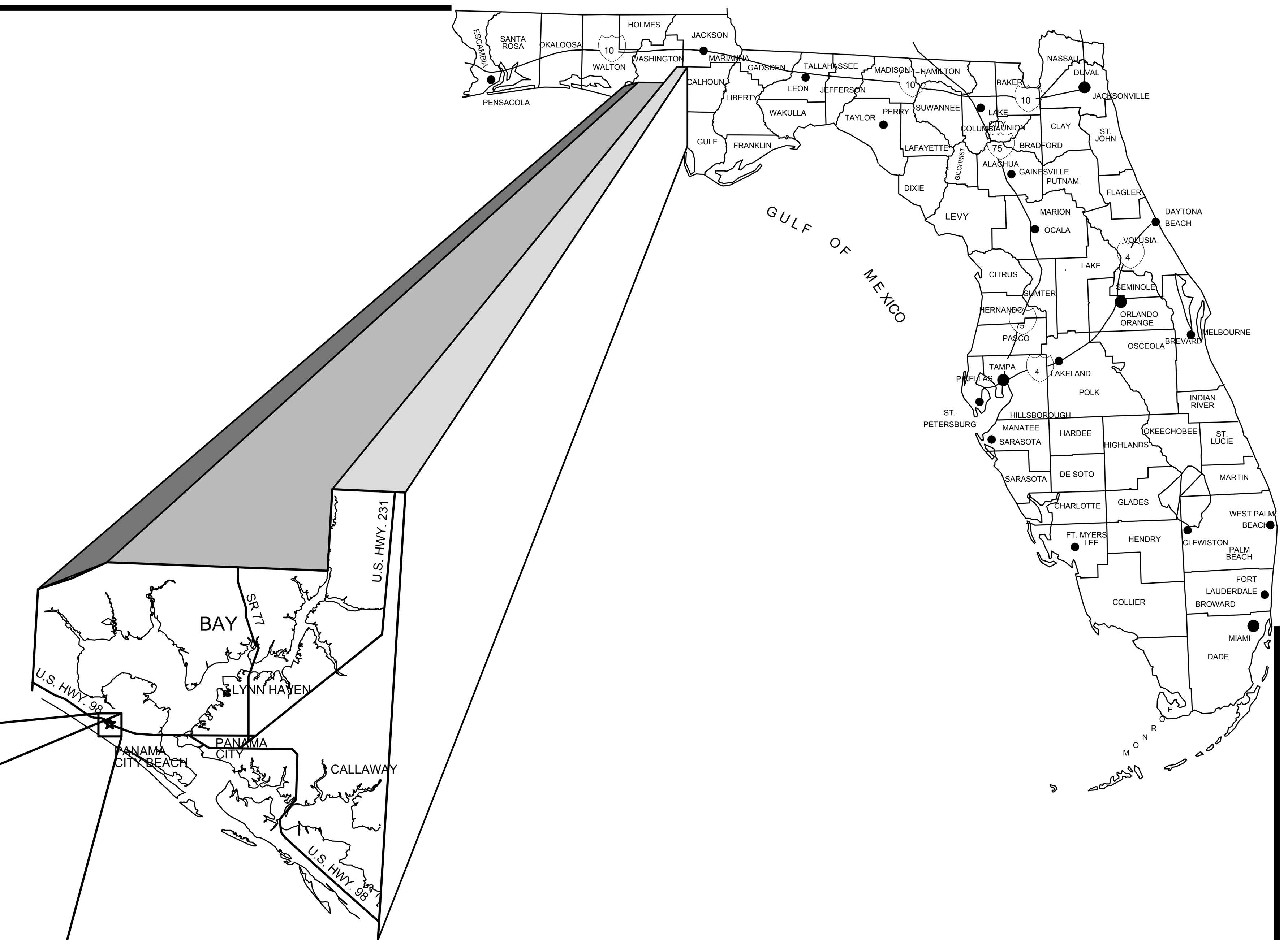
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES

PANAMA CITY BEACH, FLORIDA



PREPARED FOR:
Jonathan Dudley
Southern Grace, Inc.

ADDRESS
P.O. Box 600824
Jacksonville, FL 32260

PLAN REVIEW
☑ SITE ☑ STORM WATER
☑ APPROVED ☐ APPROVED AS NOTED
☐ REJECTED ☐ REVISE & RESUBMIT
PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH
BY: Lillian Mulligan DATE: 10/8/24

ADDRESS: 11697 PC BCH PKWY ~ (26-3S-16W)
LAT ~ 30° 11' 53"
LONG ~ 85° 49' 04"

VICINITY MAP

PERMIT PURPOSES ONLY
NOT FOR CONSTRUCTION
14 AUG 2024

SEPTEMBER 2024

PROJECT No. 136802-C

DRAWING INDEX

No. - TITLE

1 - EXISTING CONDITION AND DEMO PLAN
2 - SITE LAYOUT PLAN
3 - GRADING LAYOUT PLAN
4 - UTILITY LAYOUT PLAN
5 - EROSION CONTROL PLAN
6 - CONSTRUCTION DETAILS
7 - UTILITY DETAILS
8 - UTILITY DETAILS
9 - UTILITY DETAILS
10 - UTILITY DETAILS
11 - STORMWATER POLLUTION PREVENTION PLAN

PREPARED BY:

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

JAMES D. CROOK LICENSE NO. 66556 STATE OF FLORIDA PROFESSIONAL ENGINEER

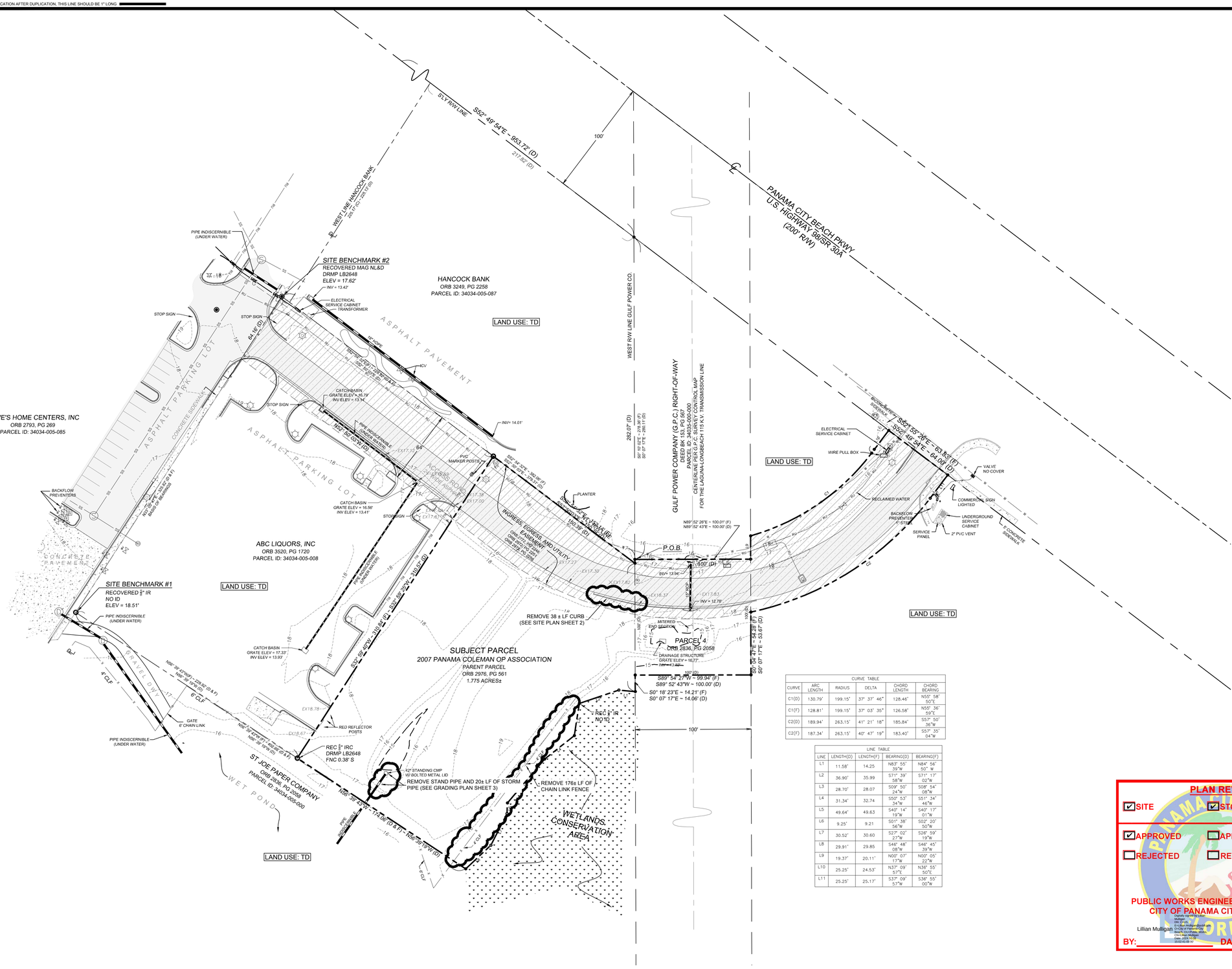
J. Doug Crook
2024.09.24
15:28:32-05'00'

This item has been digitally signed and sealed by J. Doug Crook, PE on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES COVER SHEET

Date: Friday, September 6, 2024 10:52:08 AM ID: REF File: P:\136802-C Rest Flex 2024\1 CIVIL3D\Folder\Drawings\136802-C-E1.dwg

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



CURVE TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA	CHORD LENGTH	CHORD BEARING
C1(D)	130.79'	199.15'	37° 37' 46"	128.46'	N55° 58' 50"E
C1(F)	128.81'	199.15'	37° 03' 35"	126.58'	N55° 36' 59"E
C2(D)	189.94'	263.15'	41° 21' 18"	185.84'	S57° 50' 36"W
C2(F)	187.34'	263.15'	40° 47' 19"	183.40'	S57° 35' 04"W

LINE TABLE				
LINE	LENGTH(D)	LENGTH(F)	BEARING(D)	BEARING(F)
L1	11.58'	14.25	N83° 55' 39"W	N84° 56' 50" W
L2	36.90'	35.99	S71° 39' 58"W	S71° 17' 02"W
L3	28.70'	28.07	S09° 50' 24"W	S08° 54' 08"W
L4	31.34'	32.74	S50° 53' 34"W	S51° 34' 46"W
L5	49.64'	49.63	S40° 14' 19"W	S40° 17' 01"W
L6	9.25'	9.21	S01° 38' 56"W	S02° 20' 50"W
L7	30.52'	30.60	S27° 02' 27"W	S26° 59' 19"W
L8	29.91'	29.85	S46° 48' 08"W	S46° 45' 39"W
L9	19.37'	20.11'	N00° 07' 17"W	N00° 05' 22"W
L10	25.25'	24.53'	N37° 09' 57"E	N36° 55' 50"E
L11	25.25'	25.17'	S37° 09' 57"W	S36° 55' 00"W

LEGEND & ABBREVIATIONS:

(C)	-CALCULATED DIMENSION
(D)	-DEED DIMENSION
(F)	-FIELD MEASURED DIMENSION
BNDRY	-BOUNDARY
CLF	-CHAIN LINK FENCE
CMON	-CONCRETE MONUMENT
CMP	-CORRUGATED METAL PIPE
DWY	-DRIVEWAY
HDPE	-HIGH DENSITY POLYETHYLENE
ELEV	-ELEVATION
ICV	-IRRIGATION CONTROL VALVE
INV	-PIPE FLOW LINE ELEVATION (INVERT)
IRC	-IRON ROD (CAPPED)
IR	-IRON ROD
NL&D	-NAIL AND DISC
NPW	-NON-POTABLE WATER
ORB	-OFFICIAL RECORDS BOOK
PG	-PAGE
P.O.C.	-POINT OF COMMENCEMENT
P.O.B.	-POINT OF BEGINNING
RCP	-REINFORCED CONCRETE PIPE
R/W	-RIGHT-OF-WAY

-CONCRETE PAVEMENT

-INGRESS/EGRESS EASEMENT

-WETLAND CONSERVATION AREA

-CENTERLINE
-CMON
-RECOVERED ½" IRC "DRMP LB 2648" (UNLESSOTHERWISE NOTED)
-NL&D
-FIRE HYDRANT
-LIGHT POLE
-SIGN, SINGLE SUPPORT
-SPOT ELEVATION
-TELEPHONE PEDESTAL/RISER
-MANHOLE, DRAINAGE
-MANHOLE, SANITARY
-METER, UNDERGROUND ELECTRIC
-METER, WATER
-PROPERTY LINE
-VALVE, WATER
-VALVE, NON-POTABLE WATER
-DELINEATOR POST
-SANITARY CLEAN OUT
-WIRE PULL BOX

-DENOTE STORM PIPE
-HEDGE LINE
-GAS LINE
-BURIED POWER
-SANITARY SEWER OR RECLAIMED WATER LINE
-WATER LINE
EXISTING TO BE REMOVED

PLAN REVIEW

☑ SITE ☑ STORM WATER

☑ APPROVED ☐ APPROVED AS NOTED

☐ REJECTED ☐ REVISE & RESUBMIT

PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH

Lillian Mulligan

BY: _____ DATE: 10/8/24

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF DEMOLITION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF UNKNOWN UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL PROVIDE EROSION CONTROL FOR ALL EXISTING DRAINAGE STRUCTURES TO REMAIN UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL TAKE DUE CARE WHEN INSTALLING SILT FENCE AROUND EXISTING UNDERGROUND UTILITIES.
5. CONTRACTOR MAY ADJUST SILT FENCE LOCATIONS WITHIN INDICATED LIMITS OF CONSTRUCTION AS NEEDED TO PERFORM WORK.

REV	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE: AS NOTED
DESIGNED BY: JDC
DRAWN BY: REF
REVIEWED BY: JDC
ISSUE DATE: SEPTEMBER 2024
ACAD FILE NAME: 136802-C-E1.dwg

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600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

EXISTING CONDITION AND DEMO PLAN
COMMERCIAL FLEXSPACE
OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046

DPR CERTIFICATION #EB-7806

JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 1

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES EXISTING CONDITION AND DEMO PLAN Sheet 1

Date: 9/6/2024 10:52 AM File: P:\136802-C Rest Files 2024\1 CIVIL\3DFiles\Drawings\136802-C-E1.dwg

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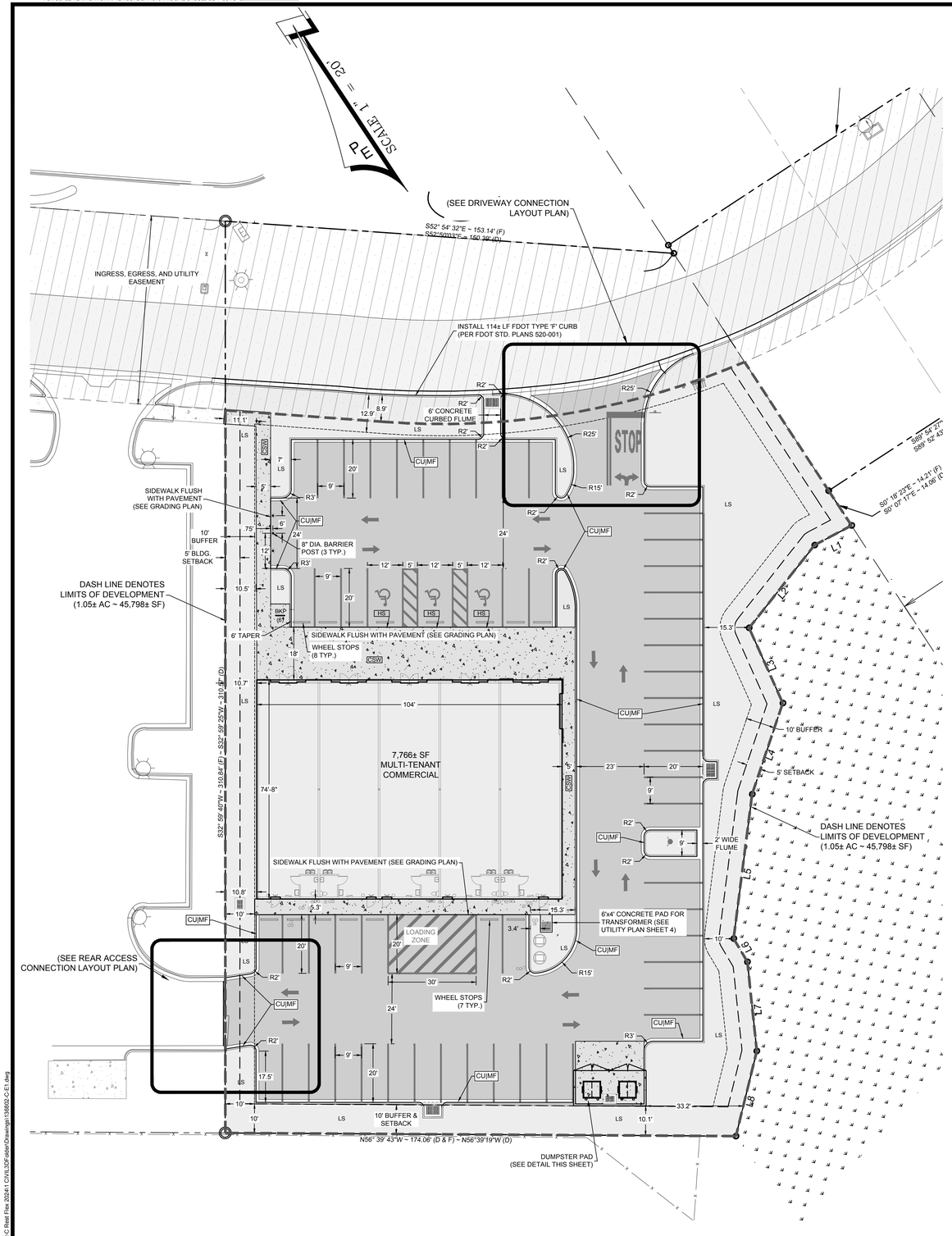
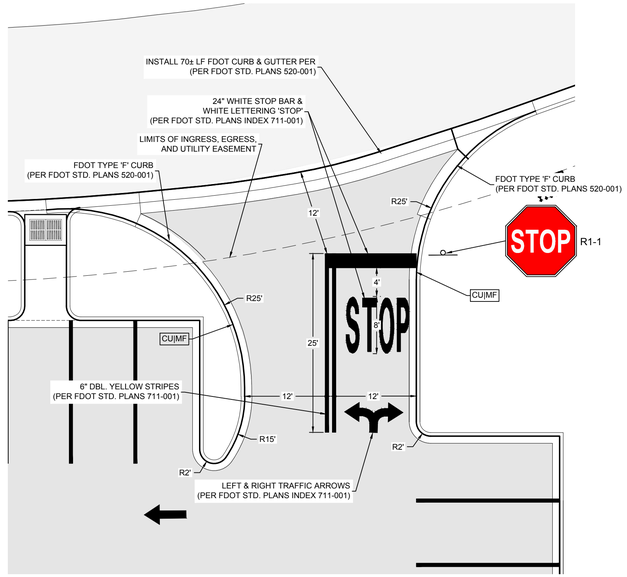
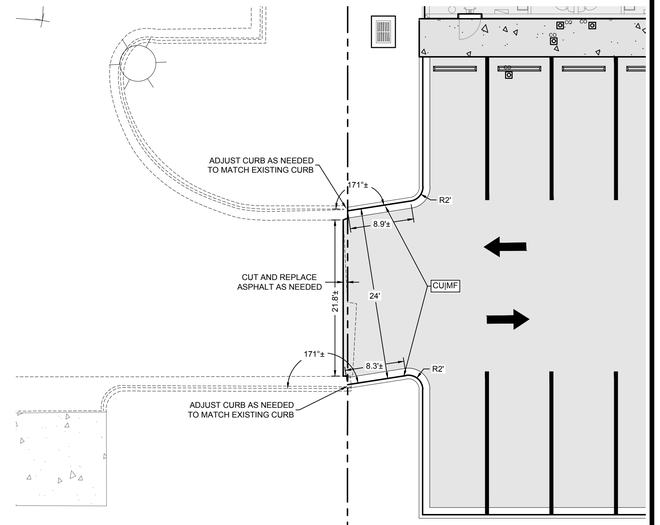
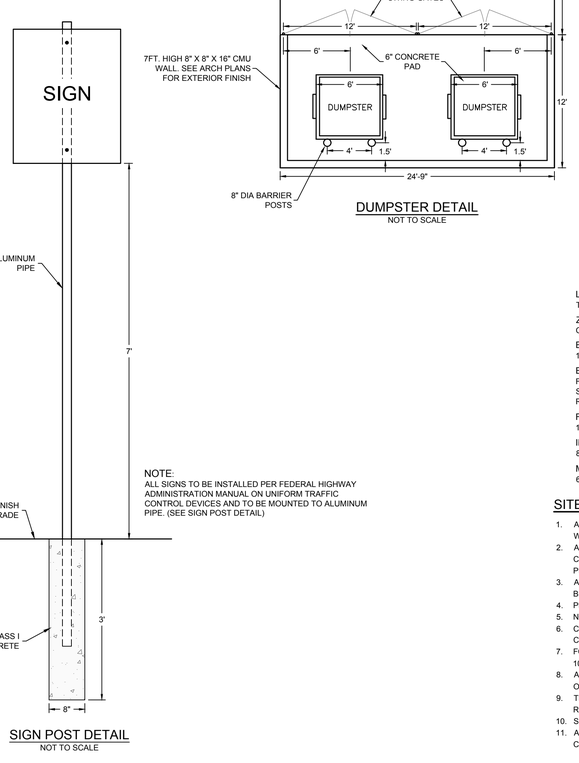




DRIVEWAY CONNECTION LAYOUT PLAN
SCALE 1" = 10'

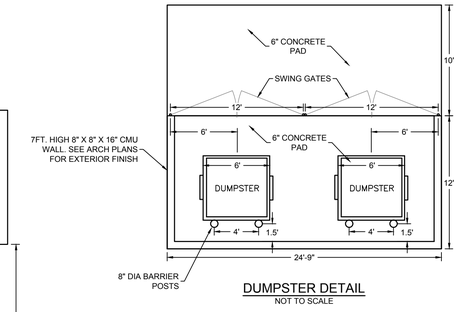


REAR ACCESS CONNECTION LAYOUT PLAN
SCALE 1" = 10'

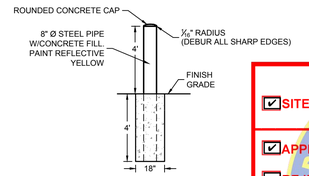


NOTE:
ALL SIGNS TO BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TO BE MOUNTED TO ALUMINUM PIPE. (SEE SIGN POST DETAIL)

SIGN POST DETAIL
NOT TO SCALE



DUMPSTER DETAIL
NOT TO SCALE



8" DIA BARRIER POST DETAIL
NOT TO SCALE

SITE DATA SCHEDULE			
	REQUIRED	PROVIDED	
PARKING SPACES	26	57	
ZONE: CH (PCB)	ACRES	AREA - SF	
PARCEL AREA *	1.78±	77,303±	
DEVELOPEMENT AREA	1.05±	45,798±	
	SF/TOTAL AREA		TOTAL
PARCEL AREA ISR	IMP SPACE: 48,455/77,303		63%
DEV. AREA ISR	IMP SPACE: 35,217/45,798		77%
OSR	OPEN SPACE: 28,848/77,303		37%
FAR	FLOOR AREA: 7,766/45,303		10%
SOIL TYPES	SEE GEOTECHNICAL SOIL BORING & PERC. TEST REPORT		

* SEE EXISTING CONDITION AND DEMO PLAN SHEET 1

LAND USE:
TOURIST DISTRICT (TD)

ZONING:
COMMERCIAL HIGH INTENSITY (CH)

BUFFER:
10 FT. BUFFER ALONG PERIMETER & STREET

BUILDING SETBACKS
FRONT 25'
SIDE 5' (ADJ. TO ST 15')
REAR 10'

FLOOR AREA RATIO
100%

IMPERVIOUS SURFACE RATIO
85%

MAX. BUILDING HEIGHT:
65'/85'

PARKING STALL REQUIREMENT
STANDARD STALL 9'min.X20'min.
HC STALL 12'min.X20'min. W/5' ISLE
HC VAN STALL 12'minX20'min. W/8' ISLE
(90° PARKS)

PARKING SUMMARY:
PARKING REQUIREMENTS:
RETAIL: 3.33 PER 1000 SF OF FLOOR
- BASED ON 7,766 S.F. OF RETAIL = 26 PARKS

BICYCLE PARKING REQUIREMENTS: 0.10 PER VEHICLE PARKING SPACE (3 REQUIRED ~ 6 PROVIDED)

SITE NOTES:

1. ABOVE GROUND STRUCTURES, Etc... ARE SHOWN ON THIS SHEET. NOTE ALL ABOVE GROUND UTILITIES WILL BE SCREENED BY LANDSCAPING.
2. ALL TRAFFIC STRIPING TO BE THERMOPLASTIC PER STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SEC:711. (WAIT MINIMUM OF 30 DAYS AFTER ASPHALT CONCRETE PLACEMENT TO PLACE PERMANENT THERMOPLASTIC MARKING. TEMPORARY STRIPING TO BE PAINTED STOP BAR ONLY.)
3. ALL DISTURBED AREA GRASSED. HYDROSEED @ 4:1 & FLATTER, SOD @ STEEPER THAN 4:1. ALL SOD TO BE STAGGERED & PINNED.
4. PLACE DOUBLE 16" OR SINGLE ROLL 30" STRIP OF SOD AT EDGE OF DRIVE.
5. NO DAYTIME LANE CLOSURES.
6. CONTRACTOR TO FIELD VERIFY ALL UTILITIES ABOVE OR BELOW GROUND AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
7. FOR MAINTENANCE OF TRAFFIC CONTROL THROUGH WORK ZONES REFER TO FDOT STD. PLANS INDEX 102-602 & 102-603 AS APPLICABLE.
8. ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
9. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH CITY REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
10. SIGHT DISTANCE TRIANGLES SEE FDOT DESIGN MANUAL 212.11, CLEAR SIGHT TRIANGLES.
11. ALL SIGNS TO BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TO BE MOUNTED TO GALVANIZED PIPE.

LEGEND

- LIMITS OF CONSTRUCTION
- PROPOSED LIFT STATION (SANITARY OR STORM)
- CLEANOUT
- EXISTING MANHOLE (SANITARY OR STORM)
- PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
- LIGHT POLE
- SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER METER BOXES
- HS — HANDICAP PARKING SIGN
- HANDICAP PARKING
- CSW — CONCRETE SIDEWALK
- CU|MF — FDOT CURB i.e. MODIFIED TYPE F
- R/W — RIGHT OF WAY
- EOP — EDGE OF PAVEMENT
- ℄ — CENTERLINE
- UNO — UNLESS NOTED OTHERWISE
- DWS — DETECTABLE WARNING SURFACE
- LS — LANDSCAPE AREAS
- BKP — BIKE PARKING (SEE DETAIL SHEET 6)
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING PAVEMENT
- -INGRESS/EGRESS EASEMENT
- WETLAND CONSERVATION AREA

PLAN REVIEW
☑ SITE ☑ STORM WATER
☑ APPROVED ☐ APPROVED AS NOTED
☐ REJECTED ☐ REVISE & RESUBMIT
PANAMA CITY BEACH, FLORIDA
PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH
Lillian Mulligan
BY: _____ DATE: 10/8/24

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SITE LAYOUT PLAN
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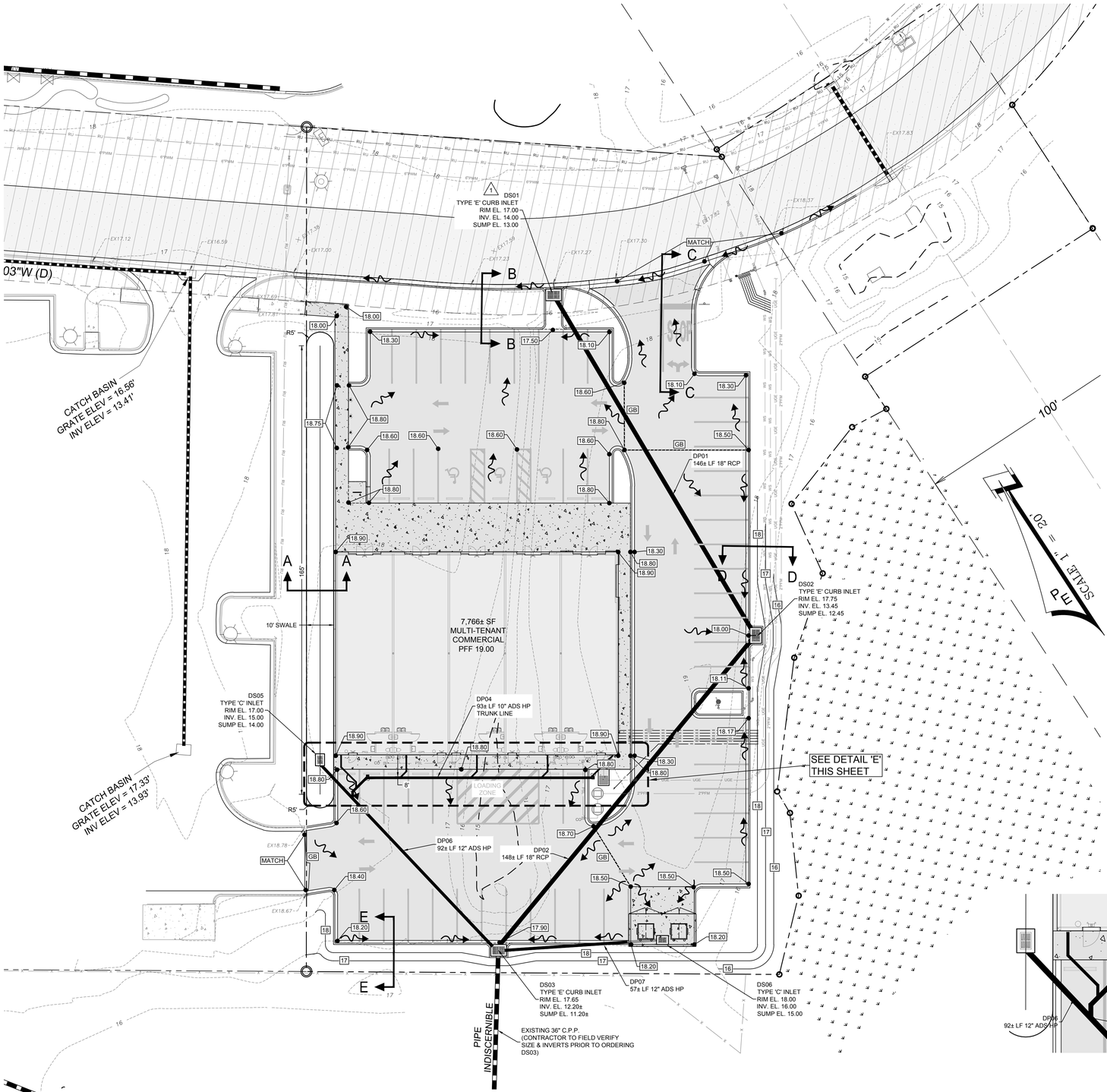
JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 2

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES SITE LAYOUT PLAN Sheet 2

Date: 9/6/2024 10:52 AM File: P:\136802-C Real Flex 2024\1 CIVIL\3DFolder\Drawings\136802-C-E1.dwg

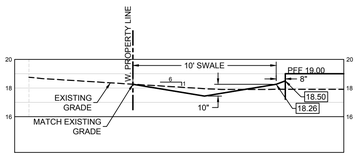


DRAINAGE STRUCTURE NOTES:

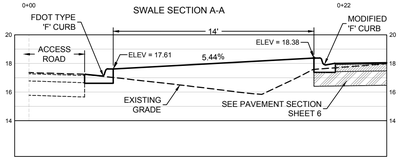
1. "C" & E INLETS PER FDOT STD. PLANS INDEX 425-052 (SEE DETAILS SHEET 6)
2. ALL STORM STRUCTURES TO HAVE 1ft. SUMPS.
3. CONTRACTOR MAY UTILIZE ADS (HP) (OR EQUAL) WHERE COVER EXCEEDS FDOT AND MANUFACTURE'S CRITERIA.

GRADING NOTES:

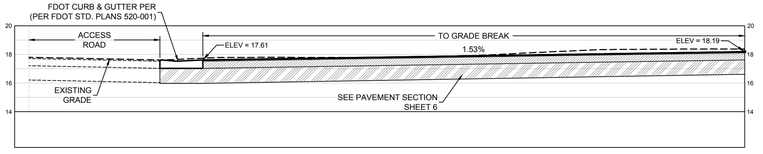
1. ABOVE & BELOW GROUND STRUCTURES, Etc... ARE SHOWN ON THIS SHEET.
2. ALL DISTURBED AREA GRASSED. HYDROSEED @ 4:1 & FLATTER, SOD @ STEEPER THAN 4:1. ALL SOD TO BE STAGGERED & PINNED.
3. CONTRACTOR TO FIELD VERIFY ALL UTILITIES ABOVE OR BELOW GROUND AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
4. ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
5. FOR ASPHALT PAVEMENT CROSS SECTION SEE DETAILS ON SHEET 6.
6. ALL DESIGNATED HANDICAP PARKING NOT TO EXCEED 1:50 SLOPE.



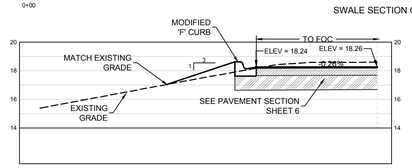
SWALE SECTION A-A



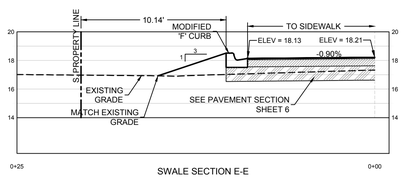
SWALE SECTION B-B



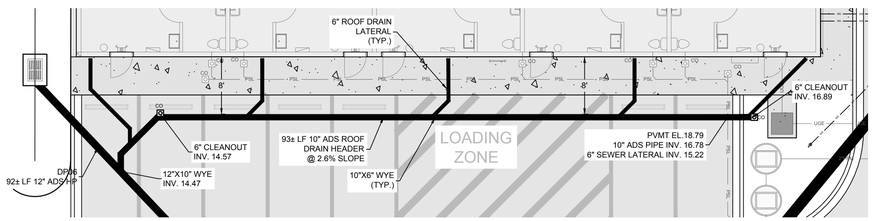
SWALE SECTION C-C



SWALE SECTION D-D



SWALE SECTION E-E



DETAIL 'E'
SCALE 1" = 10'

PLAN REVIEW

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PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH

Lillian Mulligan

BY:_____ DATE: 10/8/24

LEGEND

- GB — GRADE BREAK
- MATCH — MATCH EXISTING ELEVATION
- X.XX — PROPOSED FINISH GRADE
- +12.50 — EXISTING SPOT ELEVATION
- 16 — PROPOSED GRADE CONTOUR
- 16 — EXISTING GRADE CONTOUR
- STORMWATER FLOW ARROW
- GRADE BREAK
- PROPOSED LIFT STATION (SANITARY OR STORM)
- PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
- PROPOSED STORM PIPE
- EXISTING STORM PIPE
- PFM — PROPOSED FORCE MAIN (SIZE AS NOTED)
- UGE — PROPOSED UNDERGROUND ELECTRIC
- WS — PROPOSED WATER SERVICE (SIZE AS NOTED)
- PRU — PROPOSED REUSE MAIN (SIZE AS NOTED)
- PSL — PROPOSED SANITARY SEWER LATERAL
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- EXISTING PAVEMENT
- INGRESS/EGRESS EASEMENT
- WETLAND CONSERVATION AREA

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GRADING LAYOUT PLAN
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JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 3

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES GRADING LAYOUT PLAN Sheet 3

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

UTILITY CONTACTS

UTILITY	CONTACT	
TELEPHONE	BELLSOUTH AT&T	1-850-784-3750 1-850-913-3709
ELECTRIC	FLORIDA POWER AND LIGHT	1-800-225-5797
GAS	TECO PEOPLE GAS	1-850-914-6147
CABLE TV	COMCAST CABLE (Jones Intercable) WOW	1-850-769-0392 1-866-496-9669
WATER & SEWER	CITY OF PANAMA CITY BEACH BAY COUNTY UTILITY SERVICES	1-850-233-5100 1-800-248-5010

*BEFORE ANY DIGGING "CALL SUNSHINE" AT 1-800-432-4770

LEGEND

- PROPOSED WATER METER BOXES
- PROPOSED VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CLEANOUT
- PROPOSED LIFT STATION (SANITARY OR STORM)
- PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
- PROPOSED STORM PIPE
- EXISTING STORM PIPE
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- PROPOSED CONCRETE
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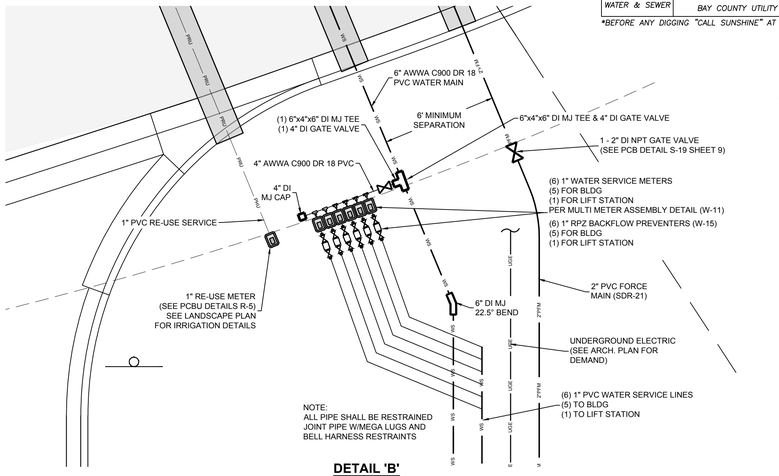
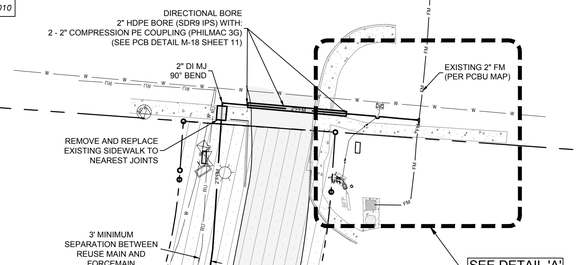
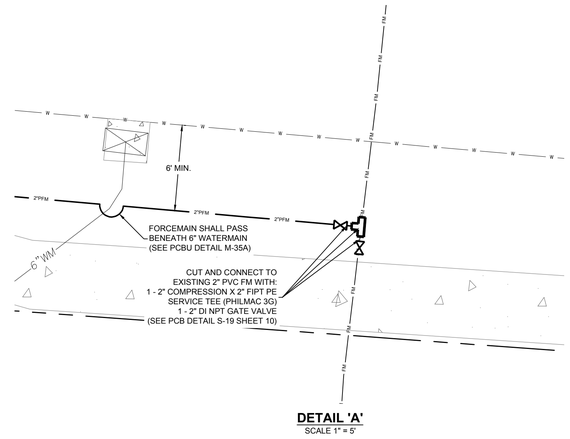
- -INGRESS/EGRESS EASEMENT
- WETLAND CONSERVATION AREA

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.
3. ALL TELEPHONE, CABLE AND ELECTRIC LINES WILL BE LOCATED UNDERGROUND, LDC 4.02.03.E.



DETAIL 'B'
SCALE 1" = 5'





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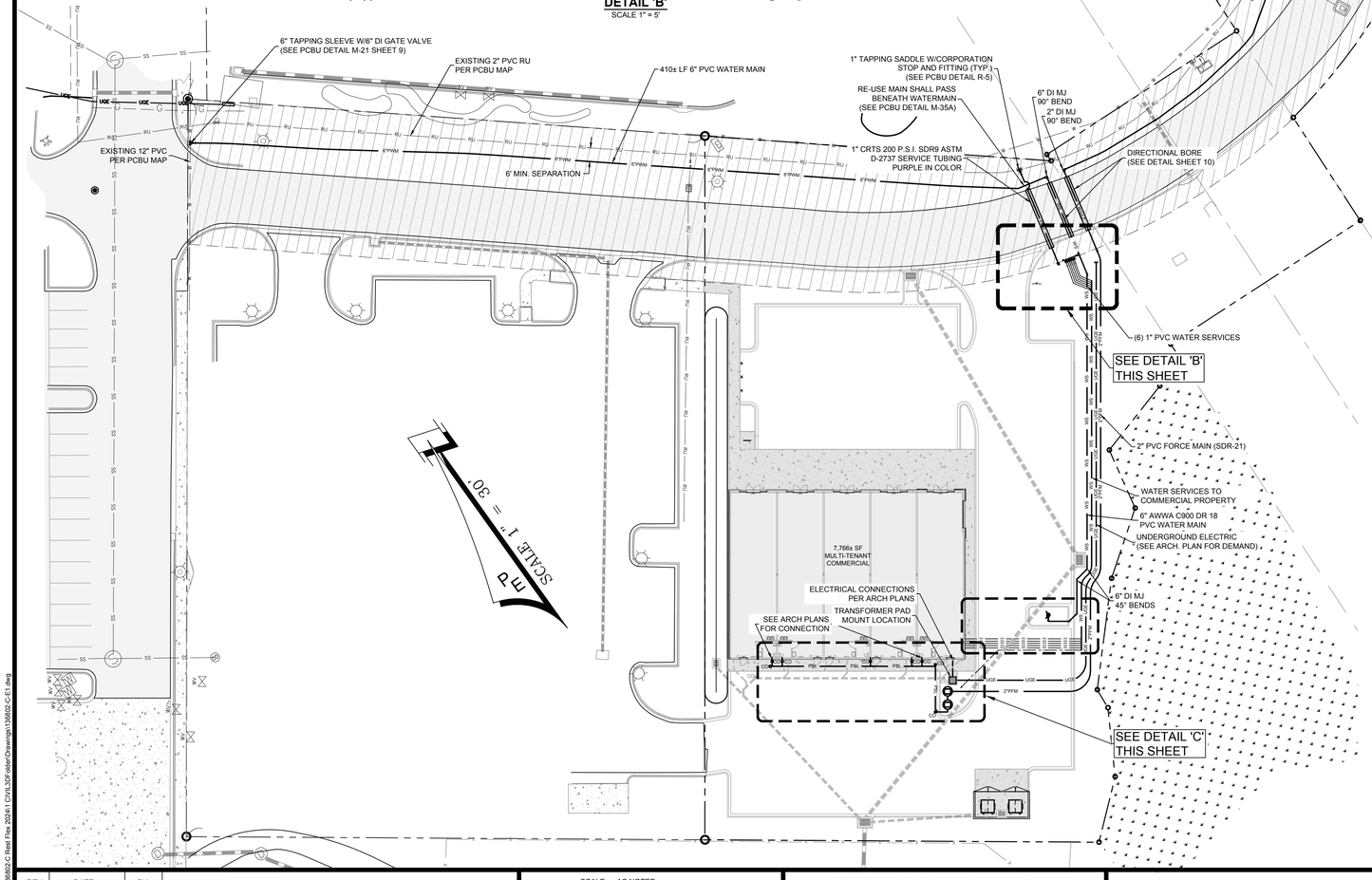

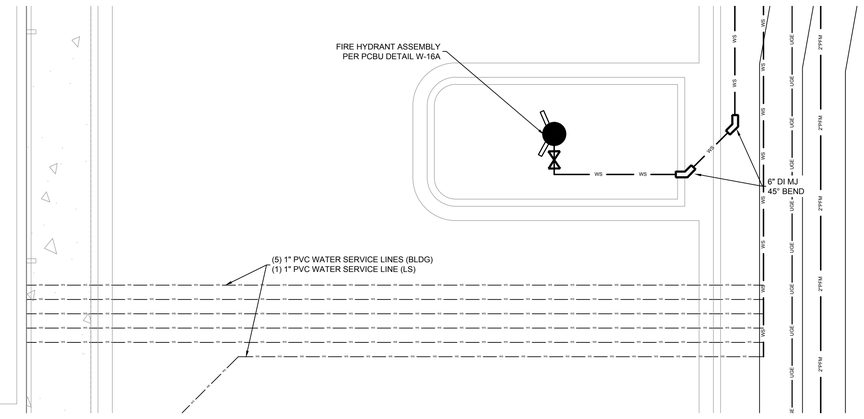

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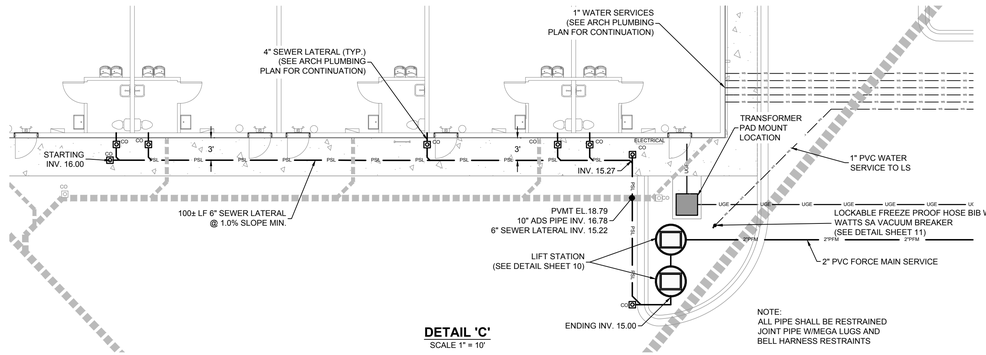

DETAIL 'C'
SCALE 1" = 10'

REV	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE: AS NOTED
DESIGNED BY: JDC
DRAWN BY: REF
REVIEWED BY: JDC
ISSUE DATE: SEPTEMBER 2024
ACAD FILE NAME: 136802-C-E1.dwg

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
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UTILITY LAYOUT PLAN
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 4

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES UTILITY LAYOUT PLAN Sheet 4

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PLAN REVIEW

☑ SITE ☑ STORM WATER

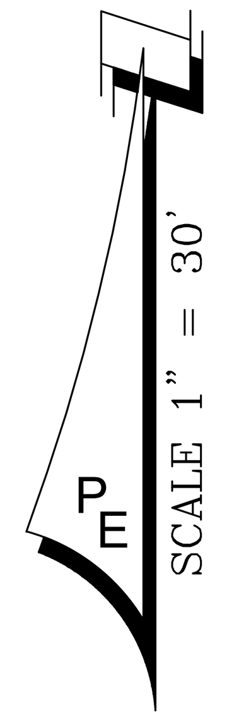
☑ APPROVED ☐ APPROVED AS NOTED

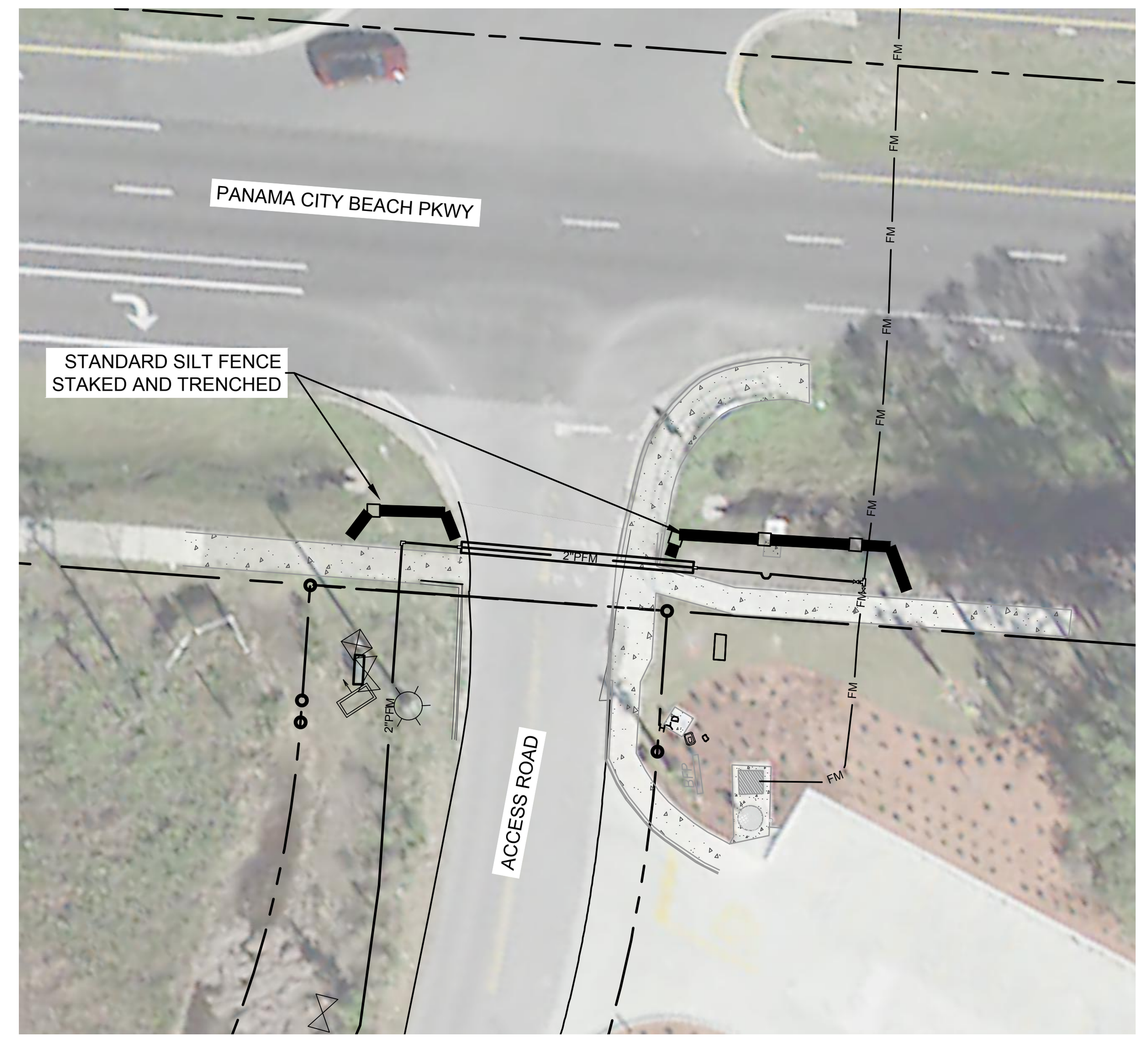
☐ REJECTED ☐ REVISE & RESUBMIT

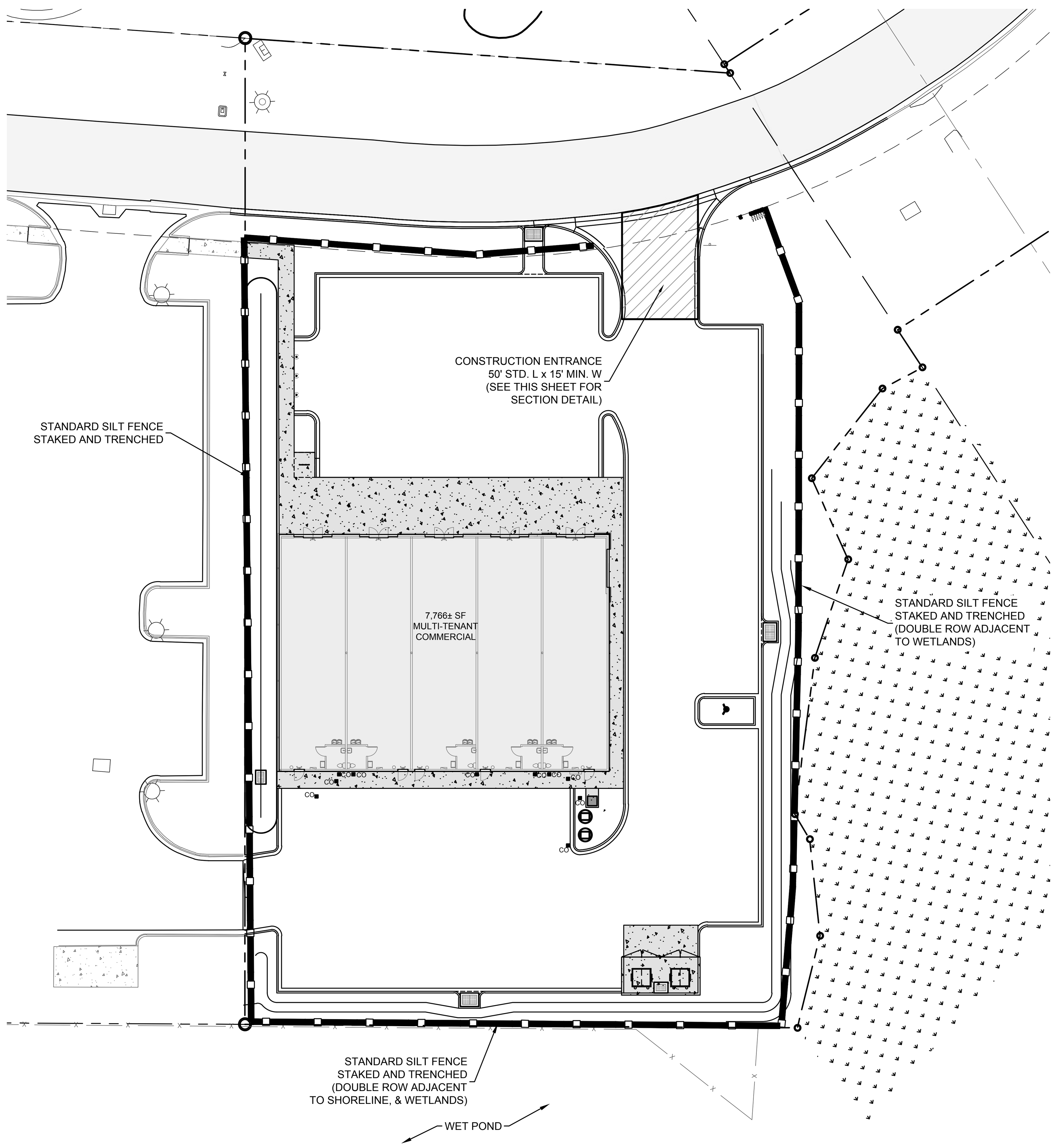
PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH

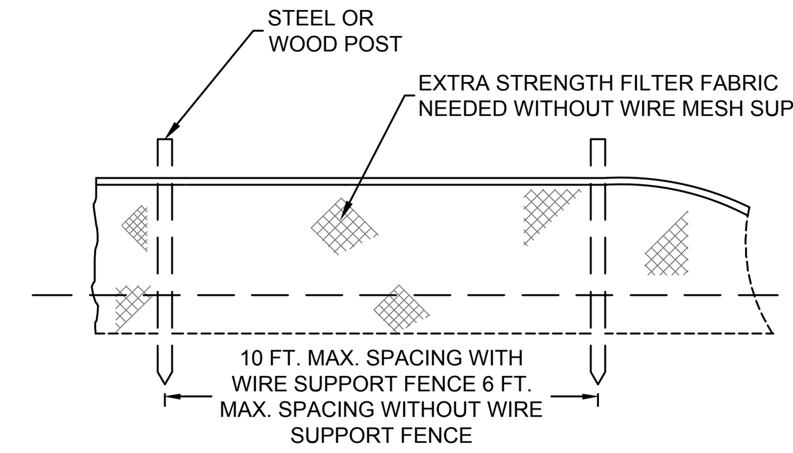
Lillian Mulligan

BY: ____ DATE: 10/8/24



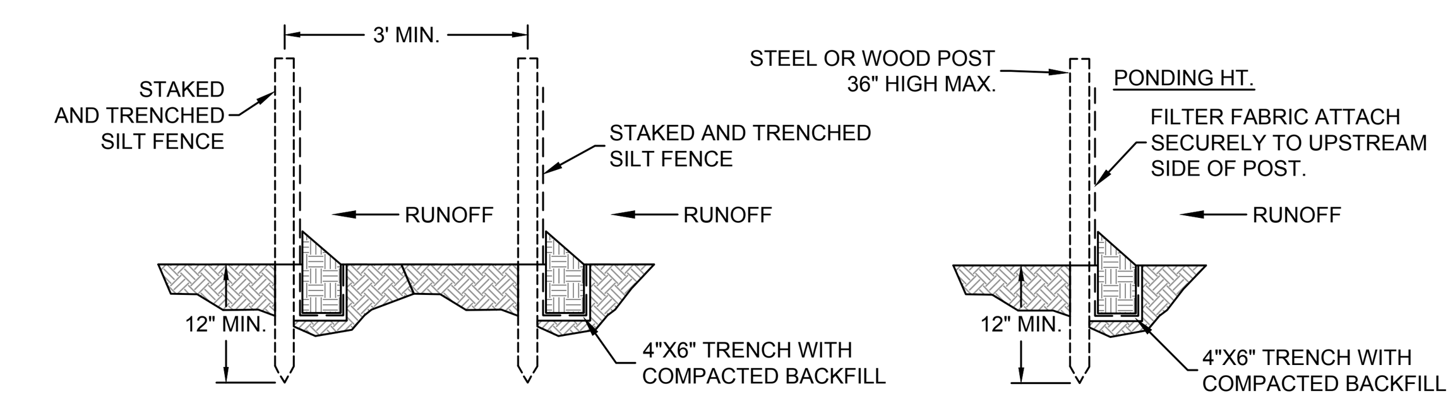






ELEVATION
NOT TO SCALE

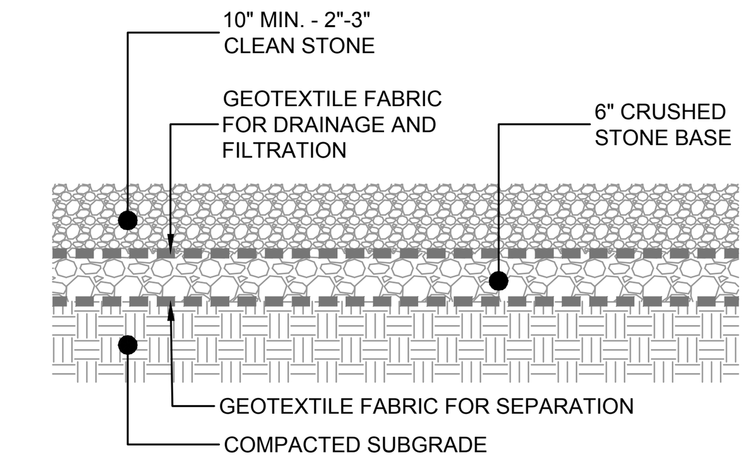
NOTE:
1. INSPECT AND REPAIR FENCE 24 HRS AFTER EACH STORM EVENT. REMOVE SEDIMENTS NO LATER THAN WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD THE HEIGHT OF THE BARRIER.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.



DOUBLE ROW STAKED SILT FENCE DETAIL
NOT TO SCALE (REQUIRED AT ALL SHORELINE, WETLAND, AND WETLAND BUFFER AREAS)

SINGLE ROW STAKED SILT FENCE DETAIL
NOT TO SCALE

STANDARD SILT FENCE DETAIL
NOT TO SCALE



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

ENVIRONMENTAL SEQUENCE

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION 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 DENUDED 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.

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 TRAP 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 I." 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.

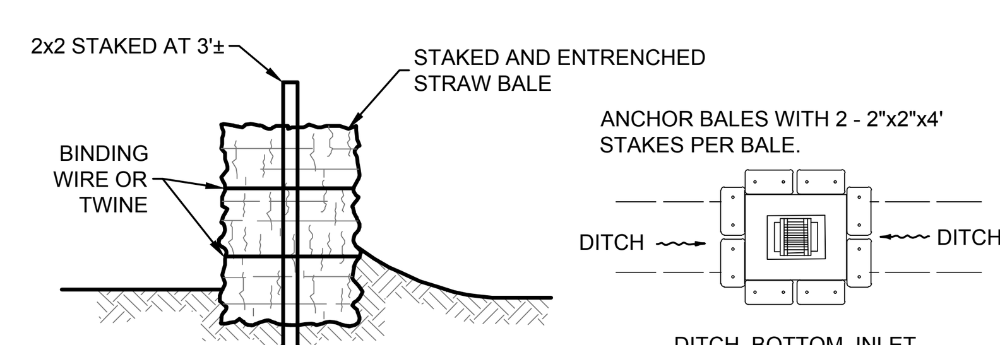
C) VACUUM WELL(S) CONSISTING OF ONE OR MORE STAGES INSTALLED NEAR AN EXCAVATION IN LINES OR RINGS. THE VACUUM WELL(S) SHALL BE CONSTRUCTED WITH SIX INCH OR SMALLER PIPE WITH A SLOTTED SCREEN AREA NEAR THE BOTTOM OF THE WELL, AND CONNECTED TO A COMMON HEADER PUMPED BY ONE OR MORE PUMPS.

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

TABLE 4-1
GROUNDWATER DISCHARGE - SCREENING VALUES

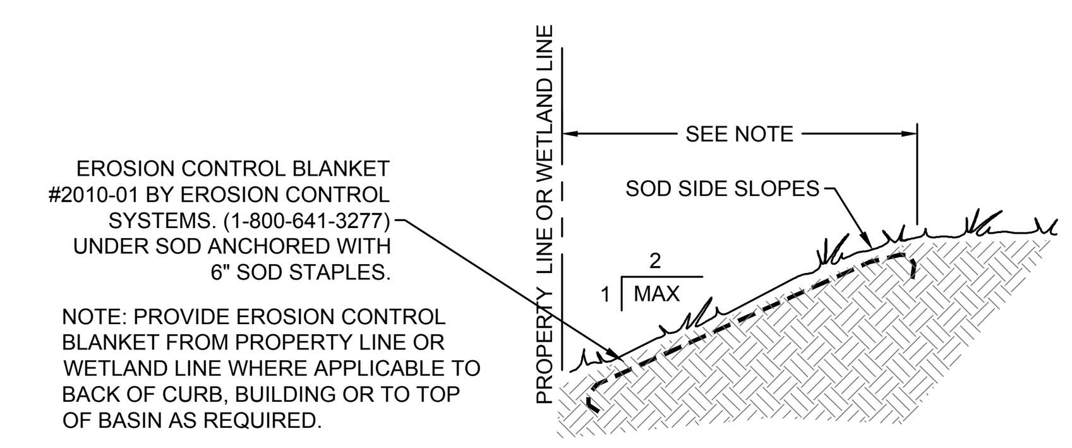
PARAMETER	SCREENING VALUES FOR DISCHARGE INTO FRESH WATER
TOTAL ORGANIC CARBON (TOC)	10.0 mg/L
PH, STANDARD UNITS	6.0 - 8.5
TOTAL RECOVERABLE MERCURY	0.012 ug/L
TOTAL RECOVERABLE CADMIUM	9.3 ug/L
TOTAL RECOVERABLE COPPER	2.9 ug/L
TOTAL RECOVERABLE LEAD	0.03 ug/L
TOTAL RECOVERABLE ZINC	86.0 ug/L
TOTAL RECOVERABLE CHROMIUM (HEX.)	11.0 ug/L
BENZENE	1.0 ug/L
NAPHTHALENE	100.0 ug/L

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



STRAW BALE BARRIER INSTALLATION DETAIL
NOT TO SCALE

NOTE:
ALL INLETS & STORM STRUCTURES TO HAVE HAY BALES ALL AROUND (SEE DETAILS THIS SHEET).



SLOPE STABILIZATION DETAIL
NOT TO SCALE

SLOPE STABILIZATION NOTES

⚠1 ALL DISTURBED AREA GRASSED. HYDROSEED @ 4:1 & FLATTER, SOD @ STEEPER THAN 4:1. ALL SOD TO BE STAGGERED & PINNED.
2:1 TO 1:1 - EROSION CONTROL BLANKET AND SOD.
1:1 OR GREATER - RETAINING WALL OR ARMOR FORM.

NOTE:
AREAS NOT SODDED TO BE STABILIZED WITH HYDROSEEDING.
SEE SLOPE STABILIZATION DETAIL THIS SHEET

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
2. CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL PERMANENT IMPROVEMENTS ARE COMPLETE.
3. THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORMWATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.
4. ALL CATCH BASINS, INLETS AND ACCESSES TO UNDERGROUND STORMWATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.
5. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORMWATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).

EROSION CONTROL NOTES:
ALL INLETS SHALL HAVE HAY BALES OR SILT FENCE AROUND THEIR PERIMITER.

SILT FENCE IS REQUIRED ALONG THE BANKS OF LAKE MERIAL AT THE 30' SHORELINE SETBACK LINE, ALONG SWALES AND ALONG WETLAND AREAS WHERE CONSTRUCTION OR RUNOFF DUE TO CONSTRUCTION IS TAKING PLACE.

SILT FENCE AND HAY BALES ARE REQUIRED IN ALL AREAS AS DIRECTED BY THE ENGINEER.

PROTECTED TREES NOTE:
NO PROTECTED TREES WILL BE IMPACTED UNLESS PERMITTED INDEPENDENTLY.

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NOT			RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:	AS NOTED
DESIGNED BY:	JDC
DRAWN BY:	REF
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ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
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EROSION CONTROL PLAN
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
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J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046

DPR CERTIFICATION #EB-7806

JAMES D. CROOK
LICENSE
NO. 66556
6-Sep-24
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET NUMBER
5

PROJECT NUMBER
136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES EROSION CONTROL PLAN Sheet 5

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PCB GENERAL NOTES:

EXISTING SITE RELATED ITEMS:

1. THE LOCATION OF UTILITIES SHOWN ON THE PLANS MAY NOT BE ACCURATE AND ALL UTILITIES MAY NOT BE SHOWN. THE LOCATIONS OF UNDERGROUND UTILITIES HAVE NOT BEEN PHYSICALLY LOCATED BY THEIR OWNER OR PANHANDLE ENGINEERING, INC.
2. THE EXACT LOCATION AND ELEVATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING SHALL BE PHYSICALLY VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE CONSTRUCTION BEGINS. THESE DRAWINGS DO NOT INTEND TO SHOW IN COMPLETE DETAIL ALL EXISTING STRUCTURES, UTILITIES, OR PIPING. THE CONTRACTOR SHALL EXAMINE ALL AVAILABLE RECORDS AND MAKE ALL EXPLORATIONS AND EXCAVATIONS AS REQUIRED TO DETERMINE THE LOCATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING, WHENEVER NECESSARY. THE OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF LINES TO AVOID CONFLICT WITH EXISTING STRUCTURES, UTILITIES, OR PIPING.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING. THE SURVEY MAY NOT SHOW ALL OBJECTS WITHIN THE PATH OF THE NEW UTILITIES. IF OBJECTS ARE NOT SHOWN ON THE SURVEY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SEVEN DAYS PRIOR TO THE BID DATE. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ALL OBJECTS NOT SHOWN ON THE SURVEY.
4. STATIONING ON THE PLANS RELATES TO THE "2D PLAN VIEW" CENTERLINE OF ALL ROADWAYS/ RIGHT-OF-WAYS AND SHALL BE USED FOR LOCATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE STATIONING WHEN CALCULATING PIPE OR ROADWAY LENGTHS. ACTUAL LENGTH MAY DIFFER DUE TO VERTICAL ELEVATION CHANGES AND HORIZONTAL OFFSETS.
5. THE CONTRACTOR SHALL PHYSICALLY EXAMINE THE ENTIRE PROJECT SITE AND INFORM HIMSELF FULLY IN REGARD TO ALL CONDITIONS PERTAINING TO THE PLACE WHERE THE WORK IS TO BE PERFORMED FOR PURPOSE OF DETERMINING THE COST TO PERFORM THE WORK. THE CONTRACTOR SHOULD PAY SPECIAL ATTENTION TO AREAS INVOLVING CLEARING AND GRUBBING, EXISTING FACILITIES REMOVAL AND REPLACEMENT, SUPPORT ON RELOCATION, AND WORK INVOLVED IN WETLAND AREAS.
6. THE CONTRACTOR SHALL CHECK PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S ENGINEER OF ANY CONFLICT BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
7. THE CONTRACTOR SHALL VIDEO THE ENTIRE ROUTE PRIOR TO CONSTRUCTION AND PROVIDE A COPY TO THE ENGINEER PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF WORK CALLED FOR IN THESE CONTRACT DOCUMENTS.
10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

CONSTRUCTION REGULATIONS AND PERMITS RELATED ITEMS:

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LEARN, KNOW, AND COMPLY WITH THE REGULATIONS, ORDINANCES, PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND COMPLY WITH THE CONDITIONS OF THE VARIOUS PERMITS OF THE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL SCHEDULE THE REQUIRED INSPECTIONS AND APPROVALS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE NECESSARY AGENCIES OF CONSTRUCTION COMMENCEMENT.
12. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST ISSUE AND SHALL BE CONSIDERED A PART OF THESE DOCUMENTS AS THOUGH INCLUDED.
13. CONTRACTOR SHALL HAVE COPIES OF ALL PERMITS IN POSSESSION AT ALL TIMES DURING CONSTRUCTION. ANY INDIVIDUAL CREW OR INDIVIDUAL PERSON WORKING ON THE INSTALLATION OF ANY PART OF THIS PROJECT SHALL HAVE A SET OF PLANS AND SPECIFICATIONS WITH THEM AT ALL TIMES.
14. THE CONTRACTOR SHALL FOLLOW ALL CONDITIONS OF THE PERMIT REQUIREMENTS. SEE SPECIFICATIONS FOR COPY OF PERMITS.
15. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR CONSTRUCTION.
16. CONTRACTOR SHALL FOLLOW ALL OSHA REQUIREMENTS FOR CONSTRUCTION.

CONSTRUCTION & SITE RESTORATION RELATED ITEMS:

17. WHERE IT BECOMES NECESSARY TO TEMPORARILY REMOVE, REPOSITION, OR SUPPORT EXISTING FACILITIES, UTILITY POLES, ETC. THIS WORK SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH REQUIREMENTS OF THE OWNER OF THE EXISTING FACILITY, UTILITY POLE, ETC. THE CONTRACTOR SHALL GIVE PROPER NOTICE TO THE UTILITIES.
18. THE CONTRACTOR SHALL REMOVE AND REPLACE, TO THEIR ORIGINAL NATURE, ALL DISTURBED MATERIALS OR OBJECTS WITHIN THE PATH OF THE NEW UTILITIES AS NECESSARY. ALL REPLACED MATERIALS SHALL BE EQUAL OR BETTER AND SHALL BE APPROVED BY THE ENGINEER. THIS INCLUDES ALL LANDSCAPING WITHIN THE RIGHT OF WAY IN THE PATH OF THE NEW UTILITIES.
19. ALL DISTURBED OBJECTS SUCH AS DRIVEWAYS, CULVERTS, RETAINING WALLS, FENCING, SIGNS, MAILBOXES, LANDSCAPING, ETC. SHALL BE REINSTALLED TO EXISTING OR ACCEPTABLE CONDITION BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
20. ALL PAVEMENT SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH ENGINEERING PLANS AND SPECIFICATIONS. FOR THE REPLACEMENT OF ASPHALT ROADS AND PAVEMENT DRIVES, THE CONTRACTOR SHALL REMOVE THE EXISTING ASPHALT AND REPLACE AS SHOWN IN DETAILS.
21. CONTRACTOR SHALL TRIM, TACK AND MATCH EXISTING PAVEMENT AT LOCATIONS WHERE PROPOSED PAVEMENT ABUTS.
22. ALL CONCRETE DRIVEWAYS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH ENGINEERING PLANS AND SPECIFICATIONS. FOR REPLACEMENT OF CONCRETE CROSSINGS, THE CONTRACTOR SHALL SAW CUT BACK TO THE CLOSEST JOINT AND REPLACE AS SHOWN IN DETAILS.
23. ALL DISTURBED DRIVES SHALL BE CONNECTED TO THE EXISTING PAVEMENT IN A CONDITION EQUAL TO OR BETTER THAN ITS PREVIOUS CONDITION USING THE SAME MATERIALS THAT WERE REMOVED.
24. THE CONTRACTOR SHALL MAINTAIN A REASONABLE ACCESS TO ALL FACILITIES DURING CONSTRUCTION.
25. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS NECESSARY TO AVOID TRESPASSING AND PROPERTY DAMAGE.
26. 26. ALL SPOIL MATERIAL FROM EXCAVATION SHALL BE PLACED ON THE UPLAND SIDE OF ANY SLOPED CONSTRUCTION AREA.
27. 27. ALL EXISTING CONCRETE, ASPHALT, TREES, STUMPS, AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FLORIDA LAWS.
28. A ONE FOOT STRIP OF SOD SHALL BE INSTALLED ON THE EDGE OF ALL ASPHALT OVERLAY AREAS AND AROUND ALL ABOVE GROUND CONCRETE STRUCTURES INCLUDING BUT NOT LIMITED TO VALVE PADS, BLOW OFF VAULTS, AND AIR RELEASE VAULTS.
29. ALL CONSTRUCTION STAKING SHALL BE DONE AT CONTRACTORS EXPENSE
CONTRACTOR IS TO FURNISH "AS BUILT PLANS" INDICATING LOCATIONS OF ALL MANHOLES, FITTINGS, VALVES, AND DEAD END RUNS WITH THREE (3) PHYSICAL FEATURES (LOT CORNERS, TREES, ETC.). THIS IS MANDATORY, NO EXCEPTIONS.

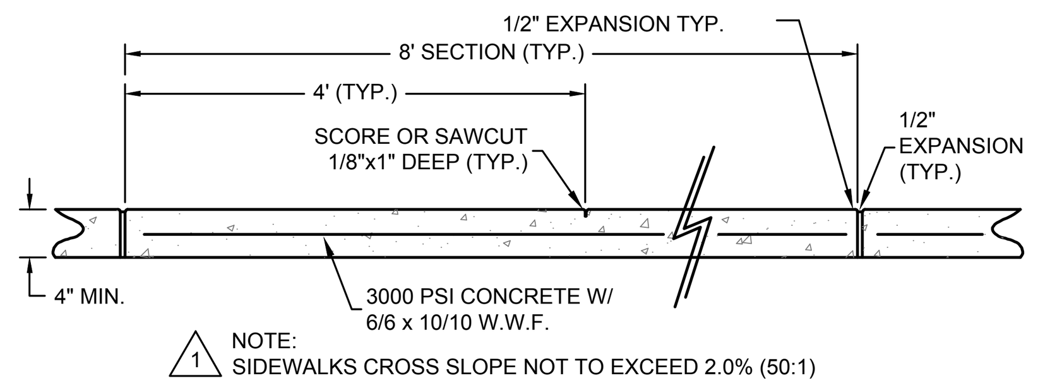
MAINTENANCE OF TRAFFIC AND ROADWAY RELATED ITEMS:

30. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN ADEQUATE TRAFFIC CONTROL AND TO PROVIDE DETOURS AROUND CONSTRUCTION ACTIVITIES. NO STREET SHALL REMAIN CLOSED TO TRAFFIC OVERNIGHT.
31. THE CONTRACTOR SHALL INSTALL ALL TRAFFIC CONTROL DEVICES REQUIRED FOR THE PROJECT IN ACCORDANCE WITH THE LATEST EDITION OF THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL.
32. CONTRACTOR SHALL MAINTAIN A REASONABLE ACCESS TO ALL FACILITIES DURING CONSTRUCTION. ALL DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION TO ALLOW ACCESS TO FACILITIES AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.

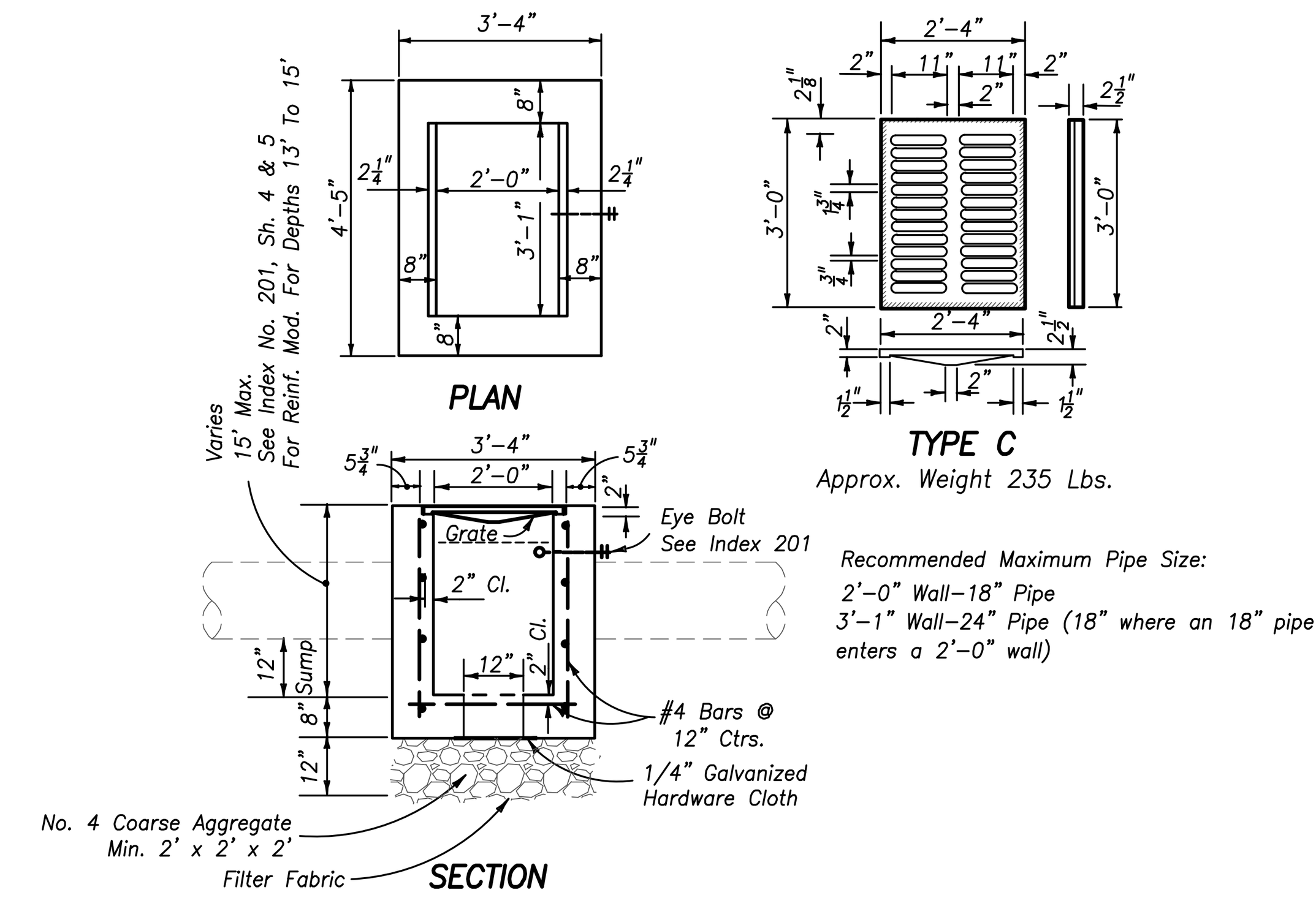
EROSION CONTROL AND DEWATERING ITEMS:

33. PRIOR TO STARTING ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
34. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL PER THE GUIDELINES OF THE FLORIDA DEVELOPMENT MANUAL. ALL REQUIRED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SHALL BE INCLUDED IN COST OF OTHER ITEMS OF WORK.
35. CONTRACTOR SHALL INSTALL ANY REQUIRED SLOPE STABILIZATION, SILT FENCING, BALED HAY BARRIERS, OR TURBIDITY CURTAINS PER CURRENT FDOT DESIGN STANDARDS (FDOT INDEX 100, 101, 102, 103, & 104). LOCATION SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED IN THE FIELD.
36. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL CONSTRUCTION AND PREVENT SEDIMENTS FROM DISCHARGING TO ADJACENT PROPERTIES, WETLANDS, STORM DRAINAGE SYSTEMS, AND/OR OFF-SITE AREAS, WHETHER SUCH EROSION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT. AT NO ADDITIONAL COST TO OWNER, ADDITIONAL EROSION CONTROLS SHALL BE UTILIZED AS NECESSARY AND AS DIRECTED BY THE ENGINEER TO LIMIT SEDIMENTS FROM DISCHARGING TO ADJACENT PROPERTIES, WETLAND OR STORM DRAINAGE SYSTEMS. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK.
37. ALL CONSTRUCTION AREAS SHALL BE STABILIZED AT THE CLOSE OF EACH CONSTRUCTION DAY. EROSION CONTROLS SHALL BE CHECKED AT THIS TIME AND MAINTAINED OR REINFORCED IF NECESSARY.
38. EROSION CONTROLS SHALL REMAIN IN PLACE AND BE MAINTAINED FOR THE DURATION OF THE PROJECT TO LIMIT THE MOVEMENT OF SILTATION AND SEDIMENTS FROM ENTERING EXISTING DRAINAGE SYSTEMS OR FROM LEAVING THE CONSTRUCTION SITE. ANY ACCUMULATED SEDIMENTS ARE TO BE REMOVED FROM THE EROSION CONTROLS AND DISPOSED TO PROPERLY. ADDITIONALLY, ALL EROSION CONTROLS ARE TO BE INSPECTED AFTER A STORM EVENT AND THE CONTROLS REPLACED OR ARMORED AS NECESSARY AND ACCUMULATED SEDIMENTS REMOVED.
39. TEMPORARY STOCKPILING OF MATERIALS RELATED TO THE CONSTRUCTION ACTIVITIES ARE TO BE PROPERLY STABILIZED, PROTECTED AND DEMARCATED TO LIMIT MATERIAL MOVEMENT AND EROSION FROM DEPOSITING INTO ADJACENT PROPERTIES, WETLAND OR STORM DRAINAGE SYSTEMS.
40. THE INSTALLATION OF ALL CONCRETE STRUCTURES, GRAVITY SEWER, FORCE MAINS, WATER MAINS, ETC. SHALL BE INSTALLED IN DRY CONDITIONS. DEWATERING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER. COMPREHENSIVE PLANS FOR DEWATERING OPERATIONS, IF USED, SHALL BE SUBMITTED BY THE CONTRACTOR TO ENGINEER PRIOR TO INSTALLATION.
41. THE CONTRACTOR SHALL UTILIZE APPROPRIATE DEWATERING SYSTEMS AND TECHNIQUES TO MAINTAIN THE EXCAVATED AREA SUFFICIENTLY DRY FROM GROUNDWATER AND/OR SURFACE RUNOFF SO AS NOT TO ADVERSELY AFFECT CONSTRUCTION PROCEDURES OR CAUSE EXCESSIVE DISTURBANCE OF UNDERLYING NATURAL GROUND.
42. WATER FROM TRENCHES AND EXCAVATIONS SHALL NOT BE DISCHARGED INTO ANY SANITARY SEWER SYSTEM.
43. WATER FROM TRENCHES AND EXCAVATIONS SHALL NOT BE DISCHARGED DIRECTLY TO STORM DRAIN SYSTEMS. PROPER TREATMENT TO A SEDIMENTATION AREA IS TO TAKE PLACE PRIOR TO DISCHARGE TO ANY DRAINAGE SYSTEMS.
44. WATER FROM THE TRENCHES AND EXCAVATIONS SHALL BE DISPOSED OF IN SUCH A MANNER AS TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR THE ENVIRONMENT, DAMAGE OR PUBLIC OR PRIVATE PROPERTY, OR DAMAGE TO PUBLIC OR PRIVATE PROPERTY, OR DAMAGE TO THE WORK COMPLETED OR IN PROGRESS. SILTATION BARRIERS SHALL BE UTILIZED AS NECESSARY.
45. THE CONTRACTOR SHALL REPAIR ANY DAMAGE RESULTING FROM THE FAILURE OF THE DEWATERING OPERATIONS OR FROM FAILURE TO MAINTAIN ALL THE AREAS OF WORK IN SUITABLE DRY CONDITION.
46. PRECAUTIONS SHALL BE TAKEN TO PROTECT NEW WORK FROM FLOODING DURING STORMS OR FROM OTHER CAUSES. GRADING IN THE AREAS SURROUNDING ALL EXCAVATIONS SHALL BE PROPERLY SLOPED TO PREVENT WATER FROM RUNNING INTO THE EXCAVATED AREA OR TO ADJACENT PROPERTIES. WHERE REQUIRED, TEMPORARY DITCHES SHALL BE PROVIDED FOR DRAINAGE. UPON COMPLETION OF THE WORK AND WHEN DIRECTED, ALL AREAS SHALL BE RESTORED IN A SATISFACTORY MANNER AND AS DIRECTED.

PLAN REVIEW
☑ SITE ☑ STORM WATER
☑ APPROVED ☐ APPROVED AS NOTED
☐ REJECTED ☐ REVISE & RESUBMIT
PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH
Lillian Mulligan
BY: DATE: 10/8/24



CONCRETE SIDEWALK DETAIL
NOT TO SCALE



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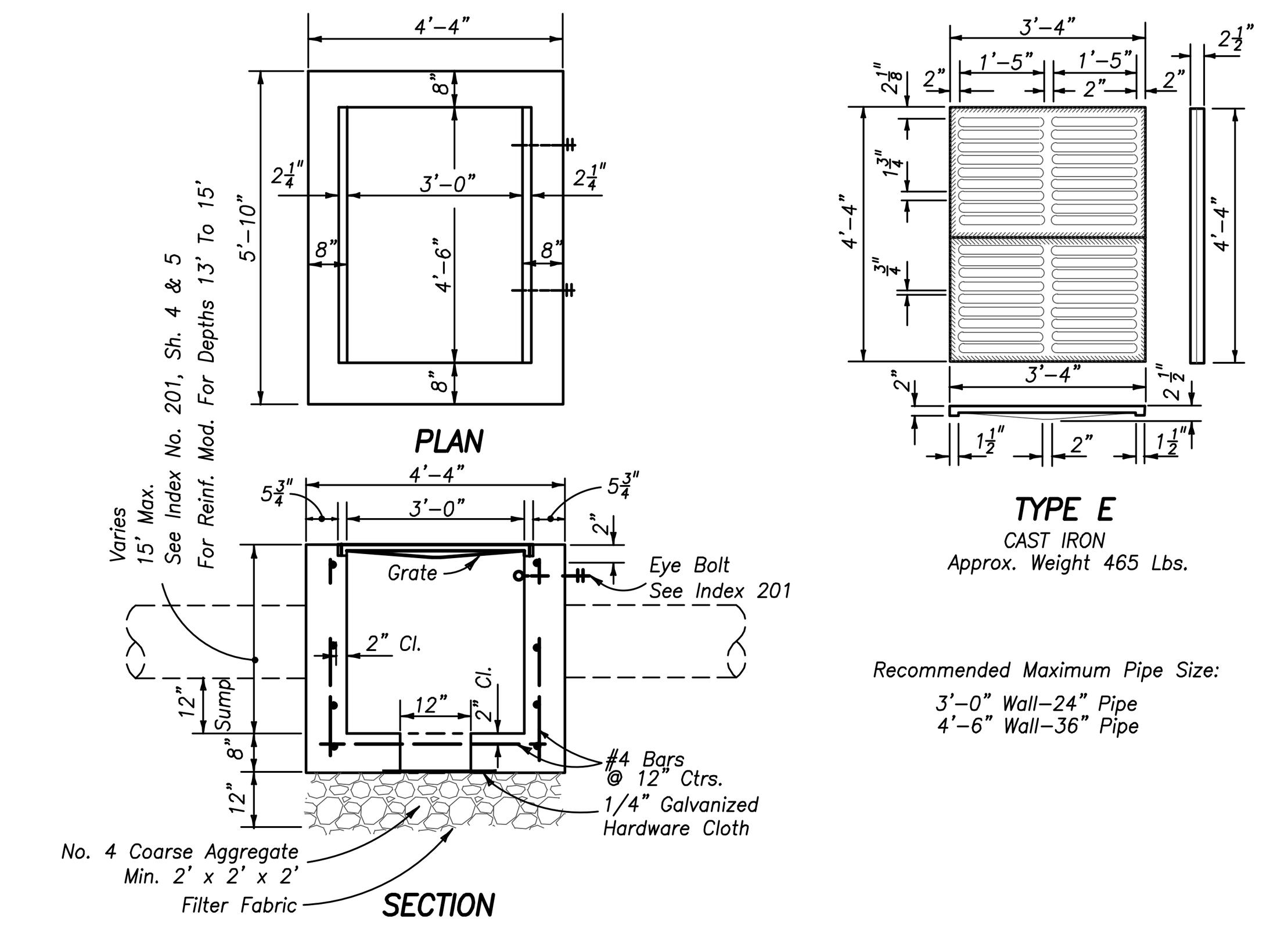

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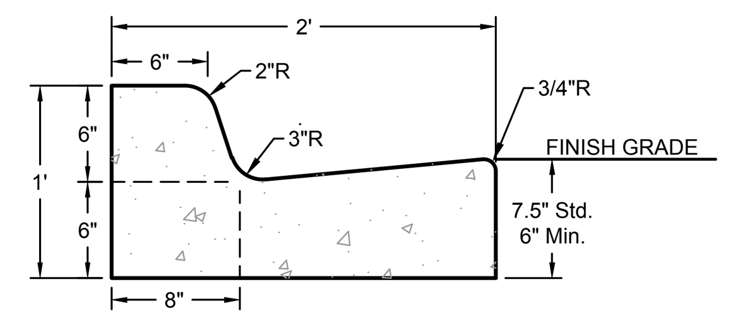

TYPE "F" CURB & GUTTER
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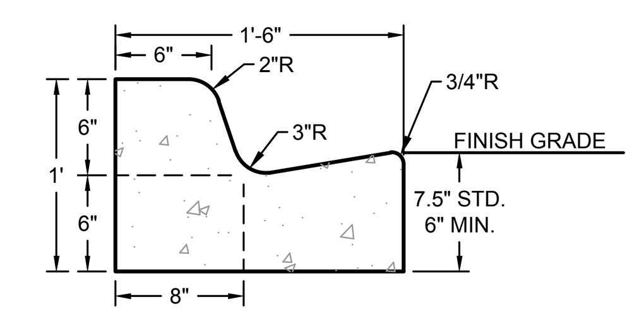

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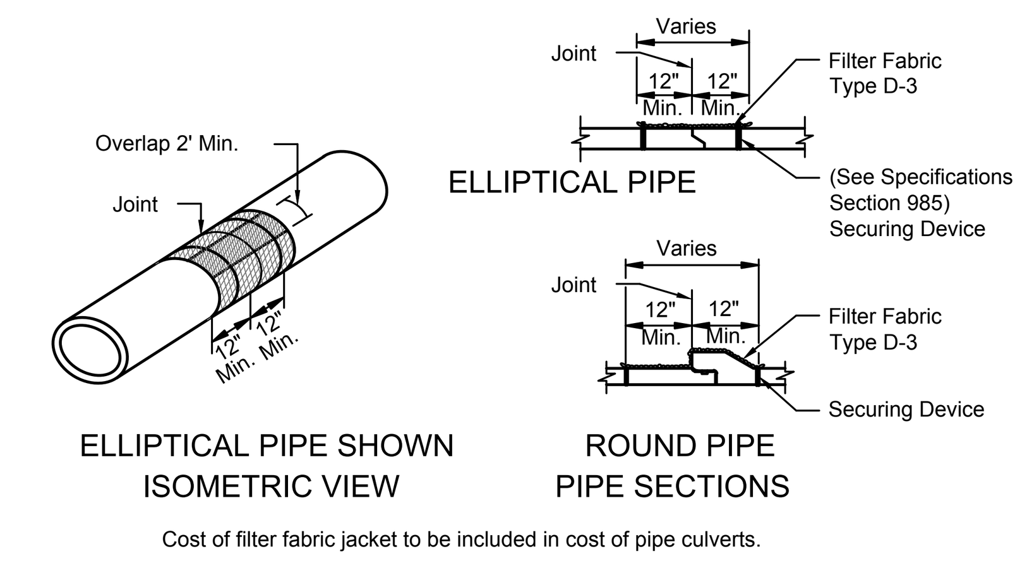
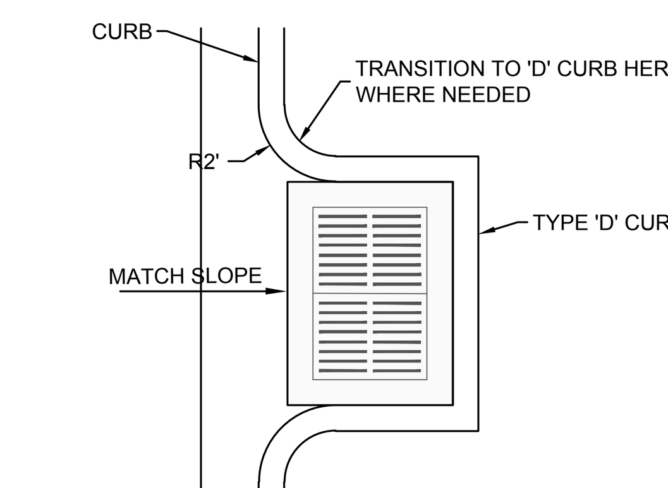
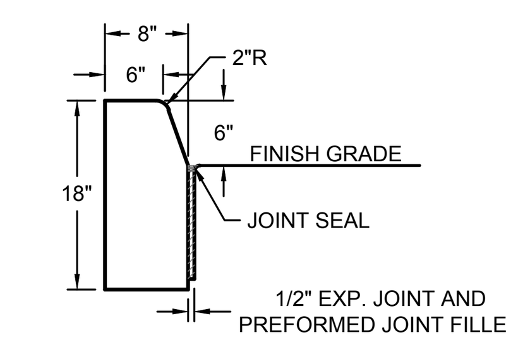


FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN
FILTER FABRIC JACKET





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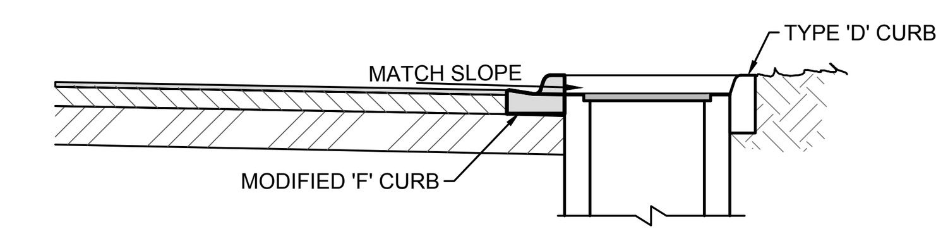

CURB INLET DETAIL
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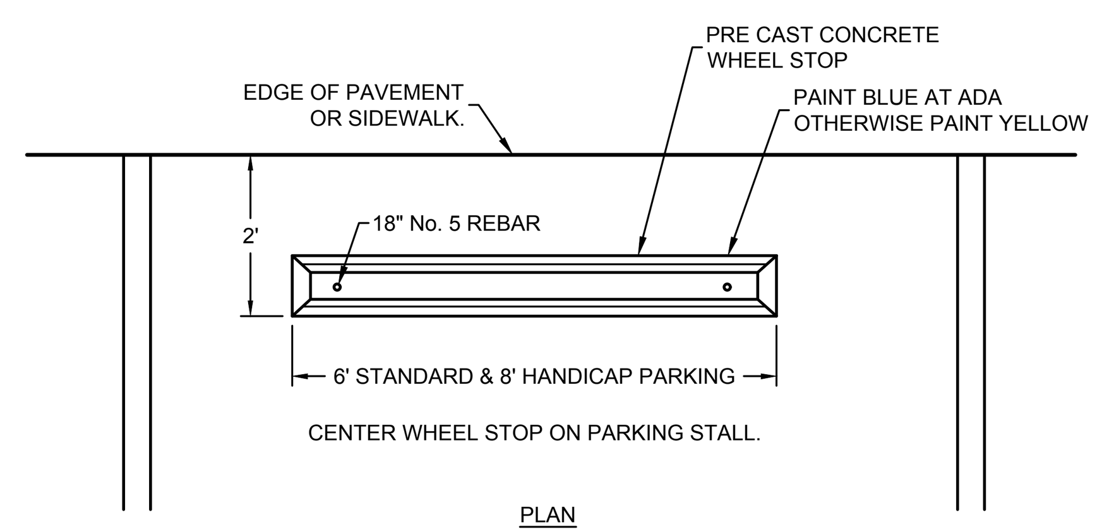

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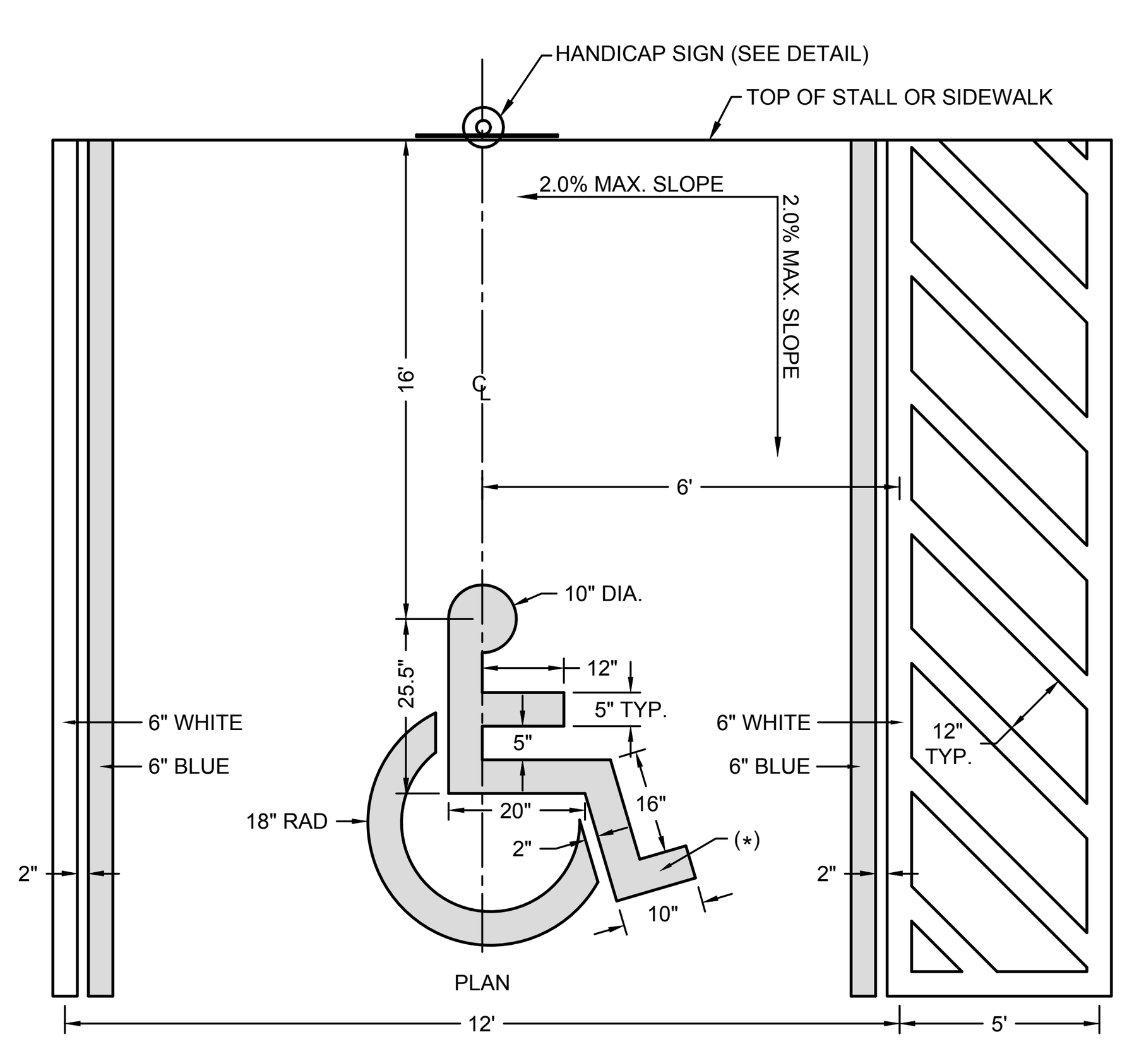
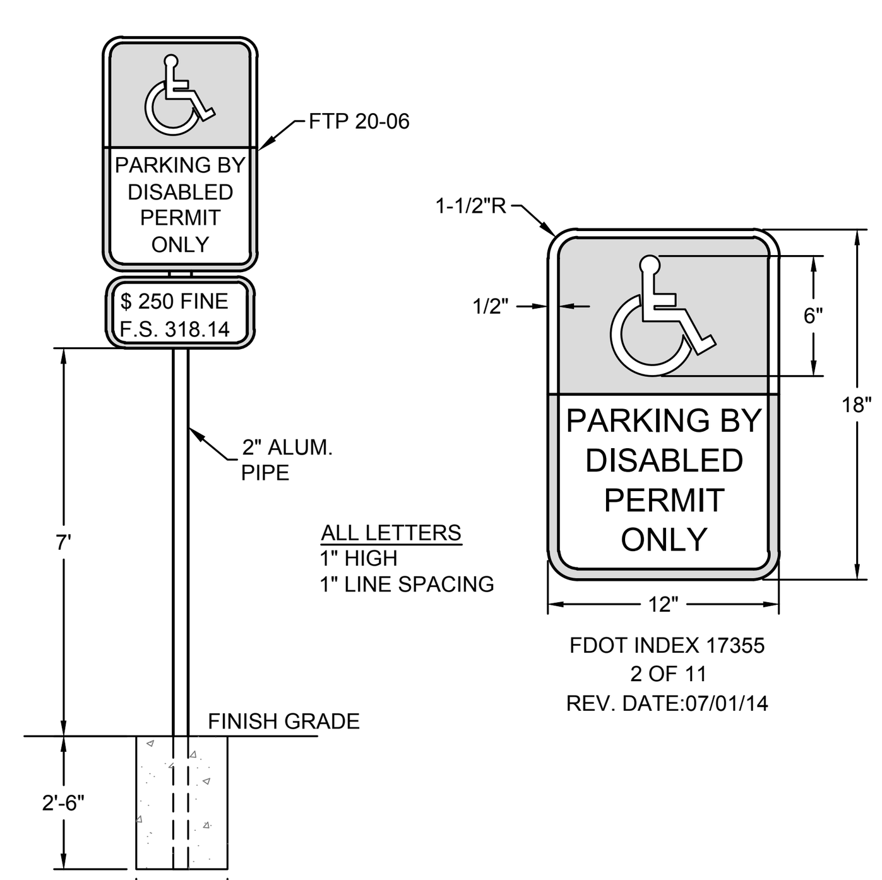


(+) INTERNATIONAL SYMBOL OF ACCESSIBILITY DISPLAY CONDITION: THE SYMBOL CONTRAST SHALL BE LIGHT ON DARK, OR DARK ON LIGHT.

HANDICAP STRIPING DETAIL
NOT TO SCALE



HANDICAP SIGN DETAIL
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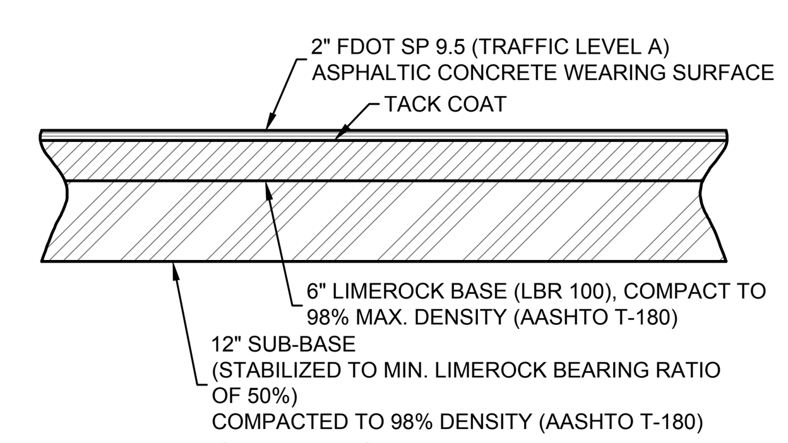

ASPHALTIC PAVEMENT DETAIL
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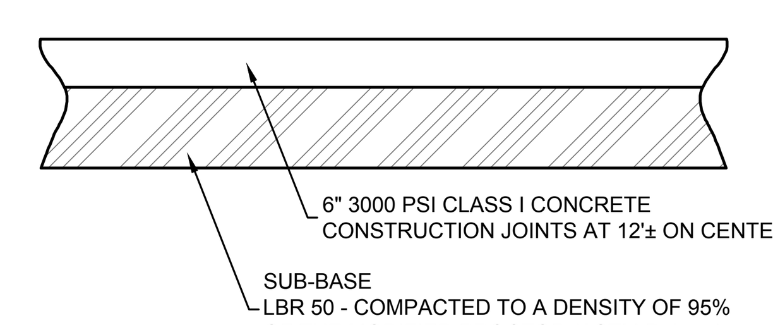

CONCRETE DUMPSTER PAD DETAIL
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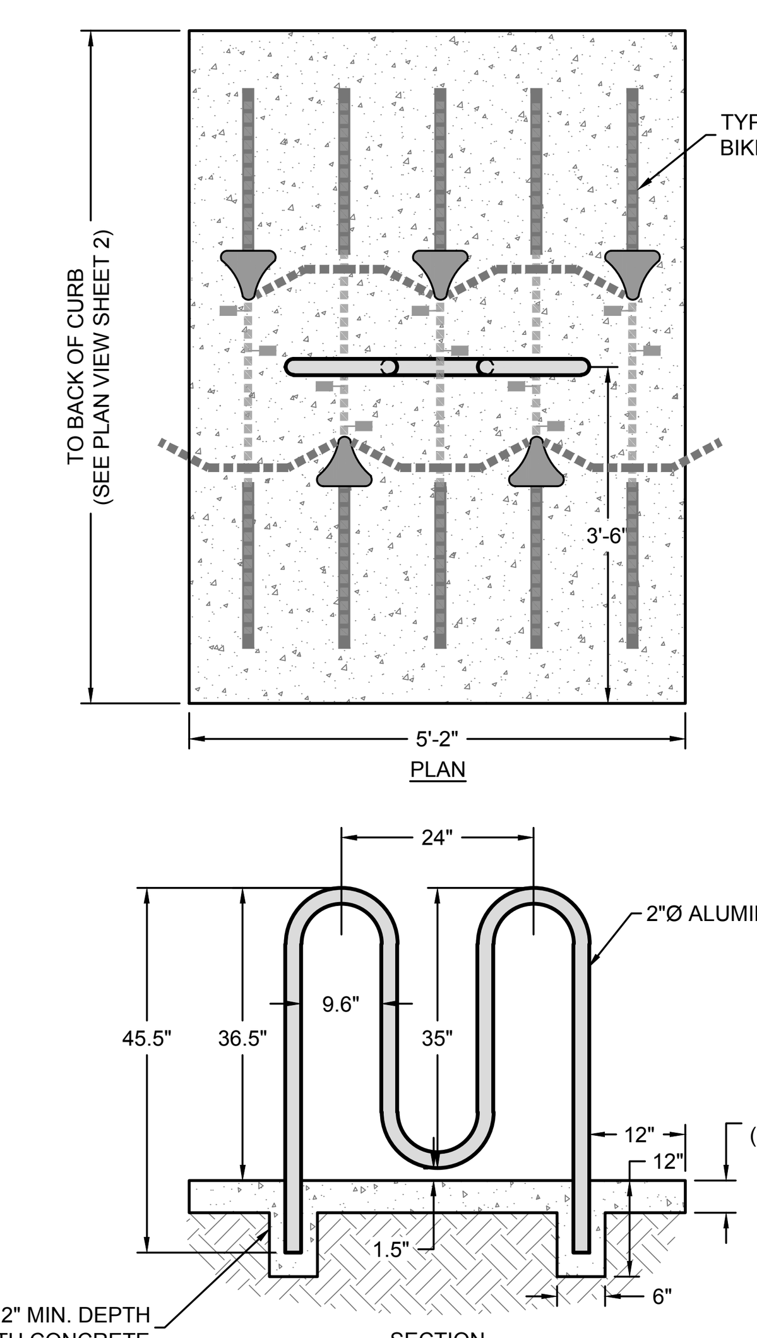

BICYCLE RACK DETAIL
NOT TO SCALE

REV	DATE	BY	REVISIONS
NOT	RELEASED FOR CONSTRUCTION	BY:	DATE:

SCALE:	AS NOTED
DESIGNED BY:	JDC
DRAWN BY:	REF
REVIEWED BY:	JDC
ISSUE DATE:	SEPTEMBER 2024
ACAD FILE NAME:	136802-C-E1.dwg

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

CONSTRUCTION DETAILS
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 6
PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES CONSTRUCTION DETAILS Sheet 6

Date: 9/6/2024 10:52 AM File: P:\136802-C Rest Flex 2024\1 CIVIL3D\Fdata\Drawings\136802-C-E1.dwg

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

PCB UTILITY CONSTRUCTION NOTES:

WATER MAIN AND REUSE INSTALLATION RELATED ITEMS:

1. ALL WATER MAINS SHALL BE INSTALLED ACCORDING TO ENGINEERING PLANS AND SPECIFICATIONS
2. ALL VALVES AND MATERIALS SHALL COMPLY WITH AWWA (AMERICAN WATER WORKS ASSOCIATION) STANDARDS, LATEST EDITION.
3. ALL PVC WATER MAINS SIZES 3" AND LESS SHALL BE ASTM D2241 SDR 21. ALL PVC WATER MAINS SIZES 4" TO 8" SHALL BE AWWA C900 DR 18 (PC 235). ALL PVC WATER MAINS SIZES 8" TO 12" SHALL BE AWWA C900 DR25 (PC 165). **DR18 IS REQUIRED ON ALL FIRELINES DOWNSTREAM OF CHECK VALVE**
4. ALL HDPE PIPE LESS THAN 4" SHALL BE AWWA C901 SDR9 IPS. ALL HDPE PIPE LARGER THAN 4" SHALL BE AWWA C906 SDR11 IPS.
5. ALL WATER SERVICE SIZES 2" AND LESS SHALL BE PE FLEXIBLE TUBING PE4710 SDR 9 CTS.
6. ALL DUCTILE IRON WATER MAINS SHALL BE SIZES 4" TO 12" SHALL BE AWWA C151 CLASS 350 WITH CEMENT LINING.
7. ALL POTABLE WATER MAIN SHALL BE COLOR BLUE. ALL RECLAIMED WATER MAINS SHALL BE COLOR PURPLE.
8. ALL MAIN LINE VALVES 12" AND SMALLER SHALL BE EPOXY COATED RESILIENT SEATED GATE VALVES.
9. ALL WATER MAINS SHALL HAVE A MINIMUM OF 36" COVER. IN DITCH BOTTOMS, WATER MAINS AND SERVICE LINES SHALL BE A MINIMUM OF 5.0' BELOW THE BOTTOM.
10. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 150 PSIG (MINIMUM) FOR TWO HOURS. CONTRACTOR SHALL NOTIFY CITY'S ENGINEER WITHIN 48 HOURS OF PRESSURE TESTING. NO EXCEPTIONS.
11. ALL MAINS AND SERVICE LINES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. CITY'S ENGINEER SHALL BE PRESENT DURING BACTERIOLOGICAL SAMPLING AND PRESSURE TESTING. ALL WATER MAINS SHALL BE FLUSHED @ 3 FT PER SECOND AND 10 TIMES THE PIPE VOLUME SHALL BE FLUSHED.
12. ALL VALVE BOXES SHALL BE INSTALLED PER DETAIL SHOWN AND SET FLUSH TO FINISH GRADE. PRE-CAST VALVE PADS SHALL NOT BE USED. ALL VALVE BOX RISERS SHALL BE DUCTILE IRON AND NOT PVC.
13. ALL PIPE AND BACKFILL SHALL BE INSTALLED IN DRY CONDITIONS. WELL POINTING OR CLASS I PIPE EMBEDMENT MATERIAL (#67 CRUSHED OR GRATED LIMEROCK OR APPROVED EQUAL) MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
14. WHERE THERE IS LESS THAN 12" CLEARANCE BETWEEN PVC/DI PIPE AND OTHER PIPE OR SPECIFIED AREAS, THE PIPE SHALL BE CONCRETE ENCASED WITH 6" THICKNESS AROUND THE PIPE AND 6" CLEARANCE EACH WAY IN THE AXIAL DIRECTION.
15. THE CONTRACTOR SHALL USE RESTRAINED JOINT PIPE FOR ALL BENDS, TEES, VALVES, AND TRANSITION FITTINGS.
16. ALL WATER MAIN SHALL BE INSTALLED WITH INSULATED 12 GA. TRACER WIRE AND LOCATOR TAPE SHALL ON TOP OF ALL PIPE, WHICH INCLUDES SERVICE CONNECTIONS. ALL LOCATING WIRE SHALL BE CONNECTED AND SHALL TERMINATE IN VALVE BOXES AND METER BOXES AS SHOWN IN THE DETAILS. LOCATOR TAPE SHALL BE MARKED "POTABLE WATER BELOW" AND INSTALLED 12" TO 18" ABOVE THE PIPE
17. THE CONTRACTOR SHALL PROVIDE ALL FITTINGS, SLEEVES AND TRANSITION ADAPTERS AS NECESSARY TO COMPLETE THIS PROJECT.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATER SERVICE.

SANITARY SEWER FORCE MAIN INSTALLATION RELATED ITEMS:

1. ALL SANITARY SEWER FORCE MAINS SHALL BE INSTALLED ACCORDING TO ENGINEERING PLANS AND SPECIFICATIONS
2. ALL VALVES AND MATERIALS SHALL COMPLY WITH AWWA (AMERICAN WATER WORKS ASSOCIATION) STANDARDS, LATEST EDITION.
3. ALL PVC PIPE LESS THAN 4" SHALL BE ASTM D2241 SDR-21 (200PSI). ALL PVC PIPE SIZES 4" TO 8" SHALL BE AWWA C900 DR 18 (PC 235). ALL PVC PIPE SIZES 8" TO 12" SHALL BE AWWA C900 DR25 (PC 165). ALL PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 DR25 (PC 160).
4. ALL HDPE PIPE LESS THAN 4" SHALL BE AWWA C901 SDR9 IPS. ALL HDPE PIPE LARGER THAN 4" SHALL BE AWWA C906 SDR11 IPS.
5. ALL SANITARY SEWER FORCE MAINS SHALL BE COLOR GREEN.
6. ALL FORCE MAIN VALVES (4"-12") SHALL BE EPOXY COATED RESILIENT SEATED GATE VALVES.
7. ALL SANITARY SEWER FORCE MAINS SHALL HAVE A MINIMUM OF 36" COVER. IN DITCH BOTTOMS, WATER MAINS AND SERVICE LINES SHALL BE A MINIMUM OF 5.0' BELOW THE BOTTOM.
8. ALL FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS. CONTRACTOR SHALL NOTIFY CITY'S ENGINEER WITHIN 48 HOURS OF PRESSURE TESTING. NO EXCEPTIONS.
9. ALL FORCE MAINS SHALL BE FLUSHED @ 3 FT PER SECOND AND 6 TIMES THE PIPE VOLUME (MINIMUM).
10. ALL VALVE BOXES SHALL BE INSTALLED PER DETAIL SHOWN AND SET FLUSH TO FINISH GRADE. PRE-CAST VALVE PADS SHALL NOT BE USED. ALL VALVE BOX RISERS SHALL BE DUCTILE IRON AND NOT PVC.
11. ALL PIPE AND BACKFILL SHALL BE INSTALLED IN DRY CONDITIONS. WELL POINTING OR CLASS I PIPE EMBEDMENT MATERIAL (#67 CRUSHED OR GRATED LIMEROCK OR APPROVED EQUAL) MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
12. THE CONTRACTOR SHALL USE RESTRAINED JOINT PIPE FOR ALL BENDS, TEES, VALVES, AND TRANSITION FITTINGS.
13. ALL FORCE MAIN SHALL BE INSTALLED WITH INSULATED 12 GA. TRACER WIRE AND LOCATOR TAPE SHALL ON TOP OF ALL PIPE. ALL LOCATING WIRE SHALL BE CONNECTED AND SHALL TERMINATE IN VALVE BOXES AS SHOWN IN THE DETAILS. LOCATOR TAPE SHALL BE MARKED "SANITARY SEWER BELOW" AND INSTALLED 12" TO 18" ABOVE THE PIPE
14. THE CONTRACTOR SHALL PROVIDE ALL FITTINGS, SLEEVES AND TRANSITION ADAPTERS AS NECESSARY TO COMPLETE THIS PROJECT.

GRAVITY SEWER INSTALLATION RELATED ITEMS:

1. ALL GRAVITY SEWER PIPE, MANHOLES, SERVICE LATERALS AND PIPE BEDDING SHALL BE INSTALLED ACCORDING TO ENGINEERING DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWER MAINS AND SEWER LATERALS TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
3. ALL GRAVITY SEWER PIPE SHALL BE PVC UNLESS SPECIFIED OTHERWISE. ALL PVC PIPE SIZES 4" TO 15" AND DEPTHS UP TO 10 FEET SHALL BE ASTM D3034 SDR-35, DEPTHS GREATER 10 FEET SHALL BE ASTM D3034 SDR-26. ALL PVC PIPE SIZES 18" TO 27" AND DEPTHS UP TO 10 FEET SHALL BE F679 SDR-35, DEPTHS GREATER 10 FEET SHALL BE F679 SDR-26.
4. ALL SEWER SERVICE LATERAL CONNECTIONS SHALL BE INSTALLED A MINIMUM OF 5 FEET FROM THE NEAREST MANHOLE AND HAVE A 2 FEET MINIMUM SEPARATION BETWEEN MANHOLE. ALL SEWER SERVICE LATERALS CONNECTIONS TO NEW PVC SEWER PIPE SHALL BE MADE WITH GASKETED PVC TEE OR WYE FITTINGS. SADDLE CONNECTIONS SHALL NOT BE ALLOWED.
5. ALL SEWER SERVICE LATERALS SHALL BE 4 INCHES UNLESS NOTED OTHER WISE. THE MINIMUM SEWER SERVICE LATERAL PIPE SLOPE SHALL BE; 4 INCHES=2%; 6 INCHES= 1%; 8 INCHES=0.5%.
6. LOCATOR TAPE SHALL BE INSTALLED 12" TO 18" ABOVE ALL GRAVITY SEWER MAINS AND SERVICE LATERALS AND LOCATER TAPE SHALL BE MARKED "SANITARY SEWER BELOW".
7. ALL CONNECTIONS TO EXISTING SEWER MAINS AND LATERALS OF DISSIMILAR MATERIALS SHALL BE MADE WITH STRONG BACK FLEXIBLE REPAIR COUPLINGS.
8. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
9. MANHOLE RING AND COVERS SHOULD BE 3 INCHES ABOVE GRADE IN UNPAVED AREAS. FIBERGLASS OR STAINLESS STEEL MANHOLE COVER INSERTS ARE REQUIRED AT ALL MANHOLES WITH RIM ELEVATIONS BELOW 7 FEET NGVD.
10. ALL MANHOLE BENCHES SHALL BE REPAIRED OR REPLACED AS NECESSARY TO HAVE SMOOTH TRANSITIONS THROUGH MANHOLE.
11. ALL GRAVITY SEWER PIPING SHALL BE TESTED IN ACCORDANCE WITH UNI-B-6-98, UNIBELL PVC PIPE CORPORATION. CONSTANT PRESSURE OF 4.0 PSIG (GREATER THAN THE GROUNDWATER BACK PRESSURE).
12. ALL GRAVITY SEWER PIPE (MAINS AND LATERALS) SHALL HAVE AIR TEST AND COLOR CCTV INSPECTION COMPLETED AND APPROVED BY THE ENGINEER PRIOR TO ROADWAY RESURFACING.
13. CCTV INSPECTIONS SHALL BE COMPLETED IMMEDIATELY AFTER FLUSHING WITH CLEAN WATER. ANY DEBRIS ENCOUNTERED WILL RESULT IN A FAILED INSPECTION AND PRESSURE TEST.
14. GRAVITY SEWER PIPE SAGS SHALL NOT EXCEED MORE THAN 10% OF THE PIPE DIAMETER.
15. ALL GRAVITY SEWER LINES MUST BE VIDEOED AFTER SYSTEM IS COMPLETE AND REVIEWED AND APPROVED BY THE CITY. VIDEOS MUST BE DIGITAL FORMAT WITH SYSTEM LOCATION MAP AND INCLUDE IDENTIFICATION FOR EACH MANHOLE AND SEGMENT OF PIPE. EACH JOINT SHOULD BE ABLE TO BE VISIBLY INSPECTED THE ENTIRE 360 DEGREES PERIMETER AND ALL LATERAL CONNECTIONS SHOULD BE DRAWN.

PCB UTILITY TRENCHES - TESTING NOTES AND SCHEDULE:

1. COPIES OF TEST REPORTS FOR ASPHALT, SUBGRADE, FILL, AND BACKFILL UNDER ROADWAYS AND STRUCTURES, AND UTILITY TRENCHES SHALL BE PROVIDED DIRECTLY TO THE ENGINEER FOR APPROVAL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE TESTING AND INSURE THAT ALL APPLICABLE TESTS HAVE BEEN PERFORMED. FAILURE TO OBTAIN TEST RESULTS AT ANY POINT OF CONSTRUCTION WILL REQUIRE THE REMOVAL OF THE IMPROVEMENT AND REPLACEMENT BY THE CONTRACTOR. IT SHOULD BE NOTED THAT THE ENGINEER WILL REQUIRE COMPACTION TESTING IN ACCORDANCE WITH THE TESTING SCHEDULE FOR UTILITY TRENCH FILL AND BACKFILL.
2. 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.

DENSITY TESTING SCHEDULE:

ITEM	DENSITY REQUIREMENT	DENSITY TEST FREQUENCY
UTILITY TRENCH FILL & BACKFILL	90% STANDARD DENSITY	PER SOIL TYPE ONE PER 500 LF HORIZONTAL OR ONE PER 750 SY WITH A MINIMUM OF 3 TESTS, ALTERNATING LIFTS (12") ONE PER SOIL TYPE
FILL & BACKFILL UNDER ROADWAYS AND STRUCTURES	98% OF STANDARD DENSITY	PER SOIL TYPE ONE PER 200 LF HORIZONTAL OR ONE PER 750 SY WITH A MINIMUM OF 3 TESTS (PER SECTION OF WORK), ALTERNATING LIFTS (12") ONE PER SOIL TYPE
SUBGRADE UNDER ROADWAYS AND STRUCTURES	98% OF MAXIMUM DENSITY, MODIFIED PROCTOR	ONE PER SITE OR AT MATERIAL CHANGES PER SOIL TYPE ONE PER 200 LF HORIZONTAL OR ONE PER 750 SY WITH A MINIMUM OF 3 TESTS (PER SECTION OF WORK)
LIMEROCK BASE UNDER ROADWAYS AND STRUCTURES	98% OF MAXIMUM DENSITY, MODIFIED PROCTOR	ONE PER SITE OR AT MATERIAL CHANGES ONE PER 200 LF HORIZONTAL OR ONE PER 1200 SY WITH A MINIMUM OF 3 TESTS (PER SECTION OF WORK)

SPECIAL NOTES:

1. CONTRACTOR SHALL EXCAVATE AND VERIFY THE EXISTING WATER MAIN LOCATIONS AND SIZE PRIOR TO SCHEDULING WATER OUTAGE FOR CONNECTION.
2. CONTRACTOR SHALL CUT AND REMOVE ASPHALT ROADWAYS AS NECESSARY TO INSTALL NEW WATER MAINS, WATER SERVICE LINES AND OTHER REQUIRED UTILITY IMPROVEMENTS.
3. ALL ROADWAYS AND DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION SO RESIDENCE CAN HAVE ACCESS AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.
4. PIPE TESTING SHALL BE PERFORMED WITHIN IN ONE WEEK OF COMPLETING UTILITY IMPROVEMENTS IN ANY SECTION. SEE TEST SCHEDULE FOR MORE REQUIREMENTS.
5. ALL ROADWAY, DRIVEWAY AND SIDEWALK RESTORATION SHALL BE COMPLETED WITHIN ONE WEEK OF SUCCESSFUL PIPE TESTING IN ANY SECTION.
6. ALL DISTURBED YARD AND GRASSED AREAS SHALL BE SODDED WITH CENTIPEDE.
7. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING DAMAGED SECTIONS OF CONCRETE CURB.
8. COST FOR ALL NECESSARY REMOVAL AND REPLACEMENT OF DRIVEWAYS, SIDEWALKS, AND CURBS SPECIFIED ON CONSTRUCTION DRAWINGS SHALL BE INCLUDED IN LUMP SUM BID PRICE FOR EACH SECTION.
9. CONTRACTOR SHALL REMOVE AND REPLACE ALL TREES, SHRUBS AND IRRIGATION DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT A WORK CHANGE DIRECTIVE PRIOR TO CONSTRUCTION FOR ANY ADDITIONAL COST FOR WORK REQUIRED IN LANDSCAPED AREAS.
10. CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO MAINTAIN WATER MAIN SEPARATION REQUIREMENTS. CONTRACTOR SHALL RESTRAIN ALL WATER MAINS JOINTS WHERE 6' HORIZONTAL SEPARATIONS CANNOT BE MAINTAINED BETWEEN EXITING SEWER AND STORMWATER UTILITIES.
11. CONTRACTOR SHALL COMPLETE WATER SERVICE CONNECTIONS TO EXISTING METERS AFTER NEW WATER MAINS HAVE BEEN CERTIFIED AND PLACED INTO SERVICE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY OWNER TO STABILIZE POWER POLES AS THEY ARE ENCOUNTERED THROUGHOUT THE ENTIRE PROJECT.
13. REMOVAL AND REPLACEMENT OF EXISTING DRIVEWAYS AND DRIVEWAY CULVERTS SHALL BE INCLUDED IN THE BID PRICE. NEW DRIVEWAYS SHALL MATCH EXISTING MATERIALS.
14. REMOVAL AND REPLACEMENT OF EXISTING SIGNS, MAILBOXES, SODDING, IRRIGATION, LANDSCAPING, STRUCTURES, ETC. SHALL BE INCLUDED IN THE BID PRICE.
15. COMPACTION TESTING SHALL BE PERFORMED AT EACH ROADWAY CUT FOR SERVICE LATERALS AND PER FDOT SPECIFICATIONS FOR ROAD RECONSTRUCTION AND SHALL BE INCLUDED IN THE BID PRICE.
16. BASE AND BACKFILL MATERIALS SHALL BE EITHER OF THE SAME TYPE AND COMPOSITION AS THE MATERIALS REMOVED, OR OF EQUAL OR GREATER STRUCTURAL ADEQUACY. MATERIALS CONTAMINATED WITH DELETERIOUS SUBSTANCES DURING EXCAVATION SHALL NOT BE USED FOR FILL.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING UTILITIES INCLUDING RECONNECTING ALL WATER AND SEWER SERVICES DAMAGED/BROKEN DURING THE INSTALLATION ON ALL PROPOSED UTILITIES AND OTHER IMPROVEMENTS, WITH NO ADDITIONAL COST TO THE OWNER.
18. THE CONTRACTOR SHALL AVOID OR MINIMIZE THE DISTURBANCE OF EXISTING TREES DURING THE INSTALLATION OF ALL WATER MAINS AND OTHER PROPOSED IMPROVEMENTS WITHIN THE RIGHT OF WAYS AND EASEMENTS. IF TREES ARE DAMAGED OR REQUIRED TO BE MOVED, THEY SHALL BE REPLACED WITH TREES OF SIMILAR SIZE AND SPECIES WITH NO ADDITIONAL COST TO THE OWNER. IF APPLICABLE, THE CONTRACTOR MAY USE THE DIRECTIONAL BORE (FOR PRESSURE PIPE) OR JACK AND BORE (FOR GRAVITY PIPE) METHODS IN LIEU OF OPEN CUTTING TO AVOID IMPACTS AT CONTRACTORS EXPENSE.
19. THE CONTRACTOR SHALL DIRECTIONAL BORE AND INSTALL HDPE PIPE UNDER ROADWAYS, DRIVEWAYS, DITCH CROSSINGS, ETC. AS SHOWN ON THE PLANS. CONTRACTOR SHALL DETERMINE NECESSARY HDPE PIPE LENGTHS, BORE ENTRY/ EXIT POINTS AND BORE PITS TO COMPLETE DIRECTIONAL BORE INSTALLATIONS.
20. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING WATER MAINS AND SERVICE LINES EXCAVATED DURING THE INSTALLATION OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL ABANDONED SECTIONS OF NON-EXCAVATED EXISTING WATER MAIN SHALL BE FLOWABLE FILLED. ALL DEMOLITION AND FLOWABLE FILL WORK SHALL BE INCLUDED IN THE BID PRICE.
21. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MAINTENANCE OF TRAFFIC PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. SIGNAGE SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE INCLUDED IN THE BID PRICE.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BY-PASS PUMPING AND SHALL BE INCLUDED IN THE BID PRICE.
23. CONTRACTOR SHALL PROVIDE DE-WATERING AS NECESSARY FOR THE INSTALLATION OF ALL PROPOSED IMPROVEMENTS. ALL DE-WATERING SHALL BE INCLUDED IN THE BID PRICE.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NPDES PERMIT AND MAINTAINING THE SILT FENCE, INLET PROTECTION, AND ANY OTHER EROSION CONTROL NECESSARY IN THE NPDES PERMIT GUIDELINES.
25. THE CONTRACTOR SHALL VIDEO THE ENTIRE ROUTE PRIOR TO CONSTRUCTION AND PROVIDE A COPY TO THE ENGINEER PRIOR TO CONSTRUCTION.
26. DEMOLITION NOTE: ALL EXISTING WATER/SEWER UTILITIES TO BE ABANDONED MUST BE CAPPED IN THE PRESENCE OF PANAMA CITY BEACH STAFF. THE GRAVITY MAIN IN THE PUBLIC RIGHT-OF-WAY ADJACENT TO THE PROPERTY MUST BE VIDEO TAPED AND A COPY SUBMITTED TO THE CITY OF PANAMA CITY BEACH FOR VERIFICATION OF EXISTING SERVICE LOCATIONS PRIOR TO DEMOLITION.

WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

1. IT IS REQUIRED THAT "WATER MAINS" BE INSTALLED, CLEANED, DISINFECTED AND HAVE A SATISFACTORY BACTERIOLOGICAL SURVEY PERFORMED IN ACCORDANCE WITH THE LATEST APPLICABLE AWWA STANDARDS, CHAPTER 62-555, F.A.C. AND OWNER WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER.
2. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING NON-REGULATED RECLAIMED WATER.
4. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLE TWELVE (12) INCHES, ABOVE OR AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
5. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS A LEAST TWELVE (12) INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
6. AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 4 AND 5 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINE CONVEYING RECLAIMED WATER.
7. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.
8. WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS, PRIOR TO CONSTRUCTION. THE FOLLOW SPECIAL CASE
9. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE HORIZONTAL REQUIREMENTS IN NOTES 3 AND 4 THE FOLLOWING ALTERNATIVE CONSTRUCTION FEATURES ARE ACCEPTABLE:
   - A. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER
   - B. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND PRESSURE-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTH PIPELINES ARE PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS AND WHERE WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS ARE USED FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

MINIMUM TECHNICAL STANDARDS CHECKLIST FOR UTILITY AS-BUILTS

CITY OF PANAMA CITY BEACH
DATED MAY, 2012

SURVEYORS AND MAPPERS MUST MEET THE FOLLOWING MINIMUM STANDARDS OF ACCURACY, COMPLETENESS, AND QUALITY FOR THE CITY OF PANAMA CITY BEACH TO ACCEPT AS-BUILTS:

1. MUST IDENTIFY THE RESPONSIBLE SURVEYOR AND MAPPER.
2. SHALL STATE THE TYPE OF SURVEY IT DEPICTS AND THE PURPOSE OF THE SURVEY.
3. MUST BEAR THE NAME, CERTIFICATE OF AUTHORIZATION NUMBER, AND STREET AND MAILING ADDRESS OF THE BUSINESS ENTITY ISSUING THE AS-BUILT SURVEY, ALONG WITH THE NAME AND LICENSE NUMBER OF THE SURVEYOR IN RESPONSIBLE CHARGE.
4. MUST REFLECT A SURVEY DATE, WHICH IS THE DATE OF ACQUISITION. WHEN THE GRAPHICS OF THE AS-BUILT SURVEY ARE REVISED, BUT THE SURVEY DATE STAYS THE SAME, THE AS-BUILT SURVEY MUST LIST DATES FOR ALL REVISIONS.
5. MUST BE SIGNED AND SEALED BY THE SURVEYOR IN RESPONSIBLE CHARGE.
6. A DESIGNATED "NORTH ARROW" AND EITHER A STATED SCALE OR GRAPHIC SCALE SHALL BE SHOWN.
7. APPROPRIATE LINE TYPES, LINE WEIGHTS, AND LINE WIDTHS SHALL BE USED ON THE AS-BUILT DRAWING TO DIFFERENTIATE EXISTING FROM PROPOSED AND WATER FROM SEWER, RECLAIM, AND STORM. ALL PHYSICAL ITEMS (I.E. PIPES, VALVES, ETC.), SURVEYED BOUNDARIES, AND EASEMENTS SHOULD BE CLEARLY MARKED, AND DIMENSIONED, AND IDENTIFIED BY SIZE AND MATERIAL.
8. ALL UTILITIES IN THE PUBLIC RIGHT OF WAY AND WITHIN EASEMENTS OR TO THE END OF THE PUBLICLY OWNED PORTION OF THE UTILITY (I.E. METER AND BACKFLOW PREVENTER, CLEANOUT, ETC.) SHALL BE SHOWN WITH ASSOCIATED SIZES LABELED. THIS INCLUDES, BUT IS NOT LIMITED TO, STUB-OUTS/LATERALS, METERS, BFP'S, WATER MAINS, FORCE MAINS, GRAVITY SEWER MAINS, MANHOLES, STORM WATER PIPING AND ASSOCIATED STRUCTURES, VALVES, FIRE HYDRANTS, LIFT STATIONS, ETC. ALL PIPE LINE WORK MUST BE CONNECTED WITHIN THE SITE AS WELL AS THE CONNECTION TO EXISTING UTILITIES ADJACENT TO THE SITE (IT IS THE SURVEYOR'S RESPONSIBILITY TO COORDINATE WITH ALL CONTRACTORS FOR LOCATIONS AND SIZING). ALL UTILITY CONNECTIONS TO THE BUILDINGS MUST BE SHOWN.
9. ALL PROPOSED UTILITY/INGRESS/EGRESS EASEMENTS MUST BE SHOWN ON THE DRAWING AND MUST HAVE THE ASSOCIATED LEGAL DESCRIPTION WRITTEN.
10. EDGE OF PAVEMENT, ROADS (ASPHALT SHADED), CURBS, DRIVEWAY CONNECTIONS, BUILDINGS, PARKING LOTS, RIGHT-OF-WAY, AND STREET NAMES MUST BE SHOWN IN ALL APPLICATIONS. ALL ITEMS MENTIONED ABOVE MUST BE FIELD LOCATED.
11. IF A LIFT STATION IS TO BE DEDICATED TO THE CITY THE PLAN MUST SHOW A DETAIL SCALED AT 1"=10' SHOWING ALL IMPROVEMENTS INCLUDING: WATER AND SEWER SERVICES, MANHOLES, INVERTS, RIMS, BFP'S, YARD HYDRANTS, CONTROL PANELS, FENCING, PARCEL BOUNDARY, LEGAL DESCRIPTION OF PARCEL BOUNDARY, WET WELL, VALVE BOX, FORCE MAIN, FLOW METER (IF APPLICABLE), DRIVEWAY, GATE.
12. PROPERTY BOUNDARY MUST BE CLEARLY LABELED AND DIMENSIONED.
13. INVERTS, GRATES, TOPS, RIMS MUST BE SHOWN FOR ALL STORM WATER DRAINAGE STRUCTURES. INVERTS (PIPES AND CLEANOUTS) AND RIMS MUST BE SHOWN FOR ALL GRAVITY SEWER MANHOLES. SLOPES MUST BE SHOWN ON EACH RUN OF PIPE FOR REVIEW AND APPROVAL.
14. "AS-BUILT" PROFILE OF ALL DIRECTIONAL BORES AND JACK-AND-BORES INDICATING GRADE AND PIPE ELEVATIONS AT 10 FOOT INTERVALS SHALL BE PROVIDED ON AS-BUILT PLAN SHEETS BASED ON BORE LOGS DEVELOPED BY BORING CONTRACTOR DURING INSTALLATION. PROFILES SHALL USE HORIZONTAL STATIONING WHICH TIES TO STATIONING ON PLANS. PROFILES SHALL ALSO SHOW EXISTING SURFACE ELEVATIONS AS WELL AS ANY PROPOSED SURFACE ELEVATIONS ON THE PROFILE. SURFACE PROFILES MUST SHOW ANY PAVEMENT, SIDEWALKS, DITCHES, SWALES ETC. NOTE THAT PROFILES LOCATING PIPE SOLELY BY "DEPTH BELOW EXISTING GROUND" WILL NOT BE ACCEPTED.
15. COASTAL SETBACK LINE OR COASTAL CONSTRUCTION CONTROL LINE SHOULD BE DESIGNATED.
16. ELEVATIONS AND LOCATION OF ANY FLOOD ZONES ALONG THE FLOOD HAZARD BOUNDARIES SHALL BE DELINEATED.
17. NEARBY WETLANDS AND OTHER ENVIRONMENTALLY SIGNIFICANT RESOURCES CLEARLY LABELED.
18. STORM WATER MANAGEMENT SYSTEM FEATURES INCLUDING DIMENSIONS OF : WET AND DRY SWALES, WET AND DRY PONDS, CONVEYANCE SYSTEMS, EASEMENTS, ALONG WITH ALL ASSOCIATED M.E.S. STRUCTURES AND INVERTS, OUTFALL STRUCTURES AND INVERTS, SKIMMERS, DISCHARGE STRUCTURES AND INVERTS AND SLOT ELEVATIONS, TOP OF BANK, SLOPE OF BANK AND BOTTOM OF ALL PONDS, SWALES, CLOSED AND OPEN CONVEYANCES. FOR FEMA LOMR SUBMITTALS ALSO PROVIDE: FINISHED FLOOR ELEVATIONS, SPOT ELEVATIONS AND/OR CONTOURS SHOWING LOWEST LOT ELEVATIONS.
19. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THE AS-BUILT PRIOR TO SUBMISSION TO THE CITY FOR FINAL APPROVAL. WRITTEN APPROVAL BY THE ENGINEER OF RECORD SHALL BE NOTED ON A TRANSMITTAL WITH A STATEMENT OF NO EXCEPTIONS TO MINIMUM STANDARDS PROVIDED HEREIN.

STORM WATER REQUIREMENTS FOR THE AS-BUILT SURVEYS ONLY APPLY TO PARCELS WITHIN CITY LIMITS. PLEASE SUBMIT THREE (3) HARDCOPIES AND ONE (1) DIGITAL (AUTOCAD FORMAT & PDF) FOR REVIEW AND APPROVAL.

CITY OF P.C.B. UTILITIES DEPARTMENT			MINIMUN TECHNICAL STANDARDS FOR AS-BUILTS	M-29
REV.	DATE	.... DATE OF APPROVAL		

CLEANOUT DETAIL

NOT TO SCALE

NOTES:

1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

2.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE 24" DIAMETER AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.

3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX FOR PIPE 42" DIAMETER AND LARGER.

4.) INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

SEEDING OR SODDING WIDTH "W"

FOR PIPE SIZES 6" THRU 40"
"W" = 2'-4"+PIPE O.D.+ "D"

FOR PIPE SIZES OVER 40"
"W" = 4'-4"+PIPE O.D.+ "D"

THESE WIDTHS ARE FOR PAYMENT PURPOSES ONLY. SAFETY REQUIREMENTS MAY DICTATE INCREASED WIDTHS.

CITY OF P.C.B. UTILITIES DEPARTMENT			TRENCH DETAIL UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	M-22
REV.	DATE	.... DATE OF APPROVAL		
1	MAR '12			

NOTES:

1.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.

2.) 4" MAX. FOR PIPE 16" DIAMETER AND LESS; 6" MAX. FOR PIPE DIAMETER 18" TO 36" AND 9" MAX. FOR PIPE DIAMETER 42" AND OVER.

3.) INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

CITY OF P.C.B. UTILITIES DEPARTMENT			TRENCH DETAIL TYPE A-2 PIPE BEDDING	M-25
REV.	DATE	.... DATE OF APPROVAL		
1	MAR '12			
2	NOV '16			

REV	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE: AS NOTED
DESIGNED BY: JDC
DRAWN BY: REF
REVIEWED BY: JDC
ISSUE DATE: SEPTEMBER 2024
ACAD FILE NAME: 136802-C-E1.dwg

PANHANDLE ENGINEERING
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UTILITY DETAILS
COMMERCIAL FLEXSPACE
OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046

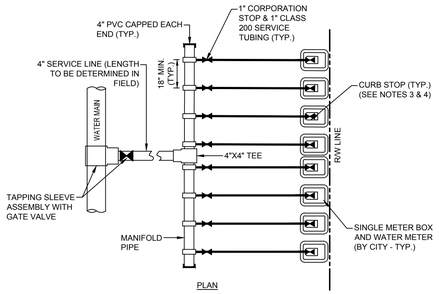
DPR CERTIFICATION #EB-7806

JAMES D. CROOK
NO. 66556
6-Sep-24

SHEET NUMBER
7

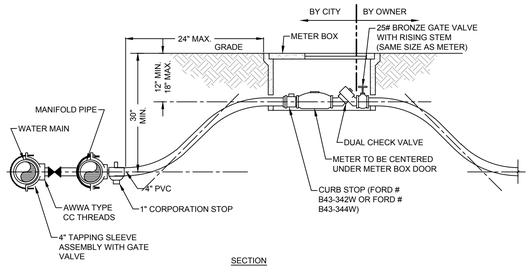
PROJECT NUMBER
136802-C

Date: 9/6/2024 10:52 AM File: P:\136802-C Rest Flex 2024\1 CIVIL3DFolder\Drawings\136802-C-E1.dwg



PLAN

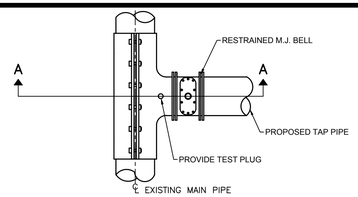
NOTES:
1.) ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2.) NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3.) EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE FASTENED TO A 1" x 4" x 30" STAKE PAINTED WHITE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED.
4.) CURB STOP SHALL BE A FORD BALL METER VALVE B43-342W, B43-344W OR CITY APPROVED EQUAL.
5.) ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.
6.) METER BOXES & YOKE ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.



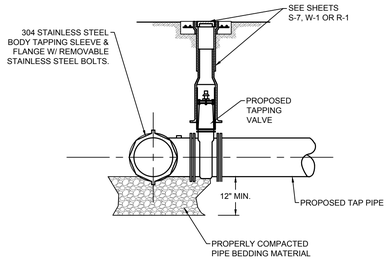
SECTION

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	MULTI–METER ASSEMBLY DETAIL
1	MAR '12		
1	FEB '18		

W–11



PLAN



SECTION A–A

NOTES:

1.) NO TAPPING CUTS SHALL BE MADE BEFORE:
A 60 MINUTE TEST AT 100 P.S.I. FOR FORCEMAINS, OR 150 P.S.I. FOR POTABLE WATERMAINS AND RECLAIM WATERMAINS IS PERFORMED.

2.) ALL TAPS MUST BE PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.

3.) CONTRACTOR TO SUPPLY A DRY HOLE, PROPERLY CONFIGURED, FOR TAPPING CREW TO WORK AND A BACK–HOE TO LOWER MACHINE INTO HOLE. TAPPING ASSEMBLY MUST BE BOLTED ON & PRESSURE TESTED BY THE CONTRACTOR & WITNESSED BY THE CITY PRIOR TO TAP.

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	TAPPING SLEEVE & VALVE BLOCKING DETAIL
1	MAR '12		
2	MAY '13		
3	MAY '17		

M–21

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (SEE NTOE 1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER	WATER MAIN 3' MIN.	WATER MAIN 12" MIN. EXCEPT FOR STORM SEWER, THEN 6" IS THE MIN. AND 12" IS PREFERRED	ALTERNATE 3' MIN. WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN 10' PREFERRED 3' MIN.	WATER MAIN 12" PREFERRED 6" MIN.	ALTERNATE 3' MIN. WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN	WATER MAIN 10' PREFERRED 6' MIN. (SEE NTOE 2)	WATER MAIN 12" MIN. EXCEPT FOR GRAVITY SEWER, THEN 6" IS THE MIN. AND 12" IS PREFERRED	ALTERNATE 6' MIN. WATER MAIN
ON - SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10' MIN.	----	----

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MIN. SEPARATION IS 12".

(2) 3' FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6" ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.

(3) IF REQUIRED SEPARATION CANNOT BE PROVIDED SEE DETAIL M-35B FOR REQ'D ADDITIONAL PROTECTION.

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	STANDARD MAIN CROSSING/ SEPARATION DETAIL

M–35A

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR P.V.C. PIPE

MAIN PIPE SIZE	HORIZ. BENDS 90°	45°	22.5°	*TEES SIZE	LENGTH				REDUCERS SIZE	LENGTH		PLUGS
48	86	36	17	X48 117	X42 77	X36 36	X30 1	X24 1	X42 50	X36 93	X30 129	214
42	78	33	16	X42 100	X36 38	X30 14	X24 1	X20 1	X36 50	X30 93	X24 128	193
36	71	30	14	X36 81	X30 37	X24 1	X20 1	X16 1	X30 52	X24 94	X20 117	171
30	62	26	13	X30 81	X24 14	X20 1	X16 1	X12 1	X24 52	X20 81	X16 104	148
24	53	22	11	X24 40	X20 6	X16 1	X12 1	X10 1	X20 37	X16 68	X12 91	124
20	46	19	9	X20 25	X16 1	X12 1	X10 1	X8 1	X16 38	X12 67	X10 78	106
16	38	16	8	X16 9	X12 1	X10 1	X8 1		X12 38	X10 52	X8 64	88
12	30	13	6	X12 1	X10 1	X8 1	X6 1		X10 20	X8 36	X6 50	68
10	26	11	6	X10 1	X8 1	X6 1			X8 20	X6 36	X4 47	58
8	22	9	5	X8 1	X6 34	X4 1			X6 21	X4 35		48
6	17	7	4	X6 1	X4 1				X4 19			37
4	12	5	3	X4 1								26

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.) PIPE ADJACENT TO IN-LINE VALVES 10" AND SMALLER SHALL BE RESTRAINED FOR 20' ON EACH SIDE, INCLUDING THE VALVE-TO-PIPE CONNECTION. ALL PIPE ADJACENT TO IN-LINE VALVES 12" AND LARGER SHALL BE RESTRAINED FOR A DISTANCE 1/4 OF REQ'D PLUG (DEAD END) LENGTH ON EACH SIDE, INCLUDING THE VALVE-TO-PIPE CONNECTION.

5.) PIPE SIZES ARE GIVEN IN INCHES.

6.) PIPE LENGTHS ARE GIVEN IN FEET.

7.) LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 100 PSI.

8.) RESTRAINED LENGTHS FOR TEES REPRESENTS LENGTH ON BRANCH. RESTRAINED LENGTHS FOR REDUCERS REPRESENTS LENGTH ON LARGE END OF REDUCER.

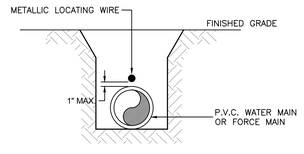
9.) RESTRAINED LENGTHS ARE TO BE USED FOR SEWER AND RECLAIM WATER.

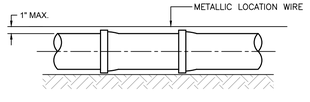
10.) THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON THE USE OF LIGHTLY COMPACTED CLEAN SAND WITH AT LEAST A 95% COARSE PARTICLE CONTENT. ACTUAL SOIL CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY. SAFETY FACTOR OF 1.5:1 TO BE CALCULATED WITH A "SM" SOIL TYPE AND TRENCH TYPE "3".

*MAIN TO BE RESTRAINED 20' ON EACH SIDE OF BRANCH

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	RESTRAINED LENGTHS FOR P.V.C. SEWER
1	MAR '12		

M–17





NOTES:

1.) PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (12 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.

2.) LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.

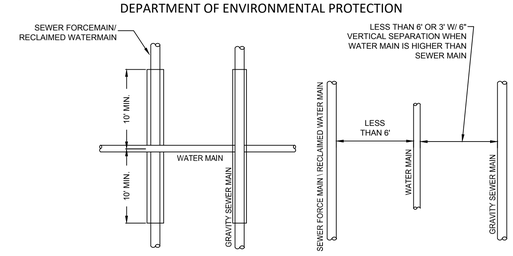
3.) USE DUCT TAPE AS NECESSARY TO HOLD WIRE ON THE TOP OF THE PIPE.

4.) ALL SPLICES SHALL BE MADE USING A WATER–TIGHT SEALING METHOD APPROVED BY THE CITY.

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	PVC PIPE LOCATING WIRE DETAIL
1	MAR '12		

M–7

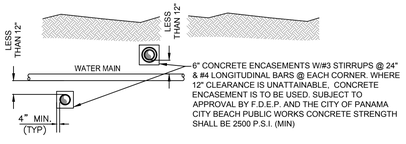
TO BE USED ONLY WHEN STANDARD SEPARATION (DETAIL M35A) CANNOT BE PROVIDED. USE OF PROVISIONS OF THIS DETAIL TO BE APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION



CROSSING - PLAN PARALLEL - PLAN

USE ANY OF THE FOLLOWING:

1.) GRAVITY SEWER ONLY - USE PRESSURE RATED PIPE PER AWWA STDS.
2.) ALL MAIN TYPES - USE WELDED OR FUSED JOINTS FOR EITHER WATER OR OTHER MAIN
3.) ALL MAIN TYPES - USE WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT PER DETAIL BELOW



CROSSING - SECTION

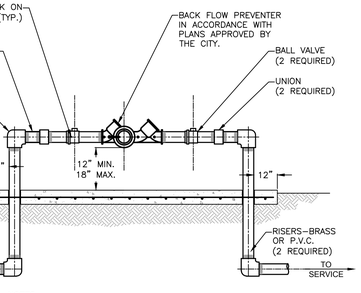
GENERAL NOTES:

A.) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:
i. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25–INCH–THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
ii. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25–INCH–THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

B.) THE USE OF ANY ASPECT OF THIS DETAIL MUST BE APPROVED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE CITY OF PANAMA CITY BEACH PUBLIC WORKS

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	SPECIAL CASE MAIN CROSSING/ SEPARATION DETAIL
1	MAR '18		

M–35B



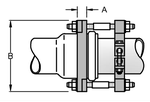
NOTES:

1.) ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED SCHEDULE 40 BRASS OR PVC.

2.) PROVIDE PROTECTION AGAINST FREEZING, INSULATION OR "HOTBOX".

CITY OF P.C.B. UTILITIES DEPARTMENT			
REV.	DATE	..... DATE OF APPROVAL	REDUCED PRESSURE BACK FLOW PREVENTER FOR 3/4,1,1–1/2 & 2"
1	MAR '12		
2	OCT '15		

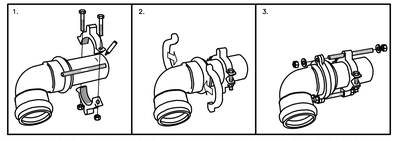
W–15



RESTRAINT DEVICE FOR IPS CLASS 200 PVC FITTINGS						
PIPE SIZE (INCHES)	PIPE O.D. (INCHES)	A	B	SIDE BOLTS NUMBER AND SIZE	CONNECTING RODS NUMBER AND SIZE	APPROX. WT. LBS.
2"	2.38	1–1/8"	6–3/8"	(2) 5/8"x11"	(2) 5/8"x3–1/2"	9.5
2–1/2"	2.88	1–1/8"	6–7/8"	(2) 5/8"x11"	(2) 5/8"x3–1/2"	10.0
3"	3.50	1–1/8"	7–5/8"	(2) 5/8"x11"	(2) 5/8"x3–1/2"	10.5

BASED ON UNI–FLANGE BLOCK BUSTER SERIES 1360 PIPE RESTRAINT. ALTERNATE, EQUIVALENT RESTAINTS MUST BE APPROVED BY THE CITY IN WRITING BEFORE USE.

INSTALLATION INSTRUCTIONS



1.) INSTALL PIPE INTO FITTING. INSTALL SERIES 1300 SPLIT CLAMPING RING ON THE SPIGOT END OF THE PIPE. (USE CONNECTING ROD AS A GUIDE TO POSITION SERRATED RESTRAINER.) TIGHTEN CLAMPING BOLTS EVENLY TO THE RECOMMENDED TORQUE.

2.) INSTALL SPLIT BACK–UP RING BEHIND GASKET RACE OF FITTING. MAKE SURE THE BEVEL FACES THE GASKET RACE. THE TWO HALVES INTERLOCK AT THE BOLT HOLES.

3.) INSERT RODS THROUGH SERIES 1300 AND BACK–UP RING. PLACE WASHERS AGAINST RESTRAINER AND BACK–UP RING EARS. SNUG RETAINING NUTS AGAINST WASHERS. DO NOT OVERTIGHTEN RETAINING NUTS. (HAND TIGHT, THEN ONE FULL TURN.)

2"–3" PVC FITTING RESTRAINT DEVICE INSTALLATION DETAIL
NOT TO SCALE

REV	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:	AS NOTED
DESIGNED BY:	JDC
DRAWN BY:	REF
REVIEWED BY:	JDC
ISSUE DATE:	SEPTEMBER 2024
ACAD FILE NAME:	136802-C-E1.dwg

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

UTILITY DETAILS
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

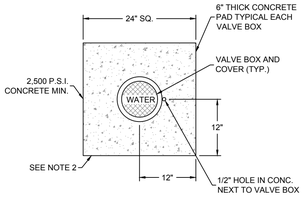
JAMES D. CROOK LICENSED NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

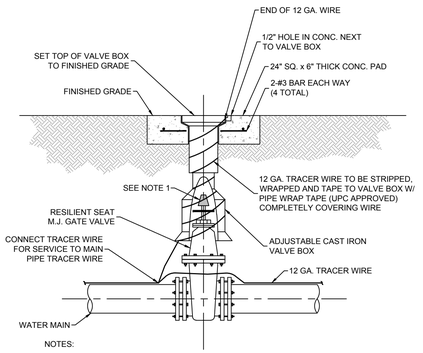
SHEET NUMBER 8

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES UTILITY DETAILS Sheet 8

Date: 9/6/2024 10:52 AM File: P:\136802-C Reed Flex 2024\1 CIVIL\3D\Xref\Drawings\136802-C-E1.dwg



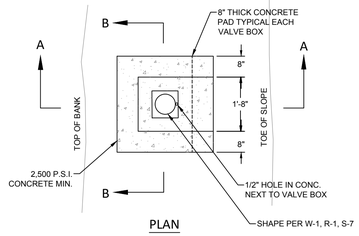


NOTES:

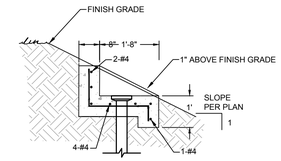
1.) THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

2.) FOR VALVE COLLAR PADS THAT FALL ON SLOPES GREATER THAN 1:6, SEE DETAIL W-20 FOR PAD.

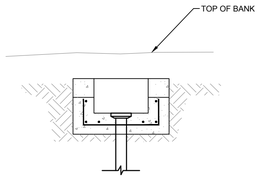
CITY OF P.C.B. UTILITIES DEPARTMENT			WATER GATE VALVE & BOX DETAIL (4" TO 10")	W-1
REV.	DATE			
2	JUL '17	.....		
3	JUL '19			
4	JAN '20	DATE OF APPROVAL		



PLAN

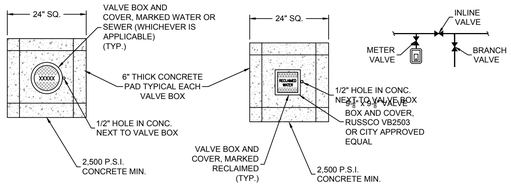


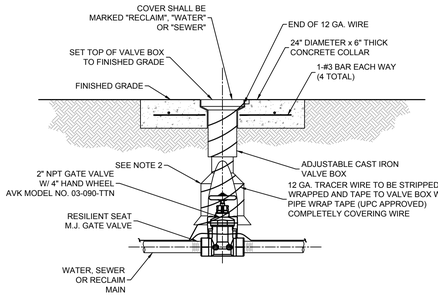
SECTION A - A



SECTION B-B

CITY OF P.C.B. UTILITIES ENGINEERING DEPARTMENT			WATER GATE VALVE & BOX DETAIL (ON SLOPES >1:6)	W-20
REV.	DATE			
1	FEB '20	.....		
		DATE OF APPROVAL		





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 4 FOOT DEPTH BELOW FINISHED GRADE.

3.) ALL WATER, SEWER & RECLAIM MAINS 2" & BELOW SHALL HAVE HAND WHEEL INSTEAD OF THE OPERATING NUT.

4.) PRECAST "DONUT" VALVE COLLARS ARE NOT ACCEPTABLE UNLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE CITY.

CITY OF P.C.B. UTILITIES DEPARTMENT			2" DUCTILE IRON GATE VALVE DETAIL (WATER, SEWER & RECLAIM)	M-33
REV.	DATE			
1	JUL '16	.....		
		DATE OF APPROVAL		

NOTES:

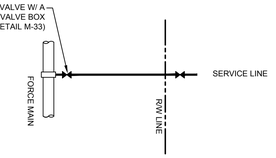
1.) ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.

2.) NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.

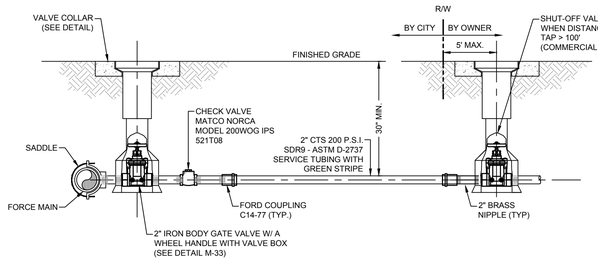
3.) TAPPING SADDLE: SHALL BE MODEL FC202 FORD METER BOX CO., INC. WITH EPOXY GATED BODY (NSF 61) AND 304 SS BAND AND HARDWARE. ALL OUTLETS SHALL BE IRON PIPE THREAD.

4.) ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN 36" APART AND NOT WITHIN 24" FROM BACK OF PIPE BELL OR SPIGOT INSERTION LINE.

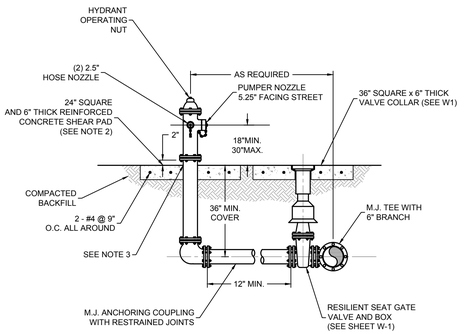
5.) TAPS SHALL NOT BE SET IN DRAINAGE SWALES, EASEMENTS, OR SIDEWALKS.



TYPICAL CITY SERVICE



CITY OF P.C.B. UTILITIES DEPARTMENT			GRINDER PUMP SERVICE DETAIL	S-19
REV.	DATE			
3	AUG '17	.....		
4	NOV '18			
5	APR '19	DATE OF APPROVAL		



NOTES:

1.) FIRE HYDRANT SHALL BE SUPPLIED WITHOUT A WEEP HOLE.

2.) THE SHEAR PAD MAY BE RECESSED UP TO 6 INCHES BELOW FINISHED GRADE.

3.) CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE A 4" MINIMUM.

4.) HYDRANT SHALL BE AVK MODEL 2780 NOSTALGIC, AMERICAN DARLING B-84-B, CLOW MEDALLION OR US FIRE HYDRANT, MODEL SENTINEL 250 WITH SS VALVE ROD.

5.) A WEATHER SHIELD SHALL BE PROVIDED TO PROTECT OPERATING STEM OR NUT.

6.) THE HYDRANT'S UPPER AND LOWER STEM, BREAK COUPLING, INTERNAL PINS AND CLIPS, AND ALL EXTERNAL BOLTING SHALL BE MANUFACTURED OF 304 OR 316 STAINLESS STEEL.

CITY OF P.C.B. UTILITIES DEPARTMENT			5-1/4" FIRE HYDRANT ASSEMBLY DETAIL	W-16A
REV.	DATE			
3	MAR '16	.....		
4	JUN '18			
5	APR '19	DATE OF APPROVAL		

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR P.V.C. PIPE

MAIN PIPE SIZE	HORIZ. BENDS 90°	45°	22.5°	*TEES SIZE / LENGTH					REDUCERS SIZE / LENGTH			PLUGS
36	106	44	21	X36 163	X30 102	X24 39	X20	X16	X30 78	X24 141	X20 175	257
30	93	39	19	X30 132	X24 88	X20 22	X16 1	X12 1	X24 78	X20 121	X16 156	222
24	79	33	16	X24 99	X20 53	X16 1	X12 1	X10 1	X20 56	X16 101	X12 137	185
20	68	29	14	X20 75	X16 26	X12 1	X10 1	X8 1	X16 56	X12 100	X10 117	159
16	57	24	12	X16 51	X12 1	X10 1	X8 1		X12 56	X10 78	X8 96	131
12	45	19	9	X12 25	X10 1	X8 1	X6 1		X10 30	X8 54	X6 74	102
10	39	16	8	X10 11	X8 1	X6 1			X8 25	X6 53	X4 71	87
8	33	14	7	X8 1	X6 1	X4 1			X6 31	X4 52		72
6	25	11	5	X6 1	X4 1				X4 29			55
4	18	8	4	X4 1								39

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.) PIPE ADJACENT TO IN-LINE VALVES 10" AND SMALLER SHALL BE RESTRAINED FOR 20' ON EACH SIDE, INCLUDING THE VALVE-TO-PIPE CONNECTION. ALL PIPE ADJACENT TO IN-LINE VALVES 12" AND LARGER SHALL BE RESTRAINED FOR A DISTANCE 1/4 OF REQ'D PLUG (DEAD END) LENGTH ON EACH SIDE, INCLUDING THE VALVE-TO-PIPE CONNECTION.

5.) PIPE SIZES ARE GIVEN IN INCHES.

6.) PIPE LENGTHS ARE GIVEN IN FEET.

7.) LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 150 PSI.

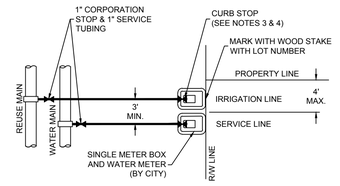
8.) RESTRAINED LENGTHS FOR TEES REPRESENTS LENGTH ON BRANCH. RESTRAINED LENGTHS FOR REDUCERS REPRESENTS LENGTH ON LARGE END OF REDUCER.

9.) RESTRAINED LENGTHS ARE TO BE USED FOR POTABLE WATER.

10.) 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. SAFETY FACTOR OF 1.5:1 TO BE CALCULATED WITH A "SM" SOIL TYPE AND TRENCH TYPE "3".

*MAIN TO BE RESTRAINED 20' ON EACH SIDE OF BRANCH

CITY OF P.C.B. UTILITIES DEPARTMENT			RESTRAINED LENGTHS FOR P.V.C. POTABLE & REUSE WATER	M-15
REV.	DATE			
1	MAR '12	.....		
		DATE OF APPROVAL		



TYPICAL CITY SERVICE WITH REUSE

(PER. LOT)

NOTES:

1.) ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.

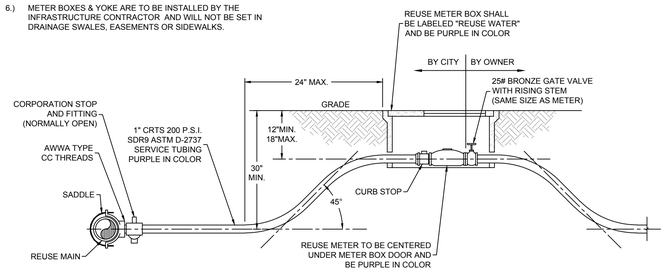
2.) NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.

3.) EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE FASTENED TO A 1" x 4" x 30" STAKE PAINTED PURPLE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED.

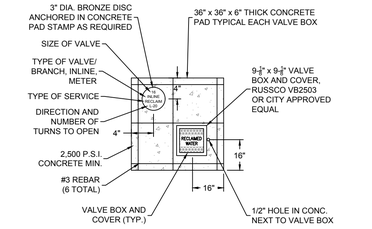
4.) CURB STOP SHALL BE A FORD BALL METER VALVE B43-342W-G OR CITY APPROVED EQUAL.

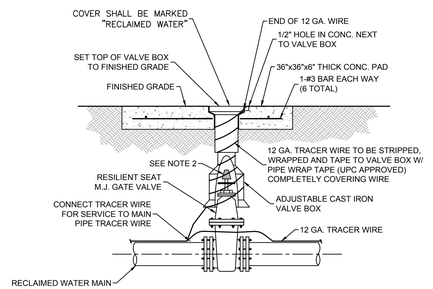
5.) ALL SERVICE TAPS TO BE LOCATED IN FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL SPIGOT ENDS.

6.) METER BOXES & YOKE ARE TO BE INSTALLED BY THE INFRASTRUCTURE CONTRACTOR AND WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.



CITY OF P.C.B. UTILITIES DEPARTMENT			3/4" & 1" RECLAIMED WATER METER DETAIL	R-5
REV.	DATE			
1	MAR '12	.....		
		DATE OF APPROVAL		





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 4 FOOT DEPTH BELOW FINISHED GRADE.

3.) ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.

4.) VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.

5.) ALL EXPOSED EDGES OF CONCRETE PAD SHALL BE CHAMFERED 1/2"

6.) FOR VALVE COLLAR PADS THAT FALL ON SLOPES GREATER THAN 1:6, SEE DETAIL W-20 FOR PAD.

UTILITIES DEPARTMENT			GATE VALVE 12" & SMALLER	R-1
REV.	DATE			
1	MAR '12			
2	JAN '20			

REV.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE:	AS NOTED
DESIGNED BY:	JDC
DRAWN BY:	REF
REVIEWED BY:	JDC
ISSUE DATE:	SEPTEMBER 2024
ACAD FILE NAME:	136802-C-E1.dwg

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

UTILITY DETAILS
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

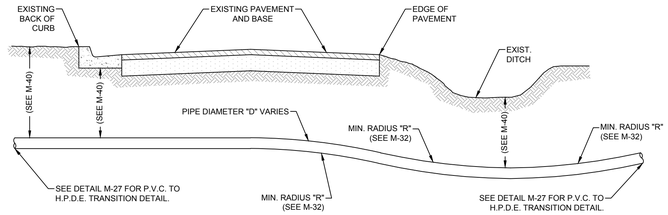
JAMES D. CROOK LICENSED NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 9

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES UTILITY DETAILS Sheet 9

Date: 9/6/2024 10:02 AM File: P:\136802-C Reed Flex 2024\1 CIVIL\3D\Water\Drawings\136802-C-E1.dwg



	MIN. RADIUS FOR PE PIPE IN FEET	
PIPE DIAMETER "D" IN INCHES	MIN. RADIUS "R" FOR SDR-11	MIN. RADIUS "R" FOR SDR-9
1	2	2
2	4	4
3	6	5
4	8	7
6	12	10
8	17	14
10	21	17
12	25	20
16	33	27
18	38	30
20	42	34

1.) ALL POLYETHYLENE PIPING SHALL MEET CITY OF PANAMA CITY BEACH STANDARDS AND SPECIFICATIONS

2.) SDR 9, CLASS 250, PE4710 RESIN HDPE FOR 1" SERVICE TUBING. SDR-11, CLASS 200, PE4710 RESIN HDPE FOR 2" DIAMETER AND LARGER POTABLE WATER & RECLAIMED WATER. SDR-11, CLASS 160, PE4710 RESIN HDPE FOR 2" DIAMETER AND LARGER SANITARY FORCE MAINS COLOR CODED BLUE FOR POTABLE WATER COLOR CODED PURPLE FOR RECLAIMED WATER COLOR CODED GREEN FOR SANITARY FORCE MAIN.

3.) THE COLOR CODING SHALL MEETING REQUIREMENTS IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320 (21)(B) 3 F.A.C. AND SHALL BE CO-EXTRUDED DURING PIPE MANUFACTURING.

4.) ALL HDPE PIPE 2" DIAMETER AND LARGER MUST BE IPS, NO CTS IS ALLOWED. ALL 1" SERVICE TUBING SHALL BE CTS.

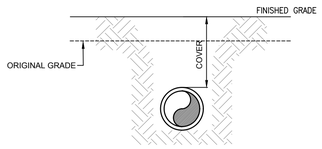
5.) ALL DIRECTIONAL BORES SHALL BE A MINIMUM OF 36 INCHES UNDER ALL ROADWAYS AND START AND TERMINATE A MINIMUM OF 6 FEET OFF THE EDGE OF PAVEMENT.

6.) CONTRACTOR SHALL PROVIDE A DETAILED "AS-BUILT" PROFILE OF ALL DIRECTIONAL BORE AND JACK AND BORE LOCATION OF ACTUAL PIPE ELEVATIONS AT 10 FOOT INTERVALS ON AS-BUILT PLAN SHEETS.

CITY OF P.C.B. UTILITIES DEPARTMENT				
REV.	DATE		DIRECTIONAL BORE ROADWAY CROSSING	M-18
1	MAR '12			
2	JUL '19	DATE OF APPROVAL		

PIPE COVERAGE TABLE

PIPE DIAMETER	REQUIRED COVER
UP TO 12"	36"
ABOVE 12" UP TO 24"	42"
30" AND ABOVE	48"

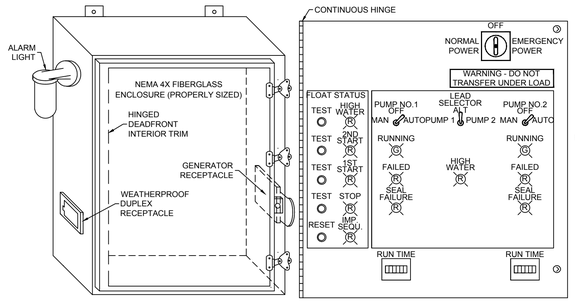


NOTES:

1. COVER SHALL BE MEASURED WHEN FINISH GRADES ARE ESTABLISHED.

2. COVER TOLERANCES ARE +6", -3", PROVIDED THE AVERAGE COVER MEETS TABLE REQUIREMENTS.

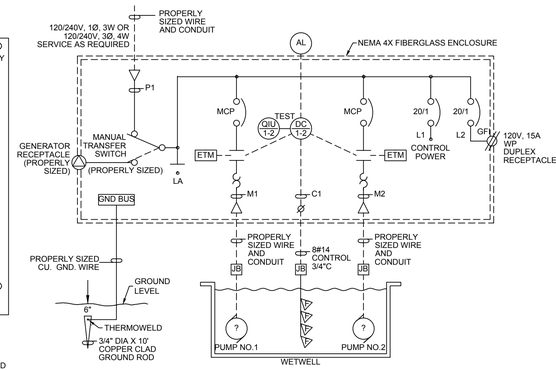
CITY OF P.C.B. UTILITIES ENGINEERING DEPARTMENT				
REV.	DATE		REQUIRED PIPE COVERAGE TABLE	M-40
		DATE OF APPROVAL		



PHYSICAL LAYOUT

DUPLEX GRINDER LIFT STATION CONTROL PANEL DEADFRONT DETAIL

- CONTROL PANEL SHALL BE EQUIPPED WITH A FLASHING RED LIGHT WITH LONG LIFE BULB IN GUARDED ENCLOSURE AND 6" DIA. HORN.
- HORN SHALL EMIT 120 DB AT 10'.
- ALARM HORN AND LIGHT SHALL BE POWERED FROM 12V DC POWER SUPPLY WITH BATTERY BACK-UP.
- PROVIDE A RECHARGEABLE BATTERY RATED TO POWER BOTH THE HORN AND LIGHT FOR A MINIMUM OF TWO HOURS UPON LOSS OF MAIN POWER.
- PROVIDE CIRCUITRY TO AUTOMATICALLY RECHARGE THE BATTERY AFTER MAIN POWER IS RESTORED.
- FULL CHARGE OF THE BATTERY SHALL TAKE NO MORE THAN TWENTY HOURS.
- PANEL SHALL HAVE POWER ON LIGHT, PUSH TO TEST BUTTON FOR HORN AND LIGHT AND PUSH TO SILENCE BUTTONS FOR HORN AND LIGHT WITH AUTOMATIC RESET FOR NEXT ALARM.
- ALARM SHALL ACTIVATE UNDER THE FOLLOWING CONDITIONS:
  - A. HIGH LIQUID LEVEL AS SENSED BY FLOAT SWITCH
  - B. LOSS OF MAIN POWER



240 VOLT DUPLEX GRINDER LIFT STATION CONTROL PANEL ONE LINE POWER DIAGRAM AND PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)

LEGEND

- LIGHTNING ARRESTOR - SEE COMPONENT SPECIFICATIONS
- DC - DUPLEX CONTROLLER - SEE COMPONENT SPECIFICATIONS
- QIU - FLOAT TEST/IMPROPER SEQUENCE MODULE - SEE COMPONENT SPECIFICATIONS
- ETM - ELAPSED TIME METER - SEE COMPONENT SPECIFICATIONS
- AL - OUTSIDE ALARM LIGHT - SEE COMPONENT SPECIFICATIONS
- FLOAT SWITCH - SEE COMPONENT SPECIFICATIONS

DIRECT MOUNT CONTROL PANEL

NOT TO SCALE

MINIMUM BEND RADIUS IN FEET					
	PVC		FPVC		HDPE
NOMINAL DIAMETER	IPS (200 x O.D.)	C900/C905 (250 x O.D.)	IPS	C900/C905	(25 x O.D.)
2	9		40		5
4	75	100	94	100	10
6	110	144	138	144	14
8	144	189	180	189	19
10	180	232	224	231	23
12	213	275	266	275	28
14	–	319	–	319	32
16	–	363	–	363	36
18	–	406	–	406	41
20	–	450	–	450	45
24	–	538	–	538	54
30	–	–	–	667	67
36	–	–	–	798	80

1.) ALL POLYETHYLENE PIPING SHALL MEET CITY OF PANAMA CITY BEACH STANDARDS AND SPECIFICATIONS

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4.) ALL HDPE PIPE 2" DIAMETER AND LARGER MUST BE IPS, NO CTS IS ALLOWED. ALL 1" SERVICE TUBING SHALL BE CTS.

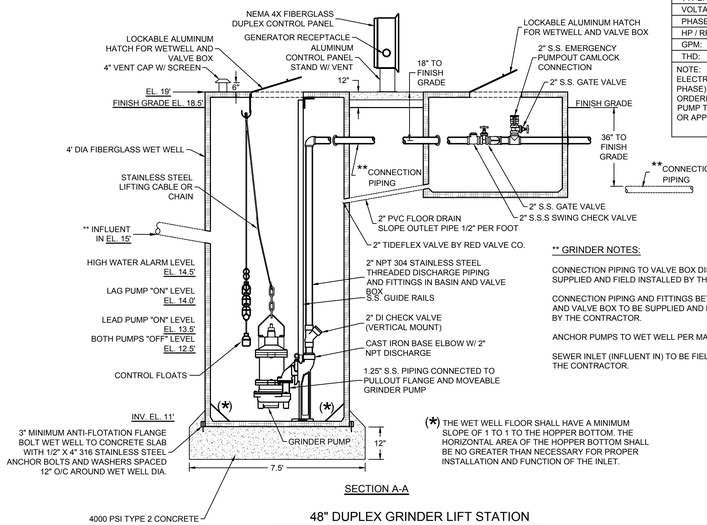
5.) ALL PVC PIPE MUST BE C900/C905.

CITY OF P.C.B. UTILITIES ENGINEERING DEPARTMENT				
REV.	DATE		MINIMUM PIPE BEND RADIUS TABLE	M-32
1	MAY '13			
2	JUN '19	DATE OF APPROVAL		

PLAN VIEW

PUMP INFORMATION	
TYPE:	DUPLEX GRINDER
VOLTAGE:	208 V
PHASE:	SINGLE
HP / RPM:	2 HP / 3,450 RPM
GPM:	42 GPM
THD:	99 TDH

NOTE:
ELECTRICAL SERVICE (VOLTAGE AND PHASE) MUST BE VERIFIED PRIOR TO ORDERING EQUIPMENT.
PUMP TO BE KEEN KGSL2 W/ SLICER OR APPROVED ALTERNATIVE



SECTION A-A

** GRINDER NOTES:

CONNECTION PIPING TO VALVE BOX DISCHARGE TO BE SUPPLIED AND FIELD INSTALLED BY THE CONTRACTOR.

CONNECTION PIPING AND FITTINGS BETWEEN THE BASIN AND VALVE BOX TO BE SUPPLIED AND FIELD INSTALLED BY THE CONTRACTOR.

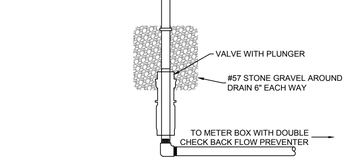
ANCHOR PUMPS TO WET WELL PER MANUFACTURES REQ.

SEWER INLET (INFLUENT IN) TO BE FIELD INSTALLED BY THE CONTRACTOR.

(*) THE WET WELL FLOOR SHALL HAVE A MINIMUM SLOPE OF 1 TO 1 TO THE HOPPER BOTTOM. THE HORIZONTAL AREA OF THE HOPPER BOTTOM SHALL BE NO GREATER THAN NECESSARY FOR PROPER INSTALLATION AND FUNCTION OF THE INLET.

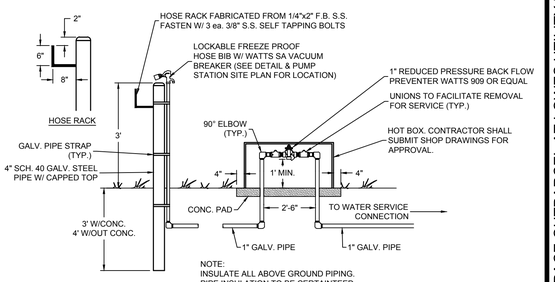
48" DUPLEX GRINDER LIFT STATION PACKAGE WITH DIRECT MOUNT CONTROL PANEL

NOT TO SCALE



COMPRESSION TYPE NON-FREEZING BIB DETAIL

NOT TO SCALE



LIFT STATION WATER SERVICE DETAIL

NOT TO SCALE

REV	DATE	BY	REVISIONS
NOT		RELEASED FOR CONSTRUCTION BY:	DATE:

SCALE: AS NOTED
DESIGNED BY: JDC
DRAWN BY: REF
REVIEWED BY: JDC
ISSUE DATE: SEPTEMBER 2024
ACAD FILE NAME: 136802-C-E1.dwg

PANHANDLE ENGINEERING
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
(850)763-5200 www.panhandleengineering.com

UTILITY DETAILS
COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

JAMES D. CROOK LICENSE NO. 66556 6-Sep-24 STATE OF FLORIDA PROFESSIONAL ENGINEER

SHEET NUMBER 10

PROJECT NUMBER 136802-C

136802-C COMMERCIAL FLEXSPACE OUTPARCEL AT LOWES UTILITY DETAILS Sheet 10

Date: 9/4/2024 10:52 AM File: P:\136802-C Real Flex 2024\1 CIVIL\3DFolder\Drawings\136802-C-E1.dwg

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

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
Commercial Outparcel at Lowes
11697 Panama City Beach Pkwy
Panama City Beach, Fl.
Lat 30°11"53' ~ Lon 85°49'04"
Section Township Range ~ 26–3S–16W

DEVELOPER NAME AND ADDRESS:
Jonathan Dudley (Southern Grace, Inc.)
P.O. Box 600824
Jacksonville, Fl. 32260

DESCRIPTION: COMMERCIAL BUILDING

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING, EARTHWORK, PAVEMENT AND GRADING, STORM WATER AND UTILITIES.

RUNOFF CURVE NUMBERS:

1. PRE–CONSTRUCTION	C= 0.35
2. DURING CONSTRUCTION	C= 0.50
3. POST–CONSTRUCTION	C= 0.61

SOILS:
SEE SOIL BORING REPORT FOR SOILS DATA

SITE MAPS:

* SEE ATTACHED GRADING FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORMWATER DISCHARGE POINTS.

* SEE ATTACHED EROSION AND TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES AND TURBIDITY BARRIERS.

* SEE GRADING NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:
1.) TOTAL AREA OF SITE = 1.78± ACRES
2.) TOTAL AREA TO BE DISTURBED = APPROX. 1.05± ACRES

NAME OF RECEIVING WATERS: EXISTING STORMWATER POND

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN–OFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THAT PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT
STORM WATER DRAINAGE WILL BE PROVIDED BY: ONSITE COLLECTION & ATTENUATION

ONSITE IMPROVEMENTS
SEE SITE, GRADING & DRAINAGE AND UTILITY PLANS.

TIMING OF CONTROLS/MEASURES

REFER TO "CONTRACTORS RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

CONTROL/MEASURES.
IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: ____
NAME (OPERATOR AND/OR RESPONSIBLE AUTHORITY)

DATED: ______________________________

GENERAL

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 DENUDED 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.

ENDANGERED SPECIES AND CRITICAL HABITAT

1. ARE THERE ENDANGERED SPECIES ON SITE?

2. ARE THERE CRITICAL HABITAT ON SITE?

IF YES TO EITHER QUESTION, PLEASE EXPLAIN:

"____
____
____
____
____
____
____
____
____

CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. HAY BALE BARRIER: HAY BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   - A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   - B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   - C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   - D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO ENSURE AGAINST WASHOUT.

REFER TO EROSION CONTROL DETAILS FOR CONSTRUCTING THE HAY BALE BARRIER. ALSO REFER TO THE EROSION CONTROL PLAN FOR PROPER LOCATION.

2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   - A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   - B. IN MINOR SWALES OF DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.

REFER TO THE EROSION CONTROL DETAILS FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.

3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.

4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT–FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.

5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHOULD BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.

6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE MINIMIZED.

7. INLET PROTECTION: INLETS AND CATCH–BASINS WHICH DISCHARGE DIRECTLY OFF–SITE SHALL BE PROTECTED FORM SEDIMENT–LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.

8. DUST CONTROL: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE–EXCAVATED OR DRESSED AND RECEIVE FINAL TREATMENT WITHIN 30 DAYS SHALL BE STABILIZED.

9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.

10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX AND AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.

11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.

12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.

13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.

14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG–TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT–TRAPPING FACILITY.

2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN A DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.

THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:

- A. BLOCK AND GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.
- B. GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.
- C. DROP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S<0.50%) AND WHERE SHEET OR OVERLAND FLOWS (Q<0.50CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS.

3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION AND SEDIMENT PROBLEMS TO THE RECEIVING WATER BODY. SILT FENCES AND HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARGING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.

4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE VOLUME OF THE BASIN AT CLEAN OUT SHALL BE 22 CUBIC YARDS PER ACRE.

THE 67 CUBIC YARDS OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL
WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES THE DAY–TO–DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER, SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY–TO–DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THAT PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH THE TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

☐ Concrete
☐ Asphalt
☐
☐ Detergents
☐
☐ Fertilizers
☐ Petroleum Based Products
☐ Cleaning Solvents
☐ Paints
☐
☐ Wood
☐ Masonry Blocks
☐ Roofing Materials
☐ Metal Studs
☐

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.

* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.

* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

* PRODUCTS WILL BE KEPT IS ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.

* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e.:KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WILL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY–TO–DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL REVIEW SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

* NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY–TO–DAY SITE OPERATION OF SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.

* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.

* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE–THIRD THE HEIGHT OF THE FENCE.

* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.

* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.

* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED. * TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON–COMPLIANCE.

* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON–STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON–STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

* WATER FROM WATER LINE FLUSHING.

* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).

* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON–STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

FOR NON–STORM WATER DISCHARGES REFER TO THE DEP GENERIC PERMIT FOR DISCHARGE OF NON–CONTAMINATED PRODUCED GROUND WATER.
(http://www.dep.state.fl.us/legal/rules/shared/62–621(2).doc)

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

NAME	TITLE	COMPANY ADDRESS AND PHONE NUMBER

PLAN REVIEW
☑ SITE ☑ STORM WATER
☑ APPROVED ☐ APPROVED AS NOTED
☐ REJECTED ☐ REVISE & RESUBMIT
PUBLIC WORKS ENGINEERING DEPARTMENT
CITY OF PANAMA CITY BEACH
BY: Lillian Mulligan
Digitally signed by Lillian Mulligan
DN: C=US, E=Lillian.Mulligan@pcbfl.gov, O=City of Panama City Beach, OU=Public Works, CN=Lillian Mulligan
Date: 2024.10.08 15:02:41-05'00'
DATE: 10/8/24

NOTE TO CONTRACTOR:

THIS IS THE CONTRACTORS CERTIFICATION REQUIRED BY THE STATE OF FLORIDA NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), GENERIC PERMIT FOR STORMWATER DISCHARGE FOR CONSTRUCTION SITES OVER 1 ACRES. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OV[illegible]ES. IT IS SUGGESTED THAT THIS SHEET BE REMOVED FROM THE PLAN SET AND DUPLICATED AS NEEDED BY THE CONTRACTOR. MORE INFORMATION MAY BE OBTAINED AT
WWW.DEP.STATE.FL.US/WATER/STORMWATER/NPDES

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS
OF A RAINFALL EVENT OF 0.25 INCHES OR MORE

INSPECTOR:______________________________ DATE:____________________

INSPECTOR'S QUALIFICATIONS:
____
____
____

DAYS SINCE LAST RAINFALL: __________ AMOUNT OF LAST RAINFALL ______ INCHES

STABILIZATION MEASURES

INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED ? (YES/NO)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:
____
____
____

TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

PAGE 1 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
STRUCTURAL CONTROLS

DATE:______________________________

EARTH DIKES/SWALES

DIKE OR SWALE	FROM	TO	IS DIKE/SWALE STABILIZED ?	IS THERE EVIDENCE OF WASHOUT OR OVERTOPPING

MAINTENANCE REQUIRED FOR EARTH DIKE/SWALE:
____
____
____
____

TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

CATCH BASIN/CURB INLET/OUTFALL TURBIDITY CONTROLS

STRUCTURE/ OUTFALL	ARE TURBIDITY CONTROLS IN PLACE	ANY EVIDENCE OF CLOGING/WASHOUT OR BYPASSING ?	ARE TURBIDITY CONTROLS IN NEED OF REPLACING	DOES SILT NEED TO BE REMOVED FROM AROUND CONTROL

MAINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS:
____
____
____
____

TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

PAGE 2 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
SEDIMENT BASIN

DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT ?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:
____
____
____

TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

OTHER CONTROLS STABILIZED
CONSTRUCTION ENTRANCE

DOES MUCH SEDIMENT GET TRACKED ON TO ROAD ?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE ?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:
____
____
____
____
____

TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

PAGE 3 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:
____
____
____
____
____
____

REASONS FOR CHANGES:
____
____
____
____
____
____

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE:____

DATE:____________________

PAGE 4 OF 4

REV	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY: DATE:

SCALE: AS NOTED
DESIGNED BY: JDC
DRAWN BY: REF
REVIEWED BY: JDC
ISSUE DATE: SEPTEMBER 2024
ACAD FILE NAME: 136802-C-E1.dwg

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STORMWATER POLLUTION PREVENTION PLAN
COMMERCIAL FLEXSPACE
OUTPARCEL AT LOWES
PANAMA CITY BEACH, FLORIDA

James H. Slonina, P.E. 39197
Christopher B. Forehand, P.E. 58028
J. Doug Crook, P.E. 66556
William B. Thompson, P.E. 95046
DPR CERTIFICATION #EB-7806

JAMES D. CROOK
NO. 66556
6-Sep-24

SHEET NUMBER
11

PROJECT NUMBER
136802-C