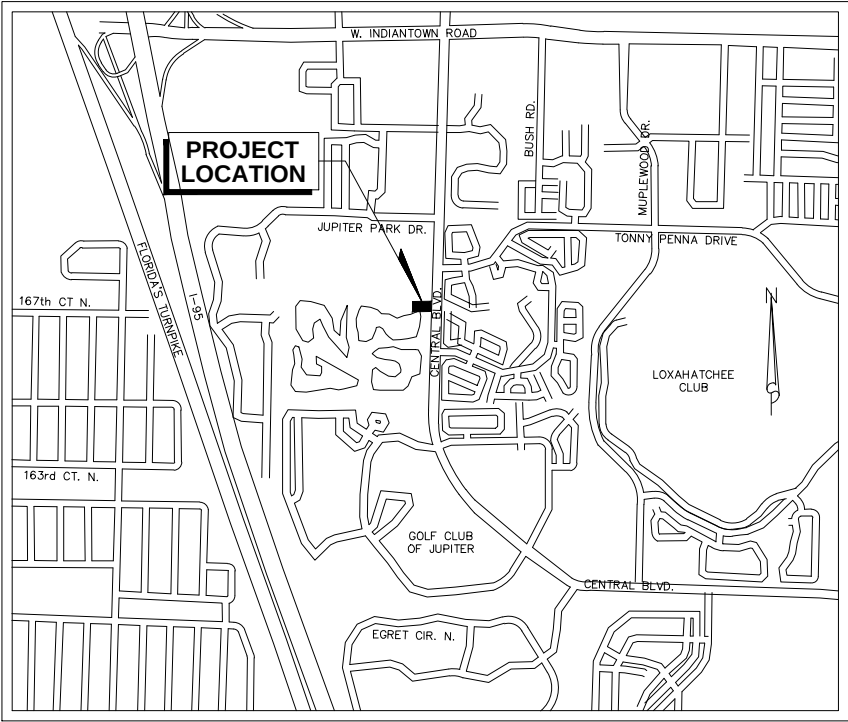
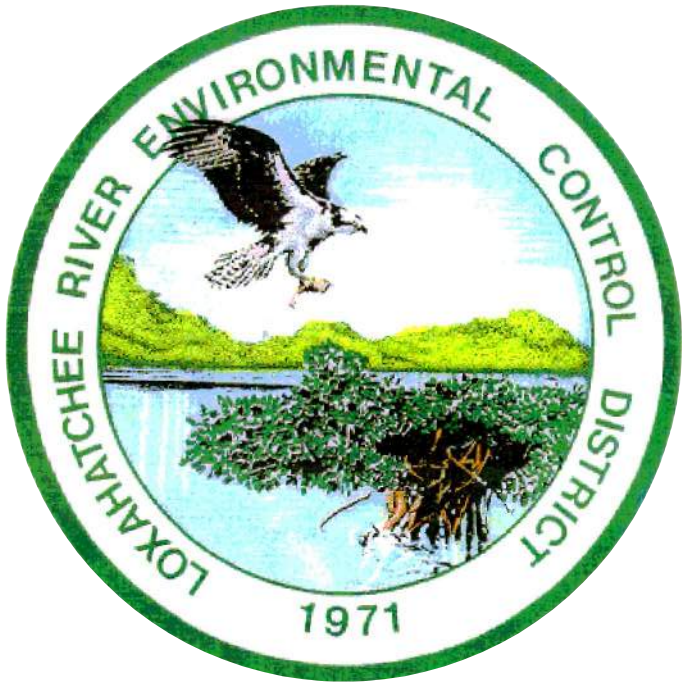


LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION



LOCATION MAP
NTS



RECORD DRAWING
NOVEMBER 2009



MATHEWS

CONSULTING INC.

Civil and Environmental Engineers

1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401

TEL. (561)478-7961

www.mathewsconsultinginc.com

LICENSE No. E.B.-0007929

DRAWING LIST

SHEET	DRAWING	TITLE
GENERAL		
1	G-1	TITLE SHEET, LOCATION MAP, AND DRAWING LIST
2	G-2	SYMBOLS, LEGEND AND SURVEY NOTES
3	G-3	GENERAL NOTES AND INFORMATION
4	G-4	SITE PLAN
5	SP-1	PREVIOUSLY APPROVED SITE DEVELOPMENT PLAN
CIVIL		
6	C-1	EXISTING SITE PLAN
7	C-2	DEMOLITION PLAN
8	C-3	PROPOSED SITE AND YARD PIPING PLAN
STRUCTURAL		
9	S-1	IQ PUMP STATION STRUCTURAL PLANS - FOUNDATION LEVEL
10	S-2	IQ PUMP STATION STRUCTURAL PLANS - TOP LEVEL
11	S-3	IQ PUMP STATION STRUCTURAL DETAILS - SHEET 1
12	S-4	IQ PUMP STATION STRUCTURAL DETAILS - SHEET 2
13	S-5	IQ PUMP STATION STRUCTURAL DETAILS - SHEET 3
MECHANICAL		
14	M-1	IQ PUMP STATION MECHANICAL PLAN AND SECTIONS - SHEET 1
15	M-2	IQ PUMP STATION MECHANICAL PLAN AND SECTIONS - SHEET 2
16	M-3	IQ DELIVERY POINTS - LOCATION MAPS
17	M-4	IQ DELIVERY POINT MODIFICATIONS - SHEET 1 (JUPITER HILLS)
18	M-5	IQ DELIVERY POINT MODIFICATIONS - SHEET 2 (RIVERBEND)
19	M-6	IQ DELIVERY POINT MODIFICATIONS - SHEET 3 (TURTLE CREEK & TEQUESTA COUNTRY CLUB)
20	M-7	IQ DELIVERY POINT MODIFICATIONS - SHEET 4 (LOXAHATCHEE CLUB & JONATHAN'S LANDING)
21	M-8	IQ DELIVERY POINT MODIFICATIONS - SHEET 5 (GOLF CLUB OF JUPITER)
22	M-9	IQ DELIVERY POINT MODIFICATIONS - SHEET 6 (ABACOA)
23	M-10	IQ DELIVERY POINT MODIFICATIONS - SHEET 7 (ADMIRAL'S COVE)
24	M-11	IQ DELIVERY POINT MODIFICATIONS - SHEET 8 (BEARS CLUB)
25	M-12	IQ PUMP STATION MECHANICAL DETAILS - SHEET 1
26	M-13	IQ PUMP STATION MECHANICAL DETAILS - SHEET 2
27	M-14	IQ PUMP STATION MECHANICAL DETAILS - SHEET 3
ELECTRICAL/ HVAC/ INSTRUMENTATION		
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30	E-3	RISER DIAGRAM
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37	H-2	ELECTRICAL ROOM HVAC PLAN
38	H-3	HVAC DETAILS
39	I-1	INSTRUMENTATION NOTES AND LEGEND
40	I-2	PROCESS AND INSTRUMENTATION DIAGRAM
41	I-3	INSTRUMENTATION AND CONTROL DETAILS

FOR INFORMATION REGARDING THIS PROJECT, CONTACT:

RENE L. MATHEWS, P.E.
MATHEWS CONSULTING, INC.
1475 CENTREPARK BOULEVARD, SUITE 250
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561/478-7961

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No. 49298 (GENERAL, CIVIL, MECHANICAL)

CHRIS BARLOW, P.E.
No. 59256 (MECHANICAL)

LILLIAN M. REYES, P.E.
No. 50780 (ELECTRICAL, INSTRUMENTATION)

JASON HANCHUK, P.E.
No. 56787 (STRUCTURAL)

TITLE SHEET, LOCATION MAP
AND DRAWING LIST

SHEET: 1 of 41

DRAWING: G-1

Path\\Name : C:\Users\jdesousa\Desktop\temp\IQ WATER PUMP STATION\dwgs\additional pages\1453G02.dwg

User Name : jdesousa

REPORT OF SURVEY:

- The survey depicted hereon has been classified as a Topographic Survey, as defined in Rule 61G17–6.002(10)(K) of the Florida Administrative Code, pursuant to Chapter 472.027, Florida Statutes as amended.
- This survey has been prepared in the office of Dennis J. Leavy & Associates, Inc. located at: 460 Business Park Way, Suite D, Royal Palm Beach, Florida whose certificate of authorization number is 6599, and the certifying surveyors license number is 5888.
- Dates of field survey: November 21, 26, 28, 29 and December 4, 5, 6 and 10, 2007, as recorded in Field Books 255, Pages 65 through 80 and Field Book 258, Page 3.
- This survey does not meet those standards established by the American Land Title Association.
- Underground apparent use and/or improvements not located unless otherwise noted.
- This instrument may not be reproduced in part or whole without the written consent of Dennis J. Leavy & Associates, Inc.
- This survey is not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper.
- Measurements shown hereon are expressed in feet and decimal parts thereof unless otherwise noted.
- The undersigned makes no representations or guarantees as to the information reflected hereon pertaining to easements, rights of way, setback lines, agreements and other matters, and further, this instrument is not intended to reflect or set forth all such matters. Such information should be obtained and confirmed by others through appropriate title verification. Lands shown hereon were not abstracted for rights of way and/or easements of record.
- All dates shown within the revisions block hereon are for interoffice filing use only and in no way affect the date of the field survey stated herein.
- In some instances, graphic representations have been exaggerated to more clearly illustrate relationships between physical improvements and/or lot lines. In all cases, dimensions shown shall control the location of the improvements over scaled positions.
- Bearings depicted hereon are referenced to the line between Palm Beach County Horizontal Control monuments "P&F" and "CHER". Said line being monumented and having a bearing of North 60°51'39" West based upon the North American Datum of 1983, on the 1990 adjustment for the Florida Transverse Mercator – East Zone.
- THIS IS NOT A BOUNDARY SURVEY.
- Benchmarks of Origin: Palm Beach County Survey Department benchmarks "JIHAD" and "BIRGE" whose published elevations are 11.166' and 14.257' respectively.
- Elevations referenced hereon are based on the National Geodetic Vertical Datum of 1929 (NGVD 29).
- The elevations shown hereon are for the purpose of indicating the ground elevation only at the position shown and in no way indicate elevations at any other point than that shown hereon and do not determine subsurface conditions.
- This survey lies within Section 10, Township 41 South, Range 42 East, Palm Beach County, Florida.
- By graphic plotting only, the subject property lies within Zone B as shown on Flood Insurance Rate Map Community Panel Number 120192 0105 B, Panel 105 of 245, Map Revised: October 15, 1982.
- Coordinates depicted hereon are based upon the North American Datum of 1983, on the 1990 adjustment for the Florida Transverse Mercator – East Zone.

SURVEY PLAT LEGEND:

(P1) AS DEPICTED ON THE PLAT OF JUPITER VILLAGE PHASE II (P.B. 39, PG. 182, P.B.C.R.)

SURVEY TREE LEGEND:

00" - ACASIA

00" - PINE

00" -OLIVE

00" - BUSH

00" - PALM SPECIES

00" - BOTTLEBRUSH

00" -CYPRESS

00" - MAHOGANY

00" - MAPLE

00" - STUMP

00" - OAK

00" - UNKNOWN

00" - HEDGE

Indicates trunk diameter

NOTE: VERIFICATION OF TREE SPECIES SHOULD BE CONDUCTED BY A PROFESSIONAL ENGAGED IN THE FIELD OF NATURAL SCIENCE.

SURVEY LEGEND:

ARV = AIR RELEASE VALVE

C/L = CENTERLINE

C = CALCULATED

CFT = CALCULATED FROM FIELD TRAVERSE

CLF = CHAIN LINK FENCE

CLP = CP PIPE

CMP = CORRUGATED METAL PIPE

CONC. = CONCRETE

CP = CONCRETE PIPE

D = CENTRAL ANGLE

DIP = DUCTILE IRON PIPE

EL. = ELEVATION

EP = EDGE OF PAVEMENT

EOW = EDGE OF WATER

F.P.L. = FLORIDA POWER AND LIGHT

FND = FOUND

INV = INVERT

I.R.C. = IRON ROD & CAP

L = LENGTH

MP = METAL PIPE

N/A = NOT ACCESSIBLE

N/D = NAIL AND DISK

OHW = OVERHEAD WIRE

P.B. = PLAT BOOK

PBC = PALM BEACH COUNTY

P.B.C.R. = PALM BEACH COUNTY RECORDS

PG. = PAGE

PP = PLASTIC PIPE

PK = PARKER-KALON BRAND

PRM = PERMANENT REFERENCE MARKER

PVC = POLYVINYL CHLORIDE

RCP = REINFORCED CONCRETE PIPE

R = RADIUS

R/C = ROD AND CAP

R/W = RIGHT OF WAY

RLS = REGISTERED LAND SURVEYOR

SEC. = SECTION

TON = TOP OF NUT

(TYP.) = TYPICAL

U.E. = UTILITY EASEMENT

UNK = UNKNOWN

SURVEY SYMBOL LEGEND:

ARV = AIR RELEASE VALVE

BFP = BACK FLOW PREVENTER

= BOLLARD

= CENTRAL ANGLE

= CATCH BASIN

= CONCRETE LIGHT POLE

CO = CLEAN OUT

= ELECTRICAL PANEL

EM = ELECTRIC METER

= FIRE HYDRANT

= GUY WIRE ANCHOR

-GPM- = GREEN PAINT MARK

X 0.00 = HARD SURFACE ELEVATION

= LIGHT POST

= LIMITS OF CABBAGE PALM & TRESS

= METAL POST

-OHW- = OVERHEAD UTILITY WIRE

= PURPLE FLAG

PUMP = PUMP

-PPM- = PURPLE PAINT MARK

= REDUCER

- - - = RIGHT-OF-WAY LINE

RWV = RECLAIMED WATER VALVE

= SITE BENCHMARK

= SENSOR

= SPRINKLER HEAD

= SIGN

X 0.0 = SOFT SURFACE ELEVATION

= SET NAIL AND DISC LB #6599

= SANITARY MANHOLE

= STORM MANHOLE

= "T"

= VERTICAL BEND

= VERTICAL "T"

= WATER METER

WV = WATER VALVE

= WOOD POWER POLE

SURVEY BENCHMARKS:

BENCHMARK NO. 1

SET NAIL IN DISC LB #6599

STA. 5+00, 0.00' RT.

EL.= 14.82' (NGVD 29)

N 942263.35

E 938073.82

BENCHMARK NO. 2

SET NAIL IN DISC LB #6599

EL.= 13.42' (NGVD 29)

N 942005.40

E 938068.49

BENCHMARK NO. 3

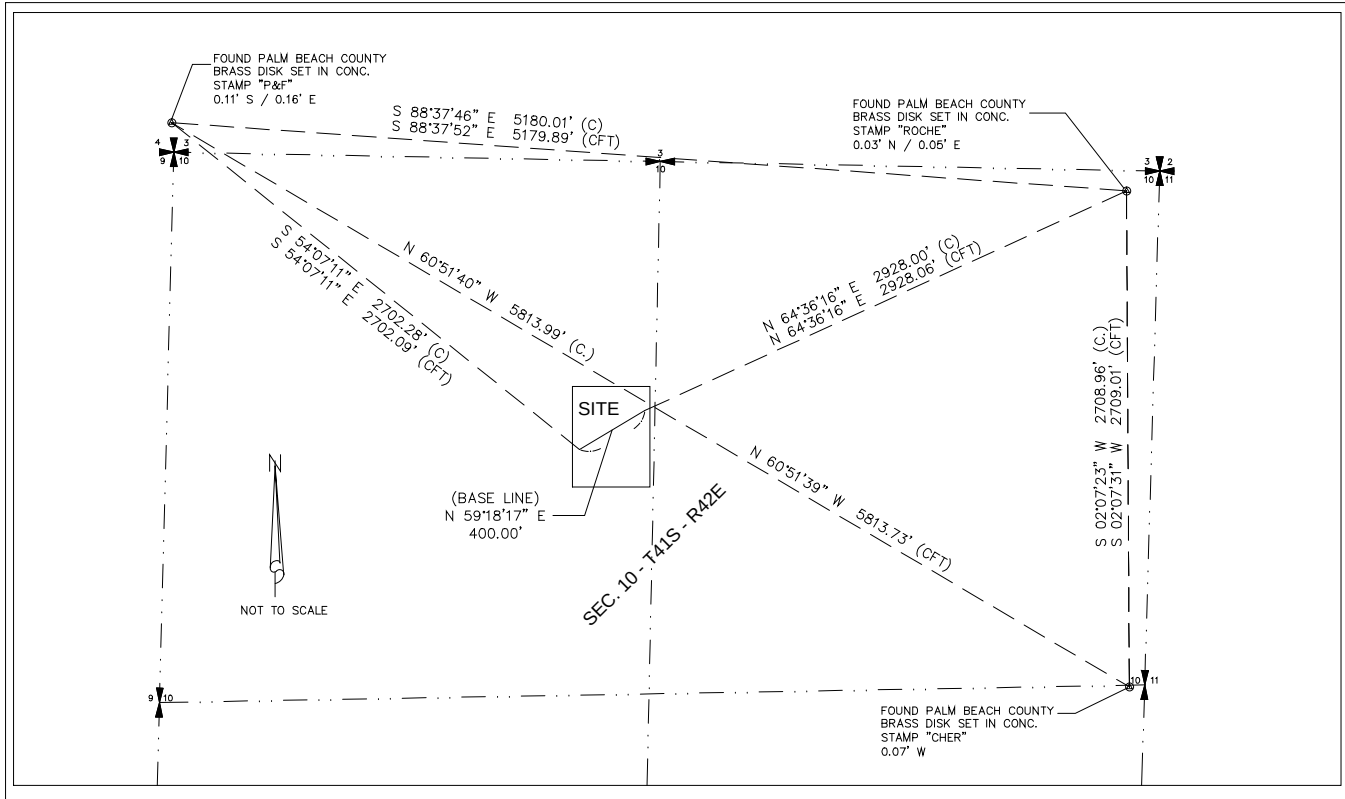
SET 5/8" IRON ROD & CAP LB #6599

STA. 2+07.51, 0.00' RT.

EL.= 18.12' (NGVD 29)

N 942114.04

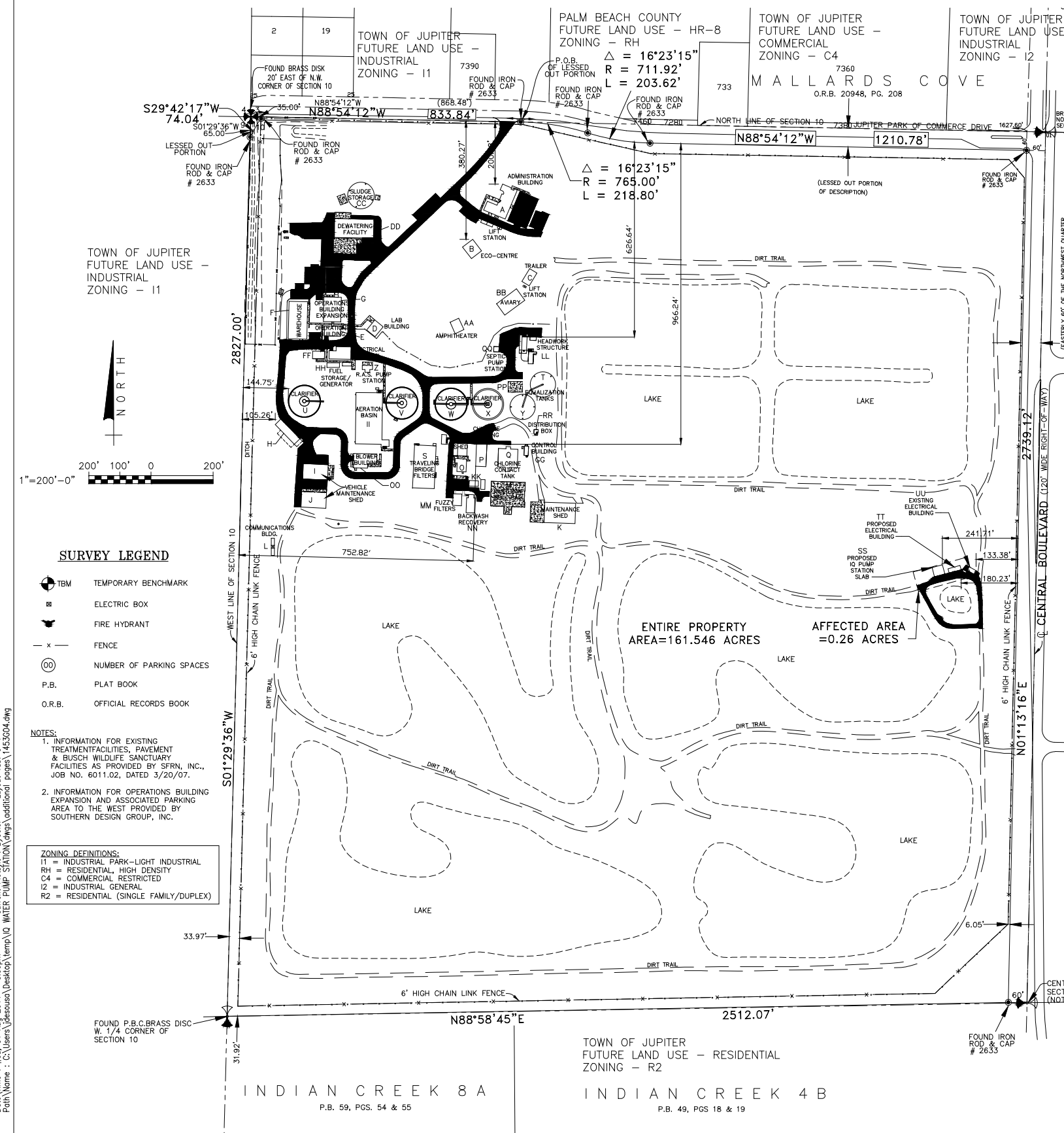
E 937822.30



RECORD DRAWING

NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: R.L.M.	RENE L. MATHEWS, P.E. No. 49298	MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION SYMBOLS, LEGEND AND SURVEY NOTES	DATE: NOV. 2009
				DRAWN: J.A.J.				CLIENT		SHEET: 2 of 41
				CHECKED: D.L.M.				PROJECT NO.:		
				APPROVED: R.L.M.				CAD REF.: 1453G02		DRAWING: G-2

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User Name : jdesousa



INDIAN TOWN ROAD

JUPITER PARK DRIVE

JUPITER PARK OF COMMERCE

FLORIDA'S TURNPIKE I-95

CENTRAL BLVD

TOWN OF JUPITER, FLORIDA

S10, T41S, R42E

LOCATION MAP

N.T.S.

ENTIRE PROPERTY AREA=161.546 ACRES

AFFECTED AREA =0.26 ACRES

WASTEWATER TREATMENT FACILITIES OVER ONE MILLION GALLONS PER DAY CAPACITY WITH ODOR CONTROL

ZONING DISTRICT	LOT DIMENSIONS	FAR	BUILDING COVER	FACILITY SETBACKS(1)						
PO	SIZE	WIDTH	DEPTH	MIN	TREATMENT FACILITIES (2) WITH ODOR CONTROL FROM RESIDENTIAL	TREATMENT FACILITIES (2) WITH ODOR CONTROL FROM NON-RESIDENTIAL	ACCESSORY FACILITIES FROM RESIDENTIAL	ACCESSORY FACILITIES FROM NON-RESIDENTIAL	CHEMICAL STORAGE FROM RESIDENTIAL	CHEMICAL STORAGE FROM NON-RESIDENTIAL
REQUIRED EXISTING	N/A	N/A	N/A	N/A	300 FT 625.64	200 FT 144.75	200 FT 200.58	100 FT 105.26	300 FT 966.24	200 FT 752.82
AFFECTED AREA					N/A	N/A	133.38 FT (3)	N/A	N/A	N/A

NOTES:

1. INFORMATION FOR EXISTING TREATMENT FACILITIES, PAVEMENT & BUSCH WILDLIFE SANCTUARY FACILITIES AS PROVIDED BY SFRN, INC., JOB NO. 6011.02, DATED 3/20/07.

2. INFORMATION FOR OPERATIONS BUILDING EXPANSION AND ASSOCIATED PARKING AREA TO THE WEST PROVIDED BY SOUTHERN DESIGN GROUP, INC.

ZONING DEFINITIONS:

I1 = INDUSTRIAL PARK-LIGHT INDUSTRIAL

RH = RESIDENTIAL, HIGH DENSITY

C4 = COMMERCIAL RESTRICTED

I2 = INDUSTRIAL GENERAL

R2 = RESIDENTIAL (SINGLE FAMILY/DUPLEX)

Key *

Existing Facility Description

SF

A

ADMINISTRATION BLDG.

5,259

B

ECO-CENTRE BLDG.

1,929

C

TRAILER SECURITY BLDG.

1,335

D

LAB BLDG.

1,432

E

OPERATIONS BLDG.

1,676

F

WAREHOUSE

7,222

G

OPERATIONS BLDG. EXPANSION

4,400

H

MAINTENANCE BLDG. #1

2,233

I

VEHICLE MAINTENANCE BLDG #1

3,956

J

VEHICLE MAINTENANCE BLDG #2

3,956

K

MAINTENANCE BLDG #2

9,432

L

COMMUNICATIONS BLDG.

400

M

INJECTION WELL PAD

1,333

N

PUMP STATION

1,222

O

GENERATOR BLDG.

5,996

P

CHLORINE BLDG

5,996

Q

CHLORINE CONTACT TANK

10,234

R

BACKWASH RECOVERY

646

S

BRIDGE FILTERS

9,588

T

TANKS

2,607

U

CLARIFIER #1

8,451

V

CLARIFIER #2

8,451

W

CLARIFIER #3

8,451

X

CLARIFIER #4

8,451

Y

TANKS

2,607

Z

PUMP STATION

921

AA

AMPHITHEATRE

1,195

BB

AVIARY

3,616

CC

SLUDGE STORAGE

5,778

DD

DEWATERING FACILITY

7,594

EE

ELECTRICAL BLDG

2,502

FF

LOCKER ROOMS

933

GG

CONTROL BLDG.

414

HH

FUEL TANK

317

II

AERATION BASIN

14,547

JJ

FUEL TANK

746

KK

SCREENING STRUCTURE

535

LL

HEADWORKS FACILITY

2,181

MM

FUZZY FILTERS

1,053

NN

BACKWASH RECOVERY

1,522

OO

BLOWER BLDG.

3,019

PP

ODOR CONTROL STRUCTURE

1,581

QQ

SEPTIC PUMP STATION

277

UU

CONTROL BLDG

164

RR

DISTRIBUTION BOX

468

SS

PROPOSED IQ PUMP STATION SLAB

543

TT

PROPOSED ELECTRICAL BLDG

PROPOSED WORK

SITE DATA

CONTROL #

80-222

RESOLUTION #

80-1730

NAME OF DEVELOPMENT

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

TIER

U/S TIER

EXISTING USE

WASTEWATER TREATMENT FACILITY

EXISTING LAND USE DESIGNATION

U/T

EXISTING ZONING DISTRICT

PO

SECTION, TOWNSHIP, RANGE

S10/T41/R42

PROPERTY CONTROL NUMBER

00-42-41-10-00-000-3000

DEVELOPMENT ACRES

161.546 AC.

* BUILDING SQUARE FOOTAGE INFORMATION OBTAINED FROM 'SITE DEVELOPMENT PLAN', SHEET No. SP-1, DATED 8/14/07 AND PREPARED BY GENTILE HOLLOWAY O'MAHONEY & ASSOCIATES, INC. THIS DATA HAS NOT BEEN CONFIRMED BY MATHEWS CONSULTING, INC.

** BUILDING SQUARE FOOTAGE INFORMATION FOR THE PROPOSED ELECTRICAL BUILDING (TT) AND IQ PUMP STATION SLAB (SS) IS PROVIDED BY MATHEWS CONSULTING, INC.

NO.

DATE

ISSUED FOR

APRVD BY

DESIGNED: M.R.T.

DRAWN: J.W.T.

CHECKED: D.L.M.

APPROVED: R.L.M.

M

MATHEWS CONSULTING INC.

Civil and Environmental Engineers

1475 CENTRE PARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401

TEL. (561)478-7961

LICENSE No. E.B.-0007929

VERIFY SCALE

1"

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ENGINEER NO.: 1453

CLIENT PROJECT NO.: _____

CAD REF.: 1453G04

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION

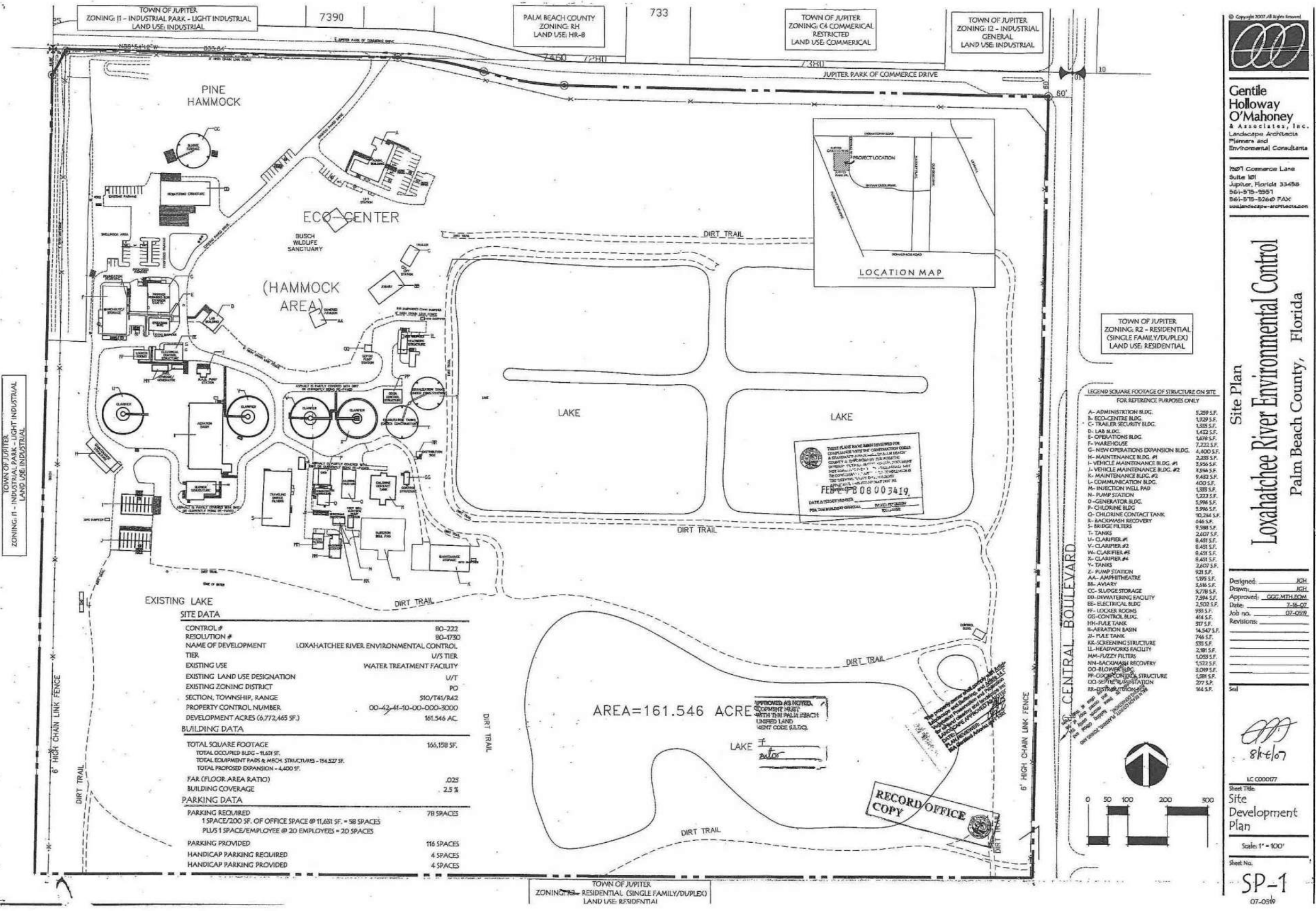
SITE PLAN

DATE: NOV. 2009

SHEET: 4 of 41

DRAWING: G-4

RECORD DRAWING



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Gentile Holloway O'Mahoney & Associates, Inc.
Landscape Architects
Planners and Environmental Consultants

1307 Commerce Lane
Suite 101
Jupiter, Florida 33458
561-575-5551
561-575-5260 FAX
www.gentileholloway.com

Site Plan

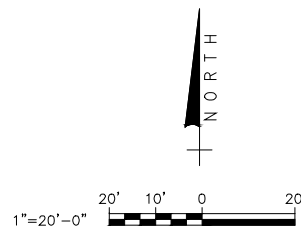
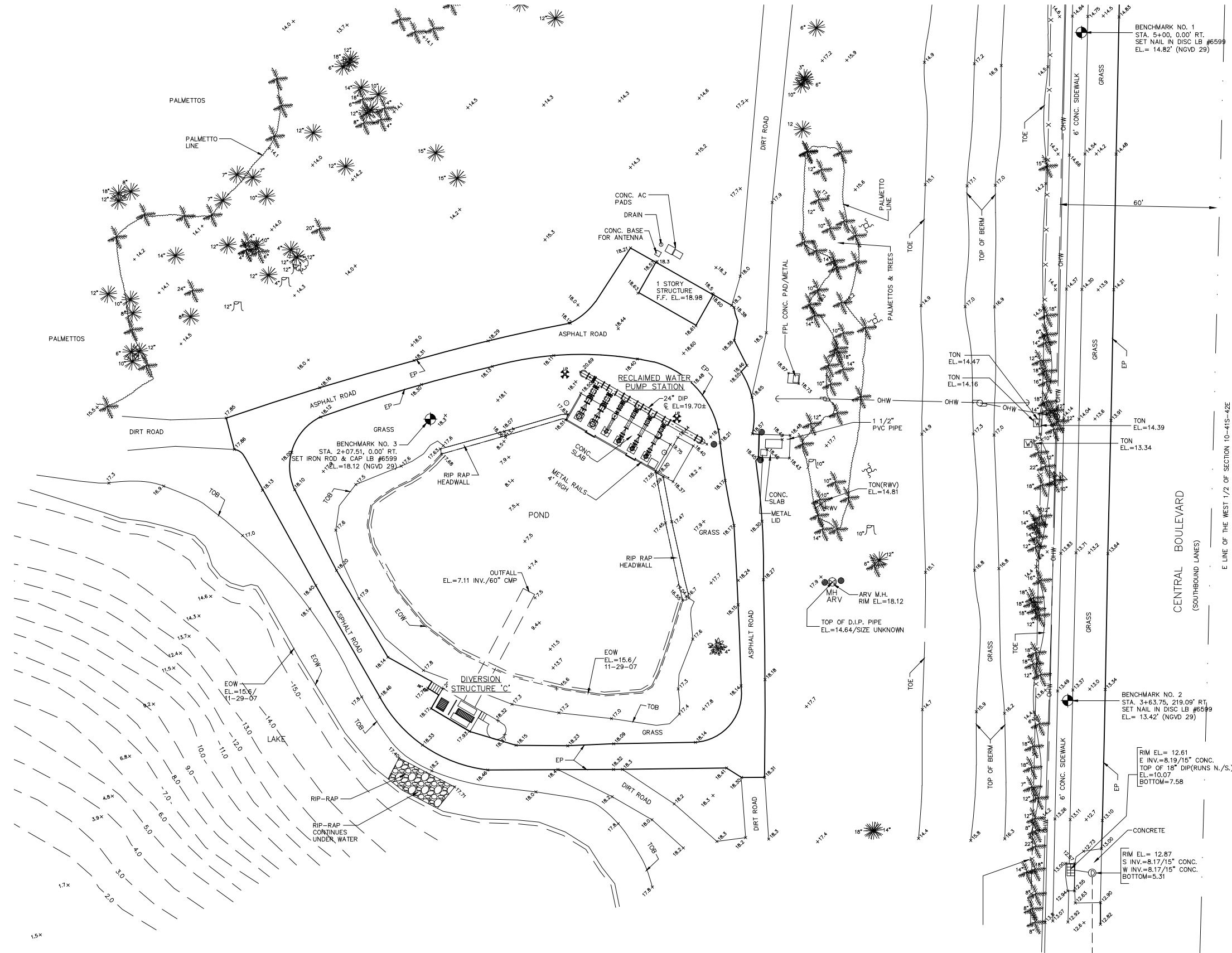
Loxahatchee River Environmental Control

Palm Beach County, Florida

Designed: JGH
Drawn: JGH
Approved: GGG/MTB/EDM
Date: 7-16-07
Job no. 07-0519
Revisions:

LC 0000177
Sheet Title:
Site Development Plan
Scale: 1" = 100'
Sheet No.
SP-1
07-0519

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User Name : jesousa



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NO.	DATE	ISSUED FOR	APR'V'D BY	DESIGNED: R.L.M.
				DRAWN: J.A.J.
				CHECKED: D.L.M.
				APPROVED: R.L.M.

RENE L. MATHEWS, P.E.
No. 49298



**MATHEWS
CONSULTING INC.**
Civil and Environmental Engineers
1475 CENTRE PARK BLVD., SUITE 250, WEST PALM BEACH, FL 33401
TEL. (561)478-7961

VERIFICATION SCALE

1"

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ADJUST SCALES
AS NECESSARY.

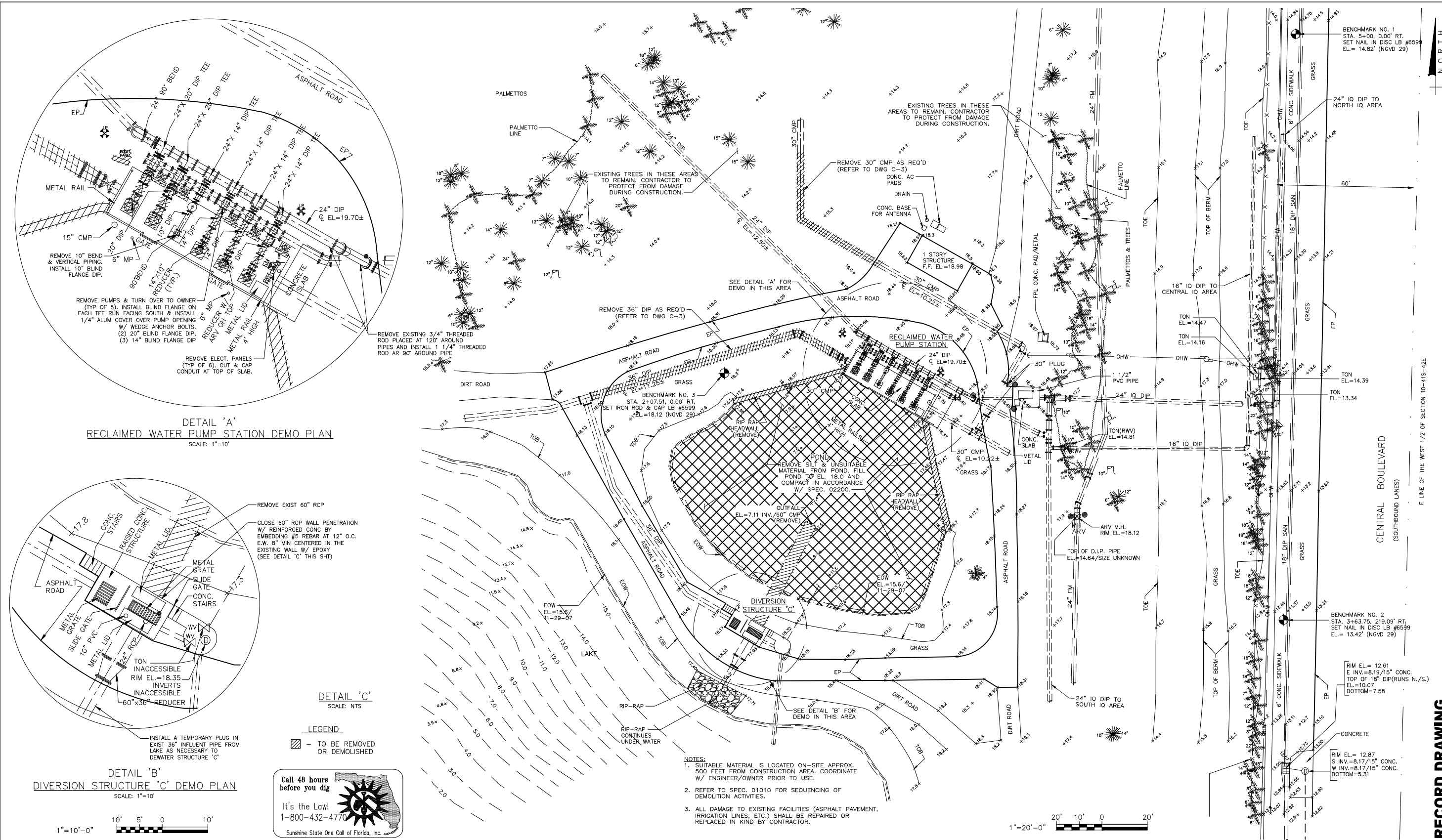
ENGINEER NO.: 1453

CLIENT PROJECT NO.:

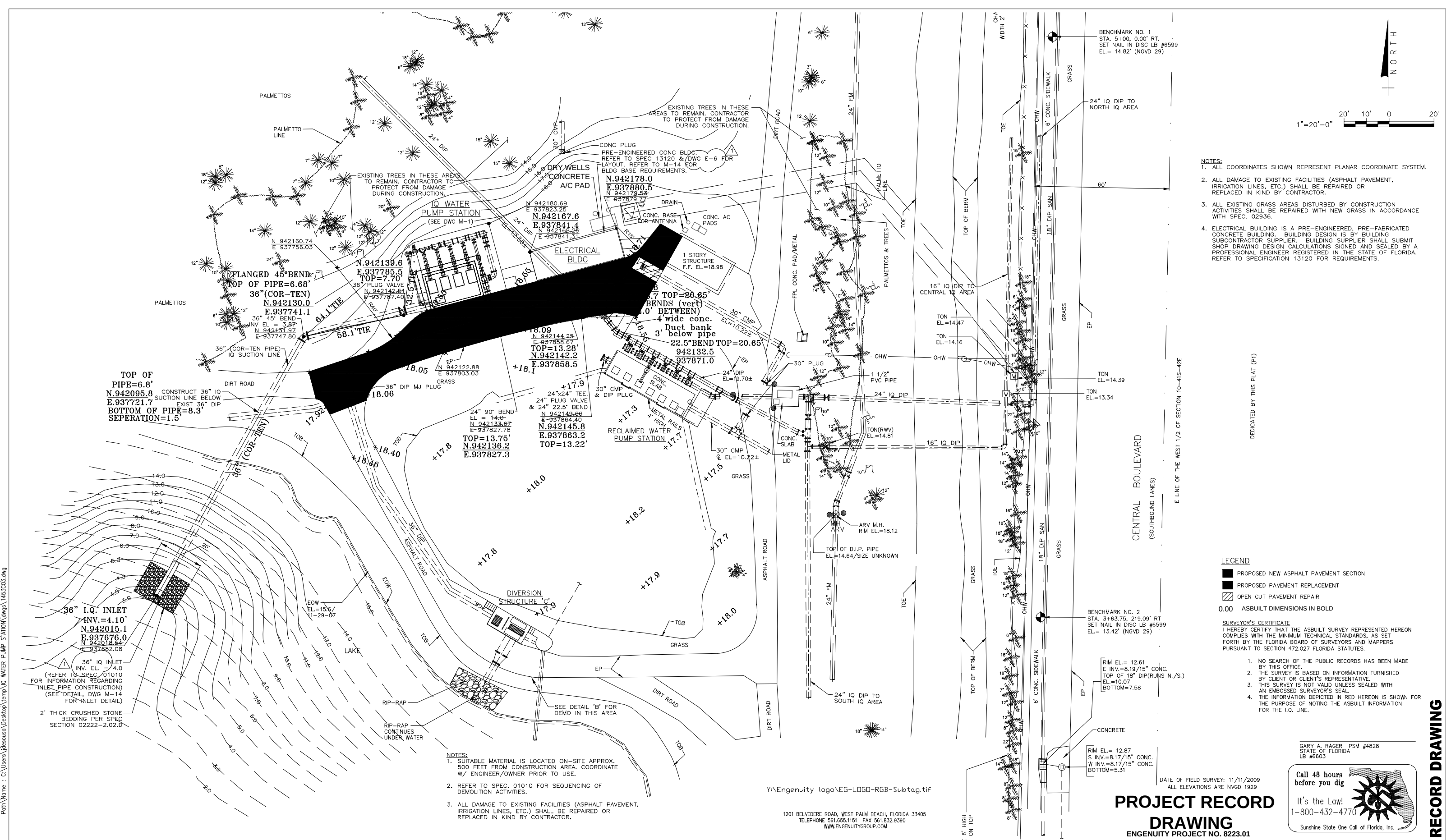
CAD REF.: 1453C01

EXISTING SITE PLAN	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009
		SHEET: 6 of 41
		DRAWING: C-1

Layout Tab: C-2
Current Plot: 1453C02.dwg
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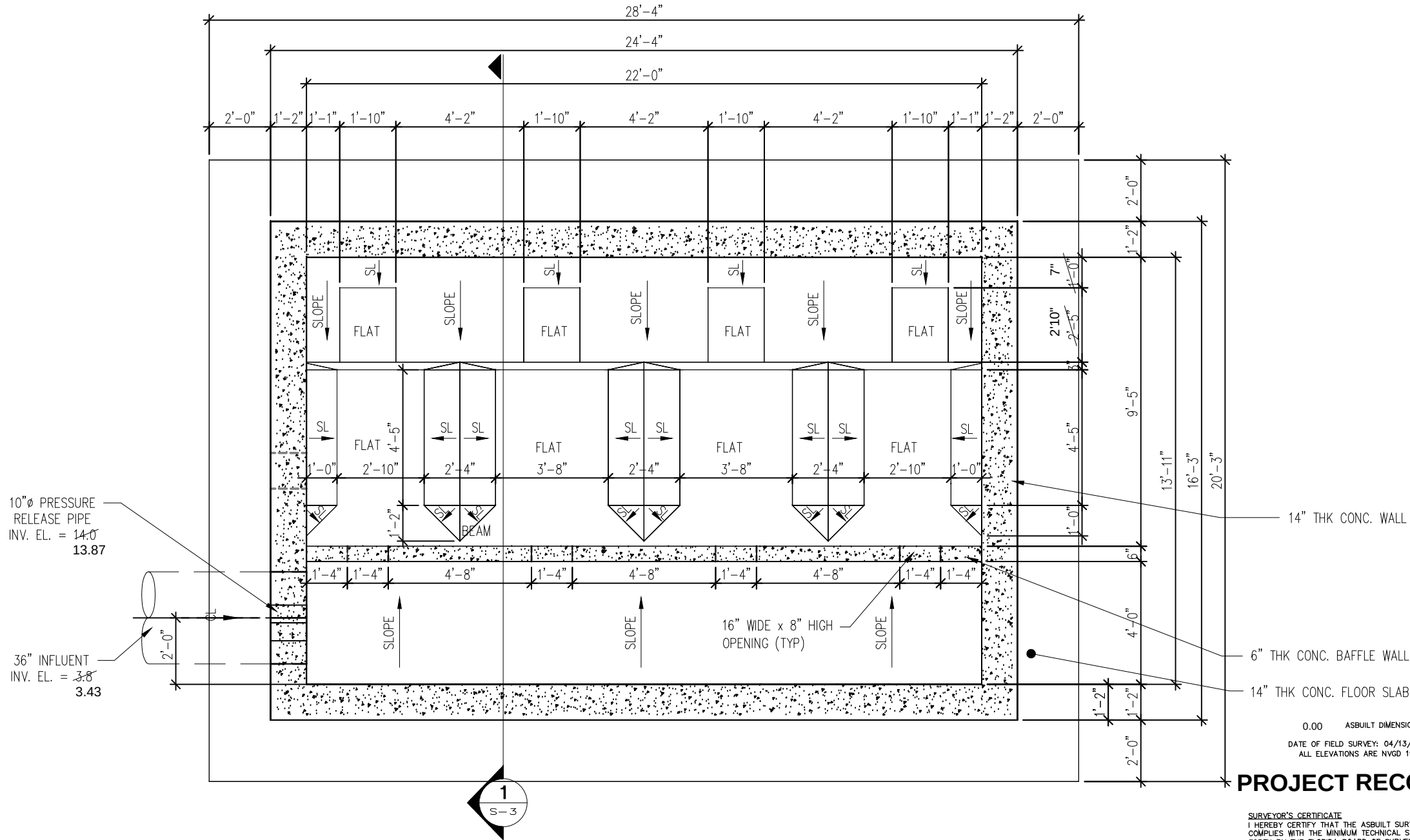


NO.		DATE	ISSUED FOR	APR'D BY	DESIGNED: R.L.M.	RENE L. MATHEWS, P.E. No. 49298	MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTRE PARK BLVD., SUITE 250, WEST PALM BEACH, FL 33401 TEL (561)478-7961 LICENCE No. E.B.-0007929	VERIFY SCALE 1" BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	ENGINEER NO.: 1453 CLIENT PROJECT NO.: CAD REF.: 1453C02	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION DEMOLITION PLAN	DATE: NOV. 2009
					DRAWN: J.A.J.						SHEET: 7 of 41
					CHECKED: D.L.M.						DRAWING: C-2
					APPROVED: R.L.M.						



NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: R.L.M.	3 MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009
1	10/08	ADDENDUM No. 1	R.L.M.	DRAWN: J.A.J.		CLIENT	PROJECT NO.: _____		SHEET: 8 of 41
				CHECKED: D.L.M.		BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CAD REF.: 1453C03	PROPOSED SITE AND YARD PIPING PLAN	DRAWING: C-3
				APPROVED: R.L.M.					
				RENE L. MATHEWS, P.E. No. 49298					

C:\Users\jhesousa\Desktop\temp\10 WATER PUMP STATION.dwg (S1-S3.dwg)
User Name : jhesousa



FOUNDATION/BOTTOM LEVEL PLAN

SCALE: 1/2"=1'-0"

Y:\Engenuity logo\EG-LOGO-RGB-Subtag.tif

1201 BELVEDERE ROAD, WEST PALM BEACH, FLORIDA 33405
TELEPHONE 561.655.1151 FAX 561.832.9390
WWW.ENGUINITYGROUP.COM

GARY A. RAGER PSM #4828
STATE OF FLORIDA
LB #6603

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE ASBUILT STANDARD REPRESENTED HEREON
COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS, AS SET
FORTH BY THE FLORIDA BOARD OF SURVEYORS AND MAPPERS
PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

1. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THIS OFFICE.
2. THE SURVEY IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE.
3. THIS SURVEY IS NOT VALID UNLESS SEALED WITH AN EMBOSSED SURVEYOR'S SEAL.
4. THE INFORMATION DEPICTED IN RED HEREON IS SHOWN FOR THE PURPOSE OF NOTING THE ASBUILT INFORMATION FOR THE I.Q. PUMP HOUSE.

PROJECT RECORD DRAWING

RECORD DRAWING

NO.	DATE	ISSUED FOR	APRVD BY

DESIGNED:	CBL
DRAWN:	CA
CHECKED:	JH
APPROVED:	JH

BRIDGE DESIGN ASSOCIATES, INC.
1482 Royal Palm Sdk. Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 698-3680 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

PROJECT NO. 07-621
JASON HANCHUK, P.E.
No. 56787

**MATHEWS CONSULTING INC.**
Civil and Environmental Engineers
1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401
TEL. (561)478-7961 LICENSE No. E.B.-0007929

VERIFY SCALE



BAR IS ONE INCH ON ORIGINAL DRAWING.
ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1453

CLIENT PROJECT NO.: _____

CAD REF.: _____

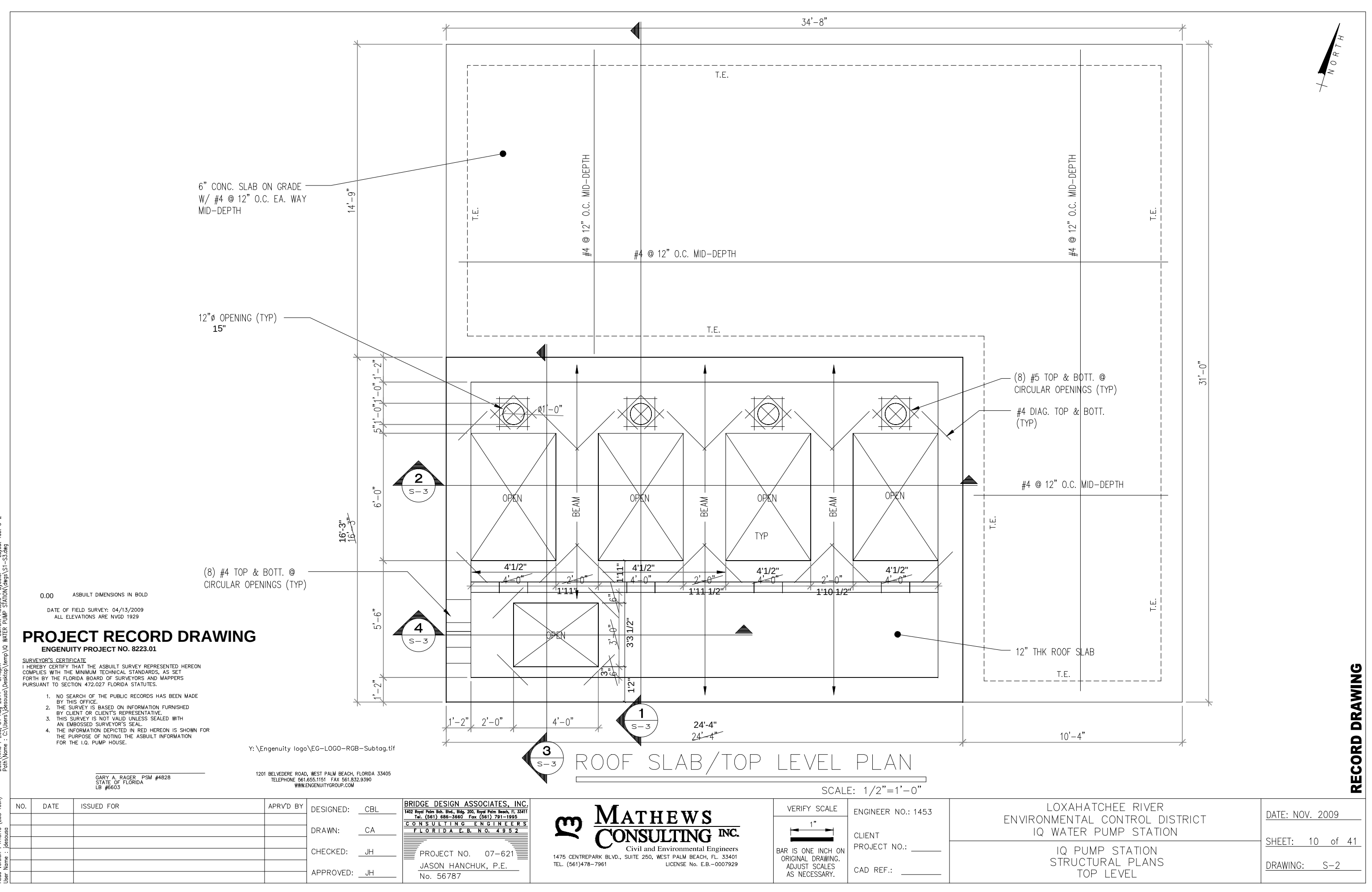
LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ WATER PUMP STATION

IQ PUMP STATION
STRUCTURAL PLANS
FOUNDATION LEVEL

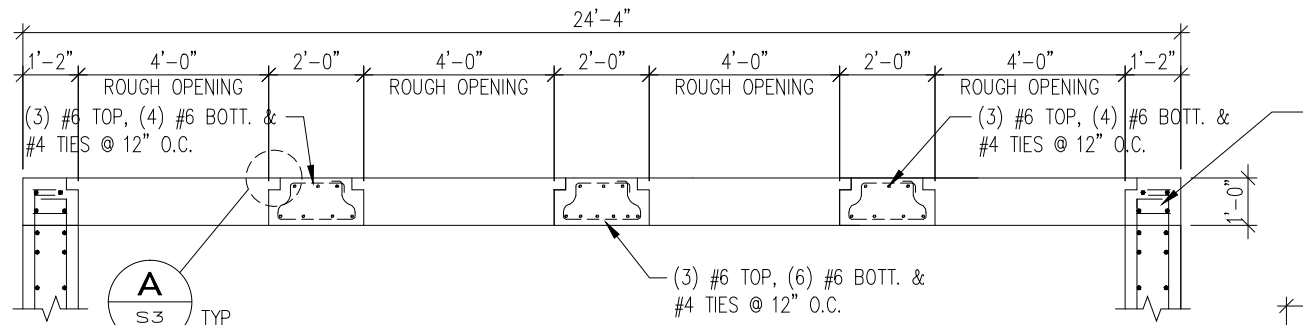
DATE: NOV. 2009

SHEET: 9 of 41

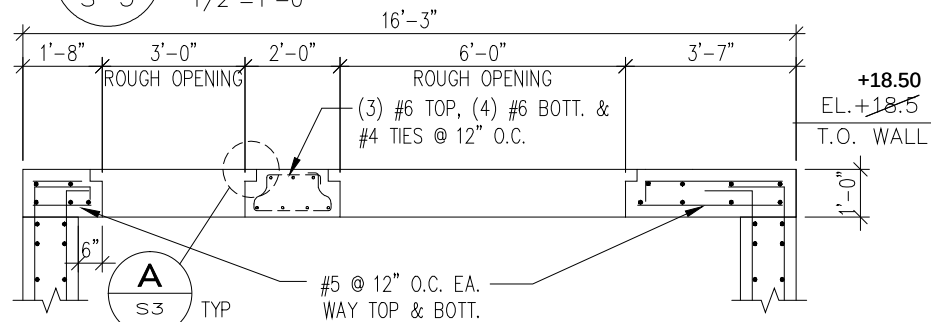
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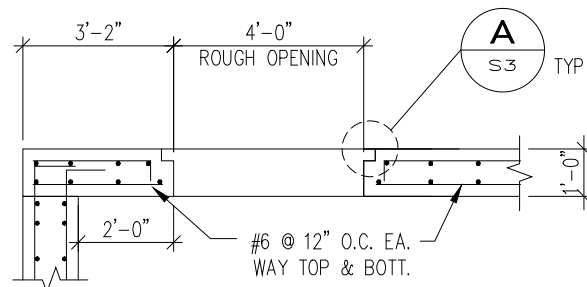
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User Name : jdesousa



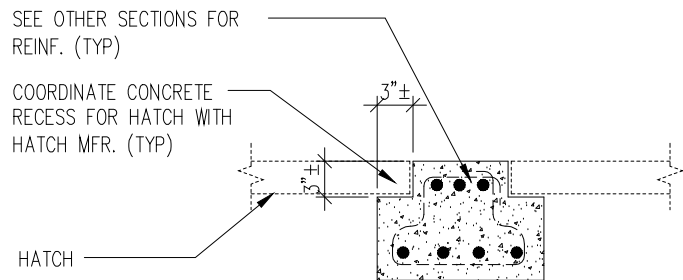
2 SECTION @ ROOF OPENINGS
S-3 1/2"=1'-0"



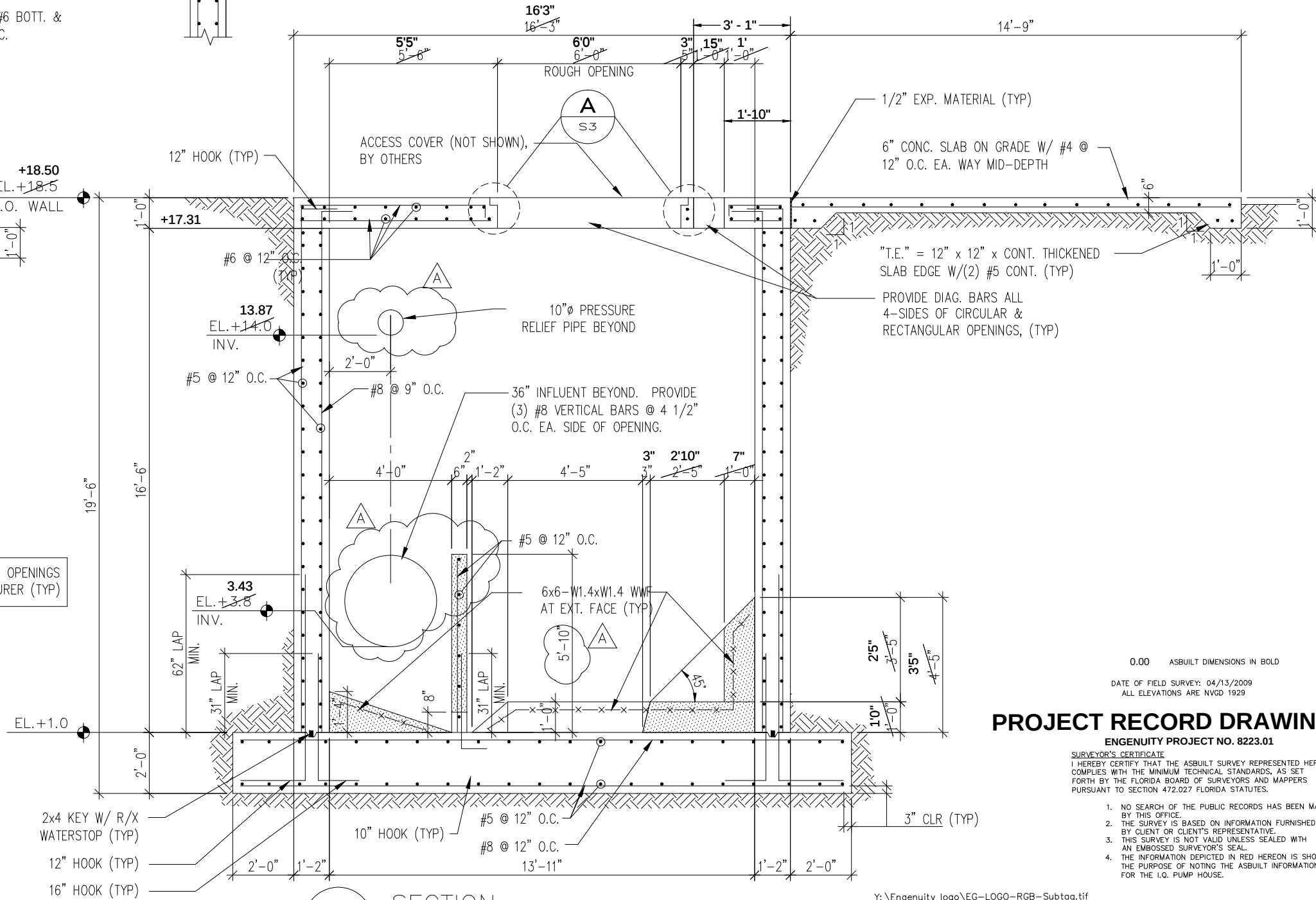
3 SECTION @ ROOF OPENINGS
S-3 1/2"=1'-0"



4 SECTION @ ROOF OPENINGS
S-3 1/2"=1'-0"



A DETAIL AT HATCHES
S-3 1 1/2"=1'-0"



1 SECTION
S-3 1/2"=1'-0"

0.00 ASBUILT DIMENSIONS IN BOLD

DATE OF FIELD SURVEY: 04/13/2009
ALL ELEVATIONS ARE NVGD 1929

PROJECT RECORD DRAWING

ENGENUITY PROJECT NO. 8223.01

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE ASBUILT SURVEY REPRESENTED HEREON
COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS, AS SET
FORTH BY THE FLORIDA BOARD OF SURVEYORS AND MAPPERS
PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

1. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THIS OFFICE.
2. THE SURVEY IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE.
3. THIS SURVEY IS NOT VALID UNLESS SEALED WITH AN EMBOSSED SURVEYOR'S SEAL.
4. THE INFORMATION DEPICTED IN RED HEREON IS SHOWN FOR THE PURPOSE OF NOTING THE ASBUILT INFORMATION FOR THE I.Q. PUMP HOUSE.

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1201 BELVEDERE ROAD, WEST PALM BEACH, FLORIDA 33405
TELEPHONE 561.655.1151 FAX 561.832.9390
WWW.ENGENUITYGROUP.COM

GARY A. RAGER PSM #4828
STATE OF FLORIDA
LB #6603

RECORD DRAWING

NO.	DATE	ISSUED FOR	APRVD BY
1	10/07/08	ADDENDUM NO. 1	JH

DESIGNED:	CBL
DRAWN:	CA
CHECKED:	JH
APPROVED:	JH

BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Bch. Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel. (561) 686-3680 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E.B. NO. 4952
PROJECT NO. 07-621 JASON HANCHUK, P.E. No. 56787

MATHEWS CONSULTING INC.
Civil and Environmental Engineers
1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401
TEL. (561)478-7961 LICENSE No. E.B.-0007929

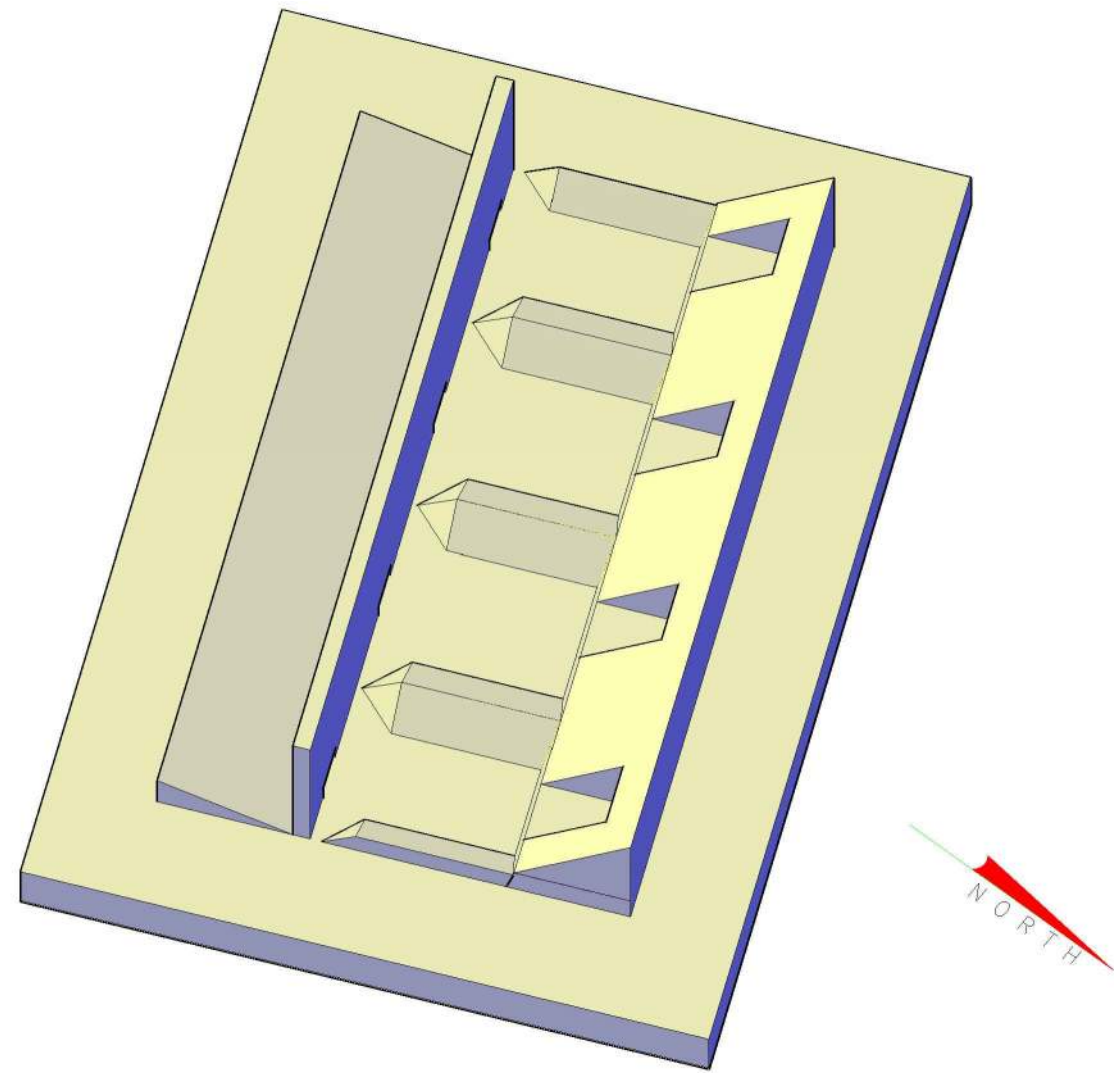
VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1453
CLIENT PROJECT NO.:
CAD REF.:

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ WATER PUMP STATION
IQ PUMP STATION
STRUCTURAL DETAILS
SHEET 1

DATE: NOV. 2009
SHEET: 11 of 41
DRAWING: S-3

Path Name : C:\Users\jdesousa\Desktop\Temp\IQ WATER PUMP STATION\dwg\additional pages\S4-S5.dwg
User Name : jdesousa



3D ISOMETRIC VIEW OF LOWER SLABS

SCALE: 3/8"=1'-0"

GENERAL NOTES

MISCELLANEOUS

1. General Contractor shall verify size and location of duct opening grilles, louvers, etc., with the mechanical contractor before proceeding with the work.
2. All wood in contact with masonry, concrete, or steel shall be pressure-treated.
3. Contractor shall verify all dimensions with the architectural drawings prior to construction and fabrication. Discrepanices shall be brought to the attention of the architect and engineer before construction.
4. All work shall be done in accordance with all pertinent local, state, and federal building regulations.
5. Provisions of the AIA General Conditions of the Contract for Construction shall apply unless otherwise indicated in the Construction Documents.

DESIGN DATA

1. Normal weight concrete (145 PCF) 28-day compressive strength (W/C ratio = 0.40):

Foundations	3000 PSI
Columns, beams, slabs, and walls	4000 PSI
Precast	5000 PSI
2. Concrete reinforcing steel - A615 Grade 60 except ties and stirrups Grade 40.
3. Structural steel - A36 unless otherwise indicated.
4. Structural steel for tubes A500, 46KSI.
5. Bolts A325, Stainless Steel = SS316
6. Structural wood and timber - fb = 1200 PSI min.
7. Design live loads:

100 PSF

8. Design Wind Loads:

Florida Building Code 2004 (see plans)
--
9. Soil bearing pressures:

Foundations are designed on the assumption of a minimum soil bearing value of 2500 PSF. It shall be the owner's responsibility to assure that the actual soil bearing value equals or exceeds this minimum and, if it is less, to make such provision as the actual conditions may require.

SHOP DRAWINGS

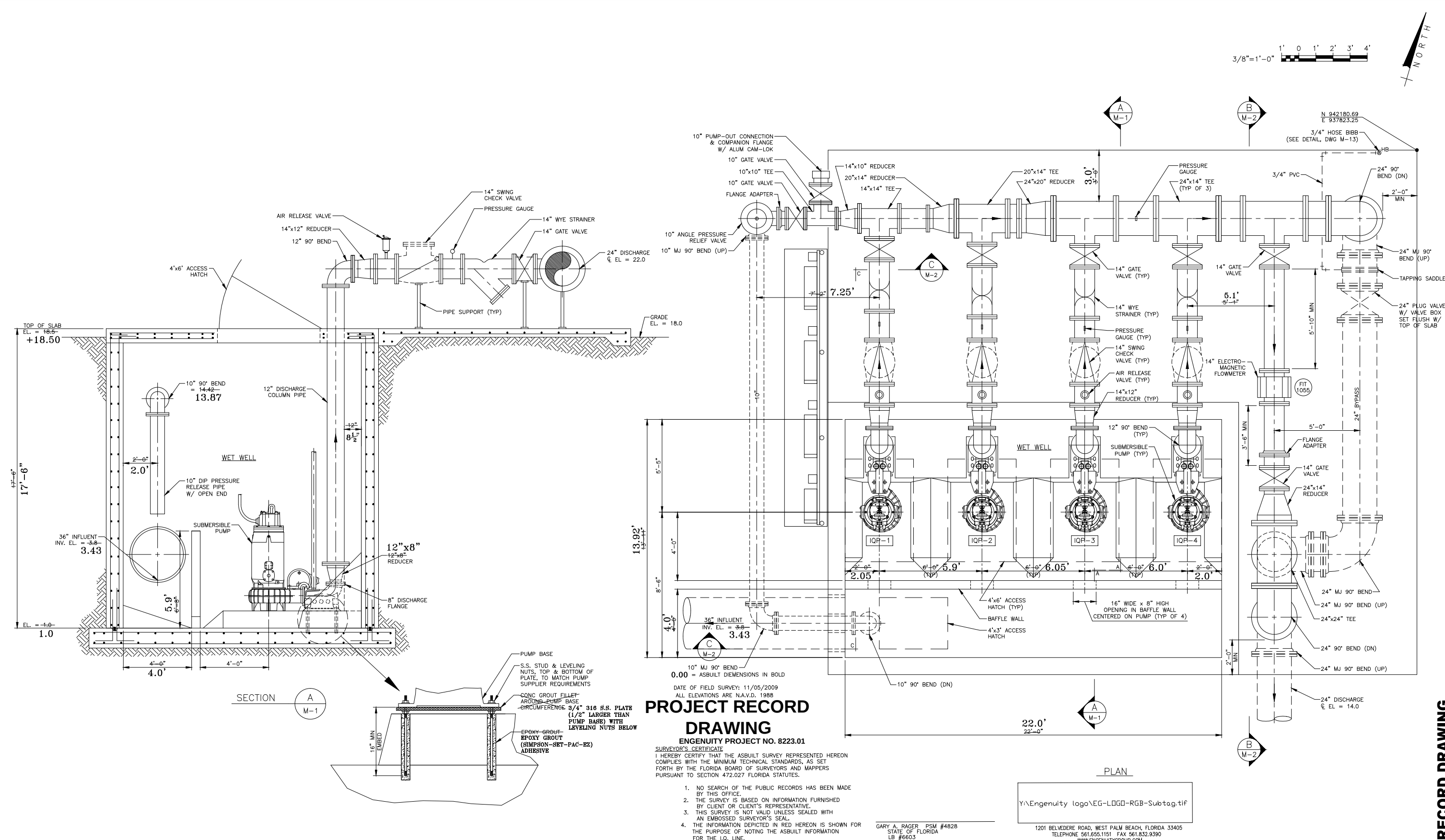
The engineer's review is only for conformance with the design concept of the project and compliance with the information given in the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication, processes, or to the means, methods, techniques, sequences and procedures of construction; and for coordination of the work of all trades. The engineer's approval of a specific item shall not include approval of an assembly of which the item is a component.

COATINGS

1. Refer to Specification 09900 for interior and exterior coating requirements.

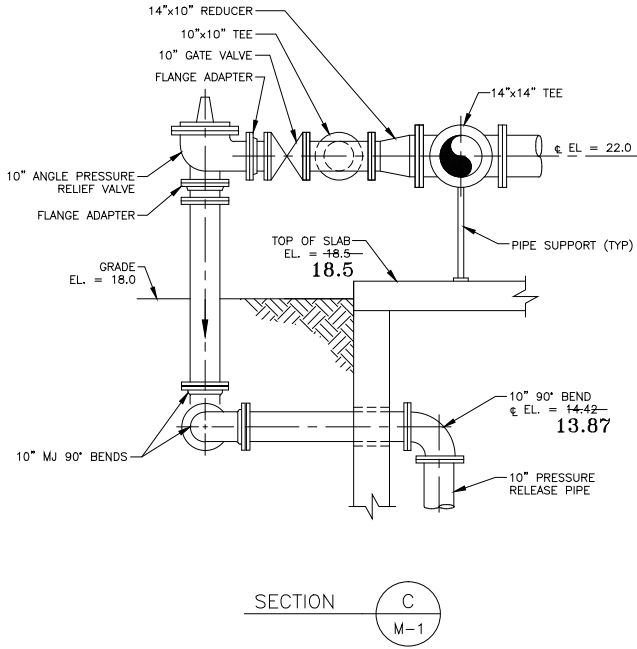
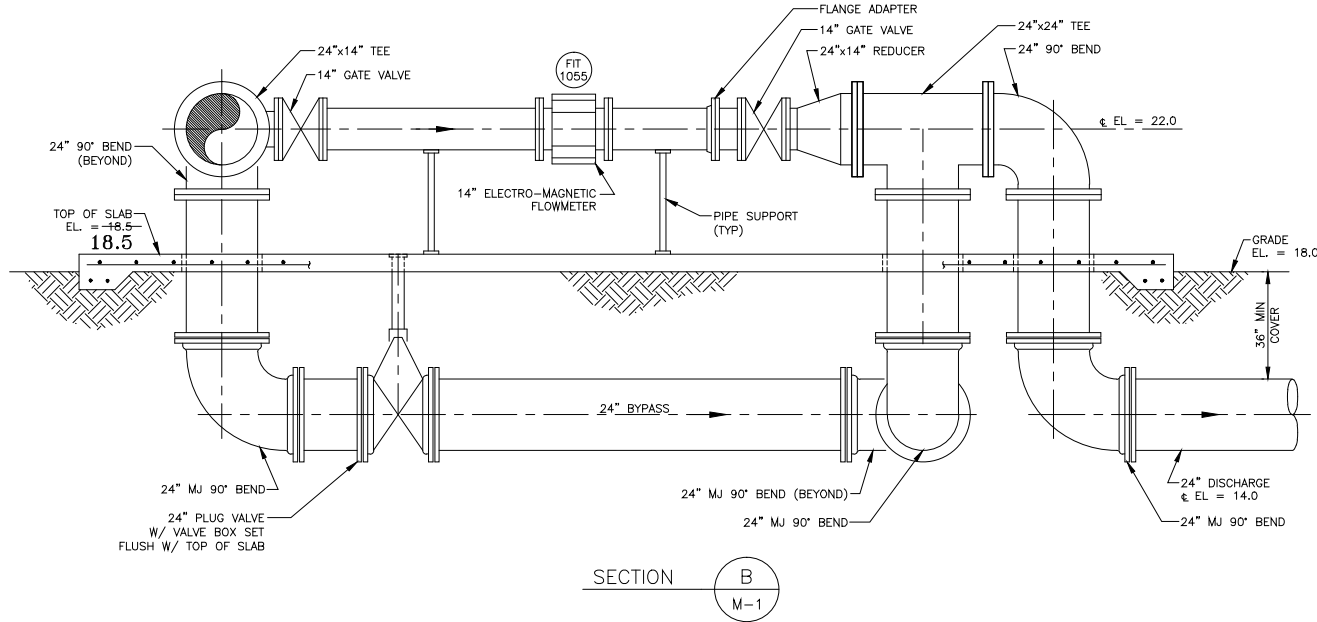
NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: CBL	BRIDGE DESIGN ASSOCIATES, INC. 1402 Royal Palm Bch. Blvd., Bldg. 200, Royal Palm Beach, FL 33411 Tel. (561) 686-3660 Fax (561) 791-1995 CONSULTING ENGINEERS FLORIDA E. B. NO. 4952	 MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL 33401 TEL: (561) 478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009
				DRAWN: CA	PROJECT NO. 07-621 JASON HANCHUK, P.E. No. 56787			CLIENT PROJECT NO.: _____	IQ PUMP STATION STRUCTURAL DETAILS SHEET 3	SHEET: 13 of 41
				CHECKED: JH			BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CAD REF.: _____		DRAWING: S-5
				APPROVED: JH						

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User Name : jdesousa



NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: R.L.M.	RENE L. MATHEWS, P.E. No. 49298	MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE 1" BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	ENGINEER NO.: 1453 CLIENT PROJECT NO.: CAD REF.: 1453M01-M02	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION IQ PUMP STATION MECHANICAL PLAN AND SECTIONS - SHEET 1	DATE: NOV. 2009
				DRAWN: J.A.J.						SHEET: 14 of 41
				CHECKED: D.L.M.						DRAWING: M-1
				APPROVED: R.L.M.						

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User Name : jdesousa



0.00 = ASBUILT DIEMENSIONS IN BOLD

DATE OF FIELD SURVEY: 06/16/2009
ALL ELEVATIONS ARE N.A.V.D. 1988

PROJECT RECORD DRAWING

ENGENUITY PROJECT NO. 8223.01

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE ASBUILT SURVEY REPRESENTED HEREON COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS, AS SET FORTH BY THE FLORIDA BOARD OF SURVEYORS AND MAPPERS PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

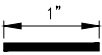
1. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THIS OFFICE.
2. THE SURVEY IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE.
3. THIS SURVEY IS NOT VALID UNLESS SEALED WITH AN EMBOSSED SURVEYOR'S SEAL.
4. THE INFORMATION DEPICTED IN RED HEREON IS SHOWN FOR THE PURPOSE OF NOTING THE ASBUILT INFORMATION FOR THE I.Q. LINE.

GARY A. RAGER PSM #4828
STATE OF FLORIDA
LB #6603

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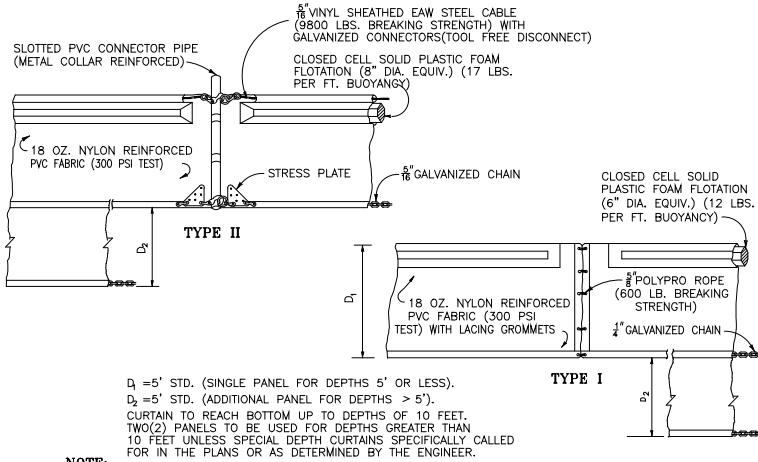
1201 BELVEDERE ROAD, WEST PALM BEACH, FLORIDA 33405
TELEPHONE 561.655.1151 FAX 561.832.9390
WWW.ENGENUITYGROUP.COM

3/8"=1'-0" 1' 0 1' 2' 3' 4'

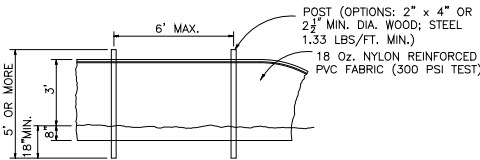
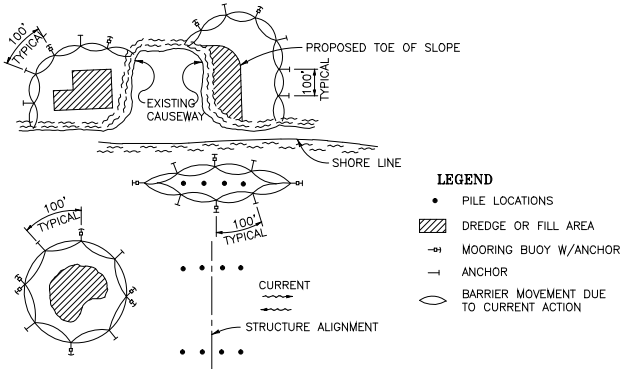
NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: R.L.M.	RENE L. MATHEWS, P.E. No. 49298	MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE  BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	ENGINEER NO.: 1453 CLIENT PROJECT NO.: _____ CAD REF.: 1453M01-M02	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	IQ PUMP STATION MECHANICAL PLAN AND SECTIONS – SHEET 2	DATE: NOV. 2009
				DRAWN: J.A.J.							SHEET: 15 of 41
				CHECKED: D.L.M.							DRAWING: M-2
				APPROVED: R.L.M.							

RECORD DRAWING

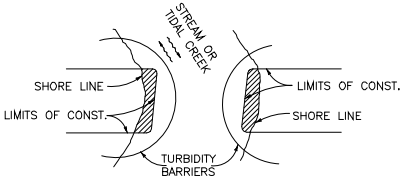
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User Name : jdesousa



NOTE:
COMPONENTS OF TYPES I AND II 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.



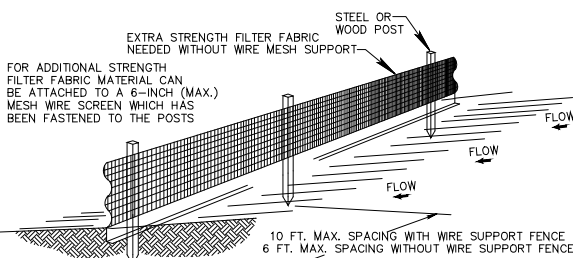
STAKED TURBIDITY BARRIER



NOTES:

1. TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATION OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
4. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
6. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

FLOATING TURBIDITY BARRIERS



NOTES:

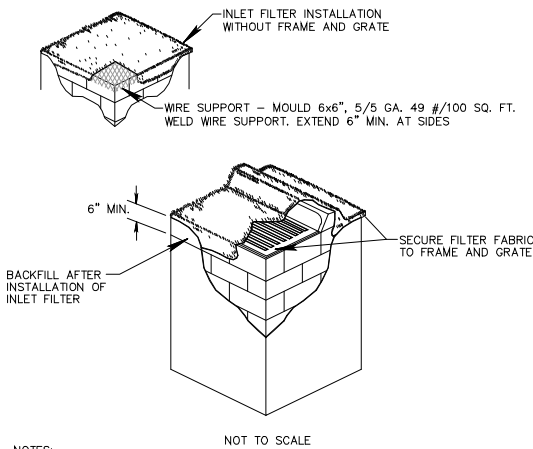
1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
7. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
8. ALL PROJECTS REQUIRE SUBMITTAL OF POLLUTION PREVENTION PLAN (PPP).
9. ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE								200psi			
		4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"
90° HORIZ. BEND		14	20	25	30	35	45	54	62	98	112	124	135
45° HORIZ. BEND		6	8	11	13	15	19	22	26	41	46	51	56
22.5° HORIZ. BEND		3	4	5	6	7	9	11	12	19	22	25	27
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6	10	11	12	13
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	15	16
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)		32	45	59	70	83	107	129	151	214	246	276	304
IN-LINE VALVE		32	45	45	45	45	55	65	80	110	125	140	155
TEE (BRANCH RESTRAINT)	4"x ø	23	-	-	-	-	-	-	-	-	-	-	-
	6"x ø	21	35	-	-	-	-	-	-	-	-	-	-
	8"x ø	18	34	47	-	-	-	-	-	-	-	-	-
	10"x ø	16	32	46	58	-	-	-	-	-	-	-	-
	12"x ø	13	30	44	57	69	-	-	-	-	-	-	-
	16"x ø	7	26	41	55	67	90	-	-	-	-	-	-
	20"x ø	1	21	38	52	65	88	109	-	-	-	-	-
	24"x ø	1	16	34	49	62	86	108	129	-	-	-	-
	30"x ø	1	8	28	44	58	83	106	127	208	-	-	-
	36"x ø	1	1	22	39	54	80	103	124	206	240	-	-
REDUCER (LARGER PIPE RESTRAINT)	42"x ø	1	1	15	33	49	77	100	122	205	239	270	-
	48"x ø	1	1	7	27	44	73	97	120	203	238	269	298
	6"x ø	23	-	-	-	-	-	-	-	-	-	-	-
	8"x ø	38	25	-	-	-	-	-	-	-	-	-	-
	10"x ø	57	43	24	-	-	-	-	-	-	-	-	-
200psi	12"x ø	72	60	44	41	-	-	-	-	-	-	-	-
	16"x ø	99	90	78	75	45	-	-	-	-	-	-	-
	20"x ø	123	116	107	105	81	45	-	-	-	-	-	-
	24"x ø	146	140	132	131	111	82	45	-	-	-	-	-
	30"x ø	209	204	197	188	177	153	116	75	-	-	-	-
200psi	36"x ø	243	236	233	226	217	196	168	135	74	-	-	-
	42"x ø	273	270	265	259	252	234	211	183	133	72	-	-
	48"x ø	301	298	294	289	283	268	249	226	183	131	71	-

- NOTES:
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE-SAND TEST PRESSURE-150 PSI/200 PSI DEPTH OF BURRY-3'
TRENCH TYPE-3 SAFETY FACTOR- 1.5 VERTICAL OFFSET-3'
MINIMUM PIPE LENGTH ALONG TEE RUN-5'
 2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
 3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
 4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.

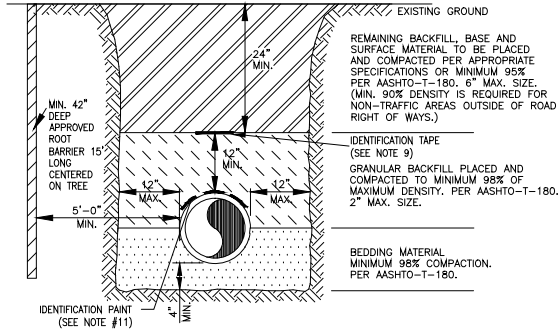
MECHANICAL THRUST RESTRAINT – MINIMUM PIPE LENGTHS



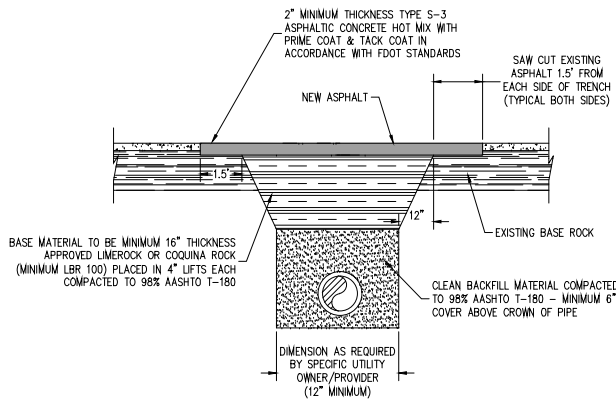
NOTES:

1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

A SEDIMENT TRAP WILL BE EXCAVATED BEHIND THE CURB AT THE INLET. THE BASIN AND APPROXIMATELY 7 TO 10 FEET IN LENGTH PARALLEL TO THE CURB. SHALL BE AT LEAST 12 TO 14 INCHES IN DEPTH, APPROXIMATELY 36 INCHES IN WIDTH. STORM WATER WILL REACH THE SEDIMENT TRAP VIA CURB CUTS ADJACENT TO EACH SIDE OF THE INLET STRUCTURE. THESE OPENINGS SHALL BE AT LEAST 12 INCHES IN LENGTH. STORM WATER MAY ALSO REACH THE BASIN VIA OVERLAND FLOW LAND AREA BEHIND THE CURB. THE CURB CUTS SHALL BE REPAIRED WHEN THE SEDIMENT TRAP IS REMOVED.



TYPICAL TRENCH / ROOT BARRIER INSTALLATION DETAIL



NOTES:

1. ALL BACKFILL WILL REQUIRE COMPACTION TO DENSITY SPECIFICATIONS, WITH DENSITY TESTS FOR ALL LIFTS.
2. SAW CUT ASPHALT BEFORE EXCAVATING AND AS REQUIRED PRIOR TO NEW ASPHALT PLACEMENT.
3. ASPHALT SHALL BE ROLLED/COMPACTED TO A SMOOTH UNIFORM SURFACE, LEVEL WITH EXISTING/ADJOINING ASPHALT.
4. MINIMUM DENSITY SHALL BE 94% OF MAXIMUM DESIGN DENSITY FOR ASPHALT MIX.

PAVEMENT RESTORATION

(N.T.S.)

NO.	DATE	ISSUED FOR	APRV'D BY

DESIGNED: R.L.M.
DRAWN: J.A.J.
CHECKED: D.L.M.
APPROVED: R.L.M.

RENE L. MATHEWS, P.E.
No. 49298

MATHEWS CONSULTING INC.
Civil and Environmental Engineers
1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401
TEL. (561)478-7961 LICENSE No. E.B.-0007929

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1453
CLIENT
PROJECT NO.:
CAD REF.: 1453M12-M13

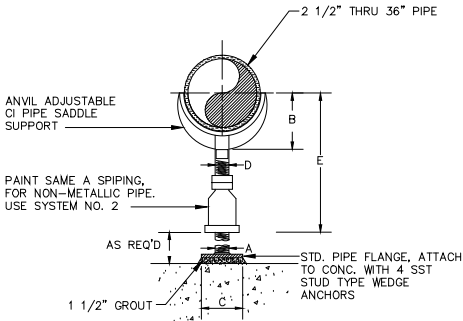
LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ WATER PUMP STATION

IQ PUMP STATION
MECHANICAL DETAILS – SHEET 1

DATE: NOV. 2009
SHEET: 25 of 41
DRAWING: M-12

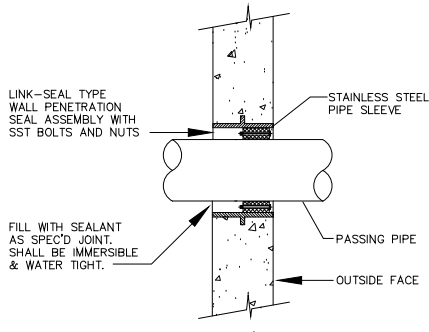
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User Name : jdesousa

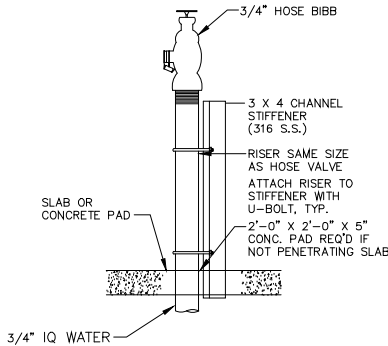


PIPE SUPPORT DETAIL
N.T.S.

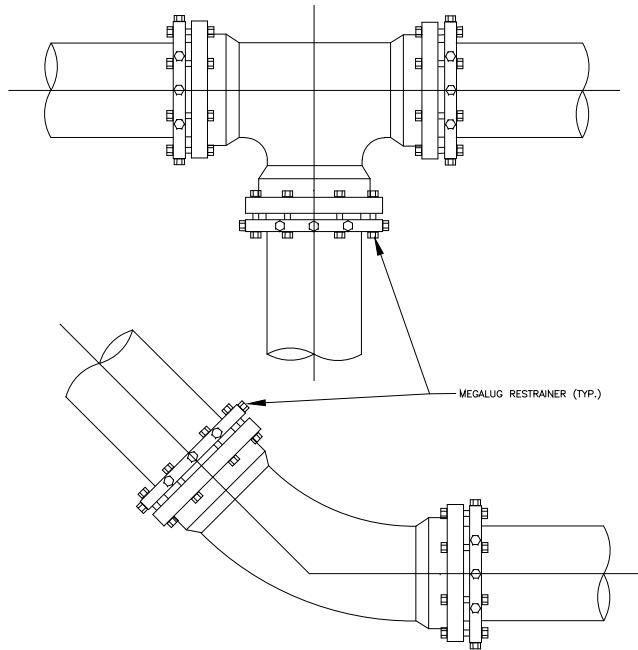
PIPE SIZE	DIMENSIONS TABLE					
	"A"	"B"	"C"	"D"	"D"	
					MIN.	MAX.
2 1/2	2 1/2	3 1/2	7	1 1/2	8	12
3	2 1/2	3 3/4	7	1 1/2	8 1/4	13 1/4
3 1/2	2 1/2	4	7	1 1/2	8 1/2	13 1/2
4	3	4 1/4	7 1/2	2 1/2	9 1/4	14
5	3	4 7/8	7 1/2	2 1/2	10"	14 3/4
6	3	5 1/2	7 1/2	2 1/2	10 1/2	15 1/4
8	3	6 7/8	7 1/2	2 1/2	11 3/4	16 1/2
10	3	8 1/2	7 1/2	2 1/2	13 1/2	18 1/4
12	3	9 15/16	7 1/2	2 1/2	15	19 3/4
14	3	10 15/16	9	3	16 1/4	20 3/4
16	4	12 3/8	9	3	17 3/4	22 1/4
18	4	13 7/8	11	3 1/2	19 1/2	24
20	6	15 3/8	11	3 1/2	21	25 1/2
24	6	17 15/16	11	4	23 3/4	28 1/4
30	6	21 5/16	11	4	27	31 1/2
32	6	22 1/2	11	4	28 1/4	32 3/4
36	6	24 1/2	11	4	30 1/4	34 3/4



WALL PENETRATION SEAL DETAIL
N.T.S.



EXTERIOR HOSE BIBB DETAIL
N.T.S.



- NOTE: 1. RETAINER GLANDS FOR PVC PIPE OR DUCTILE IRON PIPE SHALL BE USED AT BEND'S OR TEE'S; RETAINER GLANDS SHALL BE MANUFACTURED BY UNI-FLANGE CORP., OR "MEGALUG" BY EBAA IRON SALES INC., OR DISTRICT APPROVED EQUAL.
2. THE NUMBER OF JOINTS RESTRAINED EACH SIDE OF ANY FITTING OR VALVE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATION.
3. ALL BEND'S & TEE'S SHALL HAVE AN EMS INSTALLED.
4. SEE ALTERNATE RESTRAINT FITTING: SD-13

FORCE MAIN THRUST RESTRAINT
(N.T.S.)

• STANDARD WATER AND SEWER SEPARATION STATEMENT

SEPARATION REQUIREMENTS

62-555.314 F.A.C. AUGUST 28, 2003

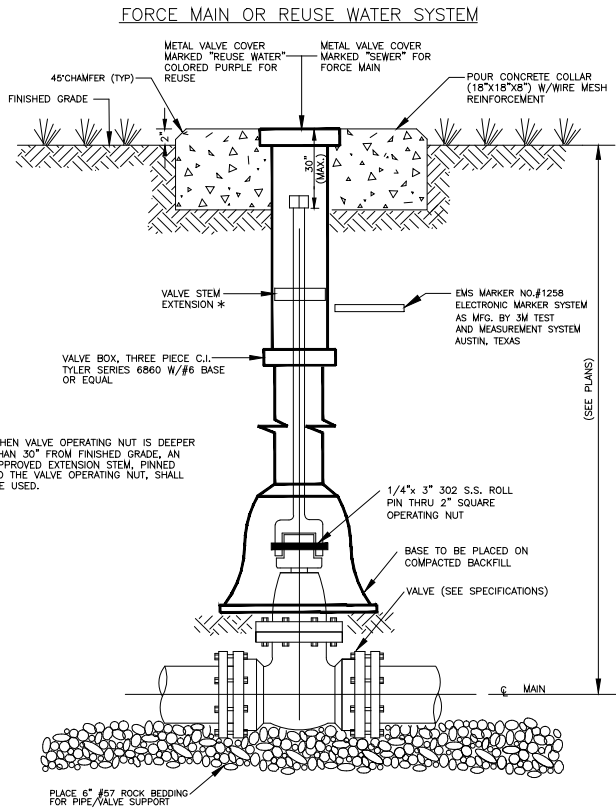
HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

- NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
- NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM, HORIZONTAL SEPARATION BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
- NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S. AND RULE 64E-6.002, F.A.C.

VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES.

- NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES ABOVE, OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATERMAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPHS 1 AND 2 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS SHALL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

*REQUIRED BY: HRS, STATE OF FLORIDA, PALM BEACH COUNTY PUBLIC HEALTH UNIT



BURIED VALVE DETAIL
(N.T.S.)

I. FORCE MAIN OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE.
(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE- PSI	PIPE DIAMETER (INCHES)															
	2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38	1.65	1.93	2.20
200	0.10	0.15	0.21	0.31	0.42	0.53	0.63	0.74	0.84	0.95	1.06	1.27	1.59	1.91	2.22	2.54

NOTES:

- TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9
- THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
- MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.
- THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600, HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF THE RECOMMENDED LIMIT PER APPLICABLE AWWA C-600 STANDARD.
- STANDARD TEST PRESSURE = 150 P.S.I.; 200 P.S.I. FOR MAINS LARGER THAN 24"
- FORMULA BASIS: $L = \frac{(S) \times (D) \times (P)^{1/2}}{133,200} \times 1/2$
L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)
- PRESSURE TEST DURATION TO BE MIN. 2 HOURS.

II. FORCE MAIN AND GRAVITY WASTEWATER MAIN WITHIN WELLFIELD PROTECTION ZONE.

- NOTES: 1. PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600 STANDARD (150psi, (2) HOUR DURATION).
2. THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

WASTEWATER PRESSURE TEST CRITERIA

RECORD DRAWING

NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: R.L.M.	DRAWN: J.A.J.	CHECKED: D.L.M.	APPROVED: R.L.M.	RENE L. MATHEWS, P.E. No. 49298	VERIFY SCALE 1" BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	ENGINEER NO.: 1453 CLIENT PROJECT NO.: CAD REF.: 1453M12-M13	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION IQ PUMP STATION MECHANICAL DETAILS - SHEET 2	DATE: NOV. 2009 SHEET: 26 of 41 DRAWING: M-13
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User Name : jdesousa

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DRAWN:	<u> J.A.J. </u>
CHECKED:	<u> D.L.M. </u>
APPROVED:	<u> R.L.M. </u>

RENE L. MATHEWS, P.E. No. 49298



MATHEWS

CONSULTING INC.

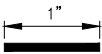
Civil and Environmental Engineers

1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401

TEL (561)478-7961

LICENSE No. E.B.-0007929

VERIFY SCALE

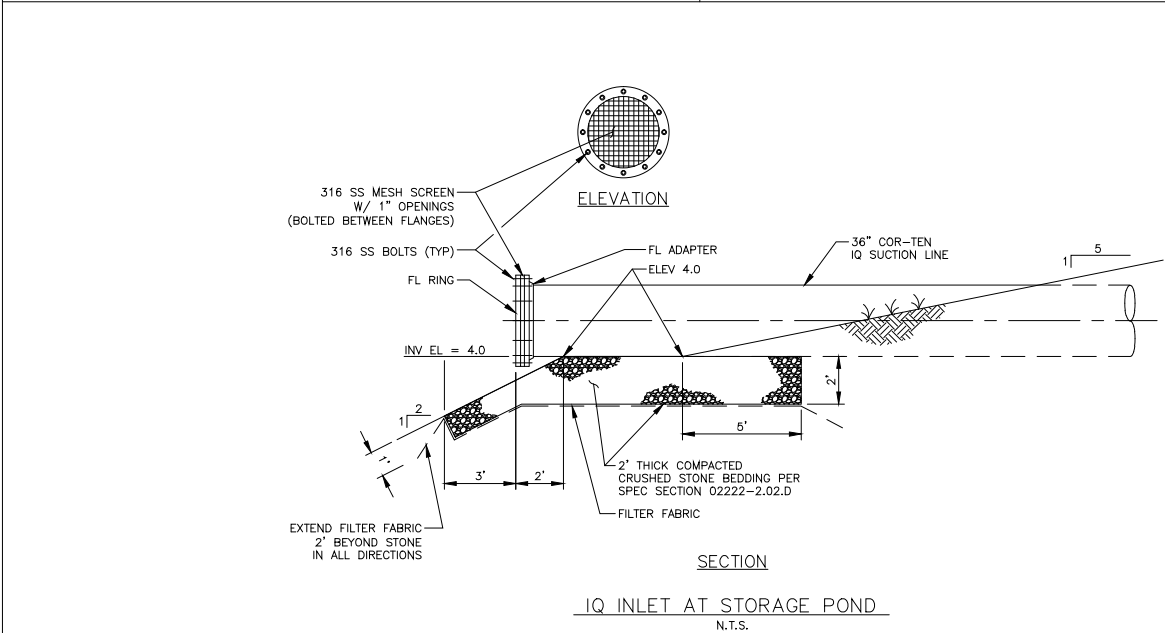
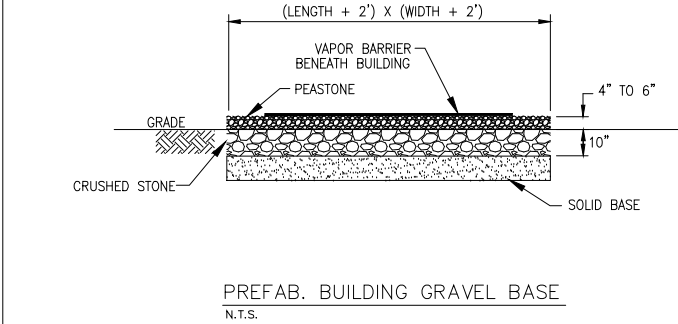
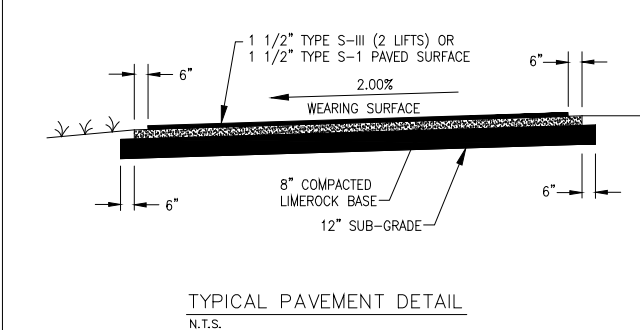
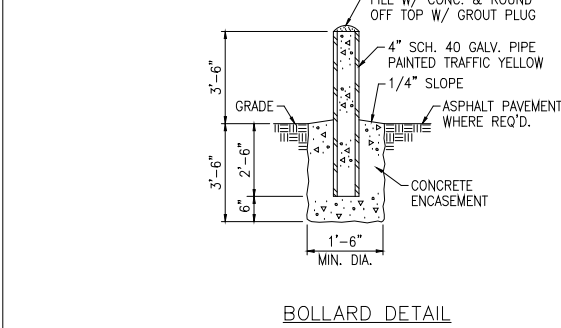
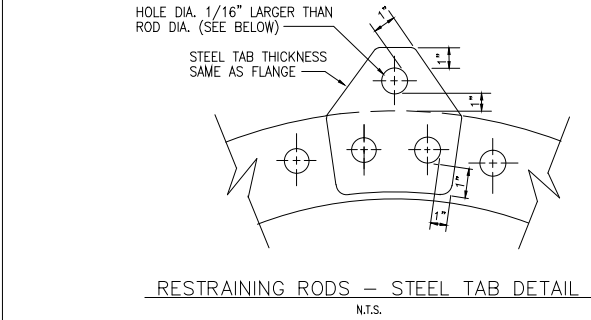


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ENGINEER NO.: 1453
CLIENT PROJECT NO.: _____
CAD REF.: <u> 1453M14 </u>

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION
IQ PUMP STATION MECHANICAL DETAILS – SHEET 3

DATE: NOV. 2009
SHEET: 27 of 41
DRAWING: M-14



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User Name : jdesousa

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DRAWN:	RRM
CHECKED:	LMR
APPROVED:	LMR

LILLIAN M. REYES, P.E. No. 50780



MATHEWS

CONSULTING INC.

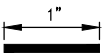
Civil and Environmental Engineers

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LICENSE No. E.B.-0007929

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CLIENT PROJECT NO.: _____
CAD REF.: RISR

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION
RISER DIAGRAM

DATE: NOV. 2009
SHEET: 30 of 41
DRAWING: E-3

MCC LOAD TABULATION

SERVICE VOLTAGE: 480-3Ø

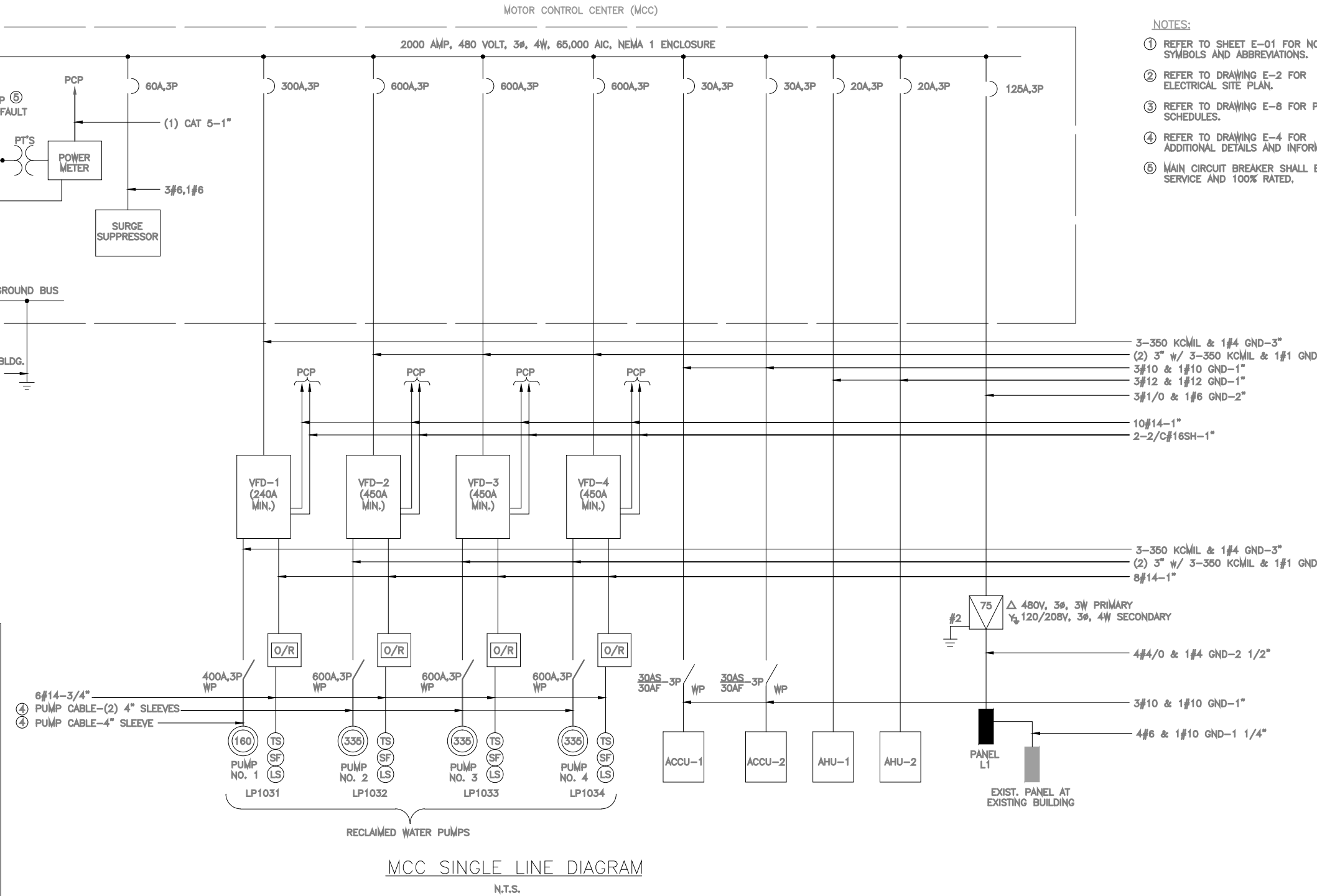
DESCRIPTION	LOAD	AMPACITY
RECLAIM PUMP NO. 1	1 @ 160 HP	= 198.72 AMPS
RECLAIM PUMP NO. 2	1 @ 335 HP	= 416.07 AMPS
RECLAIM PUMP NO. 3	1 @ 335 HP	= 416.07 AMPS
RECLAIM PUMP NO. 4	1 @ 335 HP	= 416.07 AMPS
PANEL L1	1 @ 75 KVA	= 90.20 AMPS
AHU-1		= 23.90 AMPS
AHU-2		= 23.90 AMPS
ACCU-1		= 15.00 AMPS
ACCU-2		= 15.00 AMPS
TOTAL CONNECTED LOAD		= 1614.93 AMPS

② MINIMUM SERVICE ENTRANCE = 1614.93 AMPS + (0.25)(416.07) = 1718.94 AMPS

NOTES:

① AMPACITIES PER TABLE 430-250 OF THE NATIONAL ELECTRIC CODE.

② SERVICE ENTRANCE MINIMUM SIZE AS PER ARTICLE 230 OF THE NATIONAL ELECTRIC CODE.



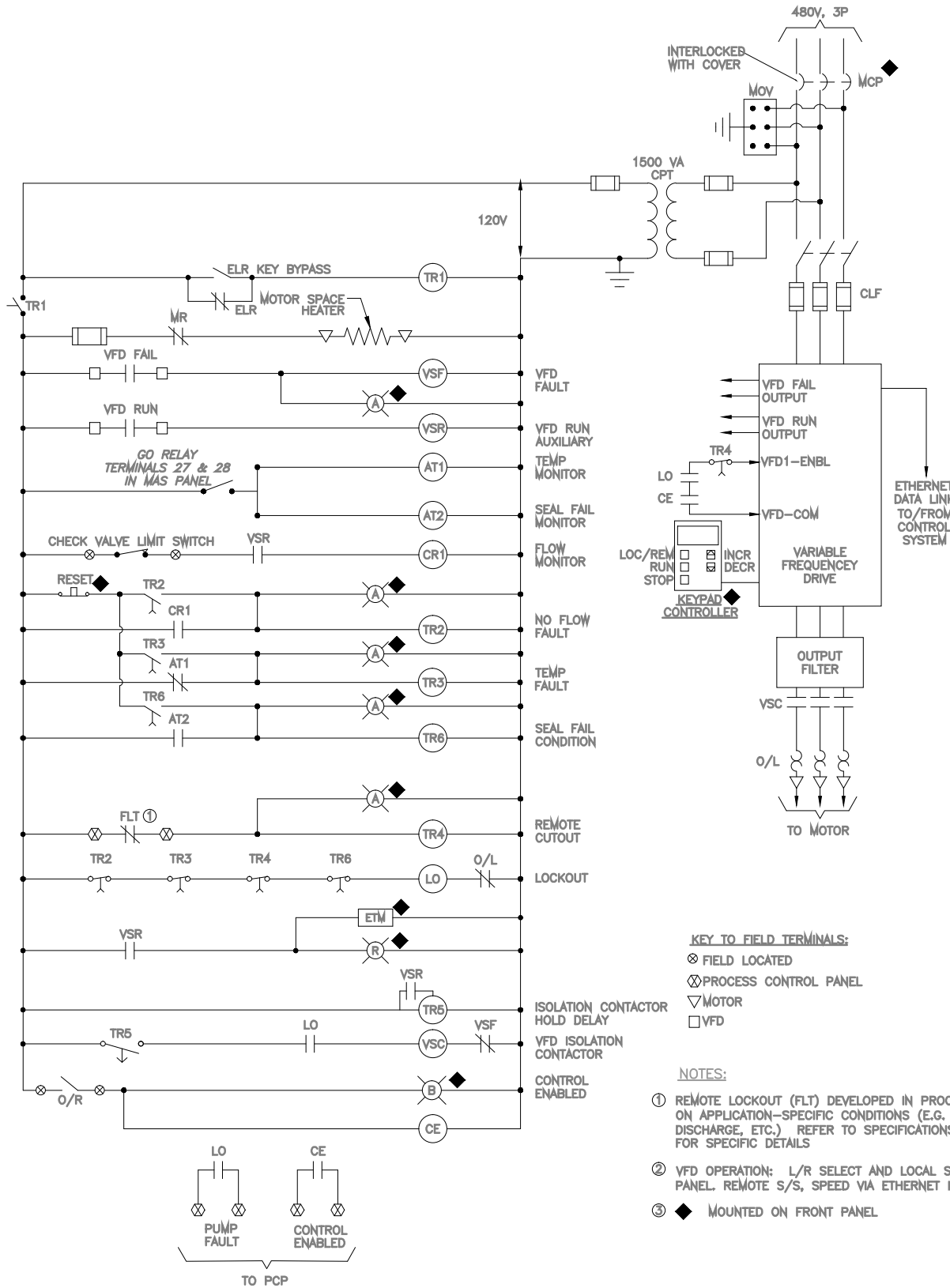
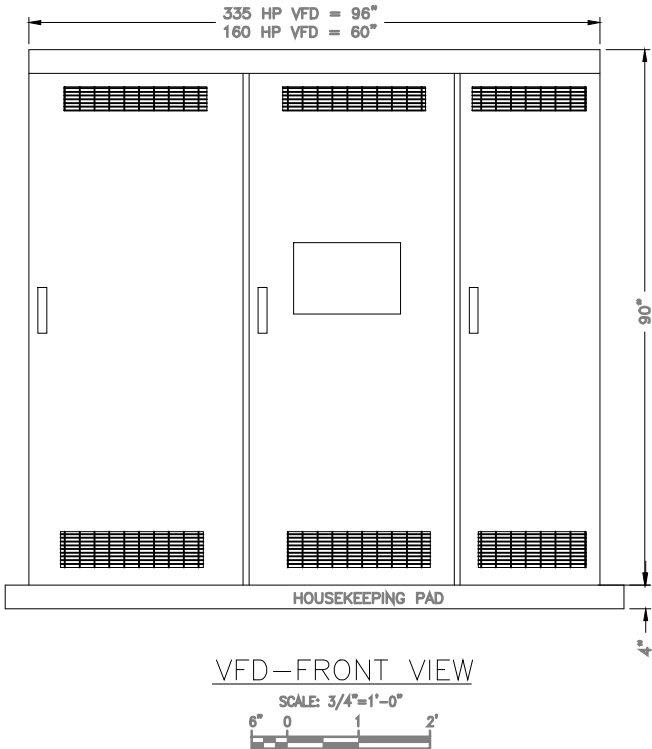
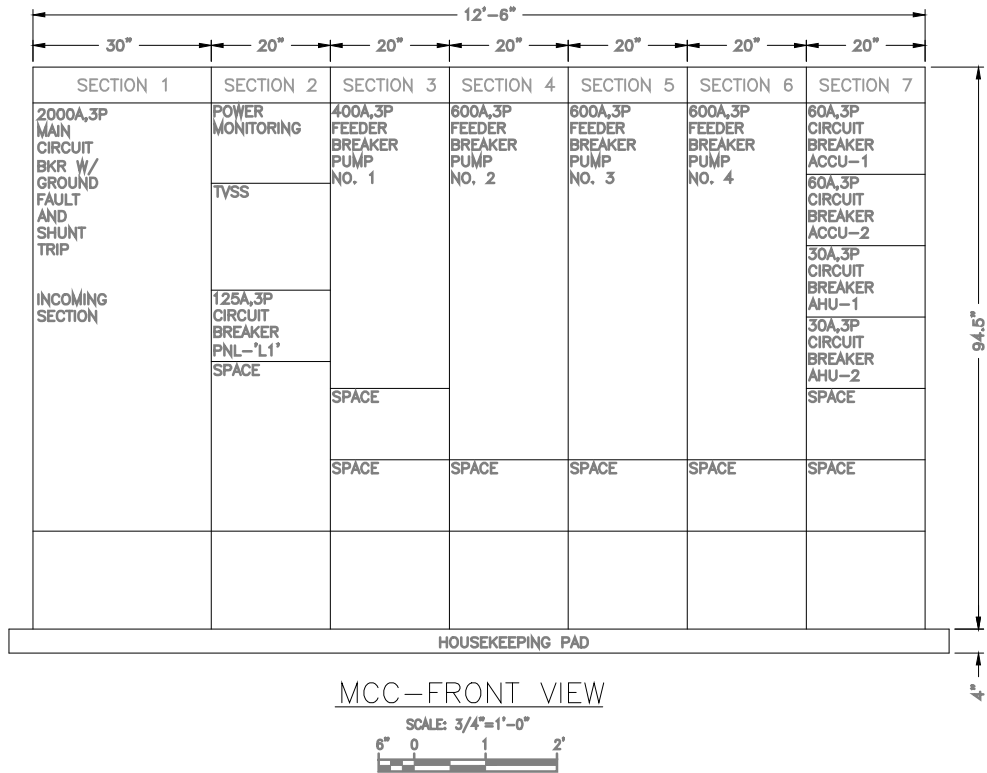
- NOTES:
- REFER TO SHEET E-01 FOR NOTES, SYMBOLS AND ABBREVIATIONS.
 - REFER TO DRAWING E-2 FOR ELECTRICAL SITE PLAN.
 - REFER TO DRAWING E-8 FOR PANEL SCHEDULES.
 - REFER TO DRAWING E-4 FOR ADDITIONAL DETAILS AND INFORMATION.
 - MAIN CIRCUIT BREAKER SHALL BE SERVICE AND 100% RATED.



Electrical Design Associates
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C.O.A. No. 8079
LILLIAN M. REYES, P.E.
Florida P.E. No. 50780

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User Name : desousa



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Florida P.E. No. 50780

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				APPROVED: LMR

LILLIAN M. REYES, P.E.
No. 50780

MATHEWS CONSULTING INC.
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VERIFY SCALE
1"
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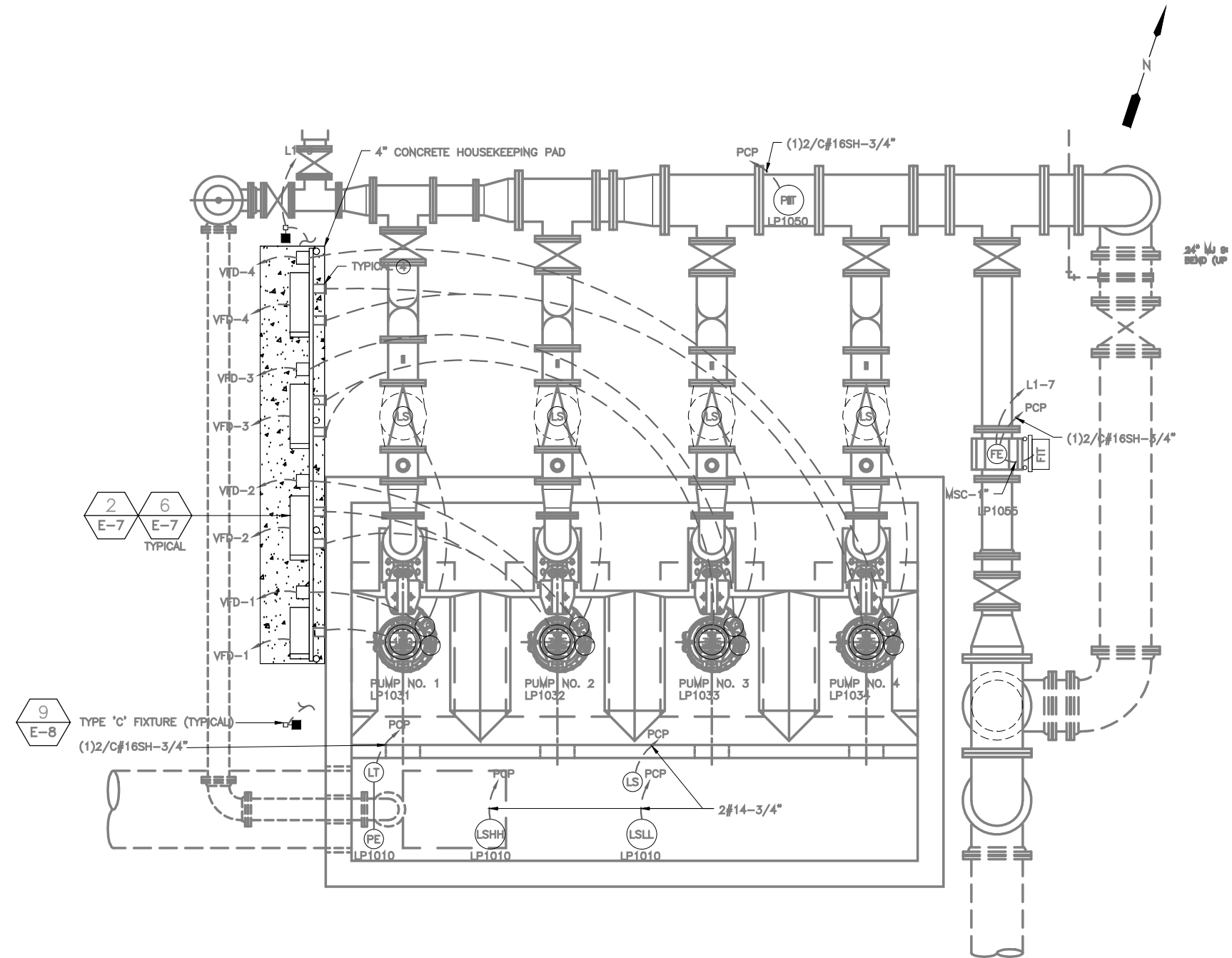
ENGINEER NO.: 1453
CLIENT PROJECT NO.:
CAD REF.: RISER

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ WATER PUMP STATION

EQUIPMENT FRONT VIEWS

DATE: NOV. 2009
SHEET: 31 of 41
DRAWING: E-4

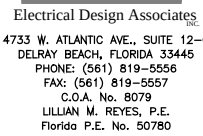
- ① REFER TO SHEET E-1 FOR NOTES, SYMBOLS AND ABBREVIATIONS.
- ② REFER TO DRAWING E-2 FOR SITE PLAN.
- ③ REFER TO DRAWING E-3 FOR SINGLE LINE DIAGRAM AND ADDITIONAL CONDUIT AND WIRE REQUIREMENTS.
- ④ CONTRACTOR TO FURNISH AND INSTALL 4" CONDUIT SLEEVES FROM DISCONNECT SWITCH TO TO WET WELL FOR PUMP CABLE INSTALLATION.



SCALE: $\frac{3}{8}'' = 1' - 0''$



A horizontal graphic scale bar with alternating black and white segments. It is marked with the numbers 0, 1, 2, and 4, representing feet. The total length of the bar is 4 feet.

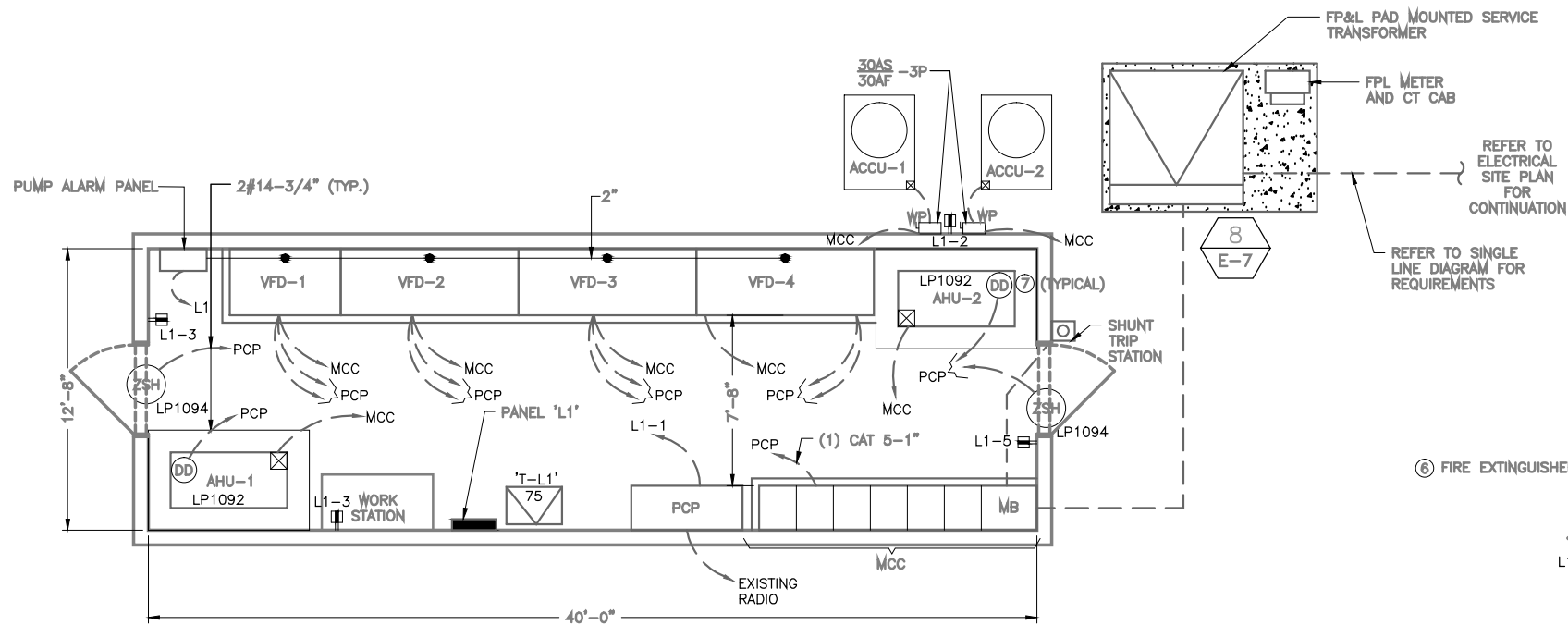


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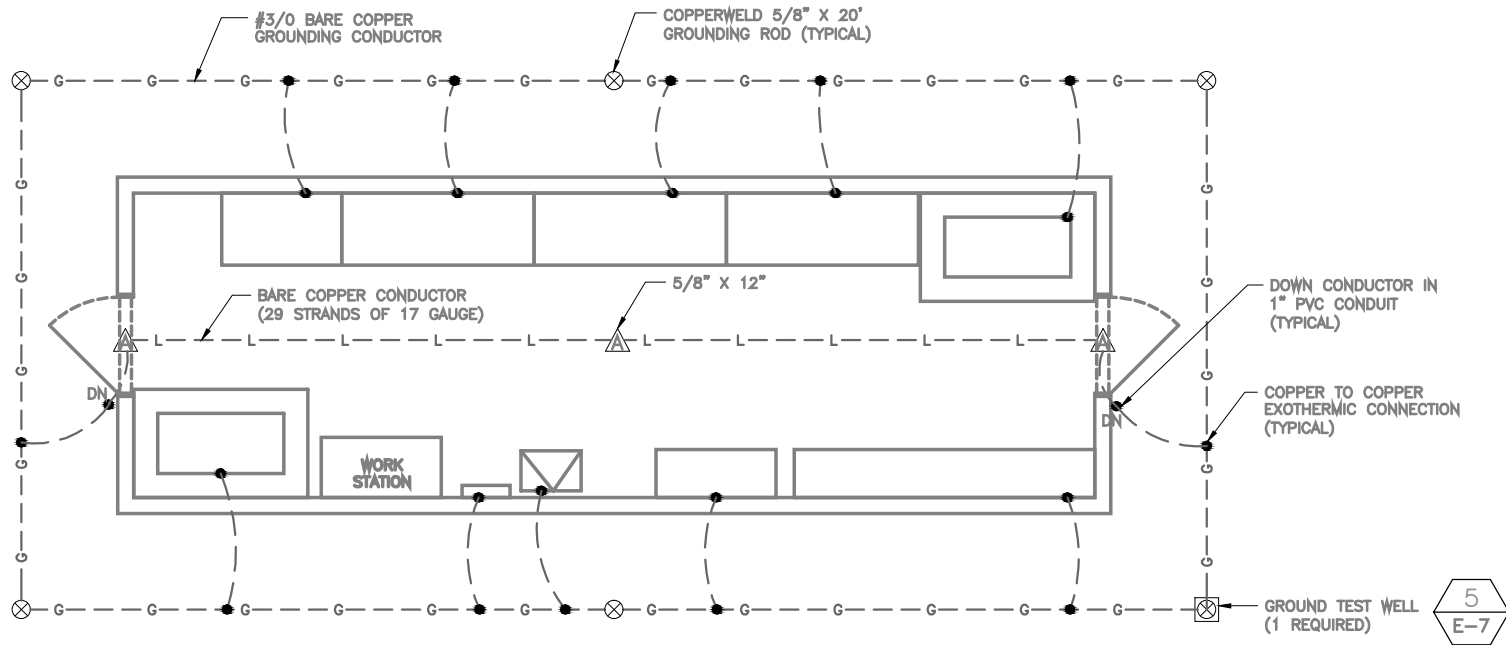
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User Name : jdesousa



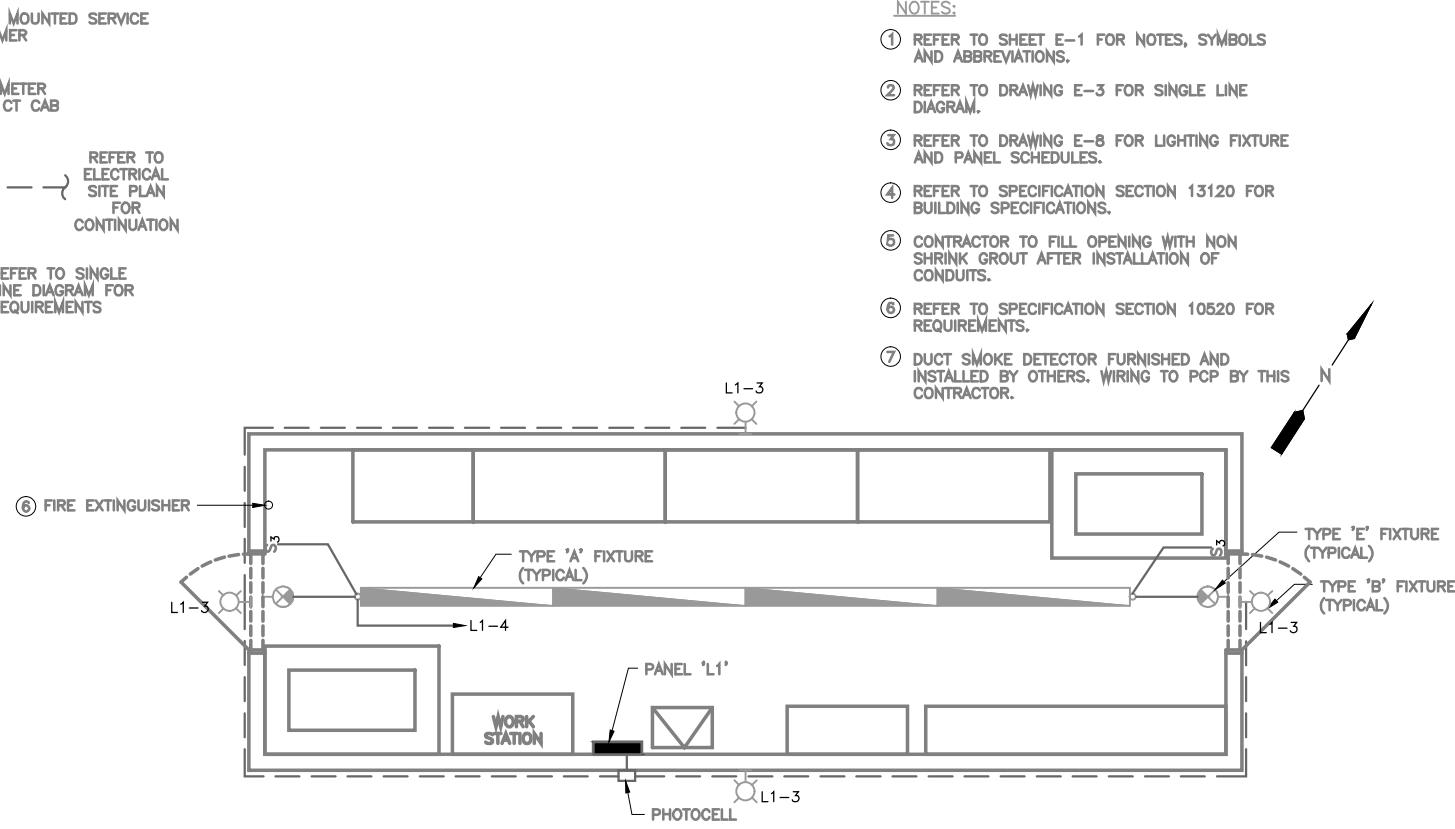
POWER PLAN

SCALE: 1/4"=1'-0"



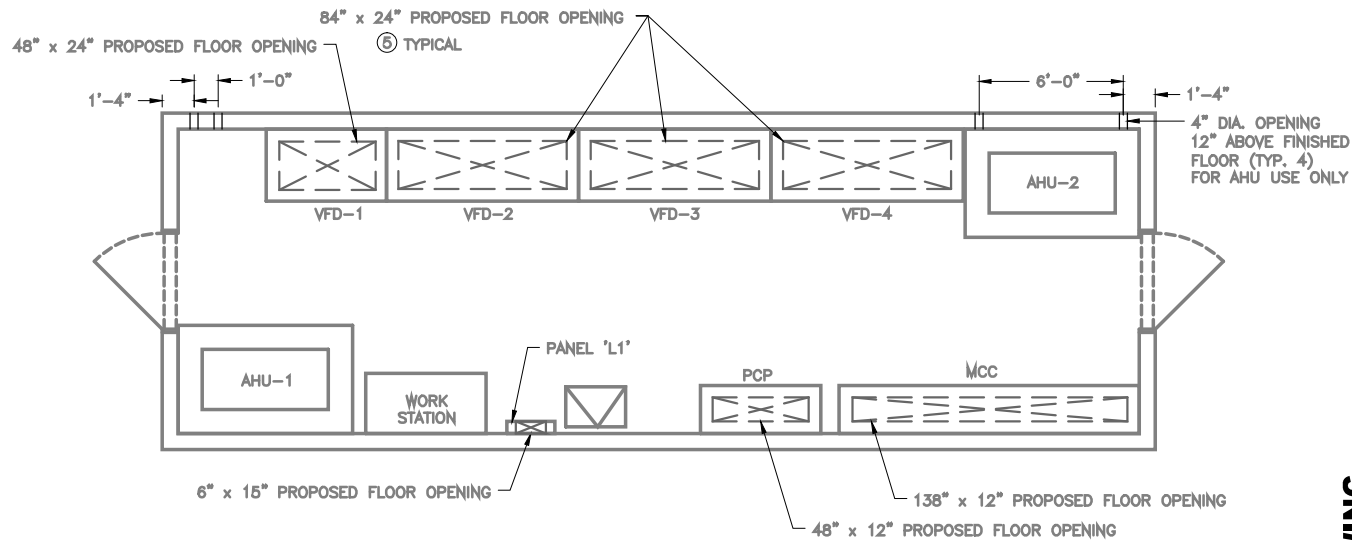
GROUNDING/LIGHTNING PROTECTION PLAN

SCALE: 1/4"=1'-0"



LIGHTING PLAN

SCALE: 1/4"=1'-0"



FLOOR AND WALL OPENING PLAN

SCALE: 1/4"=1'-0"

- NOTES:
- REFER TO SHEET E-1 FOR NOTES, SYMBOLS AND ABBREVIATIONS.
 - REFER TO DRAWING E-3 FOR SINGLE LINE DIAGRAM.
 - REFER TO DRAWING E-8 FOR LIGHTING FIXTURE AND PANEL SCHEDULES.
 - REFER TO SPECIFICATION SECTION 13120 FOR BUILDING SPECIFICATIONS.
 - CONTRACTOR TO FILL OPENING WITH NON SHRINK GROUT AFTER INSTALLATION OF CONDUITS.
 - REFER TO SPECIFICATION SECTION 10520 FOR REQUIREMENTS.
 - DUCT SMOKE DETECTOR FURNISHED AND INSTALLED BY OTHERS. WIRING TO PCP BY THIS CONTRACTOR.



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APPROVED:	LMR

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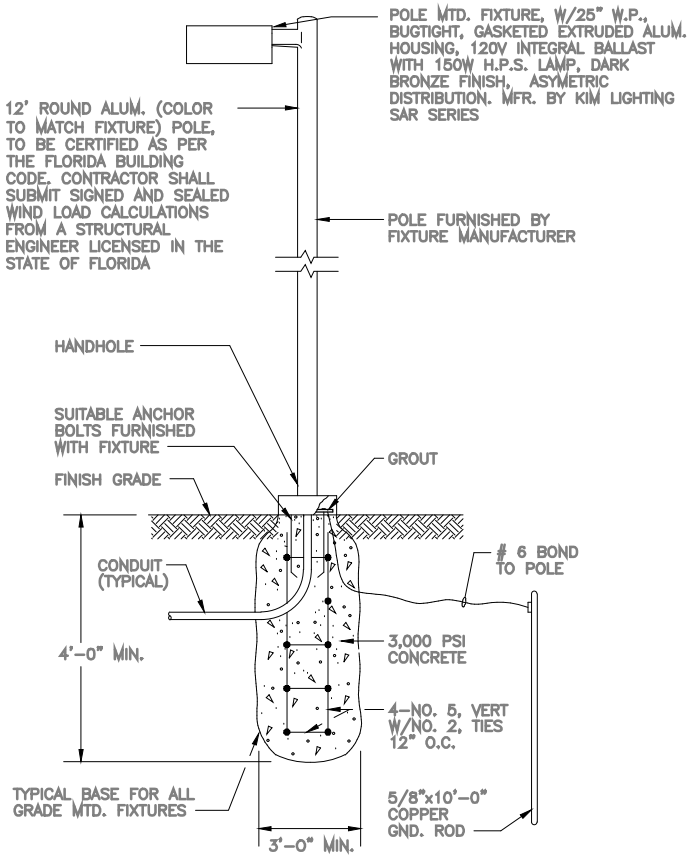
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ENGINEER NO.: 1453
CLIENT PROJECT NO.: _____
CAD REF.: PLAN

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION
ELECTRICAL ROOM - POWER, LIGHTING AND GROUNDING/LIGHTNING PROTECTION

DATE: NOV. 2009
SHEET: 33 of 41
DRAWING: E-6

LIGHTING FIXTURE SCHEDULE				
TYPE	WATT	DESCRIPTION	MANUFACTURER INFORMATION	
A	160	8'-0" LONG, VAPOR-TIGHT, GASKETED FLUORESCENT FIXTURE W/3-32 WATT R.S. LAMPS, NON-CORROSIVE ALUMINUM HOUSING, HIGH IMPACT ACRYLIC LENS, 120V, ESB. SUITABLE FOR WET LOCATIONS W/ BATTERY BACK UP.	COLUMBIA HOLOPHANE DAY-BRITE	
B	50	WALL MOUNTED OUTDOOR FIXTURE W/50 WATT H.P.S. LAMP AND 120V LOW LOSS BALLAST. GASKETED, DIE-CAST ALUMINUM HOUSING, PRISMATIC REFRACTOR, CONTROL, ALUMINUM BACKPLATE, SHARP CUTOFF, TYPE III DISTRIBUTION.	GENERAL ELECTRIC HOLOPHANE EMCO LIGHTING	
C	150	REFER TO DETAIL ON THIS SHEET	KIM LIGHTING	
		EMERGENCY LIGHTING UNIT, SELF CONTAINED AUTO-CHARGING BATTERY BACK-UP W/TEST SWITCH & PILOT LIGHT, SEALED NICKEL CADMIUM BATTERY, (2) EF-18 HEADS W/9 WATT HIT LAMP PER HEAD. 120V-AC, 12V-DC.	EMERGI-LITE HOLOPHANE	
		EXIT SIGN W/CAST ALUMINUM HOUSING & ALUMINUM STENCIL FACE, BLACK BAKED ENAMEL FINISH, SEALED NICKEL CADMIUM BATTERY, SELF CONTAINED AUTO-CHARGING, WALL OR CEILING MOUNTED AS REQUIRED. 120V-AC, 12V-DC.	EMERGI-LITE HOLOPHANE	



9
E-8 TYPE 'C' POLE MOUNTED FIXTURE DETAIL
N.T.S.

PANEL: L1 (FROM MCC VIA T-L1)										BUS: 225 AMP					VOLT: 208Y/120V-3φ-4W & GND					
LOCATION: ELEC. ROOM										MAINS: 225 AMP-3P-C/B					REMARKS: -					
MOUNTING: SURFACE										POLES: 42					A.I.C. SYMM: 10,000					
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS
						A	B	C	A	B	C	A	B	C						
20	1	12	12	3/4"	PCP	1.00			1	●	2	0.54			RECEPTACLE (ACCU'S)	12	12	3/4"	1	20
20	1	12	12	3/4"	EXTERIOR LIGHTING (BLDG)	0.25			3	●	4	0.64			ELEC. ROOM LIGHTING	12	12	3/4"	1	20
20	1	12	12	3/4"	ELEC. ROOM RECEPTACLES			0.54	5	●	6			-	SPARE	-	-	-	1	20
20	1	12	12	3/4"	FIT	0.30			7	●	8			-	SPARE	-	-	-	1	20
20	1	10	10	3/4"	EXTERIOR LTG (PUMP STATION)		0.30		9	●	10			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE			-	11	●	12			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE		-		13	●	14			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE		-		15	●	16			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE			-	17	●	18			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE		-		19	●	20			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE		-		21	●	22			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE			-	23	●	24			-	SPARE	-	-	-	1	20
20	1	-	-	-	SPARE		-		25	●	26			-	SPARE	-	-	-	1	20
-	-	-	-	-	SPACE		-		27	●	28			-	SPACE	-	-	-	-	-
-	-	-	-	-	SPACE			-	29	●	30			-	SPACE	-	-	-	-	-
-	-	-	-	-	SPACE		-		31	●	32			-	SPACE	-	-	-	-	-
-	-	-	-	-	SPACE		-		33	●	34			-	SPACE	-	-	-	-	-
-	-	-	-	-	SPACE			-	35	●	36			-	SPACE	-	-	-	-	-
↑	↑	↑	↑	↑	↑	5.00			37	●	38	0.10			SURGE SUPPRESSOR	↑	↑	↑	↑	↑
60	3	6	10	1 1/4"	EXIST PANEL (L1-2)		5.00		39	●	40	0.10				6	6	-	3	40
↓	↓	↓	↓	↓	↓			5.00	41	●	42		0.10		↓	↓	↓	↓	↓	↓
TOTAL (PHASE):						6.30	5.75	5.54				0.64	0.74	0.10	NOTES:					
TOTAL KVA:									19.57						-					
TOTAL AMPS:									53.32											
TOTAL DEMAND AMPS:									53.32											
TVSS																				

NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: JPM
				DRAWN: RRM
				CHECKED: LMR
				APPROVED: LMR

LILLIAN M. REYES, P.E.
No. 50780

MATHEWS CONSULTING INC.
Civil and Environmental Engineers
1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401
TEL. (561)478-7961 LICENSE No. E.B.-0007929

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.
ENGINEER NO.: 1453
CLIENT PROJECT NO.:
CAD REF.: RISER

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ WATER PUMP STATION
LIGHTING AND PANEL SCHEDULES

DATE: NOV. 2009
SHEET: 35 of 41
DRAWING: E-8

EDA
Electrical Design Associates, INC.
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LILLIAN M. REYES, P.E.
Florida P.E. No. 50780

RECORD DRAWING

ABBREVIATIONS

NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: <u>JPM</u>	LILLIAN M. REYES, P.E. No. 50780
				DRAWN: <u>RRM</u>	
				CHECKED: <u>LMR</u>	
				APPROVED: <u>LMR</u>	

NOTE A: PROVIDE UNIT WITH THE FOLLOWING OPTIONS: LOW AMBIENT HEAD PRESSURE CONTROL TO 0°F, CONDENSOR COIL GUARD, RUBBER-IN-SHEAR VIBRATION ISOLATORS, ANTI-SHORT CYCLE RELAY, TIME DELAY RELAY, BLACK EPOXY COATED COIL. PROVIDE FIELD APPLIED ADSIL AD-35, THERMOGUARD, OR EQUAL CORROSION RESISTANT COATING ON THE ENTIRE UNIT INCLUDING ALL PIPING (EXCEPT FACTORY COATED COIL) AND CABINETRY. UNIT MCA IS 23.9 AMPS AND MAXIMUM FUSE OR CIRCUIT BREAKER SIZE IS 30 AMPS.

NOTE B: PROVIDE UNIT WITH THE FOLLOWING OPTIONS: BLACK EPOXY COATED COIL, RETURN GRILLE, MOUNTING SUBBASE, SPRING VIBRATION ISOLATORS, 2" THICK FARR 30/30 (VERY 8) OR EQUAL FILTERS, AND 2 STAGE COOLING PROGRAMMABLE ELECTRONIC THERMOSTAT WITH DIGITAL READOUT AND NIGHT SETBACK. PROVIDE A FIELD APPLIED ADSIL AD-35, THERMOGUARD, OR EQUAL CORROSION RESISTANT COATING ON THE ENTIRE UNIT INCLUDING ALL PIPING (EXCEPT FACTORY COATED COIL) AND CABINETRY. UNIT MCA IS 5 AMPS AND MAXIMUM FUSE OR CIRCUIT BREAKER SIZE IS 15 AMPS. FAN ESP INCLUDES 0.3" INITIAL FILTER PRESSURE LOSS, 0.3" DIRTY FILTER PRESSURE LOSS, AND 0.2" INTAKE AND DISCHARGE PRESSURE LOSS.

OUTSIDE AIR CALCULATIONS							
AREA SERVED	UNIT	NET AREA	ACTUAL OR CALCULATED OCCUPANCY	CODE AIRFLOW RATE	TRANSITORY OCCUPANCY	CALCULATED OUTSIDE AIR	TOTAL UNIT OUTSIDE AIR
IQ WATER PUMP STATION ELECTRICAL ROOM	AHU-1,2 ACCU-1,2	507 SQ FT	0	0 CFM/PERSON EXEMPT	YES	0 CFM	0 CFM

EDA
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Florida P.E. No. 50780

Path Name : C:\Users\jdesousa\Desktop\temp\IQ WATER PUMP STATION\dwgs\additional pages\H-02 HVAC PLAN.dwg

User Name : jdesousa

NO.	DATE	ISSUED FOR	APRV'D BY

DESIGNED:	JPM
DRAWN:	RRM
CHECKED:	LMR
APPROVED:	LMR

LILLIAN M. REYES, P.E. No. 50780

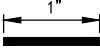


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VERIFY SCALE



BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1453

CLIENT PROJECT NO.: _____

CAD REF.: PLAN

ENGINEER NO.: 1453
CLIENT PROJECT NO.: _____
CAD REF.: PLAN

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION
ELECTRICAL ROOM HVAC PLAN

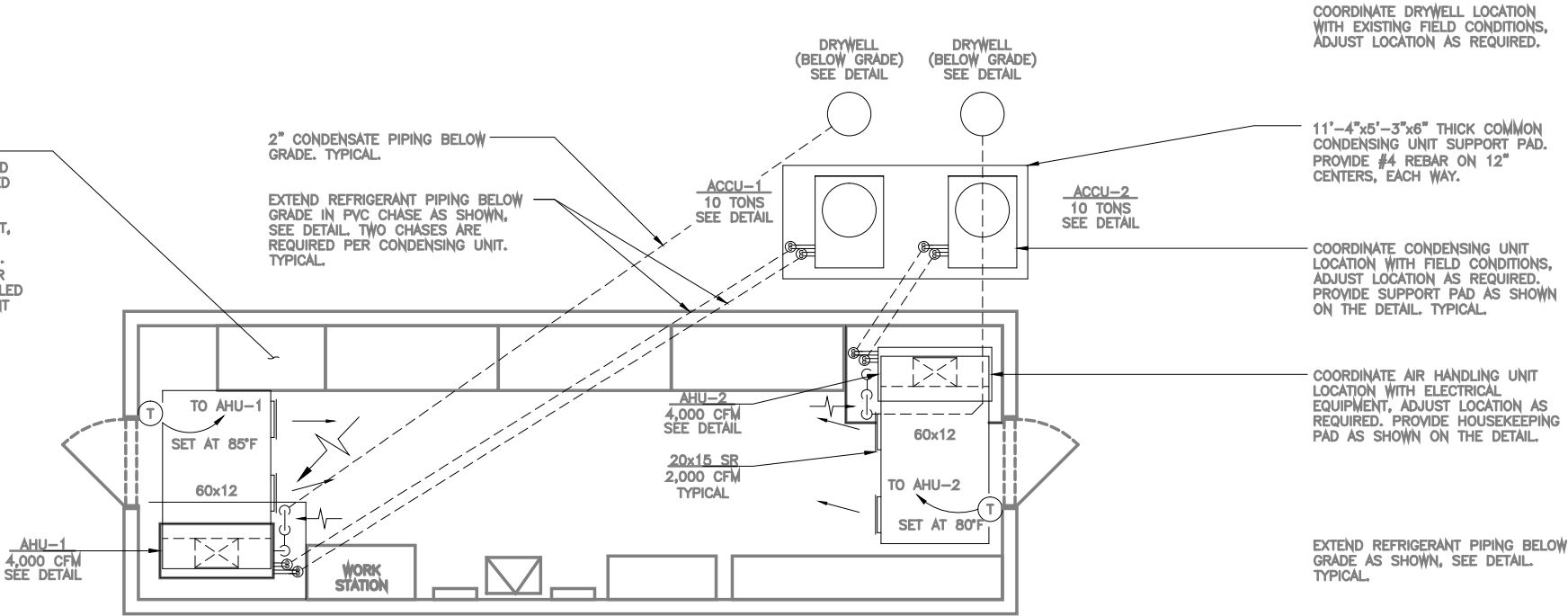
DATE: NOV. 2009
SHEET: 37 of 41
DRAWING: H-2



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Florida P.E. No. 50780

RECORD DRAWING

THE INSTALLATION OF ALL HVAC EQUIPMENT, INCLUDING PIPING AND DUCTWORK, MUST BE COORDINATED WITH THE LOCATION AND INSTALLATION OF ALL ELECTRICAL EQUIPMENT, PANELS, AND CONDUIT, PRIOR TO STARTING WORK. MAKE FIELD ADJUSTMENTS AS REQUIRED. HVAC EQUIPMENT, PIPING, AND/OR DUCTWORK SHALL NOT BE INSTALLED ABOVE ANY ELECTRICAL EQUIPMENT OR PANELS. TYPICAL.



HVAC PLAN
SCALE: 1/4"=1'-0"



BUILDING WALL.
 PROVIDE SCHEDULE 40 SS SLEEVE AT FLOOR PENETRATION.
 PROVIDE WATERTIGHT REMOVABLE FOAM SEAL AROUND PIPING AT BOTH ENDS. TYPICAL.
 REFRIGERANT SUCTION AND LIQUID PIPING IN PIPE CHASE BELOW GRADE, EXTEND PIPING TO AHU.
 TYPICAL AIR COOLED CONDENSING UNIT.
 6" (MINIMUM) WIDER THAN UNIT ON ALL FOUR SIDES.
 2" MINIMUM ABOVE ADJACENT FINISHED GRADE.
 FINISHED GRADE.
 PROVIDE 6" SCHEDULE 40 PVC PIPE CHASE. USE TYPE DWV LONG SWEEP BENDS FOR ALL ELBOWS.
 MOUNT UNIT ON 4" THICK REINFORCED CONCRETE PAD. SECURE CONDENSING UNIT TO PAD WITH 3/8" SS SCREWS WITH SS WASHERS, 2 PER SIDE. SCREWS SHALL MOUNT IN SS ANCHORS SET IN EPOXY, HILTI OR EQUAL.

CLEANOUT PLUG

AIR HANDLING UNIT

UNION

3"

TRAP WITH 3" (MIN.) SEAL

EXTEND AS SHOWN ON THE PLANS

CONDENSATE DRAIN DETAIL

NTS

GRADE

NEENAH MODEL R-4044-K CAST IRON MANHOLE COVER AND FRAME SIZED FOR PIPE END, LABEL COVER "HVAC DRYWELL".

GROUT AT INLET

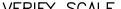
CONDENSATE DRAIN, SEE PLAN FOR SIZE, PITCH DRAIN AT $\frac{1}{8}$ " PER FOOT MINIMUM.

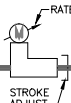
24"x48" CONCRETE PIPE

FILL PIPE WITH $\frac{3}{4}$ " MINIMUM DIAMETER WASHED ROCK

DRYWELL DETAIL

NTS

NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: JPM	 MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929 LILLIAN M. REYES, P.E. No. 50780	VERIFY SCALE	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009	
				DRAWN: RRM		 1" BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CLIENT PROJECT NO.: _____			SHEET: 38 of 41
				CHECKED: LMR						
				APPROVED: LMR					HVAC DETAILS	DRAWING: H-3

GENERAL INSTRUMENT OR FUNCTION SYMBOLS		PROCESS DEVICE SYMBOLS		PROCESS DEVICE SYMBOLS (CONTINUED)		FUNCTION SYMBOLS & ABBREVIATIONS			
	DISCRETE INSTRUMENT – FIELD MOUNTED		DIAPHRAGM SEAL		VALVE: GLOBE OR OTHER IN-LINE TYPE, UNLESS OTHERWISE INDICATED.		PROPORTIONAL GAIN OR ATTENUATE (INPUT:OUTPUT)	HAND SWITCH ABBREVIATIONS:	
	DISCRETE INSTRUMENT – PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR ①		ANNULAR TYPE DIAPHRAGM SEAL		BUTTERFLY VALVE		REVERSE PROPORTIONAL GAIN OR ATTENUATE (INPUT:OUTPUT)	A	AUTOMATIC
	DISCRETE INSTRUMENT – AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR ①		BUBBLER SYSTEM		CHECK VALVE WITH FLOW DIRECTION AS INDICATED		SUMMING	C	COMPUTER OR CLOSE
	INSTRUMENTS SHARING COMMON HOUSING		PURGE OR FLUSHING DEVICE		PLUG VALVE		AVERAGING	H	HAND
	HATCHED ITEMS INDICATE TO BE PROVIDED BY OTHERS		REDUCER OR ENLARGER		FLOW CONTROL GATE OR GATE VALVE		SUBTRACTING	L	LOCAL
	NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOL, BUT WITH DASHED HORIZONTAL BARS.		PRIMARY ELEMENT VENTURI TUBE		RUPTURE DISK		EXACT SQUARE ROOT	M	MODULATE
	CONTROL INTERLOCK		PRIMARY ELEMENT MAGNETIC FLOWMETER		CENTRIFUGAL BLOWER		DIVIDE	O	OFF OR OPEN
	CONTROL SYSTEM I/O INTERFACE – ANALOG SIGNAL. DIRECTION OF TRIANGLE DENOTES WHETHER INPUT OR OUTPUT.		PRIMARY ELEMENT ULTRASONIC DOPPLER FLOWMETER		CENTRIFUGAL PUMP		MULTIPLY	R	REMOTE
	CONTROL SYSTEM I/O INTERFACE – DISCRETE SIGNAL. DIRECTION OF TRIANGLE DENOTES WHETHER INPUT OR OUTPUT.		PRIMARY ELEMENT PARTIAL FLUME		SUBMERSIBLE PUMP		INTEGRATE	S	START OR STOP
	PNEUMATIC SIGNAL		PRIMARY ELEMENT ORIFICE PLATE		DIAPHRAGM PUMP & MOTOR		BIAS POSITIVE	OTHER ABBREVIATIONS:	
	EXISTING EQUIPMENT		PRIMARY ELEMENT WEIR FLOWMETER		DISC FLOW OR PROGRESSIVE CAVITY PUMP		BIAS NEGATIVE	AI	ANALOG INPUT
	FUTURE EQUIPMENT		PRIMARY ELEMENT TURBINE OR PROPELLER TYPE METER		VERTICAL PUMP		NONLINEAR OR UNSPECIFIED FUNCTION	AO	ANALOG OUTPUT
TAG NUMBER & DESIGNATION EXAMPLE			PRIMARY ELEMENT PITOT TUBE		MIXER		HIGH SELECT	AS	AIR SUPPLY
   TYPICAL LOOP NUMBER ADDITIONAL INSTRUMENT IDENTIFICATION. SEE FUNCTION SYMBOLS & ABBREVIATIONS. WHEN USED, LETTER DISTINGUISHES BETWEEN MULTIPLE, SIMILAR DEVICES IN THE SAME INSTRUMENT LOOP			PRIMARY ELEMENT ROTAMETER		MOTOR – MAY BE ELECTRIC, HYDRAULIC, OR PNEUMATIC. ARROW DENOTES VARIABLE SPEED.		LOW SELECT	COND	CONDUCTIVITY
			PRIMARY ELEMENT STRAP ON ULTRASONIC TRANSIT TIME METER		CHEMICAL INJECTION POINT		HIGH LIMIT	CTU	CENTRAL TELEMETRY UNIT
			PRIMARY ELEMENT STRAP ON ULTRASONIC DOPPLER METER		DRAIN		LOW LIMIT	DCU	DISTRIBUTED CONTROL UNIT
			FLOAT SWITCH				SIGNAL TRANSDUCER OR CONVERTER (INPUT/OUTPUT) * DEFINED AS FOLLOWS:	DI	DIGITAL OR DISCRETE INPUT
			PRESSURE REGULATING VALVE – SELF CONTAINED				FAIL CLOSED	DO	DISSOLVED OXYGEN OR DIGITAL OUTPUT
			BALL VALVE				FAIL LAST POSITION	ES	ELECTRIC SUPPLY
							FAIL OPEN	FC	FAIL CLOSED
							MOTOR CONTROLLER	FLP	FAIL LAST POSITION
							NORMALLY CLOSED	FO	FAIL OPEN
							HYDROGEN ION CONCENTRATION	MC	MOTOR CONTROLLER
							PROGRAMMABLE LOGIC CONTROLLER	NC	NORMALLY CLOSED
							POLYMER	pH	HYDROGEN ION CONCENTRATION
							REMOTE TERMINAL UNIT	PLC	PROGRAMMABLE LOGIC CONTROLLER
							TURBIDITY	POLM	POLYMER
							VIBRATION	RTU	REMOTE TERMINAL UNIT
							VARIABLE SPEED DRIVE	TURB	TURBIDITY
								VIB	VIBRATION
								VSD	VARIABLE SPEED DRIVE

VALVE ACTUATOR SYMBOLS		GENERAL NOTES		MEANINGS OF IDENTIFICATION LETTERS (THIS TABLE APPLIES TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS)																																																																																																																																														
AUTOMATIC POSITIONER VALVE OR GATE ACTUATOR WITH * DEFINED AS FOLLOWS: P: AIR CYLINDER S: SOLENOID P/O: AIR/OIL CYLINDER E: ELECTRIC MOTOR H: HYDRAULIC CYLINDER EH: ELECTROHYDRAULIC Z: MISCELLANEOUS FOR PRESSURE RELIEF OR SAFETY VALVES ONLY MANUALLY (HAND) OPERATED OR NO SYMBOL		1. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS & ABBREVIATIONS MAY NOT APPLY TO THIS SPECIFIC PROJECT. 2. THIS LEGEND APPLIES TO INSTRUMENTATION DIAGRAMS ONLY, & ITS SYMBOLS MAY NOT BE APPLICABLE TO NON-INSTRUMENTATION DRAWINGS. 3. THIS LEGEND SHEET & THE INSTRUMENTATION DIAGRAMS & I-DRAWINGS ARE GENERALLY BASED ON THE INSTRUMENT SOCIETY OF AMERICA'S STANDARDS FOR PRACTICES IN INSTRUMENTATION. SOME MODIFICATIONS, ADDITIONS, & ALTERATIONS MAY HAVE BEEN MADE TO ACCOMMODATE INDIVIDUAL PROJECT REQUIREMENTS. 4. SOME PROCESS ITEMS (SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC.) WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE INSTRUMENTATION SHEETS. 5. SEE ELECTRICAL SHEETS & SPECIFICATIONS FOR ADDITIONAL CONTROL & INTERLOCK REQUIREMENTS FOR EQUIPMENT NOT SHOWN OR NOT PROVIDED BY THE INSTRUMENTATION SUPPLIER. 6. <i>SLANTED TEXT</i> DENOTES EXISTING EQUIPMENT OR STRUCTURES. NON-SLANTED TEXT DENOTES NEW EQUIPMENT, STRUCTURES, & WORK. SLANTED TEXT (NOT SHADED) DENOTES FUTURE EQUIPMENT STRUCTURES & WORK.		<table><tr><th colspan="2">FIRST LETTER</th><th colspan="3">SUCCEEDING LETTERS</th></tr><tr><th>MEASURED OR INITIATING VARIABLE</th><th>MODIFIER</th><th>READOUT OR PASSIVE FUNCTION</th><th>OUTPUT FUNCTION</th><th>MODIFIER</th></tr><tr><td>A ANALYSIS</td><td></td><td>ALARM</td><td></td><td></td></tr><tr><td>B BURNER, COMBUSTION</td><td></td><td>EMERGENCY</td><td>USER'S CHOICE</td><td>USER'S CHOICE</td></tr><tr><td>C USER'S CHOICE</td><td></td><td>CLEANER</td><td>CONTROL</td><td></td></tr><tr><td>D DENSITY (MASS) OR SPECIFIC GRAVITY</td><td>DIFFERENTIAL</td><td></td><td></td><td></td></tr><tr><td>E VOLTAGE (EMF)</td><td></td><td>PRIMARY ELEMENT</td><td></td><td></td></tr><tr><td>F FLOW RATE</td><td>RATIO (FRACTION)</td><td></td><td></td><td></td></tr><tr><td>G GAUGING (DIMENSIONAL)</td><td></td><td>GLASS</td><td></td><td></td></tr><tr><td>H (MANUALLY INITIATED)</td><td></td><td></td><td></td><td>HIGH OR OPEN</td></tr><tr><td>I CURRENT (ELECTRICAL)</td><td></td><td>INDICATE</td><td></td><td></td></tr><tr><td>J POWER</td><td>SCAN</td><td></td><td></td><td></td></tr><tr><td>K TIME OR TIME SCHEDULE</td><td></td><td></td><td>CONTROL STATION</td><td></td></tr><tr><td>L LEVEL</td><td></td><td>LIGHT (PILOT)</td><td></td><td>LOW OR CLOSED</td></tr><tr><td>M USER'S CHOICE</td><td>MOMENTARY</td><td></td><td></td><td>MIDDLE OR INTERMEDIATE</td></tr><tr><td>N USER'S CHOICE</td><td></td><td>USER'S CHOICE</td><td>USER'S CHOICE</td><td>USER'S CHOICE</td></tr><tr><td>O USER'S CHOICE</td><td></td><td>ORIFICE (RESTRICTION)</td><td></td><td></td></tr><tr><td>P PRESSURE OR VACUUM</td><td></td><td>POINT (TEST CONNECTION)</td><td></td><td></td></tr><tr><td>Q QUANTITY</td><td>INTEGRATE OR TOTALIZE</td><td></td><td></td><td></td></tr><tr><td>R RUN</td><td></td><td>RECORD</td><td></td><td></td></tr><tr><td>S SPEED OR FREQUENCY</td><td>SAFETY</td><td></td><td>SWITCH</td><td></td></tr><tr><td>T TEMPERATURE</td><td></td><td></td><td>TRANSMIT</td><td></td></tr><tr><td>U MULTIVARIABLE</td><td></td><td>MULTIFUNCTION</td><td>MULTIFUNCTION</td><td>MULTIFUNCTION</td></tr><tr><td>V VISCOSITY, VIBRATION</td><td></td><td></td><td>VALVE, DAMPER, OR LOUVER</td><td></td></tr><tr><td>W WEIGHT OR TORQUE</td><td></td><td>WELL</td><td></td><td></td></tr><tr><td>X FAILURE</td><td>X AXIS</td><td></td><td></td><td></td></tr><tr><td>Y EVENT, STATE, OR PRESENCE</td><td>Y AXIS</td><td></td><td>RELAY, COMPUTE, CONVERT</td><td></td></tr><tr><td>Z POSITION, DIMENSION</td><td>Z AXIS</td><td></td><td>DRIVE, ACTUATE, OR UNCLASSIFIED CONTROL ELEMENT</td><td></td></tr></table>			FIRST LETTER		SUCCEEDING LETTERS			MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER	A ANALYSIS		ALARM			B BURNER, COMBUSTION		EMERGENCY	USER'S CHOICE	USER'S CHOICE	C USER'S CHOICE		CLEANER	CONTROL		D DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL				E VOLTAGE (EMF)		PRIMARY ELEMENT			F FLOW RATE	RATIO (FRACTION)				G GAUGING (DIMENSIONAL)		GLASS			H (MANUALLY INITIATED)				HIGH OR OPEN	I CURRENT (ELECTRICAL)		INDICATE			J POWER	SCAN				K TIME OR TIME SCHEDULE			CONTROL STATION		L LEVEL		LIGHT (PILOT)		LOW OR CLOSED	M USER'S CHOICE	MOMENTARY			MIDDLE OR INTERMEDIATE	N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE	O USER'S CHOICE		ORIFICE (RESTRICTION)			P PRESSURE OR VACUUM		POINT (TEST CONNECTION)			Q QUANTITY	INTEGRATE OR TOTALIZE				R RUN		RECORD			S SPEED OR FREQUENCY	SAFETY		SWITCH		T TEMPERATURE			TRANSMIT		U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION	V VISCOSITY, VIBRATION			VALVE, DAMPER, OR LOUVER		W WEIGHT OR TORQUE		WELL			X FAILURE	X AXIS				Y EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT		Z POSITION, DIMENSION	Z AXIS		DRIVE, ACTUATE, OR UNCLASSIFIED CONTROL ELEMENT	
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DRAWING

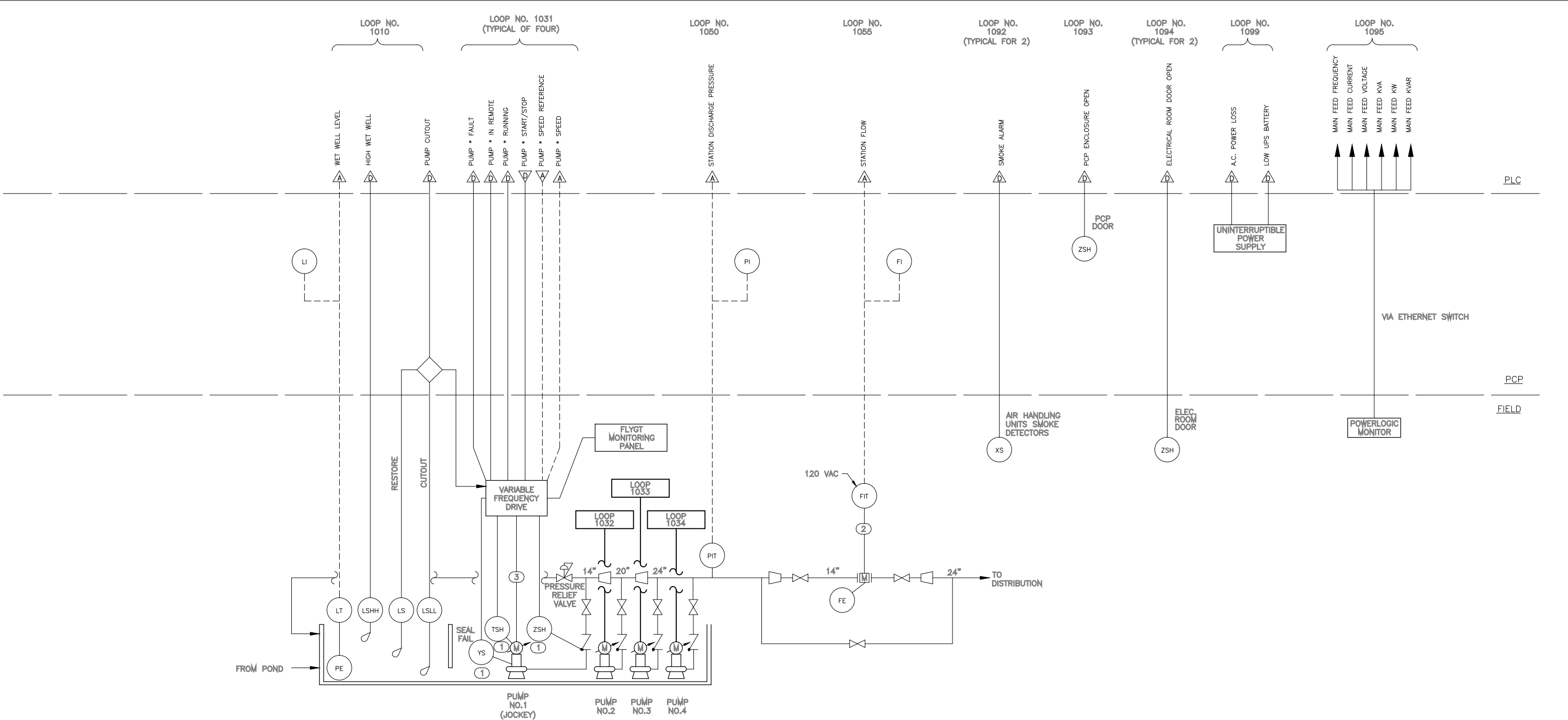
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				DRAWN: JRN			CLIENT PROJECT NO.: _____	INSTRUMENTATION NOTES AND LEGEND		SHEET: 39 of 41	
				CHECKED: LMR		BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CAD REF.: I-1 LEGEND				
				APPROVED: LMR						DRAWING: I-1	



Electrical Design Associates
4733 W. ATLANTIC AVE., SUITE 12-C
DELRAY BEACH, FLORIDA 33445
PHONE: (561) 819-5556
FAX: (561) 819-5557
C.O.A. No. 8079
LILLIAN M. REYES, P.E.
Florida P.E. No. 50780

RECORD DRAWING

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 User: jdesousa
 Acad Version: 12.0.18 (LMS Tech)
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NOTES

- ① TYPICAL FOR EACH PUMP
- ② MANUFACTURER SUPPLIED CABLE (MSC)
- ③ MOTOR POWER CABLE
- 2/C #16 SH
- 2 #14 EXCEPT WHERE OTHERWISE NOTED

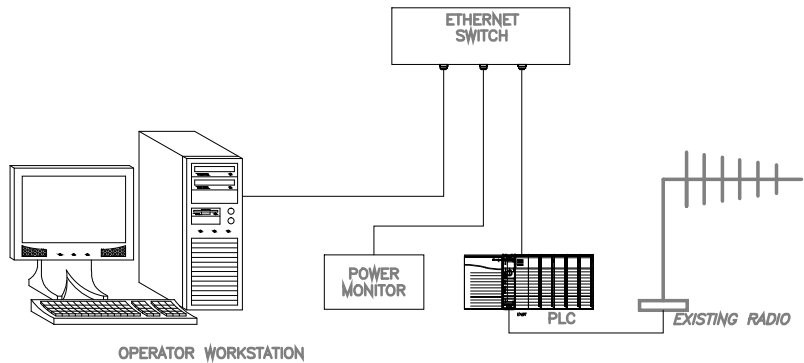
EDA

Electrical Design Associates, Inc.
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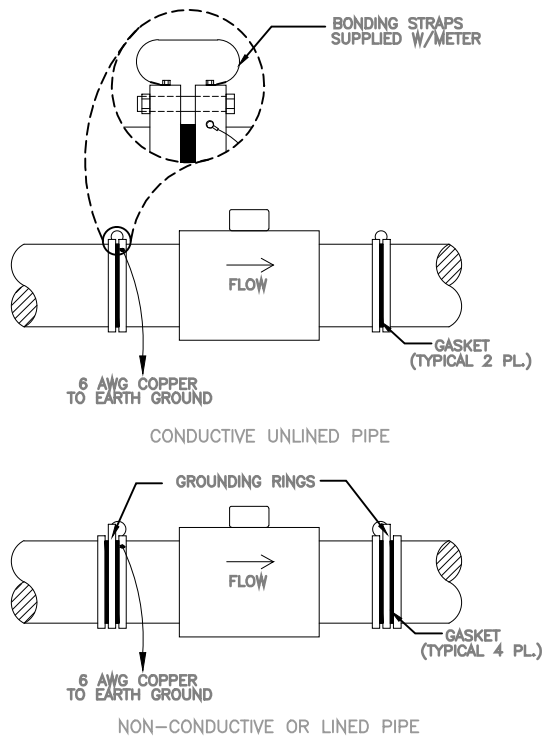
NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: <u>JRN</u>	 MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009	
				DRAWN: <u>JRN</u>		CLIENT PROJECT NO.: _____		SHEET: 40 of 41	
				CHECKED: <u>LMR</u>		BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CAD REF.: <u>I-2 PID</u>	PROCESS AND INSTRUMENTATION DIAGRAM	DRAWING: I-2
				APPROVED: <u>LMR</u>					
				<u>LILLIAN M. REYES, P.E.</u> No. 50780					

RECORD DRAWING

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User Name : jdesousa



CONTROL SYSTEM



- NOTES:
1. GROUNDING RINGS NOT REQUIRED FOR SENSORS WITH GROUNDING ELECTRODES.
 2. GALVANICALLY PROTECTED PIPES REQUIRE SPECIAL CONSIDERATION (REFER TO MANUFACTURER RECOMMENDATIONS)

ELECTROMAGNETIC FLOW SENSOR DETAIL
NOT TO SCALE

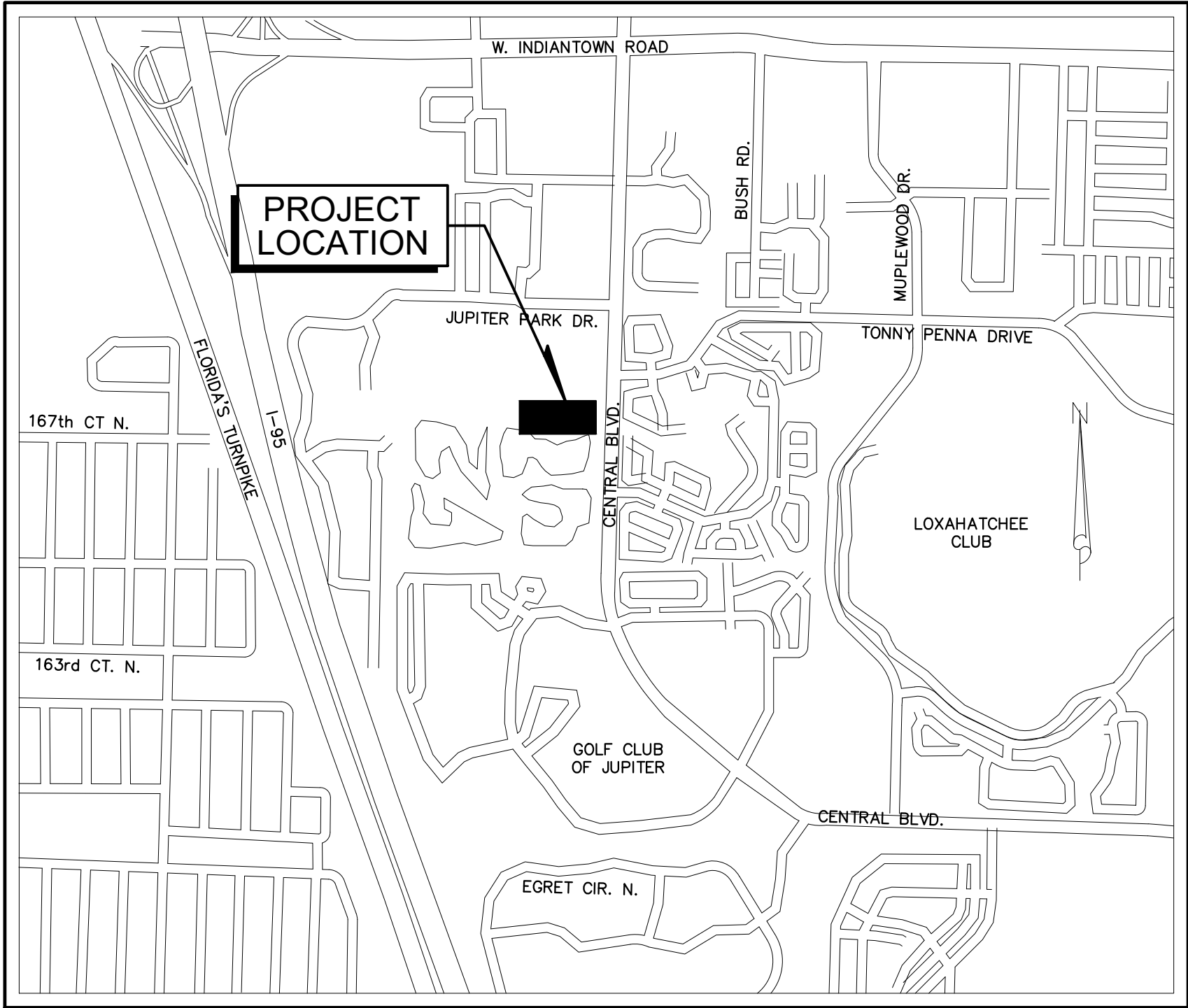


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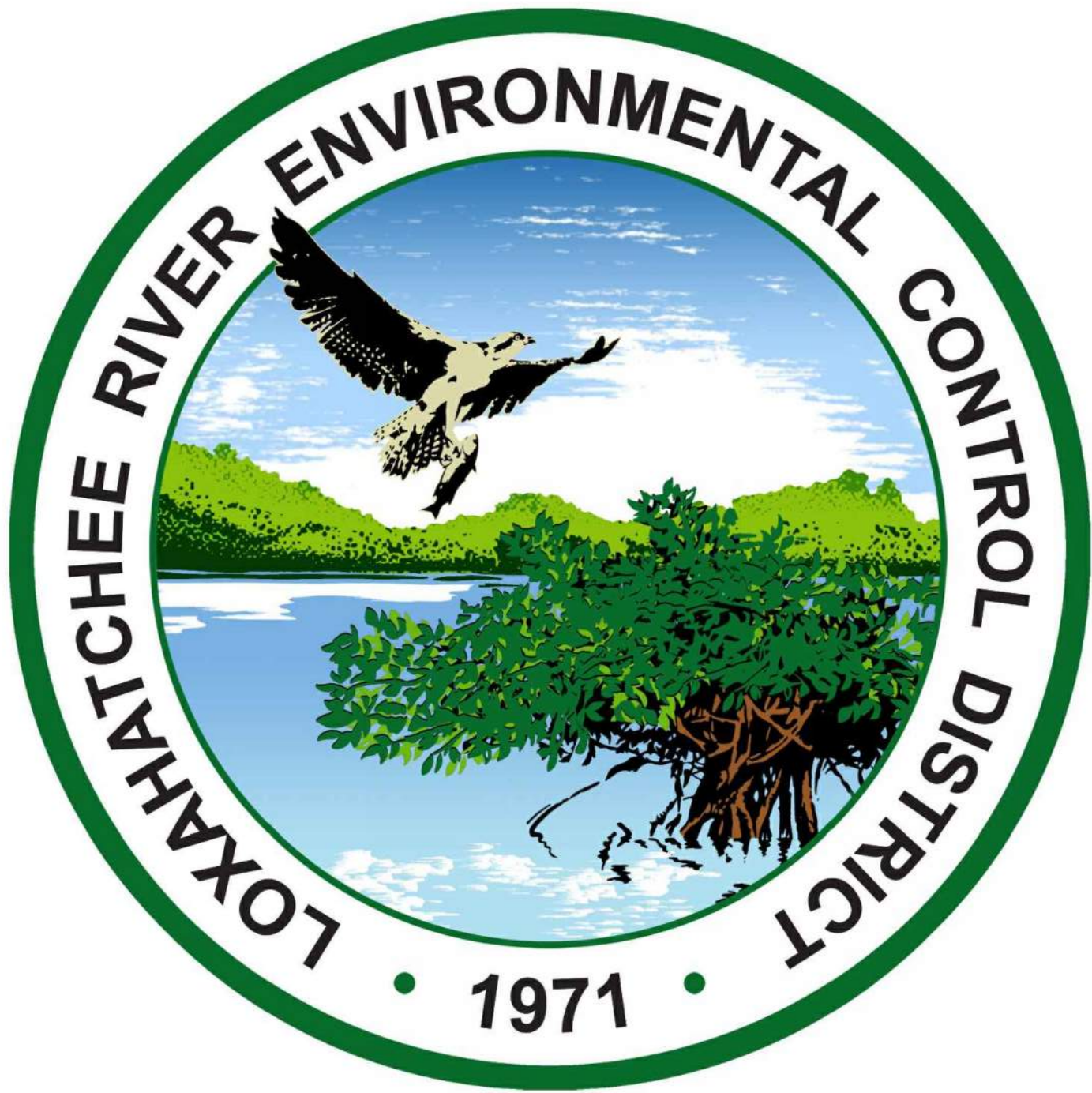
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NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: JRN	13 MATHEWS CONSULTING INC. Civil and Environmental Engineers 1475 CENTREPARK BLVD., SUITE 250, WEST PALM BEACH, FL. 33401 TEL. (561)478-7961 LICENSE No. E.B.-0007929	VERIFY SCALE	ENGINEER NO.: 1453	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ WATER PUMP STATION	DATE: NOV. 2009
				DRAWN: JRN		1" BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	CLIENT PROJECT NO.: _____		SHEET: 41 of 41
				CHECKED: LMR			CAD REF.: I-3 DETAIL	INSTRUMENTATION AND CONTROL DETAILS	DRAWING: I-3
				APPROVED: LMR					

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ-511 PUMP STATION PIPING IMPROVEMENTS



LOCATION MAP
NTS



GOVERNING BOARD

CHAIRMAN	STEPHEN B. ROCKOFF
VICE CHAIRMAN	GORDON M. BOGGIE
TREASURER	HARVEY M. SILVERMAN
SECRETARY	JAMES D. SNYDER
ASST. SEC'Y/TREASURER	DR. MATT H. ROSTOCK

AS-BID SET (ISSUED FOR CONSTRUCTION) JUNE 2023 RECORD DRAWINGS

RECORD DRAWING LIST

SHEET	DRAWING	TITLE
GENERAL		
1	G-1	TITLE SHEET, LOCATION MAP AND DRAWING LIST
2	G-2	SURVEY LEGEND AND GENERAL NOTES
3	G-3	SYSTEM HYDRAULIC PROFILE
CIVIL		
4	C-1	SITE PLAN
5	C-2	BYPASS PIPE PLAN AND PROFILE
6	C-3	STANDARD DETAILS - SHEET 1
7	C-4	STANDARD DETAILS - SHEET 2
MECHANICAL		
8	M-1	DIVERSION STRUCTURE "B" MODIFICATIONS
9	M-2	IQ-511 PUMP STATION MODIFICATIONS
STRUCTURAL		
10	S-1	STRUCTURAL PLAN AND SECTION
11	S-2	STRUCTURAL DETAILS AND NOTES
ELECTRICAL		
12	E-1	ELECTRICAL LEGEND AND NOTES
13	E-2	ELECTRICAL SITE PLAN
14	E-3	ELECTRICAL DEMOLITION
15	E-4	PROPOSED ELECTRICAL PLAN, ONE LINE AND RISER
16	E-5	NEW BREAKER PANEL LAYOUT
17	E-6	ELECTRICAL DETAILS
18	I-1	INSTRUMENTATION LEGEND AND SYMBOLS
19	I-2	P&ID
20	I-3	EXISTING RIO PANEL AND DETAILS

RECORD DRAWINGS

FOR INFORMATION REGARDING THIS PROJECT, CONTACT:

JEFFREY G. HISCOCK, P.E.

BAXTER & WOODMAN, INC.
477 S. ROSEMARY AVENUE, SUITE 330
WEST PALM BEACH, FL 33401
561-655-6175

BAXTER & WOODMAN
Consulting Engineers

477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 Fax: 561-655-6179
www.baxterwoodman.com EB-31795

JEFFREY G. HISCOCK, P.E.
No. 43984 (CIVIL, MECHANICAL)

CHARLES BRUNNER, P.E.
No. 81536 (STRUCTURAL)

TITLE SHEET, LOCATION MAP
AND DRAWING LIST

SHEET: 1 of 20

DRAWING: G-1

Acad Version : R23.1s (LMS Tech)
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Date\Time : Thu, 05 Nov 2020 -- 10:20am
Path Name : I:\WestPalmBeach\URCD\200453-iq511-PS Piping\40-Design\CA\00-Working Folder\200453G02.DWG
Current Plotsyle : ByColor
Layout Tab: G-2

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE LOXAHATCHEE RIVER DISTRICT, PALM BEACH COUNTY, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, PALM BEACH COUNTY HEALTH DEPARTMENT, FLORIDA DEPARTMENT OF TRANSPORTATION, AND NATIIONAL CODES WHERE APPLICABLE.
- ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES SHALL BE STRICTLY OBSERVED.
- ALL CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE R/W WHERE THE PROJECT IS CONSTRUCTED.
- CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION AND SHALL BE REQUIRED TO PROVIDE ALL BARRICADES, LIGHTING, SIGNAGE AND FLAGMEN AS NECESSARY TO PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE WORK AREA. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN FOR APPROVAL A MINIMUM OF 2 WEEKS PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL PREPARE AND SUBMIT MOT PLANS TO LOXAHATCHEE RIVER DISTRICT FOR REVIEW AND APPROVAL FOR WORK TO BE DONE WITHIN OR ADJACENT TO IMPROVED RIGHT-OF-WAY, AND ON DISTRICT'S PRIVATE PROPERTY.
- CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
- LOCATIONS OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE APPROXIMATE AND ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN NOR FOR ANY FACILITY NOT SHOWN. THE CONTRACTOR SHALL LOCATE OR EXPOSE ALL UTILITIES WITHIN THE PROPOSED WORK AREAS AND AT CRITICAL LOCATIONS TO VERIFY UTILITY LOCATIONS AND PIPE LAYING SCHEDULES PRIOR TO SUBMITTING SHOP DRAWINGS. THIS SHALL BE DONE WITHIN 30 DAYS AFTER NOTICE TO PROCEED. THE INFORMATION OBTAINED (ELEVATION, SEPARATION DISTANCE, PIPE MATERIAL AND SIZE, ETC.) SHALL BE MADE PART OF THE CONTRACTOR'S SUBMITTAL FOR ALL PIPING.
- CONTRACTOR SHALL OBTAIN THE SERVICES OF SUNSHINE STATE ONE CALL OF FLORIDA (811), INC. AS REQUIRED BY FLORIDA STATUTES. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES.
- RECLAIMED WATER MAINS ARE TO BE LAID WITHIN 0.2 FEET OF THE DESIGN PROFILE.
- COVER SHALL BE A MINIMUM OF 3.0 FEET (TYPICAL) FOR RECLAIMED WATER MAIN UNLESS OTHERWISE NOTED ON DRAWINGS.
- ALL DELETERIOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESSED PERMISSION FROM THE AGENCY HAVING JURISDICTION OVER THE R/W OR FROM THE DISTRICT ON THE WWIP SITE.
- CONTRACTOR SHALL MAINTAIN ALL WORK WITHIN THE DISTRICT'S PRIVATE PROPERTY, R/W AND EASEMENT LIMITS UNLESS OTHERWISE NOTED ON DRAWINGS.
- CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS REMOVED DURING CONSTRUCTION. ALL PROPOSED AND REPLACED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
- EXISTING TRAFFIC SIGNS TO BE RESET PER FDOT STANDARDS.
- CONTRACTOR SHALL ADJUST ALL UTILITY CASTING INCLUDING SANITARY SEWER MANHOLE TOPS, INLETS, VALVE BOXES AND SIMILAR STRUCTURES AS REQUIRED TO MEET FINAL GRADES.
- CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO LOCATE, EXCAVATE AND PREPARE FOR CONNECTIONS TO THE EXISTING SYSTEMS ALL AS SHOWN ON THE DRAWINGS.
- STATIONS SHOWN ON THE DRAWINGS ARE STATIONS BASED ON THE ESTABLISHED BASELINE AND SHALL NOT BE CONSIDERED AS DISTANCES OR AS A MEASURE OF THE LINEAR FOOTAGE OF PIPE TO BE INSTALLED.
- THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE DISTRICT A MINIMUM OF 48 HOURS IN ADVANCE.
- CONTRACTOR SHALL NOT DISTURB EXISTING TOWN OF JUPITER (TOJ) WATER MAINS DRAINAGE FACILITIES WITHOUT THE PRESENCE OF A DISTRICT OR TOWN INSPECTOR. TOJ UTILITY SYSTEM VALVES AND APPURTENANCES MAY ONLY BE OPERATED BY TOJ PERSONNEL.
- SITE INFORMATION BASED ON A SURVEY PREPARED BY: DENNIS J. LEAVY & ASSOCIATES, INC.
- CLEARING AND GRUBBING SHALL INCLUDE REMOVAL OF ALL VEGETATION WITHIN RIGHT-OF-WAY AS REQUIRED TO CONSTRUCT THE REQUIRED IMPROVEMENTS.
- PROJECT SITE SAFETY:
 - THE ENGINEER/OWNER OR THEIR EMPLOYEES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER THE CONTRACTOR, ANY SUB-CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY JOBSITE HEALTH OR SAFETY PRECAUTIONS.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY, AND WARRANTS THAT THIS INTENT IS MADE EVIDENT BY THE AGREEMENT BETWEEN OWNER AND CONTRACTOR.
 - ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS OR ENCOUNTERED THROUGH THE PROGRESSION OF WORK AT THIS PROJECT SITE ARE ASSUMED TO BE LIVE, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS WHEN WORKING AROUND EXISTING OVERHEAD OR UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL COORDINATE AND EMPLOY THE SERVICES OF FPL TO SUPPORT ANY EXISTING POWER POLES WITHIN THE IMMEDIATE VICINITY OF TRENCHES.
- CONTRACTOR SHALL LIMIT THE CONSTRUCTION IMPACTS TO DRIVEWAYS AS SHOWN ON THE PLANS. THE COST OF THE SHEETING, SHORING, ETC. OF THE TRENCH SHALL BE INCLUDED IN THE COSTS OF SEWER PIPING BID ITEM(S) AS NECESSARY TO LIMIT TRENCH WIDTH.

GENERAL INFORMATION

- AT&T TELEPHONE, FLORIDA POWER AND LIGHT, CABLE TV, GAS, ETC. ARE TAKEN FROM FIELD INSPECTIONS AND SKETCHES PROVIDED BY UTILITIES AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS AND CONFIRM LOCATIONS OF UTILITIES NO LESS THAN 48 HOURS BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ACCURATELY LOCATE AND UNCOVER ALL EXISTING UTILITIES BEFORE BEGINNING CONSTRUCTION WHERE CROSSING OR PARALLELING OF EXISTING UTILITIES OCCUR. ANY DAMAGE RESULTING FROM THE CONTRACTORS OPERATION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

- ALL MATERIALS SHALL CONFORM TO LOXAHATCHEE RIVER DISTRICT CONSTRUCTION STANDARDS & TECHNICAL SPECIFICATIONS.

EROSION CONTROL

- ALL STORM SEWER INLET GRATES TO BE COVERED WITH FILTER FABRIC DURING CONSTRUCTION.
- CUT AND FILL SLOPES TO BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SILT FENCES TO BE USED WHERE NECESSARY.
- CONSTRUCTION VEHICLE ACCESS ROUTES SHALL BE SWEEPED CLEAN OF SEDIMENT, CONCRETE AND OTHER CONSTRUCTION MATERIALS AS NEEDED.
- ALL BERMS, DIKES AND SPOIL PILES SUBJECT TO EROSION MUST BE STABILIZED OR CONTAINED TO PREVENT EROSION AND RUNOFF FROM THE PROJECT.
- THE QUALITY OF THE DISCHARGE WATER FROM DEWATERING AND CONSTRUCTIONS ACTIVITIES SHALL MEET STATE WATER QUALITY STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND PERMITTING OF A STORMWATER POLLUTION PREVENTION PLAN FOR THE PROJECT.

REPORT OF SURVEY:

- The survey depicted hereon has been classified as a Topographic Survey, as defined in Rule 61G17-6.002(10)(K) of the Florida Administrative Code, pursuant to Chapter 472.027, Florida Statutes as amended.
- This survey has been prepared in the office of Dennis J. Leavy & Associates, Inc. located at: 460 Business Park Way, Suite D, Royal Palm Beach, Florida whose certificate of authorization number is 6599, and the certifying surveyors license number is 5888.
- Dates of field survey: November 21, 26, 28, 29 and December 4, 5, 6 and 10, 2007, as recorded in Field Books 255, Pages 65 through 80 and Field Book 258, Page 3.
- This survey does not meet those standards established by the American Land Title Association.
- Underground apparent use and/or improvements not located unless otherwise noted.
- This instrument may not be reproduced in part or whole without the written consent of Dennis J. Leavy & Associates, Inc.
- This survey is not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper.
- Measurements shown hereon are expressed in feet and decimal parts thereof unless otherwise noted.
- The undersigned makes no representations or guarantees as to the information reflected hereon pertaining to easements, rights of way, setback lines, agreements and other matters; and further, this instrument is not intended to reflect or set forth all such matters. Such information should be obtained and confirmed by others through appropriate title verification. Lands shown hereon were not abstracted for rights of way and/or easements of record.
- All dates shown within the revisions block hereon are for interoffice filing use only and in no way affect the date of the field survey stated herein.
- In some instances, graphic representations have been exaggerated to more clearly illustrate relationships between physical improvements and/or lot lines. In all cases, dimensions shown shall control the location of the improvements over scaled positions.
- Bearings depicted hereon are referenced to the line between Palm Beach County Horizontal Control monuments "P&F" and "CHER". Said line being monumented and having a bearing of North 60°51'39" West based upon the North American Datum of 1983, on the 1990 adjustment for the Florida Transverse Mercator - East Zone.
- THIS IS NOT A BOUNDARY SURVEY.
- Benchmarks of Origin: Palm Beach County Survey Department benchmarks "JIHAD" and "BIRGE" whose published elevations are 11.166' and 14.257' respectively.
- Elevations referenced hereon are based on the National Geodetic Vertical Datum of 1929 (NGVD 29).
- The elevations shown hereon are for the purpose of indicating the ground elevation only at the position shown and in no way indicate elevations at any other point than that shown hereon and do not determine subsurface conditions.
- This survey lies within Section 10, Township 41 South, Range 42 East, Palm Beach County, Florida.
- By graphic plotting only, the subject property lies within Zone X as shown on Flood Insurance Rate Map Community Panel Number 12099C0167F, effective on 10/05/2017.
- Coordinates depicted hereon are based upon the North American Datum of 1983, on the 1990 adjustment for the Florida Transverse Mercator - East Zone.

THE SURVEY BY DENNIS J. LEAVY & ASSOCIATES, INC. WAS DONE IN OCTOBER 2008 UNDER A SEPARATE CONTRACT WITH MATHEWS CONSULTING, INC. (IQ WATER PUMP STATION/PROJECT #1453). SITE CHANGE SINCE OCTOBER 2008 ARE NOT REFLECTED IN THIS SURVEY

SURVEY PLAT LEGEND:

(P1) AS DEPICTED ON THE PLAT OF JUPITER VILLAGE PHASE II (P.B. 39, PG. 182, P.B.C.R.)

SURVEY TREE LEGEND:

- | | | | |
|--|---|---|--|
| 00"  - ACASIA | 00"  - PINE | 00"  - OLIVE |  - BUSH |
| 00"  - PALM SPECIES | 00"  - BOTTLEBRUSH | 00"  - CYPRESS | |
| 00"  - MAHOGANY | 00"  - MAPLE | 00"  - STUMP | |
| 00"  - OAK |  - UNKNOWN | 00"  - HEDGE | |
-  Indicates trunk diameter
- NOTE: VERIFICATION OF TREE SPECIES SHOULD BE CONDUCTED BY A PROFESSIONAL ENGAGED IN THE FIELD OF NATURAL SCIENCE.

SURVEY LEGEND:

- | | | |
|---|--------------------------------------|----------------------------------|
| ARV  = AIR RELEASE VALVE | EOW = EDGE OF WATER | PP = PLASTIC PIPE |
| C/L = CENTERLINE | F.F.L. = FLORIDA POWER AND LIGHT | PK = PARKER-KALON BRAND |
| C = CALCULATED | FND = FOUND | PRM = PERMANENT REFERENCE MARKER |
| CFT = CALCULATED FROM FIELD TRAVERSE | INV = INVERT | PVC = POLYVINYL CHLORIDE |
| CLF = CHAIN LINK FENCE | I.R.C. = IRON ROD & CAP | RCP = REINFORCED CONCRETE PIPE |
| CLP = CP PIPE | L = LENGTH | R = RADIUS |
| CMP = CORRUGATED METAL PIPE | MP = METAL PIPE | R/C = ROD AND CAP |
| CONC. = CONCRETE | N/A = NOT ACCESSIBLE | R/W = RIGHT OF WAY |
| CP = CONCRETE PIPE | N/D = NAIL AND DISK | RLS = REGISTERED LAND SURVEYOR |
| D = CENTRAL ANGLE | OHW = OVERHEAD WIRE | SEC. = SECTION |
| DIP = DUCTILE IRON PIPE | P.B. = PLAT BOOK | TON = TOP OF NUT |
| EL. = ELEVATION | PBC = PALM BEACH COUNTY | (TYP.) = TYPICAL |
| EP = EDGE OF PAVEMENT | P.B.C.R. = PALM BEACH COUNTY RECORDS | U.E. = UTILITY EASEMENT |
| | PG. = PAGE | UNK = UNKNOWN |

SURVEY SYMBOL LEGEND:

- | | |
|--|--|
| ARV  = AIR RELEASE VALVE |  = PUMP |
| BFP  = BACK FLOW PREVENTER | PPM  = PURPLE PAINT MARK |
|  = BOLLARD |  = REDUCER |
|  = CENTRAL ANGLE |  = RIGHT-OF-WAY LINE |
|  = CATCH BASIN | RWV  = RECLAIMED WATER VALVE |
|  = CONCRETE LIGHT POLE |  = SITE BENCHMARK |
| CO  = CLEAN OUT |  = SENSOR |
|  = ELECTRICAL PANEL |  = SPRINKLER HEAD |
| EM  = ELECTRIC METER |  = SIGN |
|  = FIRE HYDRANT | X 0.0 = SOFT SURFACE ELEVATION |
|  = GUY WIRE ANCHOR |  = SET NAIL AND DISC LB #6599 |
| GP  = GREEN PAINT MARK |  = SANITARY MANHOLE |
| X 0.00 = HARD SURFACE ELEVATION |  = STORM MANHOLE |
|  = LIGHT POST |  = "T" |
|  = LIMITS OF CABBAGE PALM & TRESS |  = VERTICAL BEND |
|  = METAL POST |  = VERTICAL "T" |
| OHW  = OVERHEAD UTILITY WIRE |  = WATER METER |
|  = PURPLE FLAG | WV  = WATER VALVE |
| |  = WOOD POWER POLE |

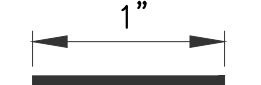
NO.	DATE	ISSUED FOR	APRV'D BY

DESIGNED: J.G.H.
DRAWN: D.D.P.
CHECKED: S.J.P.
APPROVED: M.R.T.

JEFFREY G. HISCOCK, P.E.
No.43984

BAXTER & WOODMAN
Consulting Engineers

477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 • Fax: 561-655-6179
www.baxterwoodman.com EB-31795

VERIFY SCALE

1"
BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453

CLIENT
PROJECT NO.: _____

CAD REF.:200453G02.DWG

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

SURVEY LEGEND AND GENERAL NOTES

Always call 800 two two business days before you dig

Sunshine811.com

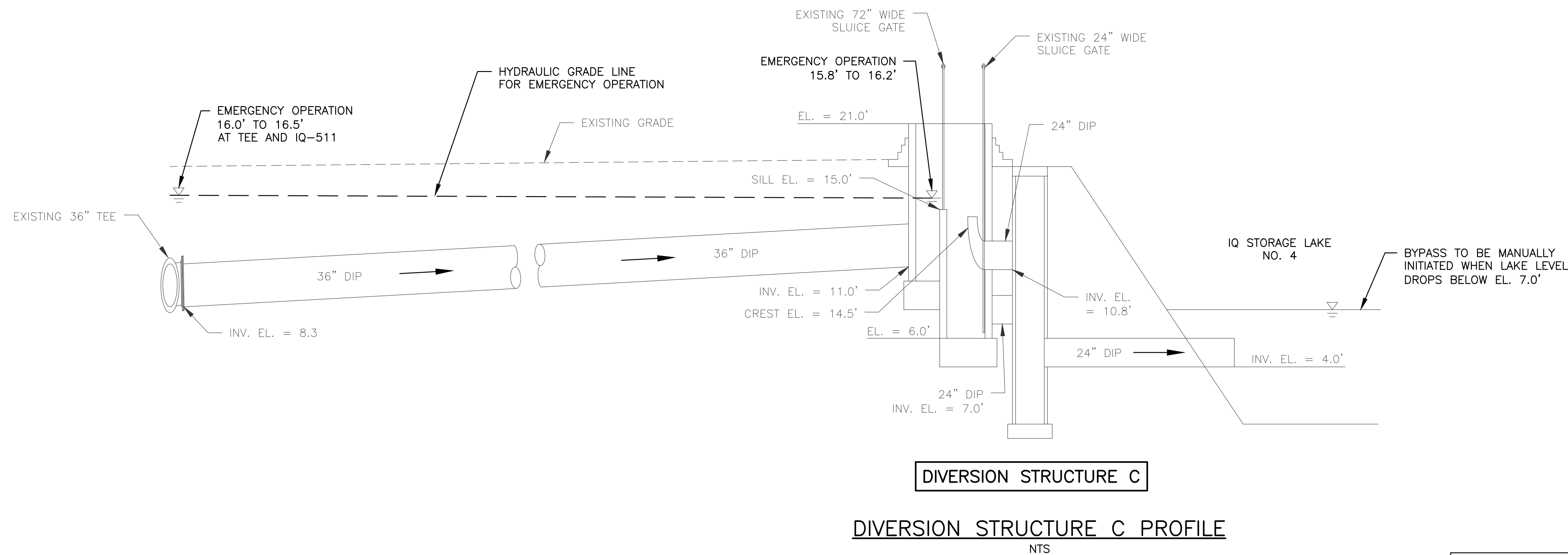
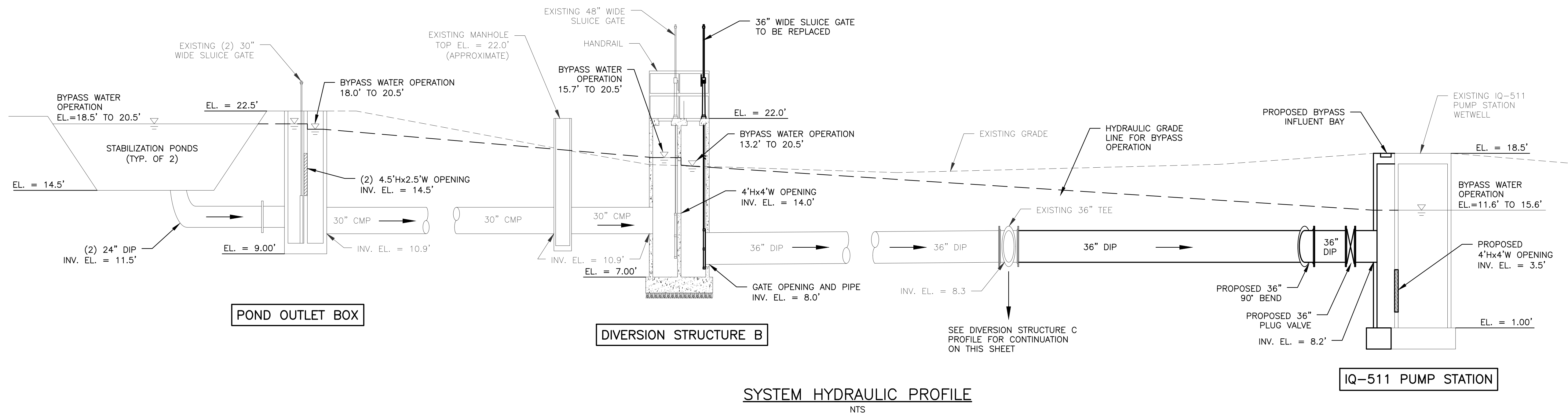
DATE: NOVEMBER 2020

SHEET: 2 of 20

DRAWING: G-2

100% DESIGN

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- NOTES:
1. BYPASS WATER OPERATIONAL STAGES ARE BASED ON TYPICAL DAILY OPERATION OF THE PUMPS AT THE IQ-511 PUMP STATION WHICH RANGE IN FLOW RATES FROM 0 TO 12,000 GPM.
 2. EMERGENCY OPERATION STAGES ARE BASED ON BYPASS OPERATION STAGES AT STABILIZATION PONDS, GATE MALFUNCTION AT DIVERSION STRUCTURE B, NO PUMPING AT IQ-511 PUMP STATION AND 72" GATE MANUALLY OPENED AT DIVERSION STRUCTURE C.

NO.	DATE	ISSUED FOR	APR'V'D BY	DESIGNED: J.G.H.
				DRAWN: D.D.P.
				CHECKED: S.J.P.
				APPROVED: M.R.T.

JEFFREY G. HISCOCK, P.E.
No.43984

BAXTER & WOODMAN
Consulting Engineers
477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 • Fax: 561-655-6179
www.baxterwoodman.com EB-31795

VERIFY SCALE
1"
BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453
CLIENT PROJECT NO.:
CAD REF.:200453G03.DWG

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING
SYSTEM HYDRAULIC PROFILE

DATE: NOVEMBER 2020
SHEET: 3 of 20
DRAWING: G-3

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100% DESIGN

Acad Version : R23.1s (LMS Tech)
User Name : jg3ddp
Date/Time : Thu, 05 Nov 2020 -- 10:22am
Path Name : I:\WestPalmBeach\URECD\200453-IQ511 PS Piping\40-Design\40-Working Folder\200453001.DWG
Current Plotstyle : ByColor
Layout Tab: C-1



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NO.	DATE	ISSUED FOR	APR'V'D BY

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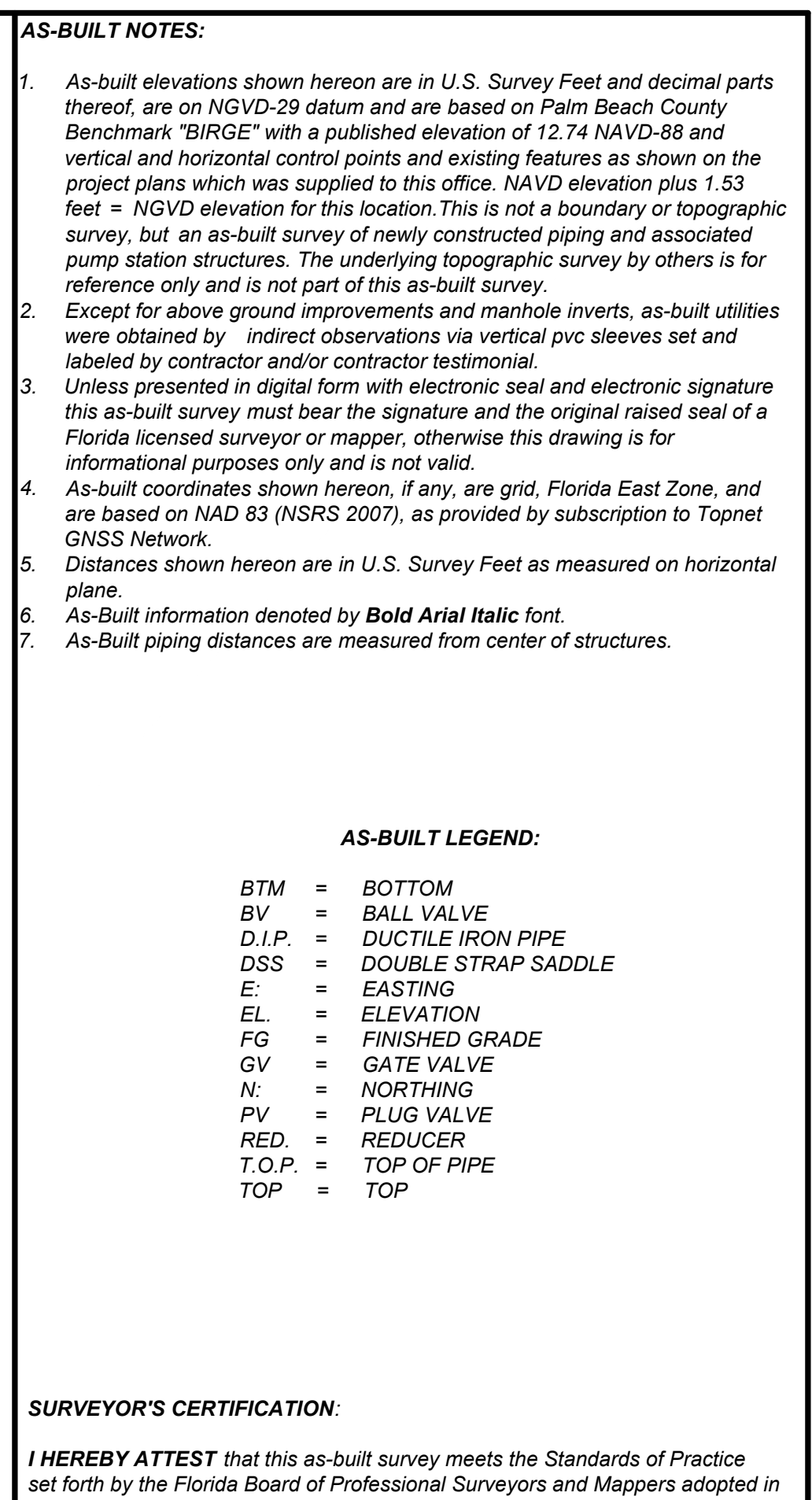
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CLIENT PROJECT NO.:
CAD REF.: 200453C01.DWG

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

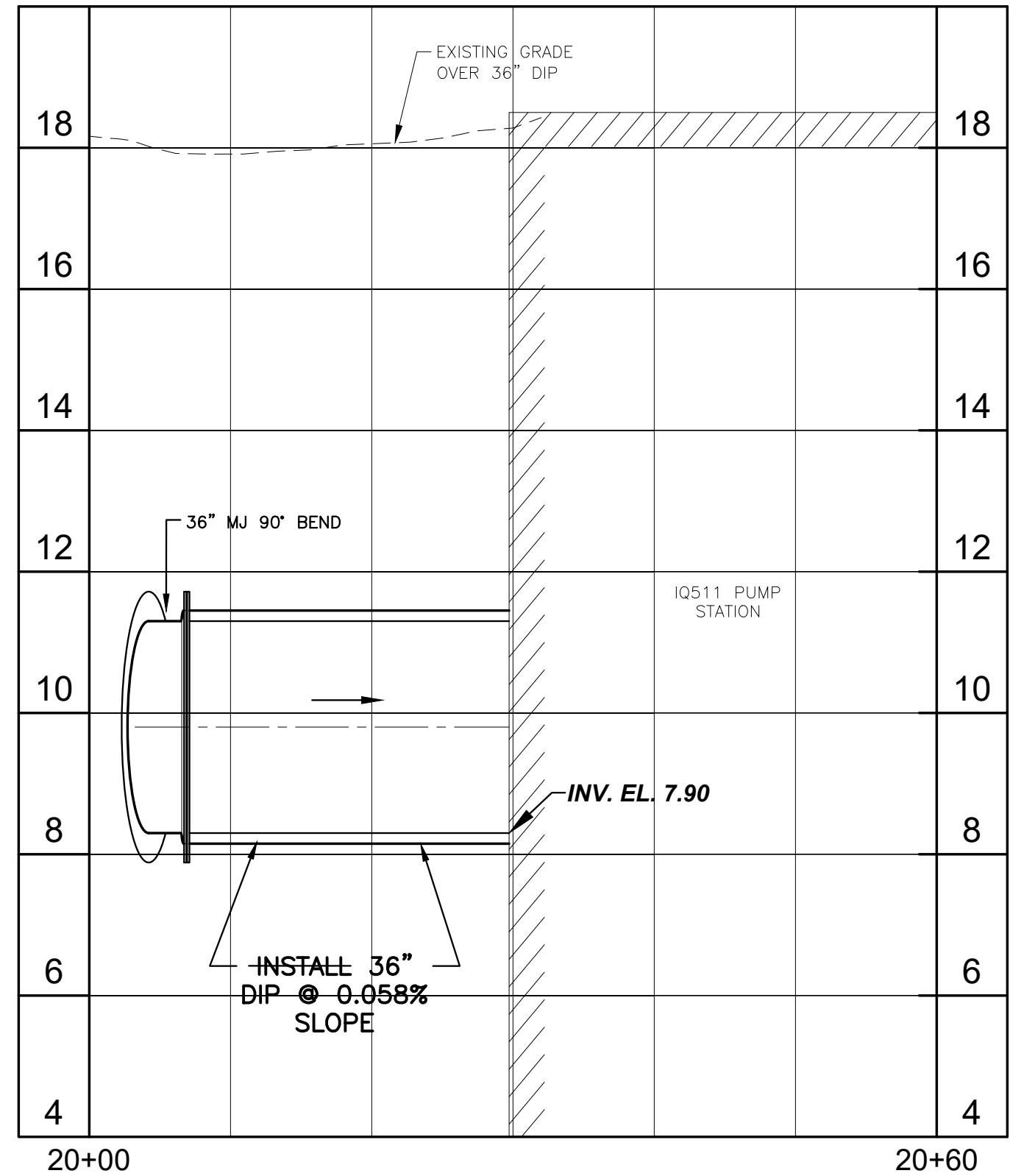
SITE PLAN

DATE: NOVEMBER 2020
SHEET: 4 of 20
DRAWING: C-1



LEGEND

 PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" FC 9.5)



Robert J. Cajal
Professional Surveyor and Mapper
Florida Certificate Number 6266
Wallace Surveying Corporation
Licensed Business #4569
5553 Village Boulevard
West Palm Beach, Florida 33407
(561) 640-4551

DATUM CONVERSION

NGVD-29
(THIS DRAWING)

1.53'

NAVD-88

RECORD DRA

CONSTRUCTION

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NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: <u>J.G.H.</u>	JEFFREY G. HISCOCK, P.E. No. 43984
				DRAWN: <u>D.D.P.</u>	
				CHECKED: <u>M.R.T./A.C.</u>	
				APPROVED: <u>M.R.T.</u>	

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VERIFY SCALE



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ON FULL SIZE
(22x34) ORIGINAL
DRAWING. ADJUST
SCALES AS
NECESSARY.

ENGINEER NO.: 200453
CLIENT
PROJECT NO.: _____
CAD REF.:200453C02 RECORD.dwg

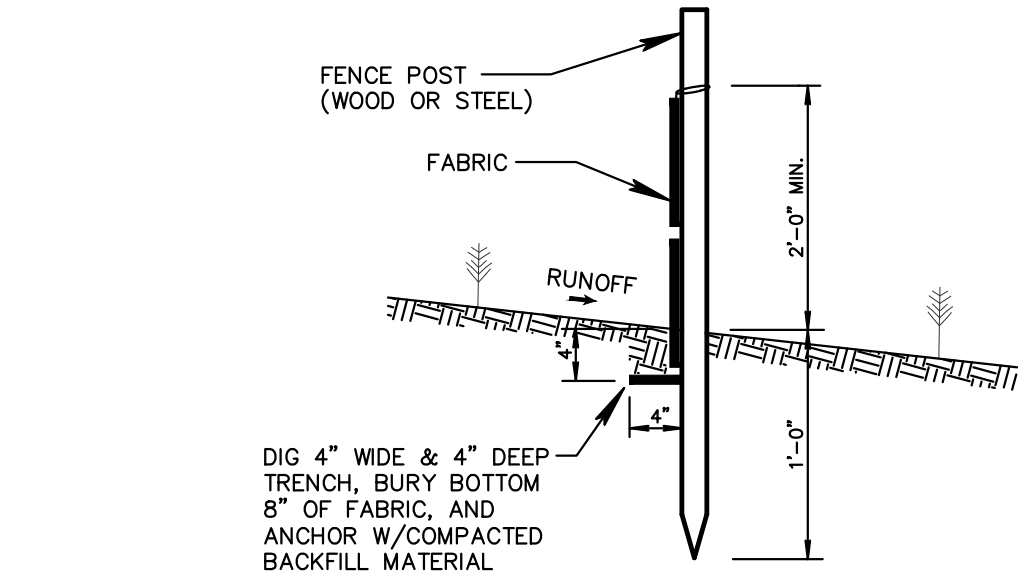
	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ-511 BYPASS PIPING
	BYPASS PIPE PLAN AND PROFILE

DATE: NOVEMBER 2020

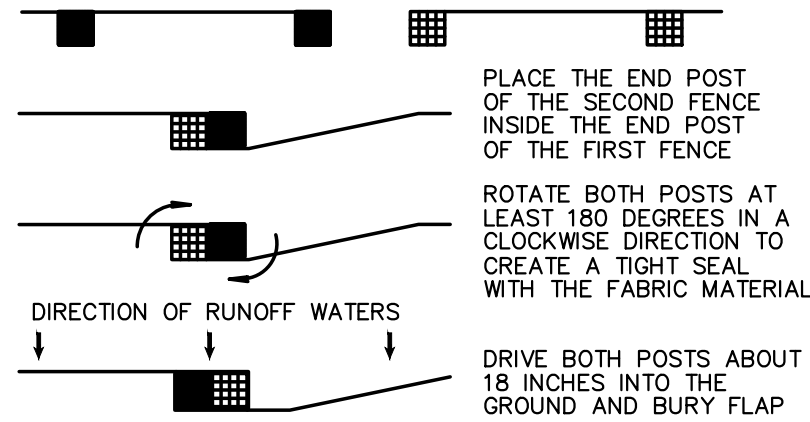
SHEET: 5 of 20

DRAWING: C-2

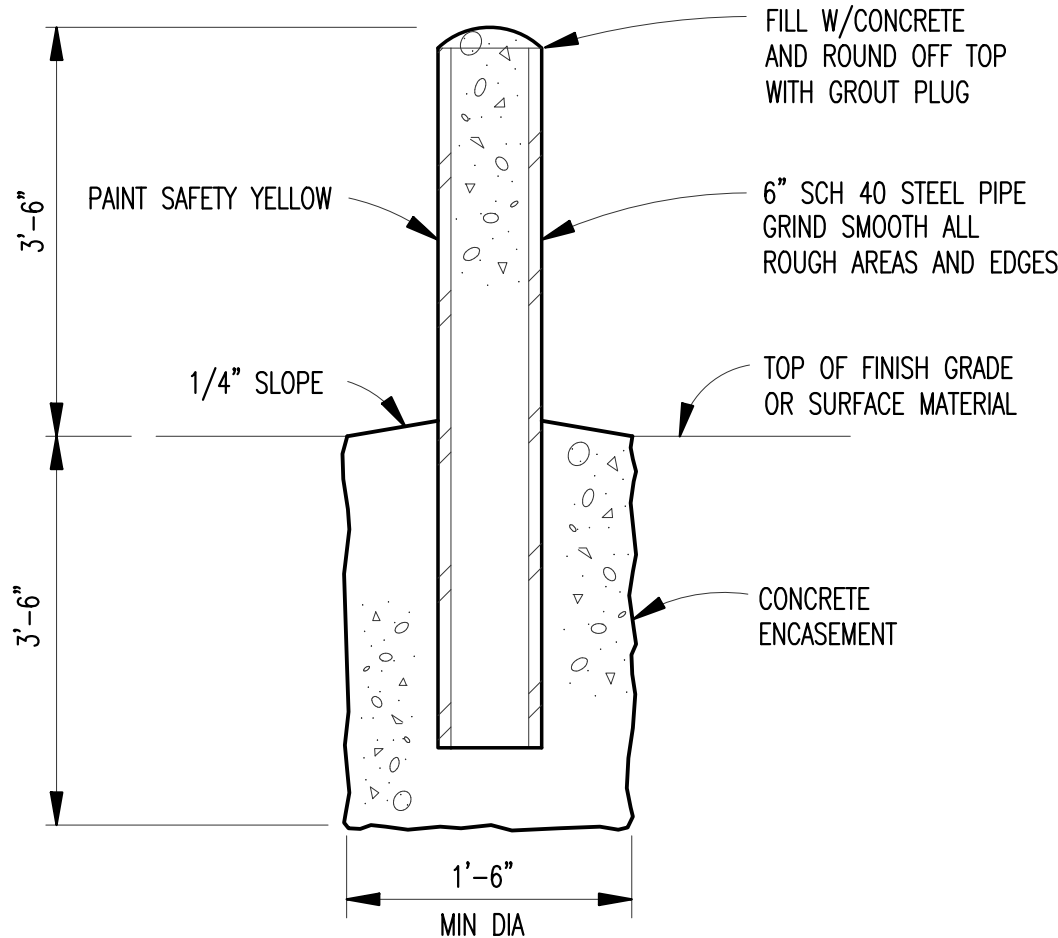
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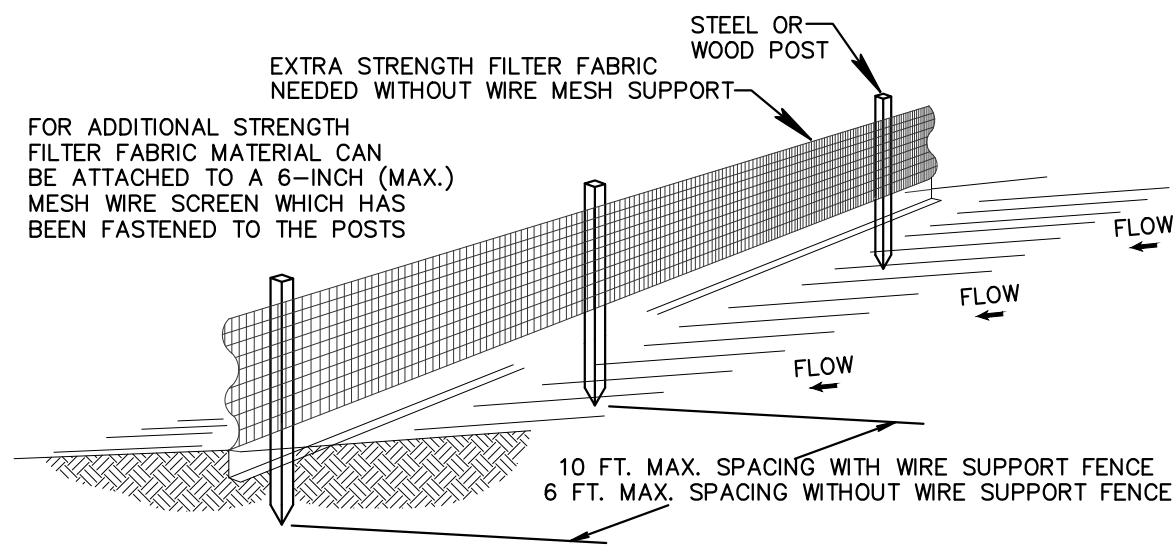
SILT FENCE SECTION
NOT TO SCALE



ATTACHING TWO SILT FENCES
NOT TO SCALE



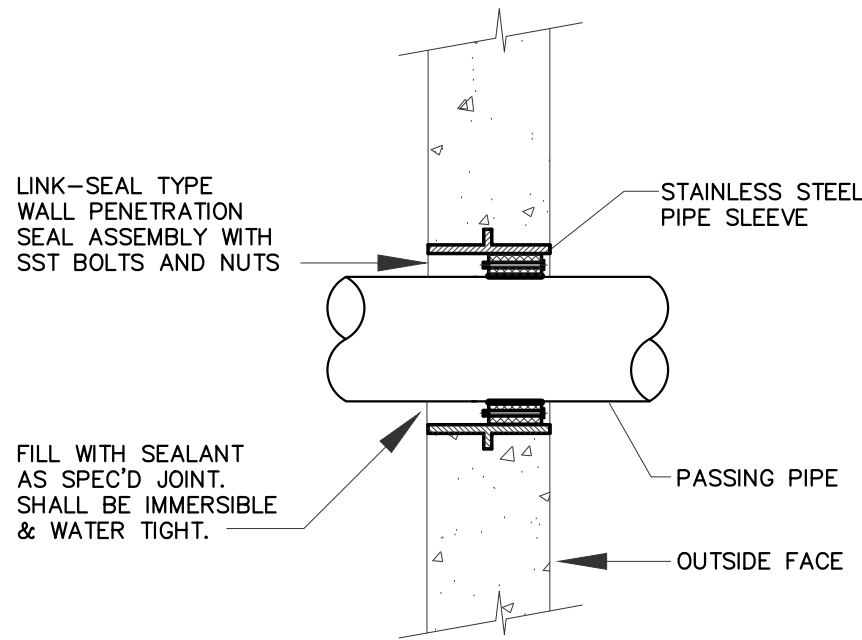
PIPE BOLLARD
NTS



NOTES:

1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
7. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
8. ALL PROJECTS REQUIRE SUBMITTAL OF POLLUTION PREVENTION PLAN (PPP).
9. ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

SILT FENCE INSTALLATION DETAIL
N.T.S.



PIPE SIZE (Nom.)	ACTUAL O.D. (Inches)	MODEL NUMBER	LINK-SEAL* SIZE	LINK'S PER SEAL
2	2.500	WS-3-1/2-22-S-*	LS-200-***	8
2-1/4	2.750	WS-4-23-S-*	LS-200-***	9
3	3.960	WS-6-28-S-*	LS-340-***	9
4	4.800	WS-8-32-S-*	LS-410-***	7
6	6.900	WS-10-36-S-*	LS-410-***	10
8	9.050	WS-12-37-S-*	LS-400-***	9
10	11.100	WS-14-37-S-*	LS-340-***	24
12	13.200	WS-18-37-S-*	LS-475-***	18
14	15.300	WS-20-37-S-*	LS-575-***	17
16	17.400	WS-22-37-S-*	LS-475-***	23
18	19.500	WS-24-37-S-*	LS-575-***	21
20	21.600	WS-26-37-S-*	LS-475-***	27
24	25.800	WS-30-37-S-*	LS-400-***	23
30	32.000	WS-36-37-S-*	LS-400-***	29
36	38.300	WS-44-1/2-37-S-*	LS-500-***	33
42	44.500	WS-50-37-S-*	LS-500-***	38
48	50.800	WS-57-37-S-*	LS-500-***	43

- * = Specify sleeve length in inches.
*** = Specify LS Model C, S-316, L... etc when ordering.
(Example LS-475-C-17)

WALL PENETRATION SEAL DETAIL
N.T.S

NO.	DATE	ISSUED FOR	APR'V'D BY
		DESIGNED: J.G.H.	
		DRAWN: D.D.P.	
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ENGINEER NO.: 200453

CLIENT
PROJECT NO.:

CAD REF.:200453C03.DWG

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

STANDARD DETAILS - SHEET 1

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DATE: NOVEMBER 2020

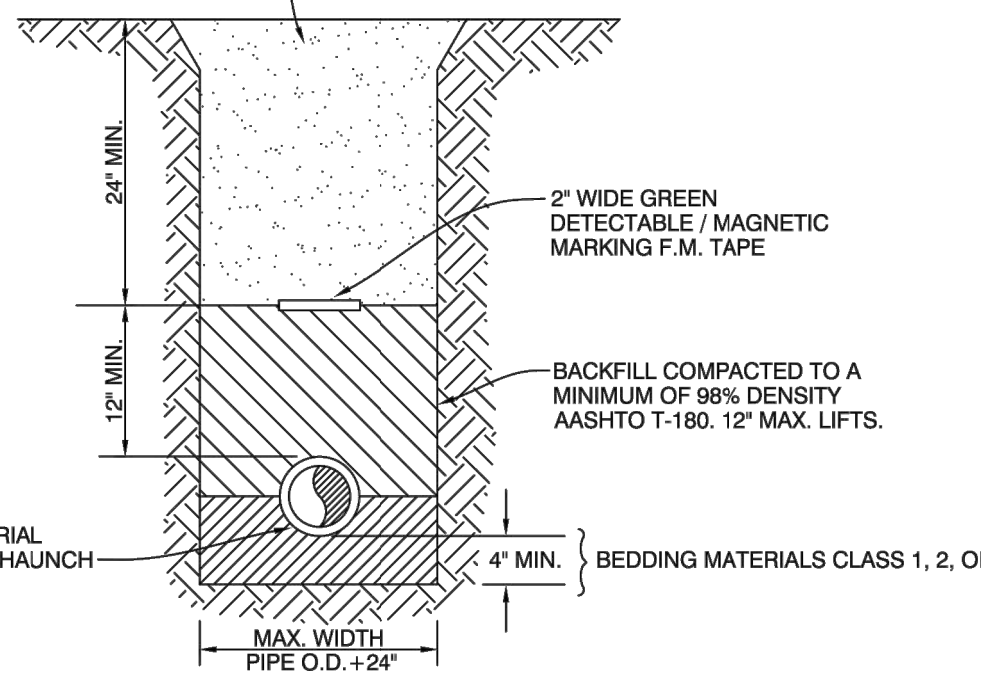
SHEET: 6 of 20

DRAWING: C-3

100% DESIGN

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REMAINDER OF BACKFILL MAY BE PLACED BY MACHINE AND COMPACTED TO A MINIMUM OF 98% DENSITY PER AASHTO T-180 (12" MAX. LIFTS), OR PER AGENCY HAVING JURISDICTION.



NOTES:

CLASS 1 MATERIAL - ANGULAR .25" TO .75" GRADED STONE SUCH AS CORAL, CRUSHED STONE, OR CRUSHED SHELLS OR BEDDING ROCK (100% PASSING 1" SIEVE).

CLASS 2 MATERIAL - COURSE SAND AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF .25 INCH WITH SMALL PERCENTAGE OF FINES. COMPACT TO A MIN. 98% DENSITY PER AASHTO T-180.

CLASS 3 MATERIAL - FINE SAND AND CLAYEY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES AND GRAVEL-CLAY MIXTURES. INCLUDED IN CLASS 3 ARE EXISTING SOIL TYPES CLASSIFIED AS SELECT BACKFILL. COMPACT TO A MIN. 98% DENSITY PER AASHTO T-180.

1. IF CLASS 1 MATERIAL IS USED FOR BEDDING, IT MUST BE USED FOR THE ENTIRE EMBEDMENT. A DRY TRENCH SHALL BE MAINTAINED WHEN USING CLASS 2 AND CLASS 3 MATERIAL.

2. DENSITY TESTING IS REQUIRED IN 1 FOOT LIFTS ABOVE PIPELINE AT INTERVALS OF 400 MAXIMUM.

3. UNSUITABLE IN-SITU MATERIAL SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.

4. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT / CONTRACT DOCUMENTS.

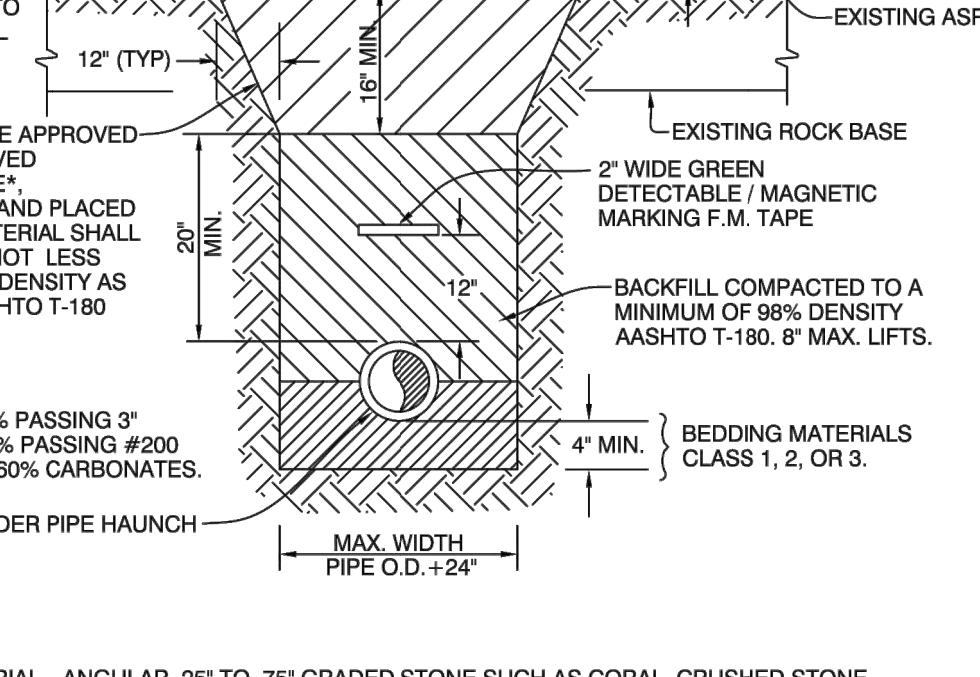
5. EMS MARKER REQUIRED MINIMUM EVERY 300 FEET OF PRESSURE PIPELINE.

LOXAHATCHEE RIVER DISTRICT

TYPICAL TRENCH DETAIL FOR NON - PAVED AREAS

SD-1

REPLACEMENT PAVEMENT (OVERLAY) MUST BE TYPE S-1 (MOD.) OR S-3 ASPHALTIC CONCRETE HOT MIX, WITH TACK COAT. IT MUST BE ROLLED OR COMPACTED TO A SMOOTH SURFACE LEVEL WITH EXISTING ROAD SURFACE.



NOTES:

CLASS 1 MATERIAL - ANGULAR .25" TO .75" GRADED STONE SUCH AS CORAL, CRUSHED STONE, OR CRUSHED SHELLS OR BEDDING ROCK (100% PASSING 1" SIEVE).

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1. ALL CUTS WILL REQUIRE COMPACTION TO DENSITY SPECIFICATIONS.

2. SAW CUT ASPHALT BEFORE EXCAVATING.

3. COMPACTION MUST BE DONE BY A MECHANICAL VIBRATORY COMPACTOR. EACH LIFT MUST RECEIVE 5 PASSES OF THE COMPACTOR OVER ENTIRE SURFACE. BEFORE COMPACTING EACH LIFT, WATER MUST BE APPLIED AT THE RATE OF 1 GAL. PER LINEAL FOOT OF THE TRENCH FOR BACKFILL AND 0.5 GAL. PER LINEAL FOOT OF TRENCH FOR COQUINA BASE. WATER TO BE SPRINKLED EVENLY OVER TRENCH WIDTH.

4. UNSUITABLE IN-SITU MATERIAL SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.

5. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT / CONTRACT DOCUMENTS.

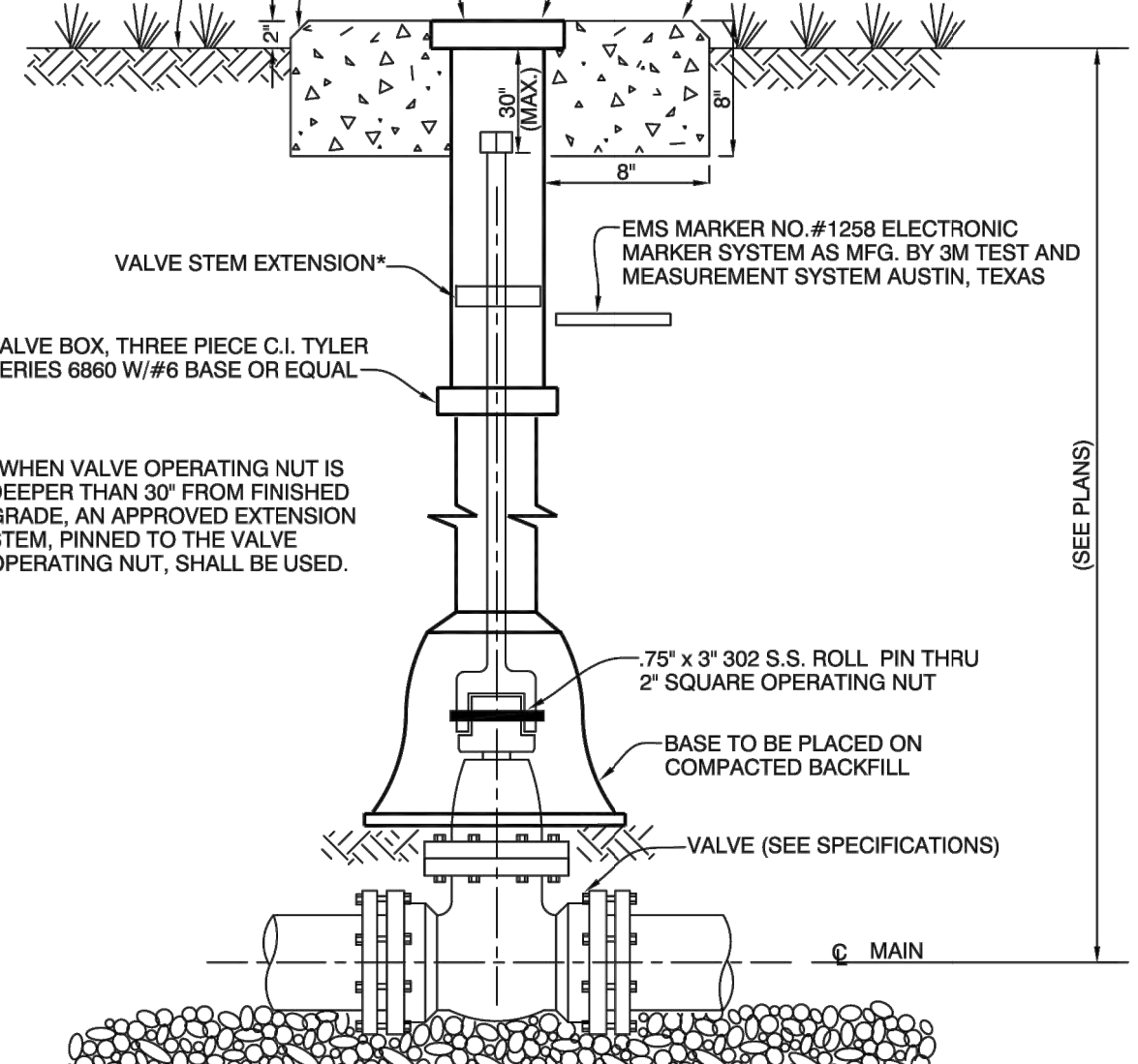
6. EMS MARKER REQUIRED MINIMUM EVERY 300 FEET OF PRESSURE PIPELINE.

LOXAHATCHEE RIVER DISTRICT

TYPICAL TRENCH & PAVEMENT RESTORATION DETAIL

SD-2

METAL VALVE COVER MARKED "REUSE WATER" COLORED PURPLE FOR REUSE



NOTES:

*WHEN VALVE OPERATING NUT IS DEEPER THAN 30" FROM FINISHED GRADE, AN APPROVED EXTENSION STEM, PINNED TO THE VALVE OPERATING NUT, SHALL BE USED.

LOXAHATCHEE RIVER DISTRICT

BURIED VALVE DETAIL

SD-27

THE FOLLOWING SHALL BE USED AS A GUIDE FOR SUBMITTAL OF RECORD DRAWINGS TO THE LOXAHATCHEE RIVER DISTRICT

1. TWO (2) SETS OF PRINTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW 48 HOURS PRIOR TO REQUESTING INSPECTIONS SUCH AS, FINAL INSPECTION, PRESSURE TESTS, SANITARY SEWER LAMPING OR ANY OTHER ELEMENT OF THE SYSTEM WHICH IS DETERMINED BY THE DISTRICT TO REQUIRE CLARIFICATION.

2. THE DRAWINGS WILL BE REVIEWED BY THE DISTRICT FOR DEFICIENCIES. DEFICIENCIES WILL BE INDICATED ON ONE (1) SET OF PRINTS WHICH WILL BE RETURNED TO THE E.O.R. OR CONTRACTOR FOR NECESSARY CORRECTIVE ACTION.

3. UPON CORRECTION, TWO (2) SETS OF PRINTS (SIGNED/SEALED BY A FLORIDA LICENSED SURVEYOR) SHALL BE SUBMITTED.

4. NO DISCLAIMERS ON DRAWINGS WILL BE ACCEPTED.

5. UPON FINAL SUBMITTAL OF RECORD DRAWINGS, AN AUTOCAD VER. 2009 OR LATER AND ADOBE .PDF (24"x36") ELECTRONIC DATA FILE SHALL BE FURNISHED ON A CD-R DISK TO THE DISTRICT. ONLY ONE CAD FILE WITH ALL SHEETS OF RECORD DRAWINGS ALLOWED.

6. ALL SEWER ITEMS SHALL BE CATEGORIZED AND ASSIGNED TO THE DRAWING LAYERS SUCH AS: AB-MANHOLES, AB-FORCEMAIN, AB-VALVE, AB-GRAVITY MAIN, ETC.

7. REDRAW ALL SEWER LINES AND INFRASTRUCTURE ON RECORD DRAWINGS AS CONSTRUCTED HORIZONTALLY & VERTICALLY, USING ORIGINAL DESIGN LINEWORK & ONLY UPDATING THE CORRESPONDING TEXT CALLOUTS WILL NOT BE ACCEPTED AS RECORD DRAWINGS.

REQUIRED INFORMATION ON RECORD DRAWINGS

1. DRAWINGS ON 24" X 36" BOND PAPER THAT WILL REPRODUCE LEGIBLY.

2. LABEL DRAWINGS "RECORD DRAWINGS" WITH DATE, COMPLETE TITLE BLOCK WITH CURRENT FILE NAME.

3. DRAWINGS SHALL BE SIGNED / SEALED BY A FLORIDA LICENSED PROFESSIONAL LAND SURVEYOR.

4. CORRECT STREET/ROAD NAMES AND LOT AND BLOCK NUMBERS.

5. SHOW AS-BUILT CONSTRUCTED SEWER FACILITIES HEAVED UP, BOLD OR BOXED OUT TO STAND OUT FROM REST OF EACH DRAWING.

6. ALL ITEMS LISTED BELOW MUST BE CORRECTLY GEOREFERENCED WITH NORTHINGS/EASTINGS CLEARLY SHOW. THE AS BUILTS SHALL BE GEOREFERENCED TO THE STATE PLANE COORDINATES IN NAD 83, FLORIDA EAST ZONE, WHILE THE VERTICAL DATUM SHALL BE NGVD 29.

GRAVITY SEWER

1. AS-BUILT DISTANCE OF GRAVITY MAIN FROM CENTER LINE OF ROAD OR EASEMENT RIGHT-OF-WAY LINE, BUILDINGS, OR AS DETERMINED BY THE LOXAHATCHEE RIVER DISTRICT. EXTENSIONS OF AN IMAGINARY LINE WILL NOT BE ACCEPTABLE AS REFERENCED POINTS.

2. TYPE OF MATERIALS INSTALLED - MAINS AND SERVICES.

3. SHOW EACH SEWER SERVICE LATERAL INCLUDING THE CONNECTION TO THE MAIN AND PROVIDE THE NORTHING & EASTING POINTS FOR EACH CLEANOUT & INDICATE CLEANOUT DIAMETER.

4. AS-BUILT LOCATIONS OF MANHOLES WITH A NORTHING & EASTING PROVIDED.

5. AS-BUILT ELEVATIONS, RIM ELEVATION, EACH INVERT AND PIPE SLOPE.

6. UPDATE LIFT STATION DETAILS/ELEVATIONS INCLUDING START UP DATA.

7. LIFT STATION AND UTILITY EASEMENTS, INCLUDING LOCATION OF F.P.&L. SERVICE TO CONTROL PANEL.

PRESSURE PIPE

1. AS-BUILT DISTANCE OF MAINS AT 100' INTERVALS FROM CENTER LINE OF ROAD, EASEMENT, RIGHT-OF-WAY LINE, BUILDINGS, SEWER MAINS OR AS DETERMINED BY THE LOXAHATCHEE RIVER DISTRICT. EXTENSIONS OF AN IMAGINARY LINE WILL NOT BE ACCEPTABLE AS REFERENCED POINTS.

2. SHOW ELEVATIONS, NORTHING/EASTING OF EACH VALVE, FITTING, AIR RELEASE VALVE, SERVICE LINE, TAP, ETC., AND RADIAL DIMENSIONS (TIES) FROM A NEARBY PERMANENT OBJECT WHERE POSSIBLE. (SEE NOTE NO. 6 IN GENERAL).

3. TYPE OF MATERIALS INSTALLED - PIPE AND APPURTENANCES, INDICATE ALL LOCATIONS OF CHANGE OF MATERIAL INCLUDING JOINT TYPE (M.J., SLP, RESTRAINED).

4. VALVE TYPE (BUTTERFLY, GATE, PLUG) INCLUDING THE NORTHING & EASTING POINT.

5. AS-BUILT LENGTH OF ALL JACK AND BORE CASINGS INDICATING DISTANCE FROM CENTER LINE OF PAVING TO EACH END OF CASING. THE AS-BUILT INVERT ELEVATION OF EACH END OF CASING, (INCLUDING NORTHING/EASTING) AND AS-BUILT DISTANCE FROM EACH END OF CASING TO LIMITS OF MECHANICAL JOINT PIPE IS ALSO REQUIRED.

6. AS-BUILT ELEVATIONS AT 100' INTERVALS AS WELL AS ANY MAJOR CHANGES IN DIRECTION AND/OR ELEVATION. ELEVATIONS SHOWN AT THESE INTERVALS AND CHANGES MUST SHOW TOP OF PIPE ELEVATION, NORTHING/EASTING AND FINISHED GRADE ELEVATION AT THAT LOCATION. SHOW LOCATION OF EMS MARKERS.

7. UTILITY EASEMENTS SHALL BE CORRECTLY SHOWN AND DIMENSIONED WITH REFERENCED SEWER FACILITY.

LOXAHATCHEE RIVER DISTRICT

RECORD DRAWING SUBMITTAL GUIDE

SD-29

SEPARATION REQUIREMENTS

62-555.314 F.A.C. AUGUST 28, 2003

1. HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

A. NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

C. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

2. VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

A. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESURE- TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATERMAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

C. AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

*REQUIRED BY: HRS, STATE OF FLORIDA, PALM BEACH COUNTY PUBLIC HEALTH UNIT

LOXAHATCHEE RIVER DISTRICT

STANDARD WATER AND SEWER SEPARATION STATEMENT

SD-30

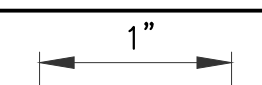
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VERIFY SCALE



BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453

CLIENT PROJECT NO.: _____

CAD REF.:200453C03.DWG

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

DATE: NOVEMBER 2020

SHEET: 7 of 20

DRAWING: C-4

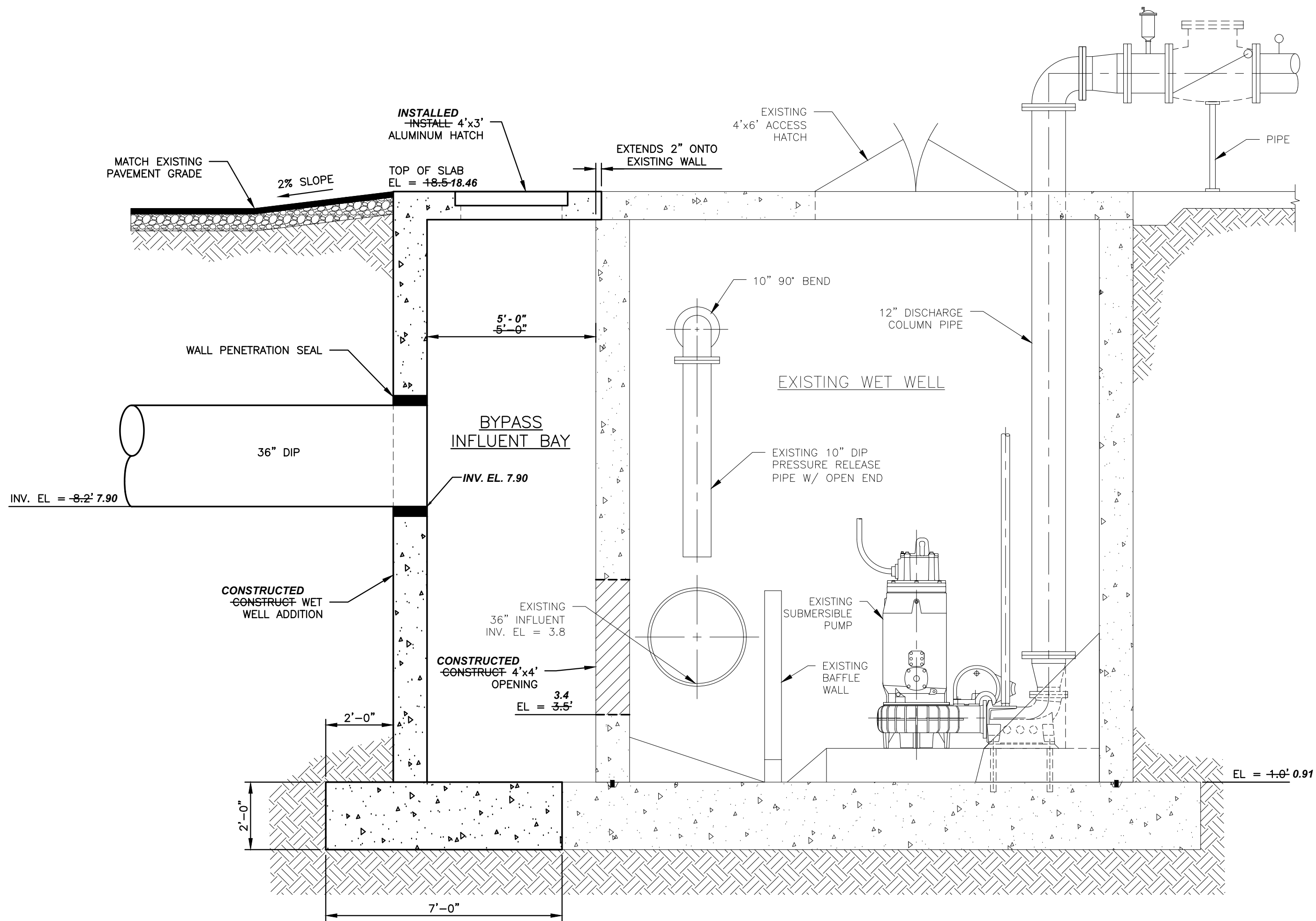
STANDARD DETAILS - SHEET 2

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100% DESIGN

Acad Version : R23.1s (LMS Tech)
User Name : robert
Date/Time : Thu, 25 May 2023 - 3:12pm
Current Plotstyle : ByColor
Layout Tab: M-2
Path Name : L:\J08521\21-1345\200453-RECD-IQ-511PS - CAD Standard\200453M02_RECORD.dwg



SECTION A-A
SCALE: 3/8" = 1'-0"

AS-BUILT LEGEND:

B.O.P. = BOTTOM OF PIPE
BTM = BOTTOM
BV = BALL VALVE
D.I.P. = DUCTILE IRON PIPE
DSS = DOUBLE STRAP SADDLE
E = EASTING
EL = ELEVATION
FG = FINISHED GRADE
GV = GATE VALVE
N = NORTHING
RJ = RESTRAINED JOINT
T.O.P. = TOP OF PIPE
TOP = TOP
(V) = VERTICAL
WS = WATER SERVICE

SURVEYOR'S CERTIFICATION:

I HEREBY ATTEST that this as-built survey meets the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers adopted in Rule 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

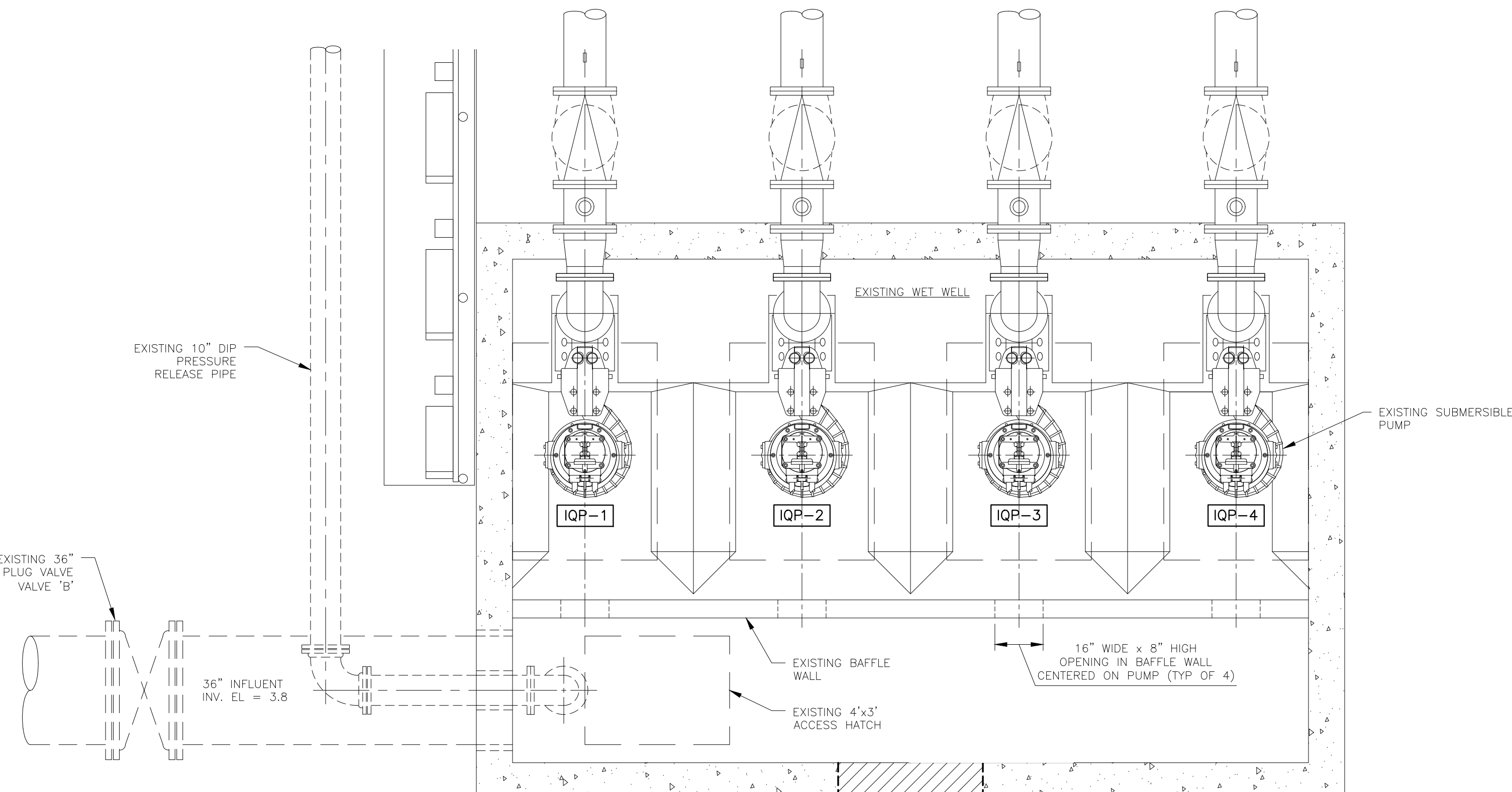
AS-BUILT REFERENCE/ REVISIONS:

05/25/23, ADD 4'x4' OPENING INV. EL.
11/08/21, J98/79
08/30/21, J98/78

Robert J. Cajal
Professional Surveyor and Mapper
Florida Certificate Number 6266
Wallace Surveying Corporation
Licensed Business #4569
5553 Village Boulevard
West Palm Beach, Florida 33407
(561) 640-4551

AS-BUILT NOTES:

- As-built elevations shown hereon are in U.S. Survey Feet and decimal parts thereof, are on NGVD-29 datum, and are based on benchmark "BIRGE", elevation 14.26 NGVD-29, as published by the Palm Beach County Survey Department and existing features as shown on these project plans which was supplied to this office.
- Except for above ground improvements and manhole inverts, as-built utilities were obtained by indirect observations via vertical pvc sleeves set and labeled by contractor.
- Unless presented in digital form with electronic seal and electronic signature this as-built survey must bear the signature and the original raised seal of a Florida licensed surveyor or mapper, otherwise this drawing is for informational purposes only and is not valid.
- As-built coordinates shown hereon are grid, Florida East Zone, and are based on NAD 83 (NSRS 2007), as provided by subscription to Topnet GNSS Network.
- Distances shown hereon are in U.S. Survey Feet as measured on horizontal plane.
- As-Built information denoted by **Bold Arial Italic** font.
- As-Built piping distances are measured from center of structures.



PLAN

SCALE: 3/8" = 1'-0"

NOTES:

- TRANSITION PAVEMENT TO EXISTING GRADE WITH MAX 2% SLOPE.
- END OF 36" DIP SHALL BE FLUSH WITH INTERIOR WALL OF BYPASS INFLUENT BAY.

NO.	DATE	ISSUED FOR	APRVD BY	DESIGNED: J.G.H.	DRAWN: D.D.P.	CHECKED: S.J.P.	APPROVED: M.R.T.	JEFFREY G. HISCOCK, P.E. No.43984

BAXTER & WOODMAN
Consulting Engineers

477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 • Fax: 561-655-6179
www.baxterwoodman.com EB-31795

VERIFY SCALE

1"

BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453
CLIENT PROJECT NO.:
CAD 200453M02_RECORD.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

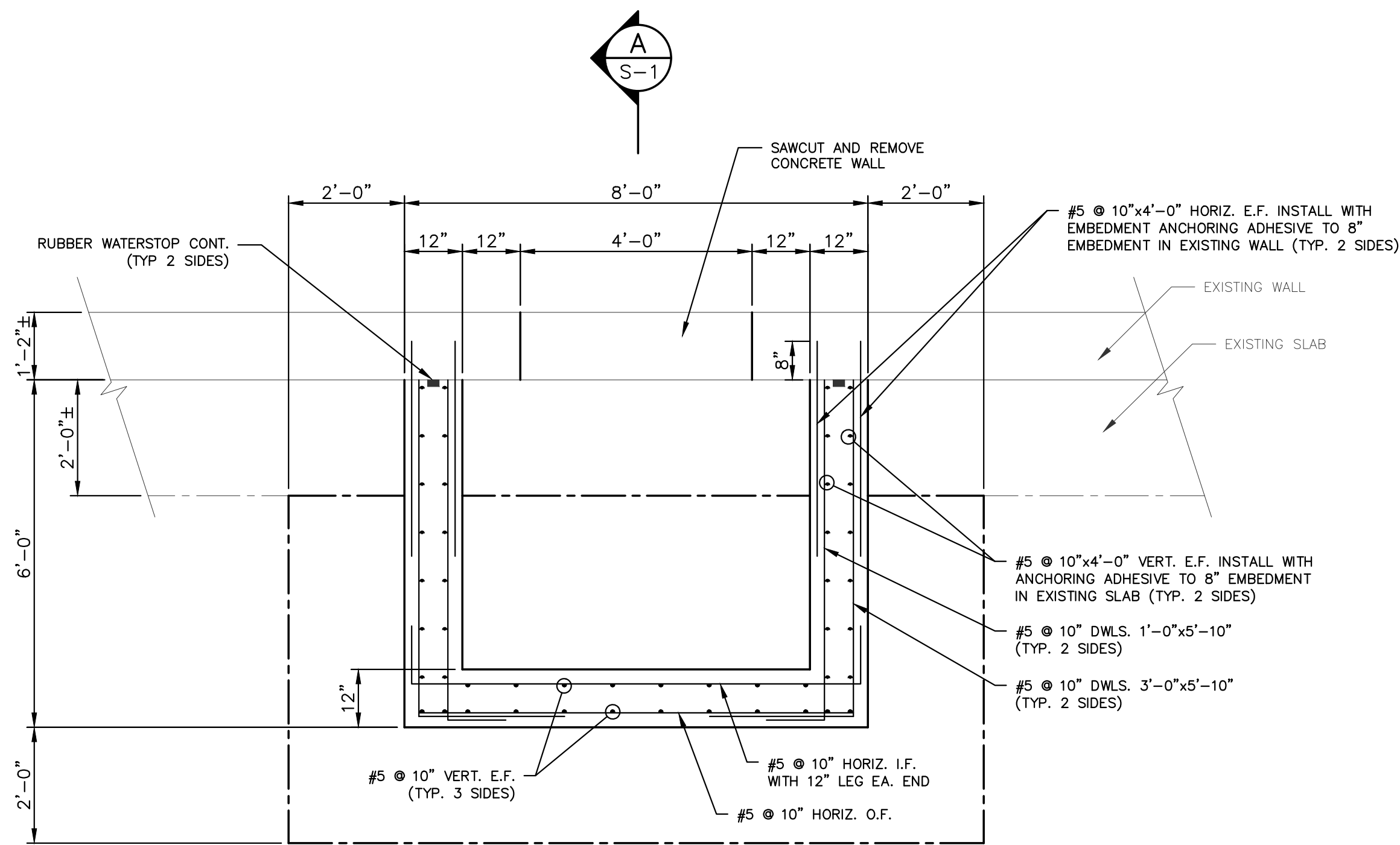
RECORD DRAWING
IQ-511 PUMP STATION MODIFICATIONS

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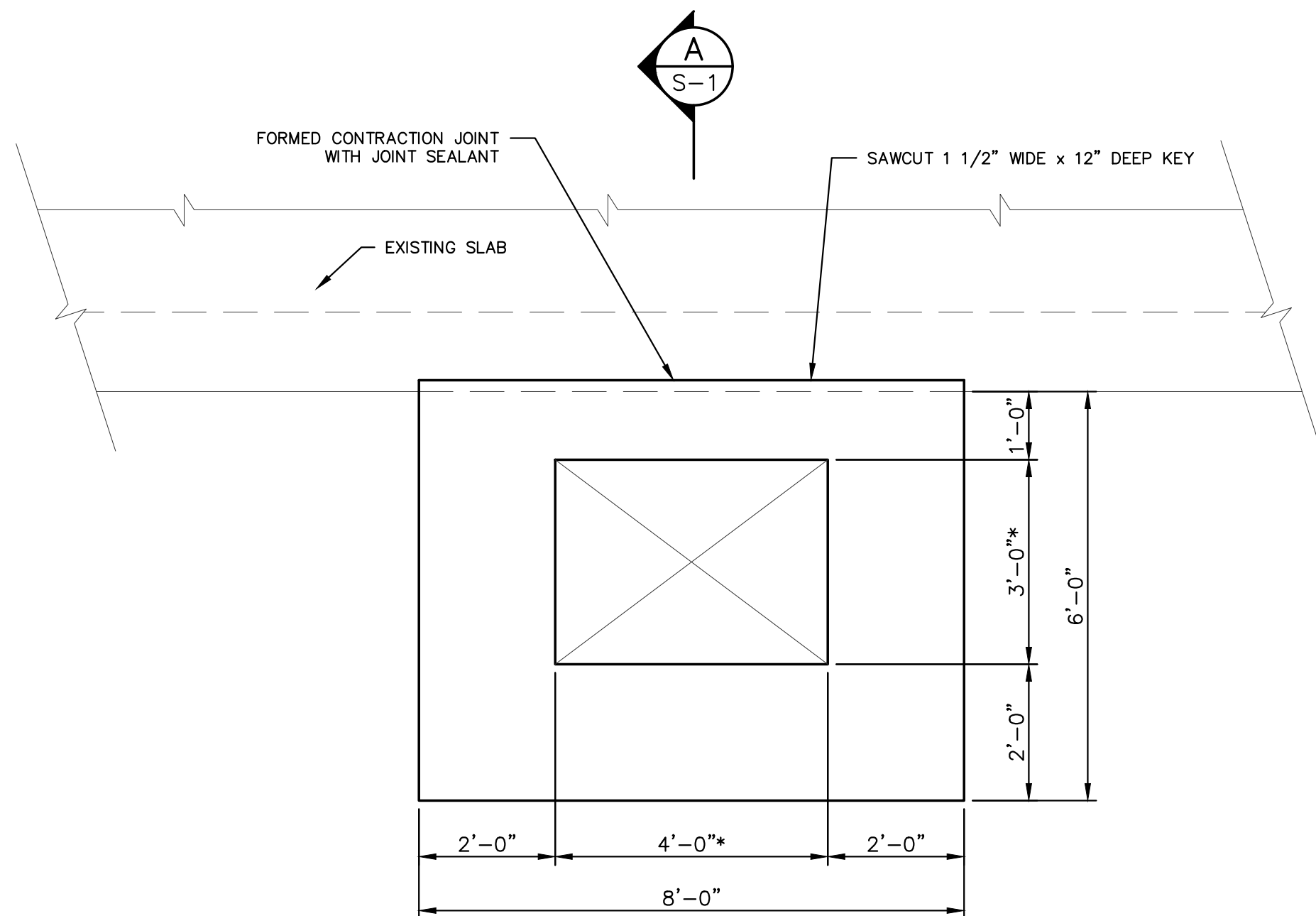
DATE: SEPTEMBER 2020
SHEET: 9 of 20
DRAWING: M-2

CONSTRUCTION

Acad Version : R23.1s (LMS Tech) Path Name : I:\WestPalmBeach\URECO\200453-0511 PS Piping\40-Design\40.00 Working Folder\200453S01.dwg Date\Time : Thu, 05 Nov 2020 10:23:30am Current Plotsyle : ByColor Layout Tab: S-1 User Name : jrg9ddp

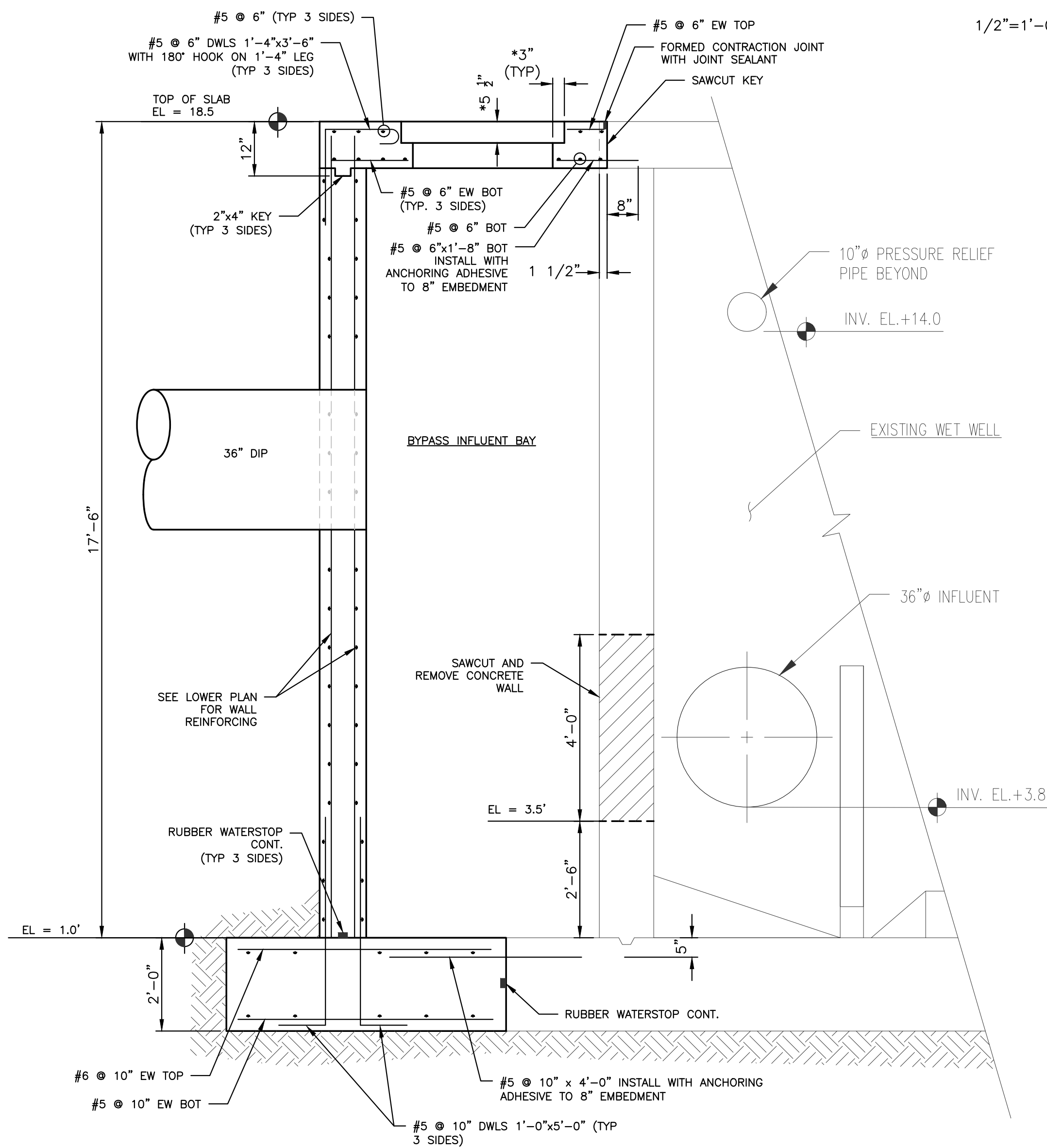


LOWER PLAN



UPPER PLAN

* INDICATES MIN. CLEAR OPENING DIMENSIONS



SECTION A-A

* DIMENSION TO BE DETERMINED BASED ON SELECTED HATCH

NO.	DATE	ISSUED FOR	APR'V'D BY

DESIGNED:	C.B.
DRAWN:	D.D.P.
CHECKED:	S.J.P.
APPROVED:	M.R.T.

CHARLES BRUNNER, P.E. No. 81536

BAXTER & WOODMAN
Consulting Engineers

477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 • Fax: 561-655-6179
www.baxterwoodman.com EB-31795

VERIFY SCALE

1"

BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453
CLIENT PROJECT NO.: _____
CAD REF.: 200453S01.dwg

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ-511 BYPASS PIPING
STRUCTURAL PLAN AND SECTION

DATE: NOVEMBER 2020
SHEET: 10 of 20
DRAWING: S-1

Always call 800 two full business days before you dig

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100% DESIGN

Acad Version : R23.1s (LMS Tech) User Name : lwri Date/Time : Fri, 30 Oct 2020 - 3:36pm Current PlotStyle : ByColor Path Name : E:\PROJECTS\WMA\MA32 - [R]D IQ-511\DWG\MA32E01.dwg Layout Tab: E-1

ELECTRICAL LEGEND			
SYMBOL		DESCRIPTION	
		CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS SECTION.	
		INDICATES RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES, SIZES, AND TYPES.	
		MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED	
		LUMINAIRE AND POLE - SEE SCHEDULE FOR TYPE	
		WALL MOUNTED LUMINAIRE - SEE SCHEDULE FOR TYPE	
		<u>LIGHTING FIXTURE POWER AND SWITCHING LEGEND</u> X=FIXTURE TYPE Y=PANL-CIRCUIT BRKR Z=SWITCH	
		GROUND ROD - 5/8" x 20' COPPER CLAD UNLESS OTHERWISE NOTED	
		GROUND TEST WELL, SEE DETAIL	
		WALL SWITCH: 2- DOUBLE POLE 3- THREE WAY 4- FOUR WAY WP-WEATHERPROOF P- PILOT LIGHT K- KEY OPERATED D- DIMMER CRE-CORROSION RESISTANT	
		MANUAL MOTOR STARTER SWITCH, NEMA 4X UNLESS OTHERWISE NOTED. NUMBER OF POLES AS REQUIRED	
		UTILITY METER	
		GENERATOR	
		CONVENIENCE RECEPTACLE - DUPLEX UNLESS SPECIFIED OTHERWISE WP-WEATHERPROOF C- CLOCK HANGER TL- TWIST LOCK CRE-CORROSION RESISTANT GFI-GROUND FAULT INTERRUPTER	
		JUNCTION BOX NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X SS	
		TELEPHONE RECEPTACLE (OUTLET BOX, 18" AFF) W - WALL MOUNTED, 48" AFF	
		CONDUIT/CONDUCTOR - REFER TO CIRCUIT SCHEDULE	
		HOME RUN - PANEL AND CIRCUIT NUMBER SHOWN	
		EXPOSED CONDUIT AND CONDUCTORS*	
		UNDERGROUND CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12, 1#126 IN 3/4"C.	
		YARD CONDUIT. REFER TO YARD CONDUIT SCHEDULE	
		DIRECT BURIED CONDUIT	
		CONDUIT, STUBBED AND CAPPED AS SHOWN	
		GROUND WIRE, 4/0 UNLESS OTHERWISE NOTED	
		PUSH-BUTTON STATION, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X 316 STAINLESS STEEL ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL PUSH BUTTON REQUIRED	
		NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL	
		FUSED DISCONNECT SWITCH, SIZE INDICATED (60 = SWITCH RATING; 40 = FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL	
		LIGHTING CONTACTOR, CURRENT RATING INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM FOR NUMBER OF POLES. 4X = NEMA 4X 316 STAINLESS STEEL	
		MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE, UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL	
		COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED). MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL SCHEMATIC DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL	
		GROUND	
		TRANSFORMER, VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE	
		<u>LINE WEIGHT</u>	
		NEW	
		EXISTING	

ELECTRICAL LEGEND																			
SYMBOL		DESCRIPTION																	
		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN																	
		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED																	
		REMOTE DEVICE																	
		SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION																	
		<table><tr><th colspan="4">POSITION</th></tr><tr><th>CKT.</th><th>HAND</th><th>OFF</th><th>AUTO</th></tr><tr><td>1</td><td>X</td><td>O</td><td>O</td></tr><tr><td>2</td><td>O</td><td>O</td><td>X</td></tr></table> X - CLOSED CONTACT O - OPEN CONTACT		POSITION				CKT.	HAND	OFF	AUTO	1	X	O	O	2	O	O	X
POSITION																			
CKT.	HAND	OFF	AUTO																
1	X	O	O																
2	O	O	X																
		INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER C - GREEN B - BLUE R - RED C - CLEAR W - WHITE																	
		PUSH TO TEST AND CONNECT INDICATING LIGHT																	
		CONTACT - NORMALLY OPEN WITH COIL INDICATED																	
		CONTACT - NORMALLY CLOSED WITH COIL INDICATED																	
		OVERLOAD RELAY HEATER																	
		MAGNETIC STARTER WITH NEMA SIZE INDICATED																	
		MOTOR CIRCUIT PROTECTOR, MAGNETIC, 3 POLE UNLESS INDICATED OTHERWISE.																	
		CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.																	
		FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.																	
		SWITCH - CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.																	
		TRANSIENT VOLTAGE SURGE SUPPRESSION																	
		DEMOLITION TO BE REMOVED OR DELETED																	
		FUSE																	
		CONTROL RELAY, X=SEQUENTIAL NUMBER																	
		LATCHING RELAY, X=SEQUENTIAL NUMBER L - LATCH, U - UNLATCH																	

ABBREVIATIONS			
ABBREVIATIONS		DESCRIPTION	
AFB	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
ATS	AUTOMATIC TRANSFER SWITCH	MH	MOTOR HEATER, MANHOLE
BC	BYPASS CONTACTOR	MLO	MAIN LUGS ONLY
C	CONDUIT, CONTACTOR	MPZ	MINI POWER ZONE
CB	CIRCUIT BREAKER	MTD	MOTOR TEMPERATURE DETECTOR
CKT	CIRCUIT	N	NEUTRAL
CPT	CONTROL POWER TRANSFORMER	NC	NORMALLY CLOSED
CR	CONTROL RELAY	NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
CT	CURRENT TRANSFORMER	NO	NORMALLY OPEN
DIV	DIVISION	NTS	NOT TO SCALE
ETM	ELAPSED TIME METER	OL	OVERLOAD RELAY
EXST	EXISTING	PB	PULL BOX
F, FU	FUSE	PC	PHOTOCELL
FI	FLOW INDICATOR	PH	PHASE MONITOR
FM	FLOW METER	PM	POWER MONITOR
FS	FLOAT SWITCH	PNL	PANEL
FT	FLOW TRANSMITTER	PP	POWER PANEL (480VAC)
FUT	FUTURE	PS	PRESSURE SWITCH
FVNR	FULL VOLTAGE NON-REVERSING STARTER	PVC	POLYVINYL CHLORIDE CONDUIT
G	GREEN, GROUND	RTU	REMOTE TELEMTRY UNIT
GALV	GALVANIZED	RGS	RIGID GALVANIZED STEEL
GEN	GENERATOR	SF	SUPPLY FAN
GFI	GROUND FAULT INTERRUPTER	SH	SPACE HEATER
GFR	GROUND FAULT RELAY	SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
GND	GROUND	SST	STAINLESS STEEL
HH	HANDHOLE	SV	SOLENOID VALVE
HOA	HAND/OFF/AUTO	SW	SWITCH
HOR	HAND/OFF/REMOTE	T	THERMOSTAT
HVAC	HEATING, VENTILATING & AIR CONDITIONING	TB	TERMINAL BOARD
IC	INTERRUPTING CAPACITY	TDR	TIME DELAY RELAY
I & C	INSTRUMENTATION AND CONTROL	TJB	TERMINAL JUNCTION BOX
IP	INSTRUMENT PANEL (PANELBOARD)	TS	THERMAL SWITCH
J, J-BOX	JUNCTION BOX	TSP	TWISTED SHIELDED PAIR
LC	LIGHTING CONTACTOR	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
LP	LIGHTING PANEL (PANELBOARD)	TYP	TYPICAL
LR	LOCAL/REMOTE	V	VOLTMETER, VOLT
LS	LIMIT SWITCH	VFD	VARIABLE FREQUENCY DRIVE
LTG	LIGHTING	WP	WEATHERPROOF - NEMA 4X
M	MAGNETIC CONTACTOR COIL OR MOTOR	XFMR	TRANSFORMER

GENERAL NOTES AND SPECIFICATIONS:

- THE SCOPE OF WORK IS DESCRIBED IN SPECIFICATIONS AND AS SHOWN ON DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), LOCAL CODES, CITY CODES, AND THE FLORIDA BUILDING CODE WITH AMENDMENTS.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS AND TO INCLUDE ALL FEES AS PART OF HIS BID IF NOT OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL, BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
- GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 250. THE GROUNDING SYSTEM TEST SHALL NOT EXCEED A 48 HOUR SPAN DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMIC UNLESS SPECIFICALLY INDICATED OTHERWISE. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON THE PLANS. GROUND SURROUNDING YARD FENCE AND ALL YARD LIGHTING FIXTURES WITH MINIMUM #4 STRANDED COPPER CONDUCTORS BELOW GRADE TO SITE GROUNDING GRID PER NFPA 54/70.
- ALL EQUIPMENT AND MATERIAL SHALL BE UNUSED AND U.L. LISTED.
- THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
- COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS AND VERIFY ALL OBSTRUCTIONS WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION.
- NOT ALL CONDUITS SHOWN ON RISER AND ONE-LINE DIAGRAMS ARE SHOWN ON BUILDING OR SITE LAYOUTS. CONTRACTOR SHALL SUPPLY ALL CONDUITS AND CABLES AS SHOWN ON RISER AND ONE-LINE DIAGRAMS. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS. ALL LOCATIONS OF EQUIPMENT, PANELS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE AND INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS. SEE OTHER DISCIPLINE DRAWINGS FOR COORDINATION OF ALL DRAWINGS. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION AND MOVEMENT OF CONDUITS OR OTHER ELECTRICAL EQUIPMENT SHALL BE ACCOMPLISHED WITHOUT ANY ADDITIONAL COST FOR THE OWNER. DRAWINGS ARE SCHEMATIC AND SHOWN FOR CLARITY.
- ALL REFERENCES TO A PARTICULAR MANUFACTURER ARE GIVEN ON AN "APPROVED EQUAL" BASIS, UNLESS OTHERWISE NOTED.
- ALL EXCAVATIONS FOR CONDUITS AND HANDHOLES, NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH PLANT ENGINEER.
- MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED.
- CONDUCTOR PULLING TENSIONS SHALL NET EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.
- MINIMUM DISTANCE ALLOWED BETWEEN POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE:

VOLTAGE	DISTANCE
4160V	3 FT
480V	2 FT
120V	1 FT
- PROVIDE CONDUIT DUCT SEAL AT ALL CONDUIT ENDS.
- ALL CONDUCTORS MEDIA SHALL BE COPPER. NO ALUMINUM ALLOWED UNLESS SPECIFICALLY INDICATED ON DRAWINGS.
- ALL UNDERGROUND CONDUITS SHALL BE DIRECT BURIED WITH WARNING TAPE ON TOP AS PER DETAILS. COLORED WARNING TAPE 6" WIDE SHALL BE INSTALLED 8" BELOW FINISHED GRADE DIRECTLY ABOVE ALL UNDERGROUND YARD CONDUITS ACCORDING TO THE FOLLOWING SCHEDULE:
POWER: RED
ALL OTHER CONDUITS: GREEN
- FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.
- SEE DRAWINGS AND SPECIFICATION 16001 FOR CONDUIT REQUIREMENTS . ALL CIRCUITS SHALL BE IDENTIFIED IN JUNCTION BOXES, CONTROLLERS AND PANELBOARDS. IDENTIFICATION SHALL MATCH PANELBOARD SCHEDULES. EXPOSED RUNS OF CONDUITS SHALL BE INSTALLED WITH RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS, WITH RIGHT ANGLE TURNS CONSISTING OF SYMMETRICAL BENDS OR PULL BOXES AS INDICATED ON THE DRAWINGS. BENDS AND OFFSETS SHALL BE AVOIDED WHERE POSSIBLE.
- ALL SPARE CONDUITS SHALL BE CAPPED WITH A PVC CAP AND A NYLON PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS.
- CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOD AND SPRINKLER SYSTEM PIPING TO MATCH EXISTING, AFTER THE COMPLETION OF THE CONDUIT AND PULLBOX INSTALLATION.
- ALL MATERIAL IN DESIGNATED CORROSIVE AREAS SHALL BE NEMA 4X 316 STAINLESS STEEL OR NON-METALLIC.
- ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL 508A APPROVED PANEL VENDOR AND SHALL BEAR A UL 508A LABEL ON THE PANEL.
- INSTRUMENTATION IS LOW VOLTAGE SIGNALS SUCH AS 4-20MA, TELEPHONE COMMUNICATION, FIRE ALARM COMMUNICATION. POWER CONDUIT SHALL ONLY CROSS INSTRUMENTATION CONDUIT PERPENDICULARLY AT RIGHT ANGLES WITH 6" SEPARATION.
- ALL REFERENCES TO STAINLESS STEEL OR SS SHALL BE CONSTRUED AS 316 STAINLESS STEEL.
- ALL LOCATIONS OF EQUIPMENT, PANELS, ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE AND INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS.
- ALUMINUM CONDUIT SHALL BE INSTALLED NOT TO COME INTO DIRECT CONTACT WITH CONCRETE OR EARTH. PAINT ALUMINUM CONDUIT WITH BITUMASTIC PAINT FOR THE PORTION CONTACT WITH CONCRETE OR EARTH.

NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: T.W.	HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-4886 FAX LICENSE NO: EB 0006877
				DRAWN: T.N.	THEIN WIN, P.E. No.65722
				CHECKED: S.F.C	
				APPROVED: P.F.H	



477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-655-6175 • Fax: 561-655-6179
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VERIFY SCALE
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BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453
CLIENT
PROJECT NO.:
CAD REF.: MA32E01.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

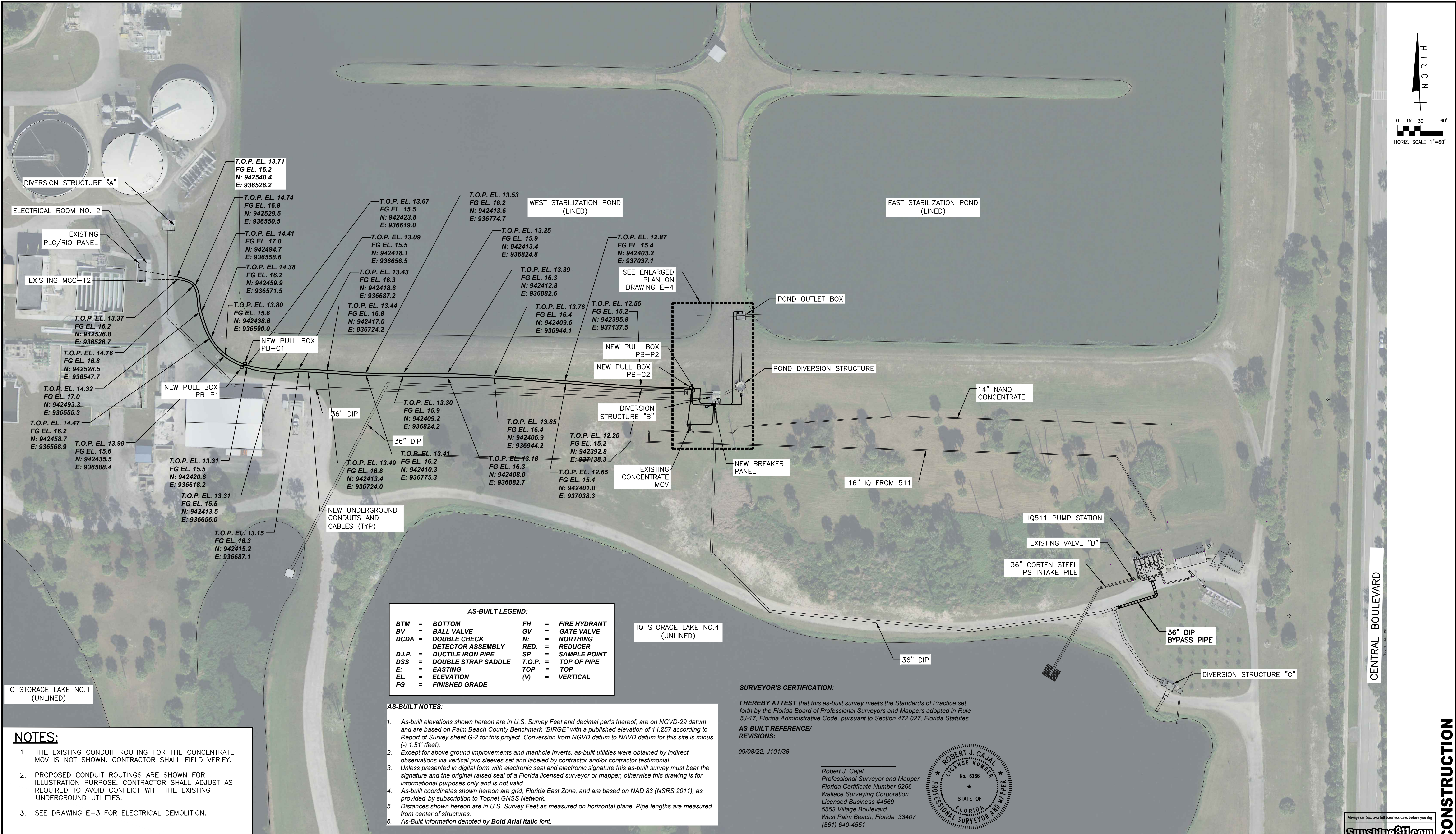
ELECTRICAL LEGEND AND NOTES



DATE: NOVEMBER 2020
SHEET: 12 of 20
DRAWING: E-1

100% DESIGN

Acad Version : R23.1s (LMS Tech)
User Name : robert
Date/Time : Wed, 28 Jun 2023 - 7:50am
Current Plotstyle : ByColor
Path Name : L:\06821\21-1345\BW_200453_0511_PS - ELEC Construct Set (CAD)\MA32E02 RECORD.dwg



- NOTES:**
- THE EXISTING CONDUIT ROUTING FOR THE CONCENTRATE MOV IS NOT SHOWN. CONTRACTOR SHALL FIELD VERIFY.
 - PROPOSED CONDUIT ROUTINGS ARE SHOWN FOR ILLUSTRATION PURPOSE. CONTRACTOR SHALL ADJUST AS REQUIRED TO AVOID CONFLICT WITH THE EXISTING UNDERGROUND UTILITIES.
 - SEE DRAWING E-3 FOR ELECTRICAL DEMOLITION.

AS-BUILT LEGEND:					
BTM	=	BOTTOM	FH	=	FIRE HYDRANT
BV	=	BALL VALVE	GV	=	GATE VALVE
DCDA	=	DOUBLE CHECK	N:	=	NORTHING
		DETECTOR ASSEMBLY	RED.	=	REDUCER
D.I.P.	=	DUCTILE IRON PIPE	SP	=	SAMPLE POINT
DSS	=	DOUBLE STRAP SADDLE	T.O.P.	=	TOP OF PIPE
E:	=	EASTING	TOP	=	TOP
EL.	=	ELEVATION	(V)	=	VERTICAL
FG	=	FINISHED GRADE			

- AS-BUILT NOTES:**
- As-built elevations shown hereon are in U.S. Survey Feet and decimal parts thereof, are on NGVD-29 datum and are based on Palm Beach County Benchmark "BIRGE" with a published elevation of 14.257 according to Report of Survey sheet G-2 for this project. Conversion from NGVD datum to NAVD datum for this site is minus (-) 1.51' (feet).
 - Except for above ground improvements and manhole inverts, as-built utilities were obtained by indirect observations via vertical pvc sleeves set and labeled by contractor and/or contractor testimonial.
 - Unless presented in digital form with electronic seal and electronic signature this as-built survey must bear the signature and the original raised seal of a Florida licensed surveyor or mapper, otherwise this drawing is for informational purposes only and is not valid.
 - As-built coordinates shown hereon are grid, Florida East Zone, and are based on NAD 83 (NSRS 2011), as provided by subscription to Topnet GNSS Network.
 - Distances shown hereon are in U.S. Survey Feet as measured on horizontal plane. Pipe lengths are measured from center of structures.
 - As-Built information denoted by **Bold Arial Italic** font.

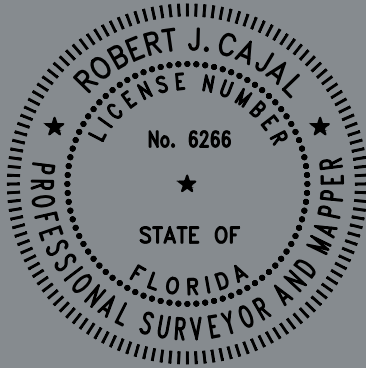
SURVEYOR'S CERTIFICATION:

I HEREBY ATTEST that this as-built survey meets the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers adopted in Rule 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

AS-BUILT REFERENCE/ REVISIONS:

09/08/22, J101/38

Robert J. Cajal
Professional Surveyor and Mapper
Florida Certificate Number 6266
Wallace Surveying Corporation
Licensed Business #4569
5553 Village Boulevard
West Palm Beach, Florida 33407
(561) 640-4551



NO.	DATE	ISSUED FOR	APRV'D BY

DESIGNED:	T.W.
DRAWN:	T.N.
CHECKED:	S.F.C
APPROVED:	P.F.H

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

THEIN WIN, P.E.
No.65722

BAXTER & WOODMAN
Consulting Engineers

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Phone: 561-655-6175 • Fax: 561-655-6179
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VERIFY SCALE

1" = 22'x34'

BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 200453

CLIENT PROJECT NO.: _____

CAD REF.: MA32E02 RECORD.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

RECORD DRAWING
ELECTRICAL SITE PLAN

DATE: APRIL 2021

SHEET: 13 of 20

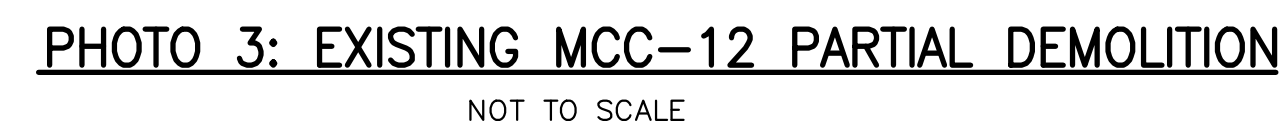
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CONSTRUCTION

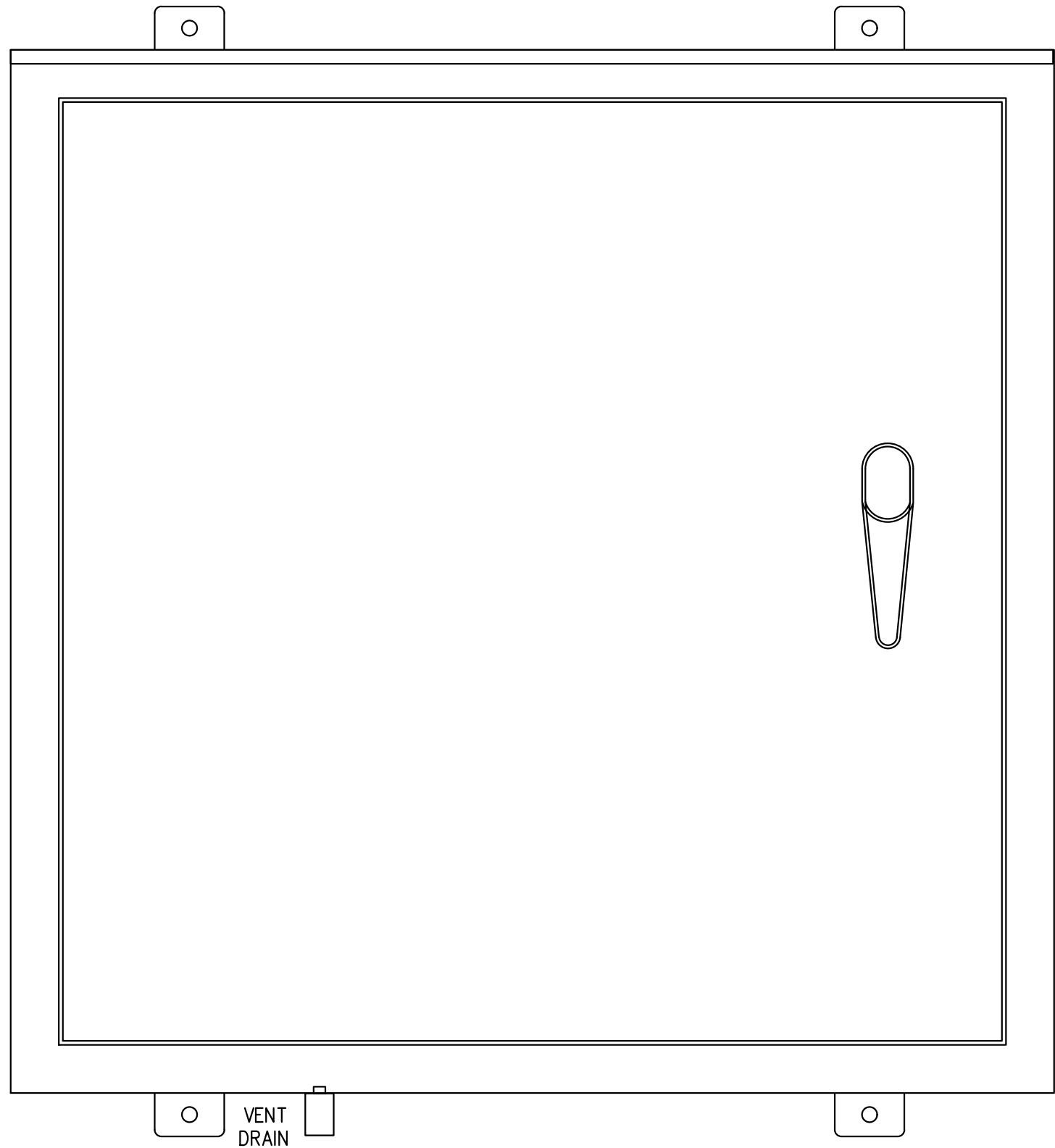


- ① CONTRACTOR SHALL REPLACE THE EXISTING BREAKER BUCKET WITH A NEW BREAKER BUCKET. RETURN THE EXISTING BREAKER BUCKET TO THE OWNER. NEW BREAKER BUCKET SHALL MATCH MANUFACTURER, STYLE AND AIC RATING WITH EXISTING UNITS.
- ② CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING CONCENTRATE BREAKER PANEL. REMOVE THE EXISTING POWER CABLES BACK TO THE EXISTING MCC-12. EXTEND THE EXISTING 2" POWER CONDUIT TO THE CONCENTRATE PULL BOX AND PROVIDE CONDUIT CAP.
- ③ CONTRACTOR SHALL DISCONNECT THE EXISTING CONCENTRATE MOV CONTROL CABLES FROM BOTH ENDS. REMOVE THE EXISTING CONTROL CABLES FROM MOV TO THE EXISTING CONCENTRATE PULL BOX. ROLL AND TAPE THE CABLE ENDS IN THE EXISTING CONCENTRATE PULL BOX. LABEL THE EXISTING CABLES AS SPARE.
- ④ REMOVE TWO EXISTING CONCRETE LIGHT POLES WITH SOLAR PANELS AND LIGHT FIXTURES. DELIVER THE EXISTING CONCRETE POLES TO THE STORAGE IN THE SAME FACILITY, IF OWNER WANTS TO KEEP THEM. OTHERWISE DISPOSE AS NEEDED.

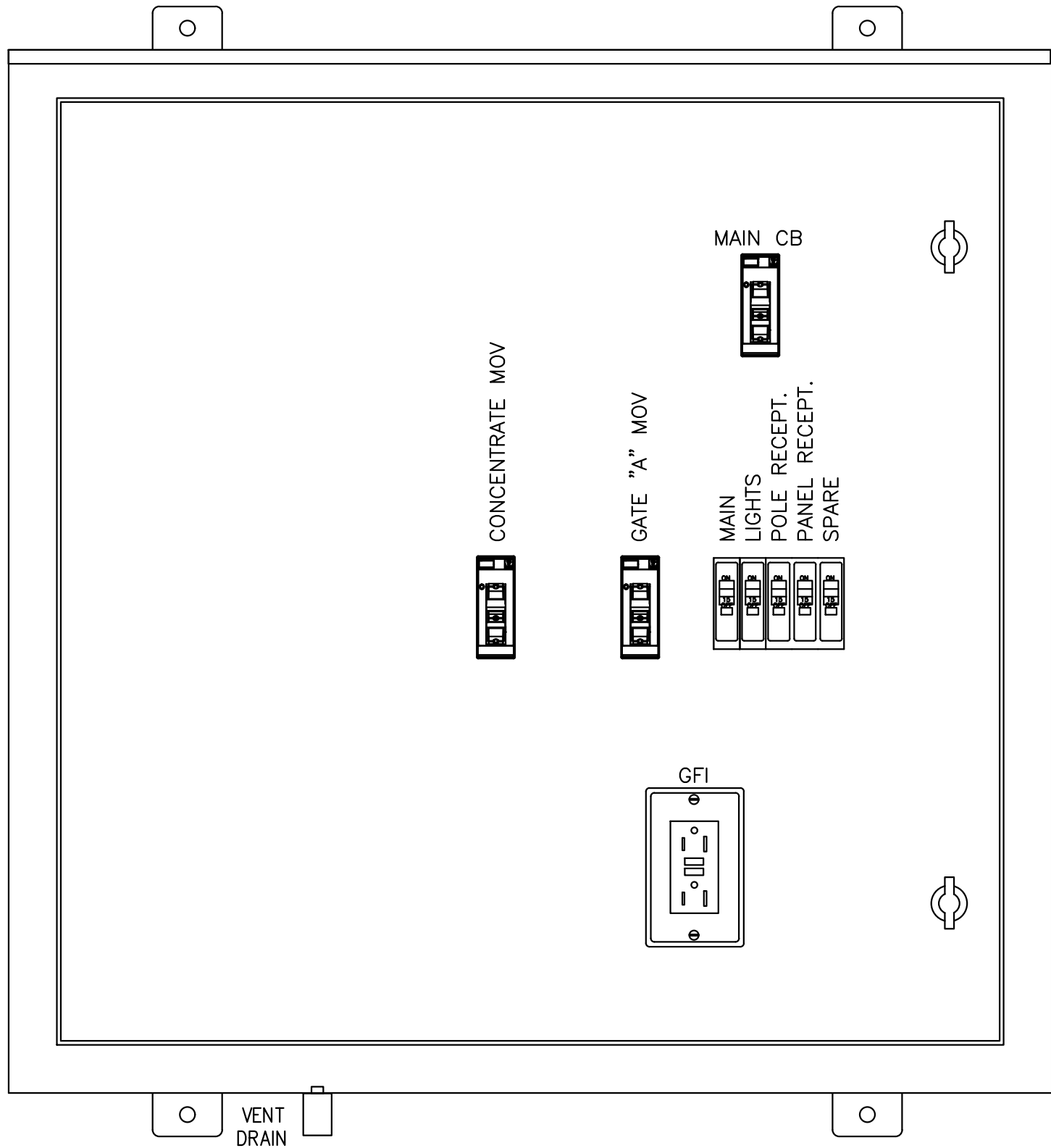


User Name: z.twin	NO.	DATE	ISSUED FOR	APRV'D BY	DESIGNED: T.W.	HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-9165 (561) 451-4886 FAX LICENSE NO: EB 0006877  477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401 Phone: 561-655-6175 • Fax: 561-655-6179 www.baxterwoodman.com EB-31795	DRAWN: T.N.	 VERIFY SCALE ENGINEER NO.: 200453 CLIENT PROJECT NO.: _____ CAD REF.: <u>MA32E03.dwg</u>	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT IQ-511 BYPASS PIPING ELECTRICAL DEMOLITION	DATE: NOVEMBER 2020
					THEIN WIN, P.E. No.65722					SHEET: 14 of 20 DRAWING: E-3

Acad Version : R23.1s (LMS Tech) User Name : win Date/Time : Fri, 30 Oct 2020 - 3:36pm Path Name : E:\PROJECTS\MA32E05.dwg Current Plotstyle : ByColor Layout Tab: E-5



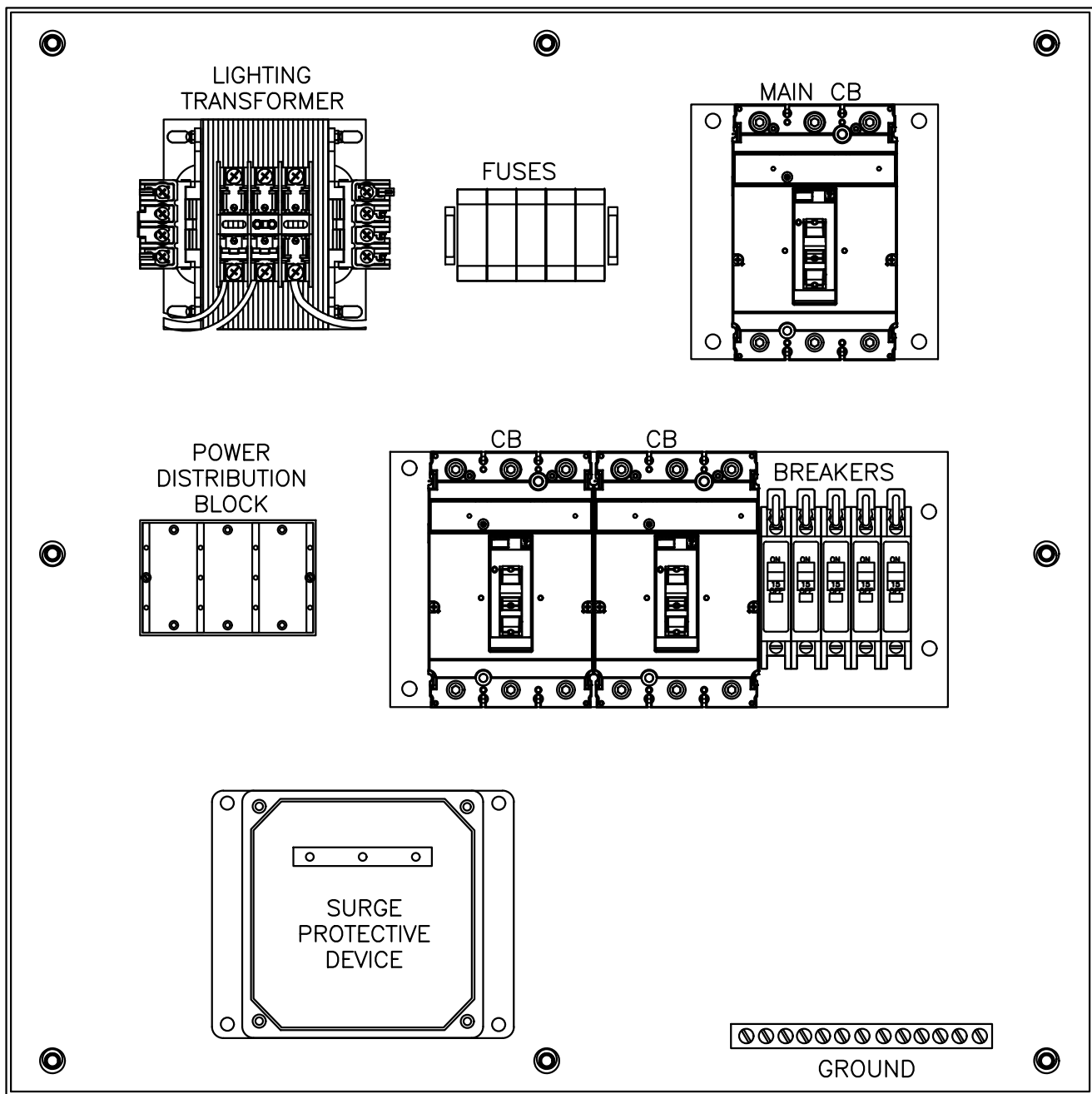
FRONT DOOR VIEW



INNER DOOR VIEW

BREAKER PANEL LAYOUT

NOT TO SCALE



SUBPLATE VIEW

NOTES:

1. NEW BREAKER PANEL SHALL BE NEMA 3R, 304 STAINLESS STEEL POWDER COATED WHITE, WITH DRIP SHIELD KIT AND 3-POINT LATCH WITH LOCKABLE HANDLE. DIMENSION SHALL BE 30"Wx30"Hx12"D.
2. PANEL SHALL BE BUILT BY UL 508A PANEL BUILDER.
3. SEE ONE LINE DRAWINGS FOR BREAKER SIZES.
4. PROVIDE ALL NECESSARY COMPONENTS INCLUDING BREAKERS, SURGE ARRESTER, FUSES, TRANSFORMER, WIRE, GROUND BUS, POWER DISTRIBUTION BLOCK, TERMINALS, RECEPTACLE AND STAINLESS STEEL VENT DRAIN. ADJUST PANEL LAYOUT AS REQUIRED.

NO.	DATE	ISSUED FOR	APRVD BY

DESIGNED:	T.W.
DRAWN:	T.N.
CHECKED:	S.F.C
APPROVED:	P.F.H

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VERIFY SCALE

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ENGINEER NO.: 200453

CLIENT PROJECT NO.: _____

CAD REF.: MA32E05.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

NEW BREAKER PANEL LAYOUT

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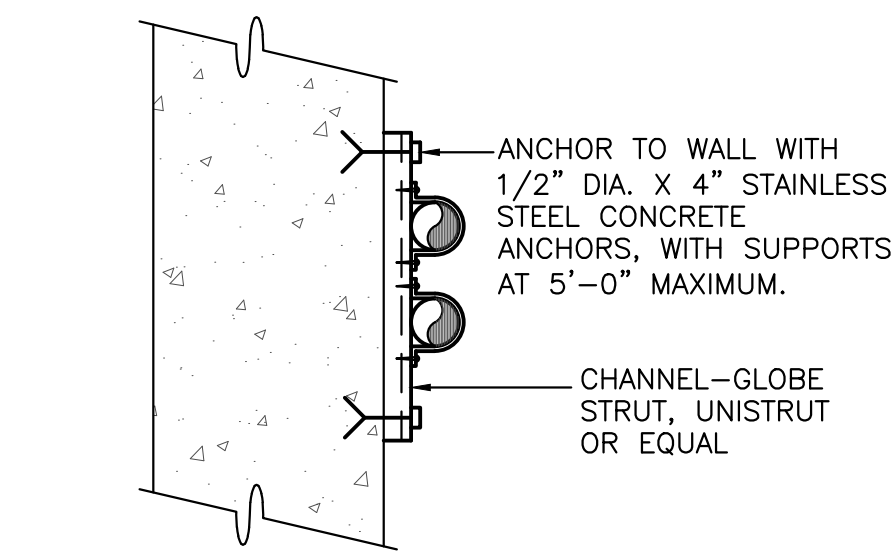
Sunshine 811.com

DATE: NOVEMBER 2020

SHEET: 16 of 20

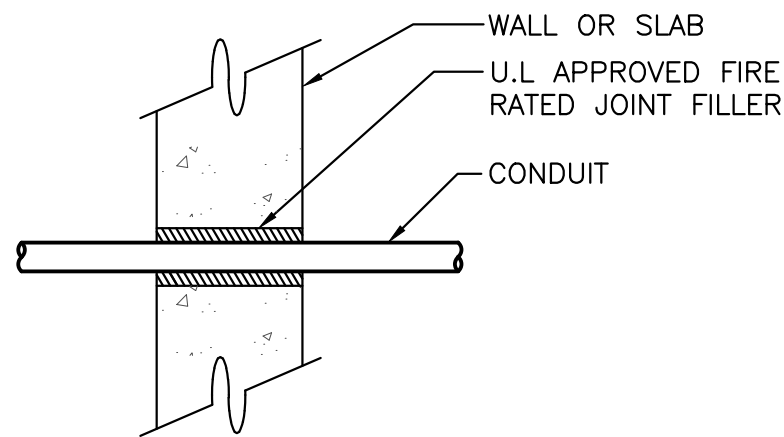
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CONDUIT SUPPORT ON WALL

NOT TO SCALE



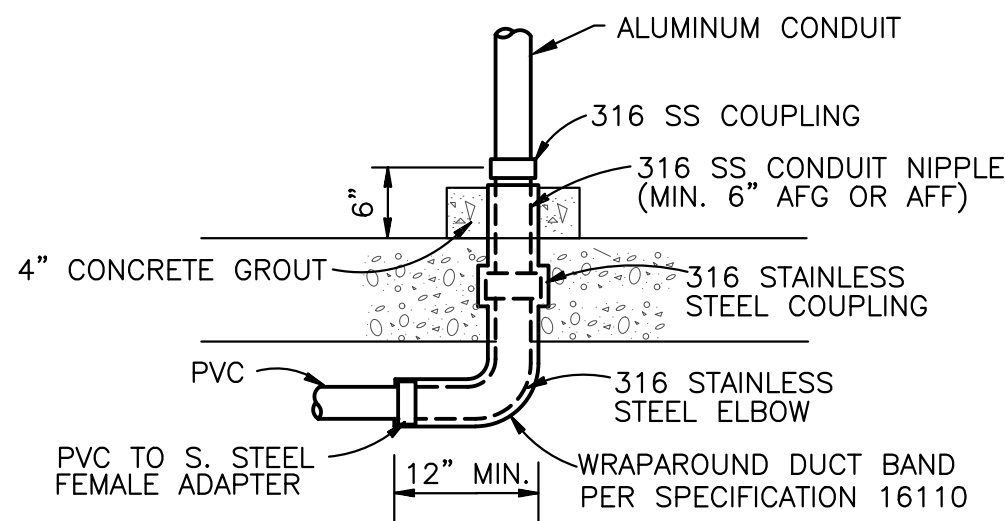
CONDUIT PENETRATION AT WALL OR SLAB

NOT TO SCALE

NOTE: ALL UNDERGROUND CONDUIT TRANSITION TO ABOVE GROUND OR VICE VERSA SHALL HAVE 316 STAINLESS STEEL ELBOW WITH WRAPAROUND DUCT BAND AND CONDUIT MINIMUM 2" ABOVE FINISHED GROUND OR ABOVE FINISHED FLOOR AND 12" BELOW GROUND IN LENGTH, NO EXCEPTION. PROVIDE DISSIMILAR METAL CONNECTOR AS NEEDED.

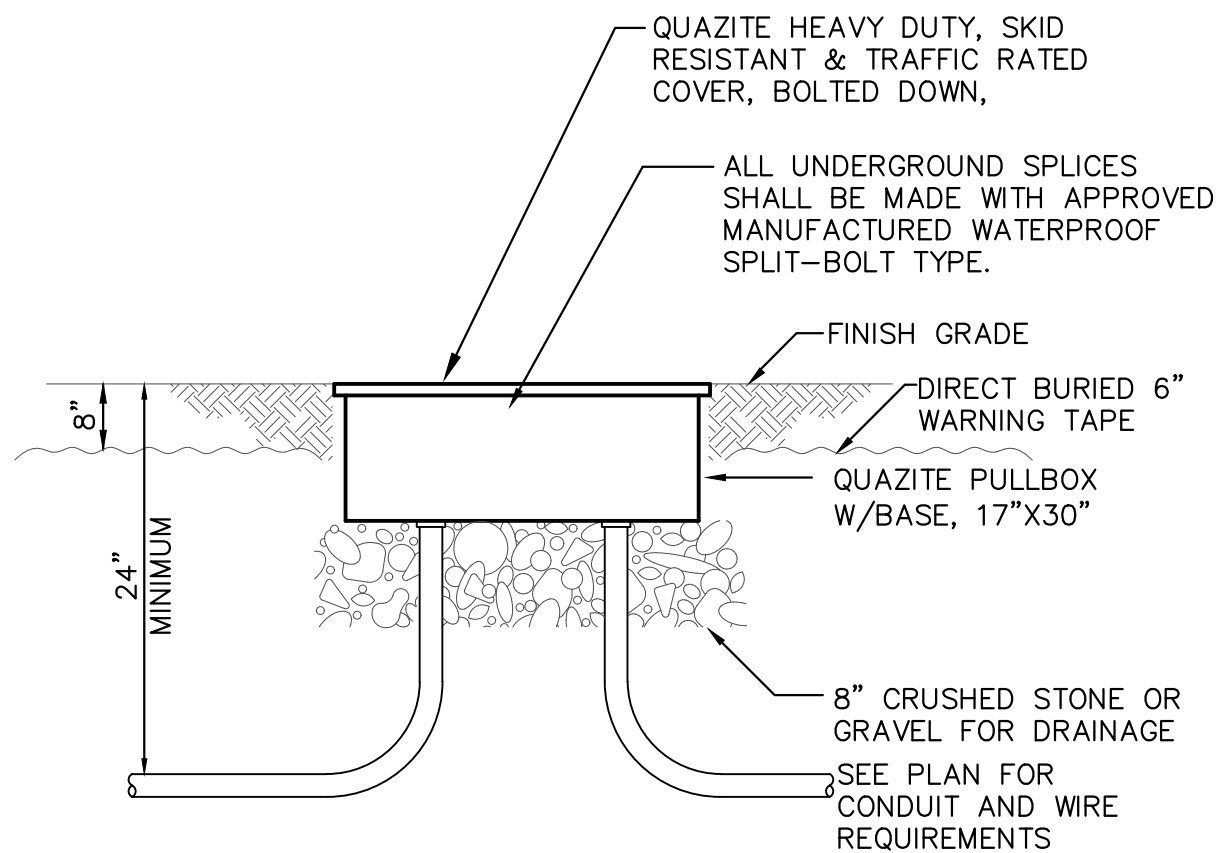
FOR ALL CONDUITS STUB-UP INTO THE FLOOR MOUNTED PANELS OR ELECTRICAL EQUIPMENT, 316 STAINLESS STEEL CONDUIT NIPPLE AFTER ELBOW SHALL ONLY NEED TO BE 2" ABOVE FINISHED GRADE OR FLOOR.

ALL CONDUITS NOT ENTERING INTO THE FLOOR MOUNTED PANELS OR ELECTRICAL EQUIPMENT, PROVIDE 4" GROUTING AROUND CONDUIT.



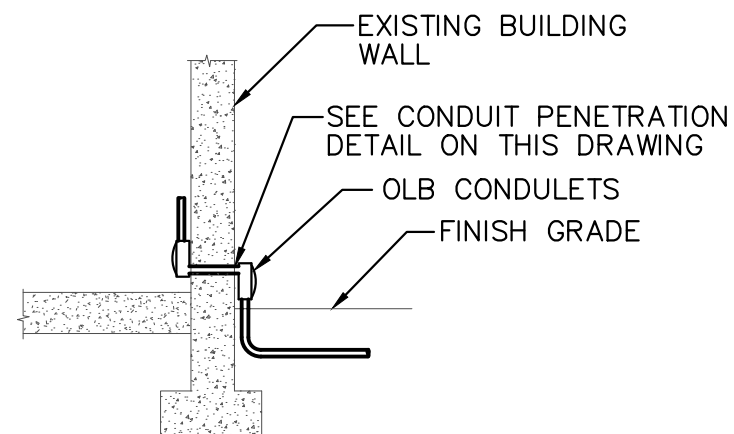
CONDUIT TRANSITION AND SUPPORT DETAIL

NOT TO SCALE



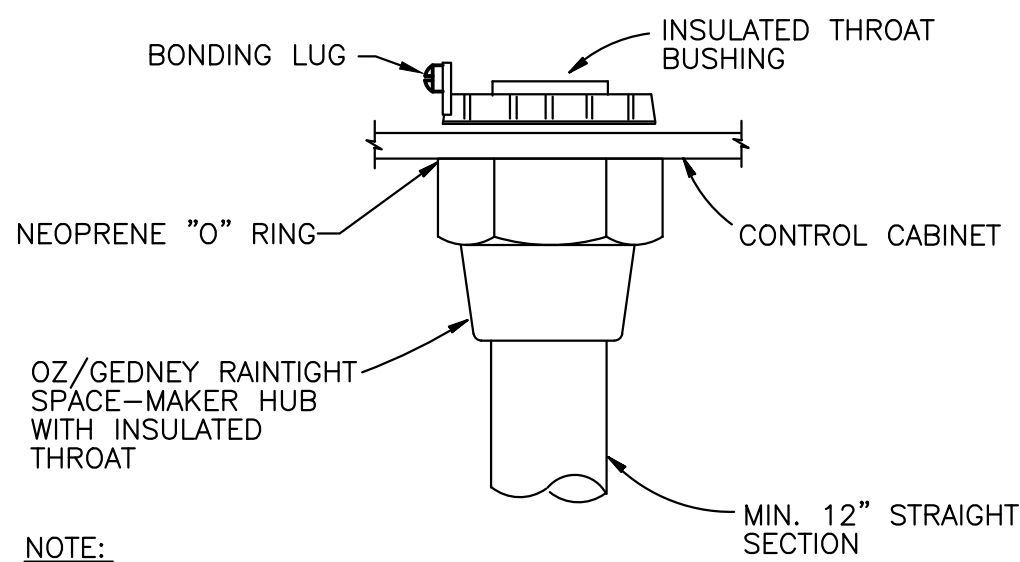
QUAZITE PULLBOX DETAIL

NOT TO SCALE



CONDUIT ENTRANCE

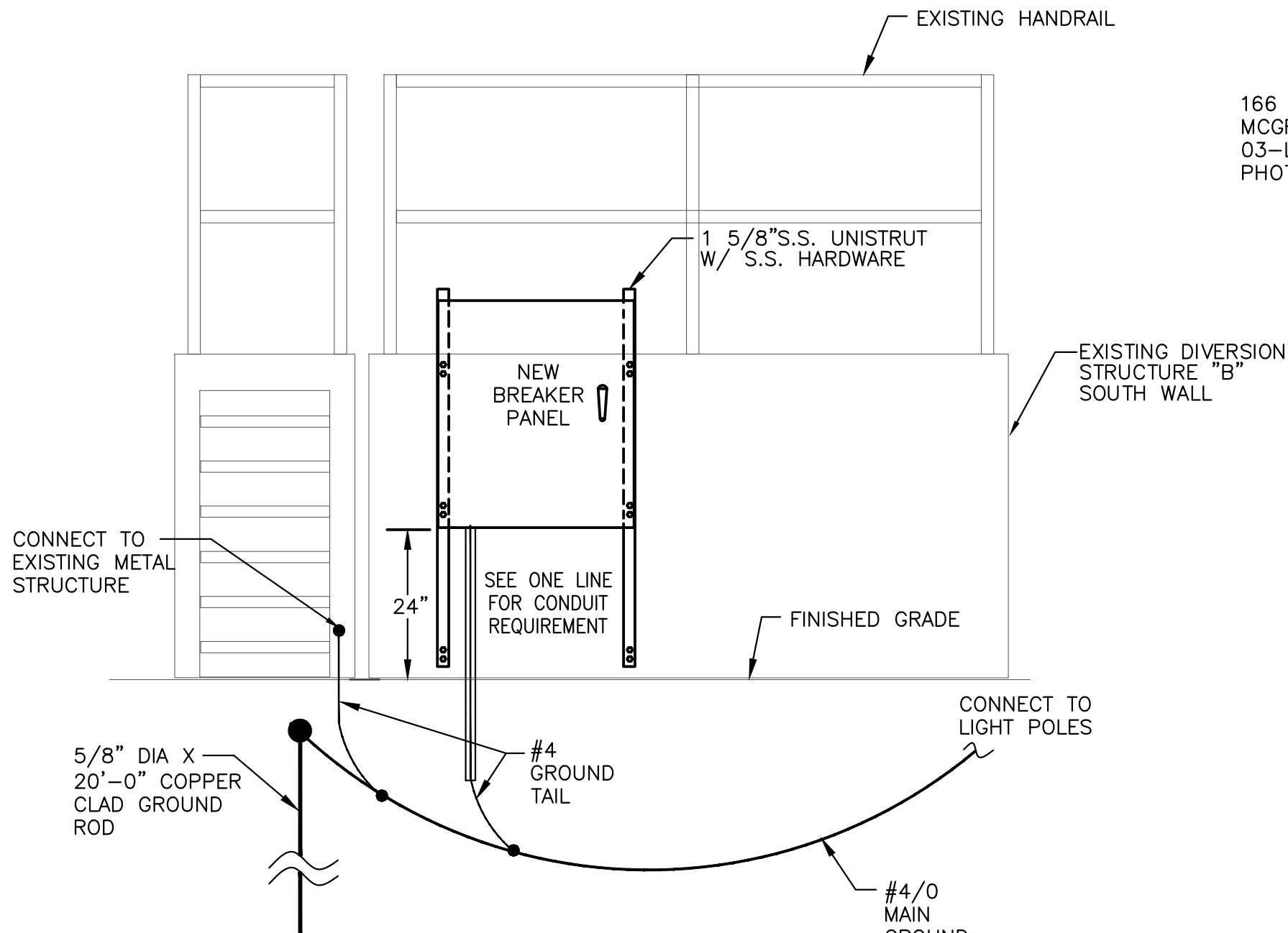
NOT TO SCALE



CONDUIT HUB

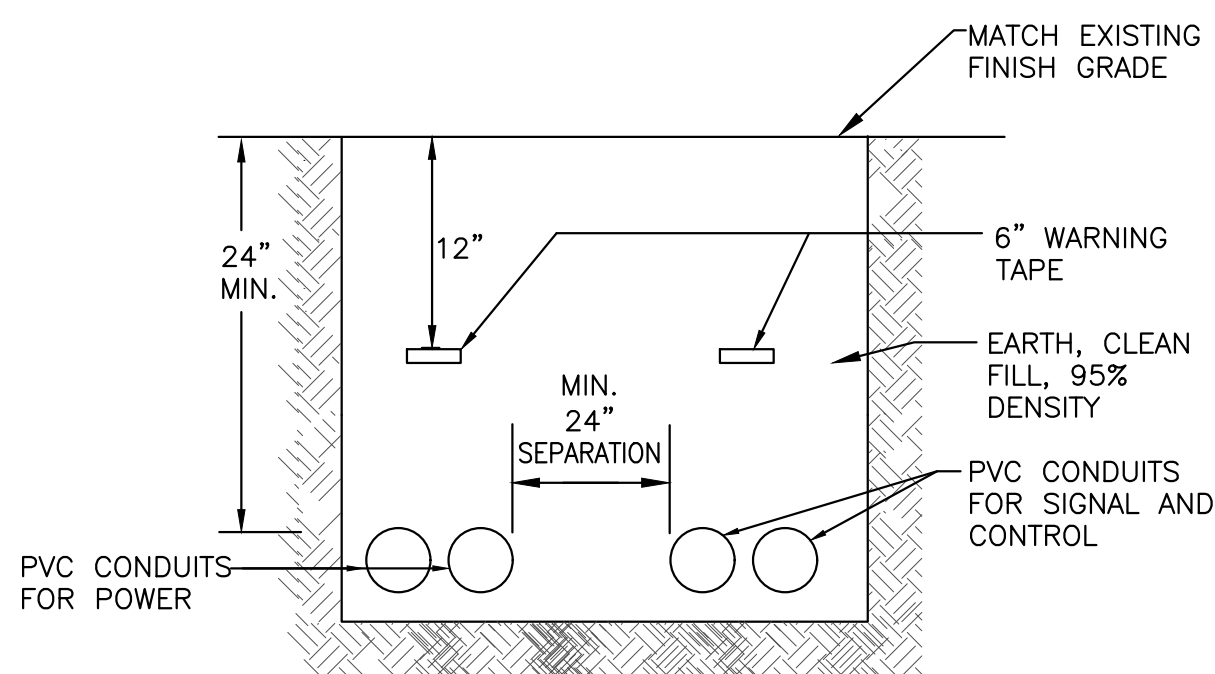
NOT TO SCALE

NOTE:
1. TYPICAL FOR ALL CONDUIT ENTRANCES INTO NEMA 3R, NEMA 4, OR NEMA 4X ENCLOSURES.



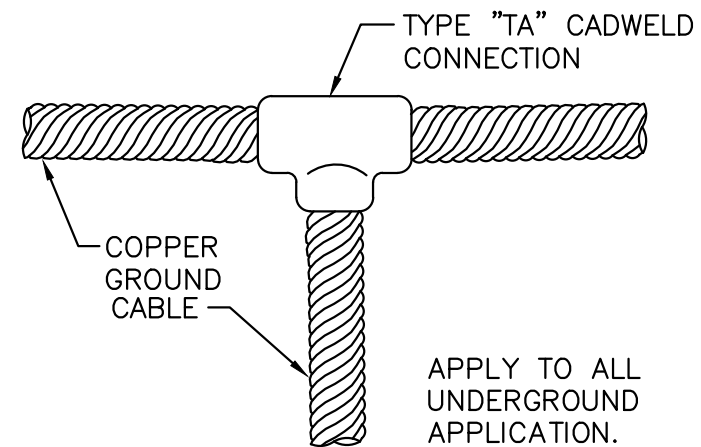
BREAKER PANEL MOUNTING DETAIL

NOT TO SCALE



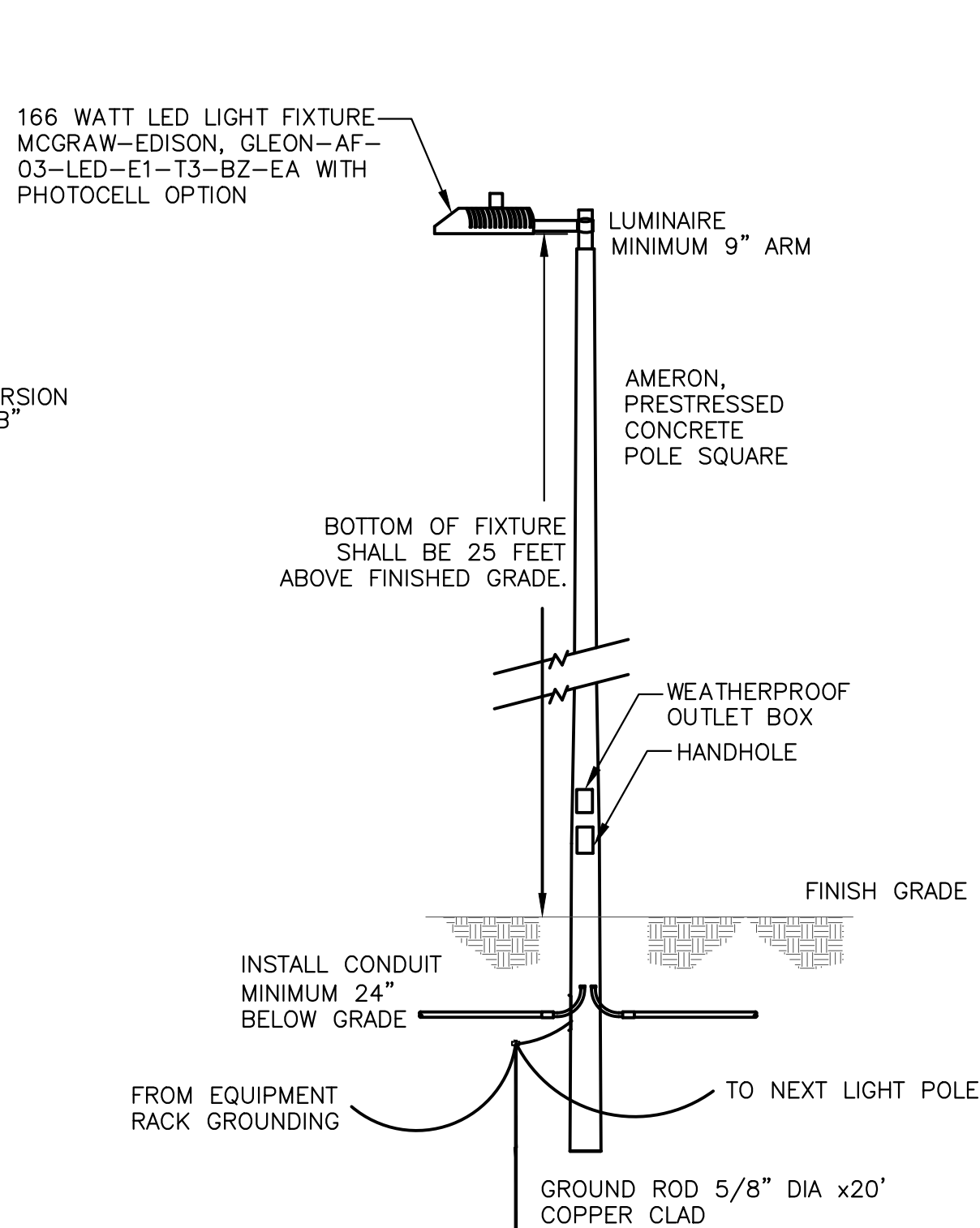
TYPICAL DIRECT BURIED CONDUIT DETAIL

NOT TO SCALE



GROUND CABLE CONNECTION

NOT TO SCALE

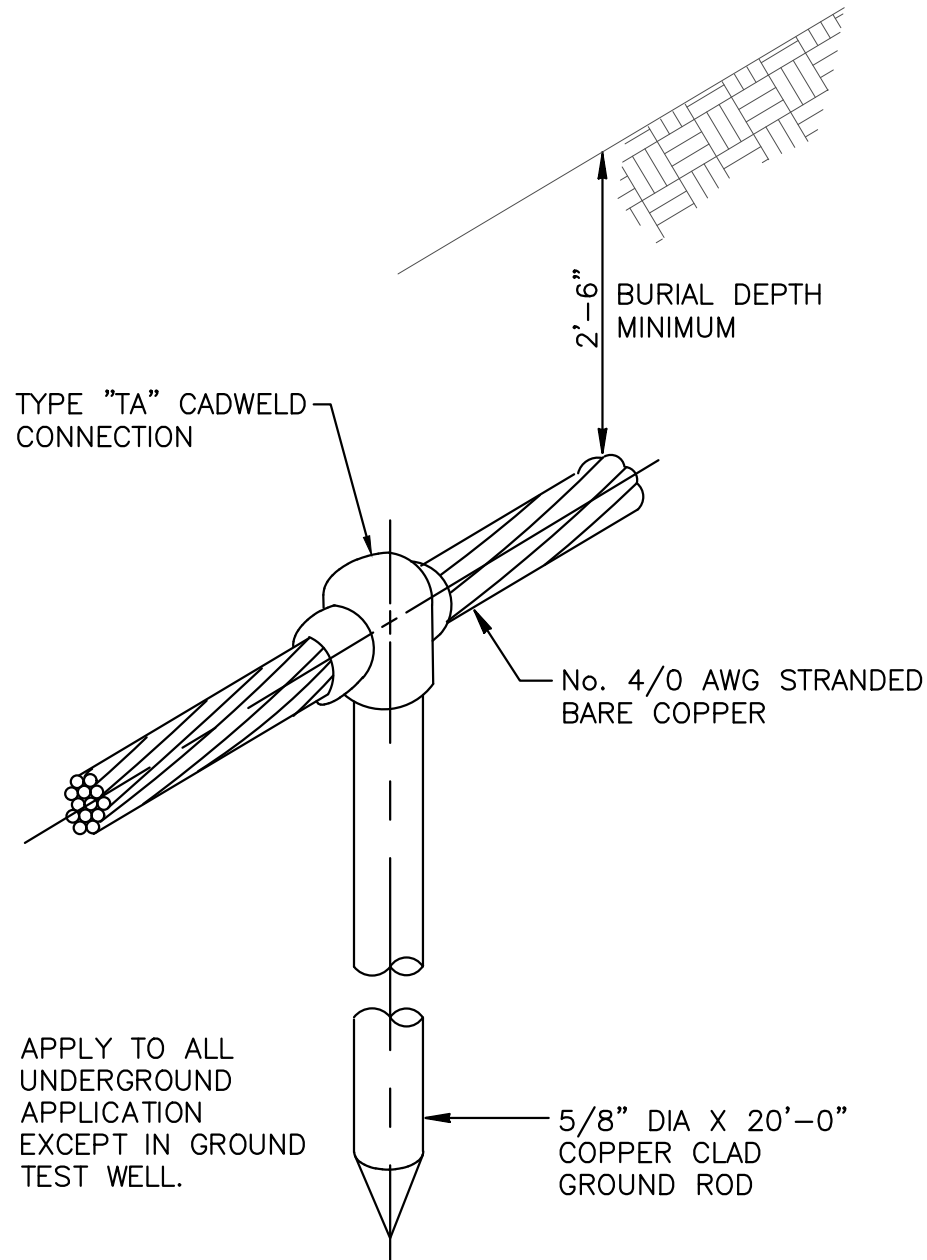


SITE LIGHT POLE DETAIL

NOT TO SCALE

WINDLOADING NOTE FOR ALL LIGHT POLES:

1. ALL POLE INSTALLATIONS MUST MEET FLORIDA BUILDING CODE WIND LOADING REQUIREMENT WITH APPROPRIATE WIND GUST FACTOR FOR THE LOCATION OF INSTALLATION. THE CONTRACTOR SHALL INCLUDE WITH THE SHOP DRAWING SUBMITTAL, A POLE WIND LOADING CALCULATION SIGNED & SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA SHOWING THAT THE PROPOSED POLE AND INSTALLATIONS WILL MEET THE GIVEN WIND LOADING REQUIREMENT.



GROUND ROD DETAIL

NOT TO SCALE

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VERIFY SCALE

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ENGINEER NO.: 200453

CLIENT PROJECT NO.: _____

CAD REF.: MA32E06.dwg

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

ELECTRICAL DETAILS

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DATE: NOVEMBER 2020

SHEET: 17 of 20

DRAWING: E-6

100% DESIGN

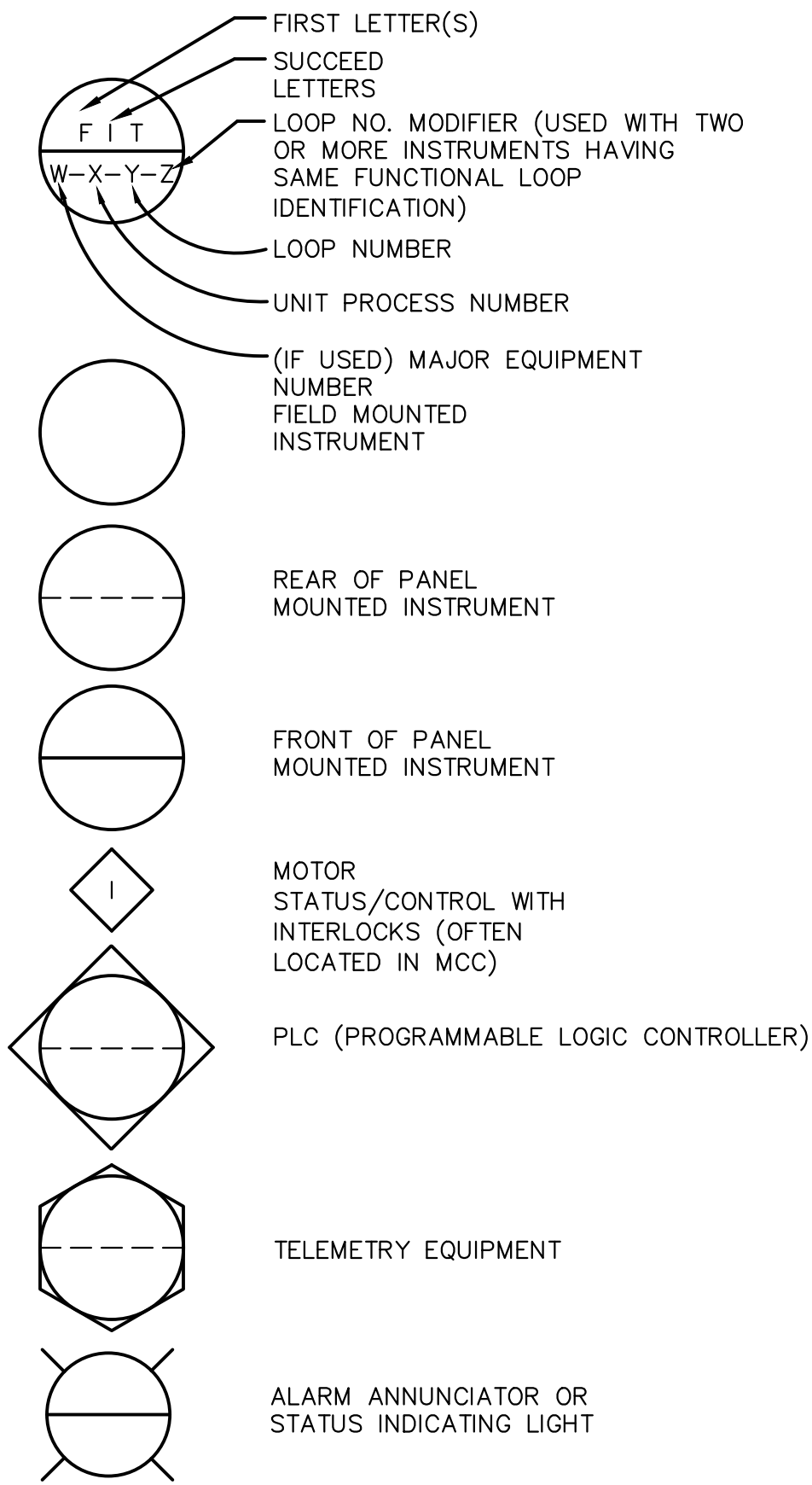
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INSTRUMENT SOCIETY OF AMERICA TABLE

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 CONNECTION)		
Q	QUANTITY OR EVENT		INTEGRATE		
R	RATIO		RECORD OR PRINT		
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			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

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

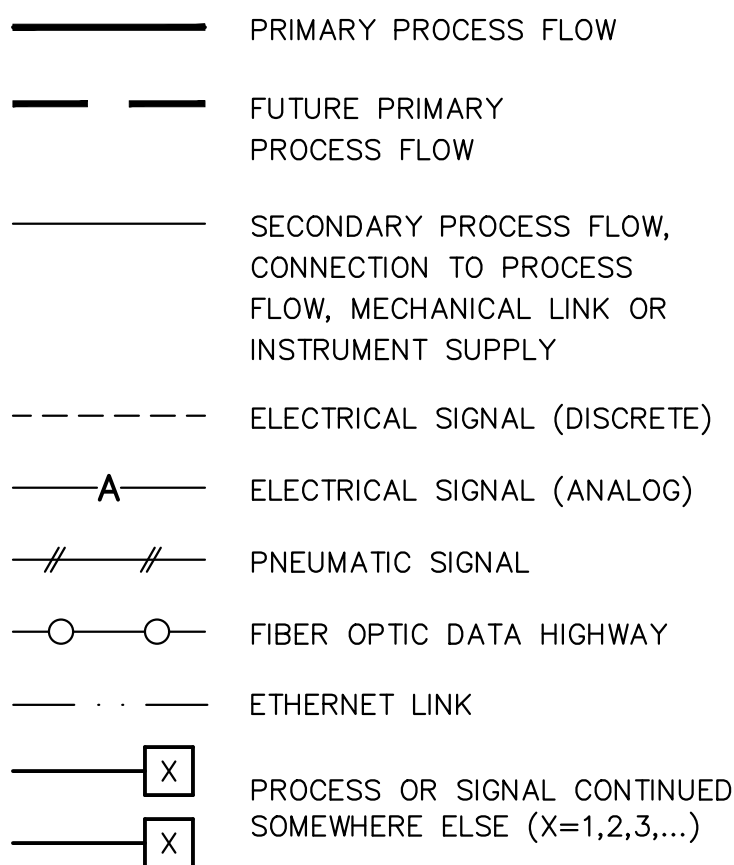
INSTRUMENT IDENTIFICATION



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 TO BE PROVIDED AS PART OF A PACKAGED OR MECHANICAL SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A TRIANGLE (▲) ARE EXISTING. COMPONENTS AND PANELS WHICH HAVE NO SYMBOL ATTACHED TO IT ARE EXISTING.
- COMPONENTS AND PANELS SHOWN WITH A HEXAGON (●) ARE EXISTING TO BE MODIFIED AND/OR RELOCATED.
- 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

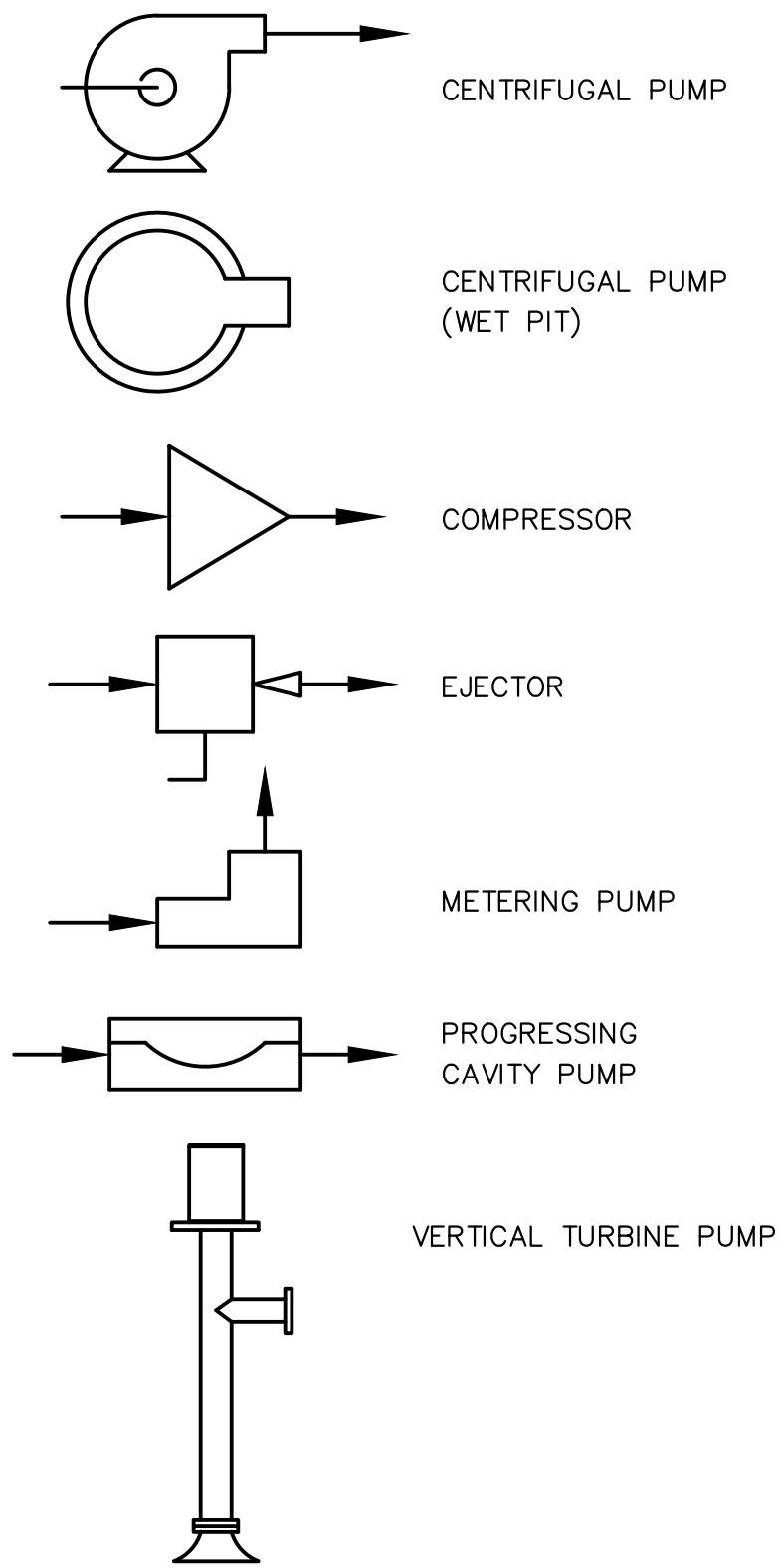


INSTRUMENT ABBREVIATION

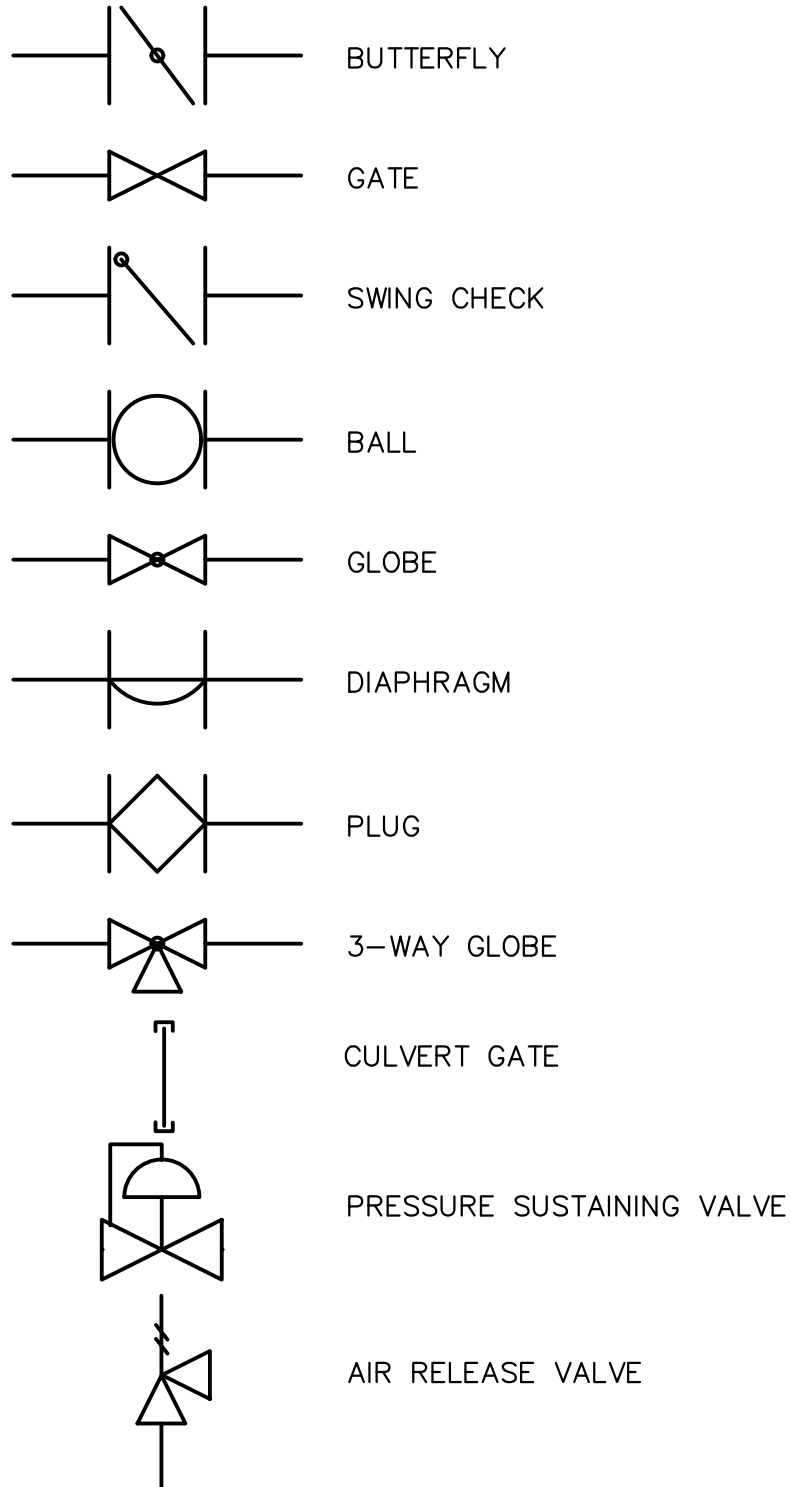
ACC	ACCELERATOR
BFP	BELT FILTER PRESS
CL2	CHLORINE
CLW	CLEARWELL
COM	COMMON
COND	CONDUCTIVITY
CP	CONTROL PANEL
DI, AI	DISCRETE INPUT, ANALOG INPUT
DO, AO	DISCRETE OUTPUT, ANALOG OUTPUT
D.O.	DISSOLVED OXYGEN
DR	DISTANCE RELAY
EFFL	EFFLUENT
EP	ELECTRICAL PANEL
ES	EMERGENCY STOP
ETM	ELAPSED TIME METER
FD	CHEMICAL FEEDER
FIL	FILTER
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
INFL	INFLUENT
JP	JOCKEY PUMP
LOS	LOCK-OUT-STOP
LPU	LINE PROTECTION UNIT
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
ME	MISCELLANEOUS EQUIPMENT
M.G.	MILLION GALLON
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
PH	HYDROGEN ION CONCENTRATION
PRES	PRESSURE
RES	RESTORE
RF	RF (ADMITTANCE) LEVEL MONITOR
RIP, RIO	REMOTE I/O PANEL
R/L	REMOTE/LOCAL
RSP	REMOTE SETPOINT
SA	SURGE ARRESTER
SEC	SECONDARY
SL	SLAKER
SF	SONIC FLOWMETER
SP	SETPOINT
SS	START/STOP
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

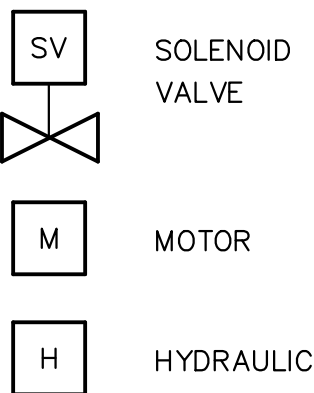
PUMPS & COMPRESSORS



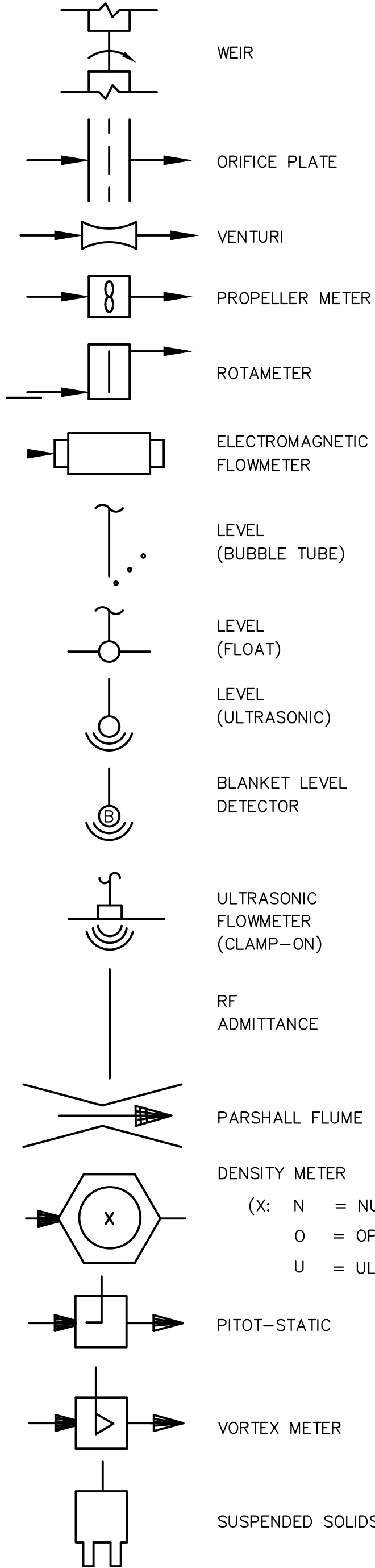
VALVES & GATES



ACTUATOR OR OPERATORS



PRIMARY ELEMENTS



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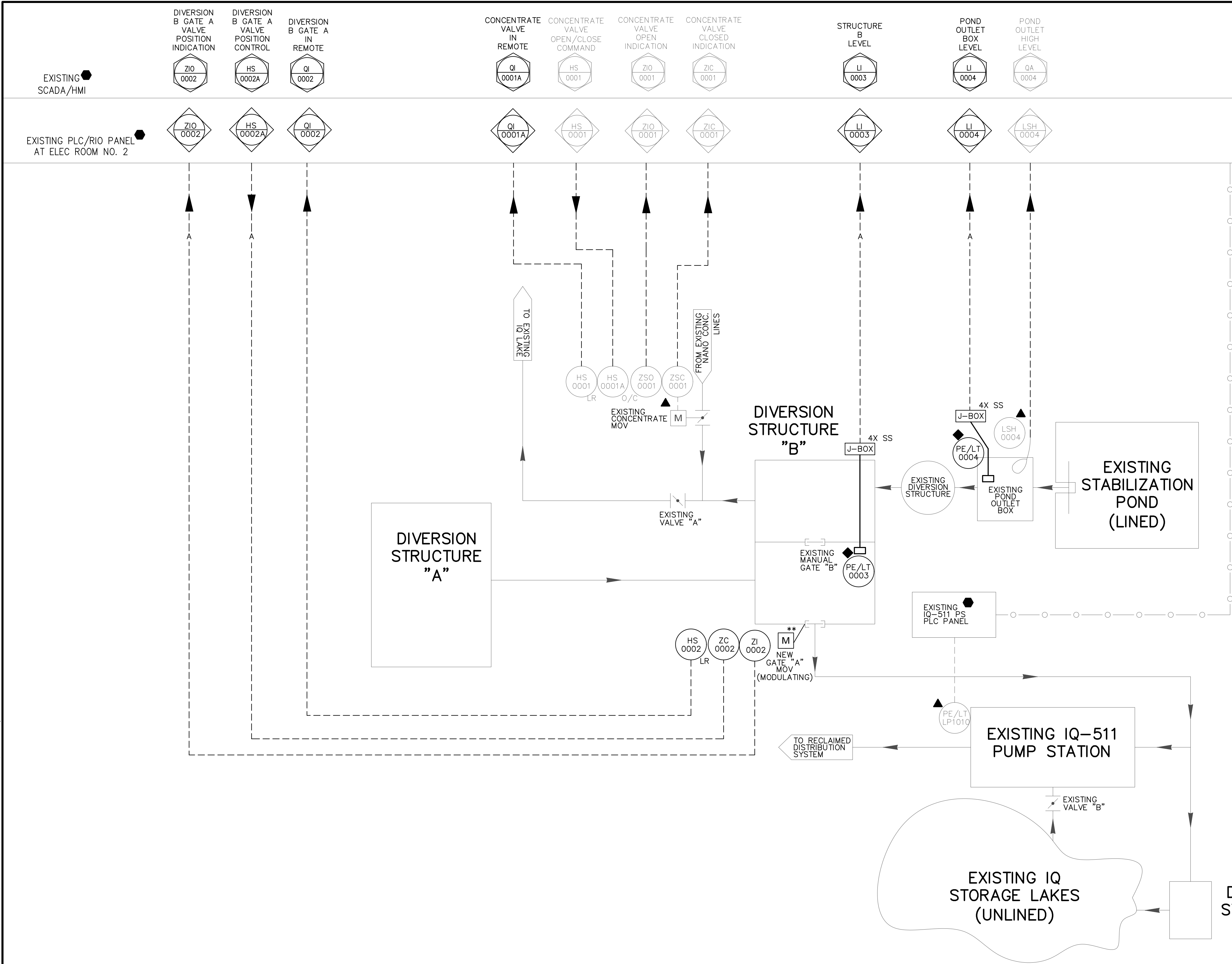
ENGINEER NO.: 200453
CLIENT PROJECT NO.:
CAD REF.: MA32I01.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

INSTRUMENTATION LEGEND AND SYMBOLS

DATE: NOVEMBER 2020
SHEET: 18 of 20
DRAWING: I-1

Acad Version : R23.1s (LMS Tech) User Name : lwn Date/Time : Fri, 30 Oct 2020 - 3:36pm Current Plotstyle : ByColor Path Name : E:\PROJECTS\MA32\ - LRD IQ-511\DWG\MA32I02.dwg Layout Tab: I-2



EXISTING PLC/RIO - MODIFIED PARITAL I/O LISTS

EXISTING RACK 1, SLOT 6 - DISCRETE INPUT
STRUCTURE "B" CONCENTRATE MOV OPENED POSITION DIGITAL INPUT 14
STRUCTURE "B" CONCENTRATE MOV CLOSED POSITION DIGITAL INPUT 15

EXISTING RACK 1, SLOT 10 - DISCRETE OUTPUT
STRUCTURE "B" CONCENTRATE MOV OPEN/CLOSE COMMAND DIGITAL OUTPUT 6

EXISTING RACK 1, SLOT 9 - DISCRETE INPUT
~~SPARE~~ STRUCTURE "B" CONCENTRATE MOV IN REMOTE DIGITAL INPUT 4
~~SPARE~~ STRUCTURE "B" HIGH LEVEL DIGITAL INPUT 5
~~SPARE~~ STRUCTURE "B" NEW GATE "A" MOV IN REMOTE DIGITAL INPUT 6

NEW RACK 2, SLOT 9 - ANALOG INPUT
STRUCTURE "B" NEW GATE "A" MOV POSITION INDICATION ANALOG INPUT 0
DIVERSION STRUCTURE "B" LEVEL ANALOG INPUT 1
POND OUTLET BOX LEVEL ANALOG INPUT 2

EXISTING RACK 2, SLOT 10 - ANALOG OUTPUT
~~SPARE~~ STRUCTURE "B" NEW GATE "A" MOV POSITION CONTROL ANALOG OUTPUT 4

NOTES:

1. THE EXISTING I/O FOR CONCENTRATE MOV SHALL BE RE-USED AND RE-CONNECTED WITH THE NEW REPLACEMENT CABLES. NEW ADDITIONAL "IN REMOTE" SIGNAL FOR EXISTING CONCENTRATE MOV SHALL BE CONNECTED TO THE SPARE I/O.
2. THE SPARE I/O ON THE EXISTING PLC/RIO CARDS SHALL BE USED FOR NEW GATE "A" MOV AS SHOWN IN MODIFIED I/O LISTS.
3. REFER TO SPECIFICATION 13300 FOR CONTROL STRATEGY MODIFICATION REQUIREMENT FOR IQ-511 BYPASS PIPING IN EXISTING PLC/RIO AT ELECTRICAL ROOM NO. 2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OWNER FOR PLC/RIO AND SCADA MODIFICATION RELATING THIS BYPASS PIPING MODIFICATION.
4. ADD A NEW ANALOG INPUT CARD FOR ALL NEW ANALOG INPUTS ADDED IN THIS PROJECT. NEW ANALOG INPUT CARD SHALL BE 6-CHANNEL, ISOLATED TYPE, ALLEN BRADLEY MODEL 1756-IF6I, PROVIDE NECESSARY CABLE WIRING SYSTEM WITH TERMINAL INTERFACE MODULE ALLEN BRADLEY MODEL 1492-AIFM6S-3 AND SIGNAL SURGE ARRESTORS. MODIFY THE EXISTING PANEL AS REQUIRED TO MAKE SPACE FOR NEW COMPONENTS.
5. CONTRACTOR SHALL FIELD VERIFY THE EXISTING AND SPARE I/O.

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		DRAWN: T.N.	
		CHECKED: S.F.C	
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ENGINEER NO.: 200453
CLIENT
PROJECT NO.:
CAD REF.: MA32I02.dwg

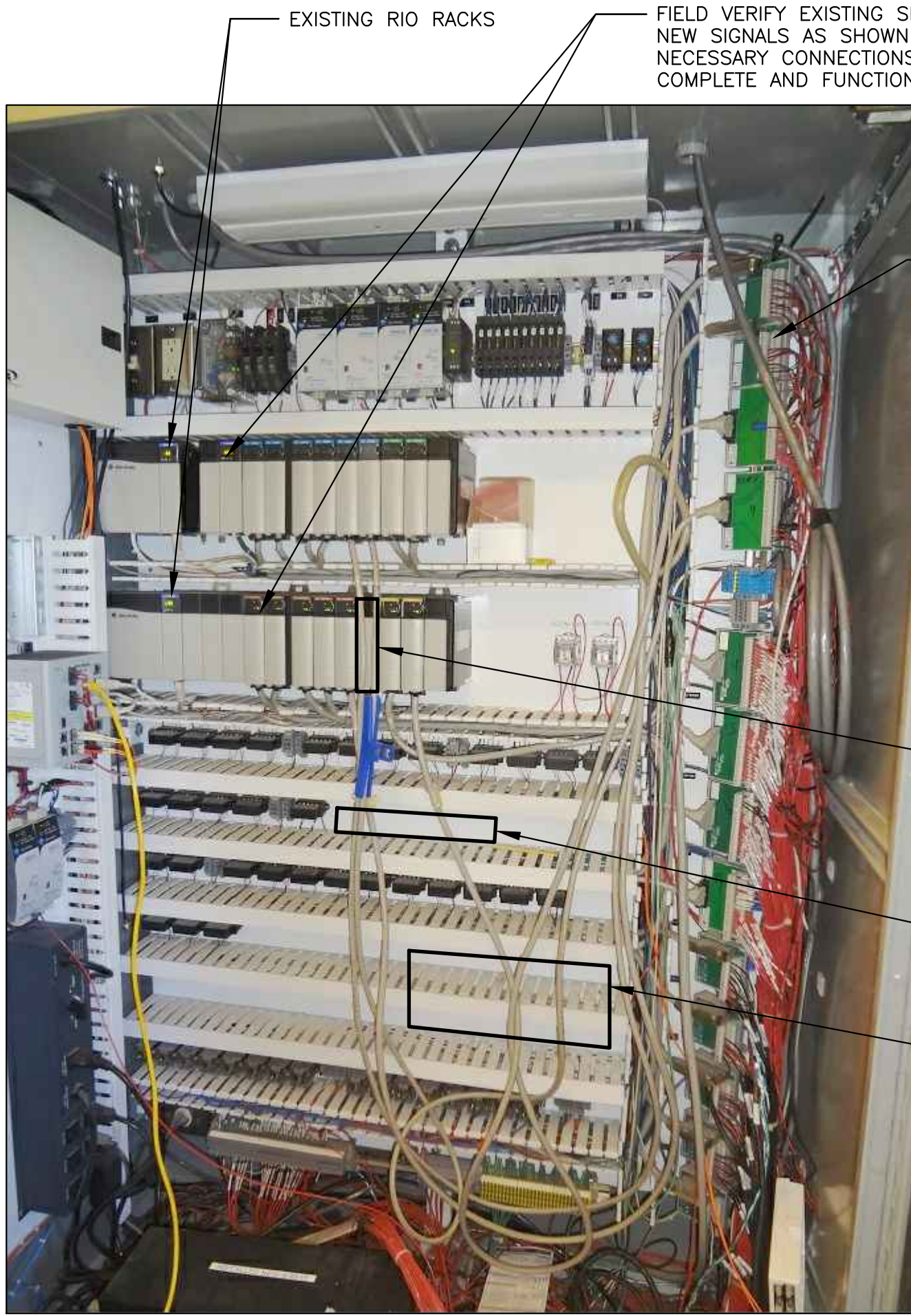
LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

P&ID



DATE: NOVEMBER 2020
SHEET: 19 of 20
DRAWING: I-2

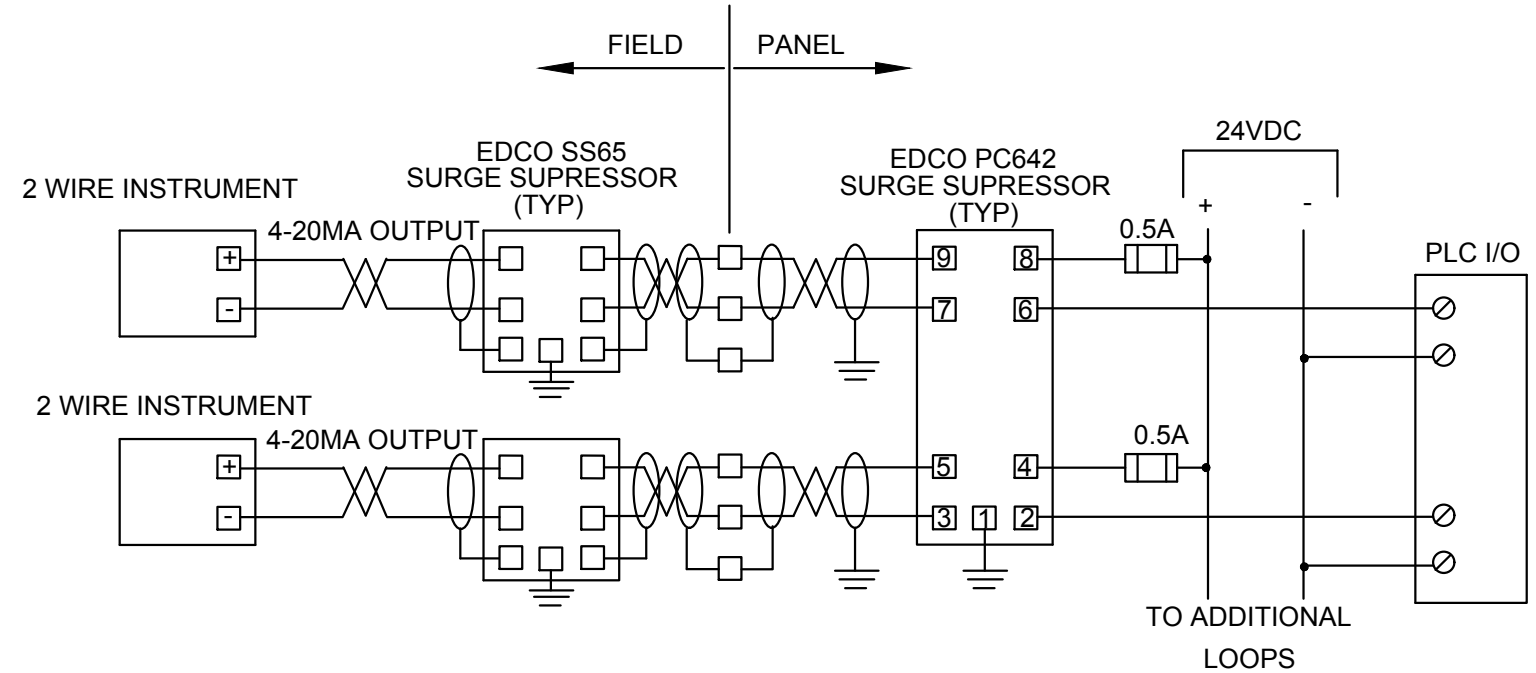
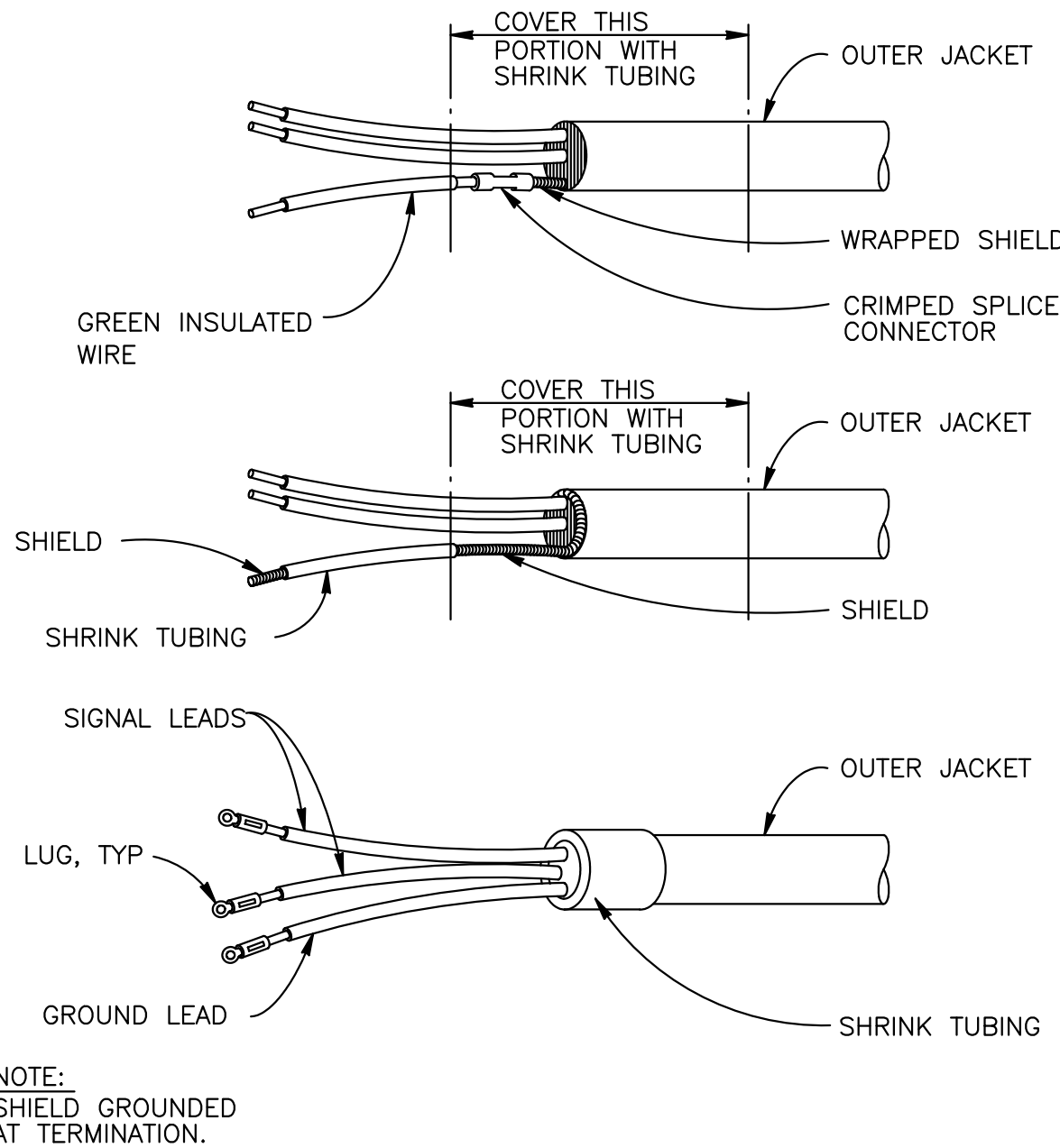
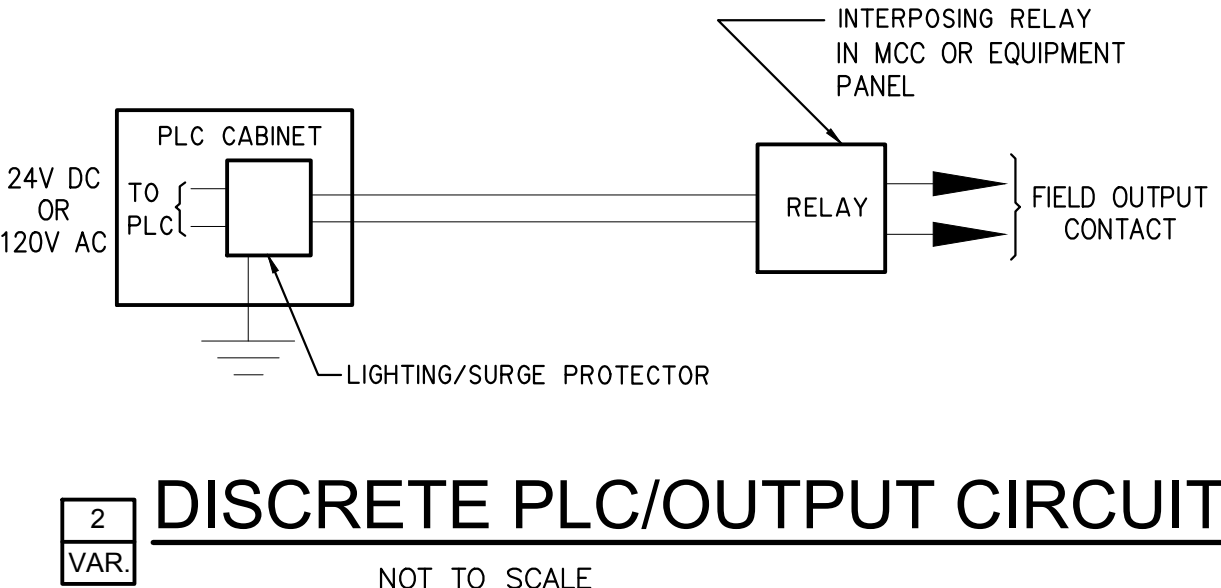
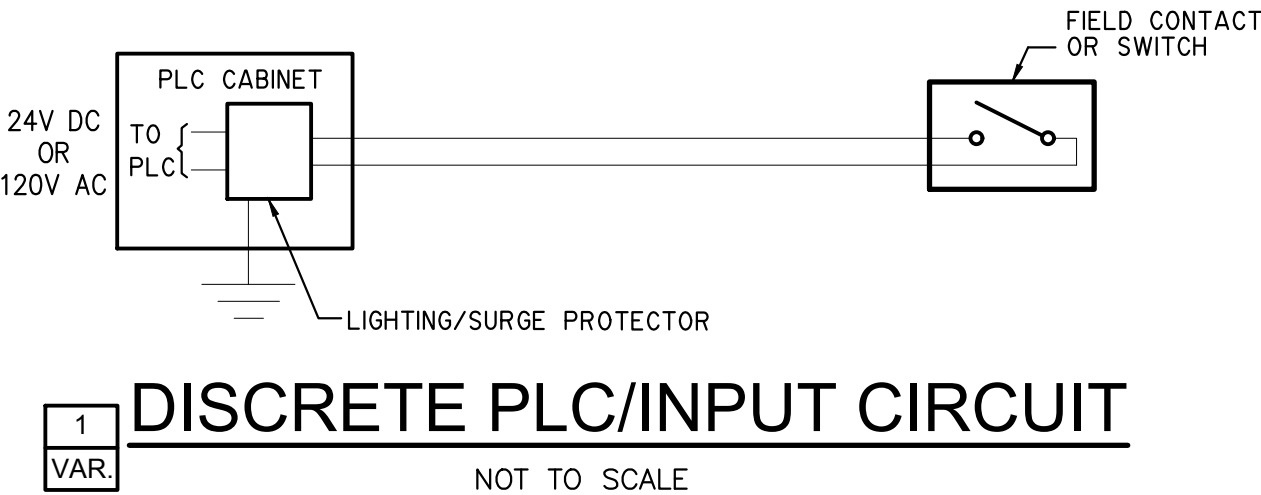
100% DESIGN



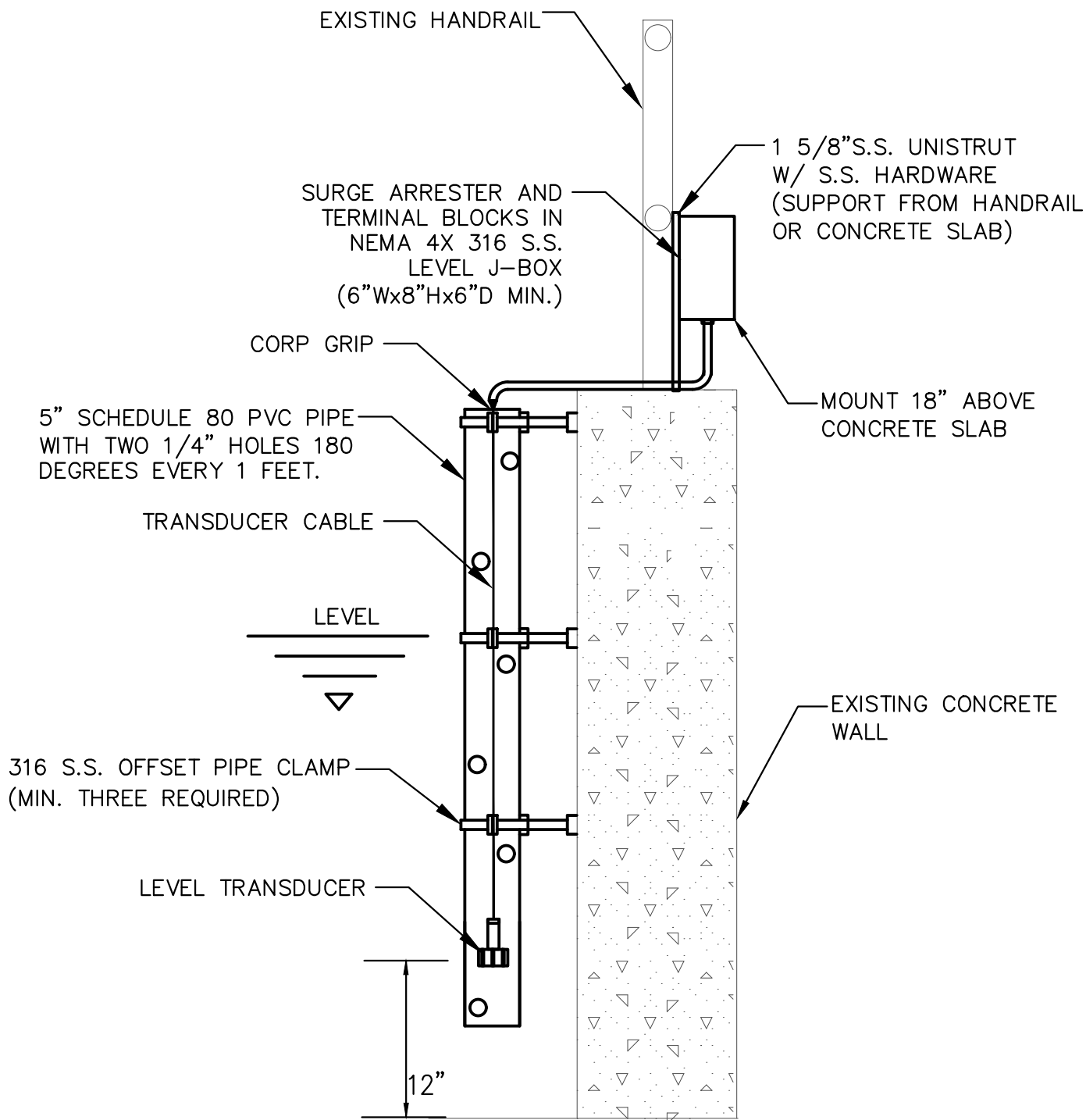
EXISTING PLC/RIO PANEL AT ELECTRICAL ROOM NO. 2
NOT TO SCALE

NOTES:

1. THE EXISTING I/O FOR CONCENTRATE MOV SHALL BE RE-USED AND RE-CONNECTED WITH THE NEW REPLACEMENT CABLES. NEW ADDITIONAL "IN REMOTE" SIGNAL FOR EXISTING CONCENTRATE MOV SHALL BE CONNECTED TO THE SPARE I/O.
2. THE SPARE I/O ON THE EXISTING PLC/RIO CARDS SHALL BE USED FOR NEW GATE "A" MOV AS SHOWN IN MODIFIED I/O LISTS.
3. REFER TO SPECIFICATION 13300 FOR CONTROL STRATEGY MODIFICATION REQUIREMENT FOR IQ-511 BYPASS PIPING IN EXISTING PLC/RIO AT ELECTRICAL ROOM NO. 2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OWNER FOR PLC/RIO AND SCADA MODIFICATION RELATING THIS BYPASS PIPING MODIFICATION.
4. ADD A NEW ANALOG INPUT CARD FOR ALL NEW ANALOG INPUTS ADDED IN THIS PROJECT. NEW ANALOG INPUT CARD SHALL MATCH EXISTING. NEW ANALOG INPUT CARD SHALL BE 6-CHANNEL, ISOLATED TYPE, ALLEN BRADLEY MODEL 1756-IF6I. PROVIDE NECESSARY CABLE WIRING SYSTEM WITH TERMINAL INTERFACE MODULE ALLEN BRADLEY MODEL 1492-AIF6S-3 AND SIGNAL SURGE ARRESTORS. MODIFY THE EXISTING PANEL AS REQUIRED AND PROVIDE NECESSARY COMPONENTS FOR A COMPLETE WORKING SYSTEM.
5. CONTRACTOR SHALL FIELD VERIFY THE EXISTING AND SPARE I/O. REFER TO DRAWING I-2 FOR I/O LIST.



TYPICAL 2 WIRE INSTRUMENT ISOLATOR
NOT TO SCALE



TYPICAL LEVEL TRANSDUCER
INSTALLATION DETAIL
NOT TO SCALE

NO.	DATE	ISSUED FOR	APRV'D BY
		DESIGNED: T.W.	
		DRAWN: T.N.	
		CHECKED: S.F.C	
		APPROVED: P.F.H	

HILLERS ELECTRICAL
ENGINEERING, INC.
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LICENSE NO: EB 0006877

THEIN WIN, P.E.
No.65722

BAXTER & WOODMAN
Consulting Engineers
477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401
Phone: 561-656-6175 • Fax: 561-656-6179
www.baxterwoodman.com EB-31795

VERIFY SCALE
1"
BAR IS ONE INCH
ON FULL SIZE
(22x34) ORIGINAL
DRAWING. ADJUST
SCALES AS
NECESSARY.

ENGINEER NO.: 200453
CLIENT
PROJECT NO.:
CAD REF.: MA32103.dwg

LOXAHATCHEE RIVER
ENVIRONMENTAL CONTROL DISTRICT
IQ-511 BYPASS PIPING

EXISTING RIO PANEL AND DETAILS

Always call B&W two full business days before you dig
Sunshine 811.com

DATE: NOVEMBER 2020
SHEET: 20 of 20
DRAWING: I-3

100% DESIGN