



ADDENDUM #2

4 January 2022

(22) pages

SOFTBALL FIELD HOUSE

Pearson & Peters Architects PLC

LAFAYETTE HIGH SCHOOL

201 Kentucky Ave, Lexington, KY 40502

401 Reed Lane, Lexington, KY 40503

phone 859-233-1213

The Bidding and General Documents, Technical Specifications and Drawings are clarified or changed in accordance with the following. Bidders shall acknowledge receipt of this Addendum on the Proposal Form in the space provided.

Zoom Link for Bid Opening:

Topic: Maureen Peters' Zoom Meeting

Time: Jan 11, 2022 02:15 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://zoom.us/j/91053315119?pwd=YTJYUUN2S2VBanlvZFR5b2ZDY0dzQT09>

Meeting ID: 910 5331 5119

Passcode: 7uBq75

ARCHITECTURAL ITEMS

A1.1. REFER TO SPECIFICATIONS – FORM OF PROPOSAL

Add the following: SPEC 00 40 00 – Page 1 of 10 New Proposal Form listing Alternates. Pages 2-10 remain.

A1.2. PROJECT BUDGET

The Project Budget is \$1,115,000.

A1.3. REFER TO ATTACHED REVISED DRAWINGS SHEET 1.2, 1.3 & 1.4 (3 pages)

Revised Grading & Drainage Plans sheet 1.3 & 1.4. Base bid to include catch basins and new 12" storm pipe per original plan—inverts are per revised plan. Alternate #1 remains the Parking Lot. Alternate #2 is drainage basin and discharge next to new parking lot on west side of the site. Alternate #3 is drainage basin and discharge on east side along the third base side of softball field.

A1.4 REFER TO DRAWINGS SHEET 3.1, plan note 01 and Specification section 10 51 13 METAL LOCKERS.

- a. Clarification as follows: provide (24) Open Athletic Gear Lockers 24"Wx18"Dx72"H as shown on Building Section A/4.3; and provide (16) Double Tiered Lockers 18"Wx18"Dx96"H as shown on attached drawing (1 page).

A1.5. REFER TO SPECIFICATIONS Section 10 28 00 TOILET ACCESSORIES

- a. Acceptable Manufactures - Add the following: Machflow.

A1.6. REFER TO SPECIFICATIONS

Add the following: SECTION 00 73 11 SHINGLE ROOFING (6 pages) attached

A1.7. REFER TO DRAWINGS/SPECIFICATIONS

Clarification: Roof sheathing to be 5/8" APA RATED PLYWOOD per Structural Drawings—provide Fire Retardant at the Batting Cage 101.

A1.8. REFER TO DRAWINGS/SPECIFICATIONS

BATTING CAGE 101, Add the following: Flooring to be Sporturf PL705 Sporturf 36 or equal. Install per manufacturer’s recommendations. Additional manufacturers: Synthetic Turf International, XGRASS. Recess concrete slab ¼” to align turf with adjoining floor.

A1.9. REFER TO DRAWINGS Sheet 3.3 Roof Plan:

Clarification: Delete reference to 5:12 Roof Slope—Roof shall have 6:12 slope per Structural Drawings; Building Elevations and Sections.

A1.10. REFER TO SPECIFICATIONS –Section 11 50 00 BASEBALL NETTIGN SYSTEM

Add the following: Acceptable Manufacturer - On Deck Sports.

A1.11. REFER TO SPECIFICATIONS – Section 04 20 00 UNIT MASONRY ASSEMBLIES

Add the following: Brick units to be Lee Brick #3 Mod - #165 Roanoke or equal; Ground Faced CMU to be York Gemstone two-faced units or equal.

A1.12. REFER TO SPECIFICATIONS – Section 08 11 13 HOLLOW METAL DOORS AND FRAMES

Add the following: Acceptable Manufacturer – Metal Products Inc.

A1.13. REFER TO DRAWINGS/SPECIFICATIONS

Clarification: Dugouts - Roll Roofing Material.

Fiberglass Strip Roll Roofing: Mineral-surfaced, min. 300 pound, self-sealing, fiberglass-based, strip asphalt roll roofing butt edge, complying with both ASTM D 3016, Type I, and ASTM D 3462. Provide roofing with a UL Class A fire-test response classification that pass the wind-resistance-test requirements of ASTM D 3161.

1. Fungus Resistant: Provide shingles that have been surface treated to remain free of fungus and algae growth, which adversely affects the appearance of the roof, for at least 5 years.
2. Strip Size: **[Manufacturer's standard]**
3. Algae Resistance: Granules treated to resist algae discoloration.
4. Color and Blends: **[As selected by Architect from manufacturer's full range].**

A1.14. REFER TO DRAWINGS/SPECIFICATIONS

Add the following: Specification for Chain-Link Fencing attached (8 pages).

ELECTRICAL ITEMS

ITEM REFER TO DRAWING E1.1, SHEET NOTE 2

- a. Revise note to say: “Digital timeclock for exterior building-mounted lighting. The photocell for integrated timeclock/photocell control is to be mounted in exterior soffit and located/aimed so that light from exterior fixtures will not affect it. Also, refer to sheet note 3. Timeclock to be as manufactured by Paragon or Intermatik.”

ITEM REFER TO DRAWING E1.1

- a. All Type EM fixtures are to be furnished with wire guards.

ITEM REFER TO DRAWING E5.1

- a. Fixture type D model number is to be changed to Juno# 6RLS 07LM 27K 90CRI 120 FRPC WH.
- b. The following manufacturers are approved to bid the below-listed fixture types.

Types C and CE - Elcast

Type EM - Dual Lite

Type F - Hubbell

Type H – Hubbell

ITEM REFER TO DRAWINGS U2.1

- a. New underground circuits from the fieldhouse to each of the new dugouts are to be routed on the field-side, tight along the fencing/backstop, so as to avoid damage to any existing concrete. Backfill and patch back trenching to match existing conditions.

END OF ADDENDUM #2

BG No. (21-342) Bid Package #2

Date: _____ To: (Owner) **Fayette County Board of Education**

Project Name: **SOFTBALL FIELD HOUSE - LAFAYETTE HIGH SCHOOL**

Bid Package **No. 38-21 FCPS**

City, County: **401 Reed Lane, Lexington, Fayette County, KY 40503**

Name of Contractor: _____

Mailing Address: _____

Business Address: _____ Telephone: _____

Having carefully examined the Instructions to Bidders, Contract Agreement, General Conditions, Supplemental Conditions, Specifications, and Drawings, for the above referenced project, the undersigned bidder proposes to furnish all labor, materials, equipment, tools, supplies, and temporary devices required to complete the work in accordance with the contract documents and any addenda listed below for the price stated herein.

Addendum _____ (Insert the addendum numbers received or the word "none" if no addendum received.)

BASE BID: For the construction required to complete the work, in accordance with the contract documents, I/We submit the following lump sum price of:

Use Figures

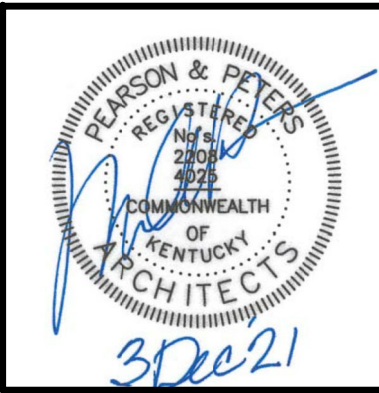
_____ Dollars & _____ Cents

Use Words Use Words

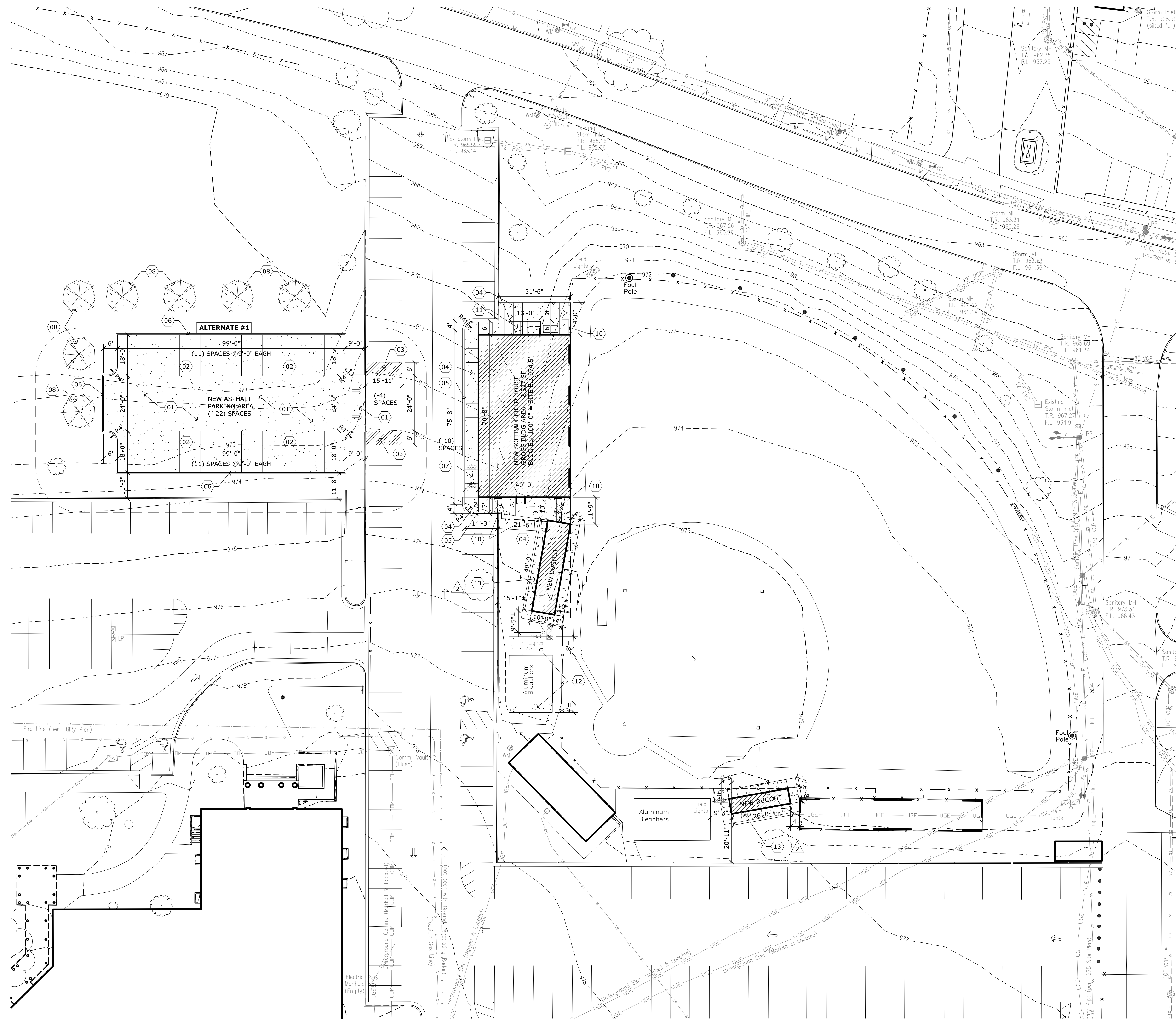
ALTERNATE BIDS: (If applicable and denoted in the Bidding Documents)

For omission from or addition to those items, services, or construction specified in Bidding Documents by alternate number, the following lump sum price will be added or deducted from the base bid.

Alternate Bid No.	Alternate Description	+ (Add to the Base Bid)	- (Deduct from the Base Bid)	No Cost Change from the Base Bid
Alt. Bid No. 1	PARKING LOT			<input type="checkbox"/>
Alt. Bid No. 2	WEST DRAINAGE BASIN			<input type="checkbox"/>
Alt. Bid No. 3	EAST DRAINAGE BASIN			<input type="checkbox"/>
Alt. Bid No. 4				<input type="checkbox"/>
Alt. Bid No. 5				<input type="checkbox"/>
Alt. Bid No. 6				<input type="checkbox"/>
Alt. Bid No. 7				<input type="checkbox"/>
Alt. Bid No. 8				<input type="checkbox"/>
Alt. Bid No. 9				<input type="checkbox"/>



- GENERAL SITE NOTES**
- CONTRACTOR SHALL VERIFY ALL CONDITIONS IN FIELD & REPORT ANY DISCREPANCIES TO OWNER.
 - CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY EXCAVATION. CONTRACTOR TAKE CARE TO PREVENT ANY DAMAGE TO EXISTING UTILITIES WITHIN CONSTRUCTION AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGED UTILITIES.
 - ALL TRAFFIC MARKINGS, SPACE LAYOUT, SIGNAGE DESIGNATIONS, ETC. SHALL MEET LFUCG DIVISION OF TRAFFIC ENGINEERING STANDARDS & GUIDELINES.
 - REGULAR PARKING SPACE STRIPING TO BE WHITE 4" WIDE LINES. ACCESSIBLE SPACE STRIPING TO BE BLUE 4" WIDE LINES.
 - ALL ARROWS, DIRECTIONS, & CROSSWALKS SHALL BE THERMOPLASTIC WHITE 4" WIDE.
 - MARKINGS FOR SPEED HUMPS SHALL BE THERMOPLASTIC 4" YELLOW STRIPE AT BASE & 12" WIDE STRIPE AT FLAT TOP.
- GENERAL LANDSCAPE NOTES**
- CONTRACTOR SHALL REPAIR, RE-GRADE, & SOD ANY DAMAGED AREAS OF EXISTING SITE ADJACENT TO THE CONSTRUCTION AREAS.
 - PROVIDE SOD TURF AT NOTED AREAS, INCLUDING MINIMUM 8' WIDE AROUND BUILDINGS.
 - PROVIDE GRASS SEED & STRAW AT ALL REMAINING DISTURBED AREAS.
- SITE IMPROVEMENTS PLAN NOTES**
- ASPHALT PAVEMENT, SEE DTL F/1.0, & TIE INTO EXISTING PAVEMENT W/SMOOTH TRANSITION, GRIND EDGE OF EXISTING AS NECESSARY
 - STRIP ALL PARKING SPACES & SPECIFIC AREAS AS SHOWN, STANDARD WHITE COLOR, TYP SPACE IS 9'-0"W X 18'-0"L AS INDICATED
 - STRIP ACCESS ISLES AT EACH SIDE OF NEW WALK AS SHOWN, STANDARD BLUE COLOR
 - 4" THICK REINF CONC SIDEWALK, PROVIDE EJ & CJ AS SHOWN, SEE DETAILS C, D, & E/1.0
 - 6" REINF CURB & GUTTER, SEE DTL H/1.0
 - 6" REINF CURB, SEE DTL G/1.0
 - ACCESSIBLE CURB CUT W/ (2) 2'x4' REMOVABLE TACTILE WARNING PANELS (YELLOW COLOR) SEE DTL K/1.0 & SPEC
 - NEW TREE W/MIN 6"Ø MULCH RING, SEE DTL J/1.0
 - NOT USED
 - 8' TALL COATED CHAIN LINK FENCE W/SUPPORT POSTS @6'Ø.C. MAX & SWING GATES AS SHOWN, SEE SPEC, SET EACH POST IN CONC FND
 - REINF CONC STAIR, SEE DTL L/1.0, W/GALV STL HANDRAIL, SEE DTL M/1.0
 - EXISTING ALUMINUM BLEACHERS TO BE SWAPPED BETWEEN HOME & VISITOR SIDES. EXTEND CONC SLAB ON NEW HOME SIDE AS NECESSARY TO ALLOW FOR BLEACHER INSTALLATION PER EXISTING MANUFACTURER.
 - PROVIDE 4' WIDE REINF CONC WALK AT FULL PERIMETER OF EACH DUGOUT W/BROOM FINISH. SEE TYP DTLS C, D, & E/1.0



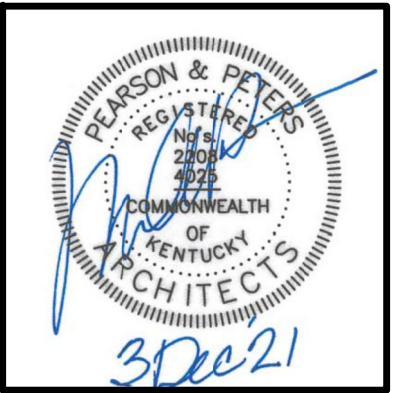
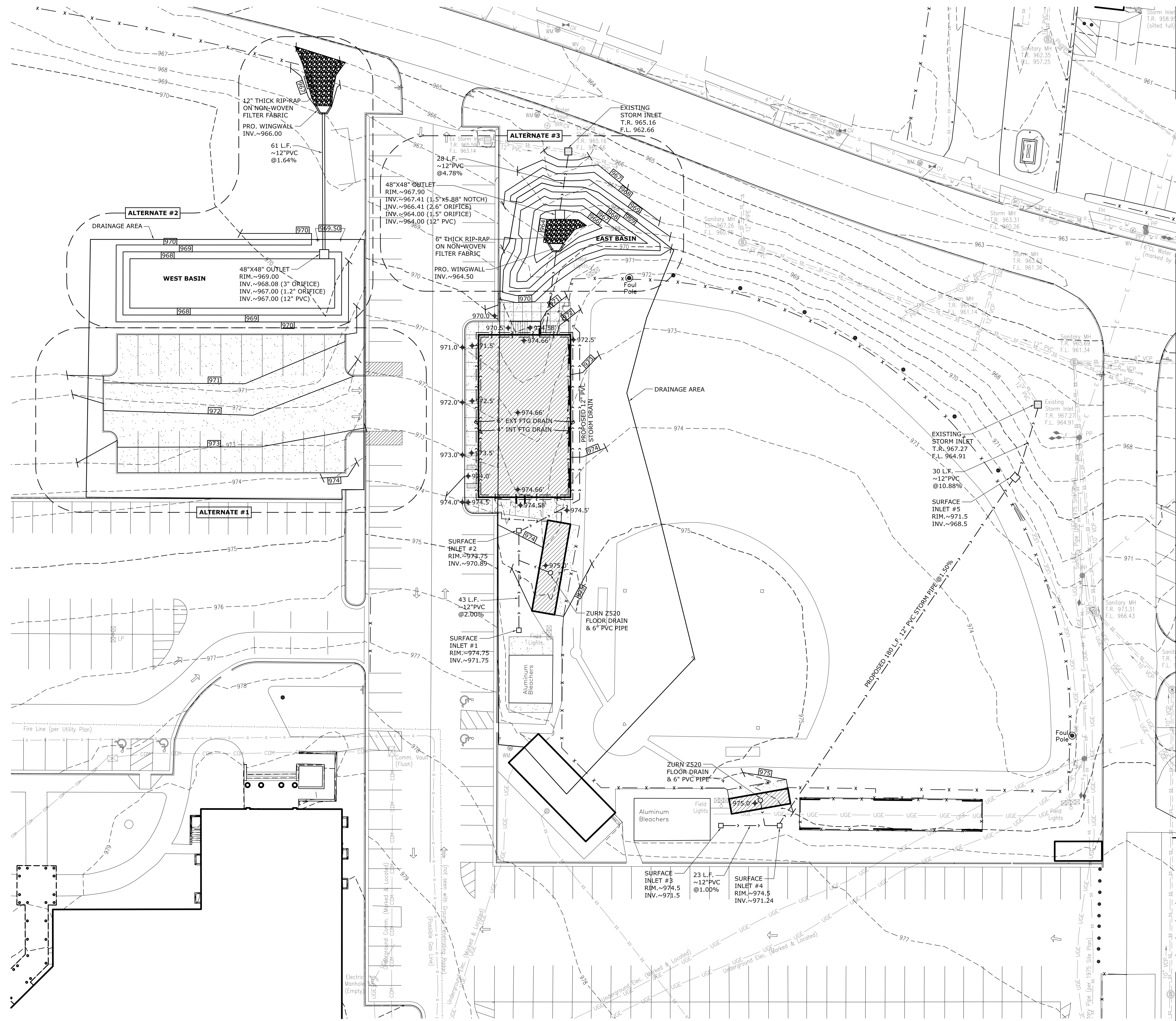
COMPREHENSIVE SITE PLAN
SOFTBALL FIELD HOUSE
LAFAYETTE HIGH SCHOOL
 FAYETTE COUNTY PUBLIC SCHOOLS - KDE BG #21-342 - BP#2, FCPS BID #38-21
 401 REED LANE, LEXINGTON, KY 40503

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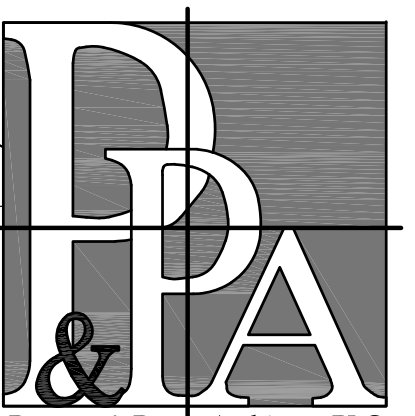
TRUE NORTH
 PLAN NORTH
COMPREHENSIVE SITE PLAN
 SC: 1" = 20'-0"
 0' 20' 40' 60'
 1.2

1.2

- GENERAL GRADING & DRAINAGE NOTES**
- CONTRACTOR SHALL VERIFY ALL CONDITIONS IN FIELD & REPORT ANY DISCREPANCIES TO OWNER.
 - CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY EXCAVATION. CONTRACTOR TAKE CARE TO PREVENT ANY DAMAGE TO EXISTING UTILITIES WITHIN CONSTRUCTION AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGED UTILITIES.
 - ALL TRAFFIC MARKINGS, SPACE LAYOUT, SIGNAGE DESIGNATIONS, ETC. SHALL MEET LFUCG DIVISION OF TRAFFIC ENGINEERING STANDARDS & GUIDELINES.
 - REGULAR PARKING SPACE STRIPING TO BE WHITE 4" WIDE LINES. ACCESSIBLE SPACE STRIPING TO BE BLUE 4" WIDE LINES.
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 - MARKINGS FOR SPEED HUMPS SHALL BE THERMOPLASTIC 4" YELLOW STRIPE AT BASE & 12" WIDE STRIPE AT FLAT TOP.



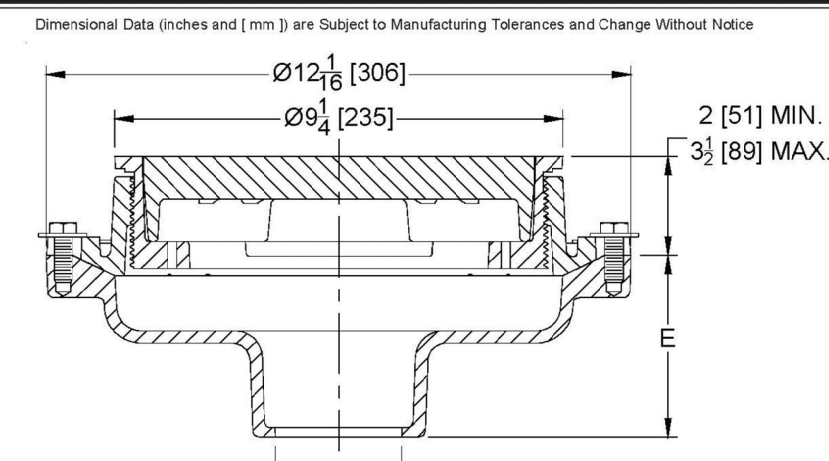
SITE PLAN GRADING & DRAINAGE
 SOFTBALL FIELD HOUSE
LAFAYETTE HIGH SCHOOL
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1.3

SITE PLAN GRADING & DRAINAGE
 TRUE NORTH PLAN NORTH
 1.3 SC: 1" = 20'-0"
 0' 20' 40' 60'



ENGINEERING SPECIFICATION: ZURN Z520
9-1/4 (235mm) Diameter top drain. Dura-Coated cast iron body with bottom outlet, seepage pan, membrane flashing clamp with seepage slots, and adjustable extension frame with heavy-duty cast iron deep flange slotted grate.

PIPE SIZE
4 (102)
4 (102)
4 (102)
2, 3, 4 (51, 76, 102)
6 (152)
2, 3, 4 (51, 76, 102)

PREFIXES
Z D.C.C.I. Body and Top*
ZN D.C.C.I. Body w/ Polished Nickel Bronze Top (Add 13" (316) [21] to 9-1/4 (235) Dim. & 3/16 (5) to 2 (51) to 3-1/2 (89) Dim.)

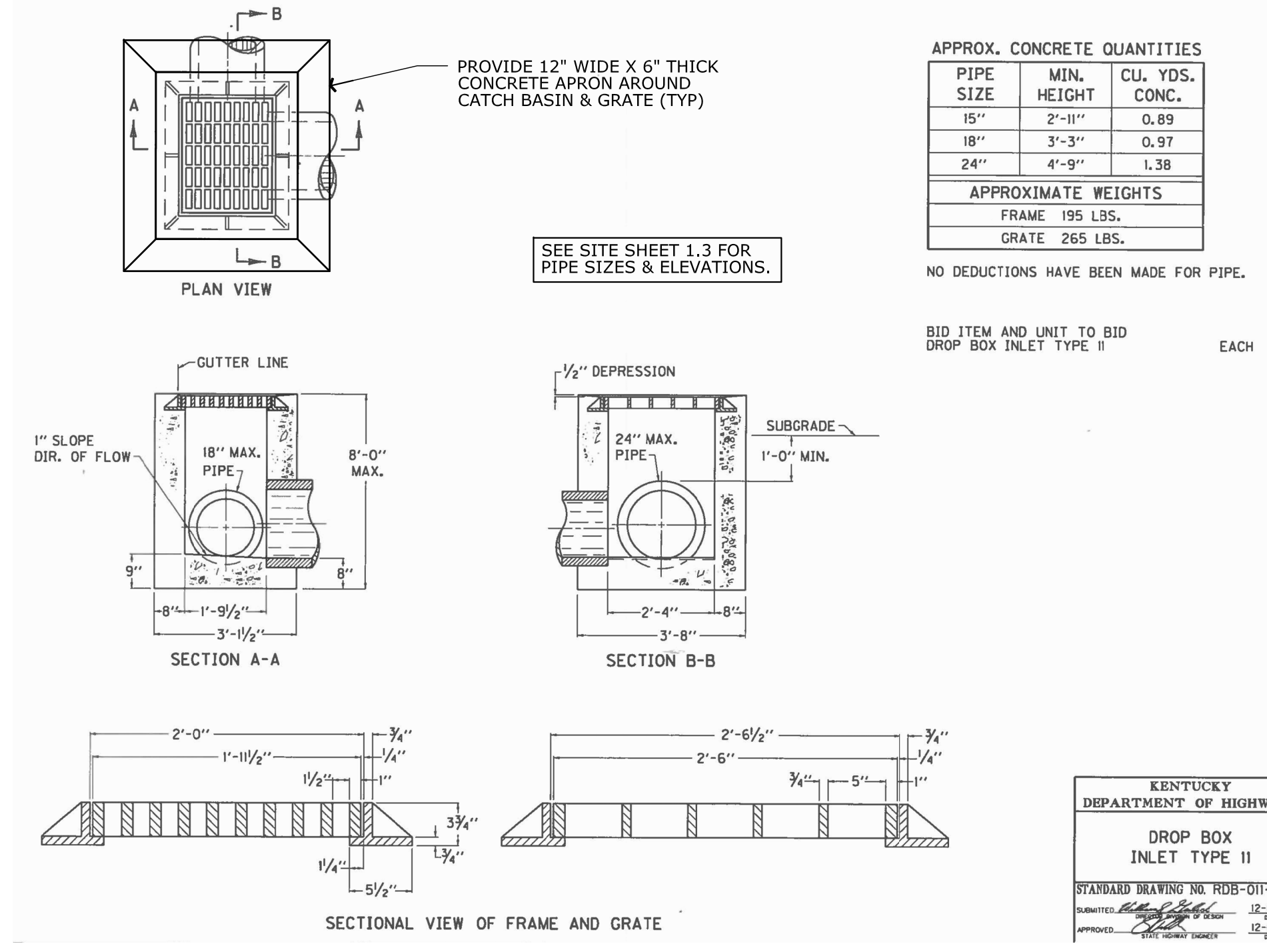
SUFFIXES
-DG Dura-Coat
-C Galvanized Cast Iron
-CP Haze-Proof Grate (9 (58) Open Area)
-P Trap/Primer Connection
-S Secondary Strainer (2-4 (51-102) Outlets Only)
-SS Stainless Mesh Liner for Bucket
-T Square Top

APPROX. CONCRETE QUANTITIES

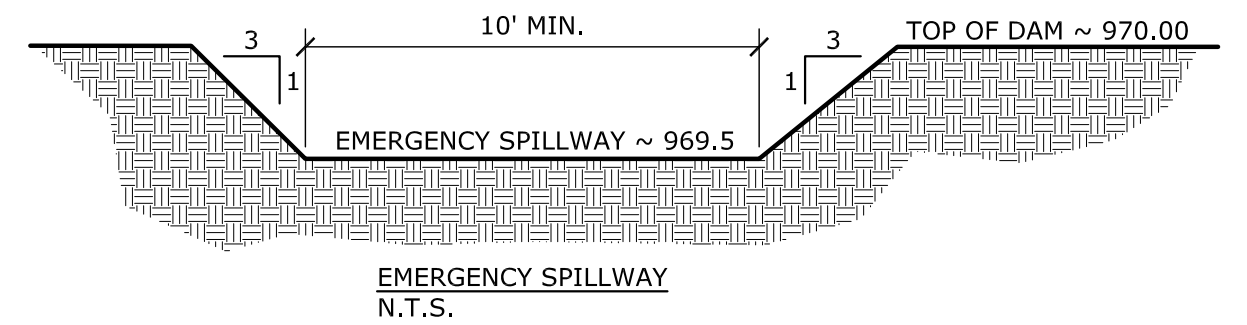
PIPE SIZE	MIN. HEIGHT	CU. YDS. CONC.
15"	2'-11"	0.89
18"	3'-3"	0.97
24"	4'-9"	1.38

APPROXIMATE WEIGHTS
FRAME 195 LBS.
GRATE 265 LBS.

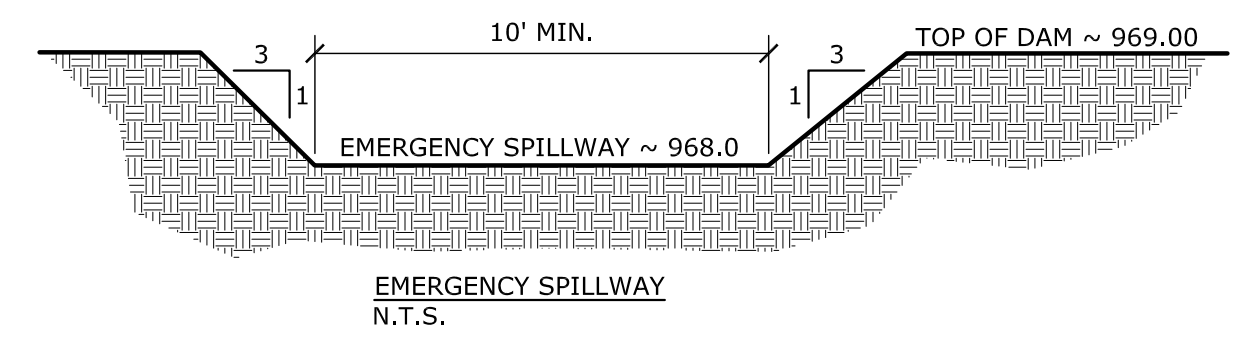
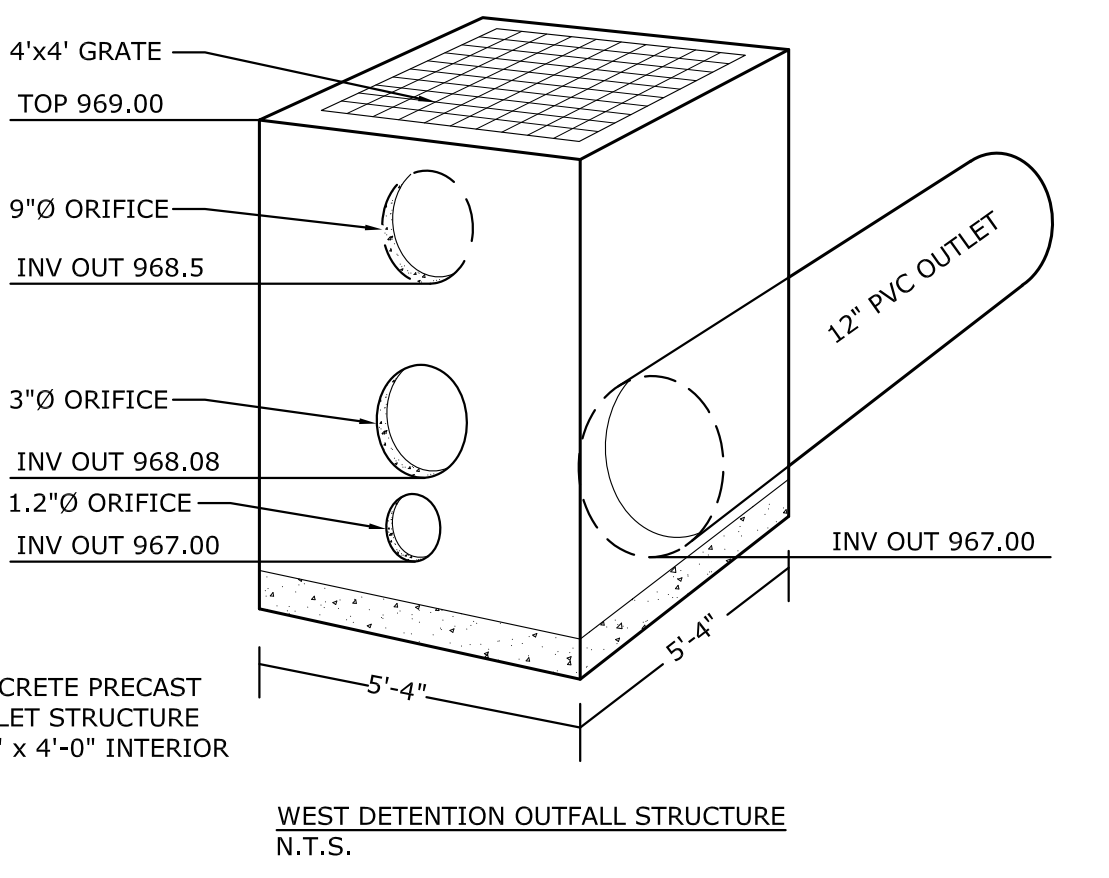
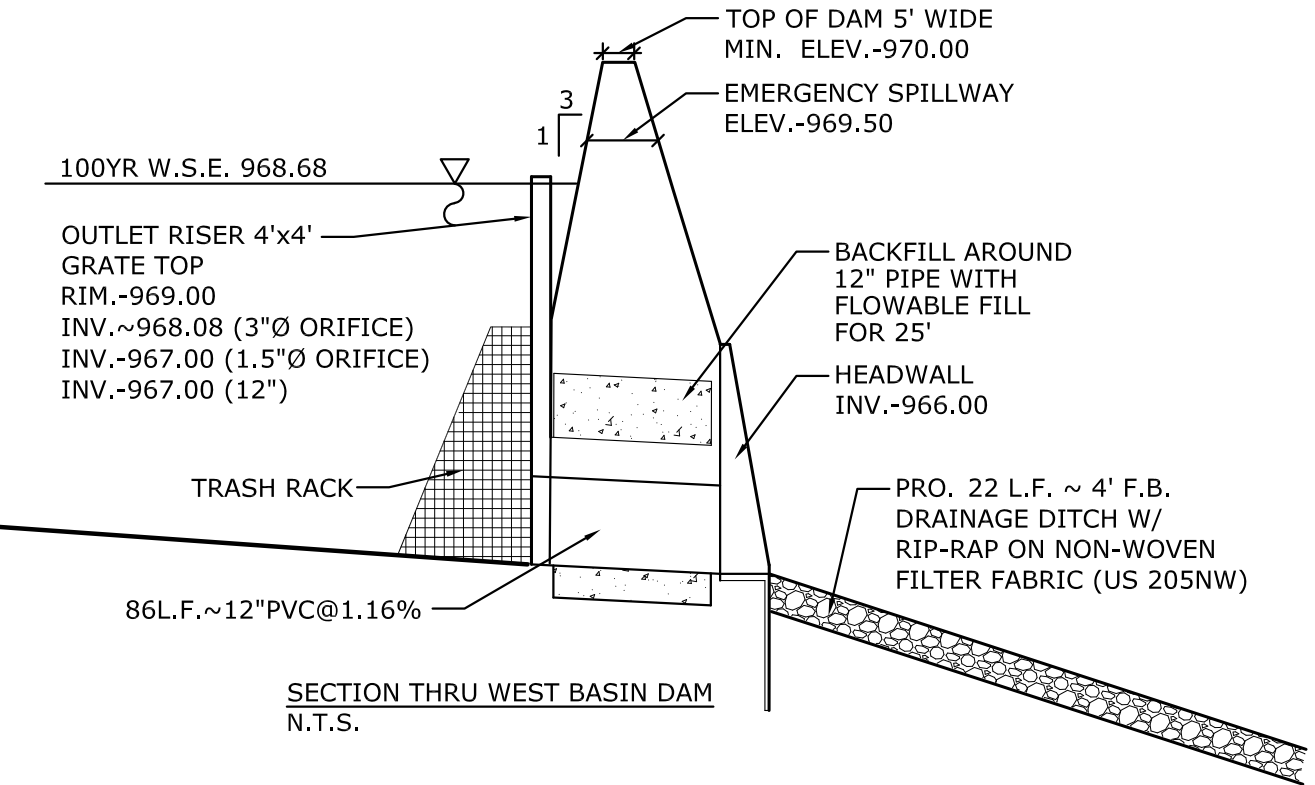
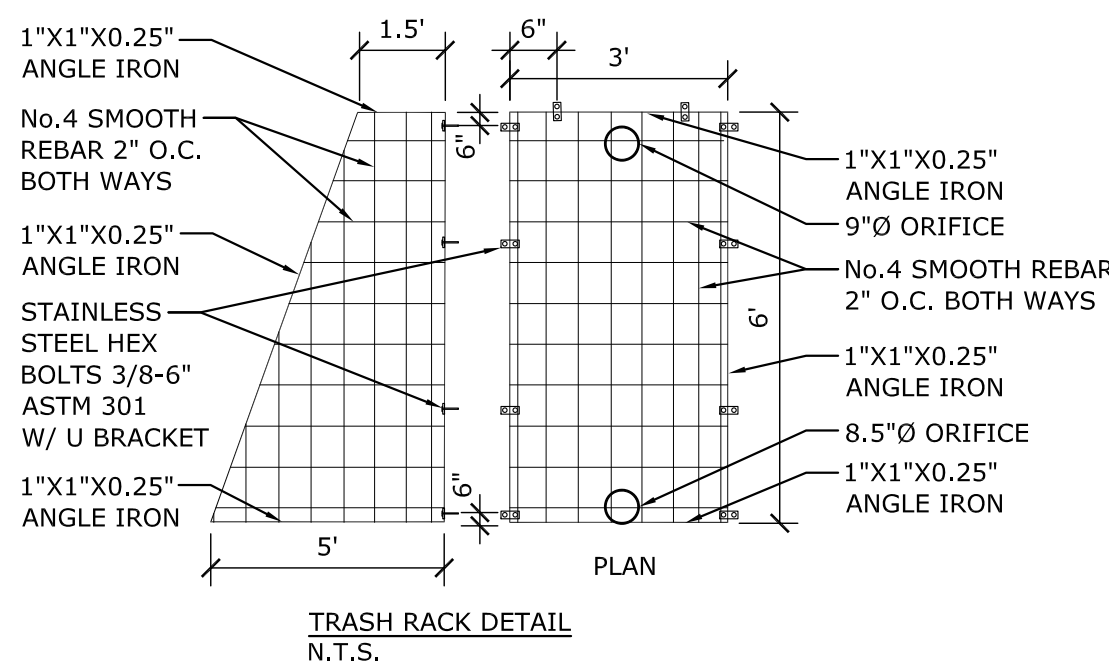
EXTERIOR FLOOR DRAIN TYPICAL DETAIL
1.4 N.T.S.



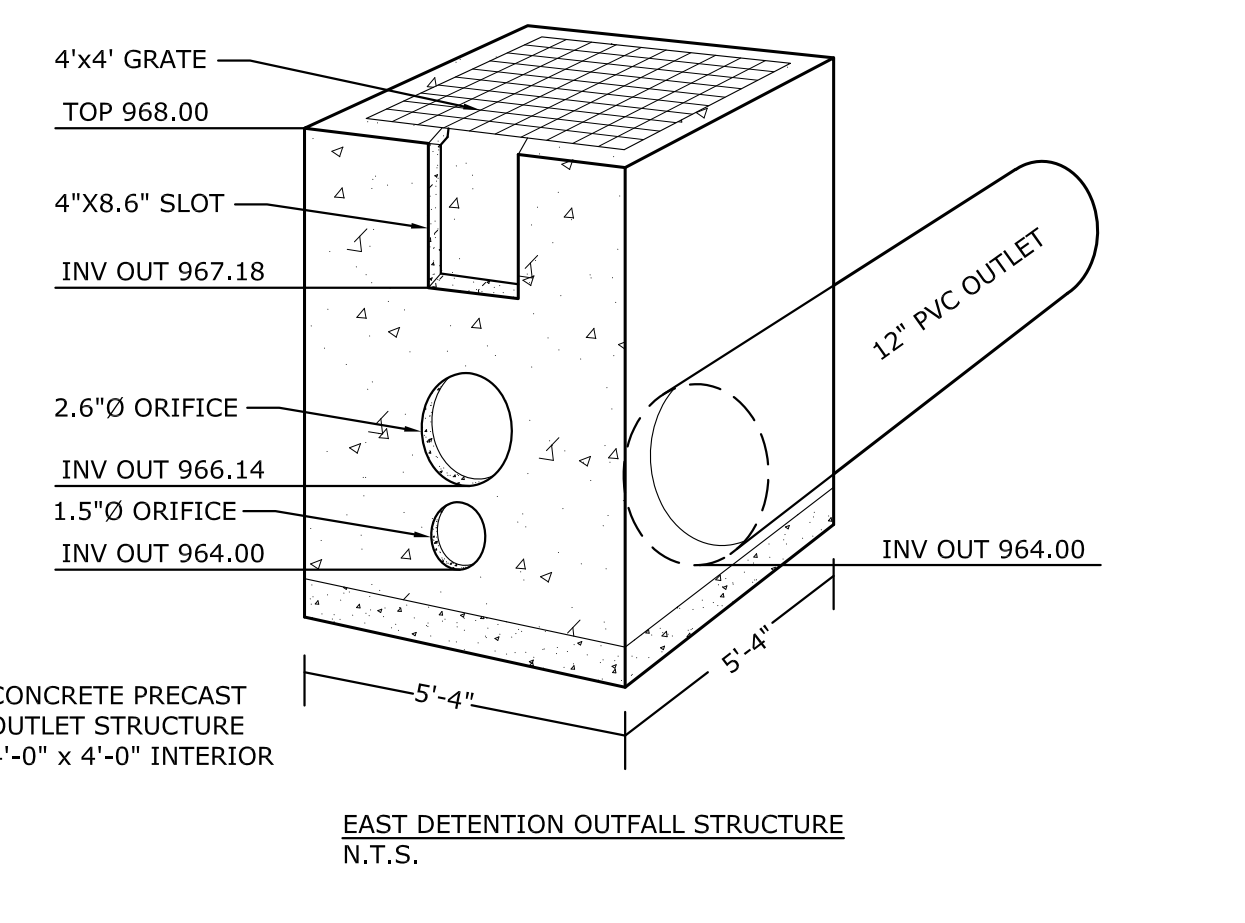
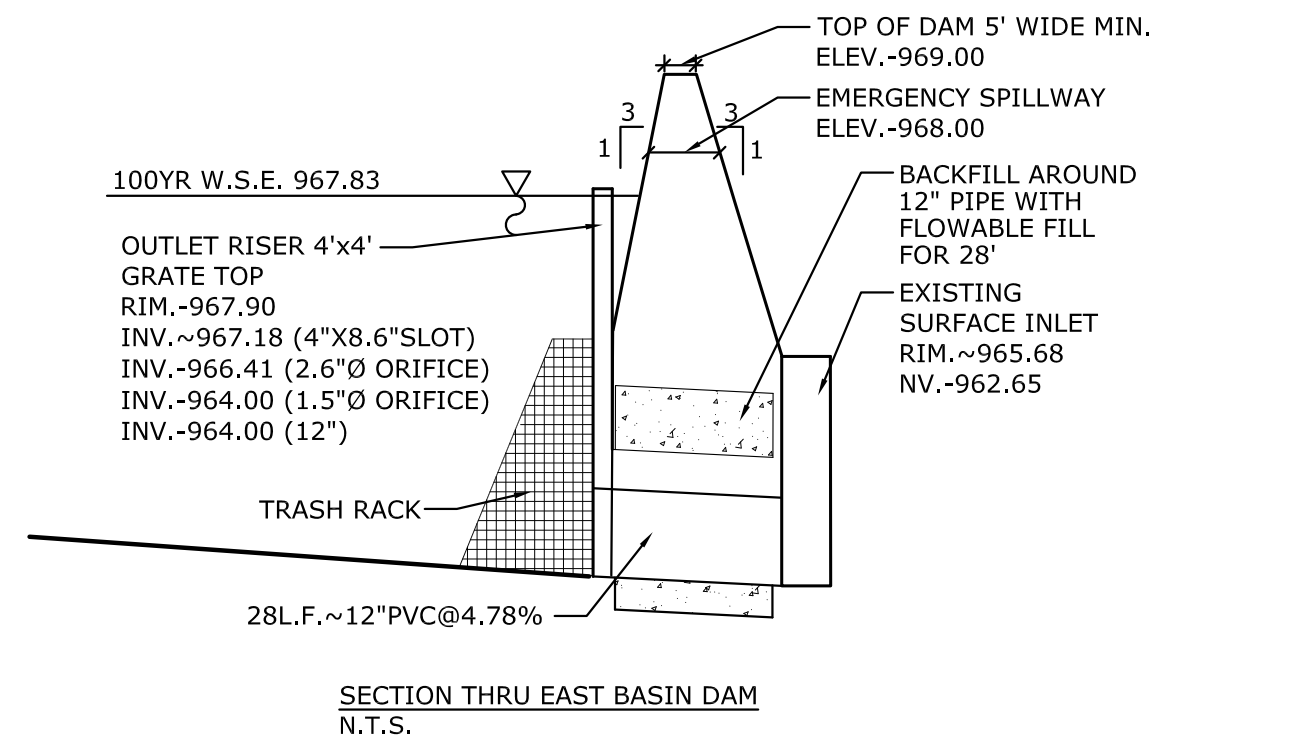
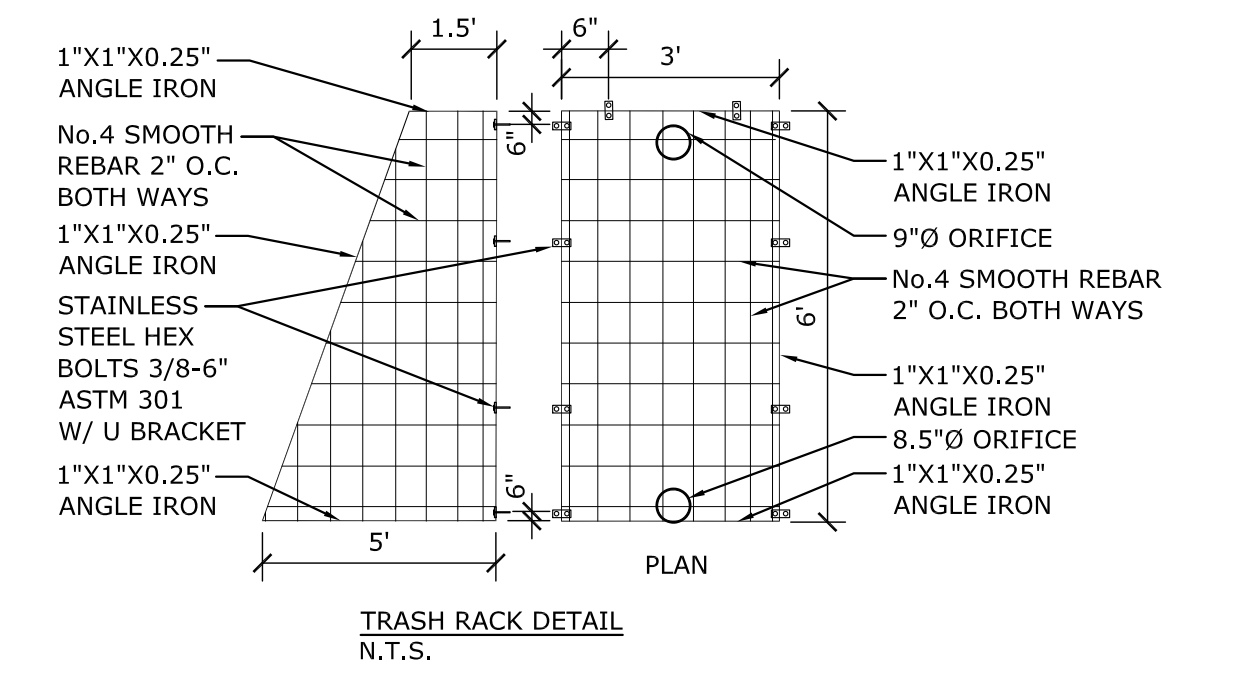
SURFACE INLET TYPICAL DETAIL
1.4 N.T.S.



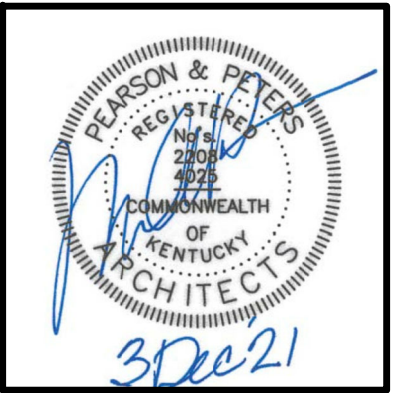
NOTES:
1. ALL STEEL SHALL BE STAINLESS STEEL.
2. BOLTS SHALL BE EPOXY INTO THE OUTLET STRUCTURE WITH HILTI-RE 500.
3. U-BRACKET SHALL BE FIELD CONSTRUCTED.



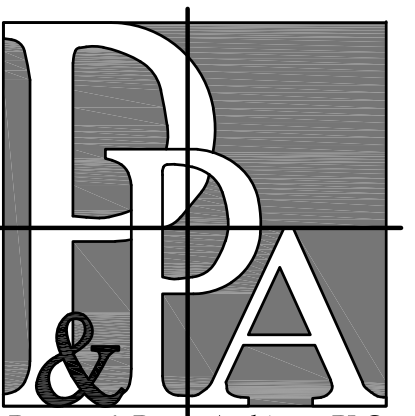
NOTES:
1. ALL STEEL SHALL BE STAINLESS STEEL.
2. BOLTS SHALL BE EPOXY INTO THE OUTLET STRUCTURE WITH HILTI-RE 500.
3. U-BRACKET SHALL BE FIELD CONSTRUCTED.



EAST BASIN DETAIL
1.4 N.T.S.

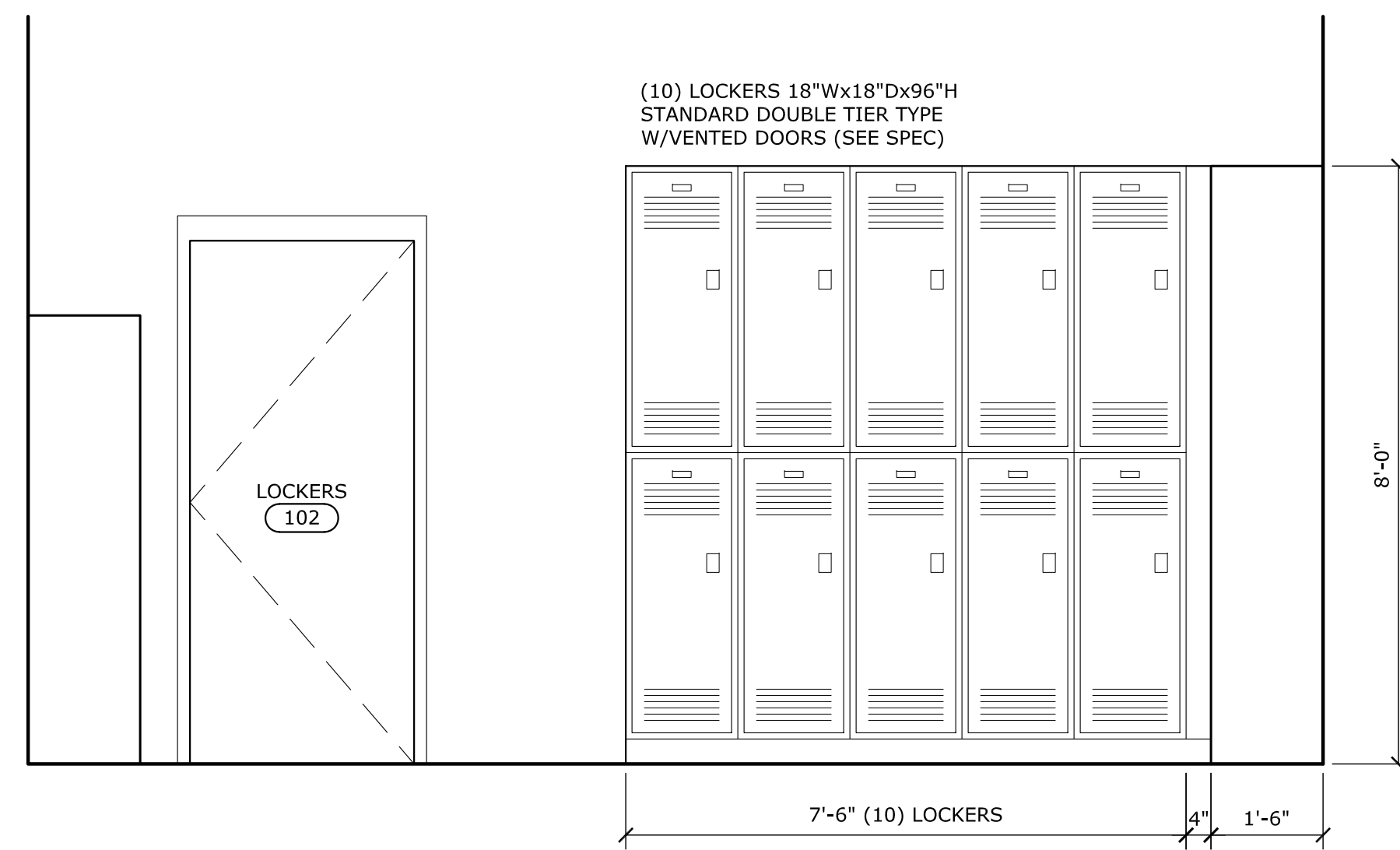
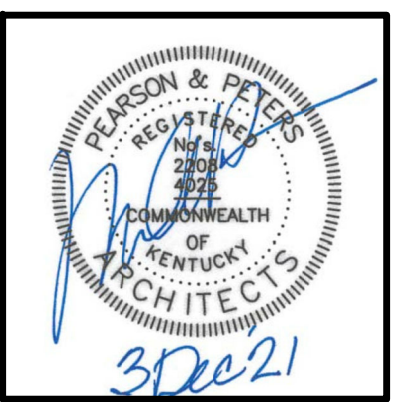


SITE DRAINAGE DETAILS
 SOFTBALL FIELD HOUSE
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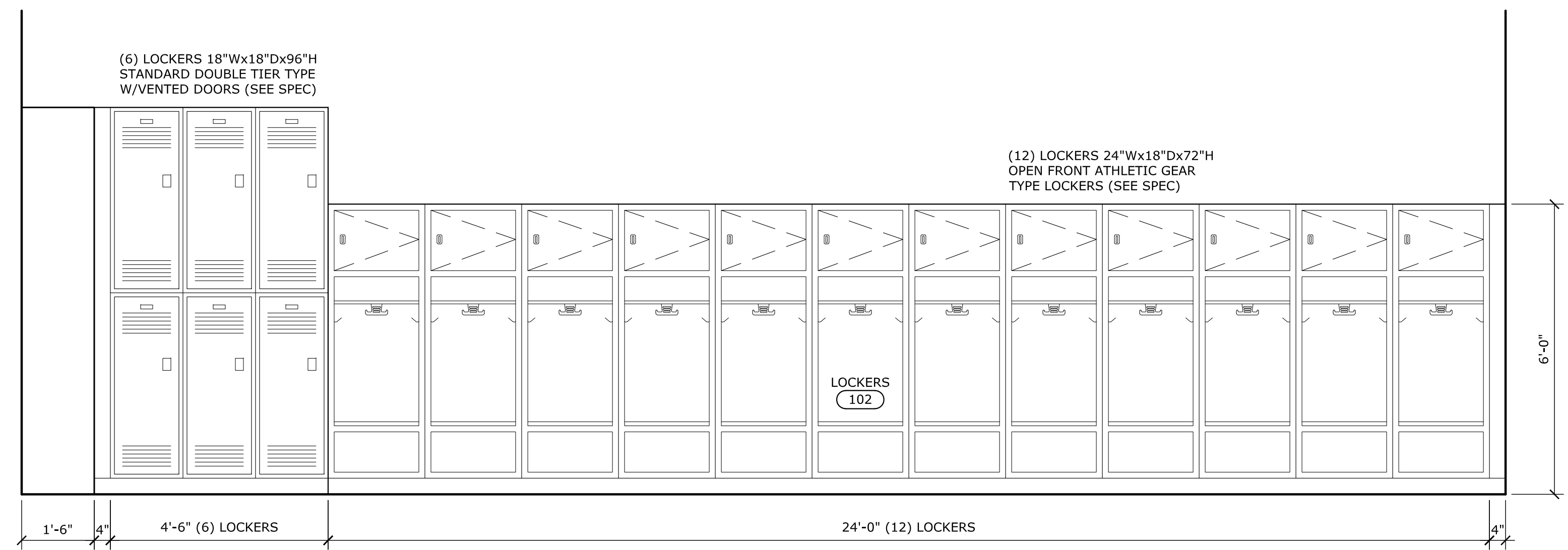


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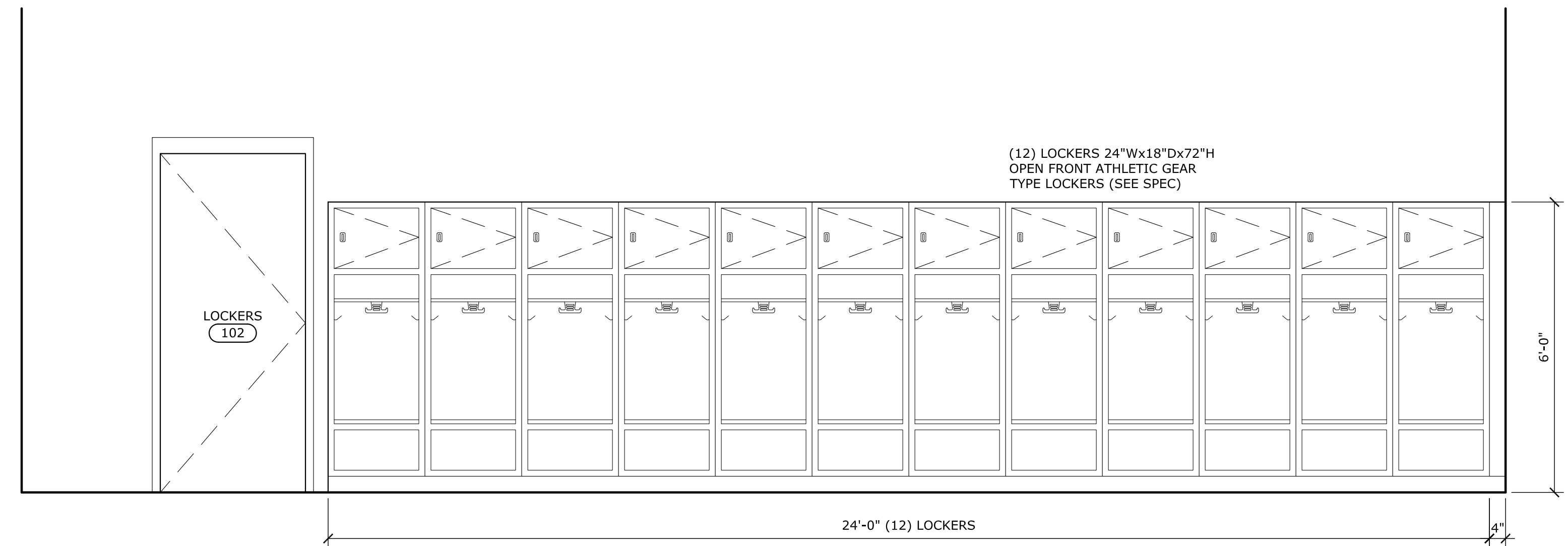
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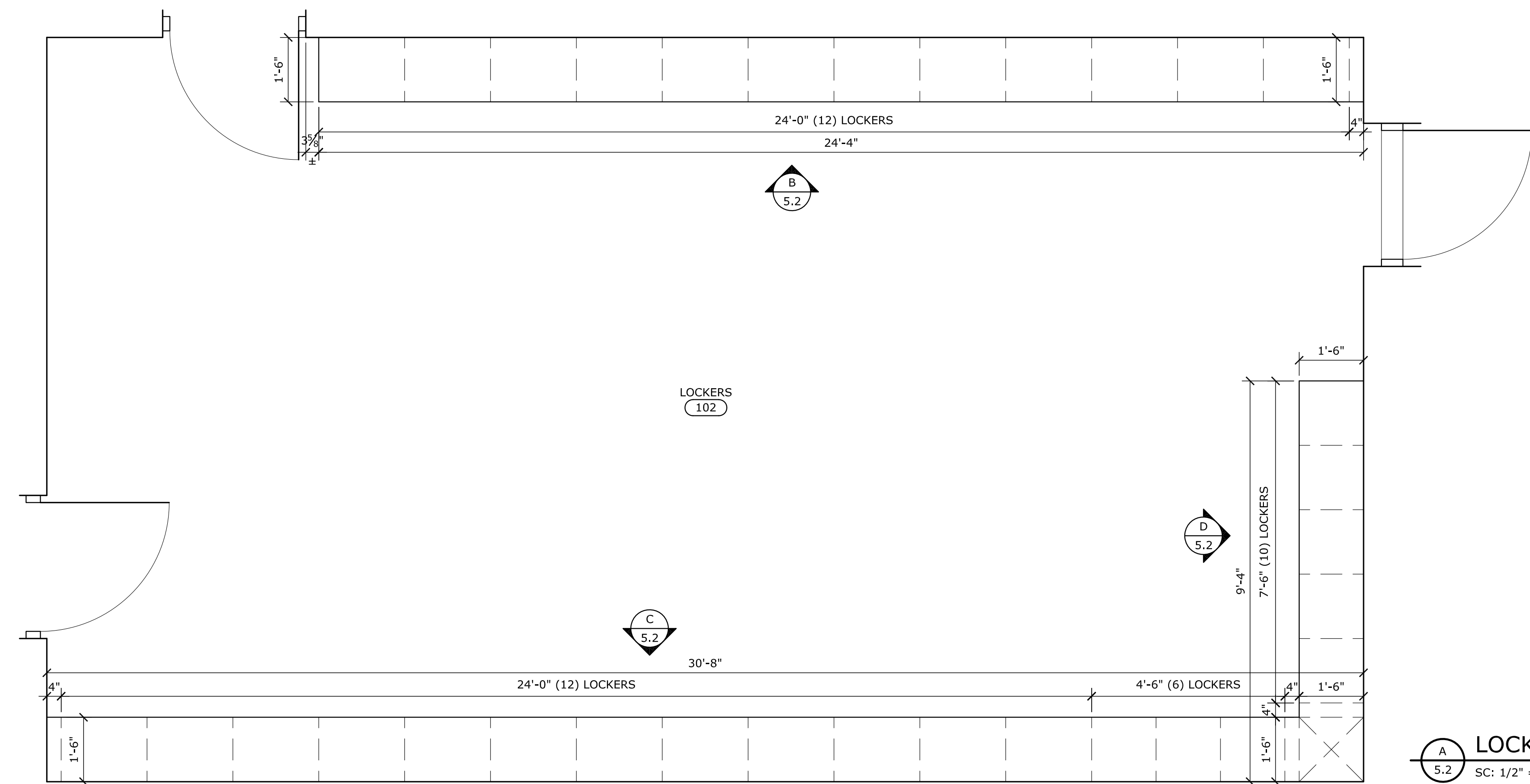
D
5.2
INTERIOR ELEVATION
SC: 1/2" = 1'-0"



C
5.2
INTERIOR ELEVATION
SC: 1/2" = 1'-0"

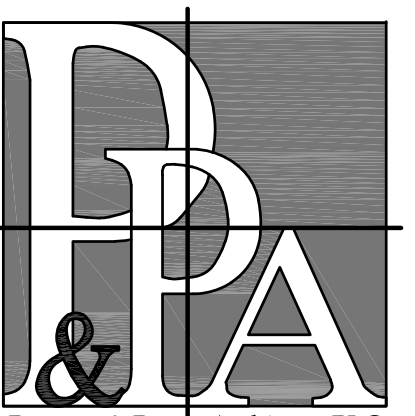


B
5.2
INTERIOR ELEVATION
SC: 1/2" = 1'-0"



A
5.2
LOCKER LAYOUT PLAN
SC: 1/2" = 1'-0"

INTERIOR ELEVATIONS
 SOFTBALL FIELD HOUSE
LAFAYETTE HIGH SCHOOL
 FAYETTE COUNTY PUBLIC SCHOOLS - KDE BG #21-342 - BP#2, FCPS BID #38-21
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Softball Field House

KDE # BG 21-342 (Bid Package 2)

Lafayette High School

Fayette County Board of Education

401 Reed Lane, Lexington, KY 40503

SECTION 00 73 11 – SHINGLE ROOFING

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:
 1. **Asphalt shingles for roofs.**
 2. **Synthetic underlayment.**
 3. **Ice & Water Shield.**
 4. **Prefinished Drip Edge**
 5. **Roof Flashings**
 6. **Ridge Vents**

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of product specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.
- C. Samples for initial selection purposes in form of manufacturer's sample finishes showing full range of colors and profiles available of full-size units of each type of shingles required.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's unopened bundles or containers with labels intact.
- B. Handle and store materials at Project site to prevent water damage, staining, or other physical damage. Store roll goods on end. Comply with manufacturer's recommendations for job site storage, handling, and protection.

1.7 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials matching products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 1. **[3] bundles asphalt shingles.**

Softball Field House

KDE # BG 21-342 (Bid Package 2)

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401 Reed Lane, Lexington, KY 40503

1.8 WARRANTY

- A. **Special Warranty: Standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period.**
1. Failures include, but are not limited to, the following:
 - a. Manufacturing defects.
 - b. Structural failures including failure of asphalt shingles to self-seal after a reasonable time.
 2. Material Warranty Period: [40] years from date of Substantial Completion, prorated, with first [five] years non-prorated.
 3. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds up to **100 mph** for [5] years from date of Substantial Completion.
 4. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor [10] years from date of Substantial Completion.
 5. Workmanship Warranty Period: [5] years from date of Substantial Completion.
- B. Special Project Warranty: Roofing Installer's warranty, on warranty form at end of this Section, signed by roofing Installer, covering Work of this Section, in which roofing Installer agrees to repair or replace components of asphalt shingle roofing that fail in materials or workmanship within the following warranty period:
1. **Warranty Period: [Two] years from date of Substantial Completion.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering asphalt shingles that may be incorporated in the Work include, but are not limited to, the following:
Shingles:
1. **CertainTeed AR1072, Colonial Slate Architectural – LANDMARK PLUS, Heavyweight “Plus” design, 17” x 24” size, Class A, 110 MPH Wind Rating, ASTM D3016-type 1, 3161-type1, 3462, passes UL 997, with matching ridge cap for all hips and ridges [COLOR to be selected from manufacturers standard color].**
 2. **GAF Building Materials Corporation – CAMELOT, Heavyweight “Plus” design, 17” x 24” size, Class A, 110 MPH Wind Rating, ASTM D3016-type 1, 3161-type1, 3462, passes UL 997, with Timbertex ridge cap for all hips and ridges [COLOR to be selected from manufacturers standard color].**
 3. **Owens Corning – Duration Premium - Heavyweight “Plus” design, 17” x 24” size, Class A, 110 MPH Wind Rating, ASTM D3016-type 1, 3161-type1, 3462, passes UL 997, with matching ridge cap for all hips and ridges [COLOR to be selected from manufacturers standard color].**
 4. **or approved equal.**

Softball Field House

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2.2 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

- A. Multi-Tab, Three-Dimensional, Even Butt-Edge, Fiberglass Strip Shingles with 3-tabs: Mineral-surfaced, min. 300 pound, self-sealing, fiberglass-based, strip asphalt shingles with tabs and stagger-cut butt edge, complying with both ASTM D 3016, Type I, and ASTM D 3462. Provide shingles with a UL Class A fire-test response classification that pass the wind-resistance-test requirements of ASTM D 3161.
 - 1. Fungus Resistant: Provide shingles that have been surface treated to remain free of fungus and algae growth, which adversely affects the appearance of the roof, for at least 5 years.
 - 1. Tab Arrangement: [**Three tab, randomly spaced**].
 - 2. Cutout Shape: [**CHAMPHERED & Tapered**].
 - 3. Strip Size: [**Manufacturer's standard**]
 - 4. Algae Resistance: Granules treated to resist algae discoloration.
 - 5. Color and Blends: [**As selected by Architect from manufacturer's full range**].
- B. Hip and Ridge Shingles: Manufacturer's standard, factory-precut units to match asphalt shingles.

2.3 RIDGE VENTS

- A. Rigid Ridge Vent: Manufacturer's standard rigid section high-density polypropylene or other UV-stabilized plastic ridge vent [**with nonwoven geotextile filter strips**] for use under ridge shingles.
 - 1. [**Available**] Products:
 - a. **Air Vent Inc., a CertainTeed Company; ShingleVent II.**
 - b. **Cor-A-Vent, Inc.; V-Series.**
 - c. **GAF Materials Corporation; Cobra Rigid Vent II.**
 - d. **Owens Corning; VentSure Ridge Vent.**

2.4 METAL EDGE TRIM

- A. Sheet Metal Edge Trim: Comply with requirements in Division 7 Section "07600 - Flashing and Sheet Metal."
 - 1. Sheet Metal: [**Aluminum, pre-finished**] Metal drip edge materials.
- B. Fabricate sheet metal drip edge trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.
 - 1. **Drip Edges: Fabricate in lengths not exceeding 10 feet with 2-inch (50-mm) roof deck flange and 1-1/2-inch Fascia flange with 3/8-inch drip at lower edge.**
- C. Vent Pipe Flashings: ASTM B 749, Type L51121, at least **1/16 inch** thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least **8 inches** from pipe onto roof.

2.4B ACCESSORIES

- A. **Felt Underlayment: No. 30#;** un-perforated organic felt complying with ASTM D4869-03, Type II; 36 inches wide.

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- B. **[PROVIDE OVER ENTIRE SHINGLE ROOF AREA]** – Synthetic Underlayment - Titanium Waterproof Roof Underlayment UDL-25-PLUS (25 year warranty) OR APPROVED EQUAL, polymer-modified, synthetic sheet membrane, complying with ASTM D 1970. Class A fire rating.
- B. **[PROVIDE ROOF EDGES, VALLEYS SHINGLE ROOF AREA]** – Synthetic Underlayment Titanium Waterproof Roof Underlayment – PSU-30: Ice & Water Shield - Minimum **45-mil-**thick, self-adhering, polymer-modified, synthetic sheet membrane, OR APPROVED EQUAL complying with ASTM D 1970. Provide primer when recommended by underlayment manufacturer.
- D. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized steel wire shingle nails, minimum **0.120-inch-** diameter, **barbed** shank, sharp-pointed, with a minimum **3/8-inch-** diameter flat head and of sufficient length to penetrate at least **1/8 inch** through plywood sheathing, as required by the Manufacturer.
 - 1. **Where nails are in contact with metal flashing, use nails made from same metal as flashing.**
- E. Synthetic Felt Underlayment Nails: stainless-steel, or hot-dip galvanized steel wire with low profile capped heads or disc caps, **1-inch (25-mm)** minimum diameter, as required by the Manufacturer..
- G. Paper Slip Sheet: 5-lb. Red rosin-sized building paper.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrate for compliance with requirements for substrates, installation tolerances, and other conditions affecting performance of Work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with noncorrosive roofing nails.
- B. Coordinate installation with flashings and other adjoining work to ensure proper sequencing. Do not install roofing materials until all vent stacks and other penetrations through roof sheathing have been installed and are securely fastened against movement.

3.3 INSTALLATION

- A. Comply with manufacturer's installation instructions and recommendations, but not less than recommended by "The NRCA Steep Roofing Manual."
- C. Synthetic Underlayment: Apply one layer of underlayment horizontally over entire surface to receive asphalt shingles, lapping succeeding courses a minimum of 2 inches, end laps a minimum of 4 inches, and hips and valleys a minimum of 6 inches. Fasten felt with sufficient number of roofing nails or noncorrosive staples to hold underlayment in place until asphalt shingle application.

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- C. Self Adhering Synthetic (Ice & water Shield type) Underlayment: Fasten felt with sufficient number of roofing nails or noncorrosive staples to hold underlayment in place until asphalt shingle application.

Waterproof Underlayment: Apply waterproof underlayment at eaves and valleys. Cover deck from eaves to at least 24 inches (600 mm) inside exterior wall line, and 36" wide at all valleys.

- G. Flashing: Install metal flashing as indicated and in accordance with details and recommendations of the "Asphalt Roofing" section of "The NRCA Steep Roofing Manual."

3.4 UNDERLAYMENT INSTALLATION

- F. Single-Layer Synthetic Roofing Underlayment: Install single layer of underlayment on roof deck perpendicular to roof slope in parallel courses. Lap sides a minimum of 2 inches over underlying course. Lap ends a minimum of 4 inches. Stagger end laps between succeeding courses at least 72 inches . Fasten with **felt underlaymentroofing** nails.
 - 1. Install underlayment on roof deck not covered by self-adhering sheet underlayment. Lap sides of felt over self-adhering sheet underlayment not less than 4 inches in direction to shed water. Lap ends of felt not less than 6 inches (150 mm) over self-adhering sheet underlayment.

2.5 METAL FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in this section as well as Division 7 Section "Sheet Metal Flashing and Trim."
 - 1. Install metal flashings according to recommendations in SMACNA "Architectural Sheet Metal Manual", Sixth Edition, September 2003, "Sheet Metal and Air Conditioning Contractors' National Association, Inc. as well as the "Residential Asphalt Roofing Manual" and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual." If there are questions about which takes precedence, the most stringent application shall apply.
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
- C. Eave Drip Edges: Install eave drip edge flashings below underlayment and fasten to roof sheathing.
- D. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.
- E. Vents: Install vents according to manufacturer's instructions.

2.6 ASPHALT SHINGLE INSTALLATION

- A. Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."

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- B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip **with tabs removed at least 7 inches wide** with self-sealing strip face up at roof edge.
 - 1. Extend asphalt shingles **3/4 inch (19 mm)** over fascia at eaves and rakes.
 - 2. Install starter strip along rake edge.
- C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with **1/3-tab OR manufacturer's recommended** offset pattern at succeeding courses, maintaining uniform exposure.
- D. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- E. Install asphalt shingles by single-strip column or racking method, maintaining uniform exposure. Install full length first course followed by cut second course, repeating alternating pattern in succeeding courses.
- F. Fasten asphalt shingle strips with a minimum of **[six]** roofing nails located according to manufacturer's written instructions.
 - 1. When ambient temperature during installation is below **50 deg F**, seal asphalt shingles with asphalt roofing cement spots.
- G. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

3.4 ADJUSTING

- A. Replace any damaged materials installed under this Section with new materials meeting specified requirements.

END OF SECTION 00 73 11

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SECTION 02821 - CHAIN-LINK FENCES AND GATES

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. Section Includes:

1. **Chain-link fences – vinyl coated and galvanized**
2. **Gates: [swing].**
3. **Wire Fencing – guards and protection devices for Batting Cage Building and Dugouts**

- B. Related Sections:

1. Division 3 Section [**Cast-in-Place Concrete**] for cast-in-place concrete [**post footings**].

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Chain-link fence and gate framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to [ASCE/SEI 7]:

1. Minimum Post Size: Determine according to ASTM F 1043 for framework up to **12 feet (3.66 m)** high, and post spacing not to exceed **10 feet (3 m)** for

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.[**Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.**]

1. Fence and gate posts, rails, and fittings.
2. Chain-link fabric, reinforcements, and attachments.
3. Gates and hardware.

- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.

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- C. Delegated-Design Submittal: For chain-link fences and gate framework indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Product Certificates: For each type of chain-link fence and gate, from manufacturer.
- E. Operation and Maintenance Data: For the following to include in emergency, operation, and maintenance manuals:
 - 1. Polymer finishes.
 - 2. Gate hardware.
- F. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

- A. Pre-installation Conference: Conduct conference.
 - 1. Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which [**Installer**] agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
 - 1. **Warranty Period: [Five] years from date of Substantial Completion.**

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

- A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI Product Manual and with requirements indicated below:
 - 1. Fabric Height: [**As indicated on Drawings**].

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2. Steel Wire Fabric: Wire with a diameter of [9 Gage].
 - a. Mesh Size: **[2 inches (50 mm)]**.
 - b. Zinc-Coated Fabric: ASTM A 392, Type II, [Class 1, **1.2 oz./sq. ft. (366 g/sq. m)**]
 - c. Polymer-Coated Fabric: ASTM F 668, [Class 1] over [zinc] coated steel wire.
 - 1) Color: [**Green – match existing**] complying with ASTM F 934.
 - d. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.
3. Selvage: [**Knuckled at both selvages**].

2.2 GALVANIZED WELDED WIRE FENCING – PROTECTION DEVICES

- A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI Product Manual and with requirements indicated below:

1. Fabric Height: [24”, 36” AND **As indicated on Drawings**].
2. Steel Wire Fabric: Wire with a diameter of [16 Gage].
 - a. Mesh Size: [**3” X 2” inches**].
 - b. Zinc-Coated Fabric: ASTM A 392, Type II,

2.3 FENCE FRAMING

- A. Posts and Rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043[**or ASTM F 1083**] based on the following:

1. Fence Height: [**As indicated on Drawings**]
2. Light Industrial Strength: Material [**Group IC-L, round steel pipe, electric-resistance-welded pipe**] [**Group II-L, roll-formed steel C-section shapes**] [**Group III-L, hot-rolled H-beam shapes**] [**Group IV, Alternative Design**].
 - a. Line Post: [**1.9 inches (48 mm) in diameter**] [**2.375 inches (60 mm) in diameter**].
 - b. End, Corner and Pull Post: [**2.375 inches (60 mm)**] [**2.875 inches (73 mm)**] [**3.25 inches (83 mm)**]
 - c. Post sizes as appropriate for height and size of installation..
3. Horizontal Framework Members: [**Intermediate**] [**top**] [**and**] [**bottom**] rails complying with ASTM F 1043.
 - a. Top Rail: [**1.66 inches (42 mm) in diameter**].
4. Brace Rails: Comply with ASTM F 1043.
5. Metallic Coating for Steel Framing:

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- a. Type A, consisting of not less than minimum **2.0-oz./sq. ft. (0.61-kg/sq. m)** average zinc coating per ASTM A 123/A 123M or **4.0-oz./sq. ft. (1.22-kg/sq. m)** zinc coating per ASTM A 653/A 653M.
6. Polymer coating over metallic coating.
 - a. Color: [**Match chain-link fabric**] complying with ASTM F 934.

2.4 TENSION WIRE

- A. Metallic-Coated Steel Wire: **0.177-inch- (4.5-mm-)** diameter, marcelled tension wire complying with ASTM A 817 and ASTM A 824, with the following metallic coating:
 - a. Type II, zinc coated (galvanized)
- B. Polymer-Coated Steel Wire: , tension wire complying with ASTM F 1664, [**Class 1**] over [**zinc**] -coated steel wire.
 1. Color: [**Match chain-link fabric**] complying with ASTM F 934.

2.5 SWING GATES

- A. General: Comply with ASTM F 900 for gate posts and [**single**] [**double**] swing gate types.[**Provide automated vehicular gates that comply with ASTM F 2200.**]
 1. Gate Leaf Width: [**As indicated**].
 2. Gate Fabric Height: [**As indicated**].
- B. Pipe and Tubing:
 1. Zinc-Coated Steel: Comply with ASTM F 1043 and ASTM F 1083; [**protective coating and finish to match fence framing**] [**manufacturer's standard protective coating and finish**] <Insert finish>.
 2. Aluminum: Comply with ASTM B 429/B 429M; [**mill**] [**manufacturer's standard**] <Insert finish> finish.
 3. Gate Posts: [**Round tubular steel**] [**Rectangular tubular steel**] [**Round tubular aluminum**] [**Rectangular tubular aluminum**].
 4. Gate Frames and Bracing: [**Round tubular steel**] [**Rectangular tubular steel**] [**Round tubular aluminum**] [**Rectangular tubular aluminum**].
- C. Frame Corner Construction: [**Welded**].
- D. Extended Gate Posts and Frame Members: Extend gate posts and frame end members above top of chain-link fabric at both ends of gate frame.
- E. Hardware:
 1. Hinges: [**180-degree inward**] [**180-degree outward**] swing.

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2. Latches permitting operation from both sides of gate[**with provision for padlocking accessible from both sides of gate**].

2.6 FITTINGS

- A. General: Comply with ASTM F 626.
- B. Post Caps: Provide for each post.
 1. Provide line post caps with loop to receive tension wire or top rail.
- C. Rail and Brace Ends: For each gate, corner, pull, and end post.
- D. Rail Fittings: Provide the following:
 1. Top Rail Sleeves: [**Pressed-steel or round-steel tubing**] [**Aluminum Alloy 6063**] not less than **6 inches (152 mm)** long.
 2. Rail Clamps: Line and corner boulevard clamps for connecting [**intermediate**] [**and**] [**bottom**] rails in the fence line-to-line posts.
- E. Tension and Brace Bands: [**Pressed steel**] [**Aluminum Alloy 6063**].
- F. Tension Bars: [**Steel**] [**Aluminum**] [**Fiberglass**], length not less than **2 inches (50 mm)** shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.
- G. Tie Wires, Clips, and Fasteners: According to ASTM F 626.
 1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
 - a. Hot-Dip Galvanized Steel: [**0.106-inch- (2.69-mm-)**] [**0.148-inch- (3.76-mm-)**] diameter wire[; **galvanized coating thickness matching coating thickness of chain-link fence fabric**].
 - b. Aluminum: **ASTM B 211 (ASTM B 211M)**; Alloy 1350-H19; [**0.148-inch- (3.76-mm-)**] [**0.192-inch- (4.88-mm-)**] diameter, mill-finished wire.
- H. Finish:
 1. Metallic Coating for Pressed Steel or Cast Iron: Not less than **1.2 oz. /sq. ft. (366 g /sq. m)** zinc.
 - a. Polymer coating over metallic coating.

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2.7 GROUT AND ANCHORING CEMENT

- A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.
- B. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for [a **verified survey of property lines and legal boundaries,**] site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.
 - 1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of **500 feet (152.5 m)** or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

- A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.
 - 1. Install fencing on established boundary lines inside property line.

3.4 CHAIN-LINK FENCE INSTALLATION

- A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- B. Post Setting: Set posts [**in concrete**] at indicated spacing into firm, undisturbed soil.

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1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Exposed Concrete: Extend **2 inches (50 mm)** above grade; shape and smooth to shed water.
- C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment.
- D. Line Posts: Space line posts uniformly at [**96 inches (2440 mm)**] o.c.
- E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.
 1. Locate horizontal braces at midheight of fabric **72 inches (1830 mm)** or higher, on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.
- F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with **0.120-inch- (3.05-mm-)** diameter hog rings of same material and finish as fabric wire, spaced a maximum of **24 inches (610 mm)** o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
 1. Extended along [**top**] [**and**] [**bottom**] of fence fabric. Install top tension wire through post cap loops. Install bottom tension wire within **6 inches (152 mm)** of bottom of fabric and tie to each post with not less than same diameter and type of wire.
- G. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.
- H. Intermediate and Bottom Rails: Install and secure to posts with fittings.
- I. Chain-Link Fabric: Apply fabric to [**outside**] [**inside**] of enclosing framework. Leave [**1 inch (25.4 mm)**] [**2 inches (50 mm)**] between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
- J. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than **15 inches (380 mm)** o.c.

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- K. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.
 - 1. Maximum Spacing: Tie fabric to line posts at **12 inches (300 mm)** o.c. and to braces at **24 inches (610 mm)** o.c.
- L. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.
- M. Privacy Slats: Install slats in direction indicated, securely locked in place.
 - 1. Diagonally.

3.5 GATE INSTALLATION

- A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware **gate operator** and other moving parts.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain chain-link fences and gates.

END OF SECTION 02821