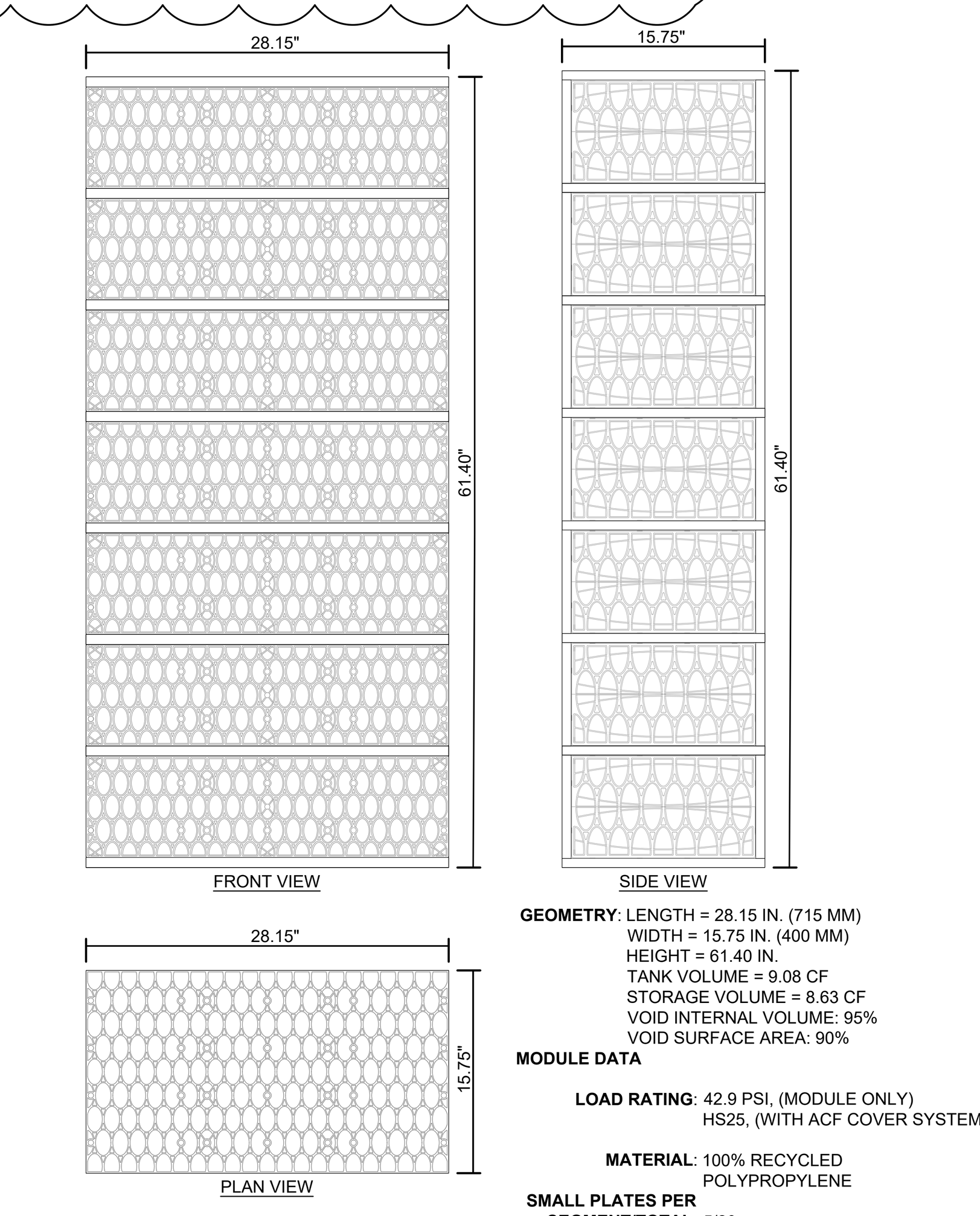


- 12 OZ/SY NONWOVEN GEOTEXTILE
- FABRIC COLLAR TO FIT OUTSIDE DIAMETER OF INLET/OUTLET PIPE

NOTE: CUT FABRIC AND WRAP AROUND PIPE SO THAT PIPE BUTS DIRECTLY AGAINST ACF R-TANK™ PIPE EFFLUENT SHALL NOT PASS THROUGH FABRIC

DETAIL- R-TANK PIPE BOOT

N.T.S.



GEOMETRY: LENGTH = 28.15 IN. (715 MM)
WIDTH = 15.75 IN. (400 MM)
HEIGHT = 61.40 IN.
TANK VOLUME = 9.08 CF
STORAGE VOLUME = 8.63 CF
VOID INTERNAL VOLUME: 95%
VOID SURFACE AREA: 90%

MODULE DATA

LOAD RATING: 42.9 PSI, (MODULE ONLY)
HS25, (WITH ACF COVER SYSTEM)

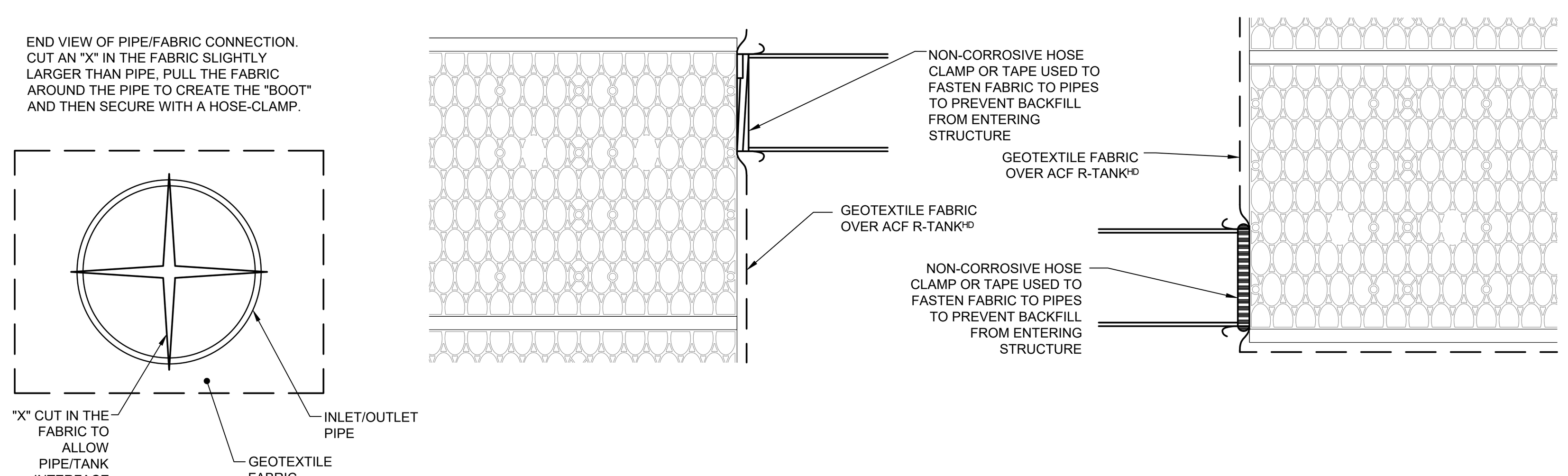
MATERIAL: 100% RECYCLED POLYPROPYLENE

SMALL PLATES PER SEGMENT/TOTAL: 5/20

DETAIL- RTANK SD 7 MODULE

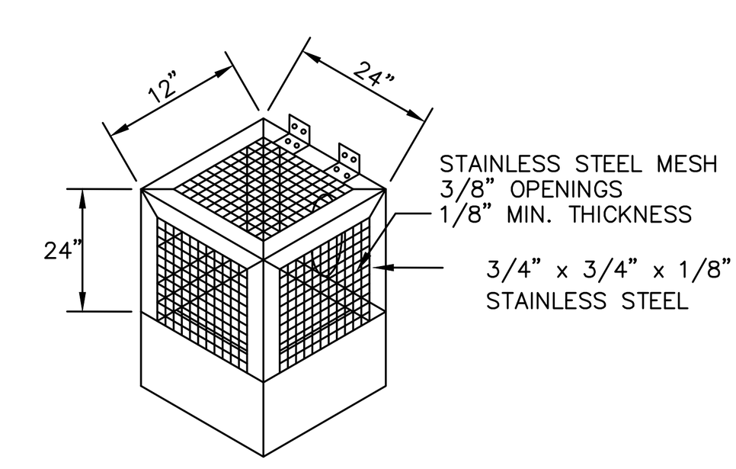
N.T.S.

END VIEW OF PIPE/FABRIC CONNECTION. CUT AN "X" IN THE FABRIC SLIGHTLY LARGER THAN PIPE, PULL THE FABRIC AROUND THE PIPE TO CREATE THE "BOOT" AND THEN SECURE WITH A HOSE-CLAMP.



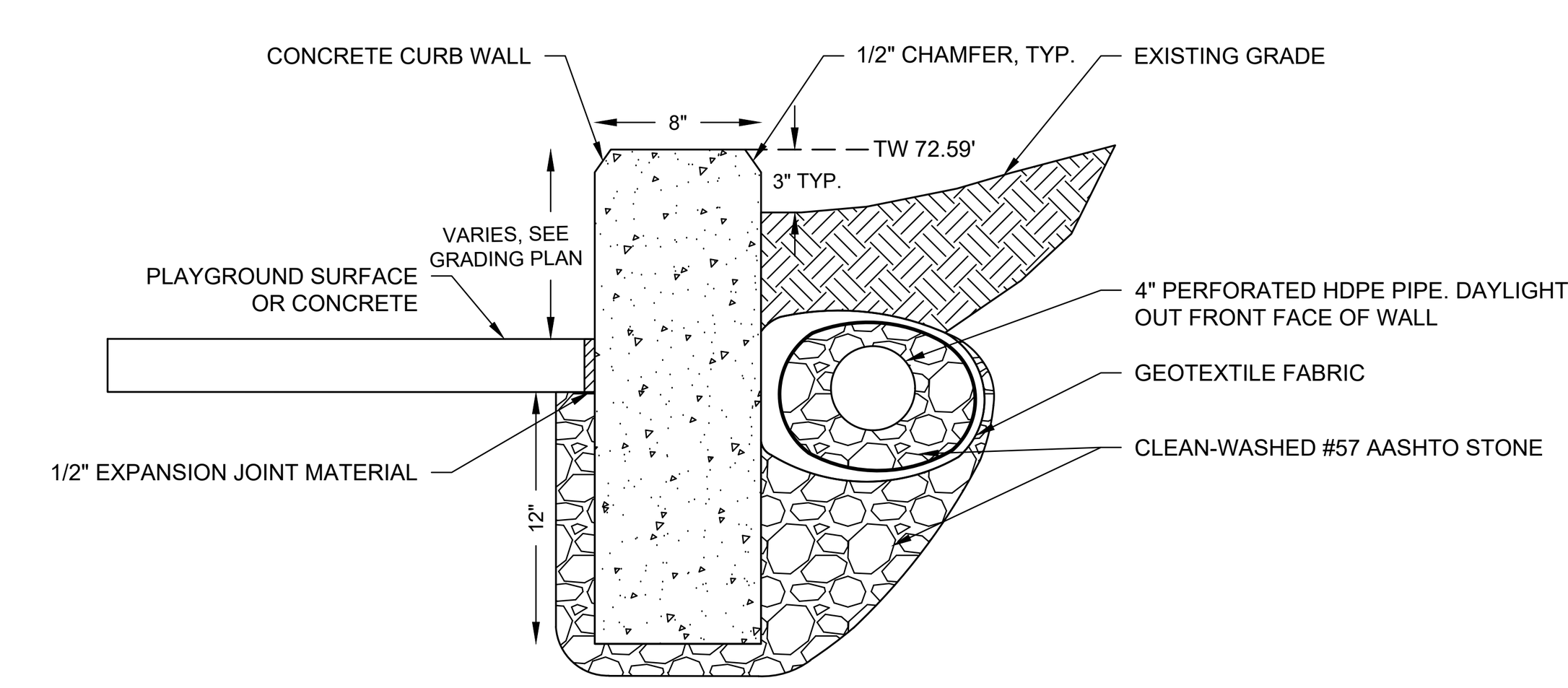
DETAIL- R-TANK INLET/OUTLET

N.T.S.



DETAIL- ORIFICE PROTECTION

N.T.S.



DETAIL- CONCRETE CURB WALL AT PLAYGROUND

N.T.S.

NPDES PERMIT #PAC510302
PWD TRACKING #FY22-KING-6800-01

REVISIONS

ISSUE	DATE	DESCRIPTION
1	8/26/22	DD SET - ISSUED FOR COST EST.
2	01/09/23	PWD PCSM/NPDES SUBMISSION
3	02/14/23	PWD PCSM RESUBMISSION
4	03/14/23	NPDES RESUBMISSION
5	04/21/23	100% CONSTRUCTION DOCUMENTS
6	05/24/23	PWD PCSM RESUBMISSION
7	07/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

SEALS

KMA
KELLY MAIELLO ARCHITECTS
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Salt Design Studio
4100 Main Street Suite 200
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M.E.P./F.P./SITE CIVIL ENGINEERS:
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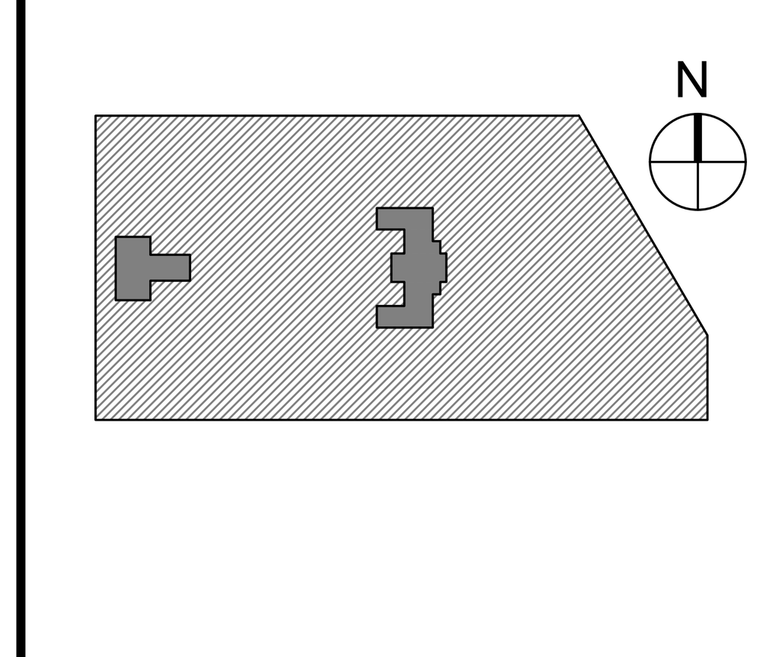
1900 Market Street Suite 300
Philadelphia PA 19103
www.pennoni.com

LEED CONSULTANT:
Verde Architecture Consulting
1635 Market Street Suite 1600
Philadelphia PA 19103

CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1515 ARCH STREET
11TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE
KINGSESSING RECREATION CENTER

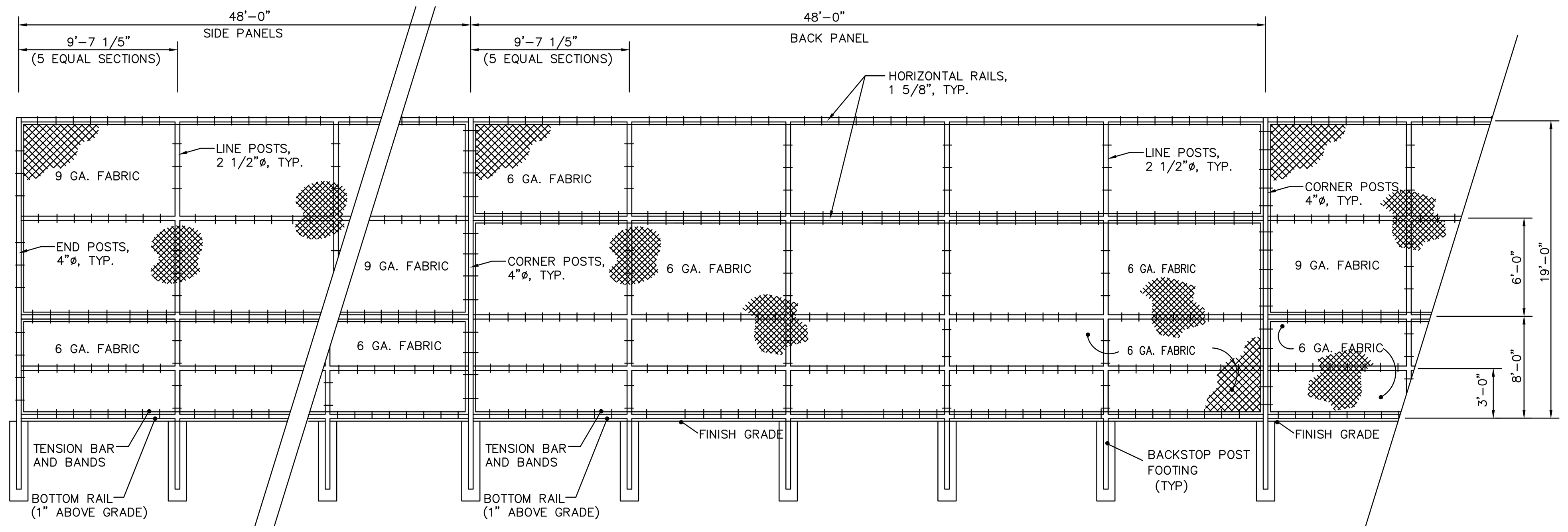
KEY PLAN



DRAWING TITLE
SITE DETAILS

PROJECT NO. KLMLX21003	DRAWING NO. C-603-R
DATE 10/14/22	
SCALE AS NOTED	
DRAWN BY SDL	
CHECKED BY MJM	

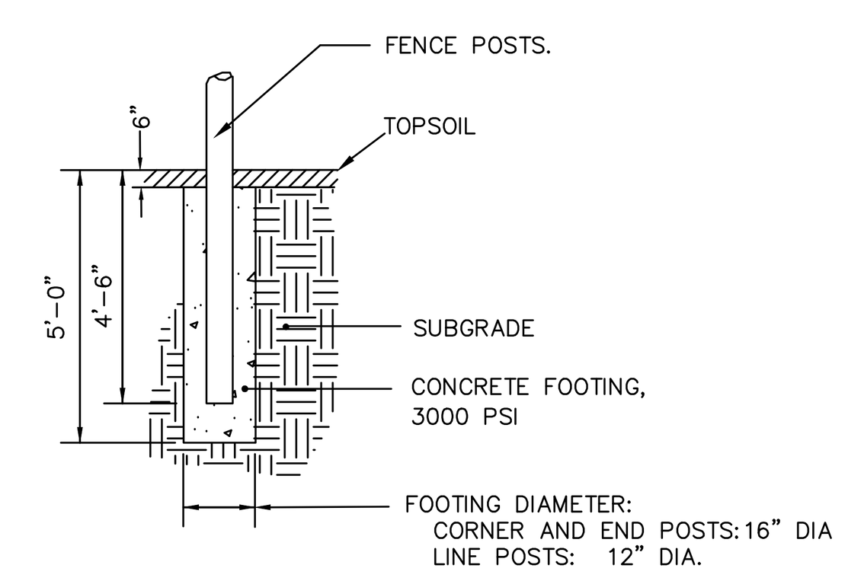
NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.



BACKSTOP FENCING

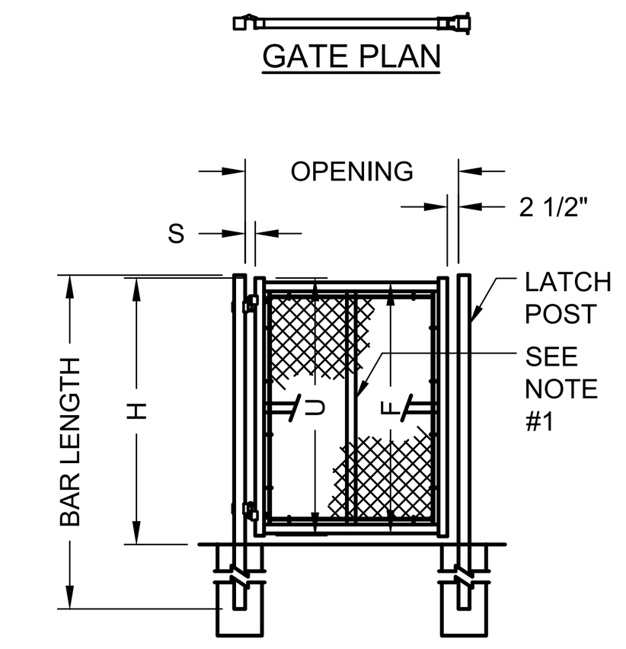
FENCING NOTES:

1. ALL FENCE FABRIC TO BE 6 GAUGE OR 9 GAUGE CORE (AS NOTED), CLASS 2B VINYL COATED, 2" MESH.
2. FASTEN FENCE FABRIC TO INSIDE (FIELD) SIDE OF POSTS.
3. TOP AND BOTTOM SELVAGE TO BE KNUCKLED.
4. CHAIN LINK FENCE FABRIC AND TENSION WIRES TO BE BLACK VINYL COATED; ALL OTHER COMPONENTS TO BE BLACK POWDER COATED, SEE SPECIFICATIONS.
5. PROVIDE COMPLETE SHOP DRAWINGS FOR FOR ALL FENCES.
6. MAXIMUM 2" OPENING BETWEEN FENCE AND GATE AND OTHER OPENINGS.



BACKSTOP POST FOOTING

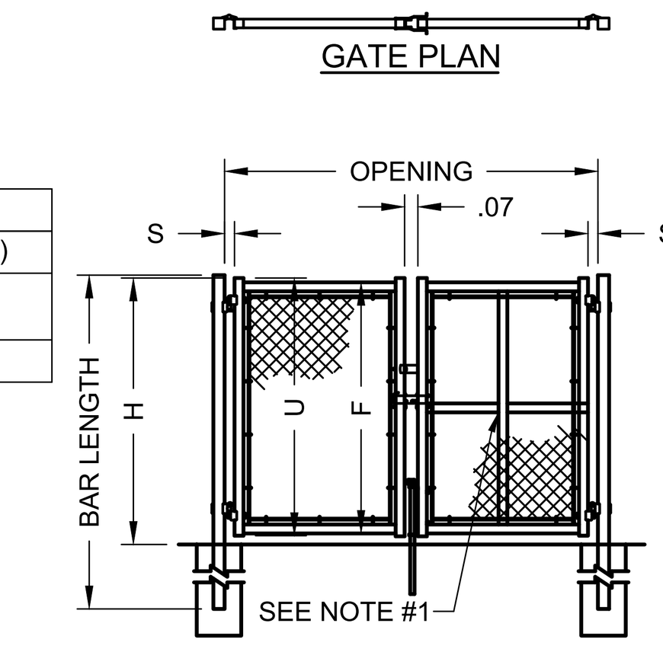
DETAIL- CHAIN LINK BACKSTOP FENCE
N.T.S.



SINGLE GATE ELEVATION

SINGLE 0R DOUBLE LEAF GATES		
NOM HEIGHT (H)	UPRIGHT HT (U)	FRAME HT (F)
WITHOUT BARBED WIRE	ACTUAL DIM	ACTUAL DIM
6'-0"	5'-10"	5'-8 1/2"

NOTES:
1. CENTER UPRIGHT REQUIRED ON GATE LEAVES 6'-0" & WIDER. CENTER RAIL REQUIRED ON GATE LEAVES 8'-0" & HIGHER.



DOUBLE GATE ELEVATION

SINGLE LEAF GATES		
OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
3'-0" THROUGH 6'-0"	2 1/2" SQ OR 2.875" OD	FOR SQUARE & ROUND GATE POSTS: 2 1/4"

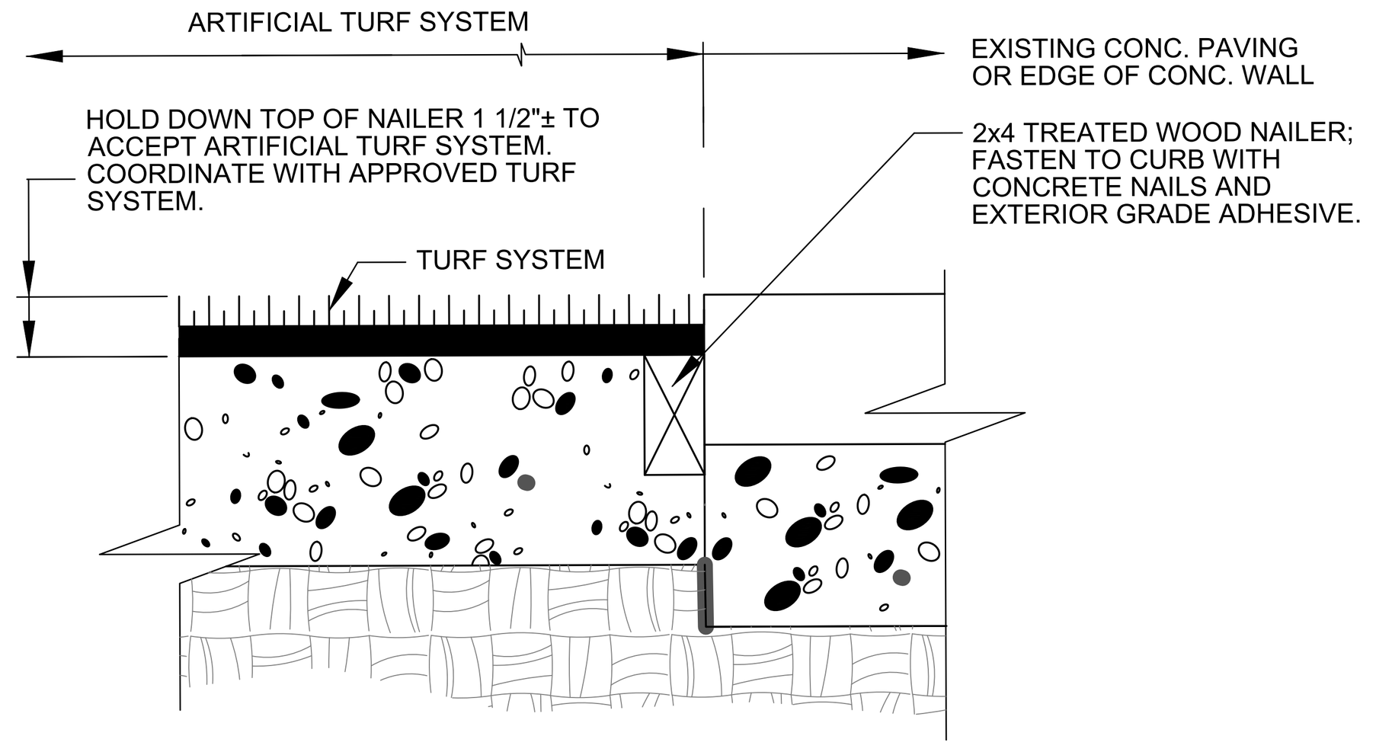
DOUBLE LEAF GATES		
OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
8'-0" THROUGH 12'-0"	2 1/2" SQ OR 2.875" OD	FOR SQUARE & ROUND GATE POSTS: 2 1/4"
26'-0" THROUGH 36'-0"	6" SQ OR 6.625" OD	FOR GATE POSTS: SQ-2 1/4" RND-3 1/2"

TYPICAL 6' HIGH SINGLE & DOUBLE SWING GATES DETAIL
N.T.S.

DETAIL- CHAIN LINK FENCE AND GATE
N.T.S.

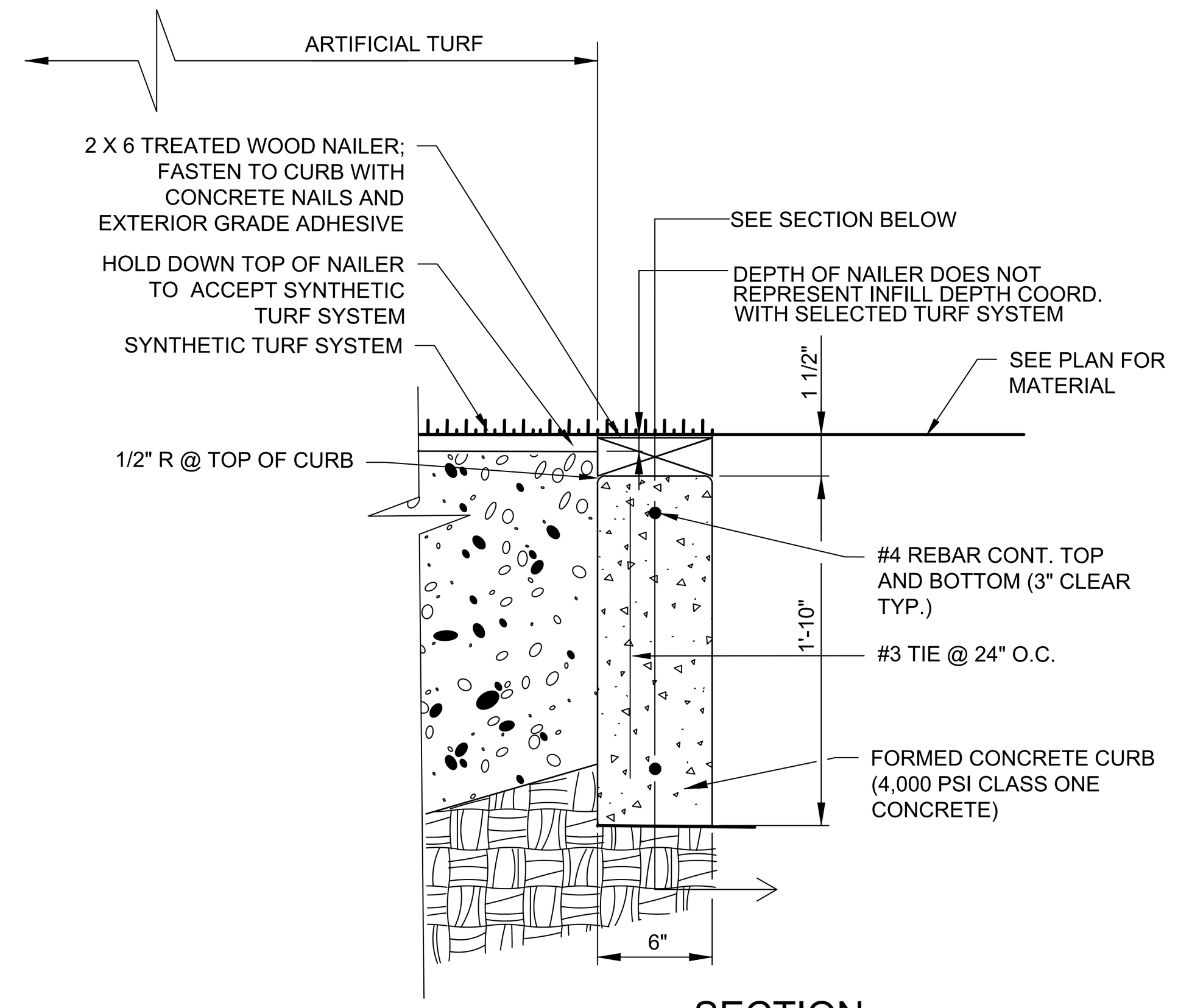
FENCING NOTES:

1. FENCE FABRIC TO BE CLASS 2B VINYL COATED, 2" DIAMOND MESH:
   - 6' HIGH FENCE: 9 GAUGE
2. ALL NEW FRAMING MEMBERS (INCLUDING POSTS) AND HARDWARE TO BE POWDER COATED (BLACK) PER SPECIFICATIONS.
3. GATE FRAME JOINTS TO BE WELDED TO MAKE A RIGID FRAME.
4. GATE DROP RODS TO BE SET IN CONCRETE.
5. TOP AND BOTTOM SELVAGE TO BE KNUCKLED.
6. PROVIDE COMPLETE SHOP DRAWINGS FOR FENCES AND GATES.



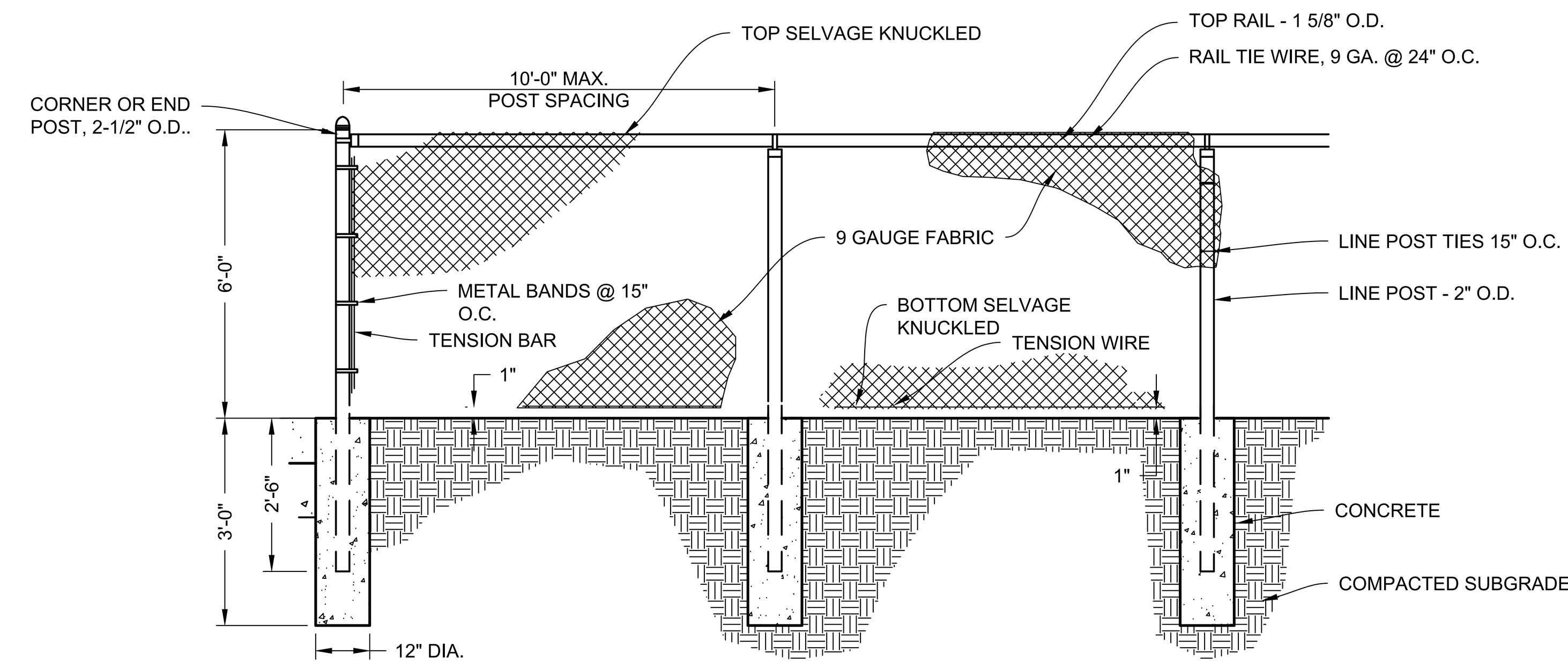
SECTION

DETAIL- EDGE DETAIL AT EXISTING PAVING/WALLS
N.T.S.



SECTION

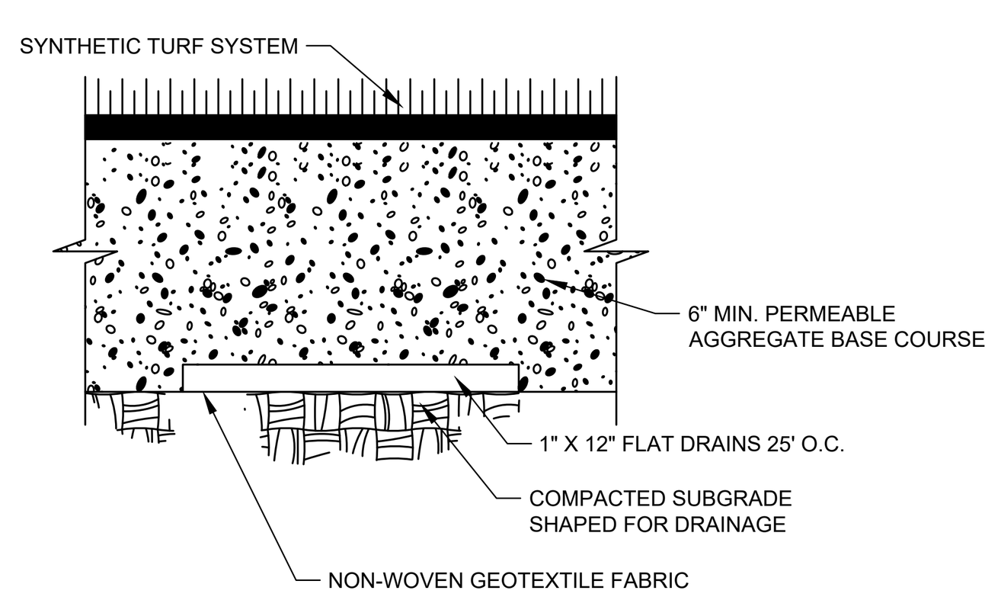
DETAIL- 6" WIDE CONCRETE TURF EDGE
N.T.S.



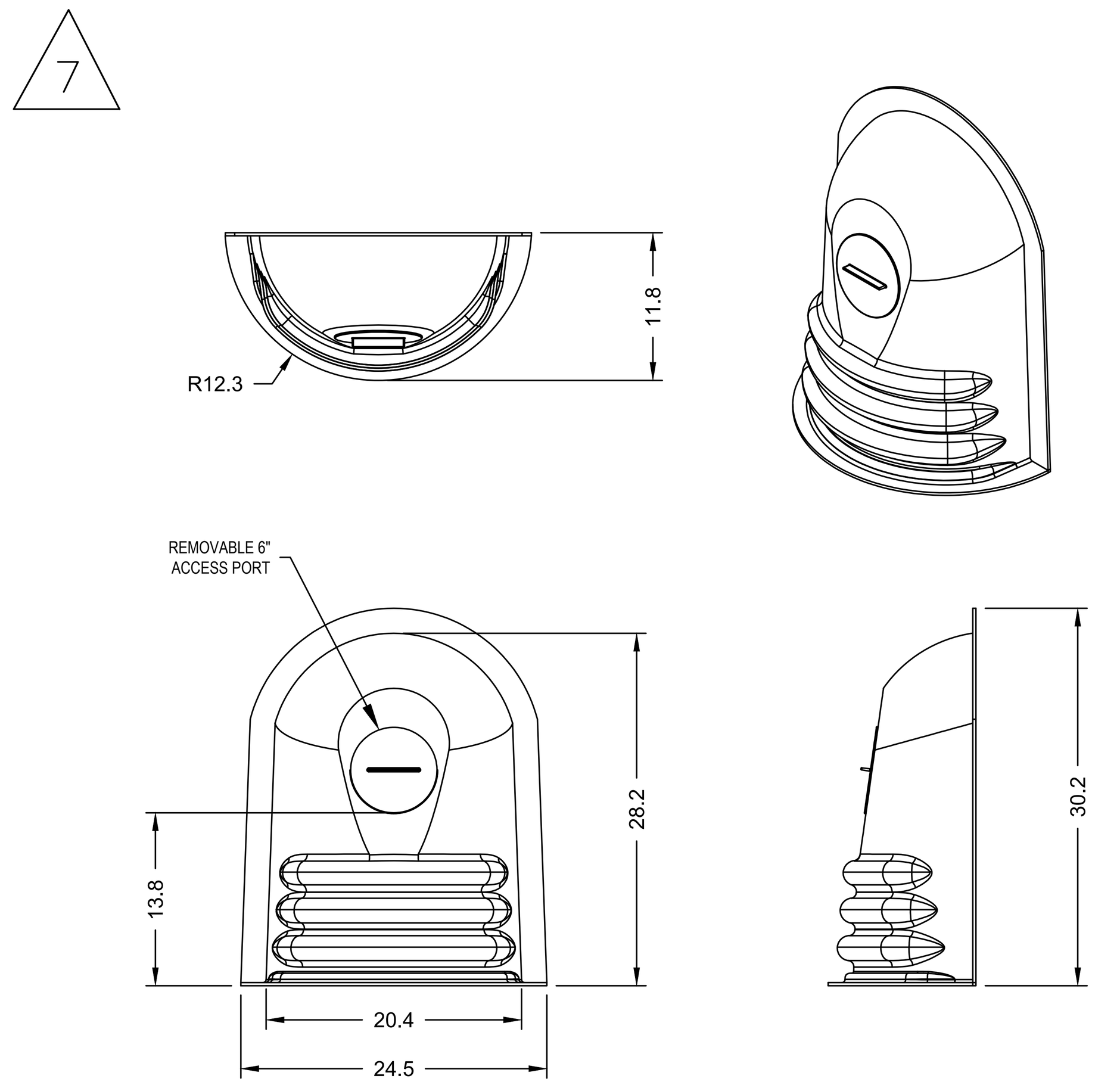
DETAIL- 6' HIGH CHAIN LINK FENCE
N.T.S.

DETAIL NO LONGER IN USE

7



DETAIL- SYNTHETIC TURF FIELD FLAT UNDER DRAIN
N.T.S.



DETAIL- 18F ENVIROHOOD FOR FLAT CONCRETE
N.T.S.

CONCRETE NOTES:

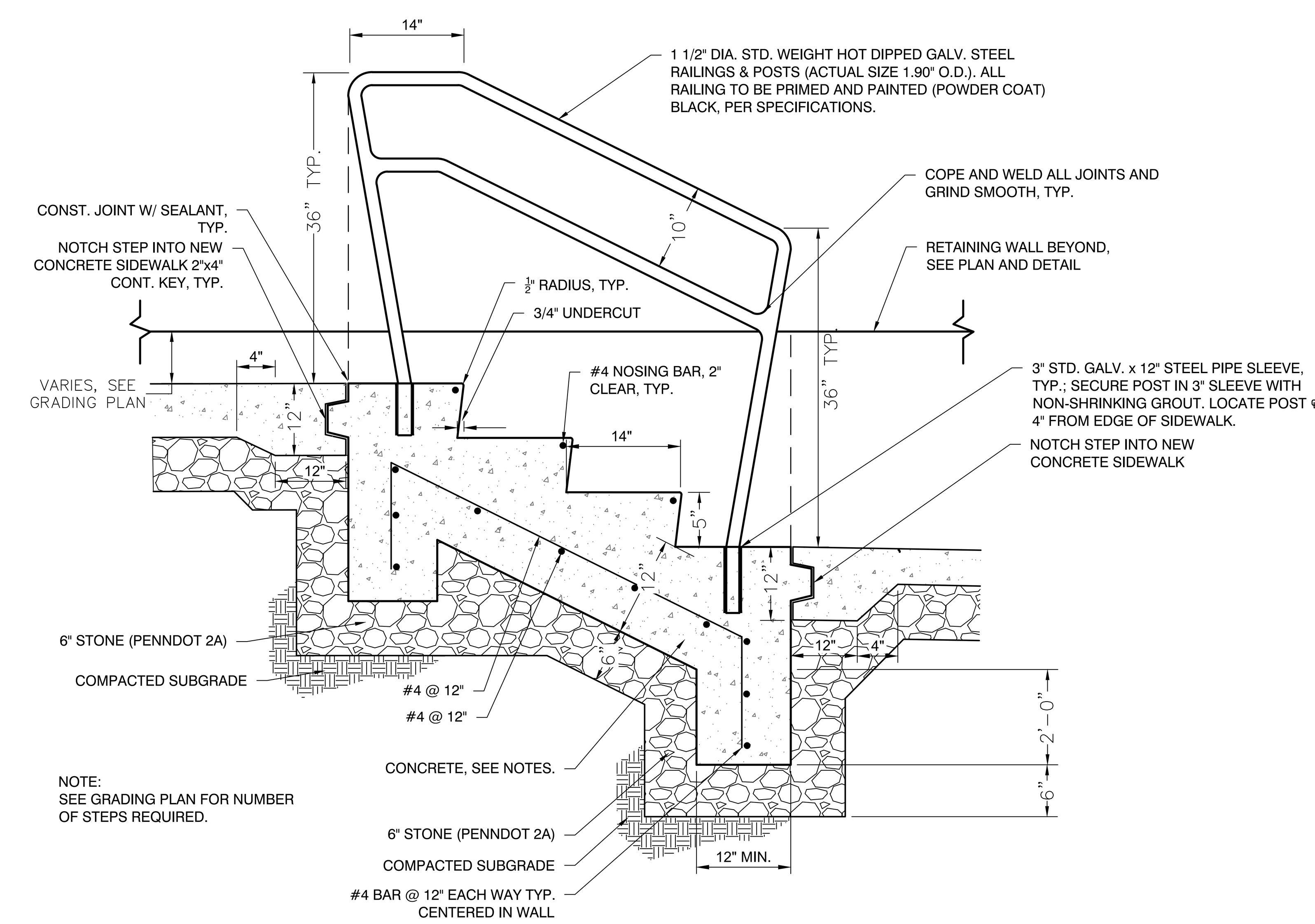
1. ALL WORK SHALL CONFORM TO THE ACI 318, ACI 301 CODES, LATEST REVISION.

   STRENGTH: f'c = 4000 psi., MIN.
   AIR ENTRAINMENT: 5%-7%; AS PER ACI 318
   MAXIMUM WATER / CEMENT RATIO = 0.44
   REINFORCEMENT: ASTM A615, GRADE 60
   CEMENT: ASTM C150, TYPE 1

2. SUBMIT CONCRETE MIX DESIGN (IN ACCORDANCE WITH ACI 318-89) AND SHOP DRAWINGS FOR REINFORCING TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OF STEPS.

HANDRAIL NOTES:

1. ALL HANDRAILS AND HARDWARE TO BE HOT DIPPED GALVANIZED, PRIMED AND PAINTED (POWDER COAT) BLACK, PER SPECIFICATIONS.
2. CONTRACTOR TO FIELD VERIFY DIMENSIONS AND ELEVATIONS OF FINISHED STEPS PRIOR TO FABRICATION OF HANDRAILS.
3. CONTRACTOR TO SUBMIT COMPLETE SHOP DRAWINGS FOR HANDRAILS AND COMPONENTS.
4. INSTALL THREE (3) HANDRAILS, OFFSET TWO (2) HANDRAILS 6" FROM EDGE OF STAIR. INSTALL ONE (1) HANDRAIL IN CENTERLINE OF STAIRS.



NOTE:
SEE GRADING PLAN FOR NUMBER OF STEPS REQUIRED.

DETAIL- CONCRETE STEPS AND STEEL TUBE HANDRAIL
N.T.S.

NPDES PERMIT #PAC510302
PWD TRACKING #FY22-KING-6800-01

REVISIONS		
ISSUE	DATE	DESCRIPTION
1	8/26/22	DD SET - ISSUED FOR COST EST.
2	01/09/23	PWD PCSM/NPDES SUBMISSION
3	02/14/23	PWD PCSM RESUBMISSION
4	03/14/23	NPDES RESUBMISSION
5	04/21/23	100% CONSTRUCTION DOCUMENTS
6	05/24/23	PWD PCSM RESUBMISSION
7	07/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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LEED CONSULTANT:
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Philadelphia PA 19103

CITY OF PHILADELPHIA
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1515 ARCH STREET
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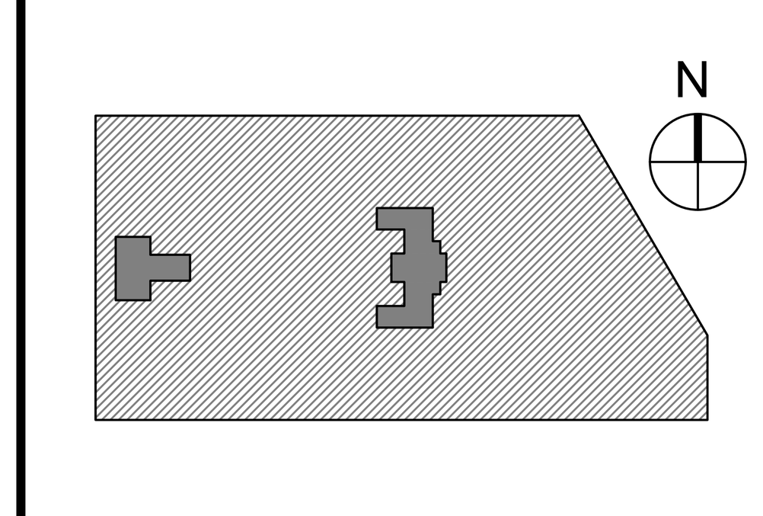
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE
KINGSESSING RECREATION CENTER

KEY PLAN



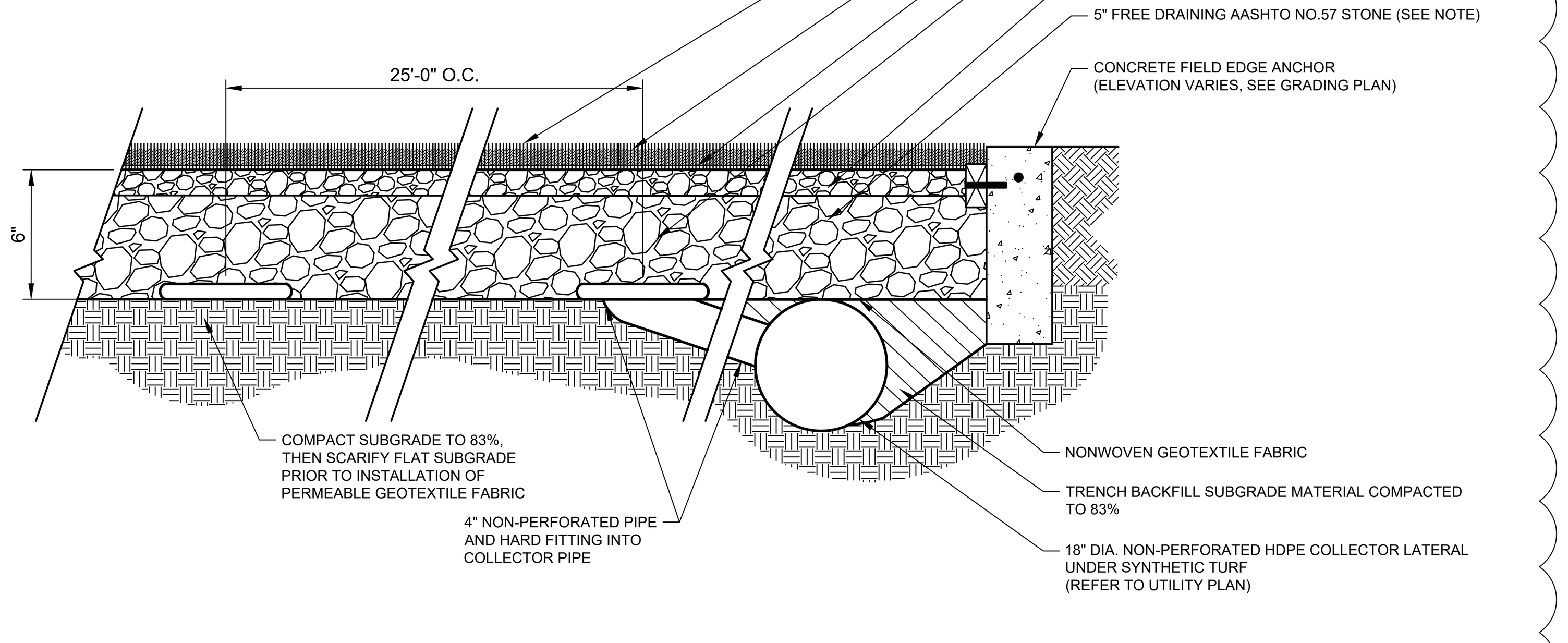
DRAWING TITLE
SITE DETAILS

PROJECT NO.	KLMLX21003
DATE	10/14/22
SCALE	AS NOTED
DRAWN BY	SDL
CHECKED BY	MJM
DRAWING NO.	C-604-R

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

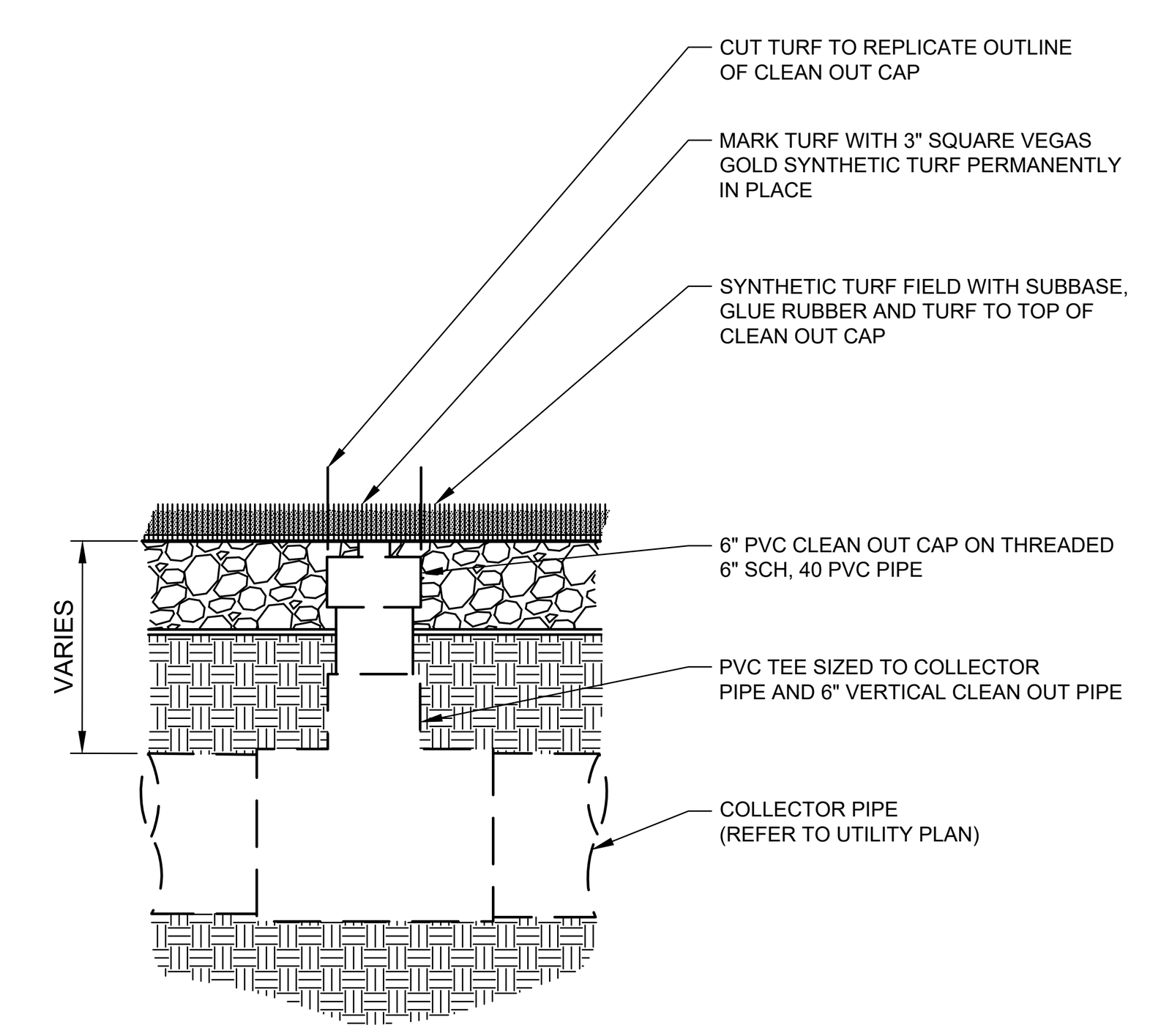
NOTE: GEOTEXTILE IS TO CONSIST OF POLYPROPYLENE FIBERS AND TO MEET THE FOLLOWING SPECIFICATIONS:
- A) GRAB TENSILE STRENGTH (ASTM-D4632): ≥ 120 LBS
- B) MULLEN BURST STRENGTH (ASTM-D3786): ≥ 225 PSI
- C) FLOW RATE (ASTM-D4491): ≥ 95 GAL/MIN/FT2
- D) UV RESISTANCE AFTER 500 HRS (ASTM-D4355): ≥ 70%
- E) HEAT-SET OR HEAT CALENDARED FABRICS ARE NOT PERMITTED

NOTE: STONE IN FIELD CROSS-SECTION IS TO BE UNIFORMLY GRADED, CRUSHED, CLEAN WASHED STONE AS DEFINED BY P.W.D. P.W.D. DEFINES "CLEAN-WASHED" AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER AASHTO T-11.

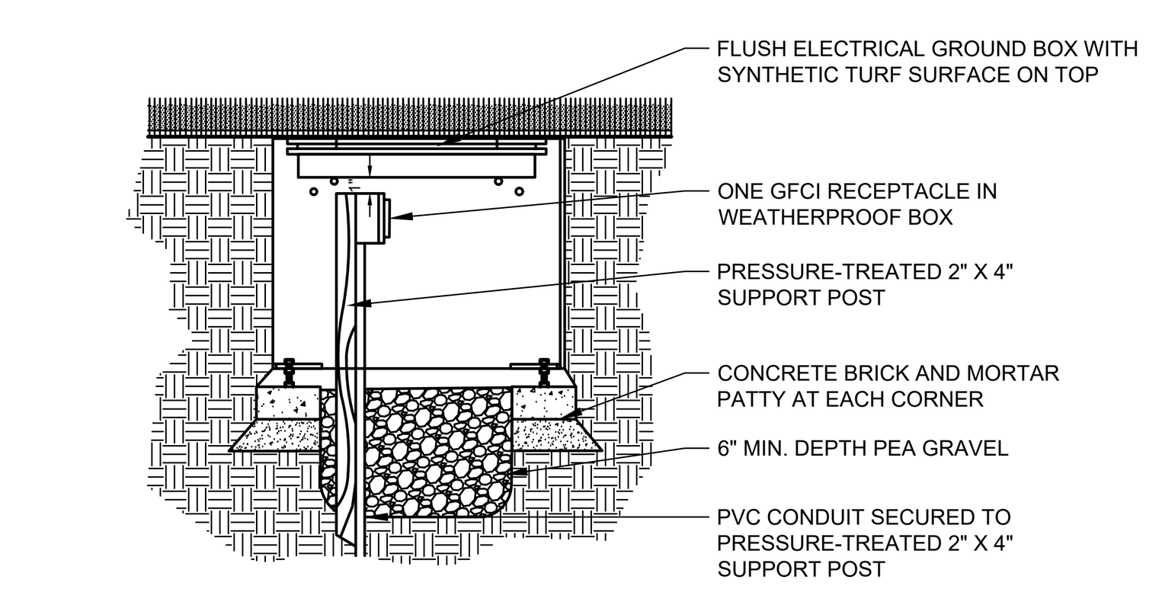


DETAIL- SYNTHETIC TURF FIELD UNDER DRAIN CONNECTION TO COLLECTOR PIPE
N.T.S.

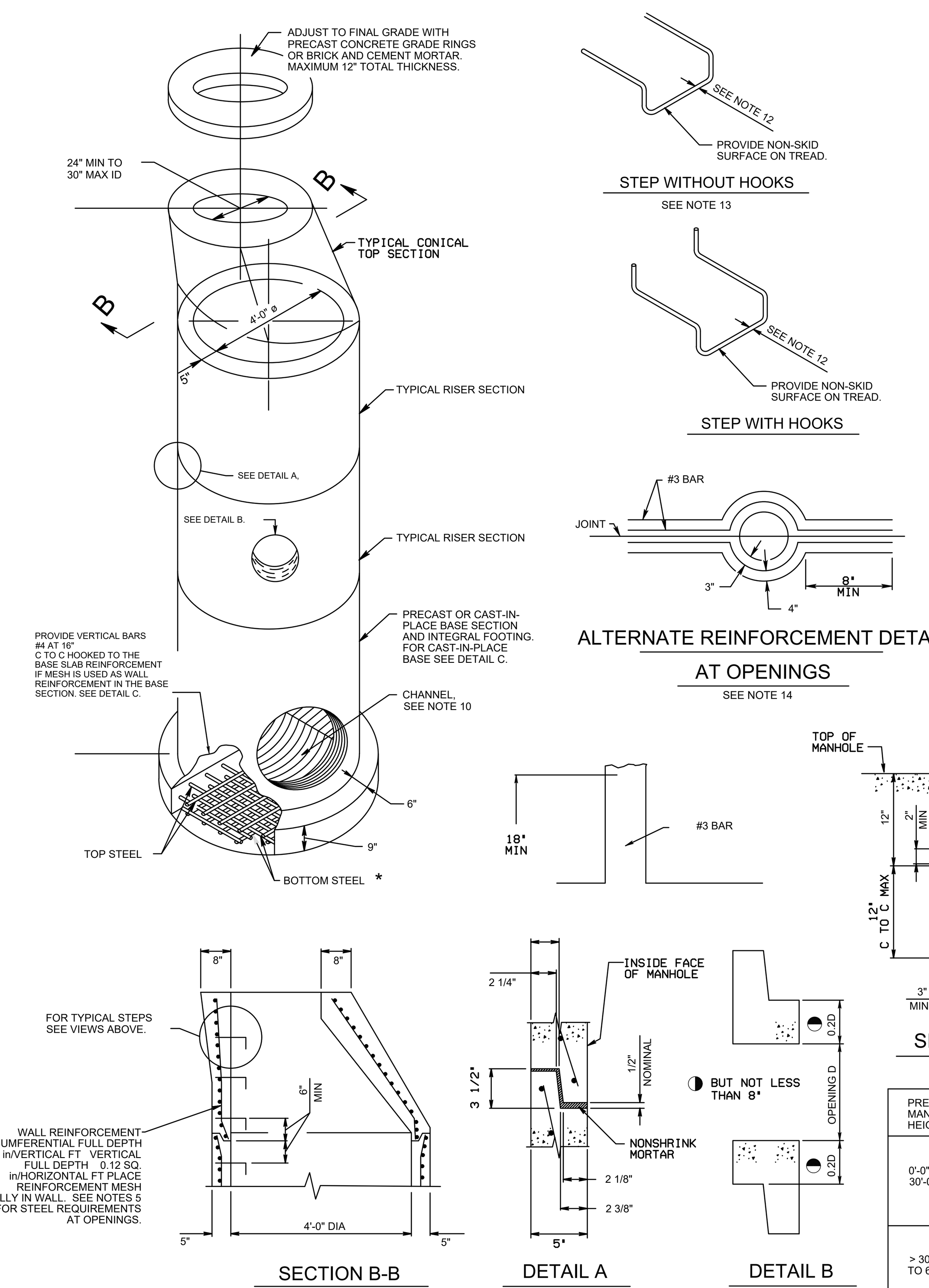
7



DETAIL- CLEANOUT PORTAL IN SYNTHETIC TURF
N.T.S.

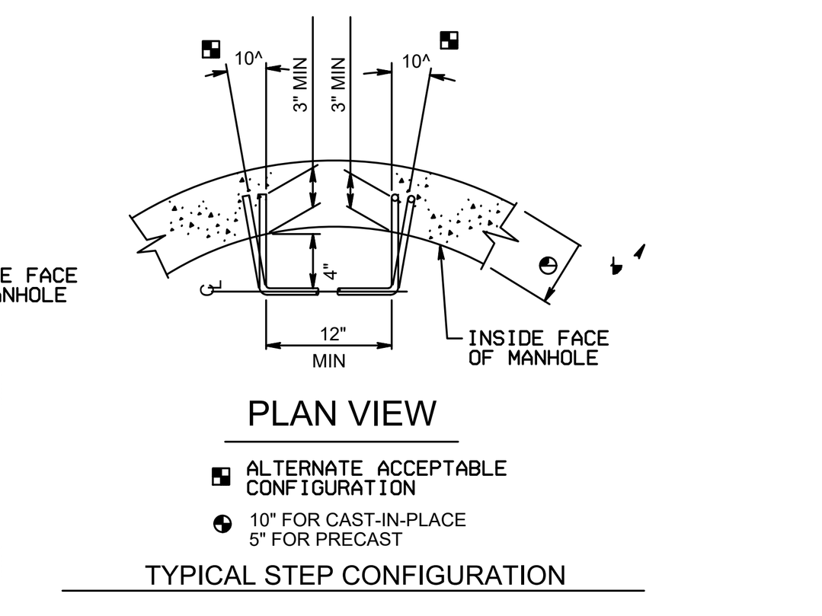


DETAIL- OUTDOOR GROUND BOX RECEPTACLE
N.T.S.



PRECAST MANHOLE NOTES

1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DEVIATION OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.
2. FOR CONSTRUCTION REQUIREMENTS SEE PUBLICATION 408, SECTION 714.
3. SHOW PERMISSIBLE LOCATION OF PIPES ON SHOP DRAWING.
4. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNCUT WALL EQUAL OPENING AND THE CLOSEST JOINT BETWEEN RISERS - SEE DETAIL B.
5. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60', PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-B. FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTH OF 10' AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.16 SQ. in /VERTICAL FT. FOR THE HEIGHT OF RISER OR BASE SECTION. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A
6. DEPTH GREATER THAN 10', BUT LESS THAN OR EQUAL TO 25', PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 SQ. in /VERTICAL FT. FOR THE HEIGHT OF THE RISER OR BASE SECTION.
7. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 25', USE A 10" THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.22 in /VERTICAL FT. EACH FACE.
8. MARK RISERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE DEPTH.
9. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.
10. SHOW CHANNEL DETAILS IN PRECAST MANHOLE ON SHOP DRAWINGS.
11. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605.2(c). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
12. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
13. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOOKS.
14. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.



TYPICAL STEP CONFIGURATION

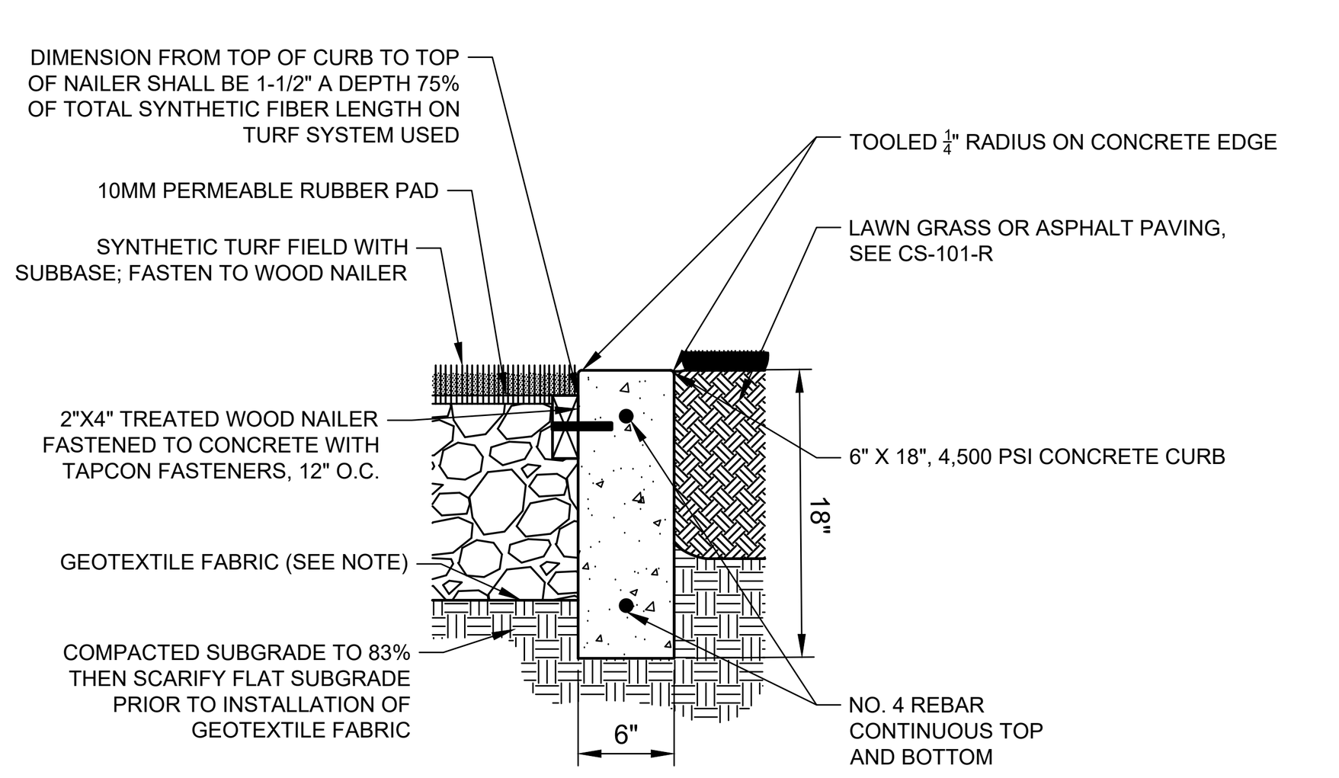
MANHOLE STEPS
SEE NOTE 11

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

TABLE B

PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
0'-0" TO 30'-0"	NO.4 BARS AT 6" C TO C OR 0.33 SQ.in/FT WWF 6" MAXIMUM SPACING	NO.4 BARS AT 12" C TO C OR SQ. 0.16 in/FT WWF 6" MAXIMUM SPACING
> 30'-0" TO 60'-0"	NO.5 BARS AT 6" C TO C OR 0.56 SQ.in/FT WWF 6" MAXIMUM SPACING	NO.4 BARS AT 6" C TO C OR 0.27 SQ. in/FT WWF 6" MAXIMUM SPACING

DETAIL- PRECAST STORM MANHOLE
N.T.S.

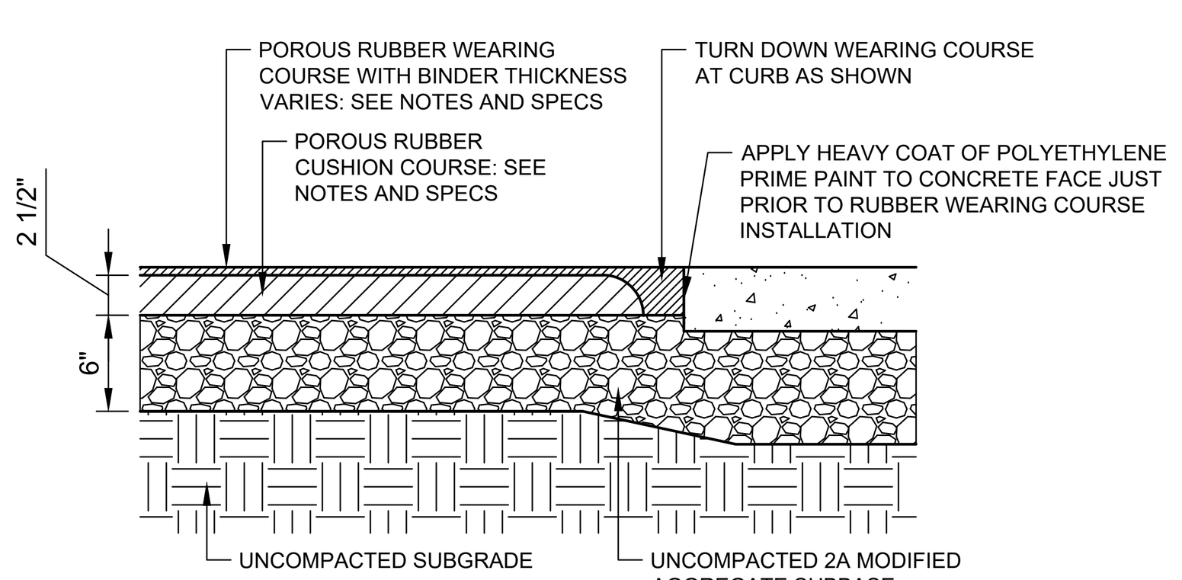


DETAIL- CONCRETE FIELD EDGE ANCHOR
N.T.S.

NOTE: ALL TREATED WOOD TO BE NON-CCA. TOP OF TURF INFILL TO BE FLUSH WITH TOP OF CONCRETE CURB.
EXPANSION JOINTS TO BE INSTALLED AT INTERVALS NOT TO EXCEED 160' - SAWCUT CONTROL JOINTS SHALL OCCUR EVERY 20'.

NOTE: NON-WOVEN GEOTEXTILE IS TO CONSIST OF POLYPROPYLENE FIBERS AND TO MEET THE FOLLOWING SPECIFICATIONS:
- A) GRAB TENSILE STRENGTH (ASTM-D4632): ≥ 120 LBS
- B) MULLEN BURST STRENGTH (ASTM-D3786): ≥ 225 PSI
- C) FLOW RATE (ASTM-D4491): ≥ 95 GAL/MIN/FT2
- D) UV RESISTANCE AFTER 500 HRS (ASTM-D4355): ≥ 70%
- E) HEAT-SET OR HEAT CALENDARED FABRICS ARE NOT PERMITTED

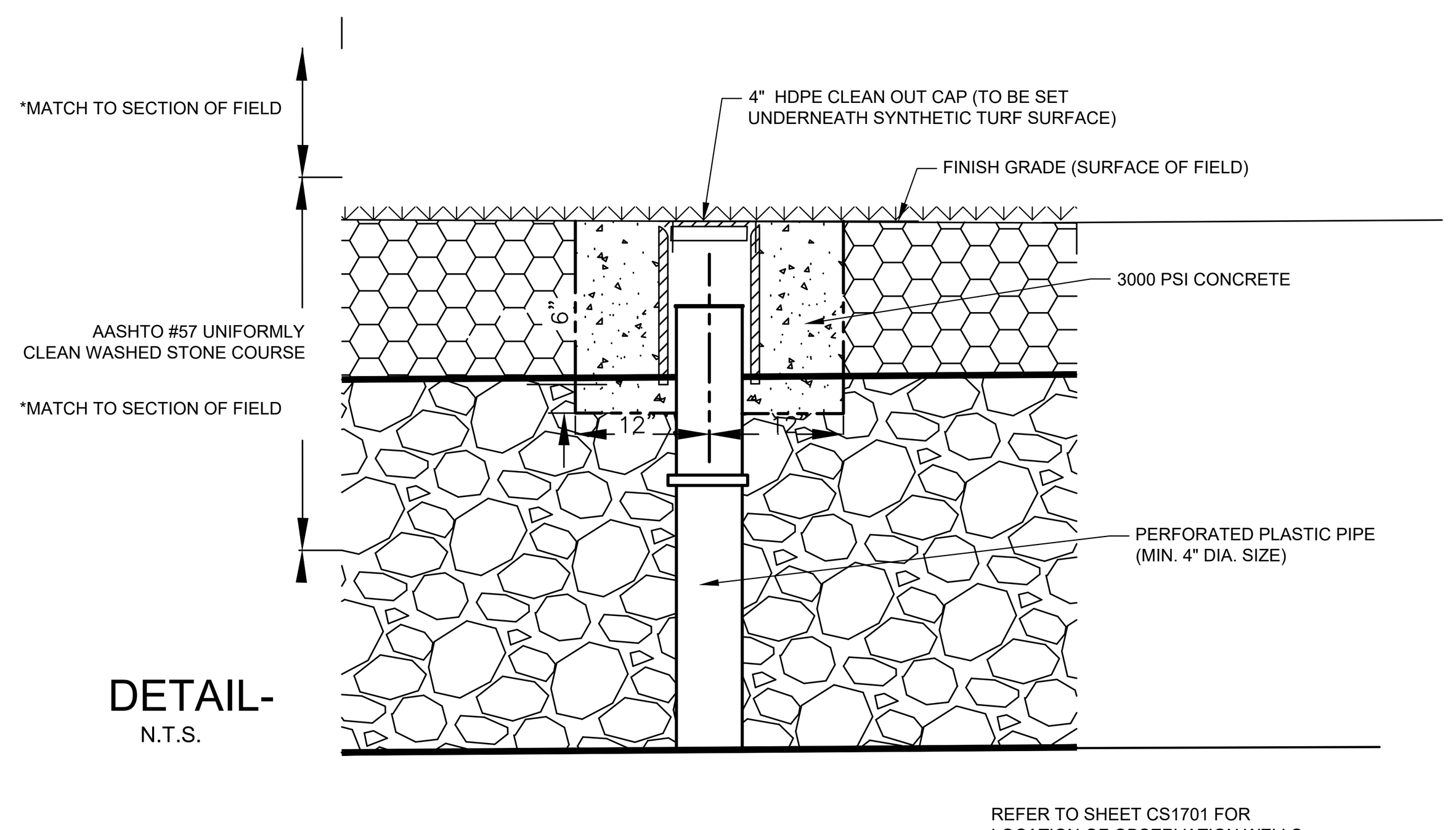
NOTE: STONE IN FIELD CROSS-SECTION IS TO BE UNIFORMLY GRADED, CRUSHED, CLEAN WASHED STONE AS DEFINED BY P.W.D. P.W.D. DEFINES "CLEAN-WASHED" AS HAVING LESS THAN 0.5% WASH LOSS, BY MASS, WHEN TESTED PER AASHTO T-11.



NOTES:

1. WEARING COURSE THICKNESS
   - 1.1. 1/2" STANDARD THICKNESS, MIN.
   - 1.2. 3/4" THICKNESS UNDER SWINGS END OF SLIDES, PLAY EQUIPMENT ENTRANCES AND EXITS, AND AREAS OF INCREASED FOOT TRAFFIC. SEE PLANS FOR ASTM BUFFER AND CLEARANCE ZONES REVIEW IN FIELD WITH LANDSCAPE ARCHITECT AND REPRESENTATIVE FROM PLAY AND FITNESS EQUIPMENT MANUFACTURER.
2. CUSHION COURSE THICKNESS:
   - 2.1. 2 1/2" CUSHION COURSE AS SPECIFIED MEETS OR EXCEEDS ASTM- F1487.11 AND ASTMF 1292-04 FOR FALL HEIGHTS AS DICTATED BY SPECIFIED PLAY AND FITNESS EQUIPMENT.
3. INSTALL POURED-IN-PLACE SAFETY SURFACE PER MANUFACTURERS INSTRUCTIONS

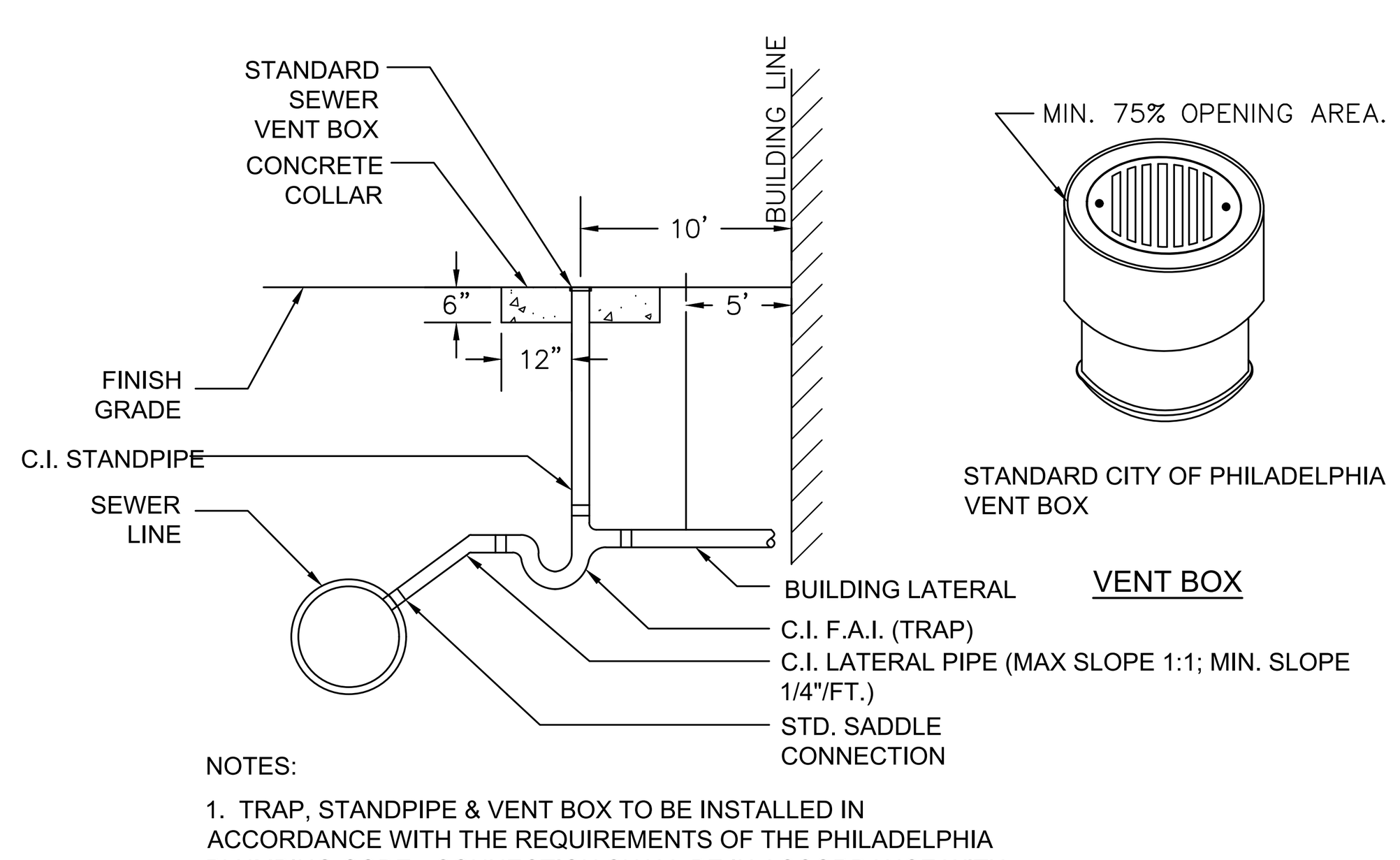
DETAIL- POURED-IN-PLACE SAFETY SURFACE FROM LANDSCAPE ARCHITECT
N.T.S.



DETAIL-
N.T.S.

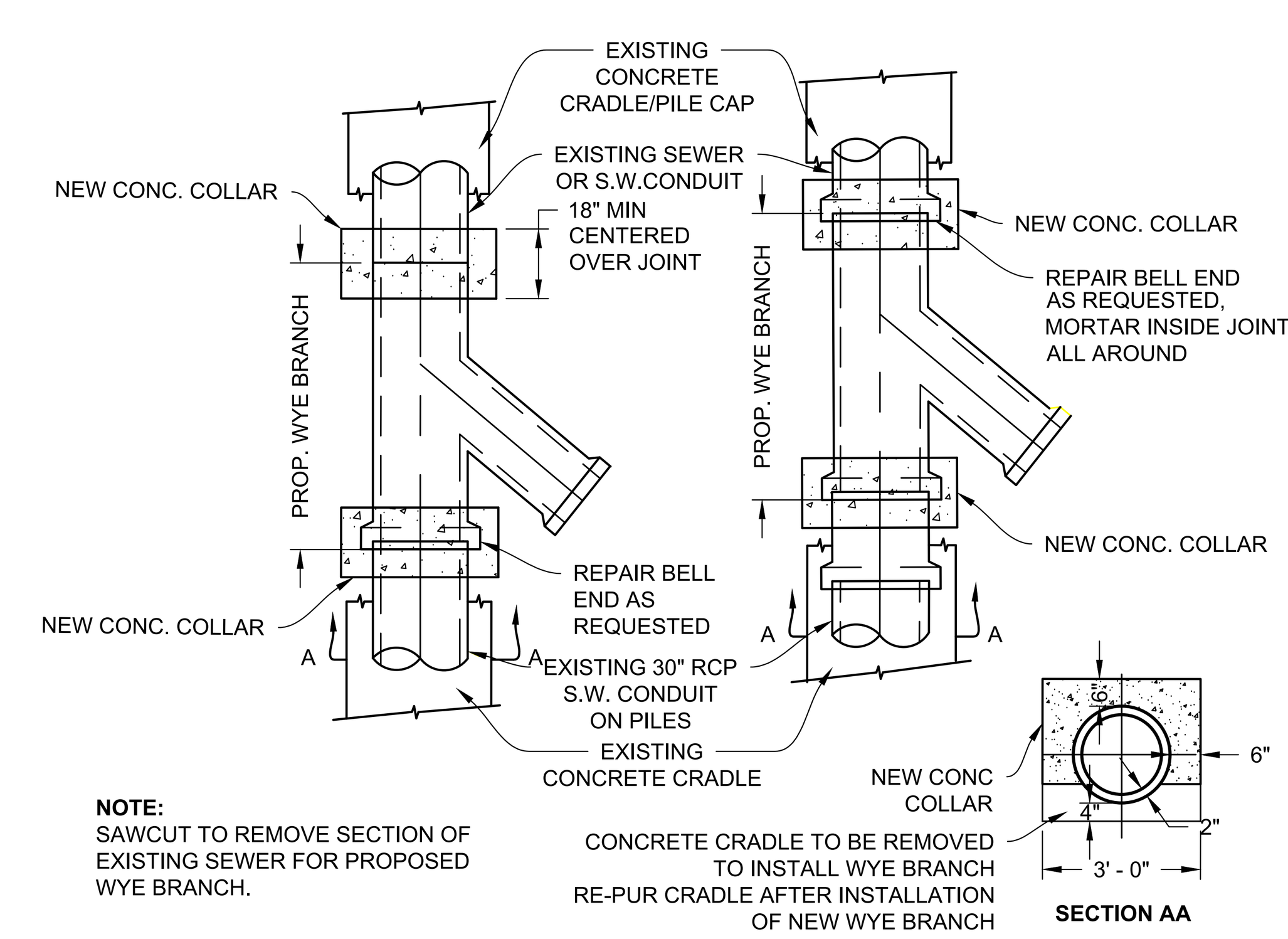
REFER TO SHEET CS1701 FOR LOCATION OF OBSERVATION WELLS

OBSERVATION WELL IN SYNTHETIC TURF



NOTES:
1. TRAP, STANDPIPE & VENT BOX TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PHILADELPHIA PLUMBING CODE - CONNECTION SHALL BE IN ACCORDANCE WITH CITY OF PHILADELPHIA SPECIFICATIONS.
2. LATERAL TRAP AND F.A.I. & C.O. SHALL BE PLACED ON ALL ROOF DRAIN LATERALS, STORM PIPES AND SANITARY SEWER LATERALS.

DETAIL- LATERAL TRAP, FAI, AND CLEANOUT
N.T.S.



NOTE:
SAWCUT TO REMOVE SECTION OF EXISTING SEWER FOR PROPOSED WYE BRANCH.

WYE BRANCH CONNECTION

DIVERSION OF FLOWS
- A. THE WATER DEPARTMENT DOES NOT GUARANTEE THE ABILITY TO DAM OR DIVERT FLOWS. THE WATER DEPARTMENT SHALL APPROVE ALL DAMMING AND DIVERTING OF FLOWS PRIOR TO INSTALLATION.
- B. ONE WEEK PRIOR TO DAMMING AND DIVERTING OF ANY FLOW THE CONTRACTOR SHALL NOTIFY BOTH OF THE FOLLOWING:
  - SEWER MAINTENANCE SUPERINTENDENT AT 215-685-2034.
  - FLOW CONTROL SUPERINTENDENT AT 215-685-2004.
- C. IN ADDITION, BOTH SEWER MAINTENANCE AND INTERCEPTOR SERVICES SHALL BE NOTIFIED ONE WEEK PRIOR TO REMOVAL OF ANY DAM AND THE RESUMPTION OF FLOW. UPON COMPLETION OF THE REMOVAL OF THE DAM, THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE SEWER AT THE LOCATION OF THE DAM. ANY DAMAGE FOUND DURING THIS INSPECTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
- D. IF FOR ANY REASON IT BECOMES NECESSARY TO REMOVE THE DAM PRIOR TO COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL REMOVE THE DAM, RESTORE FLOW, AND UTILIZE AN ALTERNATE MEANS OF FLOW CONTROL TO COMPLETE THE PROJECT, AT NO ADDITIONAL COST TO THE CITY.

CONCRETE CUT-OFF WALLS
- A. BEFORE REMOVING EARTH FILL OVER ARCH OF THE EXISTING SEWER, CONSTRUCT A CONCRETE CUT-OFF WALL WHERE CALLED FOR ON THE CONTRACT DRAWINGS.
- B. THE CUT-OFF WALL SHALL BE CONSTRUCTED ACROSS THE ENTIRE WIDTH OF TRENCH DOWN TO THE SPRING LINE OF THE SEWER. AFTER THE CUT-OFF WALL HAS BEEN CONSTRUCTED AND SET, THE REMAINING PORTION OF EARTH OVER THE SEWER SHALL BE REMOVED DOWN THE SPRING LINE.

FLUMING
- A. FLUME THE EXISTING SEWER FLOW DURING CONSTRUCTION. USE ONLY SUCH DAMS AS WILL NOT RESTRICT FULL FLOW DURING STORMS. REPAIR ALL DAMAGE DUE TO RESTRICTION OF FLOW.

WYE BRANCH INSTALLATION PROCEDURE:

1. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE FLOW DURING THE CONNECTION.
2. THE CONTRACTOR IS TO OBTAIN INFORMATION ABOUT THE FLOW RATE PRIOR TO COMMENCING THE CONNECTION. THIS MAY BE OBTAINED BY OPENING A MANHOLE AND MEASURING THE FLOW (FLOW CAN VARY).
3. FOR HIGH FLOW RATE THE CONTRACTOR SHALL SUBMIT A BY-PASS METHOD FOR APPROVAL.
4. FOR LOW FLOW RATE THE CONTRACTOR MAY BE ABLE TO DIRECT THE FLOW THROUGH THE OPENED SECTION.
5. THE CONTRACTOR MUST SELECT THE PROPER SIZE WYE AND ALIGN THE INVERTS.
6. EXCAVATE SAFELY TO EXPOSE THE EXISTING SEWER PIPE WITHOUT DAMAGING IT.
7. EXCAVATE A DITCH WIDE ENOUGH TO ACCOMMODATE THE WYE AND THE CUT-OFF WALLS.
8. CONTRACTORS SHOULD PERFORM THE CONNECTION IN A SAFE MANNER AND PER OSHA REGULATIONS.
9. SHORING SHALL BE INSTALLED IN DITCHES AND TRENCHES AS PER OSHA REGULATIONS OR AS REGULATED BY PWD. VIOLATION OF THIS PROVISION WILL RESULT IN A STOP WORK ORDER AND/OR PENALTIES PRESCRIBED BY LAW. (REFER TO PHILADELPHIA PLUMBING CODE 2004 SECTION P- 1503.2 SHORING).
10. FOR CONNECTIONS TO BRICK SEWER, CONSTRUCT A 2-FOOT WIDE BY 8-INCH HIGH, CONCRETE CUTOFF WALL TO THE SPRING LINE, ON BOTH SIDES OF THE WYE, 12-INCH FROM THE LOCATION TO CUT THE SEWER PIPE.
11. USE A MINIMUM OF 3000 PSI CONCRETE FOR THE CONCRETE CUT-OFF WALL.
12. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO HARDEN BEFORE CUTTING THE SEWER PIPE.
13. CUT THE SEWER PIPE SO THAT THE WYE SECTION WILL FIT IN TIGHTLY.
14. PREVENT ANY DEBRIS FROM FLOWING INTO THE SEWER.
15. CLEAN THE BOTTOM OF THE OPENED AREA FROM LOOSE AND SOFT SOIL IF NO CRADLE, AND PLACE STONE IN THE MIDDLE LEAVING 12 INCH BELOW THE JOINTS FOR CONCRETE COLLAR.
16. INSERT THE WYE SECTION IN PLACE IMMEDIATELY, SEAL THE JOINTS AND CONSTRUCT A 24-INCH CONCRETE COLLAR AROUND BOTH JOINTS.
17. USE A MINIMUM OF 3000 PSI CONCRETE COLLAR, 12 INCH DEEP AND EXTENDING 24 INCH WIDE AROUND THE JOINT.
18. ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO HARDEN BEFORE BACKFILLING.
19. ANY OTHER PIPELINE EXPOSED AND UNDERMINED DURING THIS OPERATION MUST BE SUPPORTED IMMEDIATELY AND BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) AFTER THE COMPLETION OF THE CONNECTION.

WYE CONNECTION
NOT TO SCALE

NPDES PERMIT #PAC510302
PWD TRACKING #FY22-KING-6800-01

REVISIONS

ISSUE	DATE	DESCRIPTION
1	8/26/22	DD SET - ISSUED FOR COST EST.
2	01/09/23	PWD PCSM/NPDES SUBMISSION
3	02/14/23	PWD PCSM RESUBMISSION
4	03/14/23	NPDES RESUBMISSION
5	04/21/23	100% CONSTRUCTION DOCUMENTS
6	05/24/23	PWD PCSM RESUBMISSION
7	07/13/23	ADDENDUM 2

REVIEWED BY:

PROJECT COORDINATOR

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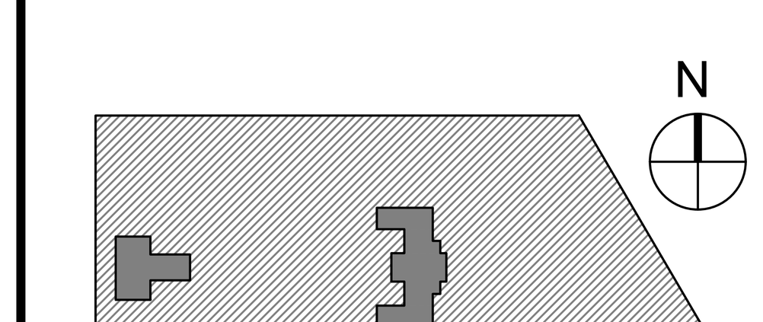
CITY OF PHILADELPHIA
DEPARTMENT OF PUBLIC PROPERTY
1515 ARCH STREET
11TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE
KINGSESSING RECREATION CENTER

KEY PLAN



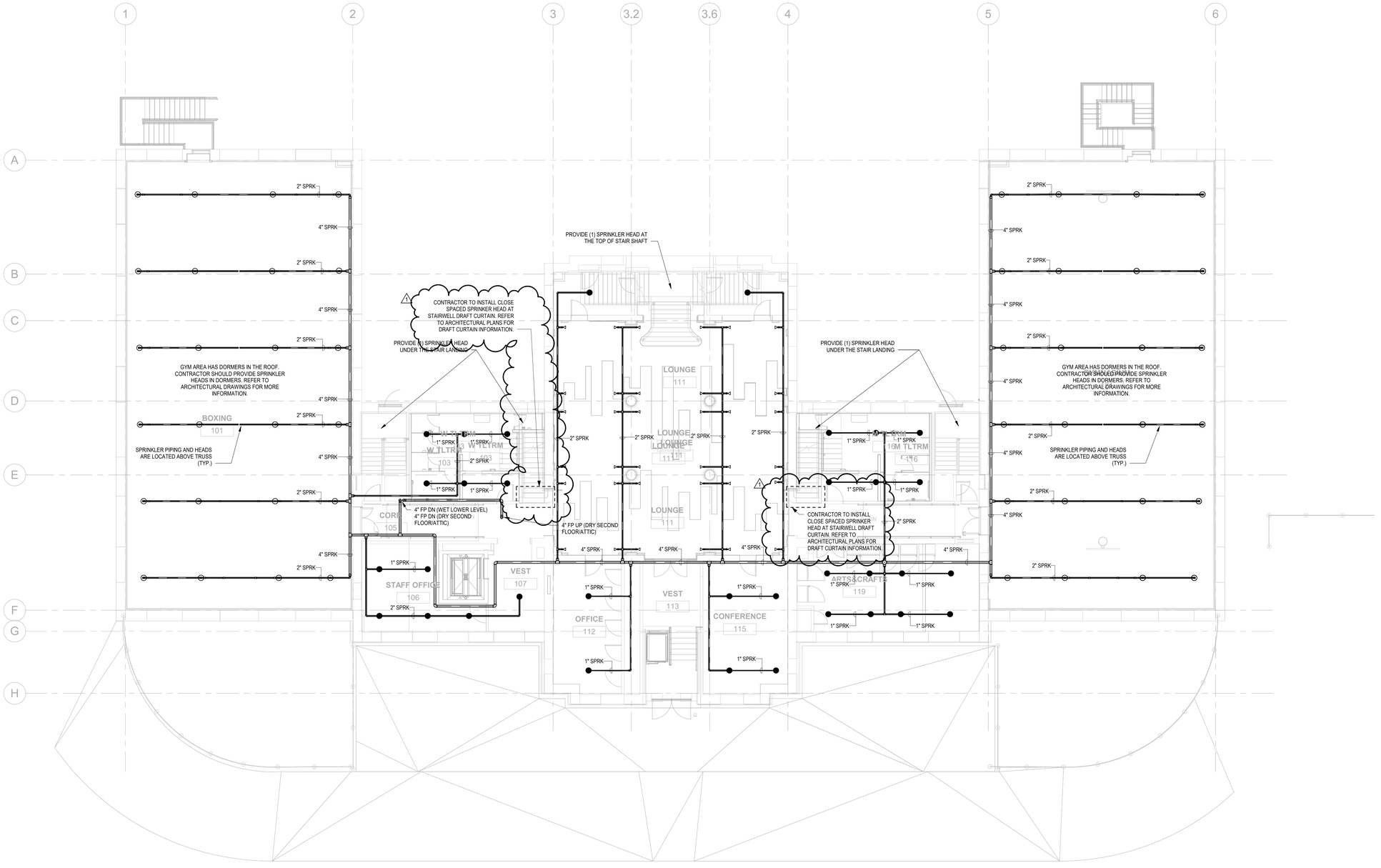
DRAWING TITLE
SITE DETAILS

PROJECT NO.	DRAWING NO.
KLMLX21003	C-605-R
DATE 10/14/22	
SCALE AS NOTED	
DRAWN BY SDL	
CHECKED BY MJM	

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

GENERAL NOTES:

1. REFER TO FP001 FOR FIRE PROTECTION NOTES, LEGENDS, AND ABBREVIATIONS
2. REFER TO SCHEDULES AND FIRE PROTECTION DETAILS PERTAINING TO THIS PROJECT.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARENCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
5. ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING CODE.
6. COORDINATE FIRE ALARM RELATED INSTALLATION WITH ELECTRICAL CONTRACTOR AND DESIGN DRAWINGS.
7. ALL VALVES SHALL BE INSTALLED TO BE ACCESSIBLE.
8. ALL PIPE SIZES AND SPRINKLER HEAD LOCATIONS REPRESENTED ON THE DRAWINGS AND RISER DIAGRAMS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE REQUIRED SIZE PER HYDRAULIC CALCULATIONS. COORDINATE WITH LOCAL FIRE DEPARTMENT FOR FDC SIZE.
9. ALL SPRINKLER HEADS IN GYM AREAS SHALL BE PROTECTED WITH CAGE COVERING.



1 FIRE PROTECTION PROPOSED - REC CENTER FIRST FLOOR
FP101-R/2 1/8" = 1'-0"

PACKAGE 2 - IFB
NOT FOR CONSTRUCTION
06/02/2023

REVISIONS

ISSUE	DATE	DESCRIPTION
	06/02/23	ISSUE FOR BID
07/12/23	1	ADDENDUM #2

REVIEWED BY:

PROJECT COORDINATOR

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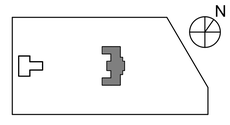
CITY OF PHILADELPHIA
REBUILD / PHILADELPHIA PARKS AND RECREATION
1515 ARCH STREET
5TH FLOOR, ONE PARKWAY BUILDING
PHILADELPHIA PENNSYLVANIA

PROJECT TITLE

KINGSESSING RECREATION CENTER BUILDING AND SITE IMPROVEMENTS - PACKAGE 2

KEY PLAN



DRAWING TITLE

FIRE PROTECTION PROPOSED - FIRST FLOOR

PROJECT NO.	KLMLX21003
DATE	06/28/2023
SCALE	AS NOTED
DRAWN BY:	LJP
CHECKED BY:	RHG

DRAWING NO.

FP101-R.2

NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.