



GOVERNING BOARD

MARK TAYLOR
CHAIRPERSON

MICHELLE WILLIAMSON
VICE-CHAIRPERSON

JOEL SCHLEICHER
KELLY S. RICE
JACK BISPHAM
ROGER GERMANN
JAMES G. MURPHY
REBECCA SMITH
SETH WEIGHTMAN
BOARD MEMBERS

PROJECT MANAGER

ROBIN BAILEY
(352) 796-7211 EXT. 4252
Robin.Bailey@SWFWMD.STATE.FL.US

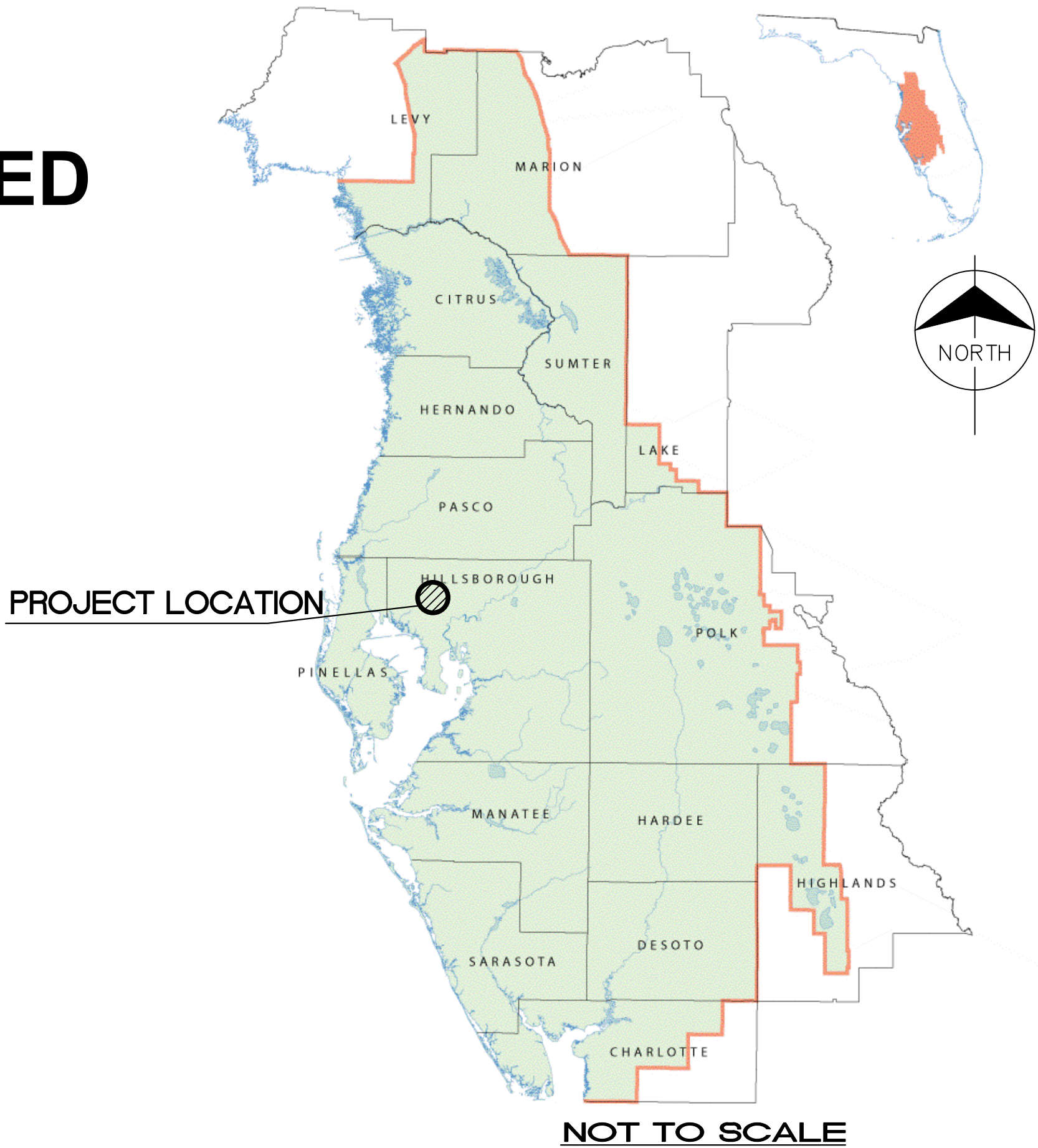
TWA NO. 19TW0002082

CONSTRUCTION PLANS OF PROPOSED
LAKE PRETTY STRUCTURE
REPLACEMENT (B875)
100% FINAL DESIGN PLANS



LOCATION MAP
HILLSBOROUGH COUNTY, FLORIDA

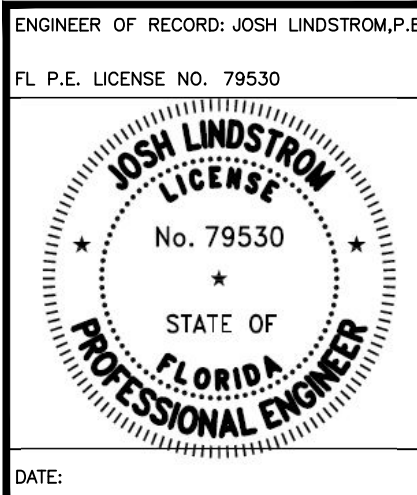
SOUTHWEST FLORIDA
WATER MANAGEMENT DISTRICT



PROJECT LOCATION

INDEX OF SHEETS

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C-02	04	EXISTING SITE CONDITIONS
C-03	05	EXISTING STRUCTURE - PARTIAL DEMOLITION PLAN
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I-02	19	COMMUNICATION BLOCK DIAGRAM



ENGINEER OF RECORD: JOSH LINDSTROM, P.E.
FL P.E. LICENSE NO. 79530

DATE: _____

PROJECT ID NO.
40-19-311

DRAWING NO.
G-01

SHEET
1 OF 19

ENGINEER: J. LINDSTROM, P.E.
DRAWN: KN, MAC
CHECKED: J. BECKER, E.I.
DATE: 03/26/2020
SCALE:

NorthStar
NorthStar Contracting Group, Inc.
2700 South Fulsburg Road
Riverview, FL 33578
Ph: (813) 717-213-8876
FL CEN No. 38941


SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

LAKE PRETTY
STRUCTURE REPLACEMENT (B875)
COVER SHEET

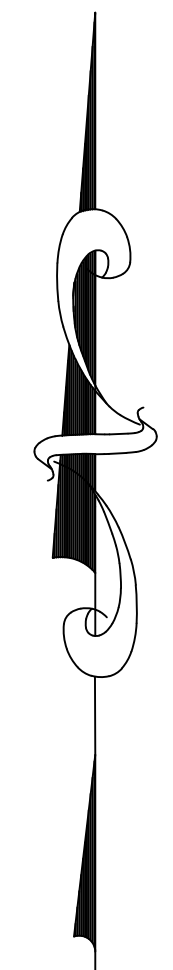
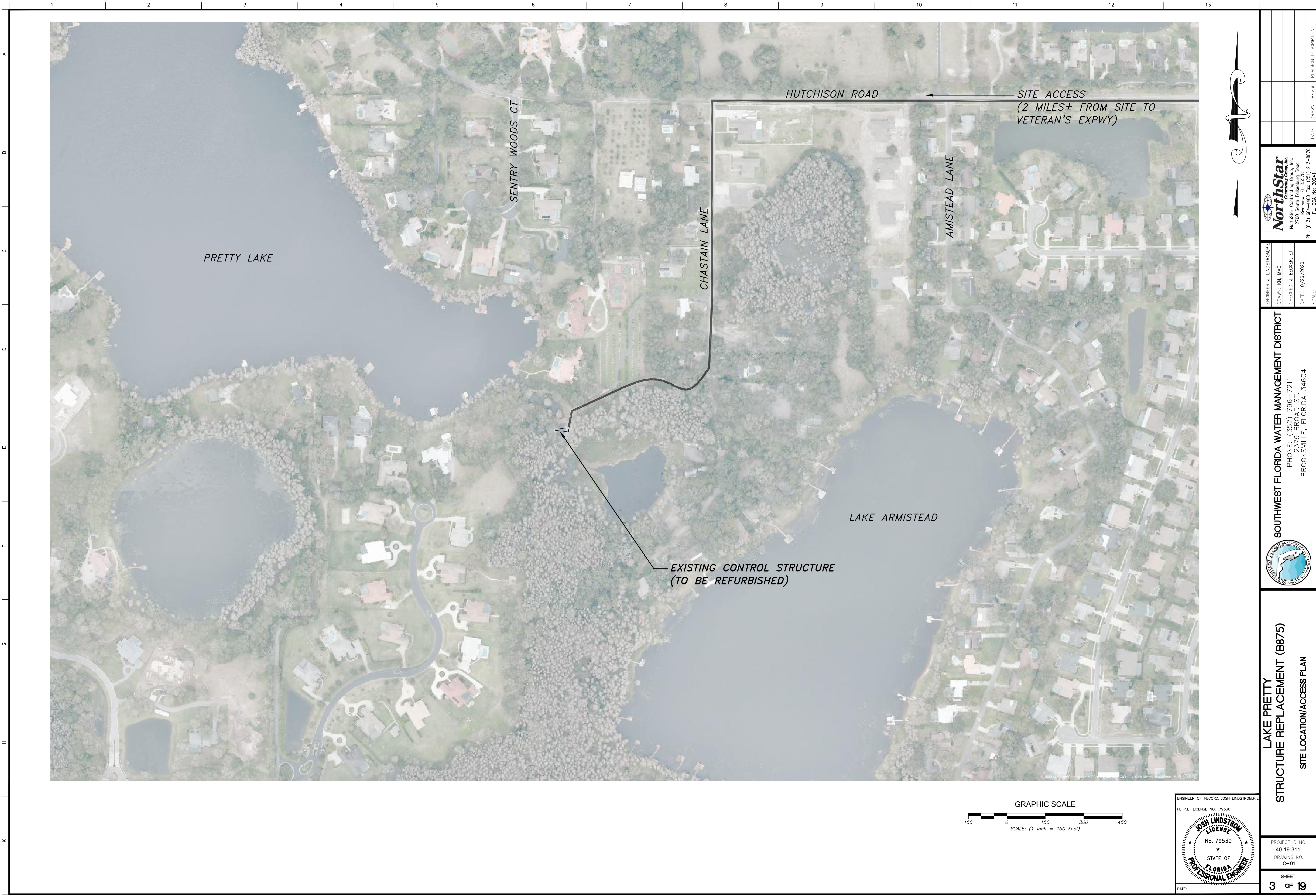
S:\South East\ & E Office\Team WFB\GIS\Projects\2020\SWFWMD Pretty Lake\G-Wrk Dwg\G-01_Cover Sheet.dwg - Thursday, July 2, 2020 10:37:28 AM

PROJECT ID NO.
40-19-311
DRAWING NO.
G-02

SHEET
2 OF 19

 **NorthStar**
Contracting Group, Inc.
NorthStar Contracting Group, Inc.
2760 South Falkenburg Road
Riverview, FL 33578
Phone: (813) 684-4400 Fax: (754) 213-8876

S:\South East\ & E Office\Team	WPB\GIS\Projects\2020\SNEUMD Pretty Lake\8-Wrk Dwns\G-02 General Notes.dwg - Monday	October 26, 2020
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DATE	DRAWN	REV.#	REVISION DESCRIPTION



NorthStar
NorthStar Contracting Group, Inc.
2760 South Follenburg Road
Riverview, FL 33578
Ph: (813) 213-8876
FL C-01 No. 3041

ENGINEER: J. LINDSTROM, P.E.	SCALE:
DRAWN: KN, MAC	DATE: 10/26/2020
CHECKED: J. BECKER, E.I.	



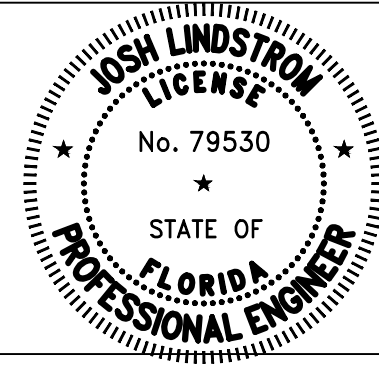
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

LAKE PRETTY
STRUCTURE REPLACEMENT (B875)
SITE LOCATION/ACCESS PLAN

PROJECT ID NO.
40-19-311
DRAWING NO.
C-01

SHEET
3 OF **19**

ENGINEER OF RECORD: JOSH LINDSTROM, P.E.
FL P.E. LICENSE NO. 79530

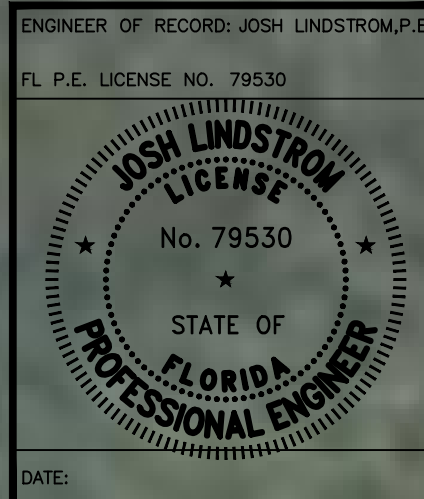


DATE: _____



NOTES:

1. BASE FILE DATA IS TAKEN FROM SWFWMD DWG. NO 14-008-105BA DATED 2-8-00 PROVIDED BY SWFWMD.
2. IMPROVEMENT LOCATIONS AND DIMENSIONS ARE APPROXIMATE.



LAKE PRETTY
STRUCTURE REPLACEMENT (B875)
EXISTING SITE CONDITIONS

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

ENGINEER: J. LINDSTROM, P.E.
DRAWN: KN, MAC
CHECKED: J. BECKER, E.I.
DATE: 10/26/2020
SCALE:
NorthStar
NorthStar Contracting Group, Inc.
2760 South Falkenberg Road
Riverview, FL 33578
Ph: (813) 213-8876
Fax: (813) 213-8876
FL C-02 No. 30421

DATE	DRAWN	REV.#	REVISION DESCRIPTION

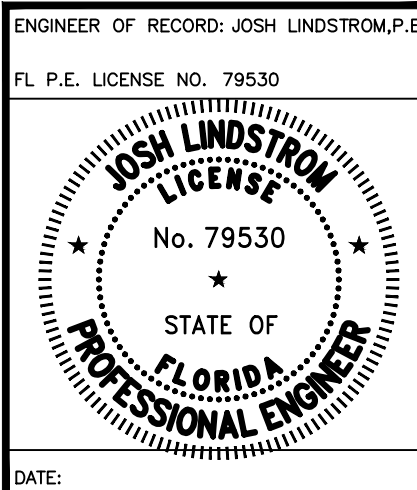
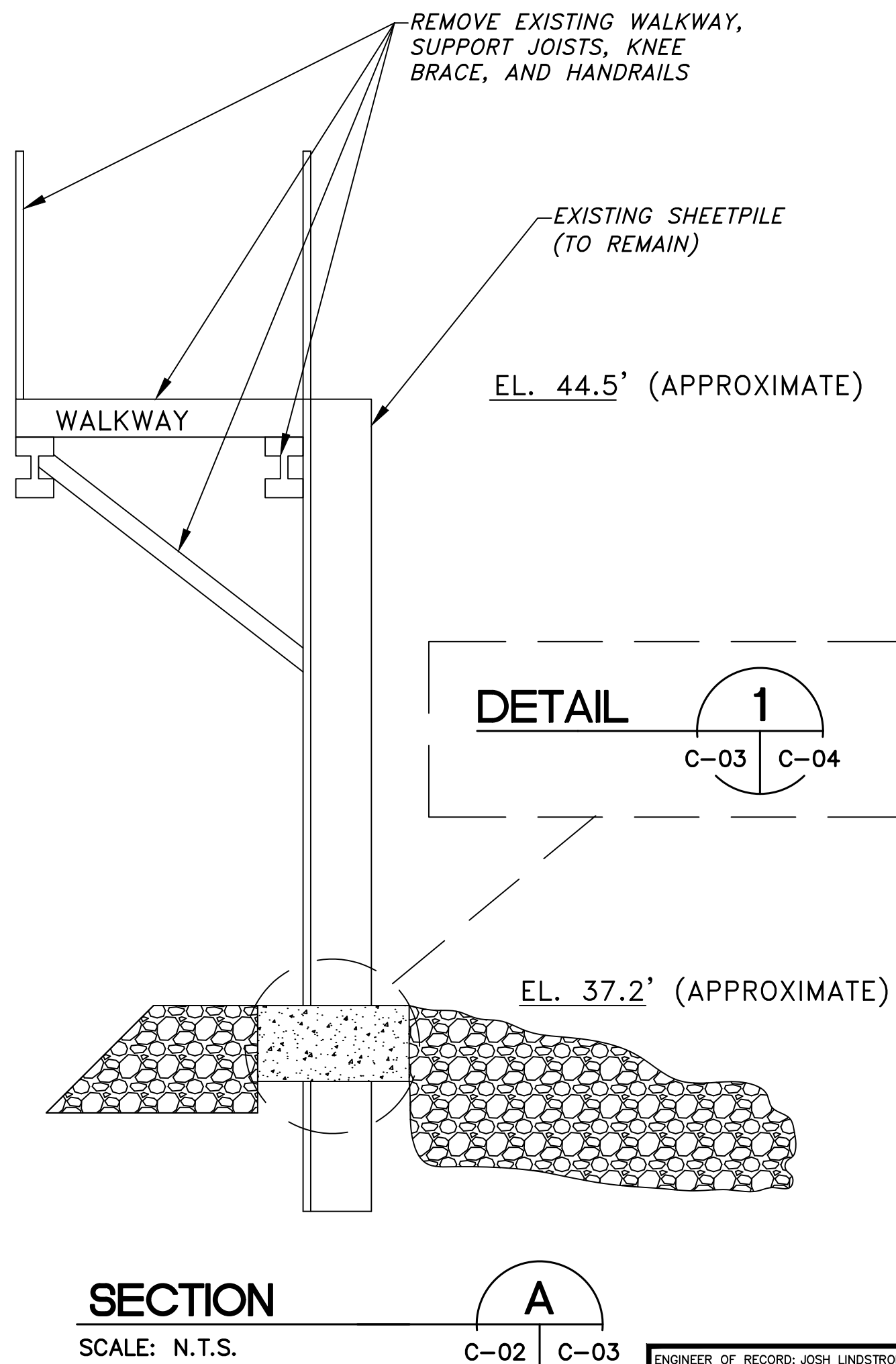
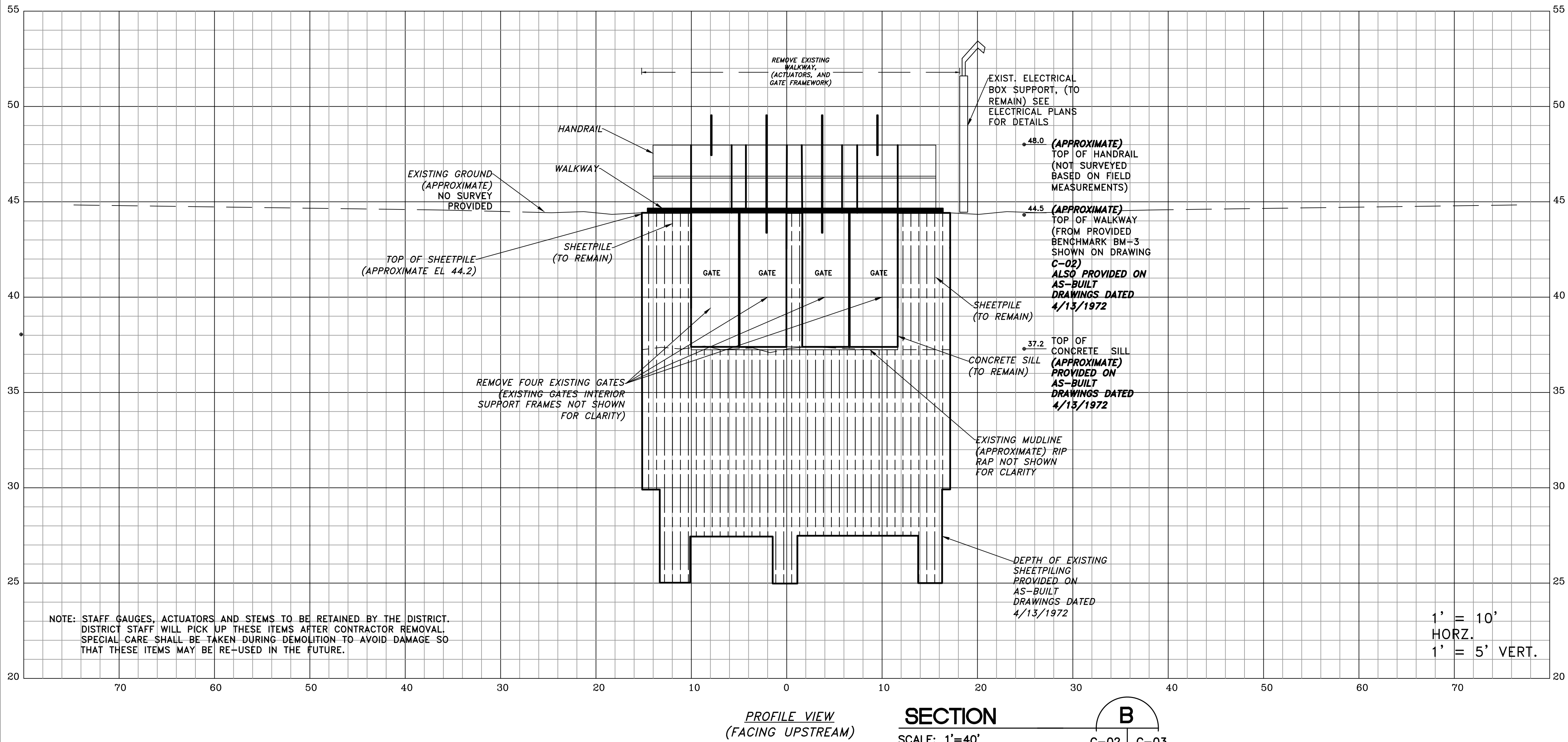
PROJECT ID NO.
40-19-311
DRAWING NO.
C-02
SHEET
4 OF 19



LAKE PRETTY STRUCTURE
PHOTO EXISTING CONDITIONS
(LOOKING UPSTREAM)



LAKE PRETTY STRUCTURE
PHOTO EXISTING CONDITIONS
(LOOKING DOWNSTREAM)



LAKE PRETTY
STRUCTURE REPLACEMENT (B875)

PARTIAL DEMOLITION PLAN

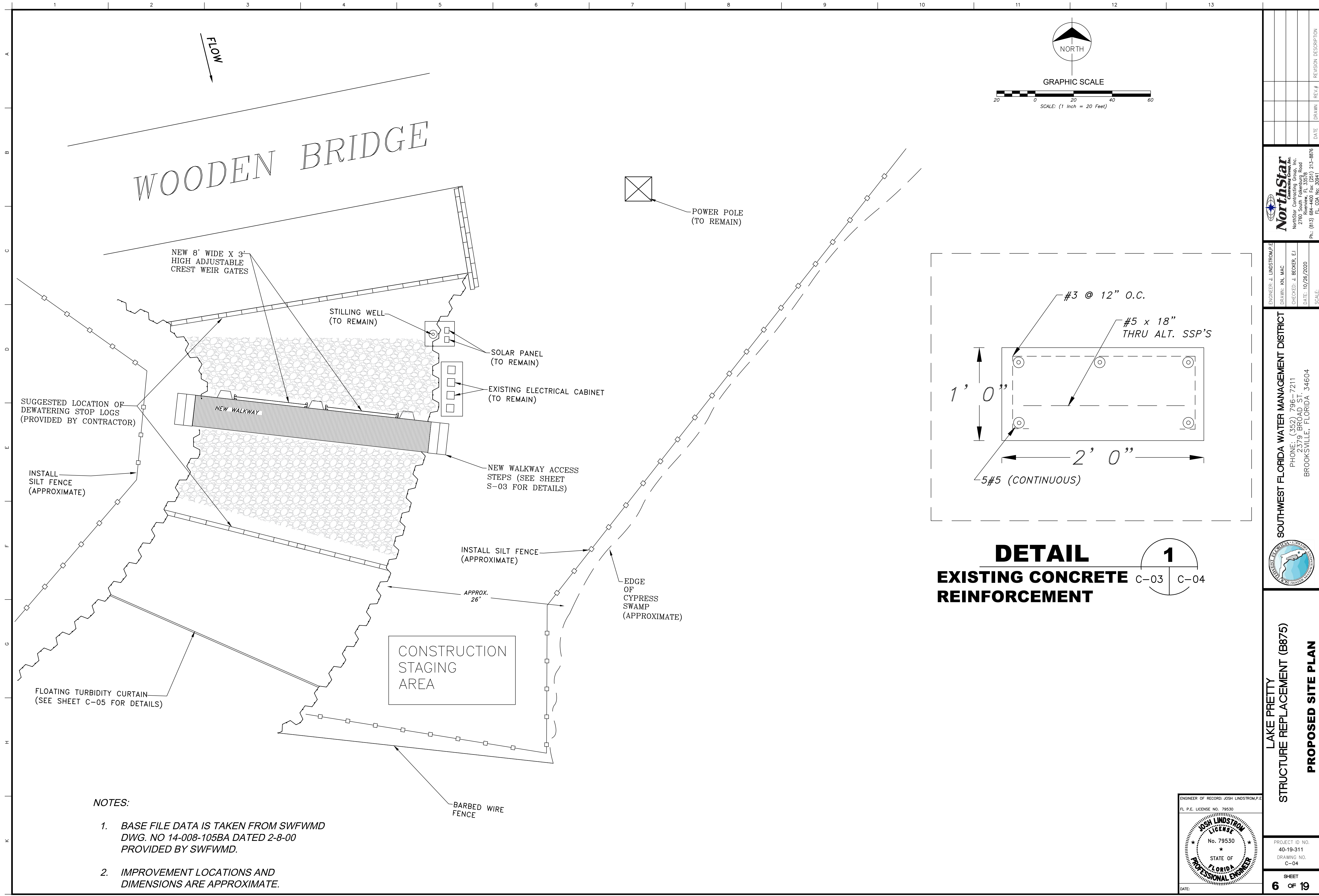
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

NorthStar
NorthStar Contracting Group, Inc.
2760 South Folkensburg Road
Riverview, FL 33578
Ph: (615) 213-8876
FL C.O.A. No. 3094

ENGINEER: J. LINDSTROM, P.E.
DRAWN: KN, MAC
CHECKED: J. BECKER, E.I.
DATE: 10/26/2020
SCALE:

DATE	DRAWN	REV.#	REVISION DESCRIPTION

PROJECT ID NO.
40-19-311
DRAWING NO.
C-03
SHEET
5 OF 19



ENGINEER	DATE	REVISION	DESCRIPTION
NorthStar			
NorthStar Contracting Group, Inc.			
2760 South Folkensburg Road			
Riverview, FL 33578			
Ph: (813) 213-8876			
FL. CO. No. 30491			

ENGINEER: J. LINDSTROM, P.E.	SCALE:
DRAWN: KN, MAC	
CHECKED: J. BECKER, E.I.	
DATE: 10/26/2020	

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

PHONE: (352) 796-7211

2379 BROAD ST.

BROOKSVILLE, FLORIDA 34604

PROPOSED SITE PLAN

LAKE PRETTY

STRUCTURE REPLACEMENT (B875)

PROPOSED SITE PLAN

PROJECT ID NO. 40-19-311

DRAWING NO. C-04

SHEET 6 OF 19

ENGINEER OF RECORD: JOSH LINDSTROM, P.E.

FL. P.E. LICENSE NO. 79530

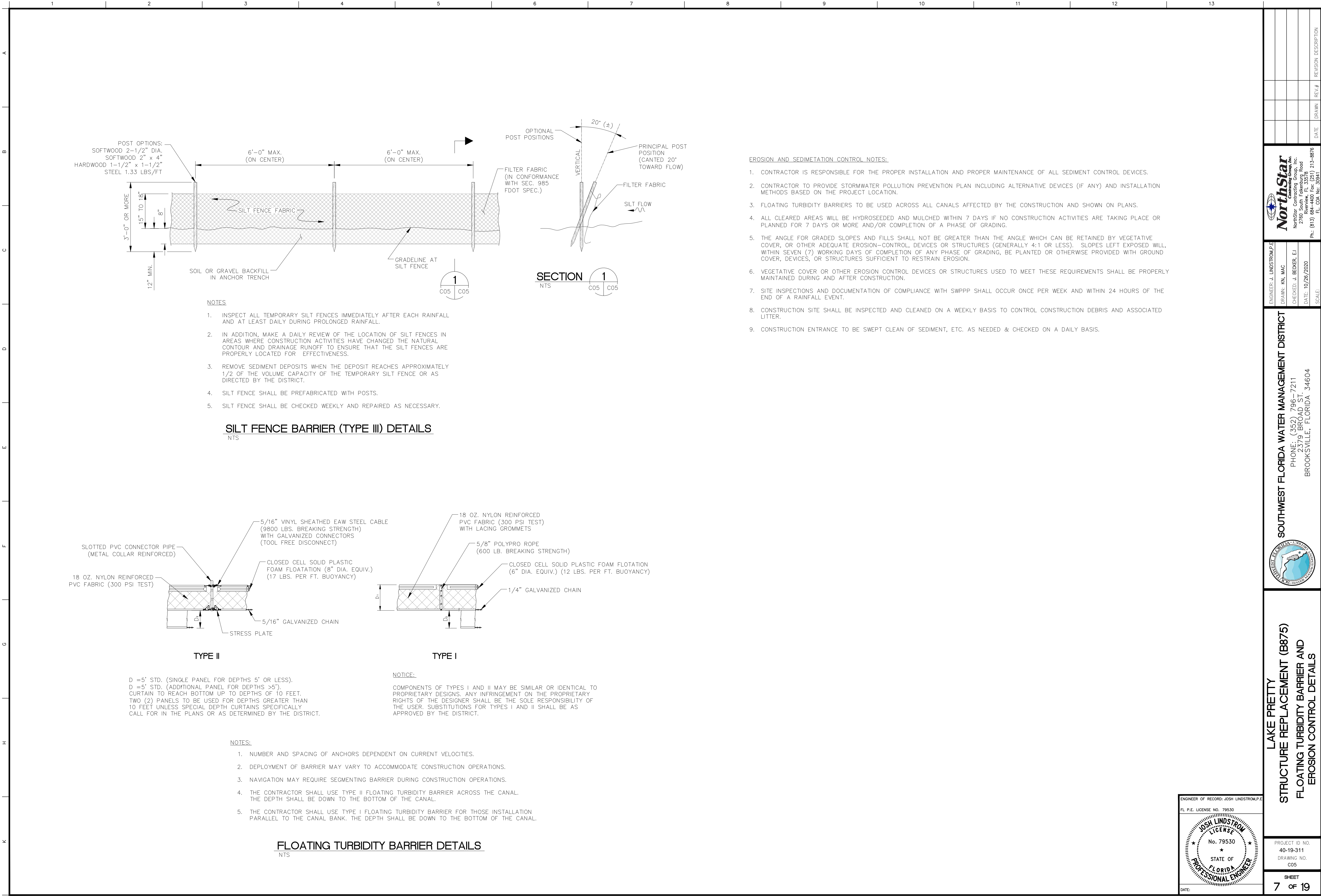
JOSH LINDSTROM

No. 79530

STATE OF FLORIDA

PROFESSIONAL ENGINEER

DATE:



1

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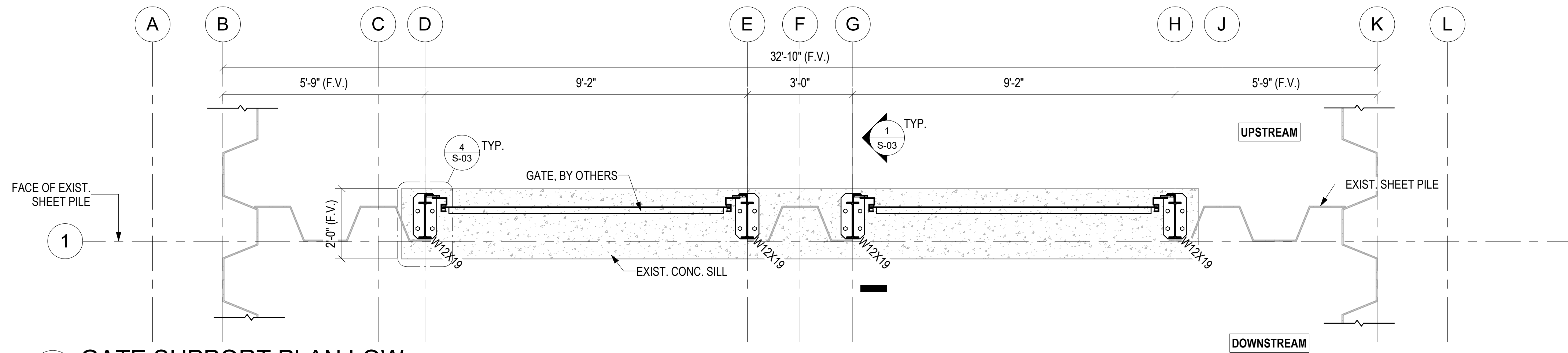
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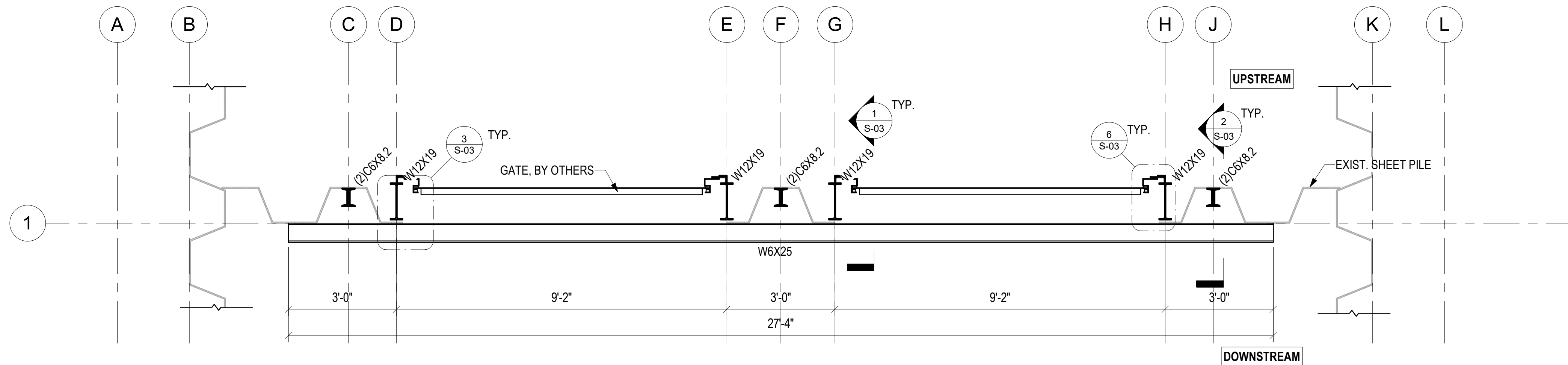
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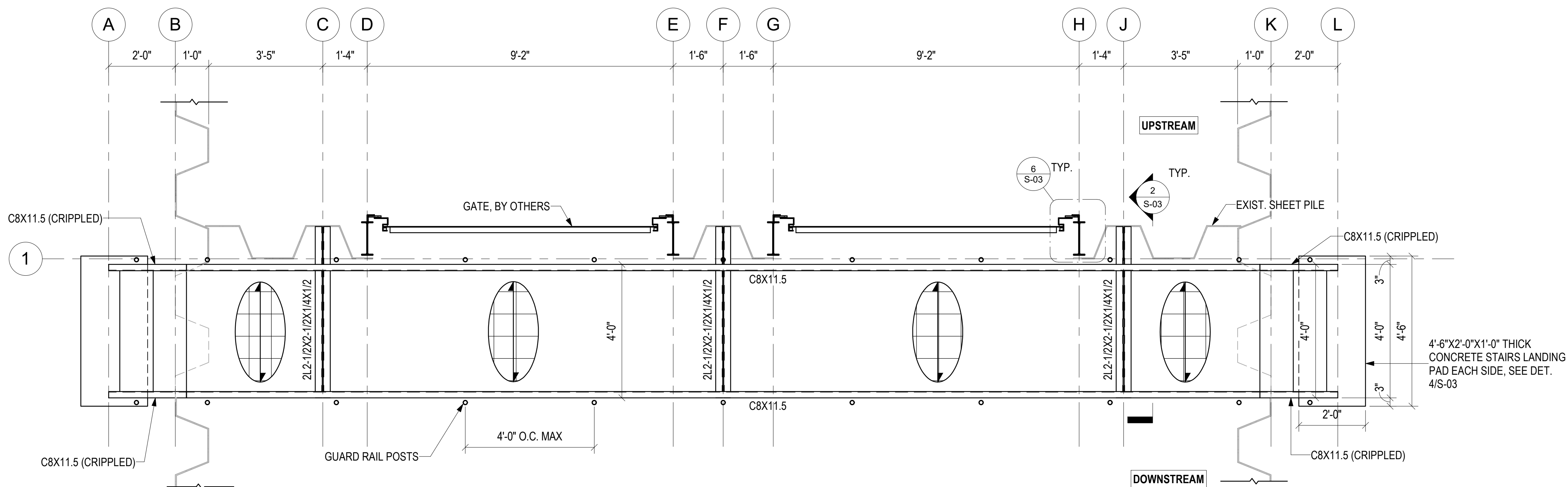
13



1 GATE SUPPORT PLAN LOW
S-02 1/2" = 1'-0"



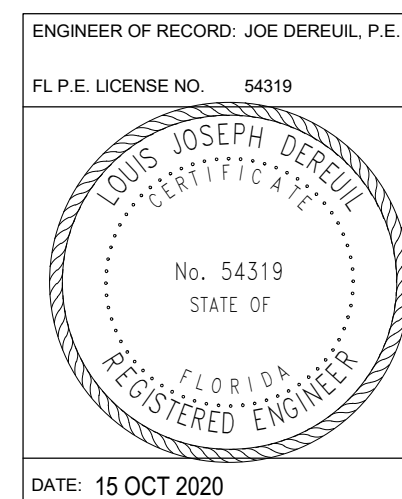
2 GATE SUPPORT PLAN HIGH
S-02 1/2" = 1'-0"



3 CATWALK PLAN
S-02 1/2" = 1'-0"

PLANS LEGEND

- | | |
|------|--|
| | = GALVANIZED STEEL MCNICHOLS
GW-75-A BAR GRATING (3/4" THICK) |
| F.V. | = FIELD VERIFY EXISTING DIMENSION |
| (E) | = EXISTING STRUCTURAL MEMBER |



LAKE PRETTY
STRUCTURE REPLACEMENT (B875)

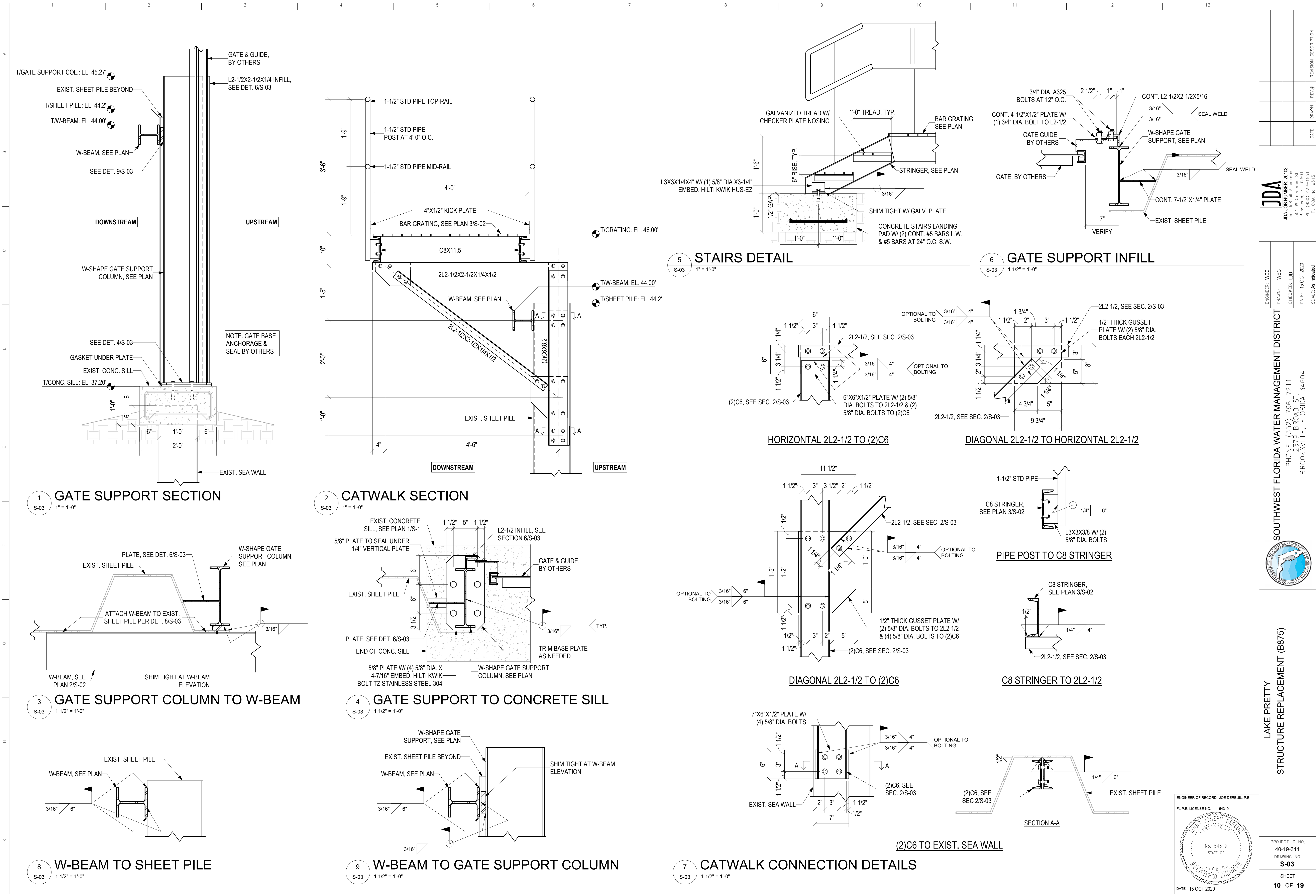
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

REVISION DESCRIPTION	REV.#	DRAWN	DATE

ENGINEER: WEC	DRAWN: WEC
CHECKED: LJD	DATE: 15 OCT 2020
SCALE: 1/2" = 1'-0"	

JDA
JOE DENEUIL, P.E.
301 W. CRYSTAL ST.
PENSACOLA, FL 32501
FL. C.O.A. No. 9515

PROJECT ID NO.
40-19-311
DRAWING NO.
S-02
SHEET
9 OF 19

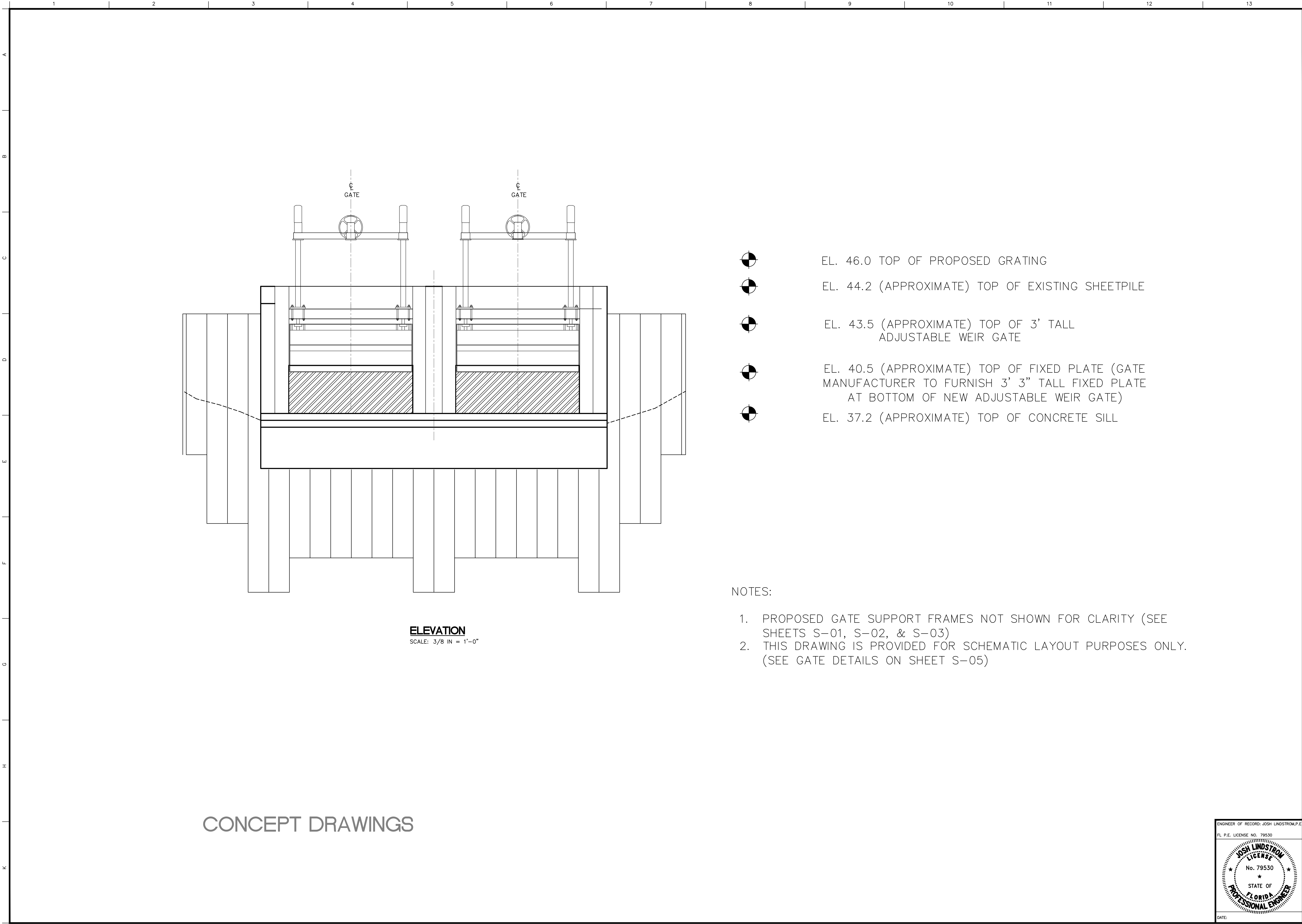


ENGINEER: WEC	DRAWN: LJD	CHECKED: LJD	DATE: 15 OCT 2020	SCALE: As indicated
JDA JDA DESIGN, INC. 301 W. Cypress St. Pensacola, FL 32501 Phone: 904.431.1511 Fax: 904.431.1511 FL COA No. 9515				
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PHONE: (352) 796-7211 2379 BROAD ST. BROOKSVILLE, FLORIDA 34604				
LAKE PRETTY STRUCTURE REPLACEMENT (B875)				
PROJECT ID NO. 40-19-311 DRAWING NO. S-03 SHEET 10 OF 19				

ENGINEER OF RECORD: JOE DEREUIL, P.E.
FL P.E. LICENSE NO. 54319

 DATE: 15 OCT 2020

P/20103 - Lake Pretty Water Control Structure Replacement/20103 - REVIT 2020/03 - Lake Pretty Water Control.vit



NOTES:

1. PROPOSED GATE SUPPORT FRAMES NOT SHOWN FOR CLARITY (SEE SHEETS S-01, S-02, & S-03)
2. THIS DRAWING IS PROVIDED FOR SCHEMATIC LAYOUT PURPOSES ONLY. (SEE GATE DETAILS ON SHEET S-05)

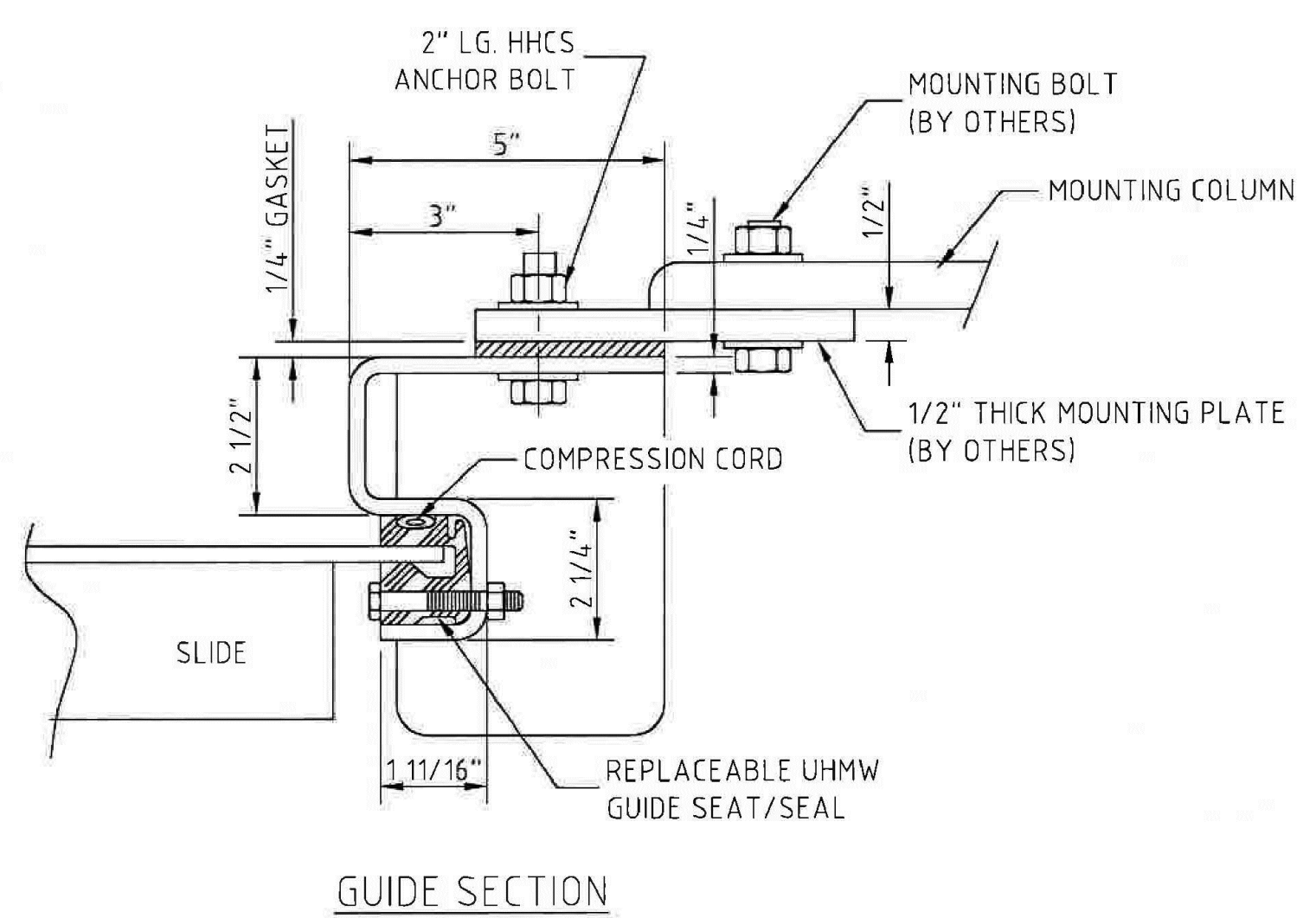
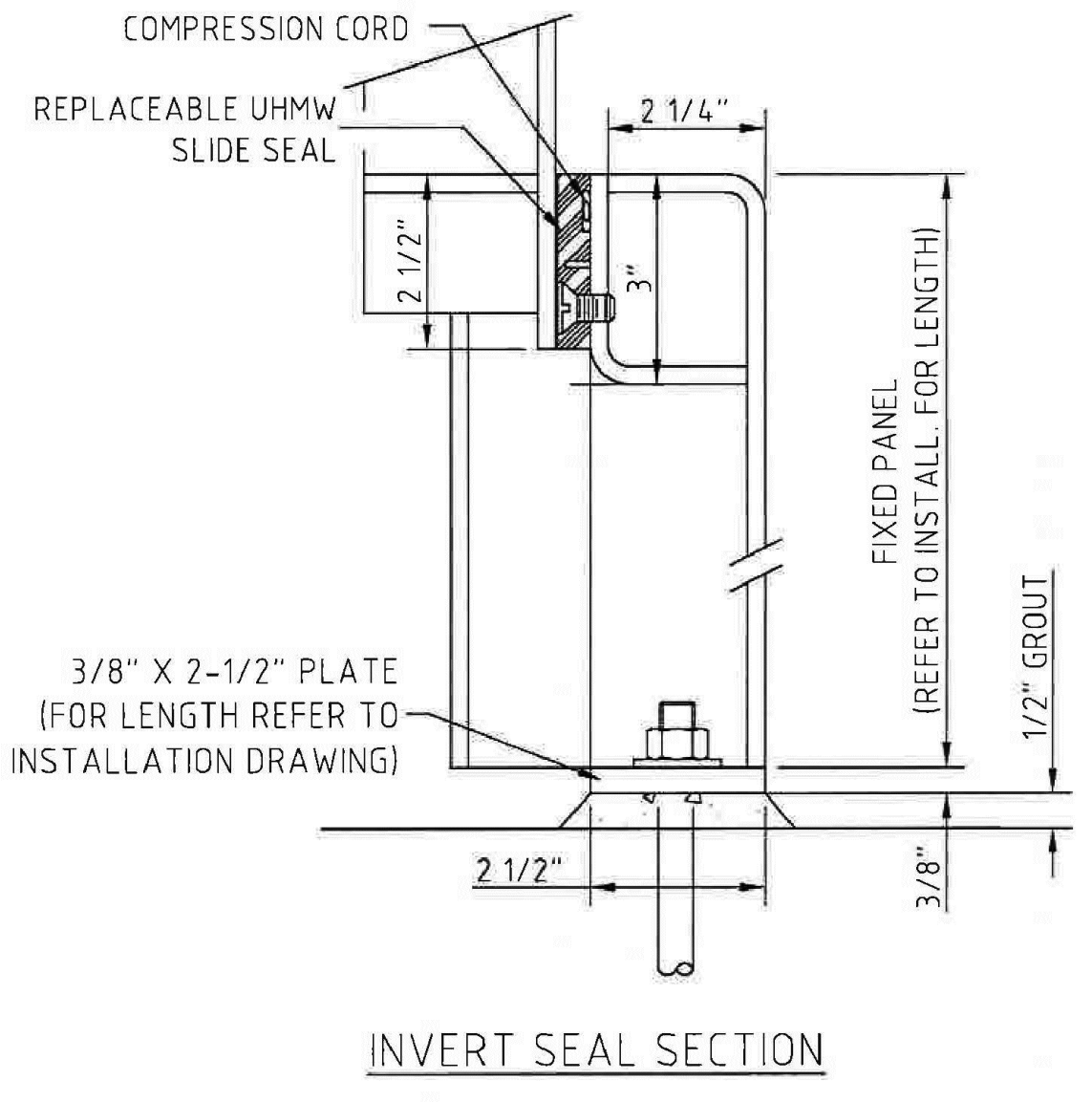
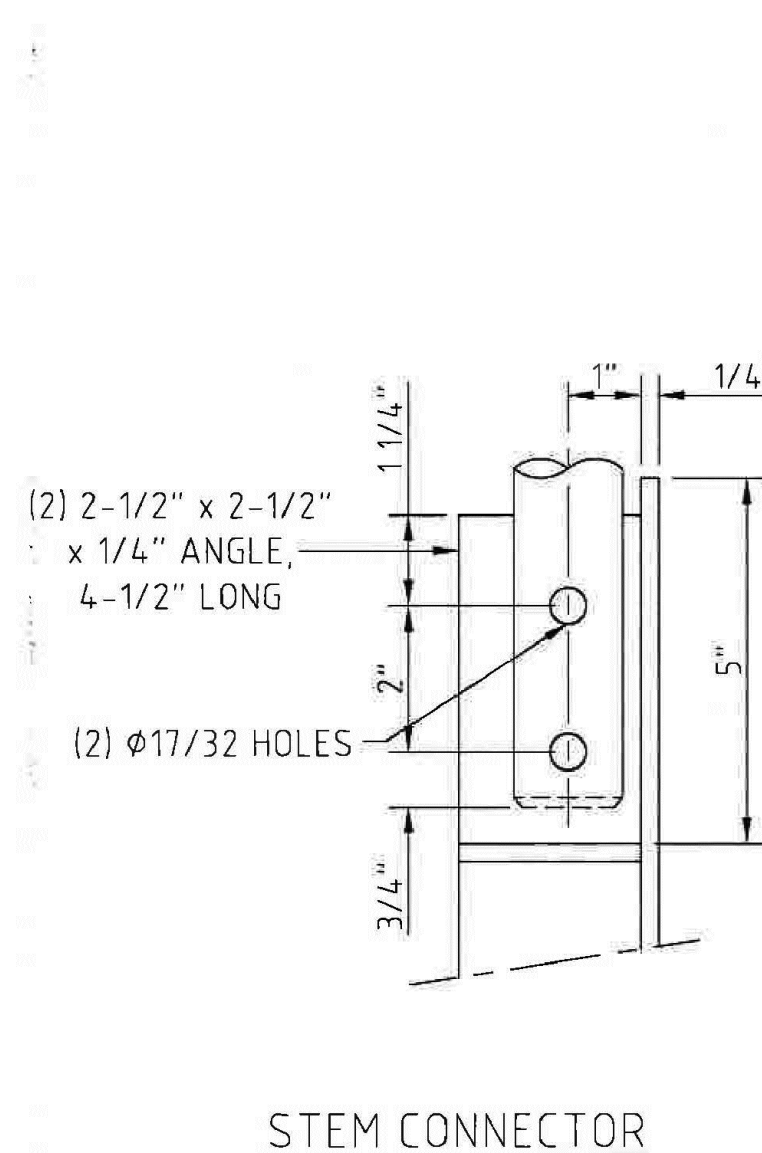
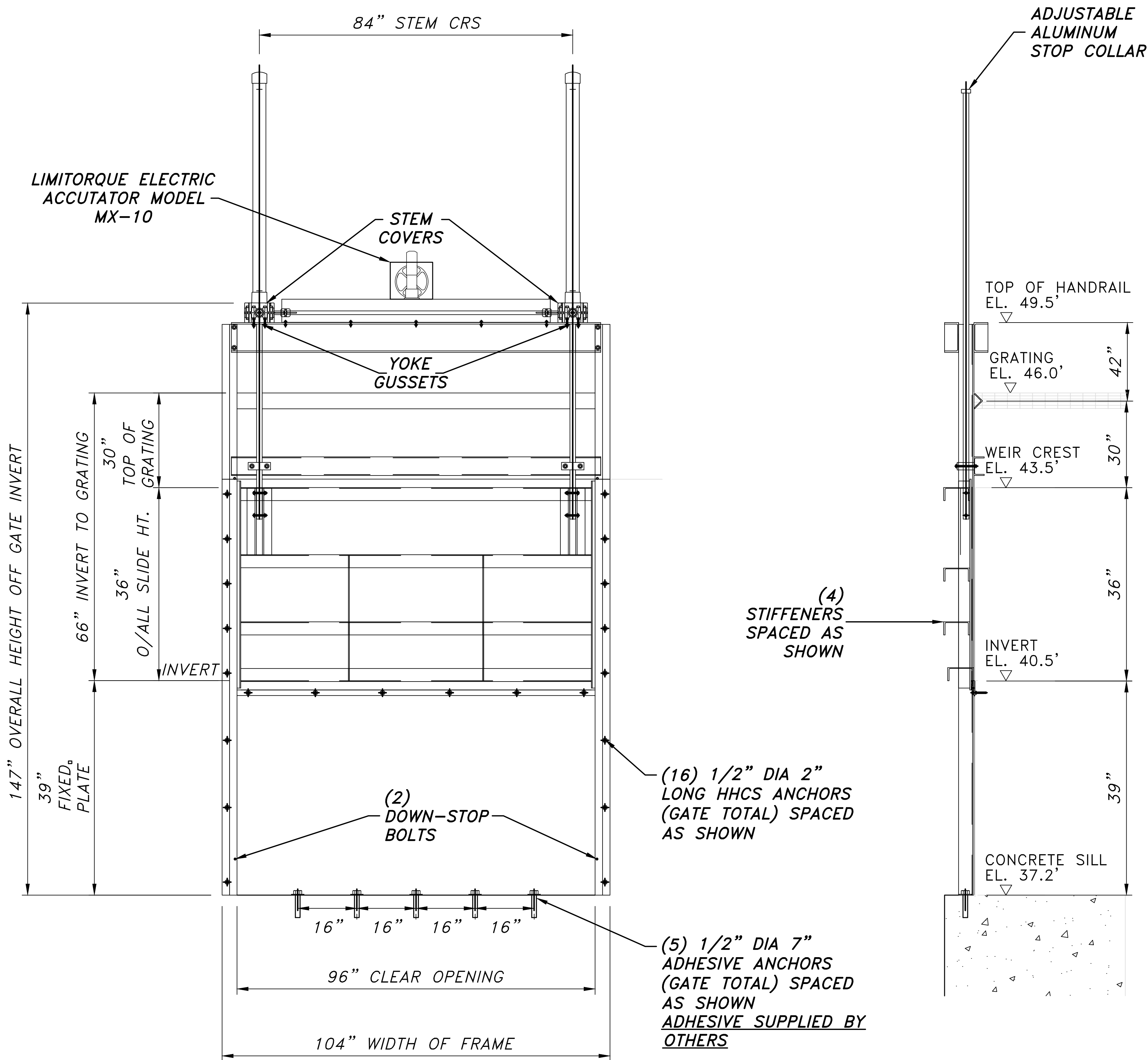
ENGINEER OF RECORD: JOSH LINDSTROM, P.E.
FL P.E. LICENSE NO. 79530

JOSH LINDSTROM
LICENSE
No. 79530
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

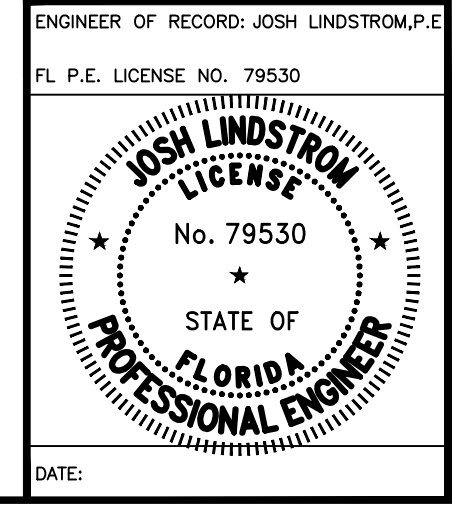
DATE: _____

PROJECT ID NO. 40-19-311	
DRAWING NO. S-04	
SHEET 11 OF 19	
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PHONE: (352) 796-7211 2379 BROAD ST. BROOKSVILLE, FLORIDA 34604	
ENGINEER: J. LINDSTROM, P.E. DRAWN: KN, MAC CHECKED: J. BECKER, E.I. DATE: 10/26/2020 SCALE:	
 NorthStar Contracting Group, Inc. 2760 South Fulkensburg Road Riverview, FL 33578 Ph: (813) 213-8876 FL. CO. No. 38941	
DATE	REVISION DESCRIPTION

SS 304 96" X 36" TOP DOWN OPENING WEIR GATE
WITH 39" FIXED PLATE AT BOTTOM. WHIPPS 923 D1,
OR APPROVED EQUIVALENT



- NOTES:
1. DIMENSIONS AND LOCATIONS OF STRUCTURAL MEMBERS SHOWN ARE FOR REFERENCE PURPOSES ONLY. CONTRACTOR TO SUBMIT SHOP DRAWINGS.
 2. SUBMITTED SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S DETAILS FOR ATTACHING PROPOSED GATE TO EXISTING CONCRETE SILL AND NEW STRUCTURAL STEEL SUPPORT FRAME INSTALLED UNDER THIS CONTRACT.
 3. PROPOSED GATE SHALL BE SERIES 923 DI TOP DOWN OPENING GATE, OR APPROVED EQUIVALENT.
 4. PROPOSED GATE SHALL BE A 96" WIDE X 36" TALL TOP DOWN OPENING GATE WITH A 3'-3" FIXED PLATE AT BOTTOM.
 5. PROPOSED GATE SHALL BE DUAL STEM WITH A SINGLE LIMOTORQUE ELECTRIC ACTUATOR, MODEL MX-10, UNLESS OTHERWISE APPROVED BY THE OWNER AND ENGINEER.
 6. PROPOSED GATE SHALL BE SS304 STAINLESS STEEL. ELEVATIONS PROVIDED ON THIS AND OTHER DRAWINGS FOR PROPOSED GATE ARE APPROXIMATE AND BASED UPON LIMITED HISTORIC SURVEY INFORMATION AND FIELD MEASUREMENTS. ACTUAL DIMENSIONS PROVIDED ON THIS DRAWINGS SHALL TAKE PRECEDENCE TO PROVIDED ELEVATIONS.



SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PHONE: (352) 796-7211 2379 BROAD ST. BROOKSVILLE, FLORIDA 34604		LAKE PRETTY STRUCTURE REPLACEMENT (B875) PROPOSED GATE	
ENGINEER: J. LINDSTROM, P.E. DRAWN: KN, MAC CHECKED: J. BECKER, E.I. DATE: 10/26/2020 SCALE:	PROJECT ID NO. 40-19-311 DRAWING NO. S-05 SHEET 12 OF 19		
NorthStar NorthStar Contracting Group, Inc. 2760 South Folkensburg Road Riverview, FL 33578 Ph: (813) 213-8876 FL C.O.A. No. 3043		REVISION DESCRIPTION DATE DRAWN REV.#	

A
B
C
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F
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H
I
J
K

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K

ENGINEER OF RECORD: SHAWN HILLERS, P.E.
FL P.E. LICENSE NO. 69766

DATE:

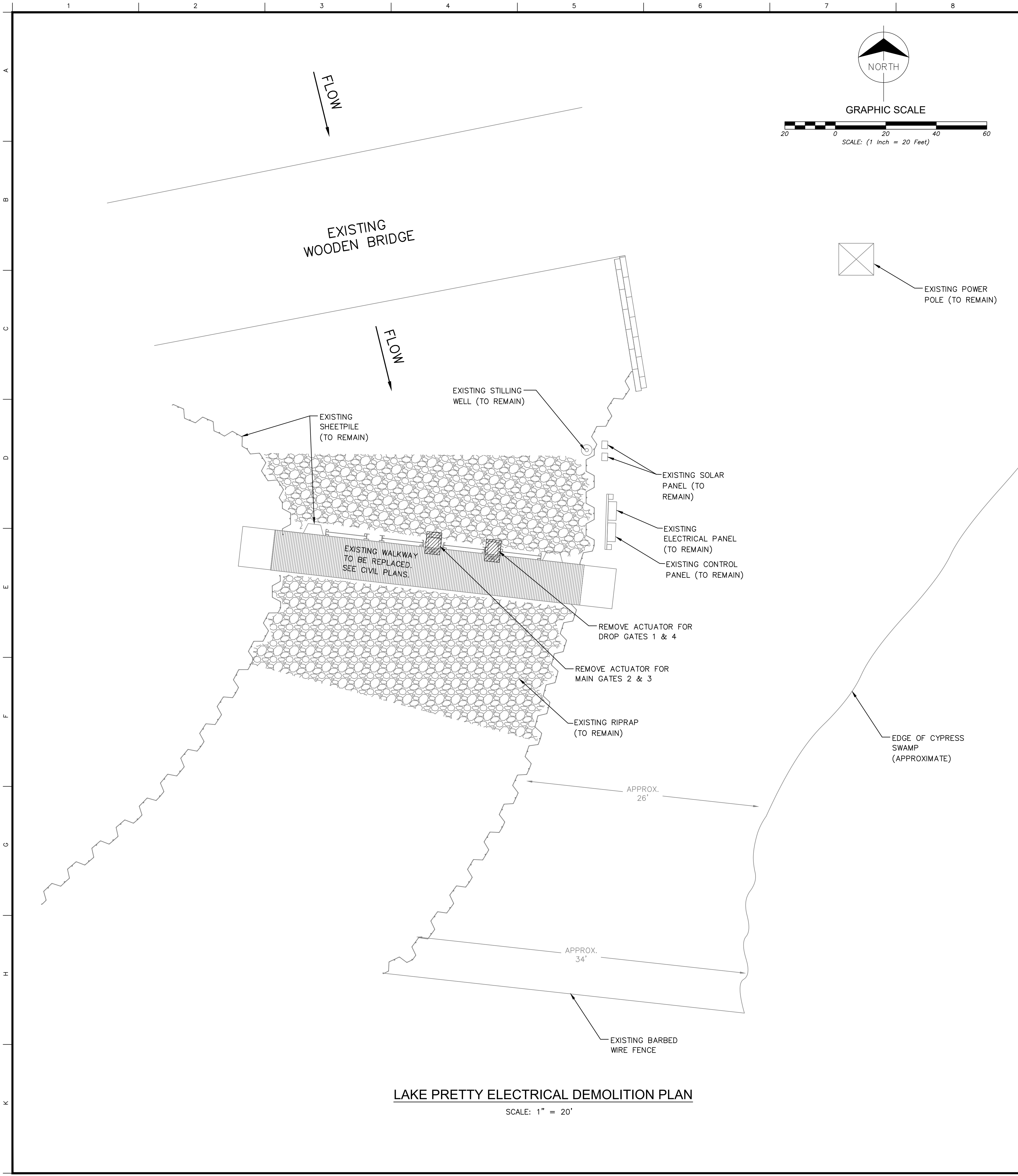
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT



PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

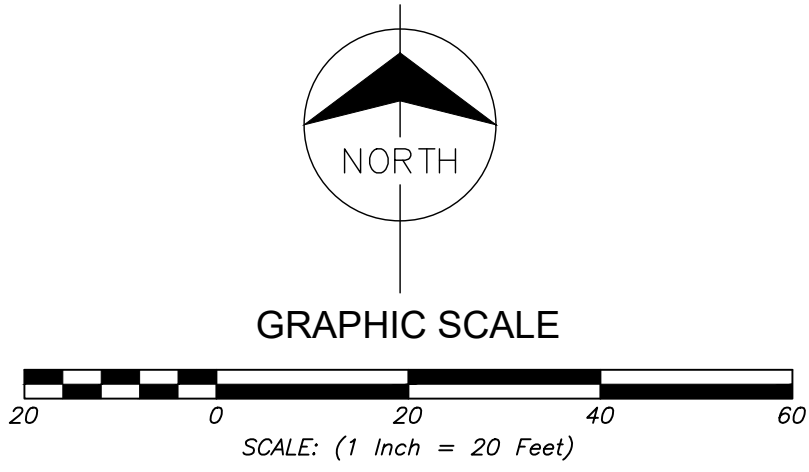
ENGINEER: S. HILLERS, P.E.
DRAWN: TN
CHECKED: S. CHAMNESS
DATE: 10/14/2020
SCALE: F

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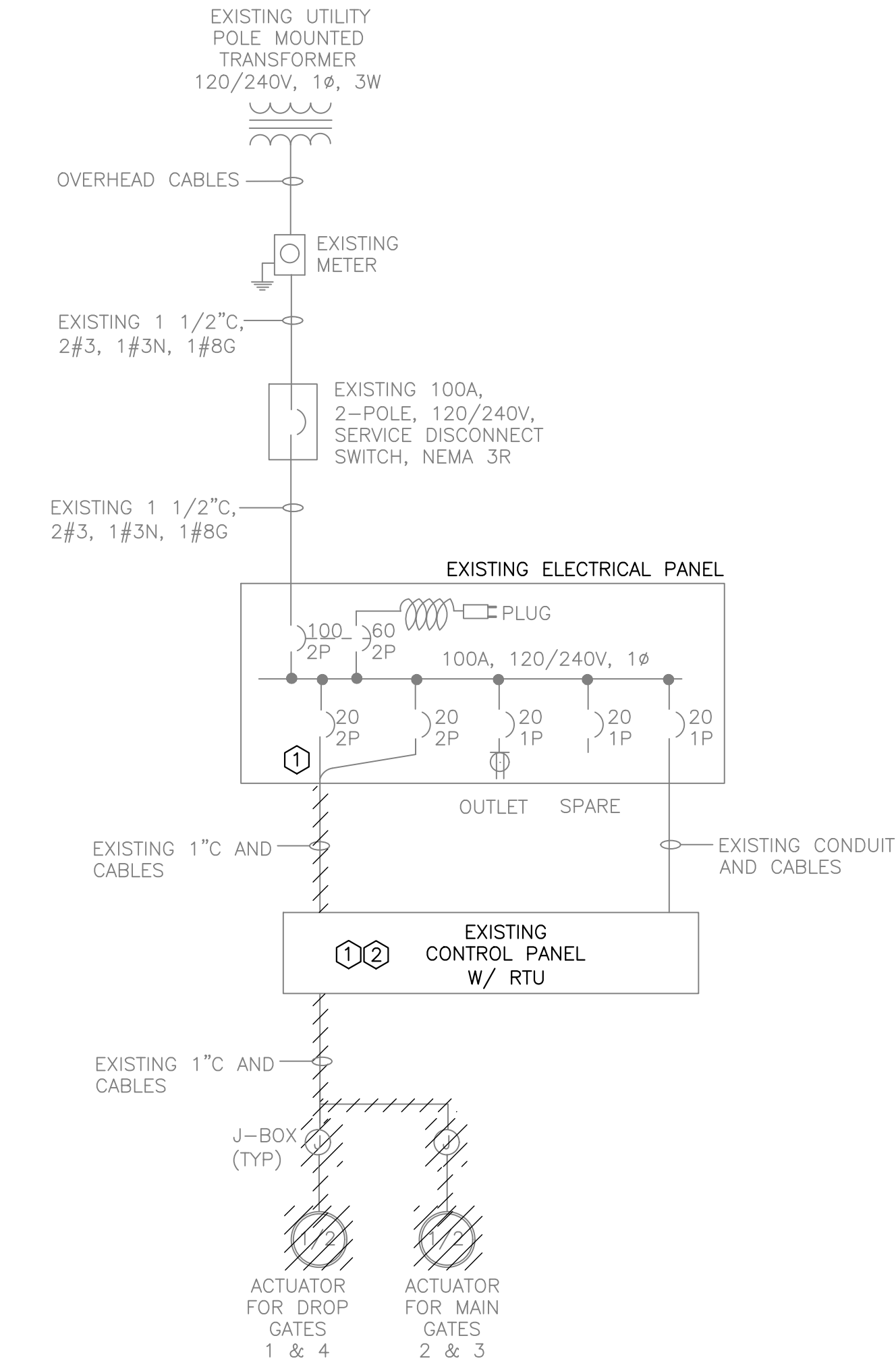


LAKE PRETTY ELECTRICAL DEMOLITION PLAN

SCALE: 1" = 20'



EXISTING POWER
POLE (TO REMAIN)



LAKE PRETTY ELECTRICAL ONE LINE - DEMOLITION

NOT TO SCALE

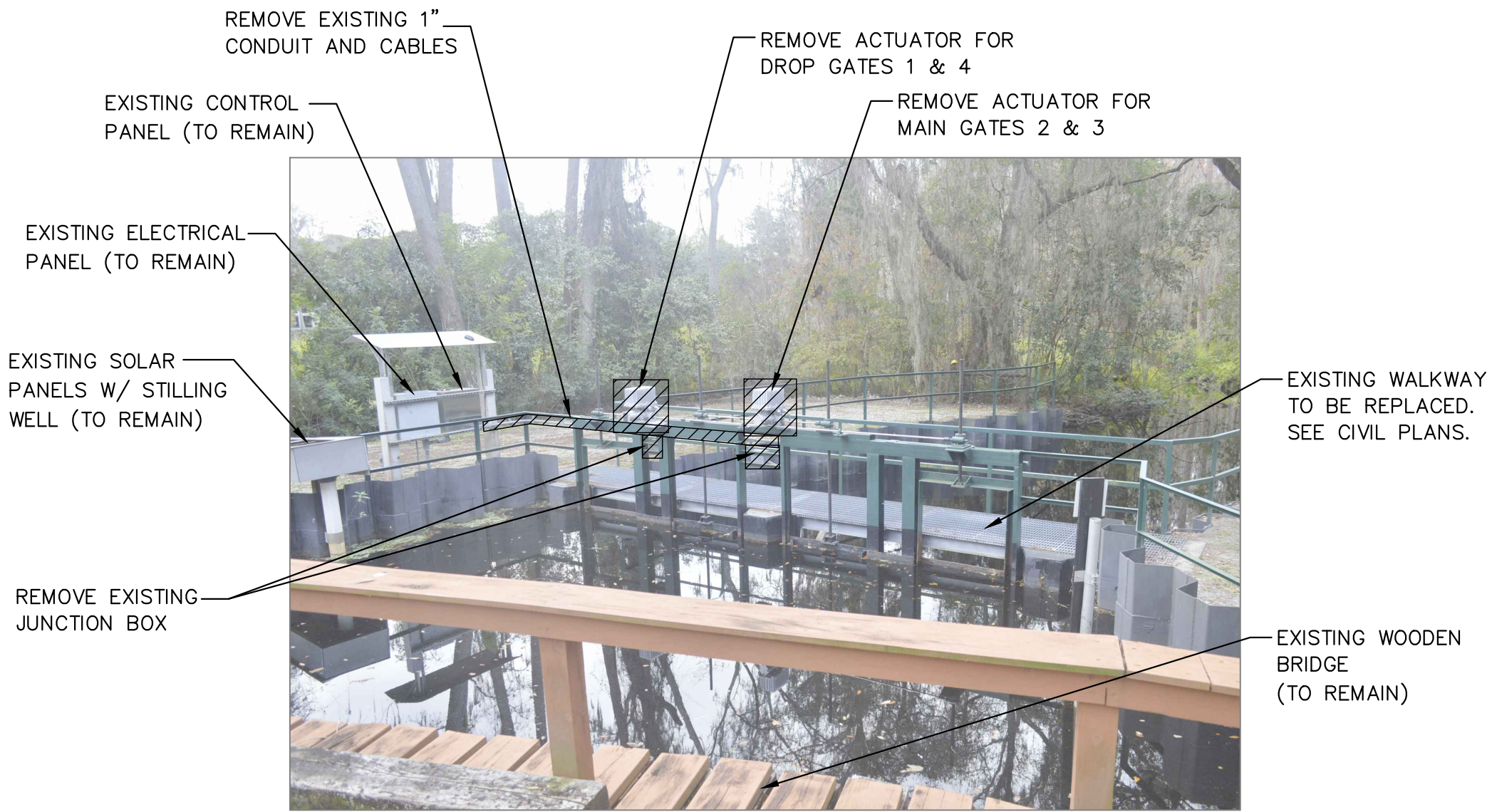


PHOTO 1: LAKE PRETTY ELECTRICAL DEMOLITION

NOT TO SCALE

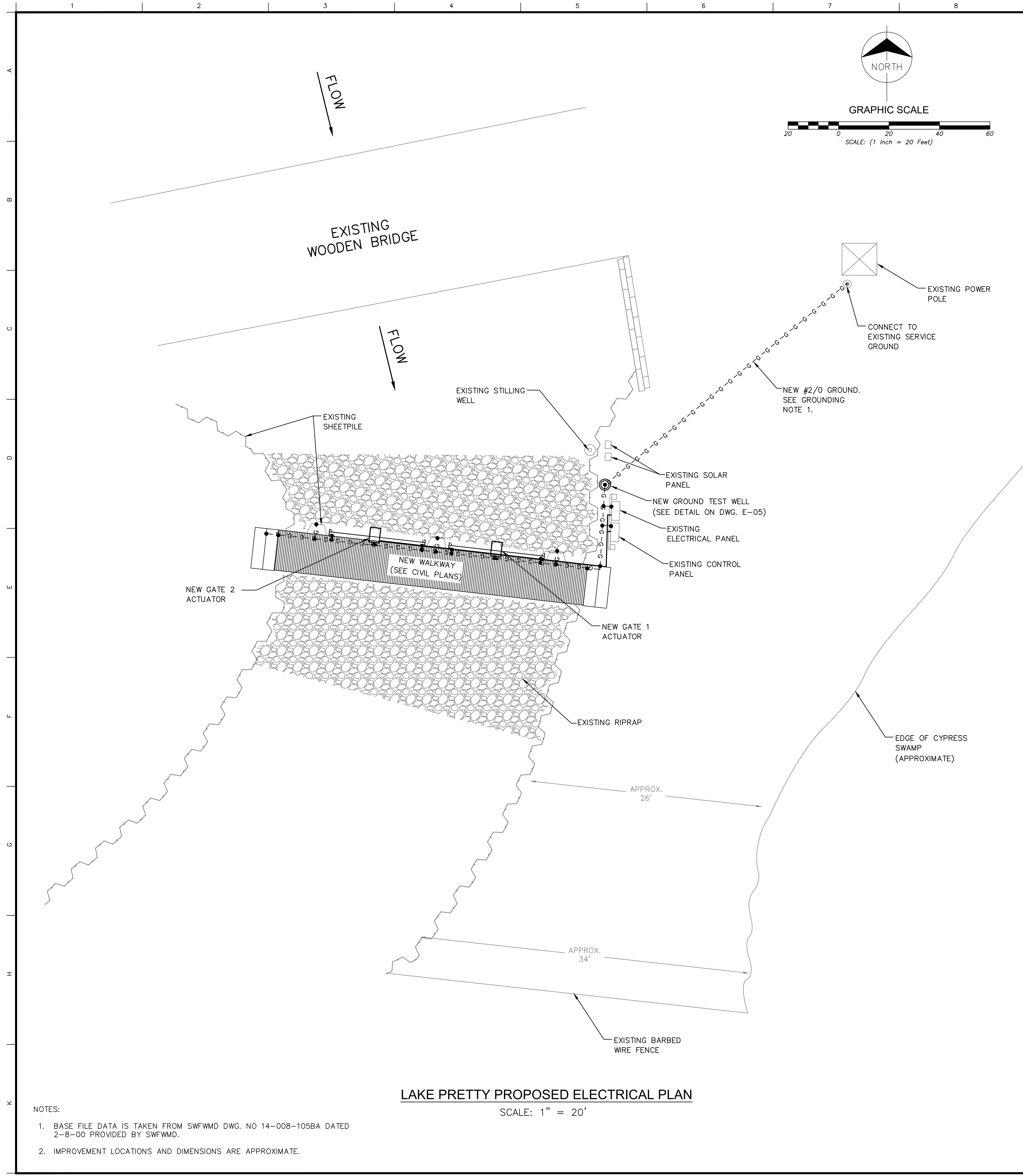
KEYED NOTES:

- ① THE CONTRACTOR SHALL SEAL THE UN-USED CONDUIT HOLES WITH 316 S.S. WEATHERPROOF CONDUIT KNOCK-OUT SEAL IN ALL EXISTING PANELS.
- ② CONTRACTOR SHALL IDENTIFY AND LABEL THE EXISTING ACTUATOR SIGNAL AND CONTROL TERMINATION POINTS IN THE EXISTING CONTROL PANEL BEFORE DISCONNECTING.

**HILLERS ELECTRICAL
ENGINEERING, INC.**
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

ENGINEER OF RECORD: SHAWN HILLERS, P.E. FL P.E. LICENSE NO. 69766
DATE:

 NorthStar NorthStar Contracting Group, Inc. 2780 South Falkenberg Road Riverview, FL 33578 Ph: (813) 864-0000 Fax: (813) 864-0001 E: info@northstarinc.com		ENGINEER: S. HILLERS, P.E. DRAWN: TN CHECKED: S. CHAMNESS DATE: 10/14/2020 SCALE:
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PHONE: (352) 796-7211 2379 BROAD ST. BROOKSVILLE, FLORIDA 34604		
LAKE PRETTY STRUCTURE REPLACEMENT (B875) ELECTRICAL DEMOLITION		
PROJECT ID NO. 40-19-311 DRAWING NO. E-03 SHEET 15 OF 19		



EXISTING UTILITY POLE MOUNTED TRANSFORMER
120/240V, 1Ø, 3W

OVERHEAD CABLES

EXISTING METER

EXISTING 1 1/2" C, 2#3, 1#3N, 1#8G

EXISTING 100A, 2-POLE, 120/240V, SERVICE DISCONNECT SWITCH, NEMA 3R

EXISTING 1 1/2" C, 2#3, 1#3N, 1#8G

EXISTING ELECTRICAL PANEL

100A, 120/240V, 1Ø

20 2P, 20 2P, 20 1P, 20 1P, 20 1P

OUTLET SPARE

EXISTING CONDUIT AND CABLES

EXISTING CONTROL PANEL W/ RTU

NEW 1" C, 4#12, 1#12G

NEW POWER J-BOX 4X8S MIN. 8"x8"x8"

NEW 1" C, 2#12, 1#12G

NEW GATE 1 ACTUATOR

NEW GATE 2 ACTUATOR

LAKE PRETTY ELECTRICAL ONE LINE - PROPOSED

NOT TO SCALE

KEYED NOTES:

CONTRACTOR SHALL RE-CONNECT THE NEW SIGNAL AND CONTROL WIRES FROM THE NEW ACTUATORS TO THE EXISTING CONTROL CIRCUITS IN THE EXISTING CONTROL PANEL.

GROUNDING NOTES:

1. PROVIDE AND INSTALL NEW GROUNDING FOR THE GATE STRUCTURE. GROUNDING SHALL INCLUDE A 2/0 BARE TINNED COPPER GROUND FOR MAIN GROUND WITH #4 BARE TINNED GROUND TAILS TO THE ELECTRICAL ENCLOSURES, SLIDE GATE SUPPORT FRAMES, SHEETPILES, REBAR IN STRUCTURES AND SLABS, RAILINGS (EACH SECTION), AND WALKWAY.

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

ENGINEER OF RECORD: SHAWN HILLERS, P.E.
FL P.E. LICENSE NO. 69766

PROJECT ID NO. 40-19-311
DRAWING NO. E-04
SHEET 16 OF 19

DATE:

SERVICE CALCULATION @ 240V, 1-PHASE

	CONNECTED LOAD
GATE 1 ACTUATOR	4.9 A
GATE 2 ACTUATOR	4.9 A
MISC. CONTROL LOADS	5.0 A
TOTAL LOADS (AMPS)	14.8 A
25% OF LARGEST MOTOR	1.3 A
SERVICE TOTAL LOADS (AMPS)	16.1 A
SERVICE TOTAL LOADS (KVA)	3.9 KVA

LAKE PRETTY ELECTRICAL ONE LINE - PROPOSED

NOT TO SCALE

KEYED NOTES:

CONTRACTOR SHALL RE-CONNECT THE NEW SIGNAL AND CONTROL WIRES FROM THE NEW ACTUATORS TO THE EXISTING CONTROL CIRCUITS IN THE EXISTING CONTROL PANEL.

GROUNDING NOTES:

1. PROVIDE AND INSTALL NEW GROUNDING FOR THE GATE STRUCTURE. GROUNDING SHALL INCLUDE A 2/0 BARE TINNED COPPER GROUND FOR MAIN GROUND WITH #4 BARE TINNED GROUND TAILS TO THE ELECTRICAL ENCLOSURES, SLIDE GATE SUPPORT FRAMES, SHEETPILES, REBAR IN STRUCTURES AND SLABS, RAILINGS (EACH SECTION), AND WALKWAY.

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

ENGINEER OF RECORD: SHAWN HILLERS, P.E.
FL P.E. LICENSE NO. 69766

PROJECT ID NO. 40-19-311
DRAWING NO. E-04
SHEET 16 OF 19

DATE:

LAKE PRETTY ELECTRICAL ONE LINE - PROPOSED

NOT TO SCALE

KEYED NOTES:

CONTRACTOR SHALL RE-CONNECT THE NEW SIGNAL AND CONTROL WIRES FROM THE NEW ACTUATORS TO THE EXISTING CONTROL CIRCUITS IN THE EXISTING CONTROL PANEL.

GROUNDING NOTES:

1. PROVIDE AND INSTALL NEW GROUNDING FOR THE GATE STRUCTURE. GROUNDING SHALL INCLUDE A 2/0 BARE TINNED COPPER GROUND FOR MAIN GROUND WITH #4 BARE TINNED GROUND TAILS TO THE ELECTRICAL ENCLOSURES, SLIDE GATE SUPPORT FRAMES, SHEETPILES, REBAR IN STRUCTURES AND SLABS, RAILINGS (EACH SECTION), AND WALKWAY.

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

ENGINEER OF RECORD: SHAWN HILLERS, P.E.
FL P.E. LICENSE NO. 69766

PROJECT ID NO. 40-19-311
DRAWING NO. E-04
SHEET 16 OF 19

DATE:

LAKE PRETTY ELECTRICAL ONE LINE - PROPOSED

NOT TO SCALE

KEYED NOTES:

CONTRACTOR SHALL RE-CONNECT THE NEW SIGNAL AND CONTROL WIRES FROM THE NEW ACTUATORS TO THE EXISTING CONTROL CIRCUITS IN THE EXISTING CONTROL PANEL.

GROUNDING NOTES:

1. PROVIDE AND INSTALL NEW GROUNDING FOR THE GATE STRUCTURE. GROUNDING SHALL INCLUDE A 2/0 BARE TINNED COPPER GROUND FOR MAIN GROUND WITH #4 BARE TINNED GROUND TAILS TO THE ELECTRICAL ENCLOSURES, SLIDE GATE SUPPORT FRAMES, SHEETPILES, REBAR IN STRUCTURES AND SLABS, RAILINGS (EACH SECTION), AND WALKWAY.

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PROJECT ID NO. 40-19-311
DRAWING NO. E-04
SHEET 16 OF 19

DATE:

NorthStar
NorthStar Contracting Group, Inc.
2760 South Falkenberg Road
Riverview, FL 33578
Ph: (813) 864-5000 Fax: (813) 864-5001
E: info@northstarinc.com

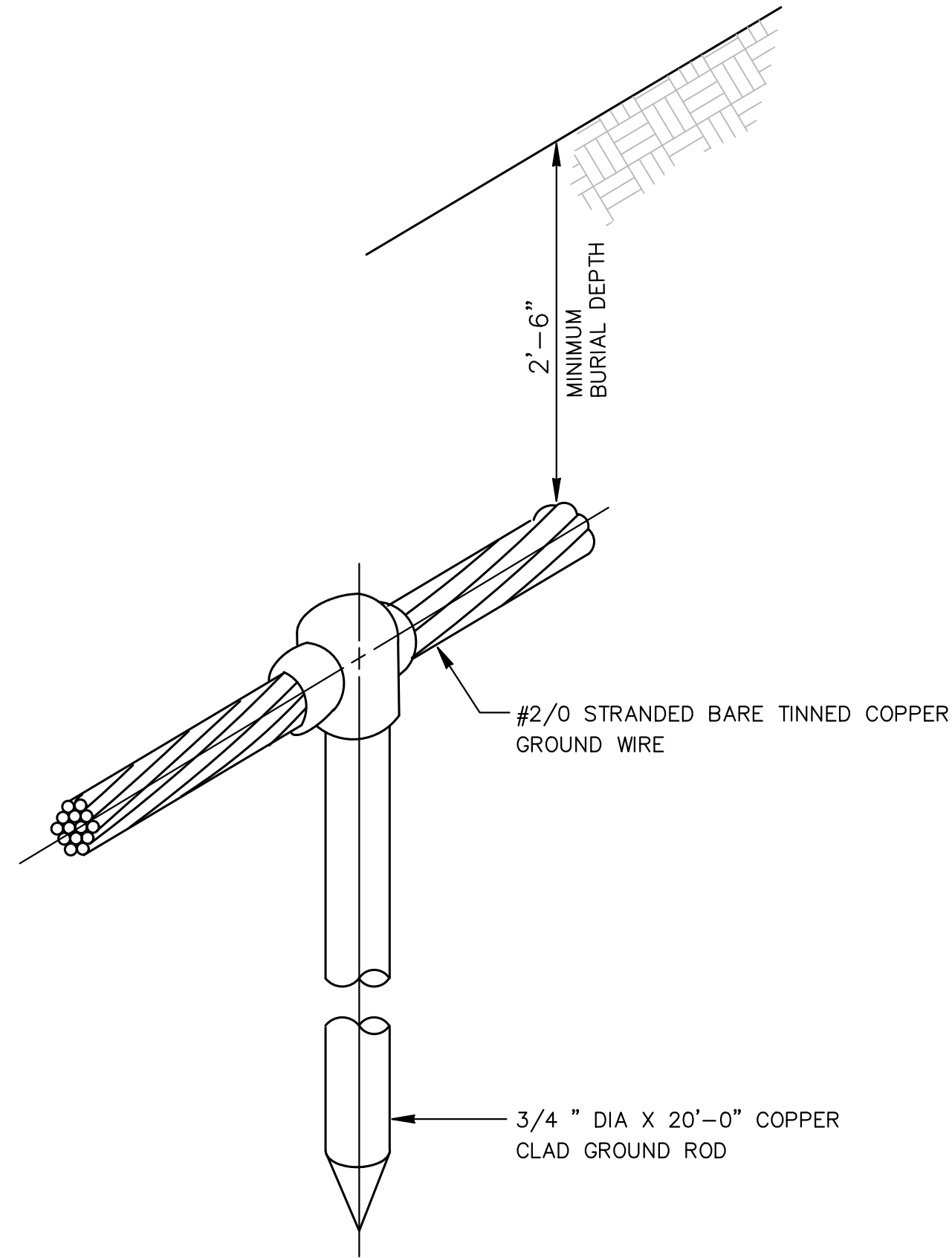
ENGINEER: S. HILLERS, P.E.
DRAWN: TN
CHECKED: S. CHAMNESS
DATE: 10/14/2020
SCALE:

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

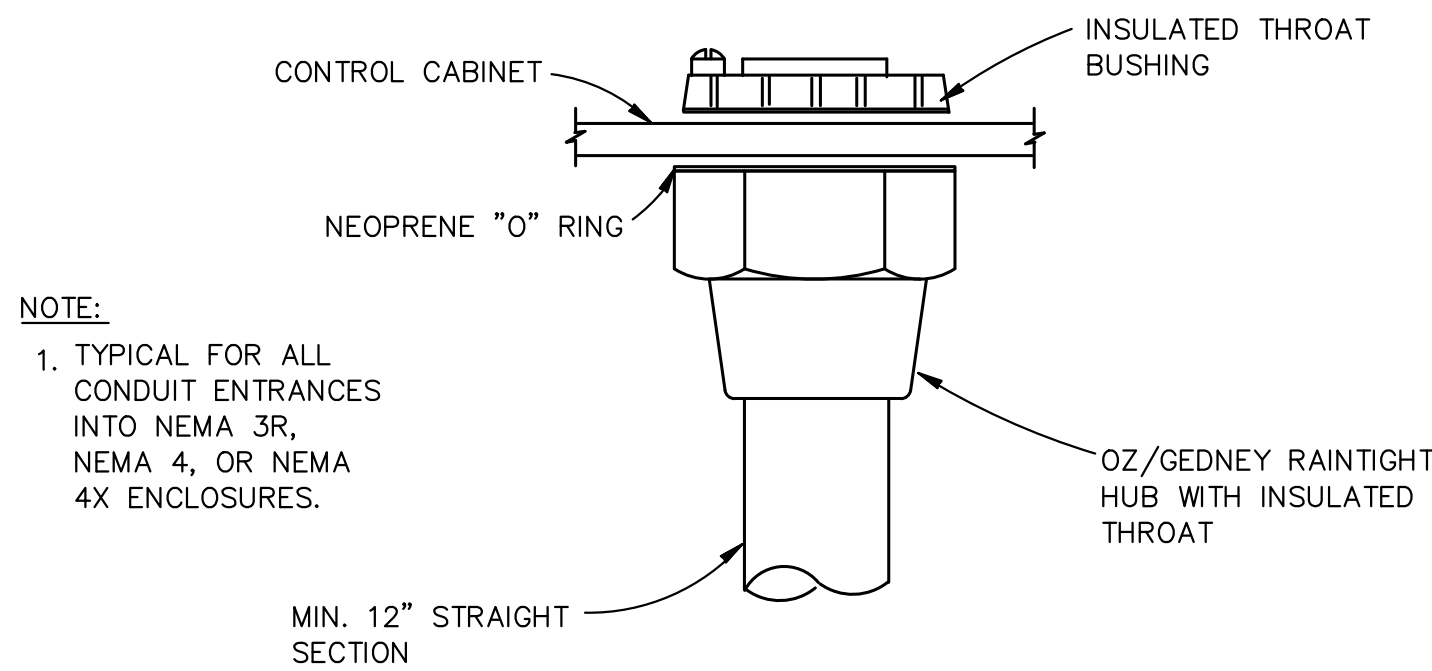
LAKE PRETTY
STRUCTURE REPLACEMENT (B875)
PROPOSED ELECTRICAL

PROJECT ID NO. 40-19-311
DRAWING NO. E-04
SHEET 16 OF 19

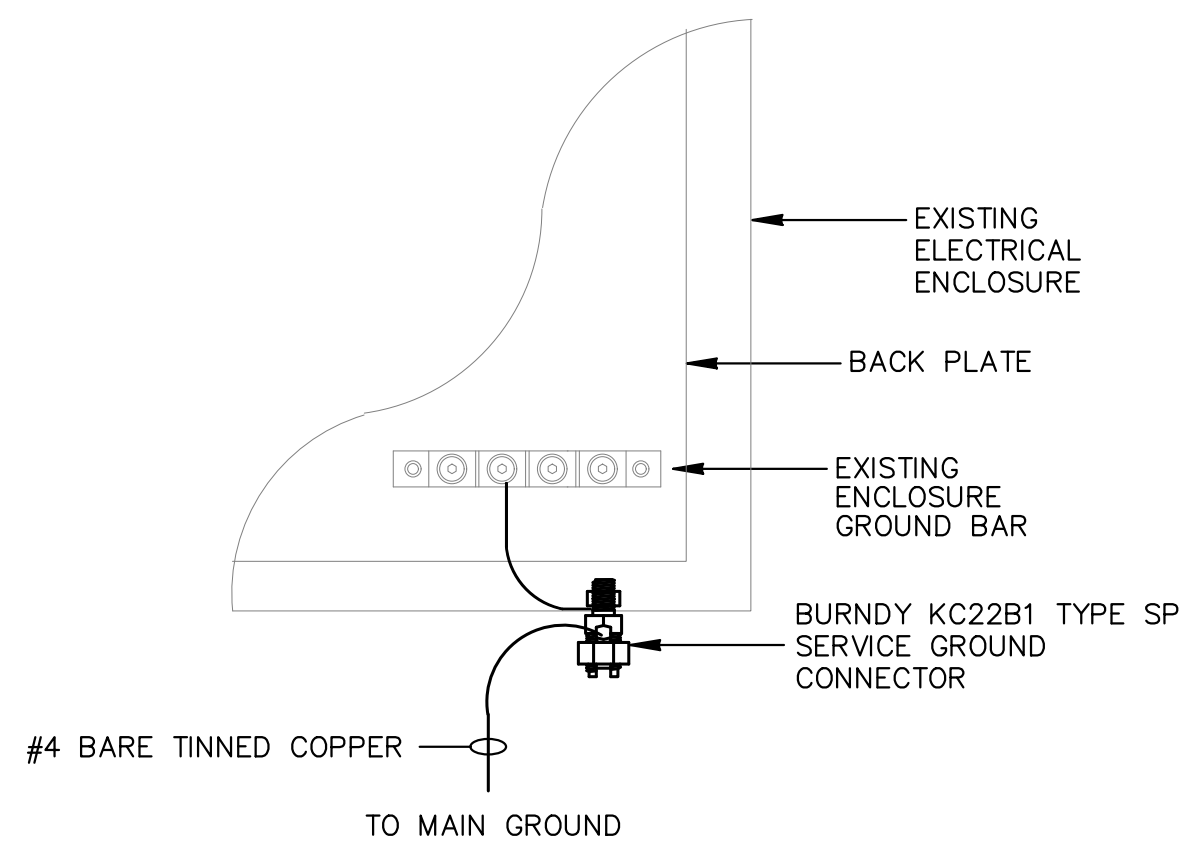
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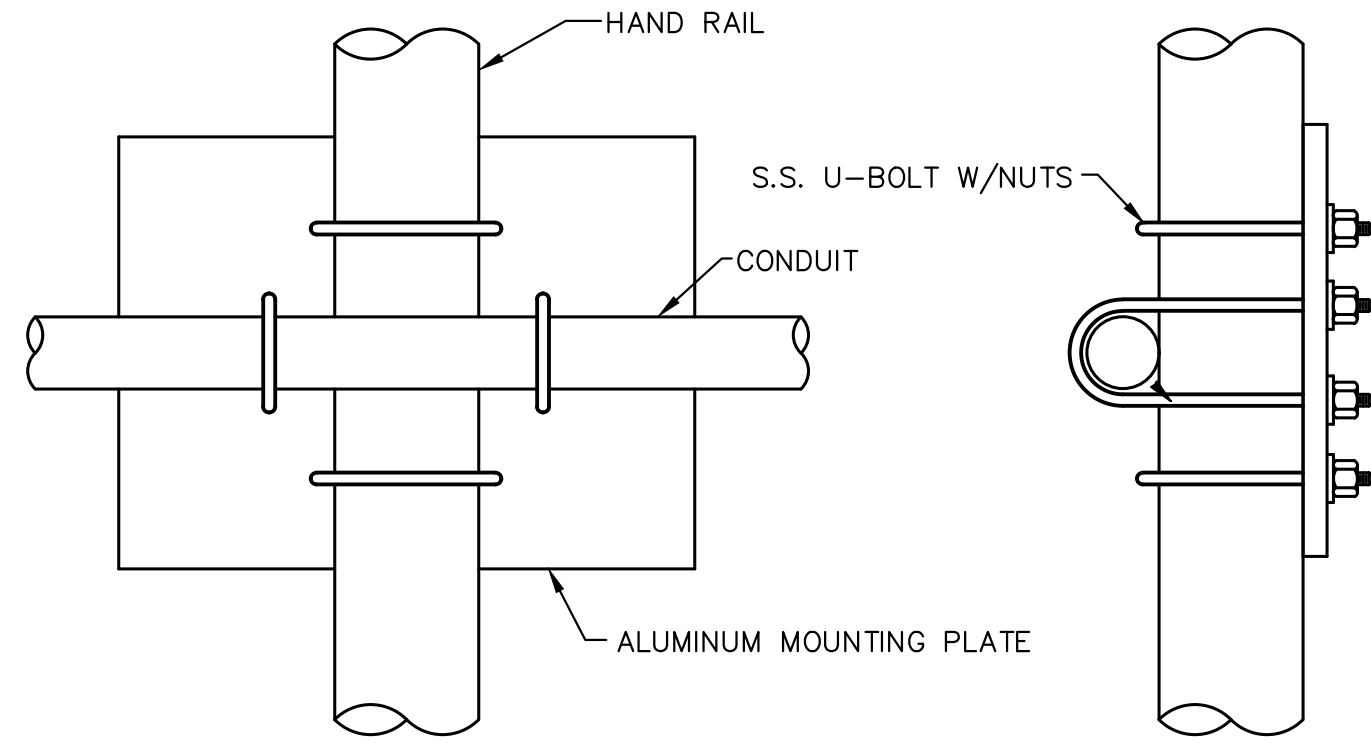
TYPICAL GROUND ROD DETAIL
NOT TO SCALE



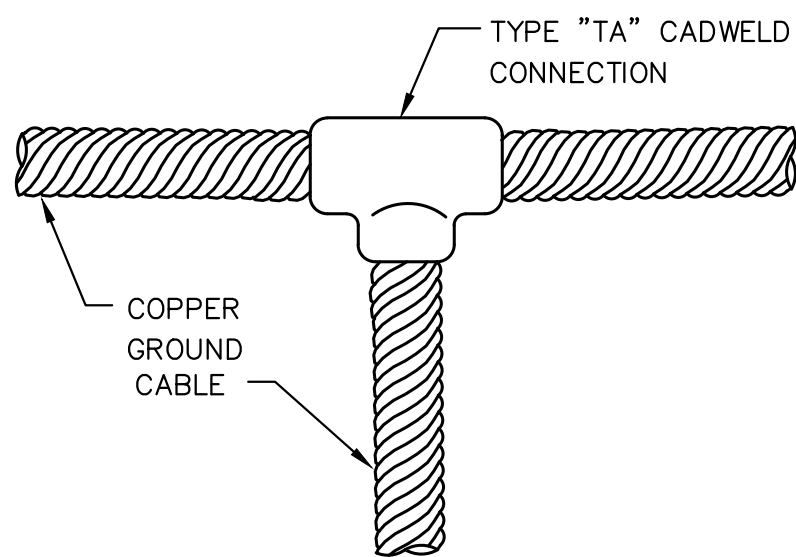
TYPICAL CONDUIT HUB
NOT TO SCALE



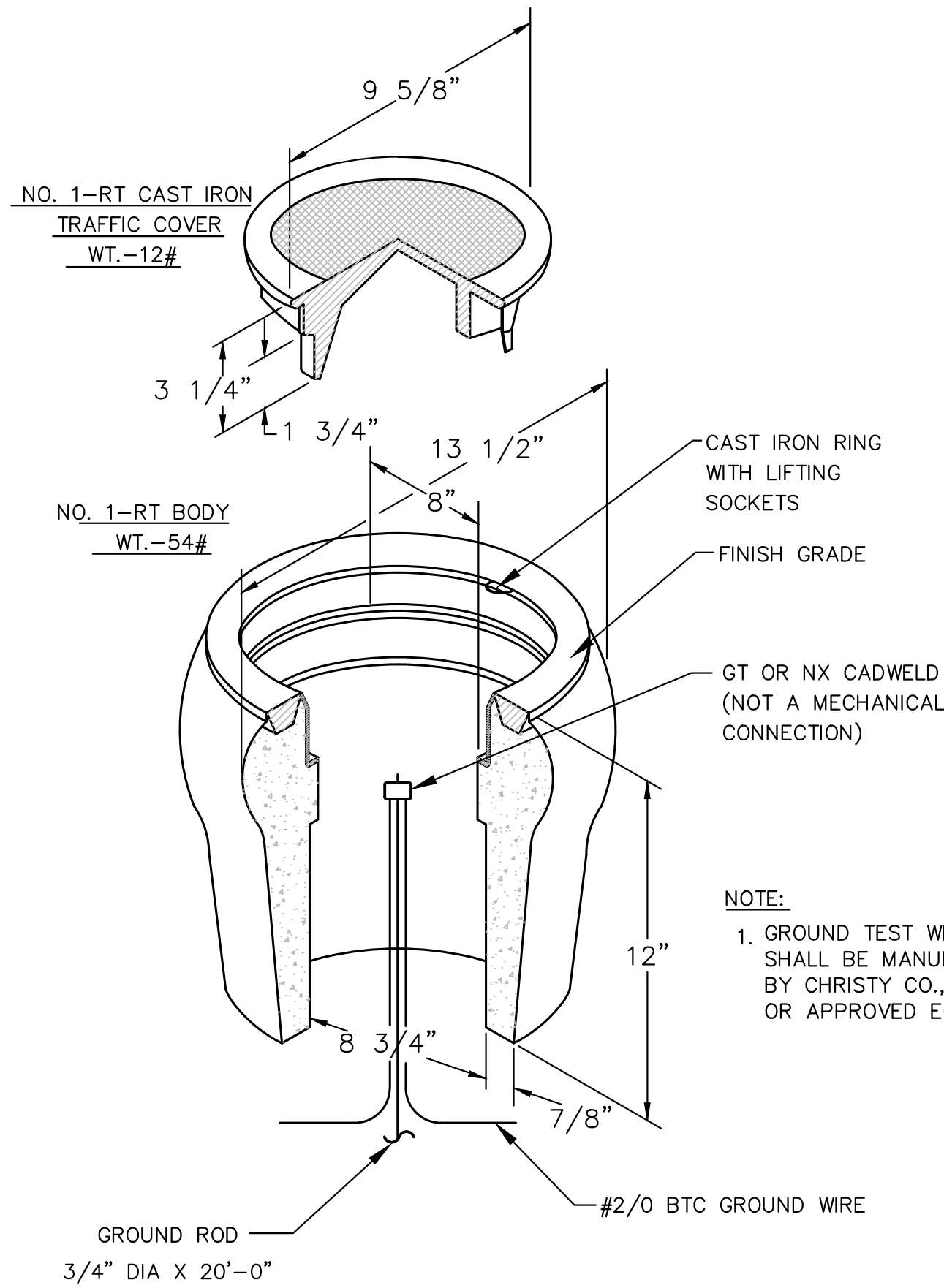
ELECTRICAL ENCLOSURE GROUNDING
NOT TO SCALE



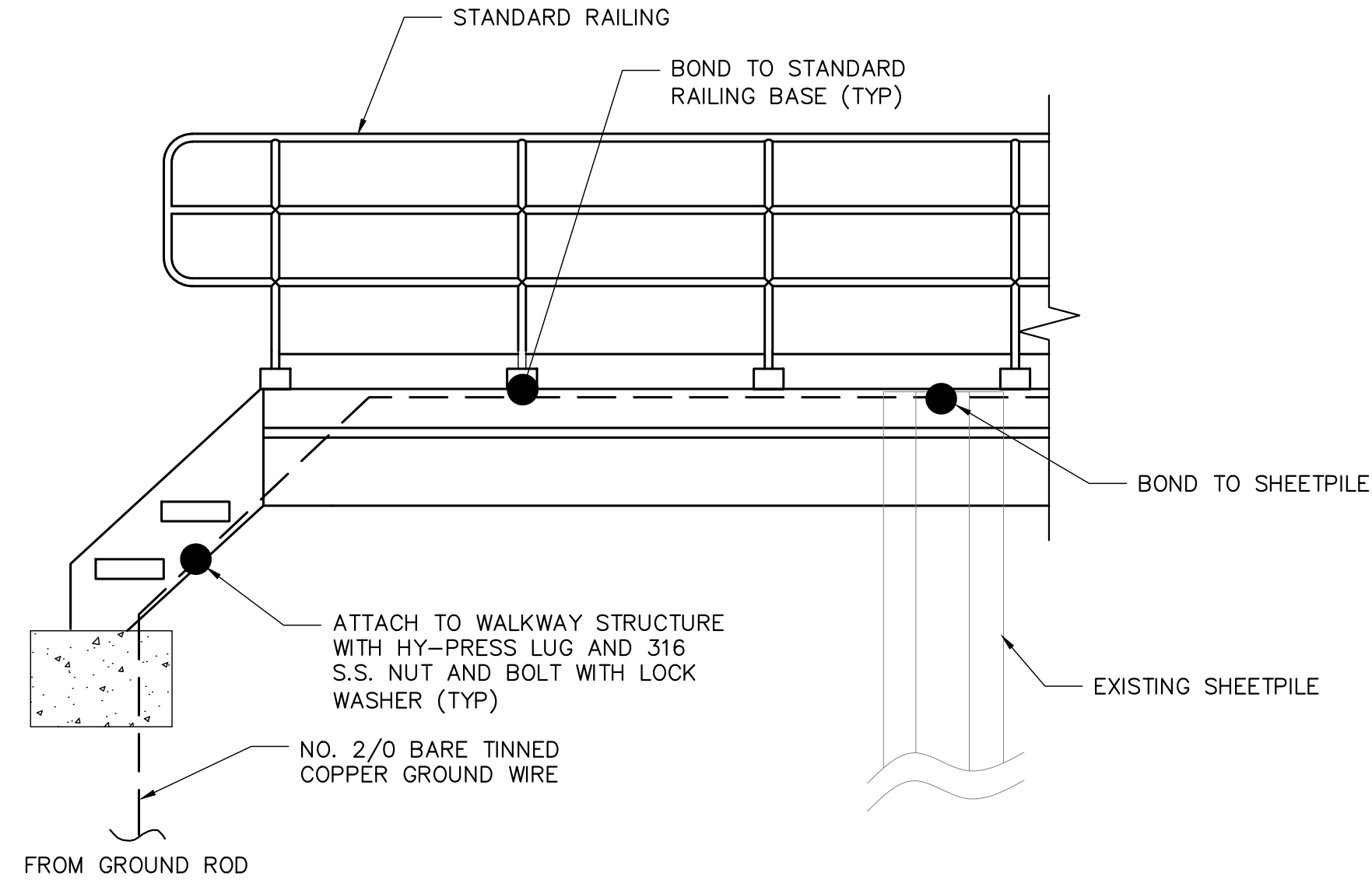
CONDUIT MOUNTED TO HANDRAIL
NOT TO SCALE



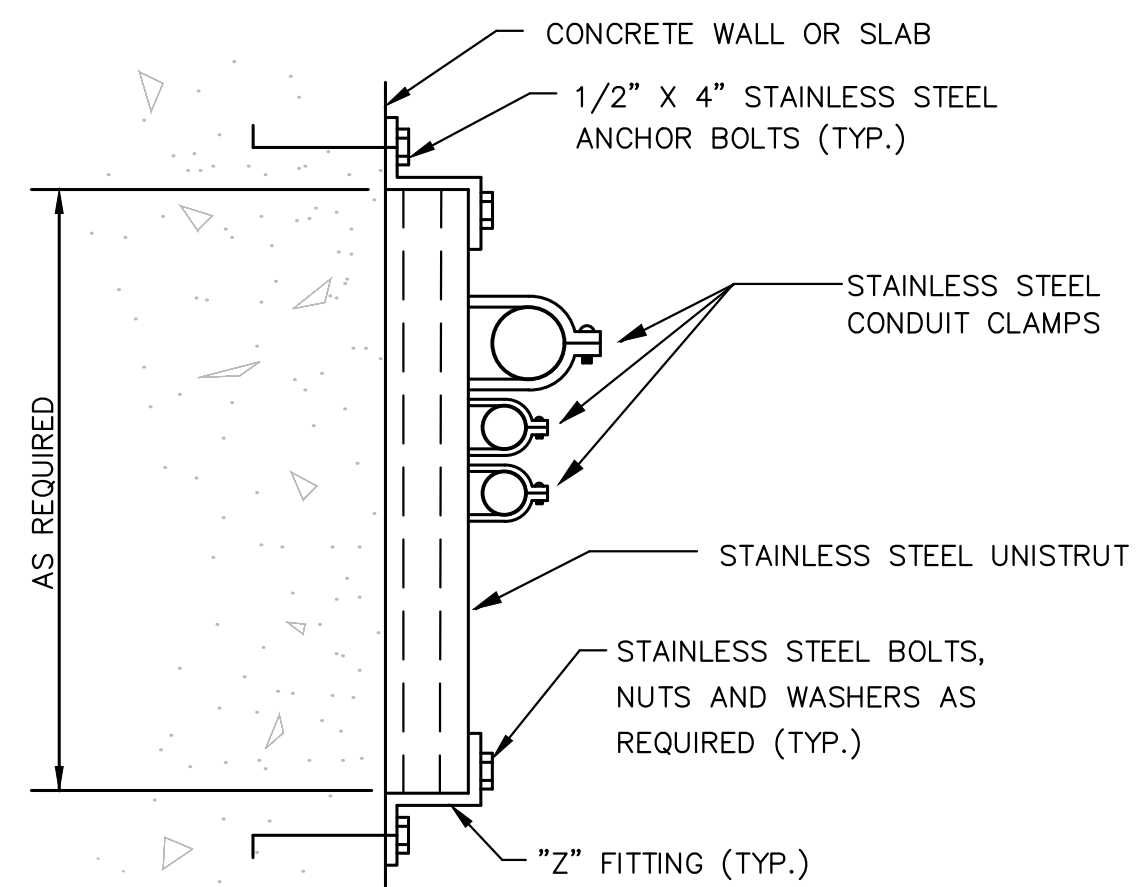
TYPICAL GROUND CABLE CONNECTION
NOT TO SCALE



GROUND TEST WELL DETAIL
NOT TO SCALE



HANDRAIL GROUNDING DETAIL
NOT TO SCALE



TYPICAL CONDUIT SUPPORT
NOT TO SCALE

**HILLERS ELECTRICAL
ENGINEERING, INC.**
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

ENGINEER OF RECORD: SHAWN HILLERS, P.E.
FL P.E. LICENSE NO. 69766
DATE:

**LAKE PRETTY
STRUCTURE REPLACEMENT (B875)**

ELECTRICAL DETAILS

PROJECT ID NO.
40-19-311
DRAWING NO.
E-05

SHEET
17 OF 19

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PHONE: (352) 796-7211
2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604



NorthStar
NorthStar Contracting Group, Inc.
2780 South Falkenberg Road
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Ph: (813) 864-0000 Fax: (813) 213-8876
FL CEN No. 36941

ENGINEER: S. HILLERS, P.E.
DRAWN: TN
CHECKED: S. CHAMNESS
DATE: 10/14/2020
SCALE:

DATE	REV.#	REVISION DESCRIPTION

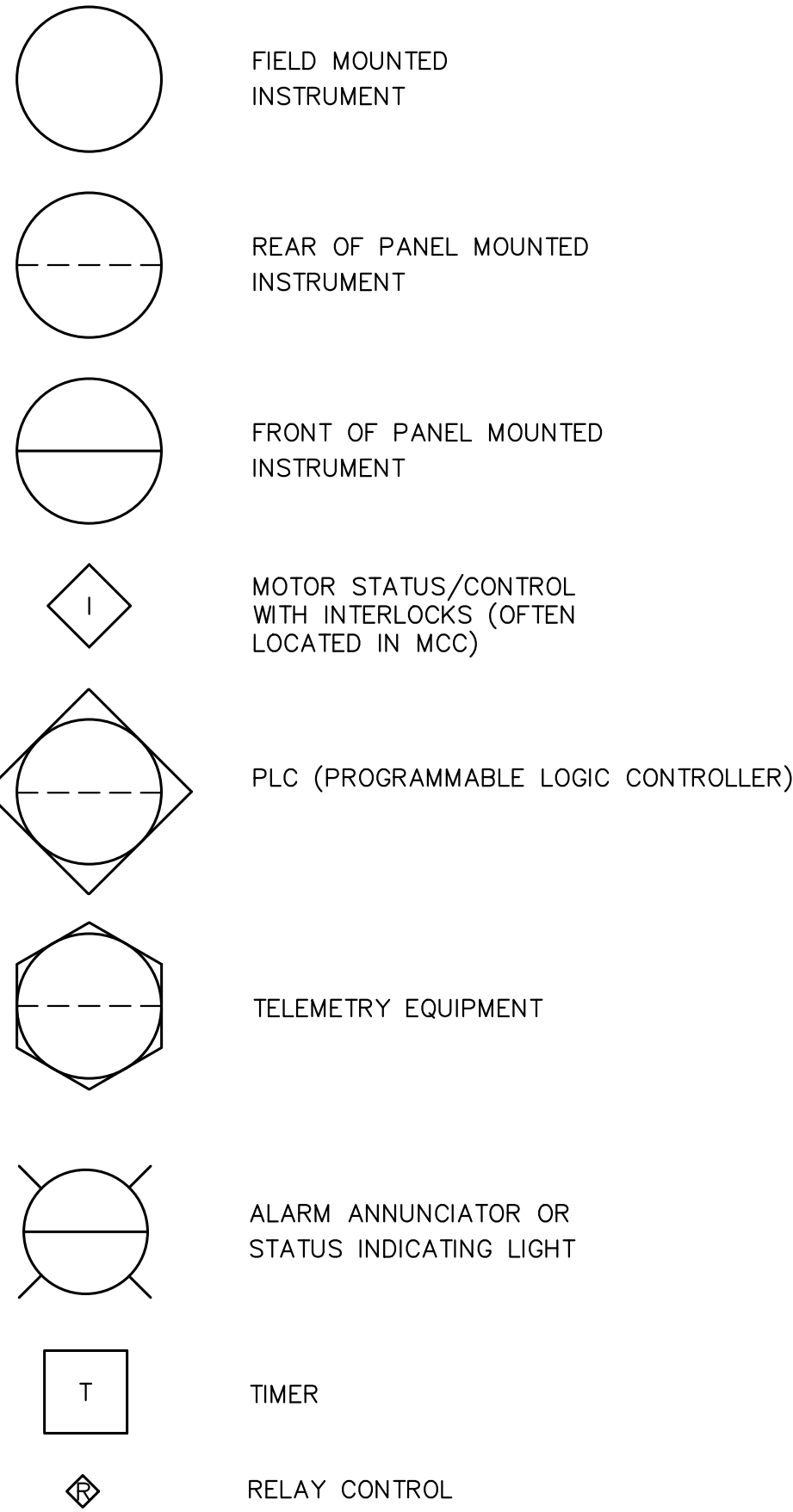
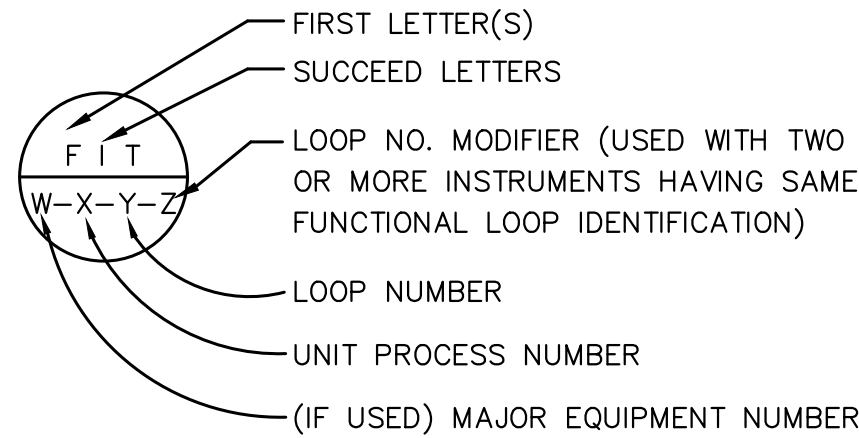
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INSTRUMENT, SYSTEMS AND AUTOMATION SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM		USERS CHOICE (*)
B	BURNER FLAME		USERS CHOICE (*)	USERS CHOICE (*)	
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	STROKE		USERS CHOICE (*)	USERS CHOICE (*)	NORMAL
O	LOOP VEH. DETECTOR		OFFICE		OPEN
P	PRESSURE OR VACUUM		POINT (TEST)		
Q	QUANTITY OR EVENT		RECORD OR PRINT		
R	RUN				
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (*)		
V	VIBRATION			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (*)		UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	PHOTO CELL		LIGHT SOURCE	RELAY OR COMPUTE (*)	
Z	POSITION			UNCLASSIFIED FINAL CONTROL ELEMENT	

(*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL

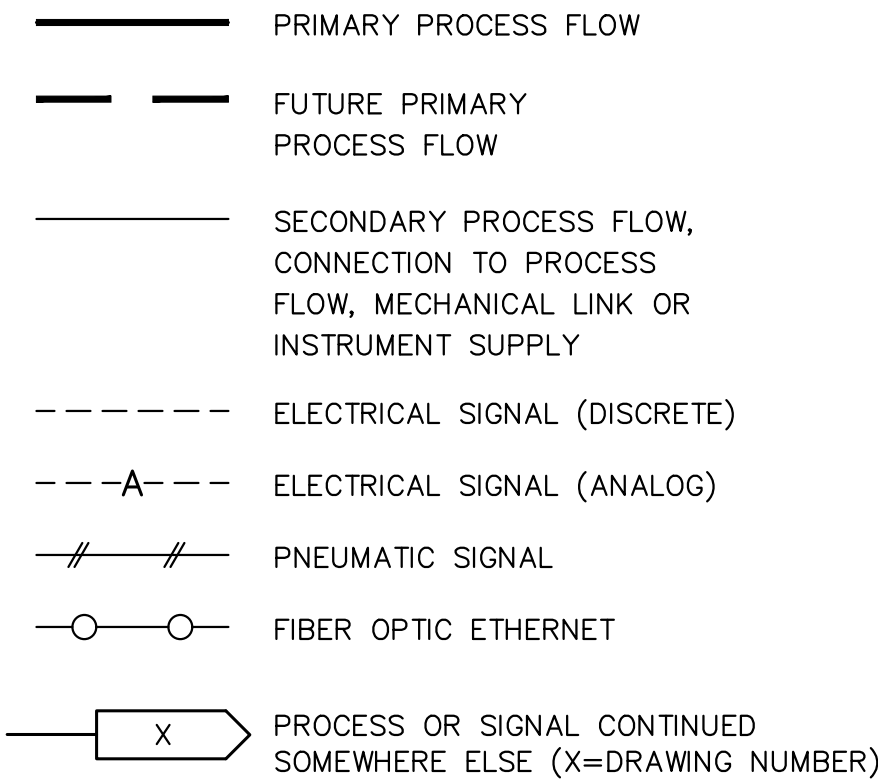
INSTRUMENT IDENTIFICATION



NOTES:

- COMPONENTS AND PANELS SHOWN WITH A DIAMOND (◆) ARE TO BE PROVIDED UNDER SECTION "INSTRUMENTATION & CONTROLS".
- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE FURNISHED UNDER MECHANICAL SPECIFICATION, NOT BY INSTRUMENTATION AND CONTROL.
- COMPONENTS AND PANELS SHOWN WITH A TRIANGLE (▲) ARE EXISTING.
- COMPONENTS AND PANELS WHICH HAVE NO SYMBOL ATTACHED TO IT ARE EXISTING.
- INSTRUMENTATION AND CONTROLS COMPONENTS AND PANELS SHOWN WITH A SQUARE (■) ARE FUTURE.
- DURING SHOP DRAWING PREPARATION, THE CONTRACTOR SHALL FIELD VERIFY ALL THE EXISTING ANALOG AND DISCRETE POINTS FOR DETAILED INTERFACE AND INCLUDE IT AS PART OF SUBMITTAL.
- THE SINGLE INSTRUMENT & CONTROL SUPPLIER SHALL HAVE A U.L. APPROVED SHOP.
- ALL PROCESS TUBING AND ISOLATION VALVES SHALL BE 1/4"- 316 S.S., UNLESS OTHERWISE NOTED.
- ALL CONTROL PANELS SHALL BE FURNISHED AND INSTALLED WITH A 1P-15A CIRCUIT BREAKER.
- SEE MECHANICAL PLANS AND SPECIFICATIONS FOR EQUIPMENT NUMBERS.

INSTRUMENT LINE SYMBOLS

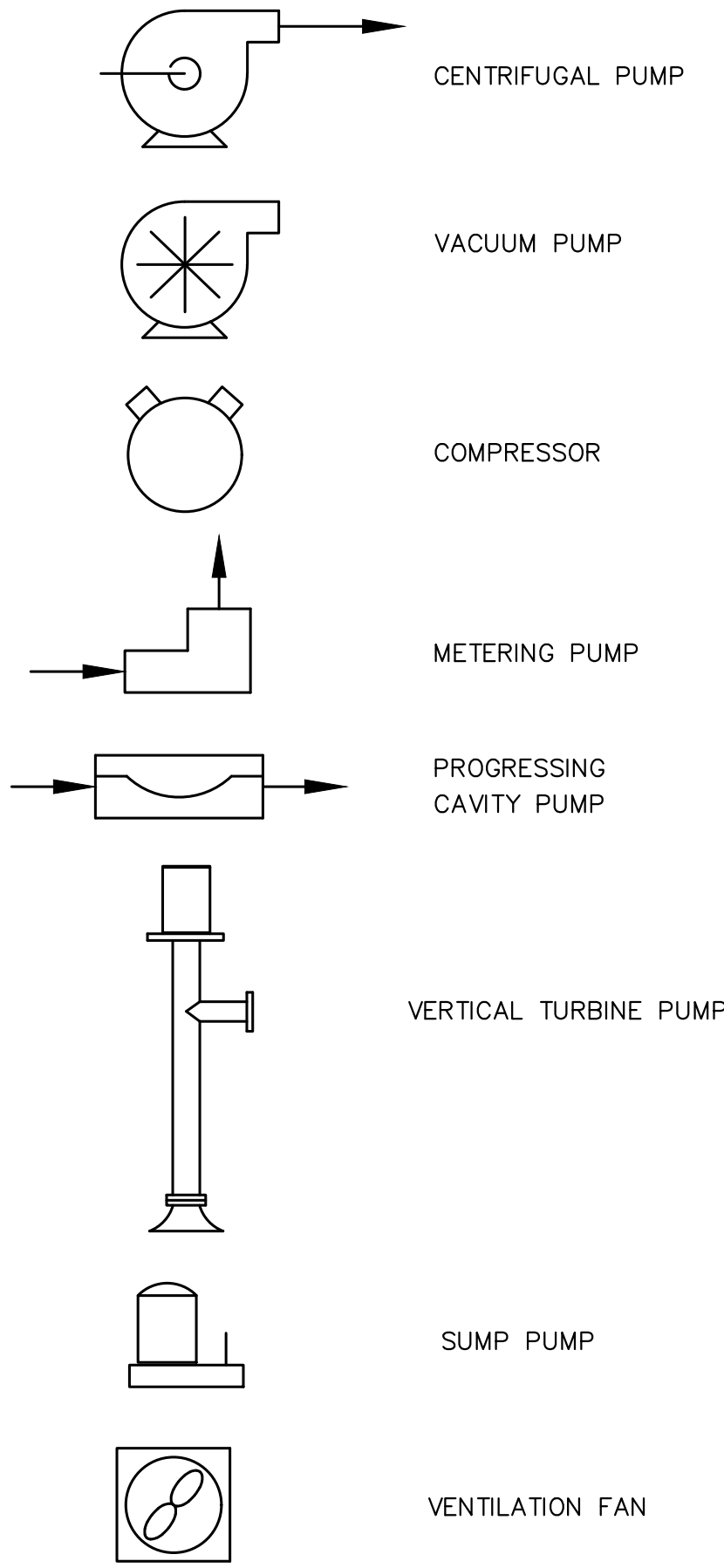


INSTRUMENT ABBREVIATION

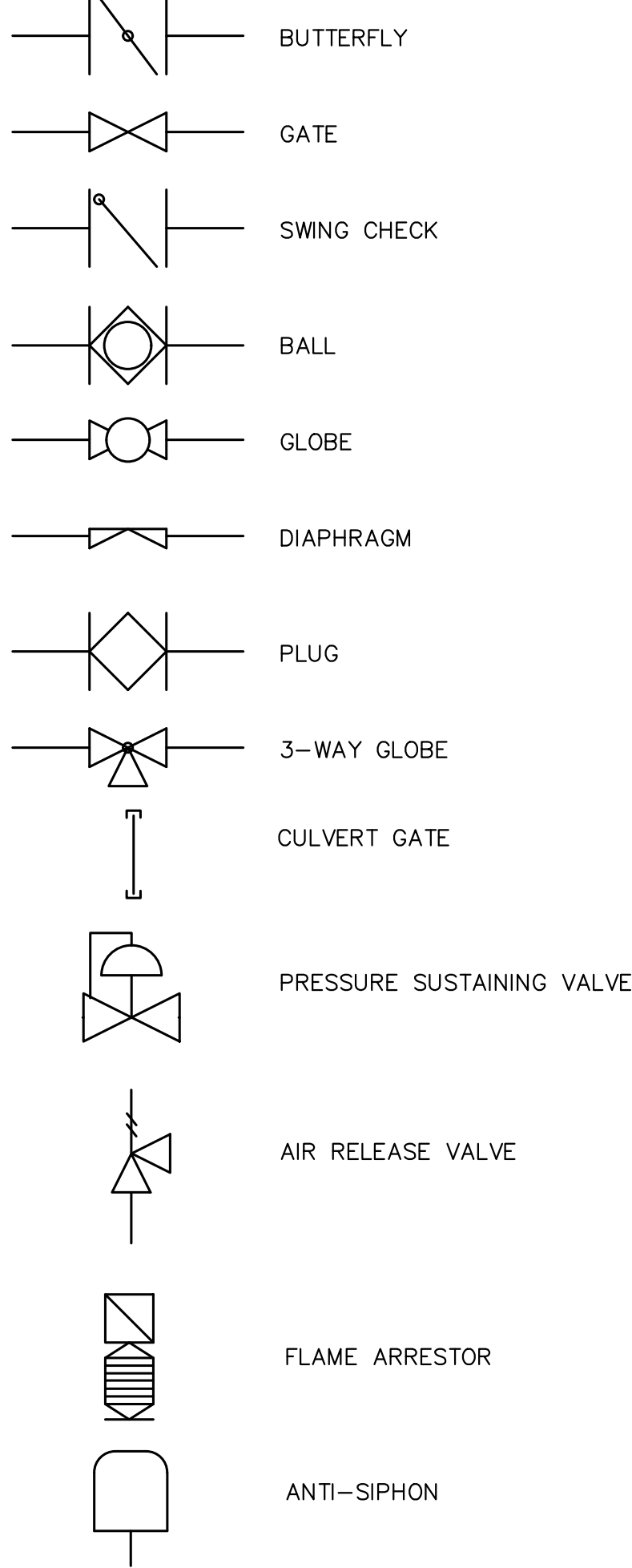
ACC	ACCELERATOR
AT	AUTO-TEST
BFP	BELT FILTER PRESS
CL2	CHLORINE
CLW	CLEARWELL
COM	COMMON
COND	CONDUCTIVITY
CP	CONTROL PANEL
DI, AI	DISCRETE INPUT, ANALOG INPUT
DO, AO	DISCRETE OUTPUT, ANALOG OUTPUT
D.O.	DISSOLVED OXYGEN
DR	DISTANCE RELAY
EFFL	EFFLUENT
EP	ELECTRICAL PANEL
ES	EMERGENCY STOP
ETM	ELAPSED TIME METER
FD	CHEMICAL FEEDER
FIL	FILTER
FIS	FLOW INDICATING SWITCH
FOC	FIBER OPTIC CABLE
FRS	FORWARD-REVERSE-STOP
GEN	GENERATOR
HLO	HIGH-LOW-OFF
HLOR	HIGH-LOW-OFF-REMOTE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HOTC	HAND-OFF-TIMER-COMPUTER
H/L	HIGH/LOW
HSP	HIGH SERVICE PUMP
IND	INDICATION
INFL	INFLUENT
JP	JOCKEY PUMP
LOR	LOCAL-OFF-REMOTE
LOS	LOCK-OUT-STOP
LPU	LINE PROTECTION UNIT
LR	LOCAL-REMOTE
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
ME	MISCELLANEOUS EQUIPMENT
M.G.	MILLION GALLON
MOA	MANUAL-OFF-AUTO
MOV	MOTOR OPERATED VALVE
OCA	OPEN-CLOSE-AUTO
OC	OPEN-CLOSE
OO	ON-OFF
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
OSCR	OPEN-STOP-CLOSE-REMOTE
PAFM	POWER APPLIED FOR MOVEMENT
PRES	PRESSURE
PH	HYDROGEN ION CONCENTRATION
RES	RESTORE
REF	REFERENCE
RF	RF (ADMITTANCE) LEVEL MONITOR
RIP	REMOTE I/O PANEL
RLS	RAISE LOWER STOP
RSP	REMOTE SETPOINT
SA	SURGE ARRESTER
SEC	SECONDARY
SL	SLAKER
SF	SONIC FLOWMETER
SP	SETPOINT
SS	START/STOP
SSL	SPEED SWITCH LOW
ST	STEP
STOR	STORAGE
SUS	SUSPENDED SOLIDS
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
TD	THERMAL DISPERSION
TP	TRANSFER PUMP
TURB	TURBIDITY
VFD	VARIABLE FREQUENCY DRIVE

INSTRUMENTATION LEGEND

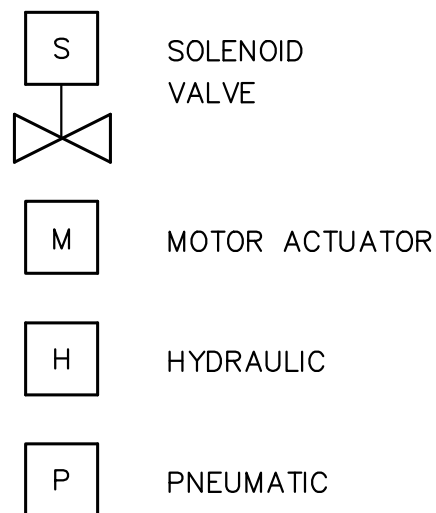
PUMPS + COMPRESSORS



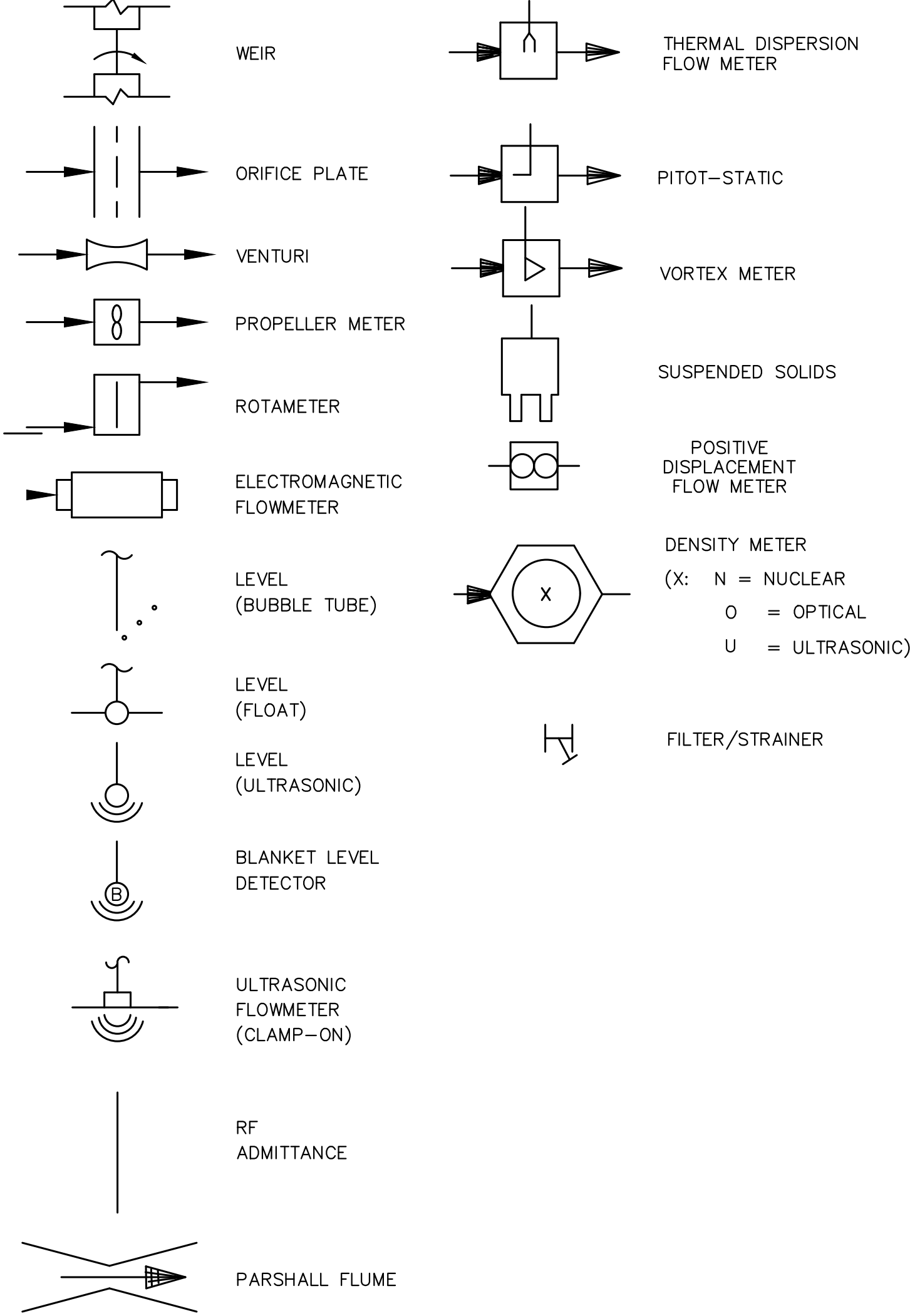
VALVES + GATES



ACTUATOR OR OPERATORS



PRIMARY ELEMENTS



HILLERS ELECTRICAL
ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4866 FAX
LICENSE NO: EB 0006877

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FL P.E. LICENSE NO. 69766
PROJECT ID NO.
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LAKE PRETTY
STRUCTURE REPLACEMENT (B875)

INSTRUMENTATION LEGEND

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
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2379 BROAD ST.
BROOKSVILLE, FLORIDA 34604

ENGINEER: S. HILLERS, P.E.

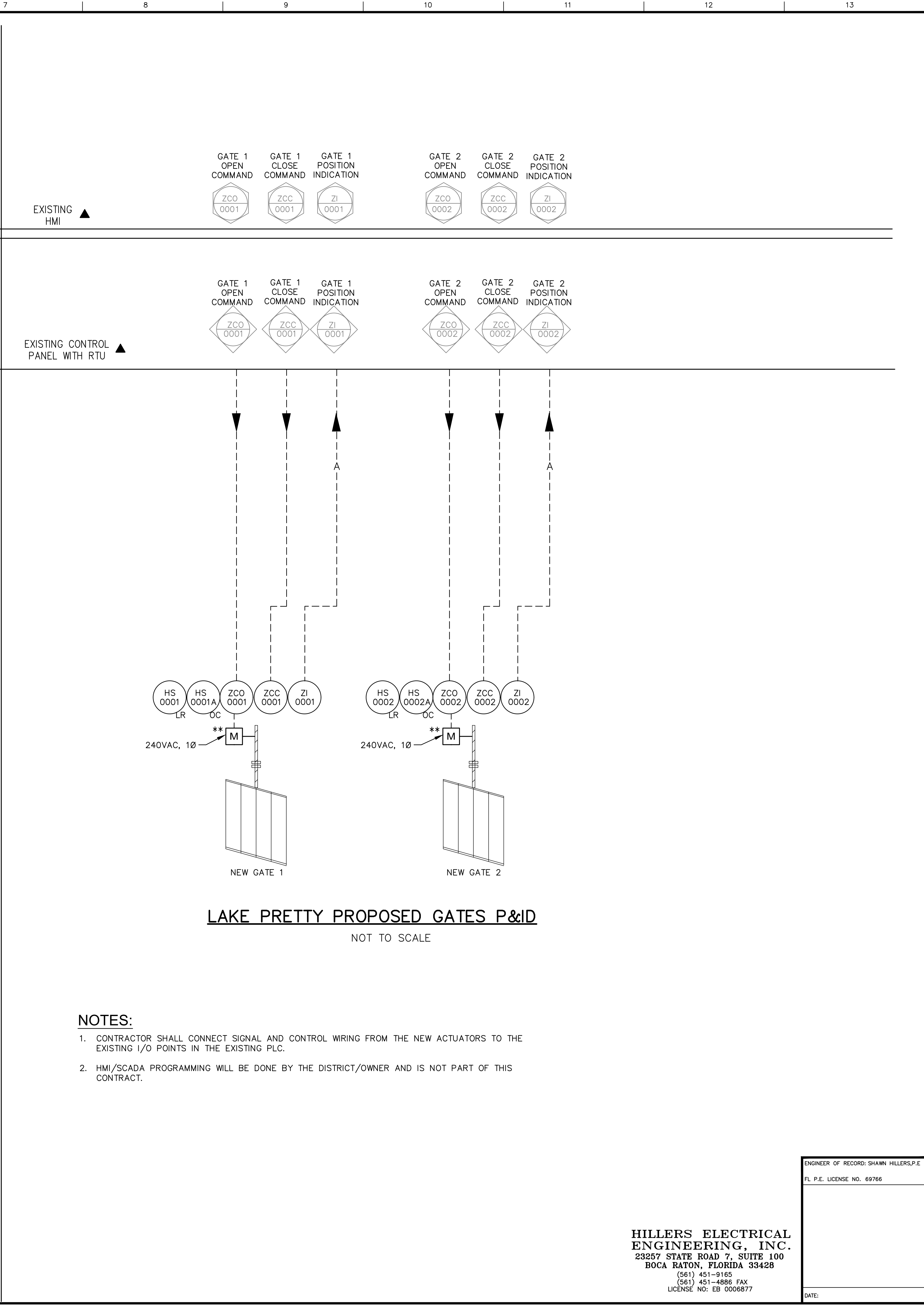
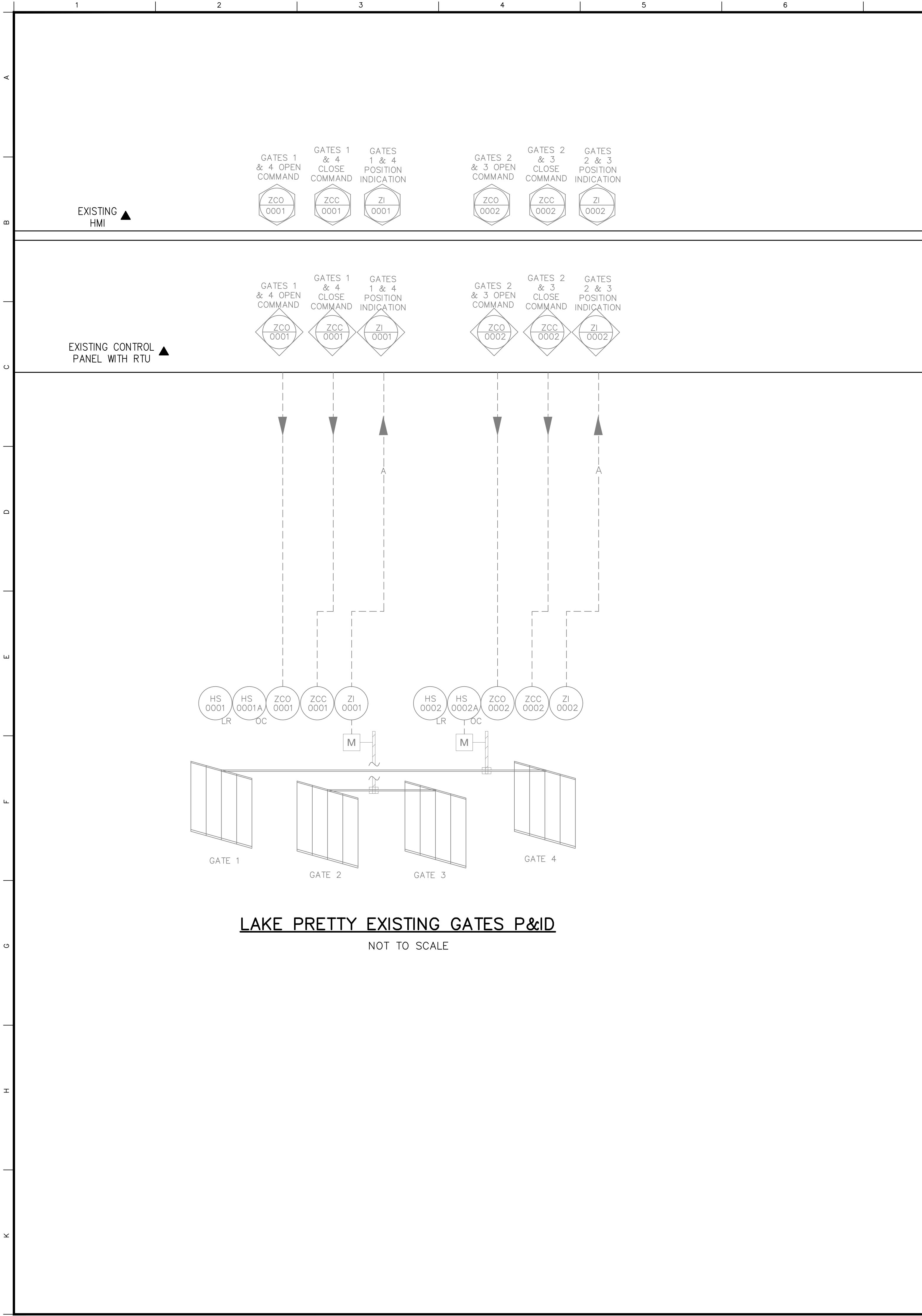
DRAWN: TN

CHECKED: S. CHAMNESS

DATE: 10/14/2020

SCALE:

NorthStar
NorthStar Contracting Group, Inc.
Riverview, FL 33578
Ph: (615) 864-0040 Fax: (615) 213-8876
E: GSA No. 36941



HILLERS ELECTRICAL
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(561) 451-4886 FAX
LICENSE NO: EB 0006877

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LAKE PRETTY
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LAKE PRETTY GATES P&ID

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SCALE:

DATE	DRAWN	REV.#	REVISION DESCRIPTION

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PROJECT ID NO.
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DRAWING NO.
I-02

SHEET
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