

## Addendum No. 1

---

Owner: Gerald R. Ford International Airport Authority

---

Project Title: C-298 ATCT Enabling Project

---

Project #: 2250489

Date of Addendum: August 1, 2025

---

# Notice to Prospective Bidders

In accordance with Article 1 of the General Conditions, this Addendum is hereby issued as part of the Contract Documents.

## 1. BID PROPOSAL

The original bid proposal shall be deleted and replaced with the proposal included with this addendum. Revised items include:

Item 3, Permits, increase allowance from \$2,500 to \$25,000 to include cost of water meters and connection fees.

Item 61, Item description was modified from “26 Pair #19 Control Cable” to “25 Pair #19 Control Cable”.

New Base Bid items include:

Item 101, Fence Removal and Disposal

Item 102, Chain Link Fence, 10', Temporary with Barbed Wire and Extension Arms

Item 103, Chain Link Fence, 10'

Item 104, Barbed Wire Extension Arms, Type 1, with Barbed Wire

New Alternative 5 items include:

Item 105, Fence Removal and Disposal

Item 106, Chain Link Fence, 10'

Item 107, Barbed Wire Extension Arms, Type 1, with Barbed Wire

## 2. SPECIFICATIONS

Added Specification 32 3113 - Chain Link Fences And Gates.

## 3. DRAWINGS

Sheet 2 of 22, Construction Safety Phasing Plan, Added Fencing Notes.

Sheet 4 of 22, Cable Routing Plan, References to 26 pair cables were modified to 25 pair cables.

Sheet 11 of 22, Duct Bank (Sta. 200+00 to 208+81) – Added fence removal, temporary fence, 10' Chain Link Fence and Barbed Wire Extension Arms.

Sheet 16 of 22, Manhole, Handhole & Duct Details – Added note indicated FAA ducts are to be connected to precast concrete handholes and GFIAA ducts to be connected to 2x2x3 fiberglass handholes.


Sheet 17 of 22, Retaining Wall Details – Added Detail 6/17 for mounting chain link fence to top of retaining wall.

Sheet 22 of 22, Underground Detention Basin – Added fence removal, temporary fence, 10' Chain Link Fence and Barbed Wire Extension Arms.

Sheet 23, Fence Details, Added detail sheet for Chain Link Fence.

#### 4. PRE-BID MEETING MINUTES

Minutes from the Pre-Bid meeting on July 22, 2025 are included with this addendum.

  
\_\_\_\_\_  
John A. Stroo, P.E.

Enclosures: Bid Proposal  
Specification  
Sheets 2, 4, 11, 16,17, 22 and 23  
Pre-bid Meeting Minutes

c: All Plan Holders

# Bid Proposal

Owner:	Gerald R. Ford International Airport Authority		
Owner Address:	5500 44th Street SE, Grand Rapids, MI 49512		
Project Title:	C-298 ATCT Enabling Project		
Bid Date & Time:	xday, June x, 2025 @ 2:00 pm	Project #:	2250489

The undersigned, being familiar with the site, plans, specifications, and related documents, proposes to furnish all required labor, materials, tools and equipment to construct the project in accordance with the [unit prices/lump sum] on the following sheets.

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

## Receipt of Addenda

Receipt of Addenda \_\_\_\_\_ through \_\_\_\_\_ is hereby acknowledged.

## Summary of Bids

Total Bid \$ \_\_\_\_\_

The Owner reserves the right to accept or reject any or reject any or all bids and to waive any irregularities in the bidding. No partial bids will be accepted.

## Contractors Signature

Contractor's Name	Email Address	Telephone Number
-------------------	---------------	------------------

Business Address	City	Zip Code
------------------	------	----------

Printed Name	Title	Date
--------------	-------	------

\_\_\_\_\_  
Signature

Seal (if bidder is a corporation)

## Bid Proposal - Unit Prices

Owner:

Gerald R. Ford International Airport Authority

Project Title:

C-298 ATCT Enabling Project

Bid Date & Time:

Project #:

2250489

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
	Base Bid - Duct Banks				
1	Mobilization and General Conditiona, 10% Max	1	LS		
2	Safety and Security	1	LS		
3	Permits	25,000	DLR	\$1.00	\$25,000.00
4	Underground Communication Duct, 2 Bank 4 Inch, Concrete Encased	20	LF		.
5	Underground Communication Duct, 4 Bank 4 Inch, Concrete Encased	6,650	LF		
6	Underground Communication Duct, 4 Bank 4 Inch, Bore and Jack	885	LF		
7	Underground Communication Duct, 6 Bank 4 Inch, Concrete Encased	711	LF		
8	Communications Handhole, 2' x 3' x 3'	16	EA		
9	Electric Handhole, 4' x 4' x 4'	13	EA		
10	Electric Handhole, 5' x 5' x 7'	14	EA		
11	Connect to Existing Communications Structure	2	EA		
12	Connect to Existing Runway 35 LOC Shelter	1	EA		
13	Subbase, CIP	80	CYD		
14	Aggregate Base, 6"	220	SYD		
15	Edge Trimming	150	FT		
16	HMA, 4EML	50	TON		
17	Saw-cut and Demolish Existing Retaining Wall	1	LS		

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
18	Retaining Wall, 9" Width Including Footing	1	LS		
19	Sewer Tap, 4"	4	EA		
20	Dr Structure Tap, 4"	17	EA		
21	Dr Structure Tap, 6"	2	EA		
22	Pipe Underdrain, 4", Type as Specified	3,800	FT		
23	Pipe Underdrain, 6", Type as Specified	160	FT		
24	Underdrain, Outlet Ending, 4"	1	EA		
25	Curb and Gutter, Rem	50	FT		
26	Curb and Gutter, Conc, Det F4	50	FT		
27	Sidewalk, Conc, 4"	315	SFT		
28	Fertilizer, Chemical Nutirent, Cl B	920	LB		
29	Mulch	34,750	SYD		
30	Mulch Blanket, High Velocity	120	SYD		
31	Seeding, Mixture THV	1,620	LB		
32	Topsoil Surface, Salv, 4 Inch	34,750	SYD		
101	Fence Removal and Disposal	200	FT		
102	Chain Link Fence, 10', Temporary with Barbed Wire and Extension Arms	130	FT		
103	Chain Link Fence, 10'	205	FT		
104	Barbed Wire Extension Arms, Type 1, with Barbed Wire	205	FT		
Total Base Bid:					
	Alternate No. 1 - GFIAA ALCS and COMM Cable				

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
1	Single Mode Fiber Optic Cable, 24-Strand	6,810	FT		
2	Three-Cell Detectable Fabric Innerduct	1,700	FT		
3	Fiber Optic Termination In Electrical Vault	1	LS		
Total Alternate No. 1:					
	Alternate No. 2 - GFIAA Gate Comm Cable				
4	Single Mode Fiber Optic Cable, 12-Strand	2,400	FT		
5	3" SCH 80 HDPE or PVC Conduit	1,020	FT		
6	Communications Handhole, 2' x 3' x 3'	3	EA		
7	Fertilizer, Chemical Nutirent, Cl B	80	LB		
8	Mulch	2,870	SYD		
9	Seeding, Mixture THV	140	LB		
10	Topsoil Surface, Salv, 4 Inch	2,870	SYD		
Total Alternate No. 2:					
	Alternate No. 3 - Construct Fire Protection Service				
11	Tapping Sleeve, Valve and Box, 12 Inch by 12 Inch by 8 Inch	2	EA		
12	Meter and Chamber, 8 Inch	2	EA		
13	Double Check Valve and Chamber, 8 Inch	2	EA		
14	Valve and Box, 8 Inch	4	EA		
15	Valve and Box, 6 Inch	8	EA		
16	Tee, 8 Inch by 8 Inch by 8 Inch	4	EA		
17	Tee, 8 Inch by 8 Inch by 6 Inch	5	EA		

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
18	Tee, 6 Inch by 6 Inch by 6 Inch	2	EA		
19	Hydrant, 5 Inch	4	EA		
20	Bend, 90 Degree, 8 Inch	2	EA		
21	Bend, 90 Degree, 6 Inch	4	EA		
22	Bend, 45 Degree, 8 Inch	15	EA		
23	Reducer, 8 Inch to 6 inch	4	EA		
24	Plug, 6 Inch	1	EA		
25	Water Main, 8 Inch	1,010	FT		
26	Water Main, 6 Inch	124	FT		
27	Dr Structure Tap, 4"	2	EA		
28	Pipe Underdrain, 4", Type as Specified	230	FT		
29	Fertilizer, Chemical Nutirent, Cl B	100	LB		
30	Mulch	3,850	SYD		
31	Seeding, Mixture THV	180	LB		
32	Topsoil Surface, Salv, 4 Inch	3,850	SYD		
Total Alternate No. 3:					
	Alternate No. 4 - Construct Sanitary Lateral				
33	Sanitary Structure, 4' Dia	2	EA		
34	Sanitary Sewer, 6"	198	FT		
35	Sanitary Sewer Plug, 6"	1	EA		
36	Fertilizer, Chemical Nutirent, Cl B	20	LB		

Item No.	Description	Quantity	Unit	Unit Price	Total Amount
37	Mulch	610	SYD		
38	Seeding, Mixture THV	30	LB		
39	Topsoil Surface, Salv, 4 Inch	610	SYD		
Total Alternate No. 4:					
	Alternate No. 5 - Construct Underground Detention Basin				
40	Excavation, Earth	10,000	CYD		
41	Embankment, CIP	8,000	CYD		
42	Aggregate	3,600	CYD		
43	Geotextile, Separator	4,940	SYD		
44	Sewer, Cl B, 12 Inch, Tr Det B (Mod)	320	FT		
45	Sewer, Cl III, 15 Inch, Tr Det B	10	FT		
46	Sewer, Cl III, 18 Inch, Tr Det B	10	FT		
47	Sewer, Cl IV, 24 Inch, Tr Det B	93	FT		
48	Sewer Bulkhead, 15 Inch	1	EA		
49	Sewer Bulkhead, 18 Inch	1	EA		
50	Dr Structure Cover, Type B	5	EA		
51	Dr Structure, 48 Inch Dia.	3	EA		
52	Dr Structure, 72 Inch Dia. (MOD)	1	EA		
53	Dr Structure, Add Depth of 48 Inch Dia., 8 Foot to 15 Foot	18	FT		
54	Dr Structure, Add Depth of 72 Inch Dia., 8 Foot to 15 Foot	7	FT		
55	Dr Structure Tap, 24 Inch	1	EA		



Item No.	Description	Quantity	Unit	Unit Price	Total Amount
56	Fertilizer, Chemical Nutirent, C1 B	240	LB		
57	Mulch	9,680	SYD		
58	Seeding, Mixture THV	440	LB		
59	Topsoil Surface, Salv, 4 Inch	9,680	SYD		
105	Fence Removal and Disposal	645	FT		
106	Chain Link Fence, 10'	860	FT		
107	Barbed Wire Extension Arms, Type 1, with Barbed Wire	860	FT		
Total Alternate No. 5:					
	Alternate No. 6 - Install FAA Communications Cables				
60	50 Pair #19 Control Cable	25,600	FT		
61	25 Pair #19 Control Cable	40,100	FT		
Total Alternate No. 6:					
Total Bid:					

## SECTION 32 3113 - CHAIN LINK FENCES AND GATES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Chain-link fences.
2. Bi-fold security gates.

B. Related Requirements:

1. MDOT 2020 Standard Specifications for Construction, Divisions 9 and 10 for cast-in-place concrete equipment bases and post footings.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at ATCT Site, north of 6411 Air Cargo Dr SE, Grand Rapids, MI 49512.

#### 1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
  - a. Fence and gate posts, rails, and fittings.
  - b. Chain-link fabric, reinforcements, tension wire and attachments.
  - c. Accessories: Barbed wire, Barbed Wire Extension Arms.

B. Shop Drawings: For each type of fence and gate assembly.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include accessories, hardware, gate operation, and operational clearances.

C. Samples for Initial Selection: For each type of factory-applied finish.

D. Samples for Verification: For each type of component with factory-applied finish, prepared on Samples of size indicated below:

1. Type II: Zinc coated (galvanized): In 6-inch (150-mm) lengths for components and on full-sized units for accessories.

E. Delegated-Design Submittal: For structural performance of chain-link fence and gate frameworks, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For factory-authorized service representative.
- B. Product Certificates: For each type of chain-link fence, operator, and gate.
- C. Product Test Reports:
  - 1. Fencing and Gates: For framework strength according to ASTM F1043, for tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Field quality-control reports.
- E. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing fence grounding; member company of NETA or an NRTL.
  - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.
- B. Emergency Access Requirements: According to requirements of authorities having jurisdiction for gates with automatic gate operators serving as a required means of access.
- C. Installer: A minimum of three years experience installing similar equipment and approved by manufacturer.

1.7 FIELD 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.

1.8 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Failure to comply with performance requirements.
    - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
    - c. Faulty operation of gate operators and controls.
  - 2. Warranty Period: 5 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 4000 "Quality Requirements," to design chain-link fence and gate frameworks.
- B. Structural Performance: Chain-link fence and gate frameworks shall withstand the design wind loads and stresses for fence height(s) and under exposure conditions indicated according to ASCE/SEI 7.
  - 1. Design Wind Load: As indicated on Drawings.
    - a. Minimum Post Size: Determine according to ASTM F1043 for post spacing not to exceed 10 feet (3 m) for Material Schedule 40 steel pipe.
    - b. Minimum Post Size and Maximum Spacing: Determine according to CLFMI WLG 2445, based on mesh size and pattern specified.
- C. Lightning Protection System: Maximum resistance-to-ground value of 25 ohms at each grounding location along fence under normal dry conditions.

### 2.2 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 according to "CLFMI Product Manual" and requirements indicated below:
  - 1. Fabric Height: As indicated on Drawings.
  - 2. Steel Wire for Fabric: Wire diameter of As indicated on Drawings.
    - a. Mesh Size: As indicated on Drawings.
    - b. Zinc-Coated Fabric for all fence: As indicated on Drawings.
    - c. Coat selvage ends of metallic-coated fabric before the weaving process with manufacturer's standard clear protective coating.
  - 3. Wire Fabric: As indicated on Drawings.
  - 4. Selvage: Barb selvage top and bottom.

### 2.3 FENCE FRAMEWORK

- A. Posts and Rails: ASTM F1043 for framework, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F1043 based on the following:
  - 1. Fence Height: As indicated on Drawings.
  - 2. Heavy-Industrial-Strength Material: As indicated on Drawings.
  - 3. Horizontal Framework Members: As indicated on Drawings.

4. Brace Rails: As indicated on Drawings.
5. Metallic Coating for Steel Framework: As indicated on Drawings.

## **2.4 TENSION WIRE**

- A. Metallic-Coated Steel Wire: diameter as indicated on Drawings, marcelled tension wire according to ASTM A817 or ASTM A824, with the following metallic coating:
  1. Type II: Zinc coated (galvanized) as indicated on Drawings.
- B. Aluminum Wire: As indicated on Drawings.

## **2.5 FITTINGS**

- A. Provide fittings according to ASTM F626.
- 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: As indicated on Drawings.
  2. Rail Clamps: As indicated on Drawings.
- E. Tension and Brace Bands: As indicated on Drawings.
- F. Tension Bars: As indicated on Drawings.
- G. Truss Rod Assemblies: As indicated on Drawings.
- H. Barbed Wire Arms: As indicated on Drawings.
- I. Tie Wires, Clips, and Fasteners: As indicated on Drawings.
- J. Finish: As indicated on Drawings.

## **2.6 BARBED WIRE**

- A. Galvanized-Steel Barbed Wire: As indicated on Drawings:
  1. Type II: Zinc coated (galvanized): As indicated on Drawings.

## **2.7 GROUT AND ANCHORING CEMENT**

- A. Non-shrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.
- B. Anchoring Cement: Factory-packaged, non-shrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with 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.

## **2.8 GROUNDING MATERIALS**

- A. Comply with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems."
- B. Connectors and Grounding Rods: Listed and labeled for complying with UL 467.
  - 1. Connectors for Below-Grade Use: Exothermic welded type.
  - 2. Grounding Rods: Copper-clad steel, 5/8 by 96 inches (16 by 2440 mm).

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine areas and conditions, with Installer present, for compliance with requirements for a certified survey of lease 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 m) or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

### **3.3 CHAIN-LINK FENCE INSTALLATION**

- A. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.
  - 1. Install fencing on established boundary lines inside property line.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

- C. Post Setting: Set all permanent posts and temporary bracing, gate, corner and pull posts in concrete at indicated spacing into firm, undisturbed soil. Set temporary line posts by mechanically driving at indicated spacing into firm, undisturbed soil.
  - 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.
    - b. Posts Set into Sleeves in Concrete: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with non-shrink, nonmetallic grout, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
  - 3. Mechanically Driven Posts: Drive into soil to depth of 36 inches (914 mm). Protect post top to prevent distortion.
- D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of as indicated on Drawings. For runs exceeding 500 feet (152 m), space pull posts an equal distance between corner or end posts.
- E. Line Posts: Space line posts uniformly as indicated on Drawings
- F. Post Bracing and Intermediate Rails: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. 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 as indicated on Drawings.
- G. Tension Wire: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. 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.
  - 2. As indicated on Drawings.
- H. Intermediate and Bottom Rails: Secure to posts with fittings.
- I. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave zero (no) bottom clearance 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.

- 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 according to ASTM F626. 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 fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.
- M. Barbed Wire: Install barbed wire uniformly spaced as indicated on Drawings. Pull wire taut, install securely to extension arms, and secure to end post or terminal arms.
- N. Barbed Tape: Install according to ASTM F1911. Install barbed tape uniformly in configurations indicated and fasten securely to prevent movement or displacement.

### 3.4 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.

### 3.5 GROUNDING AND BONDING

- A. Comply with requirements in Section 26 0526 "Grounding and Bonding for Electrical Systems."
- B. Fence and Gate Grounding:
  - 1. Ground for fence and fence posts shall be a separate system from ground for gate and gate posts.
  - 2. Install ground rods and connections at maximum intervals of 500 feet (150 m).
  - 3. Fences within 100 Feet (30 m) of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of 250 feet (75 m).
  - 4. Ground fence on each side of gates and other fence openings.
    - a. Bond metal gates to gate posts.
    - b. Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches (457 mm) below finished grade.
- C. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a ground rod located a maximum distance of 150 feet (45 m) on each side of crossing.
- D. Fences Enclosing Electrical Power Distribution Equipment: Ground according to IEEE C2 unless otherwise indicated.
- E. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches (152 mm) below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location.
  - 1. Make grounding connections to each barbed wire strand with wire-to-wire connectors designed for this purpose.



2. Make grounding connections to each barbed tape coil with connectors designed for this purpose.

F. Connections:

1. Make connections with clean, bare metal at points of contact.
2. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
3. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
4. Make above-grade ground connections with mechanical fasteners.
5. Make below-grade ground connections with exothermic welds.
6. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

- G. Bonding to Lightning Protection System: Ground fence and bond fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor according to NFPA 780.

- H. Comply with requirements in Section 26 4113 "Lightning Protection for Structures."

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests.
- B. Grounding Tests: Comply with requirements in Section 26 4113 "Lightning Protection for Structures."
- C. Prepare test reports.

3.7 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. Automatic Gate Operator: Energize circuits to electrical equipment and devices, start units, and verify proper motor rotation and unit operation.
1. Hydraulic Operator: Purge operating system, adjust pressure and fluid levels, and check for leaks.
  2. Test and adjust operators, controls, alarms, and safety devices. Replace damaged and malfunctioning controls and equipment.
  3. Lubricate operator and related components.
- C. Lubricate hardware and other moving parts.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain chain-link fences and gates. Allot up to four (4) hours for this session and accommodate up to ten (10) maintenance staff members.

**END OF SECTION 32 3113**

GENERAL

- PHASE 1

- PHASE 2

- PHASE 3

- WILL BE LIMITED TO 14 CONSECUTIVE CALENDAR DAYS INCLUDING PHASE 4.

- PHASE 4

- PHASE 5

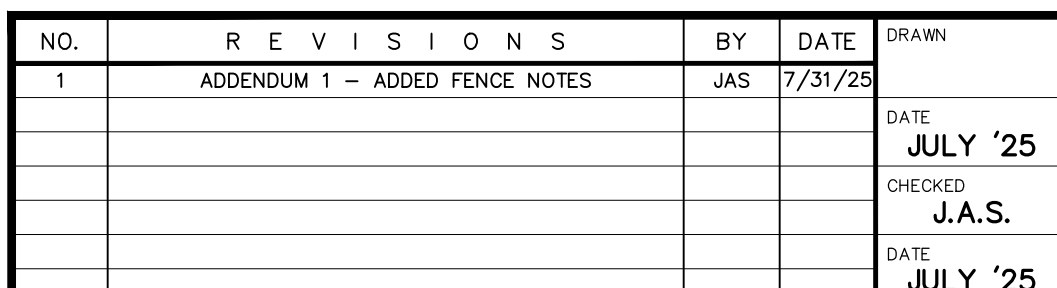
6. ALL WORK ON THE TERMINAL APRON SHALL BE COORDINATED WITH OPERATIONS STAFF TWO WEEKS IN ADVANCE OF PERFORMING WORK.

POINT #	LOCATION	LATITUDE	LONGITUDE	ELEVATION	MAX. HEIGHT	AMSL
1	W1	N042° 53' 35.51"	W085° 31' 08.58"	780'	35'	815'
2	W2	N042° 53' 36.17"	W085° 31' 02.77"	775'	35'	810'
3	W3	N042° 53' 29.58"	W085° 30' 32.75"	777'	35'	822'
4	W4	N042° 52' 54.59"	W085° 30' 25.48"	786'	35'	821'
5	W5	N042° 52' 50.79"	W085° 30' 59.28"	785'	35'	820'
6	W6	N042° 53' 07.87"	W085° 31' 09.76"	783'	35'	818'
7	W7	N042° 52' 50.03"	W085° 31' 06.05"	785'	35'	820'
9	W8	N042° 52' 45.57"	W085° 31' 45.70"	791'	35'	826'
10	W9	N042° 53' 03.41"	W085° 31' 49.41"	797'	35'	832'
14	S1	N042° 53' 16.66"	W085° 30' 33.13"	779'	35'	814'
15	S2	N042° 53' 16.99"	W085° 30' 30.27"	780'	35'	815'
16	S3	N042° 53' 13.65"	W085° 30' 29.57"	783'	35'	818'
17	S4	N042° 53' 13.27"	W085° 30' 32.96"	783'	35'	818'

1. TWO (2) SOLAR POWERED LIGHTS CAPABLE OF "FLASHING" AND "STEADY BURN" OPERATIONS SHALL BE ATTACHED TO EACH BARRICADE. LIGHTS SHALL HAVE RED LENSES.
2. BARRICADES SHALL BE 10"x10"x96" WITH ORANGE AND WHITE BI-DIRECTIONAL REFLECTIVE MARKINGS ON EACH SIDE.
3. BARRICADES SHALL BE MADE OF A RESILIENTLY DEFORMABLE AND NON-CONDUCTIVE MATERIAL.
4. BARRICADES SHALL BE CAPABLE OF MODULAR ASSEMBLY/DISASSEMBLY AND NEST FOR COMPACT STORAGE.
5. BARRICADES SHALL BE CAPABLE OF INTERLOCKING TO PROVIDE A CONTINUOUS ENCLOSURE.
6. BARRICADES SHALL BE FILLED WITH WATER OR SAND TO PREVENT MOVEMENT.
7. BARRICADES SHALL BE CONTINUOUS UNLESS OTHERWISE SPECIFIED.



- EXISTING BUILDING



00



FAA COMMUNICATIONS CABLE INFORMATION TABLE (CONT'D)

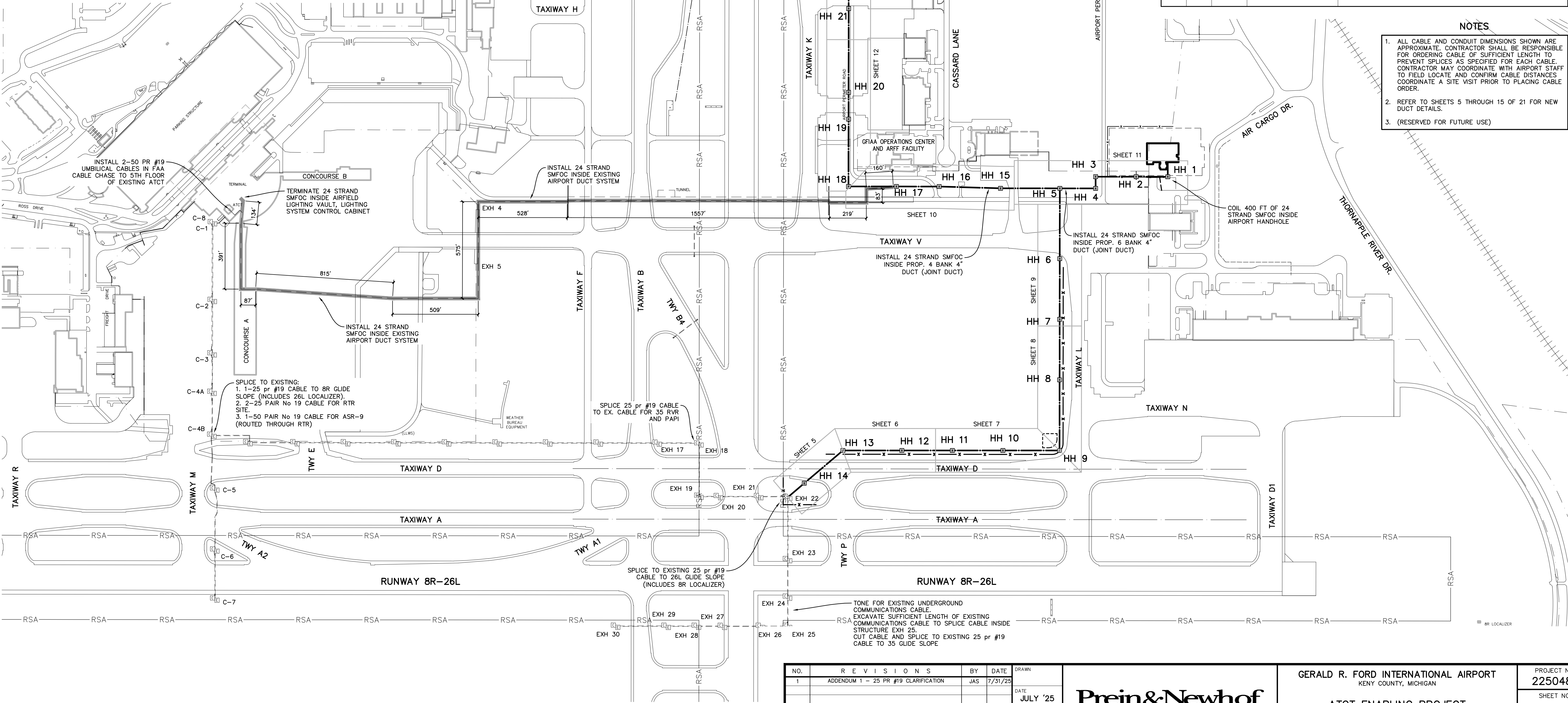
HH 5	HH 14	221'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 14	HH 15	100'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 15	HH 16	220'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 16	HH 17	295'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 17	HH 18	420'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 18	HH 19	400'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 19	HH 20	400'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 20	HH 21	400'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 21	HH 22	372'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 22	HH 23	300'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 23	HH 24	300'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 24	HH 25	300'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 25	HH 26	177'	4 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 1-25 pr #19
HH 26	35 LOC	355'	4 X 4" CONC. ENCASED	AIRFIELD = 1-25 pr #19
* DISTANCE BASED ON GROUND SURFACE. DOES NOT INCLUDE DISTANCE FROM BASEMENT TO 5TH FLOOR.				

FAA COMMUNICATIONS CABLE INFORMATION TABLE

START ATCT	END	DISTANCE	DUCT TYPE	CABLES
HH 1	HH 2	87'	6 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 6-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 2	HH 3	436'	6 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 6-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 3	HH 4	70'	6 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 6-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 4	HH 5	252'	6 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 6-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 5	HH 6	416'	6 X 4" CONC. ENCASED (JOINT)	AIRFIELD = 6-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 6	HH 7	416'	4 X 4" DIRECTIONAL DRILL	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 7	HH 8	360'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 8	HH 9	360'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 9	HH 10	419'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 10	HH 11	336'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 11	HH 12	300'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 12	HH 13	350'	4 X 4" CONC. ENCASED	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
HH 13	EXH 22	431'	4 X 4" DIRECTIONAL DRILL	AIRFIELD = 5-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
EXH 22	EXH 4B	3,770'	EX. 8 - 4" COMM DUCT	AIRFIELD = 3-25 pr #19, 1-50 PR #19, UMBILICAL = 2-50 PR #19
EXH 4B	5TH FL	1,450'+	EX. (VAR.) - 4" COMM DUCT	UMBILICAL = 2-50 PR #19
EXH 22	EXH 24	570'	EX. 8 - 4" COMM DUCT	AIRFIELD = 1-25 pr #19

NOTES

1. ALL CABLE AND CONDUIT DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING CABLE OF SUFFICIENT LENGTH TO PREVENT SPLICES AS SPECIFIED FOR EACH CABLE. CONTRACTOR MAY COORDINATE WITH AIRPORT STAFF TO FIELD LOCATE AND CONFIRM CABLE DISTANCES COORDINATE A SITE VISIT PRIOR TO PLACING CABLE ORDER.
2. REFER TO SHEETS 5 THROUGH 15 OF 21 FOR NEW DUCT DETAILS.
3. (RESERVED FOR FUTURE USE)



NO.	REVISIONS	BY	DATE	DRAWN
1	ADDENDUM 1 - 25 PR #19 CLARIFICATION	JAS	7/31/25	
				DATE JULY '25
				CHECKED J.A.S.
				DATE JULY '25

**Prein&Newhof**  
Engineers • Surveyors • Environmental • Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN  
  
ATCT ENABLING PROJECT  
  
CABLE ROUTING PLAN

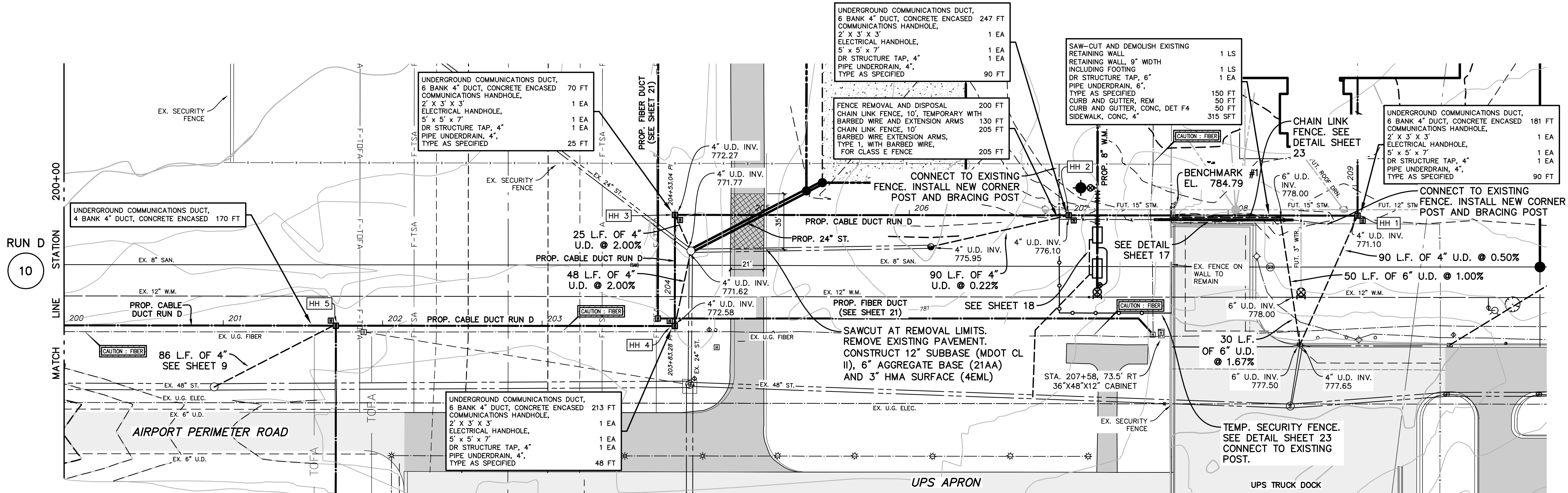
PROJECT NO.  
2250489  
  
SHEET NO.  
4 OF 22



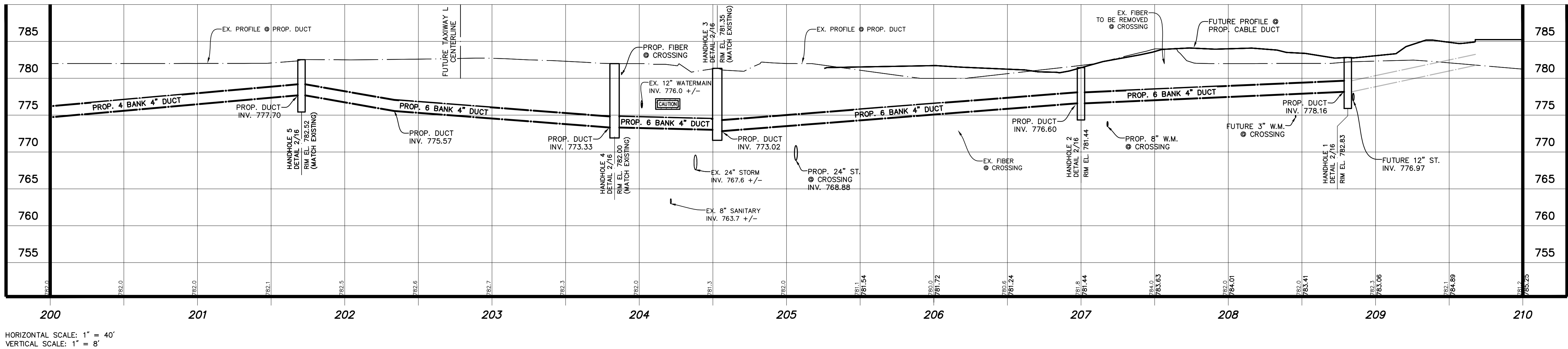
B.M. #1 EL. 784.79  
B.M. #1: CHISELED PLUS ON TOP OF NORTH  
END 10 INCH CONCRETE HEADWALL OF UPS  
TURNAROUND 0.55 FT ABOVE GROUND.

#### NOTES

- UNDERGROUND ELECTRICAL AND COMMUNICATIONS DUCTS AND CONDUITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS EXCEPT AS MODIFIED ON SHEET 4 AND HEREIN.
  - CONCRETE SHALL BE MDOT GRADE 4000.
- UNDERGROUND ELECTRICAL AND COMMUNICATIONS HANDHOLES SHALL CONDUITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES EXCEPT AS MODIFIED ON SHEET 16 AND HEREIN.
- COMMUNICATIONS DUCTS SHOWN AS "BORE AND JACK" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION FOR "TRENCHLESS CASING INSTALLATION". CONDUIT MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION L-110. PAYMENT FOR BORE AND JACK SHALL BE LIMITED TO THE DISTANCE SHOWN AT EACH LOCATION.
- PIPE UNDERDRAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION P-705 PIPE UNDERDRAINS FOR AIRPORTS EXCEPT AS MODIFIED HEREIN.
  - PIPE UNDERDRAIN SHALL BE SOLID WALL MATERIAL.
  - PIPE UNDERDRAIN MAY BE CONSTRUCTED USING THE DIRECTION BORING METHOD IN ACCORDANCE WITH SPECIFICATION "UTILITY HORIZONTAL DIRECTIONAL DRILLING".
  - DRAINAGE STRUCTURE TAPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 403.
  - SEWER TAPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 402.
- PAVEMENTS SHOWN TO BE REMOVED SHALL BE SAWCUT AT THE EDGES. SAWING SHALL BE IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 402.1.
  - HOT MIX ASPHALT (HMA) - SECTION 501 AND STANDARD PROVISIONS FOR LOCAL AGENCY PROJECTS, MIXTURE 4EML.
  - AGGREGATE BASE - SECTION 302, 21AA GRADATION.
  - SUBBASE - SECTION 301, MDOT CL II MATERIAL.
- FENCE REMOVAL AND DISPOSAL SHALL INCLUDE REMOVAL OF CONCRETE FENCE FOUNDATIONS AND DISPOSAL OFFSITE. ALL FENCE FABRIC SHALL BE SALVAGED, ROLLED INTO LENGTHS NOT TO EXCEED 100 FEET AND DELIVERED TO THE GRIA FACILITY AT 48TH STREET AND THORNAPPLE RIVER DRIVE.
- TEMPORARY FENCE SHALL MATCH PERMANENT FENCE EXCEPT LINE POSTS MAY BE DRIVEN (NO CONCRETE FOUNDATION).



#### PROPOSED CABLE DUCT RUN D



HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 8'



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE	DRAWN
1	ADDENDUM 1 - ADDED FENCE	JAS	7/31/25	
				DATE JULY '25
				CHECKED J.A.S.
				DATE JULY '25

**Prein & Newhof**  
Engineers-Surveyors-Environmental-Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN  
ATCT ENABLING PROJECT  
DUCT BANK (STA. 200+00 - 208+81)

PROJECT NO.  
2250489

SHEET NO.

11 OF 22

SECTION A-A

## PLAN

1 HANDHOLE DETAIL - TYPE 1

16 SCALE: NONE

## NOTES

PAY ITEM XXXX, COMMUNICATIONS HANDHOLE, 4'X4', SHALL CONSIST OF FURNISHING AND INSTALLING 4' SQUARE BY 4' DEEP COMMUNICATIONS HANDHOLES AT THE LOCATIONS DEPICTED IN THE PLANS. CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPEC. L-115, L-110, OTHER SPECS AS APPROPRIATE AND THE SPECS AND DETAILS CONTAINED IN THESE DRAWINGS.

1. ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
2. REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60 REBAR.
3. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS.
4. STANDARD STRUCTURAL DESIGN BASED ON AASHTO HS20 WHEEL LOADING.
5. USE 1" DIAM. CS-102 BUTYL ROPE MASTIC FOR PLACEMENT IN THE TOP SEAM.
6. INCLUDE TWO 3/4" DIAM. PULLING IRONS ON OPPOSITE WALLS.
7. INCLUDE 8 CABLE RACKS (2 EACH WALL AT 6' SPAC. FROM ADJOINING WALL) HAVING 14 SUPPORT HOLES AND OVERALL LENGTH OF 24 IN. FASTEN TO HANDHOLE WALLS USING TWO (MIN) #4-10 HEX WASHER HEAD STAINLESS STEEL TAPCON. USE ADDITIONAL STAINLESS STEEL WASHERS AND NUTS AS REQUIRED.
8. INCLUDE CABLE ARMS, TWO PER RACK (16 TOTAL), 6.5 IN. ARM LENGTH, ADVANCE CONCRETE RACKS.
9. BASIS OF HANDHOLE DESIGN IS ADVANCE CONCRETE 4'x4'x4" STANDARD KNOCKOUT HANDHOLE. NOTE - KNOCKOUT SITE HAS BEEN MODIFIED.
10. BASIS OF DESIGN FOR FRAME AND COVER IS EJIW ERGO XL 30" CLEAR OPENING, PRODUCT NO. 414210280L, DUAL HINGED, HEAVY DUTY DESIGN LOAD, 35" CLEAR OPENING, 32" DIAMETER COVER, 4-1/2" THICK, STAINLESS STEEL, MECHANICAL STRUT, WATER RESISTANT GASKET.
11. EACH MULTISTRAND FIBER CABLE PASSING THROUGH THE HANDHOLE SHALL BE TAGGED WITH AN ENGRAVED 3-PLY PLASTIC TAG, MINIMUM 2'x2", WITH 1/2" LETTERING IDENTIFYING CIRCUIT CABLE AS "GFA ALCONS, PHONE & EMERGENCY PHONE".
12. EACH FIBER CABLE SHALL HAVE A 6' COIL OF CABLE FASTENED TO ONE CABLE ARM.

#### METHOD OF MEASUREMENT AND BASIS OF PAYMENT

COMMUNICATIONS HANDHOLES SHALL BE MEASURED ON A PER EACH BASIS. PAYMENT SHALL INCLUDE FURNISHING AND INSTALLING EACH HANDHOLE, INCLUDING STRUCTURE, FRAME AND COVER, INTERIOR HARDWARE, ALL MISCELLANEOUS MATERIAL, ALL EXCAVATION, BACKFILL, SITE FINISHING, AND ALL LABOR, TOOLS, AND EQUIPMENT TO COMPLETE THE INSTALLATION.

XXXX, COMMUNICATIONS HANDHOLE, 4'X4'X4' . . . . . EA

**SECTION A-A**

## PLAN

2 HANDHOLE DETAIL - TYPE 2

16 SCALE: NONE

## NOTES

FOR ITEM XXXX, COMMUNICATIONS HANDHOLES, 5'X5'X0', SHALL CONSIST OF FURNISHING AND INSTALLING 5' SQUARE BY 7' DEEP COMMUNICATIONS HANDHOLES AT THE LOCATIONS DEPICTED IN THE PLANS. CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPEC. L-115, L-110, OTHER SPECS AS APPROPRIATE AND THE SPECS AND DETAILS CONTAINED IN THESE DRAWINGS.

1. ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI.
2. REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60 REBAR.
3. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS.
4. STANDARD STRUCTURAL DESIGN BASED ON AASHTO HS20 WHEEL LOADING.
5. USE 1" DIAM. CS-102 BUTYL ROPE MASTIC FOR PLACEMENT IN THE TOP SEAM.
6. INCLUDE TWO 3/4" DIAM. PULLING IRONS ON OPPOSITE WALLS.
7. INCLUDE 8 CABLE RACKS (2 EACH WALL AT 6' IN. FROM ADJOINING WALL) HAVING 14 SUPPORT HOLES AND OVERALL LENGTH OF 24 IN. FASTEN TO HANDHOLE WALLS USING TWO (MIN) #10-11 HEX WASHNER HEAD STAINLESS STEEL TAPCON. USE ADDITIONAL 1/2" DIAM. WIPER IRON TO REMOVE EXCESS MORTAR FROM HANDHOLE.
8. INCLUDE CABLE ARMS, TWO PER RACK (16 TOTAL), 6.5 IN. ARM LENGTH, ADVANCE CONCRETE RADII.
9. BASIS OF HANDHOLE DESIGN IS ADVANCE CONCRETE 5'5"x6" STANDARD KNOCKOUT HANDHOLE. NOTE - KNOCKOUT SIZE HAS BEEN MODIFIED.
10. BASIS OF DESIGN FOR FRAME AND COVER IS ELIJAH EROG SL ASSEMBLY, PRODUCT NO. 41420280L, DUAL HINGED, HEAVY DUTY CONCRETE LOG, 30" CLEAR OPENING, 32" DIAMETER COILS @ 1/2" FRAME, STAINLESS STEEL MECHANICAL JOINT, WATER RESISTANT CASSET.
11. EACH MULTISTRAND FIBRE CABLE PASSING THROUGH THE HANDHOLE SHALL BE TAGGED WITH AN ENGRAVED 3-PLY PLASTIC TAG, MINIMUM 2'X2", WITH 1/2" LETTERING IDENTIFYING CIRCUIT CABLE AS "GRTA ALOMS, PHONE & EMERGENCY PHONE".
12. EACH CIRCUIT CABLE SHALL HAVE A 6' COIL OF CABLE FASTENED TO ONE CABLE ARM.

#### METHOD OF MEASUREMENT AND BASIS OF PAYMENT

COMMUNICATIONS HANDHOLES SHALL BE MEASURED ON A PER EACH BASIS. PAYMENT SHALL INCLUDE FURNISHING AND INSTALLING EACH HANDHOLE, INCLUDING STRUCTURE, FRAME AND COVER, INTERIOR HARDWARE, ALL MISCELLANEOUS MATERIAL, ALL EXCAVATION, BACKFILL, SITE FINISHING, AND ALL LABOR, TOOLS, AND EQUIPMENT TO COMPLETE THE INSTALLATION.

XXXX, COMMUNICATIONS HANDHOLE, 5'X5'X7' . . . . . EA

### 4 BANK 4" CONCRETE ENCASED DUCT BANK DETAIL (FAA ONLY)

SCALE : NONE

4 BANK 4" DUCT - BORE  
AND JACK (FAA ONLY)

SCALE : NONE

4 BANK 4" DUCT - BORE  
AND JACK (JOINT USE)

SCALE : NONE

### SINGLE DUCT DETAIL

SCALE : NONE

## 6 BANK 4" CONCRETE ENCASED DUCT BANK DETAIL

SCALE : NONE

### 4 BANK 4" CONCRETE ENCASED DUCT BANK DETAIL (JOINT USE)

SCALE : NONE

**SECTION A-A**

## 4 BANK 4" CONCRETE ENCASED DUCT CONNECTION TO BORE AND JACK

SCALE : NONE

[illegible]

**Prein & Newhof**  
Engineers • Surveyors • Environmental • Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN

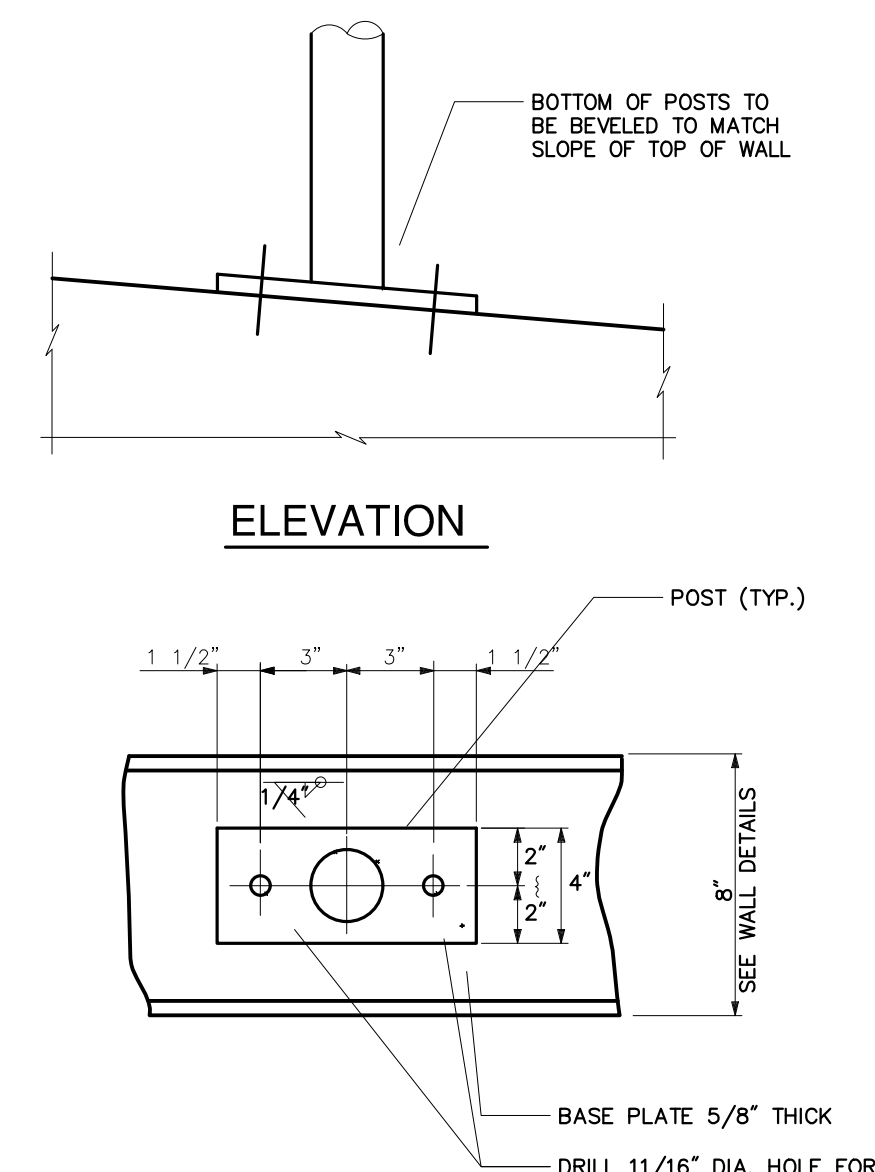
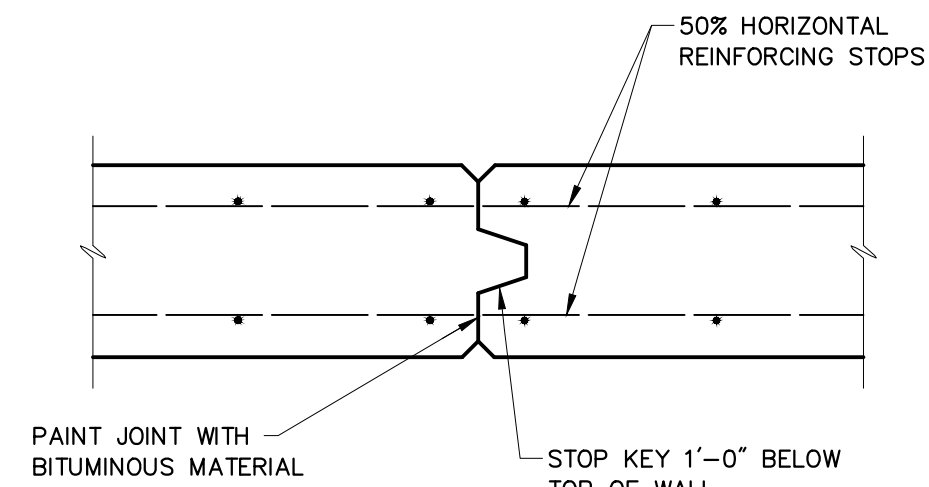
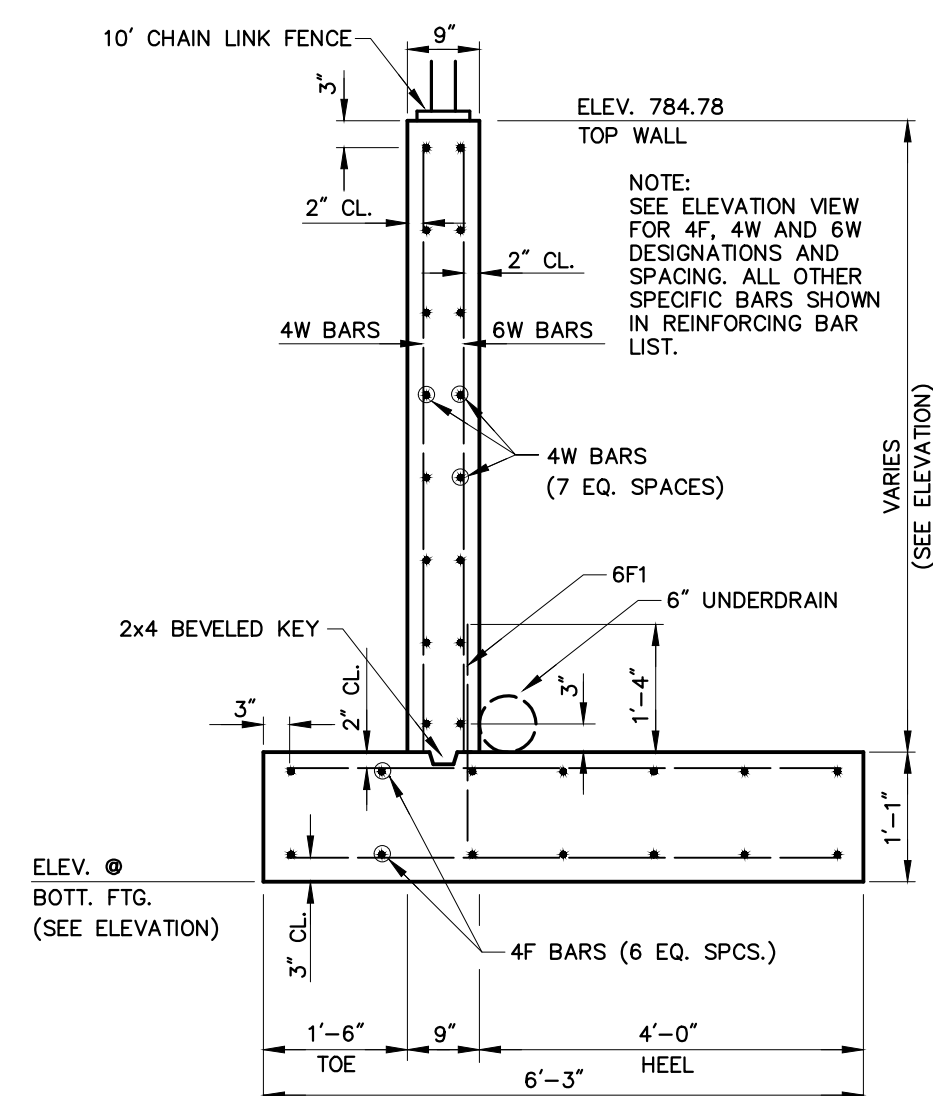
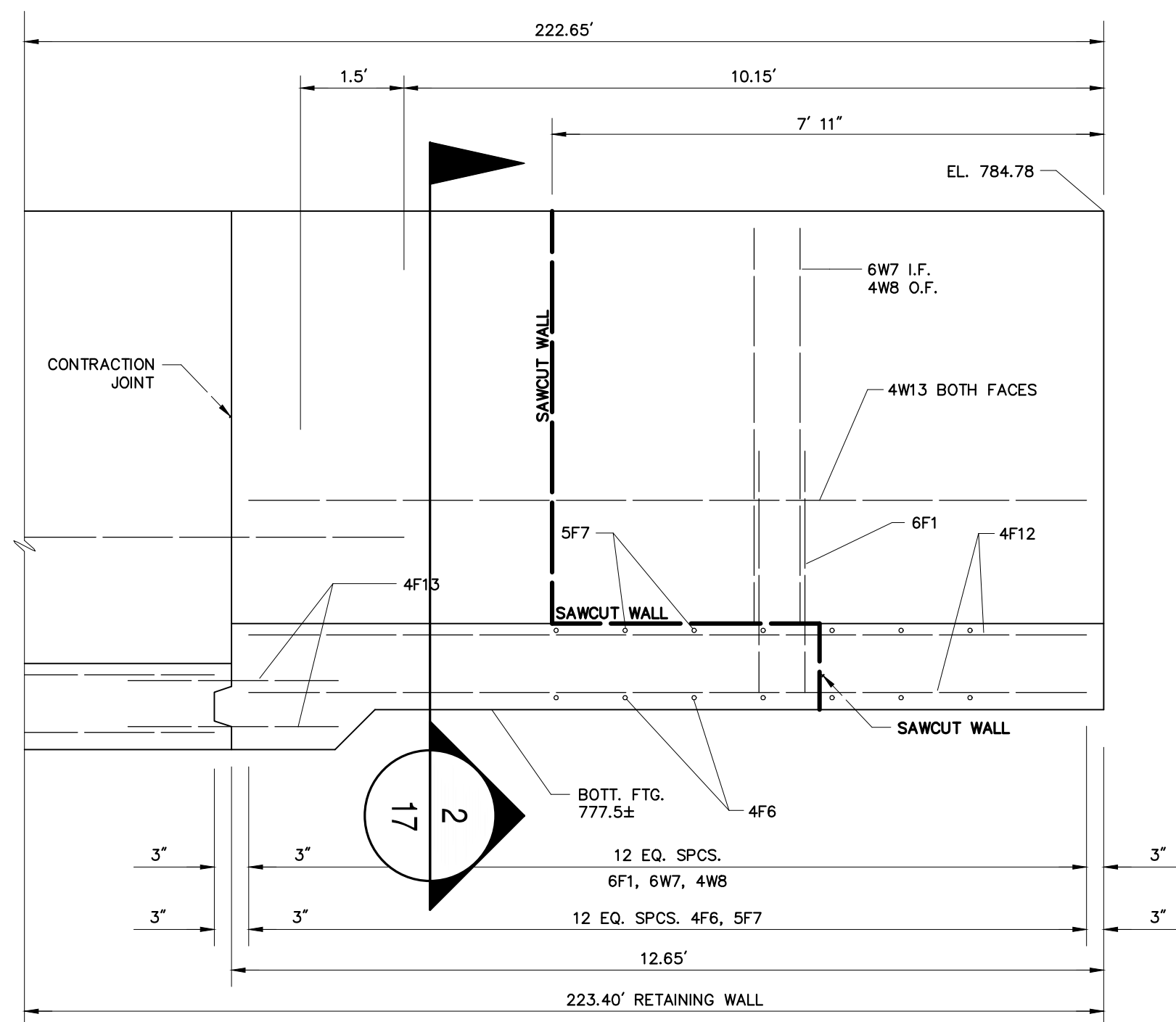
ATCT ENABLING PROJECT

## MANHOLE, HANDHOLE & DUCT DETAILS

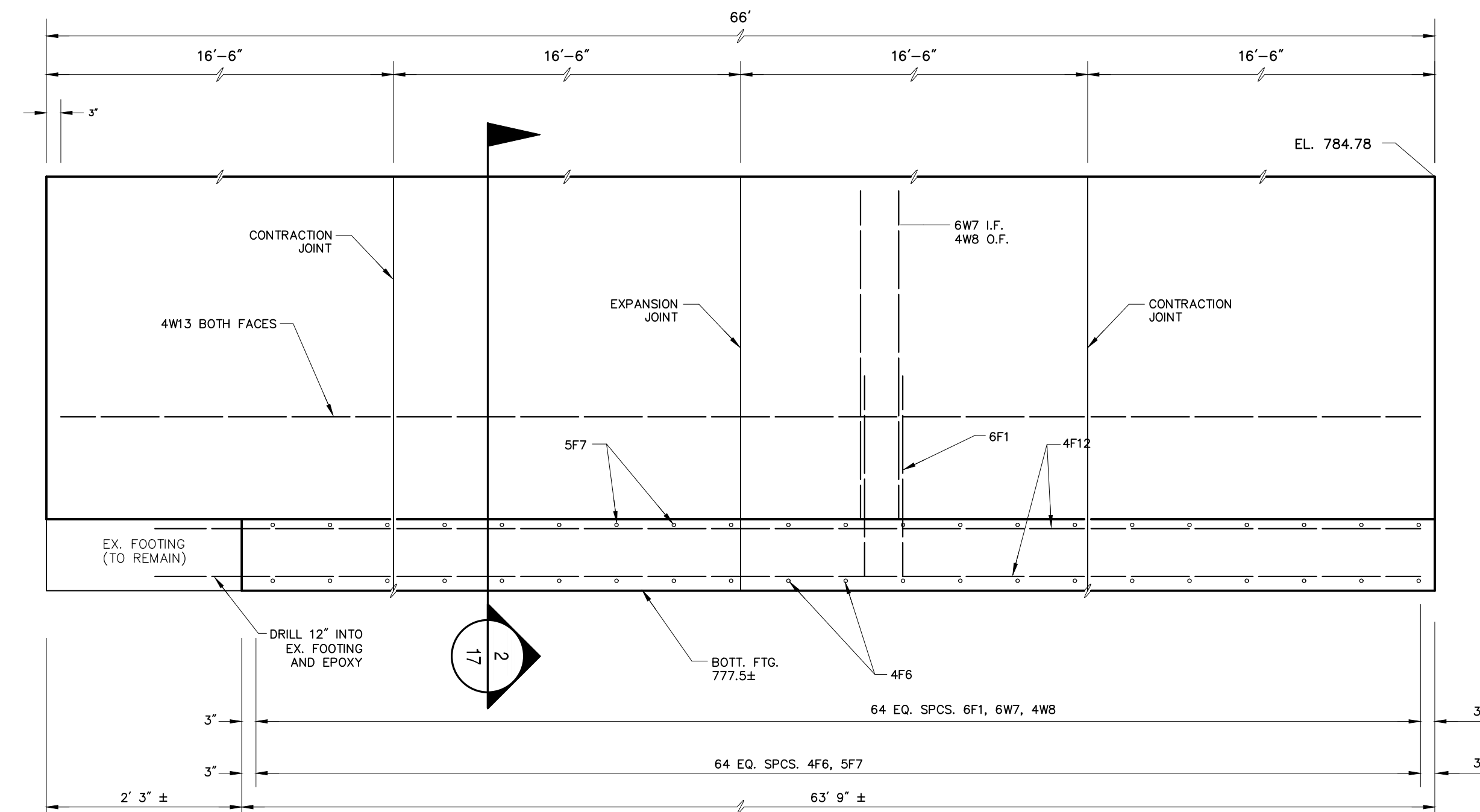
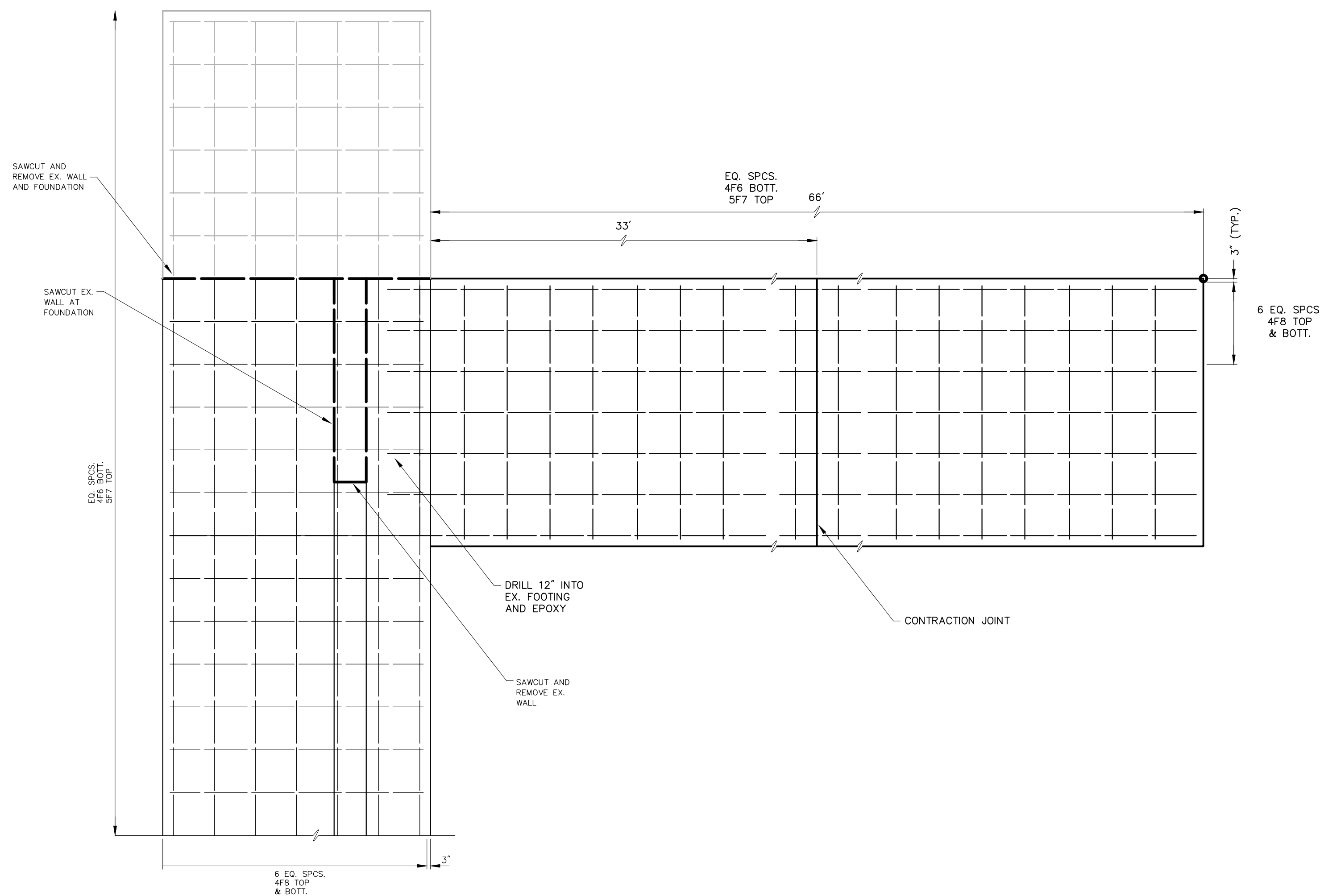
PROJECT NO.  
2250489

SHEET NO.

16 OF 22



REINFORCING BAR LIST		
MARK	LOCATION	SHAPE
6F1	FTG. TO WALL DOWEL	STR.
4F2	FTG. TRANSV. BOT.	STR.
5F3	FTG. TRANSV. TOP	STR.
4F4	FTG. TRANSV. BOT.	STR.
5F5	FTG. TRANSV. TOP	STR.
4F6	FTG. TRANSV. BOT.	STR.
5F7	FTG. TRANSV. TOP	STR.
4F8	FTG. LONGT. TOP & BOT.	STR.
4F9	FTG. LONGT. TOP & BOT.	STR.
4F10	FTG. LONGT. TOP & BOT.	STR.
4F11	FTG. LONGT. TOP & BOT.	STR.
4F12	FTG. LONGT. TOP & BOT.	STR.
4F13	FTG. JOINT DOWELS	STR.
6W1	WALL VERT. IF.	STR.
4W2	WALL VERT. O.F.	STR.
6W3	WALL VERT. IF.	STR.
4W4	WALL VERT. O.F.	STR.
6W5	WALL VERT. IF.	STR.
4W6	WALL VERT. O.F.	STR.
6W7	WALL VERT. IF.	STR.
4W8	WALL VERT. O.F.	STR.
4W9	WALL HORIZ.	STR.
4W10	WALL HORIZ.	STR.
4W11	WALL HORIZ.	STR.
4W12	WALL HORIZ.	STR.
4W13	WALL HORIZ.	STR.



NO.	R E V I S I O N S	BY	DATE	DRAWN
				DATE JULY '25
				CHECKED J.A.S.
				DATE JULY '25

**Prein & Newhof**  
Engineers • Surveyors • Environmental • Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN

ATCT ENABLING PROJECT

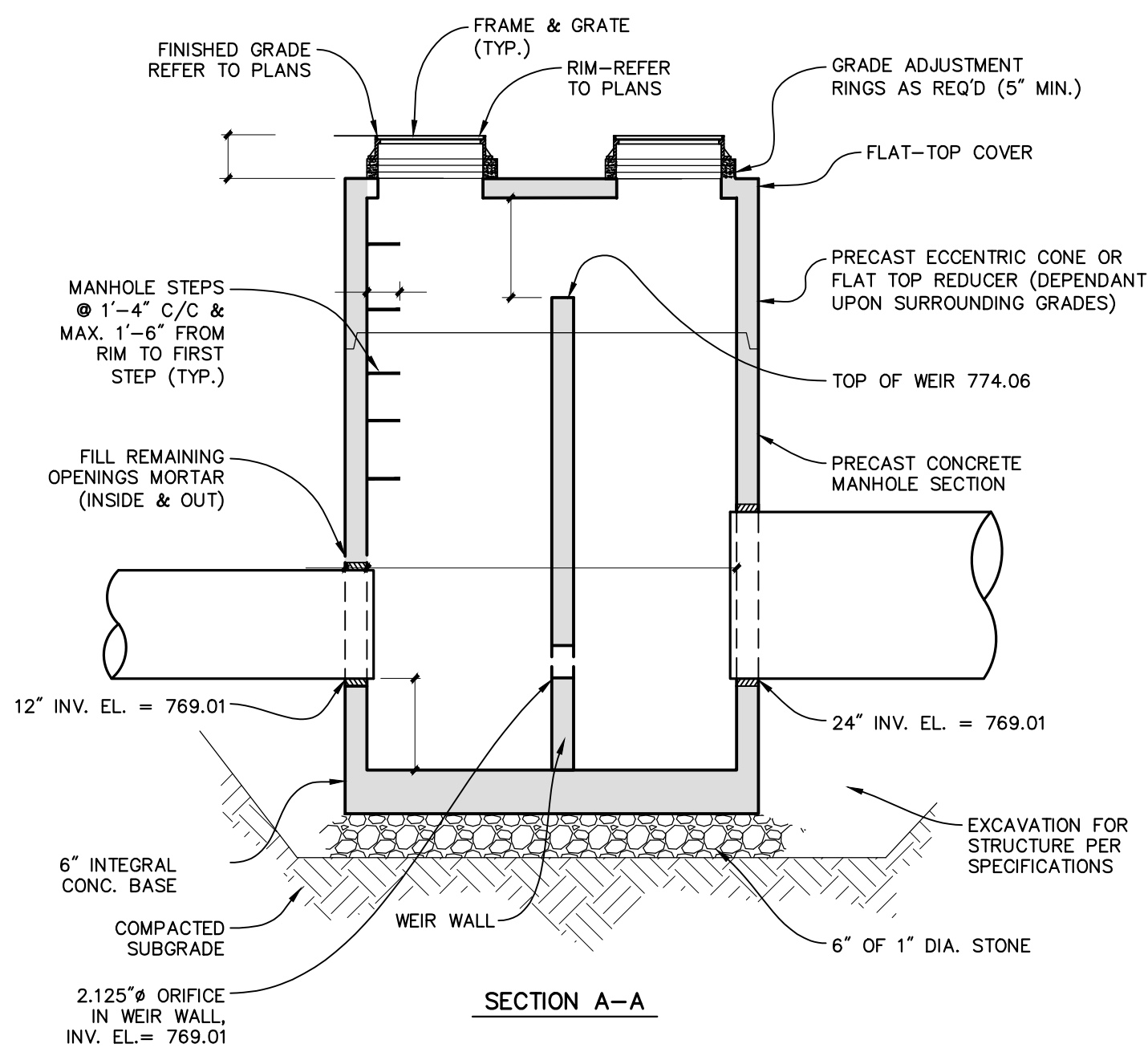
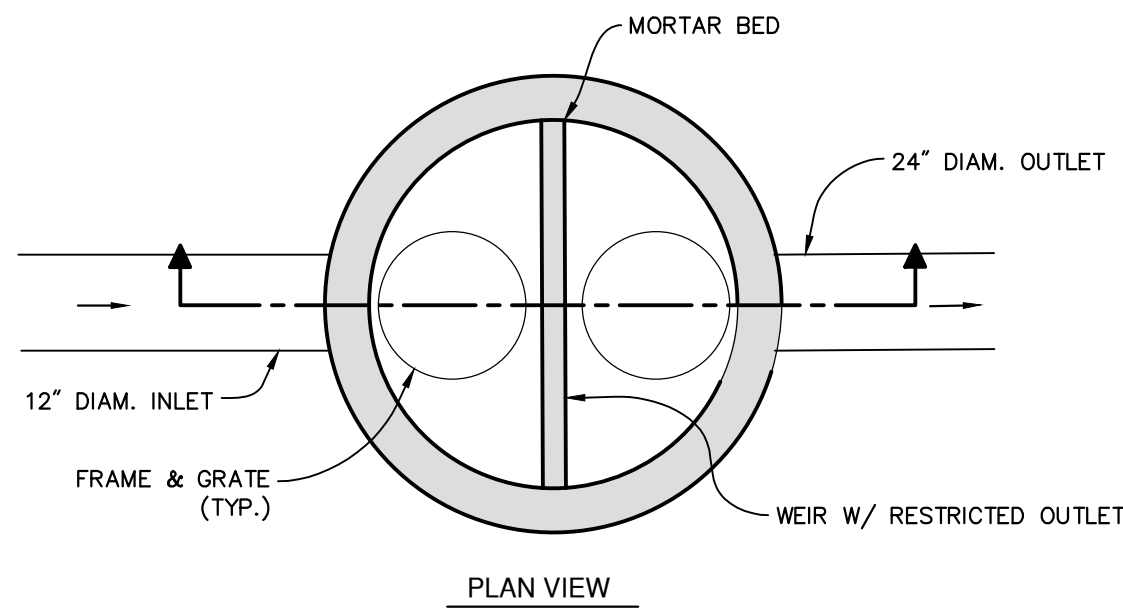
**RETAINING WALL DETAILS**

PROJECT NO.  
2250489

SHEET NO.

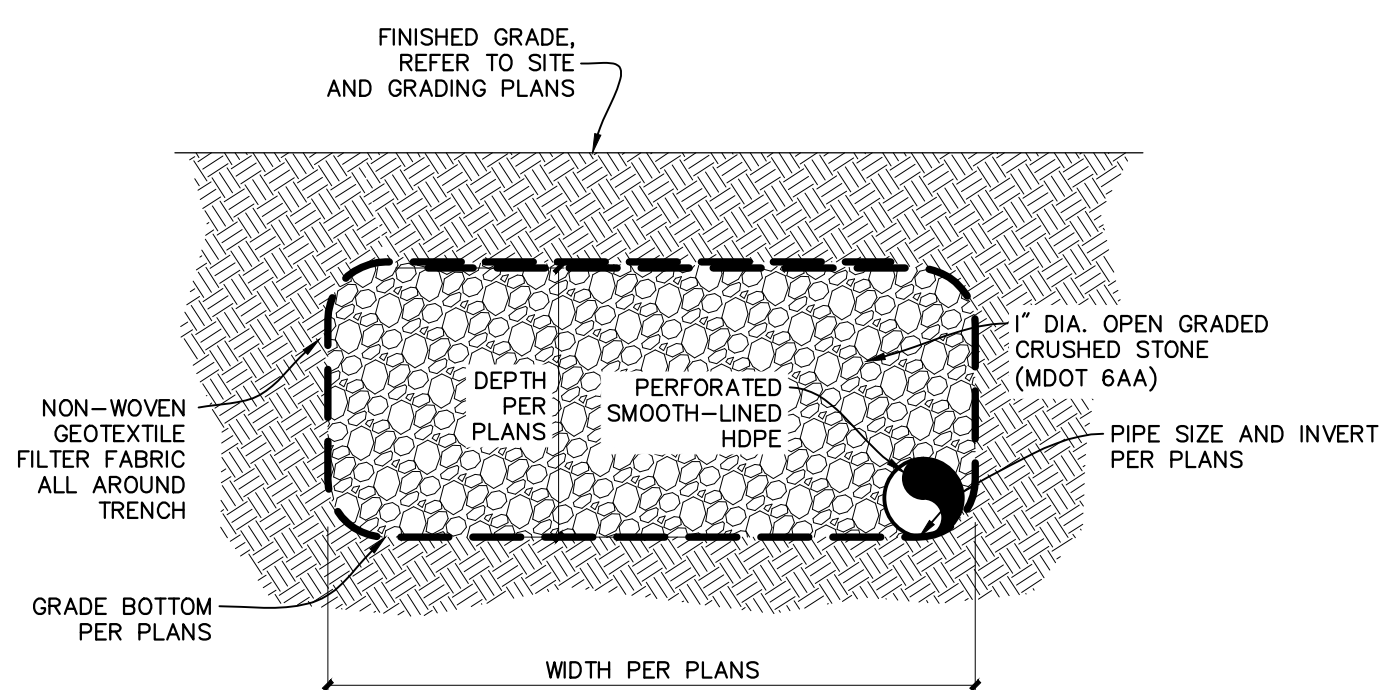
17 OF 22





OUTLET CONTROL STRUCTURE

SCALE : NONE

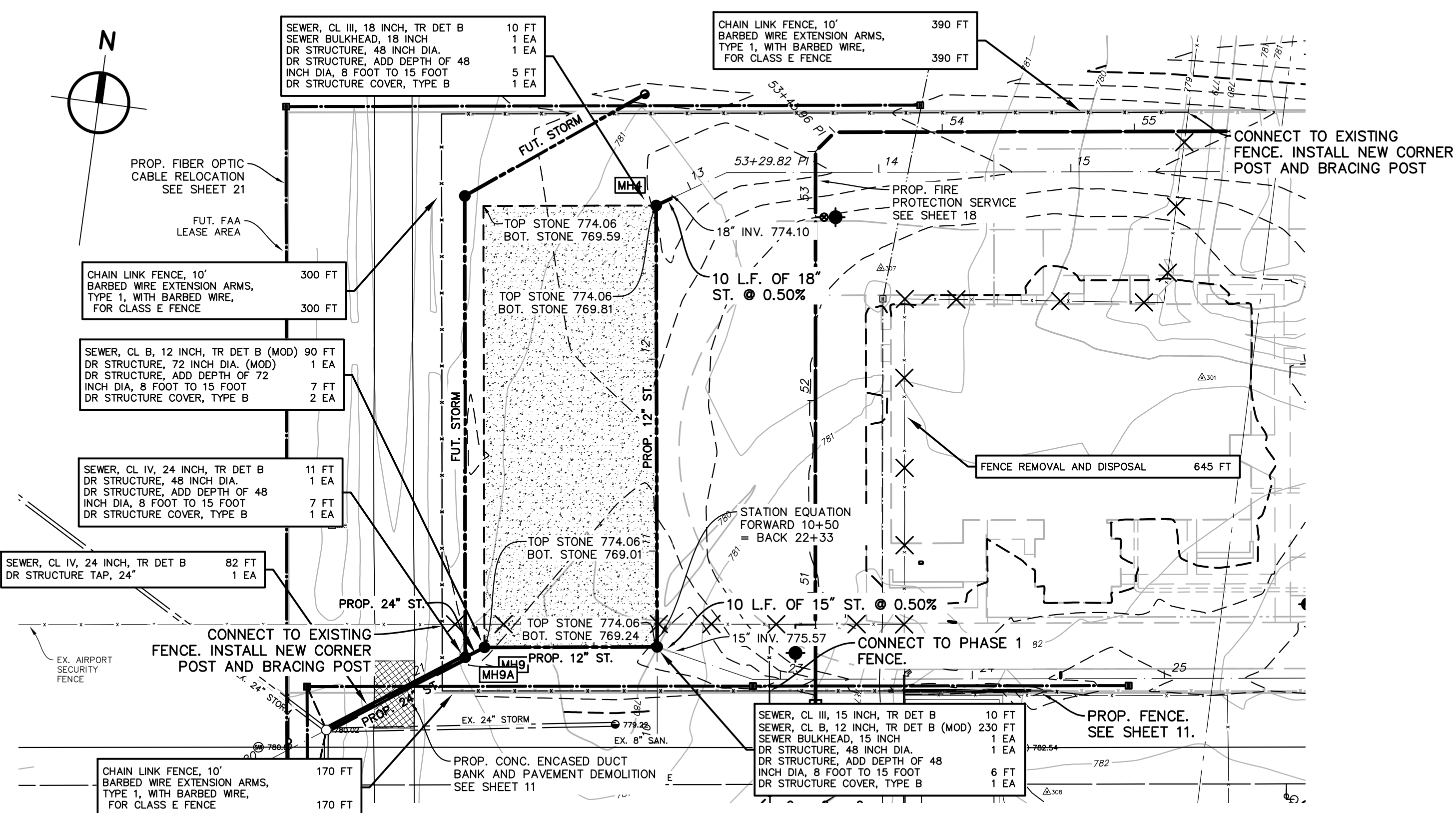


UNDERGROUND DETENTION SECTION

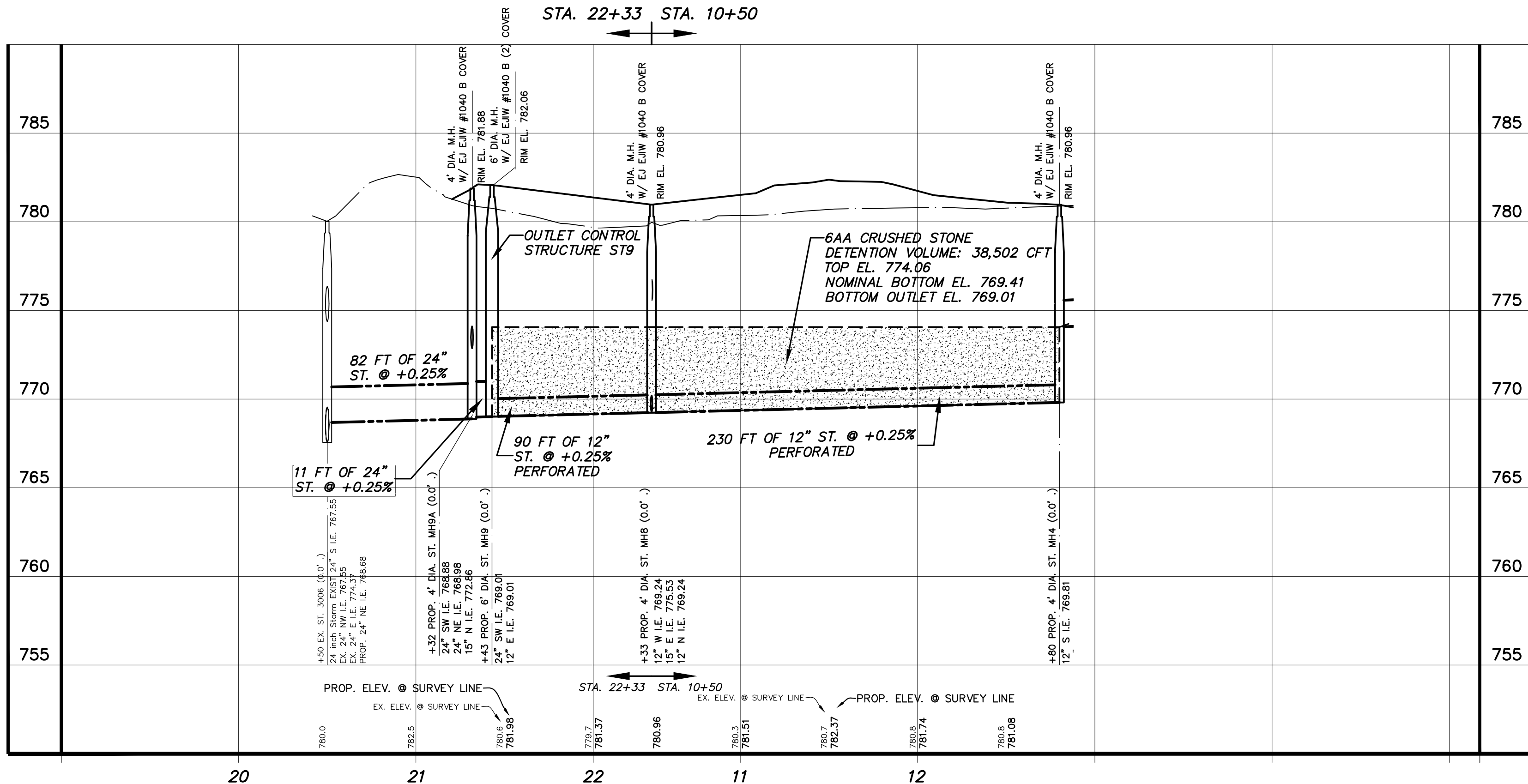
SCALE : NONE

NOTES

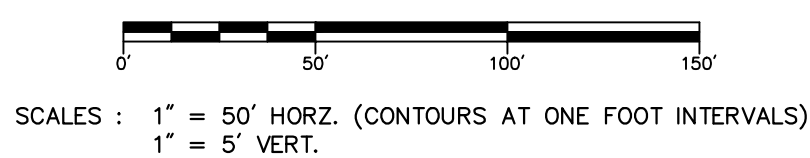
1. NO WORK MAY BE STARTED ON THE UNDERGROUND DETENTION BASIN UNTIL ALL WORK HAS BEEN COMPLETED ON THE AIRPORT FIBER OPTIC CABLE PLAN (SHEET 21).
2. EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN. SOIL GENERATED FROM THE EXCAVATION OF THE UNDERGROUND DETENTION BASIN SHALL BE PLACED ON TOP OF THE GEOTEXTILE COVERED, CRUSHED STONE MATERIAL AND GRADED TO THE PROPOSED ELEVATIONS SHOWN. EXCESS SOIL FROM TRENCHING OPERATIONS MAY BE PLACED ON THE EASTERLY SIDE OF THE DETENTION BASIN AND GRADED TO DRAIN NORTH, EAST AND SOUTH.
3. THE UNDERGROUND DETENTION BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN AND THE DETAIL SHOWN ON THIS DRAWING. A GEOTEXTILE FABRIC SEPARATOR SHALL BE PLACED ALONG ALL SIDES. FABRIC SHALL HAVE A MINIMUM 12 INCH OVERLAP AND BE SOWN OR GLUED ALONG THE LENGTH OF ALL SEAMS. ALL COST TO CONSTRUCT FABRIC LINER SHALL BE INCLUDED INTO THE PER SQUARE YARD UNIT PRICE FOR "GEOTEXTILE, SEPARATOR".
4. TOPSOIL SHALL BE REMOVED PRIOR TO PLACING EMBANKMENT MATERIALS. TOPSOIL SHALL BE EVENLY SPREAD OVER ALL DISTURBED AREAS. TOPSOIL SHALL BE FERTILIZED (CLASS B), SEED (MIXTURE THV) AND MULCHED WITH WOOD FIBER MULCH.
5. STORM SEWER AND AGGREGATES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT AS MODIFIED HEREIN.
6. THE 72 INCH DIA. OUTLET CONTROL SHALL BE CONSTRUCTED IN ACCORDANCE WITH MDOT STANDARDS AND MODIFIED AS SHOWN IN THE OUTLET CONTROL STRUCTURE. ALL COST TO CONSTRUCT THE WEIR, OUTLET ORIFICE AND ALL OTHER DETAILS SHALL BE INCLUDED INTO THE PER EACH UNIT PRICE FOR "DR STRUCTURE, 72 INCH DIA. (MOD)".
7. GEOTEXTILE WRAPPED, PERFORATED PIPE SHALL CONFORM TO THE REQUIREMENTS OF MDOT STANDARD SPECIFICATIONS SECTION 909 FOR PLASTIC PIPE. JOINTS SHALL BE INTEGRAL BELL & SPIGOT WITH GASKETS. A PROTECTIVE REMOVABLE SHRINK WRAP MATERIAL SHALL BE PLACED ON ALL EXPOSED GASKETS AT THE FACTORY. GASKETS AND SLEEVES SHALL BE LUBRICATED PRIOR TO INSERTION AS REQUIRED BY THE PIPE MANUFACTURER. ALL COST TO FURNISH AND INSTALL PERFORATED PIPE AS MODIFIED HEREIN SHALL BE INCLUDED INTO THE PER FOOT UNTIL PRICE FOR "SEWER, CL B, 12 INCH, TR DET B (MOD)".
8. ALL PIPE JOINTS SHALL BE SEALED WITH PREMIUM O-RING JOINTS.
9. FENCE REMOVAL AND DISPOSAL SHALL INCLUDE REMOVAL OF CONCRETE FENCE FOUNDATIONS AND DISPOSAL OFFSITE. ALL FENCE FABRIC SHALL BE SALVAGED, ROLLED INTO LENGTHS NOT TO EXCEED 100 FEET AND DELIVERED TO THE GRIA FACILITY AT 48TH STREET AND THORNAPPLE RIVER DRIVE.



UNDERGROUND DETENTION BASIN



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



NO.	REVISIONS	BY	DATE	DRAWN
1	ADDENDUM 1 - ADDED FENCE	JAS	7/31/25	

DATE	JULY '25
CHECKED	J.A.S.
DATE	JULY '25

**Prein&Newhof**  
Engineers • Surveyors • Environmental • Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN  
ATCT ENABLING PROJECT  
UNDERGROUND DETENTION BASIN

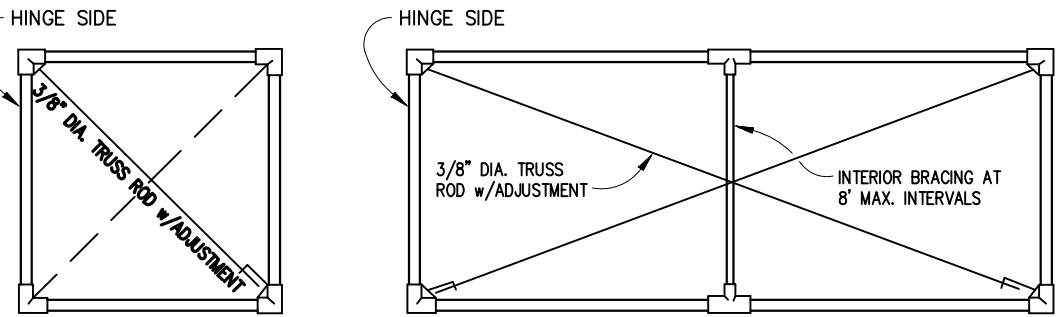
PROJECT NO.  
2250489  
SHEET NO.  
22 OF 22

T:\UNL3D PROJECTS\2025\2250488\_0904A ATCT ENABLING\4-PROJ\2250488\_23 DET FENCE.DWG - JSTROD - Jul, 31, 2025 - 11:11pm - Prein&Newhof

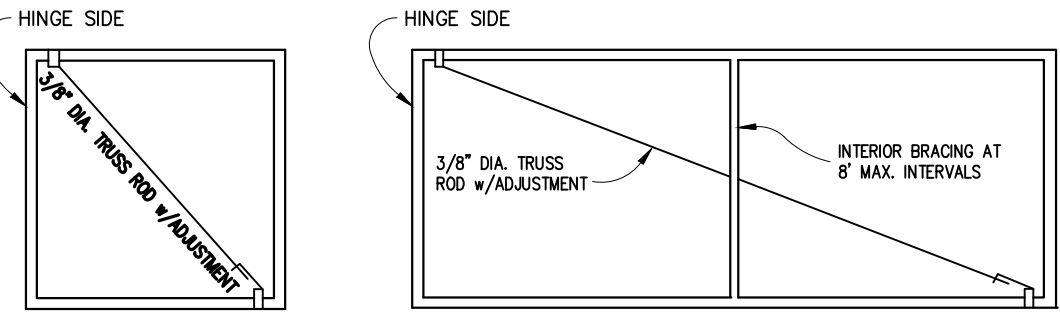
GATE FRAME AND GATE POST, DIMENSIONS AND WEIGHTS					
DESCRIPTION	SECTION	STEEL FRAMES		ALUMINUM FRAME *	
		OUTSIDE DIMENSION (INCHES)	WEIGHT (Lbs./Ft.)	OUTSIDE DIMENSION (INCHES)	WEIGHT (Lbs./Ft.)
FABRIC HEIGHT 6' AND LESS, AND LEAF WIDTH 8' OR LESS	○	1.66	2.27	1.90	0.94
	□	1.50	1.90	2.00	0.94
FABRIC HEIGHT OVER 6' AND/OR ALL LEAF WIDTHS OVER 8'	○	1.90	2.72	1.90	0.94
	□	2.00	2.60	2.00	0.94
INTERIOR BRACING	○	1.66	2.27	1.90	0.94
	□	1.50	1.90	2.00	0.94
GATE POSTS GATE LEAF WIDTH 6' AND LESS	○	2.875	5.79	2.875	2.00
	○	2.50	5.70	3.00	2.00
	ROLL FORM	3.5 x 3.5	5.10	-----	-----
GATE LEAF WIDTH OVER 6' THRU 13' GATE LEAF WIDTH OVER 13' THRU 18' GATE LEAF WIDTH OVER 18'	○	4.00	9.11	4.00	3.00
	○	6.625	18.97	6.625	7.00
	○	8.625	28.55	8.625	10.50

\* SEE F.A.A. SPEC. F-162 FOR DETAILS. TO BE USED ONLY WITH ALUMINUM ALLOY FENCE.

WHEN BARBED WIRE TOP IS SPECIFIED, THE GATE FRAME END MEMBERS SHALL BE EXTENDED 12" ABOVE THE TOP HORIZONTAL SECTION OF THE GATE FRAME. THREE STRANDS OF BARBED WIRE, UNIFORMLY SPACED, SHALL BE ATTACHED BY BANDS, CLIPS OR EYEBOLTS.

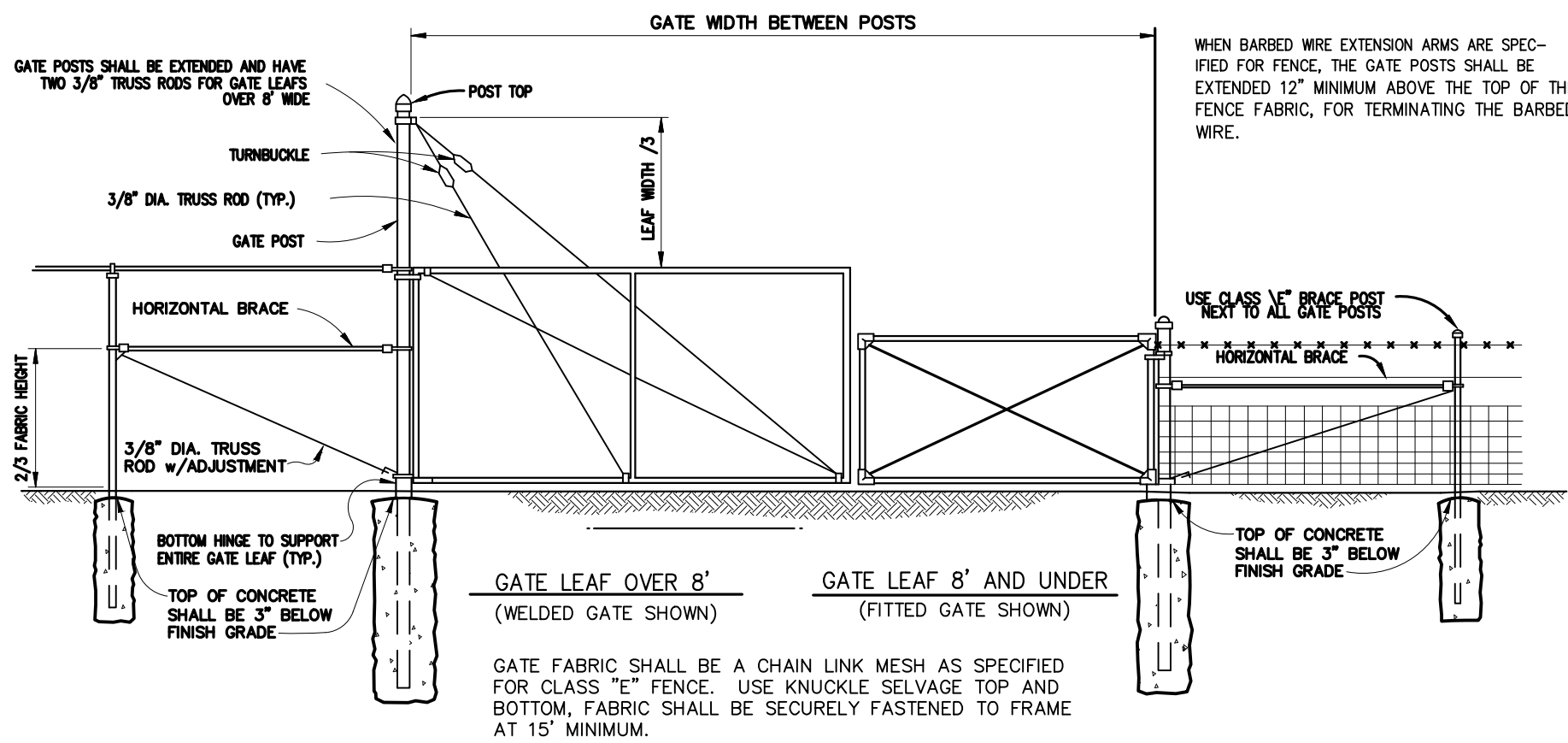


#### FITTED CONNECTIONS



#### WELDED CONNECTIONS

### GATE FRAMES



#### TYPICAL GATE INSTALLATIONS

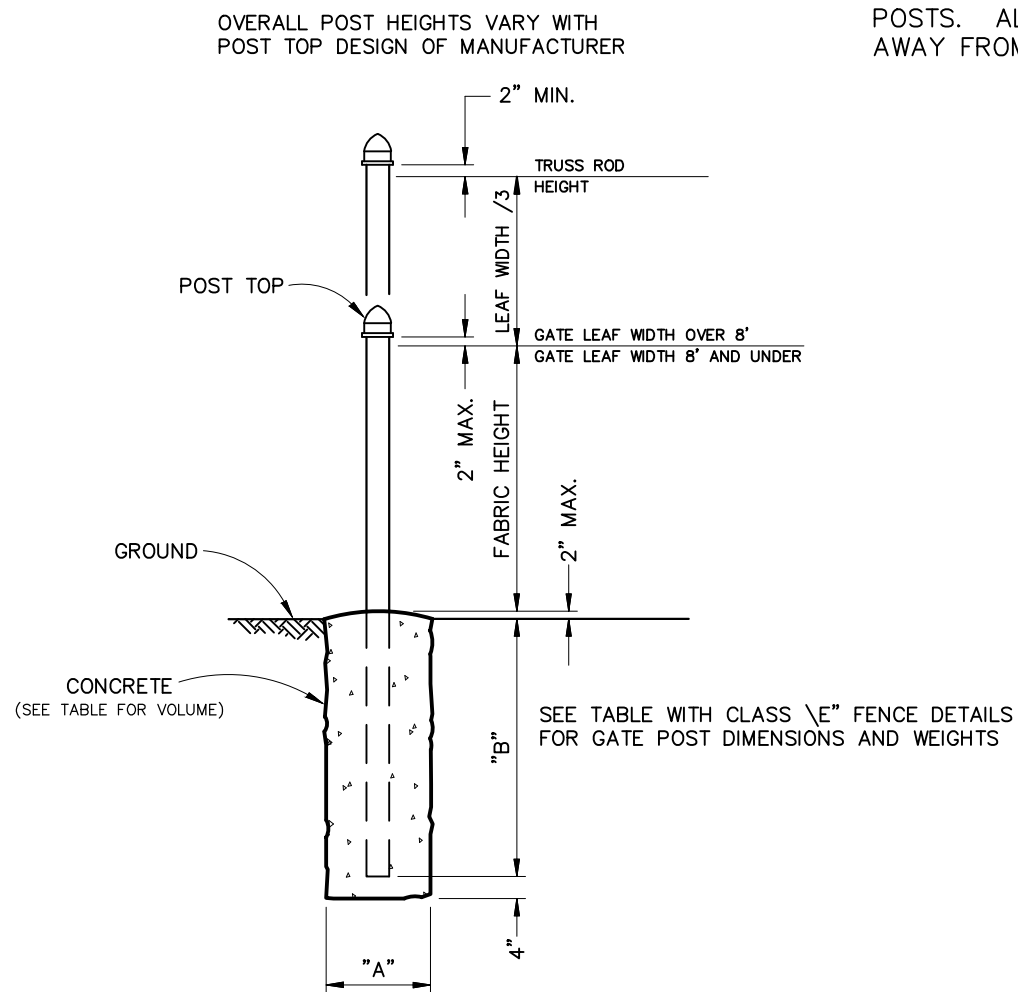
##### GATE NOTES :

GATE HINGES AND FITTINGS SHALL BE HEAVY PATTERN AND EASILY OPERATED BY ONE PERSON. BOTTOM HINGE SHALL BE BALL AND SOCKET, OR EQUAL, CAPABLE OF SUPPORTING ENTIRE WEIGHT OF GATE LEAF. GATES SHALL HAVE A SELF LATCHING DEVICE WITH PROVISIONS FOR LOCKING. GATE KEEPERS SHALL BE PROVIDED FOR ANY LEAF MORE THAN 5' WIDE TO HOLD IT IN AN OPEN POSITION. DOUBLE GATES WITH LEAFS MORE THAN 4' WIDE SHALL BE PROVIDED WITH LOCKABLE CANE BOLTS AND SOCKETS. WELDS ON STEEL FRAMES SHALL BE GRIND SMOOTH, THOROUGHLY CLEANED AND COVERED WITH ALUMINUM OR ZINC BASE PAINT. GATES, FITTINGS AND INSTALLATION SHALL MEET SPECIFICATION F-162.

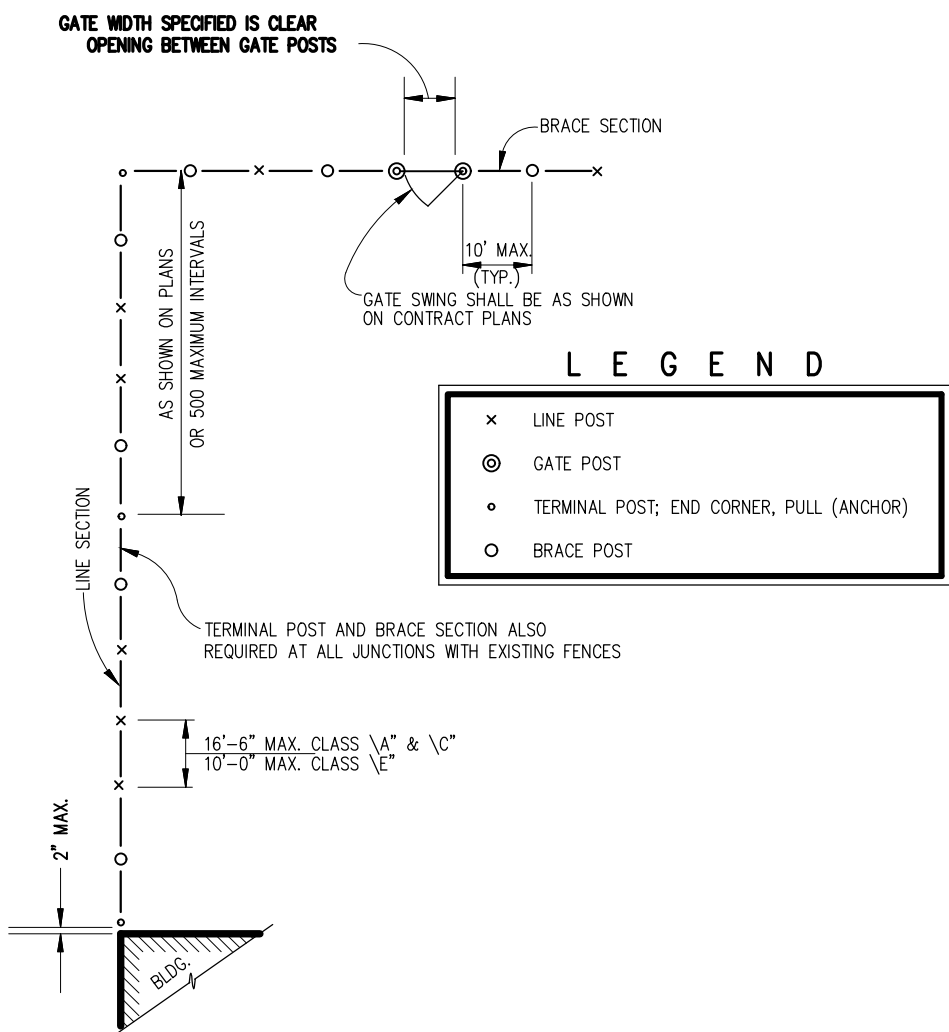
### GATE DETAILS & SPECIFICATIONS

◀CLASS E, FAA SPEC, F-162▶

DIMENSION	GATE WIDTH (ONE LEAF)			
	6' AND LESS	OVER 6' THRU 10'	OVER 10' THRU 15'	OVER 15' THRU 18'
A	12"	16"	20"	24"
B	48"	56"	62"	68"
CYD. CONC.	0.13	0.28	0.45	0.70



### GATE POST & CONCRETE BASE



### TYPICAL FENCE LAYOUT

(ALL CLASSES)

### GENERAL NOTES :

##### DIMENSIONS :

ALL DIMENSIONS, SIZES, GAUGES, WEIGHTS OR THICKNESSES SHOWN ARE THE MINIMUM ACCEPTABLE, UNLESS OTHERWISE INDICATED.

##### SPECIFICATIONS :

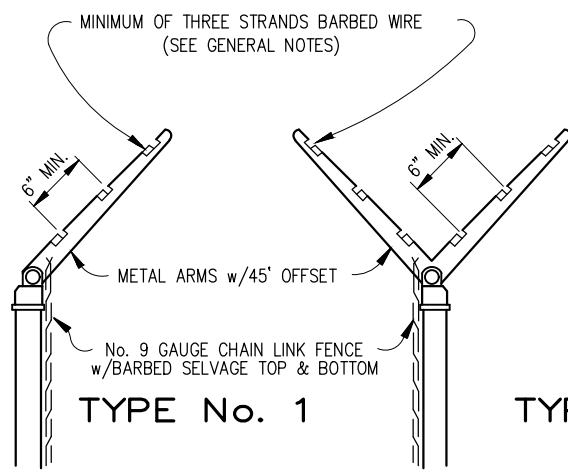
THE FEDERAL, A.S.T.M. AND A.A.S.H.T.O. SPECIFICATIONS SHOWN SHALL BE INTERPRETED TO MEAN THE LATEST ISSUE OR AMENDMENT OF SUCH SPECIFICATION, IN EFFECT ON THE DATE OF THE PLAN APPROVAL. SPECIFICATIONS REFERRED TO ON THIS STANDARD PLAN ARE A PART OF THE CONTRACT DOCUMENTS. MATERIALS AND CONSTRUCTION METHODS NOT DETAILED HEREON, SHALL BE IN ACCORDANCE WITH THE SPECIFICATION LISTED FOR EACH CLASS OF FENCE, UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS.

##### MEASUREMENT :

FENCES ARE MEASURED IN PLACE, FROM OUTSIDE TO OUTSIDE OF END, CORNER OR GATE POSTS. MEASUREMENT DOES NOT INCLUDE GATE OPENINGS. GATES ARE MEASURED IN UNITS FOR EACH TYPE AND SIZE INSTALLED.

##### FABRIC INSTALLATION :

WIRE OR FABRIC ON BOUNDARY AND SECURITY FENCES SHALL BE ON THE SIDE OF POSTS AWAY FROM AIRPORT PROPERTY. FENCES BETWEEN TERMINAL BUILDINGS AND APRONS, OR ADJACENT TO SIDEWALKS, SHALL HAVE FABRIC ON THE BUILDING OR SIDEWALK SIDE OF POSTS. ALL OTHER BUILDING AREA FENCES SHALL HAVE FABRIC ON THE SIDE OF POSTS AWAY FROM BUILDINGS OR INSTALLATION BEING FENCED, UNLESS OTHERWISE NOTED.



FENCE POSTS SHALL BE SET BACK SO BARBED WIRE DOES NOT EXTEND OVER PROPERTY LINES. TYPE No. 1 ARMS SHALL NOT BE INSTALLED ON SIDE AWAY FROM AIRPORT PROPERTY.

TYPE No. 1 SHALL BE INSTALLED VERTICALLY WHEN SPECIFIED.

### BARBED WIRE EXTENSION ARMS

(WHEN SPECIFIED ON CONTRACT PLANS)

#### NOTES : CLASS E FENCE

##### FABRIC :

WOVEN WITH A 9 GAUGE WIRE IN A 2 INCH MESH AND SHALL BE OF THE TYPE I, II, III OR IV (SPEC. F-162) UNLESS OTHERWISE SPECIFIED ON THE CONTRACT PLANS.

##### GATES AND GATE HARDWARE :

ALL GATES, GATE POSTS AND HARDWARE MEMBERS ADJACENT TO GATES, SHALL MEET SPECIFICATION F-162 UNLESS OTHERWISE SPECIFIED ON CONTRACT PLANS.

##### SELVAGE, RAILS & TENSION WIRES :

FENCES 60" AND LESS IN TERMINAL AREAS SHALL HAVE KNUCKLE SELVAGE AND RAILS TOP AND BOTTOM. HAZARDOUS AND SECURITY AREAS TO BE FENCED SHALL HAVE BARBED SELVAGE, TOP AND BOTTOM, WITHOUT RAILS. WHEN RAILS ARE OMITTED, NO. 7 GAUGE TENSION WIRES OF THE SAME MATERIAL AS THE FABRIC SHALL BE PROVIDED. IF RAILS AND BARBED SELVAGE ARE SPECIFIED THE BARBS SHALL EXTEND 1" ABOVE THE TOP RAIL.

##### POSTS, RAILS AND BRACES :

SEE TABLE FOR CHAIN LINK FENCES MEMBERS DIMENSIONS AND WEIGHTS.

##### FABRIC FASTENERS :

MINIMUM 3/16" x 3/4" STRETCHER BAR, Banded TO TERMINAL POSTS; OR INTEGRAL FABRIC FITTINGS ON TERMINAL POSTS. MINIMUM NO. 6 WIRE CLIPS FOR LINE POSTS AND NO. 9 WIRE CLIPS FOR BRACES, RAILS AND TENSION WIRE. ALL FASTENERS SHALL HAVE A MAXIMUM SPACING OF 14" VERTICALLY AND 24" HORIZONTALLY.

##### COATINGS :

ZINC COATING ON POSTS, RAILS, GATE FRAMES, BRACES AND STEEL FITTINGS SHALL AVERAGE 1.8 oz./s.f.. NO INDIVIDUAL SPECIMAN SHALL HAVE LESS THAN 1.6 oz./s.f..

COATINGS ON STEEL FABRIC SHALL MEET THE FOLLOWING MINIMUMS :

- TYPE-I (ZINC COATED) - CLASS II - 2.00 oz./s.f.
- TYPE-II (ALUMINUM COATED) - No. 9 Co. - 0.40 oz./s.f.
- TYPE-IV (P.V.C. COATED) - MINIMUM 0.015 INCH THICKNESS

##### FENCE HEIGHT :

THE FABRIC HEIGHT IS THE NOMINAL FENCE HEIGHT.

##### BARBED WIRE :

BARBED WIRE SHALL BE 2-STRAND TWISTED STEEL OF No. 12 1/2 MINIMUM WIRE GAUGE, WITH FOUR POINT BARBS OF No. 14 MINIMUM WIRE GAUGE, AND SHALL CONFORM TO SPECIFICATIONS.

##### CONCRETE :

CONCRETE SHALL BE PRODUCED AND PLACED IN ACCORDANCE WITH SPECIFICATION P-610. FOOTING TOPS SHALL BE 1" MINIMUM ABOVE GROUND AT THE POST, AND TROWEL FINISHED TO SLOPE AWAY FROM THE POST.

##### OPENINGS UNDER FENCE :

ANY OPENING UNDER FENCE, WHEREIN THE BOTTOM FENCE WIRE IS MORE THAN 4" ABOVE GROUND AND THE TOTAL AREA OF OPENING IS 96 SQUARE INCHES OR MORE, SHALL BE CLOSED.

OPENINGS LESS THAN 18" HIGH SHALL BE CLOSED BY INSTALLING ONE OR MORE ADDITIONAL LINE POSTS NEAR THE OPENING CENTER AND STRETCHING STRANDS OF BARBED WIRE BETWEEN THE EXTRA POSTS AT 6" MAXIMUM VERTICAL SPACING. VERTICAL STRANDS OF BARBED WIRE SHALL BE INSTALLED AT 12" MAXIMUM HORIZONTAL SPACING AND TIES TO ALL HORIZONTAL STRANDS AND THE FABRIC BOTTOM WIRE. THIS WORK SHALL BE INCIDENTAL TO FENCE INSTALLATION COSTS.

OPENINGS 18" OR MORE IN HEIGHT, OPENINGS IN HIGH SECURITY AND HAZARD AREAS, DITCHES, DRAINAGE COURSES, ETC., SHALL BE CLOSED BY METHODS DETAILED ON THE CONTRACT PLANS. PAYMENT FOR CLOSURES DETAILED ON THE PLANS SHALL BE AS NOTED ON THE CONTRACT PLANS.

##### FENCE LINE AND ALIGNMENT :

FENCE LINES SHALL BE CLEARED AND GRUBBED OF ALL OBSTRUCTIONS AS PER SPECIFICATIONS.

THE FENCE SHALL BE CONSTRUCTED VERTICAL, STRAIGHT AND TRUE TO LINE, THE LONGITUDINAL GRADIENT SHALL PARALLEL THE GENERAL SLOPE OF THE GROUND.

##### GROUND RODS :

GROUND RODS SHALL BE INSTALLED AT 500' MAXIMUM INTERVALS, AND WHERE POWER LINES PASS OVER THE FENCE. EACH SECTION OF FENCE SEPARATED BY GRASS, BUILDINGS OR OTHER OPENINGS SHALL HAVE A MINIMUM OF ONE ROD.

ADDITIONAL GROUND RODS SHALL BE INSTALLED, AS DIRECTED BY THE ENGINEER, SO THE RESISTANCE TO GROUND OF ANY FENCE SECTION WILL NOT EXCEED 25 OHMS. MEASUREMENT OF RESISTANCE SHALL BE MADE BY THE CONTRACTOR UNDER SUPERVISION OF THE ENGINEER.

GROUND RODS SHALL BE 5/8" x 8' MINIMUM SIZE, COPPER OR COPPER CLAD. GROUND CABLE SHALL BE No. 6 AWG MINIMUM, BARE STRANDED COPPER WIRE. CONNECTIONS TO FENCE AND RODS SHALL BE MADE WITH SUITABLE NONCORROSIVE METAL CLAMPS, LUGS OR CONNECTORS.

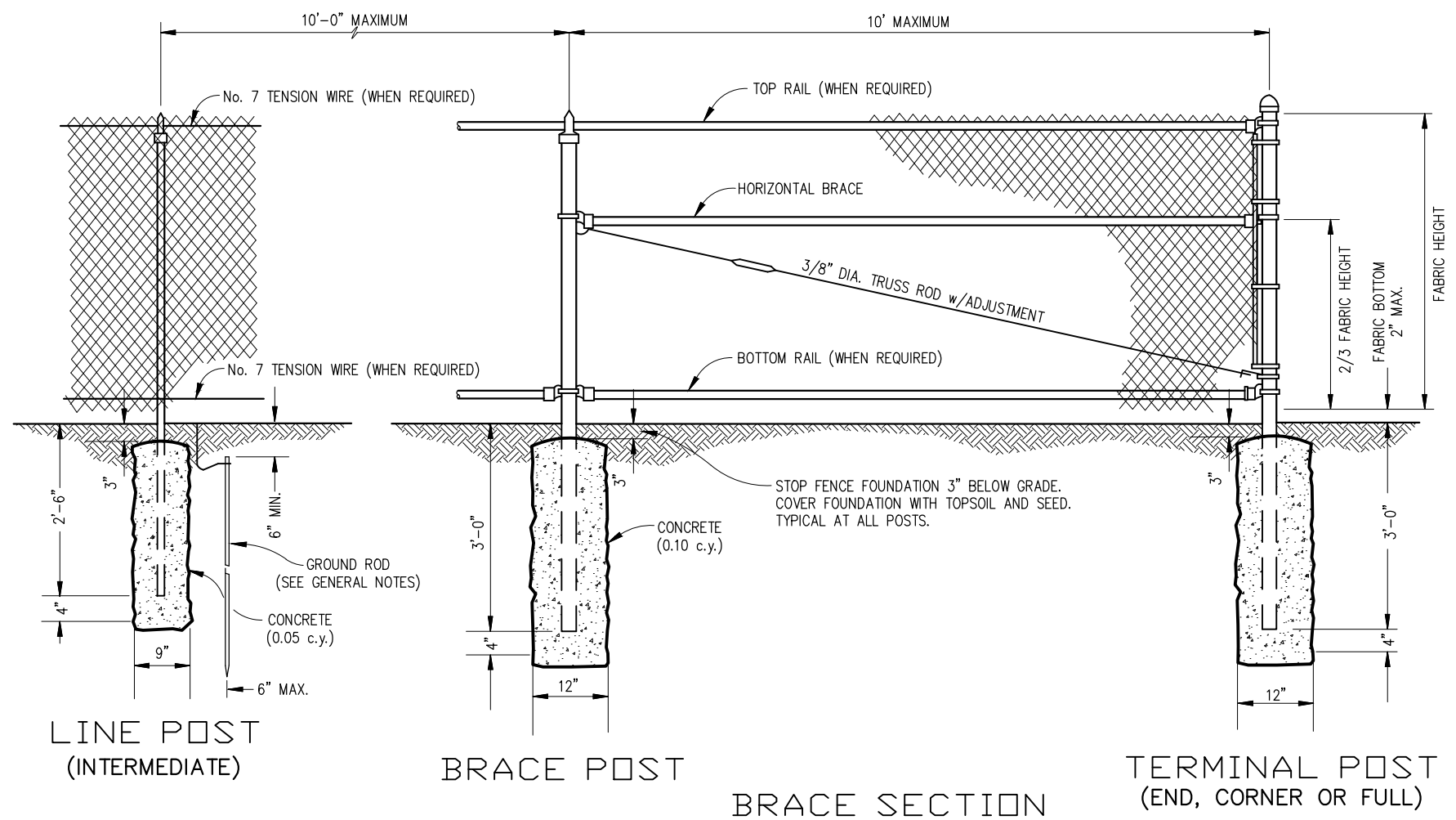
##### FENCE IN PAVEMENT :

FENCES LOCATED ALONG THE EDGE OF SIDEWALKS, SERVICE RAMP AND TERMINAL APRON PAVEMENTS SHALL EITHER BE INSTALLED IN SUCH PAVEMENT OR IN A SEPARATE PAVED STRIP ADJACENT TO THE PRIMARY PAVEMENT.

DETAILS AND PAYMENT FOR "IN PAVEMENT" FENCING SHALL BE AS NOTED ON THE CONTRACT PLANS.

CHAIN LINK FENCE MEMBERS DIMENSONS AND WEIGHTS					
DESCRIPTION	SECTION	STEEL FRAME		ALUMINUM FRAME *	
		OUTSIDE DIMENSION (INCHES)	WEIGHT (Lb./Ft.)	OUTSIDE DIMENSION (INCHES)	WEIGHT (Lb./Ft.)
CORNER, BRACE, END & PULL POSTS FABRIC HEIGHTS 6' & LESS  FABRIC HIEGHTS OVER 6'  ALL FABRIC HEIGHTS	○	2.375	3.65	2.375	1.264
	□	2.000	2.60	2.500	1.253
	○	2.875	5.79	2.875	2.000
	□	2.500	5.10	2.500	2.900
	ROLL FORM	3.5 x 3.5	5.10	-----	-----
LINE POSTS FABRIC HEIGHTS 6' & LESS FABRIC HEIGHTS 8' & LESS  FABRIC HEIGHTS 6' & LESS FABRIC HEIGHTS OVER 6'  ALL FABRIC HEIGHTS	□	1.875 x 1.625	2.40	1.875 x 1.625	0.910
	□	2.250 x 1.700	2.70	-----	-----
	○	1.900	2.72	1.900	0.940
	○	2.375	3.65	2.375	1.250
	H	2.250 x 1.700	3.43	2.250 x 1.950	1.25
	ROLL FORM	1.660	2.27	1.660	0.760
RAILS & BRACES	○	1.660	2.27	1.660	0.760
	ROLL FORM	1.625 x 1.250	1.35	-----	-----

\* TO BE USED ONLY IF TYPE D FABRIC (ALUMINUM ALLOY) IS SPECIFIED ON THE CONTRACT PLANS



CONSTRUCTION OF SECURITY FENCING (NEW OR TEMPORARY) SHALL NOT BEGIN UNTIL AFTER TSA APPROVES AN AMENDMENT TO THE AIRPORT SECURITY PLAN (ASP). ALL WORKERS WORKING WITHIN THE SECURE AREA (AIR OPERATIONS AREA OR AOA) MUST BE BADGED OR UNDER ESCORT BY A PROPERLY BADGED INDIVIDUAL.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF AERONAUTICS LANSING, MICHIGAN	
STANDARD PLAN FOR <b>CHAIN LINK FENCE, CLASS E</b>	



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

**Prein&Newhof**  
Engineers • Surveyors • Environmental • Laboratory

GERALD R. FORD INTERNATIONAL AIRPORT  
KENY COUNTY, MICHIGAN

ATCT ENABLING PROJECT

FENCE DETAILS

PROJECT NO.  
**2250489**

SHEET NO.

**23** OF **22**



# Meeting Minutes

## Gerald R. Ford International Airport Authority – Pre-Bid, C-298 ATCT Enabling Project

July 22, 2025

### Attendees:

See attached sign-in sheets

### Items of Business:

#### 1. Introduction

The Gerald R. Ford Airport made an introduction providing general information about the airport, the basis for the enabling project and the desire to facilitate construction of the future Airport Traffic Control Tower.

Prein&Newhof provided a description of the project based on information provided in the Advertisement and Instructions to bidders. The base bid includes 8,250 feet of concrete encased duct bank, 27 concrete handholes, partial demolition of a retaining wall, construction of 66 feet of retaining wall, 3,500 feet of structure drainpipe and restoration. There are six bid alternates which include approximately 9,200 feet of single mode fiber optic cable, 1,000 feet of plastic conduit, 1,000 feet of 8" fire protection piping, 200 feet of sanitary lateral pipe, construction of a 3,600 cubic yard underground detention basin with storm sewer, and 65,000 feet of control cabling.

Project Bid date is August 6, 2025. Questions are due by July 30, 2025. The last addendum is anticipated on July 31, 2025.

The Gerald R. Ford Airport has fixed funding for this project. They want to build as much as they can using the available funds. The project will be awarded to the lowest bidder including each alternative, as numbered in the bid proposal, until they have reached the level of funding available. Refer to Instructions to Bidders, Section 6.

#### 2. Phasing Schedule

Phase 1 includes the future ATCT site on both the both secure and non-secure sides of the fence. Minimal impact to aircraft operations is anticipated.

Phase 2 includes closing Taxiway V with work performed parallel to Taxiway L and outside of the TDG III object free area.

Phase 3 includes closing Taxiways V and with work performed parallel to Taxiway D but inside the TDG III object free area for Taxiway D.

Phase 4 includes closings Taxiway V and D and likely Runway 17-35. Work will be performed adjacent to the Runway 17-35 safety area and inside the Taxiway D safety area to connect to existing duct system.

Phase 5 includes installing cables inside both the existing duct system as well as the new duct system.

Award and execution of the project is anticipated on August 27, 2025. Start date is expected on : Sept 13, 2025. Phases 1 through 4 to be completed by November 17, 2025 and Phase 5 complete by Dec. 19, 2025. Time will be granted in the spring of 2026 for restoration.

### 3. Safety and Security

Work will be performed both inside and outside of secure areas. Badging will be needed. Gate guards will be required or regular airport procedures for each vehicle/person entry into the secure area.

Work will be performed around the existing airport fire (ARFF) station. Construction vehicles will not be permitted to park or obstruct emergency access routes.

### 4. Clarification to Questions Received to Date

GFIAA has placed a production order with EJ. The successful Low bidder will assume the order after the project is awarded. Covers will not be considered owner provided material. Similar arrangements can be made with other suppliers.

Details 4/16 and 6/16 depict two (2), four inch conduit for use by GFIAA. These conduits are to connect to the fiberglass 2x2x3 handholes collocated with concrete handholes on duct runs D and E.

Project documents are available on P&N site as well as other plan rooms. Only companies who obtained plans directly from P&N will be considered to be on the official plan holders list.

### 5. Other Questions

GFIAA will have a project to replace the existing lighting circuit along Taxiway D during the same time period as this project. GFIAA wants work coordinated to occur simultaneously to minimize closures of Taxiway D. J. Ranck was awarded the lighting project for Taxiway D.

Precast structure manufactures will be contacted in an effort to arrange a production agreement for precast concrete handholes to facilitate the project schedule.



## Pre-Bid Meeting Sign-In

Owner: Gerald R. Ford International Airport Authority

Project Title: C-298 ATCT Enabling Project

Project #: 2250489

Date: July 22, 2025

Location: 5500 44th Street SE, Grand Rapids, MI

[illegible]

## Pre-Bid Meeting Sign-In

Owner: Gerald R. Ford International Airport Authority

Project Title: C-298 ATCT Enabling Project

Project #: 2250489

Date: July 22, 2025

Location: 5500 44th Street SE, Grand Rapids, MI

Attendee	Company	Phone Number (w/area code)	E-mail Address
Zachary Smith	Fessler & Bowman	614-284-0534	zsmith@fesslerbawman.com
Brett Idema	Fischer Idema	616-443-7638	brett@fischeridema.com
Adam Tweedy	O-A-I	616-723-2381	adamt@oakmi.com
Clia Nemeth	GFIAA	616-233-6041	cnemeth@grr.org
AS Nye	GFIAA	616-233-6251	anye@grr.org
Alyssa Stoker	GFIAA	616-233-4148	astoker@grr.org