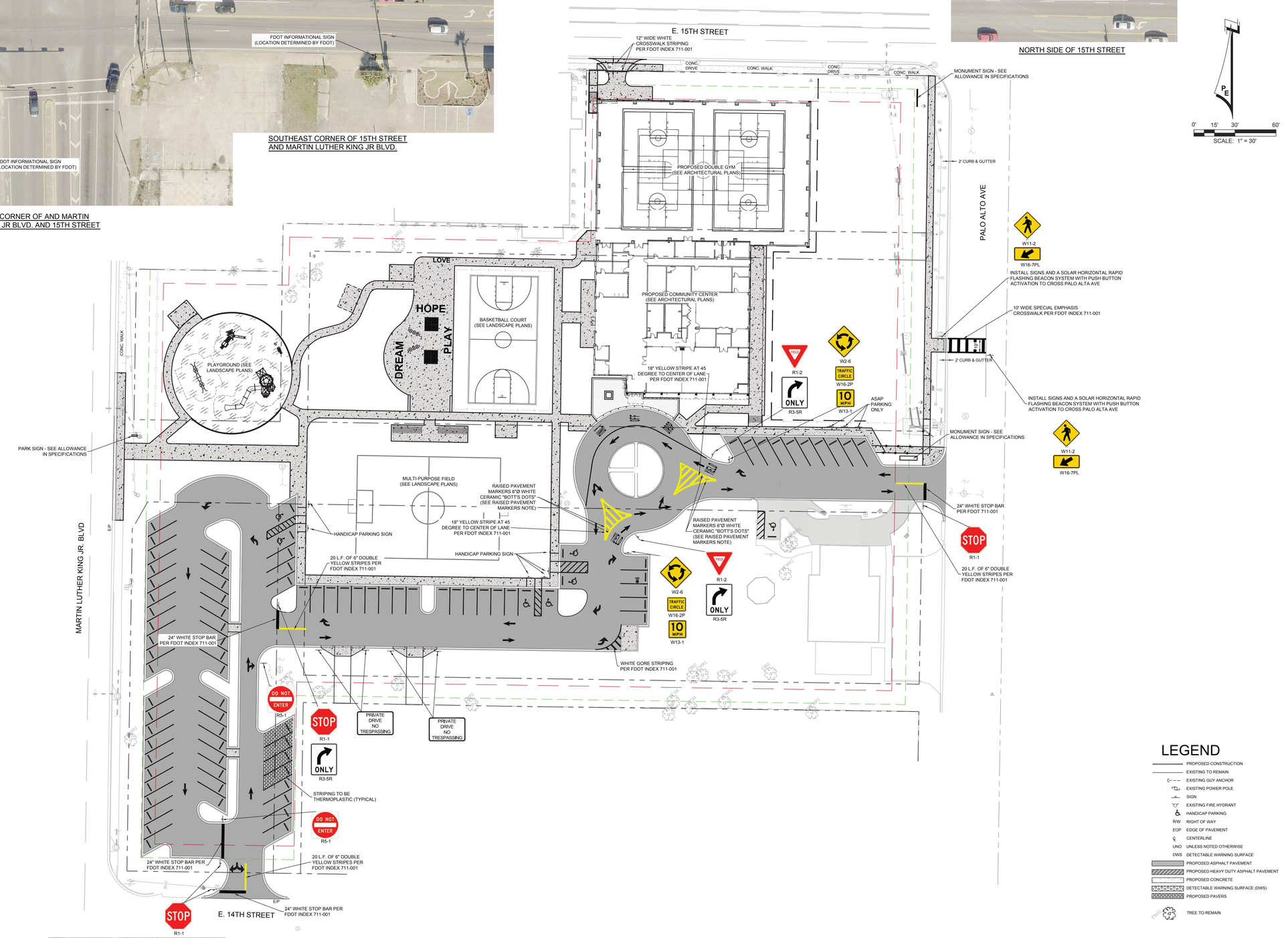
SOUTHEAST CORNER OF 15TH STREET
AND MARTIN LUTHER KING JR BLVD.

SOUTHWEST CORNER OF AND MARTIN
LUTHER KING JR BLVD. AND 15TH STREET

NORTH SIDE OF 15TH STREET



EAST SIDE OF MARTIN LUTHER KING JR. BOULEVARD

LEGEND

- PROPOSED CONSTRUCTION
- EXISTING TO REMAIN
- EXISTING GUY ANCHOR
- EXISTING POWER POLE
- SIGN
- EXISTING FIRE HYDRANT
- HANDICAP PARKING
- RW RIGHT OF WAY
- EOP EDGE OF PAVEMENT
- CENTERLINE
- UNO UNLESS NOTED OTHERWISE
- DWS DETECTABLE WARNING SURFACE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED CONCRETE
- DETECTABLE WARNING SURFACE (DWS)
- PROPOSED PAVERS
- TREE TO REMAIN

RAISED PAVEMENT MARKERS

6" WHITE REFLECTIVE CERAMIC DISKS "ALSO CALLED BOTT'S DOTS" EVENLY SPACED 6" O/S OUTBOARD LIMITS OF STREET PRINT..

MADE BY: HY-VIZ
PHONE NO. 973-478-1464
FOR INSTANT QUOTES YOU CAN FAX YOUR NEEDS AT 973-478-1943 OR
EMAIL: info@hyviz.com

SITE NOTES

1. ABOVE GROUND STRUCTURES, Etc... ARE SHOWN ON THIS SHEET.
2. ALL TRAFFIC STRIPING TO BE THERMOPLASTIC PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION. (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 AREAS SHALL BE GRASSED UNLESS OTHERWISE NOTED. HYDROSEED SLOPES 4:1 & FLATTER, SOD SLOPES STEEPER THAN 4:1. ALL SOD TO BE STAGGERED & PINNED.
4. PLACE SOD ALONG EDGES OF NEW DRIVEWAY (30" MIN. WIDTH).
5. NO DAYTIME LANE CLOSURES ALLOWED.
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 102-612 & 102-613 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 CRITERIA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
10. ALL REGULATORY TRAFFIC SIGNAGE TO BE INSTALLED PER FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION.

WYATT Z. LEWIS
LICENSE
NO. 94236
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066E2.dwg

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
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SIGNAGE AND STRIPING PLAN
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER: C -8
PROJECT NUMBER: 13066

SCALE: 1" = 30'

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER

705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

SHEET TITLE: SIGNAGE & STRIPING PLAN

SHEET NUMBER: C-8

LEGEND

- LIMITS OF CONSTRUCTION
- X.XX — PROPOSED FINISH GRADE
- +12.50 — EXISTING SPOT ELEVATION
- 24 — PROPOSED GRADE CONTOUR
- 24 — EXISTING GRADE CONTOUR
- STORMWATER FLOW ARROW
- GRADE BREAK
- PROPOSED MANHOLE (SANITARY OR STORM)
- PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
- PROPOSED STORM PIPE
- FM — PROPOSED FORCE MAIN (SIZE AS NOTED)
- G — PROPOSED GAS LINE (SIZE AS NOTED)
- OHU — PROPOSED OVERHEAD UTILITIES
- WM — PROPOSED WATER MAIN (SIZE AS NOTED)
- RU — PROPOSED REUSE MAIN (SIZE AS NOTED)
- SS — PROPOSED SANITARY SEWER
- FIRE — PROPOSED FIRE MAIN
- EXISTING SANITARY MANHOLE
- EXISTING STORM DRAIN MANHOLE
- FM — EXISTING FORCE MAIN (SIZE AS NOTED)
- G — EXISTING GAS LINE (SIZE AS NOTED)
- OHU — EXISTING OVERHEAD UTILITIES
- UGU — EXISTING UNDERGROUND UTILITIES
- FO — EXISTING FIBER OPTIC CABLE
- WM — EXISTING WATER MAIN (SIZE AS NOTED)
- RU — EXISTING REUSE MAIN (SIZE AS NOTED)
- SS — EXISTING SANITARY SEWER
- DS-1 — STORM DRAIN STRUCTURE i.e. #1
- DP-1 — STORM DRAIN PIPE i.e. #1
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- SHGW — (ESTIMATED) SEASONAL HIGH GROUND WATER
- BW — BOTTOM OF WALL
- TW — TOP OF WALL
- TOC — TOP OF CURB
- EOP — EDGE OF PAVEMENT
- EOC — EDGE OF CONCRETE

NOTES:
1. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHALL BE FIELD VERFIED PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

DRAINAGE STRUCTURE NOTES:

1. 'C' INLETS PER FDOT STD. PLANS INDEX 425-052
2. 'E' INLETS PER FDOT STD. PLANS INDEX 425-052
3. MITERED END SECTIONS PER FDOT STD. PLANS INDEX 430-021
4. ALL STORM STRUCTURES TO HAVE 1ft. SUMPS.

GRADING NOTES:

1. ABOVE & BELOW GROUND STRUCTURES ARE SHOWN ON THIS SHEET.
2. ALL DISTURBED AREA SHALL BE 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. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

DRAINAGE STRUCTURE TABLE

NO.	STRUCTURE TYPE	TOP ELEV	PIPE INVERTS
DS-1	FDOT TYPE 'E' INLET	22.60'	(NE) 17.22' (DP-1)
DS-3	FDOT TYPE 'C' INLET	31.00'	(S) 24.20' (DP-3) (NW) 24.20' (DP-24)
DS-4	Index No. 232 - Ditch Bottom Inlet - Type E	30.80'	(N) 24.62' (DP-4)
DS-5	FDOT TYPE 'C' INLET WITH TYPE D ALTERNATE A BOTTOM	29.00'	(NE) 22.75' (DP-5) (NW) 22.75' (DP-13)
DS-6	FDOT TYPE 'C' INLET W/ 2' CONC. APRON	27.95'	(N) 24.62' (DP-6)
DS-7	FDOT TYPE 'C' INLET	32.00'	(S) 27.49' (DP-9) (E) 26.41' (DP-7) (W) 28.77' (DP-8) (N) 28.08' (DP-14)
DS-8	FDOT TYPE 'C' INLET	32.00'	(E) 28.92' (DP-8)
DS-9	FDOT TYPE 'C' INLET	31.00'	(W) 27.77' (DP-10) (N) 27.77' (DP-9)
DS-10	FDOT TYPE 'C' INLET	31.00'	(E) 27.92' (DP-10)
DS-11	FDOT TYPE 'C' INLET W/ 2' CONC. APRON	27.95'	(N) 24.11' (DP-3)
DS-12	FDOT TYPE 'C' INLET	31.50'	(S) 26.01' (DP-6) (W) 26.01' (DP-7)
DS-14	18" ADS INLINE DRAIN	30.00'	(S) 23.23' (DP-12) (NW) 23.23' (DP-23)
DS-15	18" ADS INLINE DRAIN	30.00'	(W) 23.79' (DP-11) (SE) 22.99' (DP-13) (N) 22.99' (DP-12)
DS-16	Index No. 272 - Cross Drain MES with 1:4 Slope - Single Round Conc. Pipe	13.56'	(SW) 12.00' (DP-5)
DS-18	18" ADS INLINE DRAIN	31.50'	(S) 28.42' (DP-14)
DS-19	18" ADS INLINE DRAIN	31.00'	(E) 27.92' (DP-15)
DS-21	18" ADS INLINE DRAIN	31.00'	(E) 25.55' (DP-11) (SW) 25.55' (DP-18) (NE) 25.55' (DP-19)
DS-22	18" ADS INLINE DRAIN	30.75'	(SW) 25.72' (DP-19)
DS-26	18" ADS INLINE DRAIN	29.66'	(SE) 24.25' (DP-23)
DS-27	18" ADS INLINE DRAIN	31.25'	(S) 25.17' (DP-25)
DS-28	18" ADS INLINE DRAIN	32.90'	(N) 24.88' (DP-25) (E) 24.88' (DP-26)
DS-29	18" ADS INLINE DRAIN	31.90'	(W) 24.40' (DP-26) (SE) 24.40' (DP-24) (N) 24.40' (DP-27)
DS-30	18" ADS INLINE DRAIN	31.00'	(S) 24.67' (DP-27)
DS-31	18" ADS INLINE DRAIN	31.50'	(W) 27.71' (DP-15) (NE) 27.71' (DP-18)
DS-32	FDOT TYPE 'C' INLET W/ TYPE 5 INLET TOP	23.63'	(NW) 20.54' (DP-29)
DS-33	PIPE END	19.23'	(SE) 18.00' (DP-29)
DS-34	TRENCH DRAIN	VARIES	(S) 22.40' (N) 21.94' (DS-32)
DS-35	4' DIA. STORM MANHOLE	31.77'	(NE) 21.46' (DP-30) (S) 21.46' (DP-4)
DS-36	4' DIA. STORM MANHOLE	27.82'	(SW) 18.75' (DP-30) (E) 18.75' (DP-31)
DS-37	4' DIA. STORM MANHOLE	22.00'	(W) 14.58' (DP-31) (E) 14.58' (DP-32)

DRAINAGE PIPE TABLE

NO.	SIZE	DESCRIPTION	LF	SLOPE	INVERTS
DP-1	18"	ADS HP PIPE	30'	0.56%	DS-1 = 17.22' = 17.05'
DP-3	18"	ADS HP PIPE	30'	0.30%	DS-3 = 24.20' DS-11 = 24.11'
DP-4	18"	ADS HP PIPE	97'	3.26%	DS-4 = 24.62' DS-35 = 21.46'
DP-5	18"	ADS HP PIPE	163'	6.58%	DS-5 = 22.75' DS-16 = 12.00'
DP-6	18"	ADS HP PIPE	30'	4.67%	DS-12 = 26.01' DS-6 = 24.62'
DP-7	18"	ADS HP PIPE	133'	0.30%	DS-7 = 26.41' DS-12 = 26.01'
DP-8	18"	ADS HP PIPE	48'	0.31%	DS-8 = 28.92' DS-7 = 28.77'
DP-9	18"	ADS HP PIPE	91'	0.31%	DS-9 = 27.77' DS-7 = 27.49'
DP-10	18"	ADS HP PIPE	48'	0.31%	DS-10 = 27.92' DS-9 = 27.77'
DP-11	18"	ADS HP PIPE	174'	1.01%	DS-21 = 25.55' DS-15 = 23.79'
DP-12	18"	ADS HP PIPE	84'	0.29%	DS-14 = 23.23' DS-15 = 22.99'
DP-13	18"	ADS HP PIPE	78'	0.31%	DS-15 = 22.99' DS-6 = 22.75'
DP-14	18"	ADS HP PIPE	121'	0.28%	DS-18 = 28.42' DS-7 = 28.08'
DP-15	18"	ADS HP PIPE	68'	0.31%	DS-19 = 27.92' DS-31 = 27.71'
DP-18	18"	ADS HP PIPE	86'	2.51%	DS-31 = 27.71' DS-21 = 25.55'
DP-19	18"	ADS HP PIPE	55'	0.31%	DS-22 = 25.72' DS-21 = 25.55'
DP-23	18"	ADS HP PIPE	25'	4.14%	DS-26 = 24.25' DS-14 = 23.23'
DP-24	18"	ADS HP PIPE	65'	0.31%	DS-29 = 24.40' DS-3 = 24.20'
DP-25	18"	ADS HP PIPE	95'	0.31%	DS-27 = 25.17' DS-28 = 24.88'
DP-26	18"	ADS HP PIPE	159'	0.30%	DS-28 = 24.88' DS-29 = 24.40'
DP-27	18"	ADS HP PIPE	93'	0.29%	DS-30 = 24.67' DS-29 = 24.40'
DP-29	18"	ADS HP PIPE	62'	4.09%	DS-32 = 20.54' DS-33 = 18.00'
DP-30	18"	ADS HP PIPE	87'	3.13%	DS-35 = 21.46' DS-36 = 18.75'
DP-31	18"	ADS HP PIPE	136'	3.07%	DS-36 = 18.75' DS-37 = 14.58'
DP-32	18"	ADS HP PIPE	13'	3.62%	DS-37 = 14.58' = 14.11'

0' 10' 20' 40'
SCALE: 1" = 20'

SCALE: 1" = 20'

E. 15TH STREET

PROPOSED DOUBLE GYM (SEE ARCHITECTURAL PLANS)

PROPOSED COMMUNITY CENTER (SEE ARCHITECTURAL PLANS) BUILDING FFE = 31.00'

BASKETBALL COURT (SEE LANDSCAPE PLANS)

PLAYGROUND (SEE LANDSCAPE PLANS)

MULTI-PURPOSE FIELD (SEE LANDSCAPE PLANS)

LOVE HOPE DREAM PLAY

MARTIN LUTHER KING JR. BLVD

PALO ALTO AVE

CONNECT TO EXISTING SIDEWALK

END RETAINING WALL (SEE STRUCTURAL PLANS FOR DETAILS

8" ADS HEADER PIPE STARTING INV. EL. = 25.92

CUT 2'H x 2'W NOTCH IN STRUCTURE TOP

CORE AND CONNECT NEW INVERT

FDOT TYPE 'E' BOX GRATE EL. = 22.60 3" DIA. PVC ELBOW BEND DOWN AND CAPPED ON END WITH 1-1/8" HOLE DRILLED IN CAP EL. = 20.50' (2) 0.75' W x 1.0' H WEIR NOTCH EL. = 21.60' INV. OUT = 17.22' SEE DETAIL ON SHEET C-12

RETAINING WALL WITH HANDRAILS (SEE STRUCTURAL PLANS)

5'x6' CONCRETE LANDING

BOTTOM OF STAIRS EL. = 26.75

8" ADS 90° BEND EL. = 23.95

STAIRS

(2) 8" ADS 45° BENDS

BEGIN RETAINING WALL

164 LF OF 8" ADS HP HEADER PIPE @ 1.20%

8" ADS INLINE DRAIN GRATE EL. = 30.33 INV. OUT = 28.66

54 LF OF 8" ADS HEADER PIPE @ 0.5%

RETAINING WALL 5' FROM BUILDING (SEE STRUCTURAL PLAN FOR DETAILS

134 LF OF 8" ADS HP HEADER PIPE @ 0.5%

32 LF OF 8" ADS HEADER PIPE @ 0.5%

EDGE OF SIDEWALK = 30.95

8" ADS INLINE DRAIN GRATE EL. = 30.33 INV. IN = 28.23 INV. OUT = 28.23

8" ADS INLINE DRAIN GRATE EL. = 30.33 INV. IN = 28.39 INV. OUT = 28.39

INSTALL 3-SIDED TREATED WOOD WALL AROUND EXISTING INLET

CONNECT TO TOP OF EXISTING DRAINAGE STRUCTURE

8" ADS INLINE DRAIN GRATE EL. = 30.43

113 LF OF 8" ADS HP HEADER PIPE @ 1.07%

POND 1 TOP OF BANK = 23.00' NORMAL POOL = 20.50' POND BOTTOM = 8.50' MAX. STAGE = 22.77'

40.5 S.F. OF RIP-RAP

8" ADS TEE @ EL. = 15.25

8" ADS 45° BEND @ EL. = 15.25

8" ADS TEE @ EL. = 23.28

INV. IN EL. = 23.23

10 LF OF 8" ADS HP @ 0.50%

62 LF OF 8" ADS HP HEADER PIPE @ 9.16%

8" ADS HP HEADER PIPE STARTING INV. EL. = 28.96

8" ADS HEADER PIPE STARTING INV. EL. = 29.07

127 LF OF 8" ADS HP HEADER PIPE @ 15.35%

2' WIDE CONCRETE FLUME

3' WIDE CONCRETE FLUME

2' WIDE CONCRETE FLUME

HANDRAIL BY OTHERS

BEGIN RETAINING WALL (SEE STRUCTURAL PLANS FOR DETAILS)

CONNECT TO EXISTING CONCRETE

MAINTAIN EXISTING CONCRETE

TRENCH DRAIN (SEE DETAIL SHEET C-12)

CONNECT TO EXISTING SIDEWALK AT EL. = 32.07

CONNECT TO EXISTING SIDEWALK AT EL. = 32.00 EX D-12

CONNECT TO EXISTING SIDEWALK AT EL. = 31.62

CONNECT TO EXISTING SIDEWALK

GRADE BROKAW

SSMH-4 RIM=31.99

EX D-1 EX D-2 EX D-3 EX D-4 EX D-5 EX D-6 EX D-7 EX D-8 EX D-9 EX D-10 EX D-11 EX D-12 EX D-13

DS-1 DS-3 DS-4 DS-5 DS-6 DS-7 DS-8 DS-9 DS-10 DS-11 DS-12 DS-14 DS-15 DS-16 DS-18 DS-19 DS-21 DS-22 DS-26 DS-27 DS-28 DS-29 DS-30 DS-31 DS-32 DS-33 DS-34 DS-35 DS-36 DS-37

DP-1 DP-3 DP-4 DP-5 DP-6 DP-7 DP-8 DP-9 DP-10 DP-11 DP-12 DP-13 DP-14 DP-15 DP-18 DP-19 DP-23 DP-24 DP-25 DP-26 DP-27 DP-29 DP-30 DP-31 DP-32

MATCHLINE (SHEET C-10)

MATCHLINE (SHEET C-10)

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER

705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

SHEET TITLE: GRADING & DRAINAGE PLAN

SHEET NUMBER: C-9

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066E2.dwg

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
600 Ohio Avenue Lynn Haven, Florida 32444
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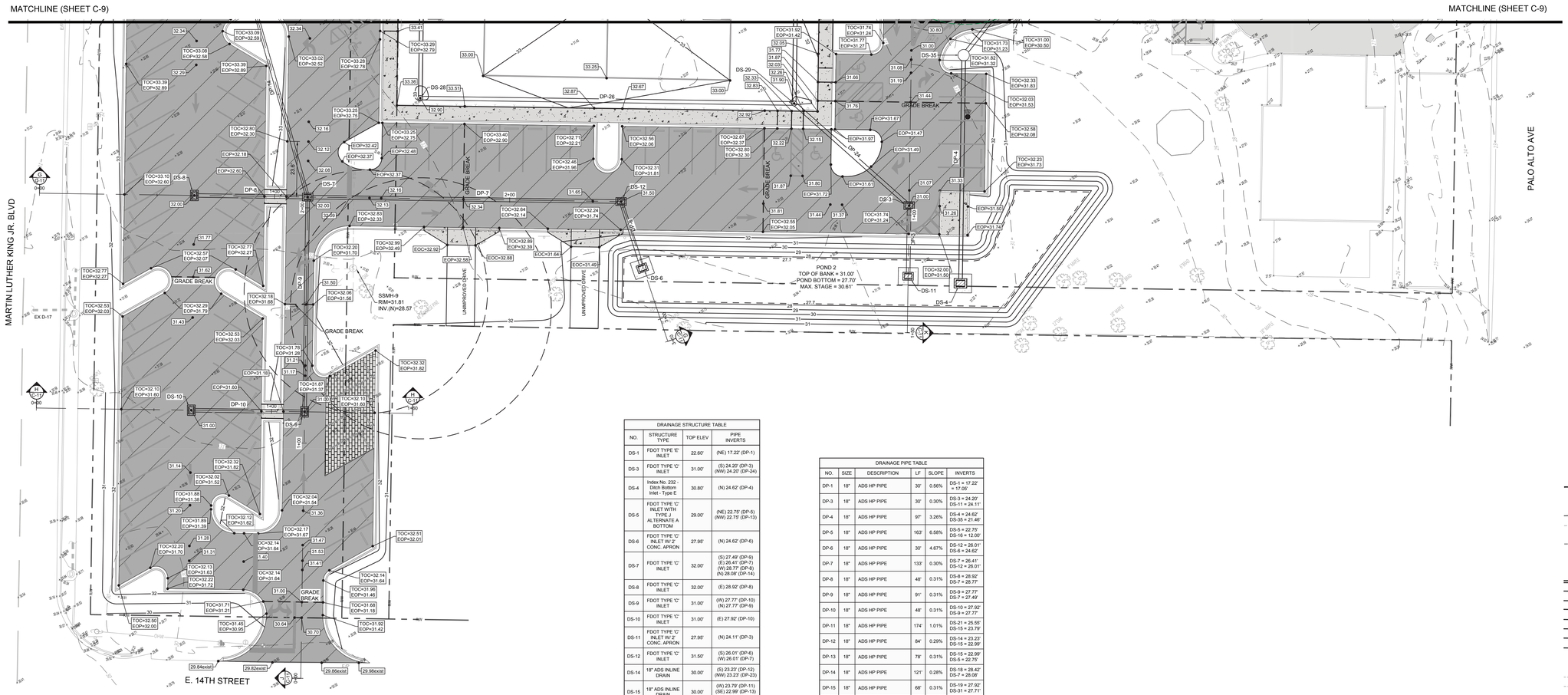
GRADING AND DRAINAGE PLAN
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER: C-9
PROJECT NUMBER: 13066

MATT Z. LEWIS LICENSE NO. 94236 STATE OF FLORIDA PROFESSIONAL ENGINEER



DRAINAGE STRUCTURE TABLE			
NO.	STRUCTURE TYPE	TOP ELEV.	PIPE INVERTS
DS-1	FDOT TYPE 'E' INLET	22.60'	(NE) 17.22' (DP-1)
DS-3	FDOT TYPE 'C' INLET	31.00'	(S) 24.20' (DP-3) (NW) 24.20' (DP-24)
DS-4	Index No. 232 - Ditch Bottom Inlet - Type E	30.80'	(N) 24.62' (DP-4)
DS-5	FDOT TYPE 'C' INLET WITH TYPE J ALTERNATE A BOTTOM	29.00'	(NE) 22.75' (DP-5) (NW) 22.75' (DP-13)
DS-6	FDOT TYPE 'C' INLET W/ 2' CONC. APRON	27.95'	(N) 24.62' (DP-6)
DS-7	FDOT TYPE 'C' INLET	32.00'	(S) 27.49' (DP-9) (E) 26.41' (DP-7) (W) 28.77' (DP-8) (N) 28.08' (DP-14)
DS-8	FDOT TYPE 'C' INLET	32.00'	(E) 28.92' (DP-8)
DS-9	FDOT TYPE 'C' INLET	31.00'	(W) 27.77' (DP-10) (N) 27.77' (DP-9)
DS-10	FDOT TYPE 'C' INLET	31.00'	(E) 27.92' (DP-10)
DS-11	FDOT TYPE 'C' INLET W/ 2' CONC. APRON	27.95'	(N) 24.11' (DP-3)
DS-12	FDOT TYPE 'C' INLET	31.50'	(S) 26.01' (DP-6) (W) 26.01' (DP-7)
DS-14	18" ADS INLINE DRAIN	30.00'	(S) 23.23' (DP-12) (NW) 23.23' (DP-23)
DS-15	18" ADS INLINE DRAIN	30.00'	(W) 23.79' (DP-11) (SE) 22.99' (DP-13) (N) 22.99' (DP-12)
DS-16	Index No. 272 - Cross Drain MES with 1:4 Slope - Single Round Conc. Pipe	13.56'	(SW) 12.00' (DP-5)
DS-18	18" ADS INLINE DRAIN	31.50'	(S) 28.42' (DP-14)
DS-19	18" ADS INLINE DRAIN	31.00'	(E) 27.92' (DP-15)
DS-21	18" ADS INLINE DRAIN	31.00'	(E) 25.55' (DP-11) (SW) 25.55' (DP-18) (NE) 25.55' (DP-19)
DS-22	18" ADS INLINE DRAIN	30.75'	(SW) 25.72' (DP-19)
DS-26	18" ADS INLINE DRAIN	29.66'	(SE) 24.25' (DP-23)
DS-27	18" ADS INLINE DRAIN	31.25'	(S) 25.17' (DP-25)
DS-28	18" ADS INLINE DRAIN	32.90'	(N) 24.88' (DP-25) (E) 24.88' (DP-26)
DS-29	18" ADS INLINE DRAIN	31.90'	(W) 24.40' (DP-26) (SE) 24.40' (DP-24) (N) 24.40' (DP-27)
DS-30	18" ADS INLINE DRAIN	31.00'	(S) 24.67' (DP-27)
DS-31	18" ADS INLINE DRAIN	31.50'	(W) 27.71' (DP-15) (NE) 27.71' (DP-18)
DS-32	FDOT TYPE 'C' INLET W/ TYPE 5 INLET TOP	24.66'	(NW) 20.54' (DP-29)
DS-33	PIPE END	19.23'	(SE) 18.00' (DP-29)
DS-34	TRENCH DRAIN	0.00'	
DS-35	4' DIA. STORM MANHOLE	31.77'	(NE) 21.46' (DP-30) (S) 21.46' (DP-4)
DS-36	4' DIA. STORM MANHOLE	27.82'	(SW) 18.75' (DP-30) (E) 18.75' (DP-31)
DS-37	4' DIA. STORM MANHOLE	22.00'	(W) 14.58' (DP-31) (E) 14.58' (DP-32)

DRAINAGE PIPE TABLE					
NO.	SIZE	DESCRIPTION	LF	SLOPE	INVERTS
DP-1	18"	ADS HP PIPE	30'	0.56%	DS-1 = 17.22' + 17.00'
DP-3	18"	ADS HP PIPE	30'	0.30%	DS-3 = 24.20' DS-11 = 24.11'
DP-4	18"	ADS HP PIPE	97'	3.26%	DS-4 = 24.62' DS-35 = 21.46'
DP-5	18"	ADS HP PIPE	163'	6.58%	DS-5 = 22.75' DS-16 = 12.00'
DP-6	18"	ADS HP PIPE	30'	4.67%	DS-12 = 26.01' DS-6 = 24.62'
DP-7	18"	ADS HP PIPE	133'	0.30%	DS-7 = 26.41' DS-12 = 26.01'
DP-8	18"	ADS HP PIPE	48'	0.31%	DS-8 = 28.92' DS-7 = 28.77'
DP-9	18"	ADS HP PIPE	91'	0.31%	DS-9 = 27.77' DS-7 = 27.49'
DP-10	18"	ADS HP PIPE	48'	0.31%	DS-10 = 27.92' DS-9 = 27.77'
DP-11	18"	ADS HP PIPE	174'	1.01%	DS-21 = 25.55' DS-15 = 23.79'
DP-12	18"	ADS HP PIPE	84'	0.29%	DS-14 = 23.23' DS-15 = 22.99'
DP-13	18"	ADS HP PIPE	78'	0.31%	DS-15 = 22.99' DS-5 = 22.75'
DP-14	18"	ADS HP PIPE	121'	0.28%	DS-18 = 28.42' DS-7 = 28.08'
DP-15	18"	ADS HP PIPE	68'	0.31%	DS-19 = 27.92' DS-31 = 27.71'
DP-18	18"	ADS HP PIPE	86'	2.51%	DS-31 = 27.71' DS-21 = 25.55'
DP-19	18"	ADS HP PIPE	55'	0.31%	DS-22 = 25.72' DS-21 = 25.55'
DP-23	18"	ADS HP PIPE	25'	4.14%	DS-26 = 24.25' DS-14 = 23.23'
DP-24	18"	ADS HP PIPE	65'	0.31%	DS-29 = 24.40' DS-3 = 24.20'
DP-25	18"	ADS HP PIPE	95'	0.31%	DS-27 = 25.17' DS-28 = 24.88'
DP-26	18"	ADS HP PIPE	159'	0.30%	DS-28 = 24.88' DS-29 = 24.40'
DP-27	18"	ADS HP PIPE	93'	0.29%	DS-30 = 24.67' DS-29 = 24.40'
DP-29	18"	ADS HP PIPE	62'	4.09%	DS-32 = 20.54' DS-33 = 18.00'
DP-30	18"	ADS HP PIPE	87'	3.13%	DS-35 = 21.46' DS-36 = 18.75'
DP-31	18"	ADS HP PIPE	136'	3.07%	DS-36 = 18.75' DS-37 = 14.58'
DP-32	18"	ADS HP PIPE	13'	3.62%	DS-37 = 14.58' = 14.11'

DRAINAGE STRUCTURE NOTES:

1. 'C' INLETS PER FDOT STD. PLANS INDEX 425-052
2. 'E' INLETS PER FDOT STD. PLANS INDEX 425-052
3. MITERED END SECTIONS PER FDOT STD. PLANS INDEX 430-021
4. ALL STORM STRUCTURES TO HAVE 1ft. SUMPS.

GRADING NOTES:

1. ABOVE & BELOW GROUND STRUCTURES ARE SHOWN ON THIS SHEET.
2. ALL DISTURBED AREA SHALL BE 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. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY UPON IDENTIFICATION OF CONFLICTS.

LEGEND

- LIMITS OF CONSTRUCTION
- X.XX PROPOSED FINISH GRADE
- +12.50 EXISTING SPOT ELEVATION
- 24 PROPOSED GRADE CONTOUR
- 24 EXISTING GRADE CONTOUR
- STORMWATER FLOW ARROW
- GRADE BREAK
- PROPOSED MANHOLE (SANITARY OR STORM)
- PROPOSED DRAINAGE INLETS (TYPE & SIZE NOTED ON PLANS)
- PROPOSED STORM PIPE
- #M PROPOSED FORCE MAIN (SIZE AS NOTED)
- G PROPOSED GAS LINE (SIZE AS NOTED)
- OHU PROPOSED OVERHEAD UTILITIES
- WM PROPOSED WATER MAIN (SIZE AS NOTED)
- RU PROPOSED REUSE MAIN (SIZE AS NOTED)
- SS PROPOSED SANITARY SEWER
- FIRE PROPOSED FIRE MAIN
- S EXISTING SANITARY MANHOLE
- D EXISTING STORM DRAIN MANHOLE
- #M EXISTING FORCE MAIN (SIZE AS NOTED)
- G EXISTING GAS LINE (SIZE AS NOTED)
- OHU EXISTING OVERHEAD UTILITIES
- UGU EXISTING UNDERGROUND UTILITIES
- FO EXISTING FIBER OPTIC CABLE
- WM EXISTING WATER MAIN (SIZE AS NOTED)
- RU EXISTING REUSE MAIN (SIZE AS NOTED)
- SS EXISTING SANITARY SEWER
- DS-1 STORM DRAIN STRUCTURE i.e. #1
- DP-1 STORM DRAIN PIPE i.e. #1
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- SHGW (ESTIMATED) SEASONAL HIGH GROUND WATER
- TOC TOP OF CURB
- EOP EDGE OF PAVEMENT
- EOC EDGE OF CONCRETE

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.

SCALE: 1" = 20'

0' 10' 20' 40'

SCALE: 1" = 20'

WATT Z. LEWIS LICENSE NO. 94236 STATE OF FLORIDA PROFESSIONAL ENGINEER

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066E2.dwg

PANHANDLE ENGINEERING, INC.
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GRADING AND DRAINAGE PLAN
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER C-10
PROJECT NUMBER 13066

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

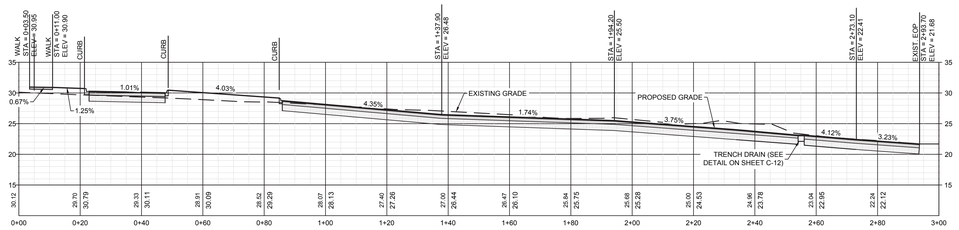
JOB NUMBER: 13066

DATE: 05/18/2023

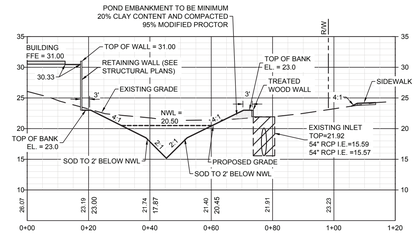
PRINTED / REVISIONS
DESCRIPTION DATE

SHEET TITLE: GRADING & DRAINAGE PLAN

SHEET NUMBER: C-10



A C-9 SECTION A-A
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



C C-9 SECTION C-C
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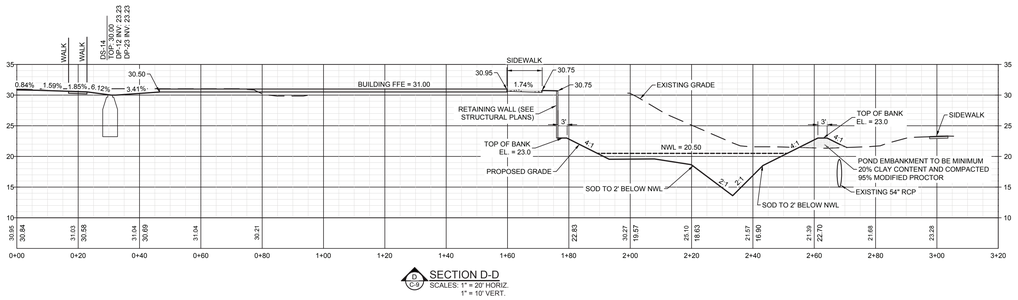
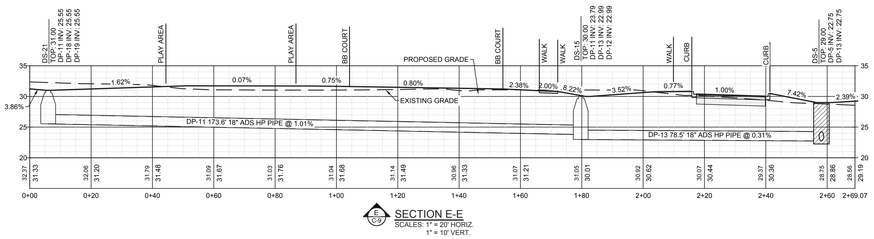
1" = 10' VERT.



D C-9 SECTION D-D
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



E C-9 SECTION E-E
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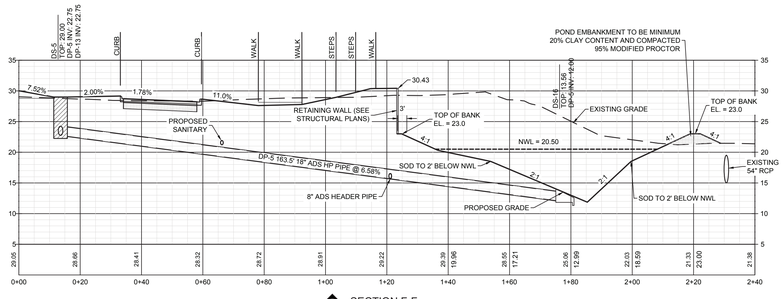
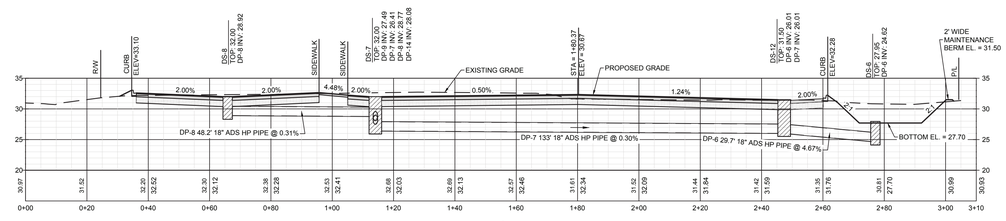
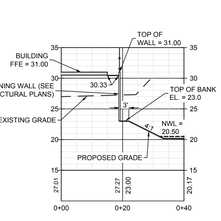
1" = 10' VERT.



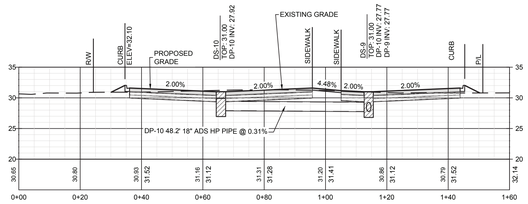
F C-9 SECTION F-F
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



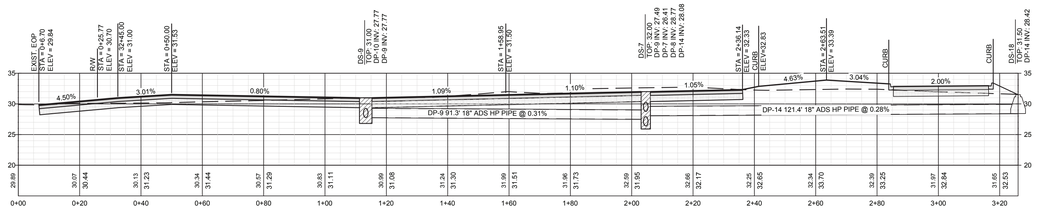
G C-10 SECTION G-G
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



O C-9 SECTION O-O
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



H C-10 SECTION H-H
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



J C-10 SECTION J-J
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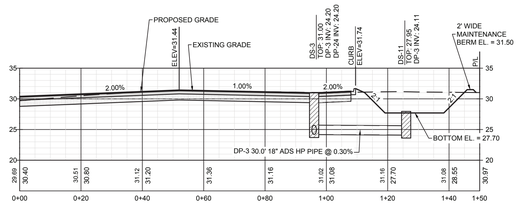
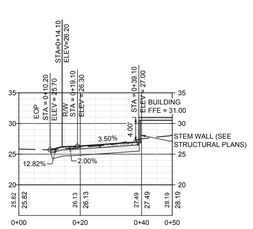
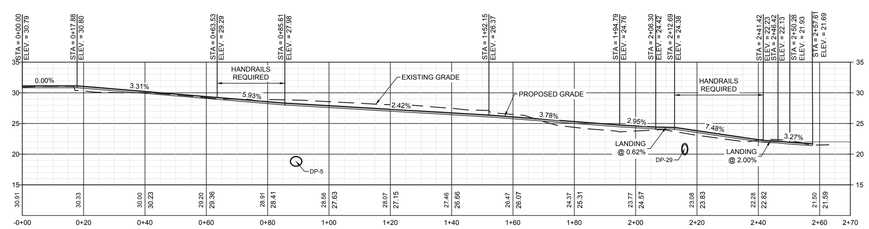
1" = 10' VERT.



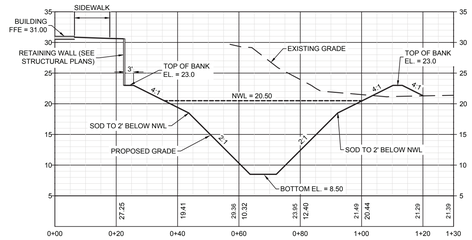
K C-10 SECTION K-K
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



L C-9 SECTION L-L
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



M C-9 SECTION M-M
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.



N C-9 SECTION N-N
SCALES: 1" = 20' HORIZ.
1" = 10' VERT.

WALTER Z. LEWIS
LICENSE
NO. 94236
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

SCALE: AS NOTED	PANHANDLE ENGINEERING, INC.
DESIGNED BY: CBF	ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
DRAWN BY: JAH	600 Ohio Avenue Lynn Haven, Florida 32444
REVIEWED BY: CBF	(850)763-5200 www.panhandleengineering.com
ISSUE DATE: JUNE 2023	SECTIONS
FILE NAME: 13066E2.dwg	MARTIN LUTHER KING JR., RECREATION CENTER
SHEET NUMBER: C-11	701 14TH COURT EAST
PROJECT NUMBER: 13066	PANAMA CITY, FL 32401

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER:
13066

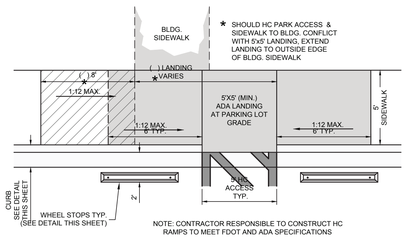
DATE:
05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

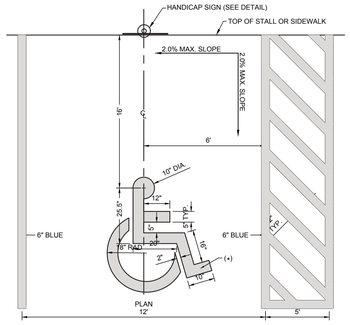
SHEET TITLE:
SECTIONS

SHEET NUMBER:
C-11



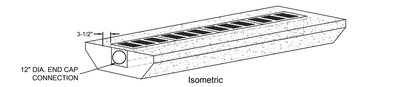
NOTE: CONTRACTOR RESPONSIBLE TO CONSTRUCT HC RAMPS TO MEET FDOT AND ADA SPECIFICATIONS

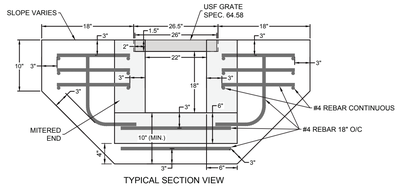
TYPICAL ADA SIDEWALK RAMP
NOT TO SCALE



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

HANDICAP STRIPING DETAIL
NOT TO SCALE



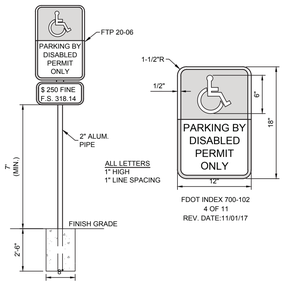


TYPICAL SECTION VIEW

TRENCH DRAIN NOTES:

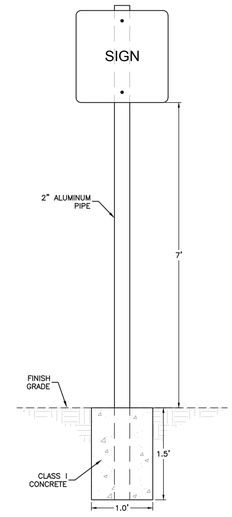
1. CONCRETE DIMENSIONS ARE TYPICAL ON BOTH SIDES.
2. CONCRETE TO BE FDOT SPECIFICATION CLASS I PORTLAND CEMENT.
3. PLACE DOUBLE 16" OR SINGLE ROLL 30" STRIP OF SOD AT EDGE OF DRIVE.
4. CONTRACTOR TO FIELD VERIFY ALL UTILITIES ABOVE OR BELOW GROUND AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
5. FOR MAINTENANCE OF TRAFFIC CONTROL THROUGH WORK ZONES REFER TO FDOT STD. PLANS INDEX 102-612 & 102-613 AS APPLICABLE.

HEAVY DUTY CONCRETE TRENCH DRAIN DETAIL
NOT TO SCALE

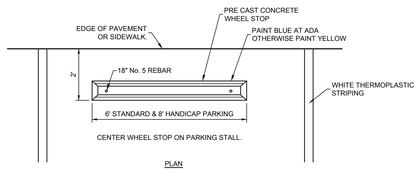


FDOT INDEX 700-102
4 OF 11
REV. DATE:11/01/17

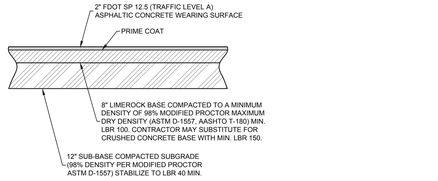
HANDICAP SIGN DETAIL
NOT TO SCALE



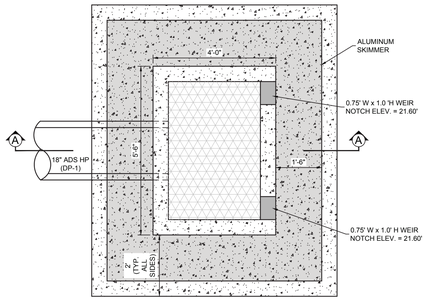
SIGN DETAIL
NOT TO SCALE



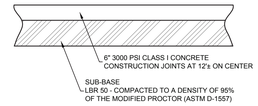
WHEEL STOP DETAIL
NOT TO SCALE



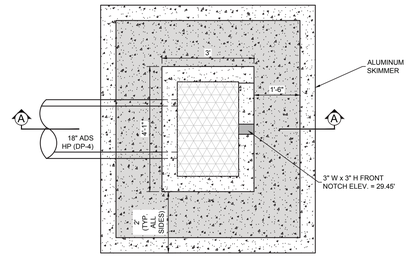
HEAVY DUTY ASPHALTIC PAVEMENT DETAIL
NOT TO SCALE



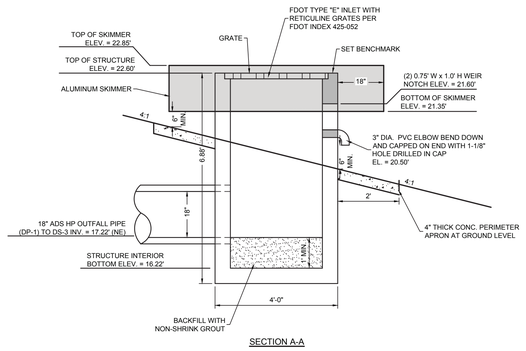
PLAN VIEW



CONCRETE DRIVEWAY DETAIL
NOT TO SCALE

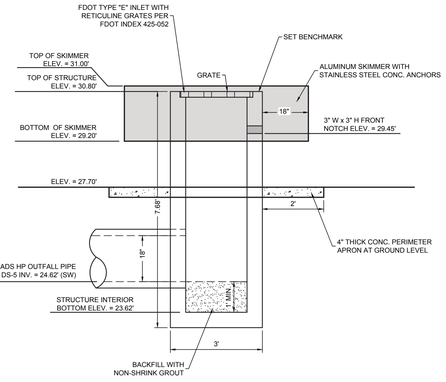


PLAN VIEW



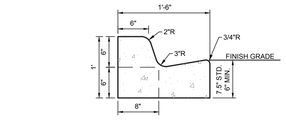
SECTION A-A

POND CONTROL STRUCTURE DETAIL (DS-1)
SCALE: 1" = 2'

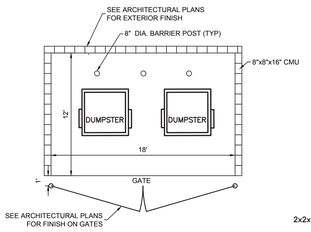


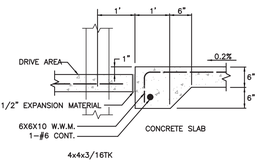
SECTION A-A

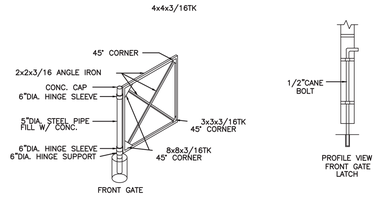
POND CONTROL STRUCTURE DETAIL (DS-4)
SCALE: 1" = 2'



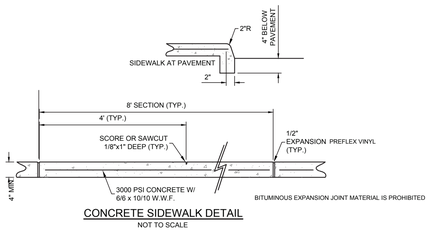
MODIFIED TYPE "F" CURB & GUTTER
NOT TO SCALE



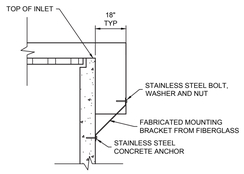




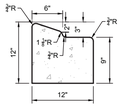
DUMPSTER DETAIL
NOT TO SCALE



CONCRETE SIDEWALK DETAIL
NOT TO SCALE



SKIMMER MOUNTING DETAIL
NOT TO SCALE



MODIFIED TYPE "A" CURB
NOT TO SCALE

TRAFFIC BEARING SECTION TO BE USED IN ROUNDABOUT CENTRAL ISLAND CONSTRUCTION

MODIFIED TYPE "RA" CURB
NOT TO SCALE

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER

705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER:
13066

DATE:
05/18/2023

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DESCRIPTION	DATE

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C-12

SCALE: AS NOTED
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DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066det.dwg

PANHANDLE ENGINEERING, INC.
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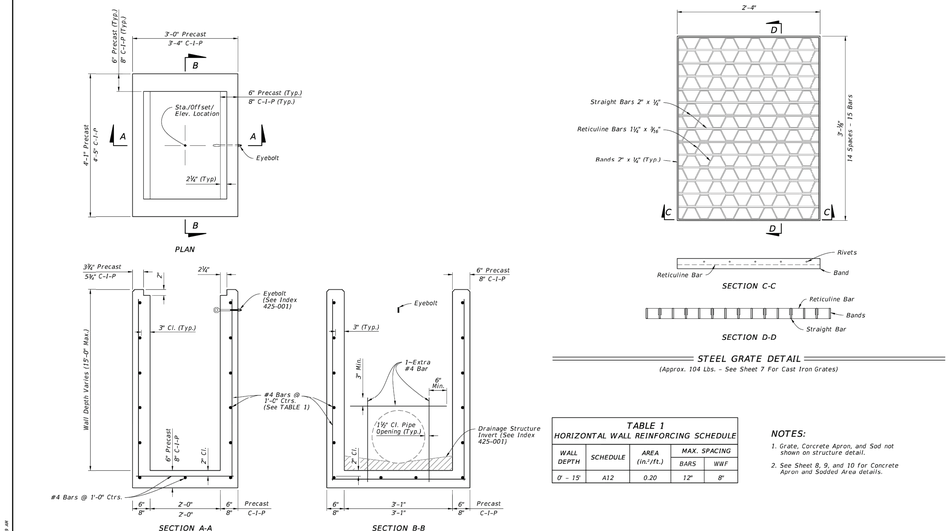
CONSTRUCTION DETAILS
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER C-12
PROJECT NUMBER 13066



DIMENSIONAL AND REINFORCING DETAILS

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

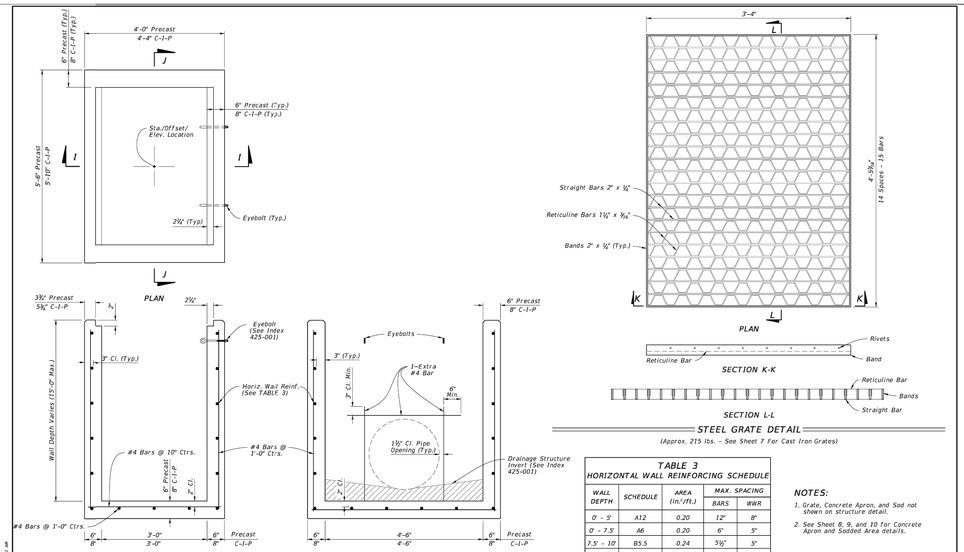
TABLE 1
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in²/ft.)	MAX. SPACING	
			BARS	WWF
0' - 15'	A12	0.20	12"	8"

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure detail.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	DITCH BOTTOM INLET TYPE C, D, E, AND H	INDEX 425-052	SHEET 2 of 14



DIMENSIONAL AND REINFORCING DETAILS

TYPE E - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

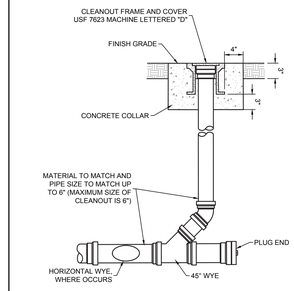
TABLE 3
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in²/ft.)	MAX. SPACING	
			BARS	WWR
0' - 5'	A12	0.20	12"	8"
0' - 7.5'	A6	0.20	6"	5"
7.5' - 10'	B5.5	0.24	5½"	5"
10' - 15'	C6.5	0.37	6½"	6"

NOTES:

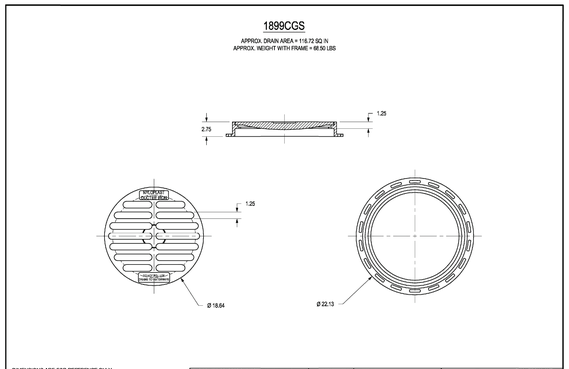
1. Grate, Concrete Apron, and Sod not shown on structure detail.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	DITCH BOTTOM INLET TYPE C, D, E, AND H	INDEX 425-052	SHEET 4 of 14



DRAINAGE CLEANOUT DETAIL

NOT TO SCALE



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

DRAWN BY	EBC	MATERIAL
DATE	3-8-06	DUCTILE IRON
REVISED BY	EBC	PROJECT NO./NAME
DATE	3-13-10	
DWG SIZE	A	18 IN STANDARD GRATE ASSEMBLY - TYPE C
SCALE	1:10	
SHEET	1 OF 1	
DWG NO.	7001-110-213	
REV	C	

Nyloplast
3128 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-3498
www.nyloplast-us.com

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
FLUSH STRAIN	MEETS H-10	7090GSF	7001-110-217
STANDARD	MEETS H-20	7090GSS	7001-110-213
SOLID COVER	MEETS H-20	7090CSC	7001-110-214
		7090CSD	7001-110-215
DROP IN GRATE	LIGHT DUTY	1807CS	7001-110-219

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-09.
4 - ALL GASKETS AND JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMAL ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY	EBC	MATERIAL
DATE	04-03-06	
REVISED BY	NMH	PROJECT NO./NAME
DATE	03-14-16	
DWG SIZE	A	18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
SCALE	1:30	
SHEET	1 OF 1	
DWG NO.	7001-110-191	
REV	E	

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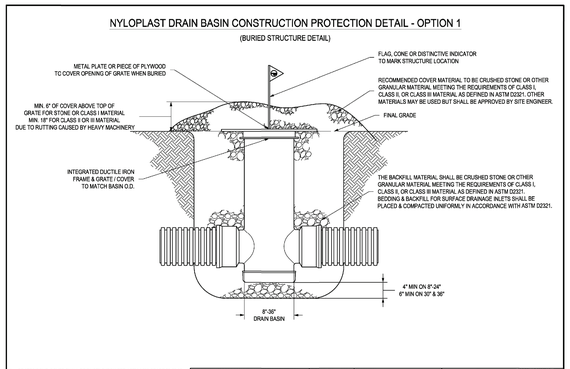
FAX (770) 932-3498
www.nyloplast-us.com

NYLOPLAST DRAIN BASIN CONSTRUCTION PROTECTION DETAIL - OPTION 1

(BURIED STRUCTURE DETAIL)



1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. IN THE EVENT A BASIN IS DAMAGED DURING CONSTRUCTION, RISER SECTIONS CAN BE USED AS WELL TO REPAIR.
4 - COVER SHALL BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATION OR APPROVED BY SITE ENGINEER. MATERIAL SHALL BE ABLE TO SUPPORT VEHICLE TRAFFIC AND SHALL COVER THE STRUCTURE A MINIMUM OF 6".

DRAWN BY	CJA	MATERIAL
DATE	3-10-00	
REVISED BY	NMH	PROJECT NO./NAME
DATE	02-21-18	
DWG SIZE	A	8 IN - 36 IN DRAIN BASIN SPECIFICATIONS
SCALE	1:1	
SHEET	1 OF 1	
DWG NO.	7001-110-011	
REV	J	

Nyloplast
3128 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-3498
www.nyloplast-us.com

Section 2721

Engineered Surface Drainage Products

GENERAL

PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

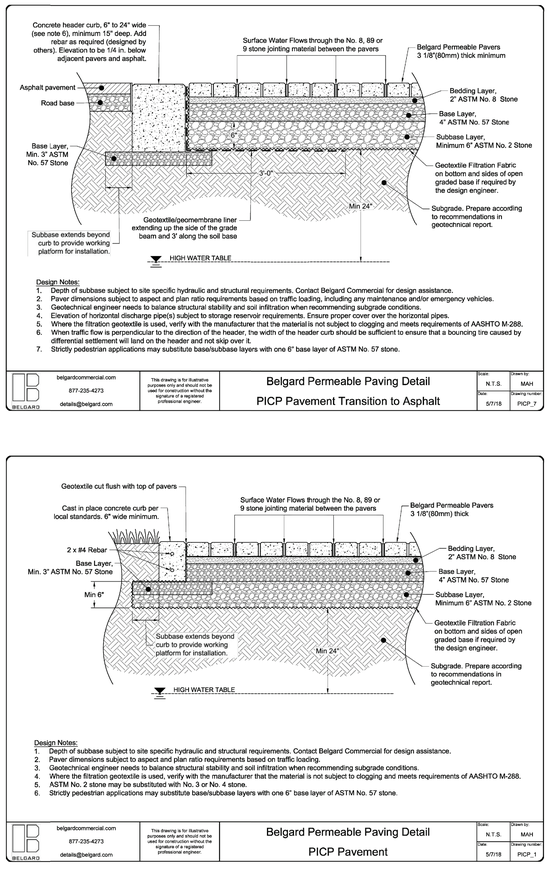
MATERIALS

The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for structure sizes 8", 10", 12", 15", 18", 24", 30" and 36" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION

The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.



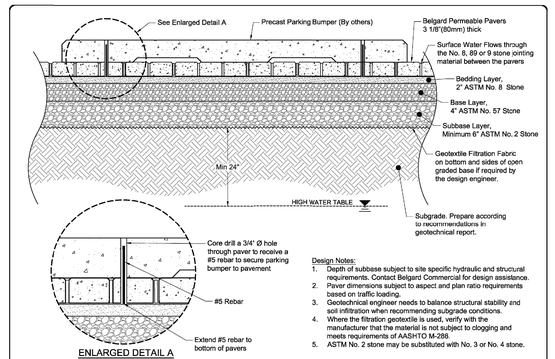
Design Notes:

1. Depth of subbase subject to site specific hydraulic and structural requirements. Contact Belgard Commercial for design assistance.
2. Paver dimensions subject to aspect and plan ratio requirements based on traffic loading, including any maintenance and/or emergency vehicles.
3. Geotechnical engineer needs to balance structural stability and soil infiltration when recommending subgrade conditions.
4. Elevation of horizontal discharge pipe(s) subject to storage reservoir requirements. Ensure proper cover over the horizontal pipes.
5. Where the filtration geotextile is used, verify with the manufacturer that the material is not subject to clogging and meets requirements of AASHTO M-288.
6. When traffic flow is perpendicular to the direction of the header, the width of the header curb should be sufficient to ensure that a bouncing tire caused by differential settlement will land on the header and not skip over it.
7. Strictly pedestrian applications may substitute base/subbase layers with one 6" base layer of ASTM No. 57 stone.

belgardcommercial.com
877-235-4273
details@belgard.com

Belgard Permeable Paving Detail
PICP Pavement Transition to Asphalt

Scale: N.T.S.	Drawn by: MAH
Date: 5/7/18	Drawing number: PICP_7



ENLARGED DETAIL A

Design Notes:

1. Depth of subbase subject to site specific hydraulic and strucural requirements. Contact Belgard Commercial for design assistance.
2. Paver dimensions subject to aspect and plan ratio requirements based on traffic loading.
3. Geotechnical engineer needs to balance structural stability and soil infiltration when recommending subgrade conditions.
4. Where the filtration geotextile is used, verify with the manufacturer that the material is not subject to clogging and meets requirements of AASHTO M-288.
5. ASTM No. 2 stone may be substituted with No. 3 or No. 4 stone.

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877-235-4273
details@belgard.com

Belgard Permeable Paving Detail
PICP Pavement w/ Parking Bumper

Scale: N.T.S.	Drawn by: MAH
Date: 4/17/18	Drawing number: PICP_12

Design Notes:

1. Depth of subbase subject to site specific hydraulic and structural requirements. Contact Belgard Commercial for design assistance.
2. Paver dimensions subject to aspect and plan ratio requirements based on traffic loading.
3. Geotechnical engineer needs to balance structural stability and soil infiltration when recommending subgrade conditions.
4. Where the filtration geotextile is used, verify with the manufacturer that the material is not subject to clogging and meets requirements of AASHTO M-288.
5. ASTM No. 2 stone may be substituted with No. 3 or No. 4 stone.
6. Strictly pedestrian applications may substitute base/subbase layers with one 6" base layer of ASTM No. 57 stone.

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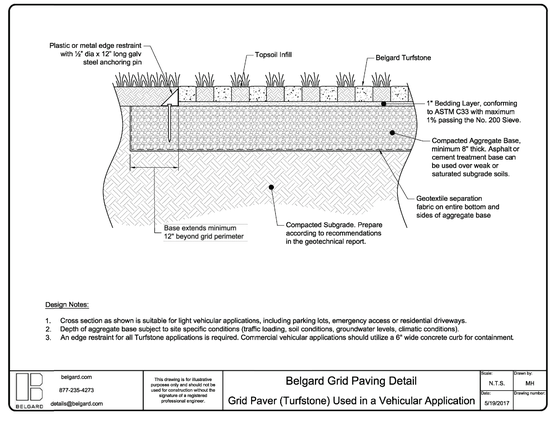
details@belgard.com

Belgard Permeable Paving Detail
PICP Pavement

Scale: N.T.S.	Drawn by: MAH
Date: 5/7/18	Drawing number: PICP_1



Design Notes:

1. Cross section as shown is suitable for light vehicular applications, including parking lots, emergency access or residential driveways.
2. Depth of aggregate base subject to site specific conditions (traffic loading, soil conditions, groundwater levels, climatic conditions).
3. An edge restraint for all Turfstone applications is required. Commercial vehicular applications should utilize a 6" wide concrete curb for containment.

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877-235-4273
details@belgard.com

Belgard Grid Paving Detail
Grid Paver (Turfstone) Used in a Vehicular Application

Scale: N.T.S.	Drawn by: MH
Date: 5/19/2017	Drawing number:

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

SHEET TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: C-13

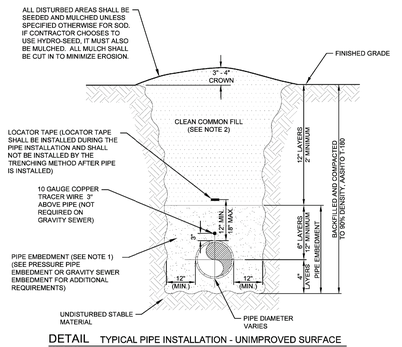
WILLIAM Z. LEWIS LICENSE NO. 94236 STATE OF FLORIDA PROFESSIONAL ENGINEER

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066det.dwg

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

CONSTRUCTION DETAILS
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER: C-13
PROJECT NUMBER: 13066

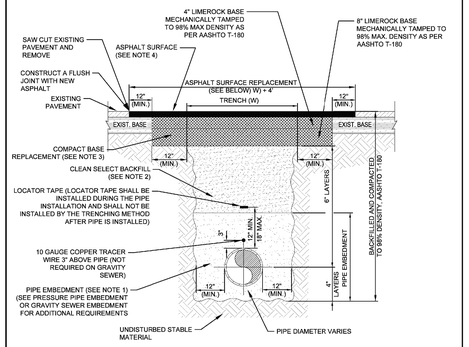


DETAIL TYPICAL PIPE INSTALLATION - UNIMPROVED SURFACE

SCALE: N.T.S.

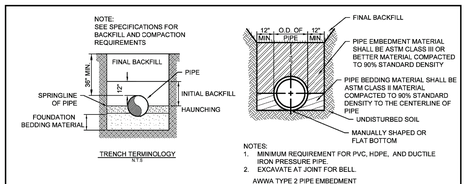
NOTES:
1. PRESSURE PIPE EMBEDEMENT SHALL BE ASTM CLASS II MATERIAL (MINIMUM), GRAVITY PIPE EMBEDMENT SHALL BE ASTM CLASS I MATERIAL, OR PIPE EMBEDMENT MATERIAL AS SPECIFIED BY ENGINEER. PRESSURE PIPE SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH AWWA C605-TYPE 2 BEDDING REQUIREMENTS FOR PVC PIPE AND AWWA C600-TYPE 2 BEDDING REQUIREMENTS FOR DUCTILE IRON PIPE. GRAVITY PIPES SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH ASTM D2321.
2. CLEAN COMMON BACKFILL SHALL BE ASTM CLASS III MATERIAL OR BETTER. ASTM CLASS IV OR V MATERIALS SHALL BE USED FOR BACKFILL. CLEAN COMMON BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12 INCH THICKNESS AND EACH LAYER SHALL BE COMPACTED TO 90% STANDARD DENSITY.
3. NO TRASH, RUBBISH, ROCKS OR DEBRIS WILL BE ALLOWED IN TRENCHES.
4. ALL PIPE SHALL BE INSTALLED IN DRY TRENCHES.
5. CONTRACTOR MAY BE REQUIRED BY THE ENGINEER TO DE-WATER PIPE TRENCH, IF NECESSARY.
6. BACK FILL FOR PIPE IN WET TRENCHES SHALL BE ASTM CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK) AND COMPACTED IN THE TRENCH TO A LEVEL ABOVE THE GROUND WATER.
7. AT THE ENGINEERS DISCRETION, THE CONTRACTOR SHALL SUBSTITUTE SELECT BACKFILL IN LIEU OF NATIVE SOILS FOR A UNIT PRICE SPECIFIED IN THE CONTRACTOR'S BID FORM.
8. THE CONTRACTOR WILL BE COMPENSATED FOR SELECT BACKFILL ONLY IF DIRECTED BY THE ENGINEER IN WRITING. THE ENGINEER MAY ISSUE A FIELD ORDER WITH WRITTEN CONFIRMATION WITHIN 24 HOURS.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : OCTOBER 2022
	TYPICAL PIPE INSTALLATION - UNIMPROVED SURFACE	SCALE : NTS
		FIGURE : G-4



NOTES:
1. PRESSURE PIPE EMBEDEMENT SHALL BE ASTM CLASS II MATERIAL (MINIMUM), GRAVITY PIPE EMBEDMENT SHALL BE ASTM CLASS I MATERIAL, OR PIPE EMBEDMENT MATERIAL AS SPECIFIED BY ENGINEER. PRESSURE PIPE SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH AWWA C605-TYPE 2 BEDDING REQUIREMENTS FOR PVC PIPE AND AWWA C600-TYPE 2 BEDDING REQUIREMENTS FOR DUCTILE IRON PIPE. GRAVITY PIPES SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH ASTM D2321.
2. CLEAN SELECT BACKFILL SHALL BE ASTM CLASS III MATERIAL OR BETTER. ASTM CLASS III, IV, OR V MATERIALS SHALL NOT BE USED. FOR BACKFILL. CLEAN SELECT BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCH THICKNESS AND EACH LAYER SHALL BE MECHANICALLY COMPACTED TO 98% STANDARD DENSITY.
3. COMPACT BASE MATERIAL SHALL BE ASTM CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK). BASE SHALL BE 8" MINIMUM THICKNESS AND MECHANICAL TAMPED TO 98% MAX. MODIFIED PROCTOR DENSITY.
4. ASPHALT SURFACE SHALL BE 2" OF SP9.5.
5. NO TRASH, RUBBISH, ROCKS OR DEBRIS WILL BE ALLOWED IN TRENCHES.
6. ALL PIPE SHALL BE INSTALLED IN DRY TRENCHES.
7. CONTRACTOR MAY BE REQUIRED BY THE ENGINEER TO DE-WATER PIPE TRENCH, IF NECESSARY.
8. BACK FILL FOR PIPE IN WET TRENCHES SHALL BE CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK) AND COMPACTED IN THE TRENCH TO A LEVEL ABOVE THE GROUND WATER.
9. AT THE ENGINEERS DISCRETION, THE CONTRACTOR SHALL SUBSTITUTE SELECT BACKFILL IN LIEU OF NATIVE SOILS FOR A UNIT PRICE SPECIFIED IN THE CONTRACTOR'S BID FORM.
10. THE CONTRACTOR WILL BE COMPENSATED FOR SELECT BACKFILL ONLY IF DIRECTED BY THE ENGINEER IN WRITING. THE ENGINEER MAY ISSUE A FIELD ORDER WITH WRITTEN CONFIRMATION WITHIN 24 HOURS.
11. TEMPORARY PATCHES SHALL BE INSTALLED AND MAINTAINED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.

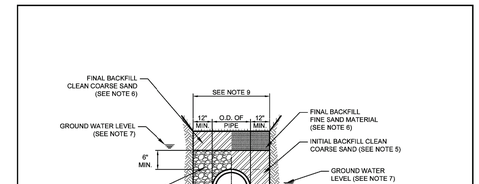
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : OCTOBER 2022
	REMOVAL AND REPLACE PAVEMENT ASPHALT PATCH	SCALE : NTS
		FIGURE : G-5A



PIPE EMBEDMENT MATERIAL SPECIFICATIONS

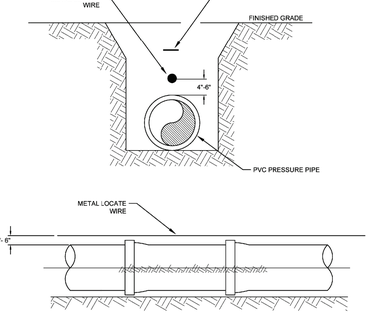
EMBEDMENT MATERIALS (CLASS I, II AND III) SHALL CONFORM TO PARAGRAPHS 6.1.1, 6.1.2 AND 6.1.3, ASTM D-2321 WHICH READS AS FOLLOWS:
1. CLASS I - ANGULAR, 1/4 TO 1-1/2 IN. GRADED STONE, INCLUDING A NUMBER OF FILL MATERIALS THAT HAVE REGIONAL SIGNIFICANCE SUCH AS CRUSHED STONE, CRUSHED GRAVEL, AND CRUSHED SHELLS.
2. CLASS II - COARSE SANDS AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF 1-1/2 IN., INCLUDING VARIOUSLY GRADED SANDS AND GRAVELS CONTAINING SMALL PERCENTAGES OF FINES, GENERALLY GRANULAR AND NON-COHESIVE, EITHER WET OR DRY. SOIL TYPES GW, GP, SW, AND SP ARE INCLUDED IN THIS CLASS.
3. CLASS III - FINE SAND AND CLAYEY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES, AND GRAVEL-CLAY MIXTURES. SOIL TYPES GM, GC, SM AND SC ARE INCLUDED IN THIS CLASS.
4. SOIL CLASSIFICATION IS IN CONFORMANCE WITH UNIFIED SOIL CLASSIFICATION SYSTEM ASTM DESIGNATION D-2487 AND D-2488. NATIVE SOILS MEETING THE REQUIREMENTS FOR CLASS II AND CLASS III MATERIALS MAY BE ACCEPTED BY THE ENGINEER
5. PIPE EMBEDMENT SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TOP OF THE PIPE OR THE CURRENT GROUND WATER LEVEL
6. PIPE O.D. PLUS 24" FOR PIPES LESS THAN 18" - PIPE O.D. PLUS 32" FOR PIPES GREATER THAN 18"

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023
	PIPE EMBEDMENT- PRESSURE PIPE	SCALE : NTS
		FIGURE : G-7



NOTES:
1. INSTALLATION: ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM D2321 AND MANUFACTURING INSTALLATION GUIDE.
2. FOUNDATION: UNSTABLE TRENCH BOTTOM MATERIAL AND / OR ROCK SHALL BE EXCAVATED TO A DEPTH SPECIFIED BY THE ENGINEER AND REPLACED WITH A SUITABLE MATERIAL PER THE ENGINEER REQUIREMENTS. IN LIEU OF OVER-EXCAVATION, THE DESIGN ENGINEER MAY SPECIFY THE USE OF GEOTEXTILE TO STABILIZE THE TRENCH BOTTOM.
3. BEDDING: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK). MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4" - 24" DIAMETER PIPE, AND 6" FOR 30" - 60" DIAMETER PIPE, AND MECHANICALLY COMPACTED TO 95% STANDARD DENSITY.
4. HAUNCH: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK). HAND FILL VOIDS AND COMPACT TO 90% STANDARD DENSITY.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK FOR IMPROVED ROADWAY SURFACES AND CLASS II OR BETTER FOR UNIMPROVED SURFACES). INITIAL BACKFILL SHALL BE INSTALLED IN 6" LIFTS AND MECHANICALLY COMPACTED TO 95% STANDARD DENSITY. INITIAL BACKFILL SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TOP OF THE PIPE.
6. FINAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS III OR BETTER FOR UNIMPROVED SURFACES AND INSTALLED PER TYPICAL PIPE INSTALLATION DETAIL. SUITABLE MATERIAL SHALL BE ASTM CLASS II OR BETTER FOR ROADWAY SURFACES AND INSTALLED PER DETAIL.
7. WET TRENCHES: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK). BACKFILL SHALL BE INSTALLED IN 6" LIFTS AND MECHANICALLY TAMPED TO 90% MAXIMUM DENSITY AND SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TO OF THE PIPE OR TO THE CURRENT GROUND WATER LEVEL.
8. MINIMUM COVER: FOR ALL H-25 TRAFFIC BEARING APPLICATIONS, A MINIMUM COVER OF 12" IS REQUIRED FOR 4" - 48" DIAMETER PIPE, AND 24" FOR 60" DIAMETER PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE RIGID PAVEMENT SECTION OR TO THE BOTTOM OF FLEXIBLE PAVEMENT SYSTEM.
9. PIPE O.D. PLUS 24" FOR PIPES LESS THAN 18" - PIPE O.D. PLUS 32" FOR PIPES GREATER THAN 18"

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023
	PIPE EMBEDMENT - GRAVITY SEWER PIPE UNDER ROADWAYS	SCALE : NTS
		FIGURE : G-8



NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 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 24" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. ALL SPLICES SHALL BE MADE USING A WATER-TIGHT SEALING METHOD APPROVED BY THE CITY.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : OCTOBER 2022
	LOCATE TAPE AND WIRE FOR PVC PRESSURE PIPE	SCALE : NTS
		FIGURE : G-10

PIPE JOINT RESTRAINT TABULATION
(ALL RESTRAINT JOINT LENGTHS SHOWN ARE IN FEET)
SOURCE: EBAA RESTRAINT JOINT CALCULATOR v7.1.2

HORIZONTAL BENDS
EVERY JOINT WITHIN THE LENGTH SPECIFIED BELOW (IN FEET) SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING

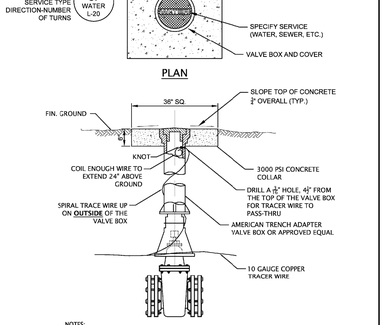
PIPE SIZE AND TYPE	90 Deg.	45 Deg.	22.5 Deg.	11.25 Deg.	DEAD ENDS
3" PVC	17	7	4	2	36
4" PVC	18	8	4	2	39
6" PVC	25	11	5	3	55
8" PVC	33	14	7	4	72
10" PVC	39	16	8	4	87
12" PVC	45	19	9	5	102
14" PVC	52	22	11	6	119
16" PVC	57	24	12	6	131
18" PVC	63	26	13	7	145
20" PVC	68	29	14	7	159
24" PVC	79	33	16	8	185

SMALLER PIPE SIZE		3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
REDUCER (LARGER PIPE RESTRAINT)	3"	-	-	-	-	-	-	-	-	-	-
	4"	13	-	-	-	-	-	-	-	-	-
	6"	37	29	-	-	-	-	-	-	-	-
	8"	59	52	31	-	-	-	-	-	-	-
	10"	76	71	53	29	-	-	-	-	-	-
	12"	93	89	74	54	30	-	-	-	-	-
	14"	111	107	95	78	57	31	-	-	-	-
	16"	124	121	111	96	78	56	30	-	-	-
	18"	139	136	127	114	98	79	56	30	-	-
	20"	154	151	143	131	117	100	79	56	30	-

BRANCH SIZE		3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
TEE (BRANCH RESTRAINT)	3"	18	-	-	-	-	-	-	-	-	-
	4"	12	21	-	-	-	-	-	-	-	-
	6"	1	12	37	-	-	-	-	-	-	-
	8"	1	3	31	54	-	-	-	-	-	-
	10"	1	1	24	49	68	-	-	-	-	-
	12"	1	1	18	44	64	83	-	-	-	-
	14"	1	1	11	39	60	80	100	-	-	-
	16"	1	1	3	33	55	76	96	112	-	-
	18"	1	1	1	27	50	72	93	109	125	-
	20"	1	1	1	21	45	68	89	105	122	139

NOTES :
1. TEST PRESSURE=150 PSI, SOIL GROUP=SM, TRENCH TYPE=3, DEPTH=3, SAFETY FACTOR=1.5; ACTUAL FIELD CONDITIONS MAY VARY
2. RESTRAINED LENGTHS FOR VERTICAL OFFSETS MUST BE INDIVIDUALLY CALCULATED.
3. MINIMUM PIPE LENGTH ALONG TEE RUN=5FEET OR LARGER.
4. ALWAYS ROUND UP PARTIAL LENGTHS TO THE NEXT PIPE JOINT.
5. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
6. ALL VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 150 PSI TEST PRESSURE IN EITHER DIRECTION.
7. IF THE TEE BRANCH DIAMETER IS LARGER THAN THE RUN DIAMETER, THE ENGINEER OF RECORD MUST SPECIFY THE RESTRAINT LENGTHS.
8. FOR HOT TAPS THE MAIN LINE SHALL BE RESTRAINED A MIN OF 20 FT IN EACH DIRECTION WITH BELL RESTRAINTS IF NOT RESTRAINED IN EXISTING STATE.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023
	RESTRAINED JOINT TABLE FOR PVC PRESSURE PIPE	SCALE : NTS
		FIGURE : G-11



NOTES:
1. SEE SPECIFICATIONS FOR TECHNICAL REQUIREMENTS AND APPROVED GATE VALVES AND VALVE BOXES.
2. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
3. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 2 FOOT DEPTH BELOW FINISHED GRADE.

SECTION

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : OCTOBER 2022
	VALVE BOX AND COLLAR	SCALE : NTS
		FIGURE : G-21

SPECIAL NOTES:
1. CONTRACTOR SHALL EXCAVATE AND VERIFY THE EXISTING WATER MAIN LOCATIONS ANC 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 AREA. 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 AREA.
6. ALL DISTURBED YARD AND GRASSED AREAS SHALL BE SODDED WITH ZOYSIA.
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 8' HORIZONTAL SEPARATIONS CANNOT BE MAINTAINED BETWEEN EXISTING 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 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 FOR VERIFICATION OF EXISTING SERVICE LOCATIONS PRIOR TO DEMOLITION.
27. ALL WATER MAIN TAPS AND AND CONNECTIONS TO THE EXISTING SYSTEM REQUIRES NOTIFICATION 72-HOURS IN ADVANCE TO THE CITY OF PANAMA CITY UNDERGROUND UTILITIES DEPARTMENT(850-872-3165).

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023
	PUBLIC R.O.W. UTILITY CONSTRUCTION NOTES	SCALE : NTS
		FIGURE : G-27

WYATT Z. LEWIS LICENSE NO. 94236 STATE OF FLORIDA PROFESSIONAL ENGINEER

SCALE: AS NOTED	PANHANDLE ENGINEERING, INC.
DESIGNED BY: CBF	ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS
DRAWN BY: JAH	600 Ohio Avenue Lynn Haven, Florida 32444
REVIEWED BY: CBF	(850)763-5200 www.panhandleengineering.com
ISSUE DATE: JUNE 2023	
FILE NAME: 13066det.dwg	

UTILITY DETAILS
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER C-14
PROJECT NUMBER 13066

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

SHEET TITLE: UTILITY DETAILS

SHEET NUMBER: C-14

WATER MAIN INSTALLATION GENERAL REQUIREMENTS:

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 SMALLER THAN 3" SHALL BE ASTM D2241 SDR 21, RATED PRESSURE 200 PSI. ALL PVC WATER MAINS SIZES 3" AND LARGER SHALL BE AWWA C900 DR18, PRESSURE CLASS 235
4. ALL HDPE WATER MAINS SIZE 3" AND LESS SHALL BE AWWA C901 SDR9 IPS. ALL HDPE WATER MAINS 4" AND LARGER SHALL BE AWWA C906 DR9 (200 PSI) OR DIPS DR11 (160 PSI).
5. ALL WATER SERVICE SIZES 2" AND LESS SHALL BE PE FLEXIBLE TUBING PE4710 SDR 9 CTS.
6. ALL NEW WATER MAIN IS TO BE 8" OR GREATER WITH A MAXIMUM OF 400 LF OF 6" FOR DEAD ENDS WITH A FIRE HYDRANT AT THE TRANSITION.
7. ALL DUCTILE IRON WATER MAINS SHALL BE SIZES 4" TO 12" SHALL BE AWWA C151 CLASS 250 WITH CEMENT LINING, PER AWWA C104.
8. ALL POTABLE WATER MAIN SHALL BE COLOR BLUE. ALL RECLAIMED WATER MAINS SHALL BE COLOR PURPLE.
9. ALL MAIN LINE VALVES 4" AND LARGER SHALL BE EPOXY COATED RESILIENT SEATED GATE VALVES.
10. 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.
11. 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.
12. ALL MAINS AND SERVICE LINES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. CITY'S ENGINEER SHALL BE PRESENT DURING BACTEROLOGICAL SAMPLING AND PRESSURE TESTING. ALL WATER MAINS SHALL BE FLUSHED @ 3 FT PER SECOND AND 10 TIMES THE PIPE VOLUME SHALL BE FLUSHED.
13. 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.
14. 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.
15. 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.
16. THE CONTRACTOR SHALL USE RESTRAINED JOINT PIPE FOR ALL BENDS, TEES, VALVES, AND TRANSITION FITTINGS.
17. ALL WATER MAIN SHALL BE INSTALLED WITH INSULATED 10 GA. COPPER 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
18. THE CONTRACTOR SHALL PROVIDE ALL FITTINGS, SLEEVES AND TRANSITION ADAPTERS AS NECESSARY TO COMPLETE THIS PROJECT.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATER SERVICE.
20. ALL WATER MAIN TAPS TO THE EXISTING SYSTEM REQUIRES NOTIFICATION AT LEAST 72-HOURS IN ADVANCE TO THE CITY OF PANAMA CITY UNDERGROUND UTILITIES DEPARTMENT. CONTACT PHONE NUMBER IS (850-872-3165).

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2023 SCALE : NTS
	WATER MAIN INSTALLATION GENERAL REQUIREMENTS	FIGURE : PW-1

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Sanitary Force Main, Reclaimed Water (2)	Water Main — 3 ft. minimum	Water Main — 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum — Water Main
Vacuum Sanitary Sewer	Water Main — 10 ft. preferred 3 ft. minimum	Water Main — 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum — Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Force Main, Reclaimed Water (4)	Water Main — 10 ft. preferred 6 ft. minimum (3)	Water Main — 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum — Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

(1) Water mains should cross above other pipes. Where water mains must be below other pipes, the minimum separation is 12 inches.
(2) Sewer manholes must be protected from contact with potable water mains.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer - This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	FDEP WATER SYSTEM SEPARATION REQUIREMENT TABLE	FIGURE : PW-2A

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--RECLAIMED 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.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS	FIGURE : PW-2B

62-555.314 (5)

(A) 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.

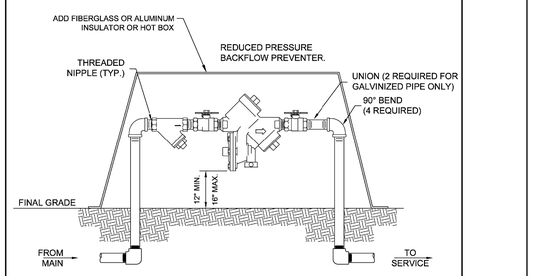
1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERIAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY - OR VACUUM - TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORZONTALLY 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:

1. 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
2. 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.

F.A.C. 62-555.314 EXCEPTIONS

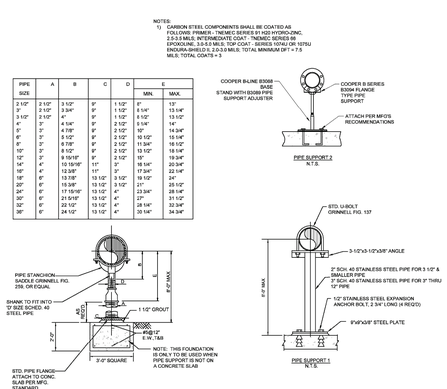
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	WATER MAIN SEPARATION REQUIREMENTS EXCEPTIONS	FIGURE : PW-3



NOTES:
1. ALL ABOVEGROUND PIPE SHALL BE INSULATED WITH 6 LBS FIBERGLASS THAT HAS A MINIMUM "K" OF 0.23 @ 75°F AND A NOMINAL THICKNESS OF 1". THE FIBERGLASS SHALL BE 25 ASJ/SSL-11 FIBERGLASS WITH DOUBLE SEALING LAP SEAL, AS MANUFACTURED BY OWENS-CORNING, OR EQUAL. COVER THE FIBERGLASS WITH 0.016" - 0.040" THICK (DEPENDING ON PIPE DIAMETER) CORRUGATED ALUMINUM JACKET WITH POLY-WELD LININGS, AS MANUFACTURED BY PARCO / CHILDERS, OR EQUAL. IN LIEU OF INSULATION WRAP, AN APPROVED, INSULATED ENCLOSURE MAY BE PROVIDED.
2. THE BACKFLOW PREVENTER SHALL BE TESTED AND CERTIFIED BY A LICENSED PROFESSIONAL ANNUALLY. THE REPORT SHALL BE DELIVERED TO THE CITY
3. FOR CITY PROJECTS THE RESIDENTIAL BACKFLOW PREVENTER SHALL BE PROVIDED BY THE CONTRACTOR

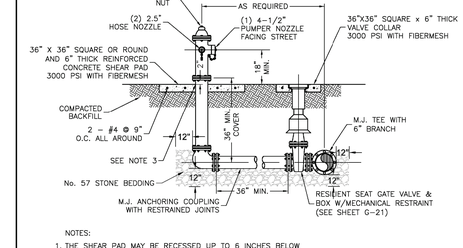
BACKFLOW PREVENTER - 2 1/2" AND SMALLER
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	BACKFLOW PREVENTER - 2 1/2" AND SMALLER	FIGURE : PW-9



PIPE SUPPORTS
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	PIPE SUPPORTS	FIGURE : PW-17

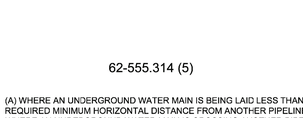


NOTES:
1. THE SHEAR PAD MAY BE RECESSED UP TO 6 INCHES BELOW FINISHED GRADE.
2. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE 2" MINIMUM.

HYDRANTS SHALL:
1. BE ABLE TO DELIVER 1000 GPM WITH A FRICTION LOSS OF NOT MORE THAN 5 PSI IN THE HYDRANT AND A TOTAL LOSS OF NOT MORE THAN 5 PSI BETWEEN STREET MAIN AND OUTLET.
2. HAVE AT LEAST TWO 2 1/2" OUTLETS AND ONE 4 1/2" OUTLET, WITH NATIONAL STANDARD TYPE THREADS.
3. BE OF SUCH A DESIGN THAT WHEN THE BARREL IS BROKEN OFF THE HYDRANT WILL REMAIN CLOSED.
4. HAVE CONNECTION TO THE STREET MAIN OF NOT LESS THAN 6 INCHES IN DIA.
5. HAVE ALL FITTINGS WITH MEG-A-LUG GLANDS.
6. HAVE ALL D.I.P. PIPING.
7. HAVE A GATE VALVE BETWEEN HYDRANT AND THE STREET MAIN.
8. HAVE A 5 1/4" MAIN VALVE SEAT.
9. APPROVED MODELS ARE AMERICAN DARLING B-84-B, MUELLER SUPER CENTURION; AVK DRY BARREL HYDRANT SERIES 2780, M&H VALVE 929. NO SUBSTITUTIONS ARE ALLOWED.
10. PROVIDE A 4" X 4 1/2" NH QUICK DISCONNECT STORZ ADAPTER ON 4 1/2" PUMPER NOZZLE.

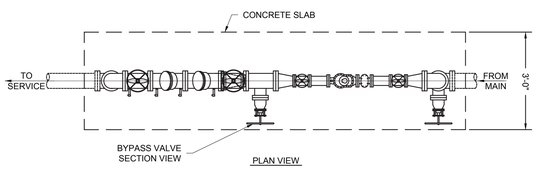
FIRE HYDRANT ASSEMBLY
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2023 SCALE : NTS
	FIRE HYDRANT ASSEMBLY	FIGURE : PW-18

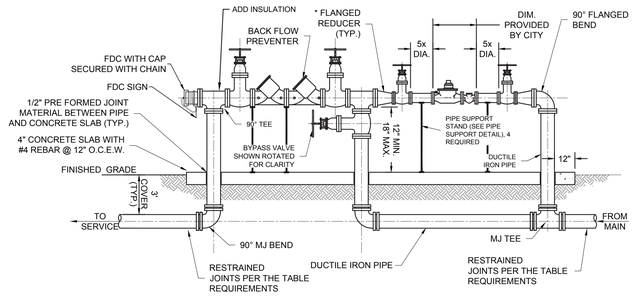


2" CONNECTION ASSEMBLY
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	2" CONNECTION ASSEMBLY	FIGURE : PW-21



PLAN VIEW



SECTION

NOTES:
1. METER WILL BE PROVIDED BY THE CITY, AND INSTALLED BY CONTRACTOR.
2. ALL ABOVE GROUND PIPE AND FITTINGS SHALL BE FLANGED DUCTILE IRON.
3. ALL VALVES SHALL HAVE HANDWHEELS.
4. VALVE(S) SHALL BE CHAINED AND PADLOCKED IN OPENED POSITION.
5. BACKFLOW DEVICE SHALL BE RPZ OR DC TYPE AS APPROVED BY CITY.
6. BACKFLOW DEVICE SHALL BE TESTED AND CERTIFIED BY A LICENSED PROFESSIONAL ANNUALLY. THE REPORT SHALL BE DELIVERED TO THE CITY.
* 7. REDUCER AS REQUIRED IF METER SIZE DIFFERS FROM PIPE SIZE.
8. DUCTILE IRON PIPE SHALL BE PRESSURE CLASS 350.
9. ABOVE GROUND PIPE SHALL BE INSULATED PER THE SPECIFICATIONS

FIRE LINE METER & BACKFLOW WITH BYPASS
N.T.S.

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

PRINTED / REVISIONS
DESCRIPTION DATE

SHEET TITLE: UTILITY DETAILS

SHEET NUMBER: C-15

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066det.dwg

PANHANDLE ENGINEERING, INC.
ENVIRONMENTAL ENGINEERS • CIVIL ENGINEERS • LAND PLANNERS
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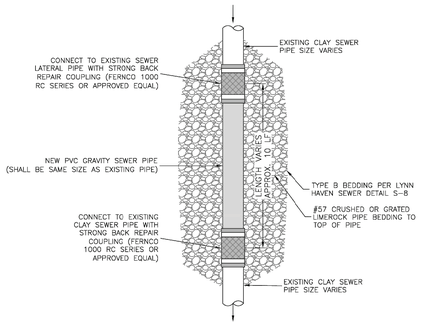
UTILITY DETAILS
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

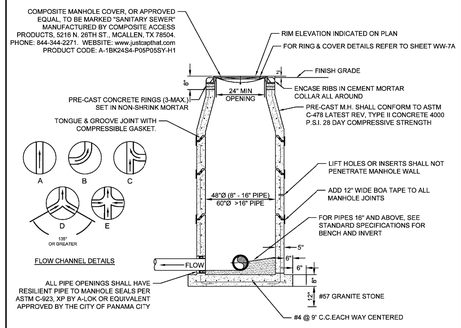
SHEET NUMBER C-15
PROJECT NUMBER 13066

WYATT Z. LEWIS LICENSE NO. 94236 STATE OF FLORIDA PROFESSIONAL ENGINEER



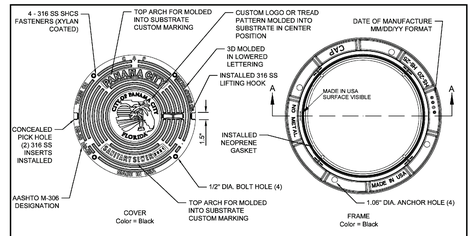
CLAY GRAVITY SEWER MAIN POINT REPAIR
NOT TO SCALE

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	CLAY GRAVITY SEWER MAIN POINT REPAIR	FIGURE : SR-3



NOTES:
1. PRE-CAST M.H. SHALL CONFORM TO ASTM C-478 LATEST REV, TYPE II CONCRETE 4000 P.S.I. 28 DAY COMPRESSIVE STRENGTH.
2. AN APPROVED LINER, SEE SPECIFICATION SECTION 02574, SHALL BE PROVIDED FOR DROP MANHOLES. MANHOLES WITH OPPOSING FLOW (DETAILS D & E) MANHOLES IMMEDIATELY UPSTREAM OF A LIFT STATION WET WELL, MANHOLES WITH GRAVITY SEWERS GREATER THAN OR EQUAL TO 12 INCHES IN DIAMETER, MANHOLES RECEIVING A FORCE MAIN AND THE FIRST TWO GRAVITY MANHOLES DOWNSTREAM OF MANHOLES RECEIVING A FORCE MAIN.
3. JOINTING COMPOUND SHALL BE RAM NECK, TYPE 1, ROPE FROM PLASTIC GASKET OR EQUIVALENT.
4. ALL PATCHING TO BE PREFORMED WITH HYDRAULIC CEMENT. NO MORTAR REPAIRS PERMITTED.
5. NEW MANHOLES SHALL BE PROVIDED WITH A 6" FLOTATION RING.
6. NEW MANHOLES ARE TO RECEIVE A 1'2" THICK #57 LIMESTONE FOUNDATION.
7. XYPEX CONCRETE ADMIXTURE SHALL BE USED IN ALL NEW MANHOLES. XYPEX ADMIXTURE SHALL BE C-1000R (RED): 3.5% BY WEIGHT OF PORTLAND CEMENT CONTENT.
8. NEW MANHOLE JOINTS SHALL BE WRAPPED WITH A 12" WIDE BOA JOINT TAPE OR APPROVED EQUIVALENT.
9. EXISTING PIPE EXTENSIONS TO NEW MANHOLES SHALL BE MADE USING A COUPLING MANUFACTURED BY INDIANA SEAL WITH "SHEAR GUARD" OR APPROVED EQUIVALENT.
10. FIELD CORES FOR CONNECTIONS TO EXISTING OR NEW MANHOLES SHALL BE CUT USING A ROTARY CORE DRILL AND SHALL INCLUDE A "KOR-N-SEAL" FLEXIBLE CONNECTION AS MANUFACTURED BY TRELLEBORG OR APPROVED EQUIVALENT.
11. ALL MANHOLES SHALL BE TESTED PER SPECIFICATION SECTION 02510.

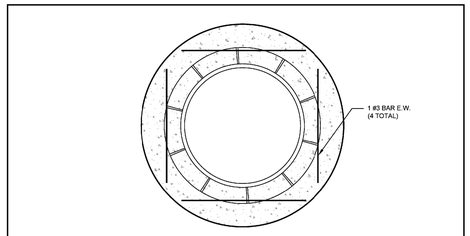
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023 SCALE : NTS
	SANITARY SEWER MANHOLE	FIGURE : WW-1



FASTENER NOTES:
1. All hardware is 316 Stainless Steel.
2. Detectable by standard metal detectors.
3. Compression Molded Thermoset Composite - no metal reinforcement
4. PASSED M306 H20/H25 PROOF LOAD
5. Watertight (0.0 GPM)

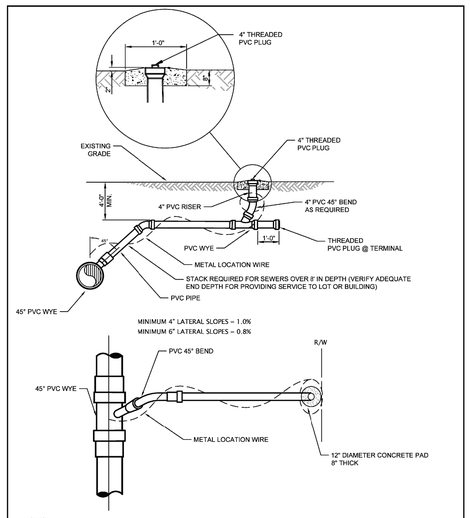
NOTES:
1. THE PORTION OF THE FRAME AND COVER WHICH FORMS THE COVER SEAT SHALL BE MACHINED SO THAT NO ROCKING IS POSSIBLE.
2. MANHOLES INSTALLED IN NON-PAVED AREAS SHALL BE SET SUCH THAT THE COVER IS 3" MIN. ABOVE GRADE UNLESS NOTED OTHERWISE OR DIRECTED IN THE FIELD BY THE ENGINEER.
3. MANHOLES IN PAVED AREAS SHALL BE BROUGHT TO PROPER GRADE AFTER THE PAVING HAS BEEN REPLACED. NEW PAVING SHALL BE CUT AS REQUIRED TO BRING MANHOLE TO GRADE WITH CONCRETE COLLAR TO THE DIMENSIONS SHOWN AND BE ROUND.
4. ALL MANHOLE FRAMES AND COVERS SHALL BE SET TO GRADE AND IN THE SAME PLANE OF THE PAVED SURFACE (NOT NECESSARILY LEVEL).

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	MANHOLE FRAME & COVER	FIGURE : WW-7A



NOTES:
1. THE PORTION OF THE FRAME AND COVER WHICH FORMS THE COVER SEAT SHALL BE MACHINED SO THAT NO ROCKING IS POSSIBLE.
2. MANHOLES INSTALLED IN NON-PAVED AREAS SHALL BE SET SUCH THAT THE COVER IS 3" MIN. ABOVE GRADE UNLESS NOTED OTHERWISE OR DIRECTED IN THE FIELD BY THE ENGINEER.
3. MANHOLES IN PAVED AREAS SHALL BE BROUGHT TO PROPER GRADE AFTER THE PAVING HAS BEEN REPLACED. NEW PAVING SHALL BE CUT AS REQUIRED TO BRING MANHOLE TO GRADE WITH CONCRETE COLLAR TO THE DIMENSIONS SHOWN AND BE ROUND.
4. ALL MANHOLE FRAMES AND COVERS SHALL BE SET TO GRADE AND IN THE SAME PLANE OF THE PAVED SURFACE (NOT NECESSARILY LEVEL).

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	MANHOLE FRAME & COVER ADJUSTMENT	FIGURE : WW-7B

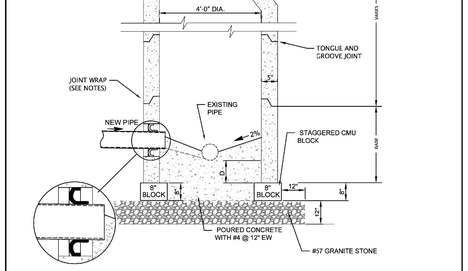


NOTES:
1) FOR NEW CONSTRUCTION, MARK SEWER LATERAL LOCATION IN THE FRESHLY POURED CONCRETE CURB
2) SUBMIT "AS BUILT" OF MAIN LINE, LATERALS AND MANHOLE LOCATIONS WITH TWO (2) OFFSET DISTANCES EACH.
3) SINGLE "HOUSE" CONNECTIONS ONLY
4) PIPE AND FITTINGS SHALL BE PUSH ON JOINT
5) PVC PIPE SHALL REQUIRE INSULATED METAL LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	TYPICAL WYE & LATERAL INSTALLATION	FIGURE : WW-8

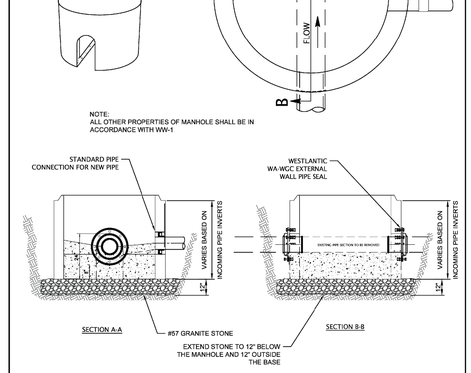
GRAVITY SEWER INSTALLATION RELATED ITEMS:
1. ALL GRAVITY SEWER PIPE, MANHOLES, SERVICE LATERALS AND PIPE BEDDING SHALL BE INSTALLED ACCORDING TO ENGINEERING DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWER MAINS AND SEWER LATERALS TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
3. ALL GRAVITY SEWER PIPE SHALL BE PVC UNLESS SPECIFIED OTHERWISE. ALL PVC PIPE SIZES 4" 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 . ALL SEWER SERVICE LATERAL 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.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	GRAVITY SEWER INSTALLATIONS GENERAL REQUIREMENTS	FIGURE : WW-10



NOTES:
1. D = 0 WHEN A NEW PIPE ENTERS THE MANHOLE AT AN ELEVATION HIGHER THAN THE EXISTING PIPE.
2. D = 6" WHEN A NEW PIPE ENTERS THE MANHOLE AT THE SAME ELEVATION AS THE EXISTING PIPE.
3. D > 6" WHEN THE STRUCTURE WILL BE USED FOR PURPOSES OTHER THAN SANITARY SEWER.
4. MANHOLE SHALL CONFORM TO A.S.T.M. C 478 SPECIFICATIONS.
5. JOINTING COMPOUND SHALL BE RAM NECK, TYPE 1, ROPE FROM PLASTIC GASKET OR EQUAL.
6. ALL PATCHING TO BE DONE WITH HYDRAULIC CEMENT. NO MORTAR REPAIRS PERMITTED.
7. MANHOLE PIPE CONNECTIONS SHALL BE A WATERTIGHT CONNECTION USING TRELLEBORG "KOR-N-SEAL" OR EQUAL.
8. THE MANHOLE IS TO RECEIVE A 12" THICK, #57 STONE FOUNDATION.
9. XYPEX CONCRETE ADMIXTURE SHALL BE USED IN ALL NEW MANHOLES. XYPEX ADMIXTURE SHALL BE C-1000R (RED): 3.5% BY WEIGHT OF PORTLAND CEMENT CONTENT.
10. NEW MANHOLE JOINTS SHALL BE WRAPPED WITH A 12" WIDE BOA TAPE OR APPROVED EQUAL.
11. FIELD CORES FOR CONNECTIONS TO EXISTING OR NEW MANHOLES SHALL BE CUT USING A ROTARY CORE DRILL AND SHALL INCLUDE A "KOR-N-SEAL" FLEXIBLE CONNECTION AS MANUFACTURED BY TRELLEBORG OR APPROVED EQUAL.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023 SCALE : NTS
	DOGHOUSE MANHOLE DETAILS	FIGURE : WW-13



DOGHOUSE MANHOLE BASE DETAIL

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS
	DOGHOUSE MANHOLE BASE DETAILS	FIGURE : WW-13A

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER

705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER: 13066

DATE: 05/18/2023

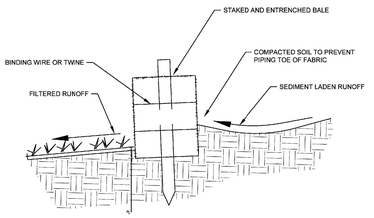
PRINTED / REVISIONS

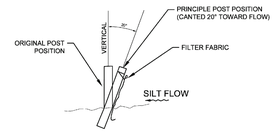
#	DESCRIPTION	DATE

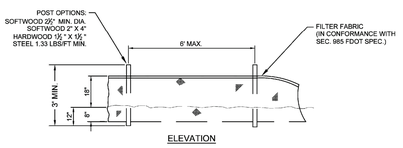
SHEET TITLE: UTILITY DETAILS

SHEET NUMBER: C-16

SCALE: AS NOTED DESIGNED BY: CBF DRAWN BY: JAH REVIEWED BY: CBF ISSUE DATE: JUNE 2023 FILE NAME: 13066det.dwg	PANHANDLE ENGINEERING, INC. ENVIRONMENTAL ENGINEERS ● CIVIL ENGINEERS ● LAND PLANNERS 600 Ohio Avenue Lynn Haven, Florida 32444 (850)763-5200 www.panhandleengineering.com
UTILITY DETAILS MARTIN LUTHER KING JR., RECREATION CENTER 701 14TH COURT EAST PANAMA CITY, FL 32401	SHEET NUMBER C-16 PROJECT NUMBER 13066







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 HIS 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 AT THE CONTRACTOR'S EXPENSE 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. 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 RESIDENCES AND BUSINESSES DURING CONSTRUCTION.
25. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS NECESSARY TO AVOID TRESPASSING AND DAMAGING PRIVATE PROPERTY.
26. ALL SPOIL MATERIAL FROM EXCAVATION SHALL BE PLACED ON THE UPLAND SIDE OF ANY SLOPED CONSTRUCTION AREA.
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. IN ADDITION, THE CONTRACTOR SHALL COOPERATE WITH LOCAL RESIDENTS IN GAINING ACCESS TO THEIR HOMES AND BUSINESSES DURING WORKING HOURS AND SHALL ASSIST AT ALL TIMES WHEN VEHICLES EXPERIENCE TROUBLE DUE TO CONSTRUCTION ACTIVITIES.
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. 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 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 FOR EROSION CONTROL AND WATER QUALITY. 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.
47. SEE SHEET C-18 FOR ALL DEWATERING MAINTENANCE AND INSPECTION PROCEDURES.

NOTE:
UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR MAY CHOOSE BETWEEN NATURAL HAY OR APPROVED SYNTHETIC MATERIAL

NOTE:
LOOSE STRAW SHALL BE CHINKED BETWEEN BALES TO PROVIDE A TIGHT JOINT.

PANAMA CITY, FLORIDA
STANDARD DETAILS

STAKED HAY BALE

DATE : OCTOBER 2022
SCALE : NTS
FIGURE : G-1

PANAMA CITY, FLORIDA
STANDARD DETAILS

TYPE III SILT FENCE

DATE : OCTOBER 2022
SCALE : NTS
FIGURE : G-2

SPECIAL NOTES

1. CONTRACTOR SHALL CUT AND REMOVE ASPHALT ROADWAYS AS NECESSARY TO INSTALL NEW SEWER MAINS, SEWER LATERALS, WATER MAINS, WATER SERVICE LINES AND OTHER REQUIRED UTILITY IMPROVEMENTS.
2. ALL ROADWAYS AND DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION SO RESIDENTS AND BUSINESSES CAN HAVE ACCESS AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.
3. PIPE TESTING SHALL BE PERFORMED WITHIN ONE WEEK OF COMPLETING UTILITY IMPROVEMENTS IN ANY SECTION. SEE TEST SCHEDULE FOR MORE REQUIREMENTS.
4. ALL ROADWAY, DRIVEWAY AND SIDEWALK RESTORATION SHALL BE COMPLETED WITHIN ONE WEEK OF SUCCESSFUL PIPE TESTING IN ANY SECTION.
5. ALL DISTURBED YARD AND GRASSED AREAS SHALL BE SODDED WITH CENTIPEDE.
6. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING DAMAGED SECTIONS OF CONCRETE CURB.
7. 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.
8. 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.
9. CONTRACTOR SHALL EXCAVATE AND VERIFY THE EXISTING WATER MAIN, FORCE MAIN, AND GRAVITY SEWER LOCATIONS AND SIZE PRIOR TO SCHEDULING WATER OUTAGE FOR CONNECTION.
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 PRESSURE TEST ALL NEW GRAVITY SEWER AND SEWER LATERALS UP TO THE CLEANOUT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR BYPASS PUMPING FOR ALL GRAVITY SEWER AND MANHOLE INSTALLATIONS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY OWNER TO STABILIZE POWER POLES AS THEY ARE ENCOUNTERED THROUGHOUT THE ENTIRE PROJECT.
15. REMOVAL AND REPLACEMENT OF EXISTING DRIVEWAYS AND DRIVEWAY CULVERTS SHALL BE INCLUDED IN THE BID PRICE. NEW DRIVEWAYS SHALL MATCH EXISTING MATERIALS.
16. REMOVAL AND REPLACEMENT OF EXISTING SIGNS, MAILBOXES, SODDING, IRRIGATION, LANDSCAPING, STRUCTURES, ETC. SHALL BE INCLUDED IN THE BID PRICE.
17. 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.
18. 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.
19. THE CONTRACTOR SHALL AVOID OR MINIMIZE THE DISTURBANCE OF EXISTING TREES DURING THE INSTALLATION OF ALL GRAVITY SEWER, 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.
20. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SEWER MAINS AND LATERALS EXCAVATED DURING THE INSTALLATION OF THE PROPOSED GRAVITY SEWER IMPROVEMENTS. ALL ABANDONED SECTIONS OF NON-EXCAVATED EXISTING GRAVITY SEWER 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 GRAVITY SEWER LINES SHALL BE VIDEO TAPED UPON COMPLETION OF THE INSTALLATION AND PROVIDED TO THE CITY ENGINEER IN DVD FORMAT FOR REVIEW.

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 AT THE CONTRACTOR'S EXPENSE. 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.
3. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER 15 CALENDAR DAYS PRIOR TO PRESSURE TESTING AND BACTERIOLOGICAL TESTING SO A TESTING PLAN CAN BE ESTABLISHED.
4. ALL SITE TESTING SHALL BE IN ACCORDANCE WITH FDOT ROAD AND BRIDGES MANUAL LATEST EDITION.

PANAMA CITY UTILITY CONSTRUCTION NOTES

FORCE MAIN INSTALLATION RELATED ITEMS:

1. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
2. PVC PIPE 4"-6" SHALL BE AWWA C900 (DR25).
3. PVC PIPE 8"-12" SHALL BE AWWA C900 (DR25).
4. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 (DR18).
5. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
6. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED. (EBBA OR APPROVED EQUAL).
7. ALL FORCE MAINS SHALL BE COLOR GREEN OR BROWN.
8. ALL SANITARY FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS.
9. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3 FPS MINIMUM, 6 X PIPE VOLUME MINIMUM.)

GRAVITY SEWER INSTALLATION RELATED ITEMS:

10. ALL GRAVITY SEWER PIPE, MANHOLES, SERVICE LATERALS AND PIPE BEDDING SHALL BE INSTALLED ACCORDING TO ENGINEERING DRAWINGS AND SPECIFICATIONS.
11. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWER MAINS AND SEWER LATERALS TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
12. ALL GRAVITY SEWER PIPE SIZES 4" TO 15" AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED TO 15" AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED AND DEPTHS UP TO 15 FEET SHALL BE PVC AND IN ACCORDANCE WITH ASTM D-3034-SDR26, UNLESS SPECIFIED OTHERWISE.
13. 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.
14. 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%.
15. LOCATOR TAPE SHALL BE INSTALLED 12" TO 18" ABOVE ALL GRAVITY SEWER MAINS AND SERVICE LATERALS. LOCATER TAPE SHALL BE MARKED "SANITARY SEWER BELOW".
16. ALL CONNECTIONS TO EXISTING SEWER MAINS AND LATERALS OF DISSIMILAR MATERIALS SHALL BE MADE WITH STRONG BACK FLEXIBLE REPAIR COUPLINGS.
17. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
18. ALL MANHOLE BENCHES SHALL BE REPAIRED OR REPLACED AS NECESSARY TO HAVE SMOOTH TRANSITIONS THROUGH MANHOLE.
19. 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.
20. CCTV INSPECTIONS SHALL BE COMPLETED IMMEDIATELY AFTER FLUSHING WITH CLEAN WATER. ANY DEBRIS ENCOUNTERED WILL RESULT IN A FAILED INSPECTION AND PRESSURE TEST.
21. GRAVITY SEWER PIPE SAGS SHALL NOT EXCEED MORE THAN 10% OF THE PIPE DIAMETER.

POTABLE AND REUSE WATER MAINS POTABLE AND REUSE WATER MAINS

22. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
23. PVC PIPE 4"-6" SHALL BE AWWA C900 DR18 (PC 235).
24. PVC PIPE 8"-12" SHALL BE AWWA C900 DR25 (PC 165).
25. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 DR25 (PC 160).
26. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
27. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED.
28. ALL POTABLE WATER MAINS SHALL BE PVC COLOR BLUE. ALL RECLAIMED WATER MAINS SHALL BE PVC COLOR PURPLE.
29. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3.0 fps MINIMUM., 6 X PIPE VOLUME MINIMUM.)
30. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 150 PSIG (MINIMUM) FOR TWO HOURS.
31. ALL WATER MAINS REQUIRE DISINFECTION PER AWWA STANDARD C651.

WATER AND REUSE VALVES WATER AND REUSE VALVES

32. 12" AND LESS SHALL BE EPOXY COATED RESILIENT SEAT GATE VALVES.
33. 16" AND ABOVE SHALL BE EPOXY COATED RESILIENT BUTTERFLY VALVES.

FORCE MAIN

34. PVC PIPE LESS THAN 4" DIAMETER SHALL BE ASTM DD2241, SDR-21.
35. PVC PIPE 4"-6" SHALL BE AWWA C900 DR18 (PC 235).
36. PVC PIPE 8"-12" SHALL BE AWWA C900 DR25 (PC 165).
37. PVC PIPE GREATER THAN 12" SHALL BE AWWA C905 DR25(PC 160).
38. FITTINGS AND VALVES 4" AND GREATER SHALL BE MECHANICAL JOINT DUCTILE IRON (250 PSI MIN.).
39. MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED (GBBA MEGALUG OR MECHANICAL JOINT RESTRAINTS SHALL BE UTILIZED (GBBA MEGALUG OR APPROVED EQUAL).
40. ALL FORCE MAINS SHALL BE COLOR GREEN OR BROWN.
41. ALL SANITARY FORCE MAINS SHALL BE HYDROSTATICALLY TESTED PER AWWA STANDARD C600 (LATEST EDITION) AT 100 PSIG (MINIMUM) FOR TWO HOURS.
42. ALL FLUSHING REQUIREMENTS PER AWWA STANDARDS (3.0 fps MINIMUM., 6 X PIPE VOLUME MINIMUM.)

GRAVITY SEWER

43. PVC PIPE 4"-15" DIAMETER SHALL BE ASTM D3034, (SDR-35.)
44. PVC PIPE 18"-27" DIAMETER SHALL BE F679 (SDR-35.)
45. PVC PIPE DEEPER THAN 14 FEET SHALL BE SDR 26.
46. ALL SEWER LINES SHALL BE COLOR GREEN OR BROWN.
47. 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 AVERAGE GROUNDWATER BACK PRESSURE).
48. FIBERGLASS OR STAINLESS MANHOLE COVER INSERTS ARE REQUIRED AT ALL MANHOLES WITH RIM ELEVATIONS BELOW 7 FEET NGVD.
49. MANHOLE RINGS AND COVER SHOULD BE 3 INCHES ABOVE GRADE IN UNPAVED AREAS TO PREVENT STORMWATER INFLOW.

NOTES:

1. *Critical Root Zone: Extends in all directions from trunk of tree to a distance equal to one foot per inch of trunk diameter at breast height.*
2. *Staging, storage, dumping, washing and operation of equipment is not permitted within the limits of the tree protection barrier, including during barrier installation.*
3. *Install all tree protection prior to commencement of construction and remove when directed by the Engineer. Maintain protection at all times.*
4. *For closely spaced groups of trees, place the tree protection barrier around the entire group.*
5. *Inspect trunk protection and tree quarterly to prevent girdling. Adjust bands to allow tree growth as needed.*
6. *See plans for any additional requirements or modifications within the tree protection area.*
7. *Place weather resistant sign every 50' along the barrier, with 6" minimum text height and provide text in English and Spanish. Sign should read " Keep Out Tree Protection Area".*
8. *Alternate tree protection systems approved by the Engineer may be used in lieu of the tree protection barrier detailed on this Index as long as the critical root zone is protected.*
9. *The Critical Root Zone may be reduced, in the field, by a certified Arborist or Landscape Architect.*

NOTES:

1. *Trunk protection may be used when Tree Protection Barrier can not be reasonably erected, when approved by Engineer.*
2. *See Selective Clearing and Grubbing Plan for location of trunk protection, when applicable.*
3. *Adjust bands to allow tree growth (inspect quarterly to prevent girdling).*

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FDOT FY 2022-23 STANDARD PLANS	TREE PROTECTION AND PRESERVATION	110-100	1 of 1

WIATT Z. LEWIS
LICENSE
NO. 94236
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
FILE NAME: 13066det.dwg

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

GENERAL NOTES & EROSION CONTROL DETAILS
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER
C-17
PROJECT NUMBER
13066

CCR ARCHITECTURE & INTERIORS

MARTIN LUTHER KING JR., RECREATION CENTER
705 14TH COURT EAST
PANAMA CITY, FL 32401

JOB NUMBER:
13066

DATE:
05/18/2023

PRINTED / REVISIONS

#	DESCRIPTION	DATE

SHEET TITLE:
GENERAL NOTES & EROSION CONTROL DETAILS

SHEET NUMBER:
C-17

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
MLK RECREATION CENTER
705 14TH CT E
PANAMA CITY, FLORIDA
LAT N30°10'28" ~ LON W85°38'56"
SECTION TOWNSHIP RANGE ~ 4-4S-14W

DEVELOPER NAME AND ADDRESS:
CCR ARCHITECTS & INTERIORS
2920 FIRST AVENUE S.
BIRMINGHAM, AL. 39233

DESCRIPTION:

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

RUNOFF CURVE NUMBERS:

1. PRE-CONSTRUCTION	CN= **50**
2. DURING CONSTRUCTION	CN= **64**
3. POST-CONSTRUCTION	CN= **78**

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 = **4.832± ACRES**
2.) TOTAL AREA TO BE DISTURBED = **APPROX. 4.832± ACRES**

NAME OF RECEIVING WATERS: **WATSON BAYOU**

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.

FLORIDA ENVIRONMENTAL RESOURCE PERMIT

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:

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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 ($Q<0.50$CFS) 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 WELL 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	DATE

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 OVER 0.25 INCHES. 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:
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____
____

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:
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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:
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TO BE PERFORMED BY:______________________ ON OR BEFORE:__________

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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:
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____
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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:
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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:
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REASONS FOR CHANGES:
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PAGE 4 OF 4

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SCALE: AS NOTED
DESIGNED BY: CBF
DRAWN BY: JAH
REVIEWED BY: CBF
ISSUE DATE: JUNE 2023
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STORMWATER POLLUTION PREVENTION PLAN
MARTIN LUTHER KING JR., RECREATION CENTER
701 14TH COURT EAST
PANAMA CITY, FL 32401

SHEET NUMBER
C-18

PROJECT NUMBER
13066

CCR ARCHITECTURE & INTERIORS

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JOB NUMBER:
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DATE:
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