



## **ADDENDUM NO. 1**

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### **ORANGE BEACH FIRE STATION NO. 5 CITY OF ORANGE BEACH**

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ADDENDUM NO. ONE (1) – DATED November 30, 2021

This Addendum is directed to all bidders to whom the City of Orange Beach and Printing Pros has issued drawings and specifications. The following conditions, drawings, specification changes, etc., take precedence over any conflicting conditions in the Drawings and Specifications or other Contract and Bid Documents. Portions of the Contract Documents not changed by Addendum remain in effect.

#### **SPECIFICATIONS**

**ITEM 1.01 SECTION 00 1113 – Advertisement for Bids (Attached)**  
Bid date has changed to January 13, 2022. Location and time remain the same.

#### **DRAWINGS**

**ITEM 2.01 CIVIL DRAWINGS**  
Utility Service updated on all Civil drawings with new dated 2021.11.30 drawings.  
Remove and replace all drawings.

#### **ATTACHMENTS:**

**Section 00 1113 – Advertisement for Bids  
Civil Drawing Package**

**NOTE: Receipt of all addenda must be acknowledged on the Bid Form in order for the proposal to be considered a conforming bid.**

**Stedmann B. McCollough  
McCullough Architecture, Inc.**

**END OF ADDENDUM #1**

## ADVERTISEMENT FOR BIDS

Sealed proposals will be received by the City of Orange Beach at the office of the City Clerk located at Orange Beach City Hall, 4099 Orange Beach Blvd, Orange Beach, AL 36561, on January 13, 2022, until 10:00 AM, CST for

### **PROJECT: ORANGE BEACH FIRE STATION NO.5 ORANGE BEACH, AL 36561**

at which time and place they will be publicly opened and read. General Contractor's License number and type must be on the envelope.

A cashier's check or bid bond payable to City of Orange Beach in an amount not less than five (5) percent of the amount of the bid, but in no event more than \$10,000.00, must accompany the bidder's proposal. If awarded the bid and prior to beginning work, the Contractor is required to have a current City of Orange Beach Business License, furnish a Certificate of General Liability Insurance and Workers Compensation Insurance, and proof of Automobile General Liability Insurance. Insurance Certificate provided to the City shall name the City of Orange Beach as an additional insured. Performance and Payment Bonds must be executed upon award of the bid with a penalty equal to one hundred (100%) percent of the amount of the contract price.

Bid Drawings and specifications will be available and can be examined at Printing Pros on and after November 1, 2021.

Name of Architect: Sted McCollough  
Name of Company: McCollough Architecture  
Address: 4790 Wharf Pkwy Ste 209, Orange Beach, AL 36561  
Phone No.: (251) 968-7222

General Contractor Bidders may obtain a digital copy of the documents from Printing Pros in Orange Beach, Alabama. Hard copy sets of drawings and specifications will be available to qualified General Contractors and others for the cost of printing and handling directly from the document's printer: Printing Pros (22660 Canal Rd, Orange Beach, AL 36561; phone 251/974-5006). Addenda and other bidding information will be issued only to holders of drawings and specifications distributed by the Architect. Release of the Bid Documents to the bidder does not imply acceptance of the bidder's qualifications by the Owner or Architect.

Bid Documents can also be reviewed at Printing Pros. Cost of printing plans and specifications are non-refundable.

Bids must be submitted on proposal forms furnished by the Architect or copies thereof. All bidders bidding in amounts exceeding that established by the State Licensing Board for General Contractors must be licensed under the provisions of Title 34, Chapter 8, Code of Alabama, 1975, and must show evidence of license before bidding or bid will not be received or considered by the Architect; the bidder shall show such evidence by clearly displaying his or her current license number on the outside of the sealed envelope in which the proposal is delivered. The Owner reserves the right to reject any or all proposals and to waive technical errors if, in the Owner's judgment, the best interests of the Owner will thereby be promoted.

Nonresident bidders must accompany any written Bid Documents with a written opinion of an attorney at law licensed to practice law in such nonresident bidder's state or domicile, as to the preferences, if any or none, granted by the law of that state to its own business entities whose principal places of business are in that state in the letting of any or all public contracts.

A Pre-Bid Conference will be held at the City of Orange Beach at the office of the City Clerk located at Orange Beach City Hall, 4099 Orange Beach Blvd Orange Beach, AL 36561 at 10:00 A.M. Thursday, December 2, 2021. **Attendance by General Contractor Bidders at Pre-Bid Conference is mandatory.**

Awarding Authority:  
City of Orange Beach,

Architect:  
McCollough Architecture: Sted McCollough, President

ALL BIDS MUST BE RETURNED AS FOLLOWS:

All bidders must use the bid form provided in the bid documents and show on the envelope "SEALED BID", the bid title, the bidder's name, and the opening date and time.

Mailed Bids via U.S. Postal Service

City of Orange Beach  
Attention: City Clerk  
P.O. Box 458  
Orange Beach, AL 36561

Hand Delivered Bids

City of Orange Beach  
Attention: City Clerk  
4099 Orange Beach Blvd.  
Orange Beach, AL 36561

# FIRE STATION NO. 5

## CITY OF ORANGE BEACH

### CIVIL CONSTRUCTION DRAWINGS

NOVEMBER, 2021



SHEET LIST	
SHEET NUMBER	SHEET TITLE
1	TITLE
2	PROJECT NOTES
3	EXISTING CONDITIONS
4	TYPICAL SECTIONS
5	TYPICAL SECTIONS
6	GEOMETRY PLAN
7	JOINT PLAN
8	GRADING PLAN
9	DRAINAGE PLAN
10	POWERLINE ROAD PLAN & PROFILE
11	UTILITY PLAN
12	EROSION CONTROL PLAN
13	CIVIL CONSTRUCTION DETAILS
14	CIVIL CONSTRUCTION DETAILS
15	CIVIL CONSTRUCTION DETAILS
16	ALDOT DETAILS
17	ALDOT DETAILS
18	SEWER DETAILS
19	WATER DETAILS
20	EROSION DETAILS



VICINITY MAP

UTILITY PROVIDERS	
SANITARY SEWER	ORANGE BEACH SEWER
WATER	ORANGE BEACH WATER
POWER	BALDWIN EMC
TELEPHONE	CENTURYLINK
GAS	ORANGE BEACH GAS

NUMBER:	REVISION:	DATE:

PREPARED BY:



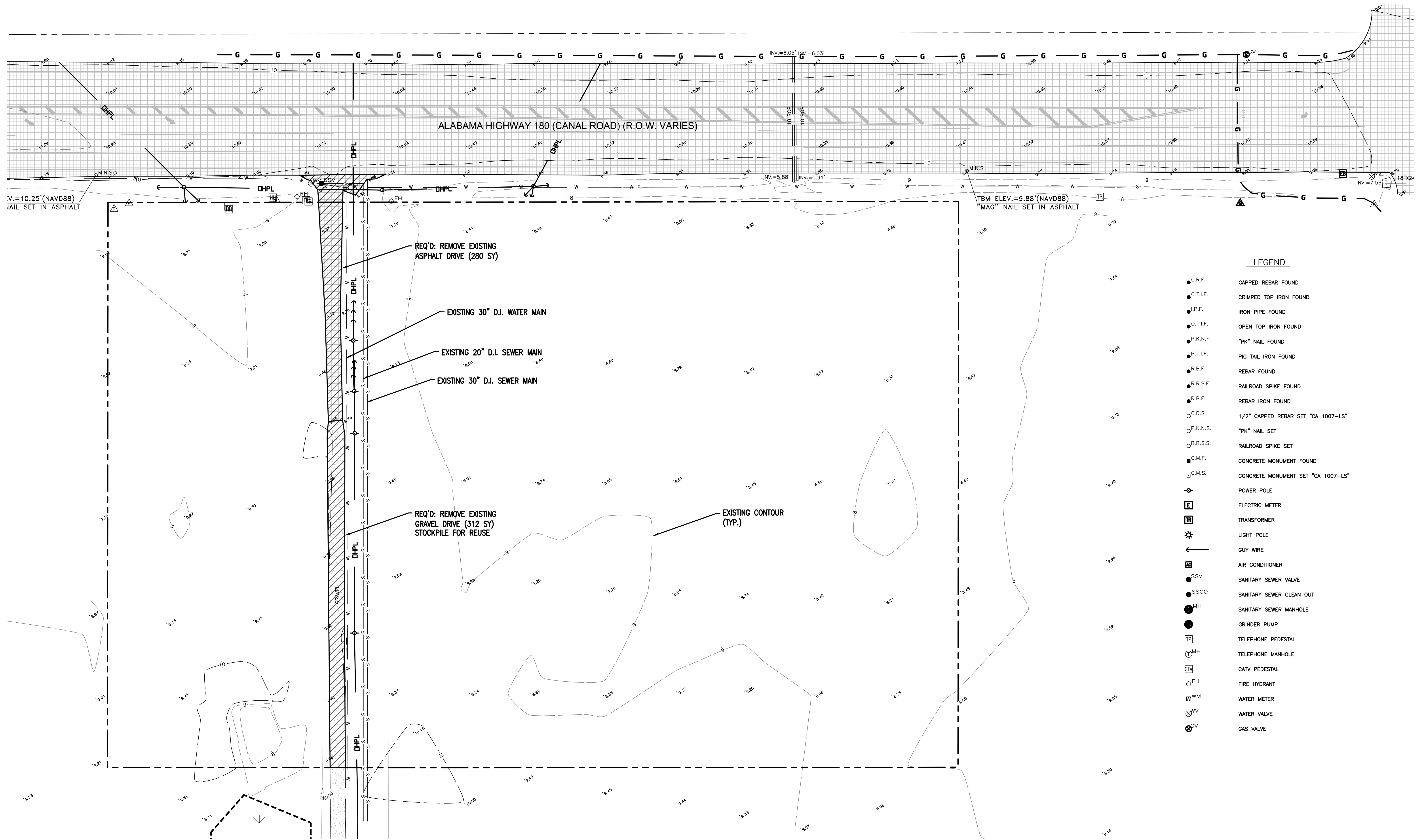
30673 Sgt. E. I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

ENGINEER OF RECORD

11-30-21

DATE

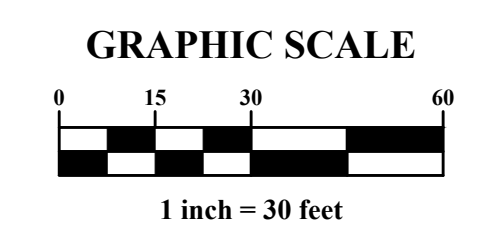




**LEGEND**

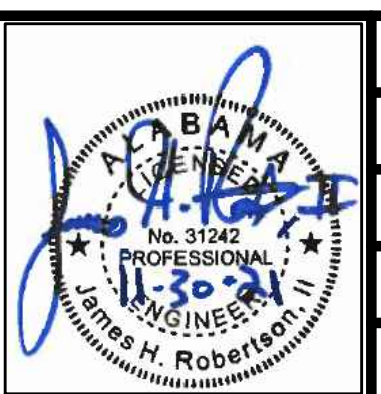
- C.R.F. CAPPED REBAR FOUND
- C.T.I.F. CRIMPED TOP IRON FOUND
- I.P.F. IRON PIPE FOUND
- O.T.I.F. OPEN TOP IRON FOUND
- P.K.N.F. "PK" NAIL FOUND
- P.T.I.F. PIG TAIL IRON FOUND
- R.B.F. REBAR FOUND
- R.R.S.F. RAILROAD SPIKE FOUND
- R.B.F. REBAR IRON FOUND
- C.R.S. 1/2" CAPPED REBAR SET "CA 1007-LS"
- P.K.N.S. "PK" NAIL SET
- R.R.S.S. RAILROAD SPIKE SET
- C.M.F. CONCRETE MONUMENT FOUND
- C.M.S. CONCRETE MONUMENT SET "CA 1007-LS"
- ⊕ POWER POLE
- ⊞ ELECTRIC METER
- ⊞ TRANSFORMER
- ⊞ LIGHT POLE
- ← AIR WIRE
- ⊞ AIR CONDITIONER
- SSV SANITARY SEWER VALVE
- SSCO SANITARY SEWER CLEAN OUT
- MH SANITARY SEWER MANHOLE
- GRINDER PUMP
- ⊞ TP TELEPHONE PEDESTAL
- ⊞ TM TELEPHONE MANHOLE
- ⊞ TV CATV PEDESTAL
- ⊞ FH FIRE HYDRANT
- ⊞ WM WATER METER
- ⊞ WV WATER VALVE
- ⊞ GV GAS VALVE

NUMBER:	REVISION:	DATE:



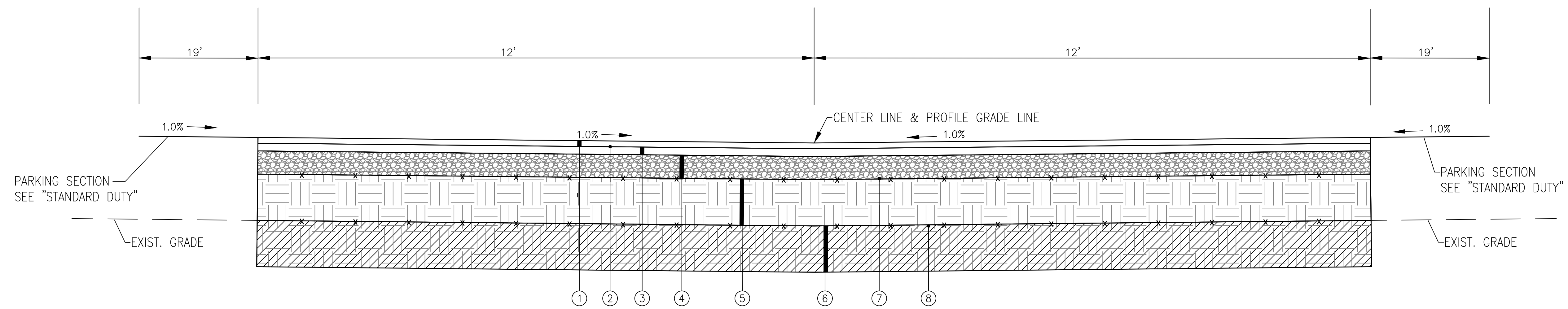
30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

EXISTING CONDITIONS  
 FIRE STATION NO. 5  
 CITY OF ORANGE BEACH



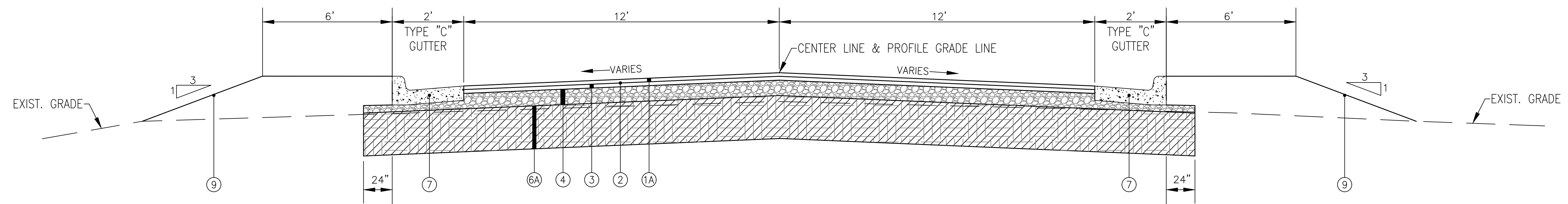
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 DATE: NOVEMBER, 2021  
 DRAWN BY: JNF  
 CHECKED BY: JHR  
 SHEET: 3 OF 20

DWG INFO: S:\PROJECTS\21-084 ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH\ENGINEERING\PRODUCTION - DWG\BASE - 23-21.DWG -- 11/30/2021 4:53:14:27 PM



**MEDIUM DUTY PAVEMENT SECTION**

N.T.S.

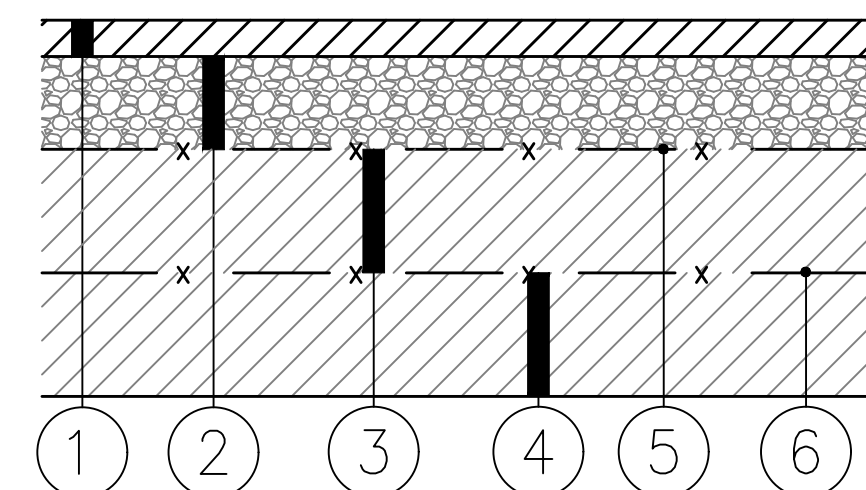


**POWERLINE ROAD PAVEMENT SECTION**

N.T.S.

**LEGEND**

- ① 1.5" ALDOT SECTION 424-A - BITUMINOUS CONCRETE WEARING SURFACE LAYER (165 LB/SY)
- ①A 2.0" ALDOT SECTION 424-A - BITUMINOUS CONCRETE WEARING SURFACE LAYER (220 LB/SY)
- ② ALDOT SECTION 405 - TACK COAT, 0.20 GALLONS PER SQUARE YARD
- ③ 2" ALDOT SECTION 424-B - BITUMINOUS CONCRETE BINDER LAYER (220 LB/SY)
- ④ 6" ALDOT SECTION 825 - CRUSHED AGGREGATE BASE COURSE (100% STANDARD DENSITY)
- ⑤ 12" BORROW EXCAVATION - SELECT SAND FILL (COMPACTED TO 100% STANDARD DENSITY)
- ⑥ 12" UNCLASSIFIED EXCAVATION/BORROW EXCAVATION - CLEAN COARSE SAND (SEE GEOTECHNICAL REPORT) (TBM)
- ⑥A 18" UNCLASSIFIED EXCAVATION/BORROW EXCAVATION - CLEAN COARSE SAND (SEE GEOTECHNICAL REPORT) (TBM)
- ⑦ GEOTEXTILE FABRIC, MARIFI 500X OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)
- ⑧ GEOTEXTILE FABRIC, TENSAR TX 160 OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)
- ⑨ TOPSOIL & SOLID SOD

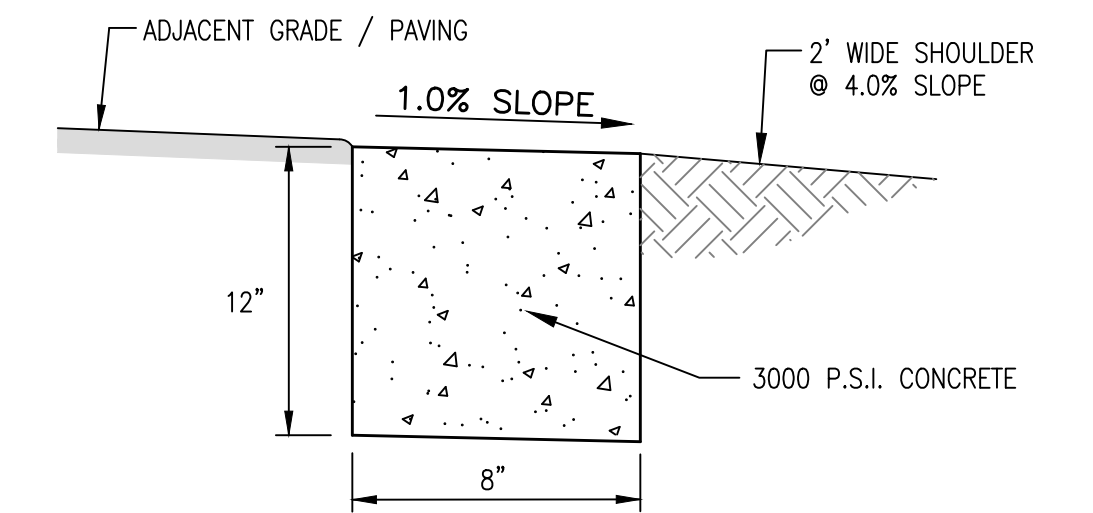


**STANDARD DUTY PAVEMENT SECTION**

N.T.S.

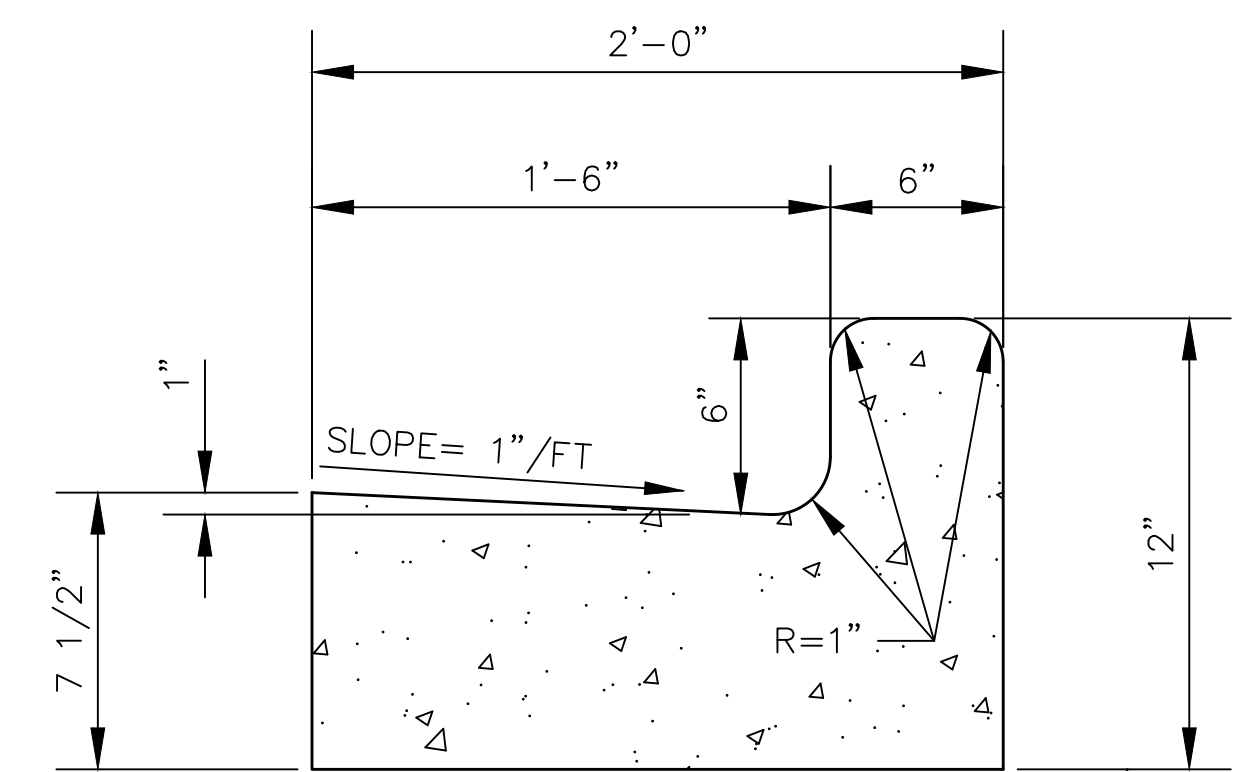
**LEGEND**

- ① 1 1/2" ALDOT SECTION 424-A, BITUMINOUS WEARING SURFACE (165 LB/SY)
- ② 6" ALDOT SECTION 825 - CRUSHED AGGREGATE BASE COURSE (100% STANDARD DENSITY)
- ③ BORROW EXCAVATION - SELECT SAND FILL (TOP 6" COMPACTED TO 100% STANDARD DENSITY)
- ④ BORROW EXCAVATION - CLEAN COARSE SAND (SEE GEOTECHNICAL REPORT)
- ⑤ GEOTEXTILE FABRIC, MARIFI 500X OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)
- ⑥ GEOTEXTILE FABRIC, TENSAR TX 160 OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)



**RIBBON CURB**

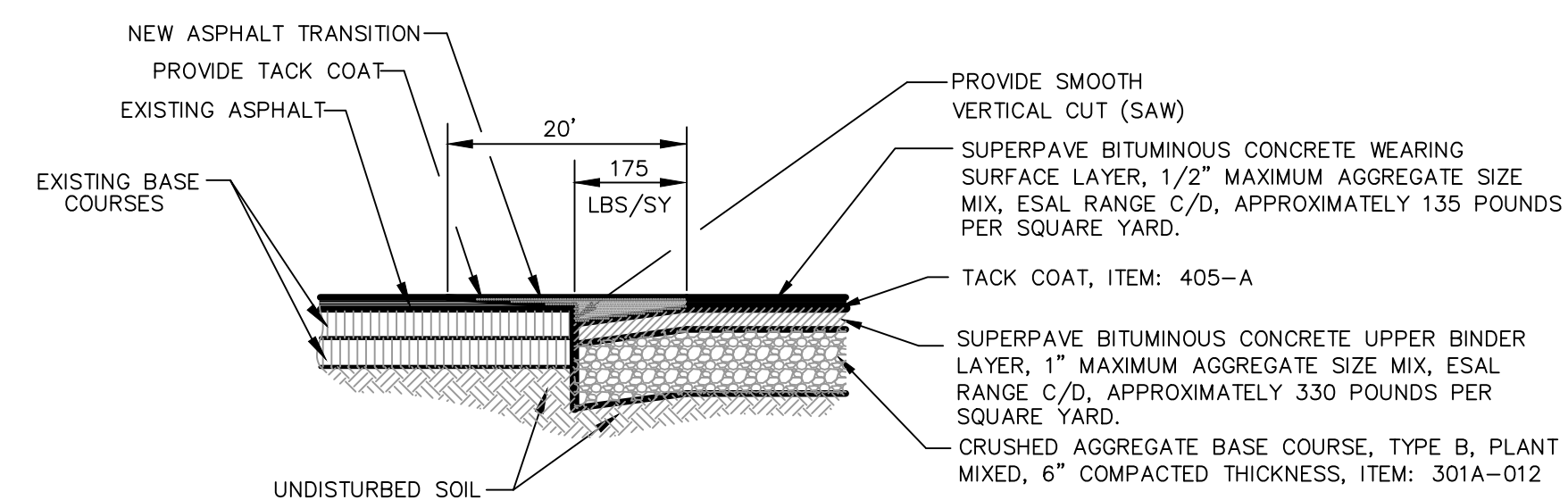
N.T.S.



**\*24" CURB & GUTTER DETAIL**

**(TYPE "C" MODIFIED)**

N.T.S.



**BUTT JOINT DETAIL**

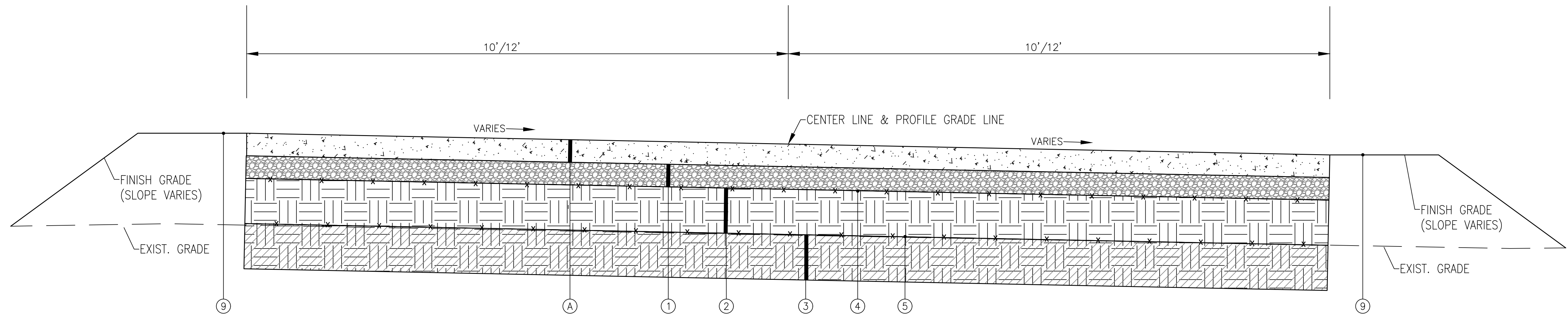
N.T.S.

NUMBER:	REVISION:	DATE:

TYPICAL SECTIONS
FIRE STATION NO. 5
CITY OF ORANGE BEACH

SCALE: N.T.S.
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 4 OF 20

DWG INFO: SA - CLIENTS.V1 - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG TITLE: NOTES - DETAILS.DWG - 11/30/2021 - 4:31:48 PM



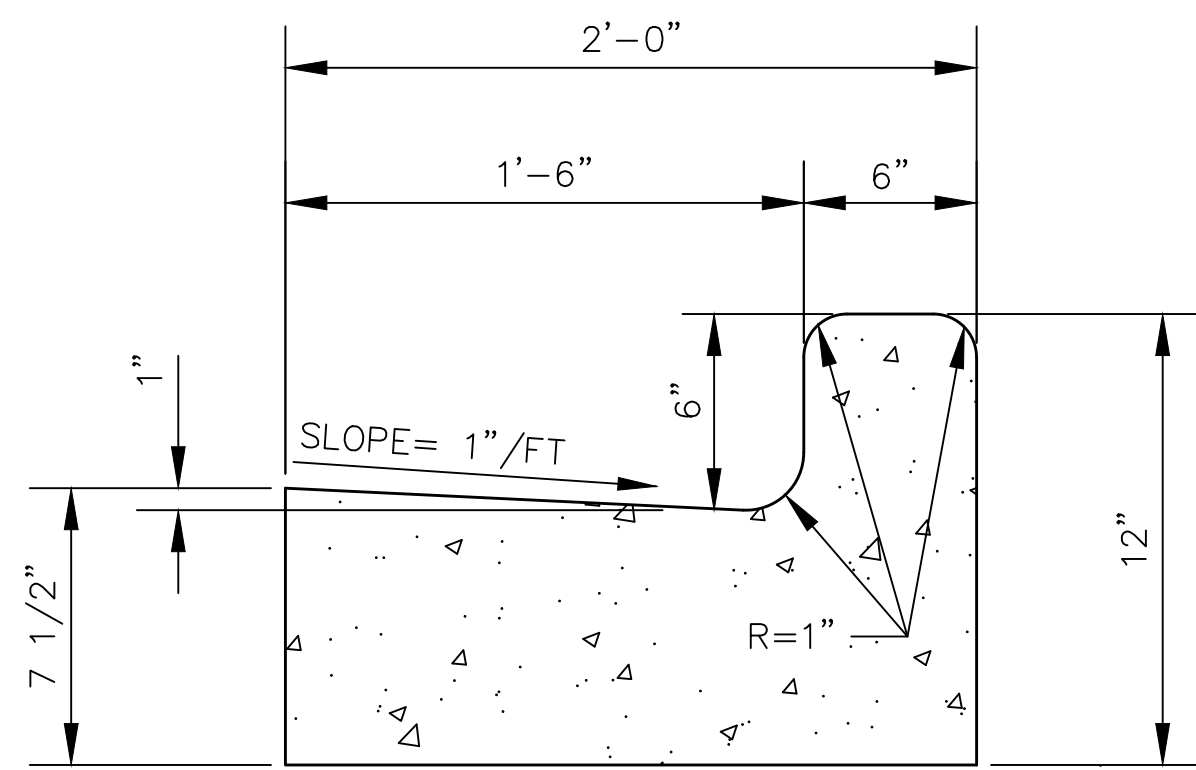
**CONCRETE PAVEMENT SECTION**

N.T.S.

**LEGEND**

- (A) 6" 4,000 PSI (500 PSI FLEXURAL STRENGTH) PORTLAND CEMENT CONCRETE
- (1) 6" ALDOT SECTION 825 - CRUSHED AGGREGATE BASE COURSE (100% STANDARD DENSITY)
- (2) 12" BORROW EXCAVATION - SELECT SAND FILL (COMPACTED TO 100% STANDARD DENSITY)
- (3) 12" UNCLASSIFIED EXCAVATION/BORROW EXCAVATION - CLEAN COARSE SAND (SEE GEOTECHNICAL REPORT) (TBM)
- (4) GEOTEXTILE FABRIC, MARIFI 500X OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)
- (5) GEOTEXTILE FABRIC, TENSAR TX 160 OR APPROVED EQUAL (AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER)
- (6) TOPSOIL & SOLID SOD

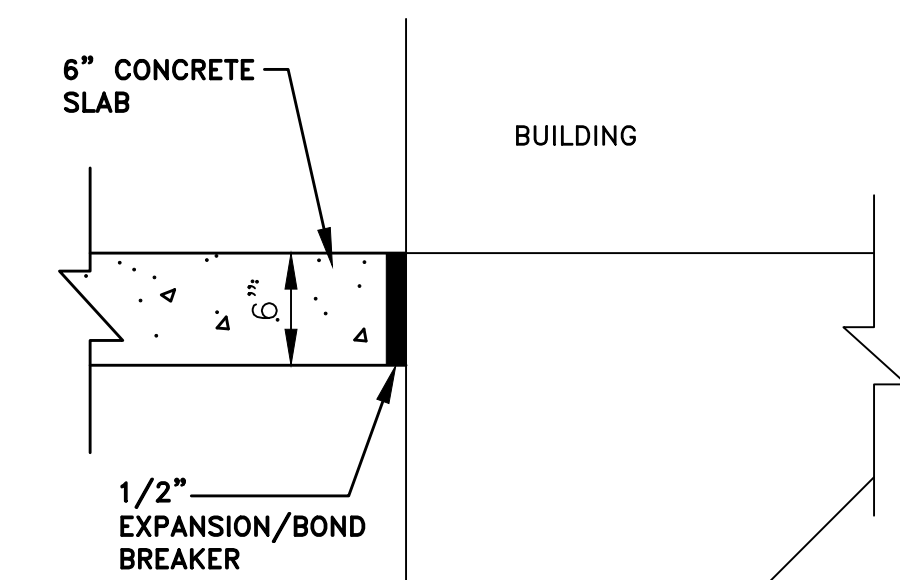
\* NOTE:  
SEE SHEET 7 OF 12 FOR CONCRETE JOINT PLAN



**\*24" CURB & GUTTER DETAIL**

(TYPE "C" MODIFIED)

N.T.S.



**EXPANSION / BOND BREAKER**

SCALE: N.T.S.

**CONCRETE NOTES:**

JOINTS SHOULD BE INSTALLED IN THE PCC PAVEMENTS TO LIMIT STRESSES RESULTING FROM EXPANSION AND CONTRACTION. CONTRACTION JOINTS SHOULD BE FORMED BY SAWING AS SOON AS THE CONCRETE HAS HARDENED ENOUGH TO PREVENT RAVELING. THESE JOINTS SHOULD EXTEND TO A DEPTH OF AT LEAST 1/4 OF THE PAVEMENT THICKNESS AND BE PLACED ON A 12 TO 15 FOOT SPACING. THE DESIGN AND LOCATION OF ALL PAVEMENT JOINTS SHOULD BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE PORTLAND CEMENT ASSOCIATION (PCA) AND ACI 330.

ISOLATION JOINT MATERIAL SHOULD COMPLY WITH ACI STANDARDS. THE UPPER ONE INCH OF THE JOINT MATERIAL SHOULD BE REMOVED AND THE JOINT SEALED WITH A SELF-LEVELING ELASTOMERIC JOINT SEALANT IMMEDIATELY AFTER THE CURING PERIOD AND PRIOR TO OPENING TO TRAFFIC. CONSTRUCTION JOINTS SHOULD BE PROPERLY CLEANED AND SEALED WITH THE SAME TYPE OF JOINT SEALANT. DOWEL SIZING AND SPACING FOR CONSTRUCTION JOINTS SHOULD CONFORM TO THE RECOMMENDATIONS OF ACI 330.

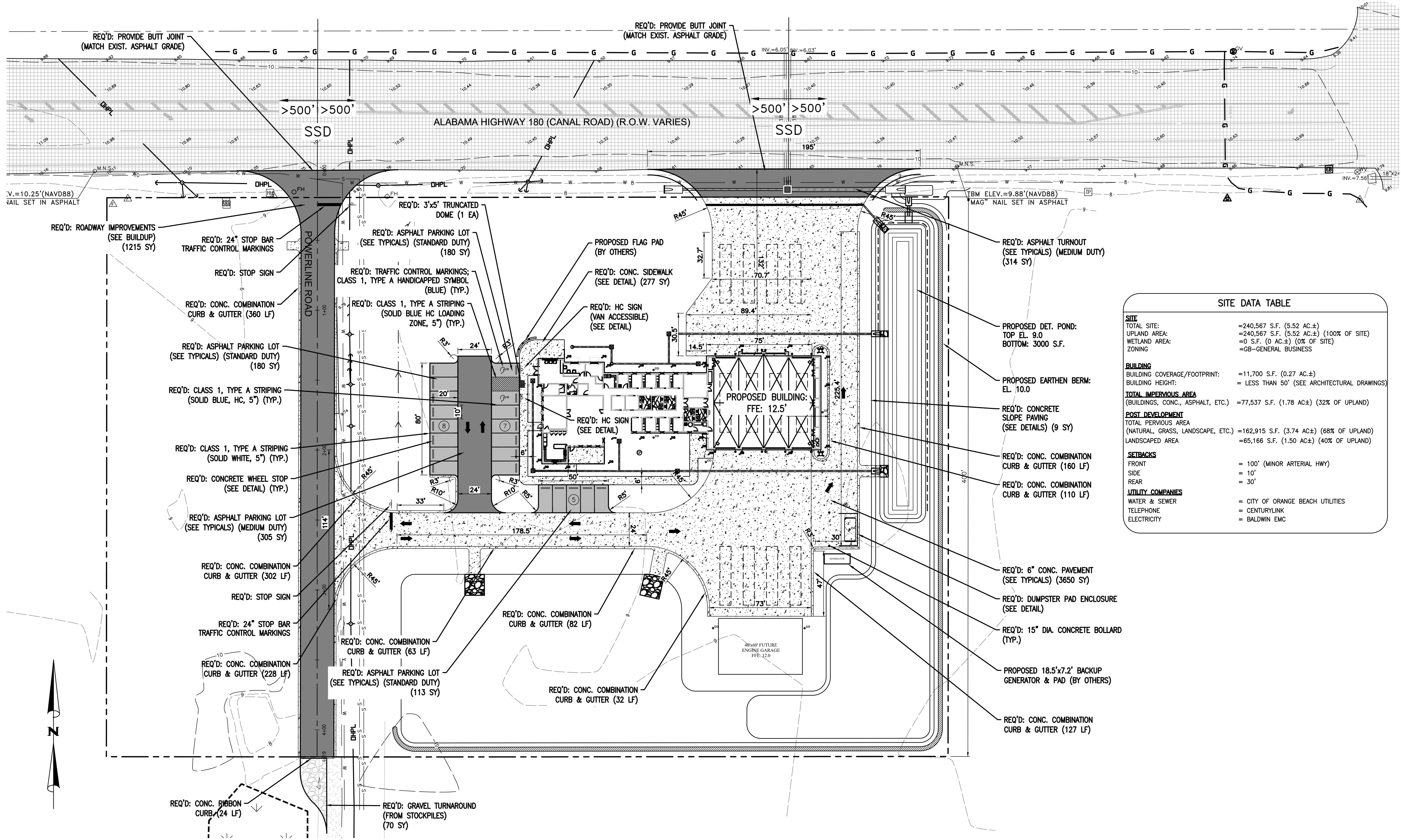
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NUMBER:	REVISION:	DATE:

TYPICAL SECTIONS
FIRE STATION NO. 5
CITY OF ORANGE BEACH

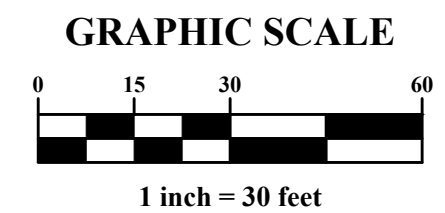
SCALE: N.T.S.
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 5 OF 20





SITE DATA TABLE	
<b>SITE</b>	
TOTAL SITE:	=240,567 S.F. (5.52 AC.±)
UPLAND AREA:	=240,567 S.F. (5.52 AC.±) (100% OF SITE)
WETLAND AREA:	=0 S.F. (0 AC.±) (0% OF SITE)
ZONING:	=GB-GENERAL BUSINESS
<b>BUILDING</b>	
BUILDING COVERAGE/FOOTPRINT:	=11,700 S.F. (0.27 AC.±)
BUILDING HEIGHT:	= LESS THAN 50' (SEE ARCHITECTURAL DRAWINGS)
<b>TOTAL IMPERVIOUS AREA</b>	
(BUILDINGS, CONC., ASPHALT, ETC.):	=77,537 S.F. (1.78 AC.±) (32% OF UPLAND)
<b>POST DEVELOPMENT</b>	
TOTAL PERVIOUS AREA	(NATURAL, GRASS, LANDSCAPE, ETC.) =162,915 S.F. (3.74 AC.±) (68% OF UPLAND)
LANDSCAPED AREA	=65,166 S.F. (1.50 AC.±) (40% OF UPLAND)
<b>SETBACKS</b>	
FRONT	= 100' (MINOR ARTERIAL HWY)
SIDE	= 10'
REAR	= 30'
<b>UTILITY COMPANIES</b>	
WATER & SEWER	= CITY OF ORANGE BEACH UTILITIES
TELEPHONE	= CENTURYLINK
ELECTRICITY	= BALDWIN EMC

NUMBER:	REVISION:	DATE:

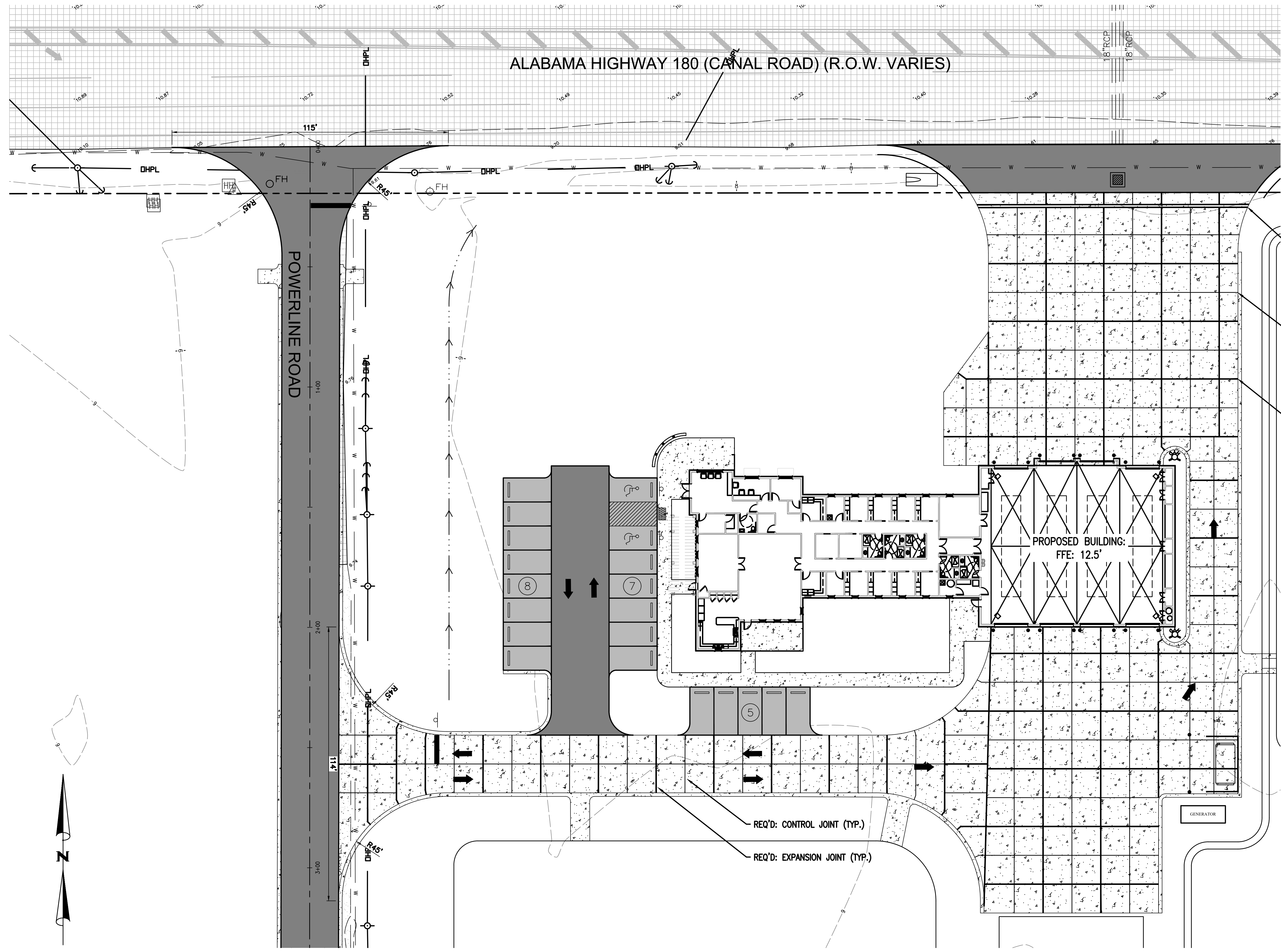


GEOMETRY PLAN  
 FIRE STATION NO. 5  
 CITY OF ORANGE BEACH



SCALE: 1"=30'  
 DATE: NOVEMBER, 2021  
 DRAWN BY: JNF  
 CHECKED BY: JHR  
 SHEET: 6 OF 20

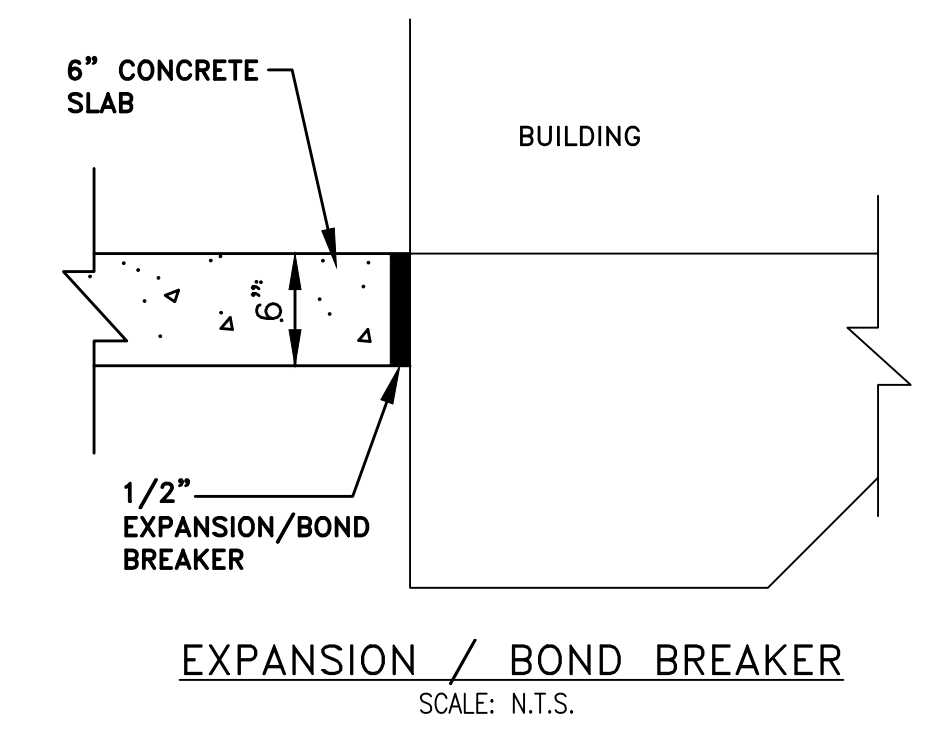
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REQ'D: EXPANSION JOINT AROUND PROPOSED TRENCH DRAIN (BOTH SIDES)

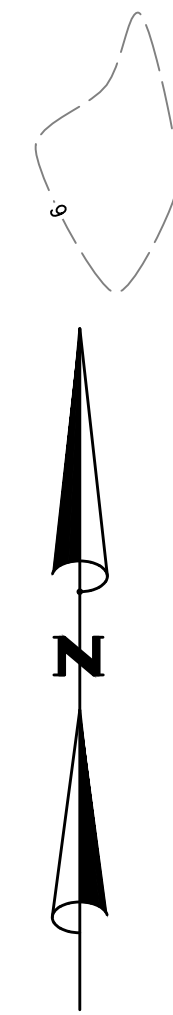
REQ'D: CONTROL JOINT (TYP.)

REQ'D: EXPANSION JOINT (TYP.)

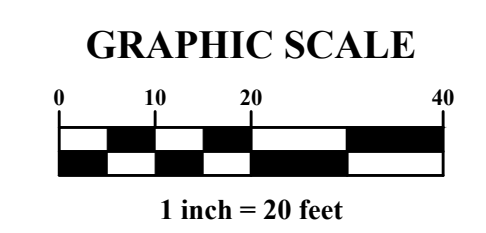


**CONCRETE NOTES:**  
 JOINTS SHOULD BE INSTALLED IN THE PCC PAVEMENTS TO LIMIT STRESSES RESULTING FROM EXPANSION AND CONTRACTION. CONTRACTION JOINTS SHOULD BE FORMED BY SAWING AS SOON AS THE CONCRETE HAS HARDENED ENOUGH TO PREVENT RAVELING. THESE JOINTS SHOULD EXTEND TO A DEPTH OF AT LEAST 1/4 OF THE PAVEMENT THICKNESS AND BE PLACED ON A 12 TO 15 FOOT SPACING. THE DESIGN AND LOCATION OF ALL PAVEMENT JOINTS SHOULD BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE PORTLAND CEMENT ASSOCIATION (PCA) AND ACI 330.

ISOLATION JOINT MATERIAL SHOULD COMPLY WITH ACI STANDARDS. THE UPPER ONE INCH OF THE JOINT MATERIAL SHOULD BE REMOVED AND THE JOINT SEALED WITH A SELF-LEVELING ELASTOMERIC JOINT SEALANT IMMEDIATELY AFTER THE CURING PERIOD AND PRIOR TO OPENING TO TRAFFIC. CONSTRUCTION JOINTS SHOULD BE PROPERLY CLEANED AND SEALED WITH THE SAME TYPE OF JOINT SEALANT. DOWEL SIZING AND SPACING FOR CONSTRUCTION JOINTS SHOULD CONFORM TO THE RECOMMENDATIONS OF ACI 330.



NUMBER:	REVISION:	DATE:

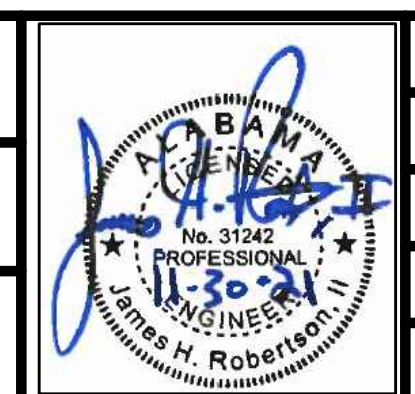


30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

JOINT PLAN

FIRE STATION NO. 5

CITY OF ORANGE BEACH



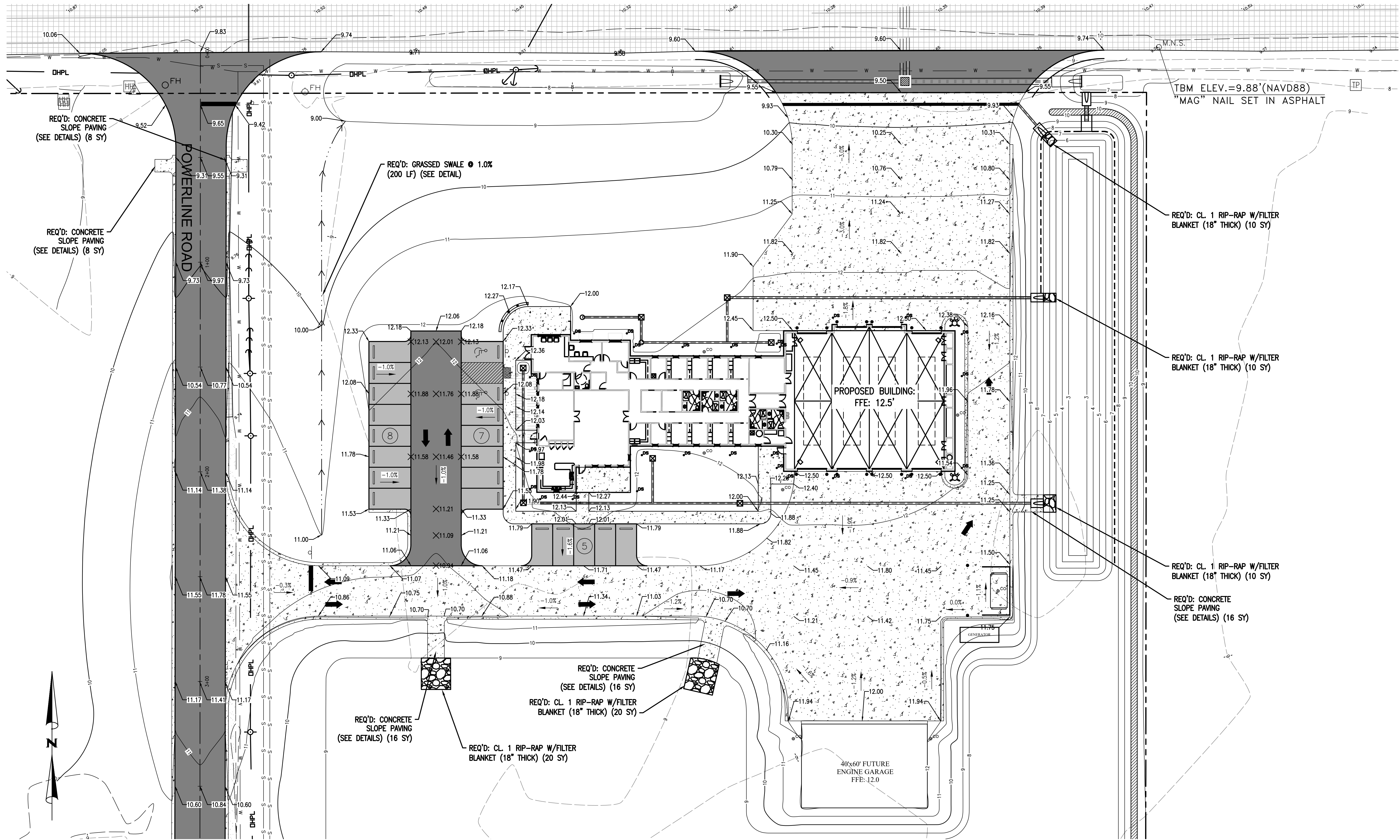
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DATE: NOVEMBER, 2021

DRAWN BY: JNF

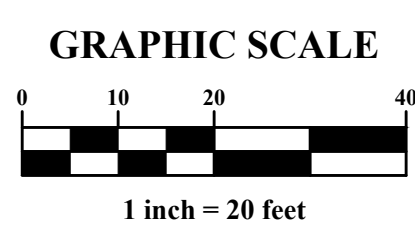
CHECKED BY: JHR

SHEET: 7 OF 20



DWG INFO: SA - CLIENTS.V1 - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG'S BASE - 8-23-21 DWG - 11/20/2021 4:32:02 PM

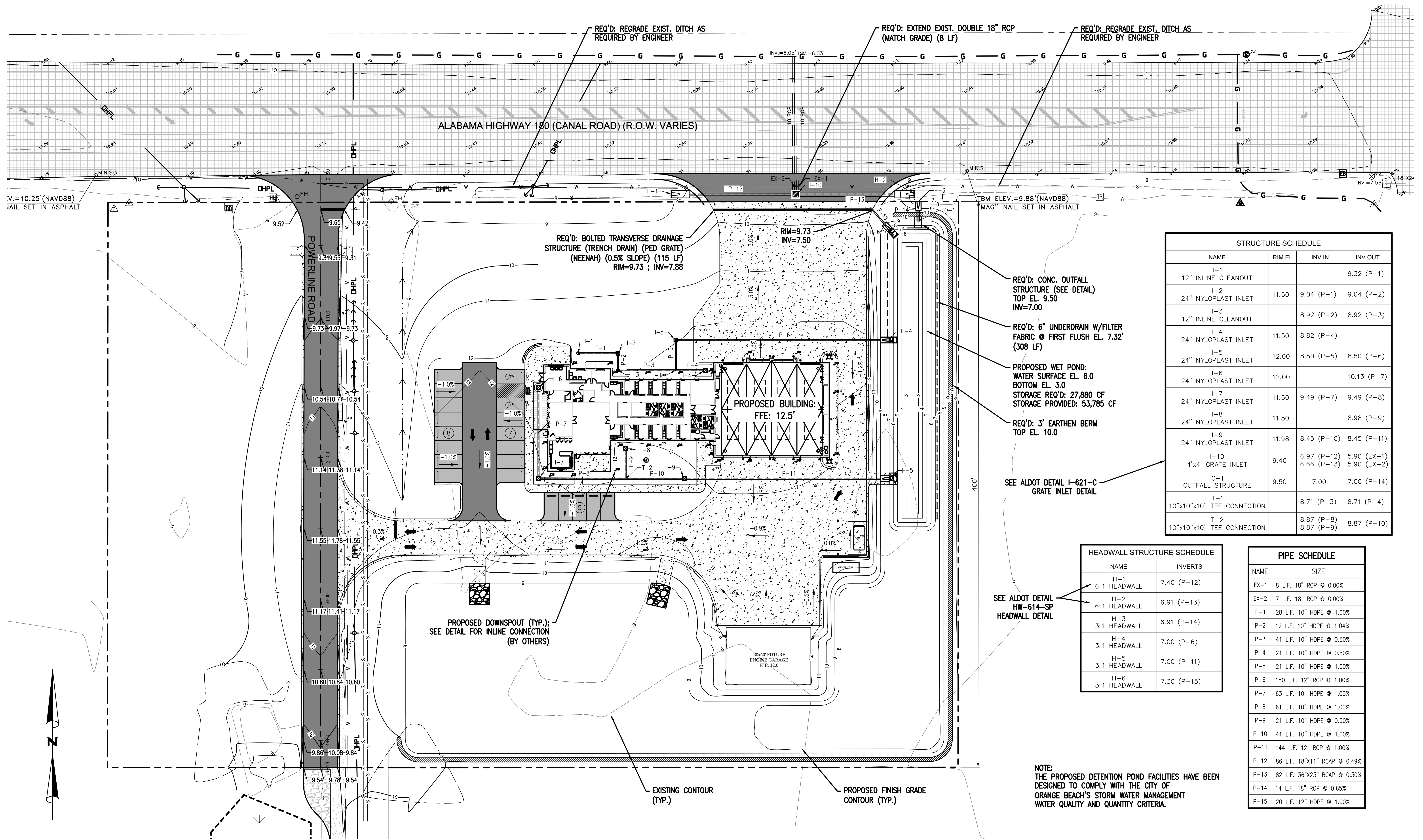
NUMBER:	REVISION:	DATE:



**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

GRADING PLAN  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

SCALE: 1"=20'
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 8 OF 20



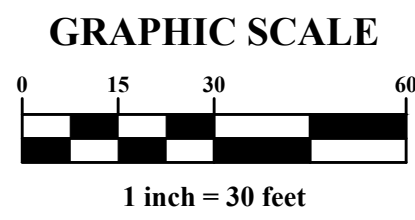
STRUCTURE SCHEDULE			
NAME	RIM EL.	INV IN	INV OUT
I-1			9.32 (P-1)
12" INLINE CLEANOUT			
I-2	11.50	9.04 (P-1)	9.04 (P-2)
24" NYLOPLAST INLET			
I-3		8.92 (P-2)	8.92 (P-3)
12" INLINE CLEANOUT			
I-4	11.50	8.82 (P-4)	
24" NYLOPLAST INLET			
I-5	12.00	8.50 (P-5)	8.50 (P-6)
24" NYLOPLAST INLET			
I-6	12.00		10.13 (P-7)
24" NYLOPLAST INLET			
I-7	11.50	9.49 (P-7)	9.49 (P-8)
24" NYLOPLAST INLET			
I-8	11.50		8.98 (P-9)
24" NYLOPLAST INLET			
I-9	11.98	8.45 (P-10)	8.45 (P-11)
24" NYLOPLAST INLET			
I-10	9.40	6.97 (P-12)	5.90 (EX-1)
4'x4' GRATE INLET		6.66 (P-13)	5.90 (EX-2)
O-1	9.50	7.00	7.00 (P-14)
OUTFALL STRUCTURE			
T-1		8.71 (P-3)	8.71 (P-4)
10"x10"x10" TEE CONNECTION			
T-2		8.87 (P-8)	8.87 (P-9)
10"x10"x10" TEE CONNECTION			

HEADWALL STRUCTURE SCHEDULE	
NAME	INVERTS
H-1	7.40 (P-12)
6:1 HEADWALL	
H-2	6.91 (P-13)
6:1 HEADWALL	
H-3	6.91 (P-14)
3:1 HEADWALL	
H-4	7.00 (P-6)
3:1 HEADWALL	
H-5	7.00 (P-11)
3:1 HEADWALL	
H-6	7.30 (P-15)
3:1 HEADWALL	

PIPE SCHEDULE	
NAME	SIZE
EX-1	8 L.F. 18" RCP @ 0.00%
EX-2	7 L.F. 18" RCP @ 0.00%
P-1	28 L.F. 10" HDPE @ 1.00%
P-2	12 L.F. 10" HDPE @ 1.04%
P-3	41 L.F. 10" HDPE @ 0.50%
P-4	21 L.F. 10" HDPE @ 0.50%
P-5	21 L.F. 10" HDPE @ 1.00%
P-6	150 L.F. 12" RCP @ 1.00%
P-7	63 L.F. 10" HDPE @ 1.00%
P-8	61 L.F. 10" HDPE @ 1.00%
P-9	21 L.F. 10" HDPE @ 0.50%
P-10	41 L.F. 10" HDPE @ 1.00%
P-11	144 L.F. 12" RCP @ 1.00%
P-12	86 L.F. 18"x11" RCAP @ 0.49%
P-13	82 L.F. 36"x23" RCAP @ 0.30%
P-14	14 L.F. 18" RCP @ 0.65%
P-15	20 L.F. 12" HDPE @ 1.00%

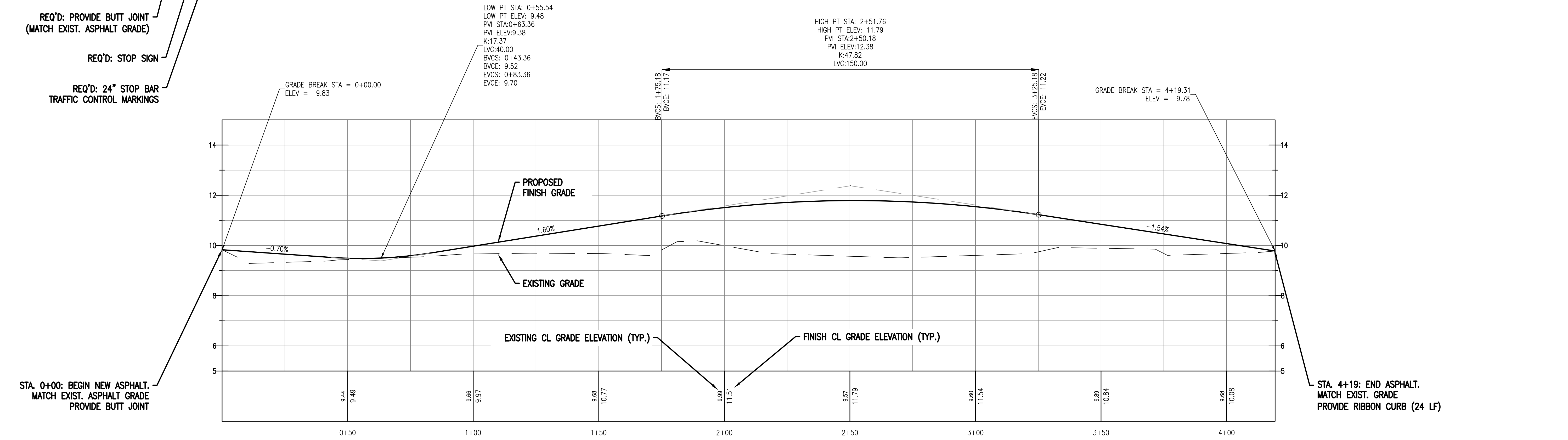
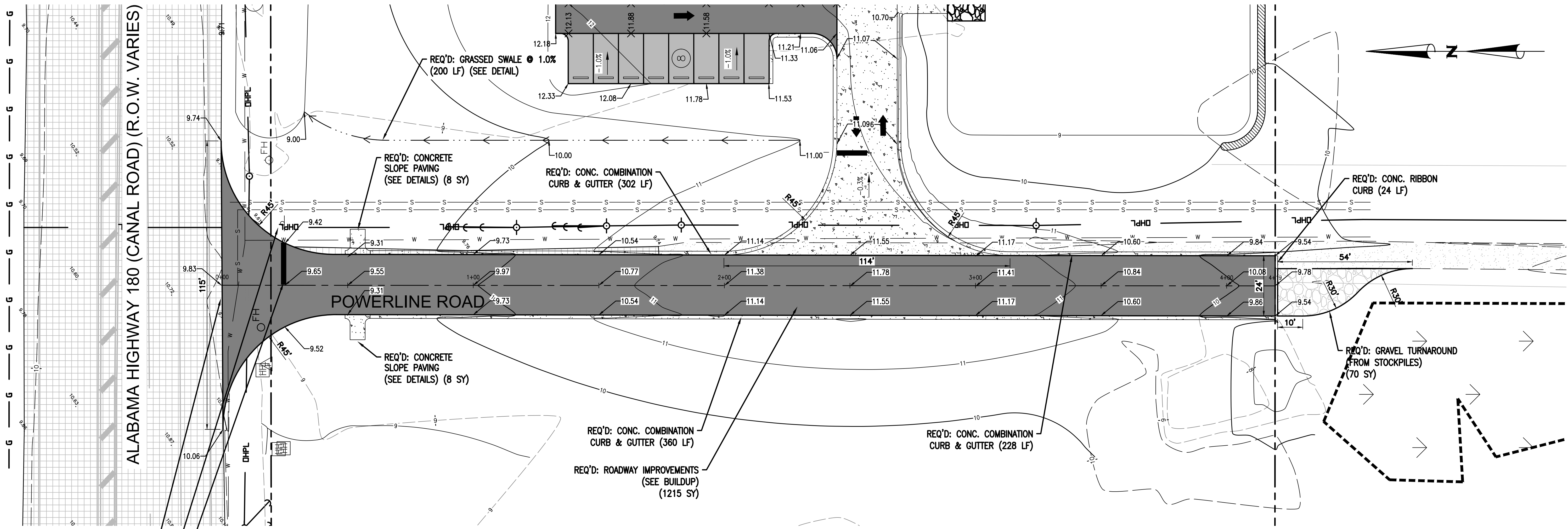
NOTE:  
THE PROPOSED DETENTION POND FACILITIES HAVE BEEN  
DESIGNED TO COMPLY WITH THE CITY OF  
ORANGE BEACH'S STORM WATER MANAGEMENT  
WATER QUALITY AND QUANTITY CRITERIA.

NUMBER:	REVISION:	DATE:



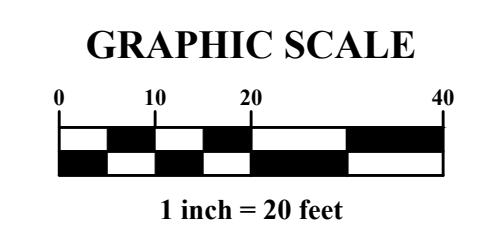
DRAINAGE PLAN  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

SCALE: 1"=30'  
DATE: NOVEMBER, 2021  
DRAWN BY: JNF  
CHECKED BY: JHR  
SHEET: 9 OF 20



POWERLINE ROAD CL PROFILE

NUMBER:	REVISION:	DATE:



**Sawgrass**

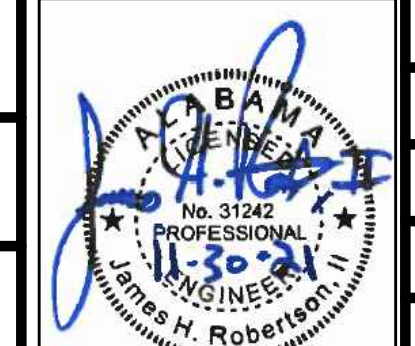
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT

30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

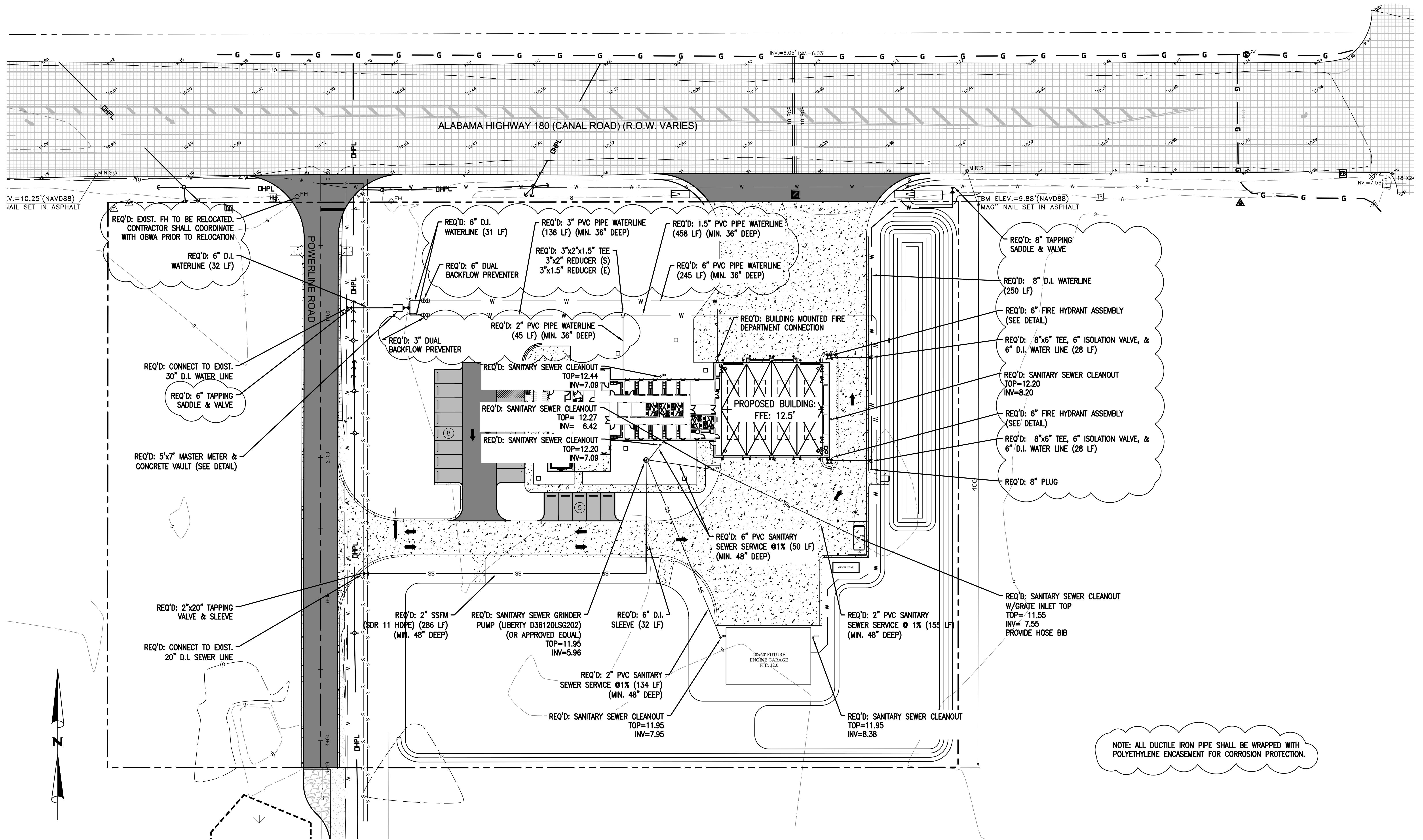
POWERLINE ROAD PLAN & PROFILE

FIRE STATION NO. 5

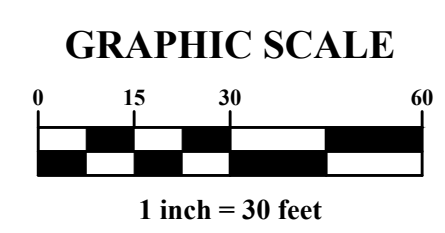
CITY OF ORANGE BEACH



SCALE: 1"=20' H; 1"=2' V
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 10 OF 20



NUMBER:	REVISION:	DATE:

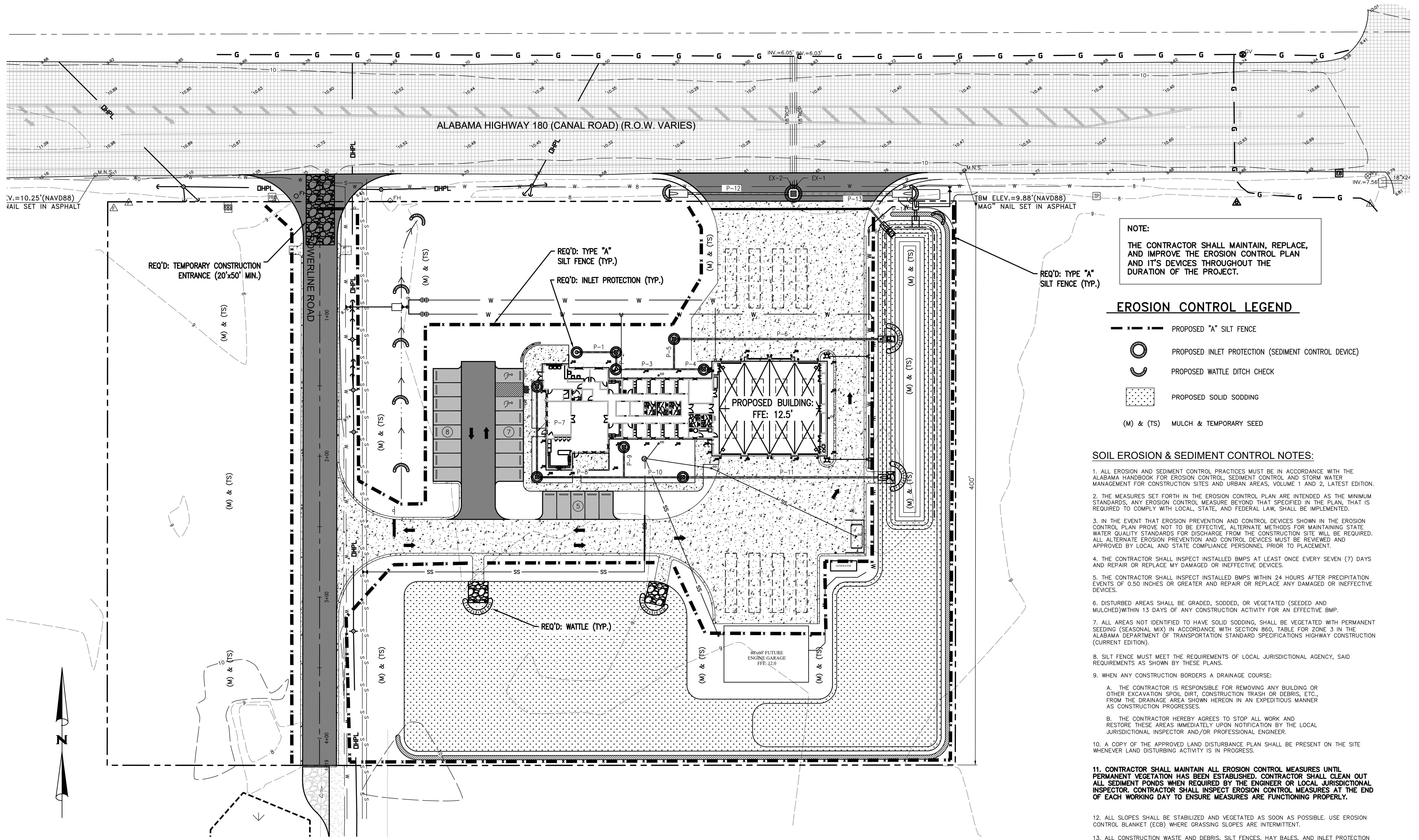


**Sawgrass**  
 ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
 30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

**UTILITY PLAN**  
**FIRE STATION NO. 5**  
**CITY OF ORANGE BEACH**

SCALE: 1"=30'  
 DATE: NOVEMBER, 2021  
 DRAWN BY: JNF  
 CHECKED BY: JHR  
 SHEET: 11 OF 20

DWG INFO: SA - CLIENT: V - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG'S BASE - B-23-21.DWG - 11/20/2021 - 4:02:20 PM



**NOTE:**  
 THE CONTRACTOR SHALL MAINTAIN, REPLACE, AND IMPROVE THE EROSION CONTROL PLAN AND ITS DEVICES THROUGHOUT THE DURATION OF THE PROJECT.

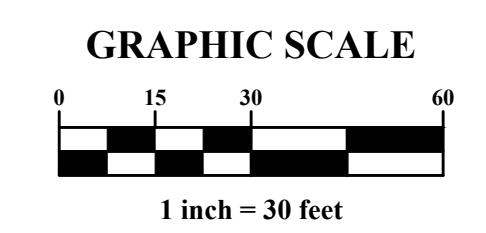
**EROSION CONTROL LEGEND**

- x --- PROPOSED "A" SILT FENCE
- PROPOSED INLET PROTECTION (SEDIMENT CONTROL DEVICE)
- ⌋ PROPOSED WATTLE DITCH CHECK
- ▨ PROPOSED SOLID SODDING
- (M) & (TS) MULCH & TEMPORARY SEED

**SOIL EROSION & SEDIMENT CONTROL NOTES:**

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORM WATER MANAGEMENT FOR CONSTRUCTION SITES AND URBAN AREAS, VOLUME 1 AND 2, LATEST EDITION.
2. THE MEASURES SET FORTH IN THE EROSION CONTROL PLAN ARE INTENDED AS THE MINIMUM STANDARDS, ANY EROSION CONTROL MEASURE BEYOND THAT SPECIFIED IN THE PLAN, THAT IS REQUIRED TO COMPLY WITH LOCAL, STATE, AND FEDERAL LAW, SHALL BE IMPLEMENTED.
3. IN THE EVENT THAT EROSION PREVENTION AND CONTROL DEVICES SHOWN IN THE EROSION CONTROL PLAN PROVE NOT TO BE EFFECTIVE, ALTERNATE METHODS FOR MAINTAINING STATE WATER QUALITY STANDARDS FOR DISCHARGE FROM THE CONSTRUCTION SITE WILL BE REQUIRED. ALL ALTERNATE EROSION PREVENTION AND CONTROL DEVICES MUST BE REVIEWED AND APPROVED BY LOCAL AND STATE COMPLIANCE PERSONNEL PRIOR TO PLACEMENT.
4. THE CONTRACTOR SHALL INSPECT INSTALLED BMP'S AT LEAST ONCE EVERY SEVEN (7) DAYS AND REPAIR OR REPLACE MY DAMAGED OR INEFFECTIVE DEVICES.
5. THE CONTRACTOR SHALL INSPECT INSTALLED BMP'S WITHIN 24 HOURS AFTER PRECIPITATION EVENTS OF 0.50 INCHES OR GREATER AND REPAIR OR REPLACE ANY DAMAGED OR INEFFECTIVE DEVICES.
6. DISTURBED AREAS SHALL BE GRADED, SODDED, OR VEGETATED (SEEDED AND MULCHED) WITHIN 13 DAYS OF ANY CONSTRUCTION ACTIVITY FOR AN EFFECTIVE BMP.
7. ALL AREAS NOT IDENTIFIED TO HAVE SOLID SODDING, SHALL BE VEGETATED WITH PERMANENT SEEDING (SEASONAL MIX) IN ACCORDANCE WITH SECTION 860, TABLE FOR ZONE 3 IN THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS HIGHWAY CONSTRUCTION (CURRENT EDITION).
8. SILT FENCE MUST MEET THE REQUIREMENTS OF LOCAL JURISDICTIONAL AGENCY, SAID REQUIREMENTS AS SHOWN BY THESE PLANS.
9. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE:
  - A. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY BUILDING OR OTHER EXCAVATION SPOIL DIRT, CONSTRUCTION TRASH OR DEBRIS, ETC., FROM THE DRAINAGE AREA SHOWN HEREON IN AN EXPEDITIOUS MANNER AS CONSTRUCTION PROGRESSES.
  - B. THE CONTRACTOR HEREBY AGREES TO STOP ALL WORK AND RESTORE THESE AREAS IMMEDIATELY UPON NOTIFICATION BY THE LOCAL JURISDICTIONAL INSPECTOR AND/OR PROFESSIONAL ENGINEER.
10. A COPY OF THE APPROVED LAND DISTURBANCE PLAN SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBING ACTIVITY IS IN PROGRESS.
11. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED. CONTRACTOR SHALL CLEAN OUT ALL SEDIMENT PONDS WHEN REQUIRED BY THE ENGINEER OR LOCAL JURISDICTIONAL INSPECTOR. CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
12. ALL SLOPES SHALL BE STABILIZED AND VEGETATED AS SOON AS POSSIBLE. USE EROSION CONTROL BLANKET (ECB) WHERE GRASSING SLOPES ARE INTERMITTENT.
13. ALL CONSTRUCTION WASTE AND DEBRIS, SILT FENCES, HAY BALES, AND INLET PROTECTION AND OTHER TEMPORARY BMP'S SHALL BE REMOVED FROM THE SITE UPON CONSTRUCTION COMPLETION.

NUMBER:	REVISION:	DATE:



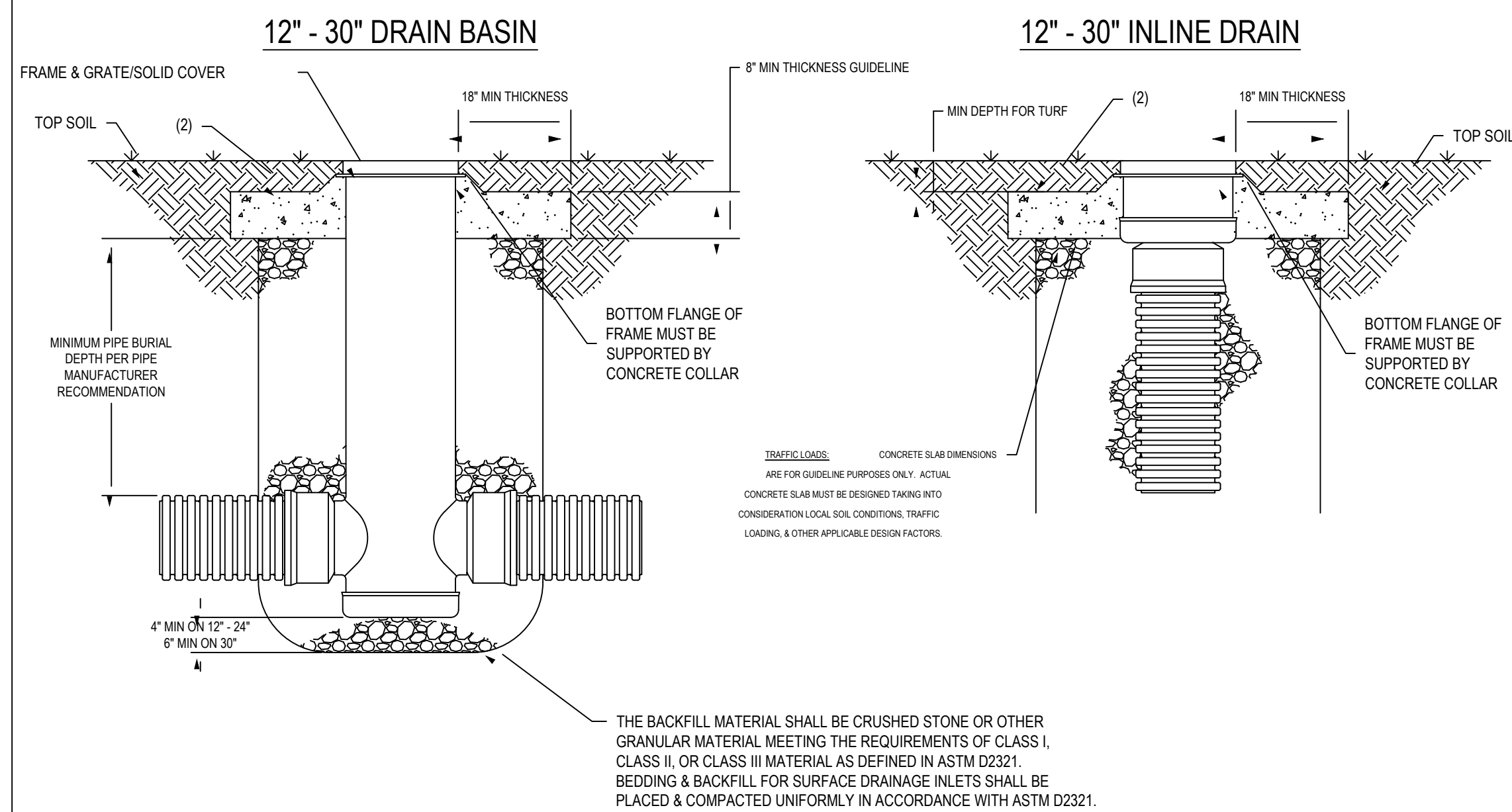
**ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT**  
 30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

**EROSION CONTROL PLAN**  
**FIRE STATION NO. 5**  
**CITY OF ORANGE BEACH**

SCALE: 1"=30'
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 12 OF 20

DWG INFO: SA - CLIENTS: V1 - 054 - ORANGE BEACH FIRE STATION CITY OF ORANGE BEACH ENGINEERING PRODUCTION DWG'S BASE B-25-21 DWG - 11/20/2021 4:32:24 PM

**NYLOPLAST TURF TRAFFIC INSTALLATION**



- GRATES/SOLID COVERS SHALL MEET H-20 LOAD RATING FOR 30' FEEDSTRAK & 12\"/>

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN OR MANUFACTURE OF ANY ARTICLE HEREFROM FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY	EBC	MATERIAL	
DATE	01-05-09	PROJECT NO./NAME	
REVISION	NMH	DATE	03-14-16
DWG. NO.	A	SCALE	1:25
SHEET	1 OF 1	DWG. NO.	7001-110-340
REV	F		

3101 VERONA AVE  
BURLINGAME, CA 94010  
PH: (770) 852-2440  
FAX: (770) 852-2400  
WWW.NYLOPLAST.COM

TITLE: 12 IN. 30 IN. DRAIN BASIN & INLINE DRAIN TURF TRAFFIC INSTALLATION

DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY. DIMENSIONS ARE IN INCHES. GRATE MEETS H-20 LOAD RATING. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05. PAINT: CASTINGS ARE FINISHED WITH A BLACK PAINT. LOCKING DEVICE AVAILABLE UPON REQUEST. SEE DRAWING NO. 7001-110-029.

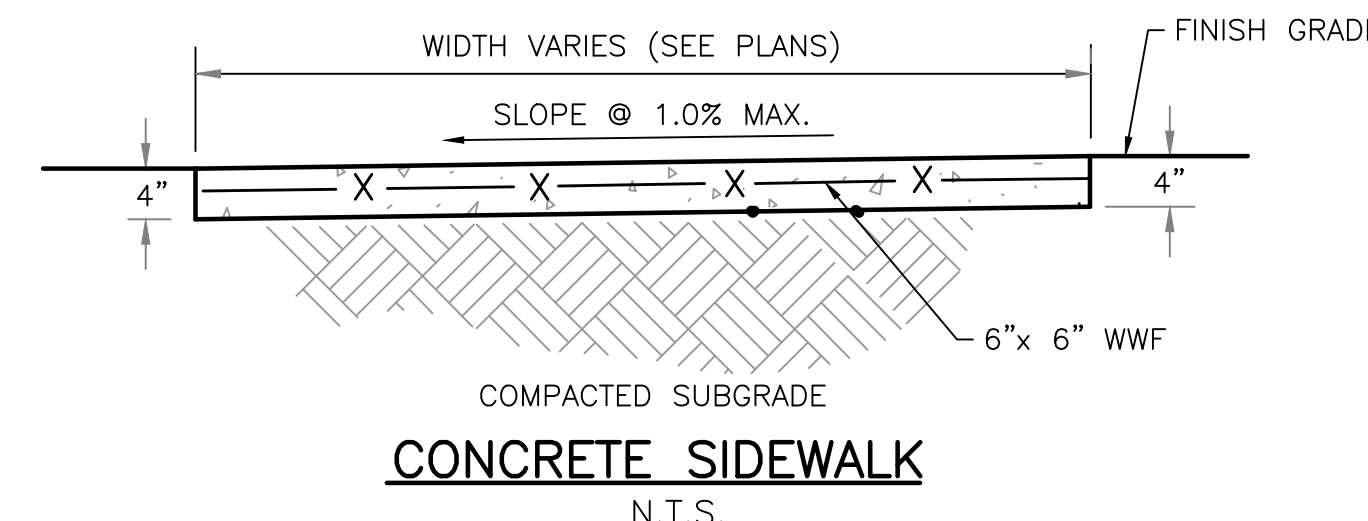
DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-4-08	PROJECT NO./NAME	
REVISION	ECG	DATE	3-15-08
DWG. NO.	A	SCALE	1:10
SHEET	1 OF 1	DWG. NO.	7001-110-213
REV	C		

3101 VERONA AVE  
BURLINGAME, CA 94010  
PH: (770) 852-2440  
FAX: (770) 852-2400  
WWW.NYLOPLAST.COM

TITLE: 18 IN. STANDARD GRATE ASSEMBLY - TYPE C

**18 INCH STANDARD GRATE INLET TOP**

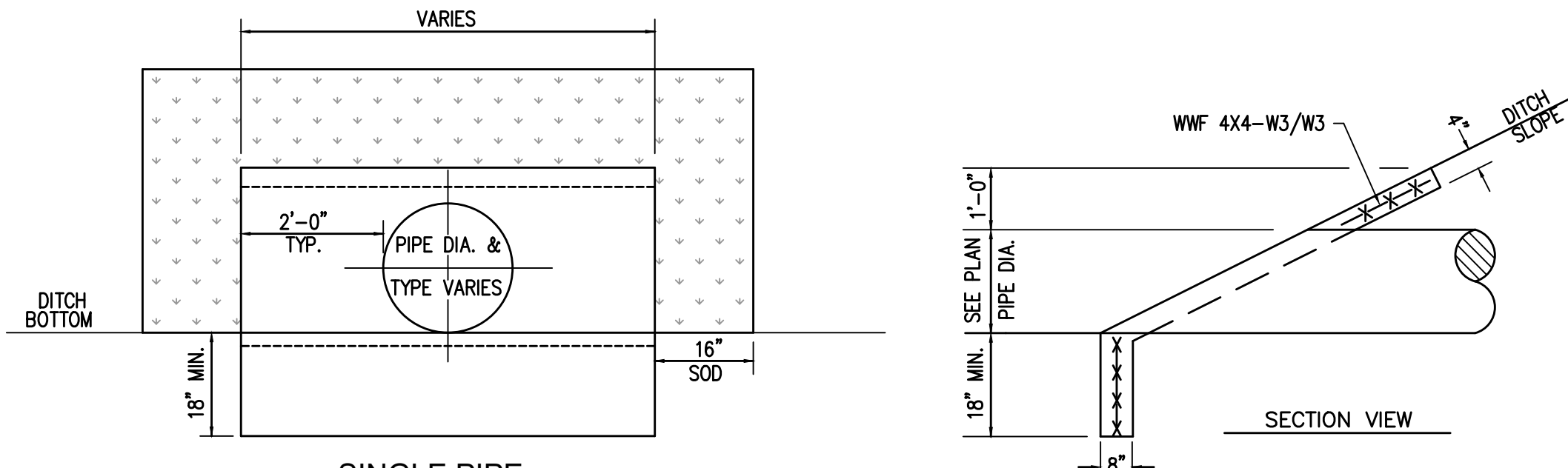
N.T.S.



**CONCRETE SIDEWALK**  
N.T.S.

**NYLOPLAST INLET DETAILS**

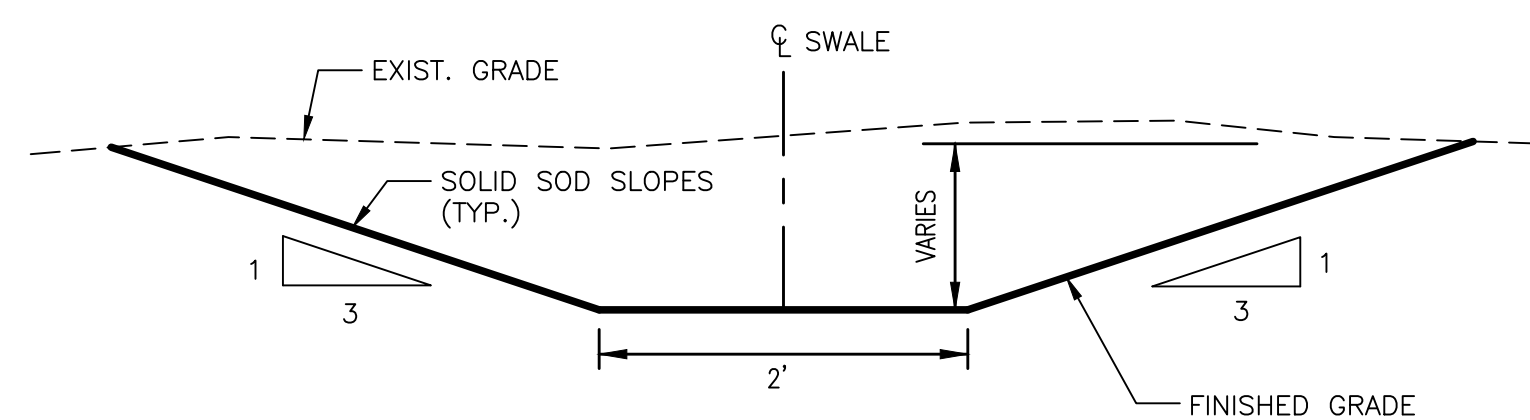
N.T.S.



**SINGLE PIPE FRONT VIEW**

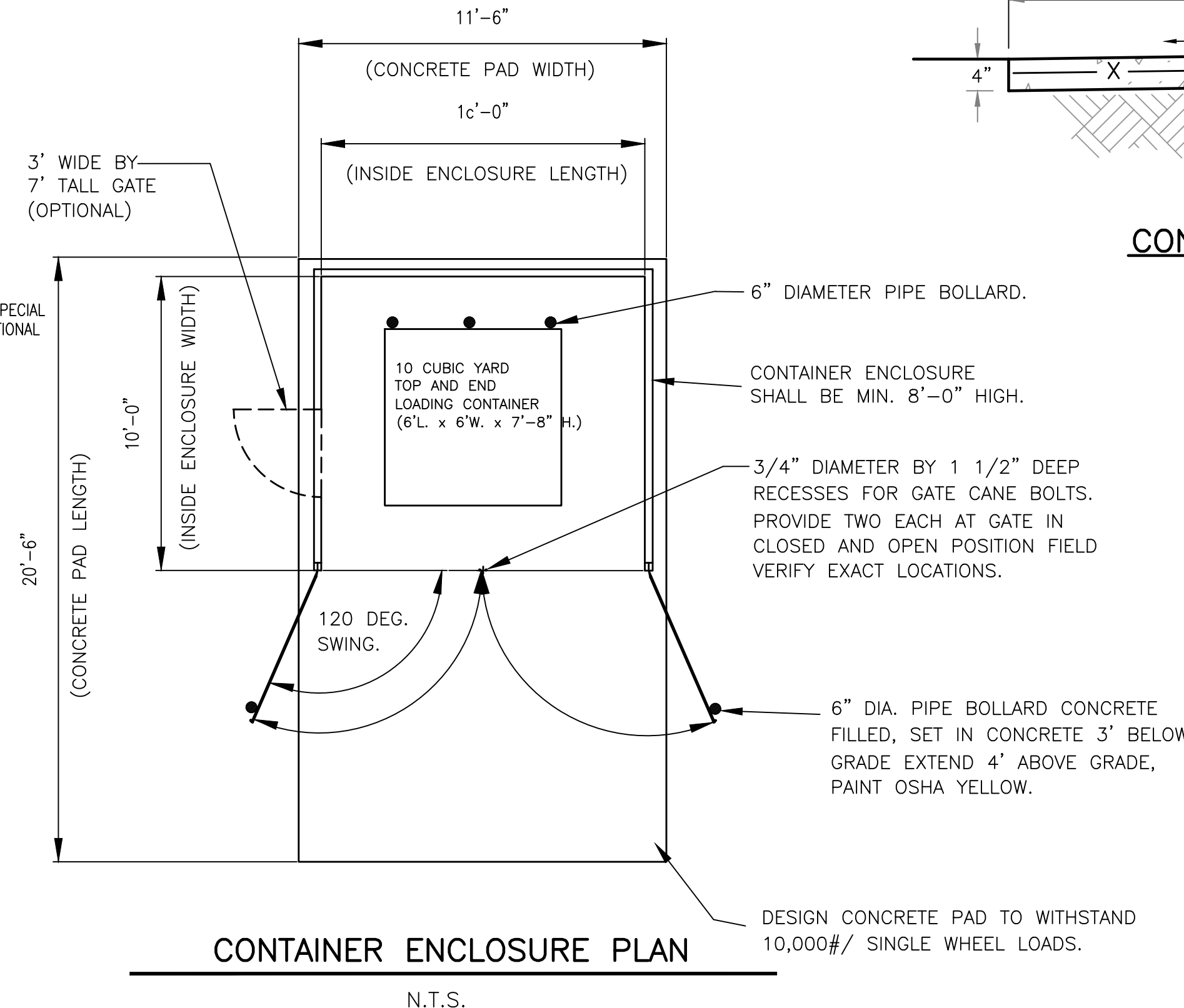
**CONCRETE SLOPED HEADWALL DETAIL**

N.T.S.



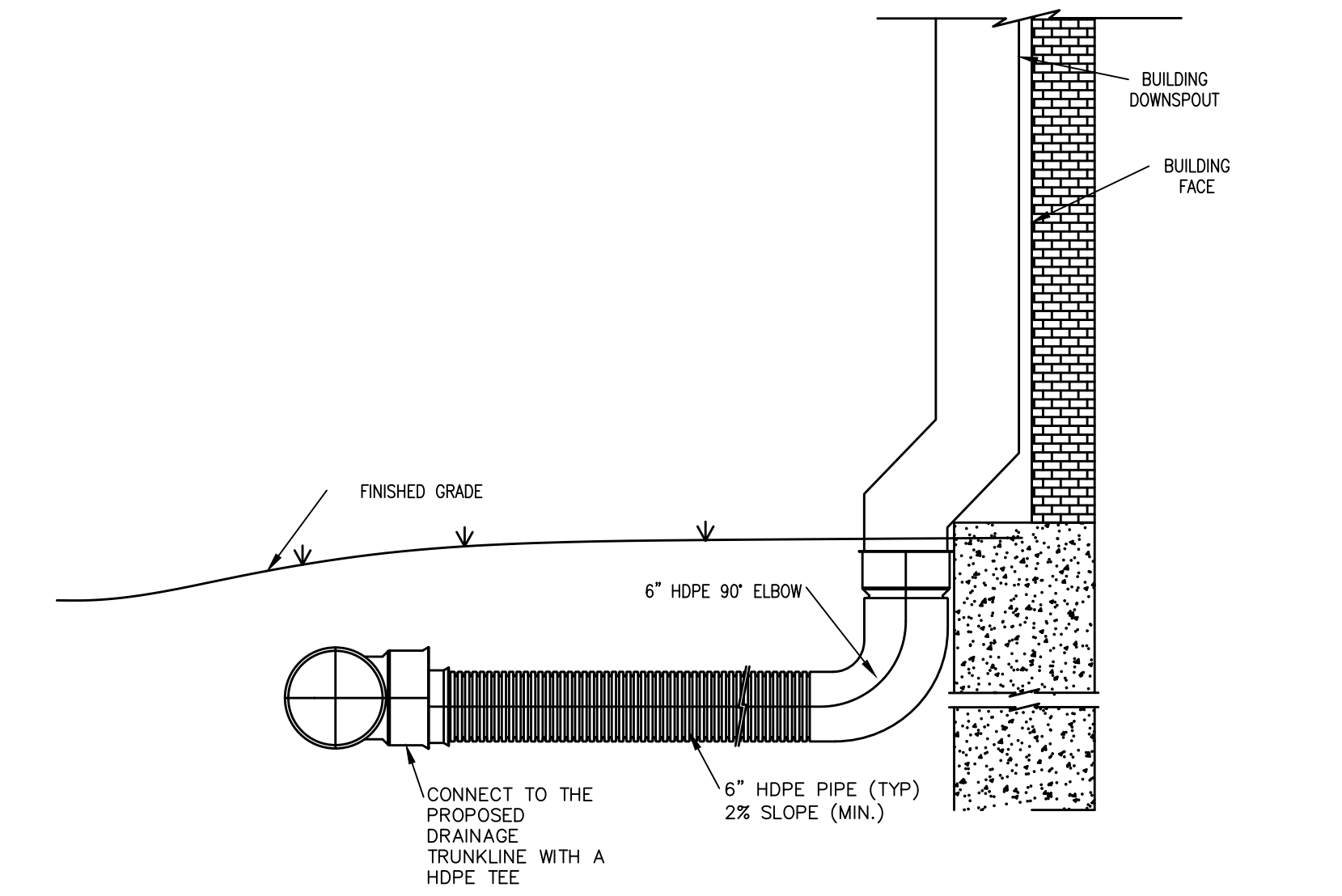
**DRAINAGE SWALE DETAIL**

N.T.S.



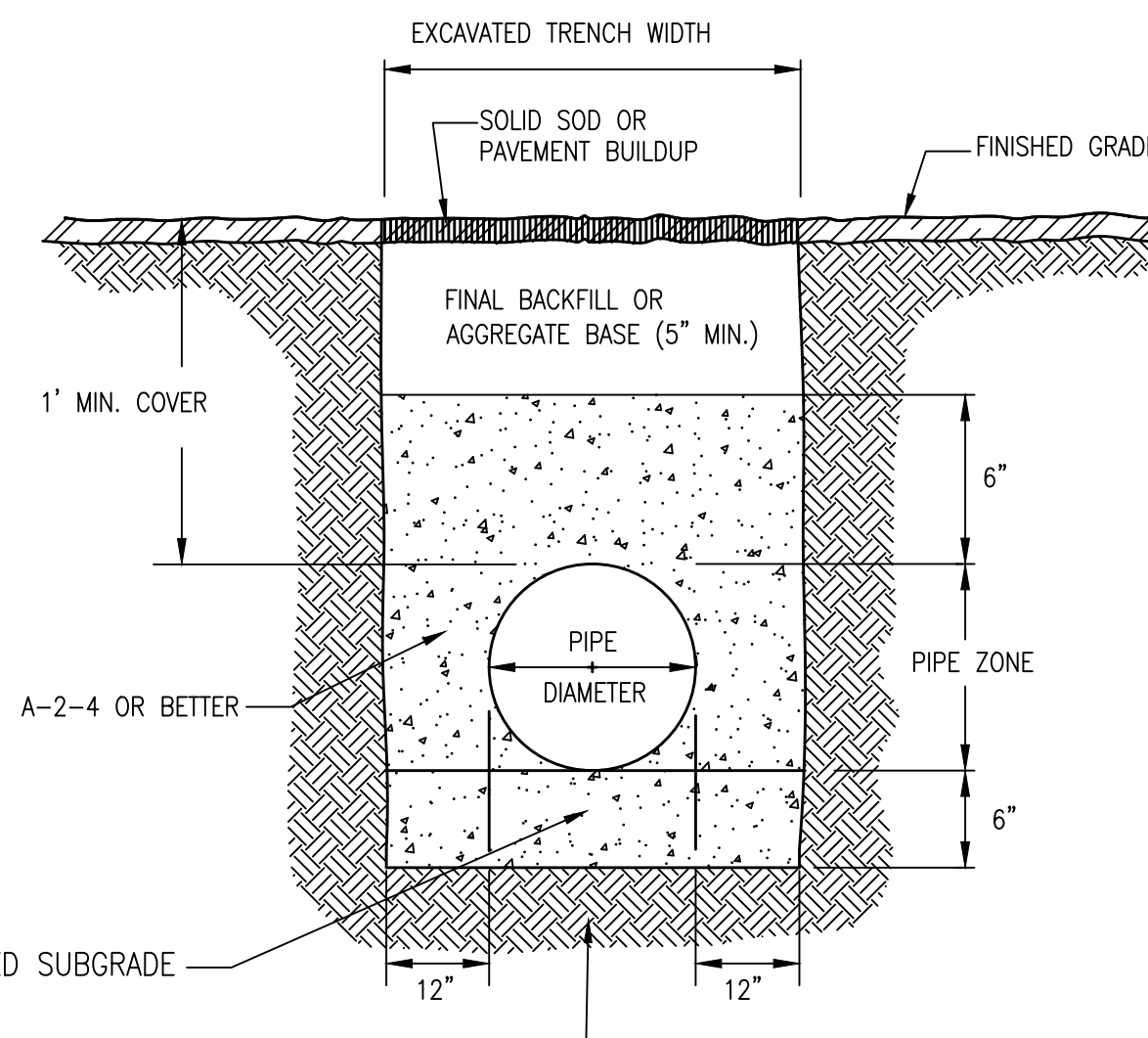
**CONTAINER ENCLOSURE PLAN**

N.T.S.



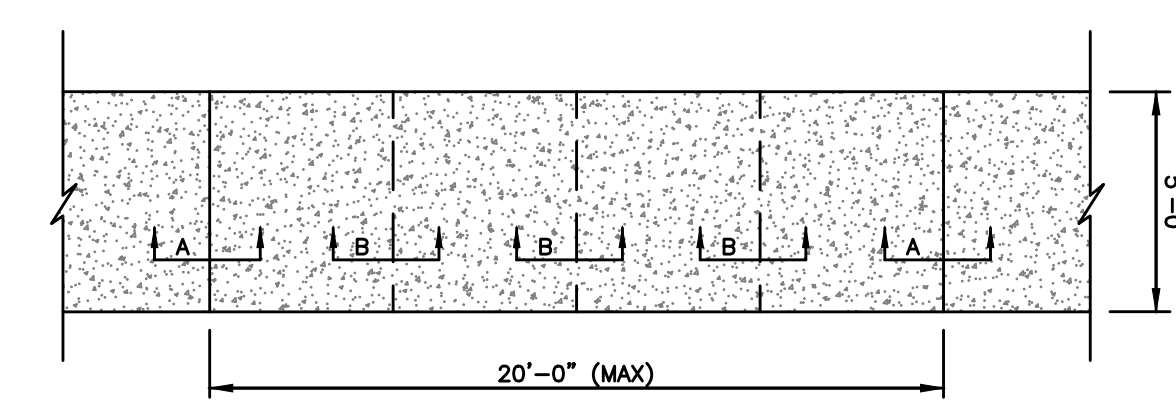
**DOWNSPOUT CONNECTION DETAIL**

N.T.S.



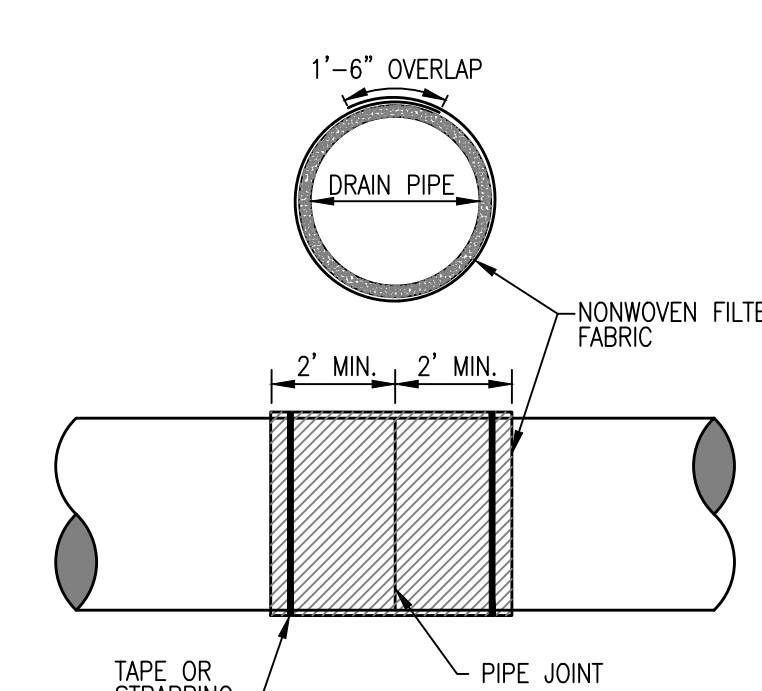
**TRENCH BACKFILL DETAIL**

N.T.S.



**CONCRETE WALK DETAIL**

N.T.S.



**PIPE JOINT WRAP**

N.T.S.

- NOTES:
- PROVIDE 5 FEET BETWEEN CONTROL JOINTS AND 20 FEET BETWEEN EXPANSION JOINTS.
  - ALL EXPANSION JOINTS SHALL BE 1/2" THICK, NEOPRENE MATERIAL.
  - EXPANSION MATERIAL TO BE USED AT ALL PC'S, PT'S AND STRUCTURES.

NOTE:  
JOINTS ON ALL STORM DRAIN PIPES SHALL BE PIPE WRAPPED WITH A NON-WOVEN FILTER FABRIC AS SHOWN IN THIS DETAIL.

DWG. INFO: S:\PROJECTS\11-054-ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING\PRODUCTION - DWG\11-054-ORANGE BEACH FIRE STATION - DETAILS\DWG-11-054-25-01-43-25-05.DWG

NUMBER:	REVISION:	DATE:

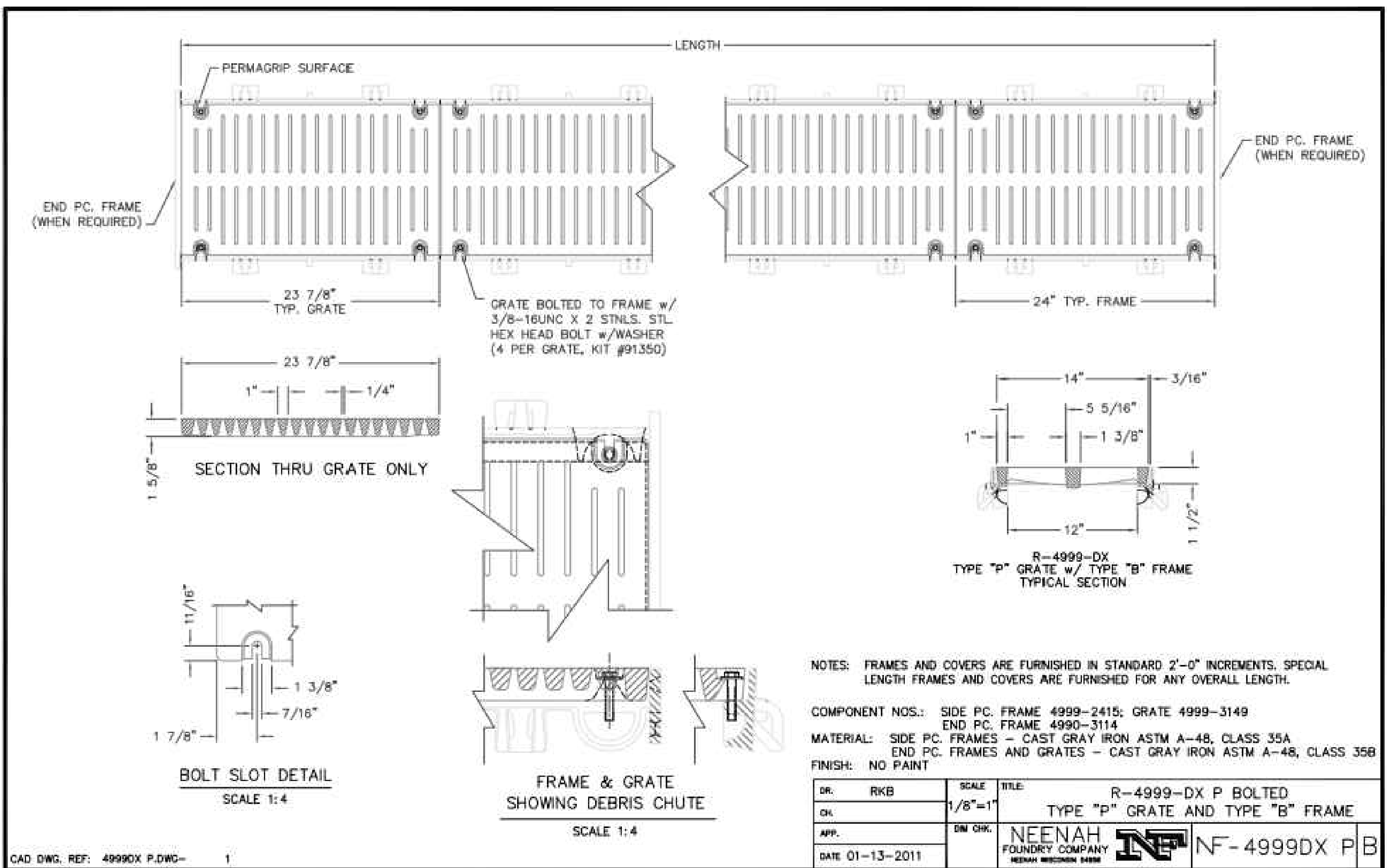
**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

CIVIL CONSTRUCTION DETAILS  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

James H. Robertson  
Professional Engineer  
No. 31242  
11-30-2021

SCALE:	N.T.S.
DATE:	NOVEMBER, 2021
DRAWN BY:	JNF
CHECKED BY:	JHR
SHEET:	13 OF 20





**NOTES:** FRAMES AND COVERS ARE FURNISHED IN STANDARD 2'-0" INCREMENTS. SPECIAL LENGTH FRAMES AND COVERS ARE FURNISHED FOR ANY OVERALL LENGTH.

**COMPONENT NOS.:** SIDE PC. FRAME 4999-2415; GRATE 4999-3149  
 END PC. FRAME 4990-3114

**MATERIAL:** SIDE PC. FRAMES - CAST GRAY IRON ASTM A-48, CLASS 35A  
 END PC. FRAMES AND GRATES - CAST GRAY IRON ASTM A-48, CLASS 35B

**FINISH:** NO PAINT

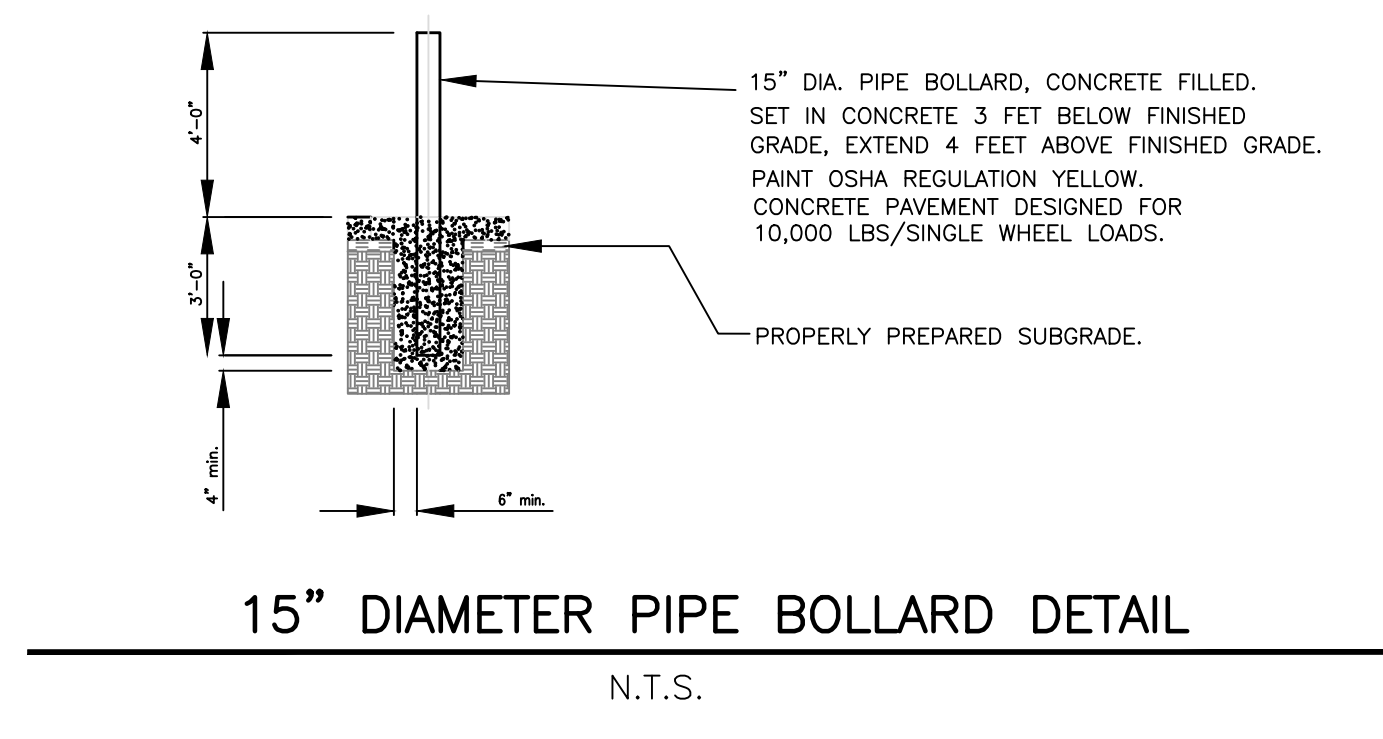
**DR.:** RKB **SCALE:** 1/8"=1' **TITLE:** R-4999-DX P BOLTED TYPE "P" GRATE AND TYPE "B" FRAME

**CH.:** **APP.:** **DATE:** 01-13-2011

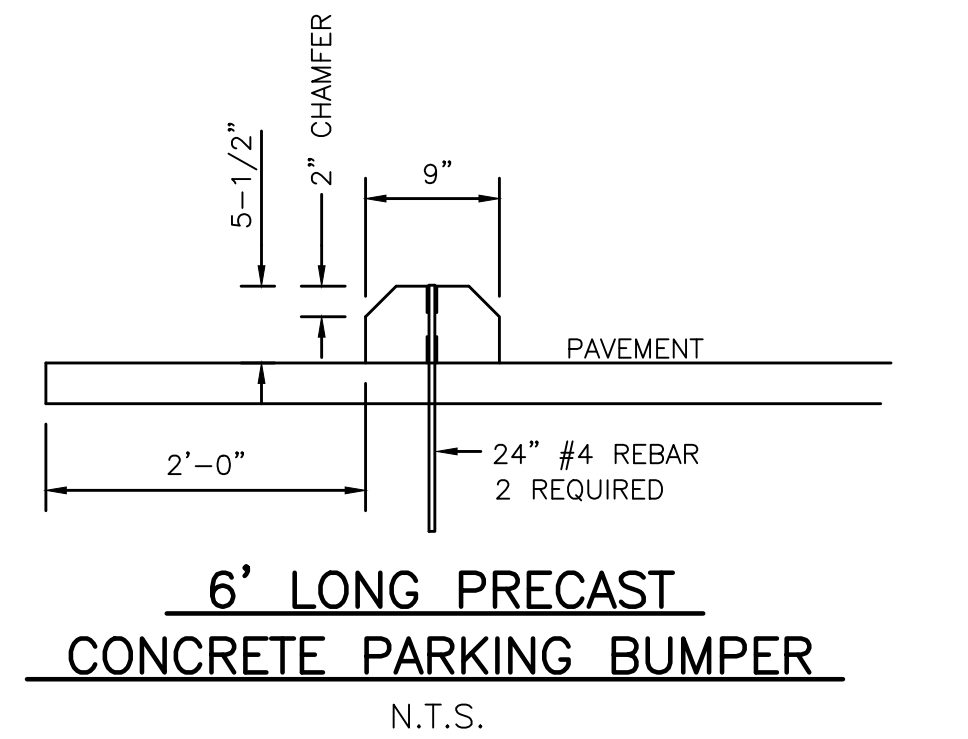
**NEENAH FOUNDRY COMPANY**  
 NEENAH MICHIGAN 48459

**NF-4999DX P/B**

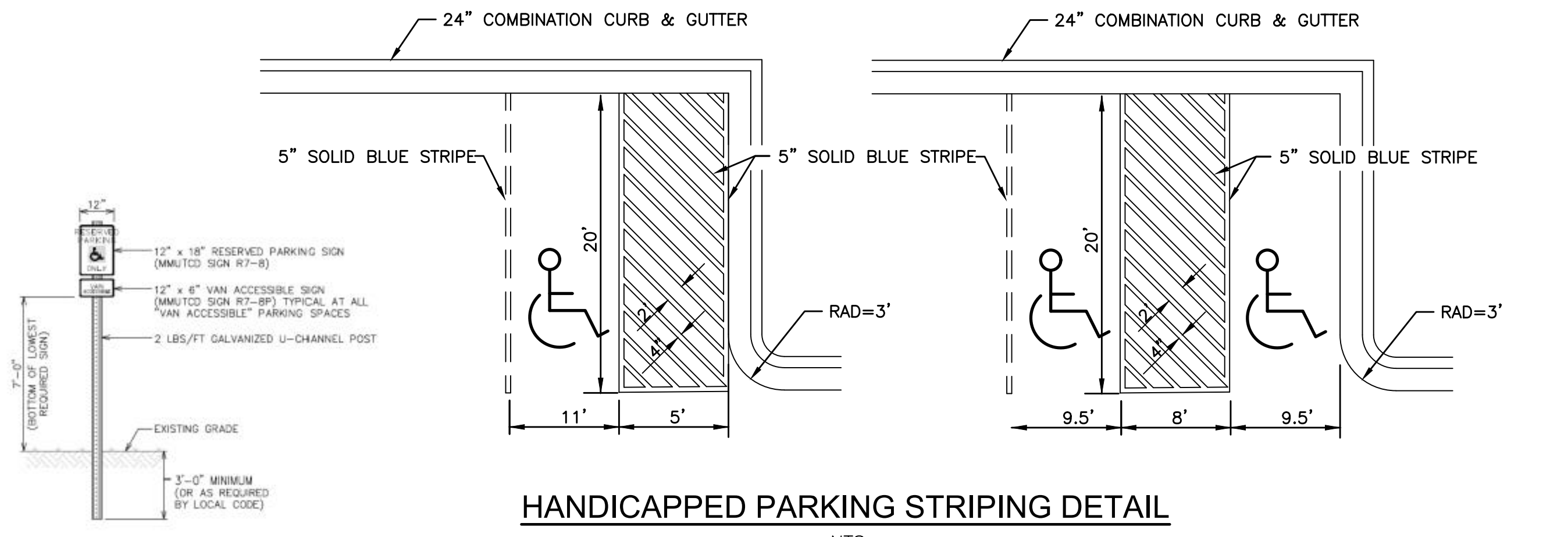
CAD DWG. REF: 4999DX P.DWG- 1



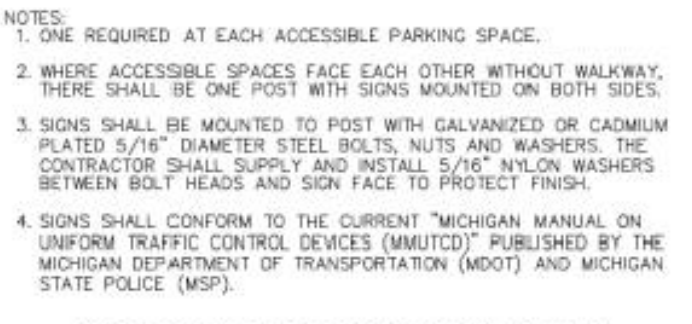
**15" DIAMETER PIPE BOLLARD DETAIL**  
N.T.S.



**6' LONG PRECAST CONCRETE PARKING BUMPER**  
N.T.S.

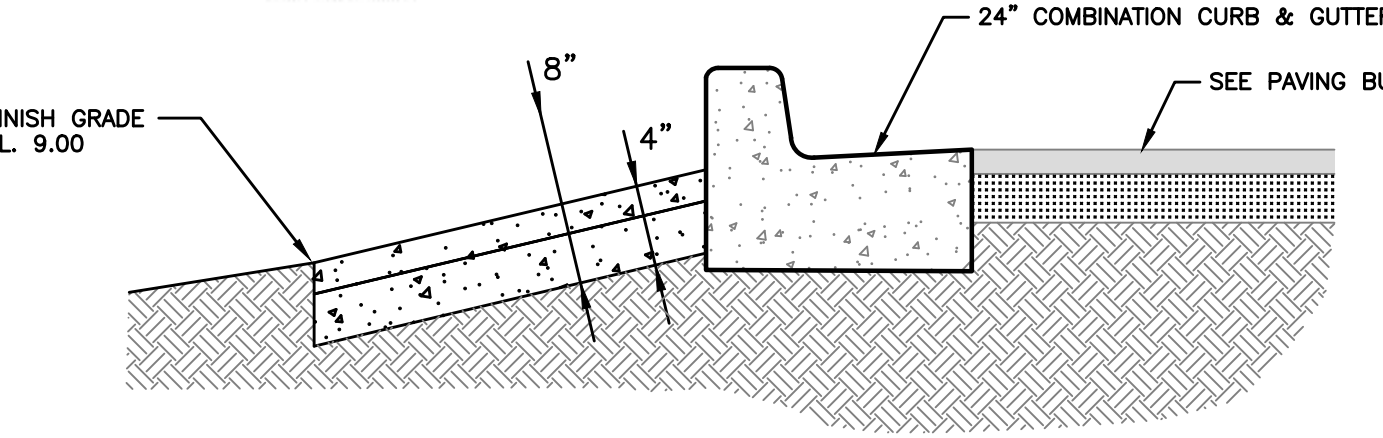


**HANDICAPPED PARKING STRIPING DETAIL**  
NTS

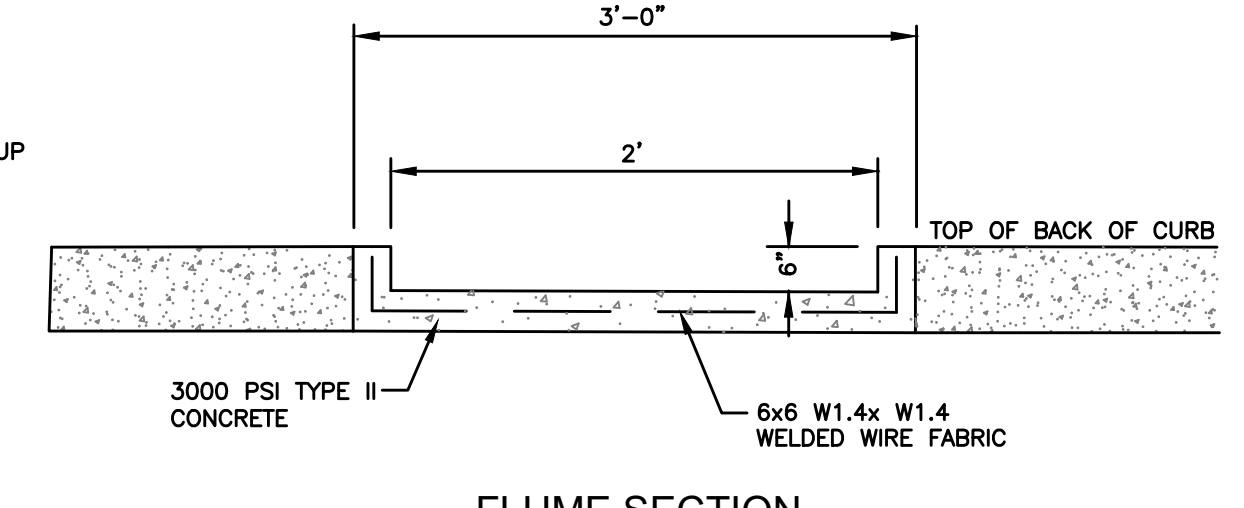


**ACCESSIBLE PARKING SIGN DETAIL**  
NOT TO SCALE

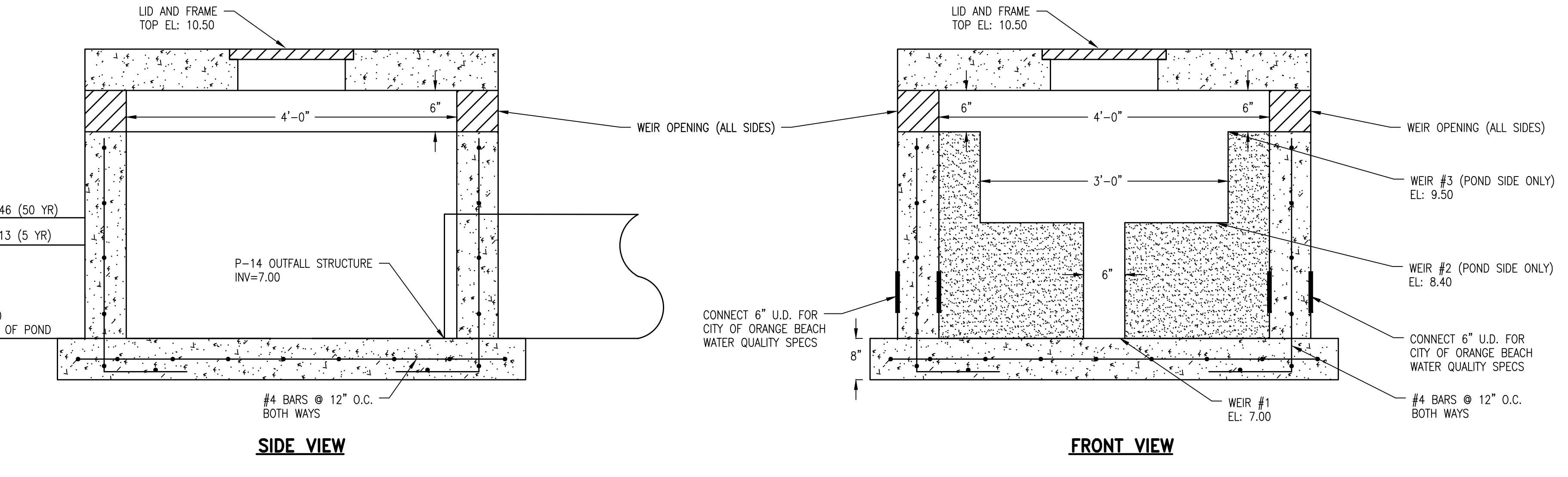
**NOTE:** PARKING STRIPING SHALL BE DONE PER THE REQUIREMENTS OF ALDOT ITEM 701-A SOLID WHITE CLASS 1, TYPE A, 5" WIDE STRIPES. MATERIALS AND CONSTRUCTION REQUIREMENTS OF 701-A, SHALL BE ADHERED TO. HANDICAPPED PARKING SPACES SHALL BE STRIPED IN SOLID BLUE, WITH ACCESS AISLES STRIPED AT TWO FEET ON CENTER AND STANDARD HANDICAPPED SYMBOLS.



**FLUME SIDE VIEW**



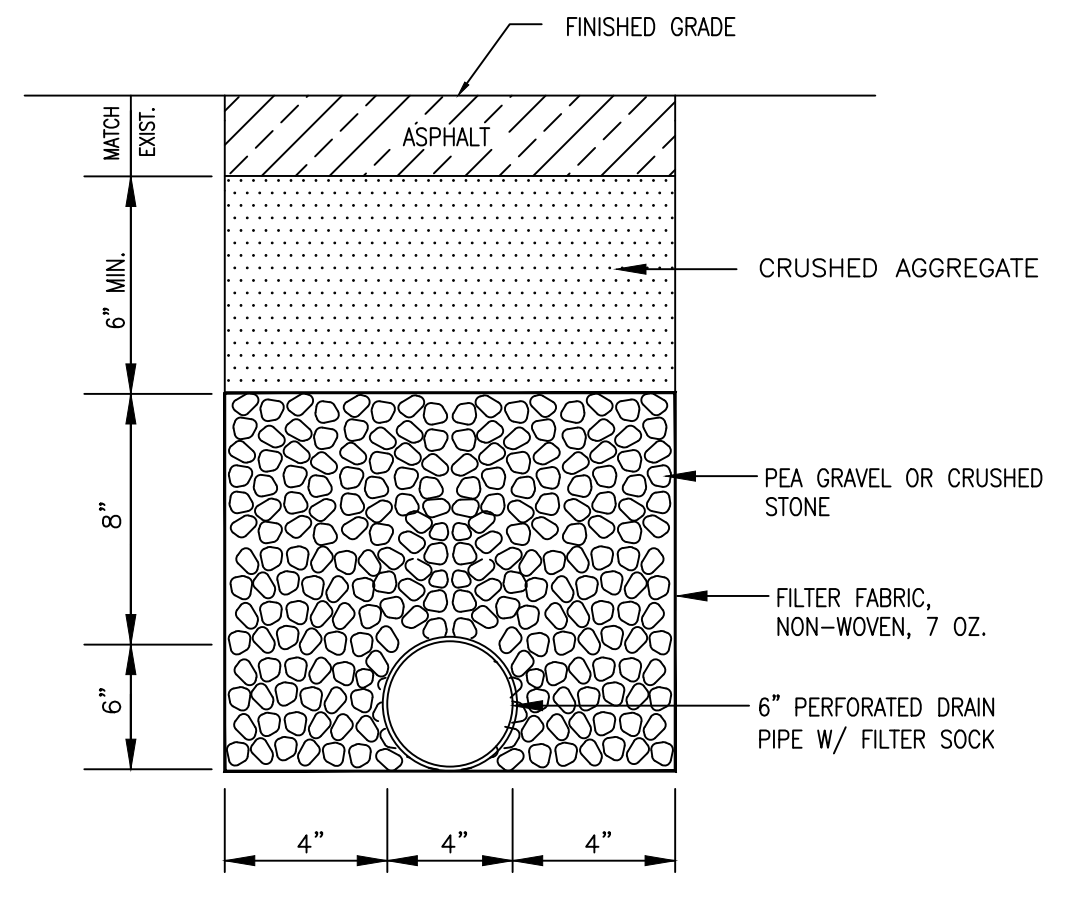
**TYPICAL FLUME DETAIL**  
N.T.S.



**CONCRETE OUTFALL STRUCTURE**  
N.T.S.

EVENT	PRE (CFS)	POST (CFS)	ELEVATION (FEET)
2-YR	2.70	0.79	8.02
5-YR	3.25	1.01	8.13
10-YR	3.70	1.21	8.22
25-YR	4.38	1.52	8.35
50-YR	4.92	1.78	8.46

**DETENTION POND CALCULATIONS**



**DETAIL OF 6" UNDERDRAIN PIPE**  
N.T.S.

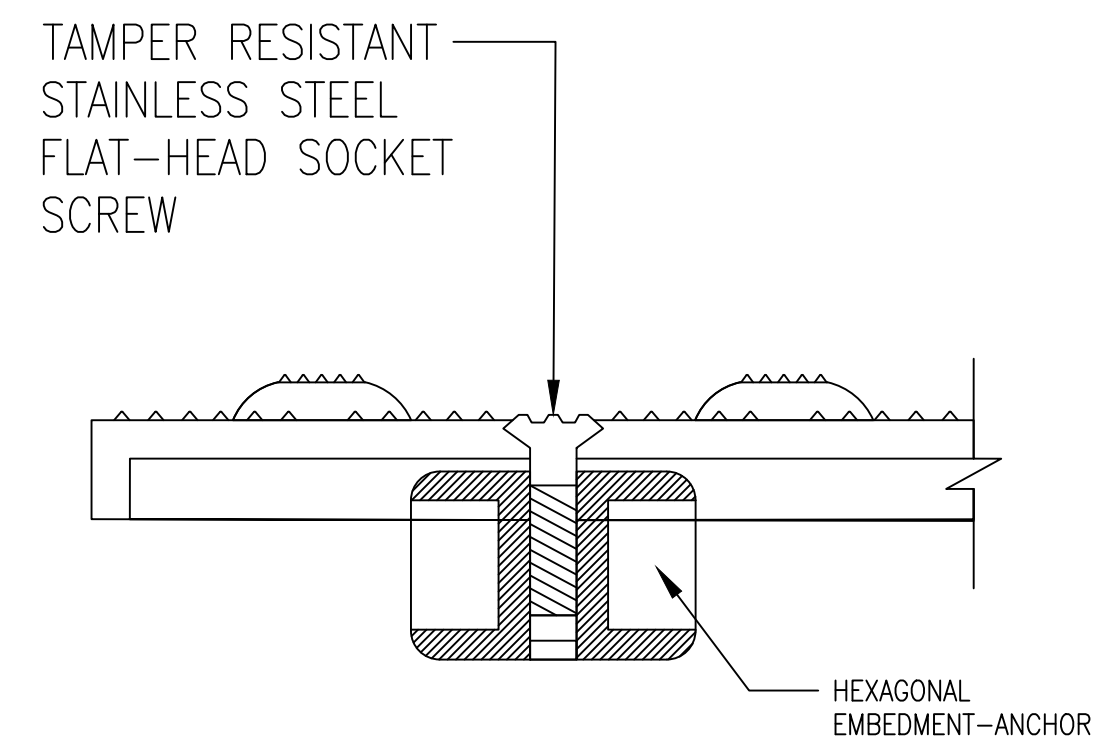
DWG INFO: SA - CLIENTS: V - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG'S TITLE - NOTES - DETAILS DWG - 11/30/2021 - 4:32:30 PM

NUMBER:	REVISION:	DATE:

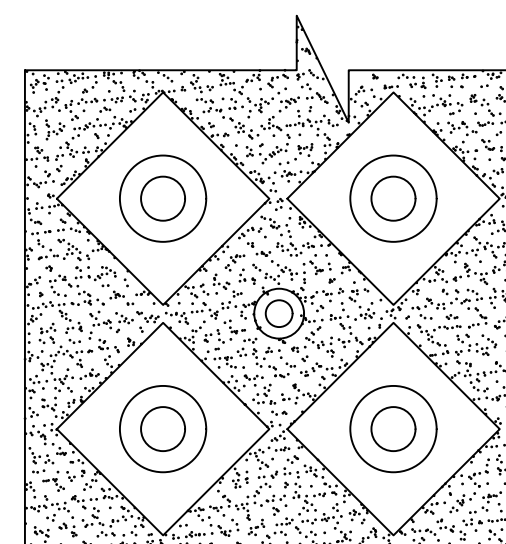
**ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT**  
 30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

**CIVIL CONSTRUCTION DETAILS**  
**FIRE STATION NO. 5**  
**CITY OF ORANGE BEACH**

SCALE: N.T.S.  
 DATE: NOVEMBER, 2021  
 DRAWN BY: JNF  
 CHECKED BY: JHR  
 SHEET: 14 OF 20

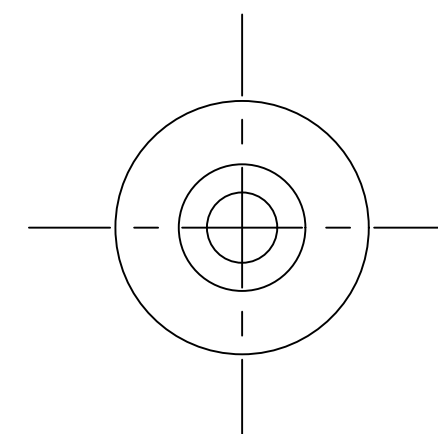


DETAIL-1

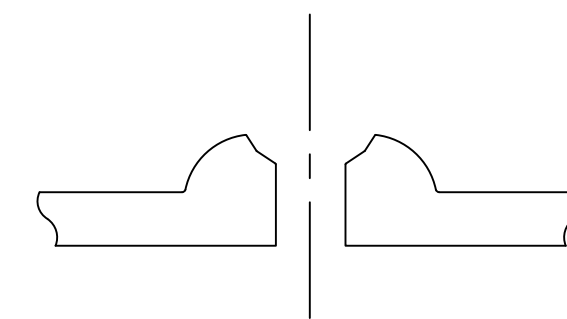


DETAIL-2

"ARMOR TILE-REPLACEMENT"  
FOR NEW CONSTRUCTION  
N.T.S.

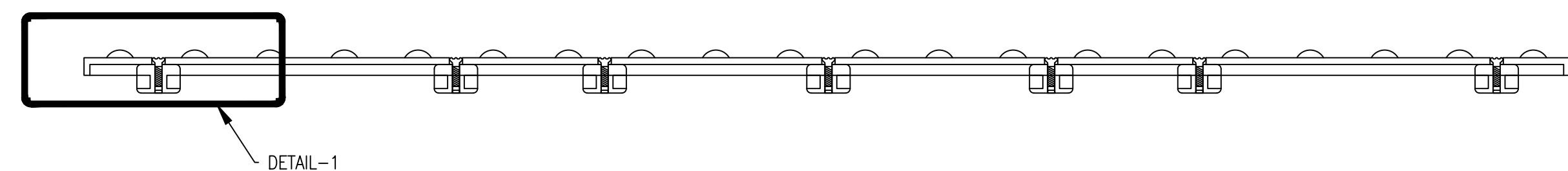
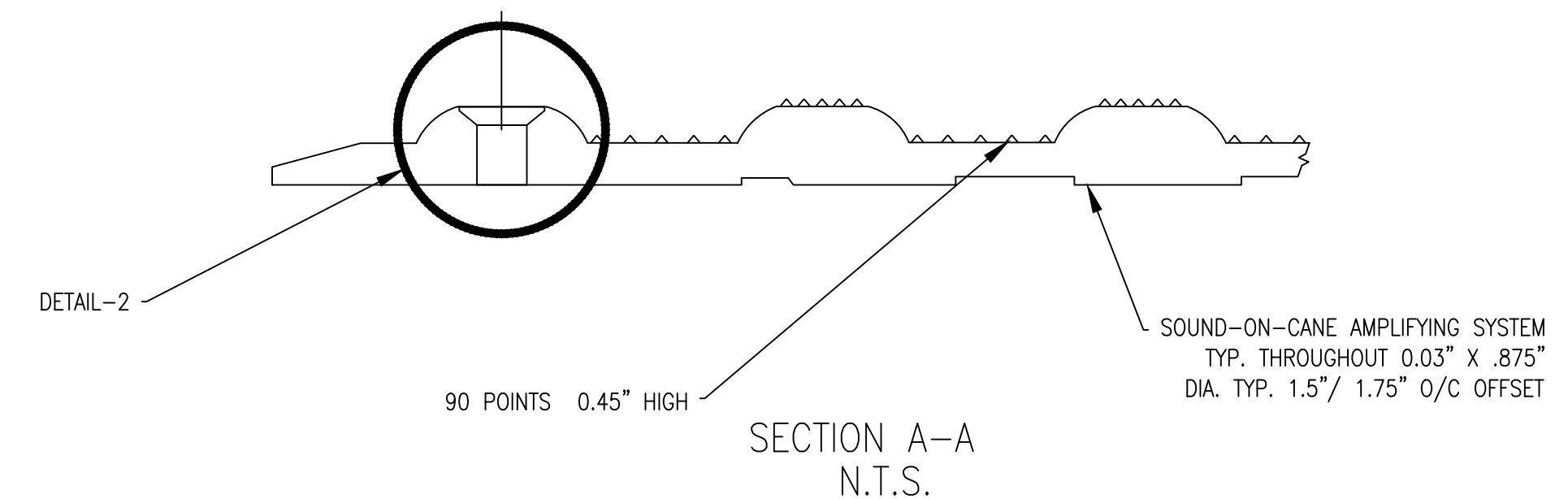


TILE PLAN  
TRUNCATED DOME  
FASTER LOCATION

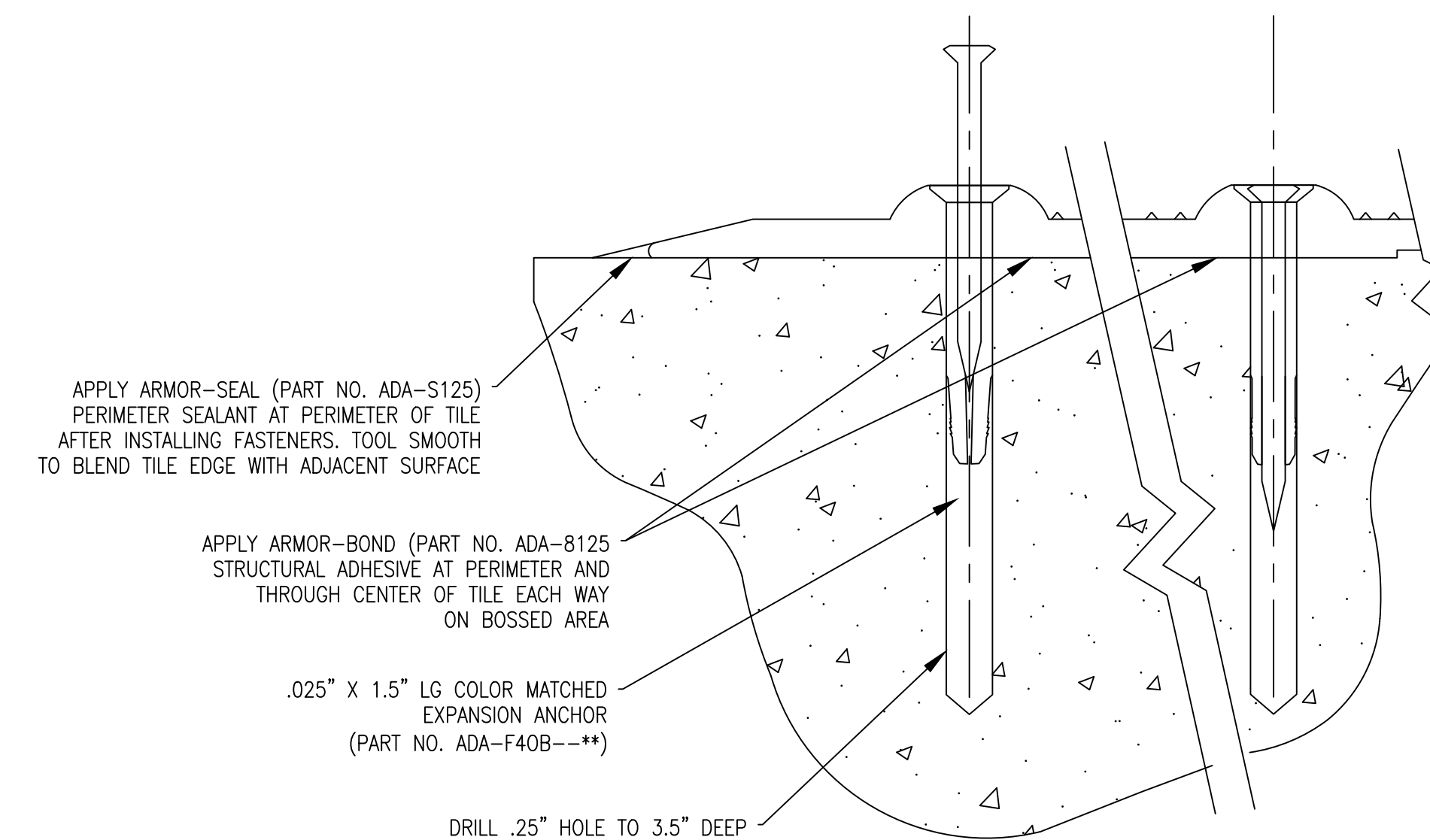


TILE SECTION  
TRUNCATED DOME  
FASTER LOCATION

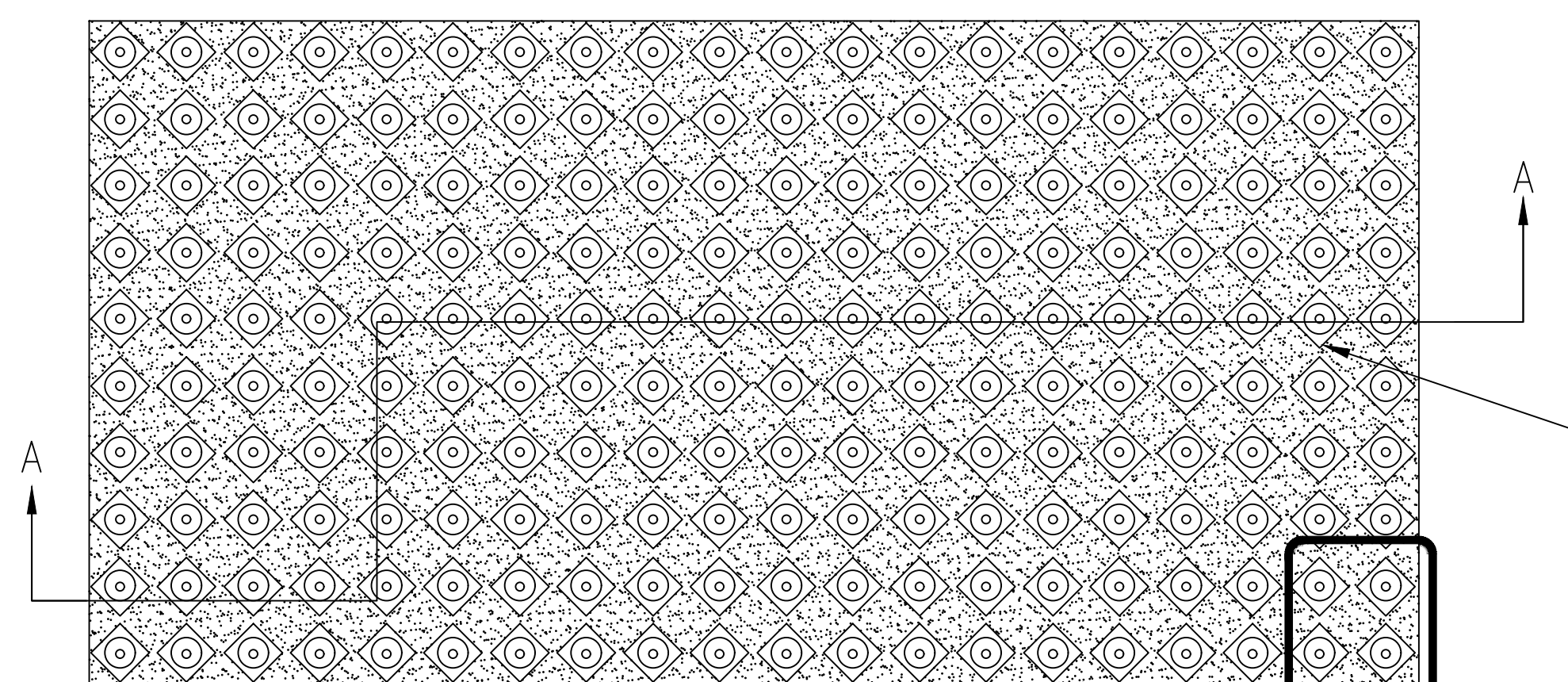
DETAIL-2  
N.T.S.



SECTION A-A  
N.T.S.

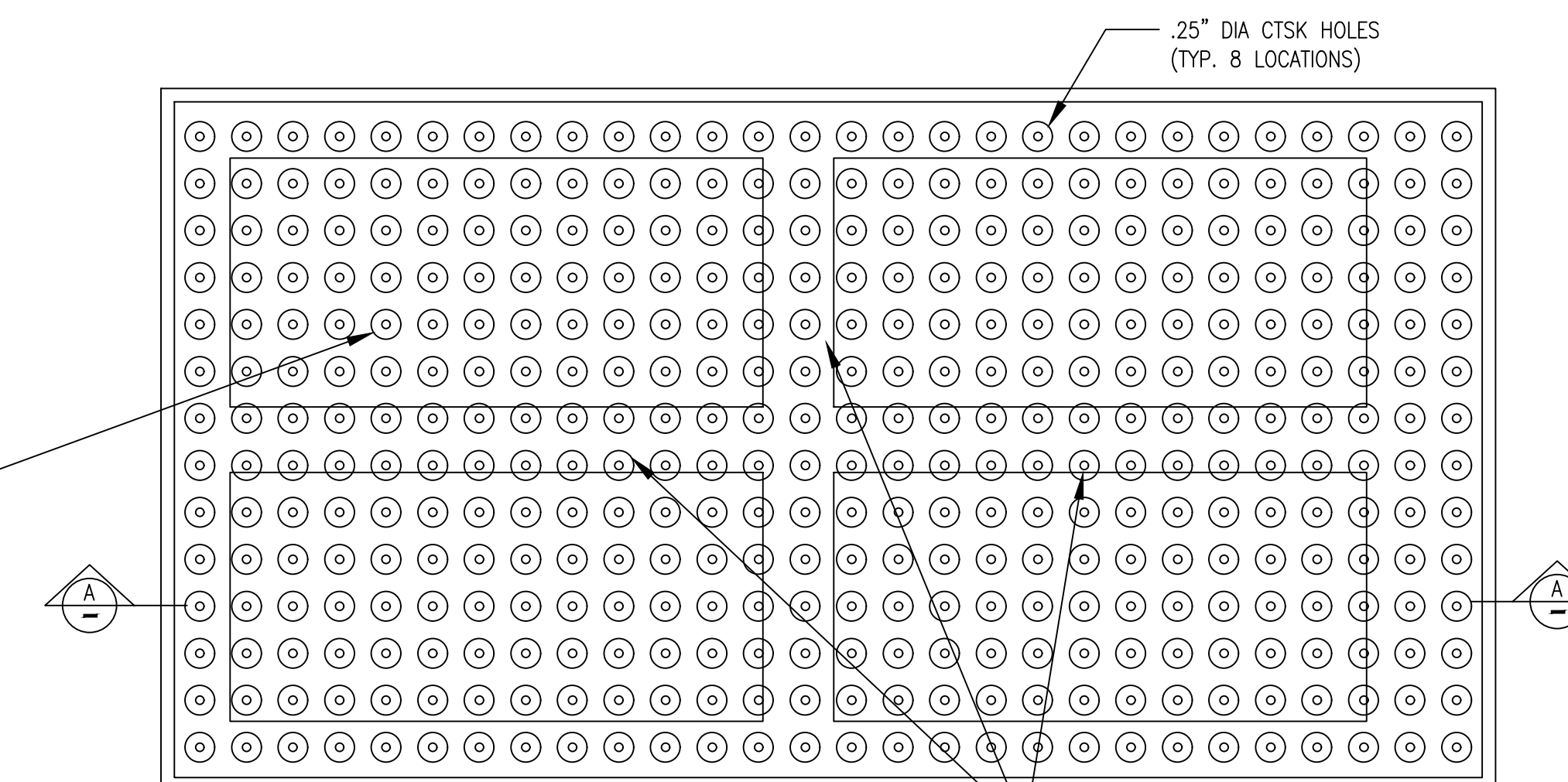


INSTALLATION DETAIL  
AT TILE PERIMETER  
N.T.S.



TILE-TOP VIEW  
N.T.S.

NOTE. ALL DOMES SHALL BE COLONIAL RED.  
FEDERAL COLOR NUMBER 20109  
WHERE MULTIPLE TRUNCATED DOME  
INSERTS ARE REQUIRED CUT & INSTALL AS  
PER MANUFACTURERS RECOMMENDATIONS (TYP)  
MODIFICATIONS TO TRUNCATED DOME  
INSERTS SHALL BE PAID FOR UNDER PAY  
ITEM 618-E2



PLAN-TILE  
N.T.S.

**TRUNCATED DOME STANDARD DETAIL**  
N.T.S.

NUMBER:	REVISION:	DATE:

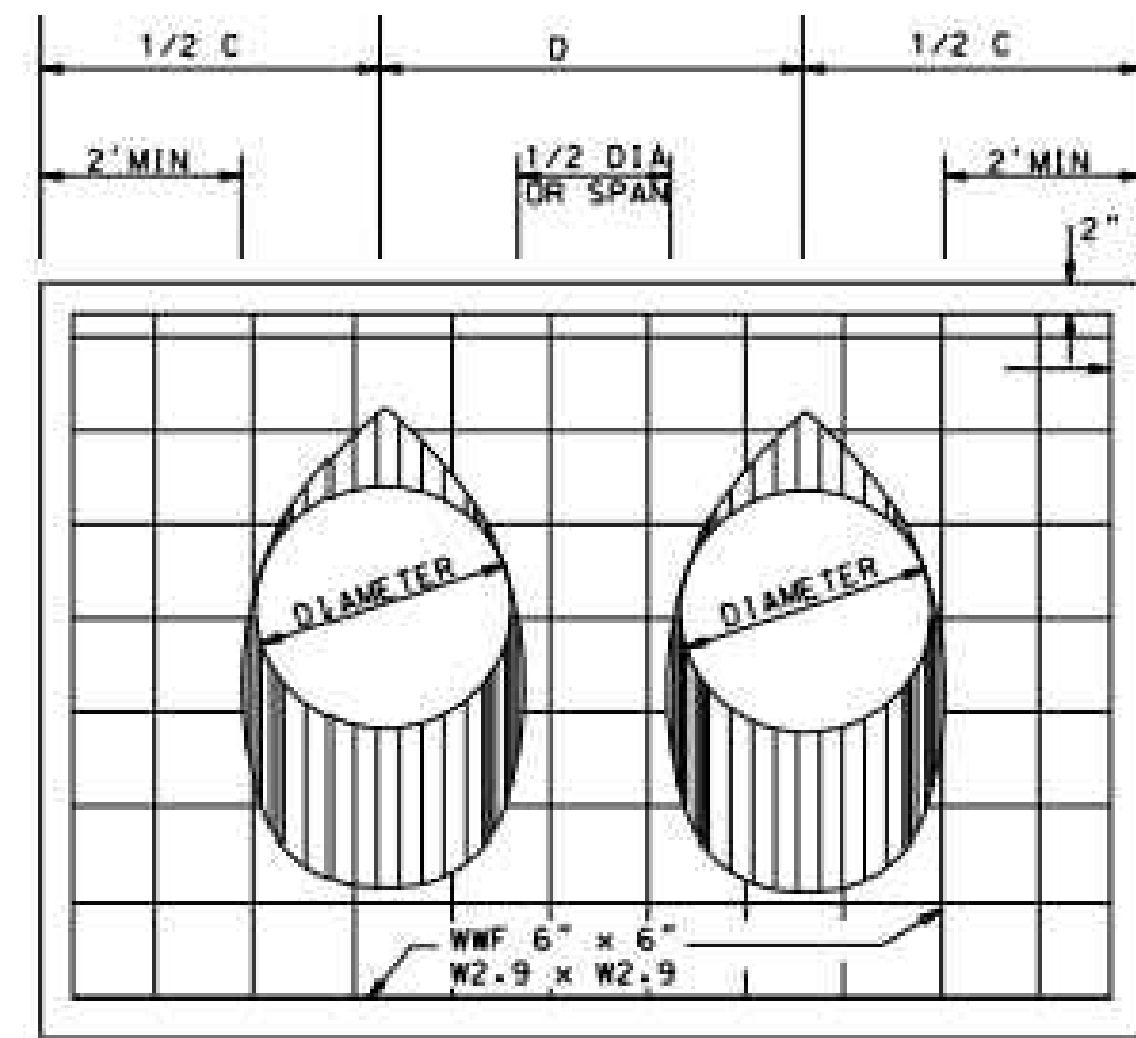
**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

CIVIL CONSTRUCTION DETAILS  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

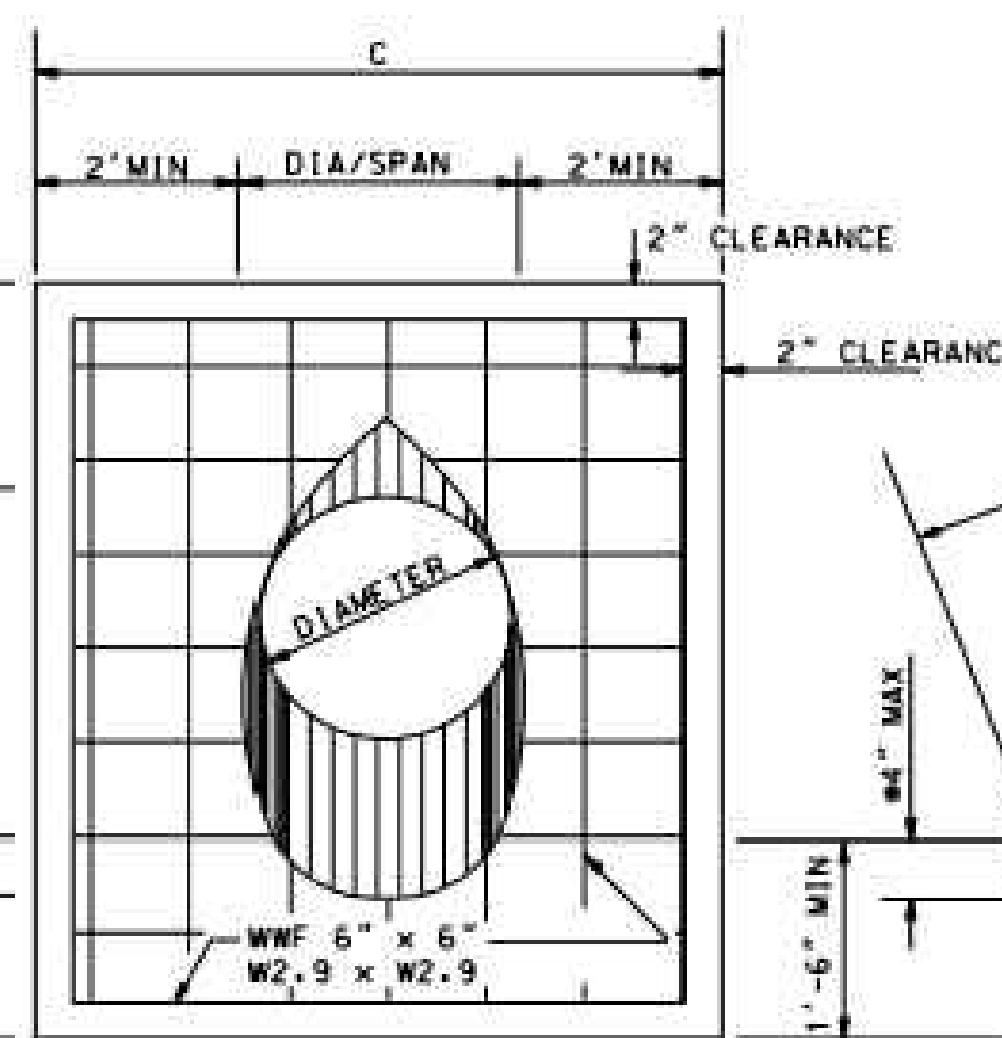
SCALE: N.T.S.  
DATE: NOVEMBER, 2021  
DRAWN BY: JNF  
CHECKED BY: JHR  
SHEET: 15 OF 20

DWG INFO: SA - CLIENTS.VL - 084 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG TITLE: NOTES - DETAILS.DWG - 11/30/2021 - 4:32:33 PM

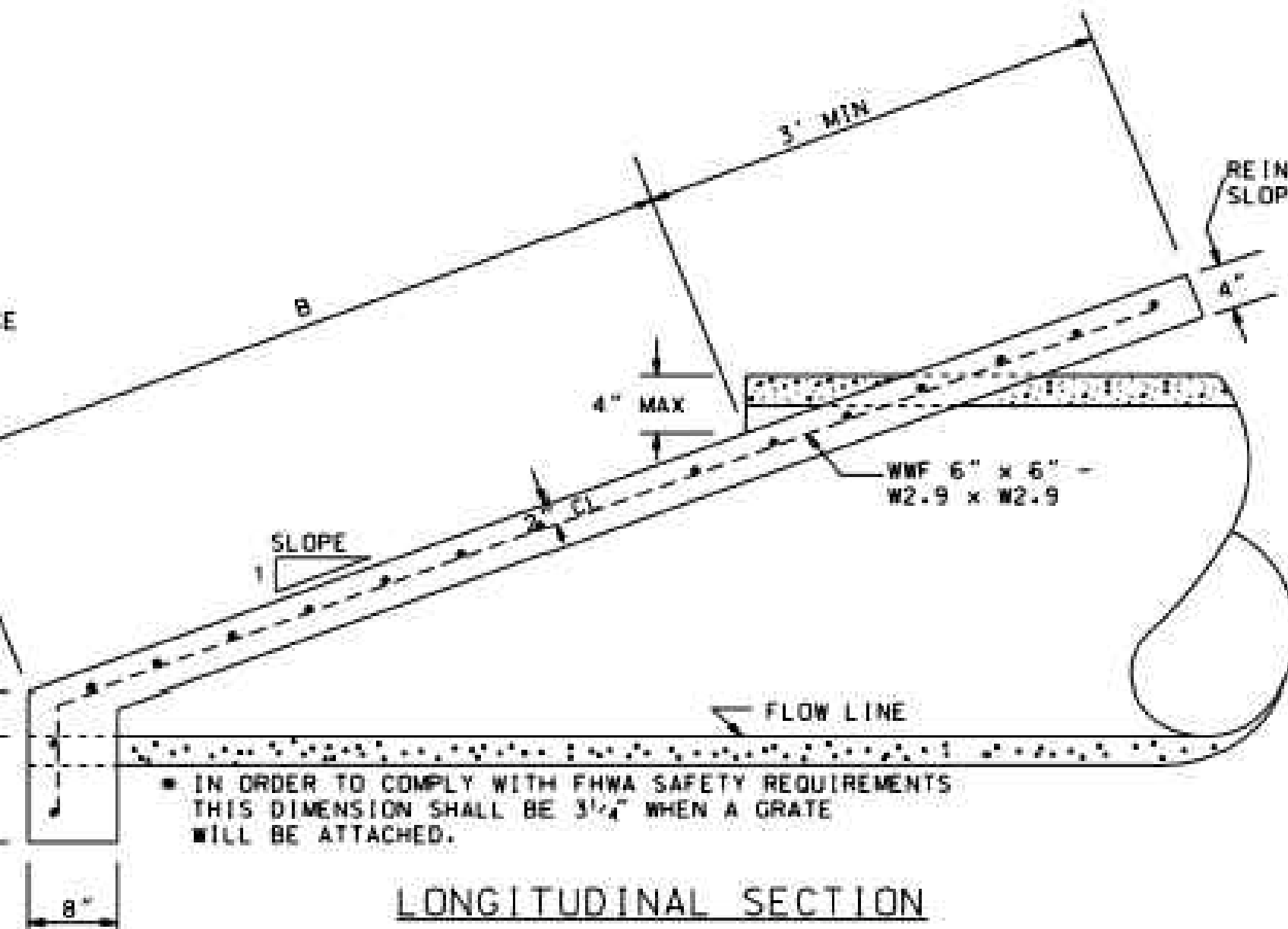
REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO



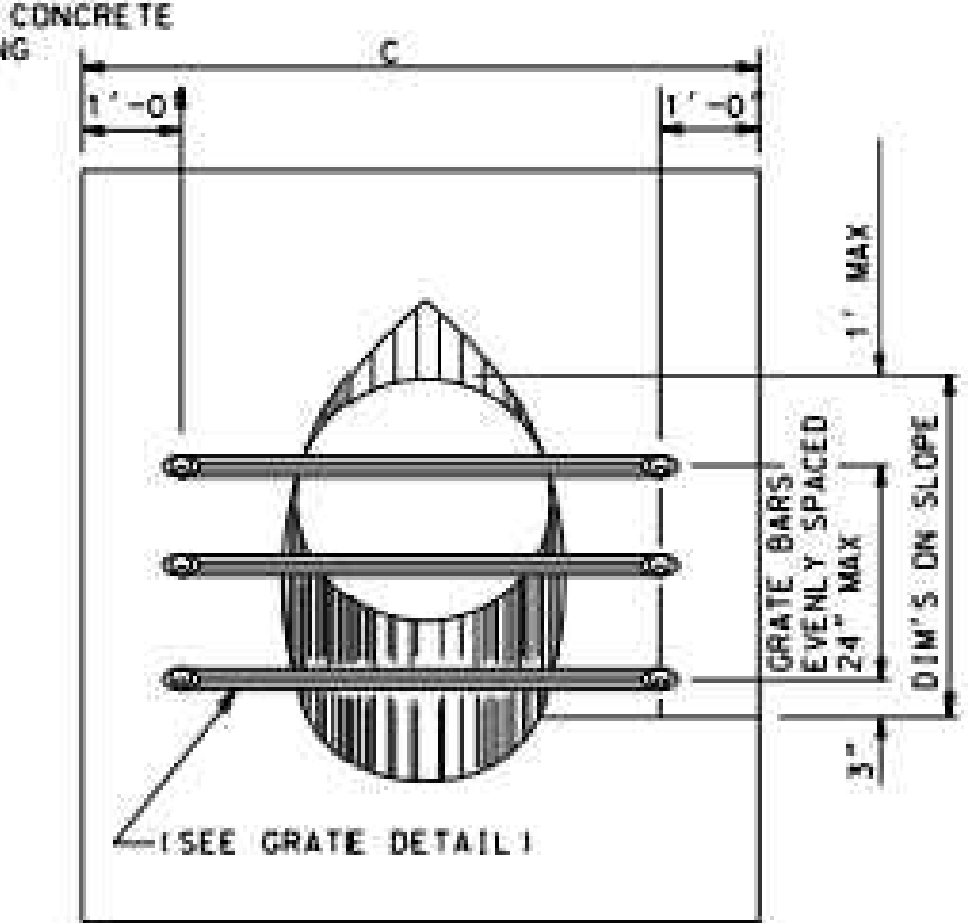
END ELEVATION DOUBLE BARREL



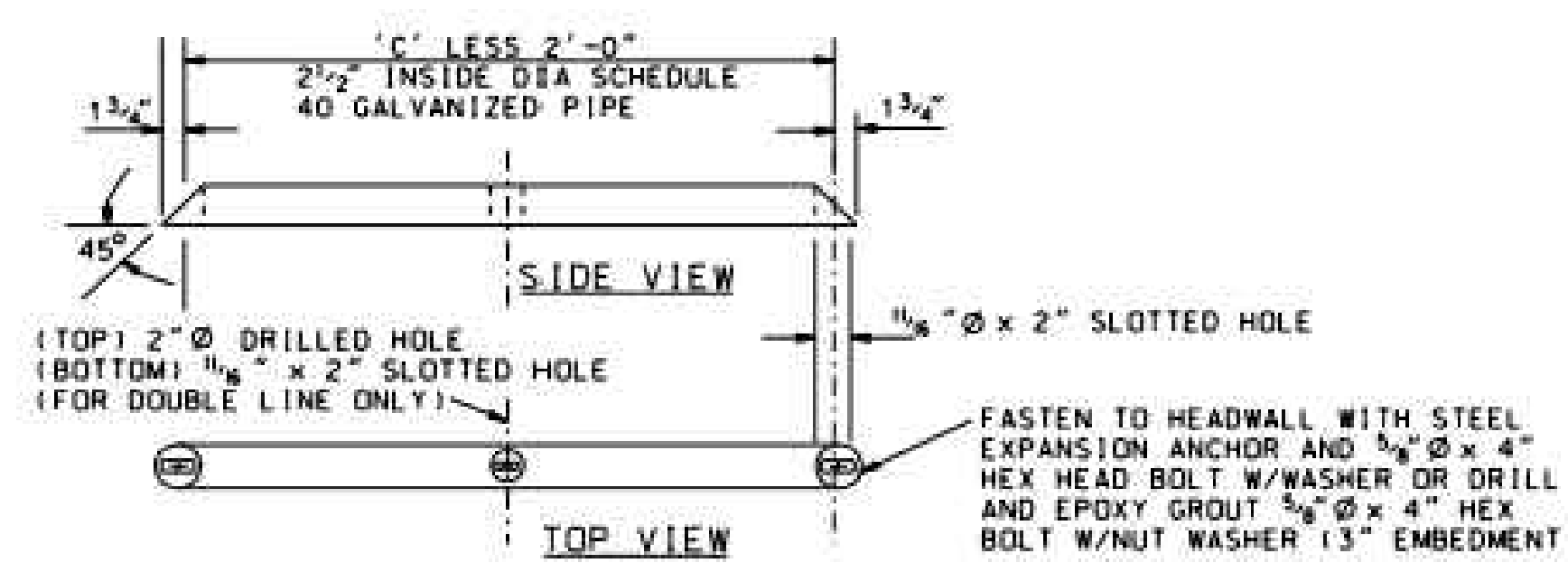
END ELEVATION SINGLE BARREL



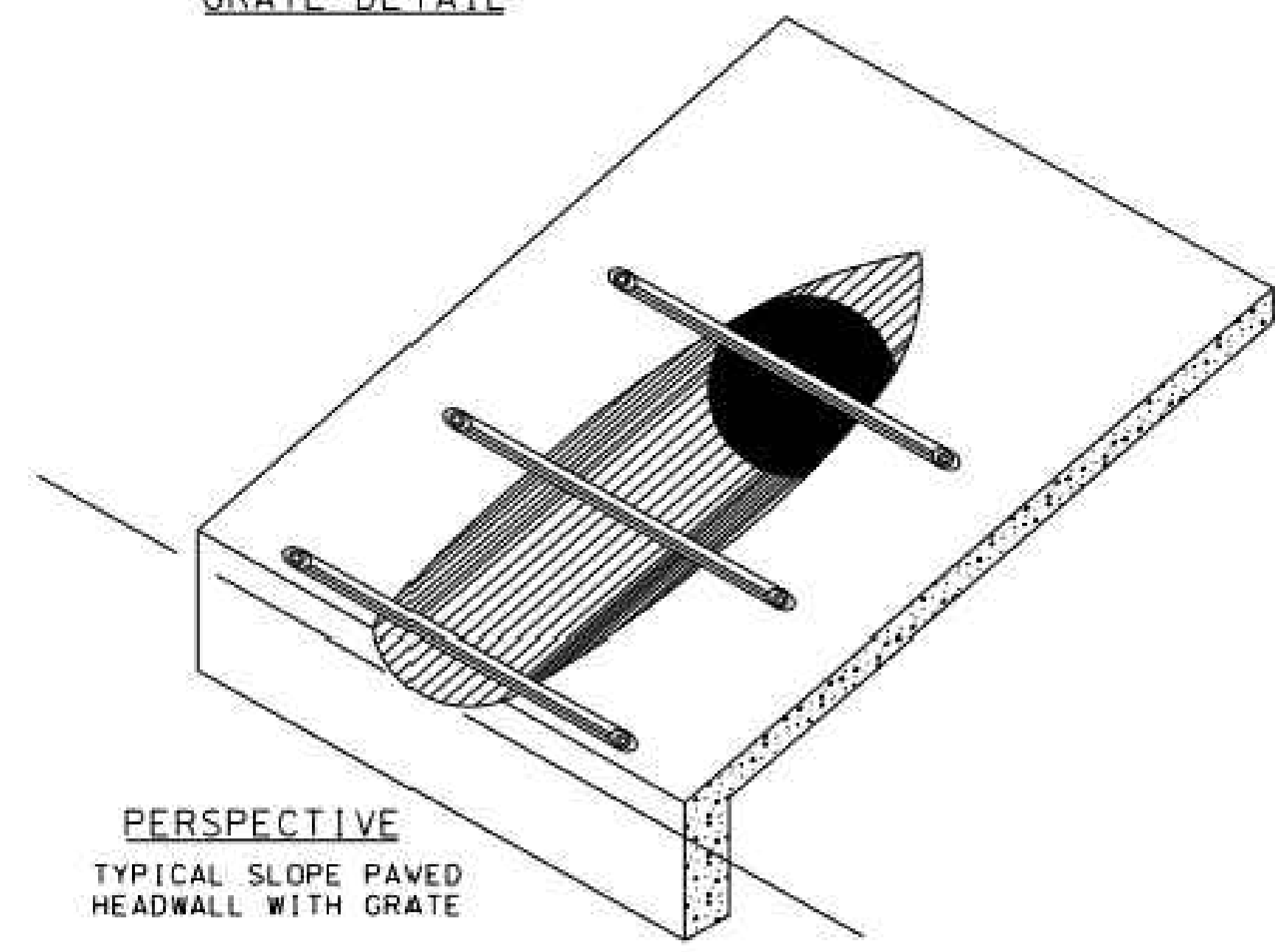
LONGITUDINAL SECTION



END ELEVATION WITH GRATE



GRATE DETAIL



PERSPECTIVE TYPICAL SLOPE PAVED HEADWALL WITH GRATE

DIMENSIONS AND QUANTITIES								
PIPE SIZE	AREA SQ FT	SLOPE	B	C	D	CU YDS ONE BARREL	CU YDS ADDITIONAL BARREL	
15"Ø	1.2	4:1	2'-5"	5'-3"	1'-11"	0.92	0.30	
18"Ø	1.8	4:1	3'-6"	5'-6"	2'-3"	1.06	0.36	
24"Ø	3.1	4:1	5'-6"	6'-0"	3'-0"	1.32	0.52	
30"Ø	4.9	4:1	7'-7"	6'-6"	3'-9"	1.60	0.72	
36"Ø	7.1	4:1	9'-8"	7'-0"	4'-6"	1.86	0.94	
42"Ø	9.6	4:1	11'-9"	7'-6"	5'-3"	2.20	1.20	
48"Ø	12.6	4:1	13'-9"	8'-0"	6'-0"	2.40	1.46	
54"Ø	15.9	4:1	15'-10"	8'-6"	6'-9"	2.60	1.76	
15"Ø	1.2	6:1	3'-7"	5'-3"	1'-11"	1.04	0.30	
18"Ø	1.8	6:1	5'-1"	5'-6"	2'-3"	1.22	0.40	
24"Ø	3.1	6:1	8'-1"	6'-0"	3'-0"	1.58	0.60	
30"Ø	4.9	6:1	11'-2"	6'-6"	3'-9"	1.94	0.84	
36"Ø	7.1	6:1	14'-2"	7'-0"	4'-6"	2.30	1.12	
42"Ø	9.6	6:1	17'-3"	7'-6"	5'-3"	2.68	1.42	
48"Ø	12.6	6:1	20'-3"	8'-0"	6'-0"	3.04	1.78	
54"Ø	15.9	6:1	23'-4"	8'-6"	6'-9"	3.40	2.18	
15"Ø	1.2	10:1	5'-10"	5'-3"	1'-11"	1.24	0.32	
18"Ø	1.8	10:1	8'-4"	5'-6"	2'-3"	1.54	0.46	
24"Ø	3.1	10:1	13'-5"	6'-0"	3'-0"	2.08	0.72	
30"Ø	4.9	10:1	18'-5"	6'-6"	3'-9"	2.66	1.06	
36"Ø	7.1	10:1	23'-5"	7'-0"	4'-6"	3.20	1.46	
42"Ø	9.6	10:1	28'-6"	7'-6"	5'-3"	3.78	1.90	
48"Ø	12.6	10:1	33'-6"	8'-0"	6'-0"	4.32	2.42	
54"Ø	15.9	10:1	38'-6"	8'-6"	6'-9"	4.88	3.02	
15"Ø	1.2	20:1	11'-9"	5'-3"	1'-11"	1.84	0.42	
18"Ø	1.8	20:1	16'-8"	5'-6"	2'-3"	2.40	0.62	
24"Ø	3.1	20:1	26'-8"	6'-0"	3'-0"	3.38	1.06	

GENERAL NOTES

1. THE FILL IS TO BE PLACED AND ALL SHORING REMOVED BEFORE THE SLOPE PAVING IS PLACED.
2. QUANTITIES SHOWN INCLUDE TWO (2) SLOPE PAVED HEADWALLS WITH TOE WALLS.
3. DIMENSIONS AND QUANTITIES SHOWN APPLIES TO CONCRETE, CORRUGATED METAL PIPE, AND CORRUGATED HDPE PIPE. CONCRETE QUANTITIES ARE SUFFICIENT WHEN HEADWALLS FOR ARCH PIPE IS DESIRABLE.
4. CONCRETE PIPE SHALL BE BEVELED BY SAWING AFTER SLOPE PAVING HAS BEEN PLACED AND SUFFICIENTLY CURED (SOME HAND FINISHING MAY BE NECESSARY.) METAL PIPE SHALL BE SHOP CUT. CORRUGATED HDPE PIPE MAY BE FIELD BEVELED PRIOR TO PAVING OR SHOP CUT.
5. CONTRACTOR SHALL INSURE THROUGH MECHANICAL MEANS OR OTHER APPROVED DEVICES THAT CONNECTION BETWEEN BEVELED PIPE END AND CONCRETE WILL NOT BE DETACHED. CORRUGATED HDPE PIPE SHALL HAVE 1/2" Ø x 6" GALVANIZED HOOK BOLTS WITH WASHERS LOCATED AT 30" OC FOR THE TOE AND 1/2" Ø x 6" GALVANIZED THREADED HEX HEAD BOLTS WITH WASHERS LOCATED ON 2'-0" CENTERS FOR SIDES. ANCHOR BOLTS INTO CONCRETE.
6. SLOPE PAVED HEADWALL WITHOUT GRATE SHALL BE CLASS 1. SLOPE PAVED HEADWALL WITH GRATE SHALL BE CLASS 2.
7. A 24" PIPE WITH GREATER THAN A 30° SKEW AND 30" OR GREATER IN DIAMETER SHALL HAVE A CLASS 2 END TREATMENT WHEN TERMINATED WITHIN THE CLEAR ZONE.
8. PIPE FOR GRATE SHALL BE SCHEDULE 40, GALVANIZED (ASTM A53) HARDWARE SHALL BE GALVANIZED ACCORDING TO SPECIFICATIONS.
9. RAW METAL EXPOSED BY CUTTING AND DRILLING OF PIPE FOR GRATE ASSEMBLY WILL REQUIRE A GALVANIZING REPAIR PAINT IN ACCORDANCE WITH SECTION 855.31 OF ALDOT SPECIFICATIONS.

--SPECIFICATIONS--  
CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION

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REVISIONS  
1. Changed notes 3, 4 & 5 to allow the use of HDPE pipe.  
2. Adjusted Note No. 9 regarding use of grate on 0:10-08 by R.A.A.

**ALABAMA DEPARTMENT OF TRANSPORTATION**  
1409 COLISEUM BOULEVARD  
MONTGOMERY, AL 36104-3050  
DESIGN BUREAU SPECIAL DRAWING

CONCRETE SLOPE PAVED HEADWALL AND GRATE FOR SIDEDRAIN PIPE

Bureau Sra Engr. D.J.M.  
DRAWN BY: \_\_\_\_\_ DATE DRAWN: 02-08-21

SPECIAL DRAWING NO: HW-614-SP INDEX NO: 61913

NOT TO SCALE

DWG INFO: SA - CLIENTS.V1 - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG TITLE: NOTES - DETAILS.DWG - 11/20/2021 - 4:52:35 PM

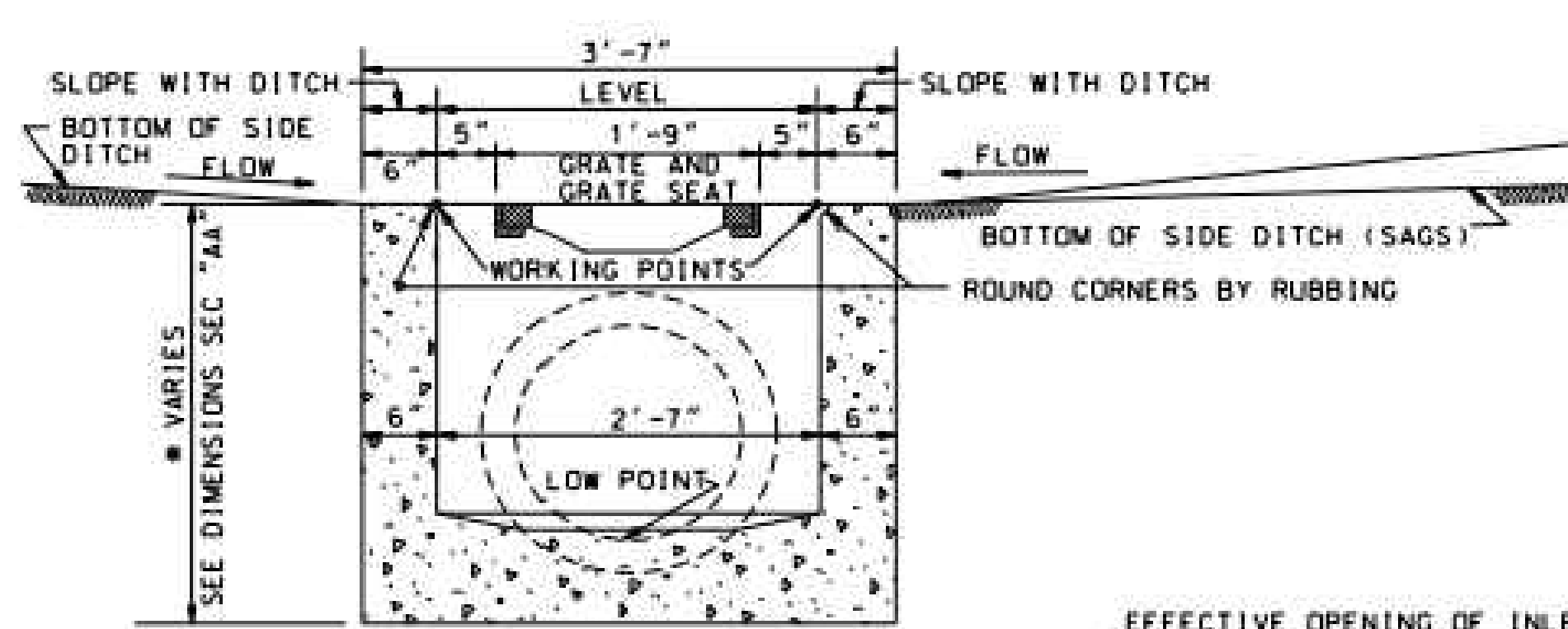
NUMBER	REVISION	DATE

**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

ALDOT DETAILS  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

SCALE: N.T.S.  
DATE: NOVEMBER, 2021  
DRAWN BY: JNF  
CHECKED BY: JHR  
SHEET: 16 OF 20

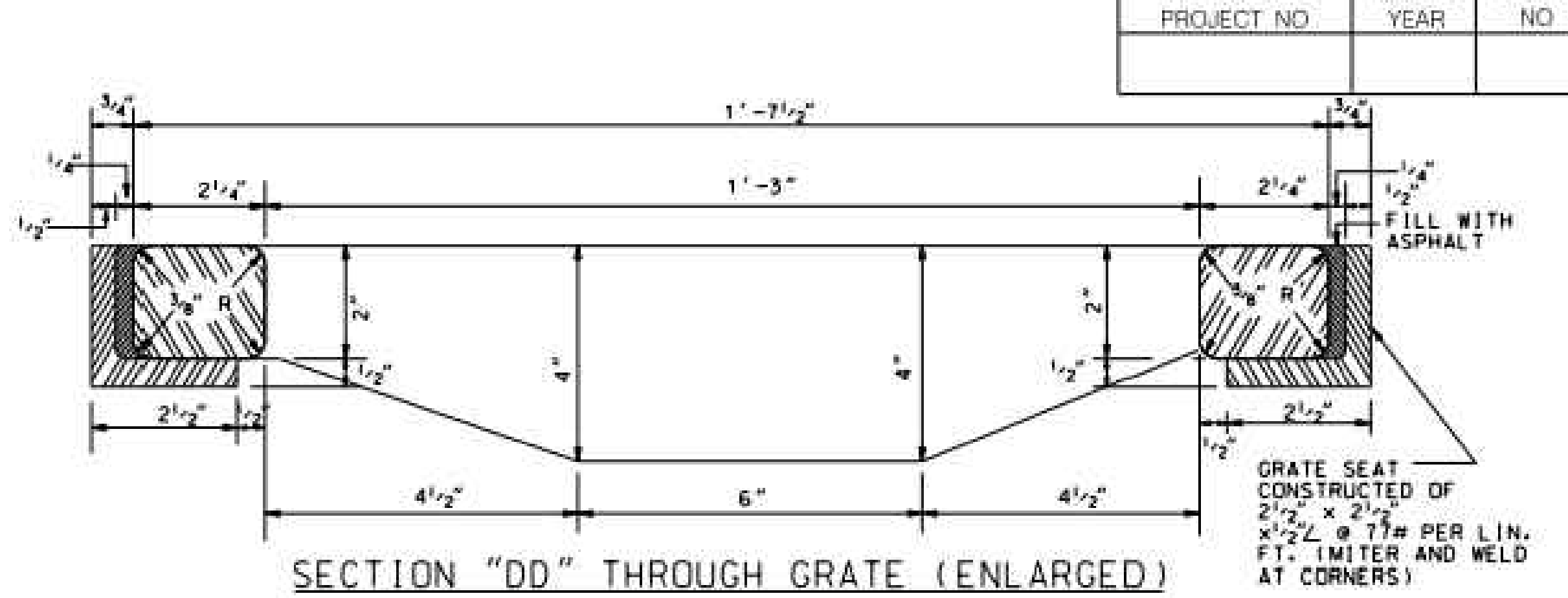
REFERENCE PROJECT NO.	FISCAL YEAR	SHEET NO.



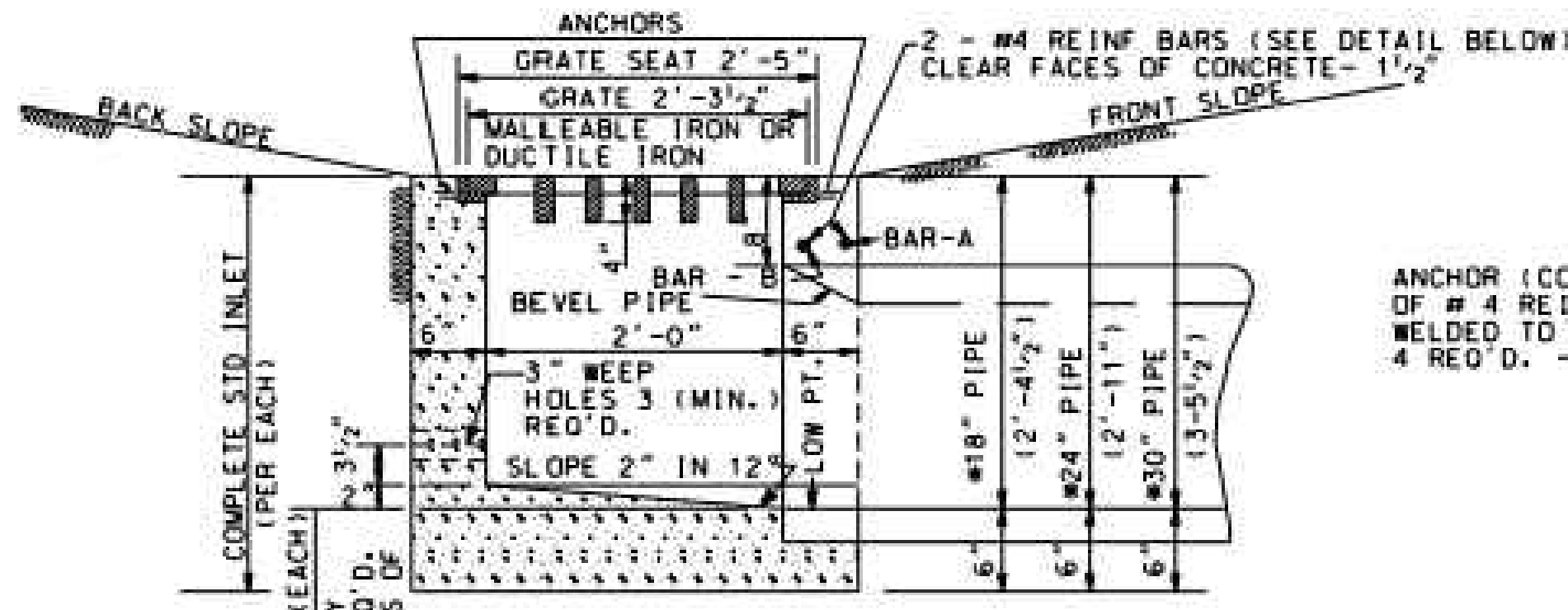
SECTION "BB"

EFFECTIVE OPENING OF INLET  
 CAST GRATE = 2.0 SQ. FT.  
 SLOT = 1.6 SQ. FT.  
 TOTAL OPENING = 3.6 SQ. FT.

**NOTE TO ENGINEER AND CONTRACTOR**  
 WHEN SIDE DITCH SLOPES IN ONE (1) DIRECTION ONLY, A SMALL EARTH DAM OR BERM SHALL BE CONSTRUCTED ACROSS THE SIDE DITCH ON THE DOWN SLOPE SIDE OF THE INLETS AS SHOWN BY BROKEN LINE ABOVE AND SKETCH AT LOWER CENTER OF SHEET. THIS BERM OR DAM SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER AND SHALL BE FROM 8" MIN. TO 12" MAX. IN HEIGHT ACCORDING TO CONDITIONS. SLOPES FROM INLET TO HIGH POINT OF DAM (BERM) AND FROM DAM (BERM) BACK TO DITCH GRADE SHALL NOT BE MORE THAN 8:1.

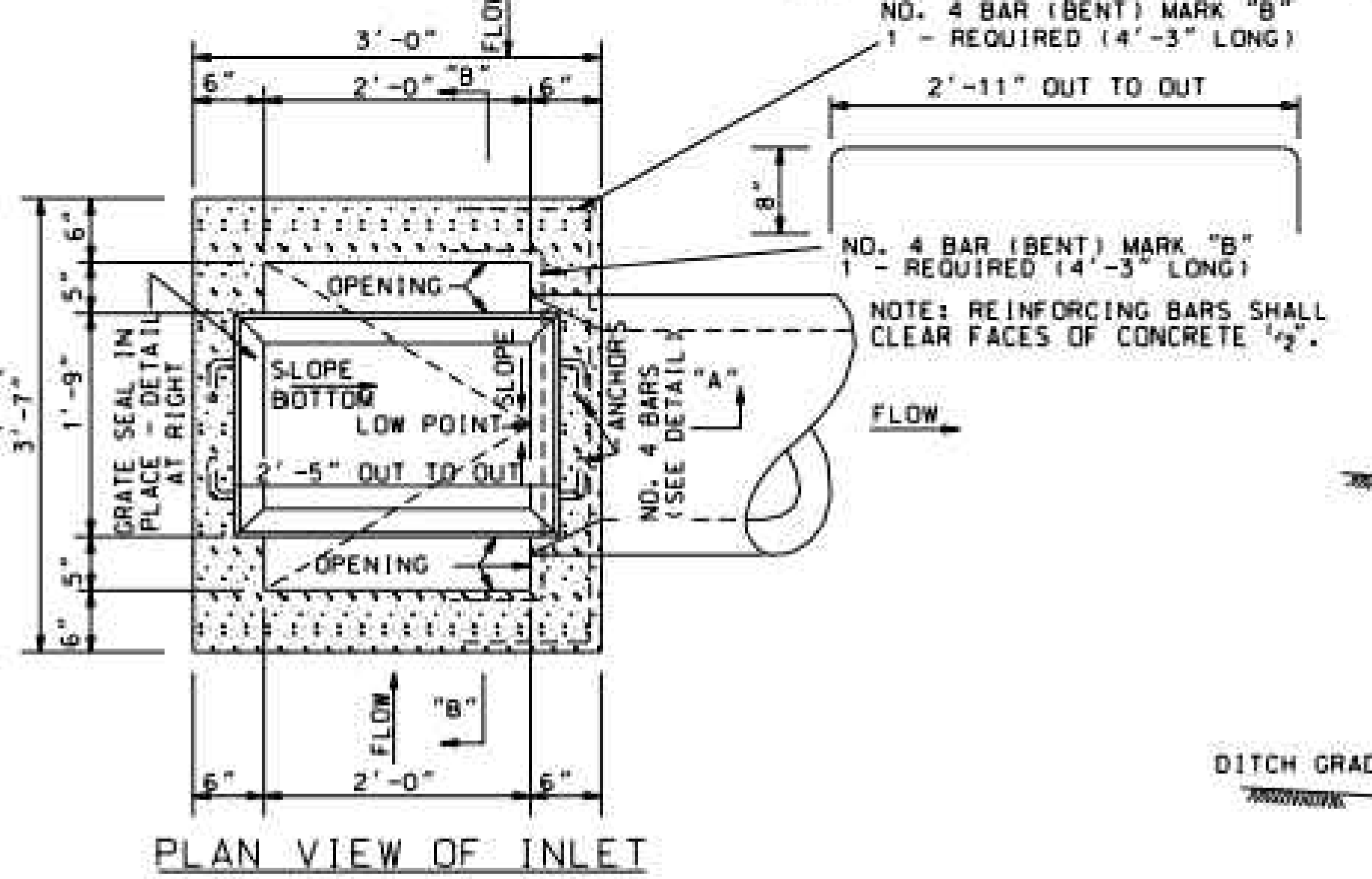


SECTION "DD" THROUGH GRATE (ENLARGED)

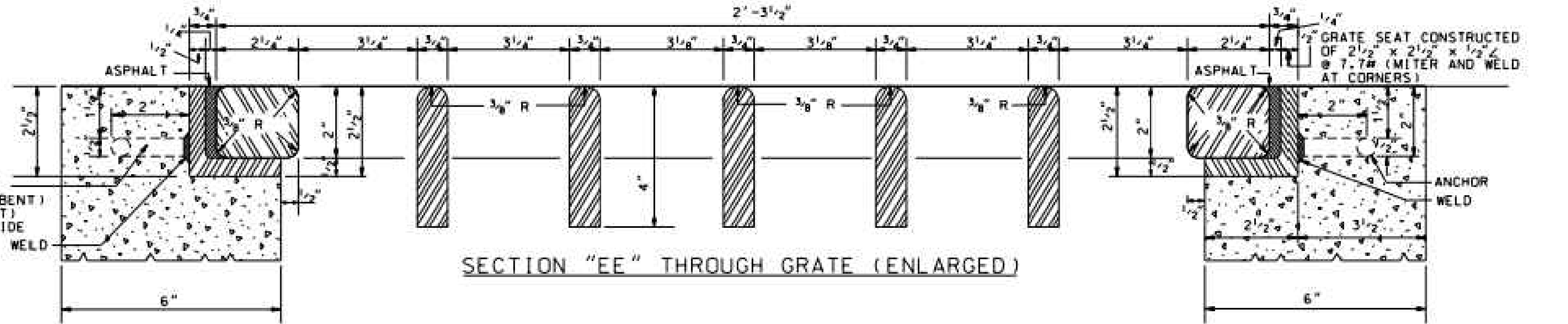


SECTION "AA"

**NOTE:**  
 INLETS WILL BE PAID FOR PER EACH FOR EACH COMPLETE STANDARD INLET AS SHOWN AT SECTION "AA" ABOVE. FOR 18" DIA. AND 30" DIA. PIPE. IF INLETS REQUIRE A GREATER DEPTH THAN SHOWN ON DWG. THE EXTRA DEPTH WILL BE PAID FOR UNDER INLET UNITS FROM INSIDE BOTTOM OF THE INLET IN 2'-0" INCREMENTS. WHEN A FRACTIONAL PART OF A 2'-0" INCREMENT OCCURS, IT WILL BE PAID FOR AS A FULL 2'-0" INCREMENT.

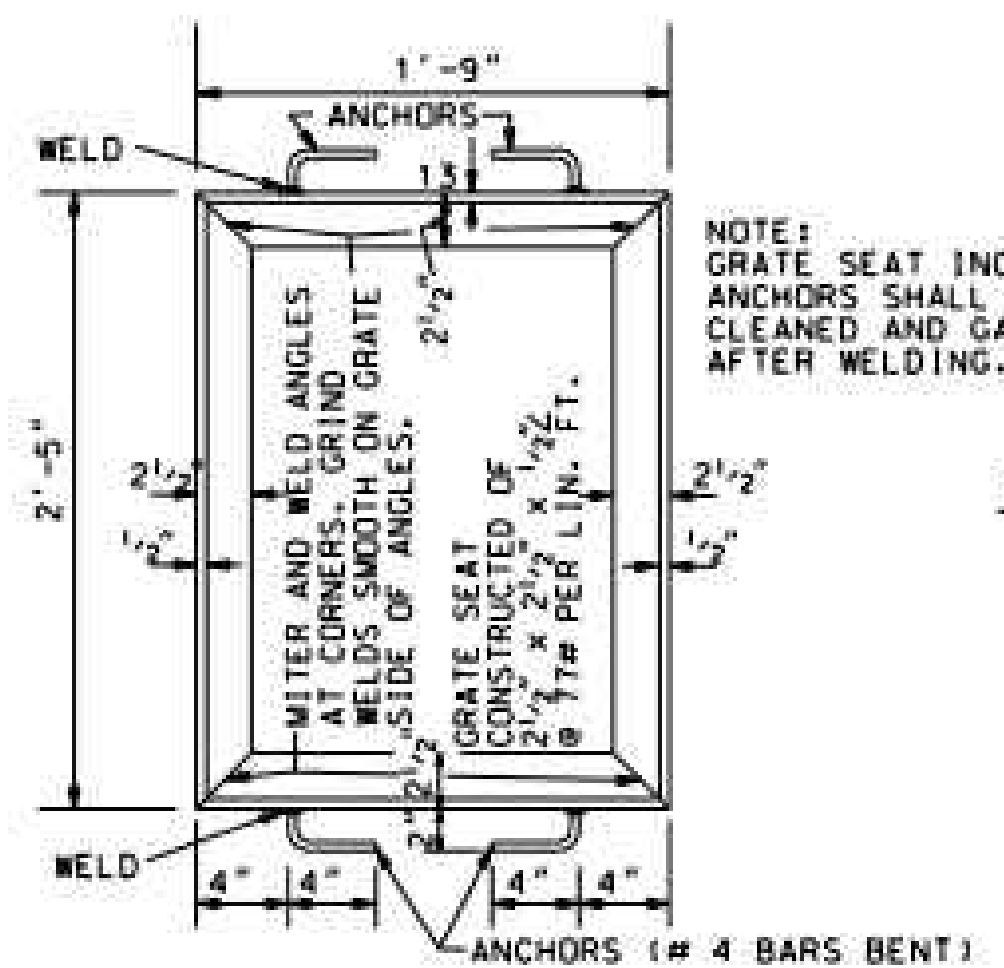


PLAN VIEW OF INLET

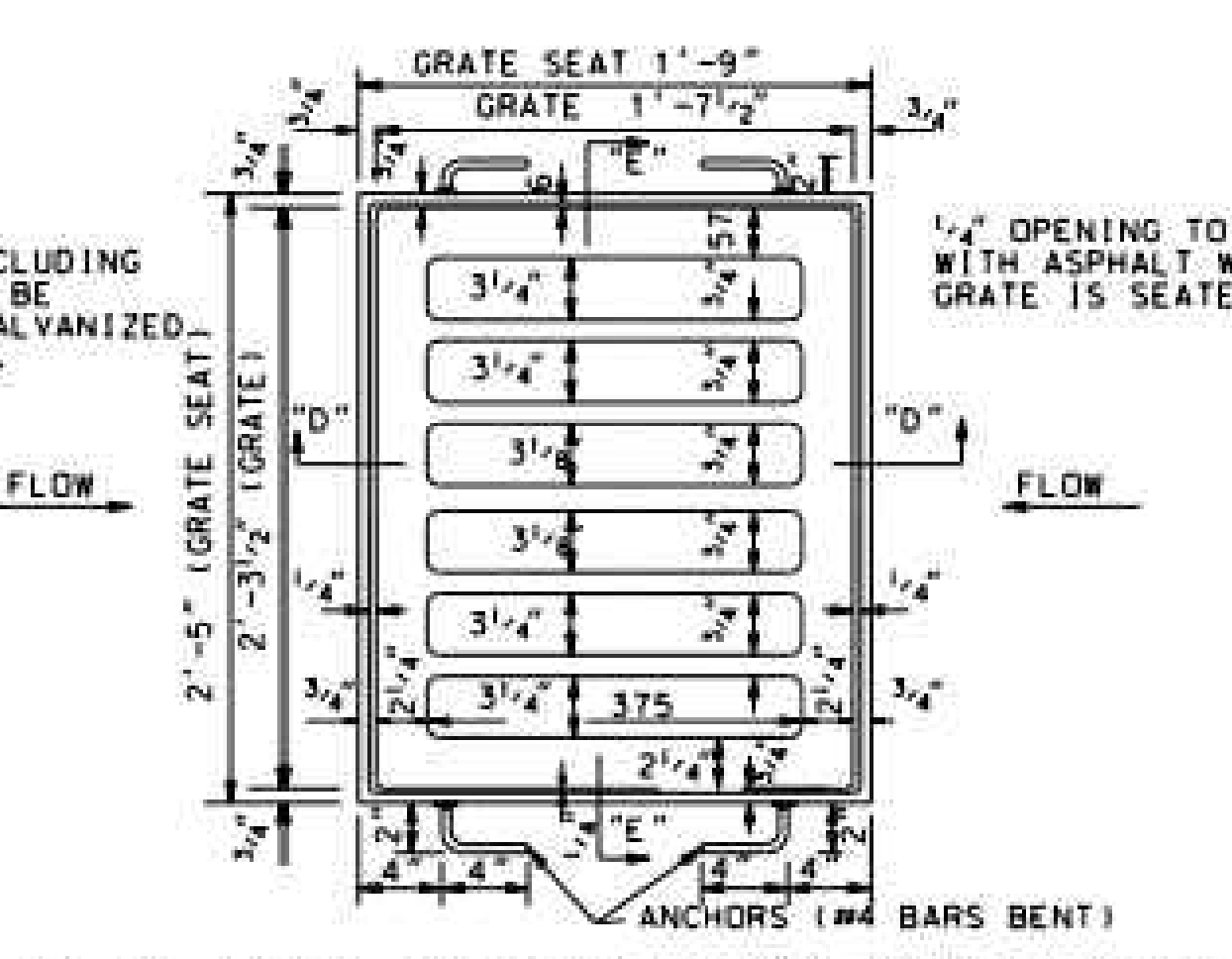


SECTION "EE" THROUGH GRATE (ENLARGED)

ANCHOR (CONSTRUCTED OF #4 REINF. BAR (BENT) WELDED TO GRATE SEAT) 4 REQ'D. - 2 EACH SIDE



PLAN VIEW OF GRATE SEAT



PLAN VIEW OF GRATE AND GRATE SEAT

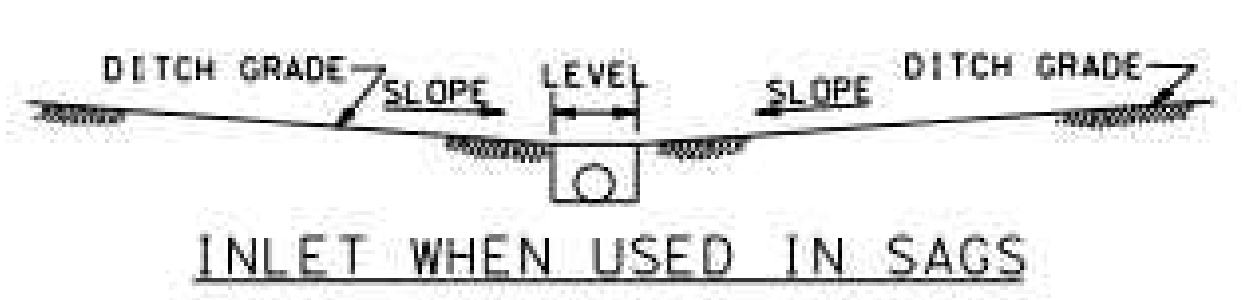
1/4" OPENING TO BE FILLED WITH ASPHALT WHEN GRATE IS SEATED.

**GENERAL NOTES**

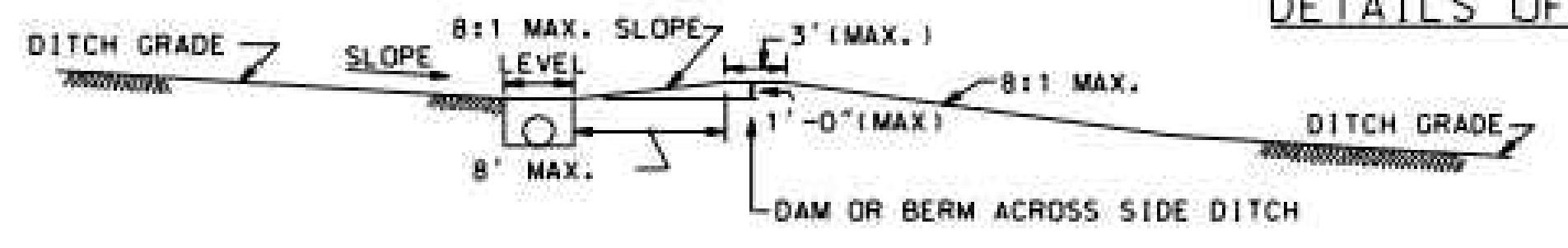
A VARIATION OR TOLERANCE OF 1/4" PER FOOT IN ANY DIMENSION WILL BE PERMITTED IN THE CASTINGS. THE CASTINGS SHALL BE FREE FROM INJURIOUS DEFECTS, AND SHALL CONFORM SUBSTANTIALLY TO DRAWINGS SHOWN ON THIS SHEET.

**NOTE TO CONTRACTOR**

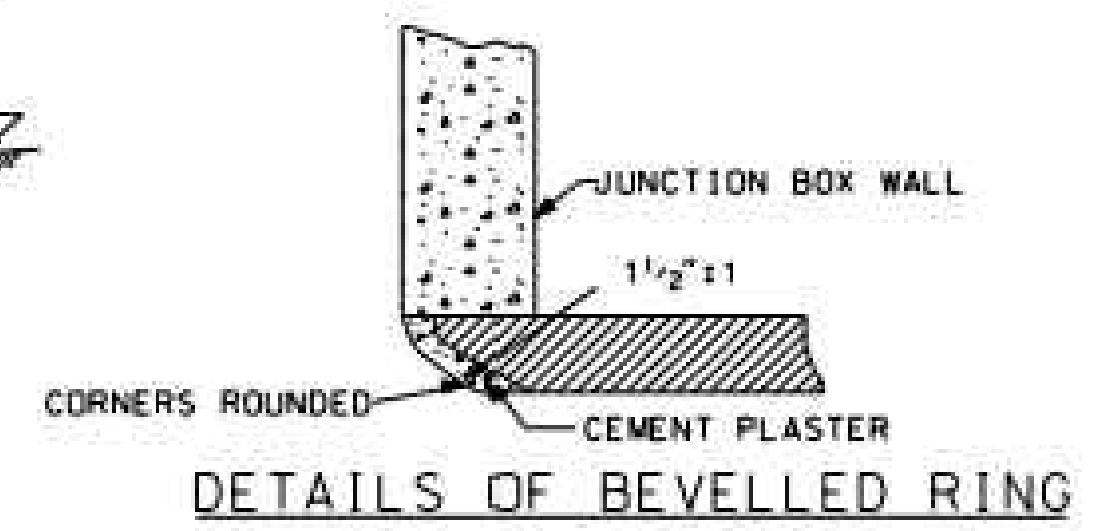
CASTINGS: THE CONTRACTOR HAS THE OPTION OF USING DUCTILE IRON (ALSO KNOWN AS SPHEROIDAL OR MODULAR IRON) OR MALLEABLE IRON FOR GRATE CASTING DETAILED ON THIS DRAWING. OR IF HE ELECTS THE CONTRACTOR MAY FINISH THE INLETS WITH WELDED STEEL GRATES AND SEATS AS DETAILED ON SHEET 2 OF THIS DRAWING.



INLET WHEN USED IN SAGS



INLET WHEN GRADE SLOPES ONE WAY




DETAILS OF BEVELLED RING

--SPECIFICATIONS--  
 CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION

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REVISIONS  
 1. REVISED TO CAD ON 12-02-99 BY J.T.T.


**ALABAMA DEPARTMENT OF TRANSPORTATION**  
 1409 COLISEUM BOULEVARD  
 MONTGOMERY, AL 36130-3050  
 DESIGN BUREAU SPECIAL DRAWING  
 DETAILS OF INLET TYPE C  
 FOR USE IN ROADSIDE DITCHES  
 (18"-30" PIPE)

SPECIAL DRAWING NO. 1-621-C (SHEET 1 OF 2) INDEX NO. 62111

Bureau Std Engr. Dub.  
 DRAWN BY: \_\_\_\_\_ DATE DRAWN: \_\_\_\_\_

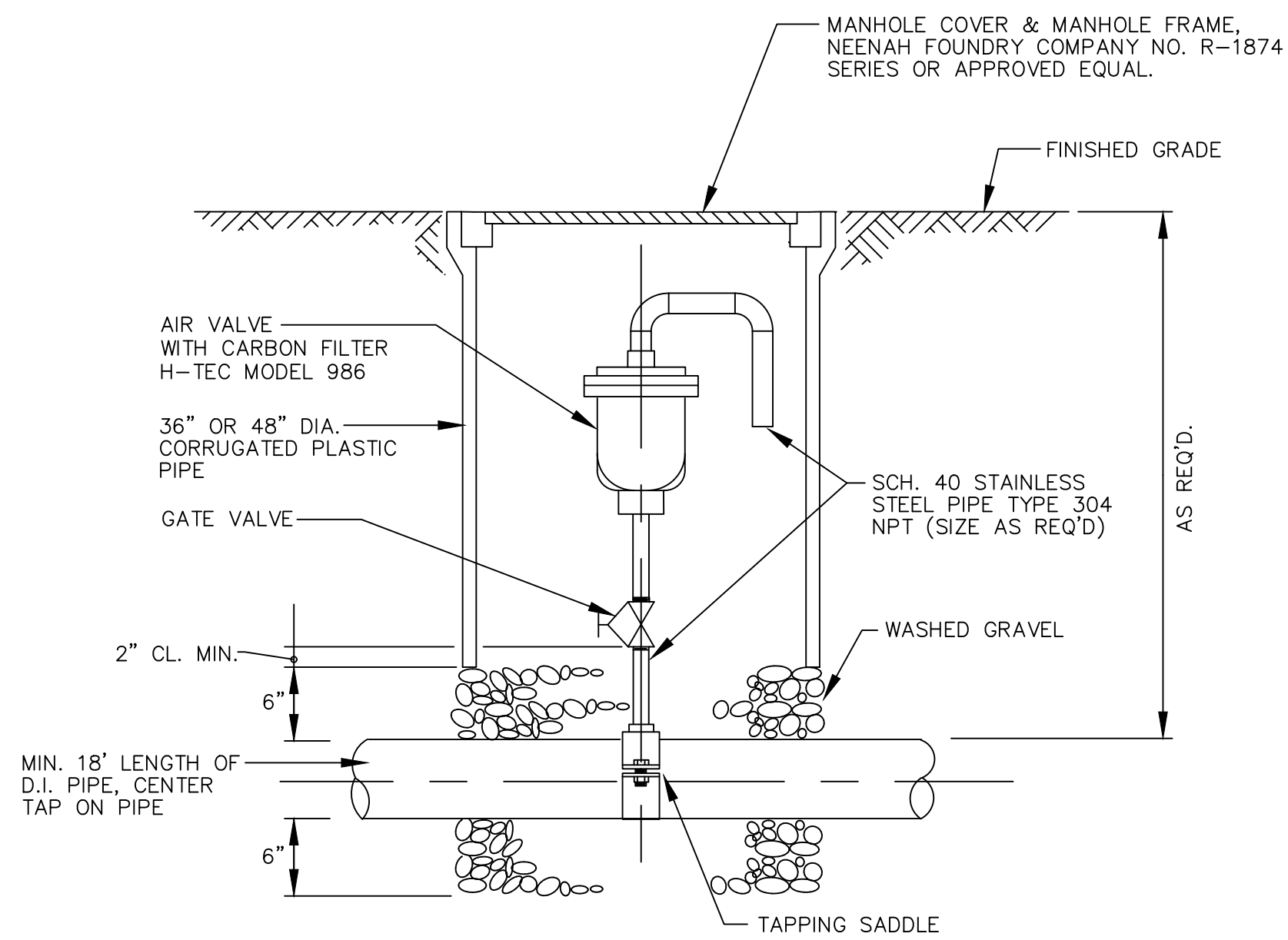
DWG INFO: SA - CLIENTS V1 - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG TITLE: NOTES - DETAILS DWG - 11/20/2021 - 4:52:36 PM

NUMBER	REVISION	DATE

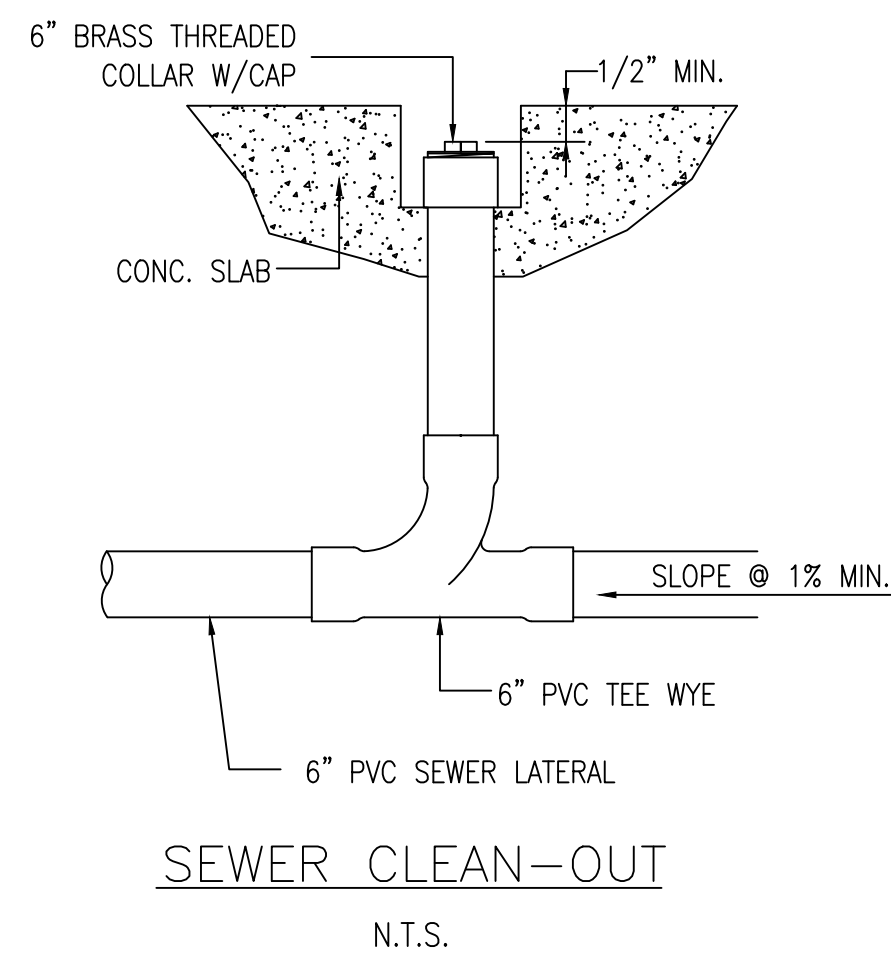
  
**Sawgrass**  
 ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
 30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

ALDOT DETAILS  
 FIRE STATION NO. 5  
 CITY OF ORANGE BEACH

SCALE: N.T.S.  
 DATE: NOVEMBER, 2021  
 DRAWN BY: JNF  
 CHECKED BY: JHR  
 SHEET: 17 OF 20



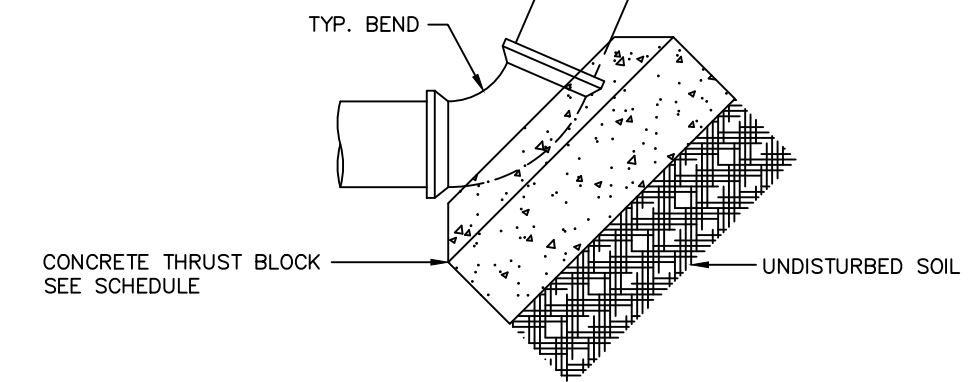
**AIR RELEASE VALVE ASSEMBLY**  
N.T.S.



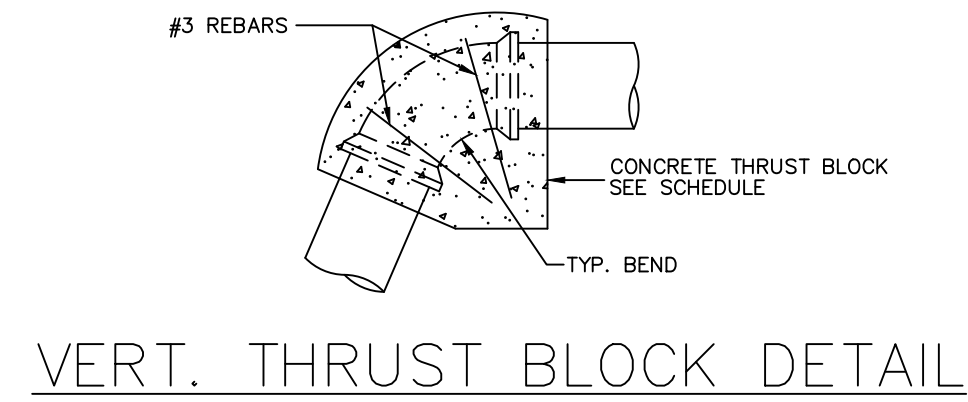
**SEWER CLEAN-OUT**  
N.T.S.

SIZE	THRUST BLOCK BEARING AREAS (SQ.FT.)					VERTICAL ANCHOR BLOCK VOLUMES		
	PLUGGED END OR TEE	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	45° VERT. BEND	22-1/2° VERT. BEND	GATE VALVE
2" DIA. PIPE LINE	1.0	1.0	1.0	1.0	1.0	9.3 CU. FT.	4 CU. FT.	0.5 CU. FT.
4" DIA. PIPE LINE	1.9	2.6	1.4	1.0	1.0	21.1 CU. FT.	9.8 CU. FT.	0.8 CU. FT.
6" DIA. PIPE LINE	3.6	5.0	2.7	1.4	1.0	50 CU. FT.	16 CU. FT.	1.0 CU. FT.
8" DIA. PIPE LINE	5.8	8.2	4.4	2.25	1.2			1.5 CU. FT.

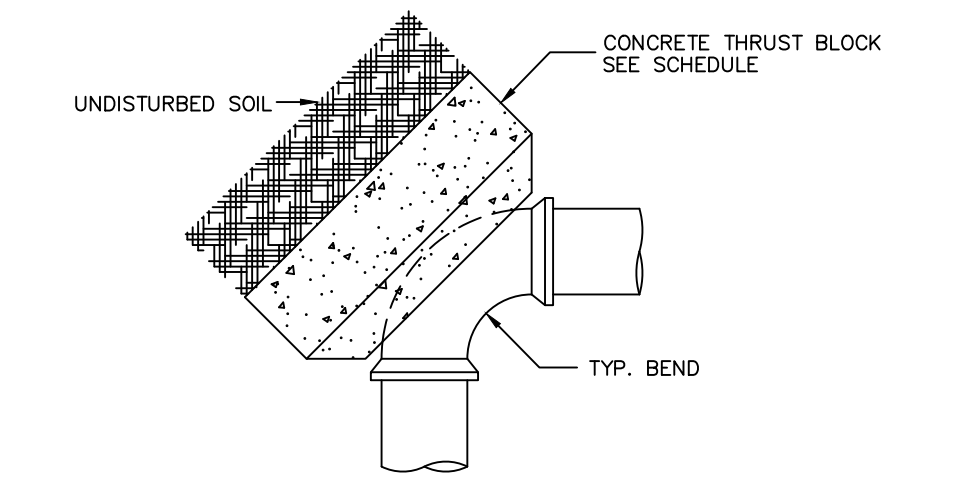
NOTE: THRUST BLOCK BEARING AREAS SHALL BE INCREASED IN POOR TRENCH CONDITIONS AS DIRECTED BY THE ENGINEER. DESIGN CRITERIA: TEST PRESSURE = 150 PSI SOIL BEARING PRESSURE = 1 TON PER SQ. FT.



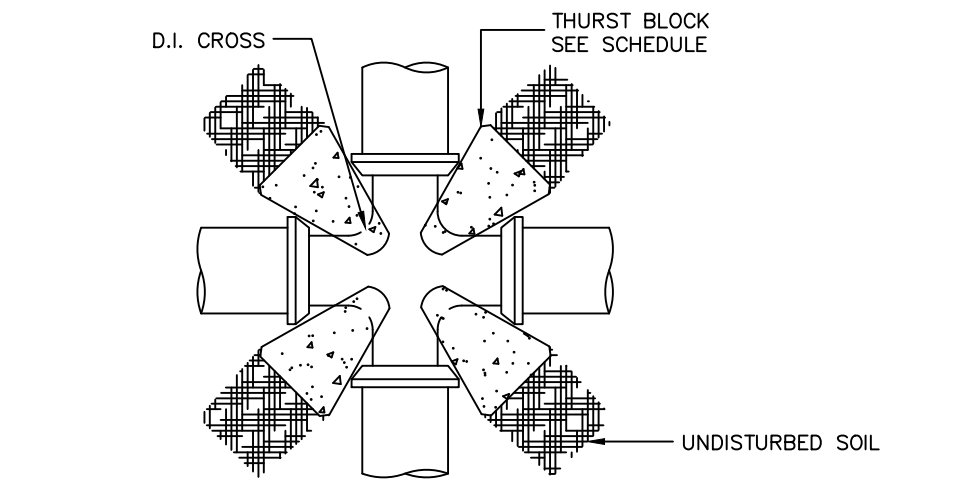
**VERT. THRUST BLOCK DETAIL**



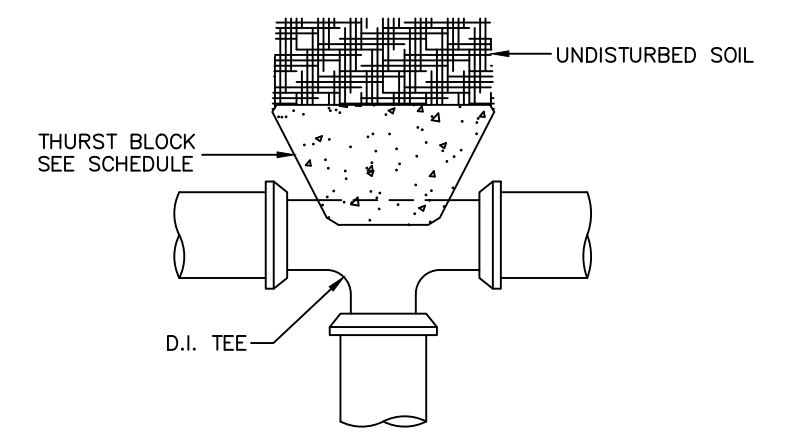
**VERT. THRUST BLOCK DETAIL**



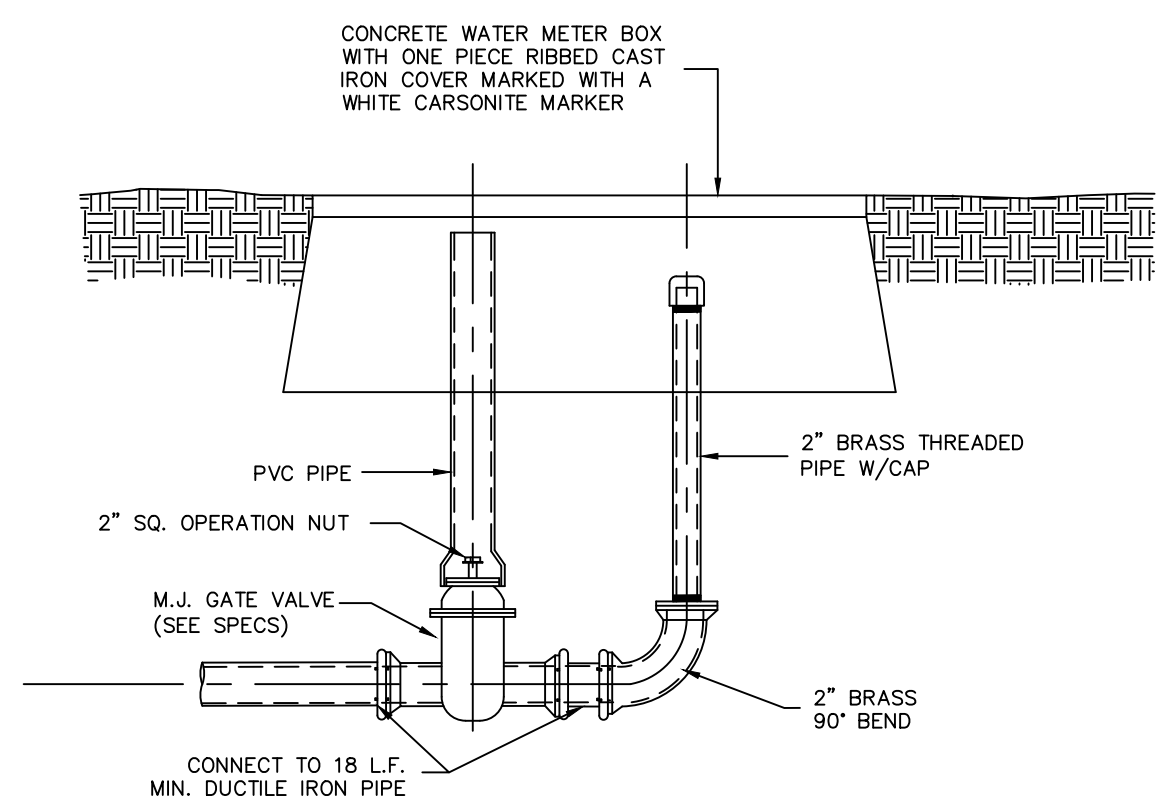
**HORIZ. THRUST BLOCK DETAIL**



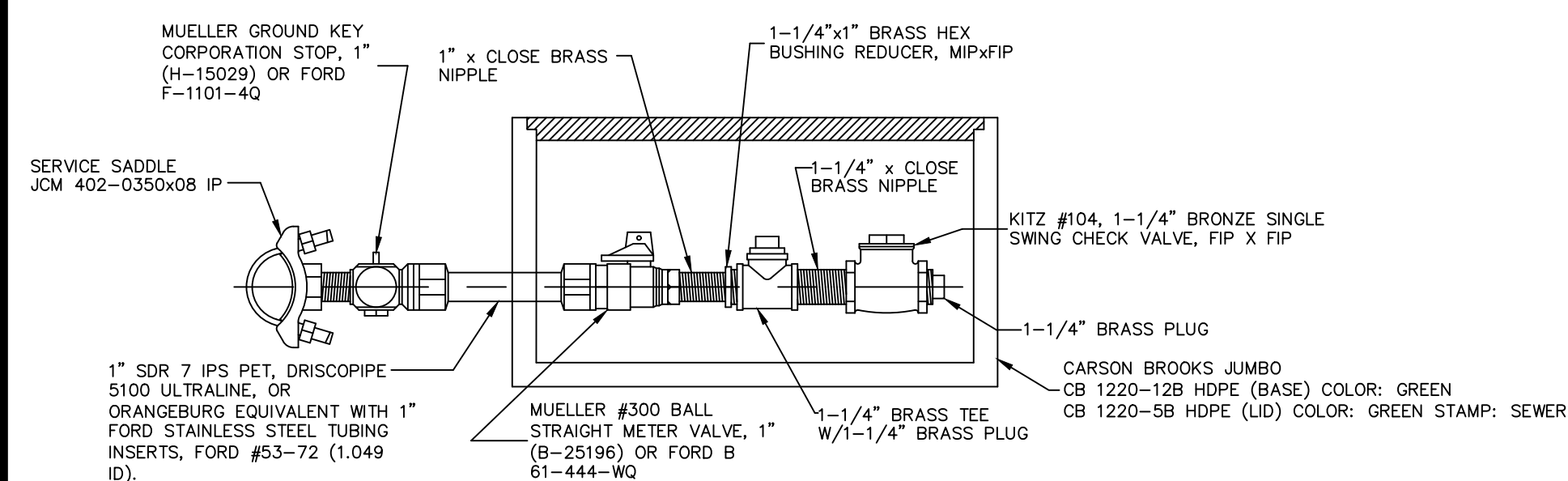
**CROSS THRUST BLOCK DETAIL**



**TEE THRUST BLOCK DETAIL**

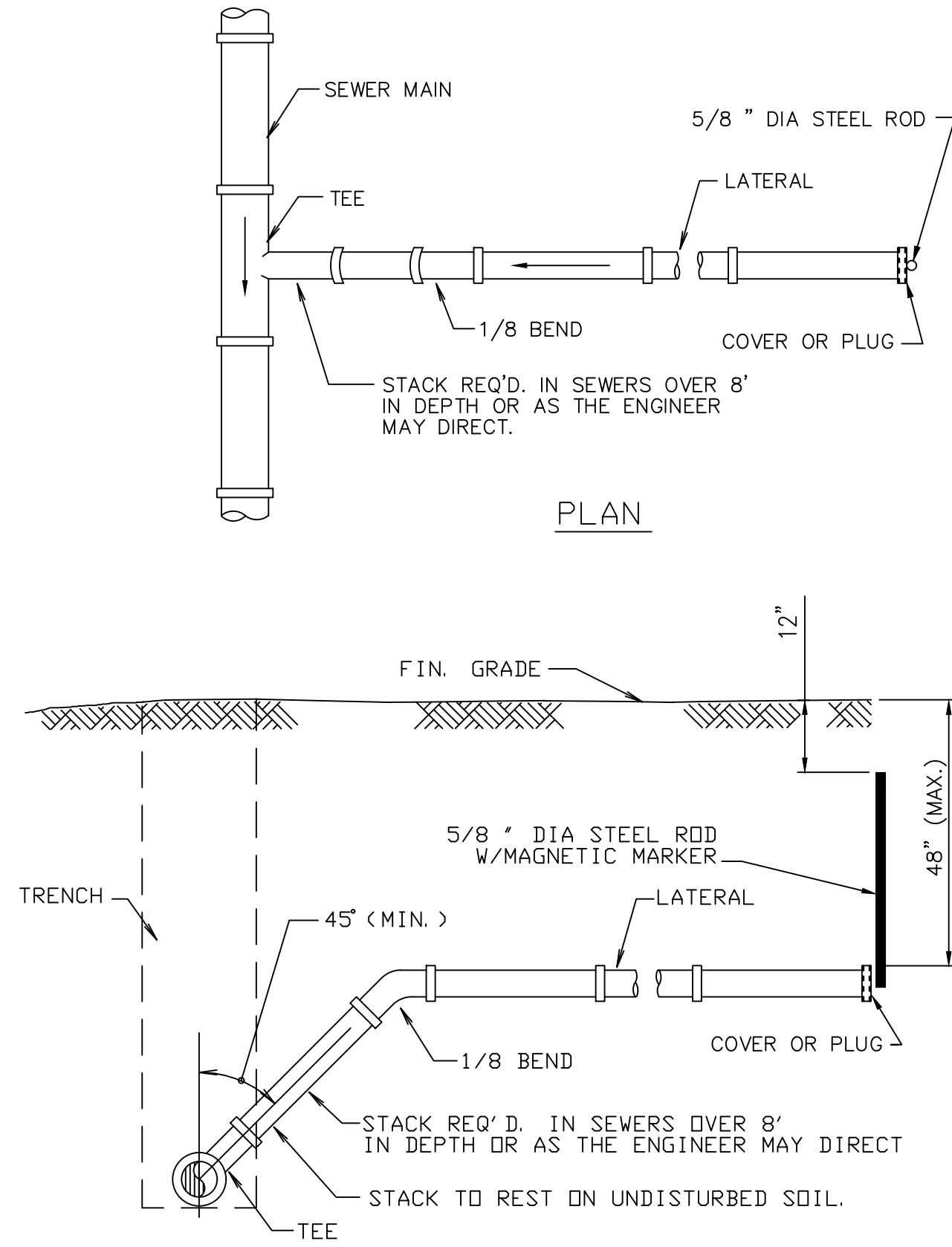


**FLUSHING STATION ASSEMBLY FOR SEWER**

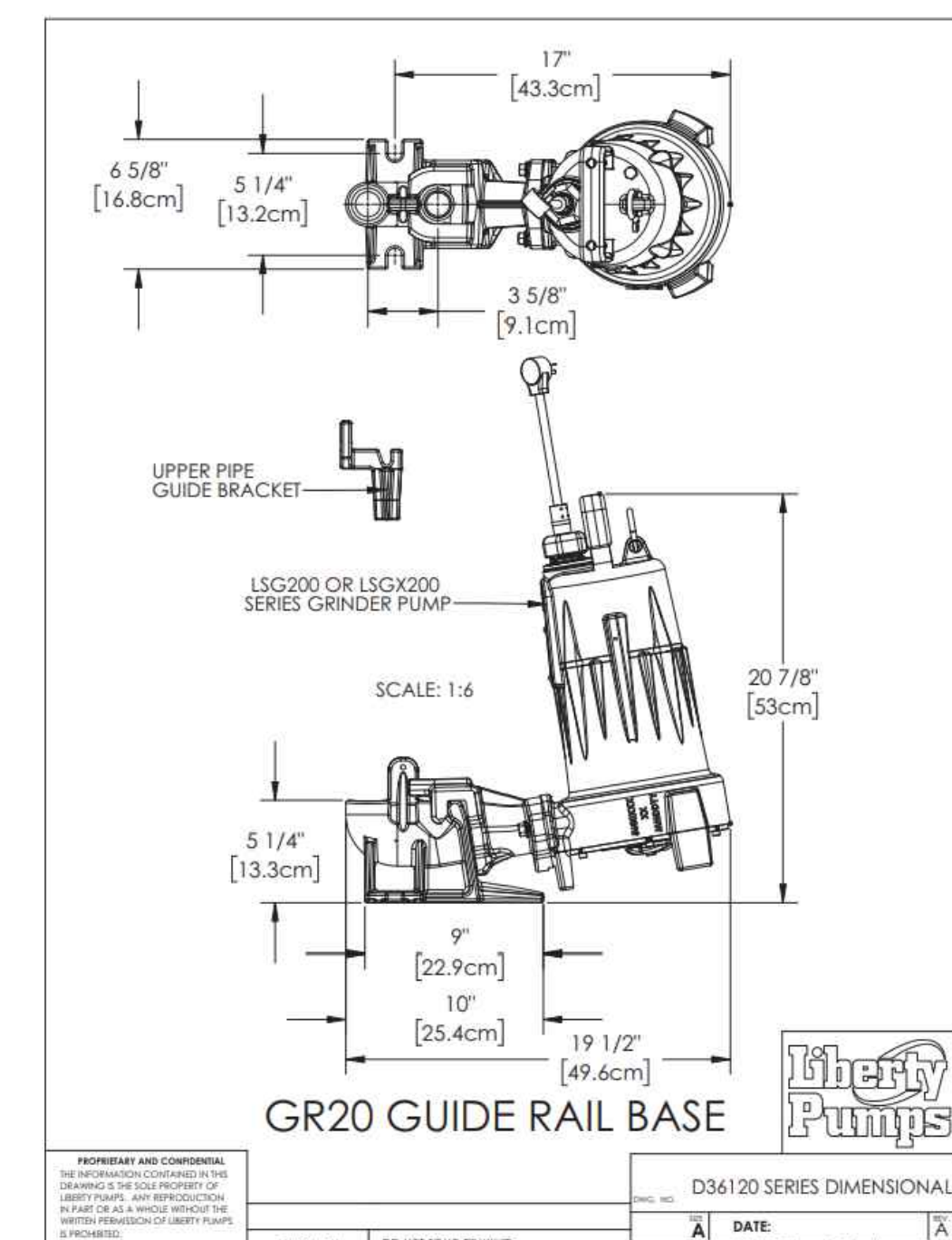
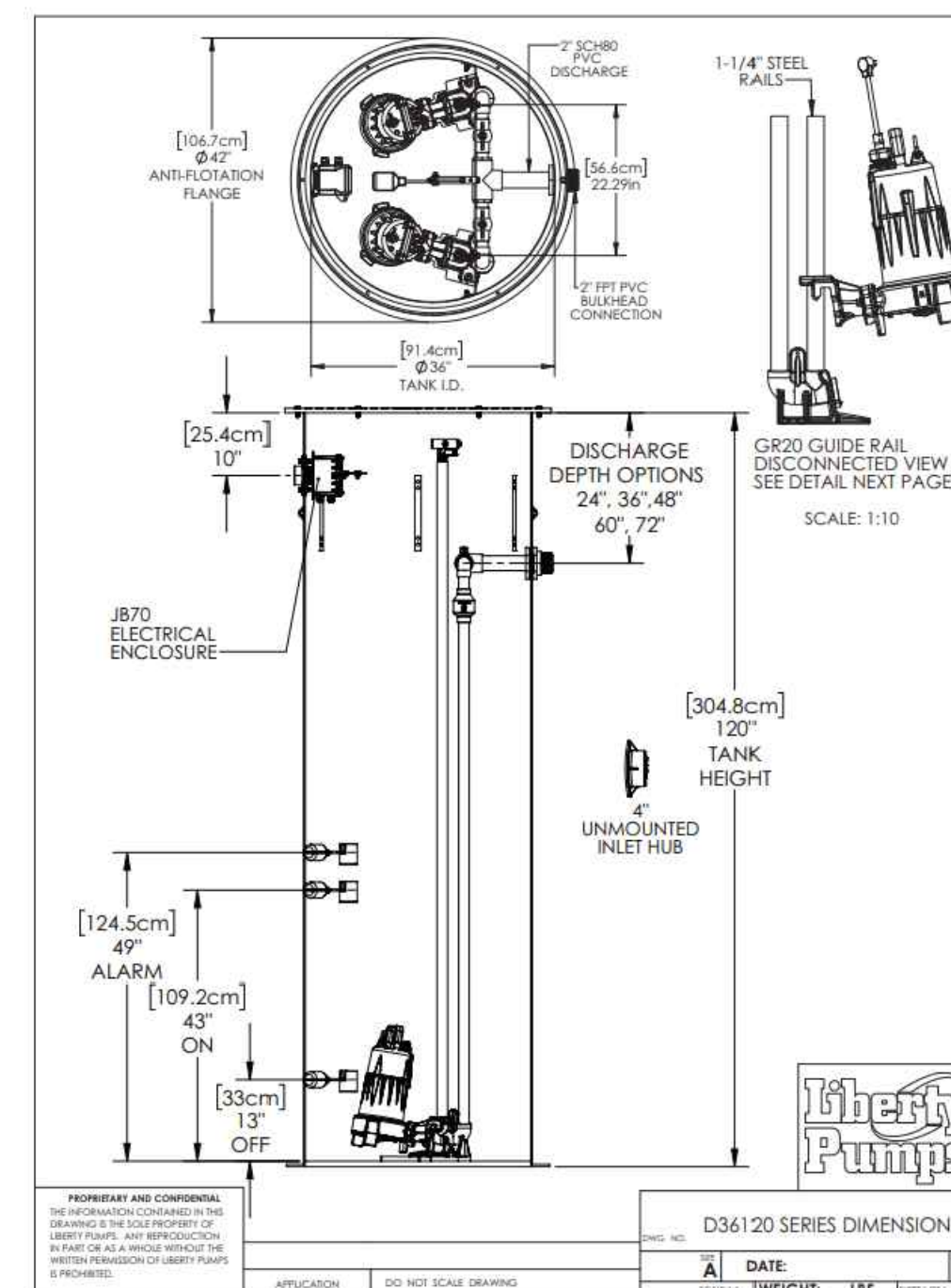
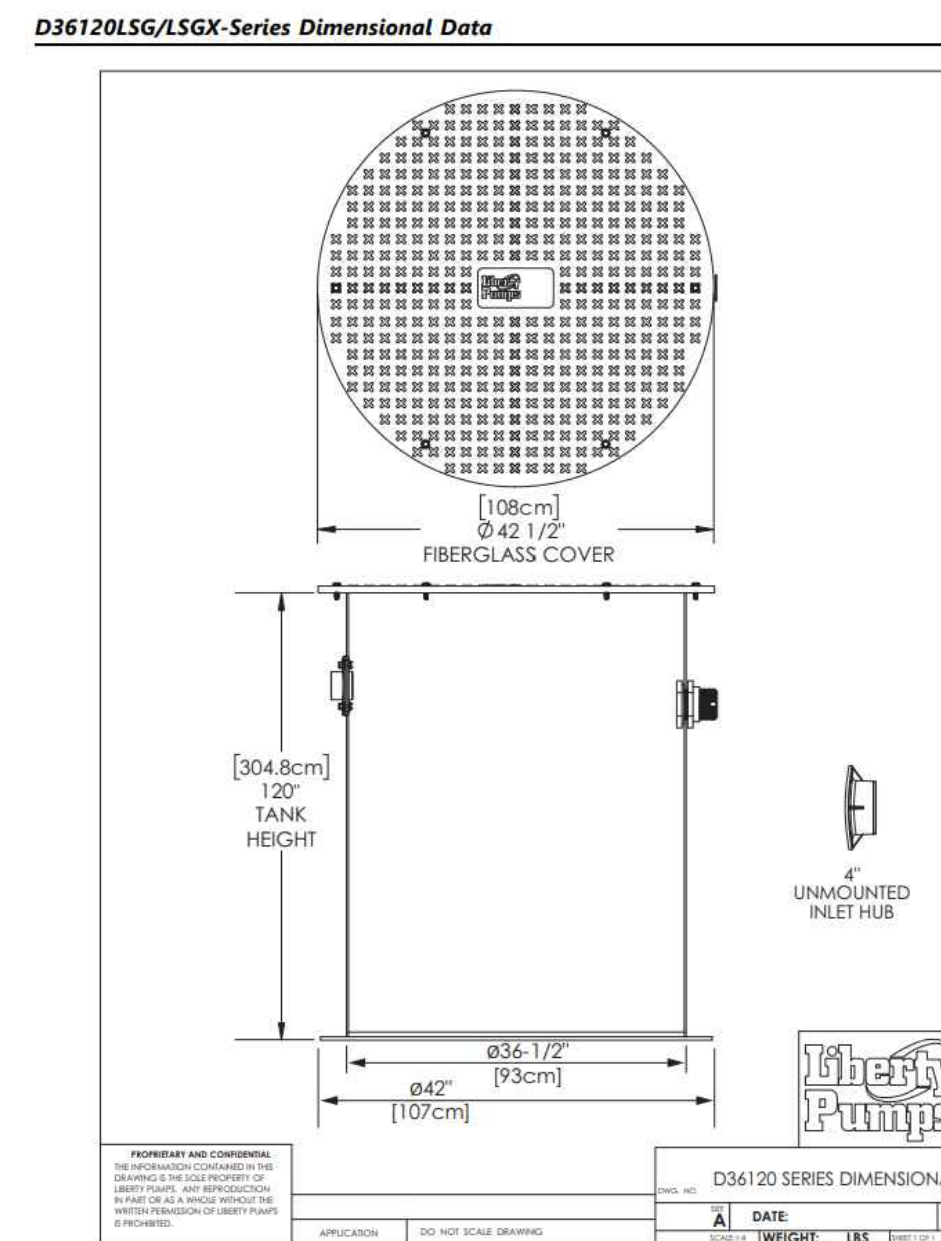


- 1) DUCTILE IRON SEWER LINES ARE TO BE DIRECT TAPPED AND EQUIPPED WITH 1" IPS PE B-25196 MUELLER OR F-1101-40 FORD CORPORATION STOP.
  - 2) PRESTRESS SEWER SERVICES TO BE SECURED VIA FIROMATIC #6 BARRELL LOCK COMPLETE WITH NYLON DUST CAP.
- \*SERVICE FITTINGS ARE I.P.S. PE CONDUCTIVE COMPRESSION AS INDICATED.

**LOW PRESSURE SEWER SERVICE**



**TYPICAL TEE & LATERAL INSTALLATION**  
N.T.S.

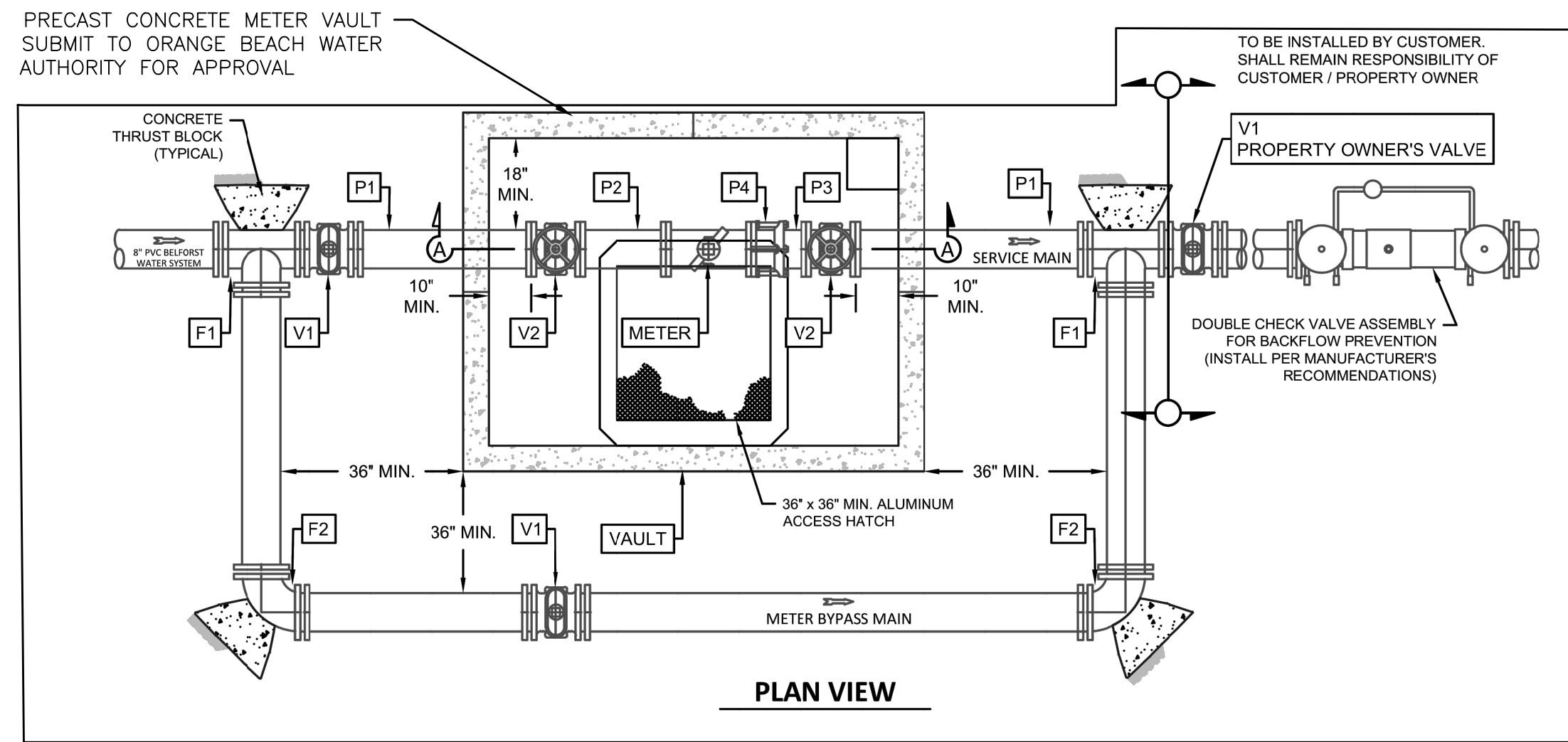


NUMBER:	REVISION:	DATE:

**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. J. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

SEWER DETAILS  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

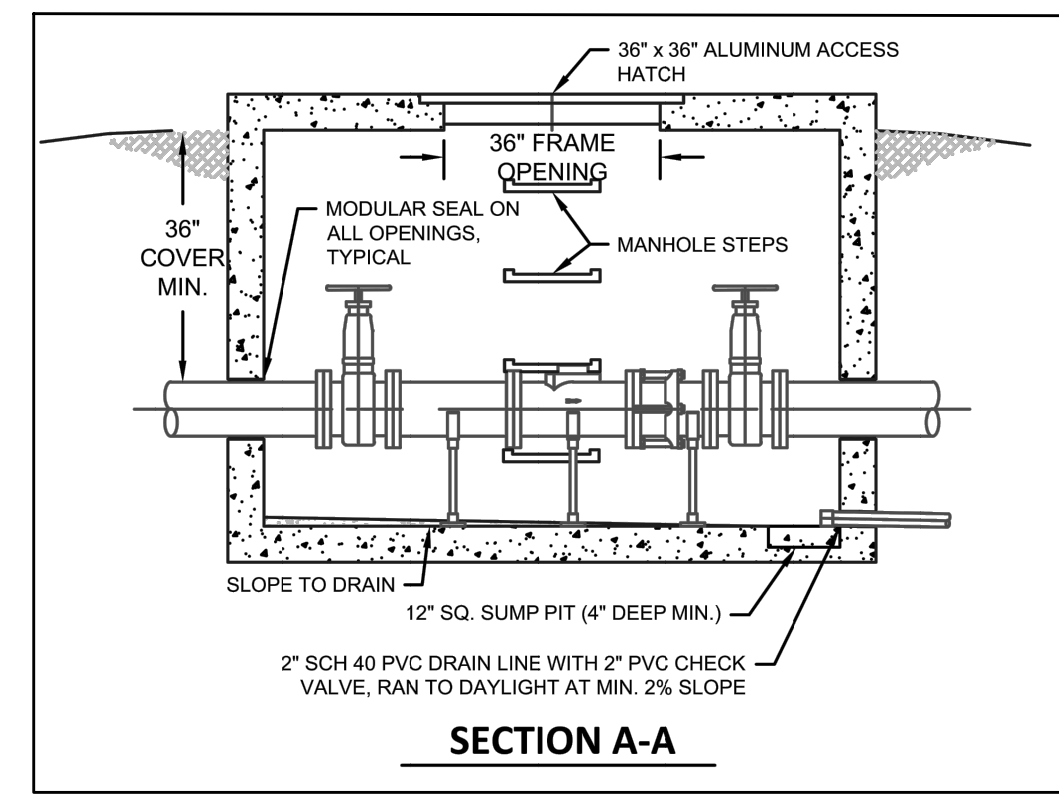
SCALE: N.T.S.
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 18 OF 20



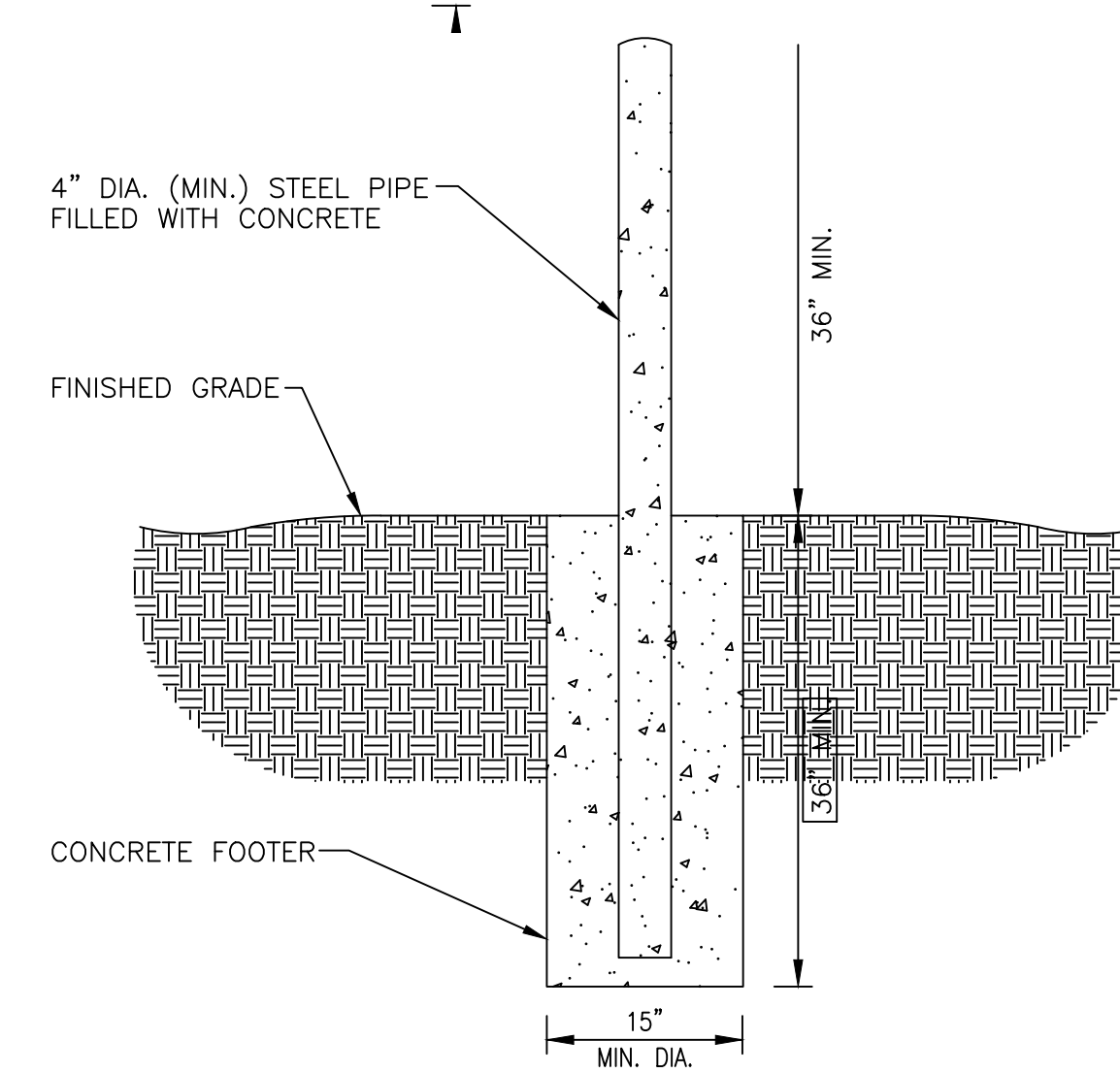
\*ALL PIPE, FITTINGS, VALVES, VAULTS AND METERS TO BE PER ORANGE BEACH WATER AUTHORITY'S SPECIFICATIONS FOR MAKE, MODEL, ETC..

### MASTER METER VAULT AND ASSEMBLY DETAIL

N.T.S.



MATERIAL SCHEDULE		
NO.	DESCRIPTION	APPROXIMATE QUANTITY
P1	DI PIPE, FLANGED X PLAIN END (FIELD CUT TO LENGTH)	2
P2	DI PIPE, FLANGED X FLANGED, 20"	1
P3	DI PIPE, FLANGED X PLAIN END (FIELD CUT TO LENGTH)	1
P4	SLIDING FLANGE ADAPTOR COUPLING FOR DI PIPE (ROMAC FCAS01 OR APPROVED EQUIVALENT)	1
F1	MJ DI TEE W/ MJ RESTRAINING GLANDS	2
F2	MJ DI 90-DEGREE BEND W/ MJ RESTRAINING GLANDS	3
V1	RW GATE VALVE, RW W/ MJ RESTRAINING GLANDS, CAST IRON VALVE BOX & CONCRETE COLLAR	3
V2	RW GATE VALVE, FLANGED W/ HANDWHEEL	2
METER	APPROVED MASTER METER PER WATER AUTHORITY SPEC	1
VAULT	PRECAST CONCRETE METER VAULT (SUBMIT FOR APPROVAL)	1



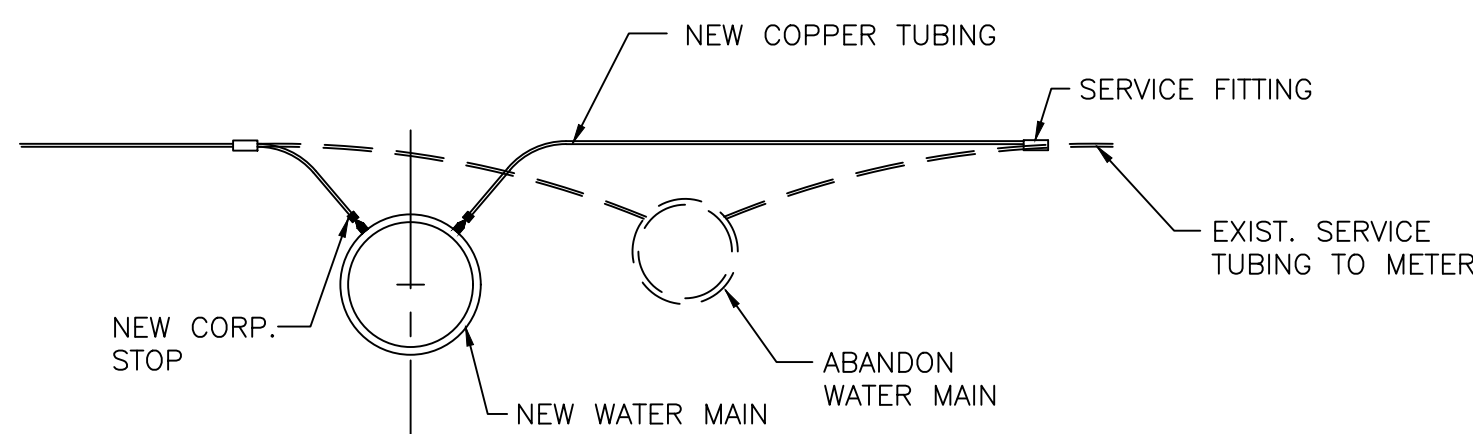
- BOLLARDS SHALL BE SPACED NOT MORE THAN 4' O.C.
- BOLLARDS SHALL BE LOCATED NOT LESS THAN 3' FROM THE PROTECTED OBJECT (FIRE HYDRANT)

### FIRE HYDRANT BOLLARD PROTECTION DETAIL

N.T.S.

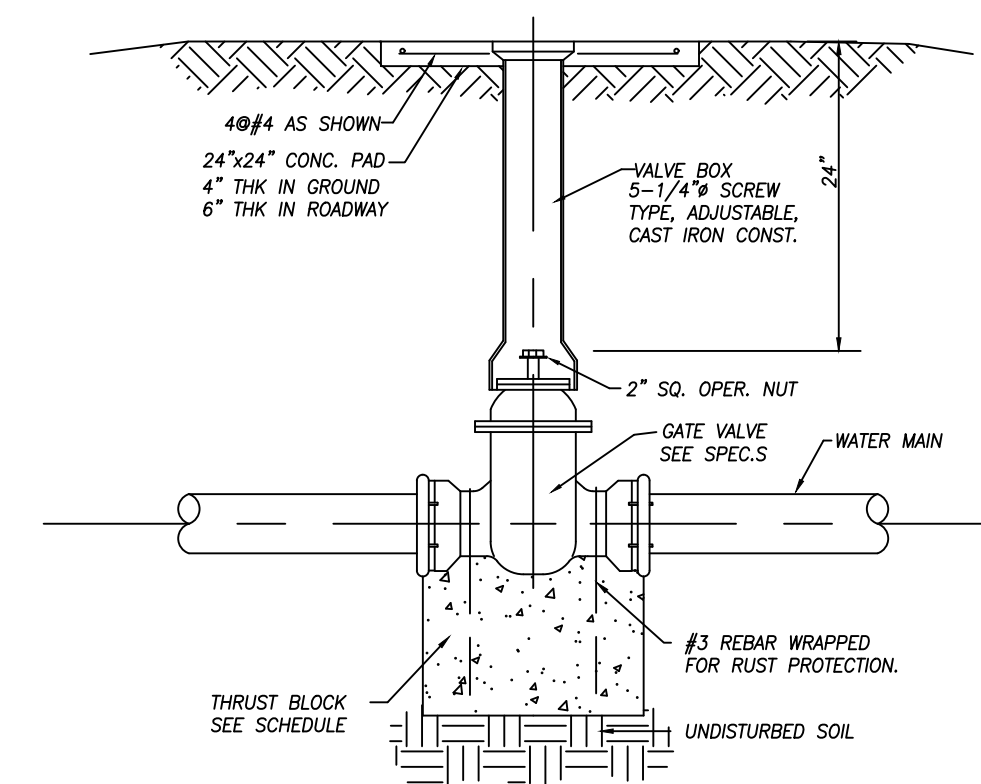
### TYPICAL SERVICE METER / (PRESSURE REGULATOR)

N.T.S.



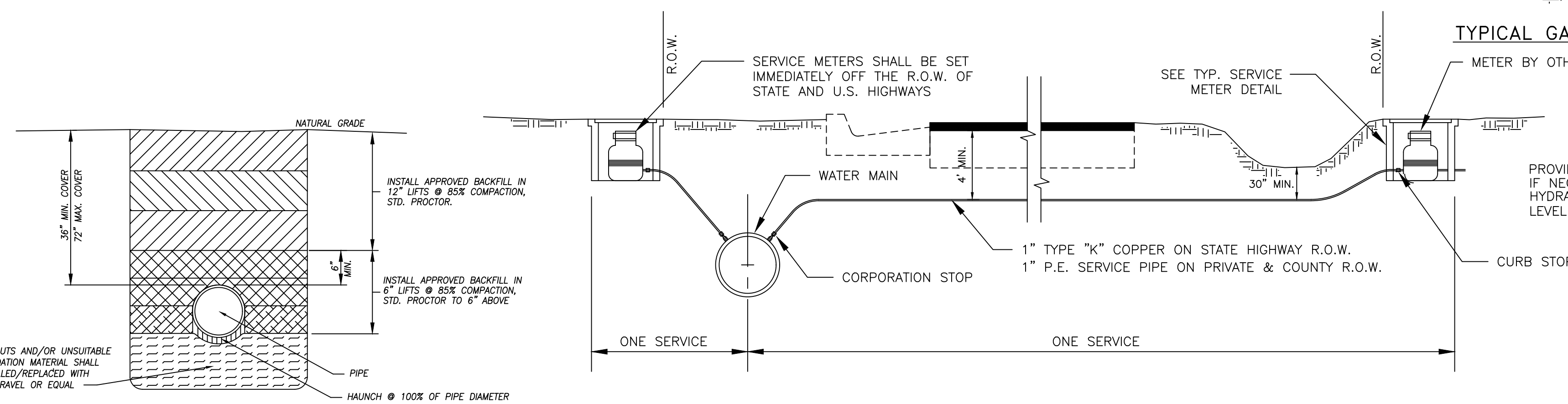
### CONNECTION OF EXISTING SERVICES

N.T.S.



### TYPICAL GATE VALVE DETAIL

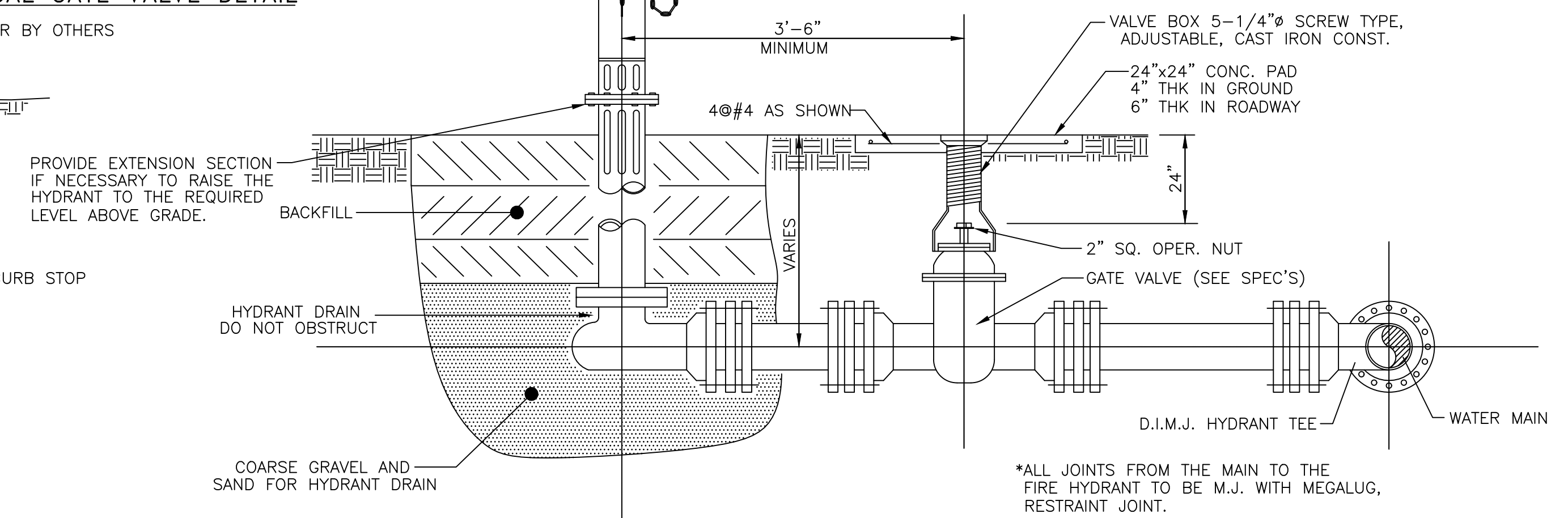
\*ALL PIPE, FITTINGS, VALVES, VAULTS AND METERS TO BE PER ORANGE BEACH WATER AUTHORITY'S SPECIFICATIONS FOR MAKE, MODEL, ETC..



### TYPICAL WATER MAIN TRENCH DETAIL

### TYPICAL SERVICE CONNECTION

N.T.S.



### FIRE HYDRANT ASSEMBLY

N.T.S.

NOTE:

- FIRE HYDRANT ASSEMBLY UNIT OF PAYMENT TO INCLUDE EXCAVATION, BACKFILL, COMPACTION, THRUST BLOCKS, GATE VALVE, GATE VALVE BOX, CONCRETE PAD, DUCTILE IRON TEE, ALL CONNECTIONS, DUCTILE IRON PIPING, CONCRETE, GRAVEL AND FIRE HYDRANT.
- WHERE FIRE HYDRANT IS OFF AN EXISTING MAIN THE BID PRICE IS TO INCLUDE TAPPING SLEEVE, CONNECTION, AND MACHINE TAPPING, EXCEPT IN THE PROVISIONAL ALTERNATE BID ITEM WHERE USE IS MADE OF AN EXISTING HYDRANT TEE.

DWG INFO: SA - CLIENTS: V1 - 054 - ORANGE BEACH FIRE STATION - CITY OF ORANGE BEACH ENGINEERING PRODUCTION - DWG'S TITLE: NOTES: DETAILS: DWG - 17/20/2021 - 4:32:38 PM

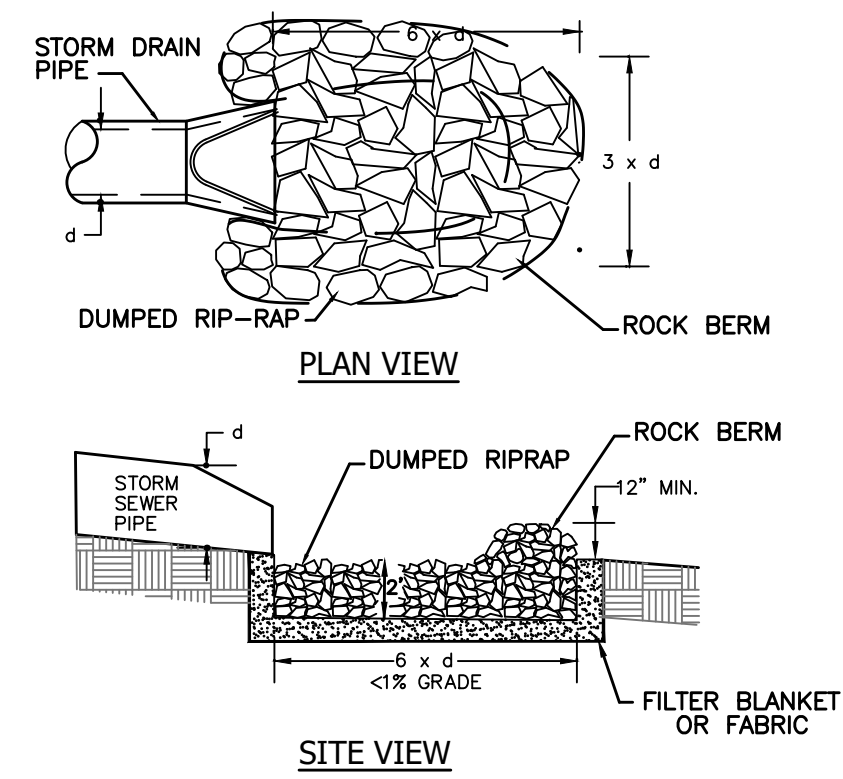
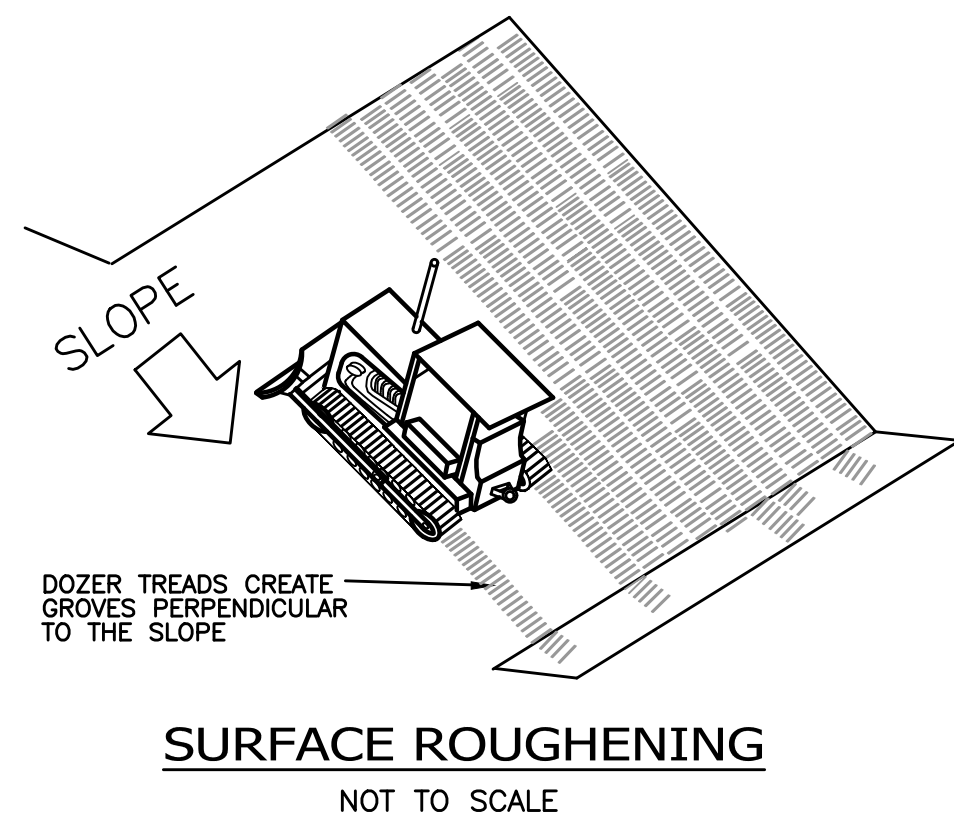
NUMBER:	REVISION:	DATE:

ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E.I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

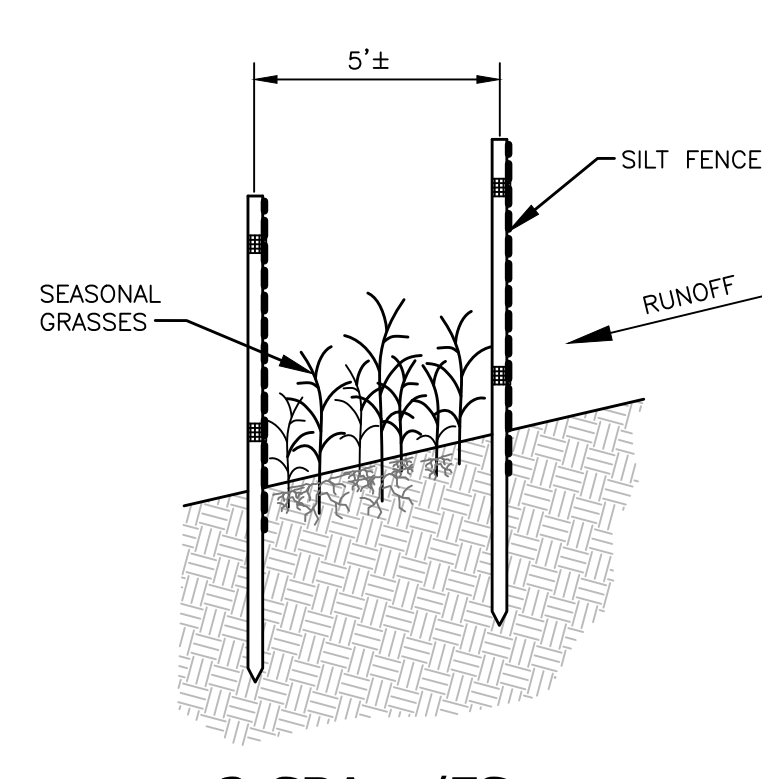
WATER DETAILS  
FIRE STATION NO. 5  
CITY OF ORANGE BEACH

SCALE: N.T.S.  
DATE: NOVEMBER, 2021  
DRAWN BY: JNF  
CHECKED BY: JHR  
SHEET: 19 OF 20

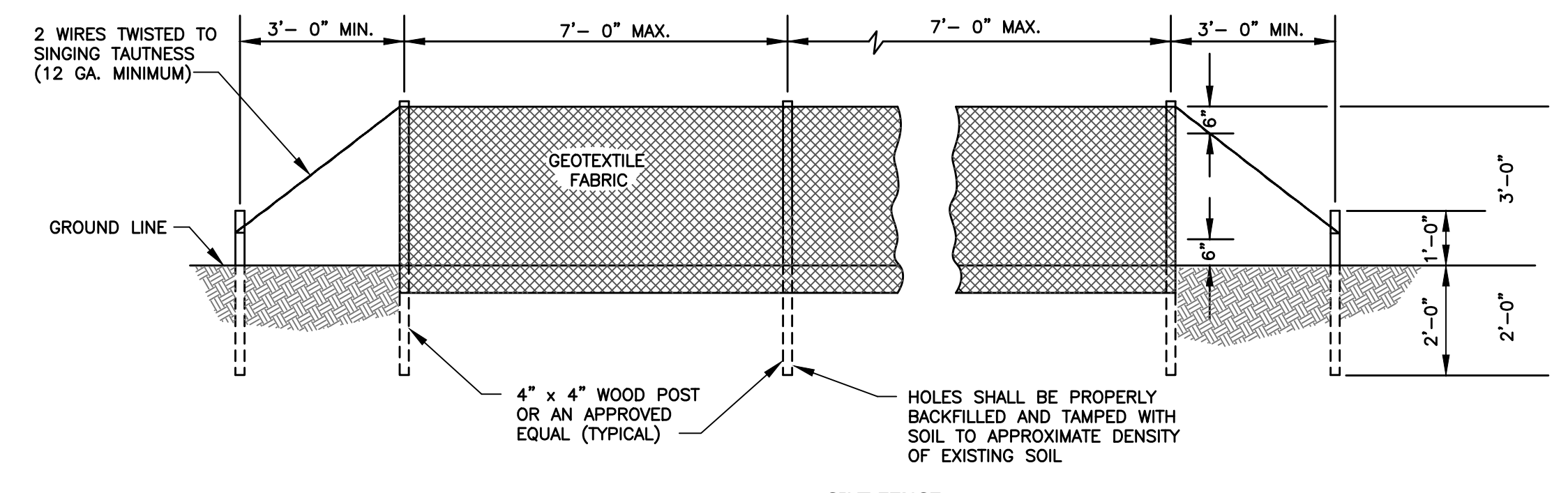
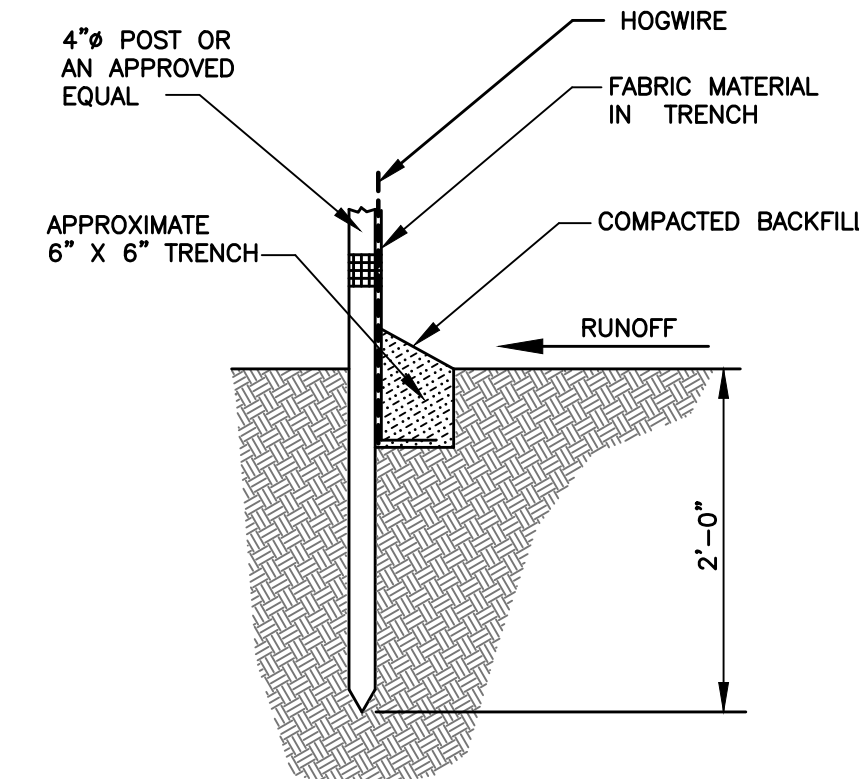
DWG INFO: SA - CLIENTS.V1 - 054 - ORANGE BEACH FIRE STATION CITY OF ORANGE BEACH ENGINEERING PRODUCTION DWG TITLE: NOTES - DETAILS.DWG - 11/30/2021 4:32:55 PM



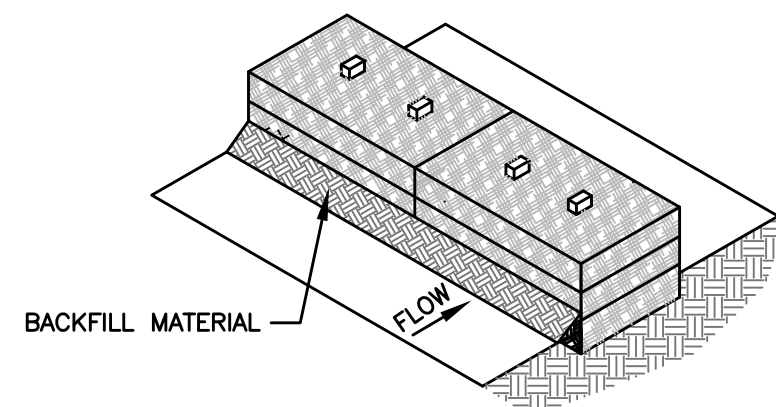
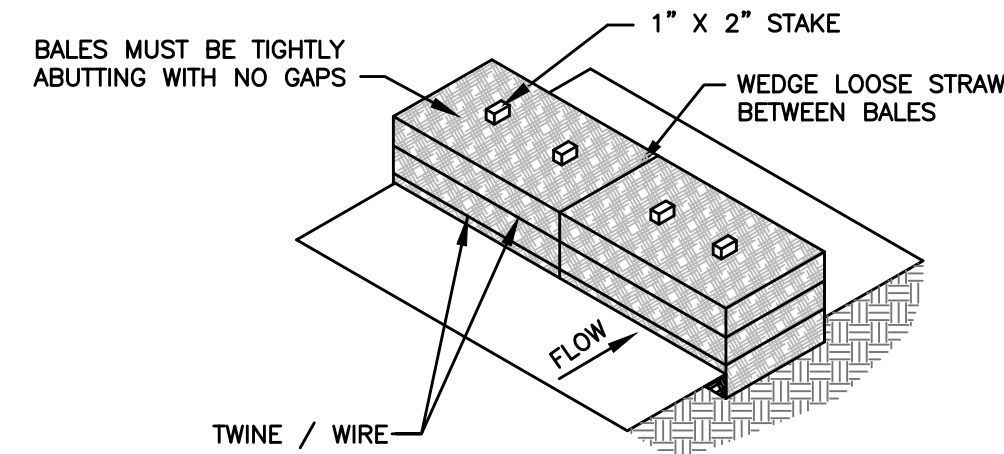
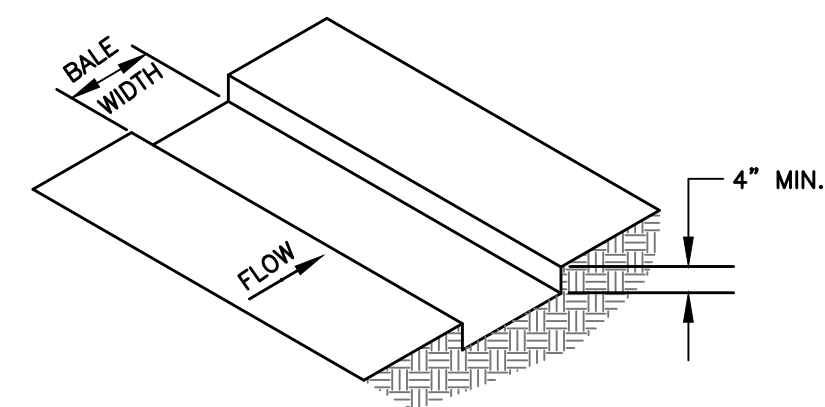
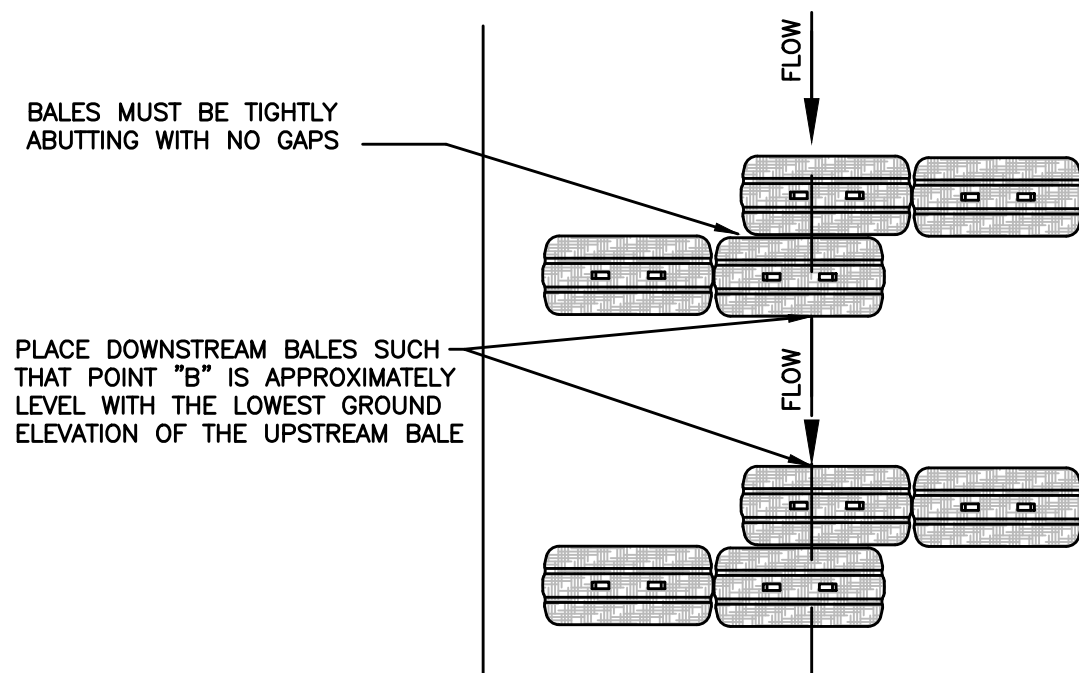
**RIPRAP OUTLET PROTECTION**  
NOT TO SCALE



**2-SBA w/FS**  
**DOUBLE SILT FENCE DETAIL**  
NOT TO SCALE

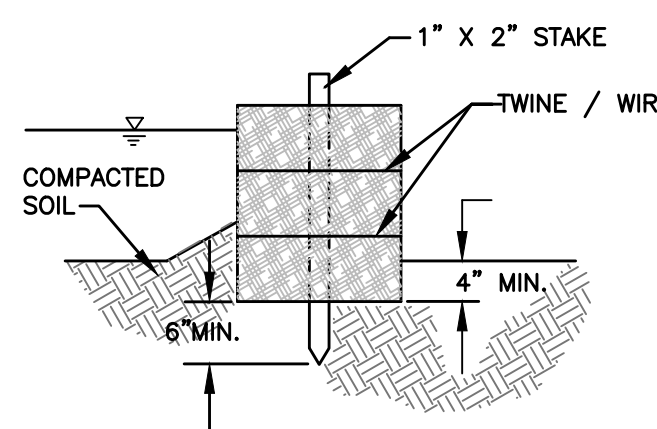


**TYPICAL SILT FENCE INSTALLATION**  
NTS

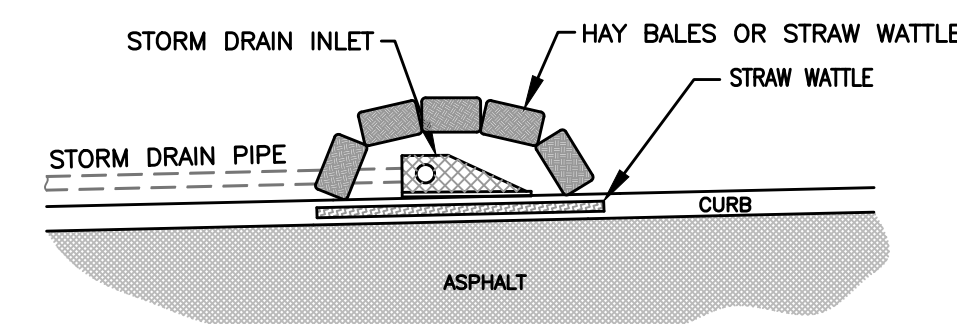


**3. BACKFILL AND COMPACT EXCAVATED SOIL.**

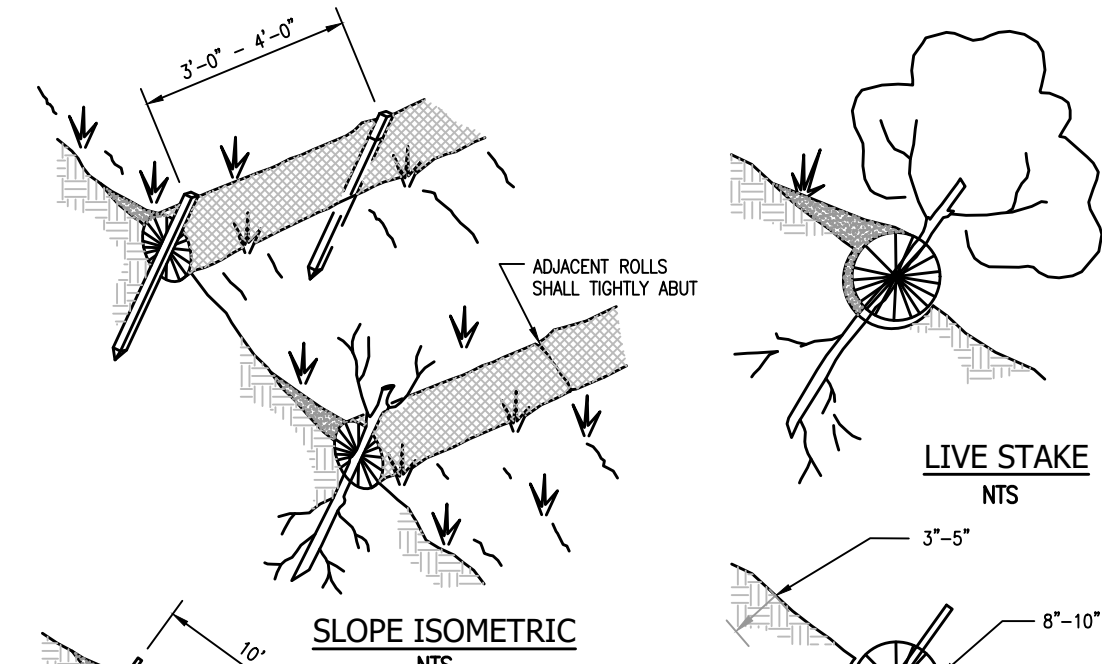
**NOTE:**  
THE END POINTS OF HAYBALES PLACED IN DITCHES MUST BE HIGHER THAN THE WATER FLOW OF THE DITCH.



**TYPICAL STRAW BALE INSTALLATION**  
NTS

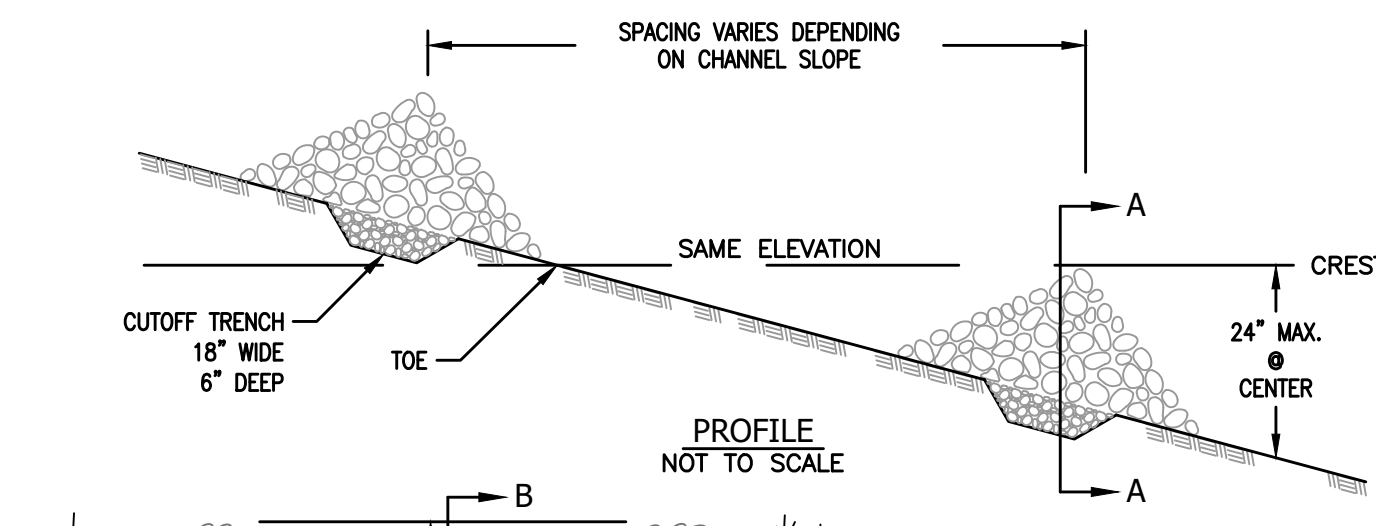


**TYPICAL INLET EROSION CONTROL**  
NTS



**NOTES:**  
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.  
2. DO NOT SCALE DRAWINGS.  
3. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3' - 5' DEEP, DUG ON CONTOUR, RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

**STRAW WATTLES**  
SLOPE STABILIZATION INSTALLATION DETAIL



**CHECK DAM DETAILS**  
NTS



**STONE PAD CONSTRUCTION EXIT**  
NTS

**GENERAL NOTES**

1. TYPE "A" SILT FENCE SHALL BE USED IN AREAS OF CONCENTRATED FLOW.
2. SILT FENCES ARE TEMPORARY EROSION CONTROL ITEMS THAT SHALL BE ERECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
3. SILT FENCE SHOULD BE PLACED WELL INSIDE PROPERTY BOUNDARY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR A BACK-UP FENCE IF FIRST BECOMES FULL. SILT FENCES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION OPERATION.
4. WHEREVER POSSIBLE, SILT FENCES SHALL BE CONSTRUCTED ACROSS A FLAT AREA IN THE SHAPE OF A HORSESHOE. THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
5. AFTER THE CONSTRUCTION AREA IS STABILIZED AND EROSION ACTIVITY CURTAILED, SILT FENCES SHALL BE REMOVED.
6. RING FASTENERS USED TO SECURE GEOTEXTILES TO WOVEN WIRE SHALL BE 13 GA. (AMERICAN).
7. IF WOOD POSTS ARE USED, STAPLES FOR SECURING WOVEN WIRE TO POSTS SHALL BE NINE (9) GAUGE, GALVANIZED, 1 1/2" LONG, FIVE (5) PER POST @ APPROXIMATELY 1'-0" ON CENTER.
8. WOVEN WIRE TO BE 12 1/2 GAUGE (MINIMUM).

**SPECIFICATIONS**

CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION

NUMBER:	REVISION:	DATE:

**Sawgrass**  
ENGINEERING - SURVEYING - CONSTRUCTION MANAGEMENT  
30673 Sgt. E. I. "Boots" Thomas Drive, Spanish Fort, AL 36527 Phone: (251) 544-7900

EROSION DETAILS
FIRE STATION NO. 5
CITY OF ORANGE BEACH

SCALE: N.T.S.
DATE: NOVEMBER, 2021
DRAWN BY: JNF
CHECKED BY: JHR
SHEET: 20 OF 20