Construction Plans and Specifications
Of
CITY OF PORT ST. LUCIE
SAGAMORE BASIN
STA-1 WEST
For
PORT ST. LUCIE, FL
Lying In
Section 20, Township 36 S., Range 40 E.
St. Lucie County, Florida

Location Map

Project No. 1682.4 SAGAMORE BASIN STA-1 WEST

NOTES:

THESE PLANS ARE IN ENGLISH UNITS
ALL ELEVATIONS HEREIN REFERENCE N.A.V.D. 1988 DATUM. ADD 1.48 FEET TO CONVERT TO N.G.V.D. 1929 DATUM. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.

ENGINEER

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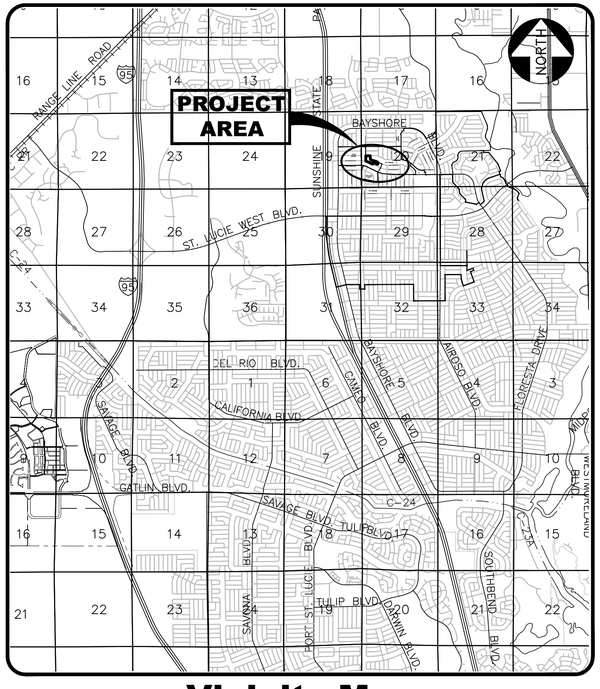
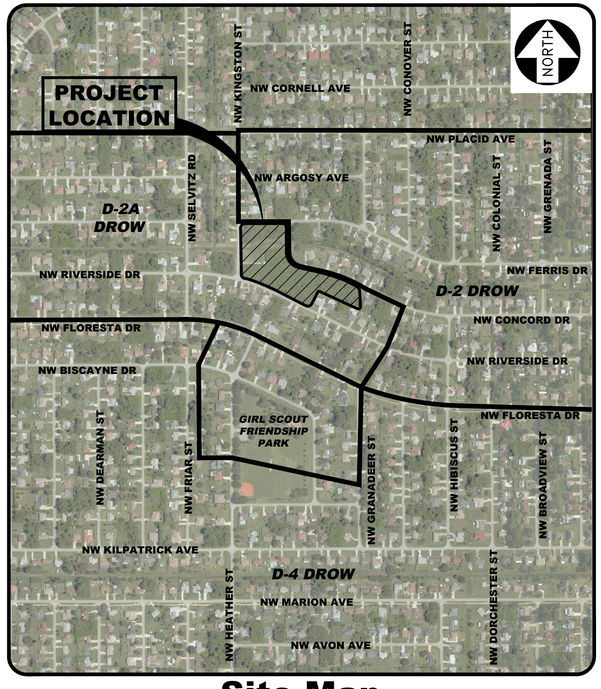


Vicinity Map
N.T.S.

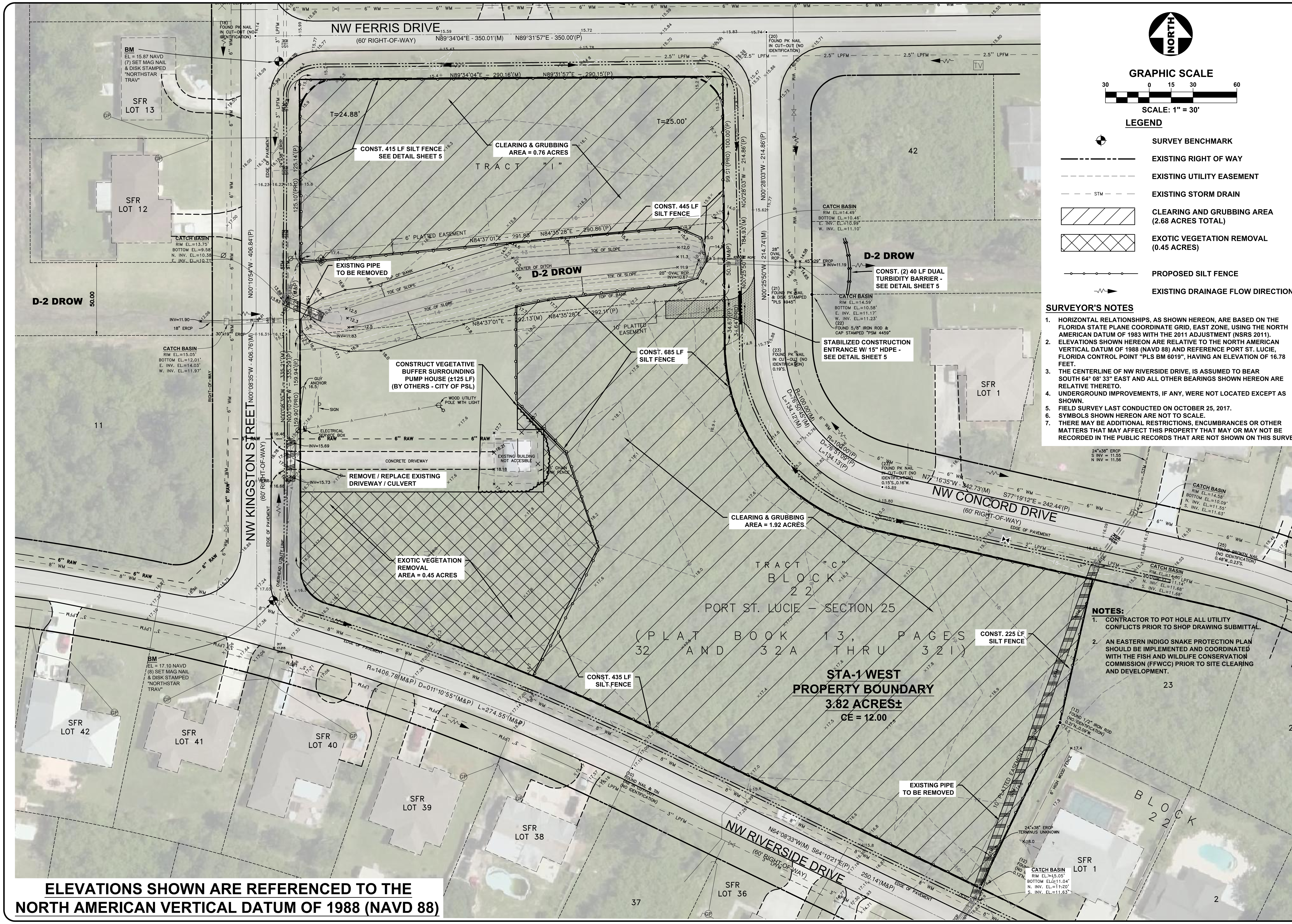


Site Map
N.T.S.

SHEET INDEX

BID SET
8/19/20

Always call 811 two full business days before you dig
Sunshine811.com


NW FERRIS DRIVE
(60' RIGHT-OF-WAY)
N89°34'04"E - 350.01'(M) N89°31'57"E - 350.00'(P)
N89°34'04"E - 290.16'(M) N89°31'57"E - 290.15'(P)
BM
EL = 15.87 NAVD
(7) SET MAG NAIL & DISK STAMPED "NORTHSTAR TRAV"
SFR LOT 13
SFR LOT 12
T=24.88'
T=25.00'
CONST. 415 LF SILT FENCE SEE DETAIL SHEET 5
CLEARING & GRUBBING AREA = 0.76 ACRES
TRACT "I"
42
CONST. 445 LF SILT FENCE
6' PLATTED EASEMENT
EXISTING PIPE TO BE REMOVED
D-2 DROW
CENTER OF DITCH
TOE OF SLOPE
TOE OF BANK
CATCH BASIN
RIM EL.=13.75'
BOTTOM EL.=9.58'
N. INV. EL.=10.38'
E. INV. EL.=10.21'
CATCH BASIN
RIM EL.=15.05'
BOTTOM EL.=12.01'
E. INV. EL.=14.03'
W. INV. EL.=11.97'
CATCH BASIN
RIM EL.=14.49'
BOTTOM EL.=10.46'
E. INV. EL.=10.93'
W. INV. EL.=11.10'
CATCH BASIN
RIM EL.=14.59'
BOTTOM EL.=10.58'
E. INV. EL.=11.17'
W. INV. EL.=11.23'
D-2 DROW
CONST. (2) 40 LF DUAL TURBIDITY BARRIER - SEE DETAIL SHEET 5
10' PLATTED EASEMENT
CONST. 685 LF SILT FENCE
STABILIZED CONSTRUCTION ENTRANCE W/ 15" HDPE - SEE DETAIL SHEET 5
CONSTRUCT VEGETATIVE BUFFER SURROUNDING PUMP HOUSE (±125 LF) (BY OTHERS - CITY OF PSL)
SFR LOT 1
11
NW KINGSTON STREET
(60' RIGHT-OF-WAY)
EXISTING BUILDING NOT ACCESIBLE
CONCRETE DRIVEWAY
REMOVE / REPLACE EXISTING DRIVEWAY / CULVERT
NW CONCORD DRIVE
(60' RIGHT-OF-WAY)
CLEARING & GRUBBING AREA = 1.92 ACRES
EXOTIC VEGETATION REMOVAL AREA = 0.45 ACRES
TRACT "C"
BLOCK 22
PORT ST. LUCIE - SECTION 25
(PLAT BOOK 13, PAGES 32 AND 32A THRU 32I)
CONST. 225 LF SILT FENCE
BM
EL = 17.10 NAVD
(8) SET MAG NAIL & DISK STAMPED "NORTHSTAR TRAV"
CONST. 435 LF SILT FENCE
STA-1 WEST PROPERTY BOUNDARY 3.82 ACRES±
CE = 12.00
23
22
SFR LOT 42
SFR LOT 41
SFR LOT 40
SFR LOT 39
SFR LOT 38
SFR LOT 36
37
EXISTING PIPE TO BE REMOVED
BLOCK 22
SFR LOT 1
2
NW RIVERSIDE DRIVE
(60' RIGHT-OF-WAY)
CATCH BASIN
RIM EL.=15.05'
BOTTOM EL.=11.04'
N. INV. EL.=11.20'
S. INV. EL.=11.63'

GRAPHIC SCALE

30 0 15 30 60

SCALE: 1" = 30'

LEGEND

- SURVEY BENCHMARK
- EXISTING RIGHT OF WAY
- EXISTING UTILITY EASEMENT
- EXISTING STORM DRAIN
- CLEARING AND GRUBBING AREA (2.68 ACRES TOTAL)
- EXOTIC VEGETATION REMOVAL (0.45 ACRES)
- PROPOSED SILT FENCE
- EXISTING DRAINAGE FLOW DIRECTION

SURVEYOR'S NOTES

1. HORIZONTAL RELATIONSHIPS, AS SHOWN HEREON, ARE BASED ON THE FLORIDA STATE PLANE COORDINATE GRID, EAST ZONE, USING THE NORTH AMERICAN DATUM OF 1983 WITH THE 2011 ADJUSTMENT (NSRS 2011).
2. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND REFERENCE PORT ST. LUCIE, FLORIDA CONTROL POINT "PLS BM 6019", HAVING AN ELEVATION OF 16.78 FEET.
3. THE CENTERLINE OF NW RIVERSIDE DRIVE, IS ASSUMED TO BEAR SOUTH 64° 08' 33" EAST AND ALL OTHER BEARINGS SHOWN HEREON ARE RELATIVE THERETO.
4. UNDERGROUND IMPROVEMENTS, IF ANY, WERE NOT LOCATED EXCEPT AS SHOWN.
5. FIELD SURVEY LAST CONDUCTED ON OCTOBER 25, 2017.
6. SYMBOLS SHOWN HEREON ARE NOT TO SCALE.
7. THERE MAY BE ADDITIONAL RESTRICTIONS, ENCUMBRANCES OR OTHER MATTERS THAT MAY AFFECT THIS PROPERTY THAT MAY OR MAY NOT BE RECORDED IN THE PUBLIC RECORDS THAT ARE NOT SHOWN ON THIS SURVEY.

NOTES:

1. CONTRACTOR TO POT HOLE ALL UTILITY CONFLICTS PRIOR TO SHOP DRAWING SUBMITTAL.
2. AN EASTERN INDIGO SNAKE PROTECTION PLAN SHOULD BE IMPLEMENTED AND COORDINATED WITH THE FISH AND WILDLIFE CONSERVATION COMMISSION (FFWCC) PRIOR TO SITE CLEARING AND DEVELOPMENT.

ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

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Engineering Business No. EB-0007657

DATE:	8/19/2020
DRAWN BY:	MWH
DESIGNED BY:	RRK
CHECKED BY:	JWC
PROJECT No.:	1682.4
HORIZ. SCALE:	1" = 30'
VERT. SCALE:	N/A
	1682.4-02_ERSN CNTRL PLN.dwg

NO.	DATE	BY	REVISIONS
			BID SET
1	8/19/20	JWC	

SCALE VERIFICATION

SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING, ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FL

CLEARING AND GRUBBING / EROSION CONTROL PLAN STA-1 WEST

JOSEPH W. CAPRA, P.E.
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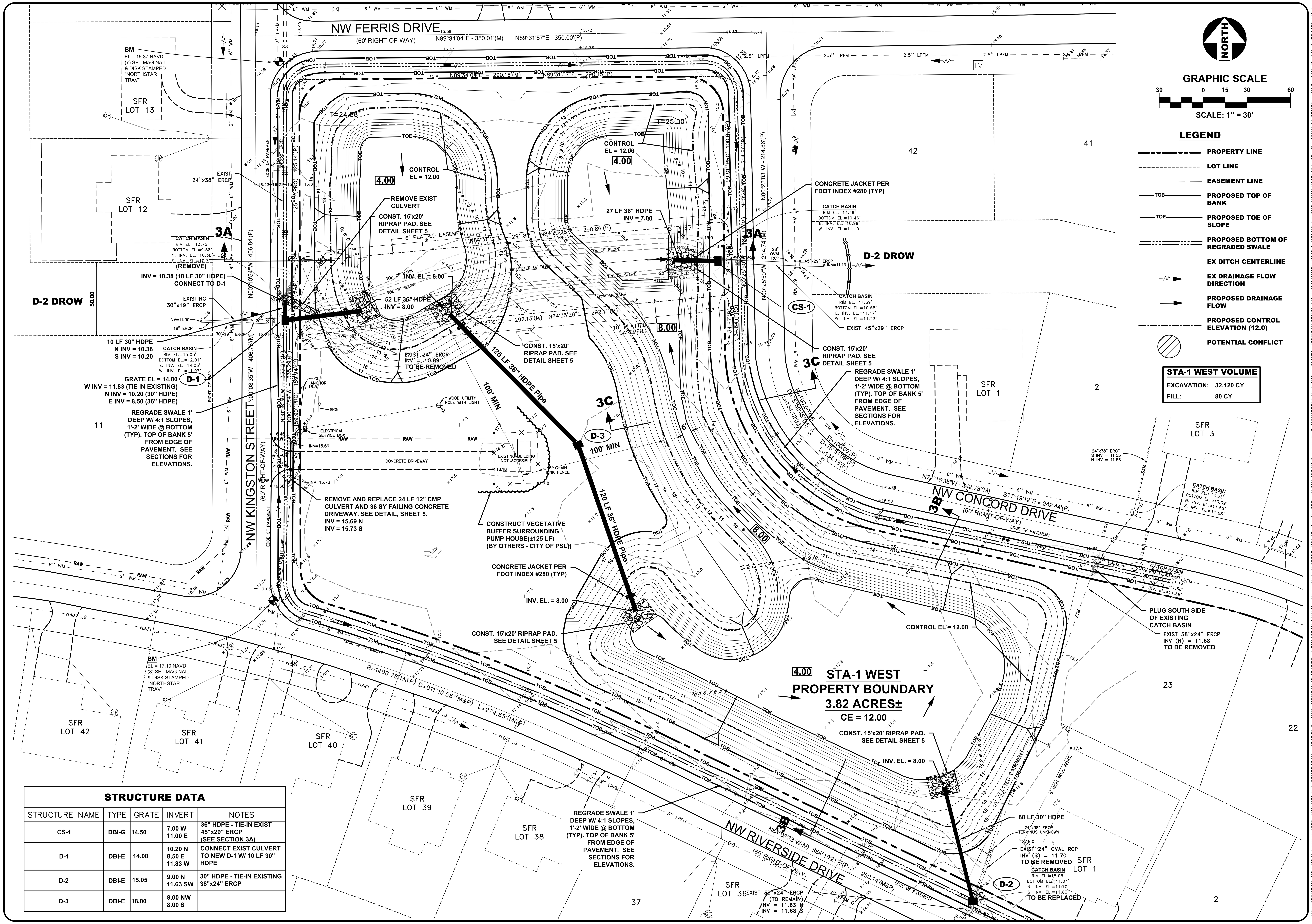
Stuart, Florida 34994
P.E. No. 37638

Printed Date:

JOB No.: 1682.4

SHEET 2 OF 8


NW FERRIS DRIVE
(60' RIGHT-OF-WAY)
NW KINGSTON STREET
(60' RIGHT-OF-WAY)
NW CONCORD DRIVE
(60' RIGHT-OF-WAY)
NW RIVERSIDE DRIVE
(60' RIGHT-OF-WAY)
NORTH
GRAPHIC SCALE
SCALE: 1" = 30'
LEGEND
PROPERTY LINE
LOT LINE
EASEMENT LINE
PROPOSED TOP OF BANK
PROPOSED TOE OF SLOPE
PROPOSED BOTTOM OF REGRADED SWALE
EX DITCH CENTERLINE
EX DRAINAGE FLOW DIRECTION
PROPOSED DRAINAGE FLOW
PROPOSED CONTROL ELEVATION (12.0)
POTENTIAL CONFLICT
STA-1 WEST VOLUME
EXCAVATION: 32,120 CY
FILL: 80 CY
STA-1 WEST
PROPERTY BOUNDARY
3.82 ACRES±
CE = 12.00
D-2 DROW
CONTROL EL = 12.00
125 LF 36" HDPE Pipe
120 LF 36" HDPE Pipe
52 LF 36" HDPE INV = 8.00
27 LF 36" HDPE INV = 7.00
80 LF 30" HDPE
10 LF 30" HDPE N INV = 10.38 S INV = 10.20
100' MIN
CONST. 15'x20' RIPRAP PAD. SEE DETAIL SHEET 5
CONCRETE JACKET PER FDOT INDEX #280 (TYP)
REMOVE EXIST CULVERT
REGRADE SWALE 1' DEEP W/ 4:1 SLOPES, 1'-2' WIDE @ BOTTOM (TYP). TOP OF BANK 5' FROM EDGE OF PAVEMENT. SEE SECTIONS FOR ELEVATIONS.
REMOVE AND REPLACE 24 LF 12" CMP CULVERT AND 36 SY FAILING CONCRETE DRIVEWAY. SEE DETAIL, SHEET 5. INV = 15.69 N INV = 15.73 S
CONSTRUCT VEGETATIVE BUFFER SURROUNDING PUMP HOUSE(±125 LF) (BY OTHERS - CITY OF PSL)
PLUG SOUTH SIDE OF EXISTING CATCH BASIN
EXIST 38"x24" ERCP INV (N) = 11.68 TO BE REMOVED
EXIST 24" OVAL RCP INV (S) = 11.70 TO BE REMOVED
EXIST 24" ERCP INV = 10.89 TO BE REMOVED
GRATE EL = 14.00 W INV = 11.83 (TIE IN EXISTING) N INV = 10.20 (30" HDPE) E INV = 8.50 (36" HDPE)
INV = 10.38 (10 LF 30" HDPE) CONNECT TO D-1
BM EL = 15.87 NAVD (7) SET MAG NAIL & DISK STAMPED "NORTHSTAR TRAV"
BM EL = 17.10 NAVD (8) SET MAG NAIL & DISK STAMPED "NORTHSTAR TRAV"
SFR LOT 13
SFR LOT 12
SFR LOT 1
SFR LOT 3
SFR LOT 42
SFR LOT 41
SFR LOT 40
SFR LOT 39
SFR LOT 38
SFR LOT 36
D-1
D-2
D-3
CS-1
3A
3B
3C

STRUCTURE DATA

STRUCTURE NAME	TYPE	GRATE	INVERT	NOTES
CS-1	DBI-G	14.50	7.00 W 11.00 E	36" HDPE - TIE-IN EXIST 45"x29" ERCP (SEE SECTION 3A)
D-1	DBI-E	14.00	10.20 N 8.50 E 11.83 W	CONNECT EXIST CULVERT TO NEW D-1 W/ 10 LF 30" HDPE
D-2	DBI-E	15.05	9.00 N 11.63 SW	30" HDPE - TIE-IN EXISTING 38"x24" ERCP
D-3	DBI-E	18.00	8.00 NW 8.00 S	

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DATE: 8/19/2020
DRAWN BY: MWH
DESIGNED BY: RRK
CHECKED BY: JWC
PROJECT No.: 1682.4
HORZ. SCALE: 1" = 30'
VERT. SCALE: N/A
1682.4-03_SITE PLAN.dwg

NO.	DATE	BY	REVISIONS
1	8/19/20	JWC	BID SET

SCALE VERIFICATION
0 1
SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING, ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FL

SITE PLAN
STA-1 WEST

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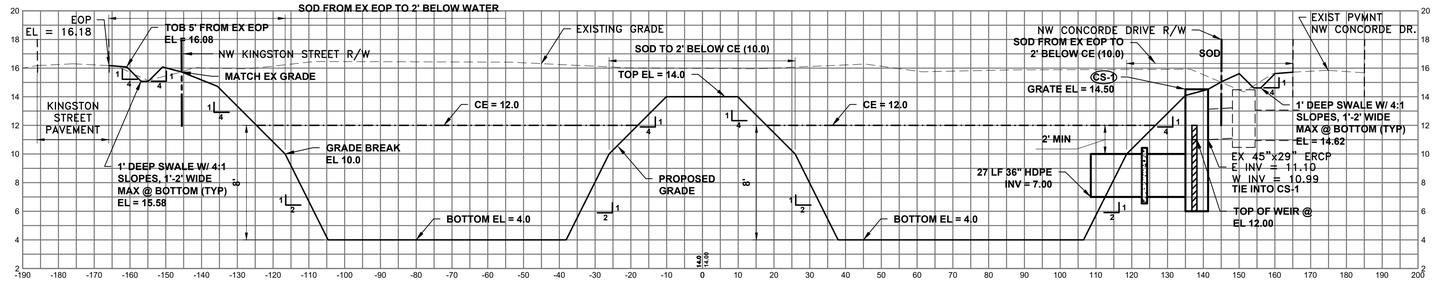
Printed Date:

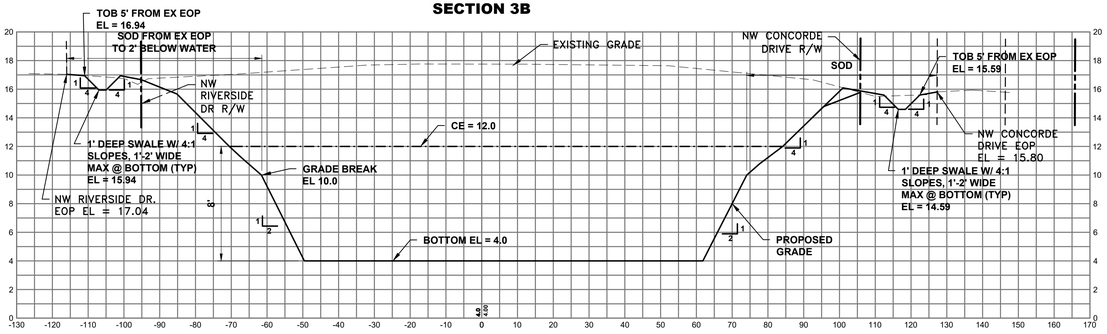
JOB No.: 1682.4
SHEET 3 OF 8



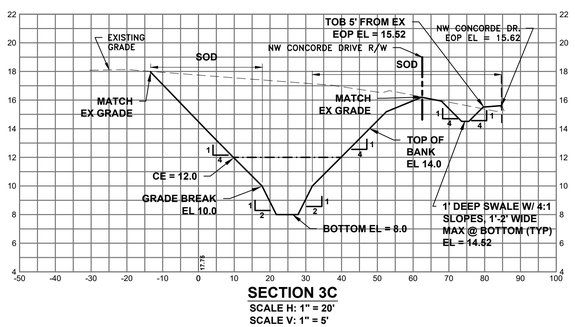
SECTION 3A
CONTROL STRUCTURE CS-1

SCALE H: 1" = 20'
SCALE V: 1" = 5'

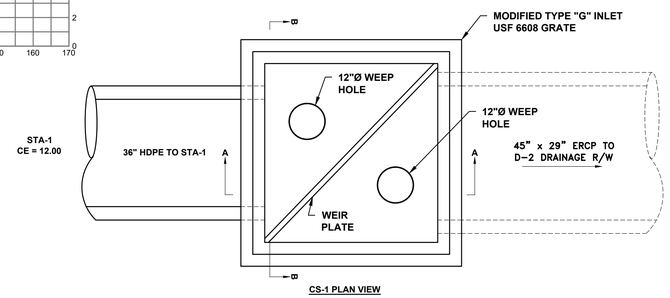
SECTION 3B



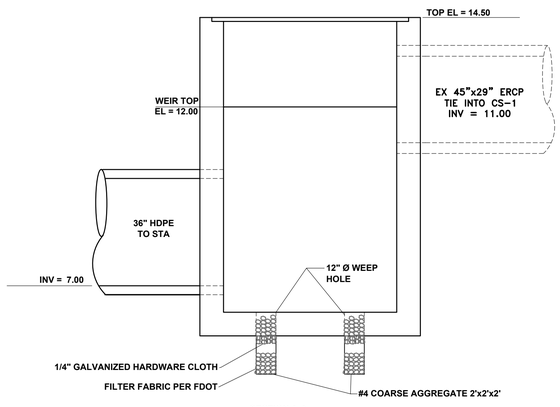
SECTION 3B
SCALE H: 1" = 20'
SCALE V: 1" = 5'



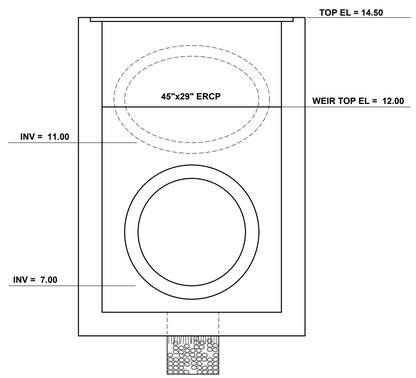
SECTION 3C
SCALE H: 1" = 20'
SCALE V: 1" = 5'



CS-1 PLAN VIEW



SECTION A-A



SECTION B-B

CS-1
MODIFIED TYPE G INLET
SCALE : 1" = 2'

NOTE: ALL DISTURBED AREAS TO BE STABILIZED WITH SOD.

NOTE: SOD FROM EXISTING EDGE OF PAVEMENT TO 2' BELOW WATER UNLESS SHOWN OTHERWISE IN SECTIONS.

NORTH

GRAPHIC SCALE
20 0 10 20
GRAPHICSCALE

LEGEND

- PROPERTY LINE
- LOT LINE
- EASEMENT LINE
- SECTION LINE
- TOB — PROPOSED TOP OF BANK
- TOE — PROPOSED TOE OF SLOPE
- EX DITCH CENTERLINE
- EX DRAINAGE FLOW DIRECTION

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Civil Engineering Professionals

DATE: 8/19/2020
DRAWN BY: MWH
DESIGNED BY: RRK
CHECKED BY: JWC
PROJECT No.: 1682.4
HORZ. SCALE: ----
VERT. SCALE: ----
1682.4-04_SECTIONS.dwg

NO.	DATE	BY	REVISIONS
1	8/19/20	JWC	BID SET

SCALE VERIFICATION
0 1
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CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FL

SECTIONS WEST

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Printed Date:

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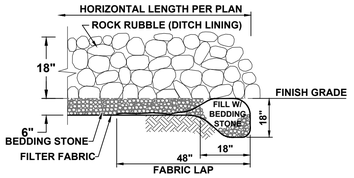
SHEET 4 OF 8

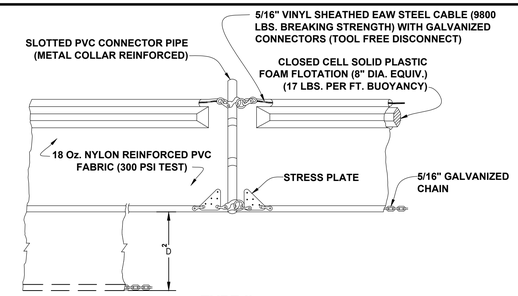


NOTES:

1. INSTALLATION SHALL BE IN ACCORDANCE WITH THESE SPECIFICATIONS. THE AREAS TO RECEIVE RIPRAP SHALL BE LINED WITH FILTER FABRIC AND 6" OF BEDDING STONE. ROCK RUBBLE SHALL BE PLACED IN 2 LAYERS FOR A TOTAL DEPTH OF 18" TO PRODUCE WELL GRADED MASS OF STONE WITH THE MINIMUM PRACTICAL PERCENTAGE OF VOIDS.
2. THE ROCK RUBBLE SHALL BE BROKEN STONE CONFORMING TO THESE SPECIFICATIONS.
3. THE BEDDING STONE SHALL CONFORM TO SECTION 901-1 OF THE FDOT SPECIFICATIONS FOR NUMBER 4 COURSE AGGREGATE.
4. CONTRACTOR SHALL USE WOVEN GEOTEXTILE AMOCO FABRIC TYPE 2044 OR EQUAL NON-BIODEGRADABLE.

RIPRAP DETAIL

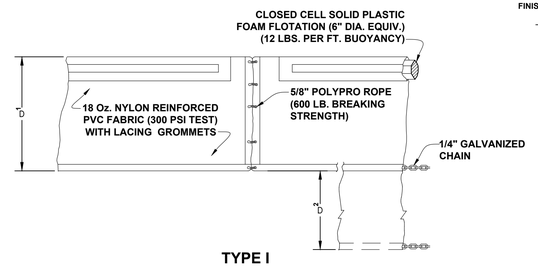
N.T.S.



TYPE II

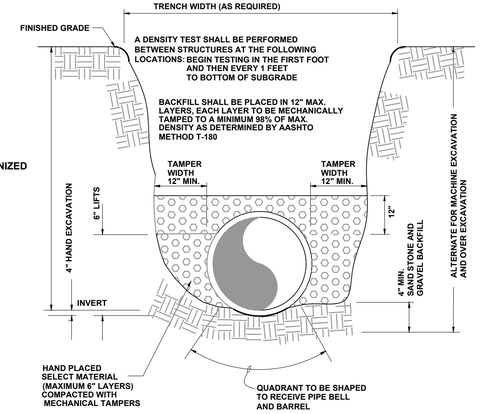
D_1 = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS)

D_2 = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5') CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.



TYPE I

NOTICE: COMPONENTS OF TYPES 1 AND 11 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

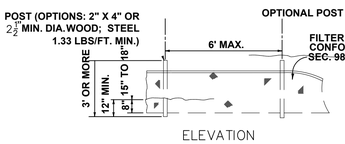


NOTES:

1. FOR TRENCHES REQUIRING SHEETING, SHORING, STAY BRACING, TRENCH JACKS OR TRENCH BOX, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SUPPORTS.
2. IF THE MAXIMUM TRENCH WIDTH MUST BE EXCEEDED, THE AREA OUTSIDE OF THE MAXIMUM EMBEDMENT SHALL BE COMPACTED TO FINAL BACKFILL REQUIREMENTS. IF THE PIPE IS INSTALLED IN A COMPACTED EMBANKMENT, THE EMBANKMENT SHALL BE IN PLACE AND COMPACTED TO 12" MIN. COVER BEFORE INSTALLATION OF UTILITY.
3. IF BEDDING IS REQUIRED TO BRING TRENCH BOTTOM UP TO GRADE AND PROVIDE UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE, THEN A MINIMUM COMPACTED DEPTH OF 4 TO 6 INCHES OF SELECT EMBEDMENT MATERIAL IS REQUIRED.
4. THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
5. ALL UTILITY EXCAVATING, BACKFILLING AND COMPACTING SHALL BE IN ACCORDANCE WITH SECTION 02220 OF THE CITY OF PORT ST. LUCIE UTILITY SYSTEMS DEPARTMENT TECHNICAL SPECIFICATIONS AND CONSTRUCTION STANDARDS, LATEST EDITION.

UTILITY TRENCH DETAIL

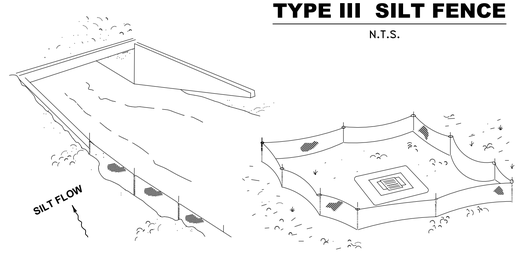
N.T.S.



NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

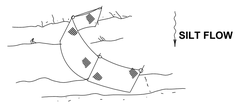
TYPE III SILT FENCE

N.T.S.



TYPE III SILT FENCE

TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS.



TYPE III SILT FENCE

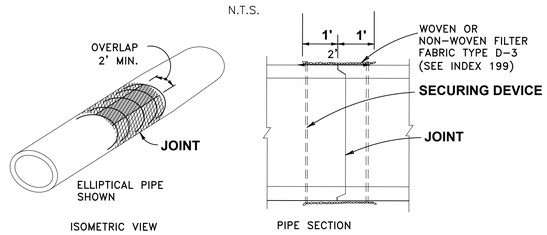
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

N.T.S.

FLOATING TURBIDITY BARRIERS

N.T.S.



COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS

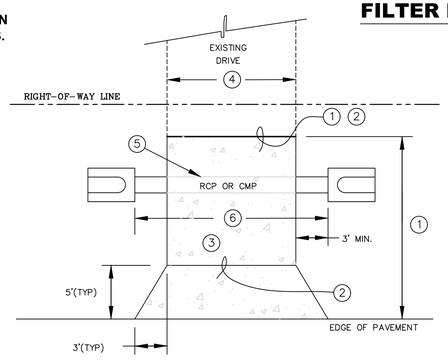
FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN

ALL STORM PIPE JOINTS SHALL BE WRAPPED

STORM PIPE JOINTS SHALL BE WRAPPED ACCORDING TO THIS DETAIL. COMPLETELY WRAP THE OUTSIDE OF EACH JOINT WITH EITHER A WOVEN OR NON-WOVEN FILTER FABRIC WHICH PROVIDES AN AOS OF A NO. 70 TO NO. 100 SIEVE (150 TO 212 um), A MINIMUM OF 24 INCHES (600 mm) IN WIDTH AND A LENGTH TO PROVIDE A MINIMUM OVERLAP OF 24 INCHES (600 mm). SECURE FILTER FABRIC AGAINST THE OUTSIDE OF THE PIPE BY STEEL OR PLASTIC STRAPPING OR BY OTHER METHODS APPROVED BY THE ENGINEER. (REF: F.D.O.T. INDEX 280 FOR DETAILS OF CONSTRUCTION).

FILTER FABRIC JACKET DETAIL

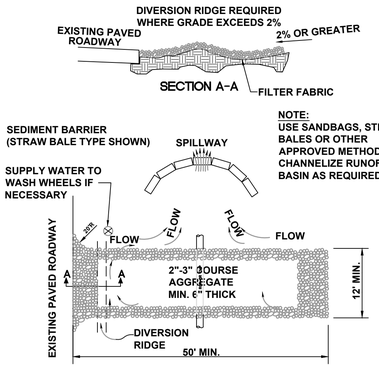
N.T.S.



1. DRIVEWAY CUT LOCATION TO BE DETERMINED BY ENGINEER. MAXIMUM 15 FEET UNLESS OTHERWISE NOTED IN PLANS.
2. EXPANSION JOINT REQUIRED.
3. CONCRETE SHALL BE 6" TYPE II (WITH 6x6 WELDED WIRE MESH OR FIBERGLASS).
4. RECONSTRUCTED DRIVEWAYS WIDTHS TO BE GREATER OF EXISTING OR 12 FEET UNLESS OTHERWISE NOTED IN PLANS.
5. WHERE DEPTH OF COVER IS LESS THAN 15", EXTRA BASE MATERIAL SHALL BE PLACED IN LIFTS OF 6" OR LESS, LIFTS EXTENDING TO BOTTOM OF DRIVEWAY PAVEMENT AND COMPACTED TO 99% DENSITY BY AASHTO T-180 METHOD C. FLOWABLE FILL MAY BE SUBSTITUTED FOR CLEAN BACKFILL AT CONTRACTORS DISCRETION.
6. 15 FOOT MINIMUM UNLESS OTHERWISE NOTED ON PLANS.

TYPICAL DRIVEWAY REPLACEMENT DETAIL

N.T.S.



NOTE:
USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

LOCATION OF PUBLIC UTILITY SYSTEM FACILITIES IN ACCORDANCE WITH PSLUSD SPECIFICATIONS

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (3), VACUUM SANITARY SERVICE	WATER MAIN 10' MINIMUM	WATER MAIN 18" MINIMUM	ALTERNATE 6' MINIMUM WATER MAIN
ALL OTHER FACILITIES, INCLUDING BUT NOT LIMITED TO: STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2), TELEPHONE, CABLE TV, POWER, ETC.	PSLUSD FACILITY 5' MINIMUM	PSLUSD FACILITY 18" MINIMUM	ALTERNATE 3' MINIMUM WATER MAIN
ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM	10' MINIMUM	-----	-----

1. WATER MAIN SHOULD CROSS OVER OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18".
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

UTILITY SEPARATION

N.T.S.

301 N.W. Flagler Ave.
Stuart, Florida 34994
Phone: (772) 692-2344
Fax: (772) 692-4431
CAPTEC Engineering, Inc.
Civil Engineering Professionals
Engineering Business No. EB-0007657

DATE: 8/19/2020
DRAWN BY: MWH
DESIGNED BY: RRK
CHECKED BY: JWC
PROJECT No.: 1682.4
HORZ. SCALE: N/A
VERT. SCALE: N/A
1682.4-06_DETAILS 1

NO.	DATE	BY	REVISIONS
1	8/19/20	JWC	BID SET

SCALE VERIFICATION
0 1
SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FLORIDA

MISCELLANEOUS DETAILS
STA-1 WEST

JOSEPH W. CAPRA, P.E.
301 N.W. Flagler Ave.
Stuart, Florida 34994
P.E. No. 37638

Printed Date:

JOB No.: 1682.4
SHEET 5 OF 8

CPSL Sagamore Basin
Stormwater Treatment Area 1 - West

City of Port St. Lucie, FL

Bid Form - 8/19/20

This item includes all equipment, materials, labor, supervision, and all other work necessary for the pipe replacements and resurfacing for CPSL Sagamore Basin Project located in Port St. Lucie, FL 34987. The STA construction and pipe replacement work shall include but is not limited to grading, installation of drainage structures and pipes, excavation and embankment. All work for CPSL Sagamore Basin Project as depicted on the Construction Drawings; Sheets 1-8. This item shall include general conditions, bonds, indemnification, mobilization, demobilization, dewatering, coatings, connections, restoration, testing, record drawings, owner training, and all other necessary items to provide a complete and fully functioning system.

No.	FDOT Pay Item	Item Description	Unit	Quantity	Unit Cost	Item Cost
GENERAL ITEMS						
1	999-1	Mobilization (Video)	LS	1		$ -
2	999-2	Dewatering	LS	1		$ -
3	999-3	Erosion Control	LS	1		$ -
4	104-12	Turbidity Barrier	LF	80		$ -
5	104 12	Staked Silt Fence, Type III	LF	2,205		$ -
6	104-13-1	Stabilized Construction Entrance/Sweeping/15" HDPE	LS	1		$ -
7	104-15	Survey Staking & As-Builts	LS	1		$ -
8	199-1	Clearing & Grubbing / Demolition / Plug Pipes	AC	2.68		$ -
9	522-1	Concrete Driveway Replacement	SY	36		$ -
10	110-1-1	Exotic Vegetation Removal	AC	0.45		$ -
		SUBTOTAL	---	---	---	$ -
DRAINAGE						
11	120-1	Regular Excavation (10% Contingency)	CY	32,120		$ -
12	120-6	Embankment (Swale Regrading - Use Onsite Material)	CY	60		$ -
13	425-1-572	DT Bot Type G Inlet (4-Grate) < 10'	EA	1		$ -
14	425-1-551	DT Bot Type E Inlet < 10' (Steel Grate - Galv)	EA	3		$ -
15	430-75-12	Pipe Culvert 12" CMP	LF	24		$ -
16	430-75-30	Pipe Culvert 30" HDPE	LF	90		$ -
17	430-75-36	Pipe Culvert 36" HDPE	LF	324		$ -
18	999-4	Concrete Jacket	EA	5		$ -
19	530-3-3	Riprap (Bank and Shore)	TN	120		$ -
		SUBTOTAL	---	---	---	$ -
PLANTING & GRASSING						
20	570-1-2A	Performance Turf (Bahia Sod)	SY	15,000		$ -
		SUBTOTAL	---	---	---	$ -

TOTAL	**$ -**

NOTES:

430 - PIPES: THE COST OF PIPE WILL INCLUDE REMOVAL/DISPOSAL/GROUT OF EXIST. PIPE & REPLACEMENT OF PIPE/BACKFILL/MATERIAL/OVERLAY/ETC. PRICE TO INCLUDE REMOVE/REINSTALL FENCES TO BUILD LINES.

425 - INLETS: THE COST OF INLET WILL INCLUDE WEEP HOLE/SUMPS AND REMOVAL/DISPOSAL OF EXISTING INLET AND REPLACEMENT INLETS/MANHOLES/ETC.

999-3 - EROSION CONTROL: LUMP SUM TO INCLUDE PERMITTING/MONITORING/INLET PROTECTION. THE LENGTH OF SILT FENCE AND TURBIDITY BARRIER TO BE SEPARATE.

UTILITY STATUS REPORT

CPSL - Sagamore STA

CAPTEC Project #1682.4

Sunshine One Call Design Ticket #338706493

SUBMITTED TO: (Utility Company or Govt. Agency, Contact Person & Address)	DATE SUBMITTED:	RESPONSE DATE /RESPONDENT'S NAME	ITEMS SUBMITTED/ COMMENTS
FLORIDA POWER & LIGHT Armlight Marjan armlight.marjan@fpl.com	12/4/17 email	Follow-up / no response	site plan / location map
AT&T Mark Gutierrez mark.gutierrez@att.com	12/4/17 email	Follow-up / no response	site plan / location map
COMCAST Anthony Springsteel anthony_springsteel@cable.comcast.com	12/4/17 email	Rcvd markups 12/8 (Rick Johnson)	site plan / location map
FLORIDA CITY GAS Ron Muller rmuller@aglresources.com	12/4/17 email	No conflicts 12/4	site plan / location map
CITY OF PORT ST. LUCIE TRAFFIC Paul Johnson pjohnson@cityofpsl.com	12/4/17 email	No conflicts 12/8	site plan / location map
CITY OF PORT ST. LUCIE UTILITIES Colleen Jacobsen cjacobsen@cityofpsl.com	12/4/17 email	Rcvd markups 12/11	site plan / location map

P:\1600\1682.4 - CPSL Sagamore Basin STA\utl locates\Utility Status Report.doc

NOTES:

THE FOLLOWING UTILITY COORDINATION EFFORTS HAVE BEEN COMPLETED FOR THIS PROJECT. BEFORE BEGINNING CONSTRUCTION, CONTRACTOR TO CONTACT EACH UTILITY AND CONFIRM "NO CONFLICTS" WITH THE PROPOSED WORK.

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CAPTEC Engineering, Inc.
Civil Engineering Professionals
• 301 N.W. Flagler Ave.
Stuart, Florida 34994
Phone: (772) 692-4344
Fax: (772) 692-4341
Engineering Business No. EB-0007657

DATE: 8/19/2020
DRAWN BY: MWH
DESIGNED BY: RRK
CHECKED BY: JWC
PROJECT No.: 1682.4
HORZ. SCALE: ---
VERT. SCALE: ---
1682.4-08_QUANTITIES

NO.	DATE	BY	REVISIONS
1	8/19/20	JWC	BID SET

SCALE VERIFICATION
0 1
SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FL

QUANTITIES
STA-1 WEST

JOSEPH W. CAPRA, P.E.
301 N.W. Flagler Ave.
Stuart, Florida 34994
P.E. No. 37638

Printed Date:

JOB No.: 1682.4
SHEET 6 OF 8

A. GENERAL

1. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGE OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER AND THE CITY OF PORT ST. LUCIE.

2. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

3. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND BASED ON THE BEST AVAILABLE INFORMATION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND THE OWNER PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

4. THE CONTRACTOR SHALL MAINTAIN ALL WATER SUPPLY AND SANITARY SEWER SERVICE THROUGHOUT CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL MAINTAIN EXISTING SERVICES UNTIL THE NEW LINES HAVE BEEN APPROVED BY THE CITY OF PORT ST. LUCIE UTILITY DEPARTMENT.

5. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL NOTIFY THE LOCAL UTILITY COMPANY BY LETTER PRIOR TO THE PRECONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS.

6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS/HER COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE. BY SUBMITTAL OF A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES HIS/HER COMPLETE UNDERSTANDING AND RESPONSIBILITIES WITH RESPECT TO THE CONSTRUCTION ACTIVITIES REQUIRED UNDER THE SCOPE OF THIS PROJECT.

7. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENHANCED BY THE LEGISLATURE OF THE STATE OF FLORIDA IN EFFECT SINCE OCTOBER 1, 1990.

8. THE CONTRACTOR SHALL PREPARE A PLAN SHOWING THE SCHEDULE OF WORK, INCLUDING A HIGHLIGHTED PLAN SHOWING THE ORDER OF CONSTRUCTION THAT WILL FACILITATE MAINTAINING EXISTING SERVICES DURING CONSTRUCTION. THIS PLAN SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPIRATION MAINTENANCE OF TRAFFIC AND STAGING PLAN.

9. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, CITY OF PORT ST. LUCIE STANDARDS AND CITY OF PORT ST. LUCIE UTILITY DEPARTMENT STANDARDS.

10. TELEPHONE, POWER, CABLE, WATER, SEWER, AND GAS LOCATIONS SHOWN ARE TAKEN FROM INFORMATION PROVIDED BY THAT UTILITY COMPANY. THESE LOCATIONS HAVE NOT BEEN VERIFIED IN THE FIELD. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE TO EXPOSE ALL CROSSING WITH BELLSOUTH, CABLES/CATV AND FLORIDA POWER AND LIGHT ELECTRIC CONDUITS PRIOR TO BEGINNING CONSTRUCTION AND DELIVERY OF PIPE. THE CONTRACTOR IS TO USE EXTREME CAUTION WITHIN THE VICINITY OF PRIVATE UTILITY FACILITIES. THE CONTRACTOR WILL REQUEST A PRIVATE UTILITY REPRESENTATIVES PRESENCE DURING CONSTRUCTION IN THE VICINITY OF THEIR FACILITIES. A PROFILE OF THE PRIVATE UTILITY FACILITIES ARE NOT PROVIDED IN THESE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE PRIVATE UTILITIES AND OBTAINING THE APPROXIMATE LOCATION OF THESE FACILITIES.

11. ANY NGVD 29 AND NAVD 88 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHOULD NOTIFY,

GEODETIC INFORMATION CENTER
ATTN: M/CG - 162
6001 EXECUTIVE BOULEVARD
ROCKVILLE, MD 20852
TELEPHONE: (301) 443-8319

CITY OF PORT SAINT LUCIE
ENGINEERING DEPARTMENT
ATTN: MARK MAINTENANCE CENTER
121 SW PORT SAINT LUCIE BOULEVARD
PORT SAINT LUCIE, FL 34984-5099
TELEPHONE: (772) 871-5175

12. THE CONTRACTOR IS TO NOTIFY THE LOCAL UTILITY COMPANY AND ALL UTILITY COMPANIES FOR PRE-CONSTRUCTION MEETINGS.

13. BENCH MARK DATA IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-'88). SEE SURVEYOR'S NOTES FOR ADDITIONAL INFORMATION.

14. SHOP DRAWINGS ARE REQUIRED ON ALL CONSTRUCTION ITEMS. THE ENGINEER REQUIRES FIVE (5) DAYS PRIOR NOTICE TO REVIEW SHOW DRAWINGS.

15. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF THE LOCAL UTILITY COMPANY UTILITIES MINIMUM DESIGN AND CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISION, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.

16. CONTRACTOR TO UTILIZE "APPROVED CONSTRUCTION PLANS" ONLY FOR CONSTRUCTION.

17. CONTRACTOR TO PROVIDE SITE PLAN AS-BUILTS TO THE CITY OF PORT ST. LUCIE PRIOR TO CERTIFICATE OF OCCUPANCY.

18. IF HISTORICAL OR ARCHAEOLOGICAL ARTIFACTS ARE DISCOVERED ON SITE, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

19. AS-BUILT RECORD DRAWINGS: UPON COMPLETION OF THE WORK, BUT PRIOR TO SUBMITTAL OF REQUEST FOR FINAL PAYMENT OR FINAL ACCEPTANCE, THE CONTRACTOR OR DEVELOPER'S ENGINEER SHALL OBTAIN AND SUBMIT RECORD INFORMATION CERTIFIED BY A FLORIDA PROFESSIONAL SURVEYOR AND MAPPER PREPARED IN ACCORDANCE WITH THE CITY OF PORT ST. LUCIE UTILITY DEPARTMENT STANDARDS. TWO (2) PAPER PRINTS OF THE PLAN SHEETS, PROFILES, DETAILS AND LIFT STATION SHALL BE PROVIDED. THE PRINT SHALL BE SIGNED AND SEALED BY THE FLORIDA PROFESSIONAL SURVEYOR AND MAPPER AND THE FLORIDA PROFESSIONAL ENGINEER RESPONSIBLE FOR CERTIFYING THE PROJECT. ALL SHEETS MUST INCLUDE THE VERTICAL DATUM AND HORIZONTAL DATUM USED IN EASILY READABLE PRINT.

THREE (3) ELECTRONIC RECORD DRAWING FILES SHALL ALSO BE PROVIDED AS FOLLOWS:
ONE (1) DIGITAL RECORD DRAWING CAD FILE SAVED IN THE ORIGINAL FORMAT AS DESIGNED, BUT BEING AUTOCAD VERSION 2004 OR NEWER. ONE (1) DIGITAL RECORD DRAWING SAVED IN DWF FORMAT AS AN EXACT REPRODUCTION OF THE SIGNED AND SEALED RECORD DRAWING ON PAPER, WITHOUT SIGNATURE OR SEAL WITH A RESOLUTION OF 300 DOTS PER INCH (DPI). ONE (1) DIGITAL RECORD DRAWING SAVED IN PDF FORMAT AS AN EXACT REPRODUCTION OF THE SIGNED AND SEALED RECORD DRAWING ON PAPER, WITHOUT SIGNATURE OR SEAL WITH A RESOLUTION OF 300 DOTS PER INCH DPI).

ALL RECORD DRAWING INFORMATION SHALL ACCURATELY DEPICT ALL SURVEYED INFORMATION WITH ALL HORIZONTAL VECTOR INFORMATION BEING SHOWN IN THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND IN THE FLORIDA EAST ZONE STATE PLANE COORDINATE SYSTEM OR THE LATEST NGS ADOPTED DATUM USING U.S. SURVEY FEET AS THE UNIT OF MEASUREMENT.

CAD FILES: THE DIGITAL RECORD DRAWING CAD FILE SHALL FOLLOW THESE GENERAL STANDARDS FOR INCLUSION IN THE UTILITY'S GEOGRAPHIC INFORMATION SYSTEM (GIS): ALL RECORD DRAWING PIPING INFORMATION SHALL BE PLACED ON SEPARATE LAYERS BY PIPING TYPE, DIAMETER AND MATERIAL. ALL RECORD DRAWING FIXTURE INFORMATION (FIRE HYDRANTS, VALVES, METERS, REDUCERS, TEES, WYES, CROSSES, CAPS, ETC.) SHALL BE PLACED ON SEPARATE LAYERS BY THE PIPING TYPE THEY ARE ATTACHED TO. ALL PIPING SHALL BE DRAFTED AS POLYLINES; SEPARATED ONLY AT JUNCTIONS OR CHANGES IN PIPE DIAMETER. ALL PIPING POLYLINES SHALL SNAP TO ONE ANOTHER AT EVERY JUNCTION AND CHANGE IN PIPE DIAMETER. A TEMPLATE FILE SHALL BE PROVIDED TO THE UTILITY DEPARTMENT WHICH CLEARLY DEPICTS RECORD DRAWING LAYERS AND BLOCKS TO BE USED IN FINAL RECORD DRAWING SUBMITTALS. ALL RECORD DRAWING CAD FILES SHALL ADHERE TO THE LAYER AND BLOCK STRUCTURE SUBMITTED IN THE TEMPLATE FILE.

B. STORM SEWER SYSTEM INSTALLATION

1. SEWER SHALL BE LAID ACCURATELY TO BOTH LINE AND GRADE. THE LOCAL UTILITY COMPANY WILL GENERALLY NOT ACCEPT ANY LINE LAID WITH A SLOPE VARYING BY MORE THAN 10% OF ITS DESIGN SLOPE, ESPECIALLY FOR LINES LAID A MINIMUM GRADIENTS. FOR SPECIFIC INSTANCE, THE MINIMUM ACCEPTABLE SLOPE ON AN EIGHT INCH (8") LINE SHALL BE 0.36% IF THE DESIGN CALLED FOR IS 0.40%. THE LOCAL UTILITY COMPANY RESERVES THE RIGHT TO INDEPENDENTLY VERIFY QUESTIONABLE SURVEY RESULTS. VISIBLE LEAKAGE, DEFLECTIONS, HORIZONTAL MISALIGNMENT, SIGNIFICANT BOWING, NON-CONSTANT SLOPES BETWEEN MANHOLE AND SAGGING JOINT SHALL BE GROUNDS FOR REJECTION OF LINES.

2. ALL EXISTING LINES THAT ARE ABANDONED SHALL BE CUT, PLUGGED, AND GROUTED, OR REMOVED AND DISPOSED OF PROPERLY BY THE CONTRACTOR.

3. TRENCHES AND EXCAVATIONS SHOULD BE KEPT DRY WHILE WORK IS IN PROGRESS. EXCAVATED MATERIALS, SUCH AS BOULDERS AND LOGS THAT ARE NOT SUITABLE FOR BACKFILL, SHOULD BE REMOVED FROM SITE. THE PIPE BARREL SHALL BE UNIFORMLY SUPPORTED ALONG ITS ENTIRE LENGTH ON UNDISTURBED SOIL OR BEDDING MATERIAL. PROPER BEDDING SHOULD STILL BE SUPPLIED IF THE EXISTING MATERIAL INCLUDES ROCK, ORGANIC MATTER, OR OTHER SHARP OR UNSTABLE MATERIAL.

MANHOLES

1. MANHOLES SHALL BE SET ACCORDING TO CONSTRUCTION PLANS AND SHALL BE PRECAST IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. THE MANHOLE INVERT SHALL BE CAREFULLY SHAPED TO CONFORM TO THE PIPE FLOW CHANNEL. FLOW CHANNELS WITHIN THE MANHOLES INVOLVING CHANGES OF DIRECTION OR SIDE DROPS SHALL SMOOTHLY DIRECT THE FLOW IN ACCORDANCE WITH DETAIL DRAWINGS. ALL CONCRETE IRREGULARITIES SHALL BE PLASTERED WITH CEMENT MORTAR IN SUCH A MATTER TO PROVIDE NEAT AND WATER TIGHT PERFORMANCE.

2. MANHOLE RIM ELEVATION SHALL BE SET AT 0.25 FEET ABOVE FINISHED GRADE IN UNPAVED AREAS AND FLUSH WITH PAVEMENT IN PAVED AREAS. WHEN CONFLICTS EXISTS BETWEEN ELEVATIONS ON PLANS AND THE FIELD CONDITIONS, THE CONTRACTOR IS TO NOTIFY THE LOCAL UTILITY COMPANY.

3. MANHOLES SHALL BE CORE-DRILLED TO PROVIDE PIPE OPENINGS WHEN PRECAST HOLES ARE NOT AVAILABLE.

4. RAM-NEK OR EQUIVALENT SHALL BE USED AT ALL RISER JOINTS. ALL CONNECTIONS OF PVC SEWER PIPE TO MANHOLES HALL BE MADE WITH ASBESTOS-CEMENT MANHOLE COUPLINGS OR PRECAST RUBBER BOOT (SHOP DRAWINGS REQUIRED).

STORM SEWER NOTES

1. ALL DISTURBED OUTFALL DRAINAGE AREAS SHALL BE SODDED UPON COMPLETION OF GRADING AFTER AS- BUILT GRADE ELEVATIONS ARE APPROVED BY THE ENGINEER.

2. PRIOR TO FINAL PAYMENT OF RETENTION, DETENTION, AND DRAINAGE DITCH QUANTITIES, ALL SLOPES AND SWALES SHALL BE SODDED TO AVOID EROSION.

3. BACKFILL TO BE COMPACTED IN NO GREATER THAN ONE (1) FOOT LIFTS TO THE DENSITY OF THE UNDISTURBED ADJACENT SOILS.

4. THERE IS TO BE NO OFF-SITE HAULING WITHOUT PRIOR APPROVAL AND ALL EXCAVATED MATERIAL SHALL BE USED ON-SITE.

5. THE CONTRACTOR SHALL CONSTRUCT THE STORMWATER MANAGEMENT SYSTEM IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACTS OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES AND WATER QUALITY ON OR OFF-SITE. THE CONTRACTOR SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES TO REDUCE EROSION TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

6. WITHIN THIRTY (30) DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE CONTRACTOR SHALL ASSIST THE DESIGN ENGINEER TO PROVIDE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWINGS ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BY ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED. SEE AS-BUILT REQUIREMENTS.

7. A STABLE PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED FEET (100') OF ALL PERMITTED DISCHARGE STRUCTURES.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION OR SHOALING OF THE WATER QUALITY MANAGEMENT SYSTEM.

LEAKAGE TEST - LOW-PRESSURE AIR METHOD

1. TEST PROCEDURE: THE FOLLOWING STEPS SHALL BE USED IN MAKING EACH TEST:

a) THE SELECTION OF SEWER LINE TO BE TESTED SHALL BE FLUSHED AND CLEANED PRIOR TO CONDUCTING THE LOW-PRESSURE AIR TEST TO CLEAN OUT ANY DEBRIS, WET THE PIPE, AND PRODUCE MORE CONSISTENT RESULTS.

b) ISOLATE THE SECTION OF SEWER LINE TO BE TESTED BY MEANS OF INFLATABLE STOPPERS OR OTHER SUITABLE TEST PLUGS. ONE OF THE PLUGS SHALL HAVE AN INLET TAP OR OTHER PROVISION FOR CONNECTING A HOSE TO A PORTABLE AIR SOURCE.

c) IF THE TEST SECTION IS BELOW THE GROUNDWATER LEVEL, DETERMINE THE HEIGHT OF THE GROUNDWATER ABOVE THE SPRINGLINE OF THE PIPE AT EACH END OF THE TEST SECTION AND COMPUTE THE AVERAGE. FOR EVERY FOOT OF GROUNDWATER ABOVE THE PIPE SPRINGLINE, INCREASE THE GAUGE TEST PRESSURE BY 0.43 POUNDS PER SQUARE INCH.

d) CONNECT THE AIR HOSE TO THE INLET TAP AND A PORTABLE AIR SOURCE. THE AIR EQUIPMENT SHALL CONSIST OF NECESSARY VALVES AND PRESSURE GAUGES TO CONTROL THE RATE AT WHICH AIR FLOWS INTO THE TEST SECTION AND TO ENABLE MONITORING OF THE AIR PRESSURE WITHIN THE TEST SECTION. THE TESTING APPARATUS SHALL BE EQUIPPED WITH A PRESSURE RELIEF DEVICE TO PREVENT THE POSSIBILITY OF LOADING THE TEST SECTION WITH THE FULL CAPACITY OF THE COMPRESSOR.

e) ADD AIR SLOWLY TO THE TEST SECTION UNTIL THE PRESSURE INSIDE THE PIPE IS RAISED TO 4.0 PSIG GREATER THAN THE AVERAGE BACK PRESSURES OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE.

f) AFTER A PRESSURE OF 4.0 PSIG IS OBTAINED, REGULATE THE AIR SUPPLY SO THAT THE PRESSURE IS MAINTAINED BETWEEN 3.5 AND 4.0 PSIG (ABOVE THE AVERAGE GROUNDWATER BACK PRESSURE) FOR A PERIOD OF TWO MINUTES TO ALLOW THE AIR TEMPERATURE TO STABILIZE IN EQUILIBRIUM WITH THE TEMPERATURE OF THE PIPE WALLS.

g) DETERMINE THE RATE OF AIR LOSS BY THE TIME PRESSURE-DROP METHOD. AFTER THE TWO-MINUTE AIR STABILIZATION PERIOD, DISCONNECT THE AIR SUPPLY AND ADJUST THE PRESSURE TO 3.5 PSIG ABOVE THE AVERAGE GROUNDWATER BACK PRESSURE. THE TIME REQUIRED FOR THE TEST PRESSURE TO DROP FROM 3.5 PSIG TO 2.5 PSIG SHALL BE DETERMINED BY MEANS OF A STOPWATCH. THIS TIME INTERVAL WILL BE COMPARED TO THE REQUIRED TIME IN THE TABLES TO DETERMINE IF THE RATE OF AIR LOSS IS WITHIN THE ALLOWABLE TIME LIMIT. IF THE TIME IS EQUAL TO OR GREATER THAN THE TIMES INDICATED IN THE TABLES, THE PIPELINE SHALL BE DEEMED ACCEPTABLE.

C. SOIL EROSION PLAN

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A SPECIFIC SOIL EROSION PLAN. IN GENERAL, THE SOIL EROSION PLAN SHALL REQUIRE THAT ALL ON-SITE SOILS WILL REMAIN ON-SITE AND WILL NOT ERODE INTO THE ADJACENT ROADSIDE SWALES, ADJACENT PROPERTIES, OR RETENTION DITCHES. ALL EXISTING SWALES SHALL REMAIN SODDED DURING CONSTRUCTION. THE CONTRACTOR SHALL SCARIFY ONLY AS NECESSARY TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL SCARIFY AREAS TO PLACE VARIOUS PIPE WORK. AFTER PLACEMENT OF THE PIPE, THESE TRENCHES SHALL BE BACKFILLED AND COMPACTED TO A 98% DENSITY. PRIOR TO DISCHARGE FROM THE SITE, SILTATION BARRIERS AND HAY BALES SHALL BE UTILIZED AS PER FLORIDA DEPARTMENT OF TRANSPORTATION INDEX 102 TO AVOID FILLING THESE AREAS. UPON COMPLETION OF THE SITE WORK, ALL AREAS SHALL BE SODDED WITHIN SEVEN DAYS TO AVOID EROSION. CONTRACTOR IS REQUIRED TO COMPLY WITH ALL STATE WATER QUALITY CRITERIA, SPECIFICALLY, NO OFF-SITE DISCHARGES WILL BE ALLOWED WHICH EXCEED THE STATE TURBIDITY CRITERIA.

2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE GUIDELINES AND SPECIFICATIONS IN CHAPTER 6 OF THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION, 1988).

D. LOCAL PUBLIC WORKS DEPARTMENT CONSTRUCTION FIELD OBSERVATIONS

1. UTILITIES:
* PIPE LAYING WITHIN PUBLIC RIGHT-OF-WAY.
* JACK AND BORING WITHIN PUBLIC RIGHT-OF-WAY.
* RESTORATION OF RIGHT-OF-WAY.

2. TESTING:
* FLORIDA BEARING VALUE TEST RESULTS.
* COMPACTION TEST.
* BASE MATERIAL TEST RESULTS.
* ASPHALT TEST RESULTS.
* COMPACTION TEST REQUIRED BENEATH ALL MANHOLES.

3. WATER AND SEWER:
* DEPARTMENT OF ENVIRONMENTAL PROTECTION CERTIFICATION FOR BOTH WATER AND SEWER (OPERATION AND MAINTENANCE) IF APPLICABLE.
* HEALTH DEPARTMENT CERTIFICATION, IF APPLICABLE.
* BACTERIOLOGICAL FOR WATER MAINS.
* UTILITY ACCEPTANCE FOR OPERATION AND MAINTENANCE, IF APPLICABLE.

4. CERTIFICATION AND RECORD DRAWINGS:
* SEALED CERTIFICATION BY THE LOCAL UTILITY COMPANY FOR COMPLIANCE WITH APPROVED PLANS AND SPECIFICATIONS ALONG WITH RECORD DRAWINGS FOR THE PROJECT.

E. PAVING, GRADING AND DRAINAGE NOTES

1. ALL UNSUITABLE MATERIALS, SUCH AS MUCK, ORGANIC MATERIAL AND OTHER DELETERIOUS MATERIAL AS CLASSIFIED BY AASHTO M 145, FOUND WITHIN THE ROAD AND PARKING LOT AREAS SHALL BE REMOVED DOWN TO ROCK OR SUITABLE MATERIAL AND REPLACED WITH THE SPECIFIED FILL MATERIAL IN MAXIMUM 12" LIFTS COMPACTED TO NOT LESS THAN 100% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH AASHTO T-99. THICKNESS OF LAYERS MAY BE INCREASED, PROVIDED THAT THE EQUIPMENT AND METHODS USED ARE PROVEN BY FIELD DENSITY TESTING AND CAPABLE OF COMPACTING THICK LAYERS TO SPECIFIED DENSITIES.

2. ALL AREAS SHALL BE CLEARED AND GRUBBED PRIOR TO CONSTRUCTION. THIS SHALL BE CONSISTENT FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL TREES, BRUSH, STUMPS, GRASS, WEEDS, RUBBISH, AND ALL OTHER OBSTRUCTIONS RESTING ON, OR PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND TO A PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND TO A DEPTH OF ONE FOOT (1'). ITEMS DESIGNATED TO REMAIN, TO BE RELOCATED, OR TO BE ADJUSTED SHALL BE SO DESIGNATED ON THE DRAWINGS.

3. FILL MATERIAL SHALL BE CLASSIFIED AS A-1, A-3, OR A-2-4 IN ACCORDANCE WITH AASHTO M-145 AND SHALL BE FREE FROM VEGETATION AND ORGANIC MATERIAL, NOT MORE THAN 12% BY WEIGHT OF FILL MATERIAL SHALL PASS THE NO. 20 SIEVE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF THE RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENGINEER. TEST RESULTS MUST INCLUDE, BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE AND BASE DENSITIES AT UTILITY CROSSINGS, MANHOLES, INLETS, AND STRUCTURES. TEST SHALL INCLUDE ASPHALT GRADATION REPORTS, CONCRETE CYLINDERS, ETC.

5. ALL INLETS AND PIPE SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEMS BY WAY OF TEMPORARY PLUGS AND PLYWOOD OR PLASTIC COVERS OVER THE INLETS. THE ENTIRE DRAINAGE SYSTEMS SHALL BE CLEANED OF ALL DEBRIS PRIOR TO FINAL ACCEPTANCE.

6. WHERE NEW ASPHALT MEETS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE. PRIOR TO REMOVING CURB OR GUTTER, THE ADJACENT ASPHALT SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE.

7. ALL PROPOSED ELEVATIONS REFER TO FINISHED GRADES.

8. SITE GRADING ELEVATIONS SHALL BE AT THE REQUIRED ELEVATION AND ALL AREAS SHALL BE GRADED TO DRAIN.

9. CONCRETE AND ASPHALT SHALL BE AS DESIGNATED ON THE DRAWINGS. ALL CONCRETE FOR CURBING, SIDEWALKS AND DUMPSTER PADS SHALL BE A MINIMUM 3,000 PSI.

10. PLASTIC FILTER FABRIC SHALL BE MIRAFI, TYPAR OR EQUAL, CONFORMING TO SECTION 985 OF THE FDOT STANDARD SPECIFICATIONS.

11. THE CONCRETE SIDEWALKS SHALL BE 4" THICK ON COMPACTED SUBGRADE, WITH 1/2" EXPANSION JOINTS PLACED AT A MAXIMUM OF 75%. CRACK CONTROL JOINTS SHALL BE 5' ON CENTER. ALL CONCRETE SIDEWALKS SHALL BE 7 INCHES THICK ACROSS DRIVEWAYS.

12. PIPE SPECIFICATIONS: THE MATERIAL TYPE SHALL BE HDPE (SECTION 948 OF THE FDOT STANDARD SPECIFICATIONS).

13. CONCRETE PAVEMENT
* SURFACE COURSE - NON-REINFORCED CLASS II CEMENT CONCRETE A MINIMUM THICKNESS OF FIVE (5) INCHES, HAVING A TWENTY-EIGHT (28) DAY COMPRESSIVE STRENGTH OF 3,000 P.S.I.
* FORMED OR SAWED JOINTS SHALL BE ONE-EIGHTH OF AN INCH (1/8") TO ONE-FOURTH (1/4") OF THE SLAB THICKNESS. JOINTS SHALL NORMALLY BE SPACED FIFTEEN FEET (15') TO EIGHTEEN FEET (18'). EXCEPT FOR SPECIAL JOINT PATTERNS IN RADIOS AND CORNERS (400 SQ. FEET MAXIMUM).
* ALL SURFACES SHALL BE COARSE BROOM FINISHED TO PROVIDE A NON-SKID SURFACE. SPECIAL ADMIXTURES OR CURING COMPOUNDS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

14. PAVING BASE:
* SURFACE DENSIFICATION BY COMPACTING THE CLEARED AND GRUBBED GROUND SURFACE WITH CONVENTIONAL COMPACTION EQUIPMENT IS ANTICIPATED TO PREPARE THE EXISTING FOUNDATION SOILS. ADEQUATE SEPARATION BETWEEN THE ESTIMATED NORMAL SEASONAL HIGH WATER GROUNDWATER LEVEL AND THE BOTTOM OF PAVEMENT MUST BE MAINTAINED.

* AFTER CLEARING AND PROOF-ROLLING THE SITE SURFACE AS PREVIOUSLY RECOMMENDED, THE SUPERFICIAL SOILS SHOULD BE SUITABLE TO SUPPORT THE PAVEMENT SECTIONS. THE SUBGRADE MATERIAL SHOULD BE COMPACTED TO A DRY DENSITY OF 98% OF THE MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180) MAXIMUM DRY DENSITY OF THE COMPACTED SOIL TO A DEPARTMENT OF ONE FOOT BELOW THE SURFACE.

* THE SUBBASE MATERIAL TO A DEPTH OF SIX INCHES SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF ITS MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180) MAXIMUM DRY DENSITY.

F. STANDARD SEPARATION FOR WATER / SEWER CONFLICTS

1. SANITARY SEWERS, FORCE MAIN, AND STORM SEWERS SHOULD ALWAYS CROSS UNDER WATER MAIN. SANITARY SEWERS, FORCE MAINS, AND STORM SEWERS CROSSING WATERMAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN INCHES (18") BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE. WHERE SANITARY SEWERS, FORCE MAINS, AND STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN EIGHTEEN INCHES (18") VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF THE DUCTILE IRON PIPE (DIP) AT THE CROSSING (DIP IS NOT REQUIRED FOR STORM SEWERS IF IT IS NOT AVAILABLE IN THE SIZE PROPOSED). SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF TEN FEET (10') BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN TWENTY FEET (20') OF THE CROSSING MUST BE LEAK-FREE AND MECHANICALLY RESTRAINED. ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF INTERSECTION (PIPES CENTERED ON THE CROSSING). WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP AND THE CROSSING SHALL BE ARRANGED TO MEET THE REQUIREMENTS ABOVE.

2. A MINIMUM TEN-FOOT (10') HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A TEN-FOOT (10') HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCEMAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF EIGHTEEN INCHES (18") IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCEMAIN SHALL BE CONSTRUCTED OF DIP (IF AVAILABLE IN THE SIZE PROPOSED) WITH A MINIMUM VERTICAL DISTANCE OF SIX INCHES (6"). THE WATER MAIN SHOULD BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCEMAIN (STAGGERED JOINTS).

3. ALL DIP SHALL BE CLASS 50 OR HIGHER, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED.

4. MAXIMUM OBTAINABLE SEPARATION OF RECLAIMED WATER LINES AND DOMESTIC WATER LINES SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF FIVE-FOOT (CENTER TO CENTER) OR THREE-FOOT (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN RECLAIMED WATER LINES AND EITHER POTABLE WATER MAINS OR SEWAGE COLLECTION LINES. A MINIMUM VERTICAL CLEARANCE OF 18 INCHES MUST BE MAINTAINED BETWEEN RECLAIMED WATER LINES AND POTABLE WATER MAINS OR SEWAGE COLLECTION LINES AT CROSSINGS PROVISIONS OF FAC RULE 17-604 AND TEN STATE STANDARDS.

G. SOIL RECOMMENDATION AND REQUIREMENTS

1. STRIPPING AND GRUBBING:
* THE "FOOT PRINTS" OF THE PROPOSED BUILDING AND PAVED AREAS, PLUS A MINIMUM MARGIN OF FIVE FEET, SHOULD BE STRIPPED OF ALL SURFACE VEGETATION, STUMPS, DEBRIS , OR OTHER DELETERIOUS MATERIALS AS ENCOUNTERED TO AN APPROXIMATE DEPTH OF TWELVE INCHES (12"). DURING THE GRUBBING OPERATION, ROOTS WITH A DIAMETER GREATER THAN 1/2 INCH, OR SMALL ROOTS IN A DENSE STATE, SHOULD BE GRUBBED AND COMPLETELY REMOVED.
* PROOF-ROLLING THE CLEARED SURFACE IS RECOMMENDED TO LOCATE ANY UNFORESEEN SOFT AREAS OR UNSUITABLE SURFACE OR LOOSE TO LOOSE FINE SAND SOILS WITHIN THE TOP 3 TO 4 FEET, AND TO PREPARE THE EXISTING SURFACE FOR THE ADDITION OF THE FILL SOILS (AS REQUIRED). THE PROOF-ROLLING OF THE BUILDING AREAS SHOULD CONSIST OF AT LEAST 10 COVERAGES OF A SELF-PROPELLED VIBRATORY COMPACTOR CAPABLE OF DELIVERING A MINIMUM IMPACT FORCE OF 35,000 POUNDS PER DRUM TO THE SOILS. ONE COVERAGE CONSISTS OF PARALLEL PASSES OF THE VIBRATORY ROLLER TRAVELING AT "WALKING SPEED." EACH PASS SHOULD OVERLAP THE PRECEDING PASS BY 30% TO INSURE COMPLETE COVERAGE. SUBSEQUENT COVERAGES SHOULD BE CONDUCTED IN A DIRECTION PERPENDICULAR TO THE PRECEDING COVERAGE. IN AREAS THAT CONTINUE TO "YIELD" REMOVE ALL DELETERIOUS MATERIAL AND REPLACE WITH A CLEAN, COMPACTED SAND BACKFILL. THE PROOF ROLLING SHOULD PRODUCE A DENSITY EQUIVALENT TO 98% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY VALUE FOR A DEPARTMENT OF 3 FEET IN THE BUILDING AREAS. ADDITIONAL PASSES MAY BE REQUIRED IF THESE MINIMUM DENSITY REQUIREMENTS ARE ACHIEVED.

2. FILL REPLACEMENTS:
* FILL SHOULD BE A UNIFORM FREE DRAINING GRANULAR SOIL (CLEAN SAND) AND BE PLACED IN LAYERS NOT TO EXCEED 12 INCHES LOOSE MEASURE AND COMPACTED AS OUTLINED ABOVE. SUFFICIENT COMPACTIVE EFFORT SHOULD BE APPLIED TO OBTAIN A MINIMUM OF 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T-180 (ASTM D-1557).

3. EXCAVATION AND BACKFILLING:
* WHERE EXCAVATION AND BACKFILLING ARE REQUIRED, THE SOILS SHOULD BE REMOVED TO THE SPECIFIED DEPTH. SUFFICIENT COMPACTIVE EFFORT MUST THEN BE APPLIED TO THE EXCAVATED SURFACE TO OBTAIN A MINIMUM OF 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T-180 (ASTM D-1557).

* BACKFILL SHALL BE UNIFORM FREE DRAINING GRANULAR SOIL (CLEAN SAND) AND BE PLACED IN LAYERS NOT TO EXCEED 15 INCHES LOOSE MEASURE. SUFFICIENT COMPACTIVE EFFORT SHOULD BE APPLIED TO EACH LAYER TO OBTAIN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY FOR THE ENTIRE DEPTH OF THE FILL AS DETERMINED BY AASHTO T-180 (ASTM D-1557). THE EXCAVATED SURFACE AND EACH LAYER OF BACKFILL SHOULD BE COMPACTED WITH A SELF-PROPELLED STEEL DRUM VIBRATORY ROLLER HAVING A MINIMUM TOTAL APPLIED FORCE OF 10 TONS.

4. GROUNDWATER:
* HEAVY RAINFALL AND/OR A HIGH WATER TABLE MAY OCCUR BEFORE THE EARTHWORK COMMENCES, OR DURING THE EARTHWORK OPERATION. WHEN THESE CONDITIONS OCCUR AND THE SITE PREPARATION CANNOT BE ACHIEVED AS SPECIFIED, AN EXCAVATION OF THE EXISTING CONDITIONS SHOULD BE CONDUCTED AND THE SPECIFICATIONS REVISED ACCORDINGLY.

5. WHERE VIBRATORY EQUIPMENT MAY AFFECT ADJACENT STRUCTURES:
* WHERE THERE IS EXISTING STRUCTURES ADJACENT TO THE SITE THAT MAY BE AFFECTED BY THE SELF-PROPELLED STEEL DRUM VIBRATORY EQUIPMENT, DENSIFICATION MUST BE PERFORMED USING EQUIPMENT THAT WILL SATISFY THE REQUIRED DENSIFICATION WITHOUT THE RISK OF DAMAGE TO THE EXISTING STRUCTURES.
* LOADER AND HEAVY PLACE COMPACTORS ARE TWO TYPES OF EQUIPMENT THAT HAVE BEEN USED SUCCESSFULLY. DENSIFICATION PROCEDURES MUST COMPLY WITH THE CAPABILITY OF THE EQUIPMENT UTILIZED.

6. ALTERNATIVE TO SELF-PROPELLED STEEL DRUM VIBRATORY EQUIPMENT:
* WHEN SELF-PROPELLED STEEL DRUM VIBRATORY EQUIPMENT CANNOT BE USED AS SPECIFIED, VIBRATORY PLATE COMPACTORS MAY BE USED. WHEN THIS CONDITION OCCURS, THE OVERALL DENSIFICATION PROCEDURE MUST BE REVISED TO COMPLY WITH THE CAPABILITY OF THE EQUIPMENT EMPLOYED. IN GENERAL, SMALL PLATE COMPACTORS WILL BE EFFECTIVE TO A MAXIMUM DEPARTMENT OF 6 TO 8 INCHES.

7. PAVING AREAS SUITABLE FILL MATERIAL AND THE COMPACTION OF FILL SOILS:
* ALL FILL MATERIAL SHOULD BE FREE OF ORGANIC MATERIALS, SUCH AS ROOTS AND VEGETATION AS A GENERAL GUIDE TO AID THE CONTRACTOR, USE FILLINGS WITH 3 TO 12 PERCENT BY DRY WEIGHT OF MATERIAL PASSING THE U.S. STANDARDS NO. 200 SIEVE SIZE. WITH PROPER MOISTURE CONTROL, THESE SOILS SHOULD DENSIFY USING VIBRATORY COMPACTION METHODS. SOILS WITH MORE THAN 12% PASSING THE NO. 200 SIEVE WILL BE MORE DIFFICULT TO COMPACT.
* ALL STRUCTURAL FILL SHOULD BE PLACED IN LEVEL LIFTS NOT TO EXCEED 12 INCHES IN UNCOMPACTED THICKNESS. EACH LIFT SHOULD BE COMPACTED BY A SELF-PROPELLED VIBRATORY COMPACTOR TO AT LEAST 98% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY VALUE. THE FILLING AND COMPACTION OPERATIONS SHOULD CONTINUE IN LIFTS UNTIL THE DESIRED ELEVATION(S) IS ACHIEVED. IF HAND-HELD COMPACTION EQUIPMENT IS USED, REDUCE THE LIFT THICKNESS TO 6 INCHES.

8. ALL IMPORTED FILL SHALL HAVE RADIUM 226 CONTENT LESS THAN 1.0 PCI PER GRAM.

H. STANDARD SPECIFICATIONS

1. THE PLANS SET FORTH IN THESE SHEETS SHALL COMPLY WITH THE FDOT DESIGN CRITERIA SET FORTH IN THE FDOT STANDARD SPECIFICATIONS, ROADSIDE DESIGN GUIDE, THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR: DESIGN, CONSTRUCTION, AND MAINTENANCE OF STANDARD STREETS (FLORIDA GREEN BOOK), SFWMD STANDARDS, FDOT STANDARDS, US ACOE STADARDS, AND THE CITY OF PSL ENGINEERING UTILITY STANDARDS.

NOTE: CONTRACTOR TO POTHOLE ALL UTILITY CONFLICTS BEFORE EXCAVATION.

ENGINEER OF RECORD INSPECTION REQUIREMENTS

	F.B.V.		DENSITY		L.B.R.		THICKNESS	
	MAX. SPACING		MAX. SPACING		MAX. SPACING		MAX. SPACING	
	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET
COMPACTED OR STABILIZED GRADE	200	5,000	200	5,000	200	5,000	300	10,000
ROCK BASE	----	----	300	10,000	300	10,000	300	10,000
SHELL ROCK	----	----	300	10,000	----	----	300	10,000
ASPHALT	----	----	----	----	----	----	PER INSP.	PER INSP.

ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 12" INSIDE THE LEFT EDGE OF THE ITEM TESTED, TO THE CENTER, TO A POINT INSIDE OF THE RIGHT EDGE

ENGINEER OF RECORD INSPECTION REQUIREMENTS
CONTRACTOR TO CALL CONTRACT ENGINEER OF RECORD
48 HOURS ADVANCE FOR FOLLOWING INSPECTIONS:
1. PRECONSTRUCTION MEETING
2. DRAINAGE PIPE (UNCOVERED)
3. GRADING ROUGH
4. GRADING FINAL
5. PLANTING
6. FINAL

CAPTEC Engineering, Inc.
Civil Engineering Professionals
• 301 N.W. Flagler Ave.
Stuart, Florida 34994
Phone: (772) 692-4344
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Engineering Business
No. EB-0007657

DATE: 8/19/2020
DRAWN BY: MWH
DESIGNED BY: RRK
CHECKED BY: JWC
PROJECT No.: 1682.4
HORZ. SCALE: ----
VERT. SCALE: ----
1682.4-07_GENERAL NOTES

NO.	DATE	BY	REVISIONS
1	8/19/20	JWC	BID SET

SCALE VERIFICATION
0 1
SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING, ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

CITY OF PORT ST. LUCIE
SAGAMORE BASIN
PORT ST. LUCIE, FL

GENERAL NOTES
STA-1 WEST

JOSEPH W. CAPRA, P.E.
301 N.W. Flagler Ave.
Stuart, Florida 34994
P.E. No. 37638

Printed Date:

JOB No.: 1682.4
SHEET
7 OF 8

SURVEYOR'S NOTES

1. HORIZONTAL RELATIONSHIPS, AS SHOWN HEREON, ARE BASED ON THE FLORIDA STATE PLANE COORDINATE GRID, EAST ZONE, USING THE NORTH AMERICAN DATUM OF 1983 WITH THE 2011 ADJUSTMENT (NSRS 2011).
2. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND REFERENCE PORT ST. LUCIE, FLORIDA CONTROL POINT "PLS BM 6019", HAVING AN ELEVATION OF 16.78 FEET.
3. THE CENTERLINE OF NW RIVERSIDE DRIVE, IS ASSUMED TO BEAR SOUTH 64° 08' 33" EAST AND ALL OTHER BEARINGS SHOWN HEREON ARE RELATIVE THERETO.
4. UNDERGROUND IMPROVEMENTS, IF ANY, WERE NOT LOCATED EXCEPT AS SHOWN.
5. FIELD SURVEY LAST CONDUCTED ON OCTOBER 25, 2017.
6. SYMBOLS SHOWN HEREON ARE NOT TO SCALE.
7. THERE MAY BE ADDITIONAL RESTRICTIONS, ENCUMBRANCES OR OTHER MATTERS THAT MAY AFFECT THIS PROPERTY THAT MAY OR MAY NOT BE RECORDED IN THE PUBLIC RECORDS THAT ARE NOT SHOWN ON THIS SURVEY.

LEGAL DESCRIPTIONS

ALL OF TRACT I, TRACT C, AND A 50 FOOT DRAINAGE RIGHT-OF-WAY, BLOCK 22, PORT ST. LUCIE - SECTION 25, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 13, PAGES 32 AND 32A THROUGH 32I, PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

N

GRAPHIC SCALE

30 0 30 60

(IN FEET)

Intended display scale:
1 inch = 30 feet

LEGEND

(M)	= FIELD MEASUREMENT
(P)	= PLAT MEASUREMENT
(PRO)	= PRORATED DISTANCE
LB	= LAND SURVEYING BUSINESS
PB	= PLAT BOOK
PG	= PAGE
R	= ELEVATION
L	= INVERT
R	= RADIUS
L	= ARC LENGTH
D	= DELTA
CB	= CHORD BEARING
CD	= CHORD DISTANCE
T	= TANGENT DISTANCE
(xxxxx)	= POINT NUMBER REPRESENTING A COORDINATE PAIR
PSM	= PROFESSIONAL SURVEYOR & MAPPER
o	= SET 1/2" IRON PIPE & CAP STAMPED "NORTHSTAR LB 7217"
—A—	= AERIAL UTILITY LINE
—T—	= SIGN
Ø	= WOOD UTILITY POLE
←—	= POLE ANCHOR

SURVEYOR'S CERTIFICATION

(THIS SURVEY IS NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND RAISED EMBOSSED SEAL OF GREGORY S. FLEMING, FLORIDA PROFESSIONAL SURVEYOR AND MAPPER.)

I HEREBY CERTIFY THAT THE BOUNDARY AND TOPOGRAPHIC SURVEY OF THE PROPERTY SHOWN AND DESCRIBED HEREON WAS COMPLETED UNDER MY DIRECTION AND SAID SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I FURTHER CERTIFY THAT THIS BOUNDARY AND TOPOGRAPHIC SURVEY MEETS THE STANDARDS OF PRACTICE FOR SURVEYS SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATE STATUTES. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THIS OFFICE. THIS SURVEY IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE

NORTHSTAR GEOMATICS, INC.

DATE OF SURVEY

GREGORY S. FLEMING
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA CERTIFICATION NO. 4350

NORTHSTAR GEOMATICS
617 NE BAKER ROAD, STUART, FLORIDA 34994
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(772)781-6400 (772)781-6462 FAX
LICENSED BUSINESS NO. 7217

DATE	REVISIONS

DATE 10/31/2017
SCALE 1"=30'
FIELD BK. 509
DWNG. BY JHY
CHECKED BY GSF

BOUNDARY & TOPOGRAPHIC SURVEY FOR
SAGAMORE BASIN STA #1

PORT ST. LUCIE - SECTION 25
PORT ST. LUCIE, FLORIDA

SHEET NO. 1
OF 1 SHEETS
PROJECT NO.
17-045