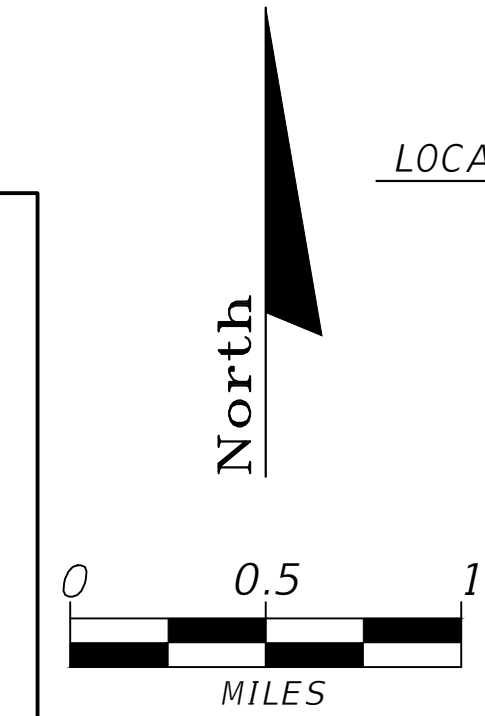
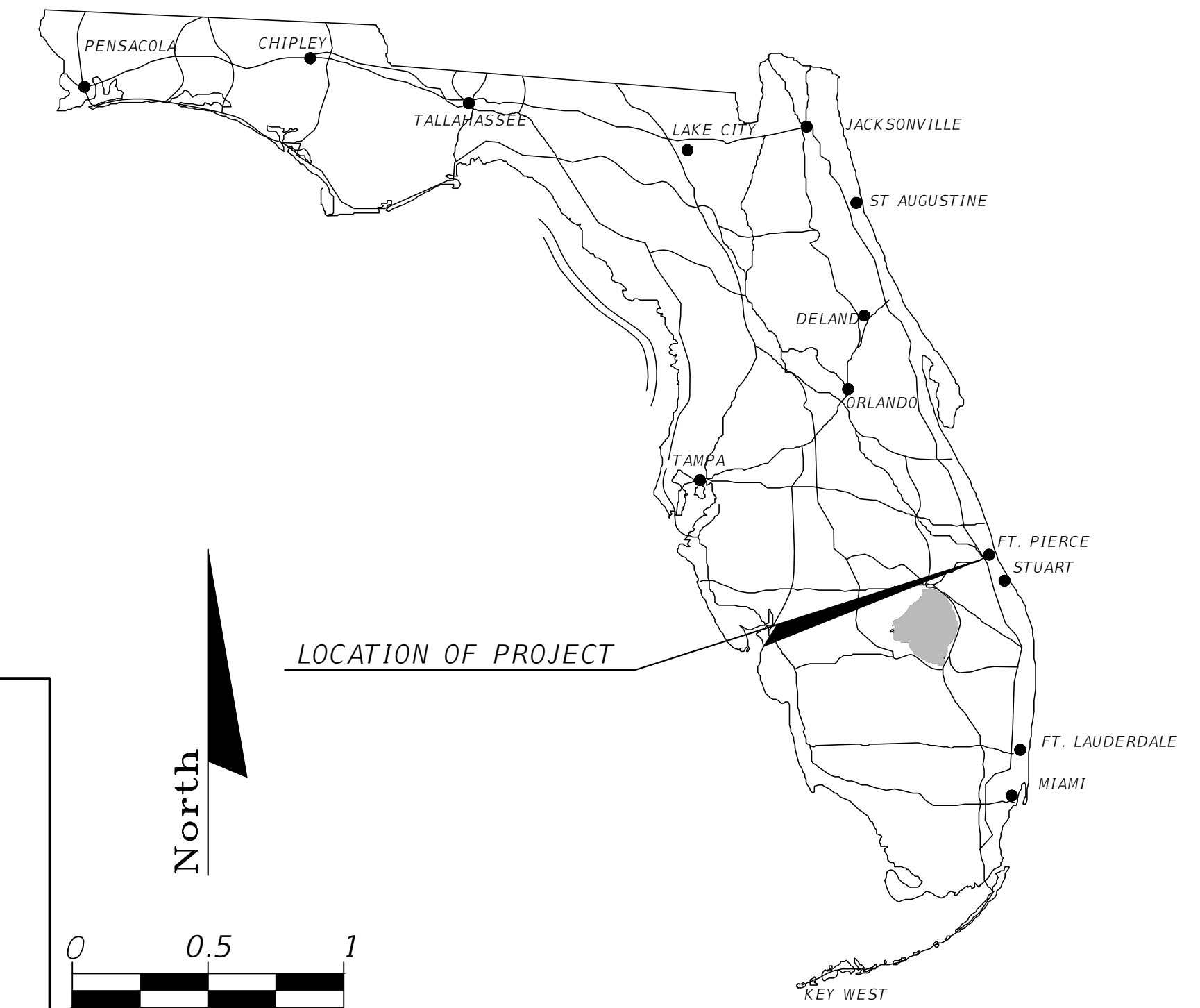


PLANS PREPARED FOR

# THE CITY OF FORT PIERCE

## CONTRACT PLANS

LITTLE JIM CAMP SANITARY IMPROVEMENT  
ST LUCIE COUNTY, FLORIDA



COMPONENTS OF CONTRACT PLANS SET  
SANITARY IMPROVEMENT CONSTRUCTION PLANS

A DETAILED INDEX APPEARS ON THE  
KEY SHEET OF EACH COMPONENT

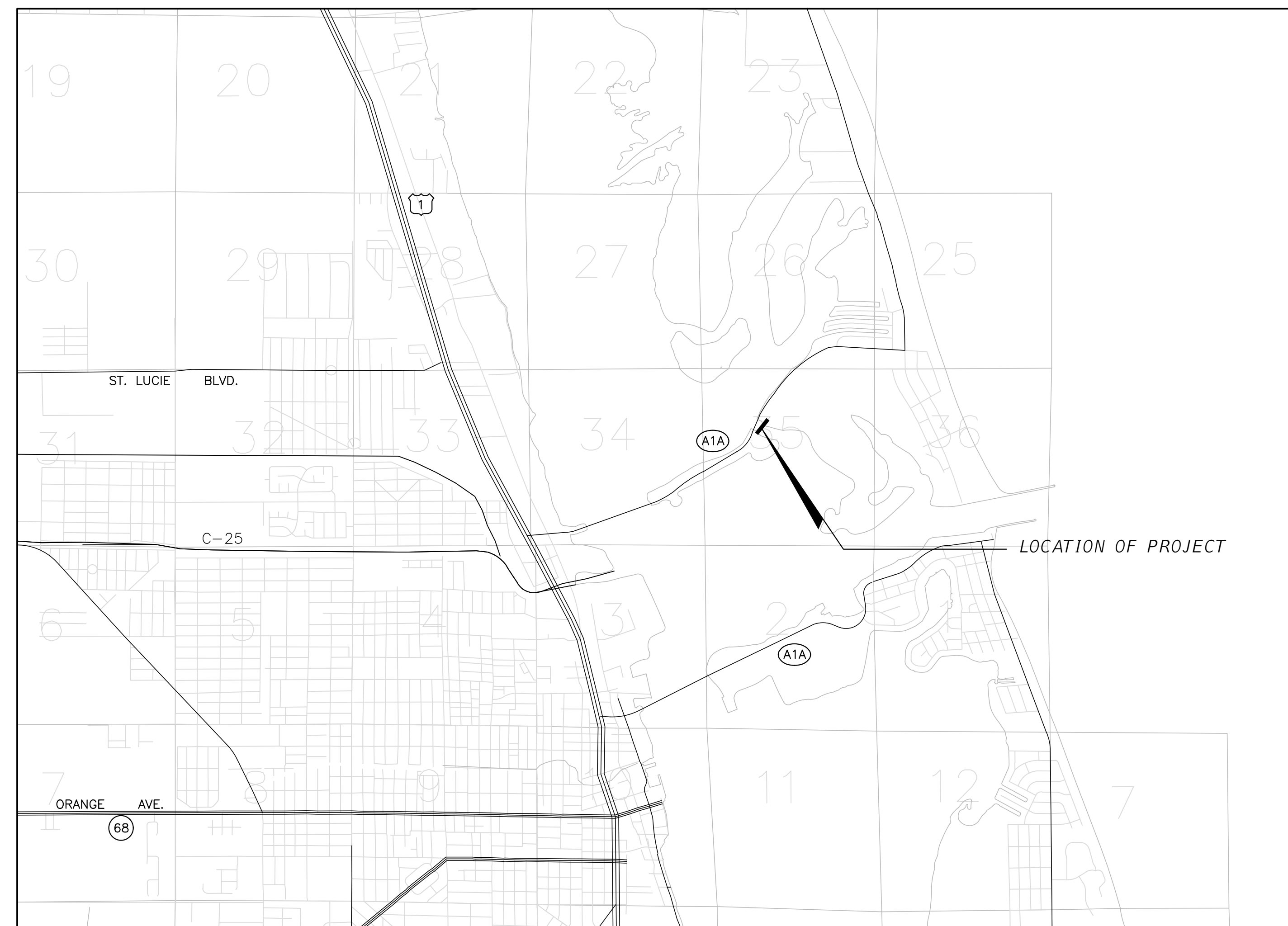
INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	PROJECT LAYOUT/LOCATION
3	MASTER PLAN VIEW
4	SANITARY PLAN & PROFILE
5	DIRECTIONAL BORE PLAN & PROFILE
6	SWPP PLAN
7	SWPP DETAILS
8	UTILITY DETAILS
9	GRINDER STATION DETAILS

GOVERNING STANDARDS AND SPECIFICATIONS:  
FLORIDA DEPARTMENT OF TRANSPORTATION,  
STANDARD SPECIFICATIONS FOR ROAD AND  
BRIDGE CONSTRUCTION DATED 2020-2021,  
AND STANDARD SPECIFICATIONS FOR ROAD  
AND BRIDGE CONSTRUCTION DATED 2020. AS  
AMENDED BY CONTRACT DOCUMENTS.

For Design Standards Modifications click on  
"Standard Plans For Road and Bridge Construction" at  
the following web site:  
<http://www.fdot.gov/design/standardplans/Default.shtm>

For the Standard Specifications for Road and Bridge  
Construction click on the "January 2021 Standard  
Specifications eBook " link at the following web site:  
<http://www.fdot.gov/programmanagement/Implemented/SpecBooks/>



CONSTRUCTION SHOP DRAWINGS  
TO BE SUBMITTED TO:

STEFAN K. MATTHES, PE  
CULPEPPER & TERPENING, INC.  
2980 SOUTH 25TH STREET  
FORT PIERCE, FLORIDA 34981

PLANS PREPARED BY:



**CULPEPPER &  
TERPENING INC**

2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
PHONE 772-464-3537 • FAX 772-464-9497 • [www.ct-eng.com](http://www.ct-eng.com)  
STATE OF FLORIDA BOARD OF PROFESSIONAL  
ENGINEERS AUTHORIZATION NO. 4286

STATE OF FLORIDA BOARD OF PROFESSIONAL  
ENGINEERS AUTHORIZATION NO. 4286

NOTE: THE SCALE OF THESE PLANS MAY  
HAVE CHANGED DUE TO REPRODUCTION.

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED  
AND SEALED BY STEFAN K. MATTHES, PE ON  
10/04/2023 USING A DIGITAL SIGNATURE. PRINTED  
COPIES OF THIS DOCUMENT ARE NOT CONSIDERED  
SIGNED AND SEALED AND THE SHA  
AUTHENTICATION CODE MUST BE VERIFIED ON  
ANY ELECTRONIC COPIES.

REVISIONS

LENGTH OF PROJECT		
	LIN. FT.	MILES
UTILITY	111	0.021
DIRECTIONAL BORE	490	0.093
NET LENGTH OF PROJ.	601	0.114
EXCEPTIONS	0	0
GROSS LENGTH OF PROJ.	601	0.114

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

ROADWAY PLANS  
ENGINEER OF RECORD: STEFAN K. MATTHES, P.E.

P.E. NO. : 38723

PROJECT MANAGER: JOHN R ANDREWS

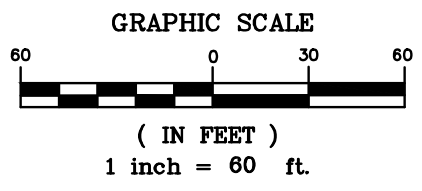
PERMIT CONSTRUCTION PLAN SET  
OCTOBER 05, 2023

FISCAL YEAR	SHEET NO.
23	1

C&T JOB NO.: 21-122

INDIAN RIVER LAGOON

FORT PIERCE  
CITY LIMITS



STATE ROAD A-1-A

LITTLE JIM BRIDGE

END PROJECT  
2" HDPE DIRECTIONAL BORE  
5+20.55, 0.00'

BEGIN PROJECT  
2" HDPE DIRECTIONAL BORE  
0+30.47, 0.02' R

BENCHMARK  
C&T TRAV  
EL=5.90'  
N.A.V.D. 1988


BENCHMARK  
C&T TRAV  
EL=4.13'  
N.A.V.D. 1988

CITY OF FORT PIERCE  
PROPERTY

P:\Proj-2021\21-122 COFP - Little Jim Camp Sanitary Connection\_Eng\21-122 Base.dwg Plotted: 10/4/2023 3:14 PM By: MITHSRI UDUGAMA

STEFAN K. MATTHES, P.E.  
FL. REG. NO. 38723

COMPUTER FILE REF.	FIELD BK./PG.
21-122 COFP	21-05/72



**CULPEPPER & TERPENING INC**  
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com  
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

FIELD	SKM	DATE
CALCS.	SKM	1/20/22
DRAWN	KU	2/2/22
DETAILED	---	10/4/23
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**

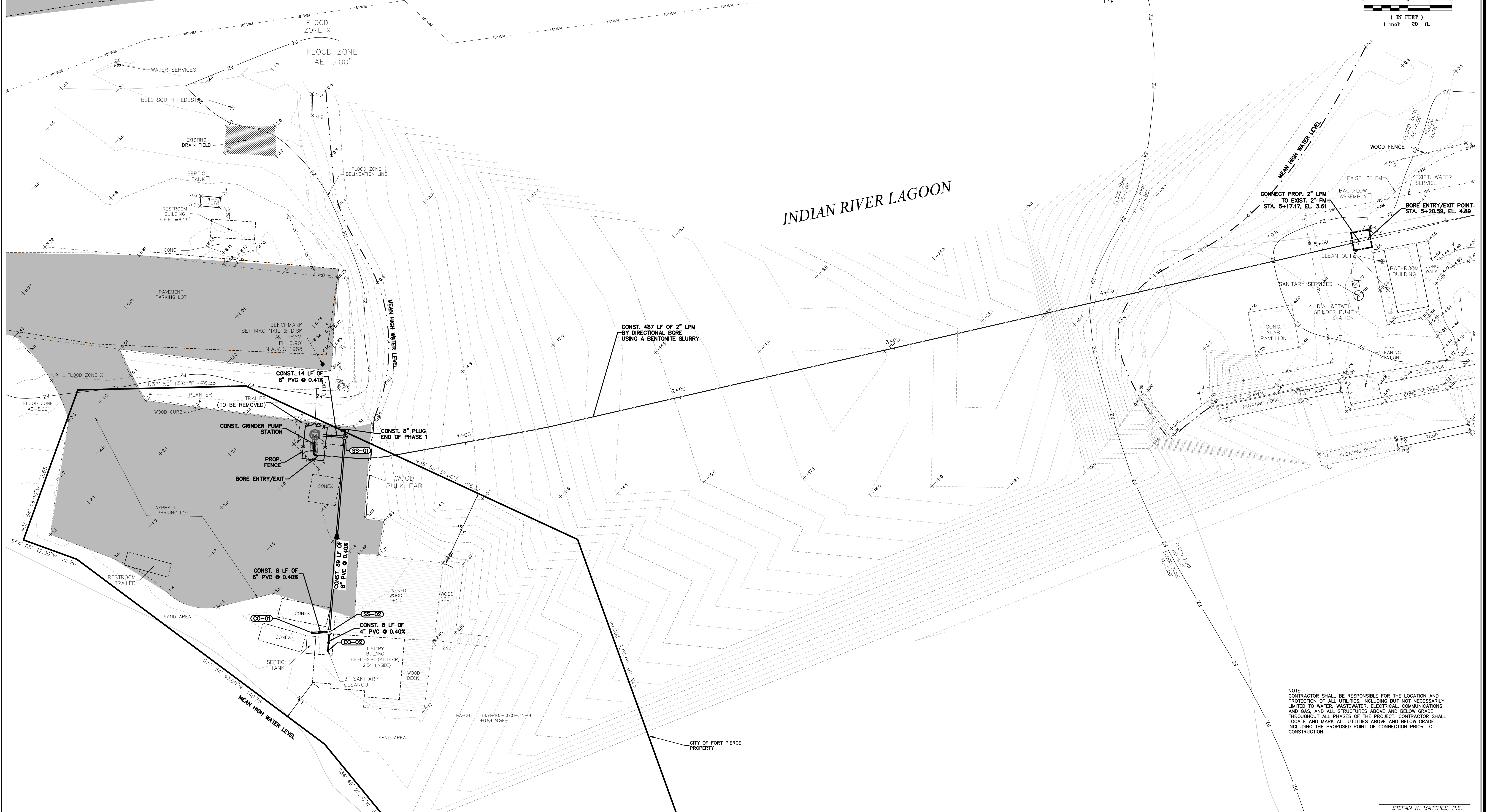
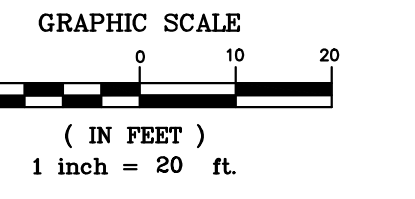
**PROJECT LAYOUT**

DATE: 10/5/23
HORIZ. SCALE: 1"=60'
VERT. SCALE: N/A
JOB No. 21-122
SHEET 2 of 9

STATE ROAD A-1-A

LITTLE JIM BRIDGE

INDIAN RIVER LAGOON



NOTE:  
CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES, INCLUDING BUT NOT NECESSARILY LIMITED TO WATER, WASTEWATER, ELECTRICAL, COMMUNICATIONS AND GAS, AND ALL STRUCTURES ABOVE AND BELOW GRADE THROUGHOUT ALL PHASES OF THE PROJECT. CONTRACTOR SHALL LOCATE AND MARK ALL UTILITIES ABOVE AND BELOW GRADE INCLUDING THE PROPOSED POINT OF CONNECTION PRIOR TO CONSTRUCTION.

STEFAN K. MATTHEWS, P.E.  
FL. REG. NO. 38723

P:\Proj\2021\21-122 COFP - Little Jim Camp Sanitary Connection\Eng\21-122 Base.dwg Plotted: 10/4/2023 3:25 PM By: KITHSIRI UDUGAMA

COMPUTER FILE REF. 21-122 COFP	FIELD BK./PG. 21-05/72

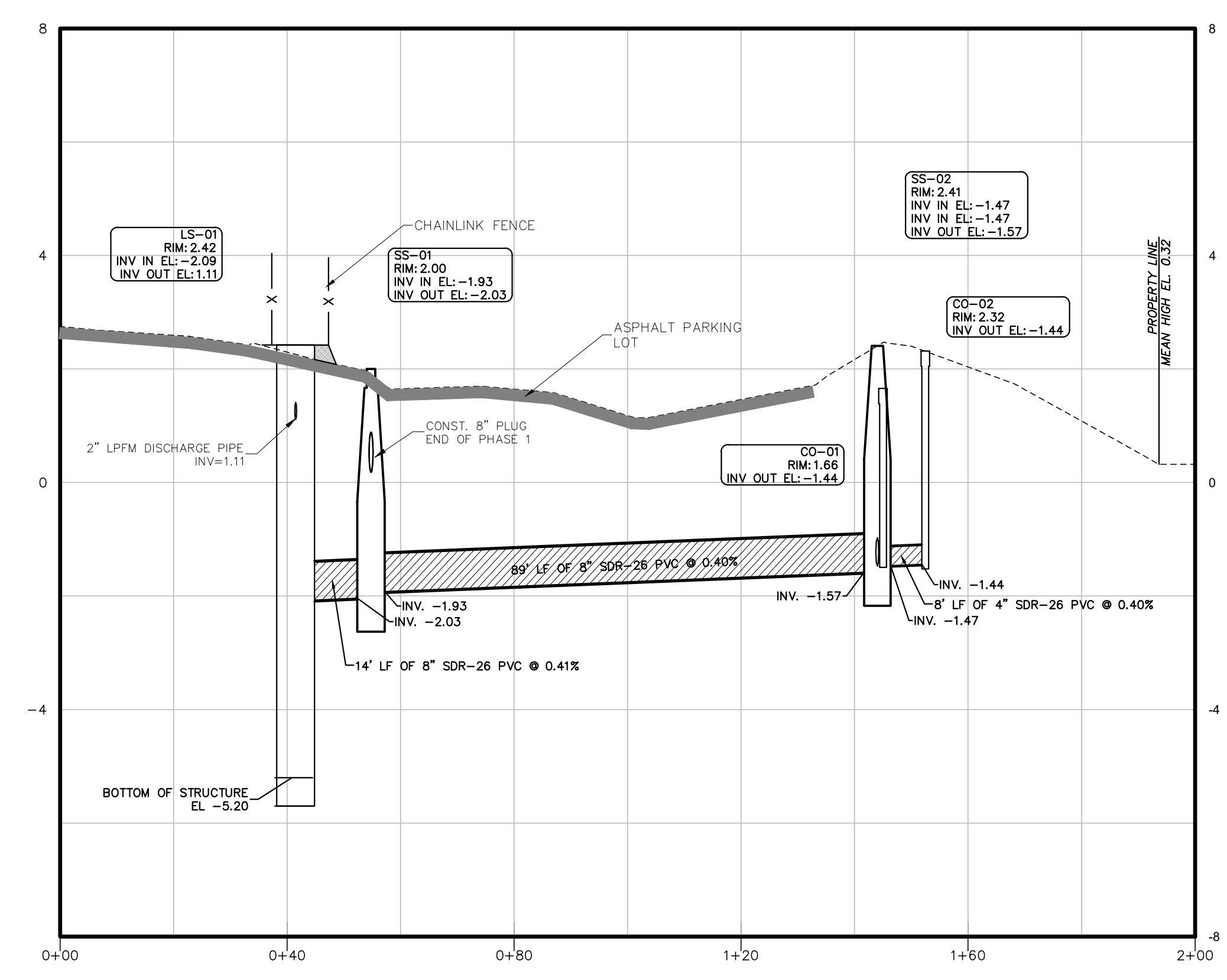
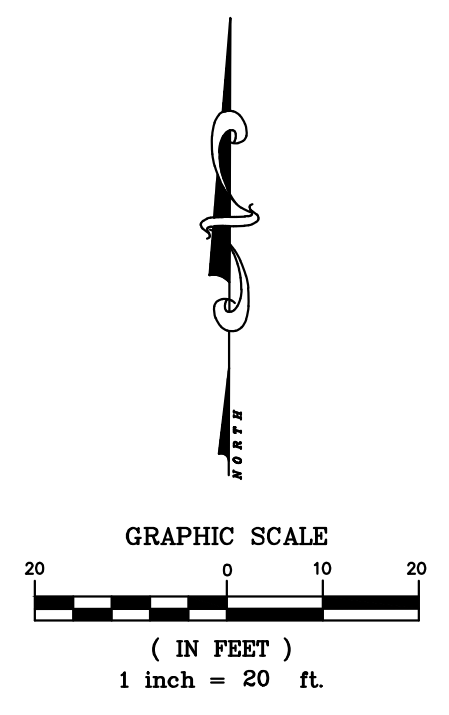
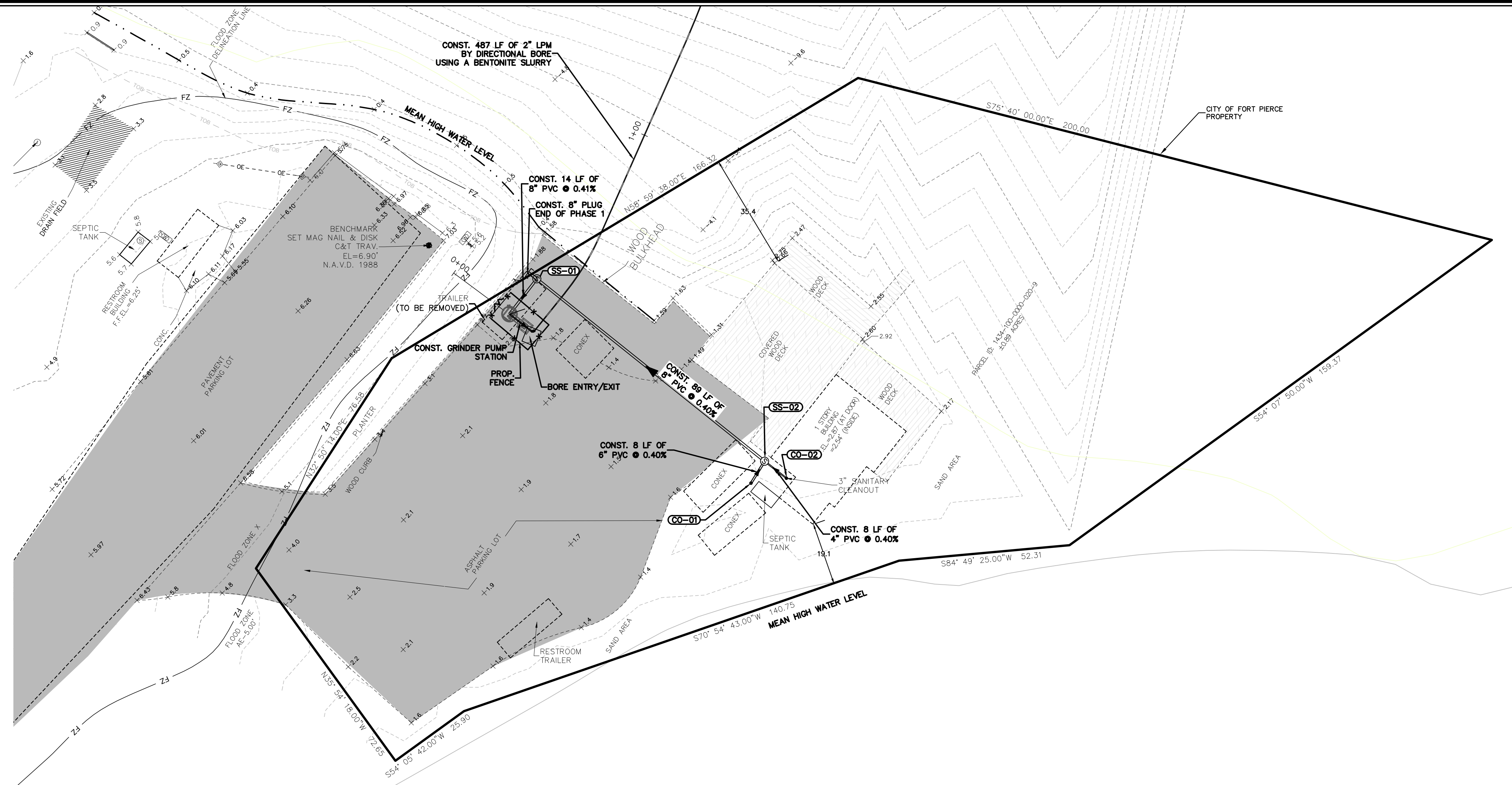

**CULPEPPER & TERPENING INC**  
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
PHONE 772-464-3537 • FAX 772-466-9497 • www.ct-eng.com  
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
Detailed		
Checked	SKM	10/4/23
Approved	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**  
**MASTER PLAN VIEW**

DATE: 10/5/23
HORIZ. SCALE: 1"=20'
VERT. SCALE: N/A
JOB No. 21-122
SHEET <b>3 of 9</b>



SANITARY STRUCTURE TABLE	
Structure Name	Structure Details
CO-01	RIM = 1.66 NE INV OUT = -1.44 BOT. EL = -1.49
CO-02	RIM = 2.32 NW INV OUT = -1.44 BOT. EL = -1.52
LS-01	RIM = 2.42 NE INV IN = -2.09 SE INV OUT = 1.11 BOT. EL = -5.20
SS-01	RIM = 2.00 SE INV IN = -1.93 SW INV OUT = -2.03 BOT. EL = -2.13
SS-02	RIM = 2.41 SW INV IN = -1.47 SE INV IN = -1.47 NW INV OUT = -1.57 BOT. EL = -1.67

HORI. SCALE: 1"=20'  
VERT. SCALE: 1"=5'

STEFAN K. MATTHEWS, P.E.  
FL. REG. NO. 38723

P:\Proj-2021\21-122 COFP - Little Jim Camp Sanitary Connection\_Eng\21-122 Base.dwg Plotted: 10/4/2023 3:29 PM By: KITHSIRI UDUGAMA

COMPUTER FILE REF. 21-122 COFP	FIELD BK./PG. 21-05/72

**CULPEPPER & TERPENING INC**  
2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
PHONE 772-464-3537 • FAX 772-466-9497 • www.ct-eng.com  
STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		
	BY	DATE

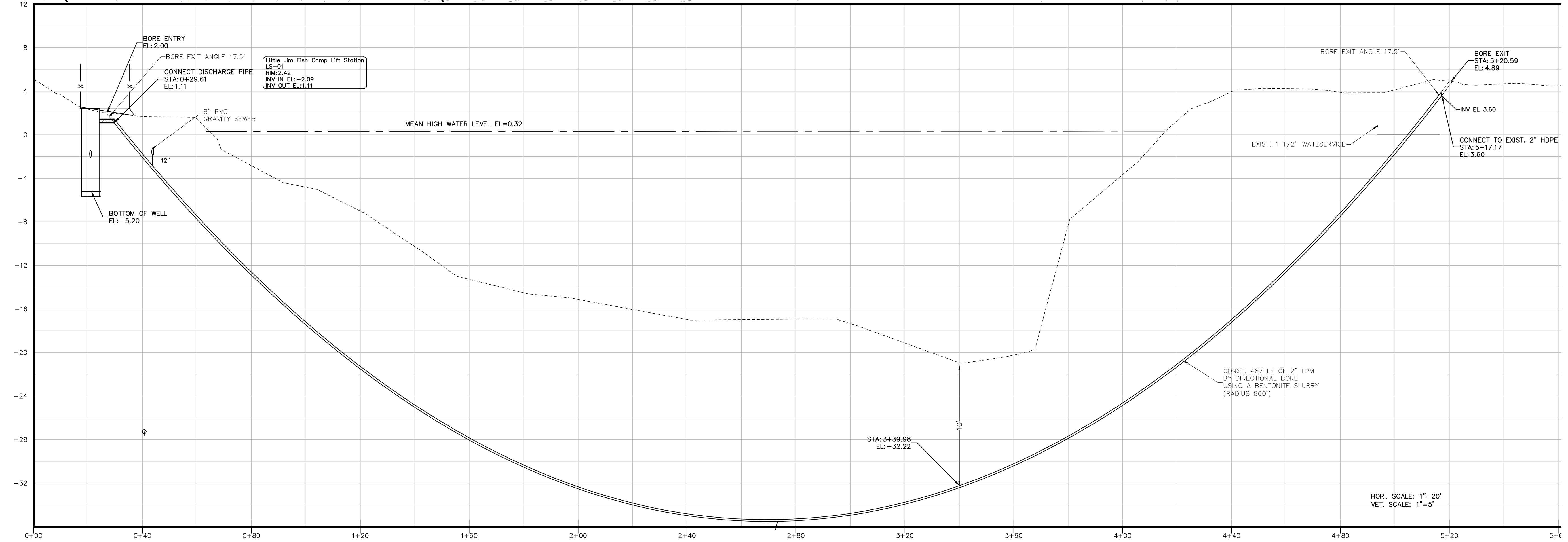
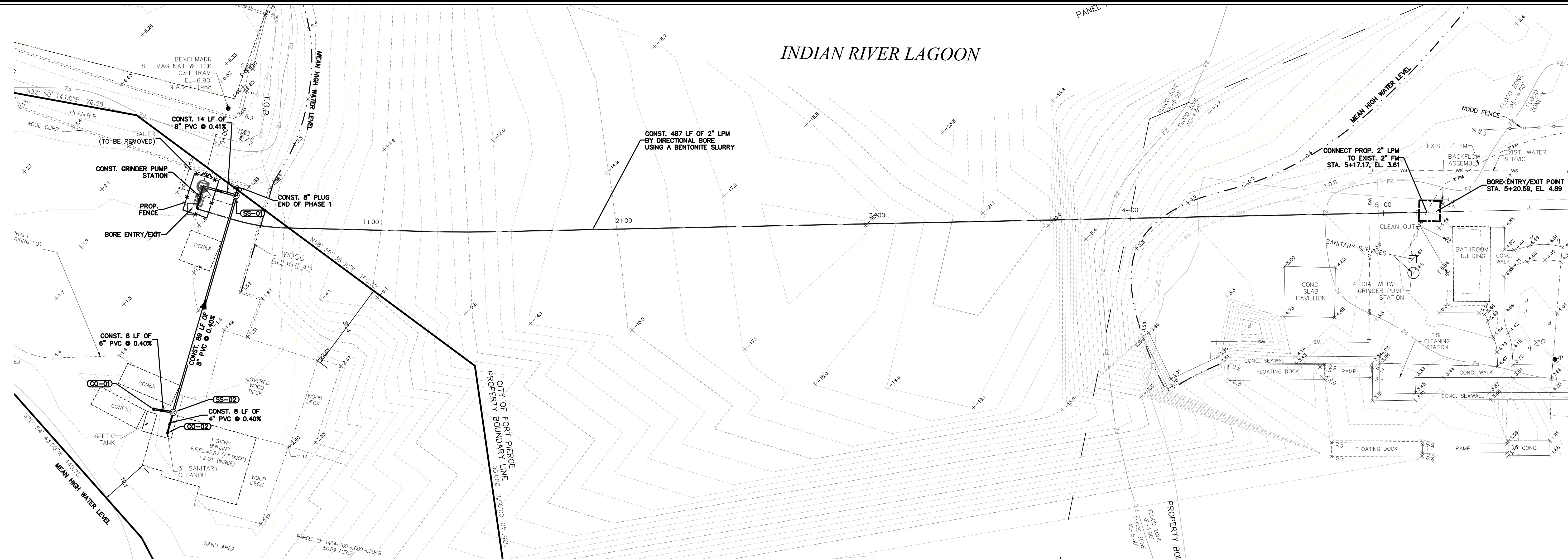
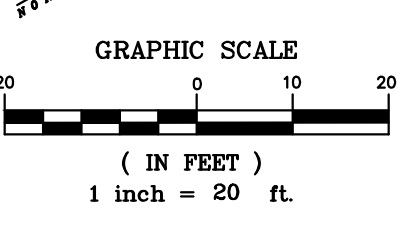
	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
DETAILED	----	----
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**

**SANITARY PLAN & PROFILE**

DATE: 10/5/23  
HORIZ. SCALE: 1"=20'  
VERT. SCALE: 1"=2'  
JOB No. 21-122  
SHEET 4 of 9

INDIAN RIVER LAGOON



P:\Proj-2021\21-122 COFF - Little Jim Camp Sanitary Connection\_Eng\21-122 Base.dwg Plotted: 10/4/2023 3:33 PM By: KITHSIRI UDUGAMA

STEFAN K. MATTHES, P.E.  
FL. REG. NO. 38723

COMPUTER FILE REF. 21-122 COFF	FIELD BK./PG. 21-05/72

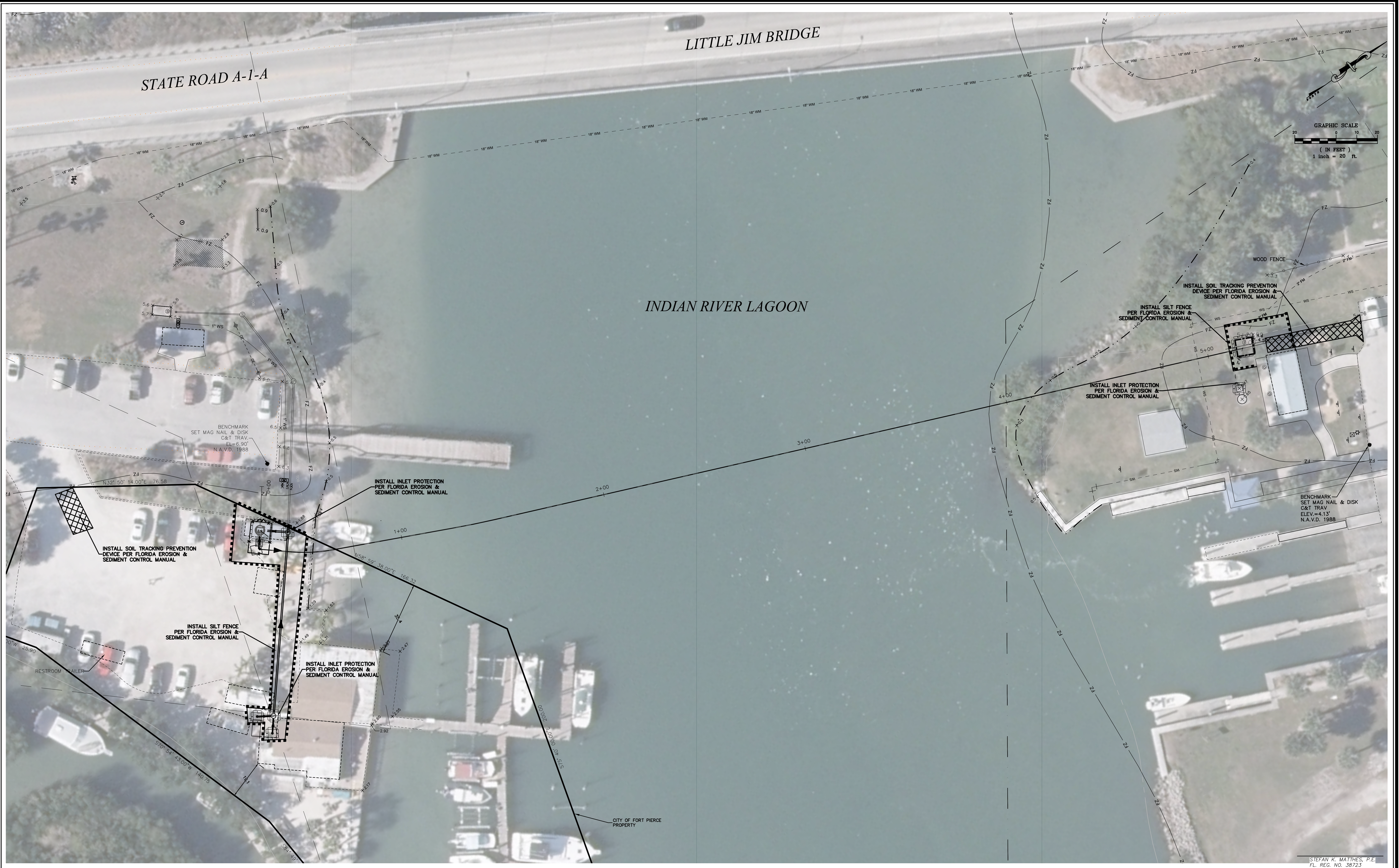
**CULPEPPER & TERPENING INC**  
 2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
 PHONE 772-464-3537 • FAX 772-466-9497 • www.ct-eng.com  
 STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
DETAILED	---	---
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23


**LITTLE JIM CAMP SANITARY IMPROVEMENTS**  
**DIRECTIONAL BORE PLAN & PROFILE**

DATE: 10/5/23  
 HORIZ. SCALE: 1"=20'  
 VERT. SCALE: 1"=5'  
 JOB No. 21-122  
 SHEET 5 of 9



P:\Proj-2021\21-122 COFP - Little Jim Camp Sanitary Connection\_Eng\21-122 Base.dwg Plotted: 10/4/2023 3:15 PM By: KITHSIRI UDUGAMA

COMPUTER FILE REF. 21-122 COFP	FIELD BK./PG. 21-05/72

**CULPEPPER & TERPENING INC**  
 2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
 PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com  
 STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
DETAILED	---	---
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**

**SWPP PLAN**

DATE: 10/5/23
HORIZ. SCALE: 1"=20'
VERT. SCALE: N/A
JOB No. 21-122
SHEET 6 of 9

STEFAN K. MATTHEIS, P.E.  
FL. REG. NO. 38723

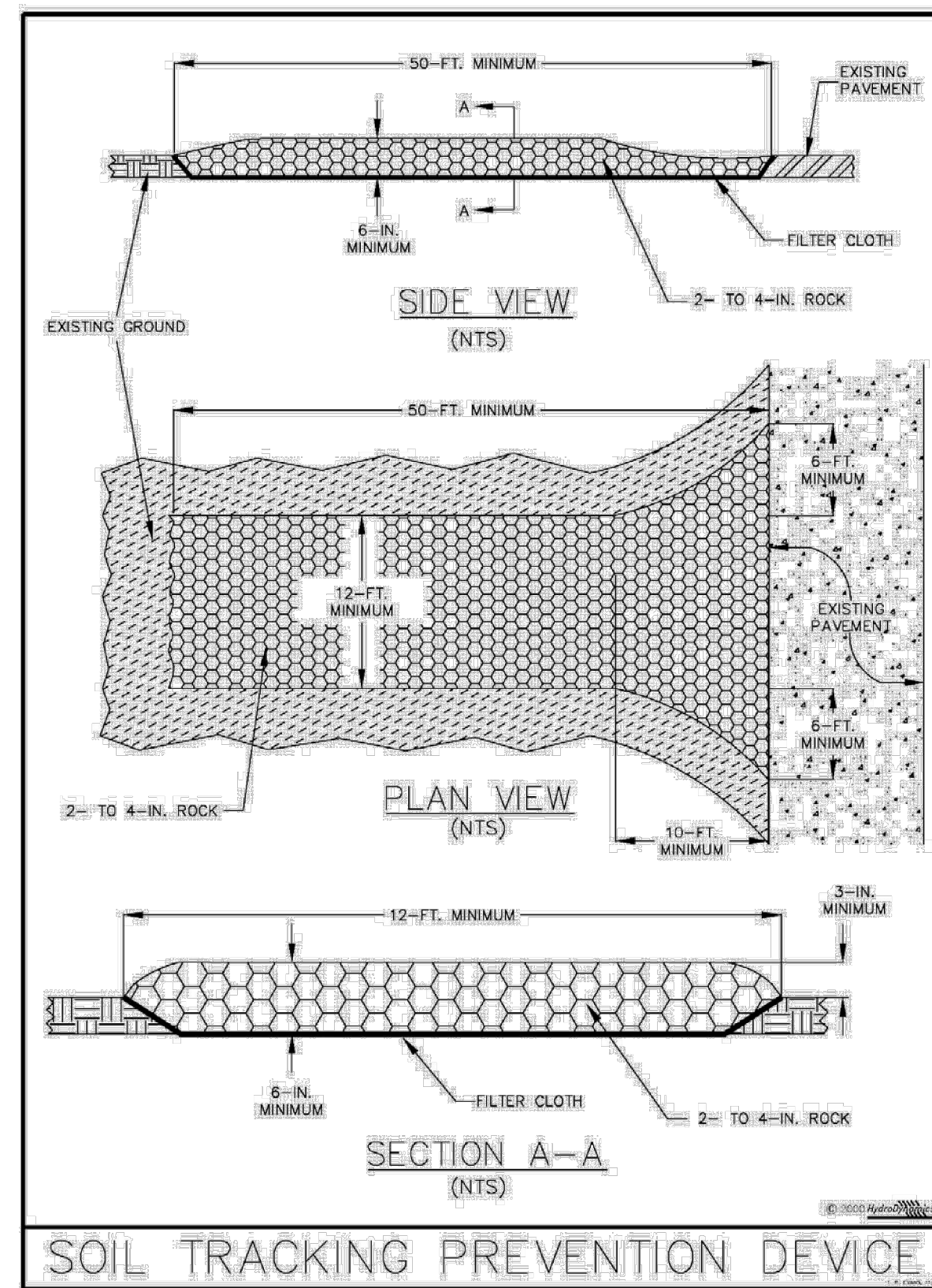


Figure V-14: Illustration of a Soil Tracking Prevention Device

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-31

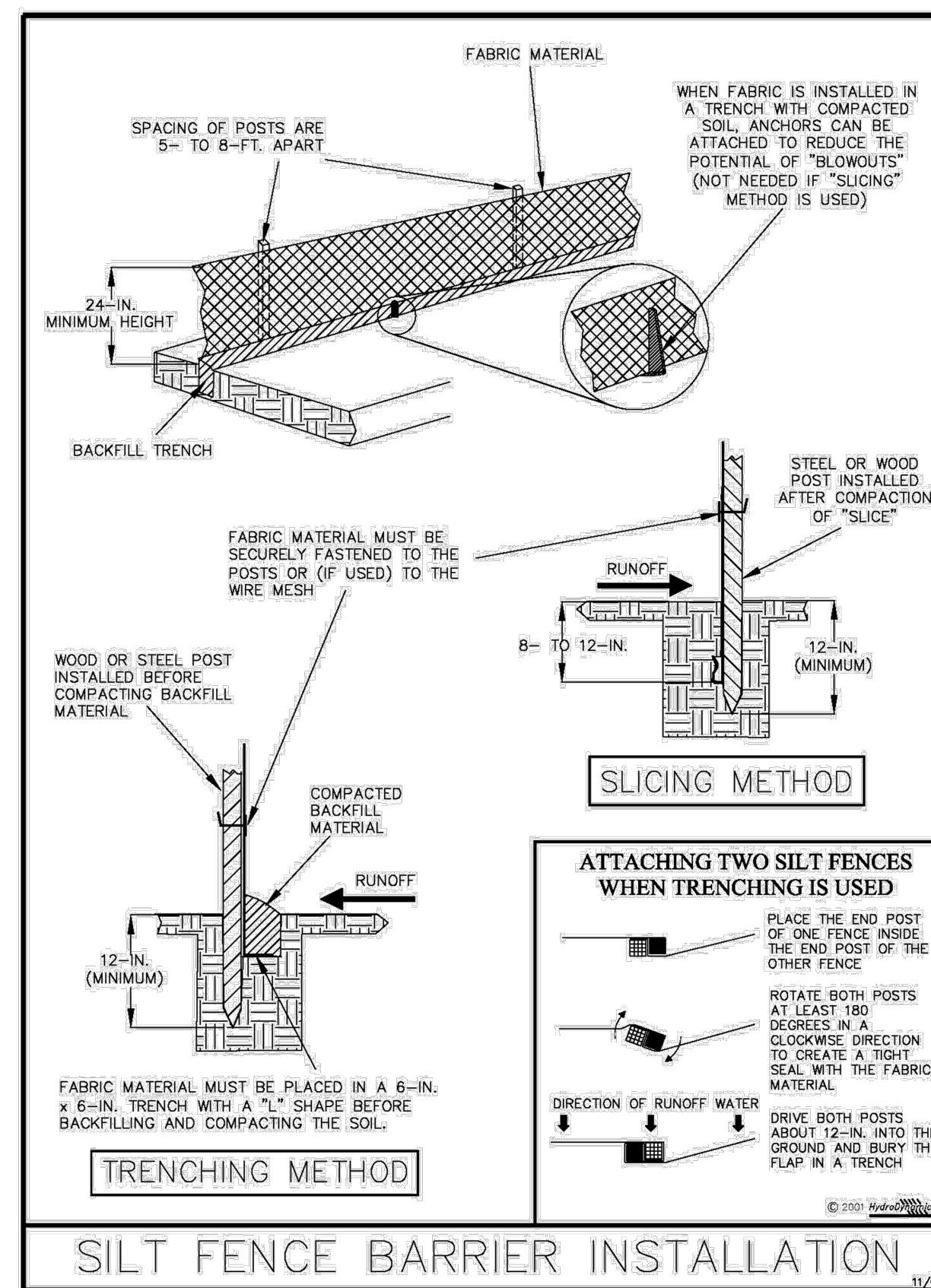


Figure V-40: Illustration of a Silt Fence Barrier

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-7

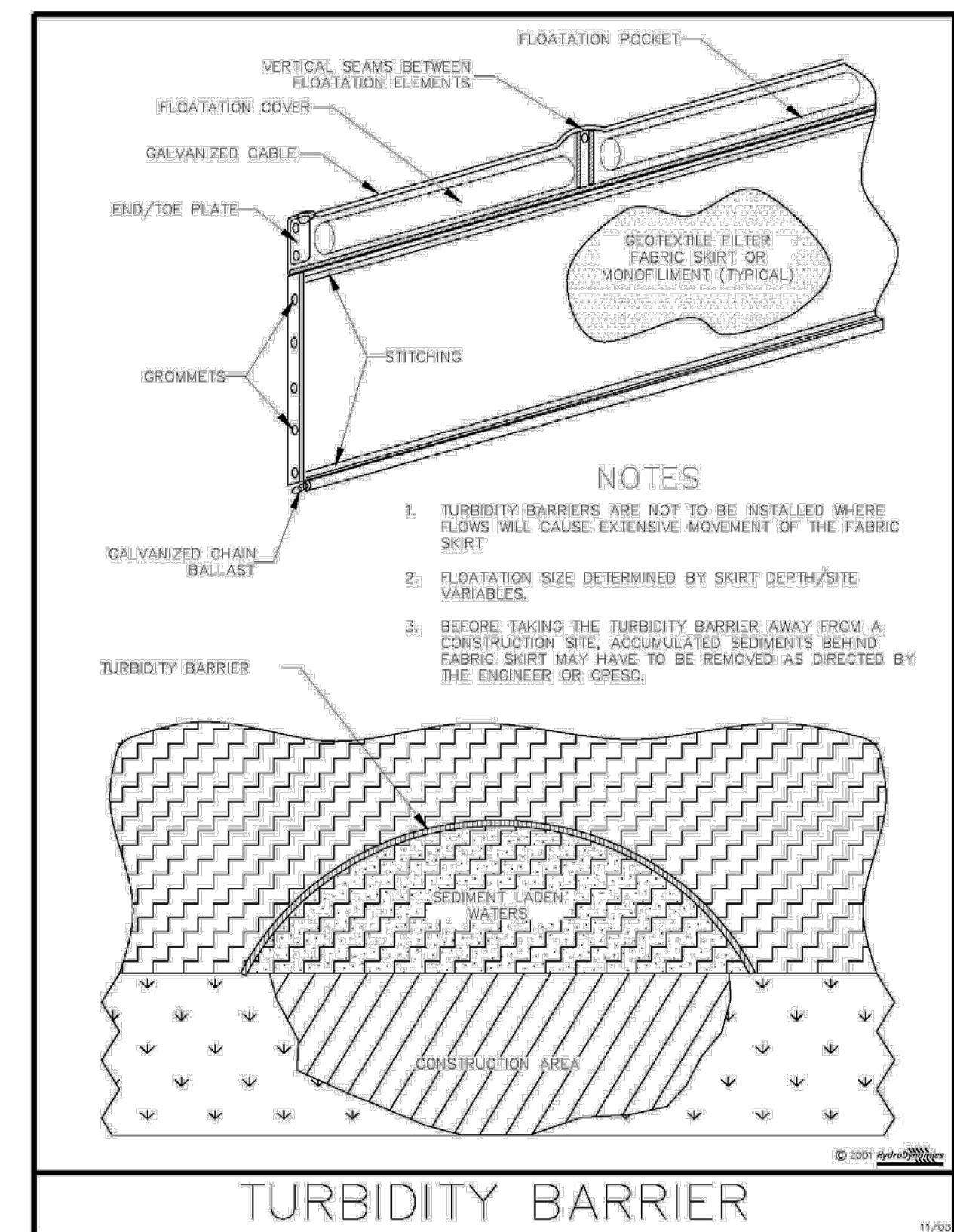


Figure V-6: Illustration of a Turbidity Barrier Curtain

Permission is given by HydroDynamics Incorporated to copy and reproduce this detail

V-15

P:\Proj-2021\21-122 COFFP - Little Jim Camp Sanitary Connection\_Eng\21-1-122 Base.dwg Plotted: 10/4/2023 3:15 PM By: KTHSIRI UJUGAMA

STEFAN K. MATTHES, P.E.  
FL. REG. NO. 38723

COMPUTER FILE REF.	FIELD BK./PG.
21-122 COFFP	21-05/72

**CULPEPPER & TERPENING INC**  
 2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
 PHONE 772-464-3537 • FAX 772-464-9497 • www.ct-eng.com  
 STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

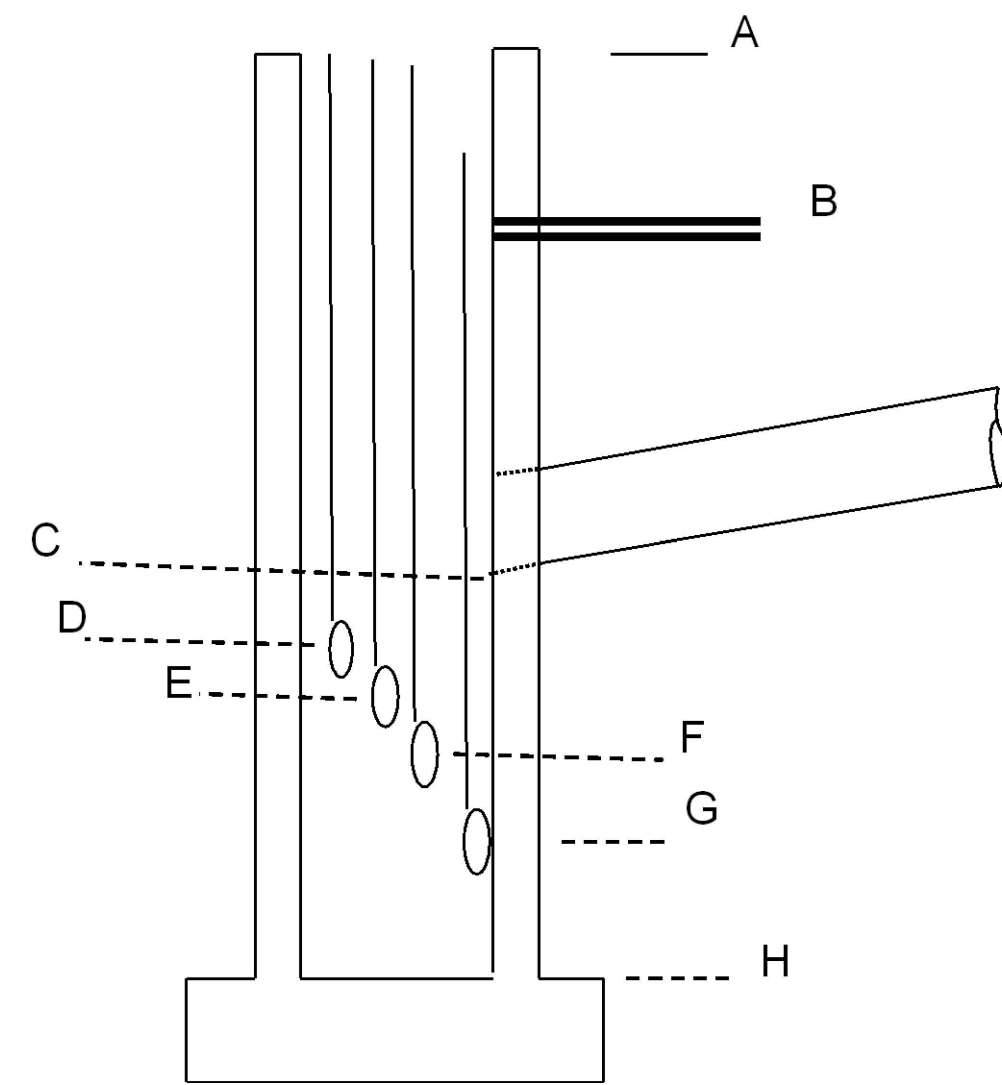
	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
DETAILED	----	----
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**

**SWPP DETAILS**

DATE: 10/5/23
HORIZ. SCALE: N/A
VERT. SCALE: N/A
JOB No. 21-122
SHEET 7 of 9





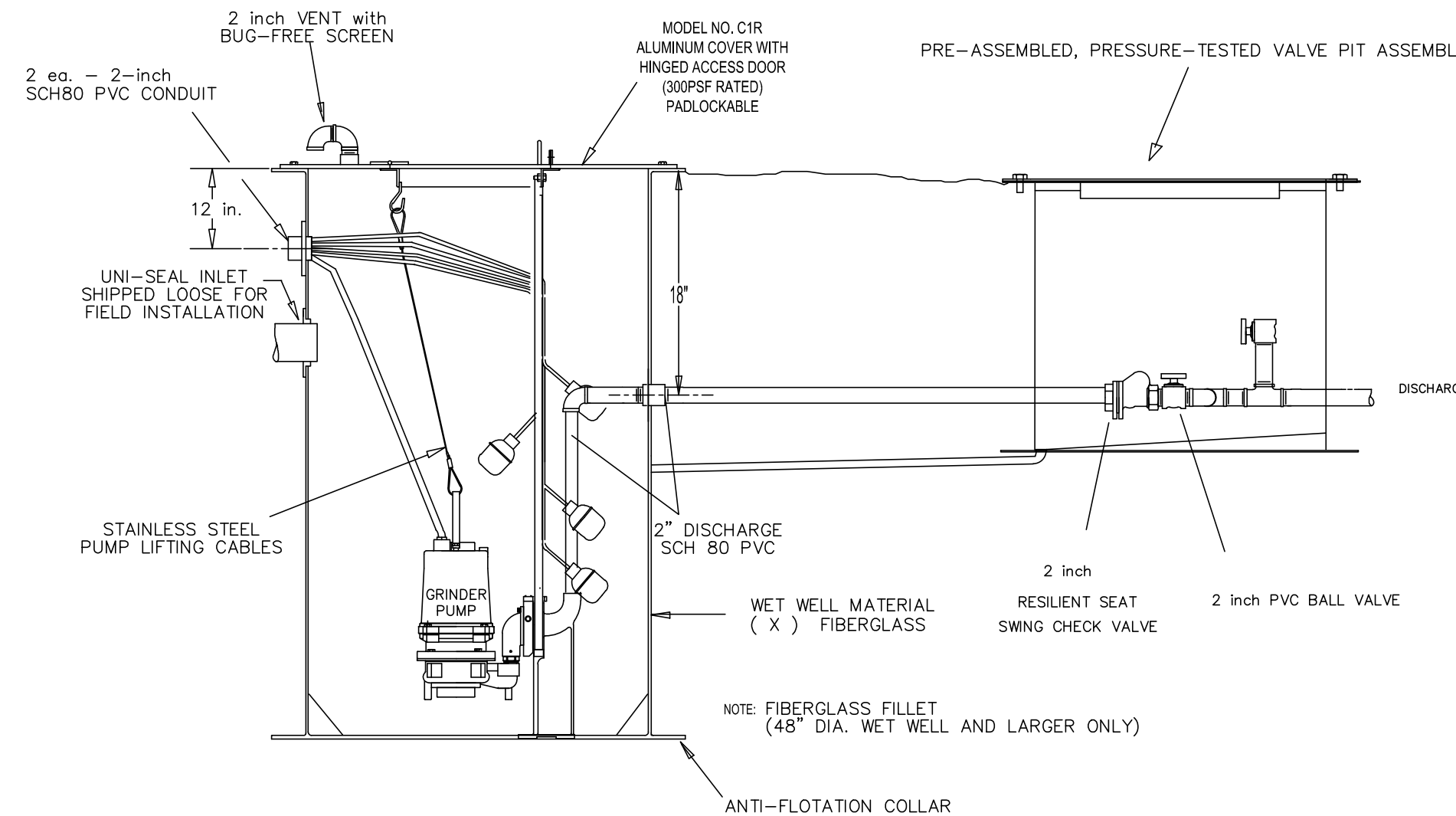
Pumps:	YEAR 2022
Make	Barnes
Model	SGVF2022L
HP	2 HP
Impeller	5.13"
Voltage	200
Phase	1 (Single)
RPM	3450
Shutoff Head	101
Discharge Dia.	1.25"
FLA	17
Locked Rotor Amps	53
Start Up Amps	

Proposed Lift Station Elevations		
Elevation	Description	Elevation (ft)
A	Rim	2.42
FZ	SHT 4 of 9, Flood Zone X Flood Zone AE shown as Elev. 5.0	5.00
MHWL	SHT 4 of 9, Mean High Water Level Est. 09-23-21	0.32
Grade	Existing Grade at Pump Station	2.42
B	Discharge (LPFM)	1.11
C	Influent from SS-01	-2.09
D	High Water Alarm	-2.30
E	Lag Pump ON	-2.80
F	Lead Pump ON	-3.60
G	Pumps Off	-4.80
H	Bottom Wet Well	-5.20

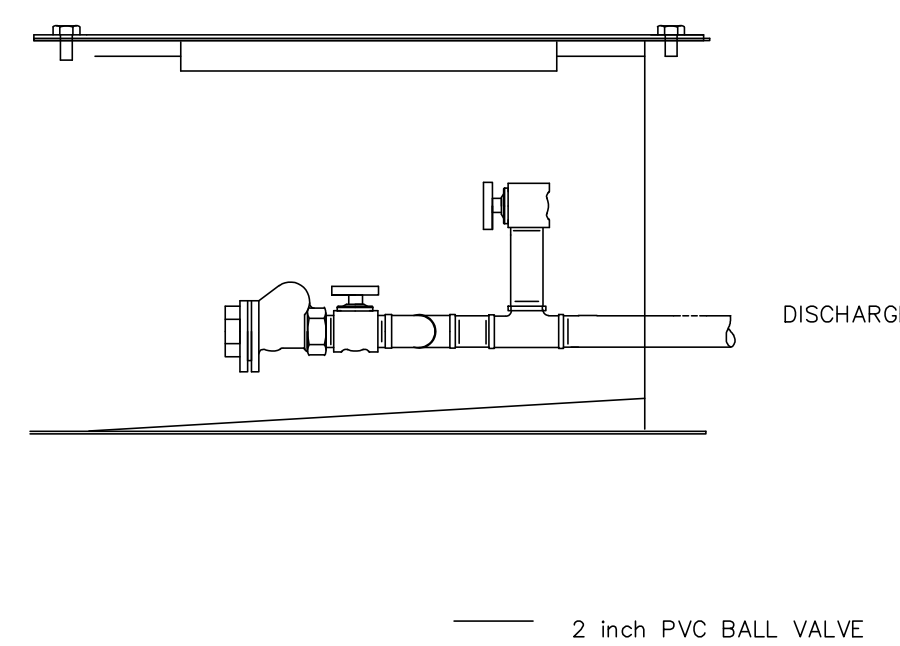
Proposed SS-01 Drains to Proposed Little Jim FC Lift Station Elevations per Plan Set		
Elevation	Description	Elevation (ft)
A	Grinder Station Rim	2.42
B	Rim Manhole SS-01	2.00
C	Inv. Manhole SS-01 (approx)	-1.93
D	Inv. Into MH SS-01 from SS-02	-1.93
E	Inv. Exiting MH SS-01	-1.63
F	Prop Inv into LS	-1.68
G		
H		
I		

**DESIGN AND COMPLIANCE NOTES**

- SYSTEM SPECIFIED THIS PAGE COMPLIES WITH THE FOLLOWING REFERENCE STANDARDS:
  - + FLORIDA ADMINISTRATIVE CODE (FAC) CHAPTER 62-604 "COLLECTION SYSTEMS AND TRANSMISSION FACILITIES" AND ALL RELATED AND CROSS REFERENCED STANDARDS
  - + NFPA 820
  - + RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (TEN STATES STANDARDS).
- PUMPS SHALL BE SUITABLE FOR HAZARDOUS LOCATIONS CLASS I, GROUP D, DIVISION 1 <cor> DIVISION 2 (AS CATEGORIZED BY NFPA 820).
- CONTROL PANELS SHALL BE U.L. LISTED PER 698A FOR OPERATING MOTORS LOCATED WITHIN CLASS I, GROUP D LOCATION.
- WET WELL TOP AND CONTROLS MUST BE APPROPRIATELY LOCATED ABOVE THE 25 YEAR AND 100 YEAR FLOOD ELEVATIONS, RESPECTIVELY, PER F.A.C. 62-604.400(2)(e).

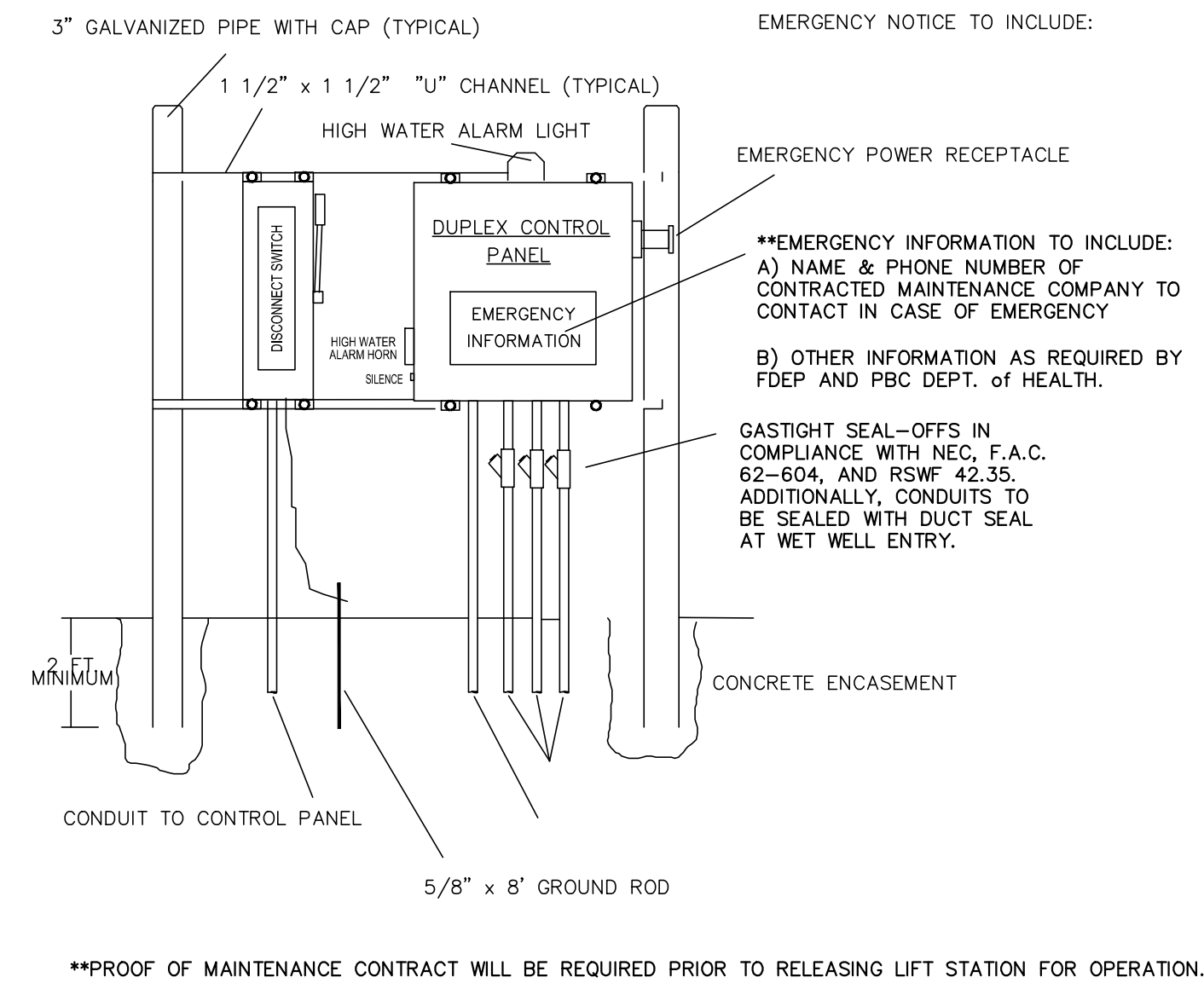


**LIFT STATION**  
(NOT TO SCALE)

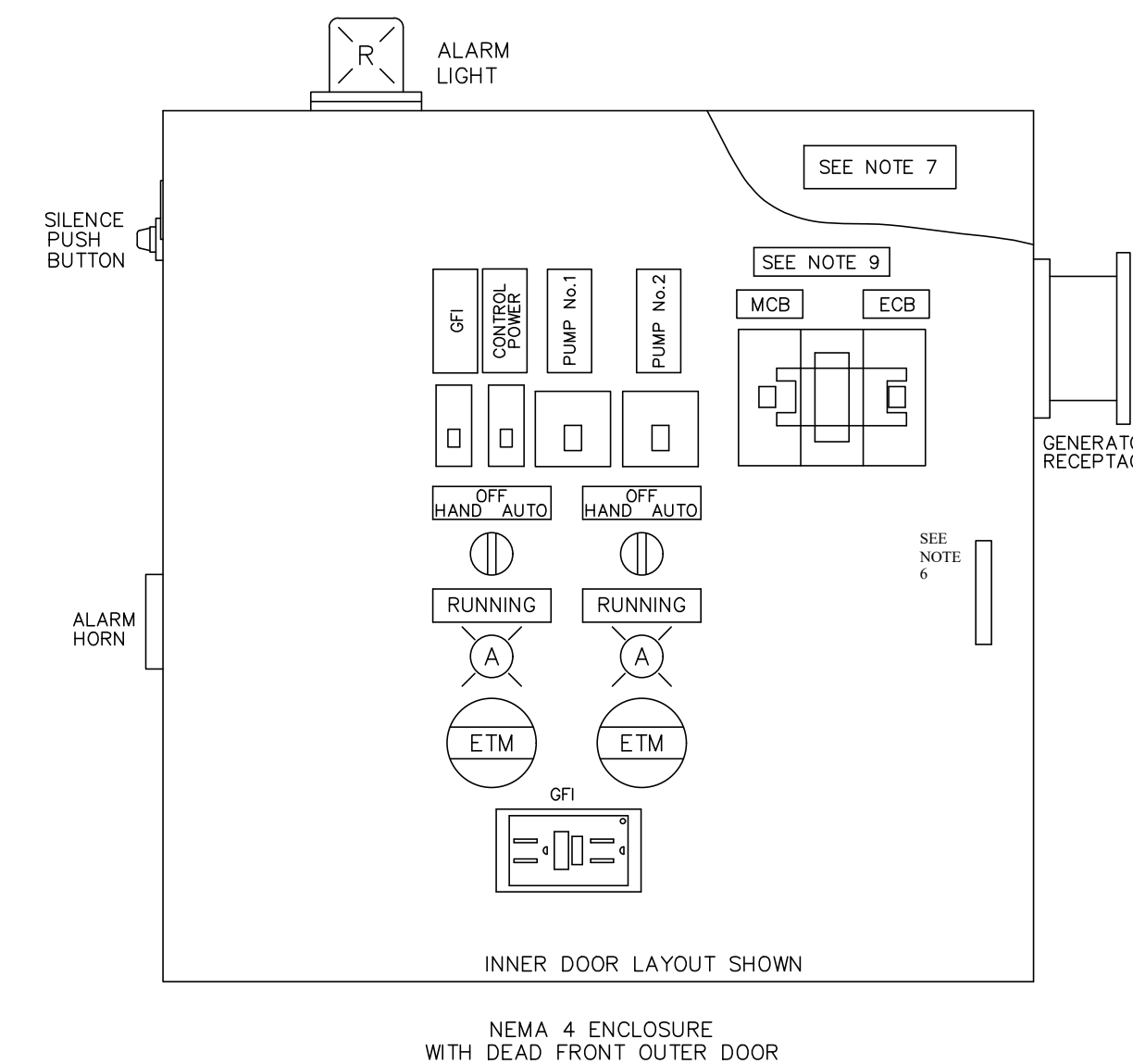


**PRE-ASSEMBLED & PRESSURE TESTED VALVE PIT ASSEMBLY GRINDER PUMP DETAILS**

- ASSEMBLED VALVE PIT ASSEMBLY SHALL BE PRESSURE TESTED @150 PSIG FOR MINIMUM 15 MINUTES WITH ZERO LOSS (TEST AGAINST CHECK VALVES AND CLOSED DISCHARGE).
- CHECK VALVES AND ISOLATION VALVES ARE PROVIDED FOR EACH PUMP PER rswf 42.5 AND FDEP PERMIT ITEM 50.
- VALVE PIT SHALL HAVE ENCLOSED BOTTOM WITH SLOPED FLOOR AND DRAIN LINE RETURNING TO THE WET WELL (COMPLETE WITH P-TRAP ASSEMBLY) PER RSWF 44.33 AND FDEP PERMIT ITEM 70.
- BY-PASS PUMP CONNECTION IS PROVIDED PER FAC 62-604.400(2)(a)(3).
- COVER MUST INCLUDE TAMPER RESISTANT HARDWARE AND PADLOCK.



**\*\*PROOF OF MAINTENANCE CONTRACT WILL BE REQUIRED PRIOR TO RELEASING LIFT STATION FOR OPERATION.**



- ALL WIRING AND GROUNDING IS TO BE IN ACCORDANCE WITH NEC AND LOCAL CODES.
- WET WELL IS CLASSIFIED AS A CLASS I, GROUP D HAZARDOUS LOCATION. CONDUITS TO/FROM WET WELL MUST INCLUDE SEAL-OFFS, ETC. TO COMPLY WITH NEC AND LOCAL CODES.
- ALL EQUIPMENT GROUNDING TO BE PROVIDED IN ACCORDANCE WITH NEC AND LOCAL CODES.
- ALL PENETRATIONS INTO THE PUMP CONTROL PANEL ARE TO BE MADE IN THE BOTTOM OF THE ENCLOSURE ONLY.
- POWER SERVICE METER CAN (IF PROVIDED) IS TO BE MOUNTED TO THE LEFT OF THE DISCONNECT SWITCH <OR> ON THE "REAR" OF THE EQUIPMENT RACK SHOWN.
- CONTROL PANEL TO INCLUDE LIGHTNING ARRESTOR AND SURGE CAPACITOR IN ACCORDANCE WITH F.A.C. CHAPTER 62-604.400(2)(b).

ALL PRODUCTS SHOWN THIS PAGE ARE AVAILABLE FROM:

**SOUTHEASTERN PUMP**  
 Pompano Beach (800) 396-4182  
 Tampa (800) 688-5927  
 Jacksonville (904) 425-6931

STEFAN K. MATTHEWS, P.E.  
FL. REG. NO. 38723

P:\Proj-2021\21-122 COFF - Little Jim Camp Sanitary Connection\_Eng\21-122 Base.dwg Plotted: 10/4/2023 4:42 PM By: KITHSIRI UDUGAMA

**LITTLE JIM FISH CAMP-LIFT STATION DETAILS**

COMPUTER FILE REF.	FIELD BK./PG.
21-122 COFF	21-05/72

**CULPEPPER & TERPENING INC**  
 2980 SOUTH 25th STREET • FORT PIERCE, FLORIDA 34981  
 PHONE 772-464-3537 • FAX 772-466-9497 • www.ct-eng.com  
 STATE OF FLORIDA BOARD OF PROFESSIONAL ENGINEERS AUTHORIZATION NO. 4286

- REVISIONS -		BY	DATE

	BY	DATE
FIELD	SKM	1/20/22
CALCS.	SKM	2/2/22
DRAWN	KU	10/4/23
DETAILED	----	----
CHECKED	SKM	10/4/23
APPROVED	SKM	10/4/23

**LITTLE JIM CAMP SANITARY IMPROVEMENTS**  
**GRINDER STATION DETAILS**

DATE: 10/5/23
HORIZ. SCALE: N/A
VERT. SCALE: N/A
JOB No. 21-122
SHEET 9 of 9