

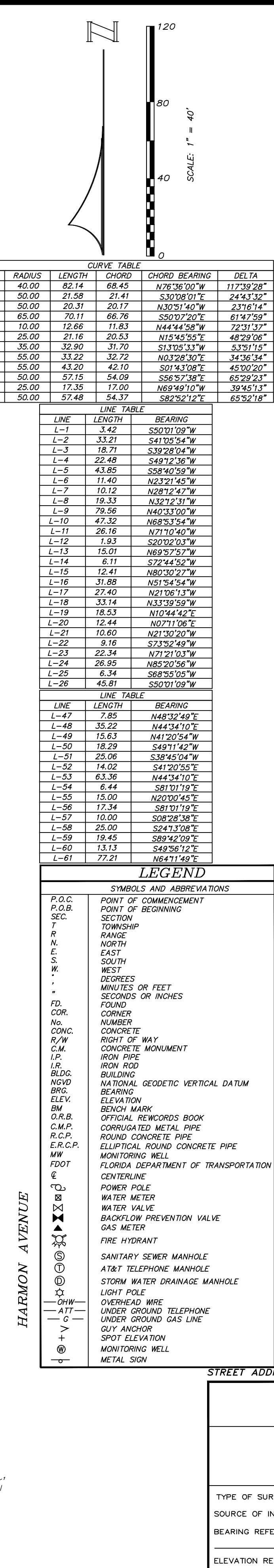
## DRAWING INDEX

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- 14 - DOCK DETAILS

VICINITY MAP  
NOT TO SCALE

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(850)763-5200 Fax (850)769-0730 [pe@panhandleengineering.com](mailto:pe@panhandleengineering.com)



# MAP OF SURVEY

## DESCRIPTION OF PARCEL:

**PARCEL 1:**  
 A PARCEL OF LAND BEGINNING AT A POINT 389.2 FEET NORTH OF THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA; THENCE N41°30'00" W 81.5 FEET TO THE MARGIN OF MASSALINA BAYOU; THENCE IN A NORTHEASTERLY DIRECTION ALONG SAID MARGIN OF MASSALINA BAYOU TO A POINT WHERE SAME IS INTERSECTED BY THE WEST QUARTER OF SAID SECTION 9; THENCE SOUTH ALONG SAID WEST LINE TO THE POINT OF BEGINNING; LYING AND BEING IN BAY COUNTY, FLORIDA.

**PARCEL 2:**  
 A PARCEL OF LAND BEGINNING AT A POINT 334.7 FEET NORTH OF THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA; THENCE N41°30'00" W TO THE MARGIN OF MASSALINA BAYOU; THENCE NORTHEASTERLY ALONG SAID MARGIN OF MASSALINA BAYOU TO A POINT WHERE SAME IS INTERSECTED BY THE WEST QUARTER OF THE FIRST MENTIONED LINE AND 36.5 FEET THERE FROM; THENCE S41°30'00" E, ALONG SAID PARALLEL LINE TO ITS INTERSECTION WITH THE WEST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST; THENCE SOUTH ALONG SAID WEST LINE A DISTANCE OF 54.5 FEET TO THE POINT OF BEGINNING; LYING AND BEING IN BAY COUNTY, FLORIDA, LESS & EXCEPT ANY PORTION LYING WITHIN THE RIGHT OF WAY OF BEACH DRIVE.

**PARCEL 3:**  
 A PARCEL OF LAND LOCATED IN THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER, SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST, BOUNDED AS FOLLOWS: ON THE NORTH BY THE MARGIN OF MASSALINA BAYOU; ON THE EAST BY THE SOUTH BY SECOND COURT; ON THE WEST BY BEACH DRIVE; IN PANAMA CITY, FLORIDA. SUBJECT TO THAT CERTAIN EASEMENT GRANTED TO CITY OF PANAMA CITY BY SECOND COURT, RECORDED IN OFFICIAL RECORDS BOOK 35, PAGE 46, OF THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA.

**LESS AND EXCEPT:**  
 THAT PARCEL OF LAND LOCATED IN THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA, BOUNDED AS FOLLOWS: ON THE NORTH BY MASSALINA BAYOU; ON THE EAST BY HARMON AVENUE; ON THE SOUTH BY SECOND COURT; ON THE WEST BY A LINE 100 FEET WEST OF AND PARALLEL WITH THE WEST RIGHT OF LINE OF HARMON AVENUE.

**DESCRIPTION OF PROPOSED SUBMERGED LAND LEASE AREA:**  
 COMMENCE AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 4 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA; THENCE N00°25'06"E, ALONG THE WEST LINE OF SAID SECTION 9 FOR 14.1 FEET TO THE INTERSECTION WITH HIGH WATER LINE AS PER LABINS DIT ( ELEVATION = 1.23 FEET) AND THE POINT OF BEGINNING; THENCE ALONG SAID MEAN HIGH WATER LINE THE FOLLOWING BEARINGS AND DISTANCES: THENCE S50°11'09" FOR 3.42 FEET; THENCE S41°05'54" W FOR 33.21 FEET; THENCE S38°28'04" W FOR 18.71 FEET; THENCE S49°12'36" W FOR 22.48 FEET; THENCE LEAVING SAID MEAN HIGH WATER LINE AS PER LABINS DIT FOR 76.94 FEET; THENCE N401°78'39" E FOR 102.93 FEET; THENCE N54°11'08" E FOR 136.61 FEET; THENCE S27°09'15" E FOR 12.41 FEET; THENCE S58°47'18" E FOR 48.17 FEET; THENCE S49°20'05" E FOR 138.27 FEET; THENCE S02°20'28" E FOR 252.52 FEET; THENCE S58°40'59" W FOR 43.85 FEET; THENCE N32°12'13" W FOR 19.33 FEET; THENCE N28°12'47" W FOR 10.12 FEET; THENCE N32°12'13" W FOR 19.33 FEET; THENCE N40°33'00" W FOR 79.56 FEET; THENCE N69°57'57" W FOR 26.16 FEET; THENCE S27°09'15" E FOR 12.41 FEET; THENCE N17°10'40" W FOR 15.01 FEET; THENCE S72°44'52" W FOR 6.11 FEET; THENCE N80°30'27" W FOR 12.41 FEET; THENCE N51°54'54" W FOR 31.88 FEET; THENCE N21°06'13" W FOR 27.40 FEET; THENCE N33°39'59" W FOR 33.14 FEET; THENCE N10°44'42" E FOR 18.53 FEET TO THE MEAN HIGH WATER LINE AS PER LABINS DIT ( ELEVATION = 1.23 FEET); THENCE ALONG SAID MEAN HIGH WATER LINE THE FOLLOWING BEARINGS AND DISTANCES: THENCE N07°11'08" E FOR 12.44 FEET; THENCE N21°30'20" W FOR 10.60 FEET; THENCE S72°59'49" W FOR 9.16 FEET; THENCE N12°11'03" W FOR 22.34 FEET; THENCE N85°26'10" W FOR 26.95 FEET; THENCE S68°55'05" W FOR 6.34 FEET; S05°01'09" W FOR 45.81 FEET TO THE POINT OF BEGINNING, CONTAINING 67,641 SQUARE FEET AND 1.55 ACRES MORE OR LESS.

**CERTIFIED TO:**  
 MASSALINA HOLDINGS, LLC  
 BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

**NOTE:** ALL EXISTING DOCKS TO BE REMOVED

**NOTE:** THIS IS A FIELD SURVEY  
 TOTAL SHORE LINE FOOTAGE = 1022'±

**NOTE:** BAY COUNTY FLORIDA HORIZONTAL CONTROL HAD 1983, MONUMENTS USED  
 BA7 1019 AND 1020

**SURVEYOR'S NOTES :**

- THE UNDERSIGNED SURVEYOR HAS NOT BEEN PROVIDED A CURRENT TITLE OPINION OR ABSTRACT OF MATTERS AFFECTING THE TITLE OR BOUNDARY TO THE PROPERTY. IT IS POSSIBLE THAT THERE ARE UNRECORDED, UNRECORDED DEEDS, EASEMENTS OR OTHER INSTRUMENTS THAT COULD AFFECT THE BOUNDARIES.
- RECORD MEASUREMENTS ARE SHOWN IN PARENTHESES WHEN FOUND TO BE OTHER THAN ACTUAL.
- I HAVE EXAMINED THE FEDERAL ADMINISTRATION FLOOD BOUNDARY MAPS AND FIND THAT THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE AE, OF THE FLOOD INSURANCE RATE ACT. THE FLOOD INSURANCE COMMUNITY NUMBER IS 12005030343, EFFECTIVE DATE, JUNE 2, 2009.
- THE UNDERSIGNED SURVEYOR MAKES NO CLAIM AS TO THE EXISTENCE OF ANY FEATURES SUCH AS UNDERGROUND UTILITIES, FOOTINGS, ETC., OTHER THAN THE SURFACE EVIDENCE OF SAME AS SHOWN HEREON. I HEREBY CERTIFY THAT THE SURVEY WAS MADE UNDER MY RESPONSIBLE CHARGE, AND MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS, AND THE FLORIDA SURVEYING ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

8-16-13

DATE OF SURVEY

9-2-15, ADDED ELEV. SHOTS  
 REVISED DRAWING

Not valid without the signature and the original raised seal of Florida licensed surveyor & mapper.

**DESS: BEACH DRIVE**

**SURVEY FOR:**  
 MASSALINA HOLDINGS, LLC

**County Wide Surveying, Inc.**  
 LB No. 3929

958 JENKS AVENUE                      PANAMA CITY, FL 32401  
 PHONE NO. (850) 769-0345              FAX NO. (850) 785-4769

**SURVEY SPECIFIC PURPOSE (SUBMERGED LAND LEASE)                      SCALE    AS SHOWN**

**INFORMATION    NEW PARCEL**

**REFERENCE    B.R.G. OF N89°42'09" ALONG THE N. R/W LINE OF SECOND COURT**

**REFERENCE    N.G.V.D. (1929) BENCH MARK NO. TITLE STATION 111-74,**

REV	DATE	BY	REVISIONS	SCALE: AS NOTED
				DESIGNED BY: JMS
				DRAWN BY: jdm
				REVIEWED BY: JMS
				ISSUE DATE: MAY 2016
NOT	RELEASED FOR CONSTRUCTION	BY:	DATE:	ACAD FILE NAME: 11241Bs1.dwg
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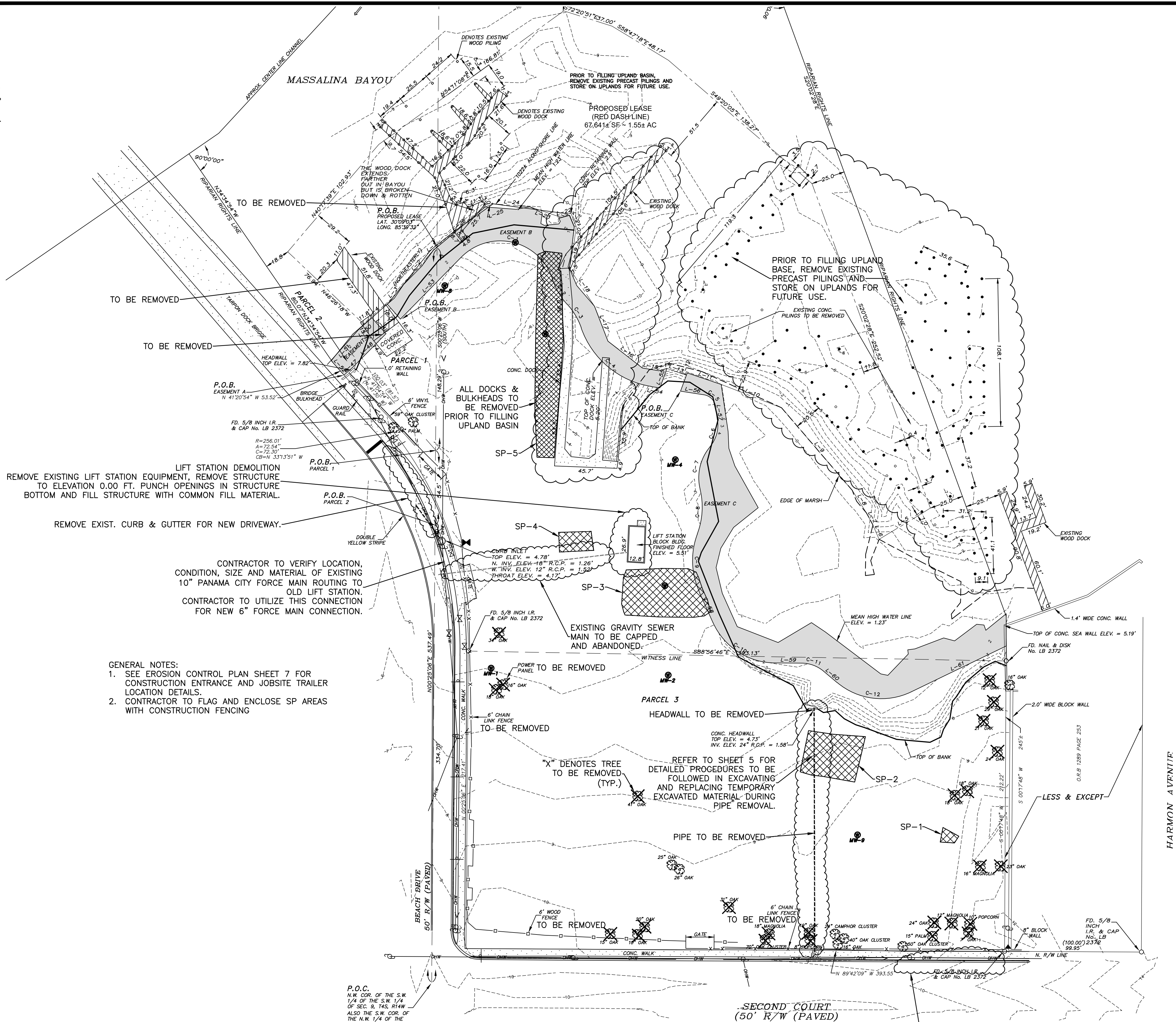
EXISTING CONDITIONS SURVEY  
MASSALINA CONDO MARINA  
PANAMA CITY, FLORIDA

James H. Sloan, P.E. 39197 James M. Southall, P.E. 39637 Jeffrey C. Palmstrom, P.E. 77540 Christopher B. Forehand, P.E. 58028	SHEET NUMBER  <div>1 OF</div>
	PROJECT NUMBER  <div>11241B</div>

DPR CERTIFICATION #EB-7806



SCALE 1" = 30'



- GENERAL NOTES:
1. SEE EROSION CONTROL PLAN SHEET 7 FOR CONSTRUCTION ENTRANCE AND JOBSITE TRAILER LOCATION DETAILS.
  2. CONTRACTOR TO FLAG AND ENCLOSE SP AREAS WITH CONSTRUCTION FENCING

REV	DATE	BY	REVISIONS
1	05/19/16	JMS	REVISED PER CITY COMMENTS
NOT RELEASED FOR CONSTRUCTION BY: DATE:			

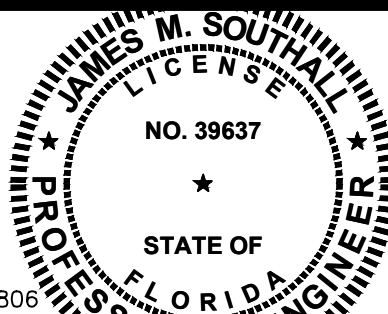
SCALE: AS NOTED
DESIGNED BY: JMS
DRAWN BY: jdm
REVIEWED BY: JMS
ISSUE DATE: MAY 2016
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DEMO PLAN  
MASSALINA CONDO MARINA  
  
PANAMA CITY, FLORIDA

James H. Soriano, P.E. 39197  
James M. Southall, P.E. 39637  
Jeffrey C. Petermann, P.E. 77540  
Christopher B. Forehand, P.E. 58028



SHEET NUMBER	2	OF
PROJECT NUMBER	11241B	

DPR CERTIFICATION #EB-7806

UTILITY CONTACTS		
UTILITY	CONTACT	
TELEPHONE	"CALL SUNSHINE"	1-800-432-4770
ELECTRIC		
GAS		
CABLE TV		
	COMCAST CABLE	1-850-769-0392
	KNOLOGY	1-850-235-1113
	CITY OF PANAMA CITY	1-850-872-3195
WATER & SEWER	BAY COUNTY	1-850-872-4785

SOD EOP	(INDEX 105 SHOULDER SODDING AND TURF ON EXISTING FACILITIES)
PIPE COVER	(INDEX 205 COVER HEIGHT)
EMBANKMENTS	(INDEX 505 EMBANKMENT UTILIZATION)
TURNOUTS	(INDEX 515 TURNOUTS)
SIGHT DISTANCE	(INDEX 546 SIGHT DISTANCE AT INTERSECTIONS)
TRAFFIC CONTROL	(INDEX 613 MILEPLANE, WORK WITHIN THE TRAVEL WAY MEDIAN OR OUTSIDE LANE)
ROAD STRIPING	(INDEX 17346 SPECIAL MARKING AREAS)

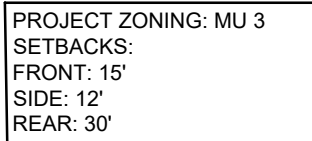
(CUMF) (MODIFIED TYPE F - SEE DETAIL SHEET .)  
(PVA) (ASPHALT PAVEMENT - SEE DETAIL SHEET .)  
(PVC) (CONCRETE PAVEMENT - SEE DETAIL SHEET .)  
(PVIG) (GRAVEL PAVEMENT - SEE DETAIL SHEET .)  
(TRANS) (TRANSITION CURB 10')  
(MATCH) (MATCH EXISTING ELEVATION)  
 (DRAINAGE STRUCTURES SEE GRADING & DRAINAGE PLAN)  
 (DENOTES STORMPIPE SEE PLAN VIEW THIS SHEET)  
25 (EXISTING CONTOURS)  
(EL.32.0) (PROPOSED FINISHED GRADE)  
CO (4" CLEANOUT - SEE DETAIL SHEET 5)  
 (STORMWATER SURFACE FLOW)  
CSW (CONCRETE SIDEWALK - SEE CONSTRUCTION DETAILS)  
SSL (SOVEREIGNTY SUBMERGED LAND LEASE)  
— MHW— MEAN HIGH WATER LINE  
 HAZARDOUS MITIGATION AREA

THE FIVE ON-SITE CONTAMINATED SPOIL SITES SHALL BE FLAGGED BEFORE CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE 24" SOIL CAPS AT EACH SPOIL SITE UNTIL THE EROSION CONTROL/CONTAMINATION MAINTENANCE PLAN BY THE SOIL ENGINEERING CONSULTANT DATED MARCH 2012, OR CAP THOSE AREAS WITH ASPHALT PAVING OR CONCRETE SLAB/DECKS.

ANY EXCAVATION NECESSARY IN THE SPOIL AREAS SHALL BE ISOLATED WITH POLYETHYLENE BARRIERS UNTIL THE DISTURBED AREA IS RESTORED AND CAPPED.

ANY CLASS 3 CONTAMINATED SOIL THAT CANNOT BE ENCAPSULATED MUST BE REMOVED FROM THE SITE TO A CLASS 3 LANDFILL MEETING ALL STATE REQUIREMENTS FOR TRANSPORTATION AND DECONTAMINATION.

- 



NOTE:  
WASTEWATER PUMP-OUT FACILITIES  
REQUIRED FOR CONDOMINIUM MARINA AND  
COMMERCIAL MARINA. SEE UTILITY PLAN.

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# PANAMA CITY, FLORIDA

11241B

FOR SCALE VERIFICATION AFTER DUPLICATION, THIS LINE SHOULD BE 1" LONG

DRAINAGE STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV.	PIPE INVERTS
DS1-1	EXISTING CURB INLET	9.02'	(N) 4.05' (DP1-1)
DS1-2	INDEX 201 MANHOLE WITH 48" DIA. J-BOTTOM	9.25'	(S) 3.50' (DP1-1) (E) 3.50' (DP1-2)
DS1-3	INDEX 201 MANHOLE WITH 48" DIA. J-BOTTOM	9.00'	(W) 1.50' (DP1-2) (N) 1.50' (DP1-3)
DS1-4	TYPE H INLET (SEE NOTE 1)	5.00'	(S) 1.00' (DP1-3)
DS1-5	TYPE E INLET (SEE NOTE 2)	6.50'	(NE) 1.50' (DP1-4)
DS1-6	TYPE E INLET	5.00'	(SW) 1.00' (DP1-4)

NOTE 1: 14" - 15" - 14" WEIRS (TOTAL 43') AT ELEVATION 4.00'  
NOTE 2: 36" WEIR AT ELEVATION 5.34'

DRAINAGE PIPE TABLE					
NO.	SIZE	LF	SLOPE	INVERTS	
DP1-1	30" RCP	26'	2.14%	DS1-1 = 4.05'	DS1-2 = 3.50'
DP1-2	30" RCP	131'	1.53%	DS1-2 = 3.50'	DS1-3 = 1.50'
DP1-3	30" RCP	187'	0.27%	DS1-3 = 1.50'	DS1-4 = 1.00'
DP1-4	18" RCP	27'	1.85%	DS1-5 = 1.50'	DS1-6 = 1.00'

DRAINAGE STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV.	PIPE INVERTS
DS2-1	TYPE E INLET	8.50'	(W) 5.50' (DP2-1)
DS2-2	TYPE E INLET	8.50'	(E) 5.00' (DP2-1) (W) 5.00' (DP2-2)
DS2-3	TYPE E INLET	8.50'	(E) 4.00' (DP2-2) (N) 4.50' (DP2-3)
DS2-4	TYPE E INLET	8.00'	(S) 4.00' (DP2-3) (NE) 4.00' (DP2-4)
DS2-5	TYPE E INLET	6.00'	(SW) 2.00' (DP2-4)

DRAINAGE PIPE TABLE					
NO.	SIZE	LF	SLOPE	INVERTS	
DP2-1	18" RCP	99'	0.50%	DS2-1 = 5.50'	DS2-2 = 5.00'
DP2-2	18" RCP	90'	0.56%	DS2-2 = 5.00'	DS2-3 = 4.50'
DP2-3	18" RCP	54'	0.92%	DS2-3 = 4.50'	DS2-4 = 4.00'
DP2-4	18" RCP	56'	3.57%	DS2-4 = 4.00'	DS2-5 = 2.00'

DRAINAGE STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV.	PIPE INVERTS
DS3-1	TYPE E INLET	8.00'	(W) 4.00' (DP3-1)
DS3-2	TYPE E INLET	8.00'	(E) 3.50' (DP3-1) (W) 3.50' (DP3-2)
DS3-3	TYPE E INLET	8.00'	(E) 3.25' (DP3-2) (N) 3.25' (DP3-3)
DS3-4	TYPE E INLET	8.00'	(S) 3.00' (DP3-3) (N) 3.00' (DP3-4)
DS3-5	TYPE E INLET	5.50'	(S) 2.00' (DP3-4)
DS3-6	TYPE E INLET (SEE NOTE 1)	6.39'	(N) 2.00' (DP3-5)
DS3-7	TYPE E INLET (SEE NOTE 2)	6.00'	(S) 1.50' (DP3-5)
DS3-8	2x2' YARD INLET	7.00'	(S) 4.00' (DP3-6)
DS3-9	2x2' YARD INLET	7.00'	(W) 3.50' (DP3-7)
DS3-10	2x2' YARD INLET	5.50'	(E) 3.00' (DP3-7)
DS3-11	2x2' YARD INLET	7.00'	(W) 4.00' (DP3-8)
DS3-12	2x2' YARD INLET	5.50'	(E) 3.00' (DP3-8)
DS3-13	TYPE C INLET	7.00'	(SE) 4.00' (DP3-9)
DS3-14	TYPE C INLET	5.50'	(NW) 2.00' (DP3-9)

NOTE 1: 36" WEIR AT ELEVATION 5.89'  
NOTE 2: 36" WEIR AT ELEVATION 5.00'

DRAINAGE PIPE TABLE					
NO.	SIZE	LF	SLOPE	INVERTS	
DP3-1	18" RCP	91'	0.55%	DS3-1 = 4.00'	DS3-2 = 3.50'
DP3-2	18" RCP	50'	0.50%	DS3-2 = 3.50'	DS3-3 = 3.25'
DP3-3	18" RCP	61'	0.41%	DS3-3 = 3.25'	DS3-4 = 3.00'
DP3-4	18" RCP	106'	0.94%	DS3-4 = 3.00'	DS3-5 = 2.00'
DP3-5	18" RCP	16'	3.06%	DS3-5 = 2.00'	DS3-7 = 1.50'
DP3-6	12" ADS	23'	0.00%	DS3-8 = 4.00'	= 4.00'
DP3-7	12" ADS	38'	1.31%	DS3-9 = 3.50'	DS3-10 = 3.00'
DP3-8	12" ADS	26'	3.79%	DS3-11 = 4.00'	DS3-12 = 3.00'
DP3-9	18" RCP	44'	4.56%	DS3-13 = 4.00'	DS3-14 = 2.00'

#### CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION

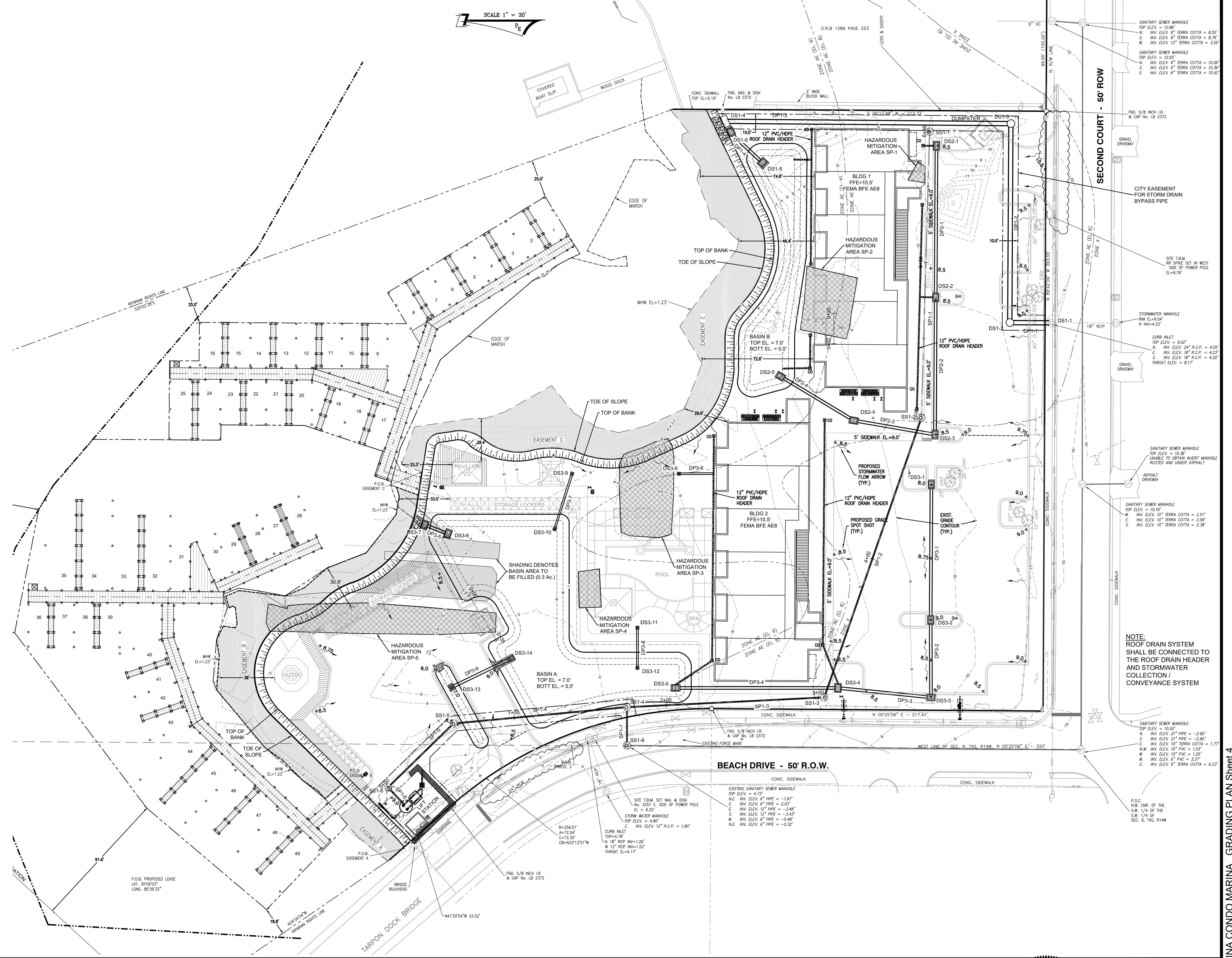
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ANY EXCAVATION NECESSARY IN THE SOIL AREAS SHALL BE ISOLATED WITH POLYETHYLENE BARRIERS UNTIL THE DISTURBED AREA IS RESTORED AND CAPPED.

ANY EXCESS CONTAMINATED SOIL THAT CANNOT BE ENCAPSULATED MUST BE REMOVED FROM THE SITE TO A CLASS 3 LANDFILL MEETING ALL STATE REQUIREMENTS FOR TRANSPORTATION AND DECONTAMINATION.

REV	DATE	BY	REVISIONS
1	5/19/16	JMS	REVISED PER REGULATORY COMMENTS
NOT	RELEASED FOR CONSTRUCTION	BY:	DATE:

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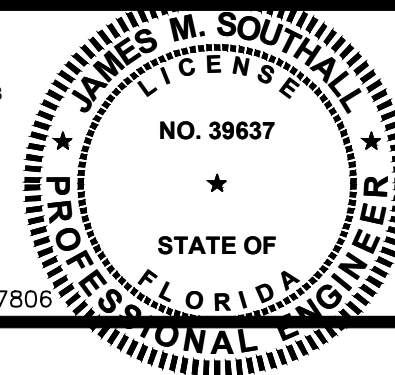
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3005 South Highway 77 Lynn Haven, Florida 32444  
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## GRADING PLAN MASSALINA CONDO MARINA

PANAMA CITY, FLORIDA

James H. Skornia, P.E. 39167  
James M. Southall, P.E. 39637  
Jeffrey C. Petermann, P.E. 77540  
Christopher B. Forthard, P.E. 58028  
Stephen E. Price, P.E. 71646



SHEET NUMBER

4 OF

PROJECT NUMBER

11241B

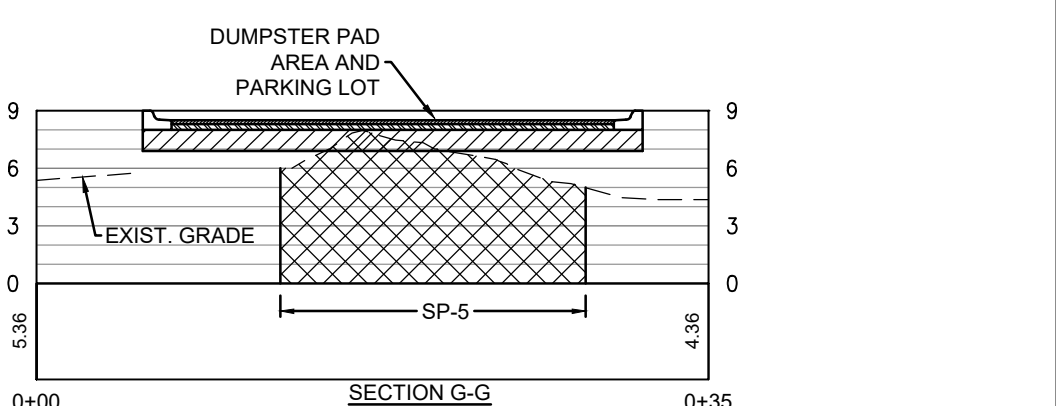
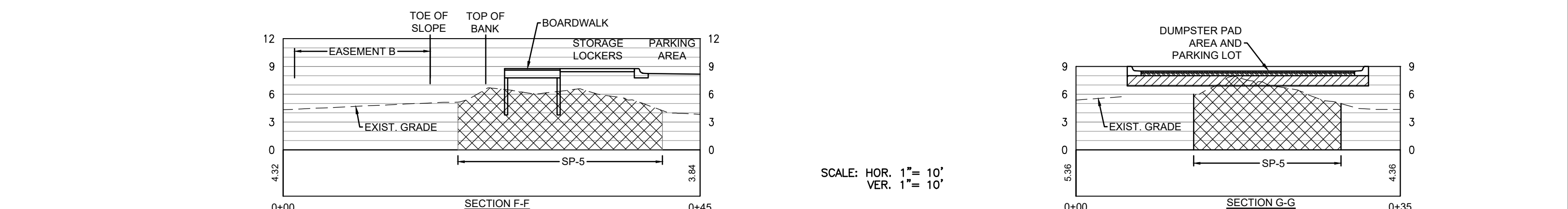
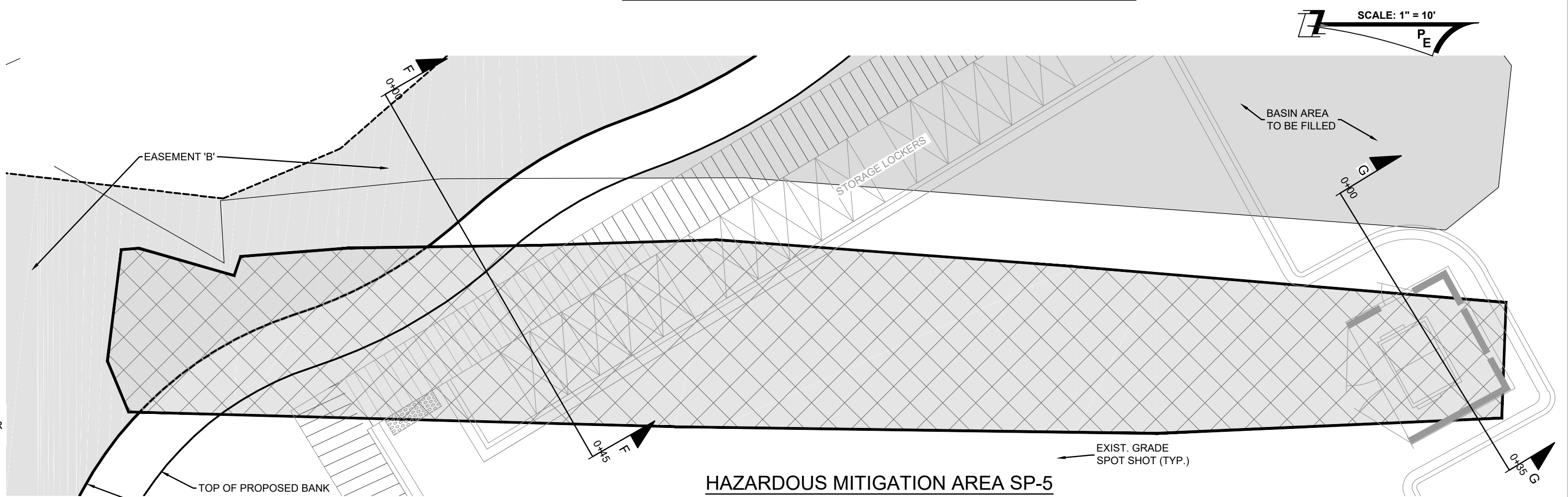
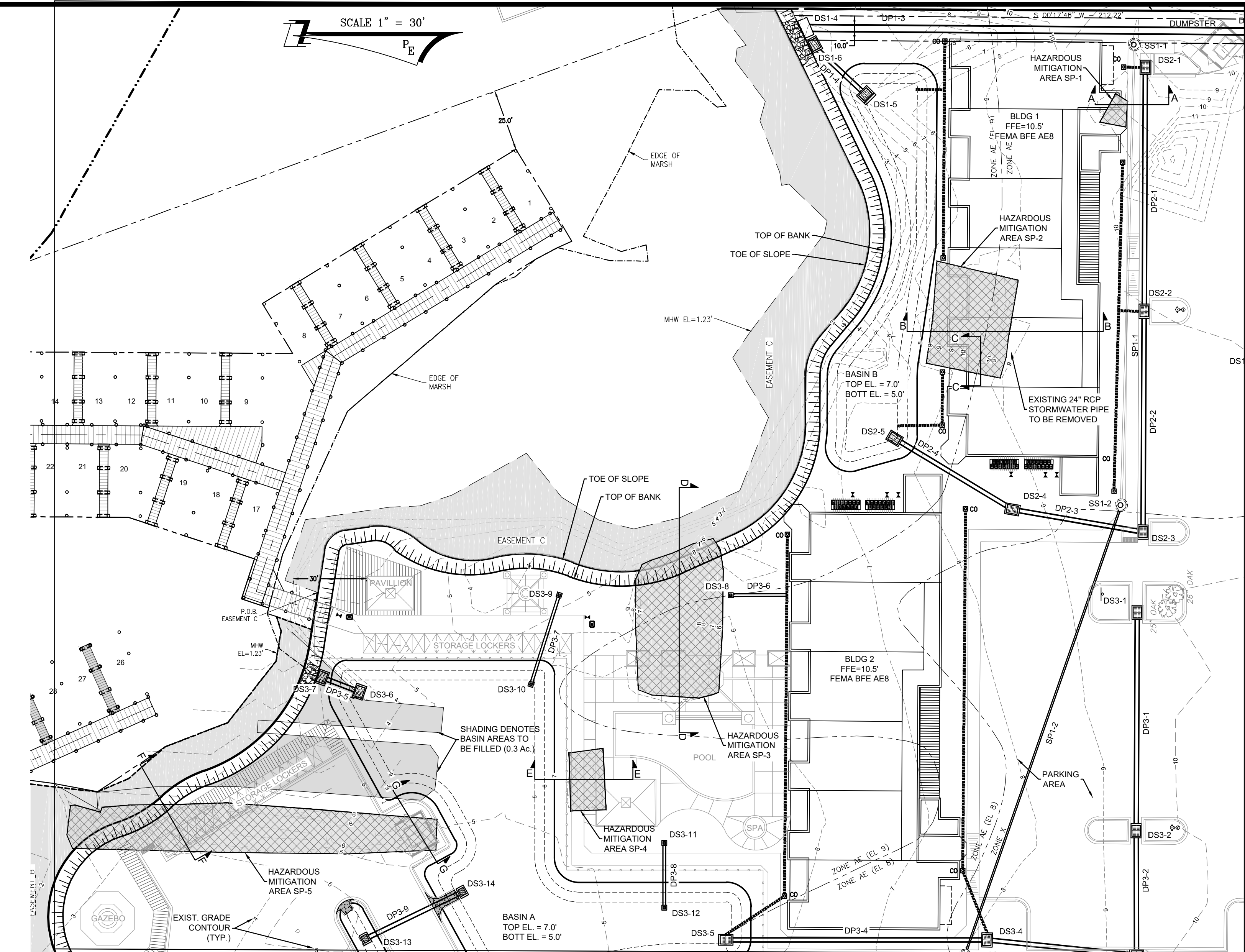
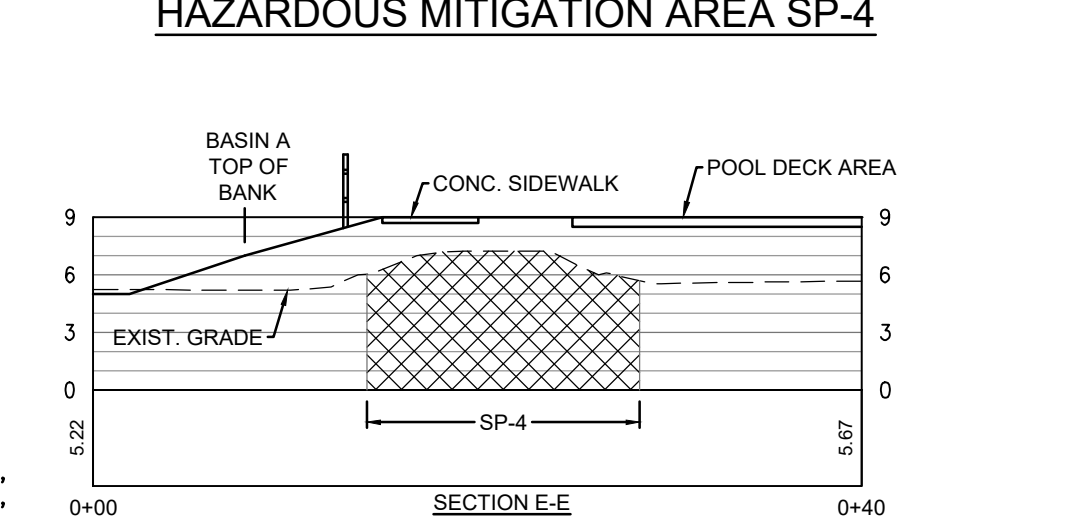
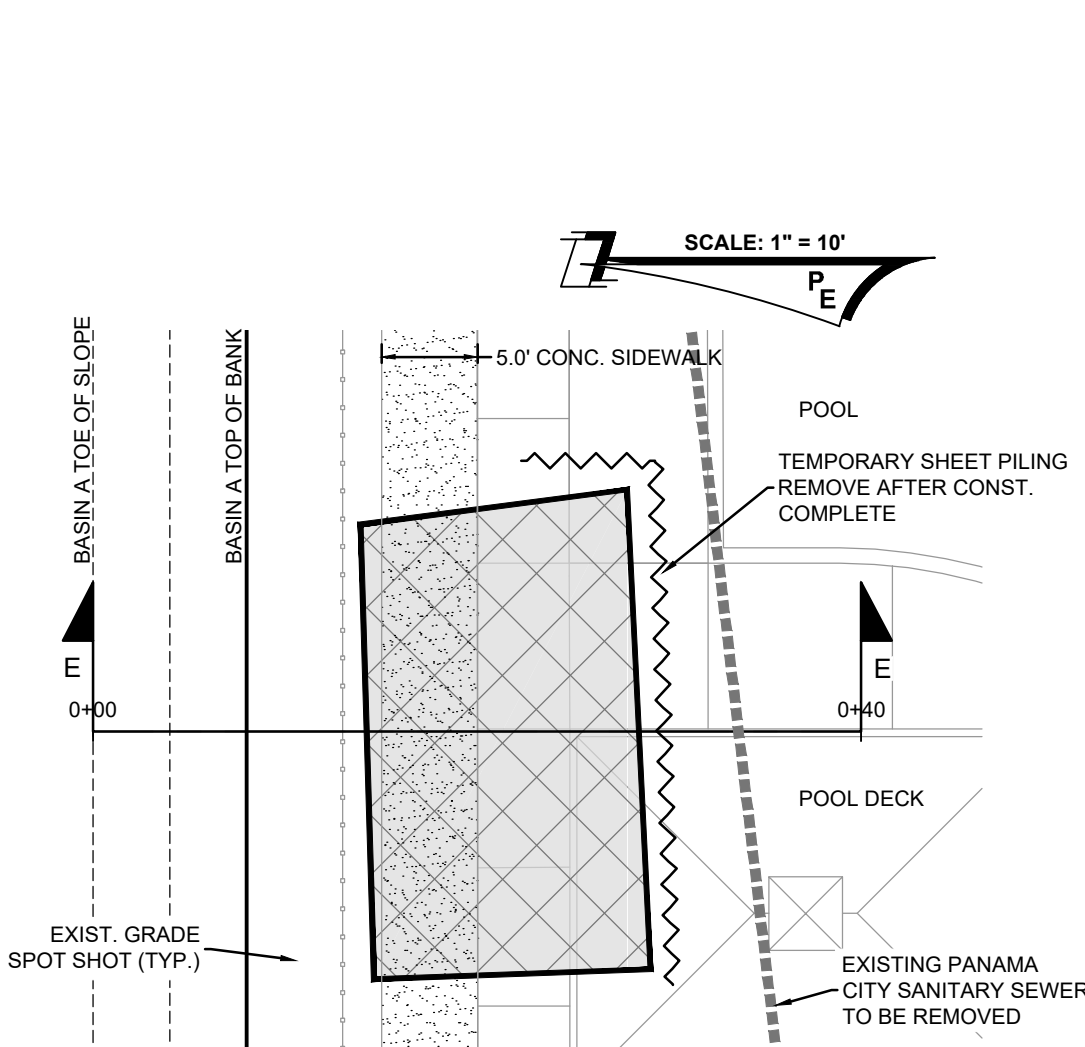
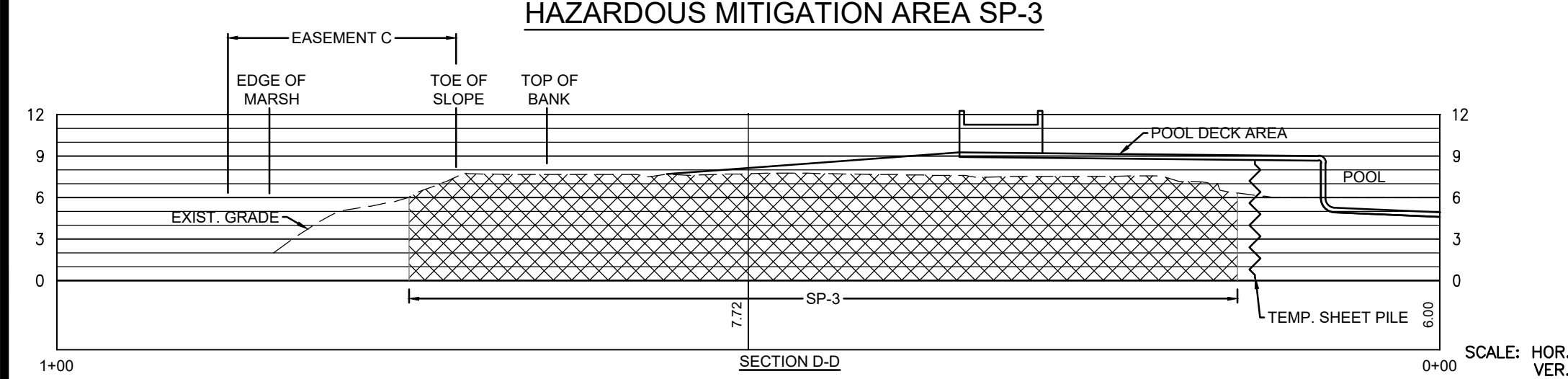
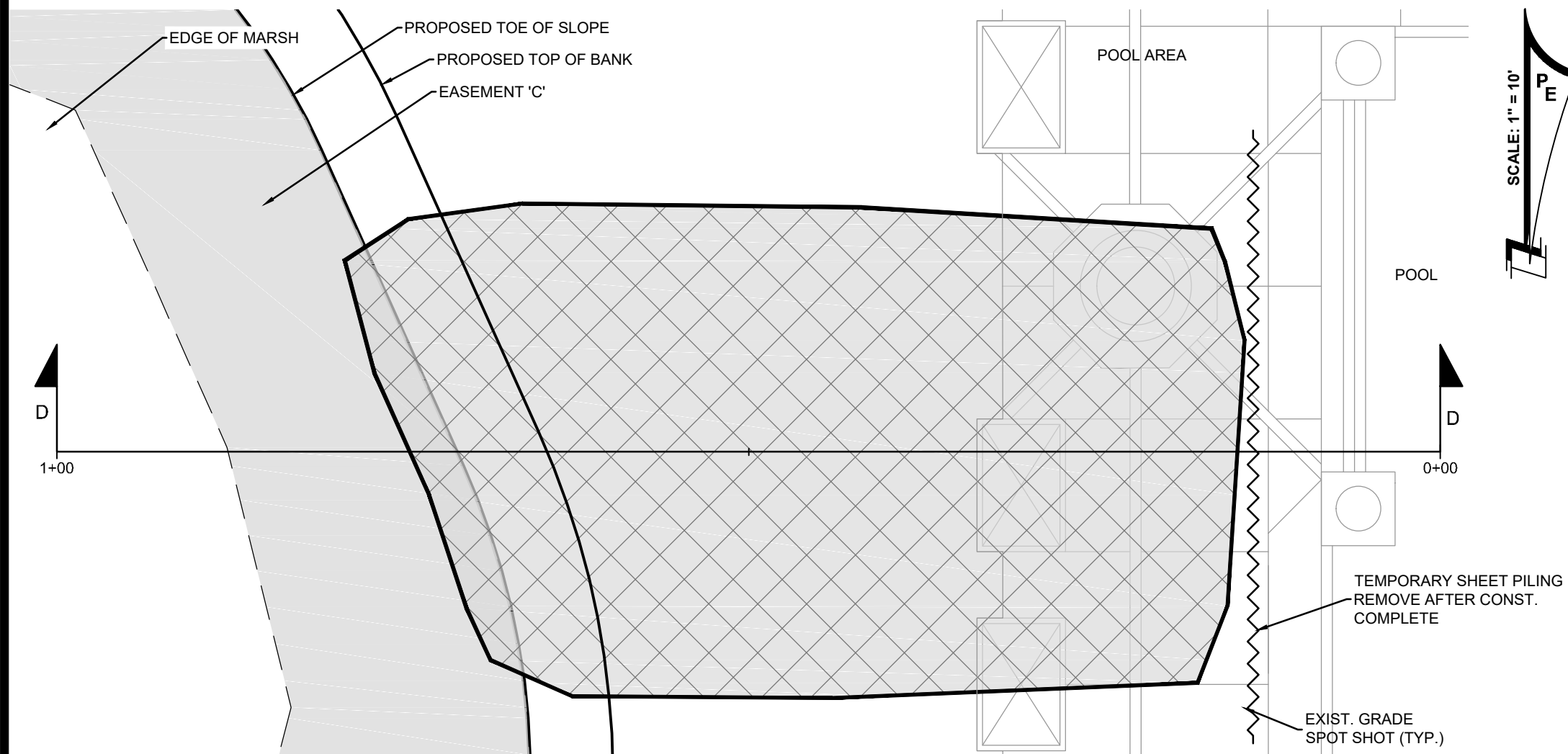
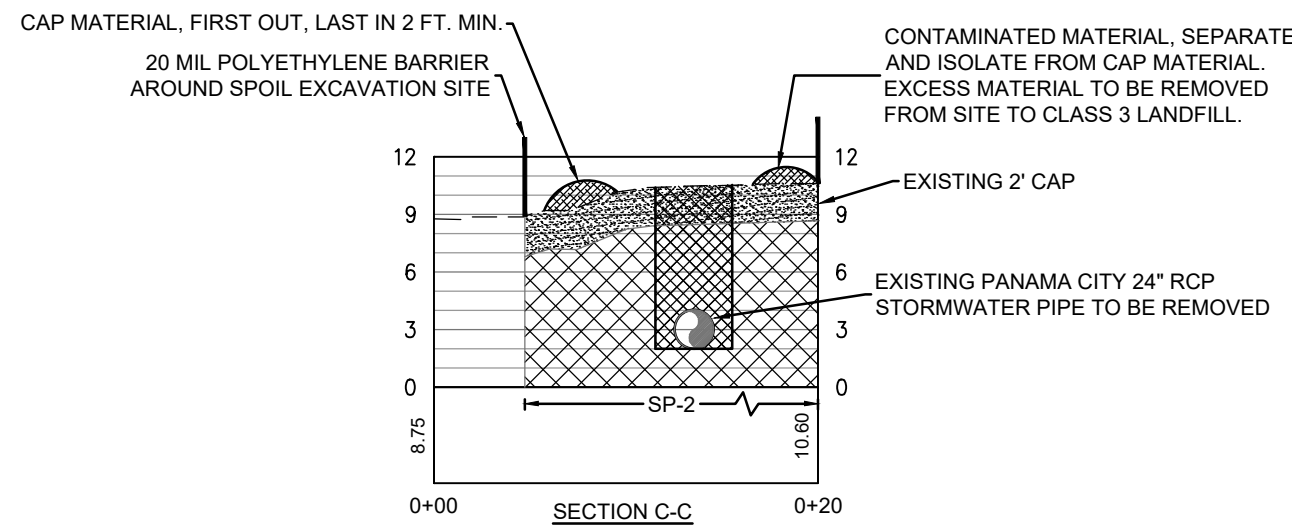
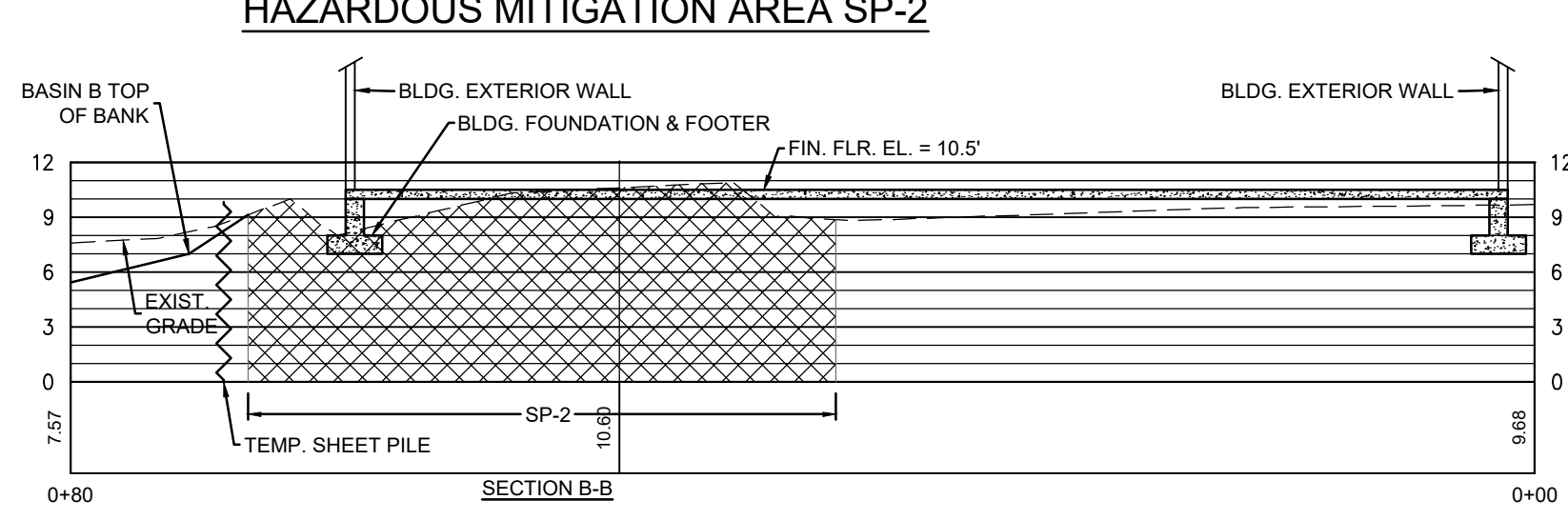
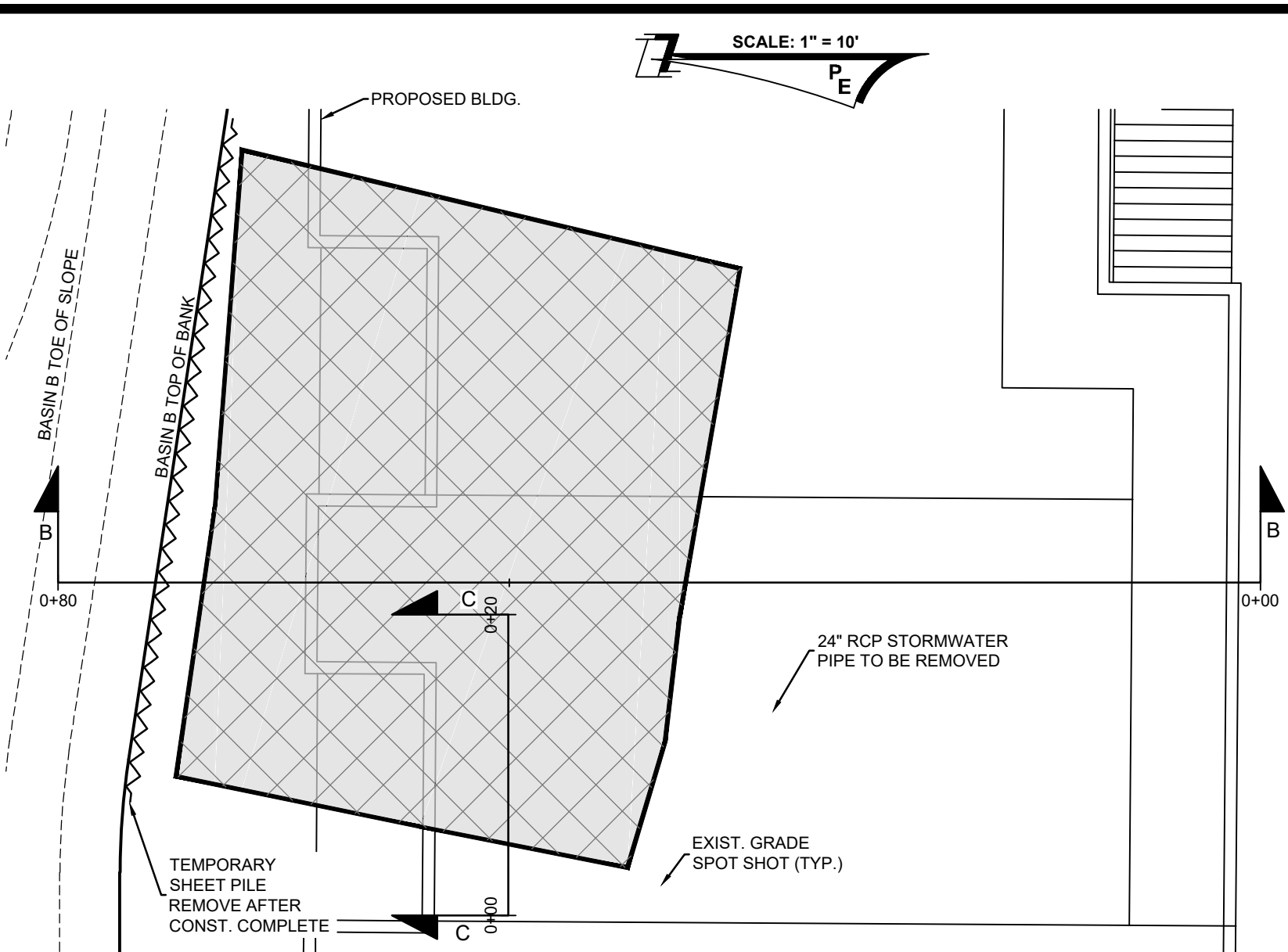
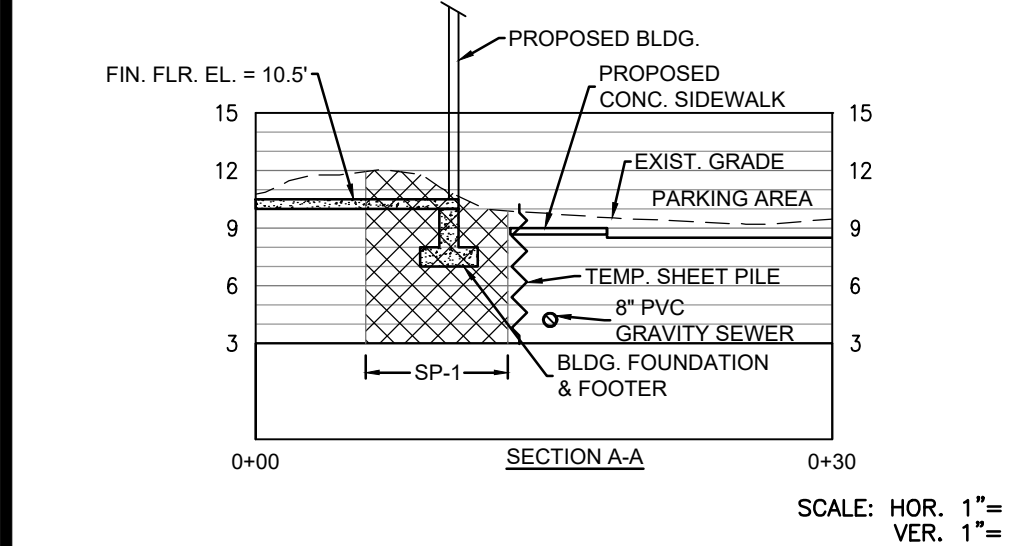
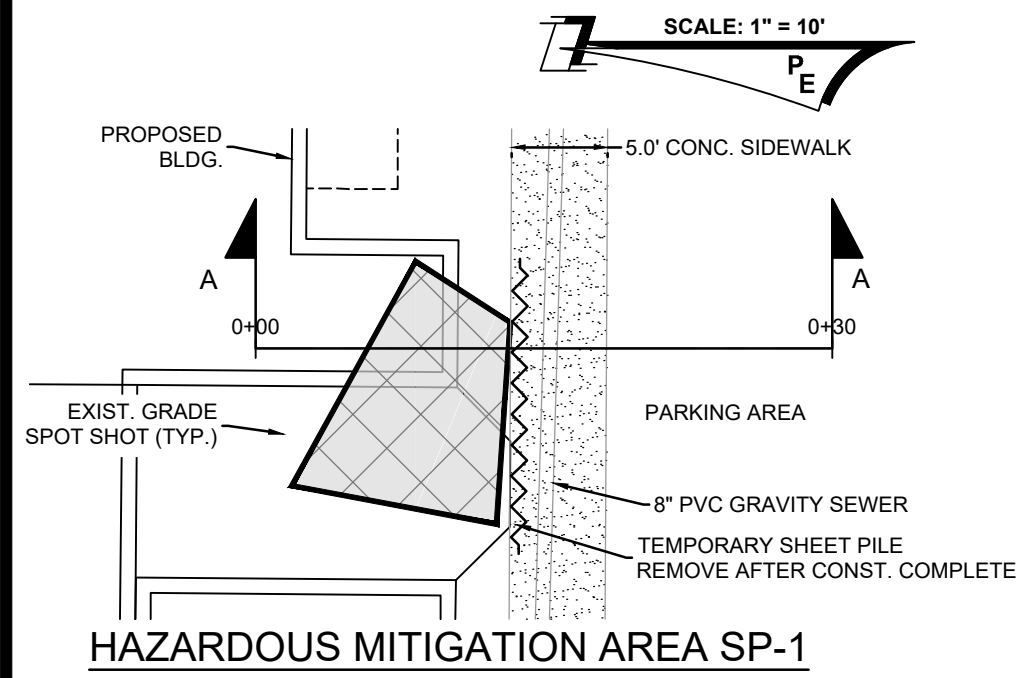
DPR CERTIFICATION #EB-7806

**CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION**

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ANY EXCAVATION NECESSARY IN THE SPOIL AREAS SHALL BE ISOLATED WITH POLYETHYLENE BARRIERS UNTIL THE DISTURBED AREA IS RESTORED AND CAPPED.

ANY EXCESS CONTAMINATED SOIL THAT CANNOT BE ENCAPSULATED MUST BE REMOVED FROM THE SITE TO A CLASS 3 LANDFILL MEETING ALL STATE REQUIREMENTS FOR TRANSPORTATION AND DECONTAMINATION.



REV	DATE	BY	REVISIONS
1	5/19/16	JMS	SHEET ADDED PER REGULATORY COMMENTS
NOT	RELEASED FOR CONSTRUCTION	BY:	DATE:

SCALE: AS NOTED
DESIGNED BY: JMS
DRAWN BY: jdm
REVIEWED BY: JMS
ISSUE DATE: MAY 2016
ACAD FILE NAME: 11241B.e1.dwg

**PANHANDLE ENGINEERING, INC.**

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**SOIL CAPPED AREAS EXHIBIT**  
**MASSALINA CONDO MARINA**  
**PANAMA CITY, FLORIDA**

JAMES M. SOUTHWELL  
PROFESSIONAL ENGINEER  
NO. 39637  
STATE OF FLORIDA  
DPR CERTIFICATION #EB-7806

SHEET NUMBER  
**5** OF  
PROJECT NUMBER  
**11241B**

POTABLE AND REUSE WATER MAINS

- 1) PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM D2241, SDR-21.
- 2) PVC PIPE 4"-12" SHALL BE AWMA C900 (DR18).
- 3) PVC PIPE GREATER THAN 12" SHALL BE AWMA C905 (DR18).
- 4) FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
- 5) MEGALUG RESTRAINTS SHALL BE UTILIZED.
- 6) ALL POTABLE WATER MAINS SHALL BE COLOR BLUE.
- 7) ALL RECLAIMED WATER MAINS SHALL BE COLOR PURPLE.
- 8) ALL FLUSHING REQUIREMENTS PER AWMA STANDARDS (2.5 FPS MINIMUM, 1.5 X PIPE VOLUME MINIMUM).
- 9) ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED PER AWMA STANDARD C600 (LATEST EDITION) AT 150 PSIG (MINIMUM) FOR TWO HOURS.
- 10) ALL WATER MAINS REQUIRE DISINFECTION PER AWMA STANDARD C651.

WATER AND REUSE VALVES

- 1) 12" AND LESS SHALL BE EPOXY COATED RESILIENT SEAT GATE VALVES.
- 2) 16" AND ABOVE SHALL BE EPOXY COATED RESILIENT BUTTERFLY VALVES.

FORCE MAIN

- 1) PVC PIPE LESS THAN 12" DIAMETER SHALL BE ASTM D2241, SDR-26.
- 2) PVC PIPE GREATER THAN 12" SHALL BE AWMA C905 (DR25).
- 3) FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
- 4) MEGALUG RESTRAINTS SHALL BE UTILIZED.
- 5) ALL FORCE MAINS SHALL BE COLOR GREEN OR BROWN.
- 6) ALL SANITARY FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWMA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS.
- 7) ALL FLUSHING REQUIREMENTS PER AWMA STANDARDS (2.5 FPS MINIMUM, 1.5 X PIPE VOLUME MINIMUM).

GRAVITY SEWER

- 1) PVC PIPE 4"-15" DIAMETER SHALL BE ASTM D3034, (SDR-35).
- 2) PVC PIPE 18"-27" DIAMETER SHALL BE F579 (SDR-35).
- 3) ALL SEWER LINES SHALL BE COLOR GREEN OR BROWN.
- 4) ALL GRAVITY SEWER PIPING SHALL BE TESTED IN ACCORDANCE WITH UNIFORM-98, UNBELL. PVC PIPE CORPORATION, CONSTANT PRESSURE OF 4.0 PSIG (GREATER THAN THE AVERAGE GROUND-WATER BACK PRESSURE).
- 5) FIBERGLASS OR STAINLESS MANHOLE COVER INSERTS ARE REQUIRED AT ALL MANHOLES WITH RIM ELEVATIONS BELOW 7 FEET NGVD.
- 6) MANHOLE RINGS AND COVER SHOULD BE 3 INCHES ABOVE GRADE IN UNPAVED AREAS TO PREVENT STORMWATER INFLOW.

NOTE

- 1) DIRECTION BORES FOR FORCE/WATER MAINS SHALL USE HDPE DR11/DR9 W/AWMA DIP SIZE & GREEN/BLUE STRIPE. FOR HDPE CONNECTIONS TO AWMA C900 OR DIP, USE HDPE MJ ADAPTER KIT (INDEPENDENT PIPE PRODUCTS OR APPROVED EQUAL). PROVIDE RESTRAINTS THREE (3) PIPE JOINTS BEYOND HOPE & PVC/DIP ADAPTER.
- 2) (REFER TO GENERAL NOTES FOR MORE INFO.)

SANITARY SEWER STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV.	PIPE INVERTS
SS1-1	SEWER MANHOLE	9.00'	(W) 4.00' (SP1-1)
SS1-2	SEWER MANHOLE	9.30'	(E) 3.15' (SP1-1) (W) 3.06' (SP1-2)
SS1-3	SEWER MANHOLE	9.00'	(E) 1.10' (SP1-2) (N) 1.00' (SP1-3)
SS1-4	DROP SEWER MANHOLE	7.50'	(S) 0.42' (SP1-3) (N) 3.69' (SP1-4) (W) 3.59' (SP1-7)
SS1-5	SEWER MANHOLE	8.50'	(S) 4.21' (SP1-4) (NW) 4.31' (SP1-5)
SS1-6	SEWER MANHOLE	8.80'	(SE) 4.58' (SP1-5) (SW) 4.67' (SP1-6)
SS1-7	LIFT STATION	10.00'	(NE) 4.74' (SP1-6)
SS1-8	EXISTING SEWER MANHOLE	4.73'	(E) 3.48' (SP1-7)

SANITARY SEWER PIPE TABLE			
NO.	SIZE	LF	SLOPE
SP1-1	PVC Pipe	186'	0.45%
SP1-2	PVC Pipe	194'	1.01%
SP1-3	PVC Pipe	130'	0.45%
SP1-4	PVC Pipe	114'	0.45%
SP1-5	PVC Pipe	60'	0.45%
SP1-6	Ductile Iron Pipe	17'	0.45%
SP1-7	PVC Pipe	25'	0.45%

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2	05/19/16	JMS	REVISED PER REGULATORY COMMENTS
1	01-05-2016	JMS	REVISED PER CITY UTILITY COMMENTS
NOT	RELEASED FOR CONSTRUCTION	BY:	DATE:

SCALE: AS NOTED

DESIGNED BY: JMS

DRAWN BY: jdm

REVIEWED BY: JMS

ISSUE DATE: MAY 2016

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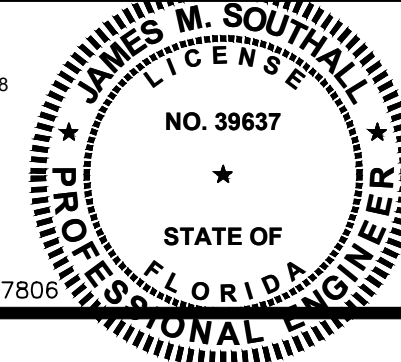
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UTILITY PLAN  
MASSALINA CONDO MARINA

PANAMA CITY, FLORIDA

James H. Skornia, P.E. 39167  
James M. Southall, P.E. 39637  
Jeffrey C. Petermann, P.E. 77540  
Christopher B. Forshand, P.E. 58028  
Stephen E. Price, P.E. 71646



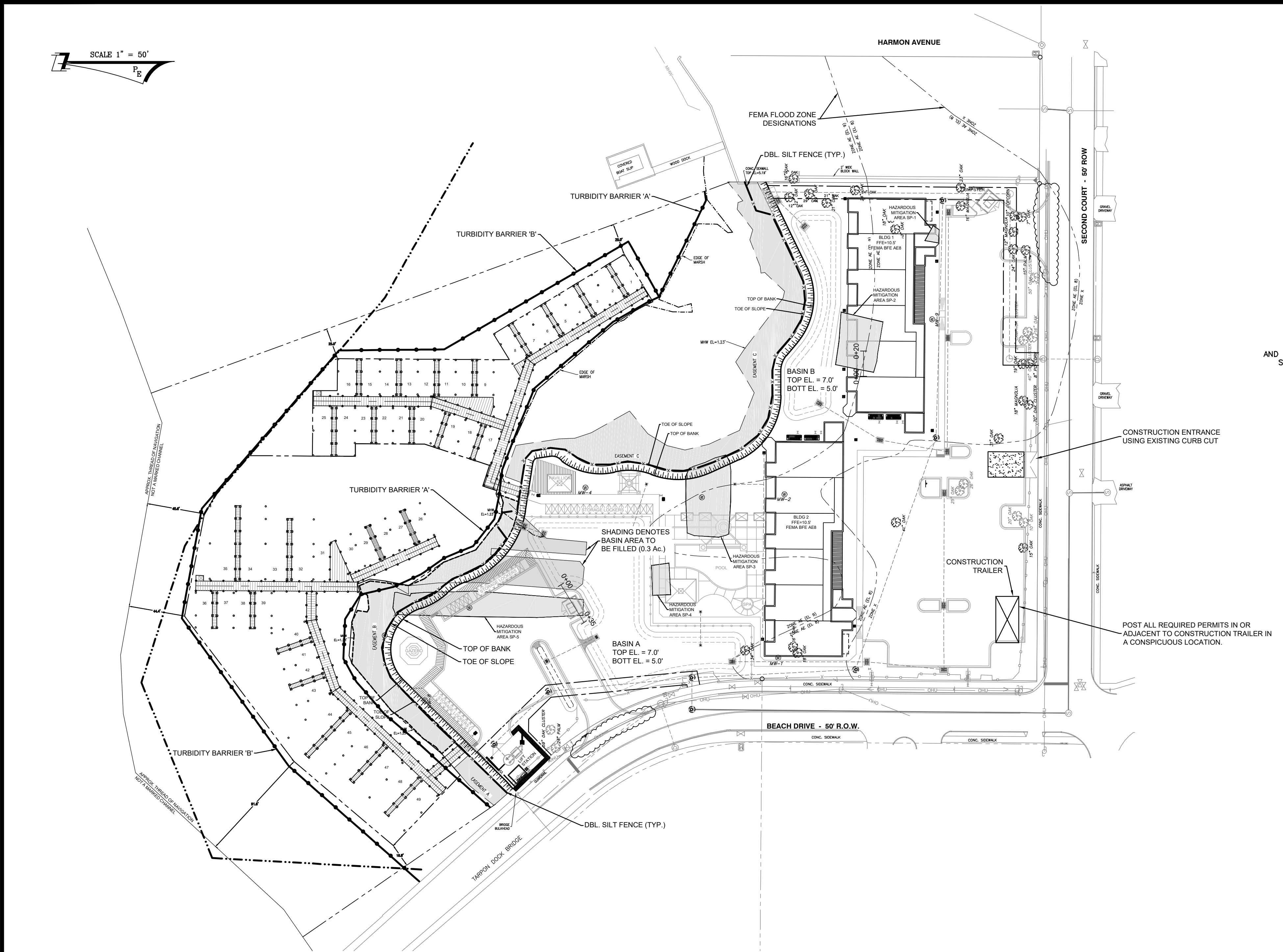
SHEET NUMBER

6 OF

PROJECT NUMBER

11241B

DPR CERTIFICATION #EB-7806



**CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION**

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**ON-SITE CONTAMINATED SOILS**

NOTE: THE SITE HAS FIVE AREAS OF CONTAMINATED SOILS. SEE CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION CONSTRUCTION NOTES.

CONTAMINATES PRESENT INCLUDE:

- PETROLEUM HYDROCARBONS (TPH)
- BENZOPYRENE
- DIOXIN / FURAN COMPOUNDS

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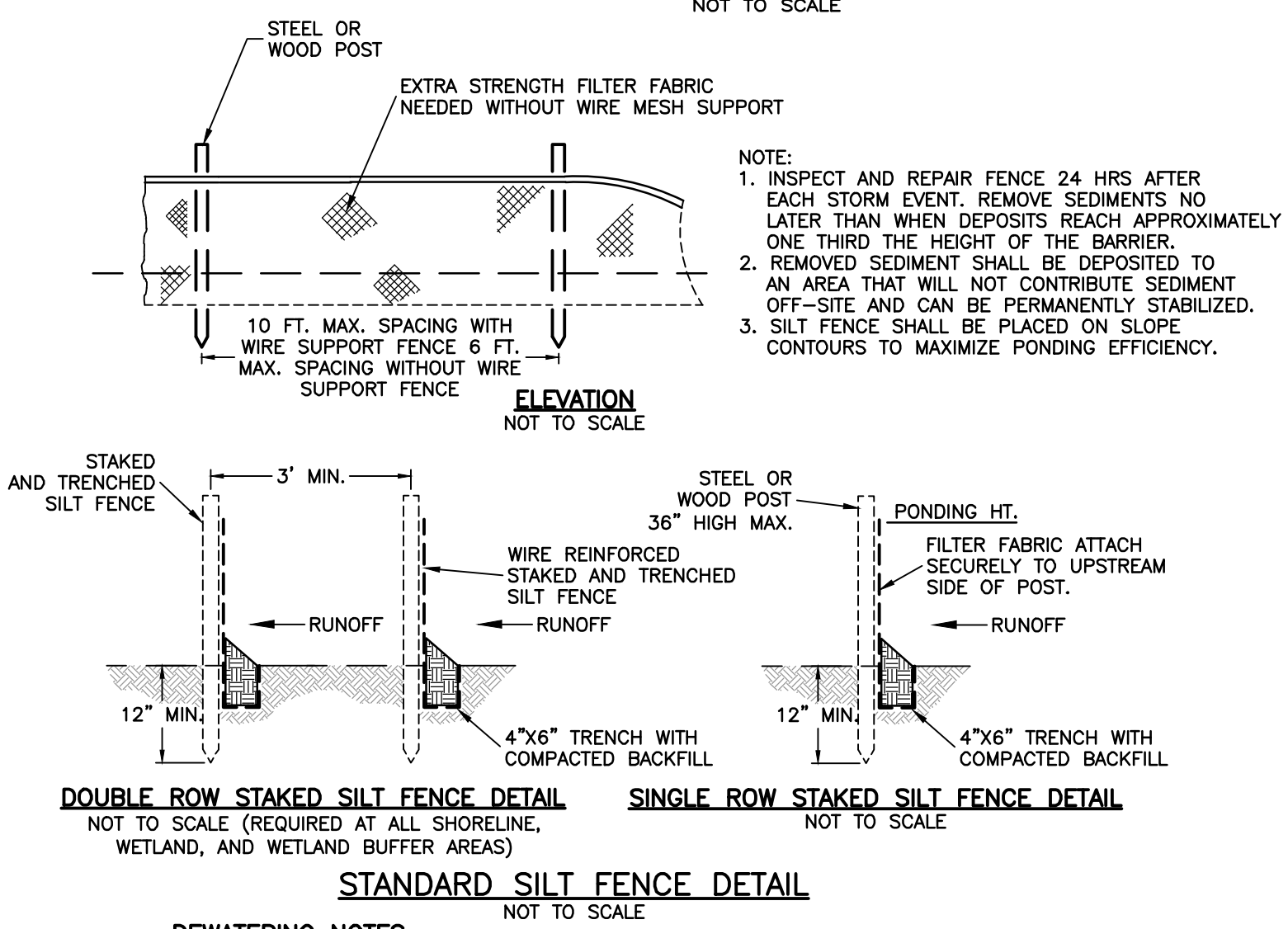
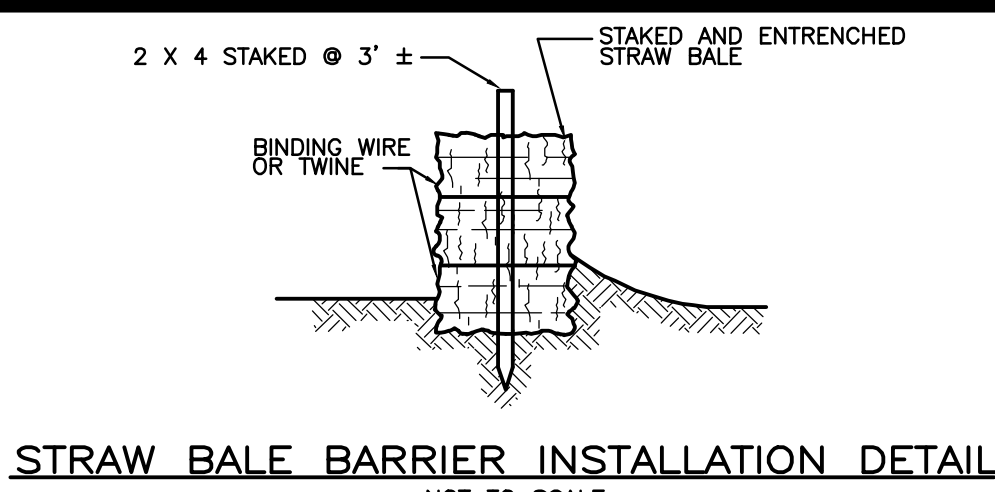
## EROSION CONTROL PLAN

### MASSALINA CONDO MARINA

PANAMA CITY, FLORIDA

TABLE 4-1 GROUNDWATER DISCHARGE - SCREENING VALUES	
PARAMETER	SCREENING VALUES FOR DISCHARGE INTO FRESH WATER
TOTAL ORGANIC CARBON (TOC)	10.0 mg/L
PH, STANDARD UNITS	6.0 - 8.5
TOTAL RECOVERABLE MERCURY	0.012 ug/L
TOTAL RECOVERABLE CADMIUM	9.3 ug/L
TOTAL RECOVERABLE COPPER	0.03 ug/L
TOTAL RECOVERABLE LEAD	86.0 ug/L
TOTAL RECOVERABLE ZINC	11.0 ug/L
TOTAL RECOVERABLE CHROMIUM (HEX.)	1.0 ug/L
BENZENE	100.0 ug/L
NAPHTHALENE	100.0 ug/L

mg/L = milligrams per liter  
ug/L = micrograms per liter



**DEWATERING NOTES**

CONTRACTOR SHALL OBTAIN A GENERAL PERMIT FOR DEWATERING FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NPDES SECTION. (CONTACT: KEVIN HARGETT, FDEP NW DIST. WASTEWATER SECTION. EMAIL: kevin.hargett@dep.state.us PHONE: 850.595.0687)

CONTRACTOR SHALL PROVIDE A DETAILED DEWATERING PLAN WITH METHODS TIME TABLE & DISCHARGE LOCATION TO ENGINEER FOR APPROVAL BEFORE COMMENCEMENT.

DEWATERING EFFLUENT OF UNCONTAMINATED GROUNDWATER SHALL BE DISCHARGED SO AS TO PREVENT NEGATIVE IMPACTS TO PUBLIC HEALTH OR SAFETY, PROPERTY, OR THE WATER RESOURCE. DEWATERING OPERATIONS SHALL BE DIRECTED TO A SEDIMENT CONTROL DEVICE OR NATURAL ATTENUATION AREA PRIOR TO DISCHARGE TO WETLANDS OR OTHER SURFACE WATERS. A SEDIMENT CONTROL DEVICE MEANS A SETTLING POND, EXCAVATED SEDIMENT TRAP OR BASIN, DEWATERING TROUGH OR TEMPORARY SEDIMENT CONTROL MEASURE. A NATURAL ATTENUATION AREA MEANS A NORMALLY DRY, GRASSED MEADOW OR OPEN AREA WITH EXISTING VEGETATION THAT IS NOT SUBJECT TO EROSION. IF A NATURAL ATTENUATION AREA IS USED, A MINIMUM 50 FOOT SETBACK SHALL BE MAINTAINED FROM THE RECEIVING WATERS OR WETLANDS. WHEN WATER IS UNAVOIDABLY DISCHARGED TO WETLANDS OR OTHER SURFACE WATERS, THE WATER DISCHARGED SHALL BE DONE IN A MANNER THAT DOES NOT CAUSE EROSION OR OTHER DAMAGE TO ADJACENT LANDS, AND DOES NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS. SETTLING PONDS AND SEDIMENT TRAPS OR BASINS SHALL BE IMPLEMENTED, AT A MINIMUM, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 11.0, NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT APPLICANT'S HANDBOOK VOLUME 1." IN ADDITION, DEWATERING ACTIVITIES MAY REQUIRE ADDITIONAL PERMITS FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (INDUSTRIAL WASTEWATER) AND THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT (CONSUMPTIVE USE).

PRIOR TO COMMENCEMENT OF CONSTRUCTION DEWATERING ACTIVITIES ANALYTICAL TEST OF UNTREATED GROUNDWATER FOR THE PARAMETERS LISTED IN TABLE 4-1 MUST BE PERFORMED FOR EACH LOCATION.

IF THE ANALYTICAL TESTS ARE WITHIN THE SCREENING VALUES LISTED IN TABLE 4-1 DEWATERING OF THE SITE MAY BEGIN IMMEDIATELY. A SUMMARY REPORT DESCRIBING THE PROPOSED ACTIVITY AND A COPY OF THE TEST REPORT SHOULD BE SENT TO THE LOCAL FDEP OFFICE WITHIN ONE WEEK AFTER DISCHARGE BEGINS.

ADDITIVE SAMPLES AND TESTING MUST BE PROVIDED WITHIN THIRTY DAYS AFTER INITIATION OF THE DISCHARGE AND THEN ONCE EVERY SIX MONTHS FOR THE DURATION OF THE PROJECT.

ALL ANALYTICAL TEST DATA, INCLUDING THIRTY DAY AND SIX MONTH TEST RESULTS SHOULD BE KEPT ON-SITE DURING DISCHARGE AND MADE AVAILABLE TO FDEP, IF REQUESTED.

DURING DEWATERING, APPROPRIATE FABRIC SILT SCREEN OR HAY BALES SHALL BE USED TO PREVENT TURBID DISCHARGES. WHEN POSSIBLE, ESTABLISH A DETENTION AREA TO ALLOW SUSPENDED SOLIDS TO SETTLE PRIOR TO DISCHARGE.

THE CONTRACTOR SHALL SELECT, IMPLEMENT AND OPERATE SUCH EROSION AND SEDIMENT CONTROL MEASURES NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS IN CHAPTER 62-302 F.A.C.

GROUNDWATER WITHDRAWALS FOR DEWATERING SHALL BE BY ONE OF THE FOLLOWING METHODS:

A) A CONVENTIONAL WELL POINT SYSTEM CONSISTING OF ONE OR MORE STAGES OF WELL POINTS INSTALLED NEAR THE PROPOSED EXCAVATION IN LINES OR RINGS. THE WELL POINTS SHALL BE INSTALLED IN VARIABLE SPACINGS AND CONNECTED TO A COMMON HEADER PRESSURIZED BY ONE OR MORE PUMPS.

B) VACUUM UNDERDRAIN SYSTEM CONSISTING OF AN UNDERDRAIN PIPE WITH FILTER SOCK COVERING PLACED HORIZONTALLY BELOW THE DESIGN EXCAVATION ELEVATION VIA TRENCHING MACHINE. THE UNDERDRAIN PIPE SHALL BE CONNECTED TO A PUMP WITH THE GROUNDWATER CONVEYED THROUGH THE PIPE AND DISCHARGED FROM THE PUMP.

C) VACUUM WELL(S) CONSISTING OF ONE OR MORE STAGES INSTALLED NEAR AN EXCAVATION IN LINES OR RINGS. THE VACUUM WELL(S) SHALL BE CONSTRUCTED WITH SIX INCH OR SMALLER PIPE WITH A SLOTTED SCREEN AREA NEAR THE BOTTOM OF THE WELL, AND CONNECTED TO A COMMON HEADER PUMPED BY ONE OR MORE PUMPS.

D) DEWATERING STORMWATER POND OR BASIN BY HYDRAULIC PUMP THROUGH THE EXISTING OR NEW DISCHARGE CONTROL STRUCTURE.

## ENVIRONMENTAL SEQUENCE

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

## SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

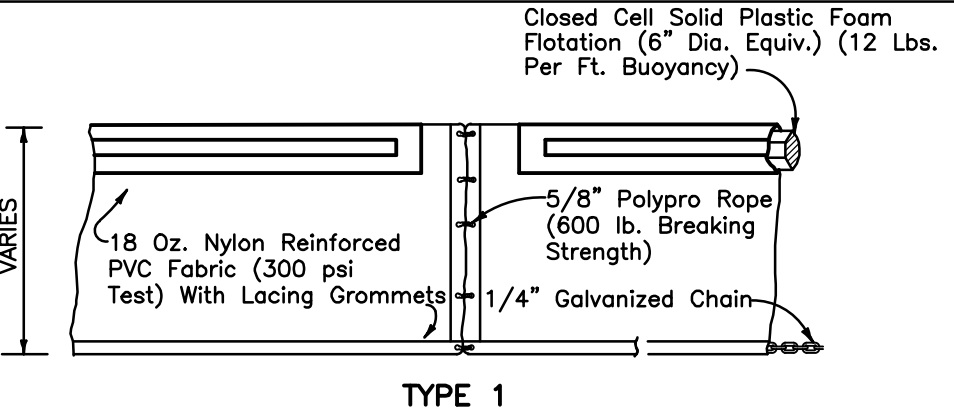
1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
3. CONSTRUCT SEDIMENTATION BASIN.
4. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN AT PERMANENT POND LOCATION.
5. CONTINUE CLEARING AND GRUBBING.
6. STOCKPILE TOP SOIL IF REQUIRED.
7. PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
8. STABILIZE DEWATERED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
9. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTER.
10. APPLY BASE TO PROJECT.
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
12. COMPLETE FINAL PAVING.
13. REMOVE ACCUMULATED SEDIMENT FROM BASINS.
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

## TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN.

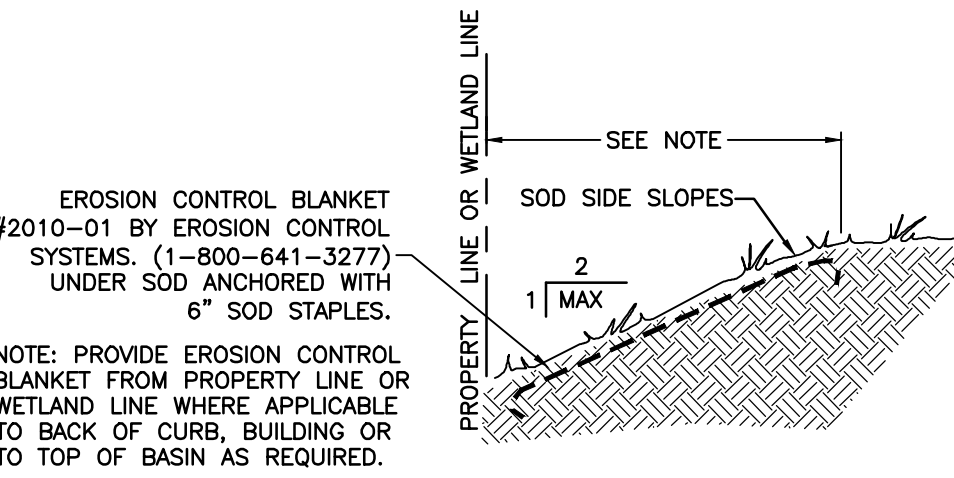
## NOTES:

1. AREAS NOT SODDED WILL BE STABILIZED WITH HYDROSEEDING. SEE SLOPE STABILIZATION DETAIL THIS SHEET.
2. ALL INLETS & STORM STRUCTURES TO HAVE HAY BALES ALL AROUND (SEE DETAILS THIS SHEET).
3. EROSION CONTROL MEASURES SHALL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT AND BE MANAGED IN ACCORDANCE WITH THE STATE NPDES PROGRAM.
4. EROSION CONTROL MEASURES SHALL BE MANAGED IN ACCORDANCE WITH NPDES GENERIC PERMIT AND STORMWATER POLLUTION PREVENTION PLAN (SHEET 11). SEE ADDITIONAL NOTES ON SHEET 7.
5. COPY OF NPDES GENERIC PERMIT TO BE MAINTAINED ON SITE AT ALL TIMES DURING CONSTRUCTION IN PERMITS/PLANS MAILBOX.



## TURBIDITY CURTAIN DETAILS

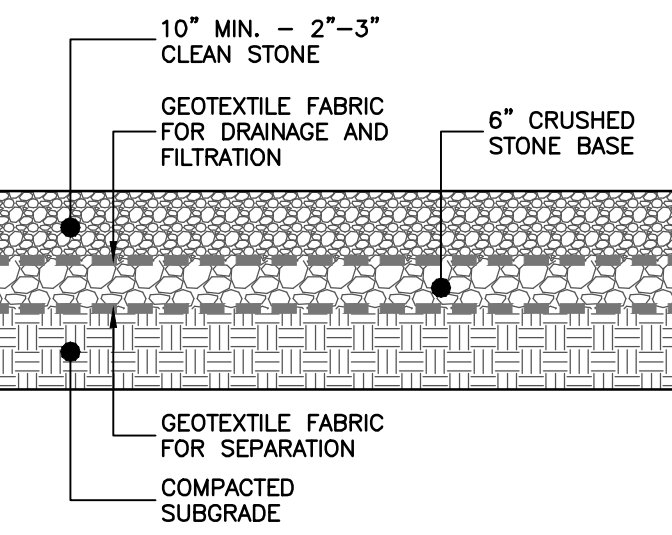
REQ'D ON ALL CONTINUOUS FLOW OUTFALLS



## SLOPE STABILIZATION DETAIL

### SLOPE STABILIZATION NOTES

- FLAT TO 1:3 - SEED AND MULCH. HYDRO-SEED OR SOD.
- 1:3 TO 1:2 - SOD LAPPED AND PINNED.
- 1:2 TO 1:1 - EROSION CONTROL BLANKET AND SOD.
- 1:1 OR GREATER - RETAINING WALL OR ARMOR FORM.



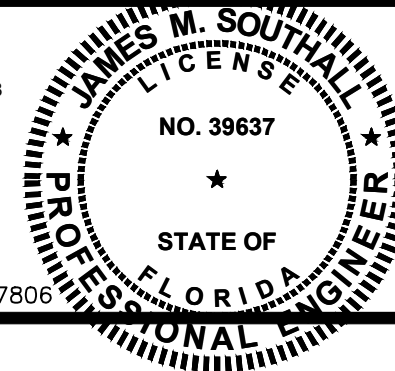
### CONSTRUCTION ENTRANCE NOTES:

- 1) GRADE SLOPE TO SITE.
- 2) PROVIDE CULVERT AS REQUIRED TO CARRY PRE-EXISTING DITCH FLOW. (SEE EXISTING PLAN VIEW FOR LOCATION)
- 3) CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.
- 4) ALL MATERIALS SPILLED, DROPPED OR TRACKED ONTO PUBLIC ROADS (INCLUDING AGGREGATE STONE AND CONSTRUCTION MUD) SHALL BE REMOVED DAILY.

## CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

James H. Skornia, P.E. 39167  
James M. Southall, P.E. 39637  
Jeffrey C. Petermann, P.E. 77540  
Christopher B. Forthard, P.E. 58028  
Stephen E. Price, P.E. 71646



SHEET NUMBER  
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OF  
PROJECT NUMBER  
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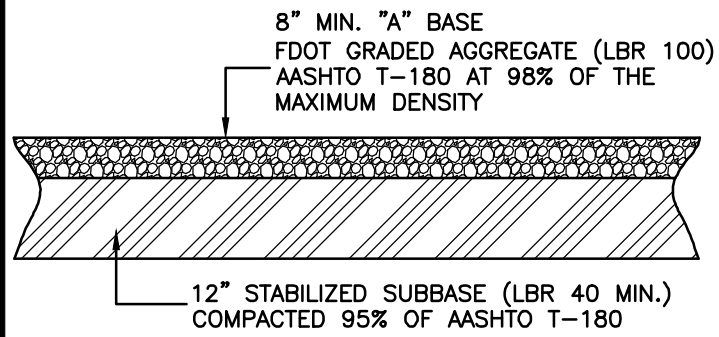
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PAVING, GRADING, AND EARTH WORK NOTES:

1. ANY DEFICIENCY IN THE QUANTITY OF MATERIAL FOR BACK FILLING THE TRENCHES, OR FOR FILLING DEPRESSIONS CAUSED BY SETTLEMENT, SHALL BE SUPPLIED BY THE CONTRACTOR AT NO COST TO THE OWNER. THIS ALSO APPLIES TO BASE COURSE UNDER PAVED STREETS.
2. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEED, MULCHED, SOIL, STABILIZED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL, WITHIN FIVE (5) DAYS AFTER CONSTRUCTION.
3. ORGANIC, UNSATURATED SOILS BENEATH THE PAVED AREAS SHALL BE REMOVED AND REPLACED WITH CLEAN SAND MATERIAL OF WHICH NOT MORE THAN 15% BY DRY WEIGHT IS FINER THAN THE NUMBER 200 MESH SIEVE. FILL MATERIAL SHALL BE FREE OF ORGANICS, RUBBLE, CLAY, OR OTHER DELETERIOUS MATERIAL.
4. IF NECESSARY, THE PAVEMENT SUB GRADE SHOULD BE STABILIZED TO LBR OF 5% OR MORE MATERIAL FOR STABILIZATION SHALL BE EITHER LIME ROCK, OR OTHER MATERIAL APPROVED BY THE ENGINEER. ANY THE GEOTECHNICAL ENGINEER. COMPACTION OF THE SUB GRADE SHALL BE BY A HEAVY VIBRATORY ROLLER (MINIMUM STATIC WEIGHT OF FIVE TONS) WITH A MINIMUM OF 10 PASSES WITH A 20% OVERLAP BETWEEN PASSES. THE VIBRATORY ROLLER SHOULD ALSO BE EQUIPPED WITH A VARIABLE FREQUENCY CONTROL, TO OPERATE AT THE RESONANT FREQUENCY OF THE SOILS.
5. ALL WASTE MATERIAL SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
6. PROPOSED SPOT ELEVATIONS REPRESENT PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
7. ALL PAVEMENT MARKINGS SHALL BE MADE IN ACCORDANCE WITH FOOT STANDARD SPECIFICATION 710 & 711 (SEE SHEET 2 OF 8 DRAWING NOTES).
8. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE NEW PAVEMENT ABUTS.
9. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY, PREPARED BY A REGISTERED SURVEYOR, OF THE STORMWATER SYSTEM FOR PERMIT COMPLIANCE. THE SURVEY SHALL BE THE CITY WILL NOT RELEASE A CERTIFICATE OF COMPLETION UNTIL THE ENGINEER CERTIFIES THAT THE STORMWATER SYSTEM IS CONSTRUCTED AND IS OPERATING IN COMPLIANCE WITH THE PERMITS.

PAVEMENT TESTING AND INSPECTION REQUIREMENTS:

1. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE TESTING SCHEDULE CONTAINED WITHIN THESE PLANS. SELECTION AND CONTRACTING WITH THE TESTING FIRMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
2. ACCEPTANCE TESTING FOR NEW PAVEMENT SHALL CONSIST OF ONE PASS OF A STANDARD 15-FOOT ROLLING STRAIGHT EDGE OPERATED WHILE THE PAVEMENT IS STILL HOT. ALL DEFICIENCIES IN EXCESS OF 3/16 INCH SHALL BE CORRECTED IN ACCORDANCE WITH FOOT STANDARD SPECIFICATION 330.
3. AT THE OPTION OF THE OWNER, THE CONTRACTOR SHALL FLOOD ALL NEW PAVEMENT SURFACES WITH WATER AND INSPECT FOR PONDING. ALL PONDING AREAS SHALL BE CORRECTED IN ACCORDANCE WITH FOOT STANDARD SPECIFICATION 330.



GRAVEL PAVING SECTION

CONCRETE PAVEMENT DETAIL

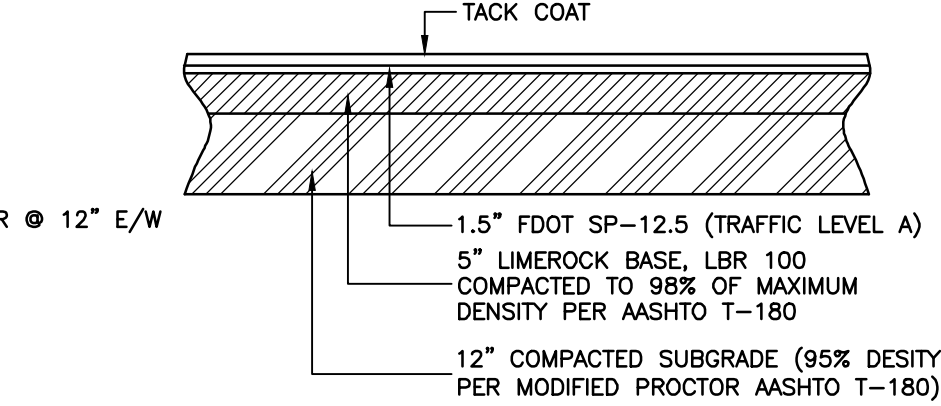
ITEM	TEST	TEST IDENTIFICATION	TEST REQUIREMENT	TEST FREQUENCY
ASPHALTIC CONCRETE (SURFACE AND BASE)	MATERIALS QUALITY (BITUMEN CONTENT AND GRAIN)	ASHTO T-164.5-30	FOOT SPEC. 330, 331, 916	FOOT SPEC. 331, 916
	FIELD DENSITY AND THICKNESS	ASTM D-2172	95% OF LAB DENSITY	ONE PER 5000 S.F.
	AGGREGATE CERTIFICATION	N/A	FOOT SPEC. 901, 902	ONE PER SUPPLIER
MARSHALL STABILITY AND DENSITY	BEARING VALUES	LBR-FOOT	100 (MIN.)	ONE PER SITE OR AT MATERIAL CHANGES
	MAXIMUM DENSITY OPTIMUM MOISTURE	ASHTO T-180	N/A	PER SOIL TYPE
	FIELD DENSITY & THICKNESS	ASHTO T-191, T-204	98% OF MAXIMUM DENSITY	ONE TEST PER 2,500 S.F.
BASE (SAND-ASPHALT)	MARSHALL STABILITY TESTS	FOOT FM 5-511	500 LBS. (MIN.)	ONE PER SOURCE OR AS MATERIAL CHANGES
	FIELD DENSITY & THICKNESS	ASTM D-1559	95% OF LAB DENSITY AS DETERMINED BY MARSHALL METHOD	ONE PER 500 LF HORIZONTAL OR ONE PER 750 S.F.
	SUBGRADE	BEARING VALUES	LBR-FOOT	50 (MIN.)
FILL AND BACKFILL (UNDER ROADWAYS AND STRUCTURES)	MAXIMUM DENSITY OPTIMUM MOISTURE	ASHTO T-180	N/A	PER SOIL TYPE
	FIELD DENSITY	ASHTO T-191, T-204	98% OF MAXIMUM DENSITY	ONE TEST PER 5,000 S.F.
	GRADATION	ASHTO M-92	15% PASSING NO. 200	ONE PER SOIL TYPE
PORTLAND CEMENT CONCRETE	SUMP TEST	ASHTO M-119	2" TO 3"	ONE PER SET OF CYLINDERS
	COMPRESSIVE STRENGTH	ASTM C-143	PSI*	ONE SET OF 3 CYLINDERS PER 50 C.Y. PER DAY
	AIR CONTENT	ASTM C-192	3% TO 6%	ONE PER SET OF CYLINDERS

\* NOTE: MINIMUM COMPRESSIVE STRENGTH OF PORTLAND CEMENT CONCRETE IS 3500 PSI AT 28 DAYS UNLESS SHOWN ON DETAIL WITHIN PLANS.

\* NOTE: MIN. TESTING SCH UNLESS NOTED OTHERWISE ON PLANS.

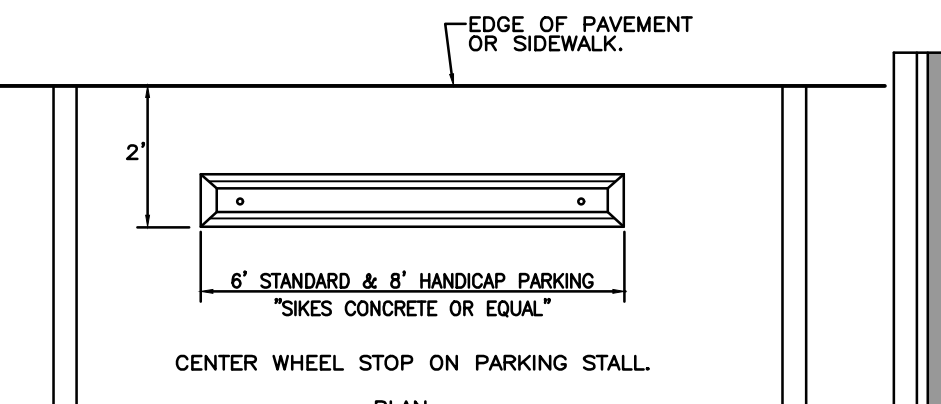
\* NOTE: CONCRETE FOR SITE WORK INCLUDES BUT IS NOT LIMITED TO CURB, CURB & GUTTER, SIDEWALKS, ETC., EXCEPT CONCRETE PAVEMENT.

\* NOTE: CONTRACTOR TO PROVIDE COPIES OF ALL TEST REPORTS TO PANHANDLE ENGINEERING, INC.

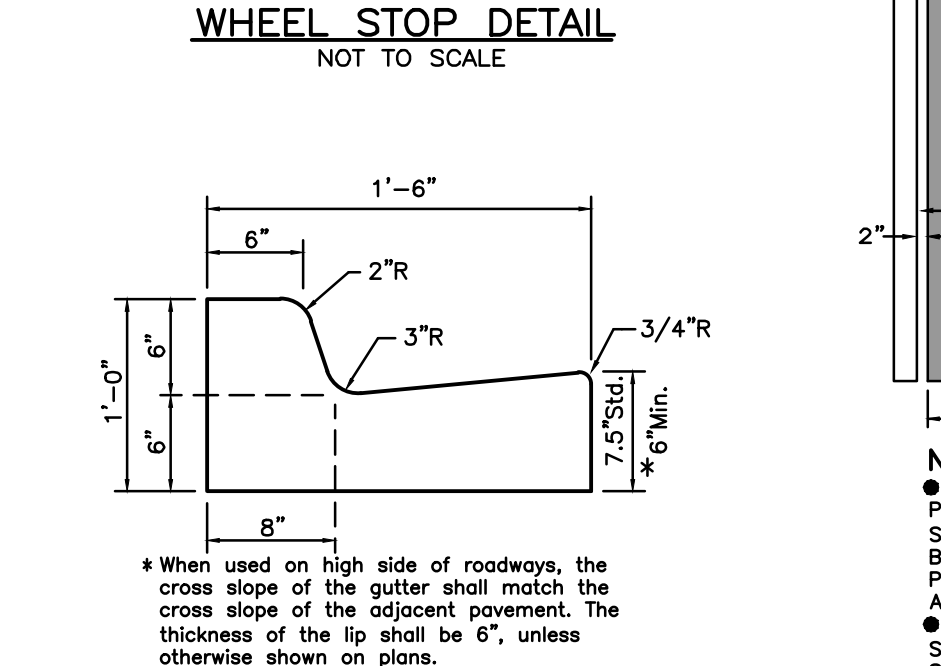


ASPHALTIC PAVEMENT DETAIL

CONCRETE SIDEWALK DETAIL



WHEEL STOP DETAIL



MODIFIED TYPE "F" CURB & GUTTER

HANDICAP STRIPING DETAIL



HANDICAP SIGN DETAIL

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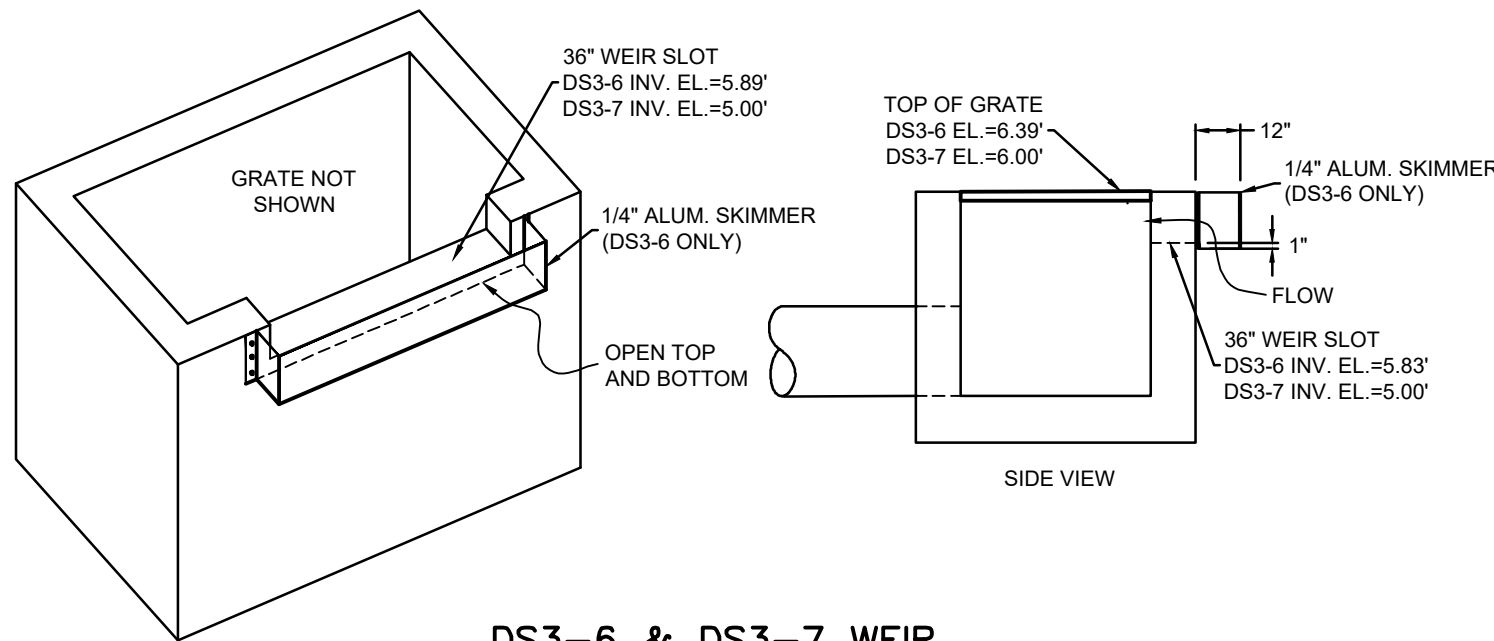
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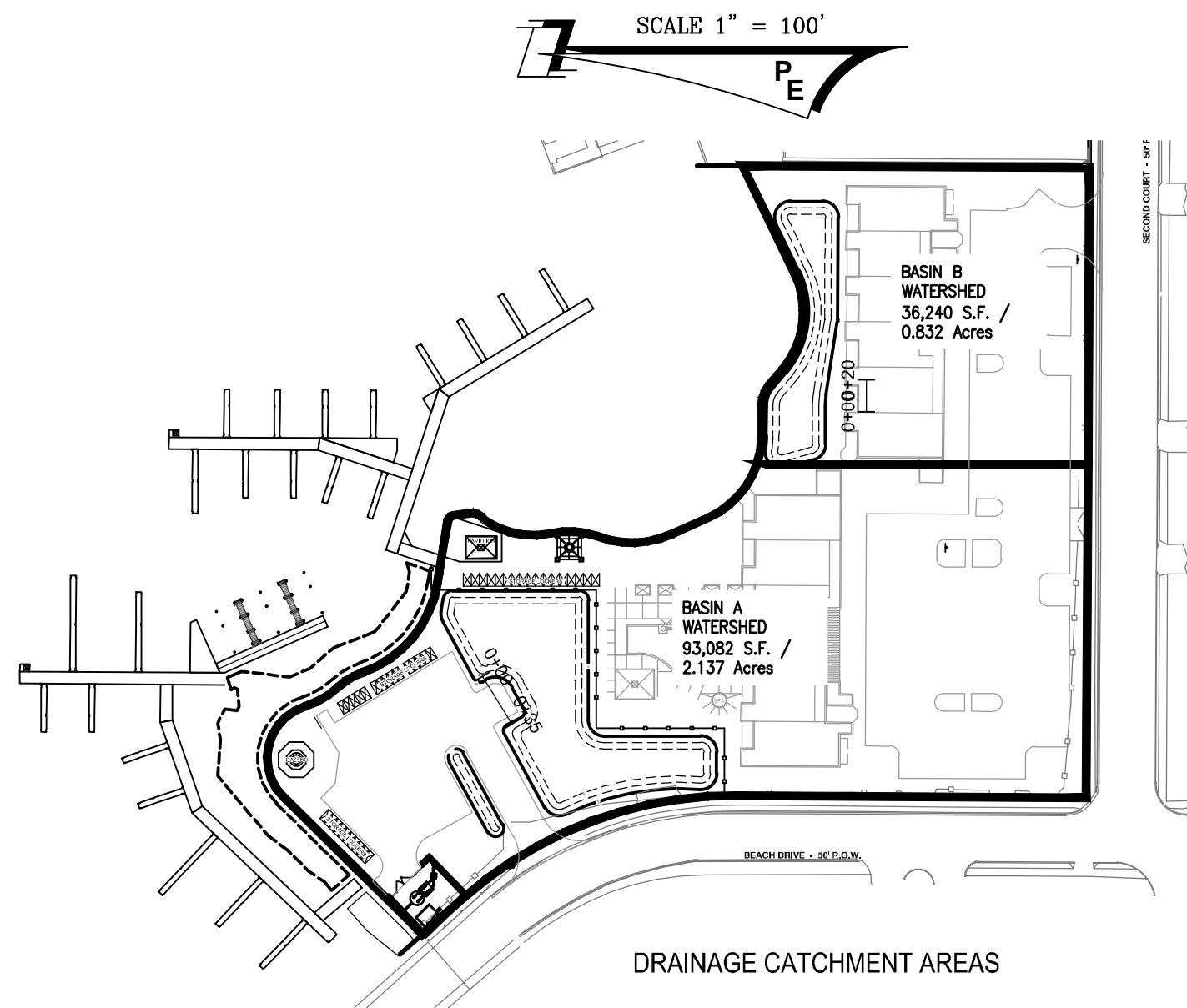
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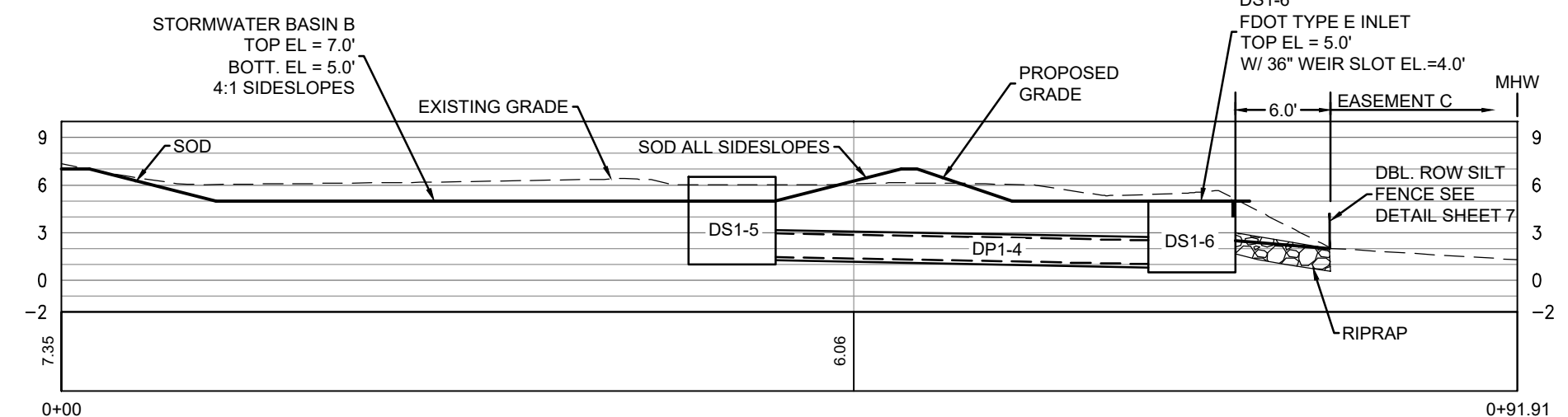


DS3-6 & DS3-7 WEIR  
SLOT & SKIMMER DETAIL  
NOT TO SCALE



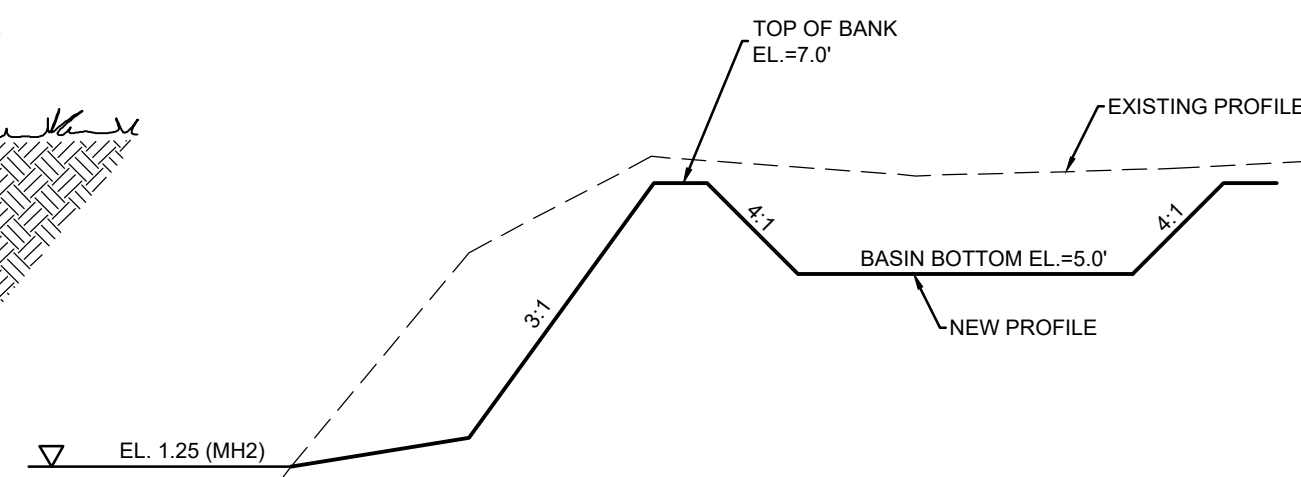
## DRAINAGE CATCHMENT AREAS

CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION
<p>THE FIVE ON-SITE CONTAMINATED SPOIL SITES SHALL BE FLAGGED BEFORE CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE 24" SOIL CAPS AT EACH SPOIL SITE FOR THE ENTIRE ENGINEERING CONSTRUCTION MAINTENANCE PLAN BY SOUTHERN EARTH SCIENCES DATED MARCH 2012, OR CAP THOSE AREAS WITH ASPHALT PAVING OR CONCRETE SLABS/DECKES.</p> <p>ANY EXCAVATION NECESSARY IN THE SPOIL AREAS SHALL BE ISOLATED WITH POLYETHYLENE BARRIERS UNTIL THE DISTURBED AREAS ARE REPAIRED AND CAPPED.</p> <p>ANY EXCESS CONTAMINATED SOIL THAT CANNOT BE ENCAPSULATED MUST BE REMOVED FROM THE SITE TO A CLASS 3 LANDFILL MEETING ALL STATE REQUIREMENTS FOR TRANSPORTATION AND DECONTAMINATION.</p>

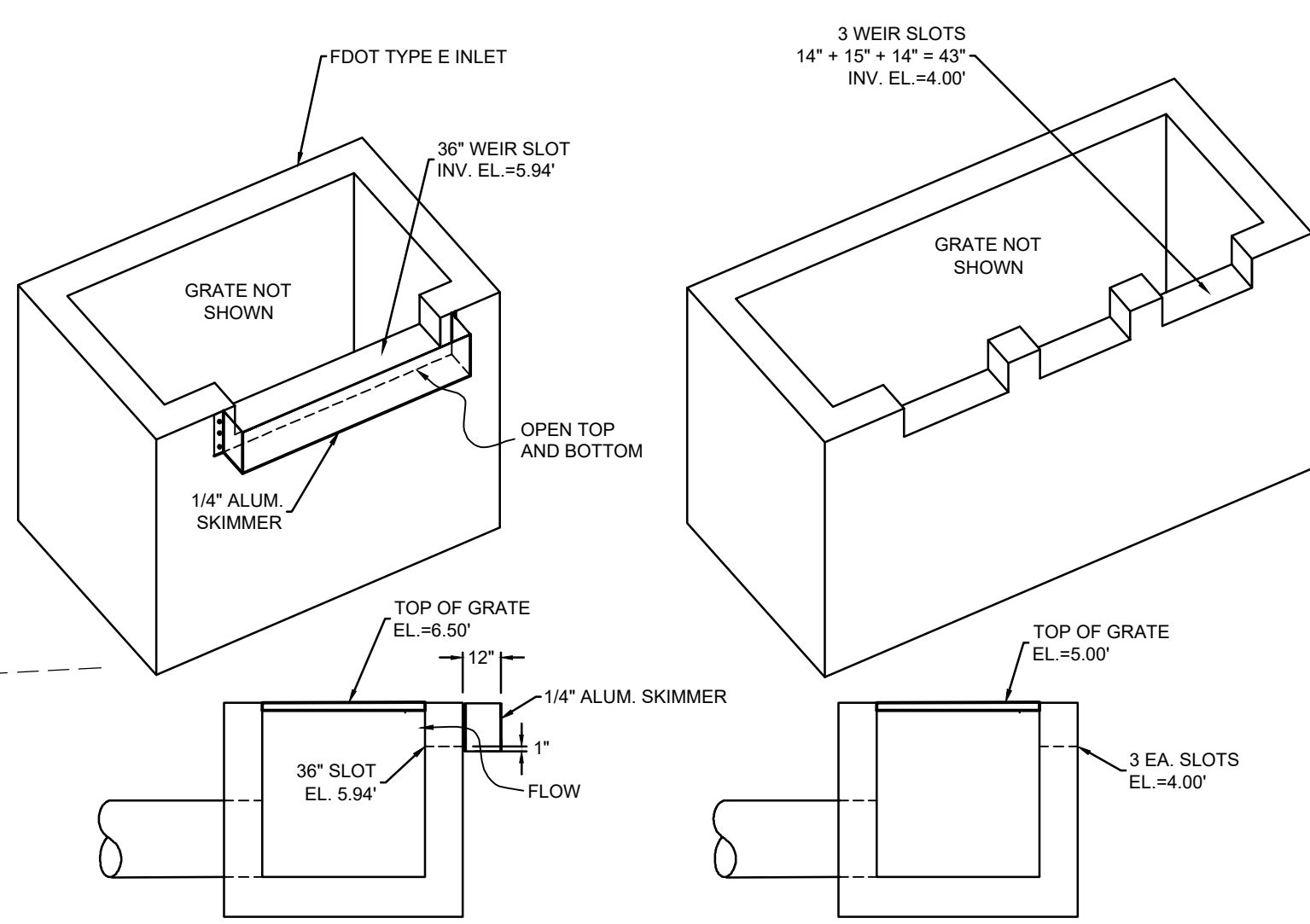


SECTION B-B

SCALE: HOR. 1" = 10'  
VER. 1" = 10'

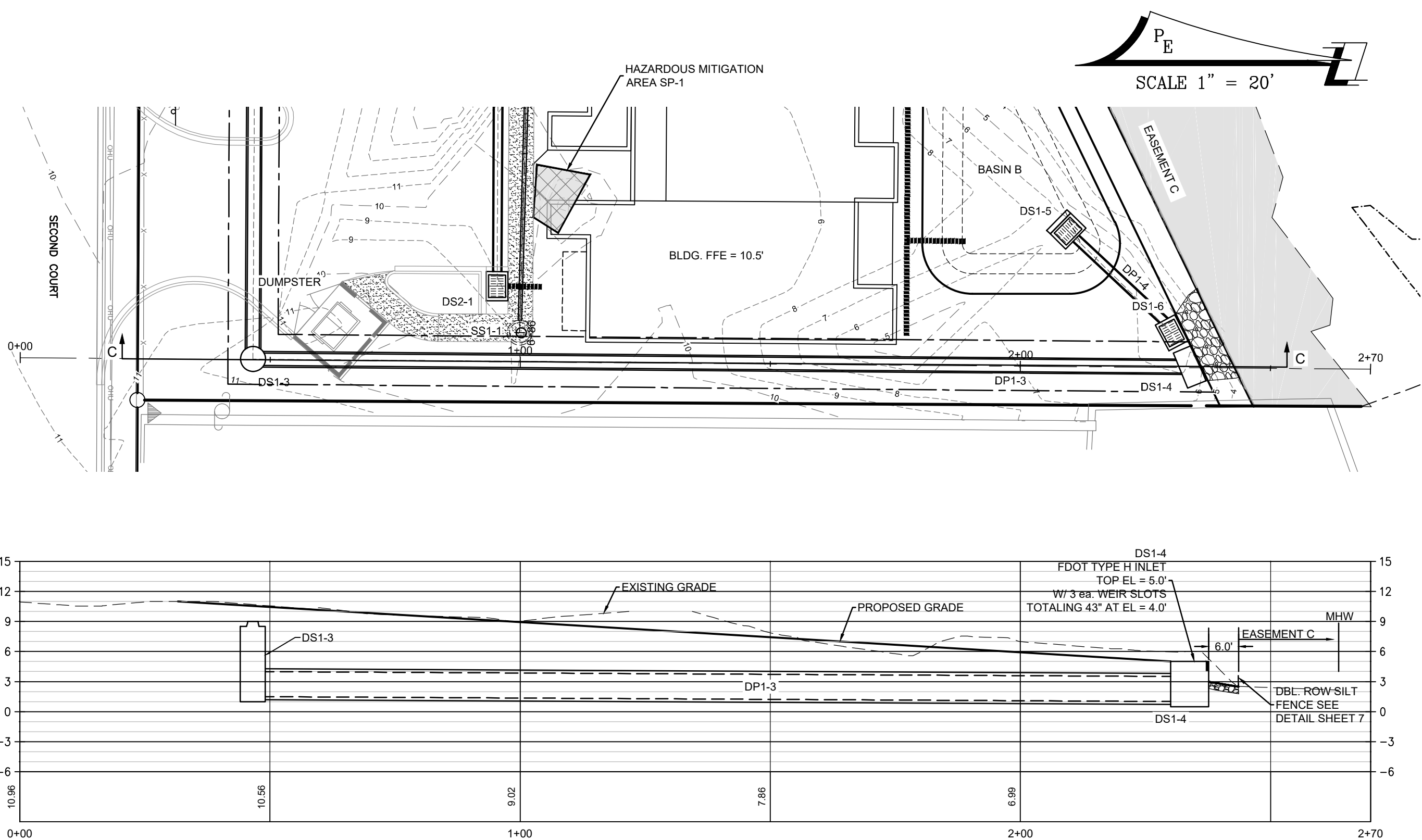


**TYPICAL GRADING SECTION**  
NOT TO SCALE



DS1-5 WEIR SLOT &  
SKIMMER DETAIL  
NOT TO SCALE

DS1-4 WEIR SLOT DETAIL  
NOT TO SCALE



SECTION C-C

SCALE: HOR. 1" = 20'  
VER. 1" = 10'

REV	DATE	BY	REVISIONS
1	05/19/16	JMS	REVISED PER REGULATORY COMMENTS
NOT	RELEASED	FOR CONSTRUCTION	BY: DATE:

SCALE: AS NOTED
DESIGNED BY: JMS
DRAWN BY: jdm
REVIEWED BY: JMS
ISSUE DATE: MAY 2016
ACAD FILE NAME: 11241Be1.dwg

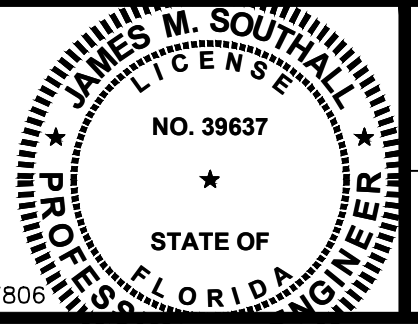
**PANHANDLE**  
**ENGINEERING, INC.**

ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS  
3005 South Highway 77 Lynn Haven, Florida 32444  
(850) 763-5200 Fax (850) 769-0730 [pe@panhandleengineering.com](mailto:pe@panhandleengineering.com)

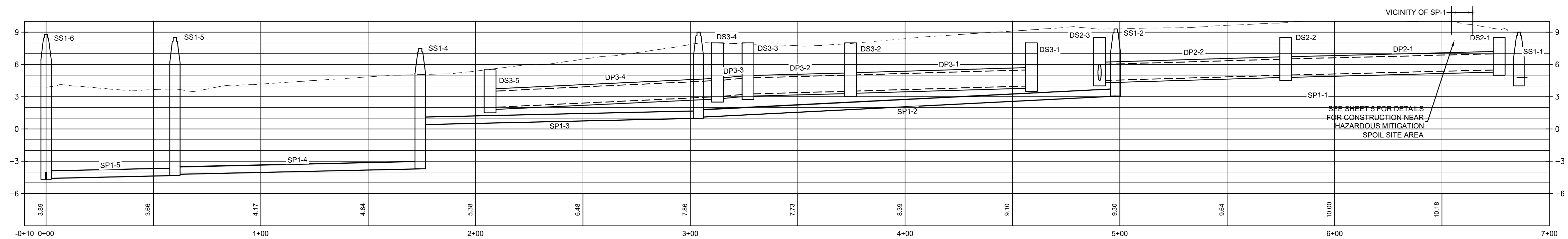
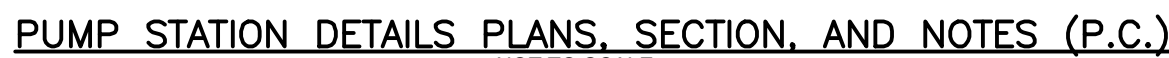
STORMWATER DETAILS  
MASSALINA CONDO MARINA  
PANAMA CITY, FLORIDA

James H. Skonina, P.E. 39197  
James M. Southall, P.E. 39637  
Jeffrey C. Petermann, P.E. 77540  
Christopher B. Forehand, P.E. 58028  
Stephen E. Price, P.E. 71646

DPR CERTIFICATION #EB-7

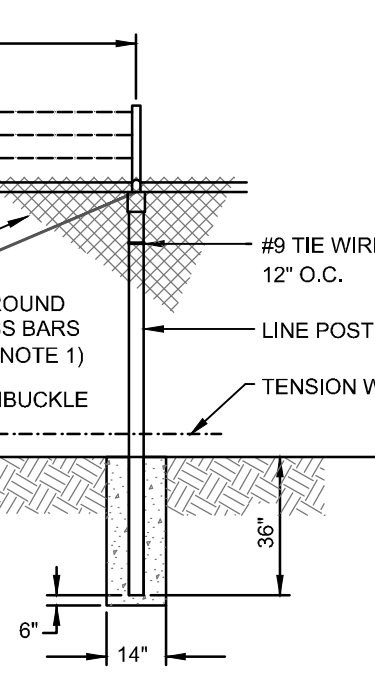


SHEET NUMBER  
9 OF  
PROJECT NUMBER  
11241B

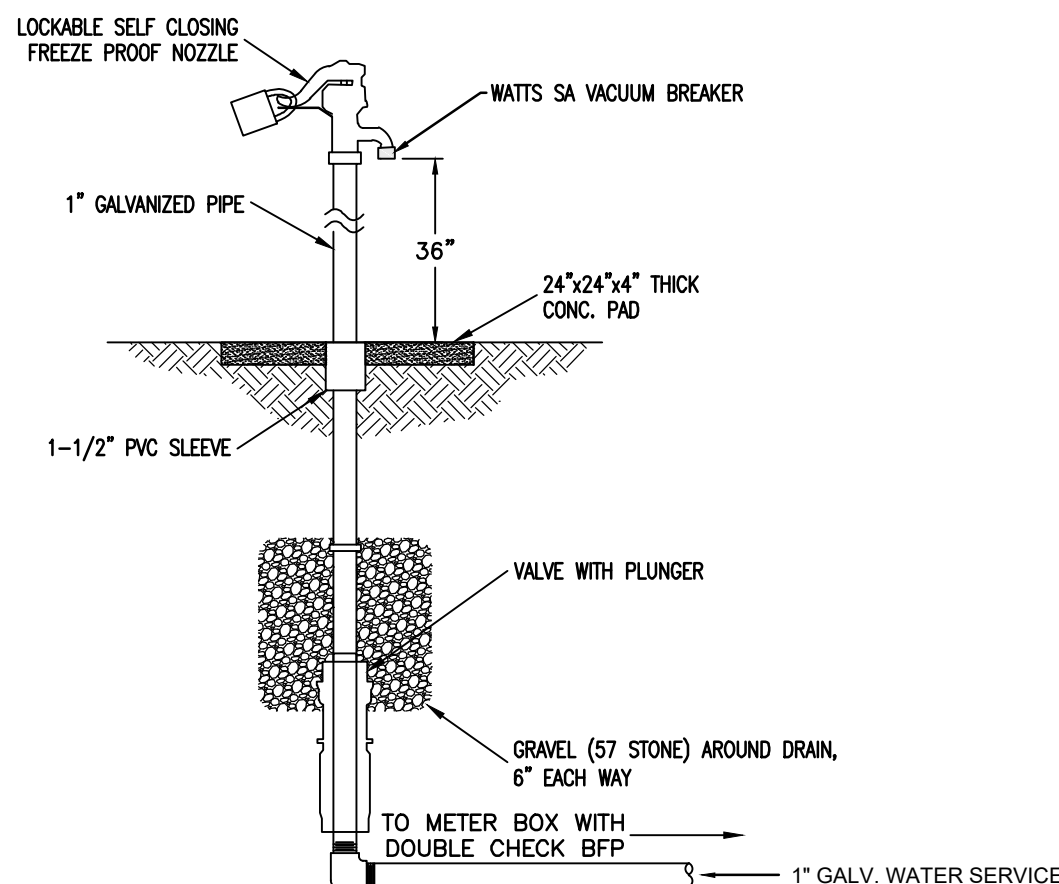


SANITARY SEWER STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV	PIPE INVERTS
SS1-1	SEWER MANHOLE	9.00'	(W) 4.00' (SP1-1)
SS1-2	SEWER MANHOLE	9.30'	(E) 3.15' (SP1-1) (W) 3.06' (SP1-2)
SS1-3	SEWER MANHOLE	9.00'	(E) 1.10' (SP1-2) (N) 1.00' (SP1-3)
SS1-4	DROP SEWER MANHOLE	7.50'	(S) 0.42' (SP1-3) (N) -3.69' (SP1-4) (W) -3.59' (SP1-7)
SS1-5	SEWER MANHOLE	8.50'	(S) -2.1' (SP1-4) (NW) -4.31' (SP1-5)
SS1-6	SEWER MANHOLE	8.80'	(SE) -4.58' (SP1-5) (SW) -4.47' (SP1-6)
SS1-7	LIFT STATION	10.00'	(NE) -4.74' (SP1-6)
SS1-8	EXISTING SEWER MANHOLE	4.73'	(E) -3.48' (SP1-7)

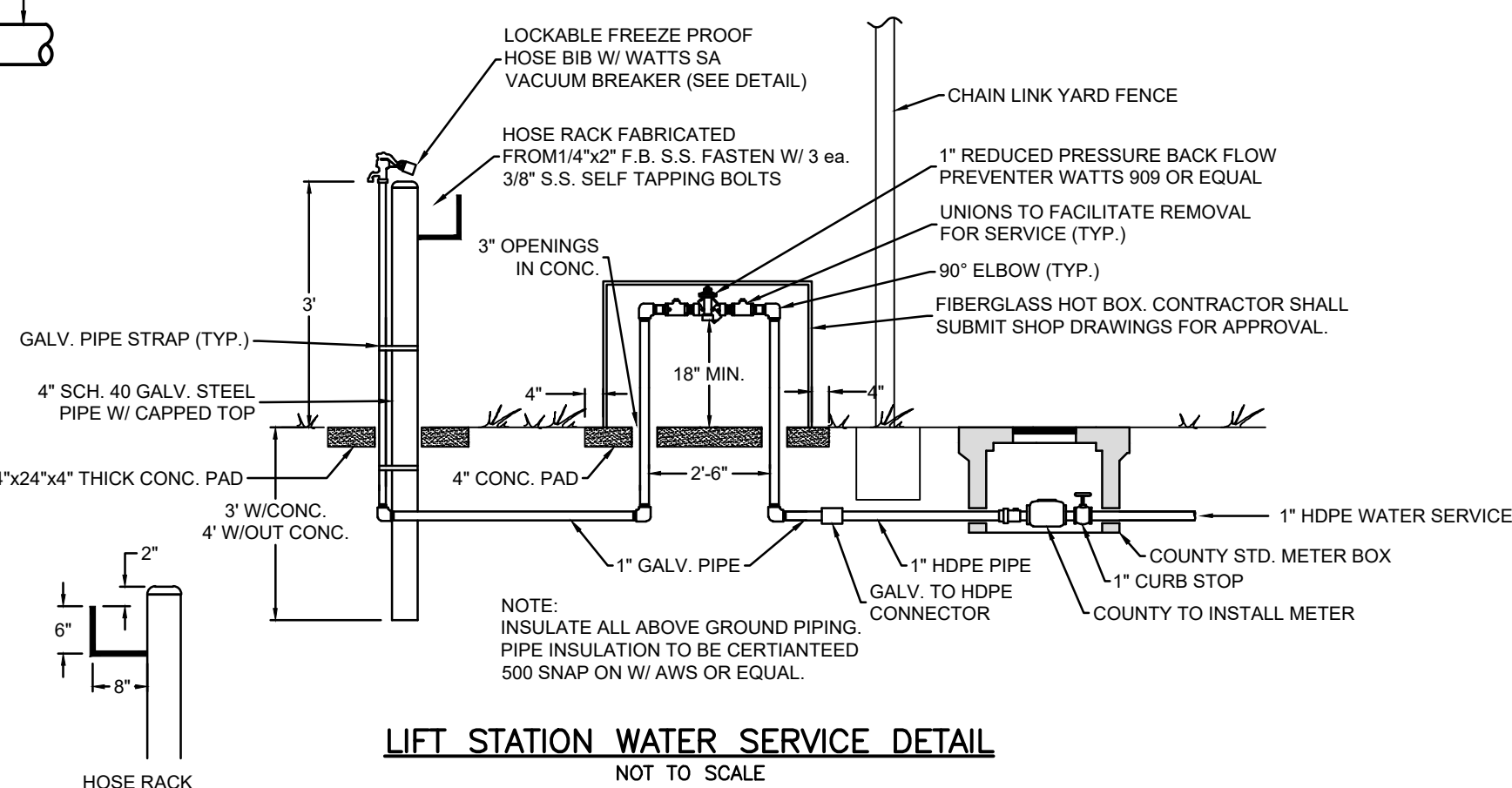
CONTAMINATED SOIL MANAGEMENT DURING CONSTRUCTION
<p>THE FIVE ON-SITE CONTAMINATED SPOIL SITES SHALL BE FLAGGED BEFORE CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE 24" SOIL CAPS AT EACH SPOIL SITE PER THE ENGINEERING CONSULTANT'S MAINTENANCE PLAN. SOUTHERN EARTH SCIENCES DATED MARCH 2012, OR CAP THOSE AREAS WITH ASPHALT PAVING OR CONCRETE SLABS/DECKS.</p> <p>ANY EXCAVATION NECESSARY IN THE SPOIL AREAS SHALL BE ISOLATED WITH POLYETHYLENE BARRIERS UNTIL THE DISTURBED AREA IS RESTORED AND CAPPED.</p> <p>ANY EXCAVATION OF CONTAMINATED SOIL THAT CANNOT BE ENCAPSULATED MUST BE REMOVED FROM THE SITE TO A CLASS 3 LANDFILL MEETING ALL STATE REQUIREMENTS FOR TRANSPORTATION AND DECONTAMINATION.</p>



CHAIN LINK FENCE DETAIL  
NOT TO SCALE

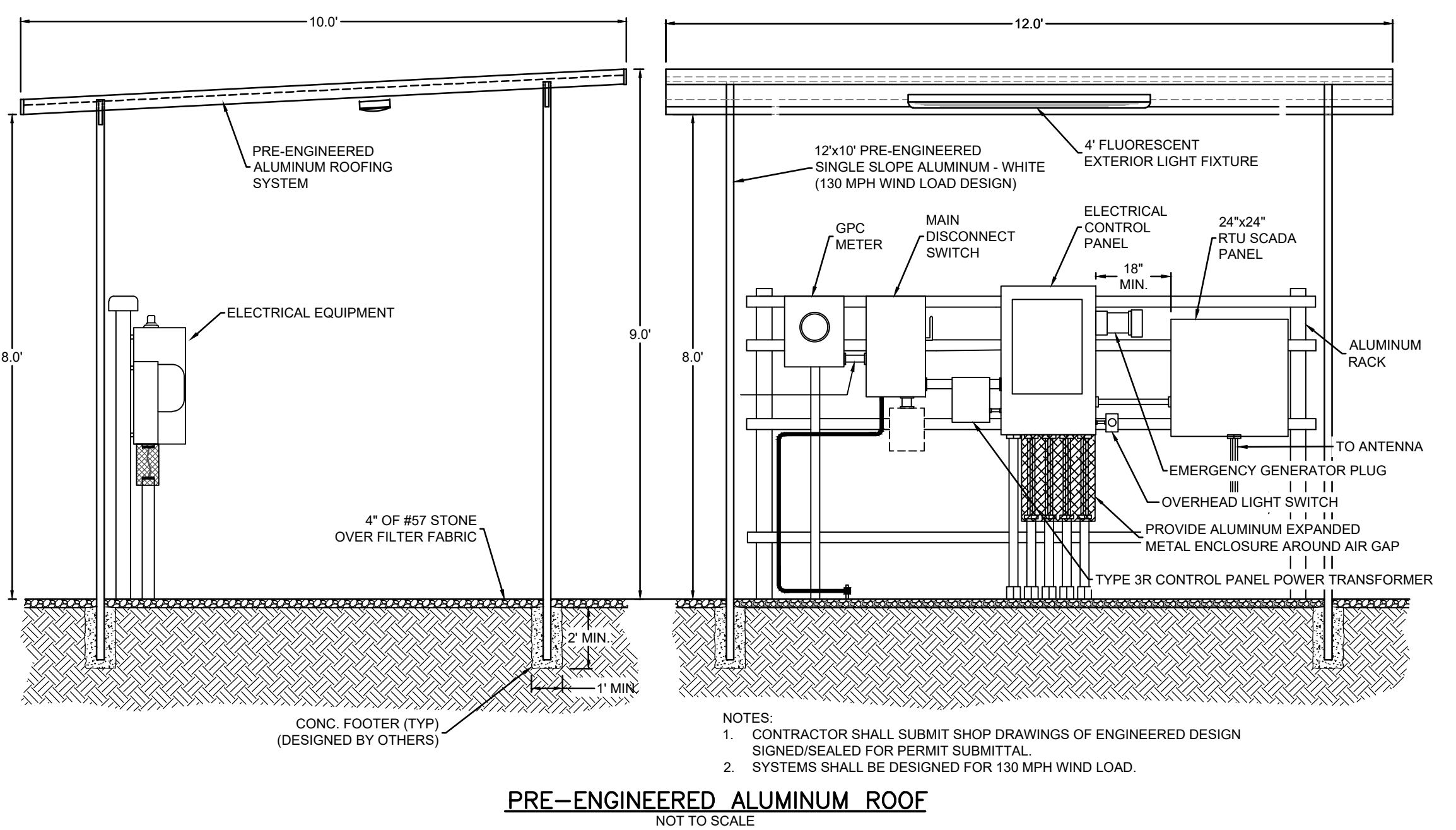


**COMPRESSION TYPE NON-FREEZING BIB DETAIL**  
NOT TO SCALE



LIFT STATION WATER SERVICE DETAIL  
NOT TO SCALE

- GENERAL NOTES:
1. ALL EXPOSED METAL SHALL BE PAINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT. CABINET SHALL BE PAINTED WHITE.
2. WET WELL SHALL BE COATED WITH SPROXY SPECTRA SHIELD INSIDE PER MANUFACTURES SPEC. OR AGRU SLUR-GRIIP HOPE.
3. VALVE VAULT SHALL BE COATED WITH COAL TAR.
4. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
5. VALVE VAULT SHALL BE COATED WITH SPROXY SPECTRA SHIELD INSIDE. REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 6" DIAMETER PIPE AND SMALLER. CLEARANCES SHALL INCREASE AS REQUIRED FOR LARGER PIPE SIZES.
6. VALVE VAULT SHALL HAVE SEALED FLOOR AND DRAIN.
7. VALVE VAULT SHALL HAVE INSULATION ON TOP OF VALVE VAULT OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
8. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
9. VALVE VAULT SHALL HAVE INSULATION ON TOP OF VALVE VAULT OR LEAVE THE WET WELL WITH 3/16 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY THE COUNTY.
10. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
11. ALL PUMPS SHALL BE WILD.
12. ALL HARDWARE IN WET WELL AND VALVE BOX TO BE STAINLESS STEEL.
13. CONTRACTOR SHALL INSTALL A "P" TRAP BETWEEN THE VALVE VAULT AND WET WELL.
14. EACH PUMP SHALL HAVE A 3/4" STAINLESS STEEL LIFTING CABLE 20 FT. LONG.
15. GUIDE ROLLS SHALL BE 3/4" STAINLESS STEEL.
16. ACCESS FRAME SHALL BE WILD MODEL SDA 3048 WITH HINGED DOORS AND 304 STAINLESS STEEL CABLE HOLDER OR APPROVED EQUIVAL.
17. ACCESS DOORS SHALL BE DESIGN FOR 300 lbs./SF.
18. WET WELL SHALL BE ASTM F76-577 CLASS III.
19. INTERNAL PIPING SHALL BE 1" DI. CLASS 85 AWWA C-150, AWWA C-151 BITUMINOUS COATED INSIDE AND OUTSIDE PER ANSI A21.8.
20. FITTINGS SHALL BE AWWA C-10 RATING 150 PSI.
21. WATER SUPPLY SHALL BE 1", FREEZE PROOF ABOVE BSI, GALVANIZED PIPE, GALV. FITTINGS, REDUCED PRESSURE BACK FLAP PREVENTOR WATTS NO. 369 OR APPROVED EQUAL AND WATER METER.
22. SUBMITTALS & TESTING SHALL BE IN ACCORDANCE WITH COUNTY REQUIREMENTS.
23. VALVES SHALL BE RATED AT 200 PSI. EPOXY COATED AWWA C-509 AS APPROVED BY THE CITY.
24. CHECK VALVES SHALL BE SWING CHECK RATED AT 150 PSI EPOXY COATED AS APPROVED BY THE CITY.
25. SUBMITTALS & TESTING SHALL BE IN ACCORDANCE WITH COUNTY REQUIREMENTS.
26. CONTRACTOR TO VERIFY VOLTAGE & PHASE AVAILABLE AT SITE BEFORE ORDERING EQUIPMENT.
27. COVERED AREA OVER THE CONTROL PANEL / TELEMETRY / SWITCH GEAR AREA SHALL BE EXTENDED A MINIMUM OF 6 FT. FROM GRAY CONTROL PANEL OR SWITCH GEAR EQUIPMENT.
28. ALL PIPE BENDS SHALL HAVE MECHANICAL JOINT RESTRAINTS.



PRE-ENGINEERED ALUMINUM ROOF  
NOT TO SCALE

SCALE: AS NOTED
DESIGNED BY: JMS
DRAWN BY: jdm
REVIEWED BY: JMS
ISSUE DATE: MAY 2016
CAD FILE NAME: 11241Be1.dwg

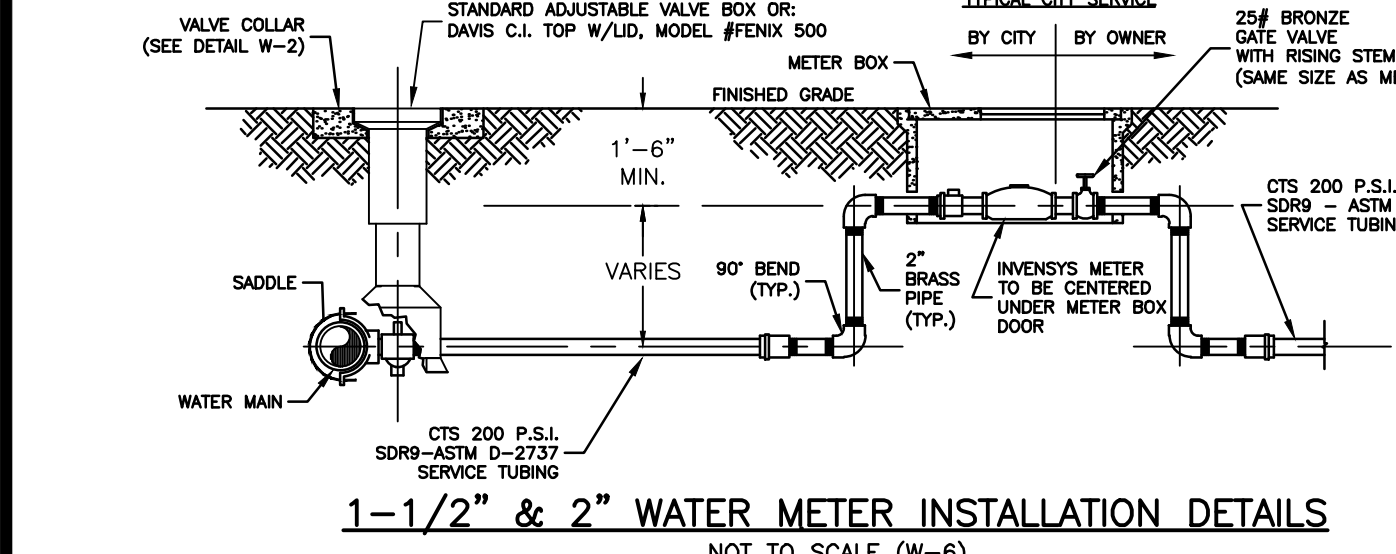
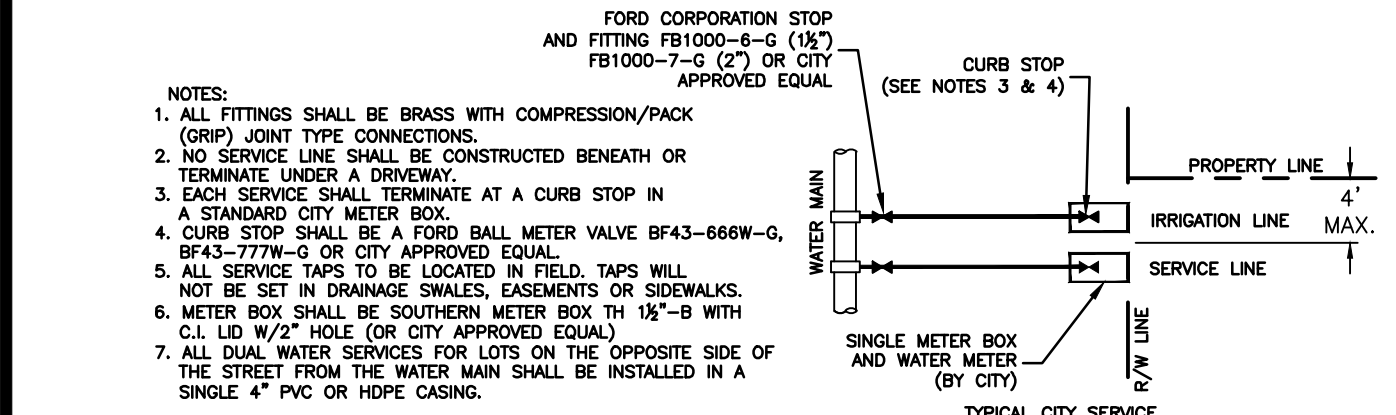
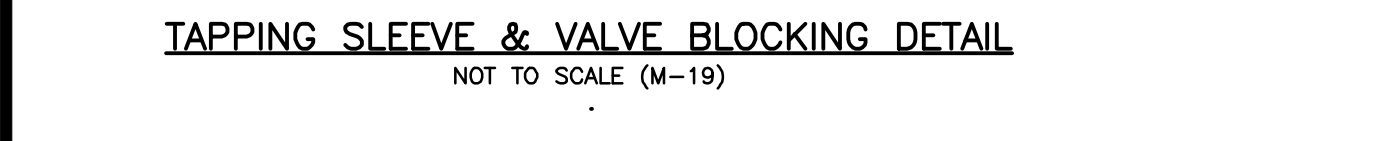
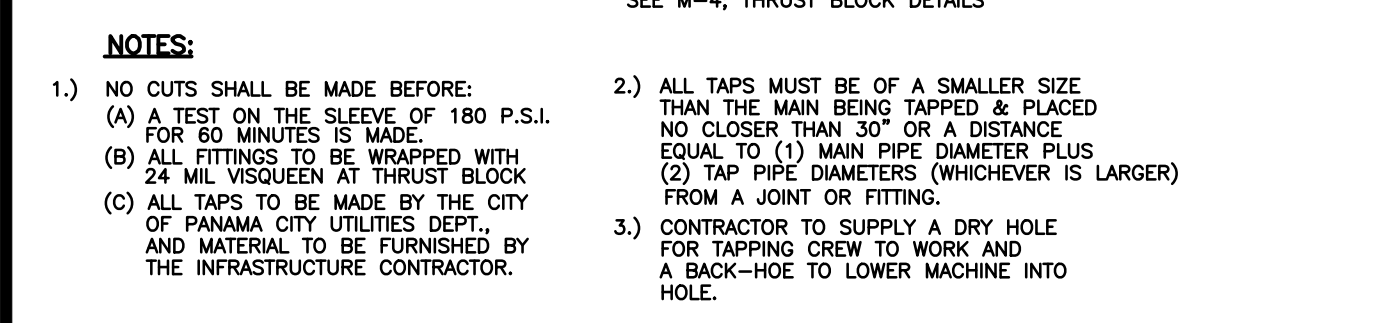
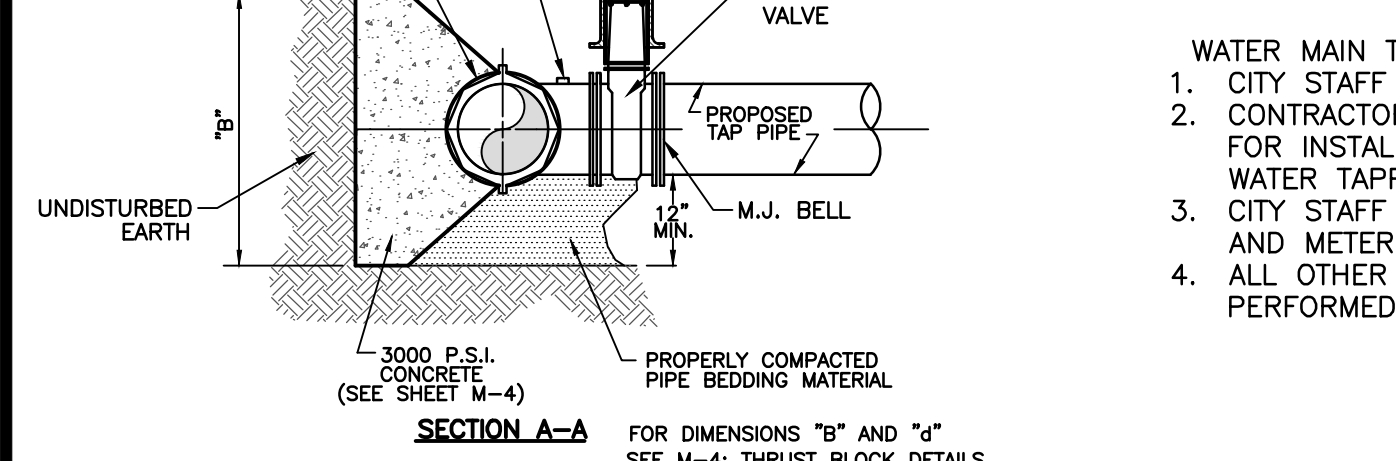
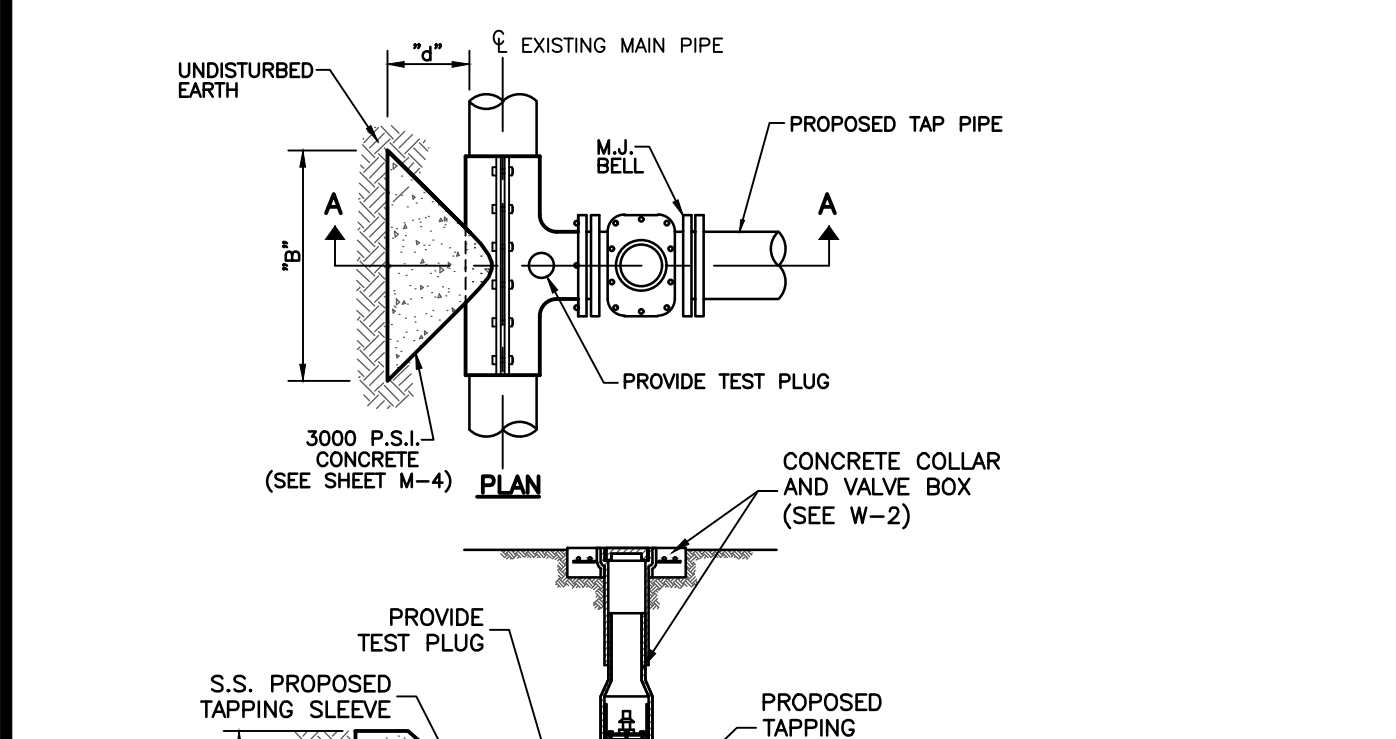
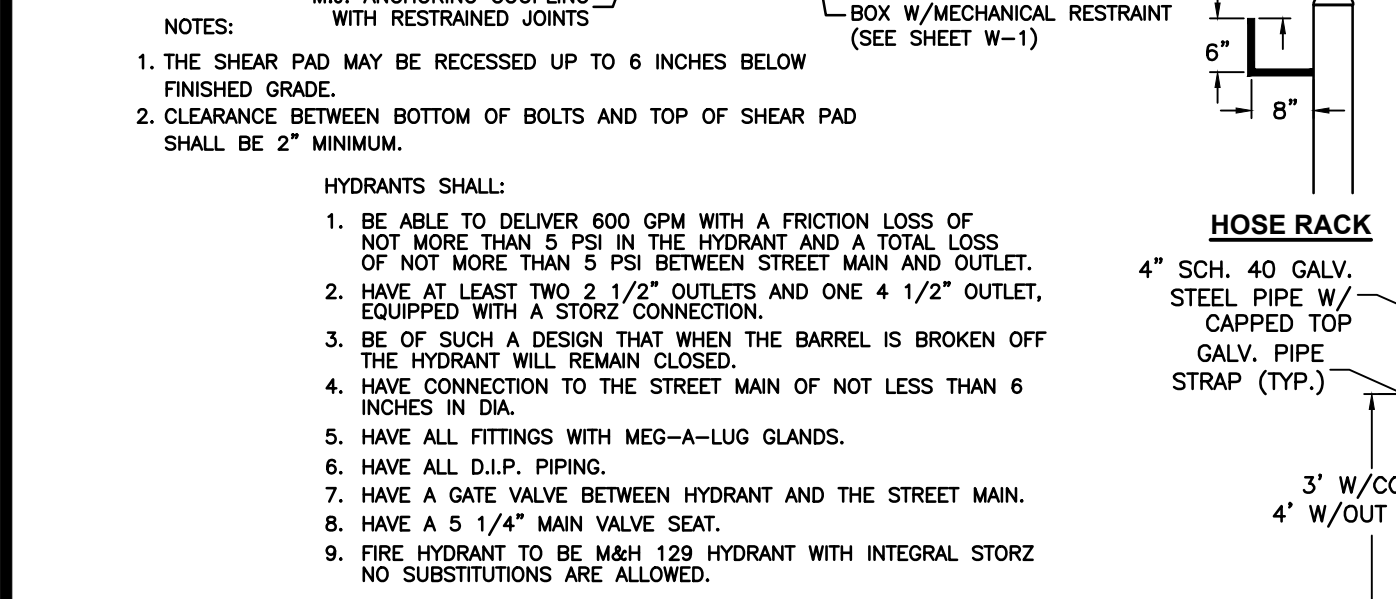
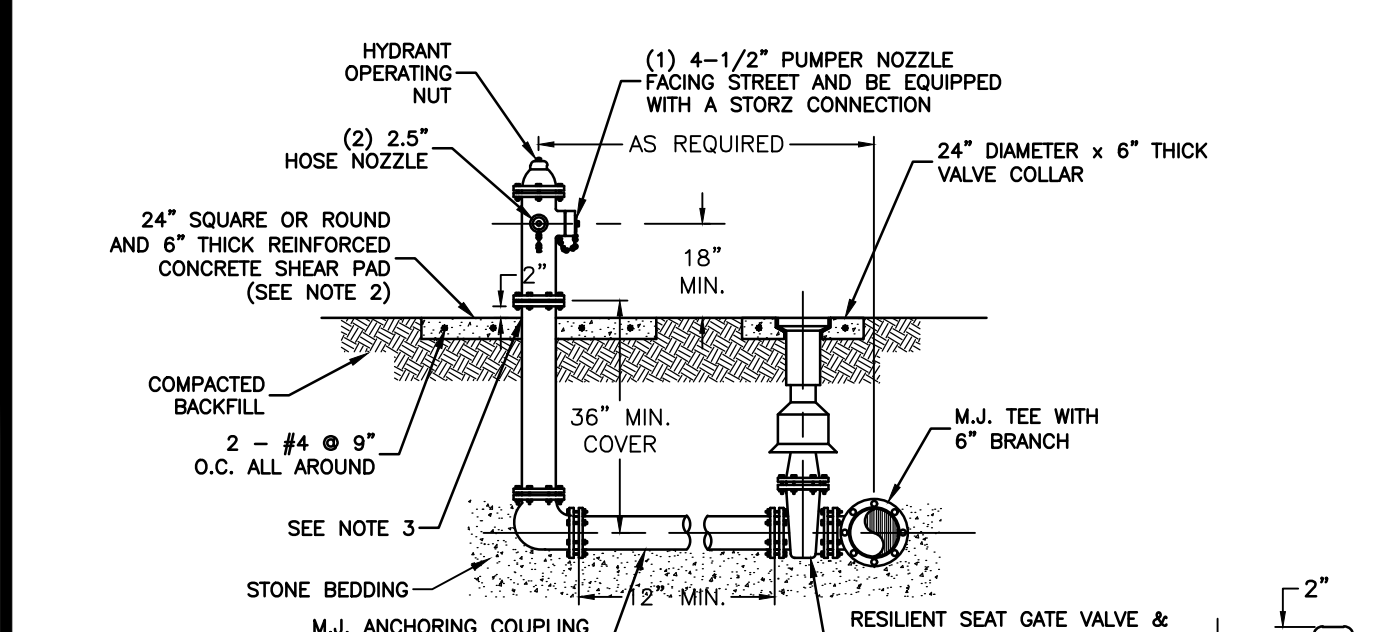
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS  
3005 South Highway 77 Lynn Haven, Florida 32444  
(850)763-5200 Fax (850)769-0730 [pe@panhandleengineering.com](mailto:pe@panhandleengineering.com)

PANAMA CITY, FLORIDA

A circular professional engineer seal for James M. Southall. The outer ring contains the text "JAMES M. SOUTHALL" at the top, "LICENSE" at the bottom, and "PROF. ENGINEER" on the sides. The inner circle contains "NO. 39637" and "STATE OF FLORIDA". There are stars separating the text in the inner circle.

11241B





REV	DATE	BY	REVISIONS
1	01-05-2016	JMS	REVISED PER CITY UTILITY COMMENTS
NOT RELEASED FOR CONSTRUCTION BY: DATE:			

SCALE: AS NOTED
DESIGNED BY: JMS
DRAWN BY: jdm
REVIEWED BY: JMS
ISSUE DATE: MAY 2016
ACAD FILE NAME: 11241B-details.dwg

PANHANDLE

ENGINEERING, INC.

ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS  
3005 South Highway 77 Lynn Haven, Florida 32444  
(850)763-5200 Fax (850)768-0730 pe@panhandleengineering.com

UTILITY DETAILS  
MASSALINA CONDO MARINA  
PANAMA CITY, FLORIDA

PIPE SIZE (INCHES)	90 BEND (SQ. FT.)	45 BEND (SQ. FT.)	22-1/2 BEND (SQ. FT.)	11-1/4 BEND (SQ. FT.)	TEE & CROSS (SQ. FT.)	WYE (SQ. FT.)	DESIGN PRESS. (PSI)
4	3.5	1.8	1.0	1.5	2.5	3.7	100
6	6.1	3.3	1.7	2.5	4.3	6.4	100
8	9.1	4.9	2.5	3.8	6.5	9.7	100
10	12.9	7.0	3.6	5.3	9.1	13.7	100
12	18.4	10.5	5.1	7.6	12.7	19.4	100
16	21.0	11.4	5.8	8.7	14.9	22.4	100
18	24.5	13.7	6.9	10.1	17.4	26.4	100
20	34.5	18.7	9.5	13.8	24.4	36.4	100
24							100

NOTE: THRUST BLOCK AREAS TO BE COMPUTED ON BASIS OF 1,500 LBS. PER SQ. FT. SOIL RESTRAINT BEARING. \* TO BE COMPLETED BY ENGINEER.

	PIPE SIZE							
	6"	8"	10"	12"	16"	20"	24"	30"
90° BEND								
45° BEND								
22-1/2° BEND								
11-1/4° BEND								
PLUG OR BRANCH OF TEE								

NOTES:  
1. FITTINGS SHALL BE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.  
2. INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN SHOWN IN THE TABLE.  
3. LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AS PUBLISHED BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:  
WORKING PRESSURE: \_\_\_\_\_ P.S.I.\*  
SOIL DESIGNATION: \_\_\_\_\_  
LAYING CONDITIONS: \_\_\_\_\_  
4. FOR PIPE ENCASED IN POLYETHYLENE, USE VALUES GIVEN IN PARENTHESES OR INCREASE THE GIVEN VALUE BY A FACTOR OF 1.5.  
\* TO BE COMPLETED BY THE ENGINEER.

MAIN PIPE SIZE	HORIZ. BENDS	TEES				REDUCERS				PLUGS
		SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
24	90	38	18	24	18	24	18	24	18	24
20	78	32	15	20	15	20	15	20	15	20
16	66	27	13	16	13	16	13	16	13	16
12	51	22	10	12	10	12	10	12	10	12
10	44	18	9	10	9	10	9	10	9	10
8	37	15	7	8	7	8	7	8	7	8
6	29	12	5	6	5	6	5	6	5	6
4	21	8	4	4	4	4	4	4	4	4

NOTES:  
1. RESTRAIN TO NEXT FULL JOINT BEYOND GIVEN LENGTH.  
2. RESTRAIN 11.25" BENDS 50% OF LENGTH FOR 22.5° BENDS.  
3. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.  
4. ALL VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE, IN EITHER DIRECTION.  
5. PIPE SIZES ARE GIVEN IN INCHES.  
6. PIPE LENGTHS ARE GIVEN IN FEET.  
7. LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.  
8. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON THE USE OF LIGHTLY COMPACTED CLEAN SAND WITH AT LEAST A 95% COARSE PARTICLE CONTENT. ACTUAL SOIL CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.

**RESTRAINED LENGTHS FOR PVC**  
NOT TO SCALE (M-15)

**THRUST BLOCK DETAILS**  
NOT TO SCALE (M-4)

NOTES:  
1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.  
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (6 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.  
3. BLOCK.  
4. BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.  
5. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.  
6. ALTERNATE DESIGNED RESTRAINING SYSTEMS SHALL BE PROVIDED WHERE STANDARD THRUST BLOCKING IS NOT SUITABLE AND/OR SOIL RESISTANCE BEARING IS LESS THAN 1,500 psf.  
7. FOR THRUST BLOCK AREAS SEE RESTRAINED PIPE TABLE SHEET. (SHEET M-5)

**POTABLE WATER GATE VALVE & VALVE BOX DETAIL**  
NOT TO SCALE (W-1)

NOTES:  
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.  
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 2 FOOT DEPTH BELOW FINISHED GRADE.  
3. VALVES ARE TO BE MJ RESTRAINTS (MEDALUG OR EQUAL).

**WATER OR FORCEMAIN THRUST COLLAR DETAIL**  
NOT TO SCALE (M-6)

NOTES:  
1. ADDITIONAL REINFORCEMENT SHALL BE AS SPECIFIED BY THE ENGINEER.  
2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 2500 PSI.  
3. ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILL.  
4. NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL AND THE THRUST COLLAR.  
5. DESIGN PRESSURE: \_\_\_\_\_ P.S.I.\*

**MULTI-METER EXAMPLE DETAIL**  
NOT TO SCALE

NOTE: NUMBER OF METERS MAY VARY. SEE SCHEDULE (6 MAX PER 4" MANIFOLDS) (12 MAX PER 6" MANIFOLDS)

**MULTI-METER DETAIL**  
NOT TO SCALE

NOTE: EACH SERVICE TO HAVE 1" INLINE BACKFLOW PREVENTER

**POTABLE WATER GATE VALVE & VALVE BOX DETAIL**  
NOT TO SCALE (W-1)

NOTES:  
1. COVER SHALL BE MARKED "WATER".  
2. 24" DIAMETER x 6" THICK CONCRETE COLLAR (VALVES 12" AND LARGER SEE DETAIL W-2)  
3. 2-#3 BAR EACH WAY (8 TOTAL)  
4. ADJUSTABLE CAST IRON VALVE BOX  
5. SEE NOTE 2  
6. RESILIENT SEAT M.J. GATE VALVE OR BUTTERFLY VALVE  
7. WATER MAIN

**POTABLE WATER GATE VALVE & VALVE BOX DETAIL**  
NOT TO SCALE (W-1)

NOTES:  
1. COVER SHALL BE MARKED "WATER".  
2. 24" DIAMETER x 6" THICK CONCRETE COLLAR (VALVES 12" AND LARGER SEE DETAIL W-2)  
3. 2-#3 BAR EACH WAY (8 TOTAL)  
4. ADJUSTABLE CAST IRON VALVE BOX  
5. SEE NOTE 2  
6. RESILIENT SEAT M.J. GATE VALVE OR BUTTERFLY VALVE  
7. WATER MAIN

JAMES M. SOUTHALL

PROFESSIONAL ENGINEER

NO. 39637  
STATE OF FLORIDA

SHEET NUMBER  
12 OF  
PROJECT NUMBER  
11241B

DPR CERTIFICATION #EB-7806

11241B MASSALINA CONDO MARINA UTILITY DETAILS Sheet 12

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PANAMA CITY, FLORIDA

A circular professional engineer seal for James M. Southall. The outer ring contains the text "JAMES M. SOUTHALL" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside the ring, the word "LICENSE" is at the top, "NO. 39637" is in the center, a single star is below the number, "STATE OF" is below the star, and "FLORIDA" is at the bottom. The seal is stamped in black ink on a white background.

SHEET NUMBER  
14 OF  
PROJECT NUMBER  
11241B