

# PUMP STATION R/R PACKAGE No. 8 PUMP STATION IMPROVEMENTS

PS #3391 - N ORLANDO INDUSTRIAL PARK

PS #3676 - COUNTRY RUN

PS #3265 - OAK MEADOW

## BOARD OF COUNTY COMMISSIONERS

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ORANGE COUNTY MAYOR

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DISTRICT 6



AJIT LALCHANDANI  
COUNTY ADMINISTRATOR

RAYMOND E. HANSON, P.E.  
DIRECTOR ORANGE COUNTY UTILITIES DEPARTMENT

BID SET



REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT.  
WINTER SPRINGS, FL 32708  
(407) 679-5358

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

MARK K. WORSHAM, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 63729

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA. DIMENSION INFORMATION SHOULD NOT BE OBTAINED BY SCALING THE PLANS.

ORANGE COUNTY UTILITIES DEPARTMENT  
ENGINEERING DIVISION  
ORANGE COUNTY, FLORIDA

JULY 2015



REISS ENGINEERING, INC.  
CONSULTING ENGINEERS

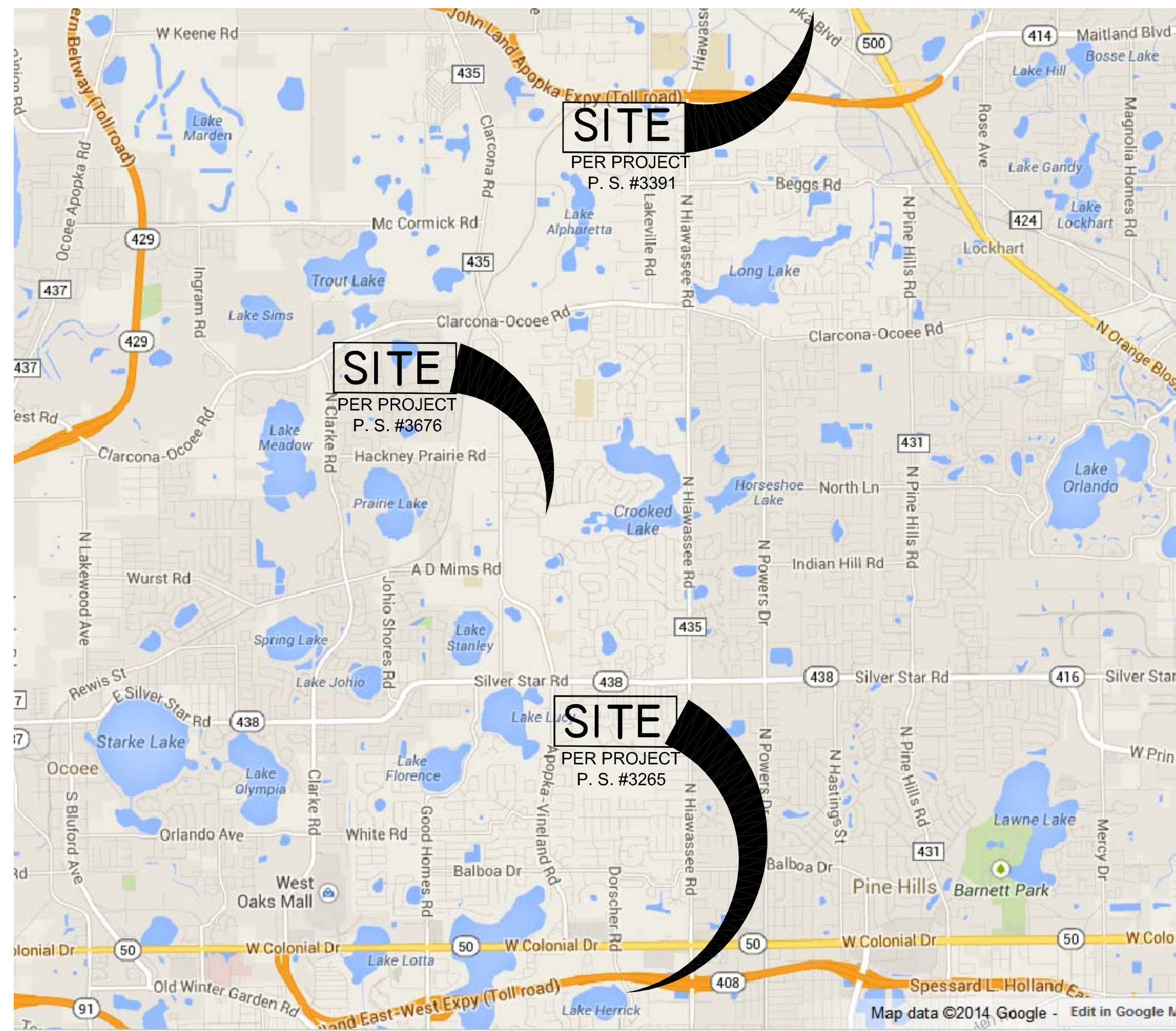
1016 SPRING VILLAS PT.  
WINTER SPRINGS, FLORIDA 32708  
TEL: (407) 679-5358  
FAX: (407) 679-5003

OCU FILE NO.: 74946  
CIP FUNDING CODE:

- 1503-34
- 1503-36
- 1503-40

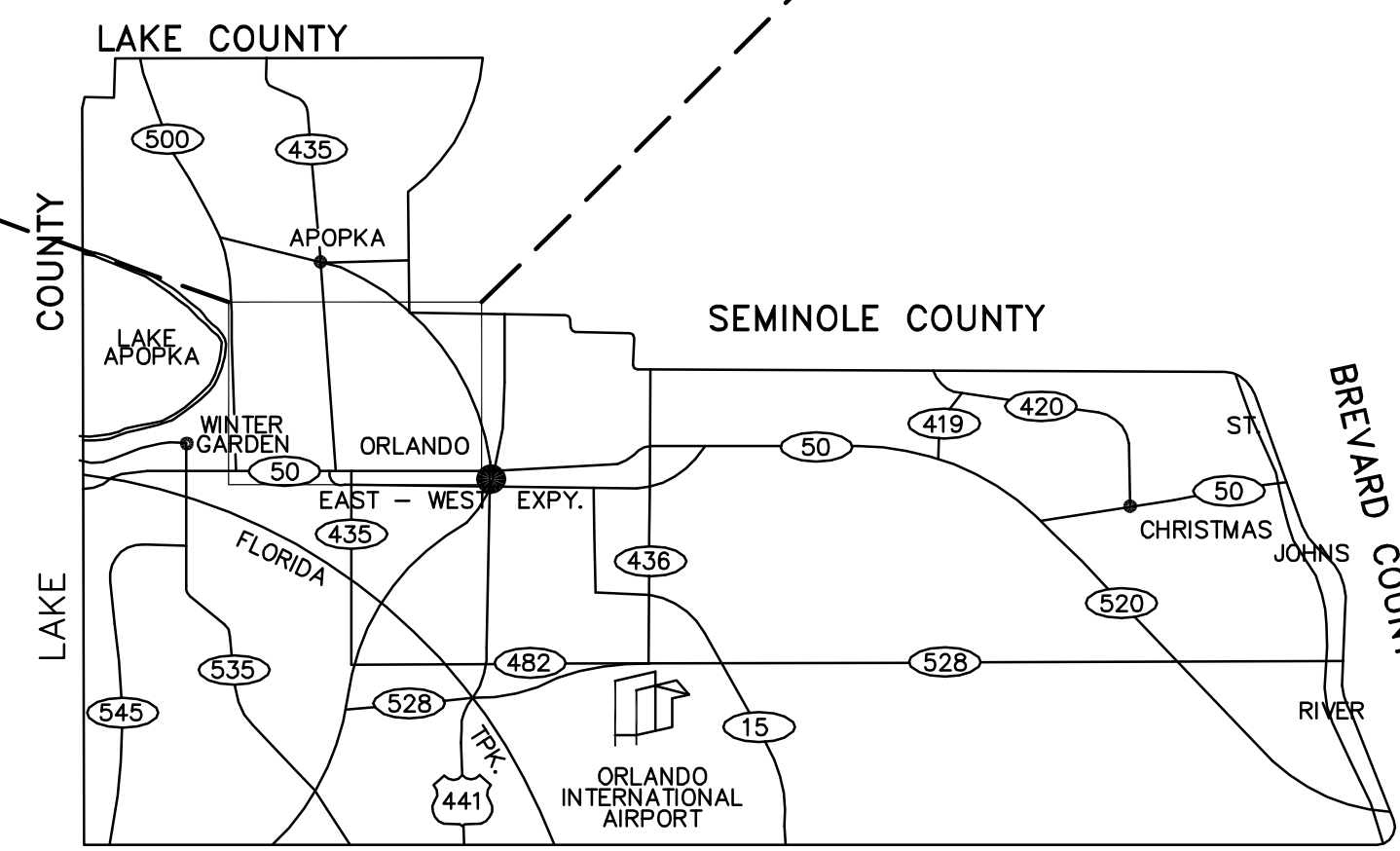
DRAWING INDEX

SHEET NO.	DWG. NO.	TITLE
01 OF 26	G100	COVER SHEET
02 OF 26	G200	LOCATION MAP AND DRAWING INDEX
03 OF 26	G300	GENERAL NOTES, ABBREVIATIONS AND LEGEND
04 OF 26	V100	PS #3391 - N ORLANDO INDUSTRIAL PARK - BOUNDARY SURVEY & TOPOGRAPHIC SURVEY
05 OF 26	V200	PS #3676 - COUNTRY RUN - BOUNDARY SURVEY & TOPOGRAPHIC SURVEY
06 OF 26	V300	PS #3265 - OAK MEADOW - BOUNDARY SURVEY & TOPOGRAPHIC SURVEY
07 OF 26	C100	PS #3391 N ORLANDO INDUSTRIAL PARK- SITE DEMOLITION PLAN
08 OF 26	C101	PS #3391 - N ORLANDO INDUSTRIAL PARK - SITE PLAN
09 OF 26	C200	PS #3676 - COUNTRY RUN - SITE DEMOLITION PLAN
10 OF 26	C201	PS #3676 - COUNTRY RUN - SITE PLAN
11 OF 26	C300	PS #3265 - OAK MEADOW - SITE DEMOLITION PLAN
12 OF 26	C301	PS #3265 - OAK MEADOW - SITE PLAN
13 OF 26	C302	PS #3265 - OAK MEADOW - GRADING AND DRAINAGE PLAN
14 OF 26	C303	PS #3265 - OAK MEADOW - FDOT INDEX 6011
15 OF 26	P100	PS #3391 - N ORLANDO INDUSTRIAL PARK - PUMP PLAN, SECTION & DETAIL
16 OF 26	P200	PS #3676 - COUNTRY RUN - PUMP PLAN, SECTION & DETAIL
17 OF 26	P300	PS #3265 - OAK MEADOW - PUMP PLAN, SECTION & DETAIL
18 OF 26	D100	MECHANICAL & CIVIL DETAILS
19 OF 26	D101	MECHANICAL & CIVIL DETAILS
20 OF 26	D102	MECHANICAL & CIVIL DETAILS
21 OF 26	E100	PS #3391 - N ORLANDO INDUSTRIAL PARK - ELECTRICAL PLAN
22 OF 26	E200	PS #3676 - COUNTRY RUN - ELECTRICAL PLAN
23 OF 26	E300	PS #3265 - OAK MEADOW - ELECTRICAL PLAN
24 OF 26	E400	ELECTRICAL DETAILS
25 OF 26	E401	ELECTRICAL DETAILS
26 OF 26	X100	COORDINATE ASSET AS-BUILT ATTRIBUTE TABLES



LOCATION MAP  
ORANGE COUNTY, FLORIDA  
SCALE: 1" = 4,000'

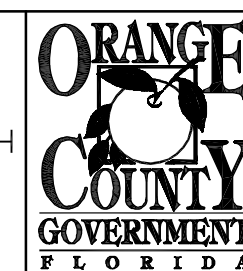
NOTE:  
SEE SURVEYS FOR SPECIFIC LOCATIONS



ORANGE COUNTY, FLORIDA  
SCALE: 1" = 50,000'

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT SCALE ACCORDINGLY)



ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825



REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

PACKAGE 8  
LOCATION MAP AND DRAWING INDEX

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: X100.DWG

SCALE: NOTED  
DRAWING NO.:  
**G200**  
SHEET: 02 OF 26



**LEGAL DESCRIPTION**

TRACT "B", LIFT STATION, ORLANDO NORTH INDUSTRIAL PARK SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 18, PAGE 64 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA

PARCEL: 24-21-28-6361-00-002  
OWNER: ORANGE COUNTY, BCC

**NOTES**

1. THE HORIZONTAL SURVEY DATA SHOWN IS BASED ON CONTROL POINTS ESTABLISHED BY THE ORANGE COUNTY GISPROGRAM HAVING A LOCAL GROUND COORDINATE SYSTEM BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983 (1980) AND BASED ON GIS 0104 EE WHITE CONTROL POINT, BEING A BRASS DISK SET IN A CONCRETE MONUMENT AND HAVING A PUBLISHED COORDINATE OF LAT: 28°31'21.89069", LONG: 81°30'01.21118".
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM (NAVD 88), AS PROVIDED BY ORANGE COUNTY SURVEY DEPARTMENT AND BASED ON BENCHMARKS A1515012 HAVING AN ELEVATION OF 132.292; BEING A 3" O.C. ALUMINUM DISC ON IN INLET.
3. THERE MAY BE EASEMENTS AND RESTRICTIONS OF RECORDS AND/OR PRIVATE AGREEMENTS NOT FURNISHED TO THIS SURVEYOR THAT MAY AFFECT PROPERTY RIGHTS AND/OR LAND USE RIGHTS OF THE LANDS SHOWN HEREON.
4. NO UNDERGROUND INSTALLATIONS, FOUNDATION FOOTINGS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS NOTED.
5. THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS FOR SURVEYS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE.
6. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE(S) "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 120178 0140 F, WHICH BEARS AN EFFECTIVE DATE OF 9/25/2009 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.
7. THIS FIELD SURVEY WAS PERFORMED ON AUGUST 9, 2012.

**LEGEND**

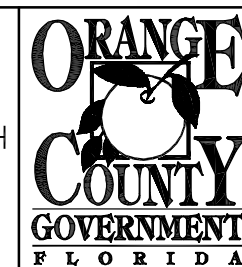
- |    |                       |    |                      |    |                            |
|----|-----------------------|----|----------------------|----|----------------------------|
| BM | BENCHMARK             | ET | ELECTRIC TRANSFORMER | SP | SPIGOT                     |
| ND | NAIL & DISK           | ET | EVERGREEN TREE       | SK | SPRINKLER HEAD             |
| TP | TRAVERSE POINT        | EH | FIRE HYDRANT         | TS | TRAFFIC SIGN               |
| F  | FOUND IRON (TYPE)     | FL | FLAG (AS SHOWN)      | UM | UTILITY MARKER (AS SHOWN)  |
| S  | SET IRON (TYPE)       | GA | GUY ANCHOR           | UM | UTILITY MANHOLE (AS SHOWN) |
| M  | FOUND MONUMENT (TYPE) | LP | LIGHT POLE           | UM | UTILITY METER (AS SHOWN)   |
| S  | SET MONUMENT (TYPE)   | MB | MAIL BOX             | UR | UTILITY RISER (AS SHOWN)   |
| SC | SECTION CORNER        | PT | PALM TREE            | UV | UTILITY VALVE (AS SHOWN)   |
| CO | CLEANOUT              | P  | POST                 | UP | UTILITY POLE (AS SHOWN)    |
| DT | DECIDUOUS TREE        | SD | SATELLITE DISH       | W  | WELL                       |

**ABBREVIATIONS**

- |      |                         |      |                              |      |                           |
|------|-------------------------|------|------------------------------|------|---------------------------|
| ANT  | ANTENNA                 | GM   | GAS METER                    | RW   | RECLAIMED WATER           |
| BM   | BENCHMARK               | GV   | GAS VALVE                    | S    | SET                       |
| (C)  | CALCULATED              | INV  | INVERT                       | SC   | SECTION CORNER            |
| CO   | CLEANOUT                | IP   | IRON PIPE                    | SH   | SPRINKLER HEAD            |
| CONC | CONCRETE                | IR   | IRON ROD                     | SPIG | WATER SPIGOT              |
| CM   | CONCRETE MONUMENT       | IRRV | IRRIGATION VALVE             | SS   | SANITARY SEWER            |
| CMP  | CORRUGATED METAL PIPE   | JBL  | JURISDICTIONAL BOUNDARY LINE | SD   | STORM DRAIN               |
| CPP  | CORRUGATED PLASTIC PIPE | (M)  | MEASURED                     | SV   | SANITARY SEWER VALVE      |
| (D)  | AS DESCRIBED            | MB   | MAILBOX                      | TB   | TELEPHONE RISER           |
| DIP  | DUCTILE IRON PIPE       | MH   | MANHOLE                      | TEL  | TELEPHONE                 |
| DH   | DRILL HOLE              | MW   | MONITORING WELL              | TP   | TRAVERSE POINT            |
| EB   | ELECTRIC RISER          | ND   | NAIL & DISK                  | TSC  | TRAFFIC SIGNAL CONTROL    |
| ELEC | ELECTRIC                | NL   | NAIL                         | TSP  | TRAFFIC SIGNAL POLE       |
| EM   | ELECTRIC METER          | OE   | OVERHEAD UTILITY LINES       | TV   | CABLE TELEVISION          |
| ET   | ELECTRIC TRANSFORMER    | OR   | OFFICIAL RECORDS             | UE   | UNDERGROUND UTILITY LINES |
| F    | FOUND                   | P    | POST                         | W    | WATER                     |
| FDC  | FIRE DEPT CONNECTION    | (P)  | PER PLAT                     | WM   | WATER METER               |
| FF   | FINISHED FLOOR          | PB   | PLAT BOOK                    | WV   | WATER VALVE               |
| FH   | FIRE HYDRANT            | PG   | PAGE                         | XC   | X CUT                     |
| FO   | FIBER OPTIC             | PK   | PK NAIL                      |      |                           |
| G    | GAS                     | RCP  | REINFORCED CONC PIPE         |      |                           |
|      |                         | RR   | RAILROAD                     |      |                           |

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**

9150 CURRY FORD ROAD ORLANDO, FL. 32825



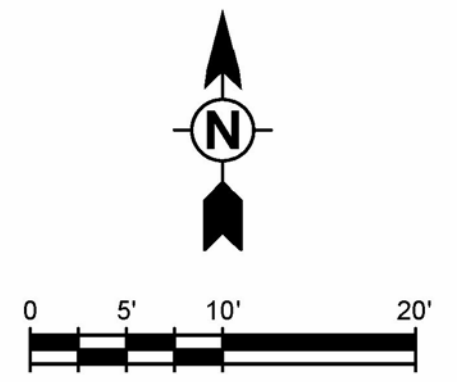
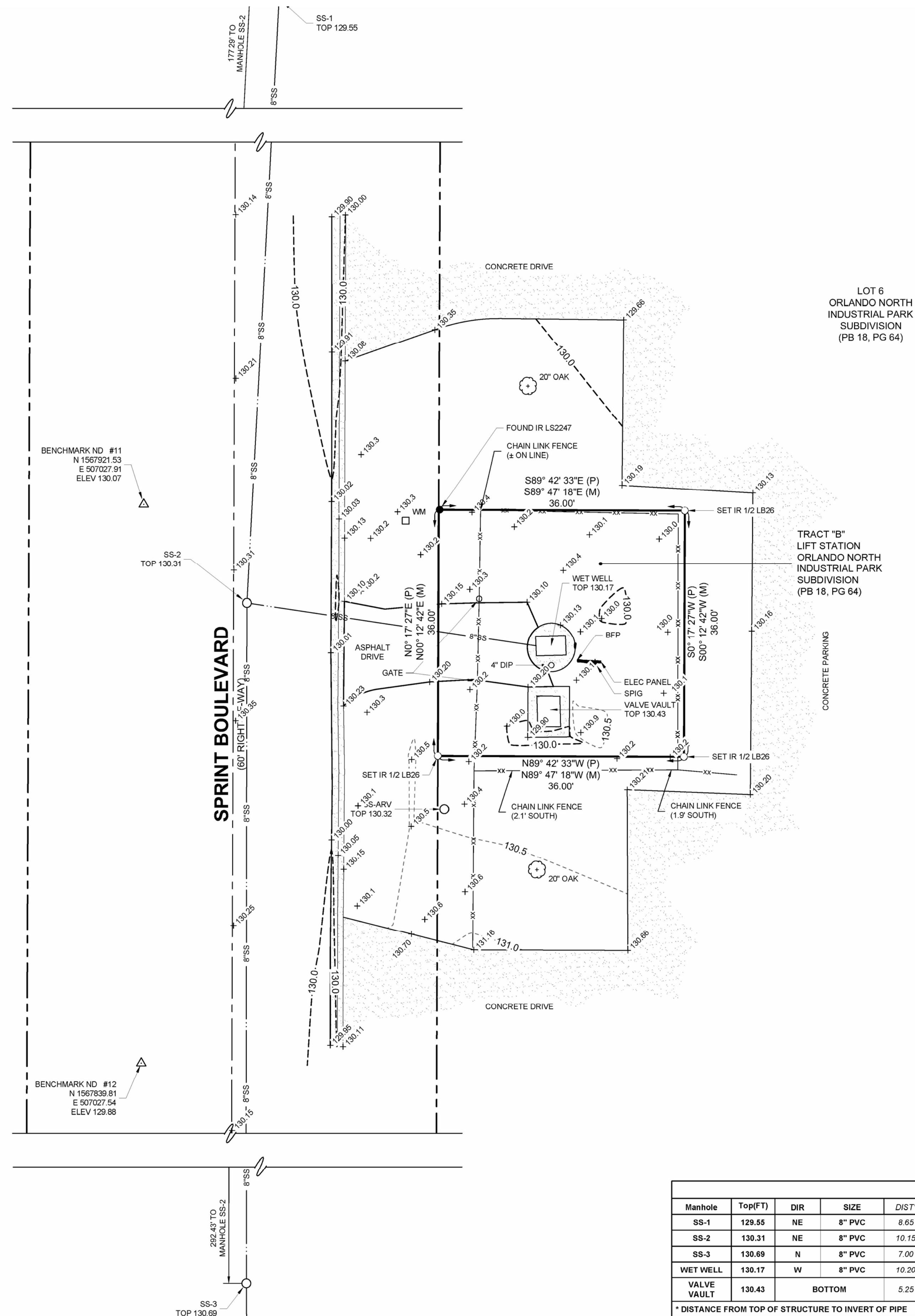
www.tetrattech.com  
201 EAST PINE STREET, SUITE 1000  
ORLANDO, FL 32801  
PHONE: (407) 839-3955 FAX: (407) 839-3790

PS #3391 - N ORLANDO INDUSTRIAL PARK  
BOUNDARY SURVEY &  
TOPOGRAPHIC SURVEY

LAWRENCE E. JENKINS  
PROFESSIONAL SURVEYOR  
AND MAPPER FLORIDA  
REGISTRATION #5364  
TETRA TECH - LB #26

OCU FILE NO.: 73985  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
CADD FILE: E100.DWG

SCALE: NOTED  
DRAWING NO.:  
**V100**  
SHEET: 04 OF 26



SANITARY SEWER MANHOLES													
Manhole	Top(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	DIST*	Inv.(FT)
SS-1	129.55	NE	8" PVC	8.65	120.90	S	8" PVC	8.70	120.85				
SS-2	130.31	NE	8" PVC	10.15	120.16	S	8" PVC	10.00	120.31	E	8" PVC	10.15	120.16
SS-3	130.69	N	8" PVC	7.00	123.69	S	8" PVC	7.00	123.69				
WET WELL	130.17	W	8" PVC	10.20	119.97	BOTTOM		16.90	113.27				
VALVE VAULT	130.43	BOTTOM		5.25	125.18								

\*DISTANCE FROM TOP OF STRUCTURE TO INVERT OF PIPE

**LEGAL DESCRIPTION**

TRACT "A", LIFT STATION, COUNTRY RUN UNIT 2, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 30, PAGE 114 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA  
 PARCEL: 10-22-28-1850-00-001  
 OWNER: ORANGE COUNTY, BCC

**NOTES**

1. THE HORIZONTAL SURVEY DATA SHOWN IS BASED ON CONTROL POINTS ESTABLISHED BY THE ORANGE COUNTY GIS PROGRAM HAVING A LOCAL GROUND COORDINATE SYSTEM BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983 (1990) AND BASED ON GIS 0104 EE WHITE CONTROL POINT, BEING A BRASS DISK SET IN A CONCRETE MONUMENT AND HAVING A PUBLISHED COORDINATE OF LAT: 28°31'21.89069", LONG: 81°30'01.21118".
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM (NAVD 88), AS PROVIDED BY ORANGE COUNTY SURVEY DEPARTMENT AND BASED ON BENCHMARKS C1396004 HAVING AN ELEVATION OF 83.290; BEING A 3" O.C. ALUMINUM DISC ON CONCRETE CURB.
3. THERE MAY BE EASEMENTS AND RESTRICTIONS OF RECORDS AND/OR PRIVATE AGREEMENTS NOT FURNISHED TO THIS SURVEYOR THAT MAY AFFECT PROPERTY RIGHTS AND/OR LAND USE RIGHTS OF THE LANDS SHOWN HEREON.
4. NO UNDERGROUND INSTALLATIONS, FOUNDATION FOOTINGS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS NOTED.
5. THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS FOR SURVEYS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE.
6. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE(S) "AE" AND "X" WITH A BASE FLOOD ELEVATION OF 79.0 BASED ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 120179 0230 F, WHICH BEARS AN EFFECTIVE DATE OF 9/25/2009, AND IS IN A SPECIAL FLOOD HAZARD AREA.
7. THIS FIELD SURVEY WAS PERFORMED ON AUGUST 8, 2012.

**LEGEND**

- |                         |                      |                            |
|-------------------------|----------------------|----------------------------|
| BM BENCHMARK            | ELECTRIC TRANSFORMER | SPIGOT                     |
| ND NAIL & DISK          | EVERGREEN TREE       | SPRINKLER HEAD             |
| TP TRAVERSE POINT       | FIRE HYDRANT         | TRAFFIC SIGN               |
| F FOUND IRON (TYPE)     | FLAG (AS SHOWN)      | UTILITY MARKER (AS SHOWN)  |
| S SET IRON (TYPE)       | GUY ANCHOR           | UTILITY MANHOLE (AS SHOWN) |
| F FOUND MONUMENT (TYPE) | LIGHT POLE           | UTILITY METER (AS SHOWN)   |
| S SET MONUMENT (TYPE)   | MAIL BOX             | UTILITY RISER (AS SHOWN)   |
| SC SECTION CORNER       | PALM TREE            | UTILITY VALVE (AS SHOWN)   |
| CO CLEANOUT             | POST                 | UTILITY POLE (AS SHOWN)    |
| DECIDUOUS TREE          | SATELLITE DISH       | WELL                       |

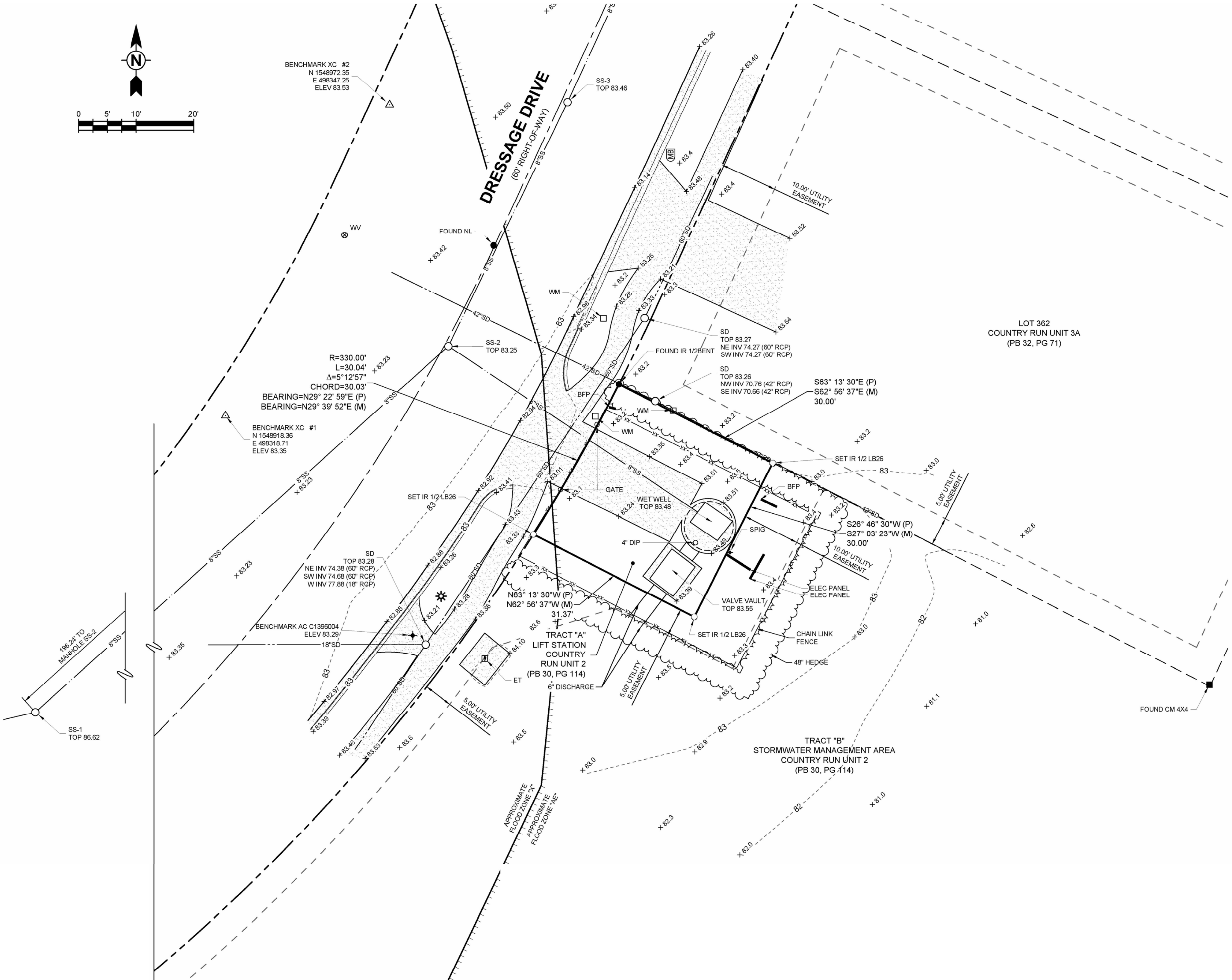
**ABBREVIATIONS**

- |                             |                           |                              |
|-----------------------------|---------------------------|------------------------------|
| ANT ANTENNA                 | GM GAS METER              | RW RECLAIMED WATER           |
| BM BENCHMARK                | GV GAS VALVE              | S SET                        |
| (C) CALCULATED              | INV INVERT                | SC SECTION CORNER            |
| CO CLEANOUT                 | IP IRON PIPE              | SH SPRINKLER HEAD            |
| CONC CONCRETE               | IR IRON ROD               | SPIG WATER SPIGOT            |
| CM CONCRETE MONUMENT        | IRRV IRRIGATION VALVE     | SS SANITARY SEWER            |
| CMP CORRUGATED METAL PIPE   | JR JURISDICTIONAL         | SD STORM DRAIN               |
| CPP CORRUGATED PLASTIC PIPE | (M) MEASURED              | SV SANITARY SEWER VALVE      |
| (D) AS DESCRIBED            | MB MAILBOX                | TB TELEPHONE RISER           |
| DIP DUCTILE IRON PIPE       | MH MANHOLE                | TEL TELEPHONE                |
| DH DRILL HOLE               | MW MONITORING WELL        | TP TRAVERSE POINT            |
| EB ELECTRIC RISER           | ND NAIL & DISK            | TSC TRAFFIC SIGNAL CONTROL   |
| ELEC ELECTRIC               | NL NAIL                   | TSP TRAFFIC SIGNAL POLE      |
| EM ELECTRIC METER           | OE OVERHEAD UTILITY LINES | TV CABLE TELEVISION          |
| ET ELECTRIC TRANSFORMER     | OR OFFICIAL RECORDS       | UE UNDERGROUND UTILITY LINES |
| F FOUND                     | P POST                    | W WATER                      |
| FDC FIRE DEPT CONNECTION    | (P) PER PLAT              | WM WATER METER               |
| FF FINISHED FLOOR           | PB PLAT BOOK              | WW WATER VALVE               |
| FH FIRE HYDRANT             | PG PAGE                   | XC X CUT                     |
| FO FIBER OPTIC              | PK PK NAIL                |                              |
| G GAS                       | RCP REINFORCED CONC PIPE  |                              |
|                             | RR RAILROAD               |                              |

SANITARY SEWER MANHOLES													
Manhole	Top(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	Inv.(FT)	
SS-1	86.62	NE	8" PVC	12.47	74.15	SW	8" PVC	12.40	74.22				
SS-2	83.25	NE	8" PVC	14.20	69.05	SW	8" PVC	12.60	70.65	SE	8" PVC	14.25	69.00
SS-3	83.46	NE	8" PVC	14.00	69.46	SW	8" PVC	14.15	69.31				
WET WELL	83.48	W	8" PVC	14.85	68.63	BOTTOM		22.01	61.47				
VALVE VAULT	83.55												

\* DISTANCE FROM TOP OF STRUCTURE TO INVERT OF PIPE

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



**PS #3676 - COUNTRY RUN BOUNDARY SURVEY & TOPOGRAPHIC SURVEY**

LAWRENCE E. JENKINS  
 PROFESSIONAL SURVEYOR  
 AND MAPPER FLORIDA  
 REGISTRATION #6384  
 TETRA TECH - LB #26

OCU FILE NO.: 74946	SCALE: NOTED
DESIGNED BY:	DRAWING NO.:
DRAWN BY:	<b>V200</b>
CHECKED BY:	SHEET: 05 OF 26
CADD FILE: E200.DWG	

**LEGAL DESCRIPTION**

A PORTION OF

PARCEL: 26-22-28-0000-00-055  
OWNER: OAK MEADOWS OF ORLANDO HOA INC

LEGAL DESCRIPTION OF PARENT PARCEL RECORDED IN OFFICIAL RECORDS BOOK 4305, PAGE 134 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA.

LEGAL DESCRIPTION OF SANITARY SEWER EASEMENT RECORDED IN OFFICIAL RECORDS BOOK 3148, PAGE 2397 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF THE SW 1/4 OF THE NE 1/4 OF SECTION 26, TOWNSHIP 22 SOUTH, RANGE 28 EAST, ORANGE COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF THE PLAT OF OAK MEADOWS, UNIT THREE AS RECORDED IN PLAT BOOK 8, PAGE 147 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, SAID POINT ALSO BEING ON THE WESTERLY RIGHT OF WAY LINE OF DORSCHER ROAD; THENCE N00°02'35" E. (BEARINGS BASED ON AFORESAID PLAT) ALONG SAID WESTERLY RIGHT OF WAY LINE OF DORSCHER ROAD AS RECORDED IN OFFICIAL RECORDS BOOK 2622, PAGE 1802 OF THE AFORESAID PUBLIC RECORDS FOR 210.56 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE SOUTHEASTERLY; THENCE NORTHEASTERLY ALONG SAID WESTERLY RIGHT OF WAY LINE OF DORSCHER ROAD AND ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 640.00 FEET AND A CENTRAL ANGLE OF 49°13'56" FPR 549.93 FEET TO THE POINT OF BEGINNING; THENCE N39°31'02"W FOR 27.63 FEET; THENCE N50°28'58"E FOR 20.00 FEET; THENCE S39°31'02"E FOR 27.49 FEET TO THE SAID WESTERLY RIGHT OF WAY LINE OF DORSCHER ROAD; THENCE S50°30'00"W ALONG SAID WESTERLY RIGHT OF WAY LINE FOR 6.32 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE CONCAVE SOUTHEASTERLY, THENCE SOUTHWESTERLY ALONG SAID CURVE HAVING A RADIUS OF 64.00 FEET AND A CENTRAL ANGLE OF 01°13'29" FOR 13.68 FEET TO THE POINT OF BEGINNING.

**NOTES**

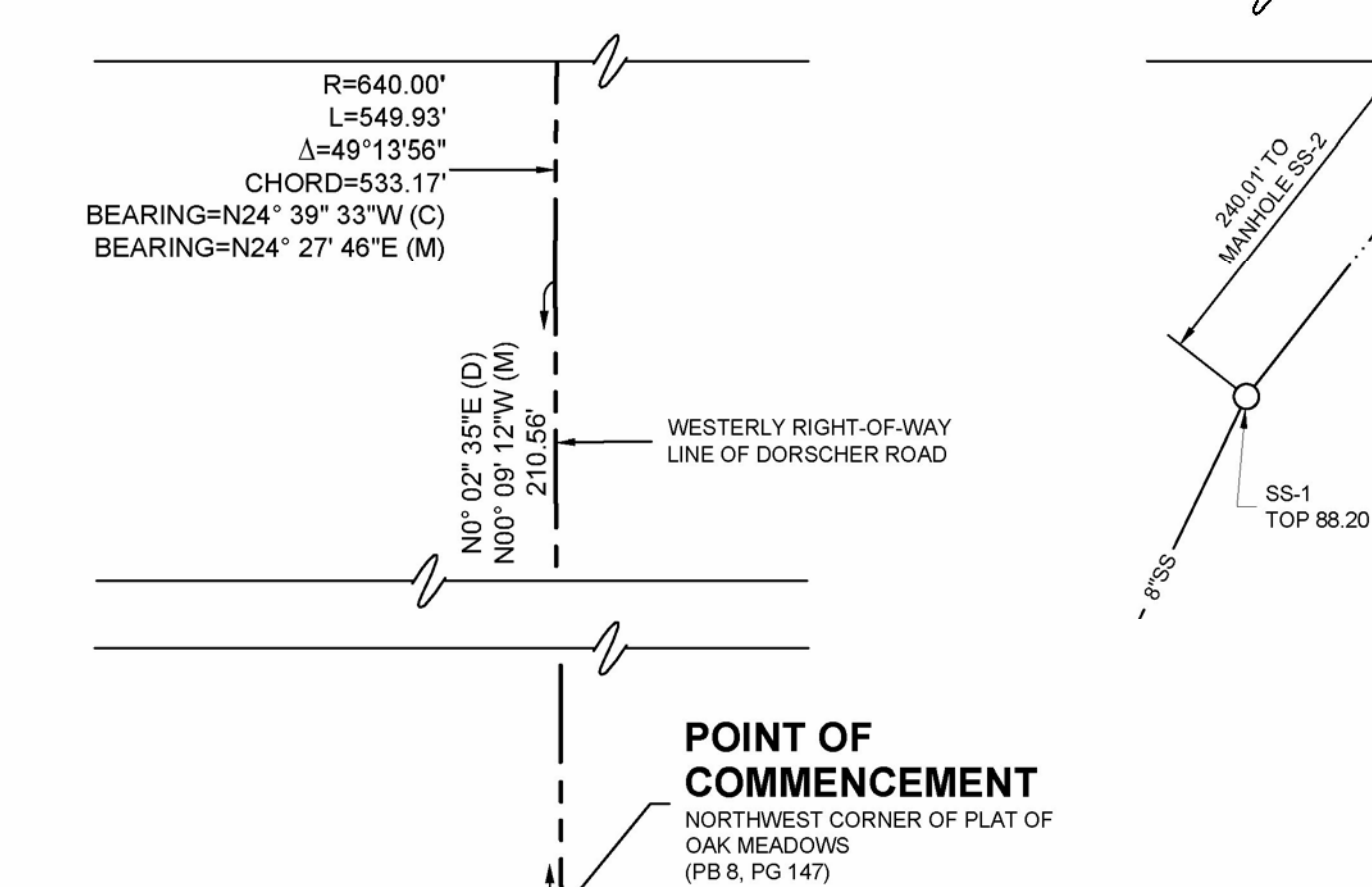
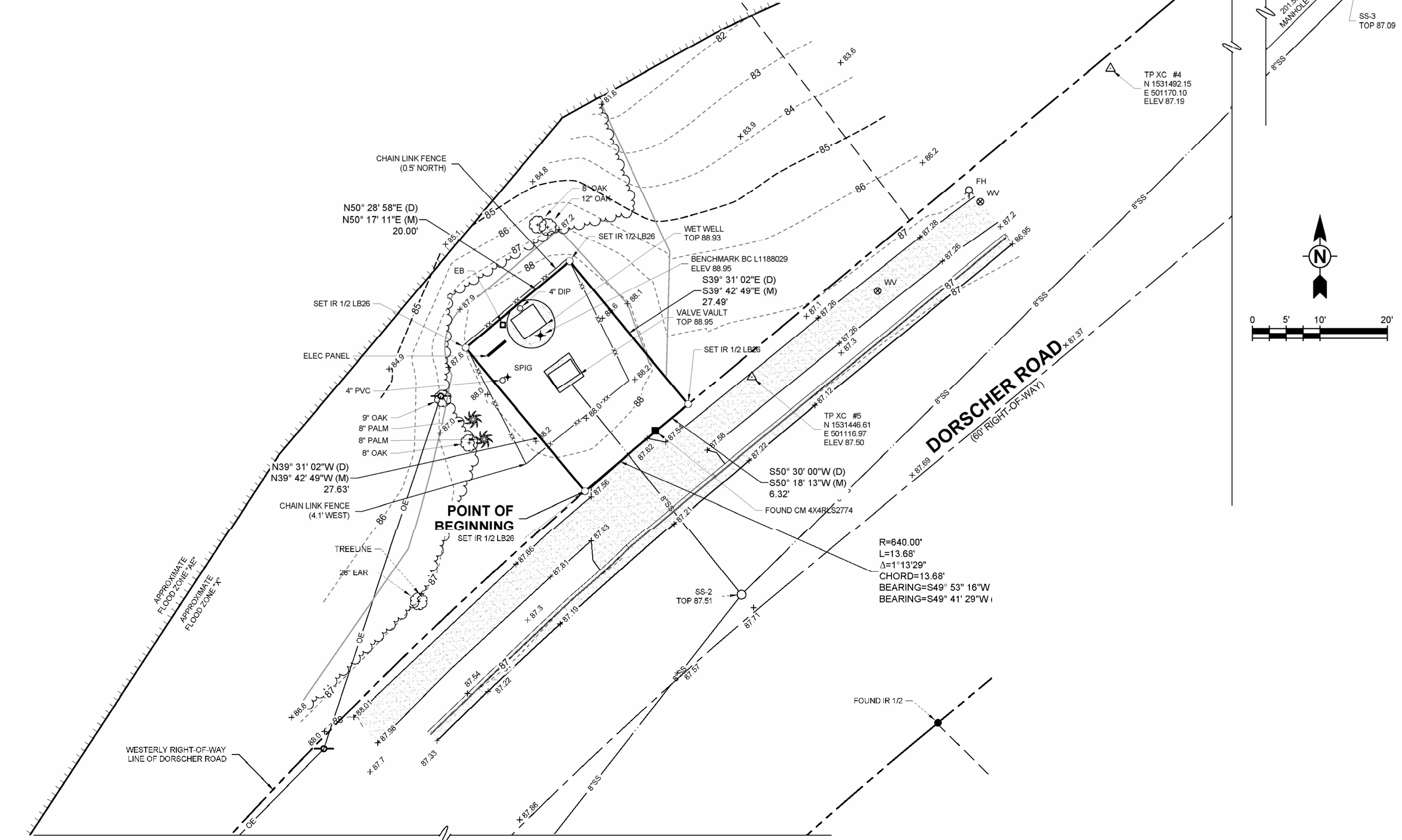
1. THE HORIZONTAL SURVEY DATA SHOWN IS BASED ON CONTROL POINTS ESTABLISHED BY THE ORANGE COUNTY GIS PROGRAM HAVING A LOCAL GROUND COORDINATE SYSTEM BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983 (1990) AND BASED ON GIS 0104 EE WHITE CONTROL POINT, BEING A BRASS DISK SET IN A CONCRETE MONUMENT AND HAVING A PUBLISHED COORDINATE OF LAT: 28°31'21.89069", LONG: 81°30'01.21118".
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM (NAVD 88), AS PROVIDED BY ORANGE COUNTY SURVEY DEPARTMENT AND BASED ON BENCHMARK L1188029 HAVING AN ELEVATION OF 88.947; BEING A 3" O.C. BRASS DISC ON PUMP STATION.
3. THERE MAY BE EASEMENTS AND RESTRICTIONS OF RECORDS AND/OR PRIVATE AGREEMENTS NOT FURNISHED TO THIS SURVEYOR THAT MAY AFFECT PROPERTY RIGHTS AND/OR LAND USE RIGHTS OF THE LANDS SHOWN HEREON.
4. NO UNDERGROUND INSTALLATIONS, FOUNDATION FOOTINGS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS NOTED.
5. THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS FOR SURVEYS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE.
6. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE(S) "X" OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 120179 240 F, WHICH BEARS AN EFFECTIVE DATE OF 9/25/2009 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.
7. THIS FIELD SURVEY WAS PERFORMED ON AUGUST 6, 2012.

**ABBREVIATIONS**

ANT	ANTENNA	GM	GAS METER	RW	RECLAIMED WATER
BM	BENCHMARK	GV	GAS VALVE	S	SET
(C)	CALCULATED	INV	INVERT	SC	SECTION CORNER
CO	CLEANOUT	IP	IRON PIPE	SH	SPRINKLER HEAD
CONC	CONCRETE	IR	IRON ROD	SPIG	WATER SPIGOT
CM	CONCRETE MONUMENT	IRRV	IRRIGATION VALVE	SS	SANITARY SEWER
CMP	CORRUGATED METAL PIPE	JBL	JURISDICTIONAL BOUNDARY LINE	SD	STORM DRAIN
CPP	CORRUGATED PLASTIC PIPE	(M)	MEASURED	SV	SANITARY SEWER VALVE
(D)	AS DESCRIBED	MB	MAILBOX	TB	TELEPHONE RISER
DIP	DUCTILE IRON PIPE	MH	MANHOLE	TEL	TELEPHONE
DH	DRILL HOLE	MW	MONITORING WELL	TP	TRAVERSE POINT
EB	ELECTRIC RISER	ND	NAIL & DISK	TSC	TRAFFIC SIGNAL CONTROL
ELEC	ELECTRIC	NL	NAIL	TSP	TRAFFIC SIGNAL POLE
EM	ELECTRIC METER	OE	OVERHEAD UTILITY LINES	TV	CABLE TELEVISION LINES
ET	ELECTRIC TRANSFORMER	OR	OFFICIAL RECORDS	UE	UNDERGROUND UTILITY
F	FOUND	P	PER PLAT	W	WATER
FDC	FIRE DEPT CONNECTION	(P)	PLAT BOOK	WM	WATER METER
FF	FINISHED FLOOR	PG	PAGE	WW	WATER VALVE
FH	FIRE HYDRANT	PK	PK NAIL	XC	X CUT
FO	FIBER OPTIC	RCP	REINFORCED CONC PIPE		
G	GAS	RR	RAILROAD		

SANITARY SEWER MANHOLES													
Manhole	Top(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	DIST*	Inv.(FT)	DIR	SIZE	DIST*	Inv.(FT)
SS-1	88.20	N	8" PVC	6.30	81.90	S	8" PVC	6.25	81.95				
SS-2	87.51	NE	8" PVC	6.75	80.76	SW	8" PVC	6.75	80.76	NW	8" PVC	6.80	80.71
SS-3	87.09	N	8" PVC	5.40	81.69	SW	8" PVC	5.45	81.64				
WET WELL	88.93	SE	8" PVC	8.40	80.53	BOTTOM		14.65	74.28				
VALVE VAULT	88.95	BOTTOM		5.20	83.75								

\* DISTANCE FROM TOP OF STRUCTURE TO INVERT OF PIPE



LEGEND					
▲	BM BENCHMARK	⊠	ELECTRIC TRANSFORMER	⊕	SPIGOT
⊙	ND NAIL & DISK	⊗	EVERGREEN TREE	⊗	SPRINKLER HEAD
△	TP TRAVERSE POINT	⊗	FIRE HYDRANT	⊗	TRAFFIC SIGN
●	F FOUND IRON (TYPE)	⊗	FLAG (AS SHOWN)	□	UTILITY MARKER (AS SHOWN)
○	S SET IRON (TYPE)	⊗	GUY ANCHOR	○	UTILITY MANHOLE (AS SHOWN)
■	F FOUND MONUMENT (TYPE)	⊗	LIGHT POLE	□	UTILITY METER (AS SHOWN)
□	S SET MONUMENT (TYPE)	⊗	MAIL BOX	□	UTILITY RISER (AS SHOWN)
⊙	SC SECTION CORNER	⊗	PALM TREE	⊗	UTILITY VALVE (AS SHOWN)
○	CO CLEANOUT	⊗	POST	⊗	UTILITY POLE (AS SHOWN)
⊙	DECIDUOUS TREE	⊗	SATELLITE DISH	⊗	WELL

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES AT FULL SIZE (IF NOT SCALE ACCORDINGLY)

**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

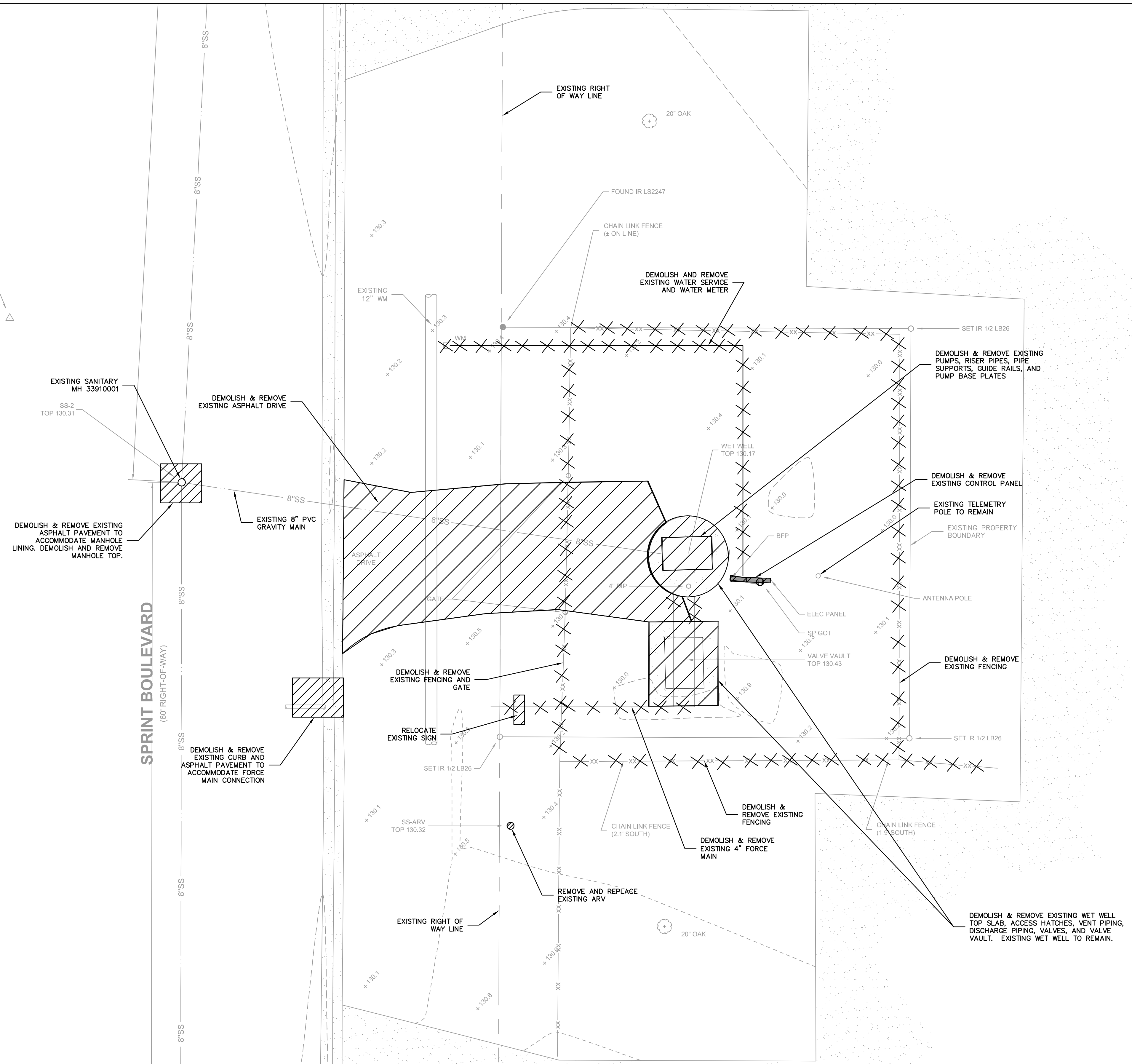
**TETRA TECH**  
www.tetratech.com  
201 EAST PINE STREET, SUITE 1000 ORLANDO, FL 32801  
PHONE: (407) 839-3955 FAX: (407) 839-3790

PS #3265 - OAK MEADOW BOUNDARY SURVEY & TOPOGRAPHIC SURVEY

LAWRENCE E. JENKINS  
PROFESSIONAL SURVEYOR AND MAPPER FLORIDA  
REGISTRATION #6384  
TETRA TECH - LB #26

OCU FILE NO.: 73985	SCALE: NOTED
DESIGNED BY:	DRAWING NO.:
DRAWN BY:	<b>V300</b>
CHECKED BY:	SHEET: 06 OF 26
CADD FILE: C303.DWG	

ICMARK NO #11  
N 1567921.53  
E 507027.81  
ELEV 130.07



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
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**ORANGE COUNTY**  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

**RE**  
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

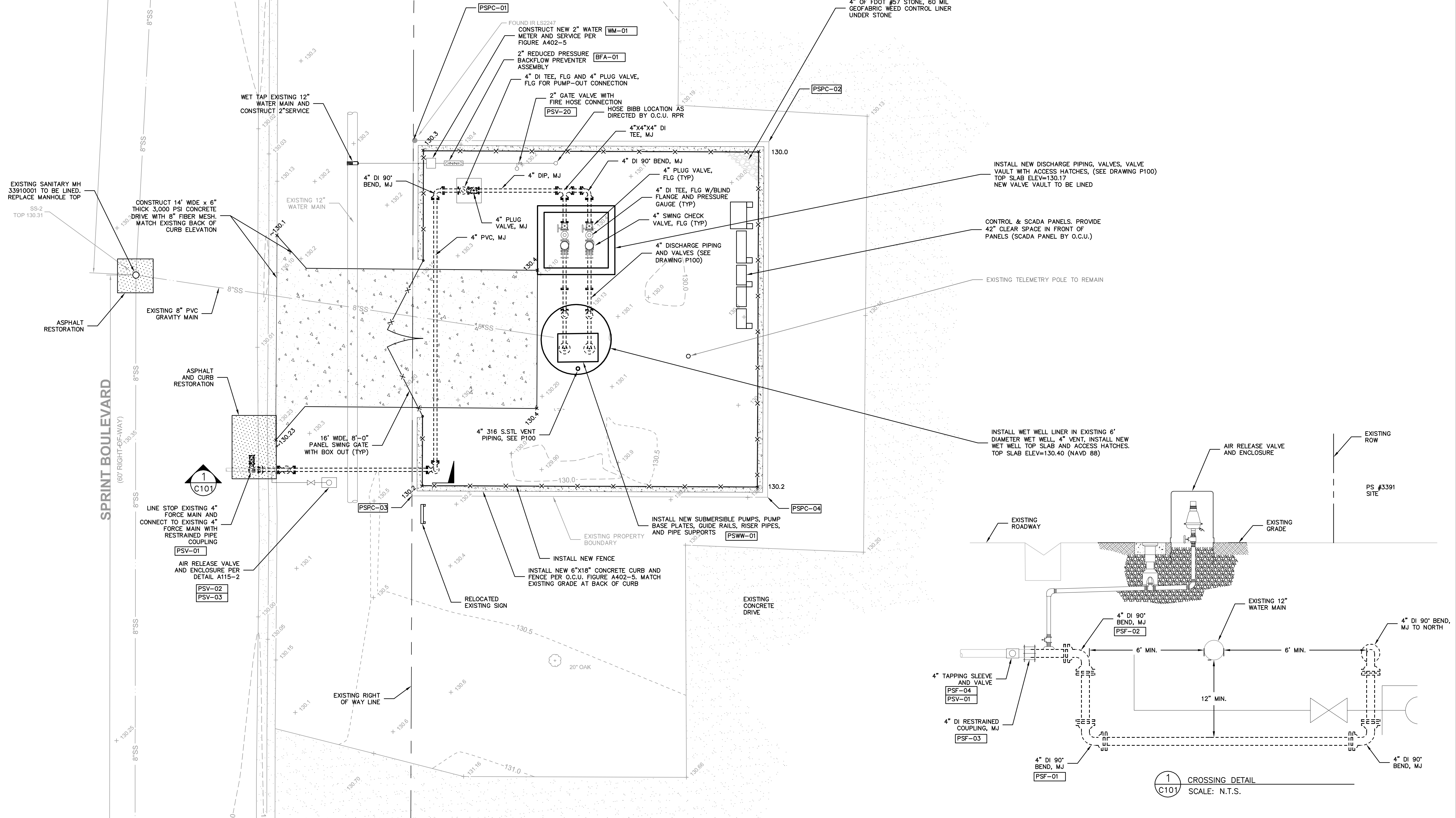
**PS #3391 - N ORLANDO INDUSTRIAL PARK  
SITE DEMOLITION PLAN**

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: E100.DWG

SCALE: NOTED  
DRAWING NO.:  
**C100**  
SHEET: 07 OF 26

BENCHMARK #11  
N 1567921.53  
E 507027.91  
ELEV 130.07



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
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ORANGE COUNTY  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION

9150 CURRY FORD ROAD ORLANDO, FL. 32825



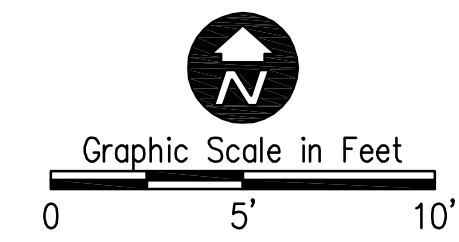
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

PS #3391 - N ORLANDO INDUSTRIAL PARK  
SITE PLAN

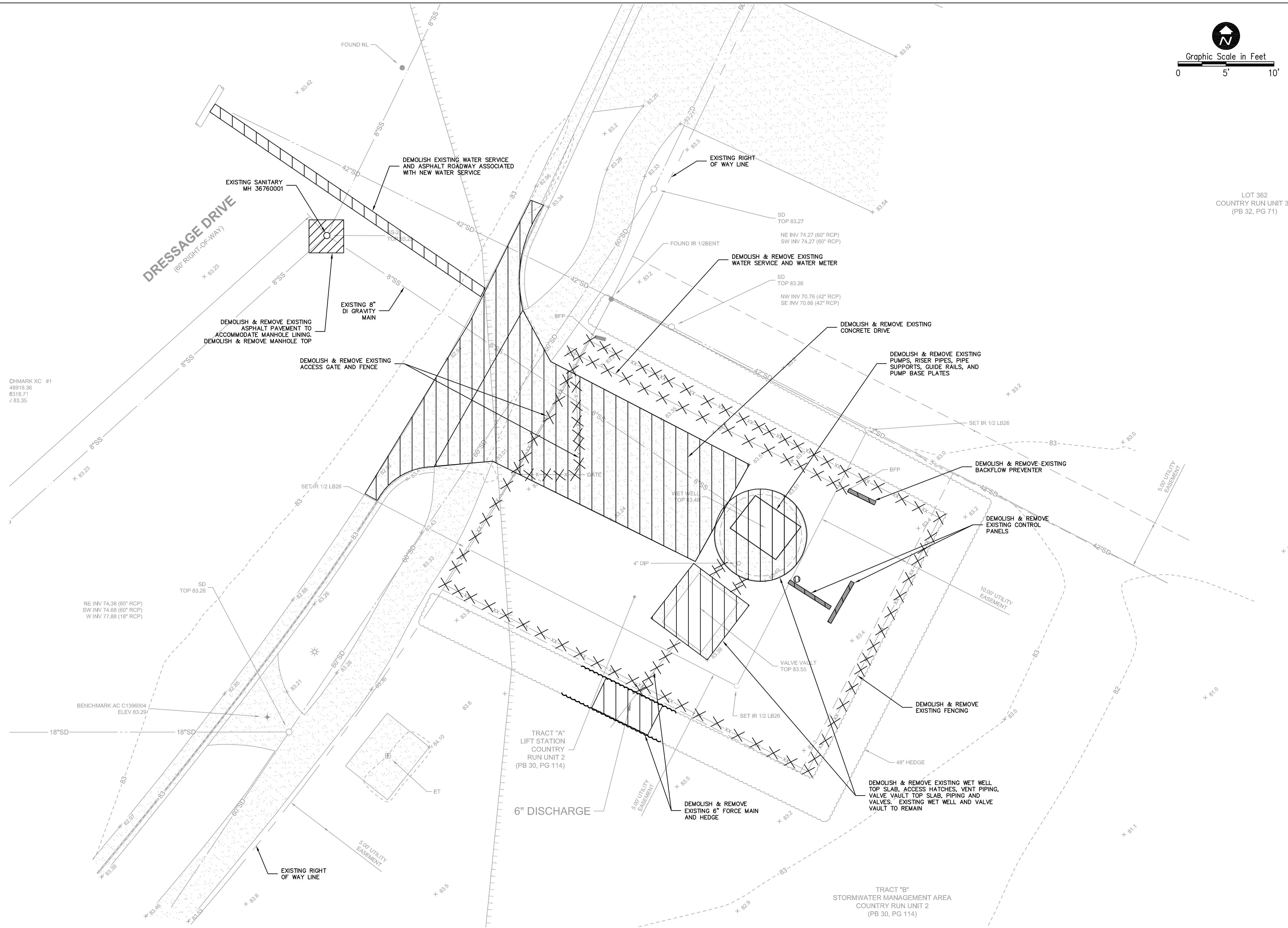
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DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: E100.DWG  
BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

SCALE: NOTED  
DRAWING NO.:  
**C101**  
SHEET: 08 OF 26





LOT 362  
COUNTRY RUN UNIT 3A  
(PB 32, PG 71)



CHMARK XC #1  
48918.36  
8318.71  
783.35

NE INV 74.38 (60" RCP)  
SW INV 74.68 (60" RCP)  
W INV 77.88 (18" RCP)

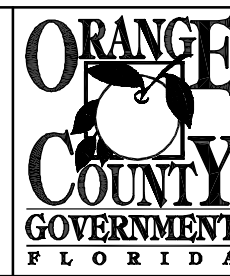
BENCHMARK AC C1396004  
ELEV 83.29

TRACT "A"  
LIFT STATION  
COUNTRY  
RUN UNIT 2  
(PB 30, PG 114)

TRACT "B"  
STORMWATER MANAGEMENT AREA  
COUNTRY RUN UNIT 2  
(PB 30, PG 114)

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
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(IF NOT SCALE ACCORDINGLY)



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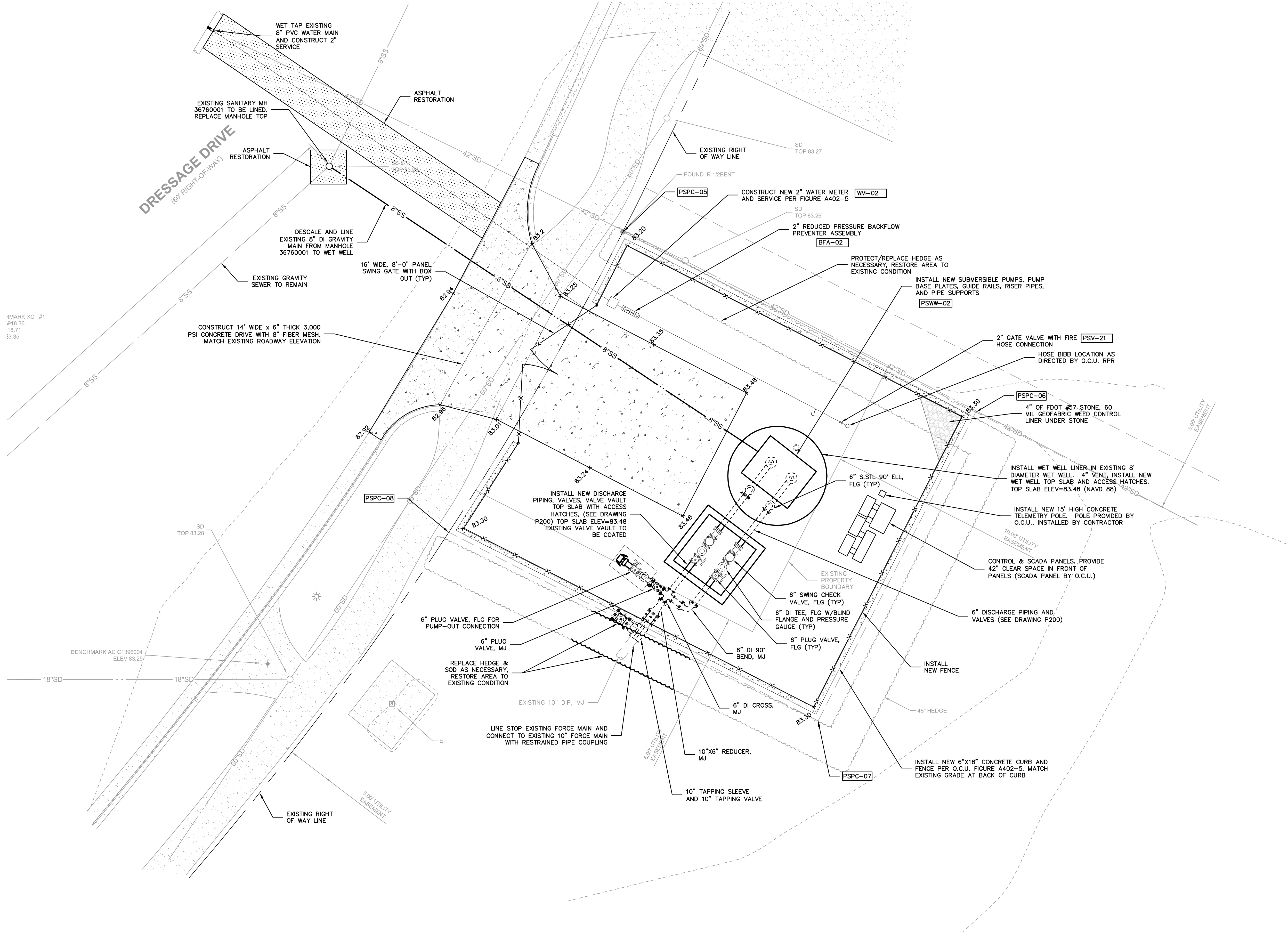
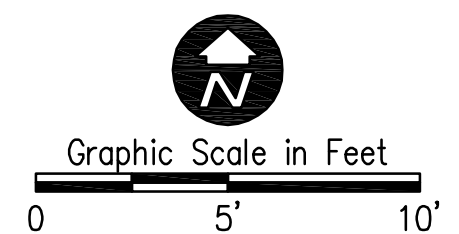
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PS #3676 - COUNTRY RUN  
SITE DEMOLITION PLAN**

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: E200.DWG

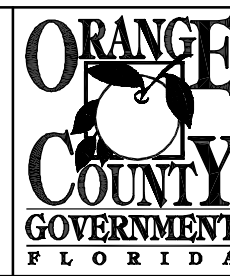
SCALE: NOTED  
DRAWING NO.: **C200**  
SHEET: 09 OF 26



MARK XC #1  
918.36  
18.71  
33.35

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
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A	11/12/14	60% DRAWINGS

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**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

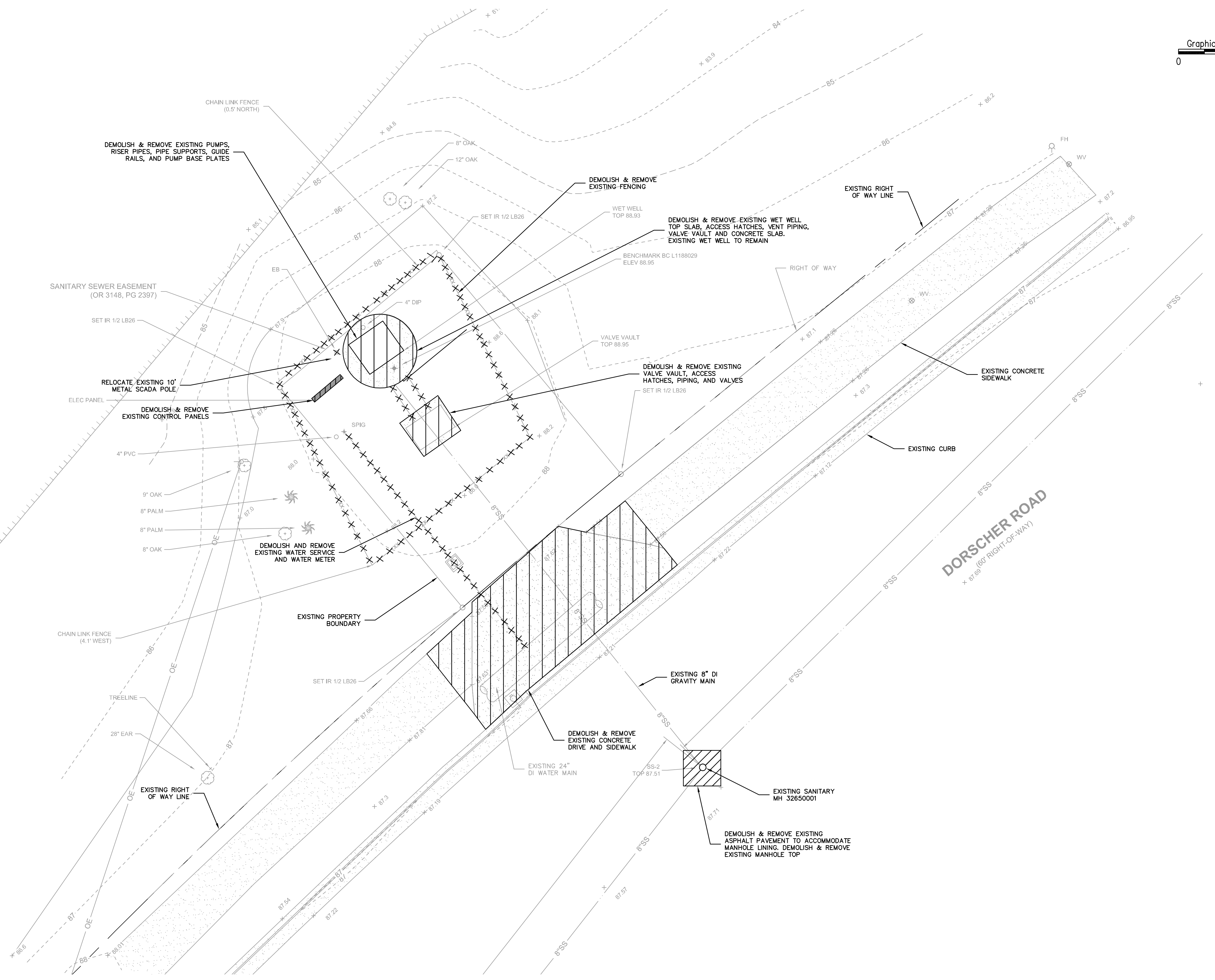


REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PS #3676 - COUNTRY RUN  
SITE PLAN**

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946	SCALE: NOTED
DESIGNED BY: BRW	DRAWING NO.:
DRAWN BY: LABS	<b>C201</b>
CHECKED BY: BRW	SHEET: 10 OF 26
CADD FILE: E200.DWG	



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

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**ORANGE COUNTY GOVERNMENT**  
**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825

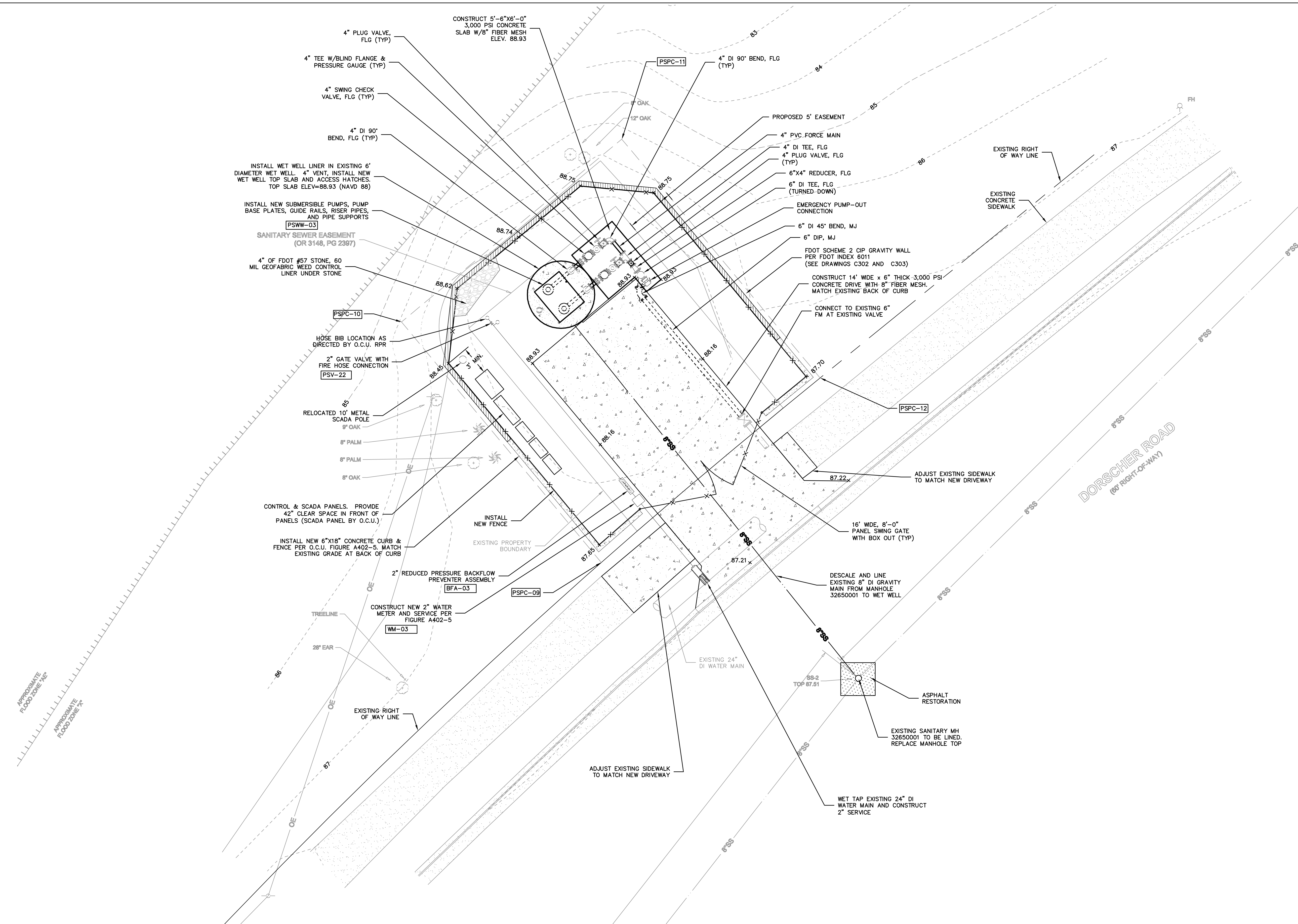
**RE**  
 REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PS #3265 - OAK MEADOW  
 SITE DEMOLITION PLAN**

BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: C303.DWG

SCALE: NOTED  
 DRAWING NO.: **C300**  
 SHEET: 11 OF 26



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
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**ORANGE COUNTY**  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

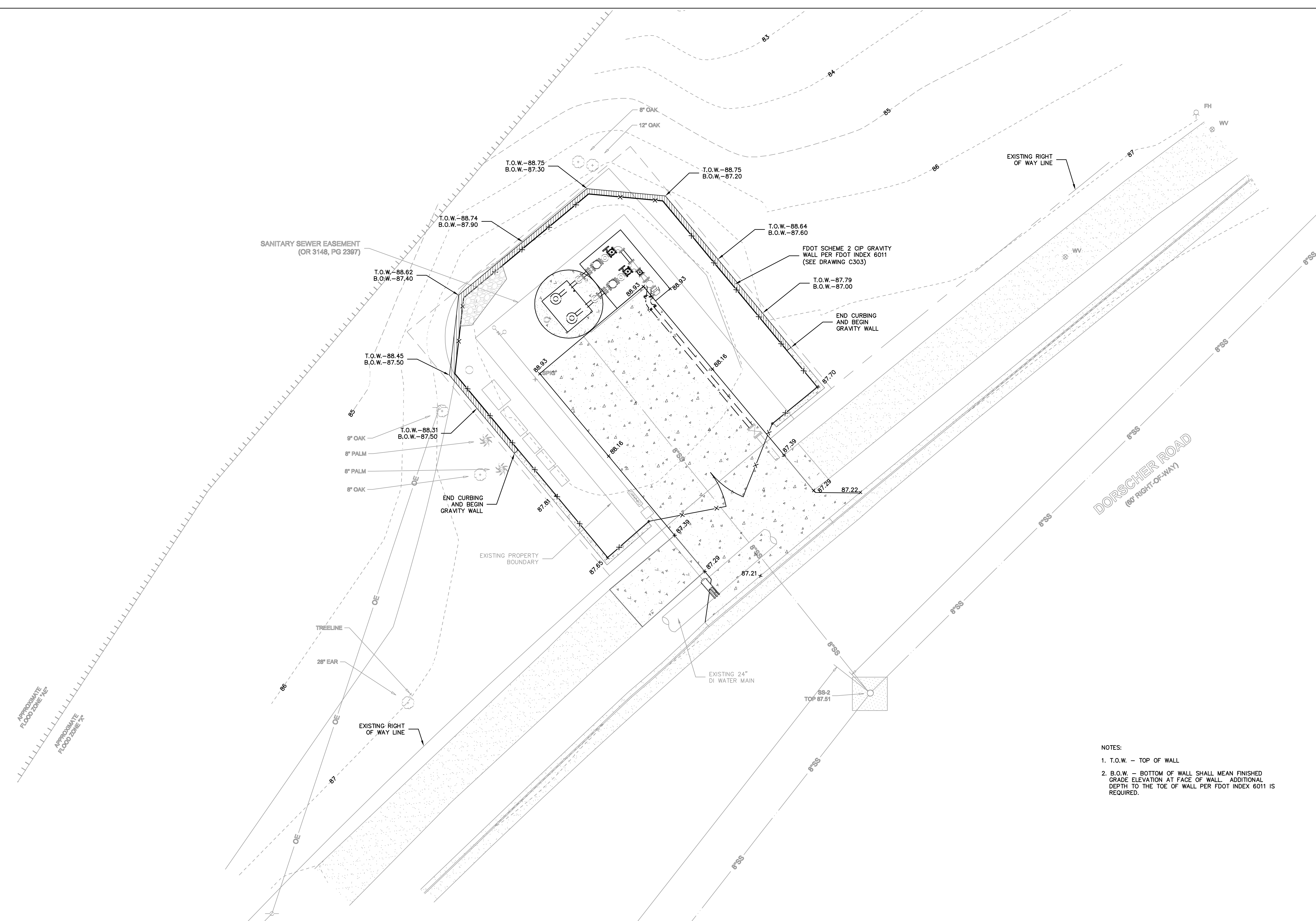
**RE**  
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PS #3265 - OAK MEADOW  
SITE PLAN**

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
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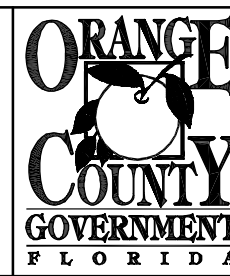
SCALE: NOTED  
DRAWING NO.:  
**C301**  
SHEET: 12 OF 26



- NOTES:
1. T.O.W. - TOP OF WALL
  2. B.O.W. - BOTTOM OF WALL SHALL MEAN FINISHED GRADE ELEVATION AT FACE OF WALL. ADDITIONAL DEPTH TO THE TOE OF WALL PER FDOT INDEX 6011 IS REQUIRED.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
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(IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
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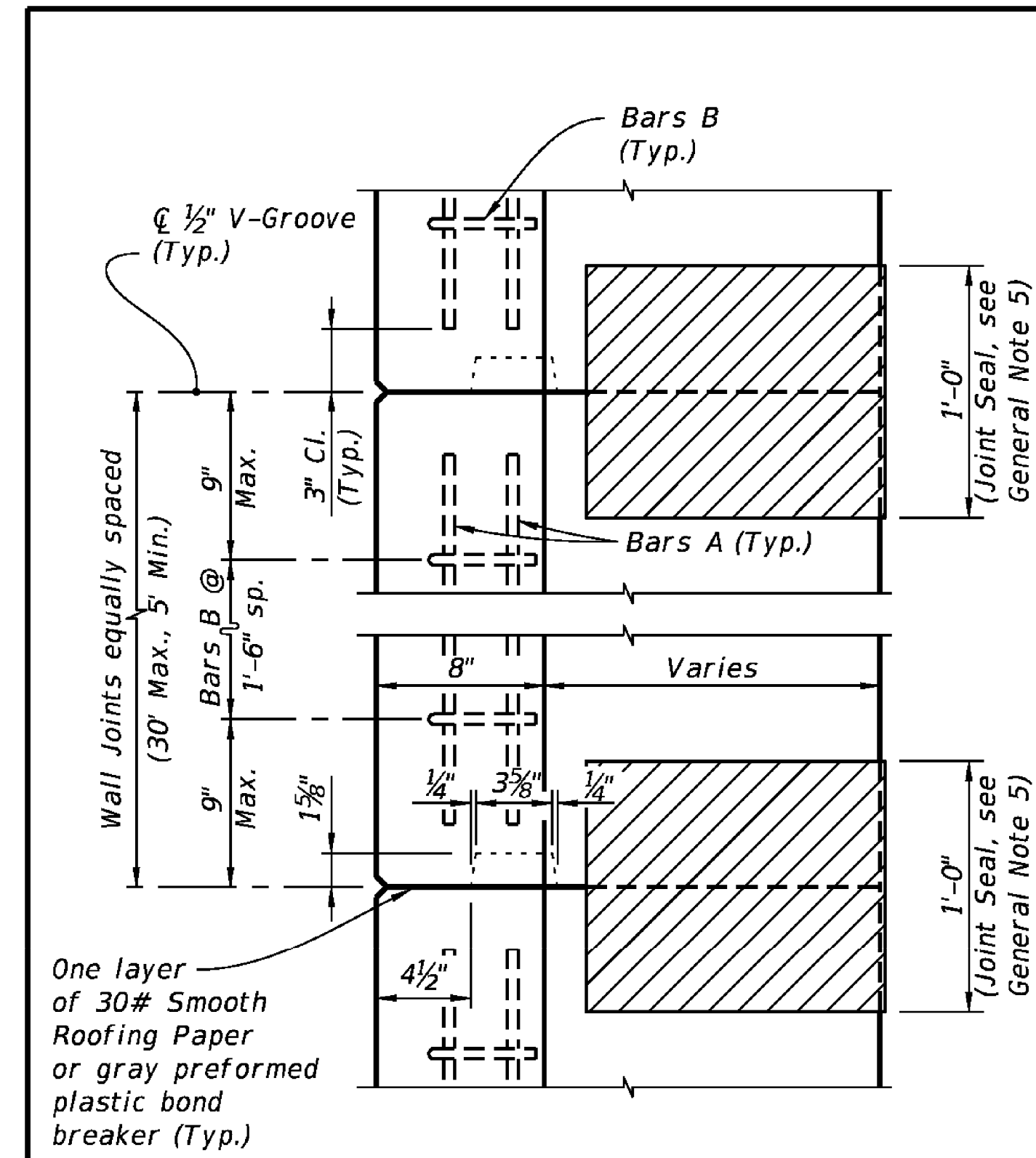
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PS #3265 - OAK MEADOW  
GRADING AND DRAINAGE PLAN**

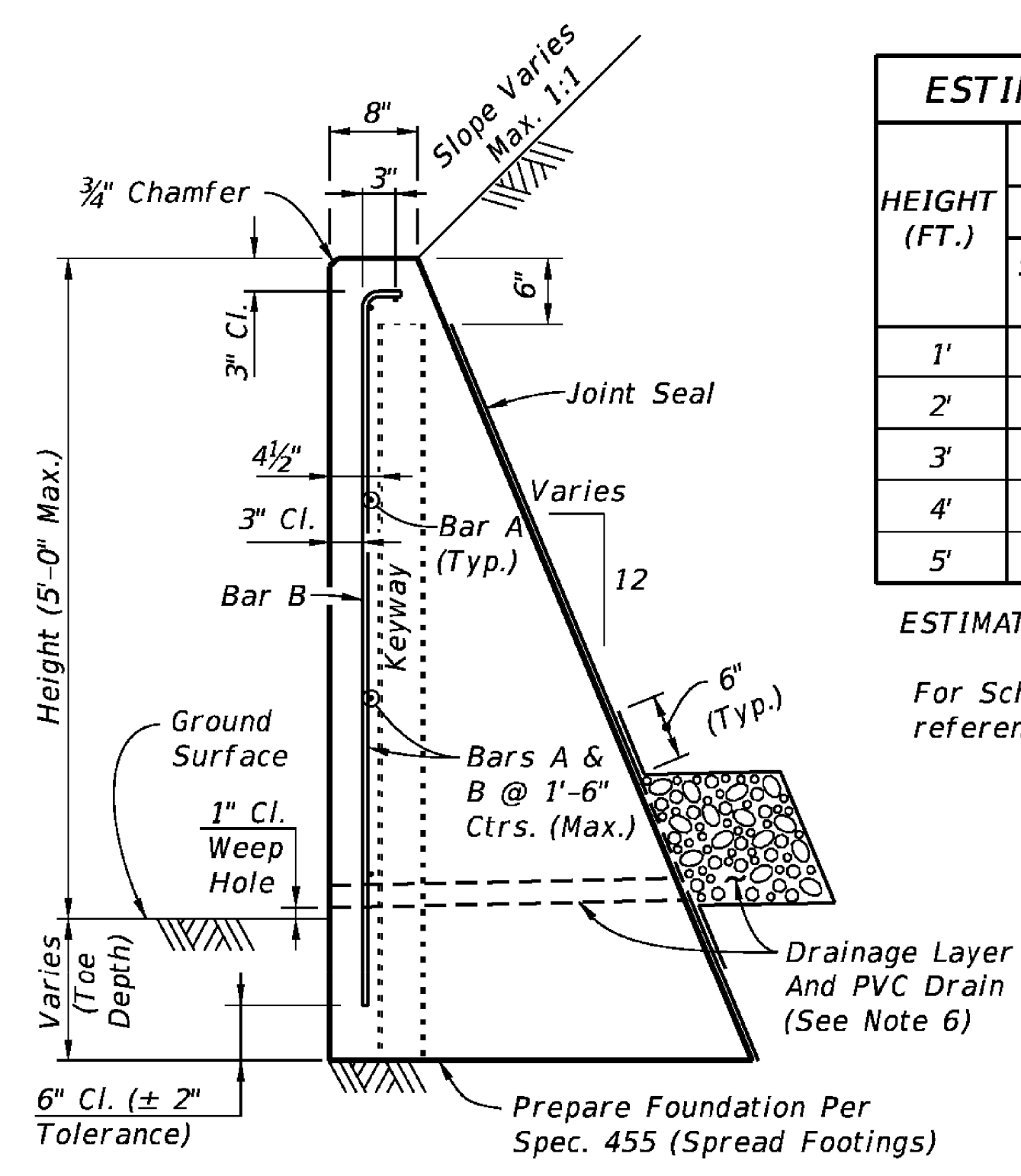
BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: C303.DWG

SCALE: NOTED  
DRAWING NO.: **C302**  
SHEET: 13 OF 26



**KEYWAY & WALL JOINT DETAIL (TOP VIEW)**



**TYPICAL SECTION C-I-P CONCRETE GRAVITY WALL (OPTION 1)**

**ESTIMATED QUANTITIES FOR C-I-P WALL**

HEIGHT (FT.)	PER LINEAR FOOT OF WALL			REINF. STEEL (LB.)	WEEP HOLES & DRAIN REQD.
	CLASS NS CONCRETE (CY)				
	SCHEME 1	SCHEME 2	SCHEME 3**		
1'	0.08	0.11 (0.20*)	0.03	3 (4*)	No
2'	0.14	0.20 (0.32*)	0.09	4 (5*)	No
3'	0.22	0.32 (0.47*)	0.29	5 (6*)	Yes
4'	0.32	0.47 (0.65*)	0.43	6 (7*)	Yes
5'	0.43	0.65 (0.85*)	0.60	7 (8*)	Yes

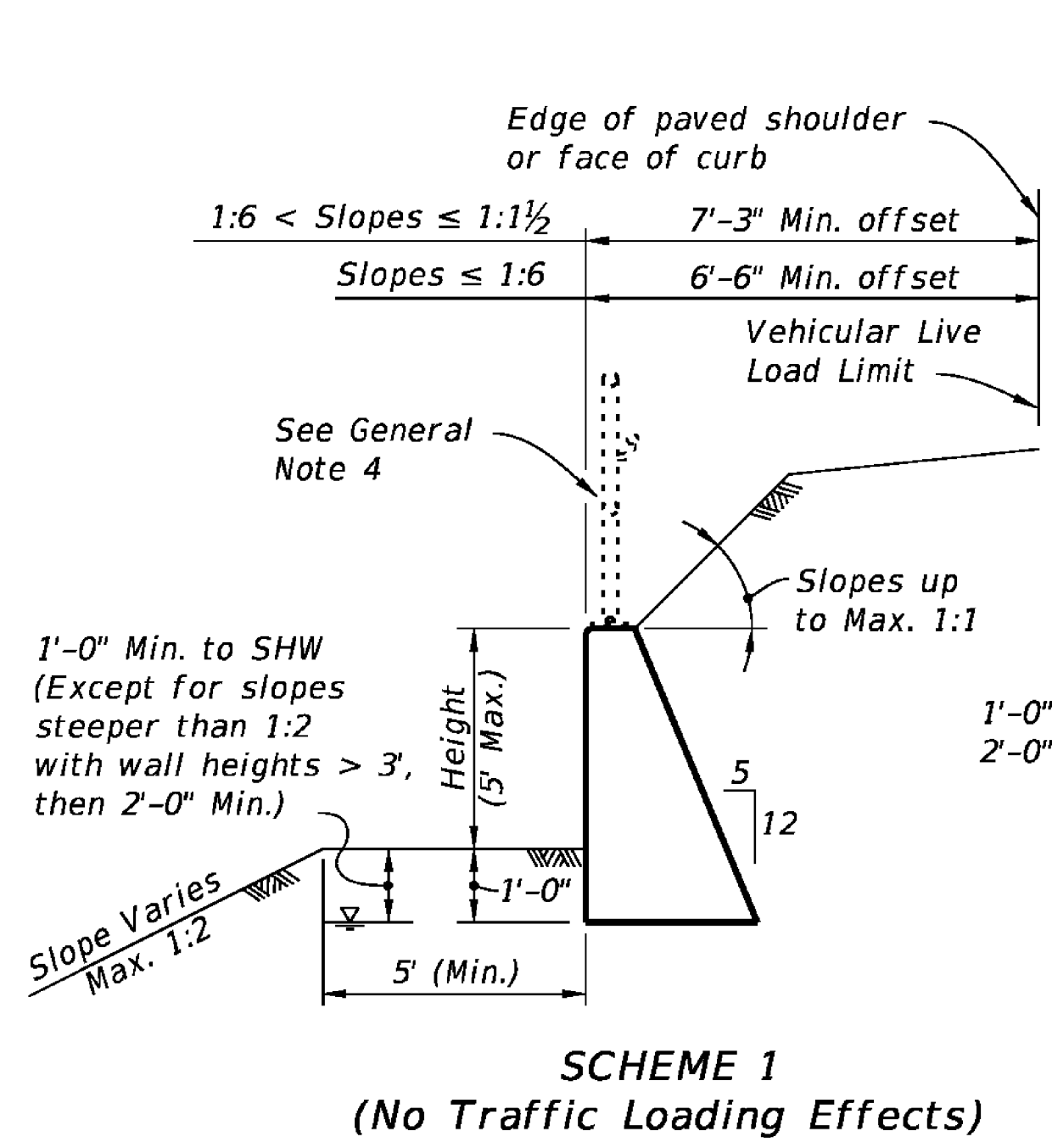
**ESTIMATED QUANTITIES NOTES:**  
 For Scheme 3 Junction Slab and Traffic Railing see the referenced Design Standards for estimated quantities.  
 \* Quantity for 2'-0" Toe Depth in Scheme 2.  
 \*\* Quantity for Scheme 3 assumes 1'-3" thick coping above Gravity Wall.

**CROSS REFERENCE:**  
 See Sheet 2 for Segmental Block Wall (SBW) details.

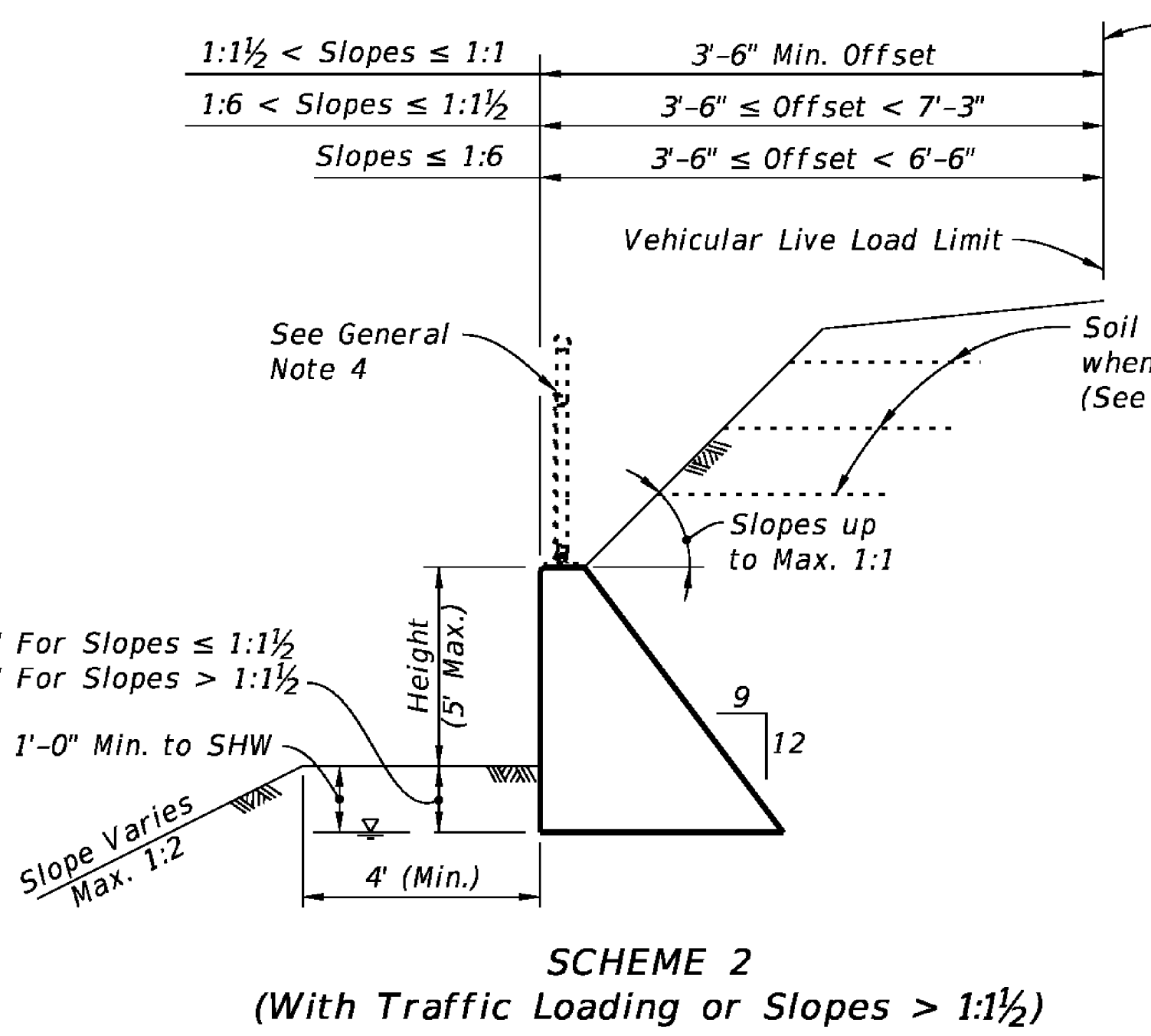
**GENERAL NOTES**

- C-I-P Gravity Walls (Option 1) constructed as extensions of reinforced concrete retaining walls, except walls of proprietary designs, shall have the same face texture and finish as the reinforced concrete retaining wall.
- Concrete for Gravity Wall shall be Class NS per Section 347. Concrete for Scheme 3 Junction Slab and Traffic Railing shall be Class II per Section 346, unless otherwise specified in the plans.
- Reinforcing steel shall meet the requirements of Specification Section 931 (Grade 40 or 60). Smooth or Deformed Welded Wire Reinforcement (WWR) may be substituted on an equal area basis. Do not increase bar/wire spacing for Grade 60 reinforcing steel or WWR.
- When required, for adjunct guiderail, see Index No. 870 or 880 as appropriate. For adjunct Type B fence see Index No. 802.
- Joint seal to be two layers of 30# smooth roofing paper or Type D-5 geotextile fabric in accordance with Specification Section 985. Mop all contact surfaces of concrete and roofing paper or geotextile fabric with cut-back asphalt. Stop roofing paper or geotextile fabric 6" below top of wall.
- Provide a continuous 1'x1' clean gravel or crushed rock drain for wall heights 3 ft. and higher. Wrap drainage layer as shown, with Type D-3 geotextile fabric in accordance with Specification Section 985. Provide 8"x8" galvanized mesh with 1/2" openings, at the inside end of the PVC Drain Pipe. Provide 2" Ø PVC Drain Pipe (Sch. 40) at 10 ft. max. spacing (when Drainage Layer is required). Locate outermost edge of Drain Pipe a minimum of 2'-0" from wall joints.
- Cost of reinforcing steel, face texture, finish, joint seal, drain pipes, drainage layer, galvanized mesh and geotextile fabric to be included in the Contract Unit Price for Concrete Class NS, Gravity Wall. Cost of concrete for Junction Slab in Scheme 3, to be included in Contract Unit Price for Concrete Traffic Railing Barrier With Junction Slab. Adjunct railings or fences to be paid for separately.

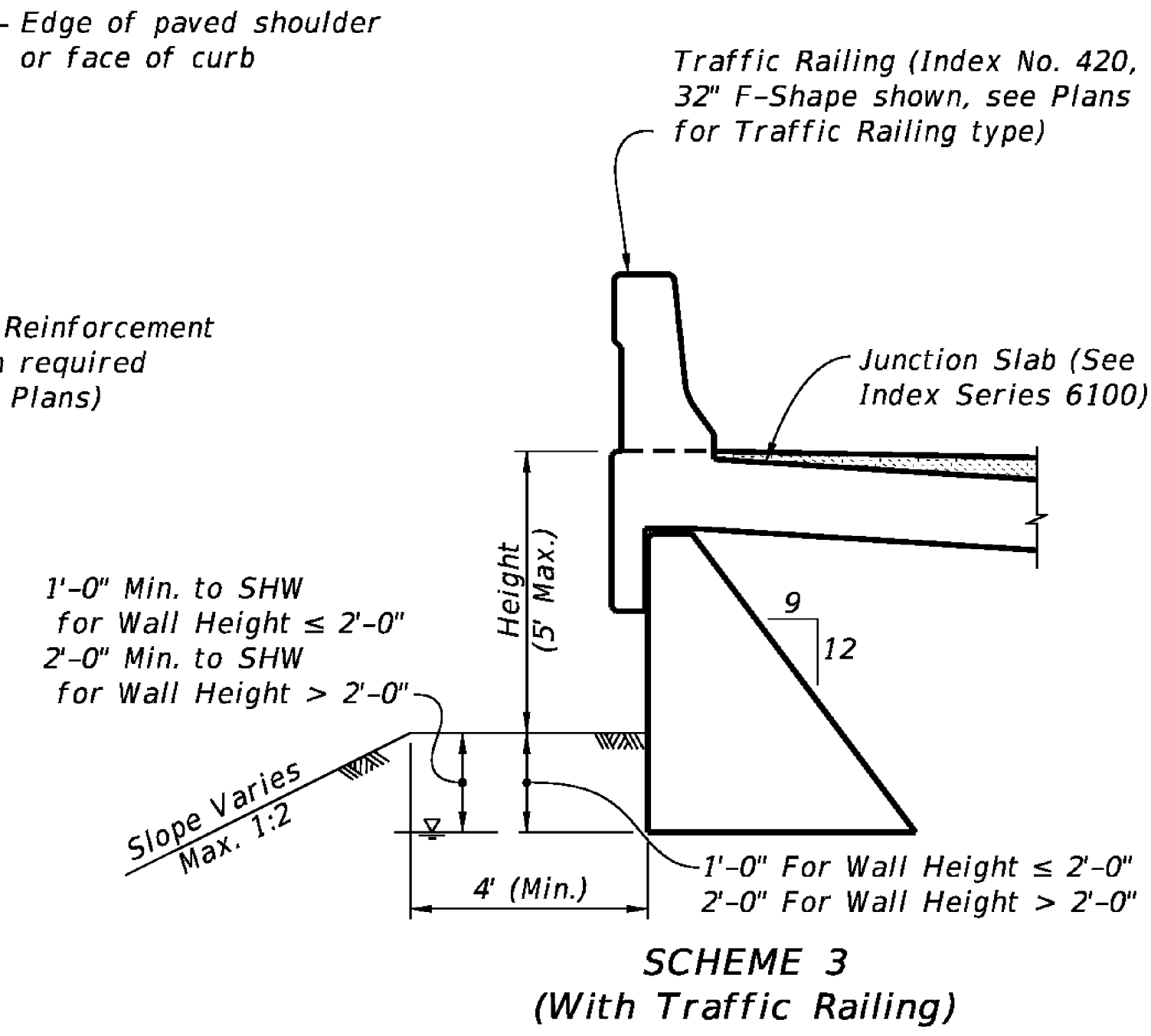
6/27/2014 1:30:42 PM



**SCHEME 1 (No Traffic Loading Effects)**



**SCHEME 2 (With Traffic Loading or Slopes > 1:1 1/2)**



**SCHEME 3 (With Traffic Railing)**

BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
A	4	As Reqd.
B	4	As Reqd.

**BAR BENDING DIAGRAM**

**NOTES:**  
 1. All bar dimensions are out to out.  
 2. Lap splices for Bars A must be a minimum of 1'-6".

LAST REVISION	DESCRIPTION
07/01/14	

**FDOT** 2015 DESIGN STANDARDS

**GRAVITY WALL**

INDEX NO.	SHEET NO.
6011	1 of 1

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
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LINE IS 2 INCHES AT FULL SIZE (IF NOT SCALE ACCORDINGLY)

**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825

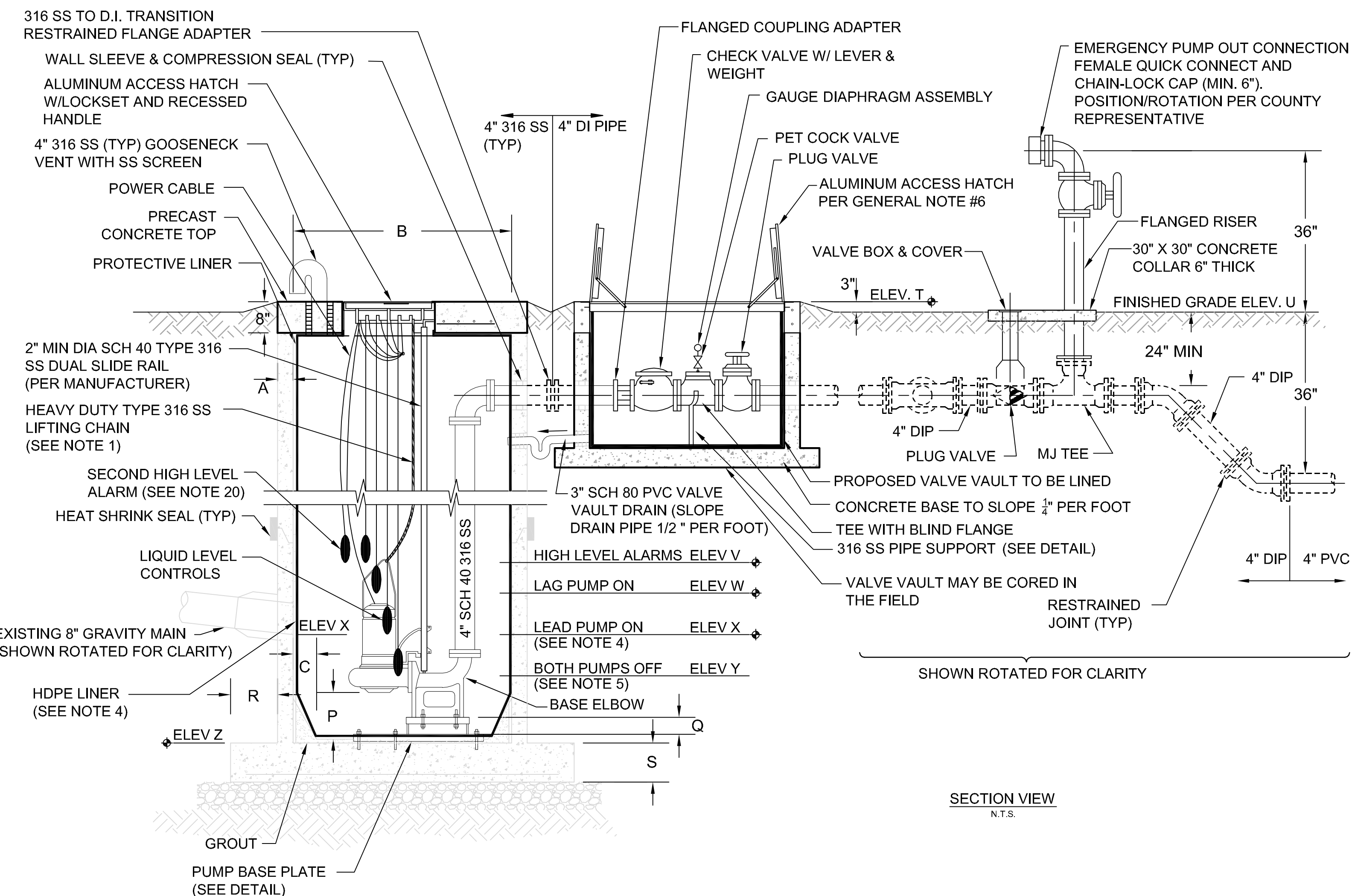
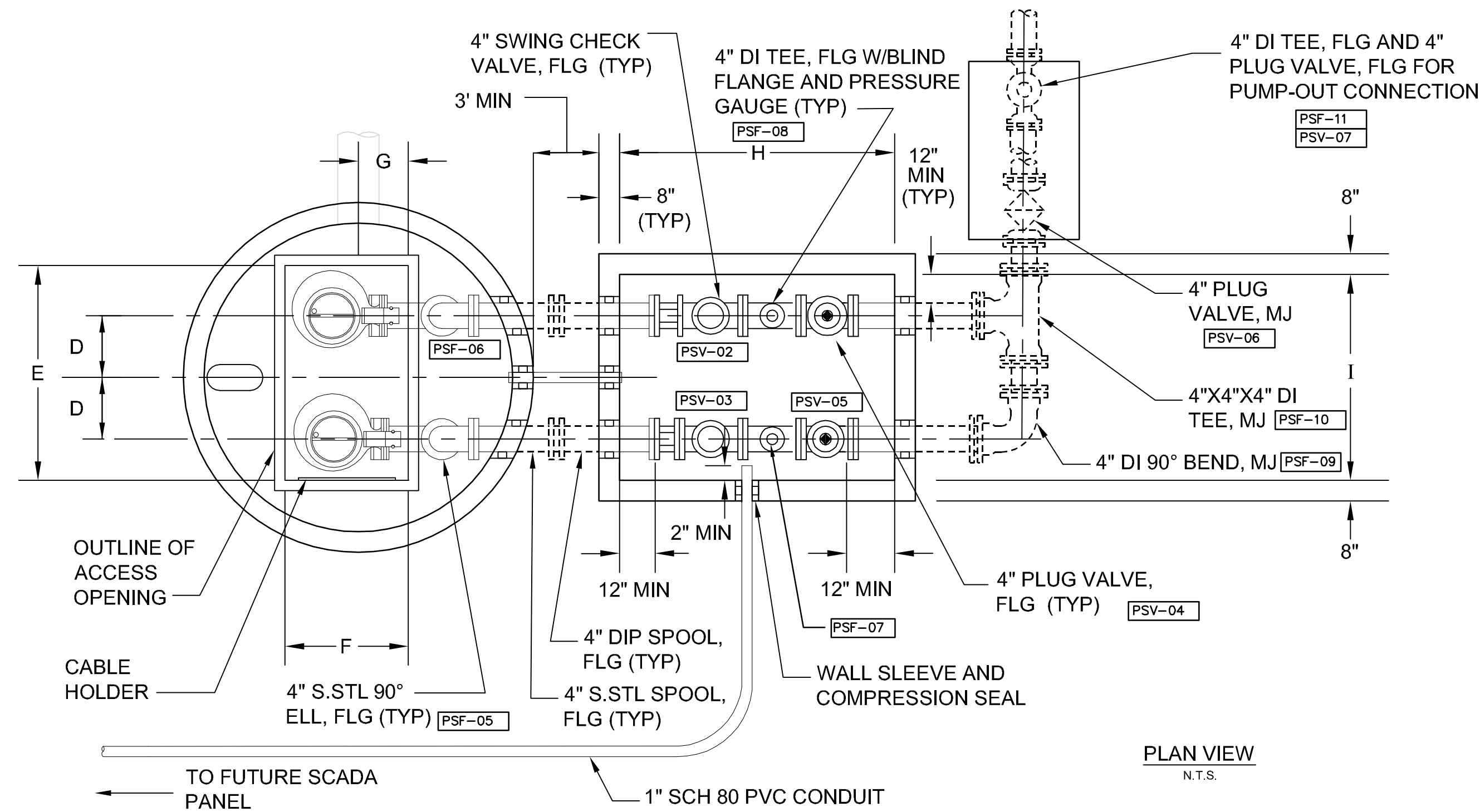
**REISS ENGINEERING, INC.**  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT WINTER SPRINGS, FL 32708 (407) 679-5358

PS #3265 - OAK MEADOW  
 FDOT INDEX 6011

BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: C303.DWG

SCALE: NOTED  
 DRAWING NO.: **C303**  
 SHEET: 14 OF 26



**GENERAL NOTES:**

- ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION), AND/OR AS SPECIFIED HEREIN.
- ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL.
- A CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE DURING THE MIXING CYCLE FOR THE WET WELL PRECAST STRUCTURES. THE CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE APPROVED PRODUCT AS LISTED IN OCU APPENDIX D.
- THE INSIDE OF THE WET WELL SHALL BE LINED WITH EITHER A HIGH DENSITY POLYETHYLENE (HDPE) LINE, A POLYPROPYLENE RANDOM COPOLYMER (PP-R) LINING SYSTEM, OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D. FINAL SEALS AND SEALING TO BE MADE IN THE FIELD.
- WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.
- WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE" STAMPED (ETCHED) ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE.
- ALL HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL.
- THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
- ALL PIPING AND CONDUIT PENETRATIONS THROUGH CONCRETE SHALL BE WATERTIGHT. CAST-IN-PLACE SLEEVES SHALL BE PLACED IN ALL OPENINGS WHERE PRESSURE PIPE ENTER OR LEAVE THE WET WELL. PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE A COMPRESSION TYPE SEAL, SUCH AS "LINK-SEAL", OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.
- ALL CONNECTIONS WITHIN THE WET WELL SHALL BE FLANGED JOINTS. ALL REMAINING JOINTS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS. (SEE TABLE ON DETAIL SHEET D100).
- ALL PIPING WITHIN THE WET WELL AND VALVE VAULT SHALL BE STAINLESS STEEL 316 SCHEDULE 40.
- PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.
- CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.
- CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING ANY MATERIALS OR EQUIPMENT.
- CONTRACTOR SHALL GROUT FLOOR OF WET WELL, AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS, TO ACCOMMODATE INSTALLATION OF THE NEW PUMPS.
- STRUCTURAL DESIGN OF THE PRECAST WET WELL, TOP SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST WET WELL, THE PRECAST WET WELL TOP AND HATCH COVER, AND RISERS, TO THE ENGINEER.
- 100-YEAR FLOOD ELEVATION: OUT OF THE 100-YEAR FLOOD ZONE.
- ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.
- A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.
- ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.

**DESIGN SPECIFICATIONS**

MANUFACTURER: FLYGT  
 MODEL: CP3102.181  
 IMP: 63-434-00-3703  
 DIA: 173 MM  
 SPEED: 1745 RPM  
 DISCHARGE SIZE: 4 IN.  
 SHUT OFF HEAD: 47 FEET TDH  
 HIGH HEAD CONDITION: 120 GPM @ 38.5 FEET TDH  
 MINIMUM HEAD CONDITION: 220 GPM @ 33.5 FEET TDH

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	6"	-
DIAMETER OF WET WELL	B	6'	-
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	-
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	-
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	-
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	-
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	-
VALVE BOX HATCH OPENING	H	6'-0"	N/A
VALVE BOX HATCH OPENING	I	4'-8"	N/A
LIP WIDTH OF WET WELL BASE	R	18"	-
THICKNESS OF WET WELL BASE	S	12"	-
TOP OF WET WELL/SLAB	T	-	130.40
INFLUENT PIPE INVERT	U	8"	119.97
HIGH LEVEL ALARMS	V	-	117.25
LAG PUMP ON	W	-	116.75
LEAD PUMP ON	X	-	116.25
PUMPS OFF	Y	-	114.77
BOTTOM OF PUMP TO FLOOR OF WET WELL	P	-	-
STEP HEIGHT (IF REQUIRED)	Q	-	-
FLOOR OF WET WELL	Z	-	113.27

- NOTES:  
 1. PER PUMP MANUFACTURER'S REQUIREMENTS  
 2. DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.  
 3. ELEVATION X - ELEVATION Z ≥ 5 FEET  
 4. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.  
 5. SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS.

**DESIGN SPECIFICATIONS**

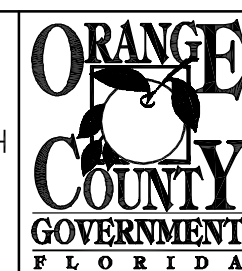
MANUFACTURER: ABS  
 MODEL: XFP  
 IMP: 100E CB1  
 DIA: 7.28 IN.  
 SPEED: 1770 RPM  
 DISCHARGE SIZE: 4 IN.  
 SHUT OFF HEAD: 57 FEET TDH  
 HIGH HEAD CONDITION: 152 GPM @ 44 FEET TDH  
 MINIMUM HEAD CONDITION: 240 GPM @ 38.9 FEET TDH

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	6"	-
DIAMETER OF WET WELL	B	6'	-
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	-
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	-
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	-
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	-
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	-
VALVE BOX HATCH OPENING	H	6'-0"	N/A
VALVE BOX HATCH OPENING	I	4'-8"	N/A
LIP WIDTH OF WET WELL BASE	R	18"	-
THICKNESS OF WET WELL BASE	S	12"	-
TOP OF WET WELL/SLAB	T	-	130.40
INFLUENT PIPE INVERT	U	8"	119.97
HIGH LEVEL ALARMS	V	-	117.25
LAG PUMP ON	W	-	116.75
LEAD PUMP ON	X	-	116.25
PUMPS OFF	Y	-	114.77
BOTTOM OF PUMP TO FLOOR OF WET WELL	P	-	-
STEP HEIGHT (IF REQUIRED)	Q	-	-
FLOOR OF WET WELL	Z	-	113.27

- NOTES:  
 1. PER PUMP MANUFACTURER'S REQUIREMENTS  
 2. DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.  
 3. ELEVATION X - ELEVATION Z ≥ 5 FEET  
 4. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.  
 5. SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



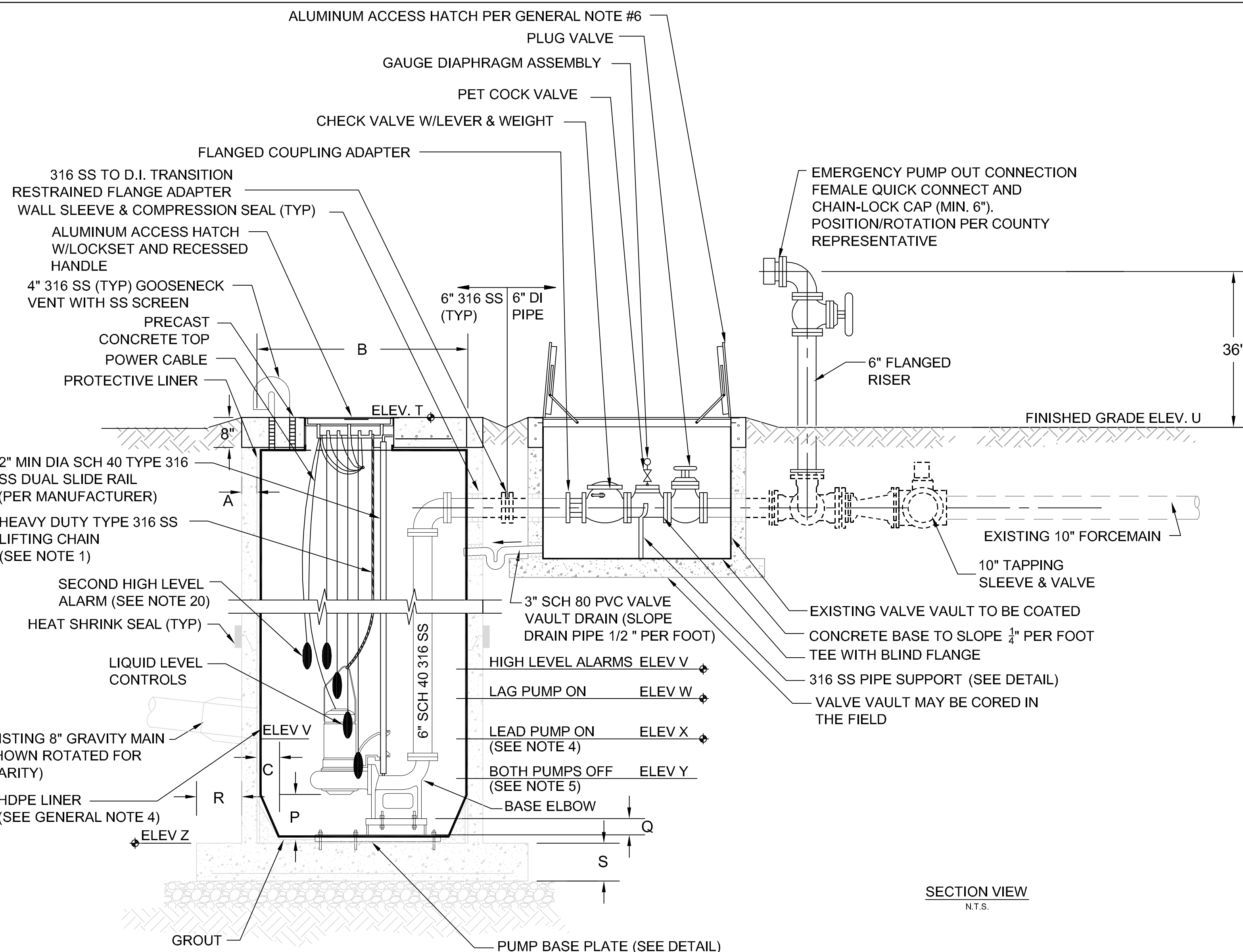
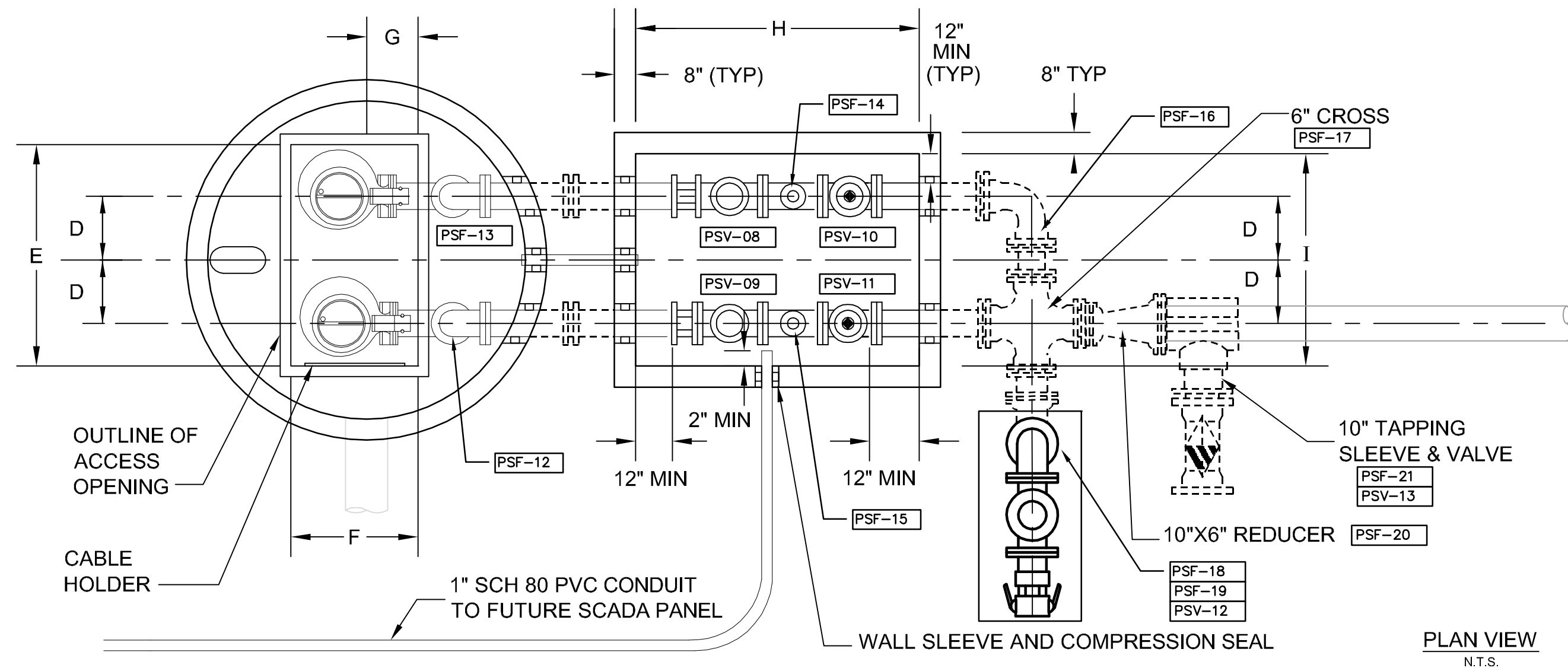
REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PS #3391 - N ORLANDO INDUSTRIAL PARK PUMP PLAN, SECTION & DETAIL**

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: E100.DWG

SCALE: NOTED  
 DRAWING NO.: **P100**  
 SHEET: 15 OF 26

BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588



**GENERAL NOTES:**

- ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION), AND/OR AS SPECIFIED HEREIN.
- ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL.
- A CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE DURING THE MIXING CYCLE FOR THE WET WELL PRECAST STRUCTURES. THE CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE APPROVED PRODUCT AS LISTED IN OCU APPENDIX D.
- THE INSIDE OF THE WET WELL SHALL BE LINED WITH EITHER A HIGH DENSITY POLYETHYLENE (HDPE) LINE, A POLYPROPYLENE RANDOM COPOLYMER (PP-R) LINING SYSTEM, OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D. FINAL SEALS AND SEALING TO BE MADE IN THE FIELD.
- WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.
- WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE" STAMPED (ETCHED) ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE.
- ALL HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL.
- THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
- ALL PIPING AND CONDUIT PENETRATIONS THROUGH CONCRETE SHALL BE WATERTIGHT. CAST-IN-PLACE SLEEVES SHALL BE PLACED IN ALL OPENINGS WHERE PRESSURE PIPE ENTER OR LEAVE THE WET WELL. PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE A COMPRESSION TYPE SEAL, SUCH AS "LINK-SEAL", OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.
- ALL CONNECTIONS WITHIN THE WET WELL SHALL BE FLANGED JOINTS. ALL REMAINING JOINTS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS. (SEE TABLE ON DETAIL SHEET D100).
- ALL PIPING WITHIN THE WET WELL AND VALVE VAULT SHALL BE STAINLESS STEEL 316 SCHEDULE 40.
- PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.
- CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.
- CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING ANY MATERIALS OR EQUIPMENT.
- CONTRACTOR SHALL GROUT FLOOR OF WET WELL, AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS, TO ACCOMMODATE INSTALLATION OF THE NEW PUMPS.
- STRUCTURAL DESIGN OF THE PRECAST WET WELL, TOP SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST WET WELL, THE PRECAST WET WELL TOP AND HATCH COVER, AND RISERS, TO THE ENGINEER.
- 100-YEAR FLOOD ELEVATION: OUT OF THE 100-YEAR FLOOD ZONE.
- ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.
- A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.
- ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.

**DESIGN SPECIFICATIONS**

MANUFACTURER: FLYGT  
 MODEL: GP3152.181  
 IMP: 63-454-00-5350  
 DIA: 275 MM.  
 SPEED: 1750 RPM  
 DISCHARGE SIZE: 6 IN  
 SHUT OFF HEAD: 127 FEET TDH  
 HIGH HEAD CONDITION: 330 GPM AT 98 FEET TDH  
 MINIMUM HEAD CONDITION: 590 GPM AT 79 FEET TDH

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	EXISTING	—
DIAMETER OF WET WELL	B	8'	—
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	—
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	—
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	—
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	—
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	—
VALVE BOX HATCH OPENING	H	8'-0"	83.48
VALVE BOX HATCH OPENING	I	6'-0"	83.48
LIP WIDTH OF WETWELL BASE	R	EXISTING	—
THICKNESS OF WETWELL BASE	S	EXISTING	—
TOP OF WET WELL	T	—	83.48
FINISHED GRADE	U	—	83.40
INFLUENT PIPE INVERT	V	—	68.63
HIGH LEVEL ALARMS	V	—	66.32
LAG PUMP ON	W	—	65.82
LEAD PUMP ON	X	—	65.32
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	—	62.97
BOTTOM OF PUMP TO FLOOR OF WET WELL	P	—	—
STEP HEIGHT (IF REQUIRED)	Q	—	—
FLOOR OF WET WELL	Z	—	61.47

- NOTES:
- PER PUMP MANUFACTURER'S REQUIREMENTS
  - DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.
  - ELEVATION X - ELEVATION Z ≥ 5 FEET
  - TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.
  - SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS.

**DESIGN SPECIFICATIONS**

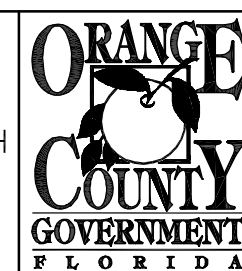
MANUFACTURER: ABS  
 MODEL: XFP  
 IMP: 100G CB1  
 DIA: 10.6 IN.  
 SPEED: 1770 RPM  
 DISCHARGE SIZE: 4" IN  
 SHUT OFF HEAD: 142 FEET TDH  
 HIGH HEAD CONDITION: 450 GPM AT 104.5 FEET TDH  
 MINIMUM HEAD CONDITION: 735 GPM AT 90 FEET TDH

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	EXISTING	—
DIAMETER OF WET WELL	B	8'	—
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	—
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	—
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	—
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	—
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	—
VALVE BOX HATCH OPENING	H	8'-0"	83.48
VALVE BOX HATCH OPENING	I	6'-0"	83.48
LIP WIDTH OF WETWELL BASE	R	EXISTING	—
THICKNESS OF WETWELL BASE	S	EXISTING	—
TOP OF WET WELL	T	—	83.48
FINISHED GRADE	U	—	83.40
INFLUENT PIPE INVERT	V	—	68.63
HIGH LEVEL ALARMS	V	—	66.32
LAG PUMP ON	W	—	65.82
LEAD PUMP ON / INFLUENT PIPE INVERT	X	—	65.32
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	—	62.97
BOTTOM OF PUMP TO FLOOR OF WET WELL	P	—	—
STEP HEIGHT (IF REQUIRED)	Q	—	—
FLOOR OF WET WELL	Z	—	61.47

- NOTES:
- PER PUMP MANUFACTURER'S REQUIREMENTS
  - DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.
  - ELEVATION X - ELEVATION Z ≥ 5 FEET
  - TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.
  - SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

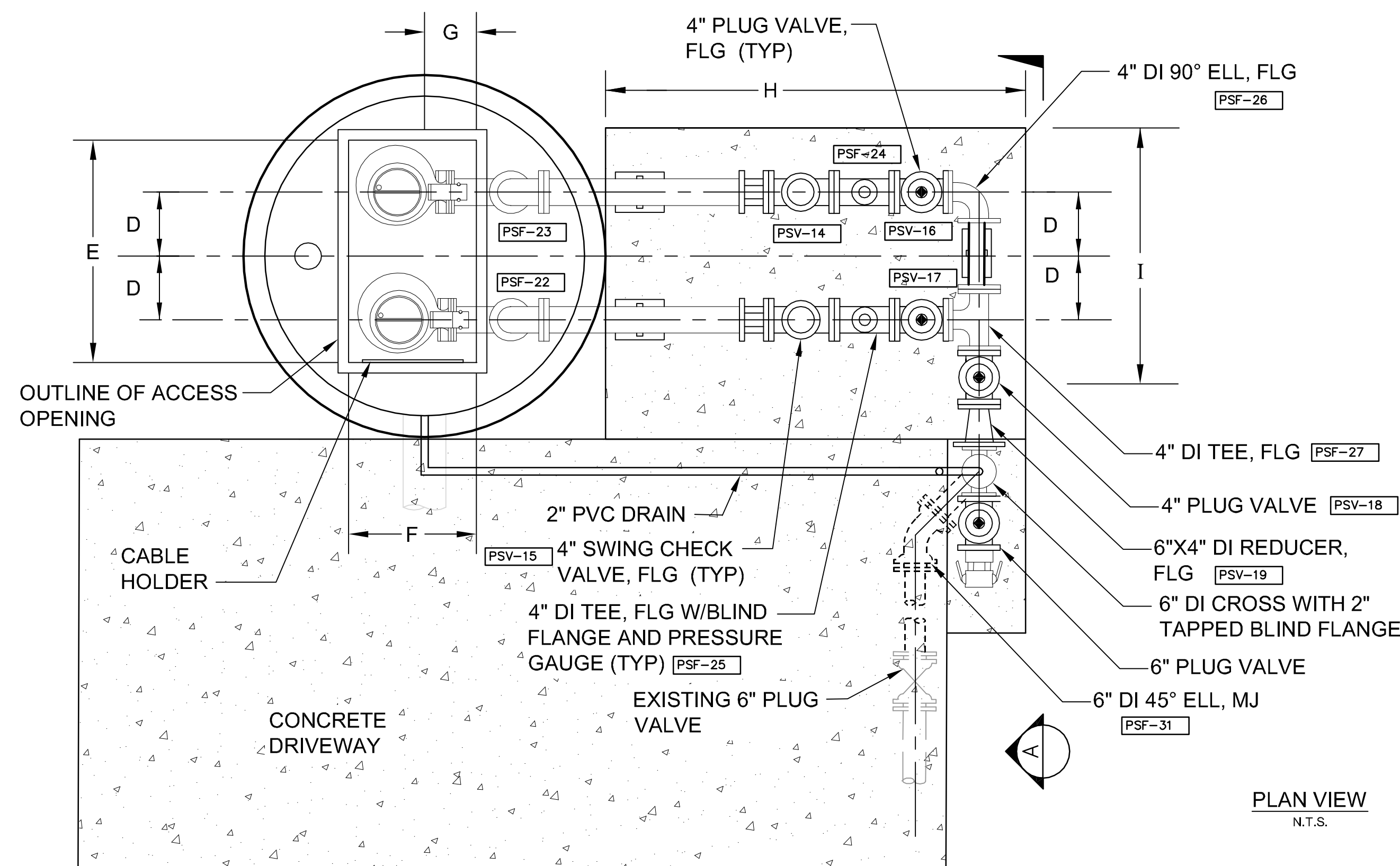
**PS #3676 - COUNTRY RUN PUMP PLAN, SECTION & DETAIL**

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: E200.DWG

SCALE: NOTED  
 DRAWING NO.: **P200**  
 SHEET: 16 OF 26

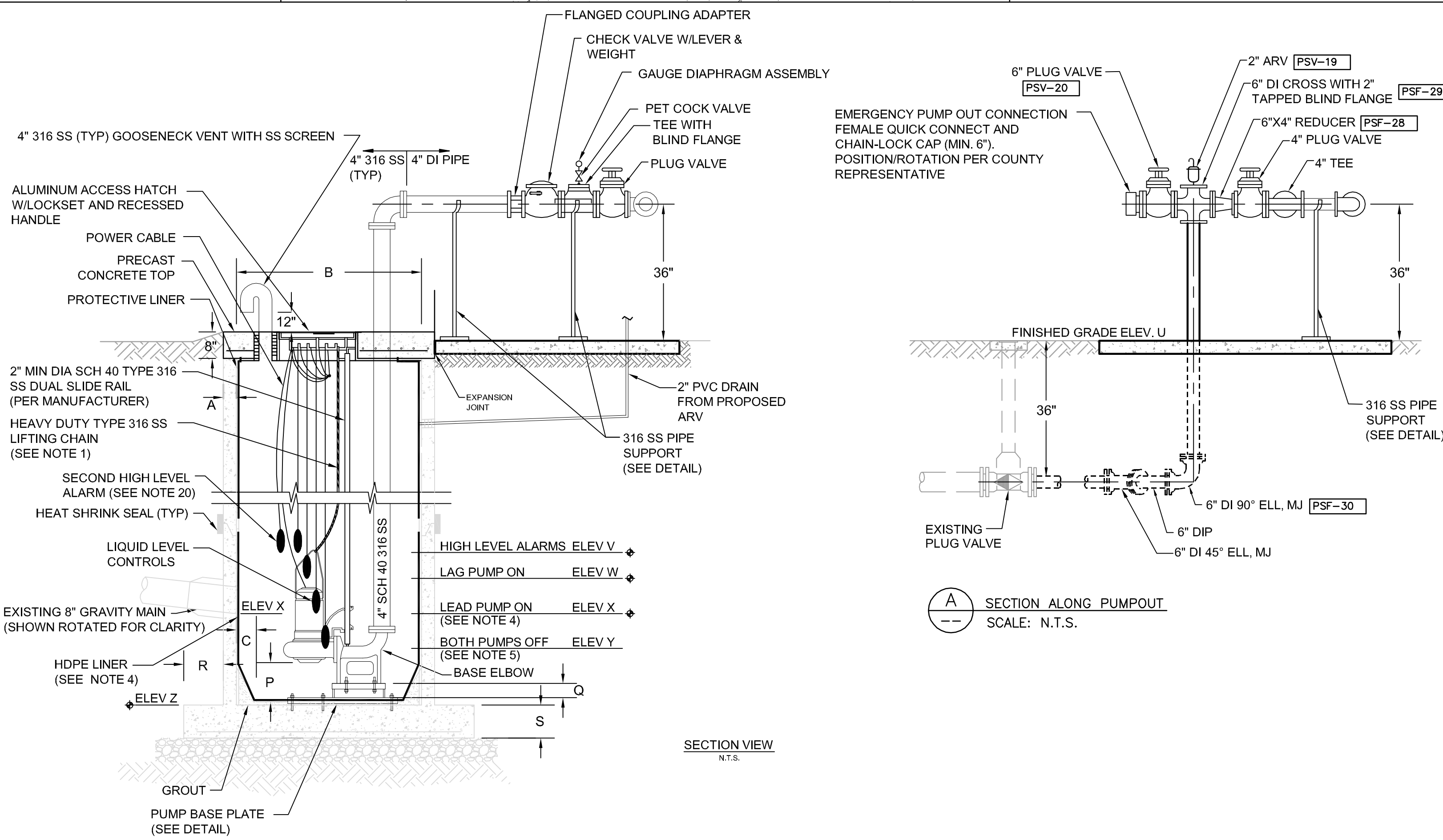
BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588





**GENERAL NOTES:**

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND SPECIFICATIONS MANUAL (LATEST EDITION), AND/OR AS SPECIFIED HEREIN.
2. ALL EXPOSED METAL OUTSIDE OF THE WET WELL SHALL BE PRIMED AND PAINTED IN ACCORDANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL.
3. A CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE ADDED TO THE CONCRETE DURING THE MIXING CYCLE FOR THE WET WELL PRECAST STRUCTURES. THE CRYSTALLINE WATER PROOFING ADMIXTURE SHALL BE APPROVED PRODUCT AS LISTED IN OCU APPENDIX D.
4. THE INSIDE OF THE WET WELL SHALL BE LINED WITH EITHER A HIGH DENSITY POLYETHYLENE (HDPE) LINE, A POLYPROPELENE RANDOM COPOLYMER (PP-R) LINING SYSTEM, OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D. FINAL SEALS AND SEALING TO BE MADE IN THE FIELD.
5. WET WELL ACCESS OPENING SHALL BE COVERED ON ALL FOUR VERTICAL SIDES WITH A PROTECTIVE LINER.
6. WET WELL ACCESS HATCH AND COVER SHALL BE ALUMINUM, WITH 316 STAINLESS STEEL HARDWARE AND LOCK BRACKET PLATE WITH THE WORDS "CONFINED SPACE" STAMPED (ETCHED) ON THE TOP SIDE. EACH DOOR WILL BE EQUIPPED WITH RECESSED HASP ENCLOSURE.
7. ALL HARDWARE IN THE WET WELL SHALL BE 316 STAINLESS STEEL.
8. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
9. ALL PIPING AND CONDUIT PENETRATIONS THROUGH CONCRETE SHALL BE WATERTIGHT. CAST-IN-PLACE SLEEVES SHALL BE PLACED IN ALL OPENINGS WHERE PRESSURE PIPE ENTER OR LEAVE THE WET WELL. PENETRATIONS THROUGH WET WELL AND VALVE VAULT SHALL BE A COMPRESSION TYPE SEAL, SUCH AS "LINK-SEAL", OR AN ACCEPTABLE EQUAL AS LISTED IN OCU APPENDIX D.
10. ALL CONNECTIONS WITHIN THE WET WELL SHALL BE FLANGED JOINTS. ALL REMAINING JOINTS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS. (SEE TABLE ON DETAIL SHEET D100).
11. ALL PIPING WITHIN THE WET WELL AND VALVE VAULT SHALL BE STAINLESS STEEL 316 SCHEDULE 40.
12. PIPE SUPPORTS SHALL BE 316 STAINLESS STEEL, PROVIDED AND INSTALLED TO SUPPORT AND ANCHOR THE PIPING SECURELY IN THE VALVE VAULT.
13. CONTRACTOR SHALL, AS DIRECTED BY THE COUNTY REPRESENTATIVE, REMOVE AND SALVAGE TO THE COUNTY, ALL EXISTING PUMP STATION EQUIPMENT, INCLUDING PUMPS, CHECK VALVES, SHUTOFF VALVES, AND CONTROL PANEL.
14. CONTRACTOR SHALL DEMOLISH AND REMOVE FROM SITE ALL DEBRIS RESULTING FROM THE REMOVAL OF THE EXISTING STRUCTURES.
15. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING ANY MATERIALS OR EQUIPMENT.
16. CONTRACTOR SHALL GROUT FLOOR OF WET WELL, AS REQUIRED BY MANUFACTURER'S SPECIFICATIONS, TO ACCOMMODATE INSTALLATION OF THE NEW PUMPS.
17. STRUCTURAL DESIGN OF THE PRECAST WET WELL, TOP SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST WET WELL, THE PRECAST WET WELL TOP AND HATCH COVER, AND RISERS, TO THE ENGINEER.
18. 100-YEAR FLOOD ELEVATION: OUT OF THE 100-YEAR FLOOD ZONE.
19. ALL EXTERNAL JOINTS SHALL BE COVERED WITH A HIGH STRENGTH, WATER TIGHT, PRESS-TO-SEAL TYPE TAPE/AS LISTED IN OCU APPENDIX D.
20. A SECOND HIGH LEVEL ALARM LIQUID FLOAT SHALL BE INSTALLED TO PROVIDE DRY CONTACT FOR SCADA. REFER TO PUMP CONTROL SCHEMATIC.
21. ALL SPOOLS SHALL BE MINIMUM OF SIX INCHES WHERE SPACE ALLOWS.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALIGNMENT FROM THE BASE PLATE TO THE RISER PLATE AT NO EXTRA COST TO OCU.



DESIGN SPECIFICATIONS				DESIGN SPECIFICATIONS			
MANUFACTURER: FLYGT	VOLTAGE: 230V	MANUFACTURER: ABS	VOLTAGE: 230V	MANUFACTURER: ABS	VOLTAGE: 230V	MANUFACTURER: ABS	VOLTAGE: 230V
MODEL: CP3127.181	PHASE: 3	MODEL: XFP	PHASE: 3	MODEL: XFP	PHASE: 3	MODEL: XFP	PHASE: 3
IMP: 63-485-00-2202	H.P.: 7.5	IMP: 100E CB1	H.P.: 7.5	IMP: 100E CB1	H.P.: 7.5	IMP: 100E CB1	H.P.: 7.5
DIA: 200 MM.	MAX. SOLID SIZE (3 IN MIN): 3.0 IN	DIA: 7.68 IN.	MAX. SOLID SIZE (3 IN MIN): 3.15 IN	DIA: 7.68 IN.	MAX. SOLID SIZE (3 IN MIN): 3.15 IN	DIA: 7.68 IN.	MAX. SOLID SIZE (3 IN MIN): 3.15 IN
SPEED: 1740 RPM	CURVE NUMBER: 63-485-00-2202	SPEED: 1760 RPM	CURVE NUMBER: PE56/4-E-60HZ	SPEED: 1760 RPM	CURVE NUMBER: PE56/4-E-60HZ	SPEED: 1760 RPM	CURVE NUMBER: PE56/4-E-60HZ
DISCHARGE SIZE: 4 IN		DISCHARGE SIZE: 4 IN		DISCHARGE SIZE: 4 IN		DISCHARGE SIZE: 4 IN	
SHUT OFF HEAD: 72.5 FEET TDH		SHUT OFF HEAD: 62.5 FEET TDH		SHUT OFF HEAD: 62.5 FEET TDH		SHUT OFF HEAD: 62.5 FEET TDH	
HIGH HEAD CONDITION: 240 GPM AT 44 FEET TDH		HIGH HEAD CONDITION: 275 GPM AT 46.7 FEET TDH		HIGH HEAD CONDITION: 275 GPM AT 46.7 FEET TDH		HIGH HEAD CONDITION: 275 GPM AT 46.7 FEET TDH	
MINIMUM HEAD CONDITION: 260 GPM AT 42.5 FEET TDH		MINIMUM HEAD CONDITION: 298 GPM AT 45.5 FEET TDH		MINIMUM HEAD CONDITION: 298 GPM AT 45.5 FEET TDH		MINIMUM HEAD CONDITION: 298 GPM AT 45.5 FEET TDH	
DESCRIPTION	SYMBOL	DIMENSION	ELEVATION	DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	EXISTING	-	THICKNESS OF WALL	A	EXISTING	-
DIAMETER OF WET WELL	B	6'	-	DIAMETER OF WET WELL	B	6'	-
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	-	WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	-
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	-	C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	-
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	-	LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	-
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	-	WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	-
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	-	CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	-
CONCRETE SLAB LENGTH	H	4'-6"	-	CONCRETE SLAB LENGTH	H	4'-6"	-
CONCRETE SLAB WIDTH	I	6'	-	CONCRETE SLAB WIDTH	I	6'	-
LIP WIDTH OF WETWELL BASE	R	6"	-	LIP WIDTH OF WETWELL BASE	R	6"	-
THICKNESS OF WETWELL BASE	S	12"	-	THICKNESS OF WETWELL BASE	S	12"	-
TOP OF WET WELL	T	-	88.93	TOP OF WET WELL	T	-	88.93
FINISHED GRADE	U	-	88.75	FINISHED GRADE	U	-	88.75
INFLUENT PIPE INVERT		-	80.53	INFLUENT PIPE INVERT		-	80.53
HIGH LEVEL ALARMS	V	-	79.74	HIGH LEVEL ALARMS	V	-	79.74
LAG PUMP ON	W	-	79.24	LAG PUMP ON	W	-	79.24
LEAD PUMP ON	X	-	78.74	LEAD PUMP ON	X	-	78.74
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	-	75.78	PUMPS OFF (TOP OF PUMP VOLUTE)	Y	-	75.78
BOTTOM OF PUMP TO FLOOR OF WET WELL	P	-	-	BOTTOM OF PUMP TO FLOOR OF WET WELL	P	-	-
STEP HEIGHT (IF REQUIRED)	Q	-	-	STEP HEIGHT (IF REQUIRED)	Q	-	-
FLOOR OF WET WELL	Z	-	74.28	FLOOR OF WET WELL	Z	-	74.28

- NOTES:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
  2. DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.
  3. ELEVATION X - ELEVATION Z ≥ 5 FEET
  4. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.
  5. SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS THIS SHEET.

- NOTES:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
  2. DIMENSION P AND ELEVATIONS Y AND Z MUST MEET BOTH FLYGT AND ABS REQUIREMENTS.
  3. ELEVATION X - ELEVATION Z ≥ 5 FEET
  4. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.
  5. SYMBOLS SHOWN IN TABLE ARE USED ON SECTION DRAWINGS ON THIS SHEET.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT SCALE ACCORDINGLY)

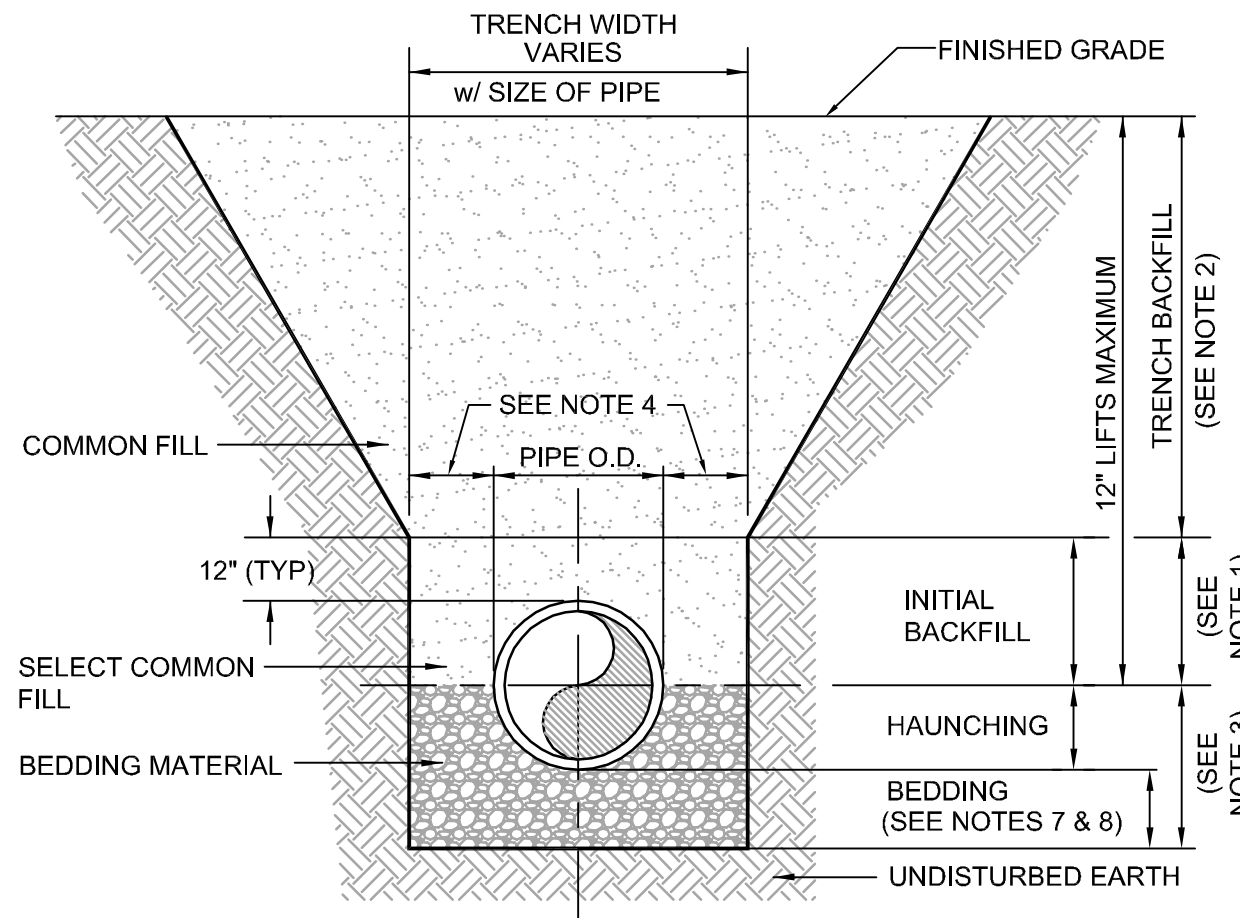
**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825

**REISS ENGINEERING, INC.**  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

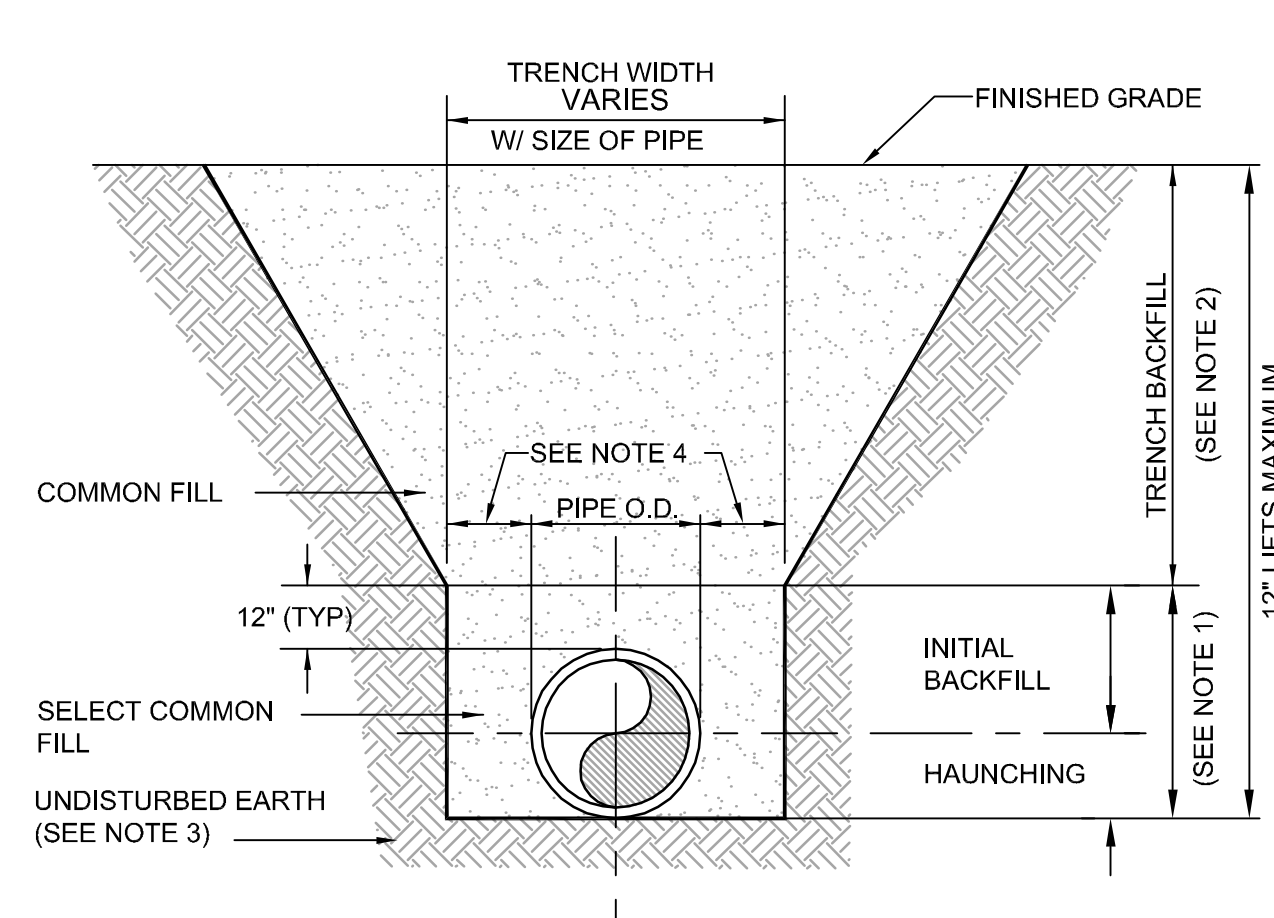
**PS #3265 - OAK MEADOW PUMP PLAN, SECTION & DETAIL**

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: C303.DWG

SCALE: NOTED  
 DRAWING NO.: **P300**  
 SHEET: 17 OF 26



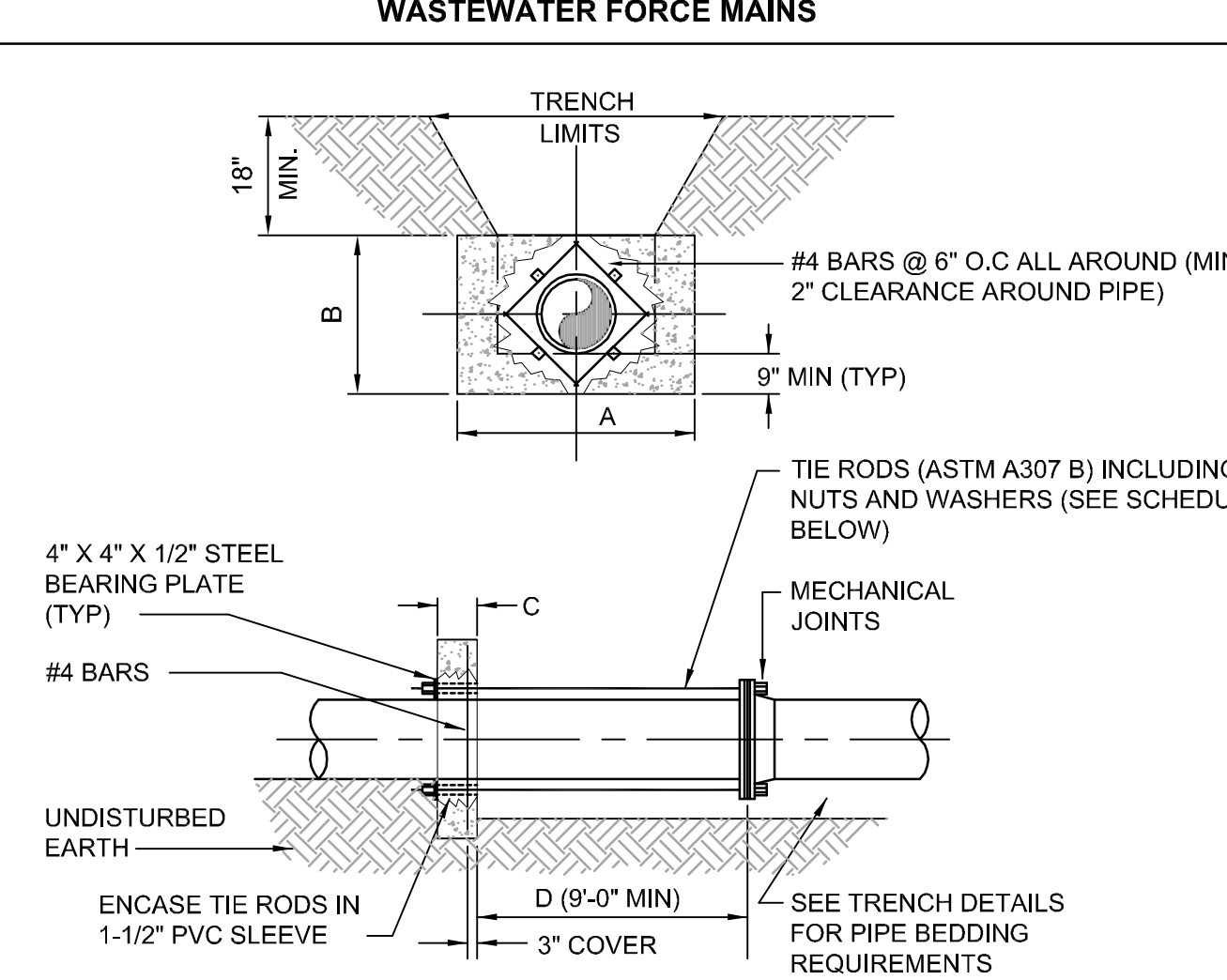
- NOTES:
- INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
  - 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
  - WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  - ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  - BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
  - DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
  - FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF R/W UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.



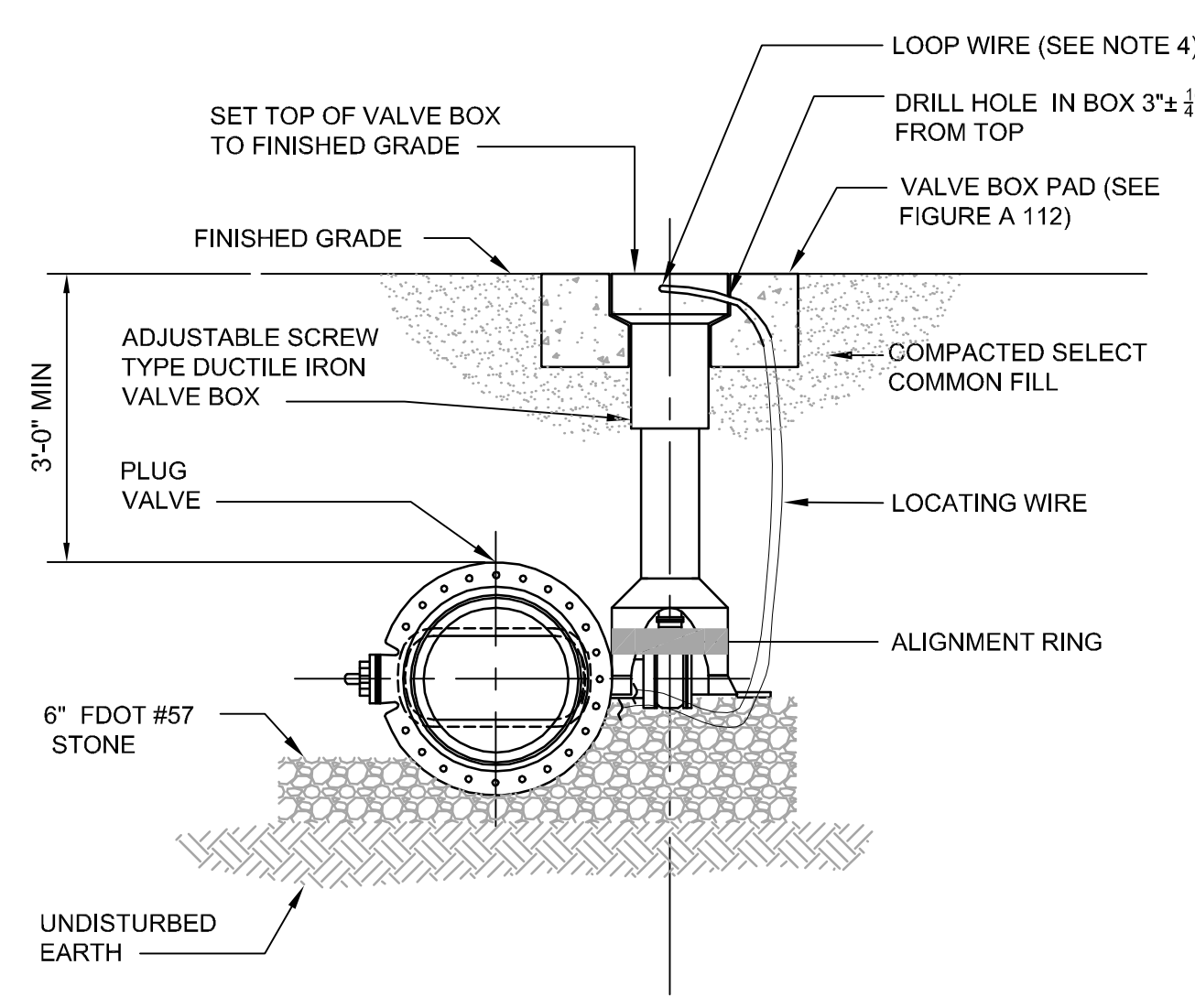
- NOTES:
- INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  - PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
  - 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
  - WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  - ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  - FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TYPE	PVC PIPE SIZE									
	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
90° BEND	18	24	31	38	43	55	65	75	88	100
45° BEND	8	10	13	15	18	23	26	31	38	43
22-1/2° BEND	4	5	6	8	9	11	13	15	18	20
11-1/4° BEND	2	3	4	5	6	8	9	10	11	13
PLUG OR BRANCH OF TEE	38	50	65	79	90	117	139	163	194	223
VALVE	19	25	32	40	45	59	70	82	98	112
REDUCER	VARIES BY SIZE; TO BE DETERMINED BY THE DESIGN ENGINEER.									

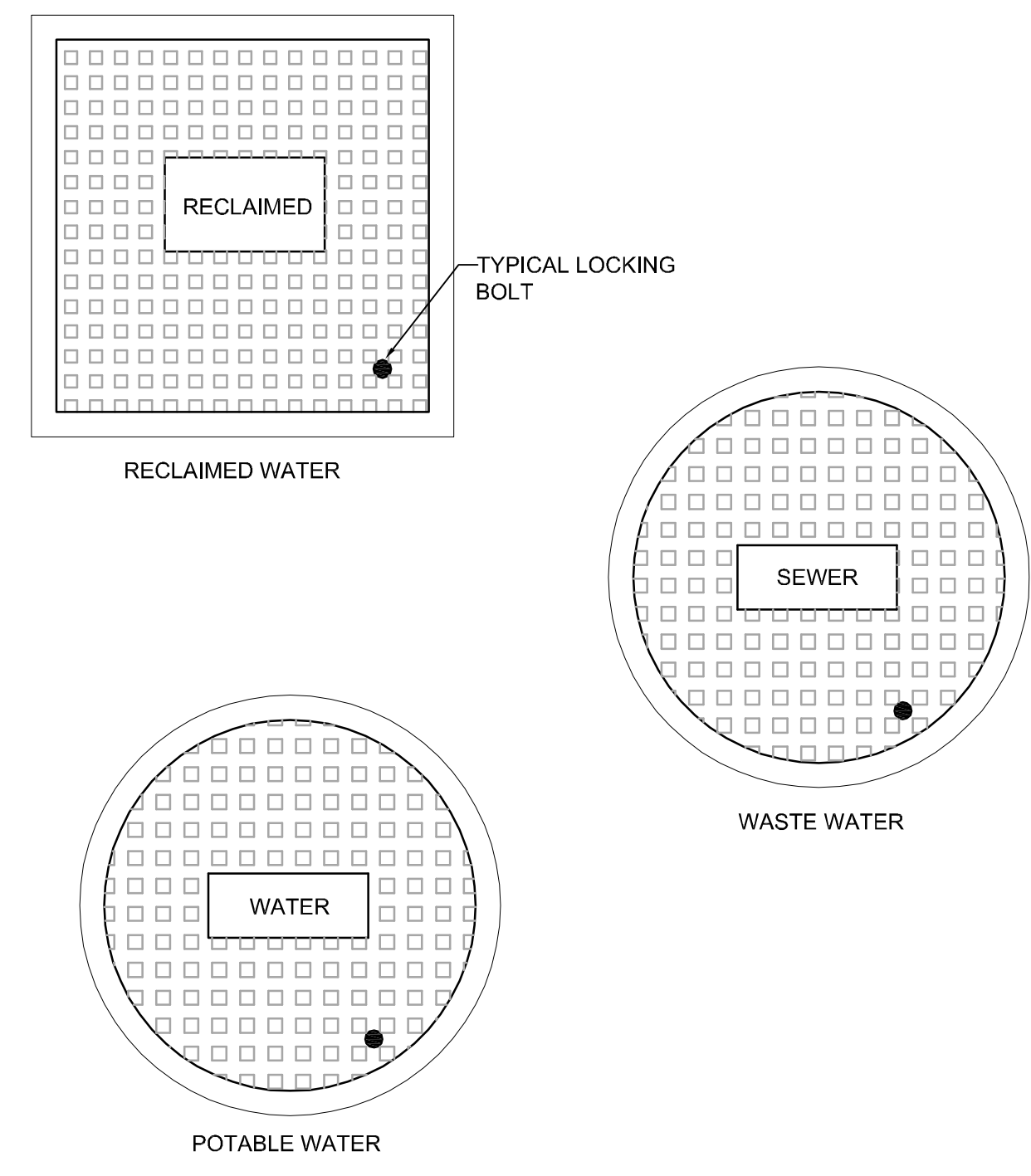
- NOTES:
- FITTINGS SHALL HAVE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
  - INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN LENGTH SHOWN IN THE TABLE.
  - WHERE TWO OR MORE FITTINGS ARE IN SERIES, SELECT FITTING RESTRAINT LENGTH THAT YIELDS THE LONGEST RESTRAINT DISTANCE.
  - ALL IN-LINE VALVES SHALL BE RESTRAINED.
  - WHERE INTERNAL RESTRAINED JOINTS ARE USED, THE ENTIRE BELL SHALL BE PAINTED RED.
  - LENGTHS SHOWN IN THE TABLE WERE CALCULATED IN ACCORDANCE WITH PROCEDURES OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" GUIDELINES PUBLISHED BY DIPRA, USING THE ASSUMPTIONS SHOWN BELOW:
- WORKING PRESSURE: 100 PSI  
 SOIL DESIGNATION: SM (SAND SILT)  
 LAYING CONDITIONS: 3  
 DEPTH OF COVER: 3 FT  
 SAFETY FACTOR: 1.5  
 CONVERSION FACTOR FOR PVC PIPE: 1.25
- THE DESIGN ENGINEER SHALL INCREASE THE VALUES IN THE TABLE AS WARRANTED BY SITE-SPECIFIC PARAMETERS, SUCH AS SOIL DESIGNATIONS AND LAYING CONDITIONS.



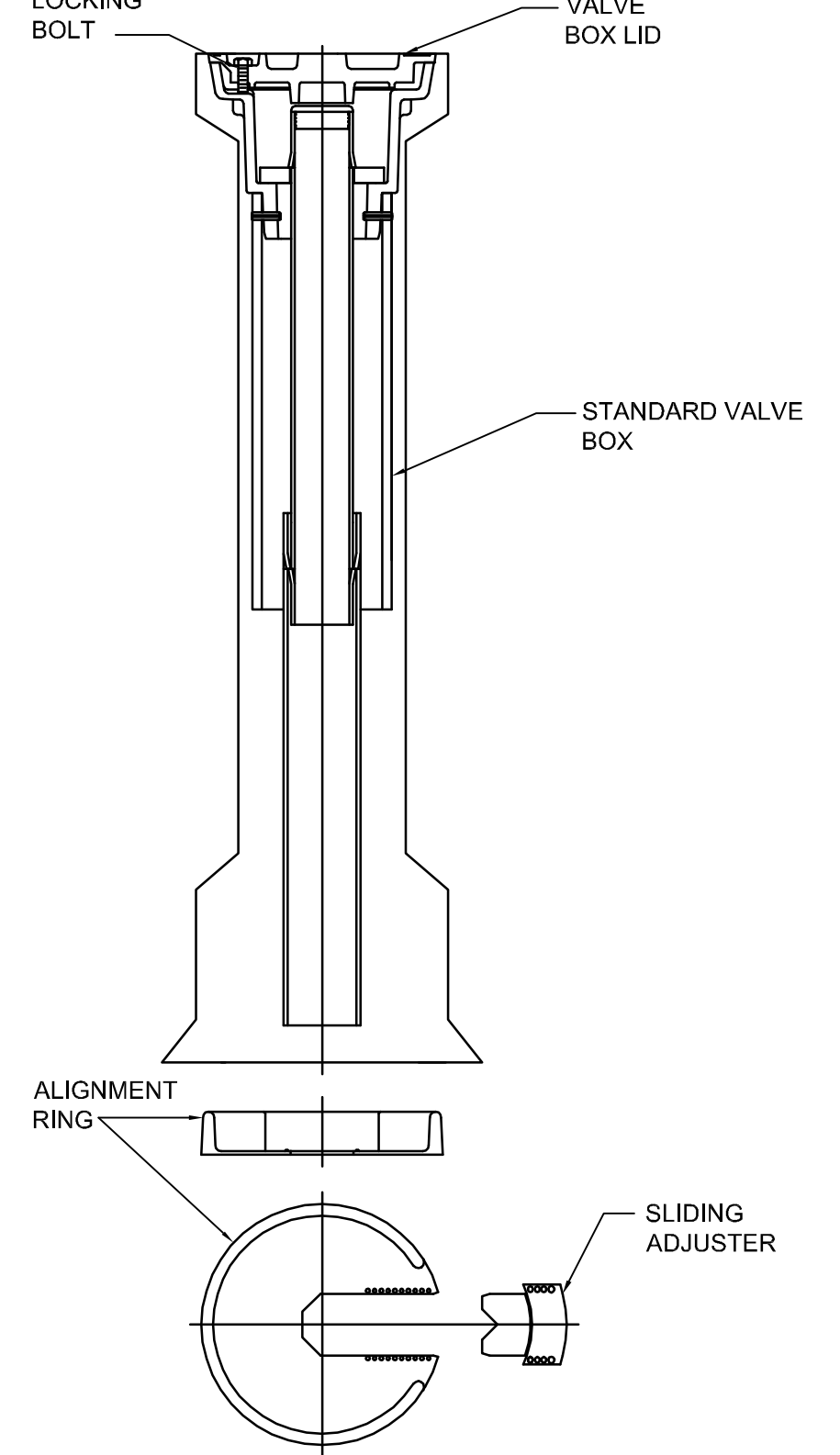
- NOTES:
- ADDITIONAL REINFORCEMENTS SHALL BE AS SPECIFIED BY THE ENGINEER.
  - MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 3000 PSI.
  - BEDDING, BACKFILL, AND COMPACTION SHALL BE AS SPECIFIED ELSEWHERE IN THE STANDARD DRAWINGS.
  - ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILL.
  - NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL AND THE THRUST COLLAR.
  - DESIGN PRESSURE: 100 PSI.
  - REQUIRED FOR LINE STOPS.
- | PIPE SIZE (INCHES) | DIMENSIONS (FT.) |     |     |   | TIE RODS REQ'D |     |
|--------------------|------------------|-----|-----|---|----------------|-----|
|                    | A                | B   | C   | D | DIA.           | NO. |
| 6                  | 2.0              | 2.0 | 1.0 |   | 3/4            | 2   |
| 8                  | 2.5              | 2.5 | 1.0 |   | 3/4            | 2   |
| 10                 | 3.0              | 2.5 | 1.0 |   | 3/4            | 4   |
| 12                 | 4.0              | 3.0 | 1.0 |   | 3/4            | 4   |
| 16                 | 5.5              | 3.5 | 1.5 |   | 3/4            | 4   |
| 20                 | 7.5              | 4.0 | 1.5 |   | 3/4            | 4   |
| 24                 | 8.5              | 5.0 | 1.5 |   | 3/4            | 6   |
- NOTE: THRUST COLLAR AREAS TO BE COMPUTED ON BASIS OF 2000 LBS/SQ. SOIL RESTRAINT BEARING.



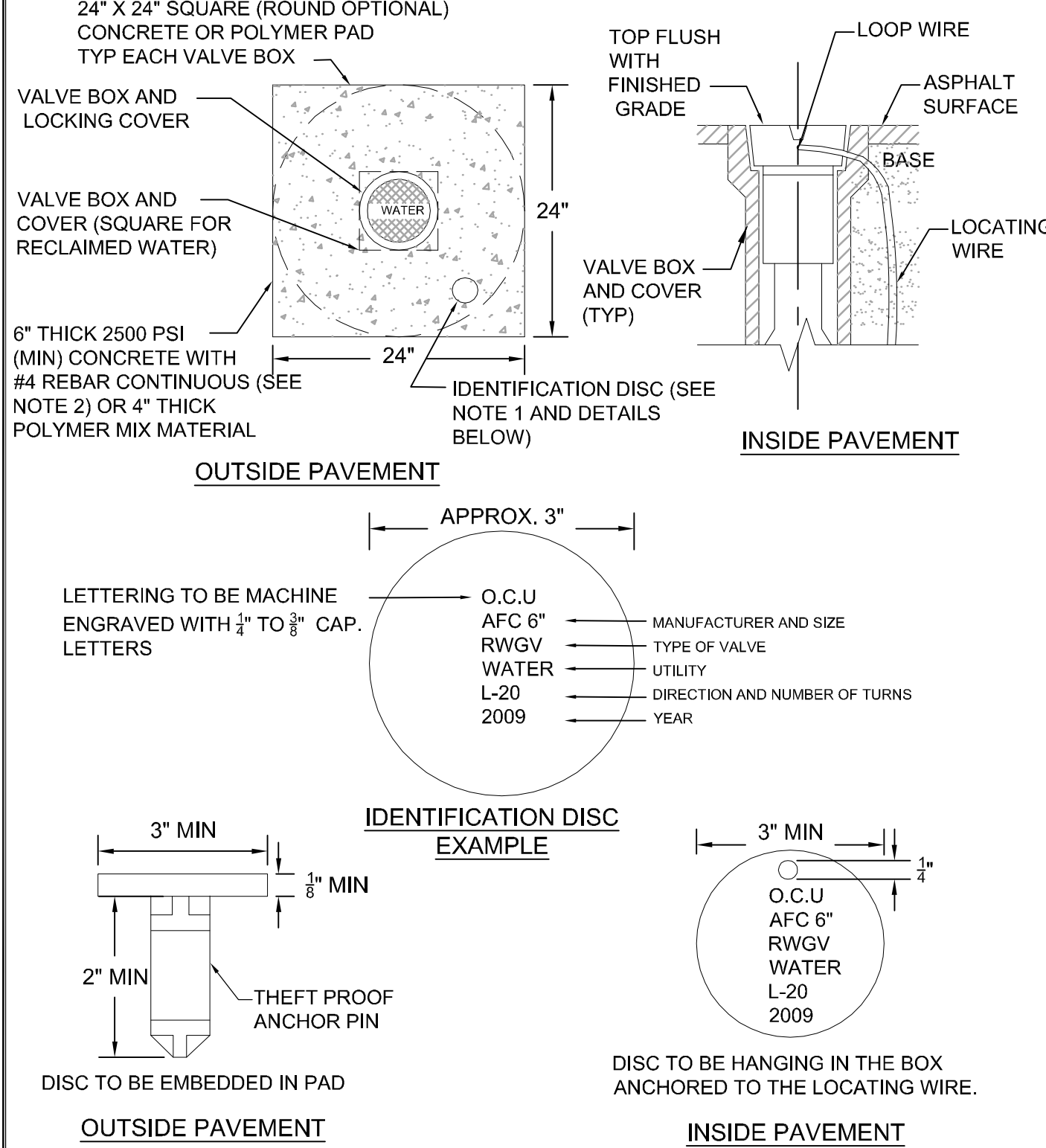
- NOTES:
- PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
  - THE VALVE ACTUATING NUT SHALL BE EXTENDED TO BE WITHIN 3" OF FINISHED GRADE.
  - PROVIDE A PLASTIC DEBRIS SHIELD / ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION.
  - LOCATING WIRE SHALL BE CONTINUOUS WITH NO SPLICES AND SHALL EXTEND 12" ABOVE TOP OF COLLAR. WIRE SHALL BE COLOR CODED TO MATCH THE UTILITY INSTALLED.
  - FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
  - REFER TO FIGURE A111 FOR INSTALLATIONS AT A DEPTH OF 6' OR GREATER.



- NOTE:
- LOCKING LIDS ARE REQUIRED ON ALL VALVE BOXES.



- NOTES:
- FOR ALL MAINS 6' DEEP OR GREATER.
  - FOR MAINS 16" IN DIAMETER OR GREATER REGARDLESS OF DEPTH.



- NOTES:
- BRONZE (OR STAINLESS STEEL) IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES, EXCEPT HYDRANT VALVES.
  - IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD WITH TWO #4 REBAR AROUND PERIMETER MAY BE USED.

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**ORANGE COUNTY**  
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 9150 CURRY FORD ROAD ORLANDO, FL. 32825



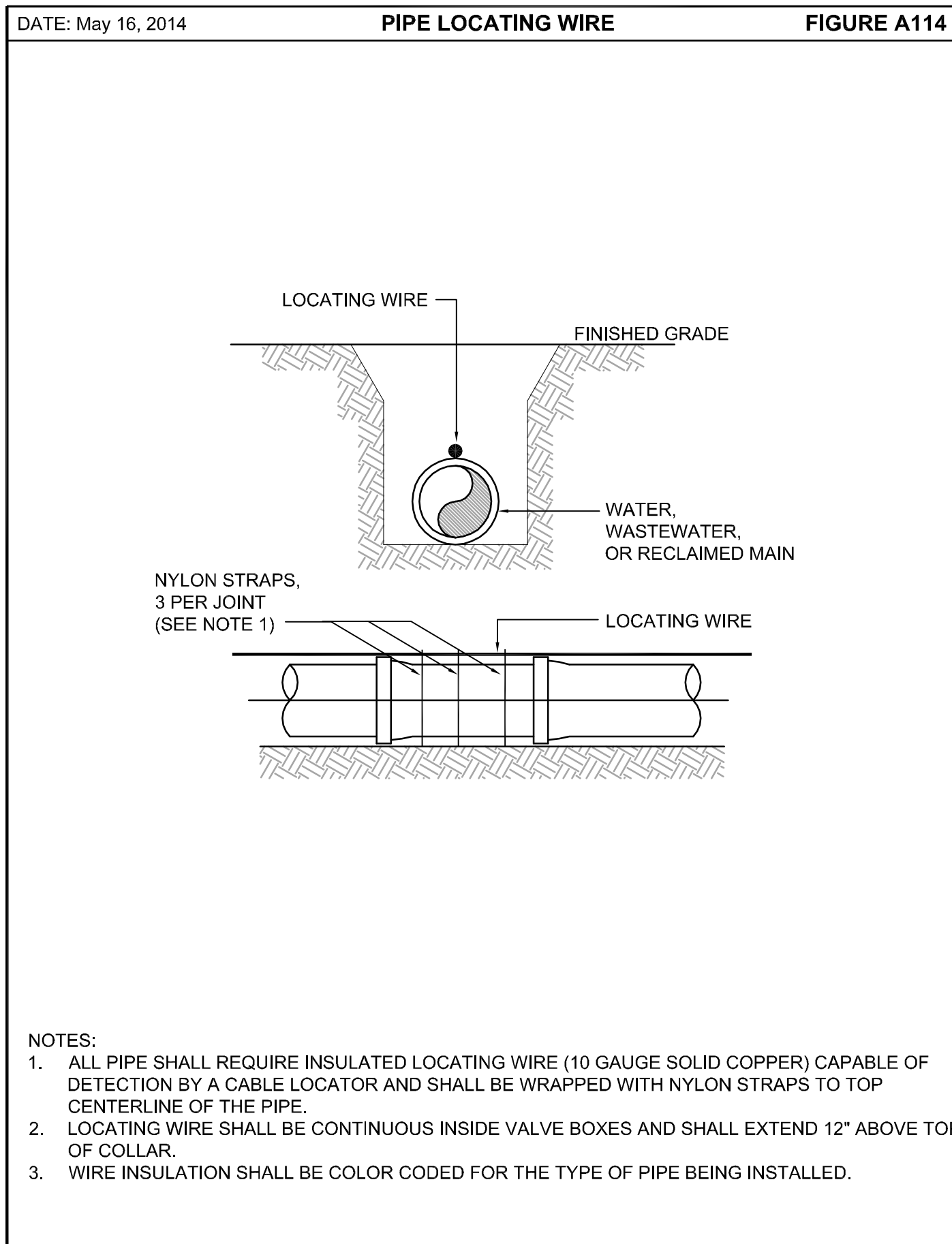
REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PACKAGE 8**  
**MECHANICAL & CIVIL DETAILS**

OCU FILE NO.: 74946  
 DESIGNED BY: BRW  
 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: X100.DWG

BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588

SCALE: NOTED  
 DRAWING NO.: **D100**  
 SHEET: 18 OF 26

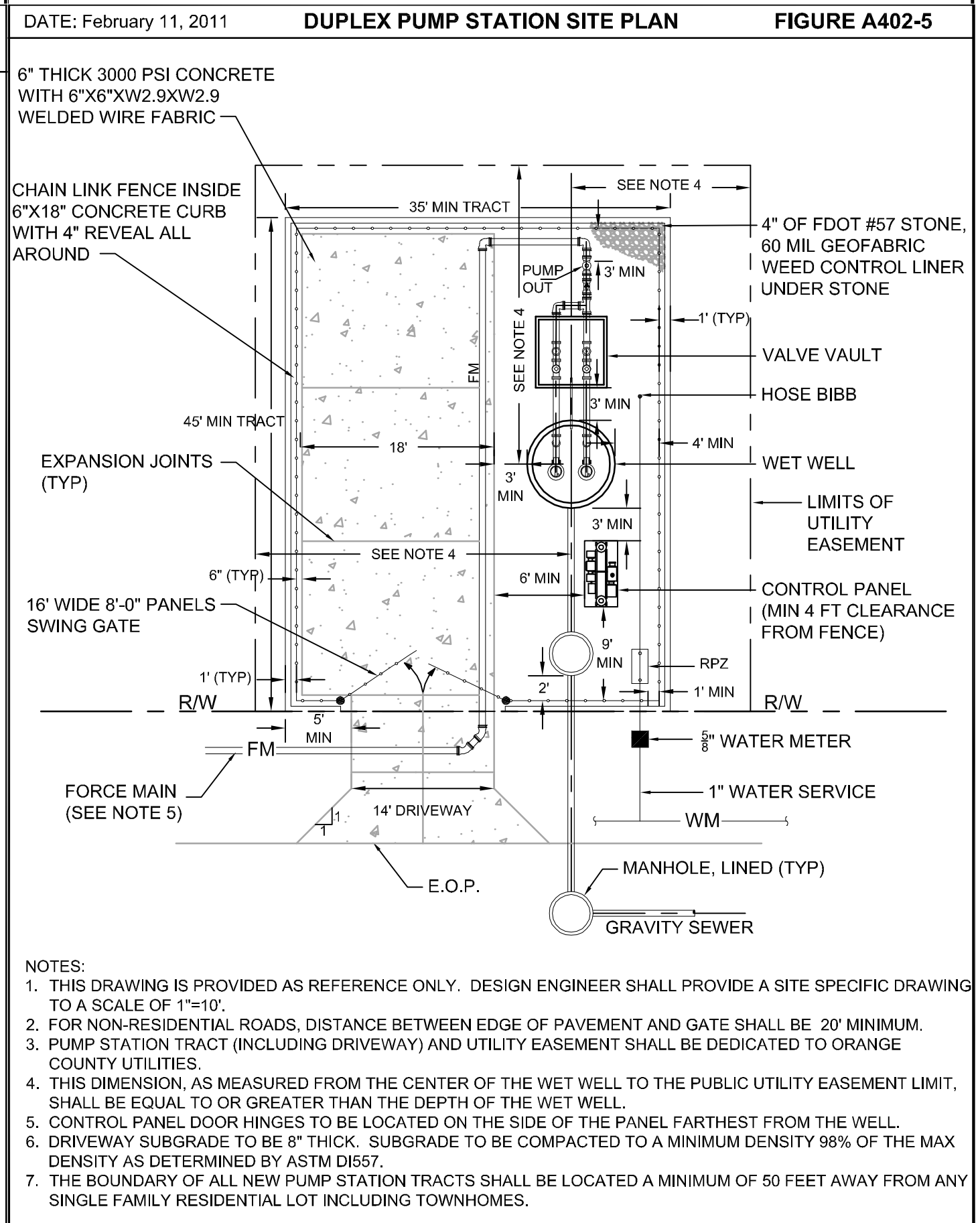
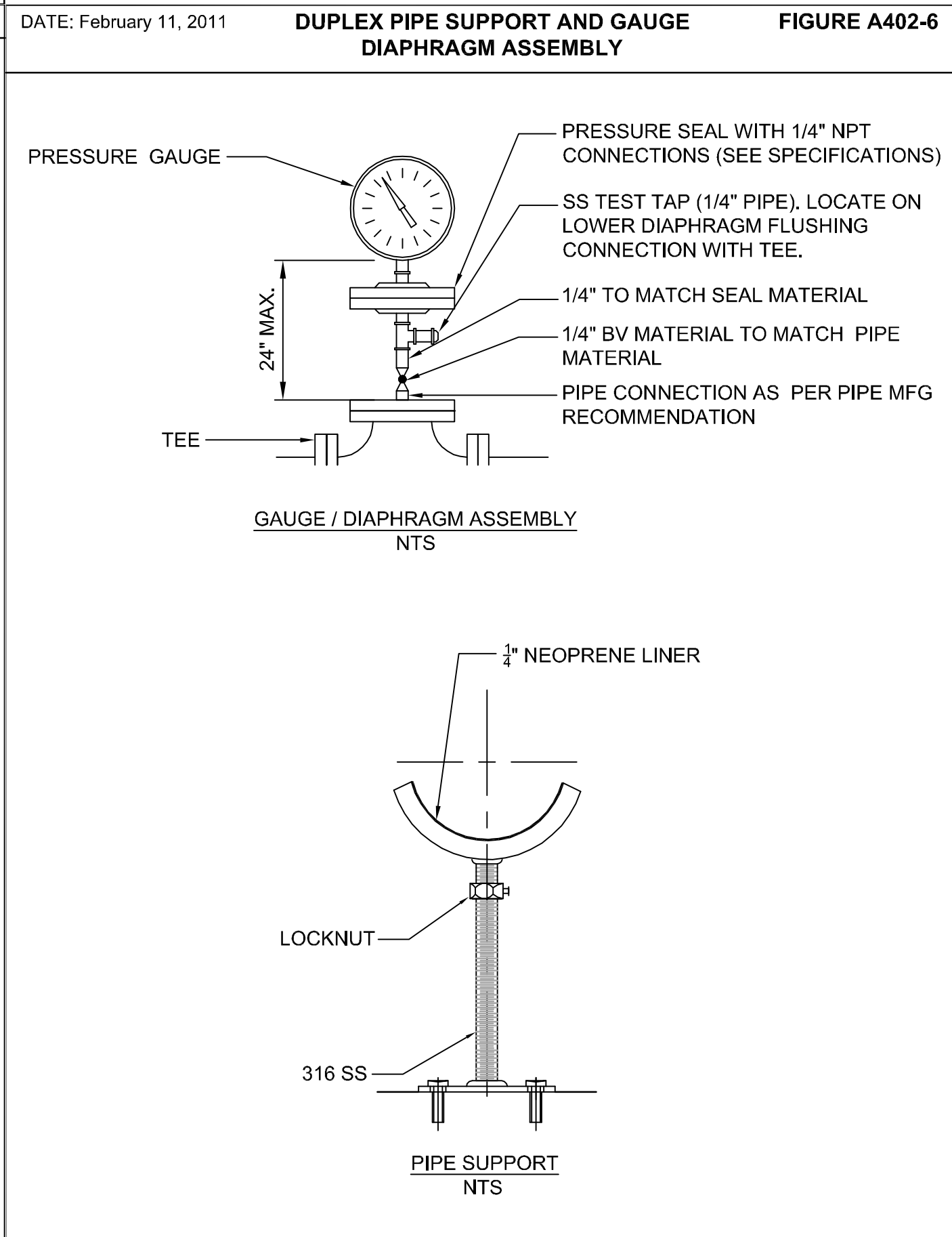
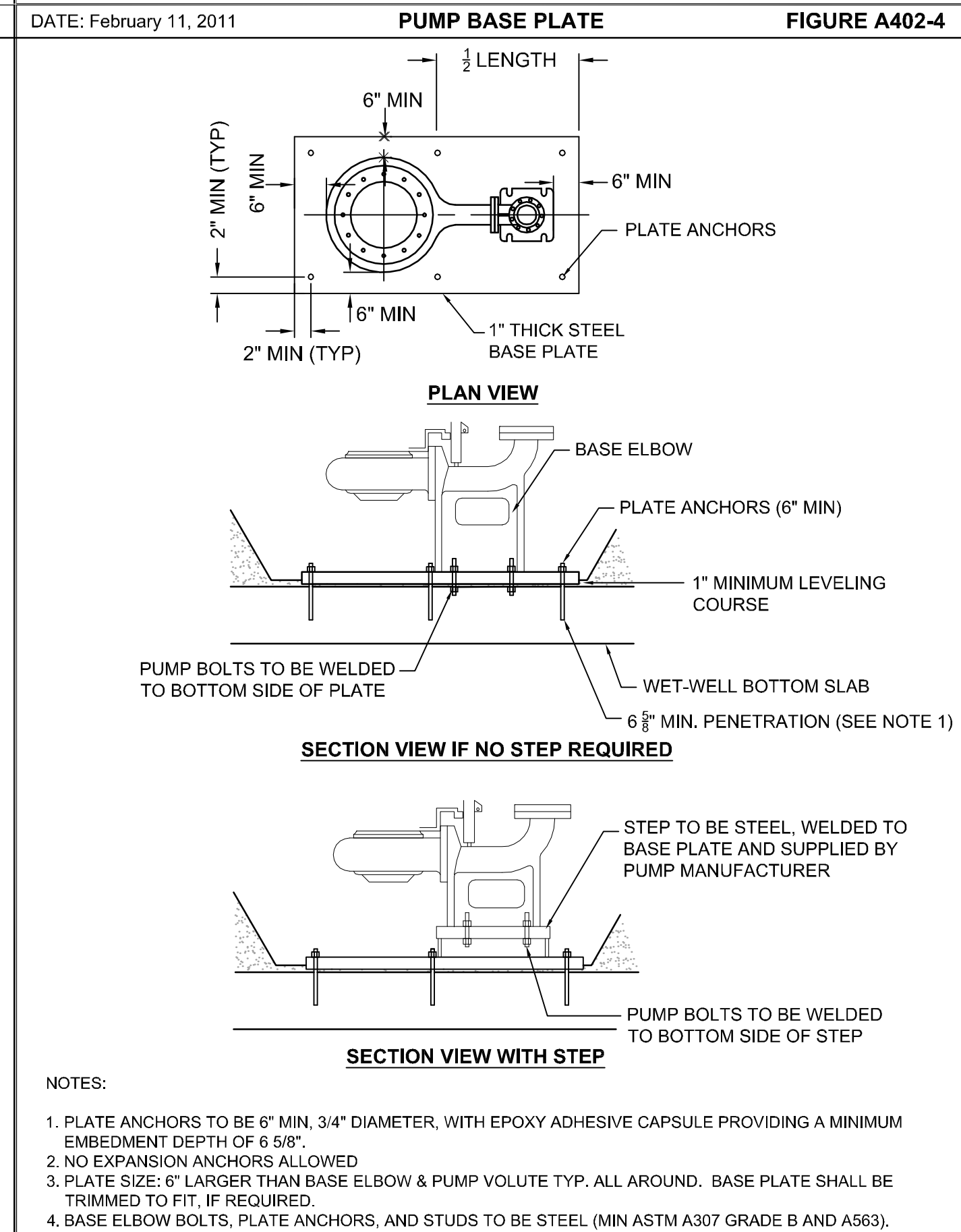
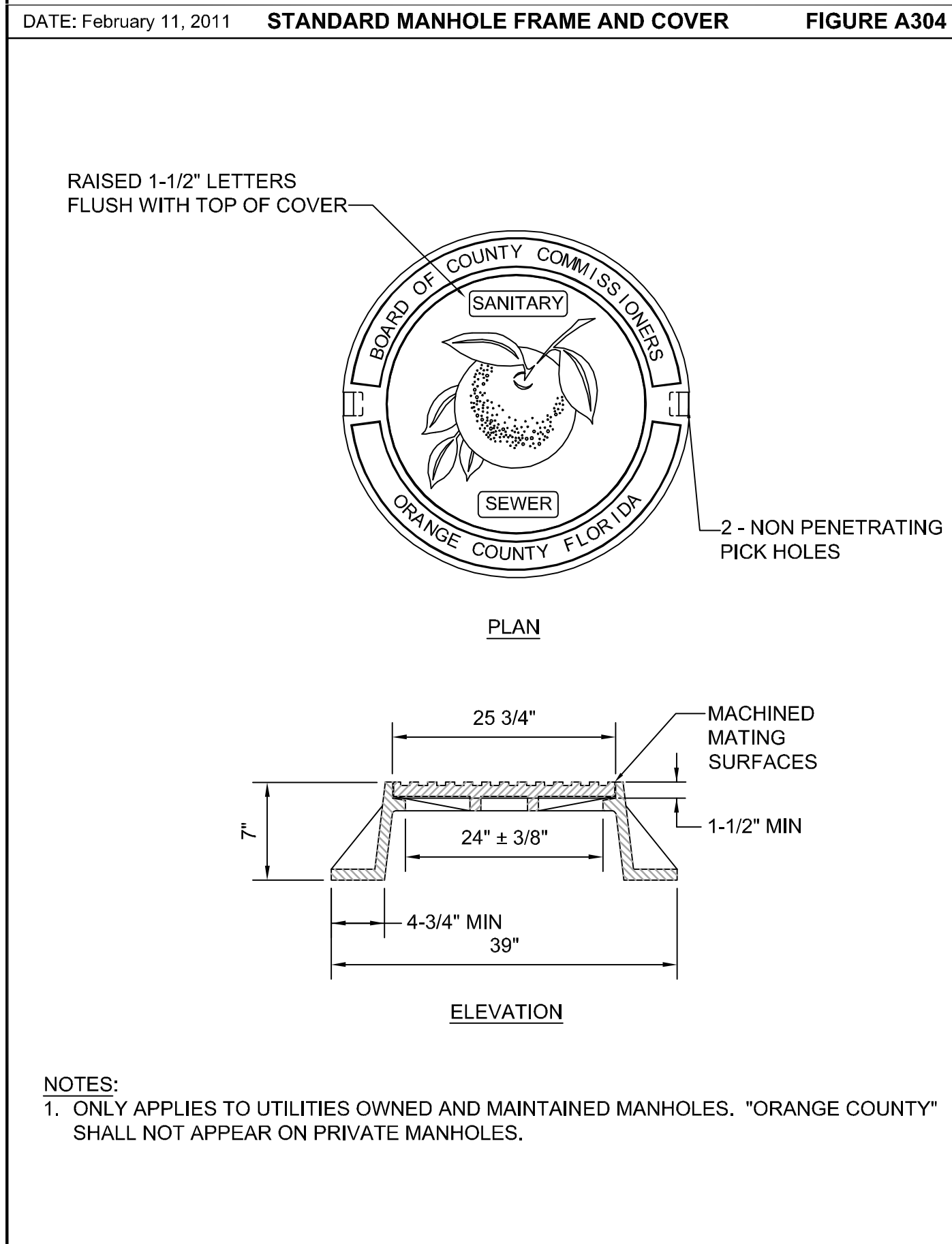
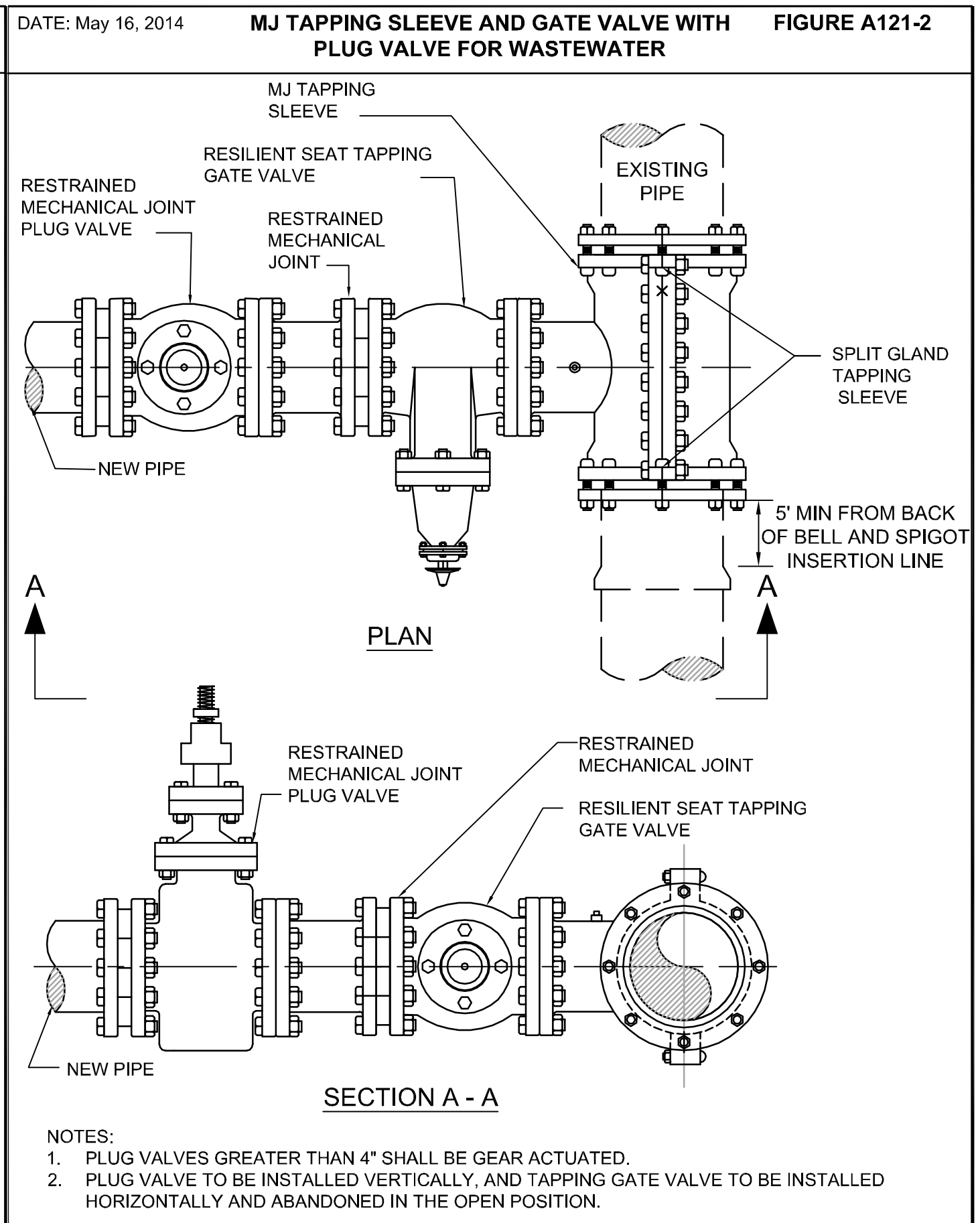
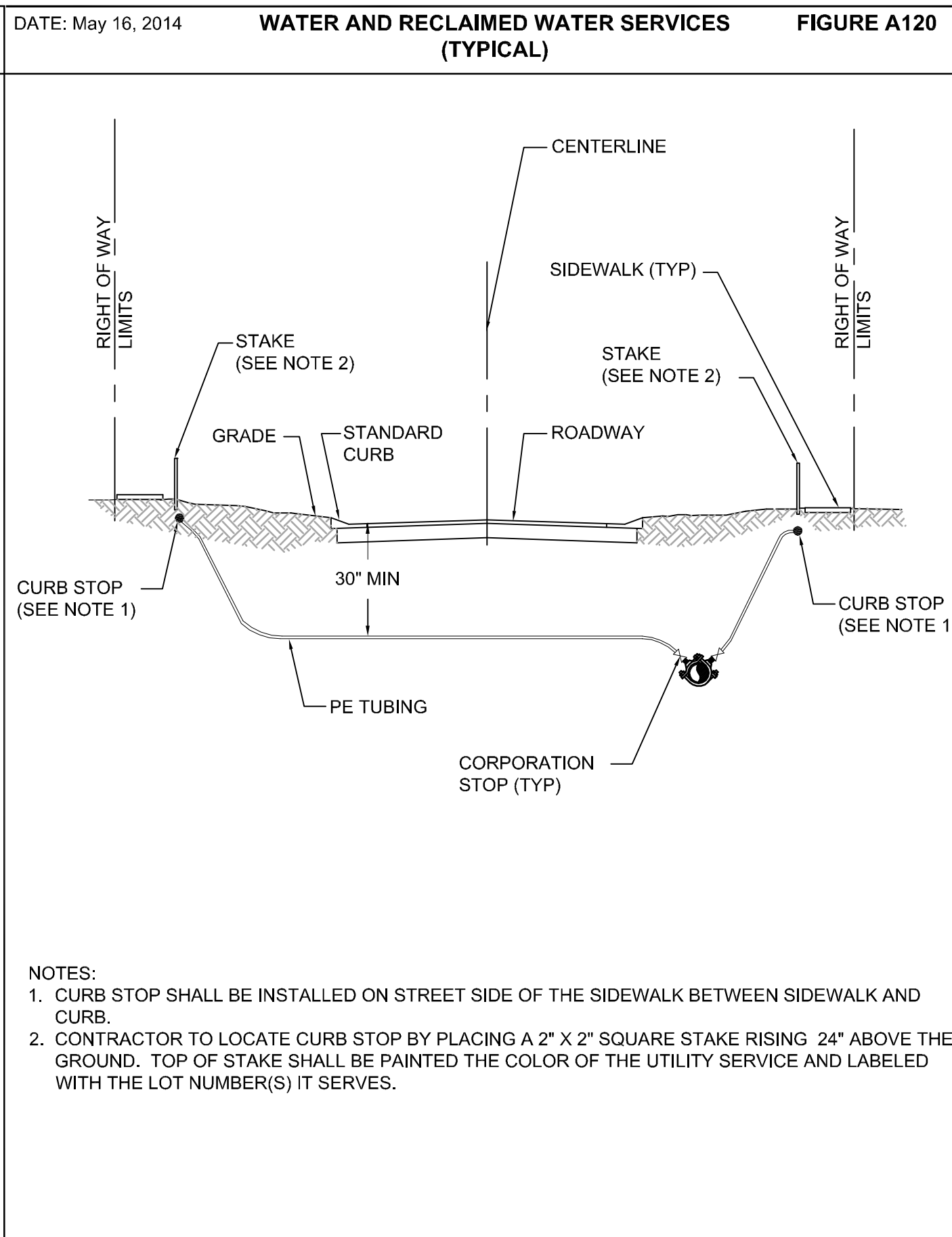


DATE: May 16, 2014 **SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS** **FIGURE A116**

PROPOSED UTILITY	HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS							
	POTABLE WATER		RECLAIMED WATER		WASTEWATER (GRAVITY & FM)		STORM SEWER	
	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT
POTABLE WATER	3'	12"	3'	12"	6'	12"	3'	12"/18"
RECLAIMED WATER	3'	12"	3'	12"	3'	12"	3'	12"/18"
WASTEWATER (GRAVITY AND FM)	6'	12"	3'	12"	3'	12"	3'	12"/18"
RIGHT OF WAY	3'	N/A	3'	N/A	3'	N/A	N/A	N/A

NOTES:

1. THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTHS, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
2. THE 18-INCH SEPARATION REQUIREMENT APPLIES WHEN THE STORM PIPE CROSSES ABOVE THE OCU MAIN, AND WHEN THE STORM PIPE HAS A DIAMETER EQUAL TO OR GREATER THAN 24 INCHES. OTHERWISE, THE REQUIRED SEPARATION IS 12 INCHES.
3. THIS SEPARATION REQUIREMENT COMPLIES WITH MINIMUM FDEP SEPARATION REQUIREMENTS OUTLINED IN 62-555.314, FAC. VARIANCES FROM THE FDEP REQUIREMENTS MUST COMPLY WITH 62-555.314(5), FAC AND MUST BE APPROVED INDIVIDUALLY BY BOTH FDEP AND OCU.
4. DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
5. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURE.



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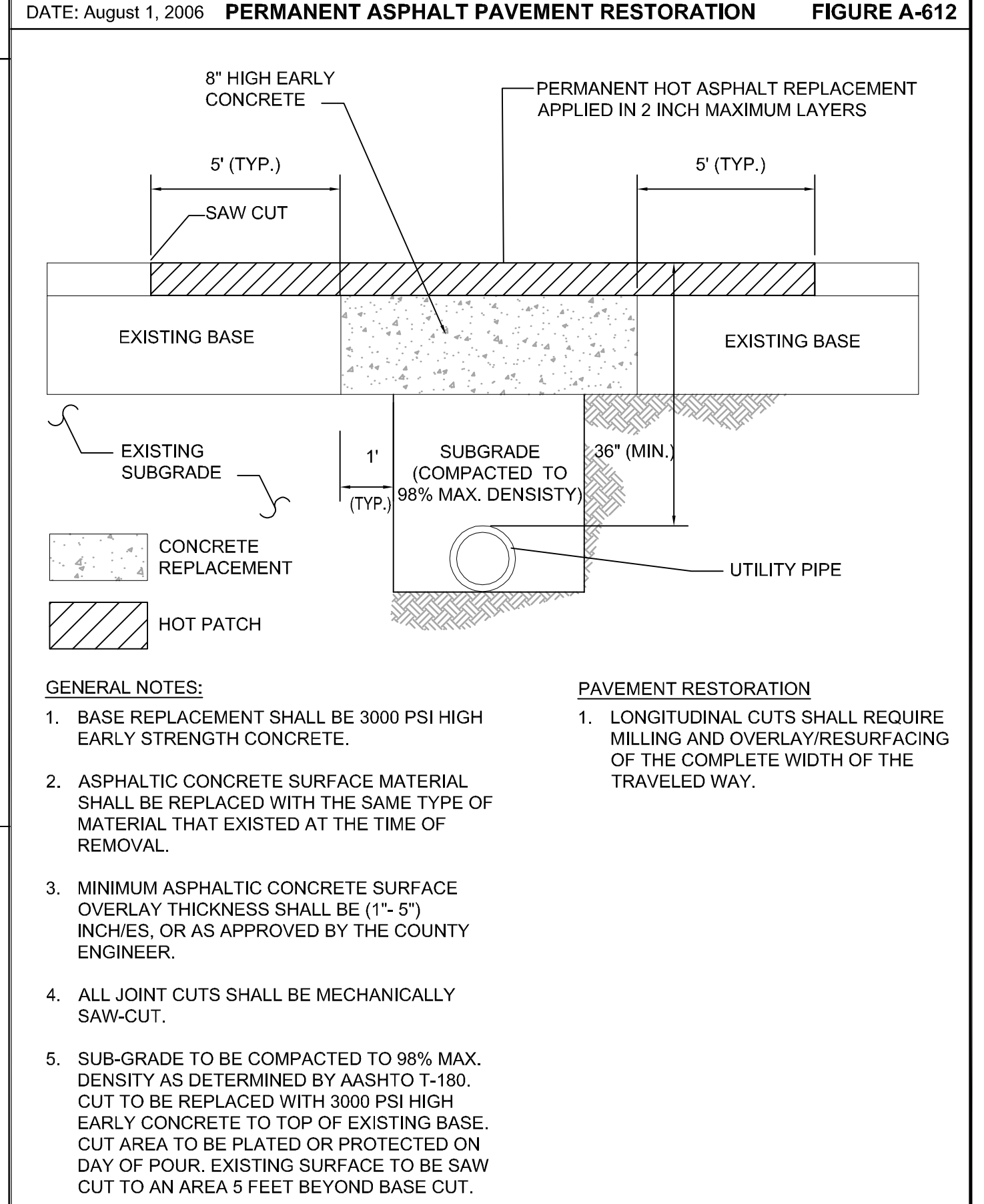
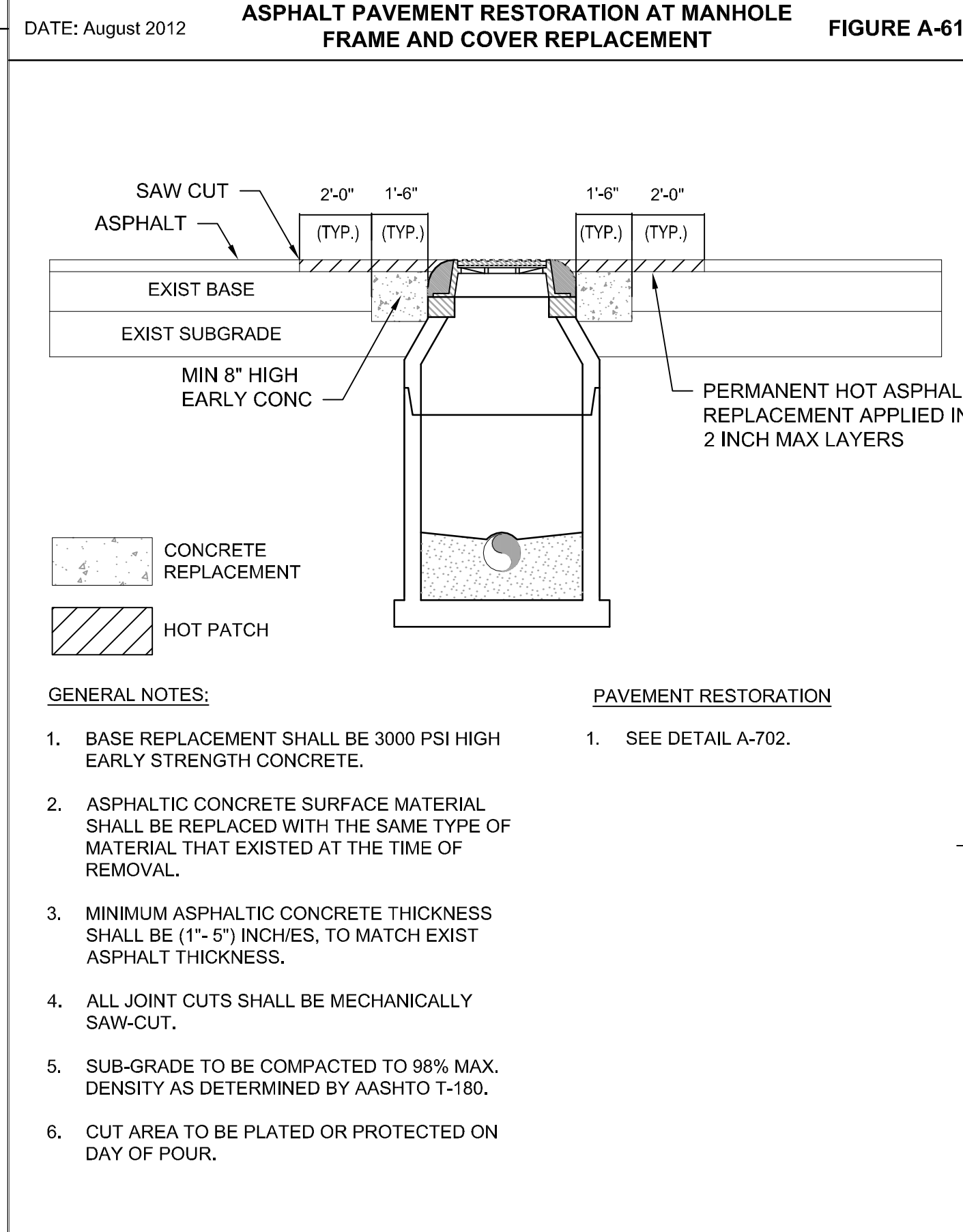
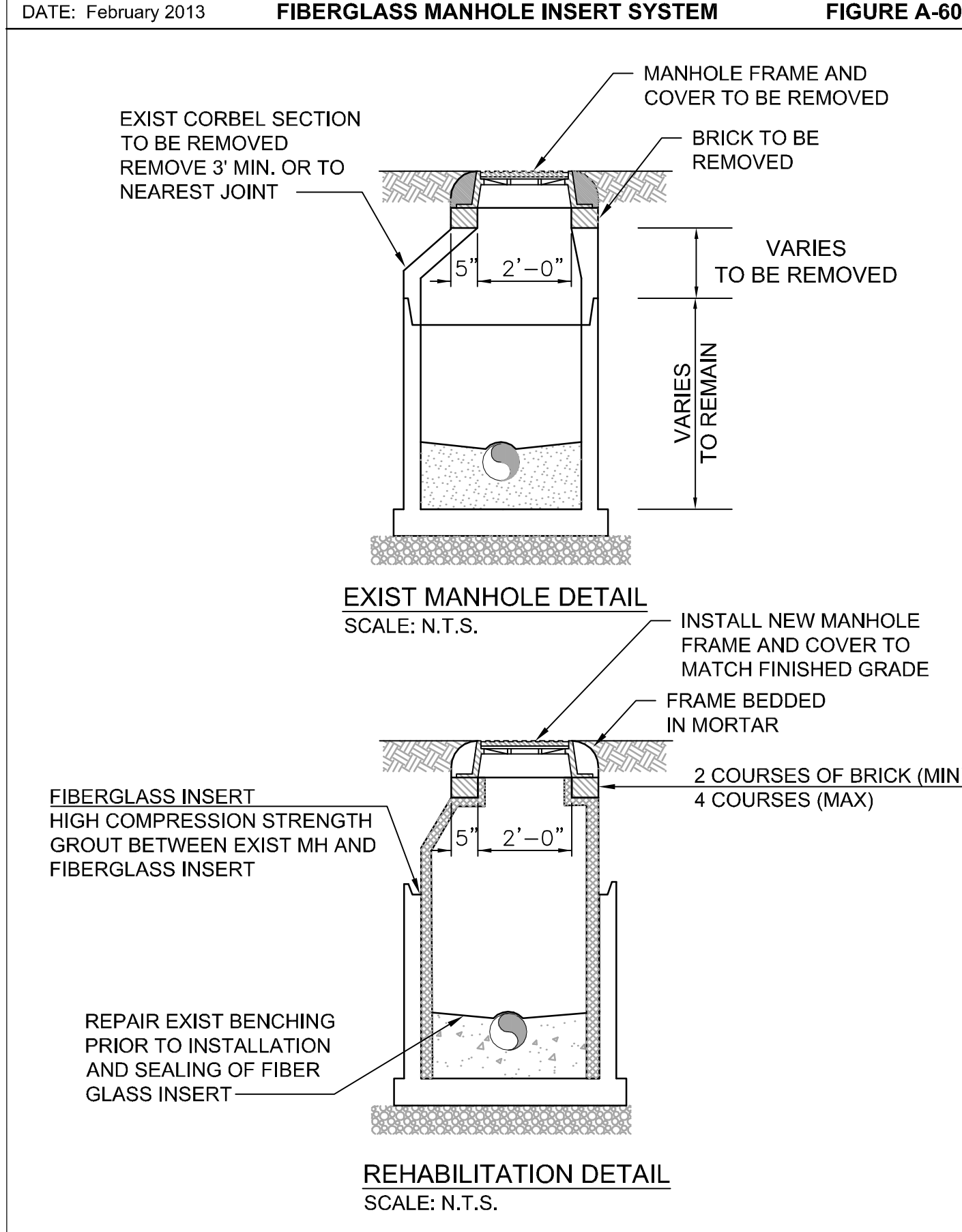
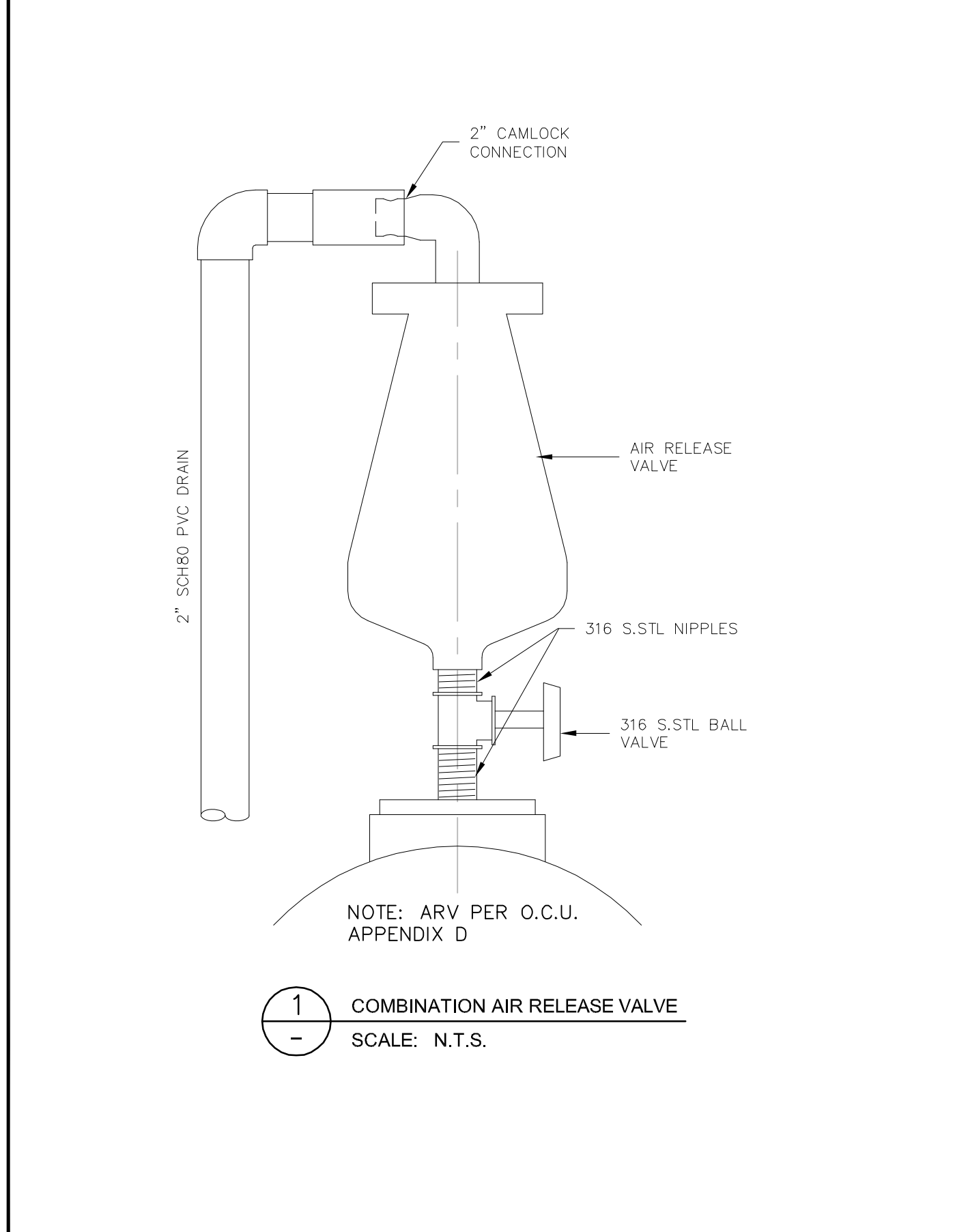
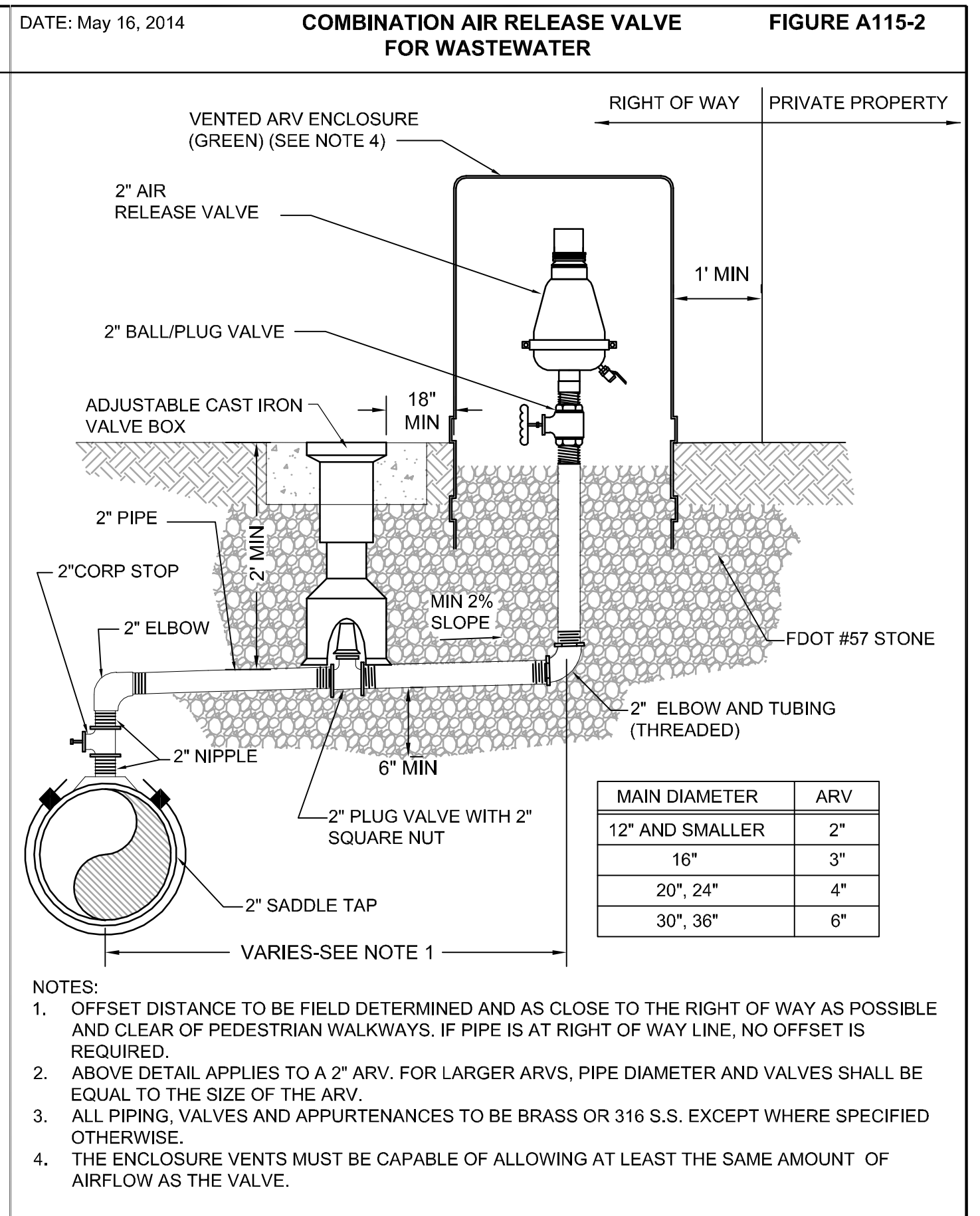
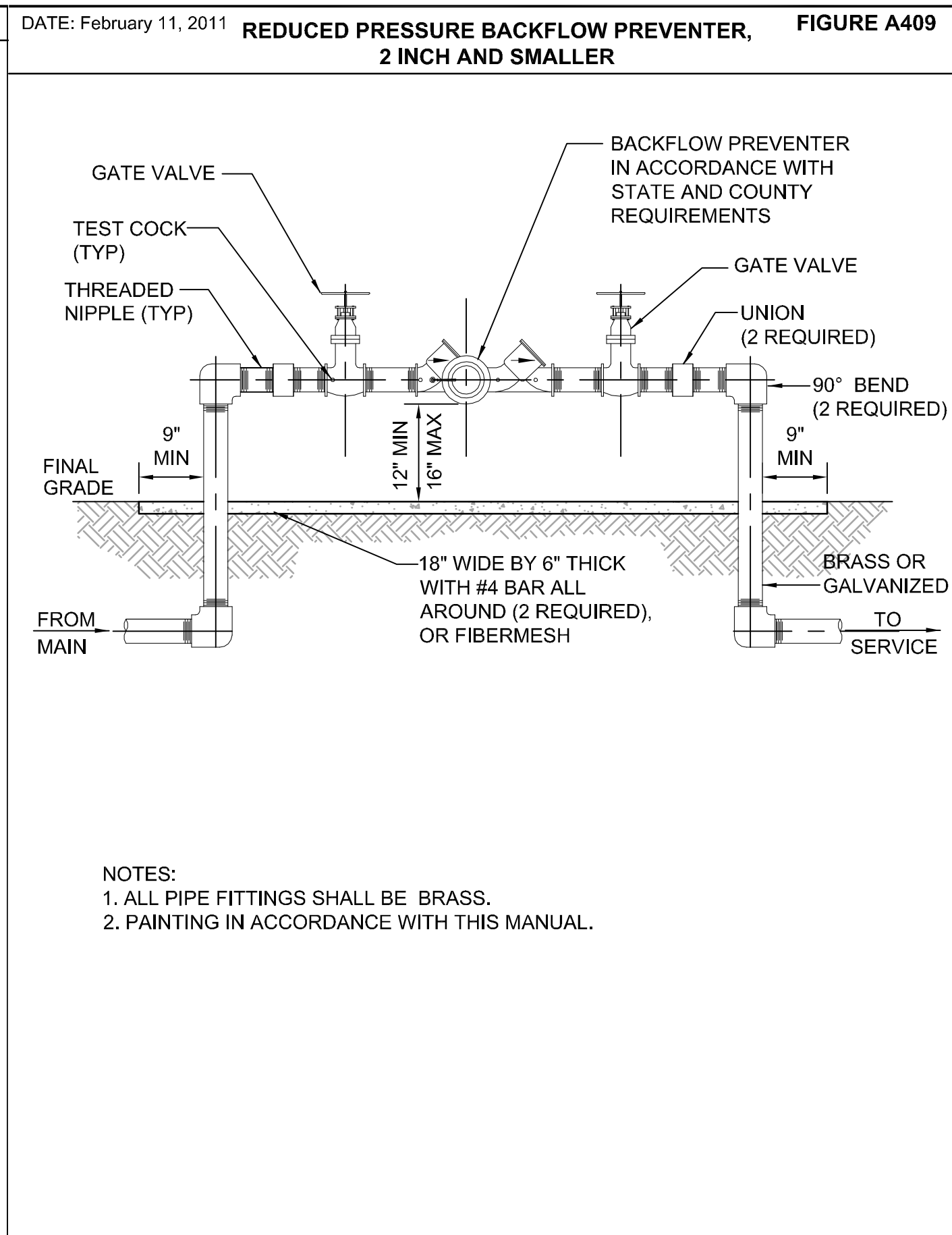
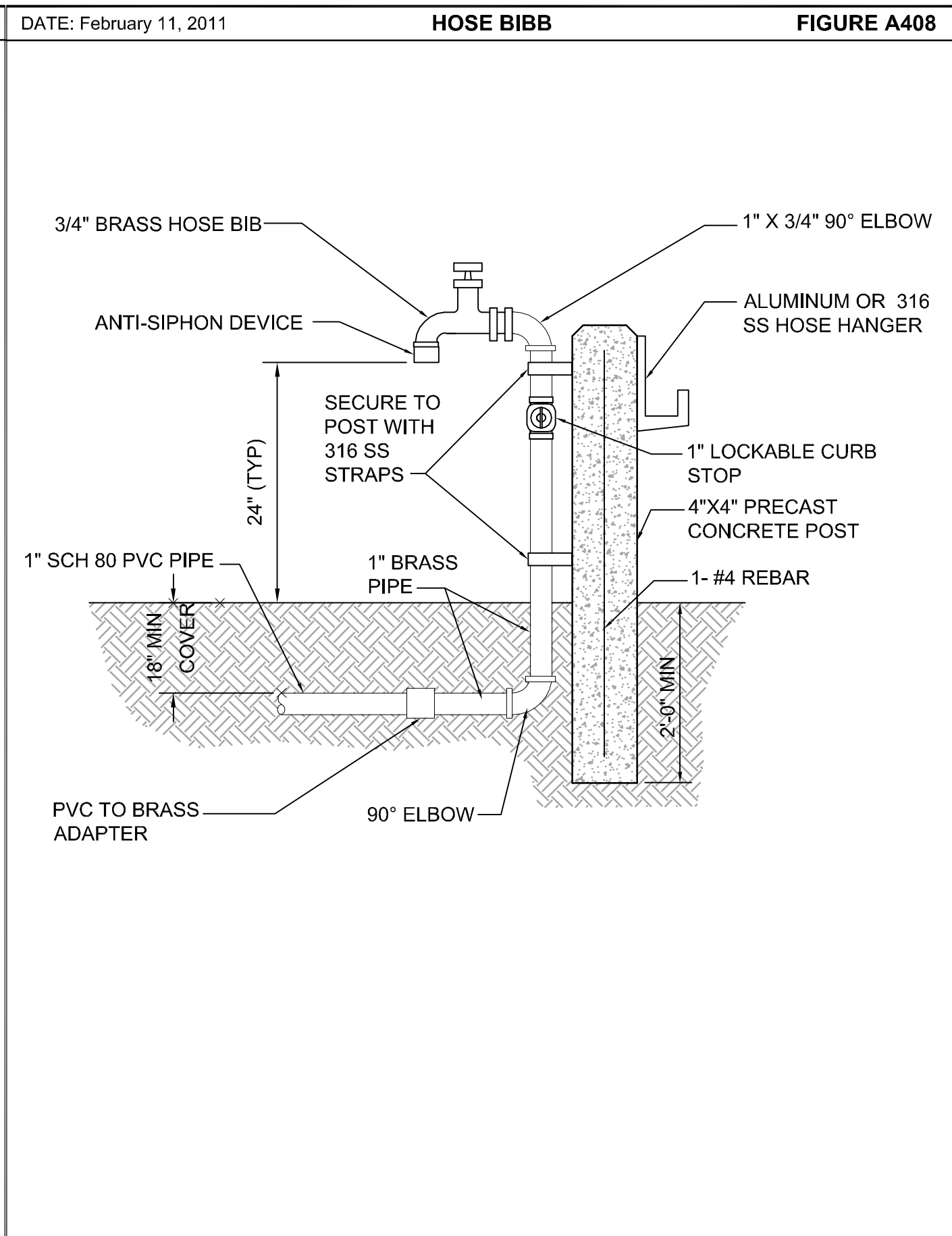
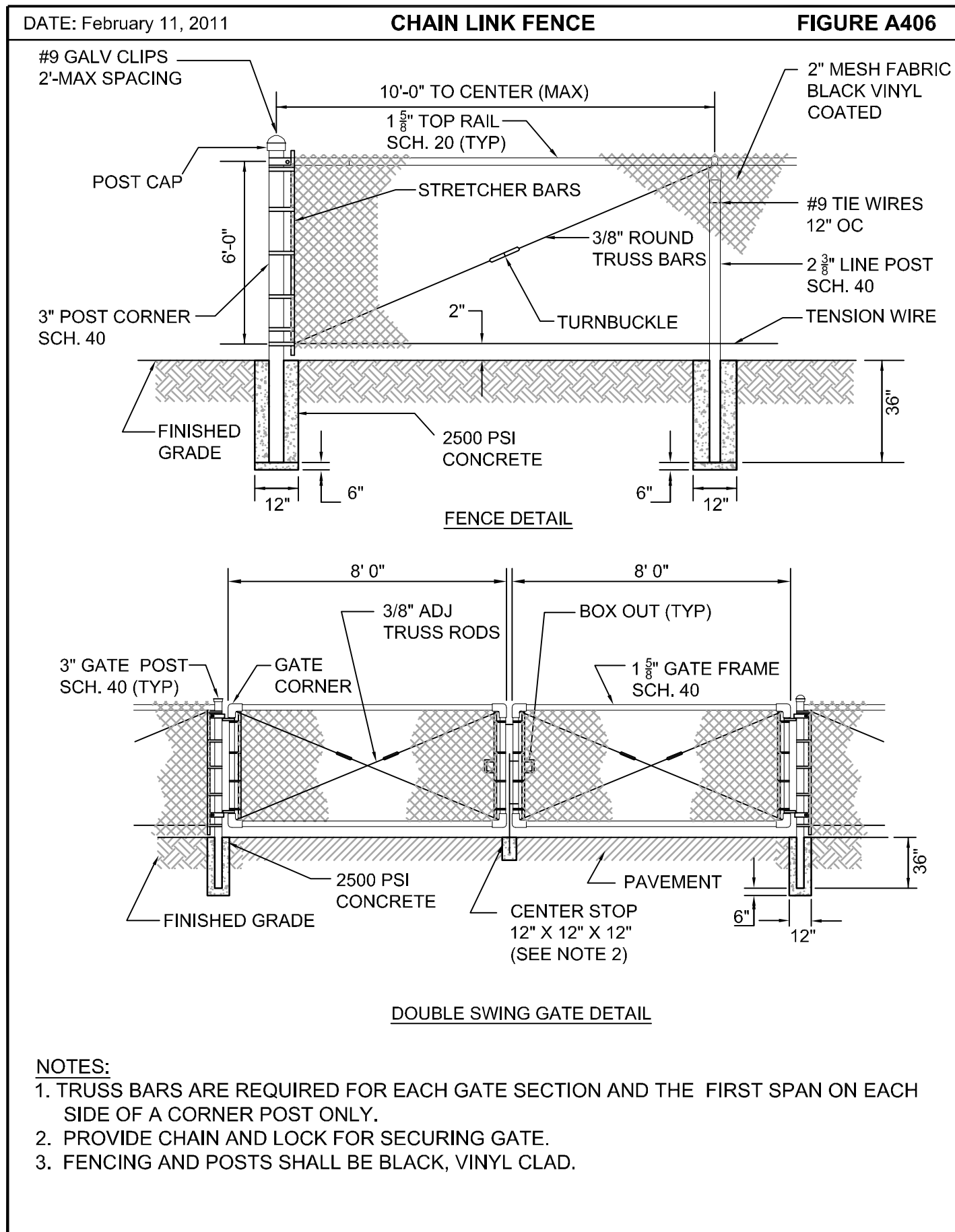
**ORANGE COUNTY**  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

**RE**  
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PACKAGE 8**  
MECHANICAL & CIVIL DETAILS

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: X100.DWG

SCALE: NOTED  
DRAWING NO.:  
**D101**  
SHEET: 19 OF 26

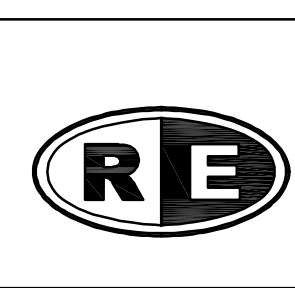


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**UTILITIES DEPARTMENT**  
**ENGINEERING DIVISION**

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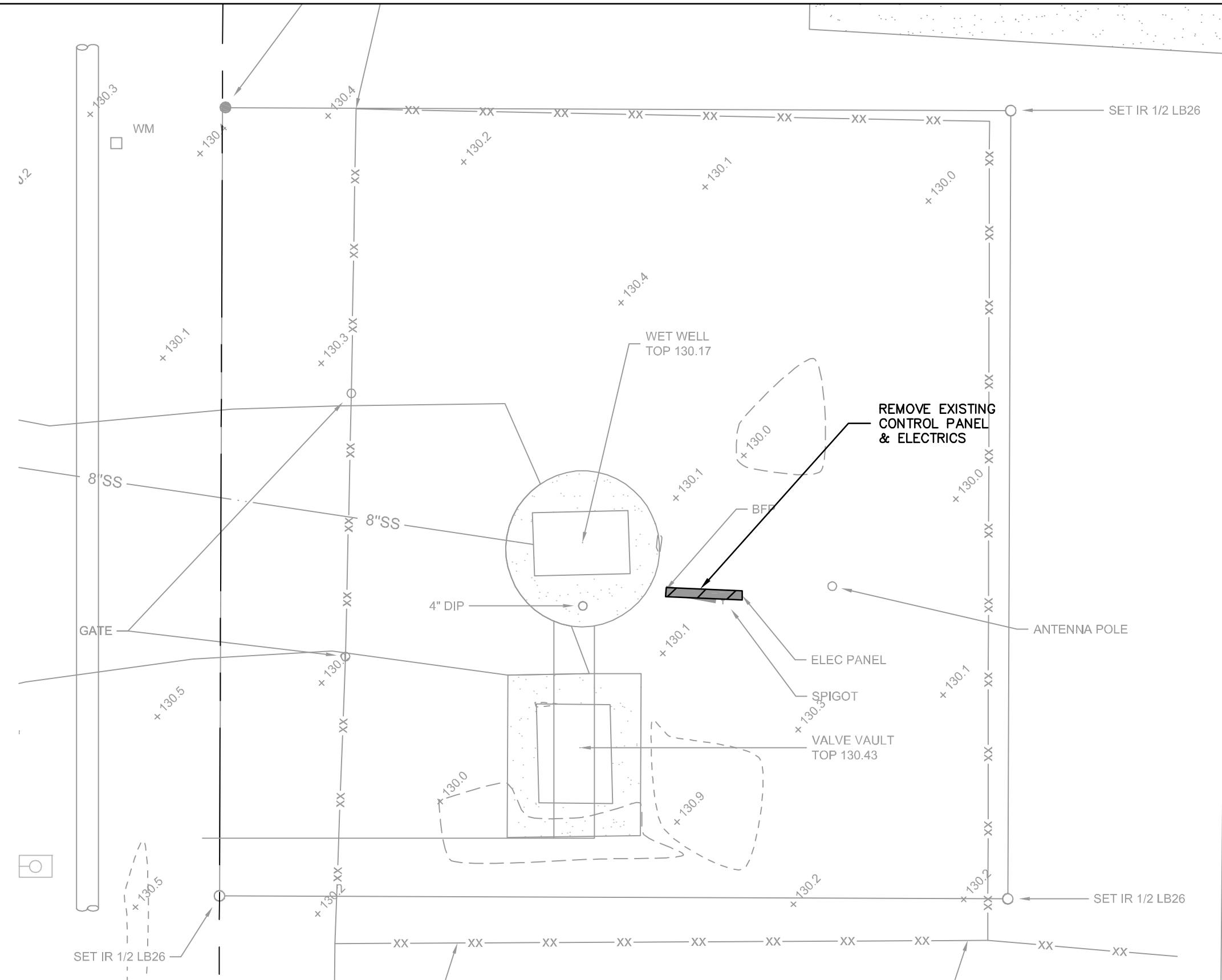
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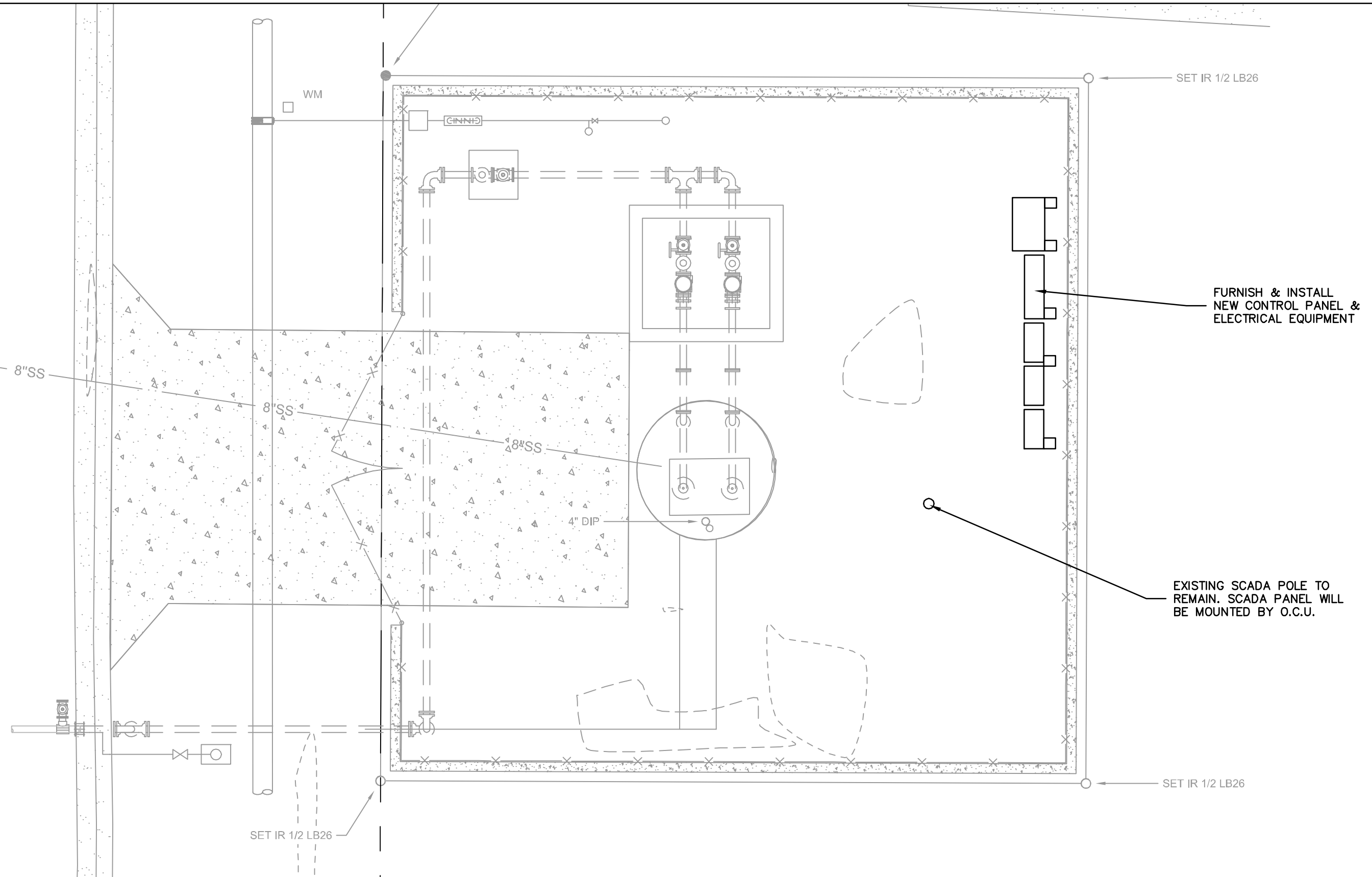
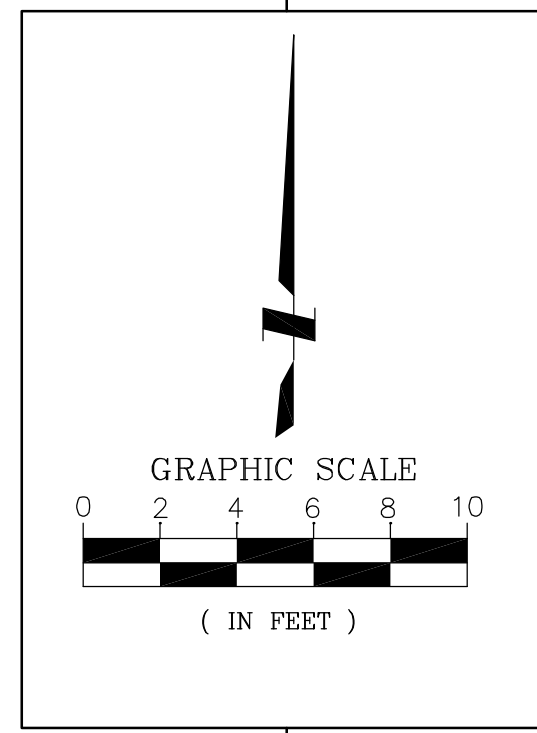
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 DRAWN BY: LABS  
 CHECKED BY: BRW  
 CADD FILE: X100.DWG

BRENT R. WHITE, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 75588

SCALE: NOTED  
 DRAWING NO.: **D102**  
 SHEET: 20 OF 26



ELECTRICAL DEMOLITION PLAN



ELECTRICAL SITE PLAN

**ELECTRICAL NOTES**

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA-70, ALL APPLICABLE REQUIREMENTS OF ALL LOCAL, COUNTY, AND STATE CODES AND STANDARDS, AND ALL REQUIREMENTS OF THE SERVICING ELECTRIC UTILITY.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EXACT LOCATIONS OF EQUIPMENT OR ALL REQUIRED FITTINGS AND HARDWARE. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED FOR A COMPLETE OPERATING SYSTEM. COORDINATE EQUIPMENT LOCATIONS AND WIRING WITH ACTUAL FIELD CONDITIONS AND EQUIPMENT ACTUALLY PROVIDED.
- CIRCUIT BREAKER SHALL BE AS LISTED IN APPENDIX D.
- UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC BELOW GRADE. MINIMUM CONDUIT SIZE SHALL BE 0.75" ABOVE GRADE, AND 1.00" BELOW GRADE. UNDERGROUND CONDUIT SHALL BE RUN A MINIMUM OF 24" BELOW GRADE.
- CABLE AND WIRE SHALL BE COPPER, DUAL RATED, TYPE THNN/THWN, EXCEPT GROUND CONDUCTORS SHALL BE SOFT DRAWN COPPER.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 0.75" BY 10 FT., DRIVEN SO TOP OF ROD IS BELOW GRADE ALL GROUNDING CONDUCTORS ARE 30" BELOW GRADE. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELDS, ERICO "CADWELD" OR EQUAL, UNLESS OTHERWISE NOTED.
- INSTALL AND CONNECT ALL ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS.
- WARRANTEE ENTIRE ELECTRICAL INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE FINAL ACCEPTANCE DATE. PROMPTLY REPLACE AND/OR REPAIR ANY EQUIPMENT OR WIRING PROVIDED UNDER DIVISION 16 DURING THE WARRANTEE PERIOD WITH NO ADDITIONAL COSTS TO THE OWNER.
- PUMP CONTROL PANEL WILL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. CIRCUIT DIAGRAM AND DETAILS ARE PROVIDED FROM DATA RECEIVED FROM THE VENDOR, AND ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE. ACTUAL CIRCUITRY AND SPECIFIC DETAILS OF EQUIPMENT PROVIDED MAY VARY. PUMP CONTROL PANEL SPARE PARTS ARE NOT REQUIRED.
- ELECTRIC METER FOR DUKE ENERGY SERVICES SHALL BE MILBANK MODEL UAP9701-X-Q-G-HSP.

UTILITY: DUKE ENERGY  
 METER #: 6649492  
 ADDRESS: 2103 SPRINT BLVD.  
 VOLT: 240V

**P. S. #3391**

**Electrical Load Calculations**

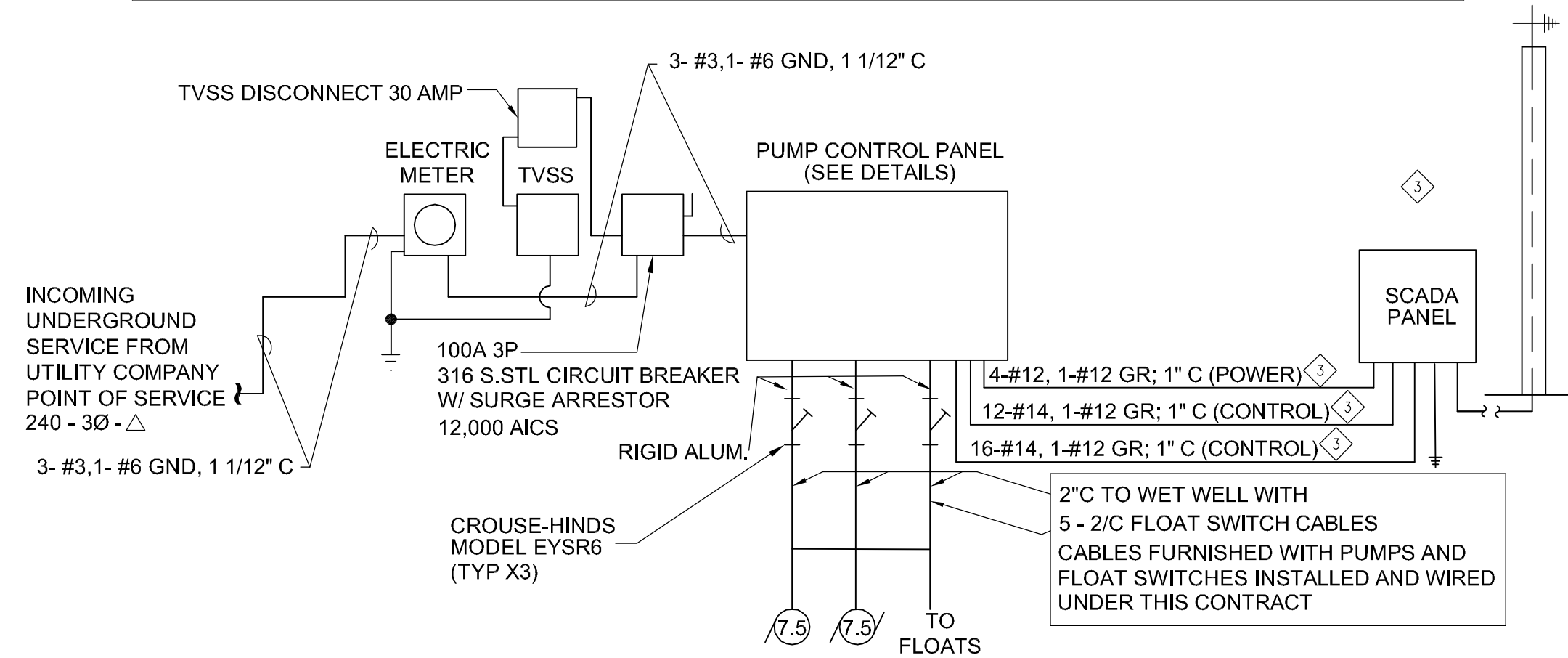
Ref: NEC 70 Article 220-4

Available Voltage 240V-3 Phase Delta

Maximum Available Fault Current = **4,788 Amperes**

Load	Phase A Amps	Phase B Amps	Phase C Amps
Pump #1-7.5 HP MAX	22	22	22
Pump #2-7.5 HP MAX	22	22	22
Misc. Controls	10	-	-
Future SCADA			10
25% Largest Motor	5.5	5.5	5.5
<b>Total</b>	<b>59.5</b>	<b>49.5</b>	<b>59.5</b>

Service Size Selected = 100 Amperes



ELECTRICAL ONE-LINE DIAGRAM

**SCADA POLE COORDINATION**

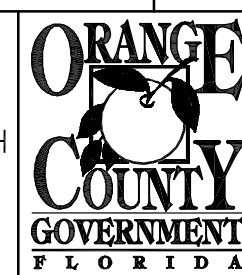
- EXISTING SCADA POLE TO REMAIN.
- CONTACT ORANGE COUNTY RPR TO HAVE EXISTING SCADA PANEL REMOVED FROM POLE.
- SCADA SECTION WILL REMOVE PANEL FROM POLE.
- SCADA SECTION WILL MOUNT SCADA PANEL ON EXISTING POLE.
- CONTRACTOR SHALL INSTALL CONDUIT AND PULL WIRES BETWEEN SCADA PANEL AND PUMP.
- SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.

**SPECIFIC NOTES**

- IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED
- CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.
- SEE ELECTRICAL DETAILS 240 VAC FOR ELEVATIONS OF EQUIPMENT RACK.
- CONTRACTOR TO INSTALL OCU PROVIDED SCADA POLE. 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.
- 36" SPACING SHALL BE LEFT FOR SCADA SECTION TO MOUNT SCADA PANEL.

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**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**

9150 CURRY FORD ROAD ORLANDO, FL. 32825



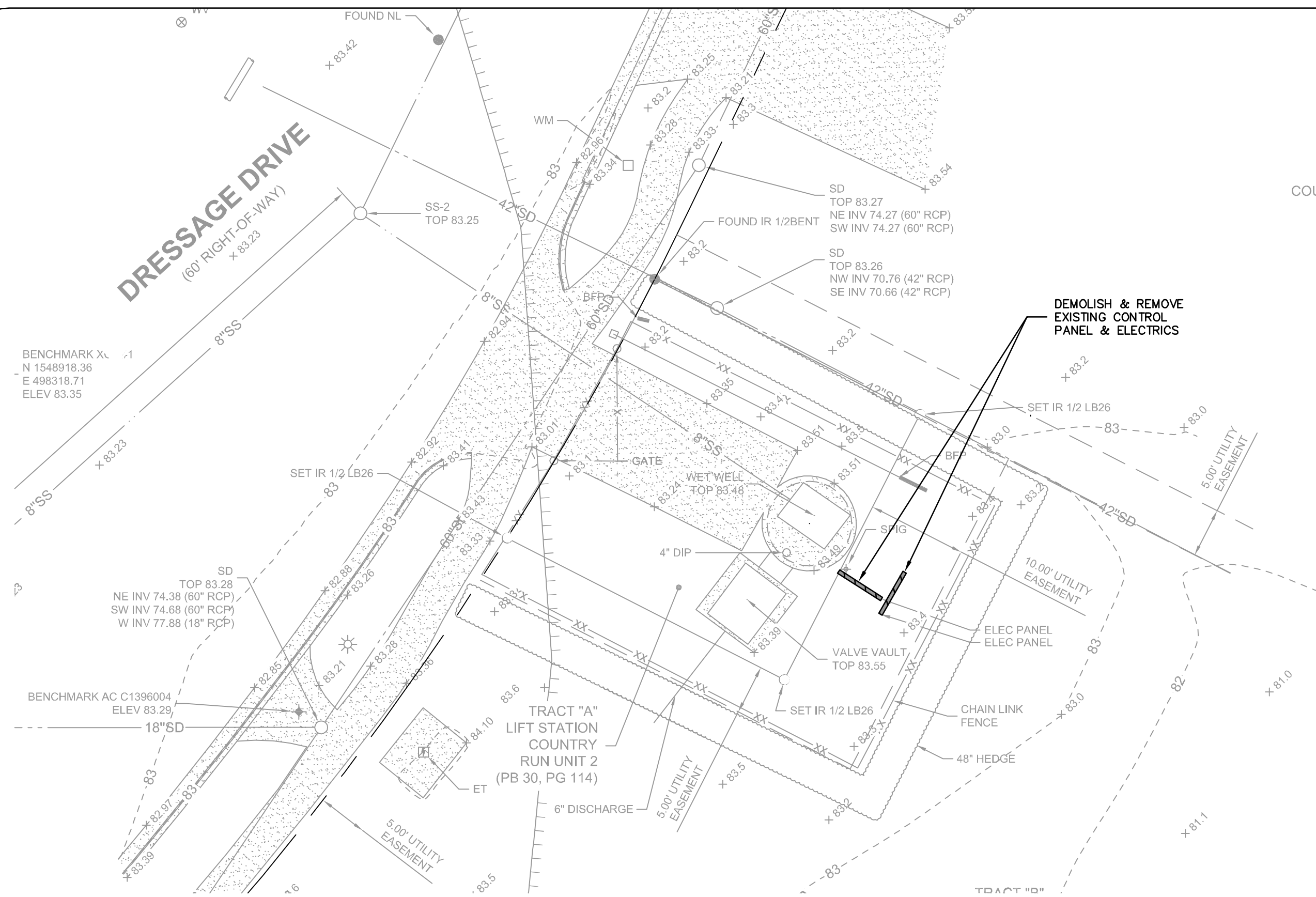
REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PS #3391 - N ORLANDO INDUSTRIAL PARK ELECTRICAL PLAN**

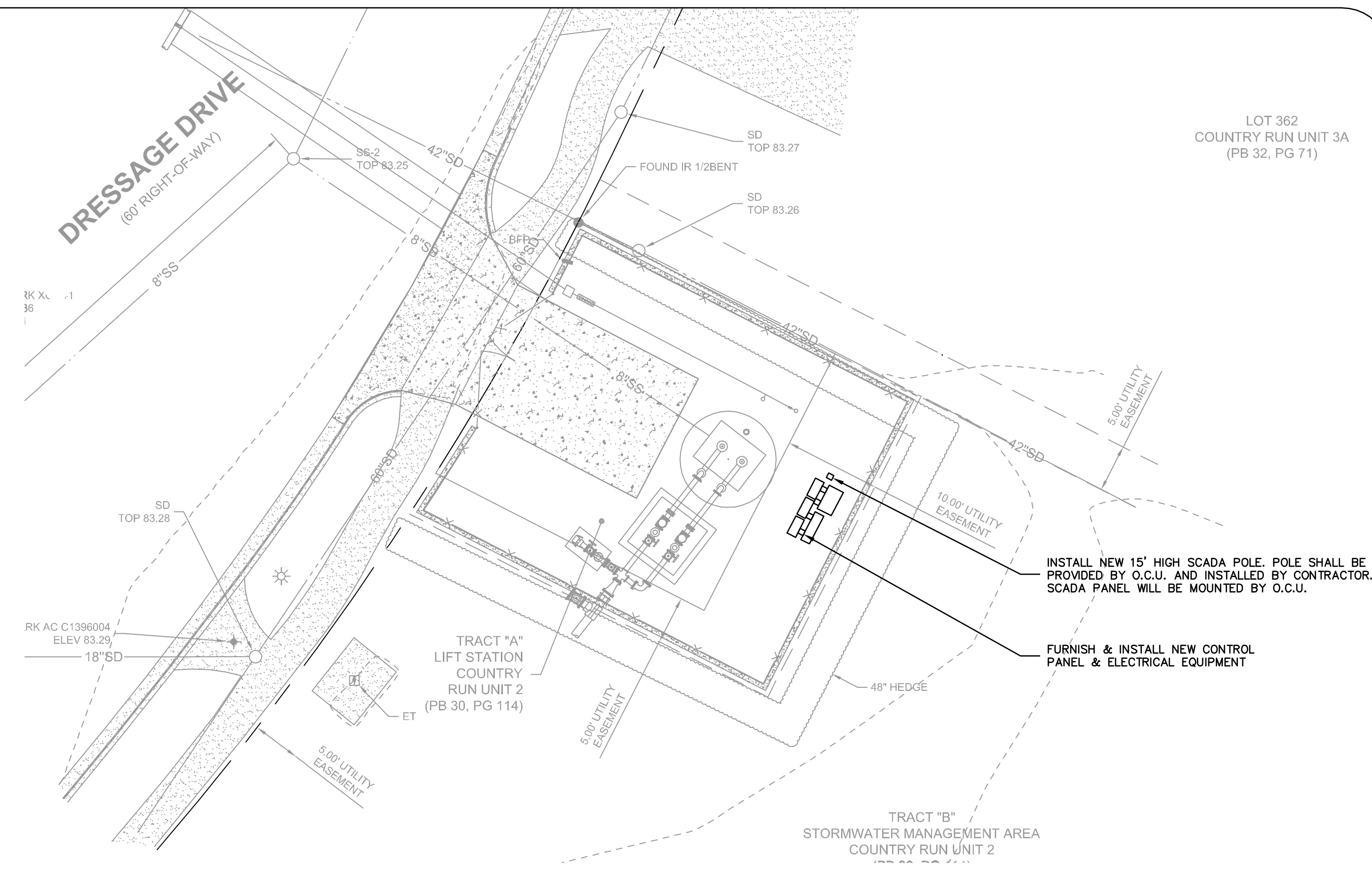
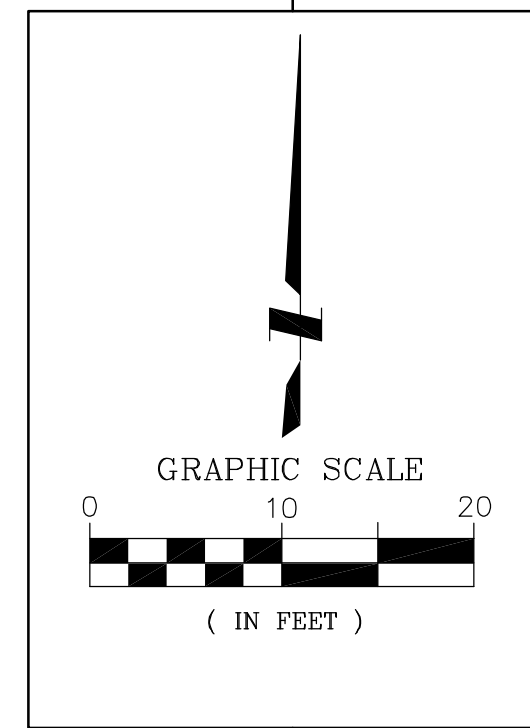
MARK K. WORSHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 63729

OCU FILE NO.: 74946  
 DESIGNED BY: MKW  
 DRAWN BY: LABS  
 CHECKED BY: MKW  
 CADD FILE: E100.DWG

SCALE: NOTED  
 DRAWING NO.: **E100**  
 SHEET: 21 OF 26



ELECTRICAL DEMOLITION PLAN



ELECTRICAL SITE PLAN

**ELECTRICAL NOTES**

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA-70, ALL APPLICABLE REQUIREMENTS OF ALL LOCAL, COUNTY, AND STATE CODES AND STANDARDS, AND ALL REQUIREMENTS OF THE SERVICING ELECTRIC UTILITY.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EXACT LOCATIONS OF EQUIPMENT OR ALL REQUIRED FITTINGS AND HARDWARE. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED FOR A COMPLETE OPERATING SYSTEM. COORDINATE EQUIPMENT LOCATIONS AND WIRING WITH ACTUAL FIELD CONDITIONS AND EQUIPMENT ACTUALLY PROVIDED.
- CIRCUIT BREAKER SHALL BE AS LISTED IN APPENDIX D.
- UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC BELOW GRADE. MINIMUM CONDUIT SIZE SHALL BE 0.75" ABOVE GRADE, AND 1.00" BELOW GRADE. UNDERGROUND CONDUIT SHALL BE RUN A MINIMUM OF 24" BELOW GRADE.
- CABLE AND WIRE SHALL BE COPPER, DUAL RATED, TYPE THNN/THWN, EXCEPT GROUND CONDUCTORS SHALL BE SOFT DRAWN COPPER.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 0.75" BY 10 FT., DRIVEN SO TOP OF ROD IS BELOW GRADE. ALL GROUNDING CONDUCTORS ARE 30" BELOW GRADE. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELDS, ERICO "CADWELD" OR EQUAL, UNLESS OTHERWISE NOTED.
- INSTALL AND CONNECT ALL ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS.
- WARRANTEE ENTIRE ELECTRICAL INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE FINAL ACCEPTANCE DATE. PROMPTLY REPLACE AND/OR REPAIR ANY EQUIPMENT OR WIRING PROVIDED UNDER DIVISION 16 DURING THE WARRANTEE PERIOD WITH NO ADDITIONAL COSTS TO THE OWNER.
- PUMP CONTROL PANEL WILL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. CIRCUIT DIAGRAM AND DETAILS ARE PROVIDED FROM DATA RECEIVED FROM THE VENDOR, AND ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE. ACTUAL CIRCUITRY AND SPECIFIC DETAILS OF EQUIPMENT PROVIDED MAY VARY. PUMP CONTROL PANEL SPARE PARTS ARE NOT REQUIRED.
- ELECTRIC METER FOR DUKE ENERGY SERVICES SHALL BE MILBANK MODEL UAP9701-X-Q-G-HSP.

UTILITY: DUKE ENERGY  
 METER #: 2666123  
 ADDRESS: 7950 DRESSAGE DRIVE  
 VOLT: 480V

**P. S. #3676**

**Electrical Load Calculations**

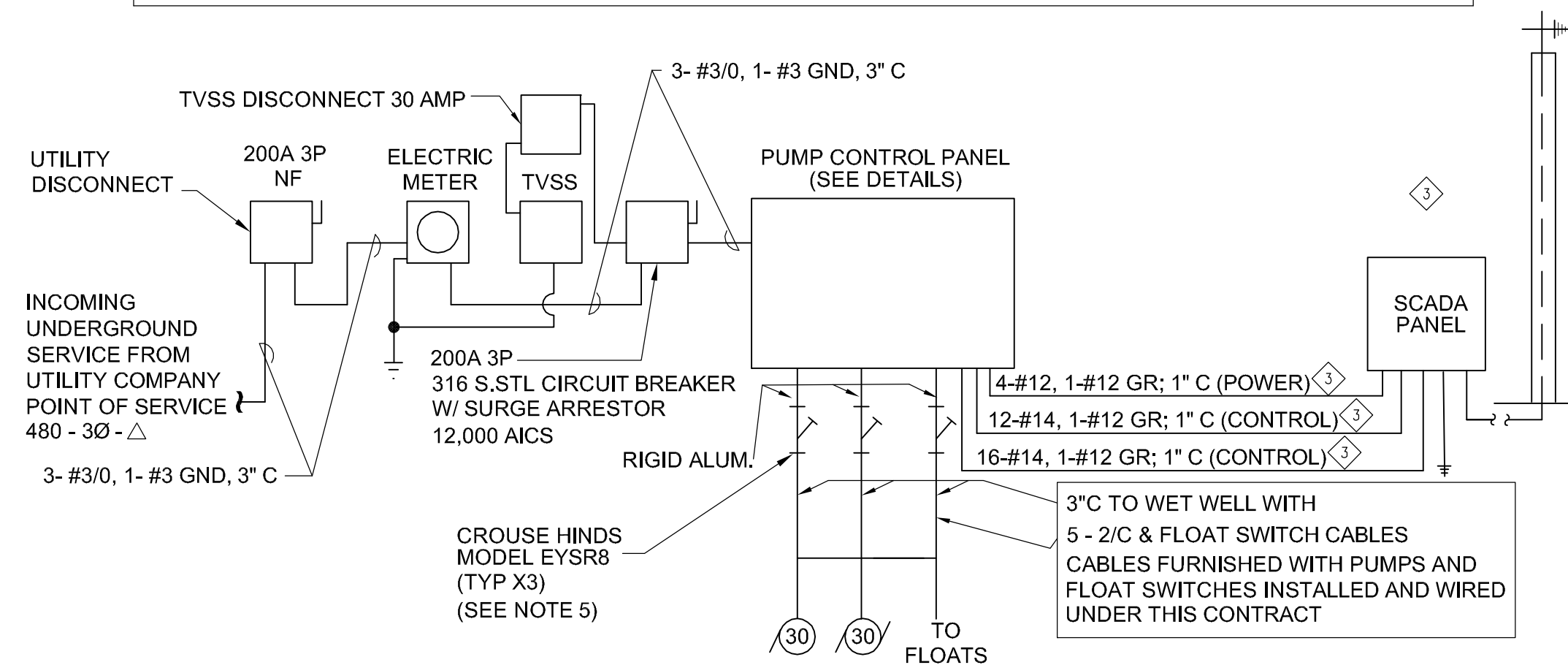
Ref: NEC 70 Table 430.250

Available Voltage 480V-3 Phase Delta

Maximum Available Fault Current = 119.19 Amperes

Load	Phase A Amps	Phase B Amps	Phase C Amps
Pump #1-30 HP MAX	40	40	40
Pump #2-30 HP MAX	40	40	40
Misc. Controls	10	-	-
Future SCADA			10
25% Largest Motor	10	10	10
<b>Total</b>	<b>100</b>	<b>90</b>	<b>100</b>

Service Size Selected = 200 Amperes



ELECTRICAL ONE-LINE DIAGRAM

**SCADA POLE COORDINATION**

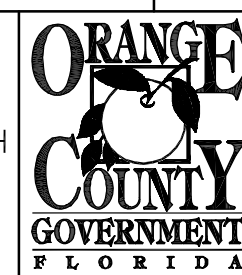
- OCU TO PROVIDE NEW TELEMETRY POLE. POLE TO BE INSTALLED BY CONTRACTOR.
- CONTACT ORANGE COUNTY RPR TO HAVE EXISTING SCADA PANEL REMOVED.
- SCADA SECTION WILL REMOVE PANEL AND YAGI FROM EXISTING POLE.
- SCADA SECTION WILL MOUNT SCADA PANEL AND YAGI ON NEW POLE.
- CONTRACTOR SHALL INSTALL CONDUIT AND PULL WIRES BETWEEN SCADA PANEL AND PUMP.
- SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.

**SPECIFIC NOTES**

- IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED.
- CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.
- SEE ELECTRICAL DETAILS 480 VAC FOR ELEVATIONS OF EQUIPMENT RACK.
- CONTRACTOR TO INSTALL OCU PROVIDED SCADA POLE. 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.
- CONTRACTOR TO USE 3" FITTING IF NECESSARY FOR 40% FILL.
- 36" SPACING SHALL BE LEFT FOR SCADA SECTION TO MOUNT SCADA PANEL.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**

9150 CURRY FORD ROAD ORLANDO, FL. 32825



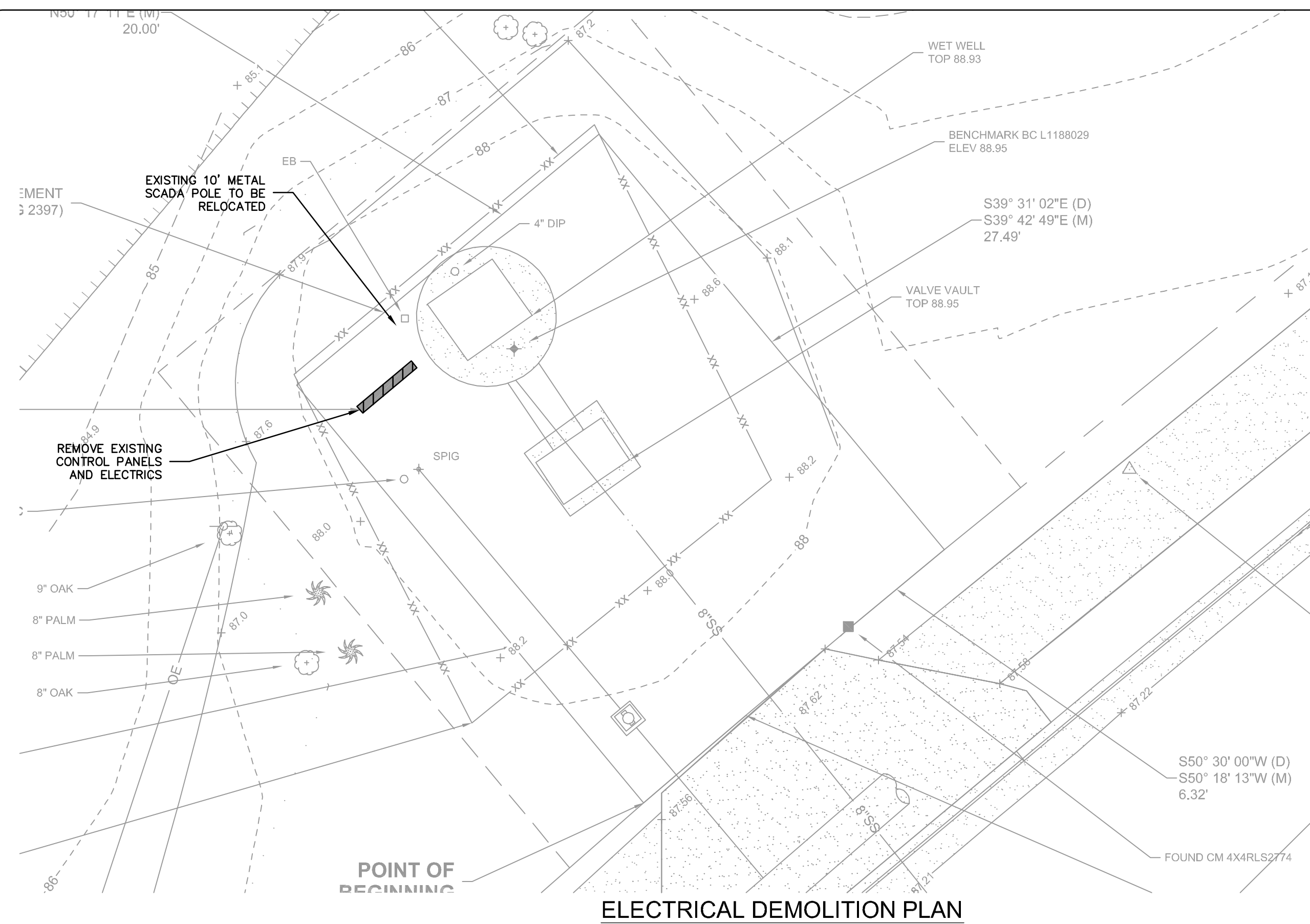
REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PS #3676 - COUNTRY RUN ELECTRICAL PLAN**

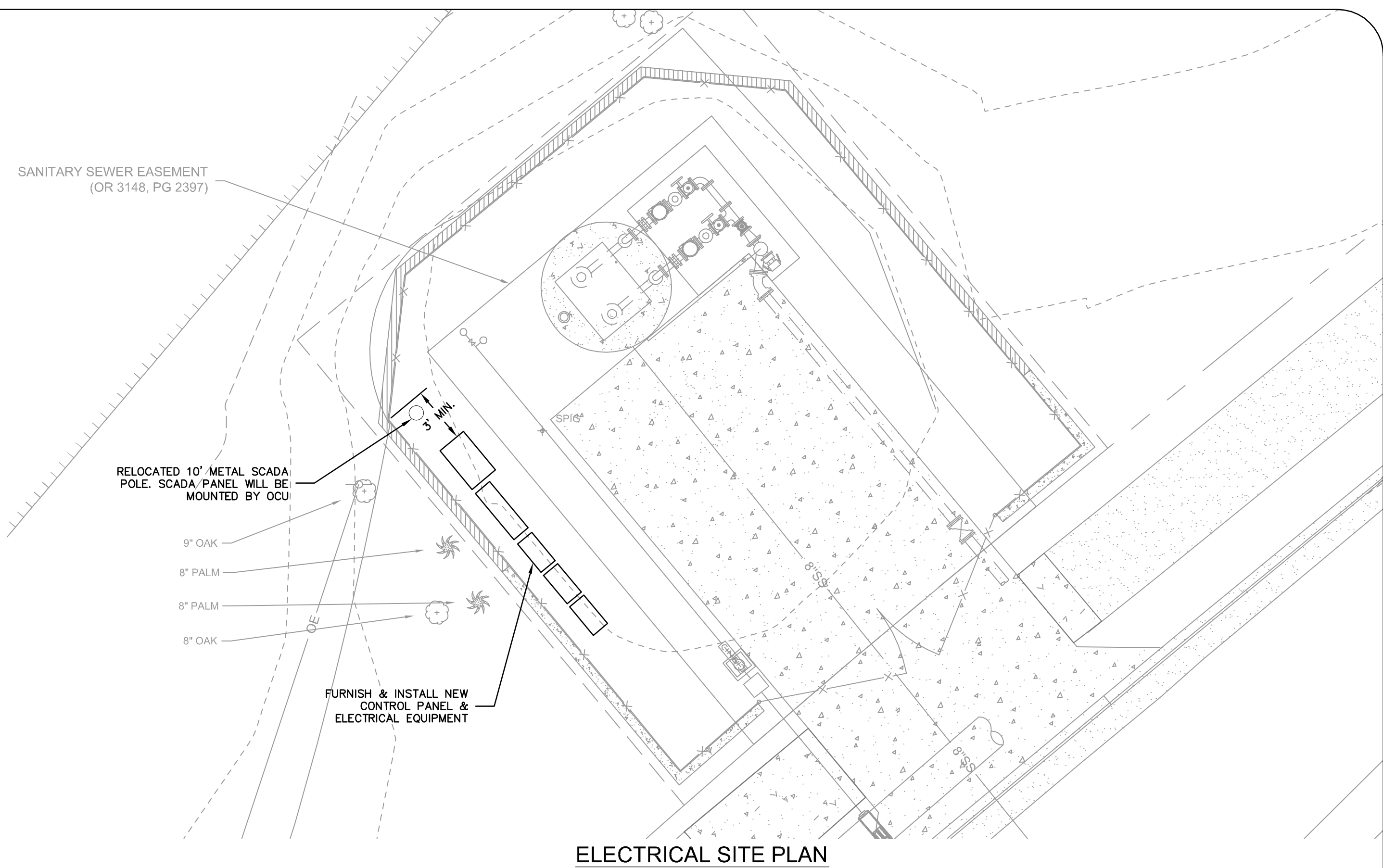
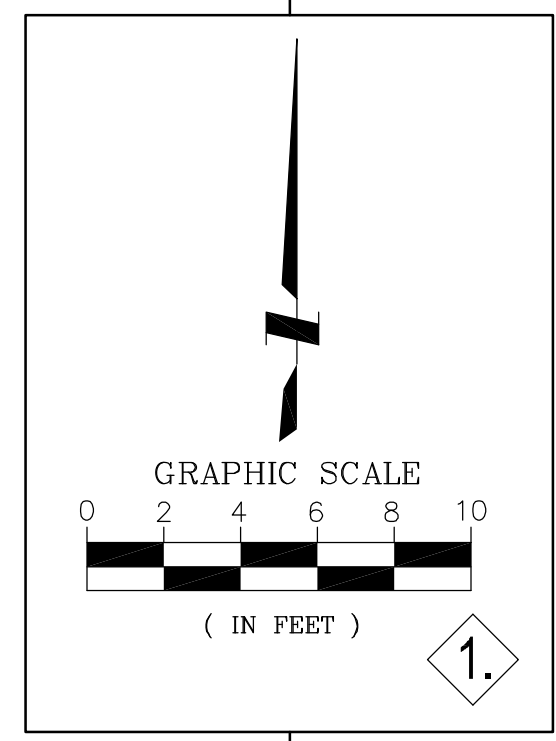
MARK K. WORSHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 63729

OCU FILE NO.: 74946  
 DESIGNED BY: MKW  
 DRAWN BY: LABS  
 CHECKED BY: MKW  
 CADD FILE: E200.DWG

SCALE: NOTED  
 DRAWING NO.: **E200**  
 SHEET: 22 OF 26



ELECTRICAL DEMOLITION PLAN



ELECTRICAL SITE PLAN

**ELECTRICAL NOTES**

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA-70, ALL APPLICABLE REQUIREMENTS OF ALL LOCAL, COUNTY, AND STATE CODES AND STANDARDS, AND ALL REQUIREMENTS OF THE SERVICING ELECTRIC UTILITY.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EXACT LOCATIONS OF EQUIPMENT OR ALL REQUIRED FITTINGS AND HARDWARE. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED FOR A COMPLETE OPERATING SYSTEM. COORDINATE EQUIPMENT LOCATIONS AND WIRING WITH ACTUAL FIELD CONDITIONS AND EQUIPMENT ACTUALLY PROVIDED.
- CIRCUIT BREAKER SHALL BE AS LISTED IN APPENDIX D.
- UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC BELOW GRADE. MINIMUM CONDUIT SIZE SHALL BE 0.75" ABOVE GRADE, AND 1.00" BELOW GRADE. UNDERGROUND CONDUIT SHALL BE RUN A MINIMUM OF 24" BELOW GRADE.
- CABLE AND WIRE SHALL BE COPPER, DUAL RATED, TYPE THNN/THWN, EXCEPT GROUND CONDUCTORS SHALL BE SOFT DRAWN COPPER.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 0.75" BY 10 FT., DRIVEN SO TOP OF ROD IS BELOW GRADE ALL GROUNDING CONDUCTORS ARE 30" BELOW GRADE. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELDS, ERICO "CADWELD" OR EQUAL, UNLESS OTHERWISE NOTED.
- INSTALL AND CONNECT ALL ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS.
- WARRANTEE ENTIRE ELECTRICAL INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE FINAL ACCEPTANCE DATE. PROMPTLY REPLACE AND/OR REPAIR ANY EQUIPMENT OR WIRING PROVIDED UNDER DIVISION 16 DURING THE WARRANTY PERIOD WITH NO ADDITIONAL COSTS TO THE OWNER.
- PUMP CONTROL PANEL WILL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. CIRCUIT DIAGRAM AND DETAILS ARE PROVIDED FROM DATA RECEIVED FROM THE VENDOR, AND ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE. ACTUAL CIRCUITRY AND SPECIFIC DETAILS OF EQUIPMENT PROVIDED MAY VARY. PUMP CONTROL PANEL SPARE PARTS ARE NOT REQUIRED.
- ELECTRIC METER FOR DUKE ENERGY SERVICES SHALL BE MILBANK MODEL UAP9701-X-Q-G-HSP.

UTILITY: DUKE ENERGY  
 METER #: 6641736  
 ADDRESS: 280 DORSHER RD.  
 VOLT: 240V

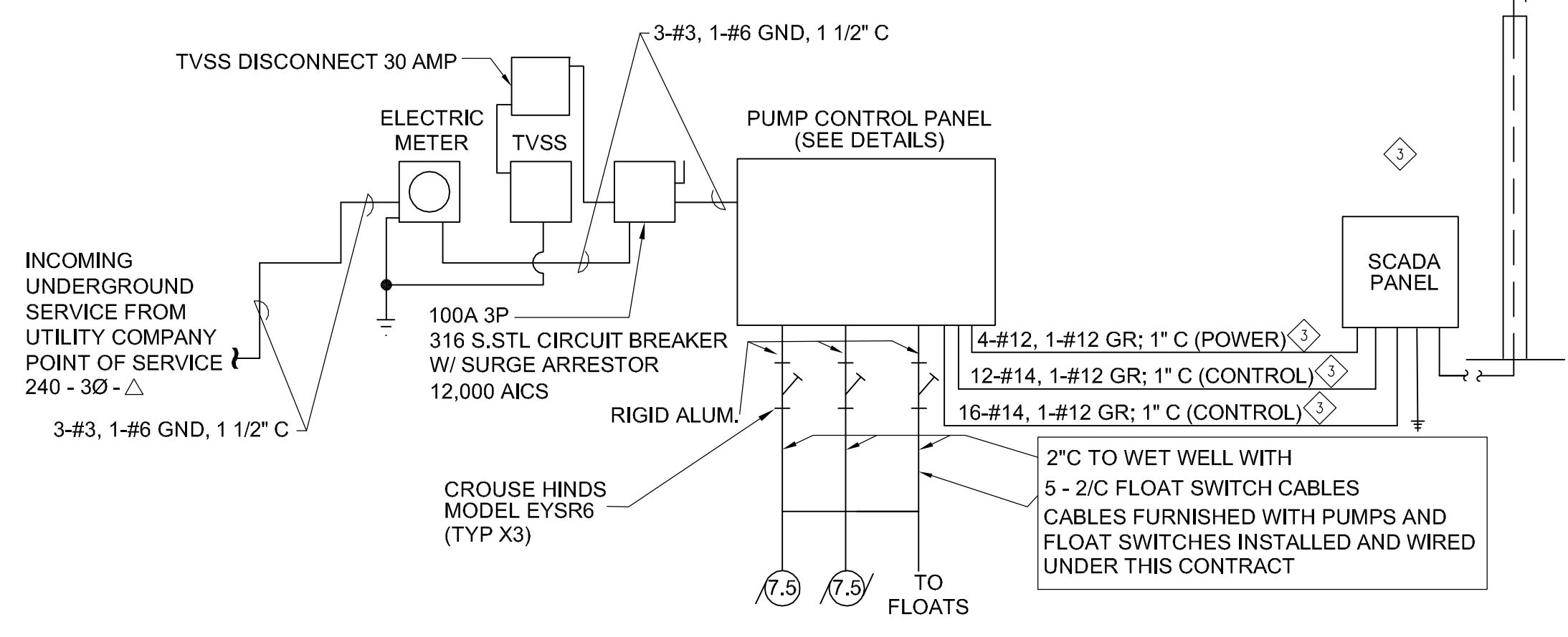
P. S. #3265  
**Electrical Load Calculations**  
 Ref: NEC 70 Article 220-4  
 Available Voltage 240V-3 Phase Delta  
 Maximum Available Fault Current = 4,811 Amperes

Load	Phase A Amps	Phase B Amps	Phase C Amps
Pump #1-7.5 HP	22	22	22
Pump #2-7.5 HP	22	22	22
Misc. Controls	10	-	-
Future SCADA			10
25% Largest Motor	5.5	5.5	5.5
<b>Total</b>	<b>59.5</b>	<b>49.5</b>	<b>59.5</b>

Service Size Selected = 100 Amperes

**SCADA POLE COORDINATION**

- OCU TO PROVIDE NEW TELEMETRY POLE. POLE TO BE INSTALLED BY CONTRACTOR.
- CONTACT ORANGE COUNTY RPR TO HAVE EXISTING SCADA PANEL REMOVED.
- SCADA SECTION WILL REMOVE PANEL & YAGI.
- CONTRACTOR TO INSTALL POLE IN NEW LOCATION.
- SCADA SECTION WILL MOUNT SCADA PANEL ON NEW POLE.
- CONTRACTOR SHALL INSTALL CONDUIT AND PULL WIRES BETWEEN SCADA PANEL AND PUMP.
- SCADA SECTION WILL ACTIVATE SCADA PANEL AFTER STATION ACCEPTANCE BY ORANGE COUNTY.



ELECTRICAL ONE-LINE DIAGRAM

- SPECIFIC NOTES**
- IF GRAPHIC SCALE DOES NOT MATCH INDICATED SCALE, DRAWING IS REDUCED AND ADJUSTMENT SHALL BE MADE AS REQUIRED
  - CONTRACTOR TO REMOVE EXISTING ELECTRICAL EQUIPMENT AND DISPOSE OF AS DIRECTED BY OWNER'S REPRESENTATIVE.
  - SEE ELECTRICAL DETAILS 240 VAC FOR ELEVATIONS OF EQUIPMENT RACK.
  - CONTRACTOR TO INSTALL OCU PROVIDED SCADA POLE. 3-1" CONDUIT TO BE INSTALLED BETWEEN PUMP CONTROL PANEL AND SCADA PANEL. CONTRACTOR TO INSTALL CONDUIT AND PULL STRING ONLY - FINAL CONNECTIONS BETWEEN PUMP CONTROL PANEL AND SCADA PANEL BY OTHERS. SEE SCADA POLE COORDINATION NOTES.
  - 36" SPACING SHALL BE LEFT FOR SCADA SECTION TO MOUNT SCADA PANEL.

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)

**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



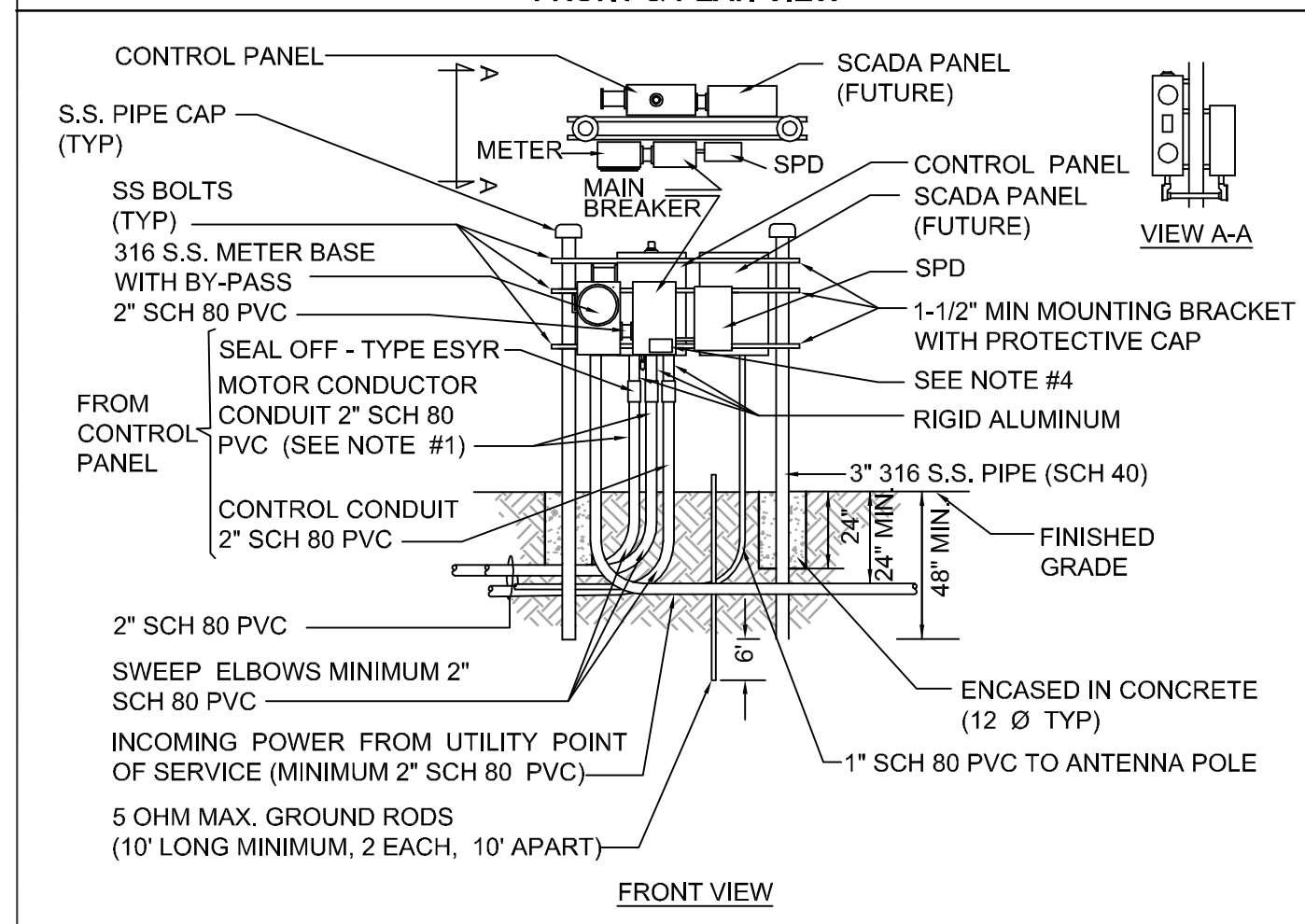
REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

PS #3265 - OAK MEADOW - ELECTRICAL PLAN  
 ELECTRICAL PLAN

MARK K. WORSHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 63729

OCU FILE NO.: 74946	SCALE: NOTED
DESIGNED BY: MKW	DRAWING NO.:
DRAWN BY: LABS	<b>E300</b>
CHECKED BY: MKW	SHEET: 23 OF 26
CADD FILE: C303.DWG	

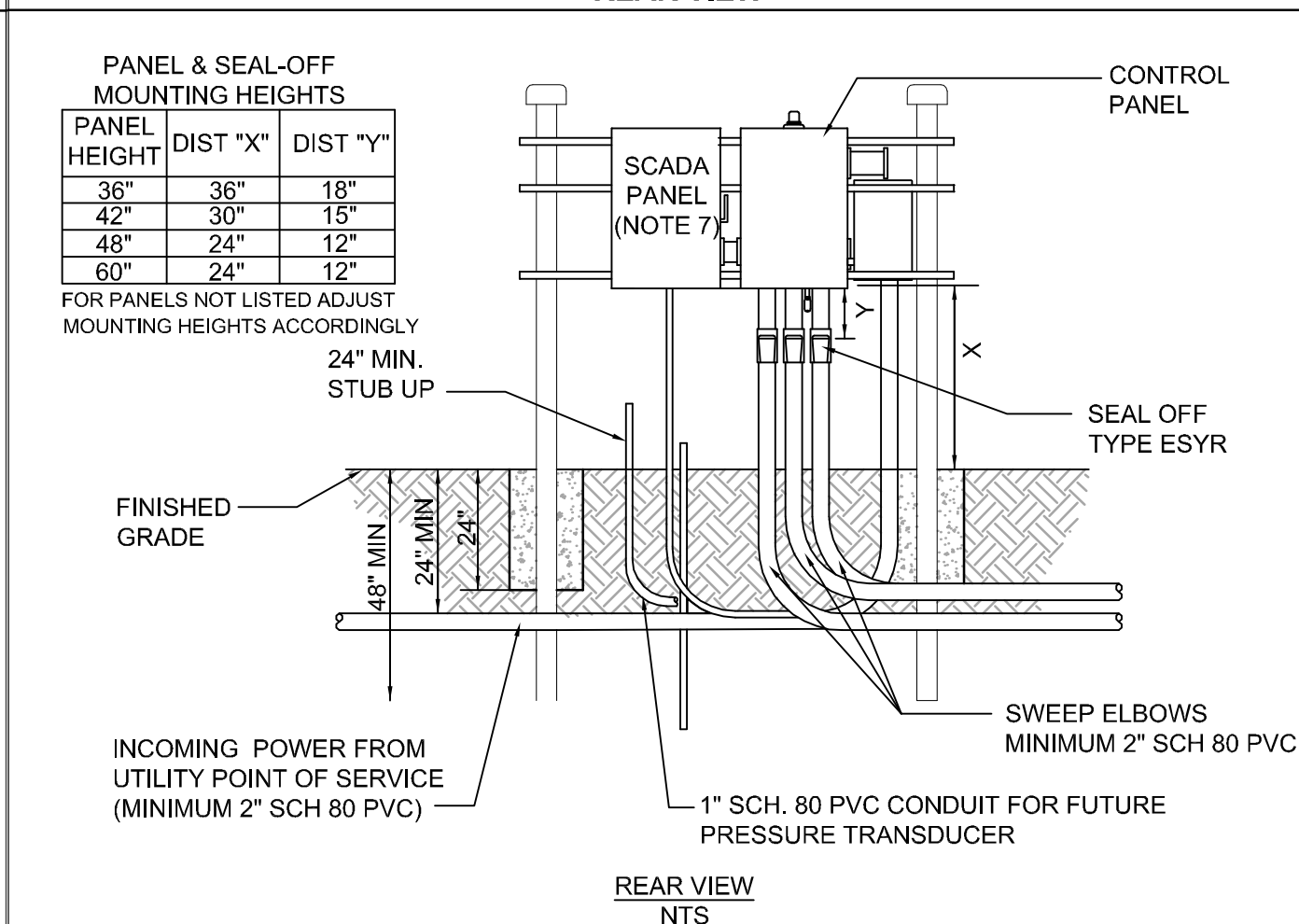
DATE: February 11, 2011 **PUMP STATION CONTROL PANEL (240V) FRONT & PLAN VIEW** **FIGURE A413-1**



**PANEL INSTALLATION NOTES:**

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY, 100 AMP SERVICE MINIMUM.
3. AN ELECTRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES. AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH AND METAL FENCE. REFER TO GROUNDING DETAILS.
4. THE STATION NAME, UTILITIES I.D. NUMBER AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE & BRACKETS AND ELECTRICAL ENCLOSURES SHALL BE 316 STAINLESS STEEL.
6. ON A 4-WIRE, DELTA SYSTEM, THE HIGH-LEG SHALL BE IDENTIFIED WITH ORANGE COLOR TAPE AT ALL CONNECTION POINTS AND SHALL BE LOCATED ON THE "B" PHASE AT THE LINE SIDE OF THE MAIN DISCONNECT.
7. THE SCADA PANEL IS TO SHOWN FOR INFORMATION ONLY AND WILL BE INSTALLED IN THE FUTURE (BY OTHERS).

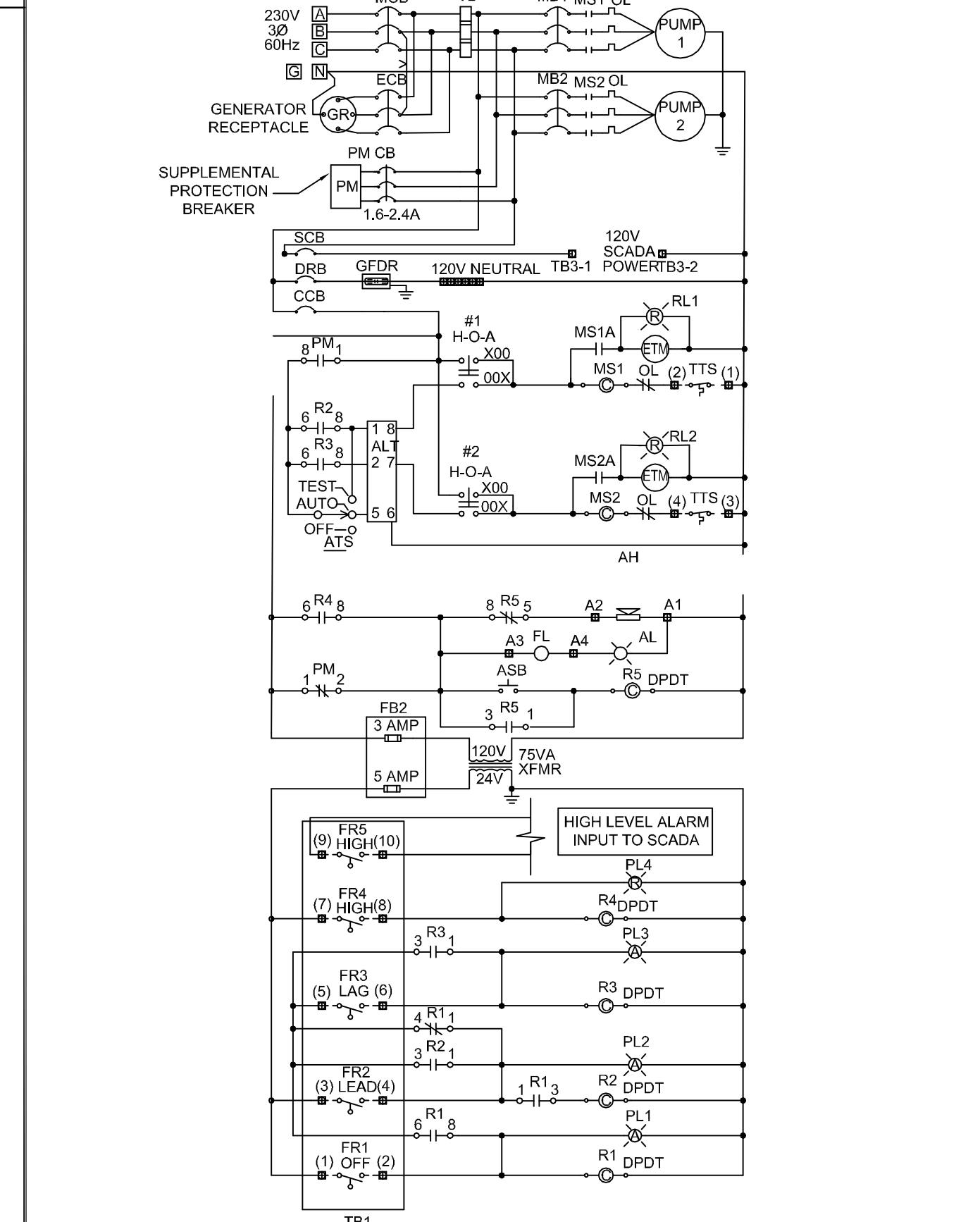
DATE: February 11, 2011 **PUMP STATION CONTROL PANEL (240V) REAR VIEW** **FIGURE A413-2**



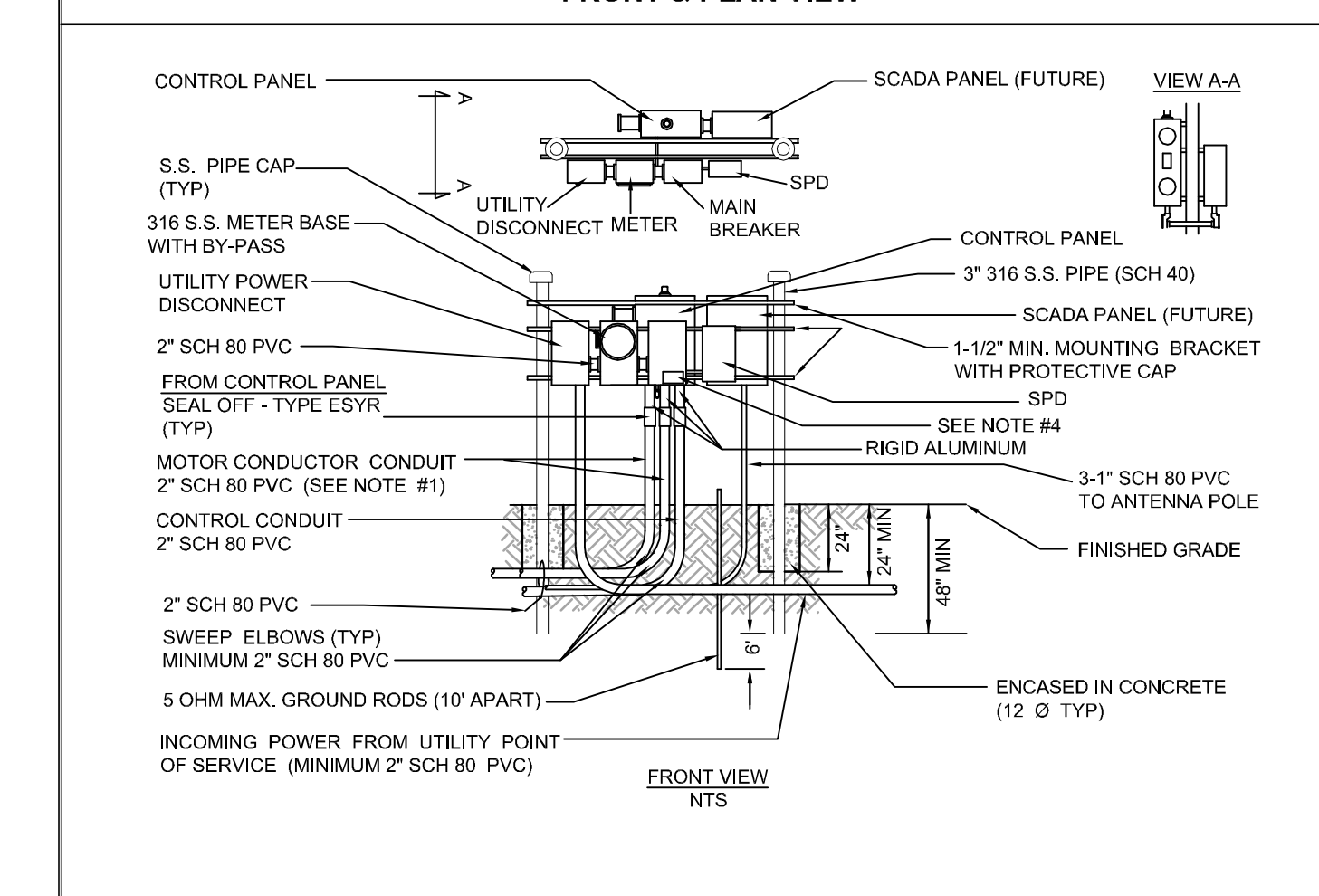
**PANEL INSTALLATION NOTES:**

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY, 100 AMP SERVICE MINIMUM.
3. AN ELECTRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES. AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH, AND METAL FENCE. REFER TO GROUNDING DETAILS.
4. THE STATION NAME, UTILITIES ID NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE AND BRACKETS AND ELECTRICAL ENCLOSURES SHALL BE 316 STAINLESS STEEL.
6. ON A 4-WIRE, DELTA SYSTEM, THE HIGH-LEG SHALL BE IDENTIFIED WITH ORANGE COLOR TAPE AT ALL CONNECTION POINTS AND SHALL BE LOCATED ON THE "B" PHASE AT THE LINE SIDE OF THE MAIN DISCONNECT.
7. THE SCADA PANEL IS TO SHOWN FOR INFORMATION ONLY AND WILL BE INSTALLED IN THE FUTURE (BY OTHERS).

DATE: February 11, 2011 **DUPLEX PUMP CONTROL SCHEMATIC (240V)** **FIGURE A414**



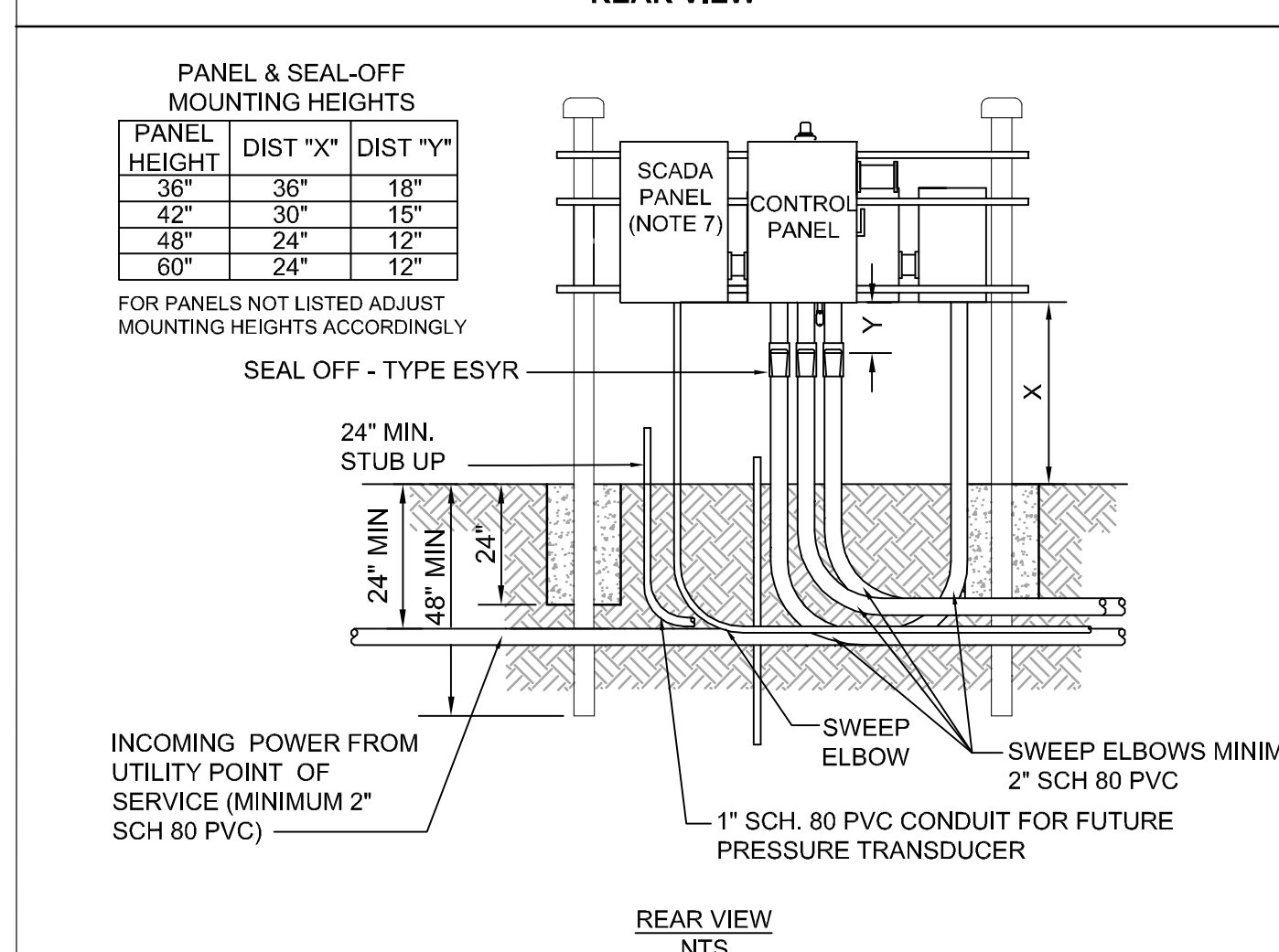
DATE: February 11, 2011 **PUMP STATION CONTROL PANEL (480V) FRONT & PLAN VIEW** **FIGURE A415-1**



**PANEL INSTALLATION NOTES:**

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY.
3. AN ELECTRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES. AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH, AND METAL FENCE. REFER TO GROUNDING DETAILS.
4. THE STATION NAME, ORANGE COUNTY I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE & BRACKETS AND ELECTRICAL ENCLOSURES SHALL BE 316 STAINLESS STEEL.
6. THE SCADA PANEL IS SHOWN FOR INFORMATION ONLY AND WILL BE INSTALLED IN THE FUTURE (BY OTHERS).

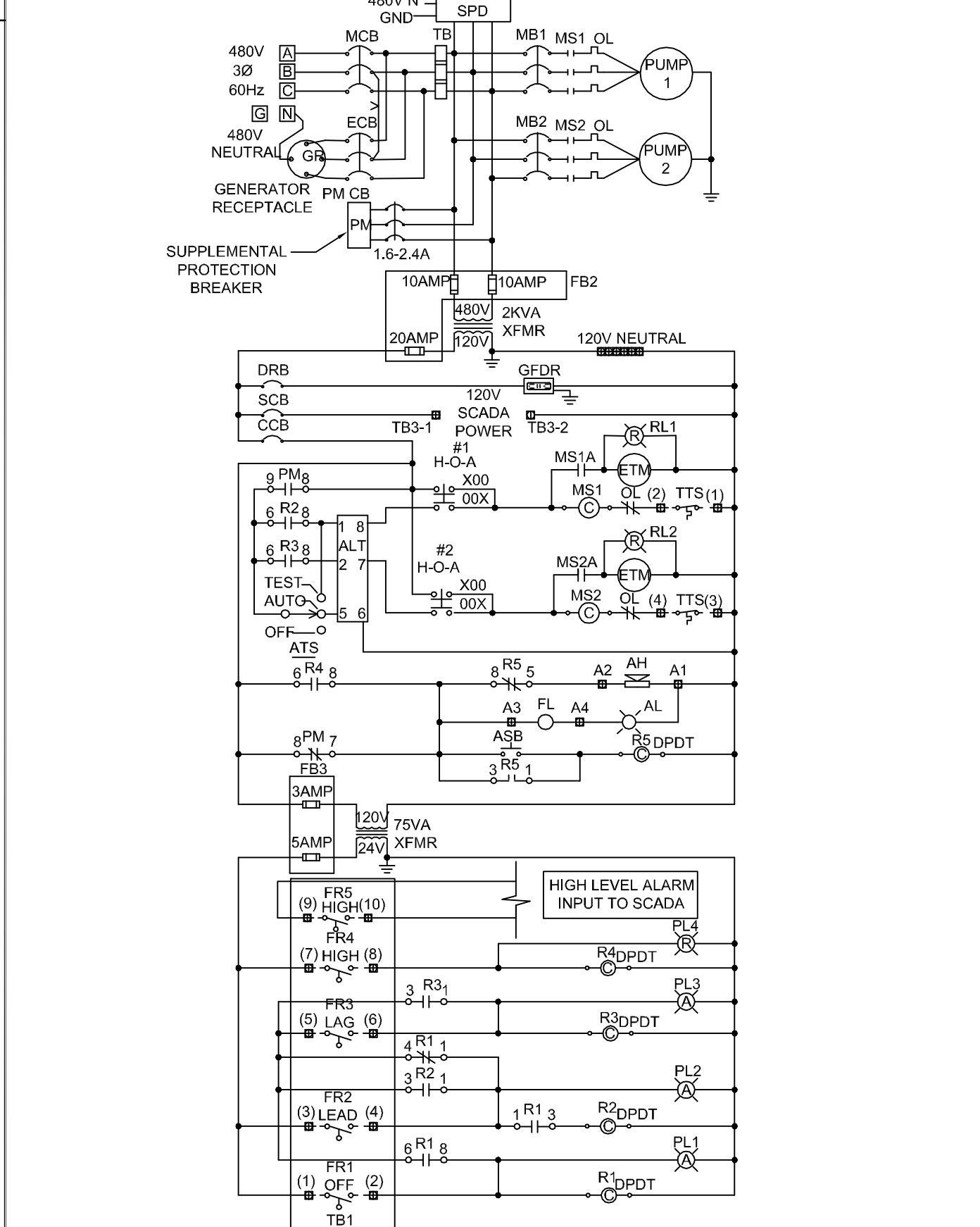
DATE: February 11, 2011 **PUMP STATION CONTROL PANEL (480V) REAR VIEW** **FIGURE A415-2**



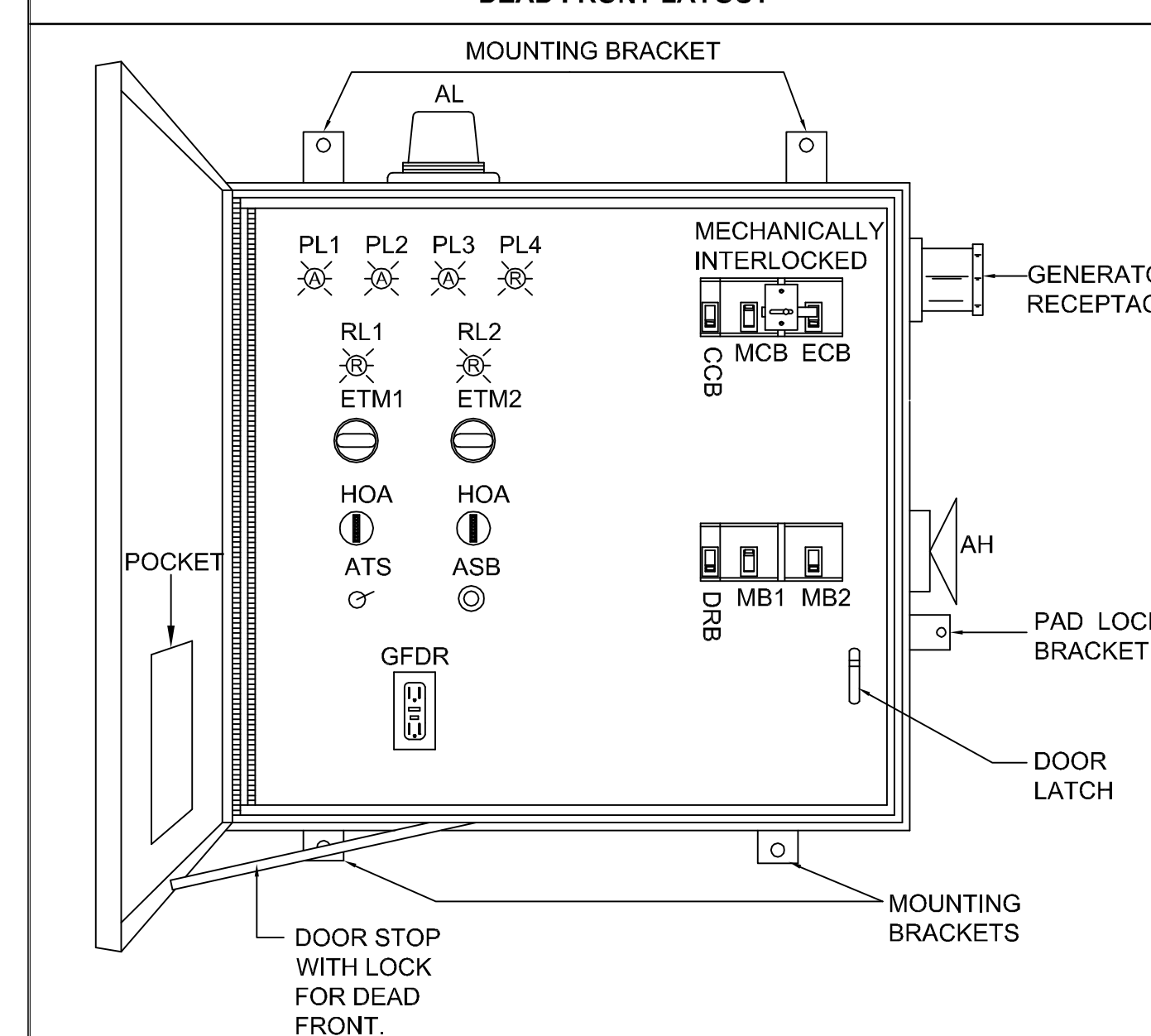
**PANEL INSTALLATION NOTES:**

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY.
3. AN ELECTRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES. AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH, AND METAL FENCE. REFER TO GROUNDING DETAILS.
4. THE STATION NAME, UTILITIES I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE & BRACKETS AND ELECTRICAL ENCLOSURES SHALL BE 316 STAINLESS STEEL.
6. THE SCADA PANEL SHOWN IS FOR INFORMATION ONLY AND WILL BE INSTALLED IN THE FUTURE (BY OTHERS).

DATE: February 11, 2011 **DUPLEX PUMP CONTROL SCHEMATIC (480V)** **FIGURE A416**



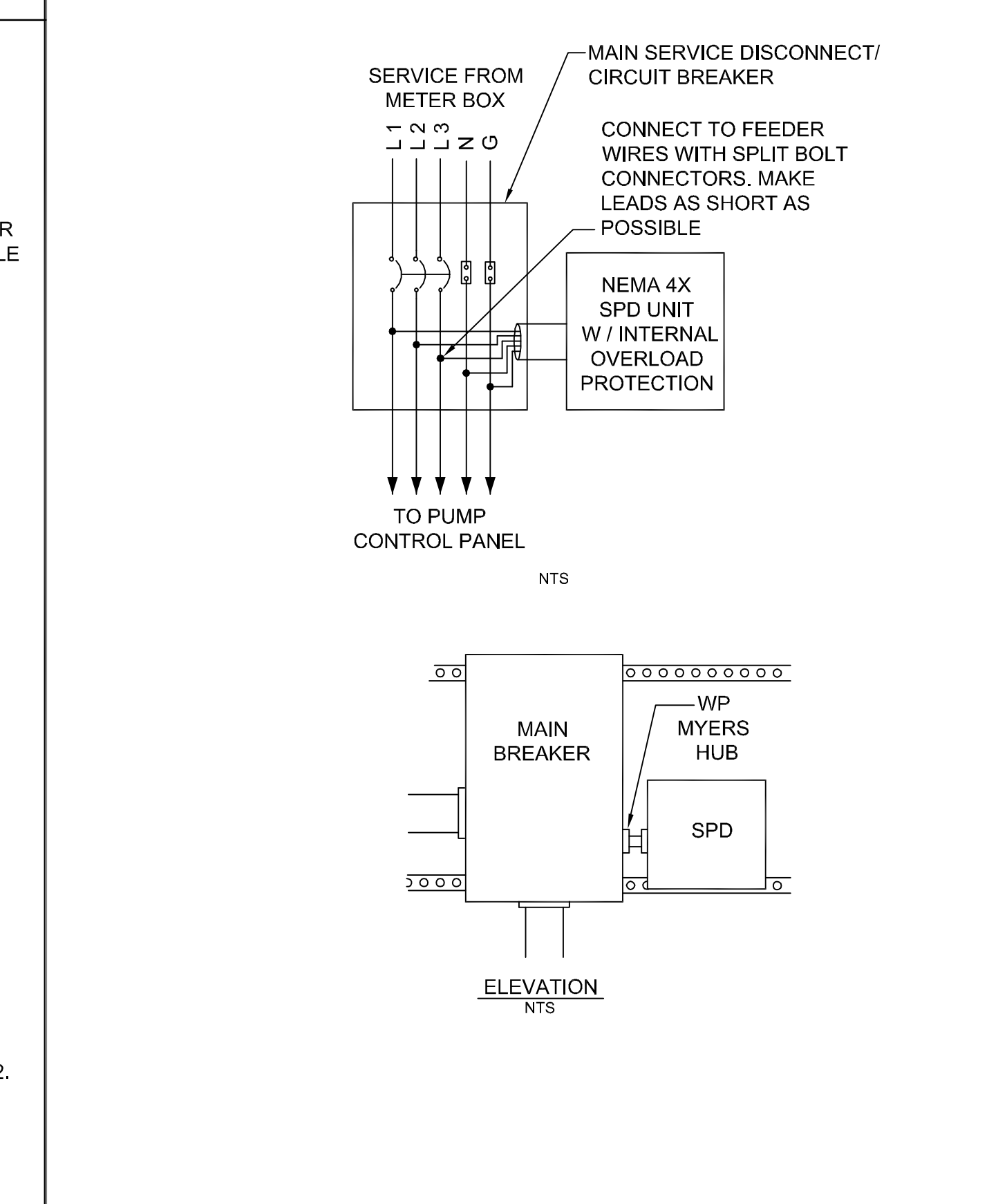
DATE: February 11, 2011 **DUPLEX CONTROL PANEL ENCLOSURE DEAD FRONT LAYOUT** **FIGURE A417**



**NOTES:**

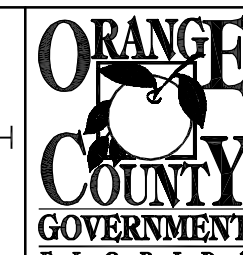
1. DEADFRONT LAYOUT NEMA TYPE 3R SS ENCLOSURE W/CONTINUOUS HINGE. ALL HARDWARE TYPE 316 SS TYPICAL, ACTUAL LAYOUT MAY VARY WITH HORSEPOWER.
2. THIS CONTROL PANEL, INCLUDING THE GENERATOR RECEPTACLE, COMPLIES WITH THE STANDARD LIST OF COMPONENTS REQUIRED BY UTILITIES.
3. ALL CONTROL WIRE TO BE #14 AWG MINIMUM.
4. CONTROL PANEL SHALL BE UL LISTED AND LABELED.
5. 30 SPARE TERMINALS (TB2).
6. PHASE MONITOR CIRCUIT BREAKER TO BE SIEMENS P/N: MSP10G, OR SQ-D P/N: MG24532.

DATE: February 11, 2011 **SPD INSTALLATION** **FIGURE A418**



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT SCALE ACCORDINGLY)



**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
9150 CURRY FORD ROAD ORLANDO, FL. 32825



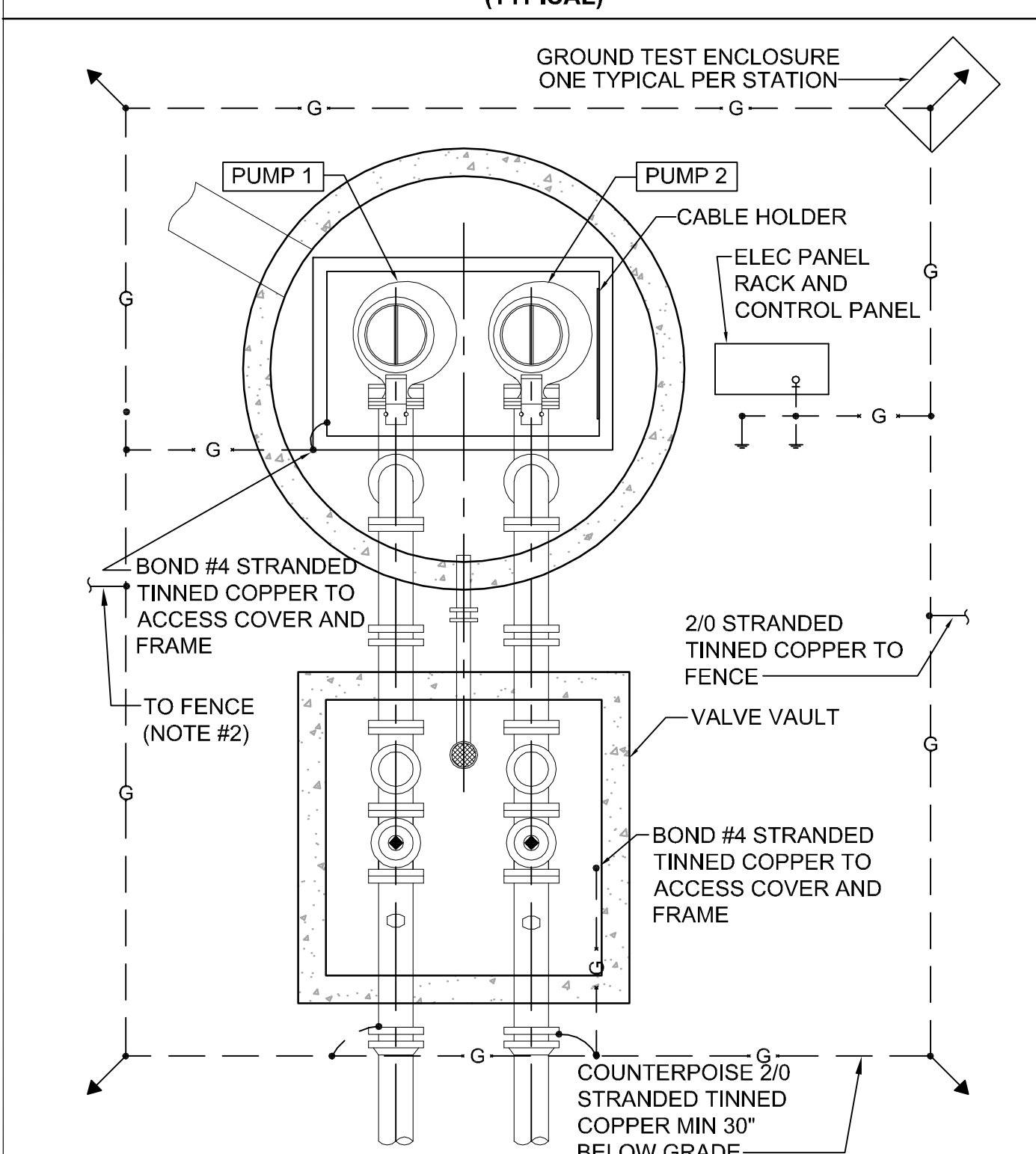
REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

**PACKAGE 8 ELECTRICAL DETAILS**

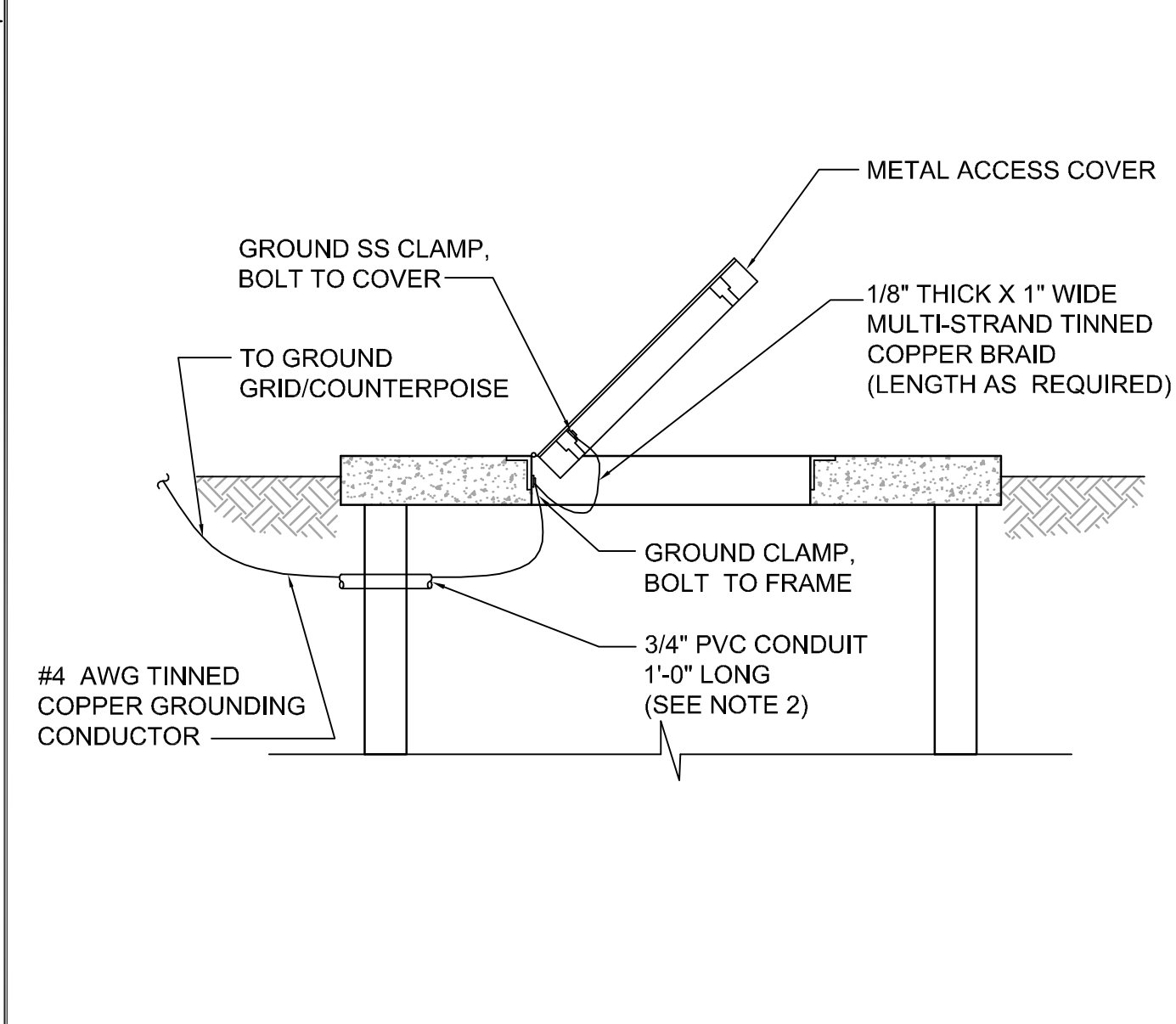
OCU FILE NO.: 74946  
DESIGNED BY: MKW  
DRAWN BY: LABS  
CHECKED BY: MKW  
CADD FILE: X100.DWG

SCALE: NOTED  
DRAWING NO.: **E400**  
SHEET: 24 OF 26

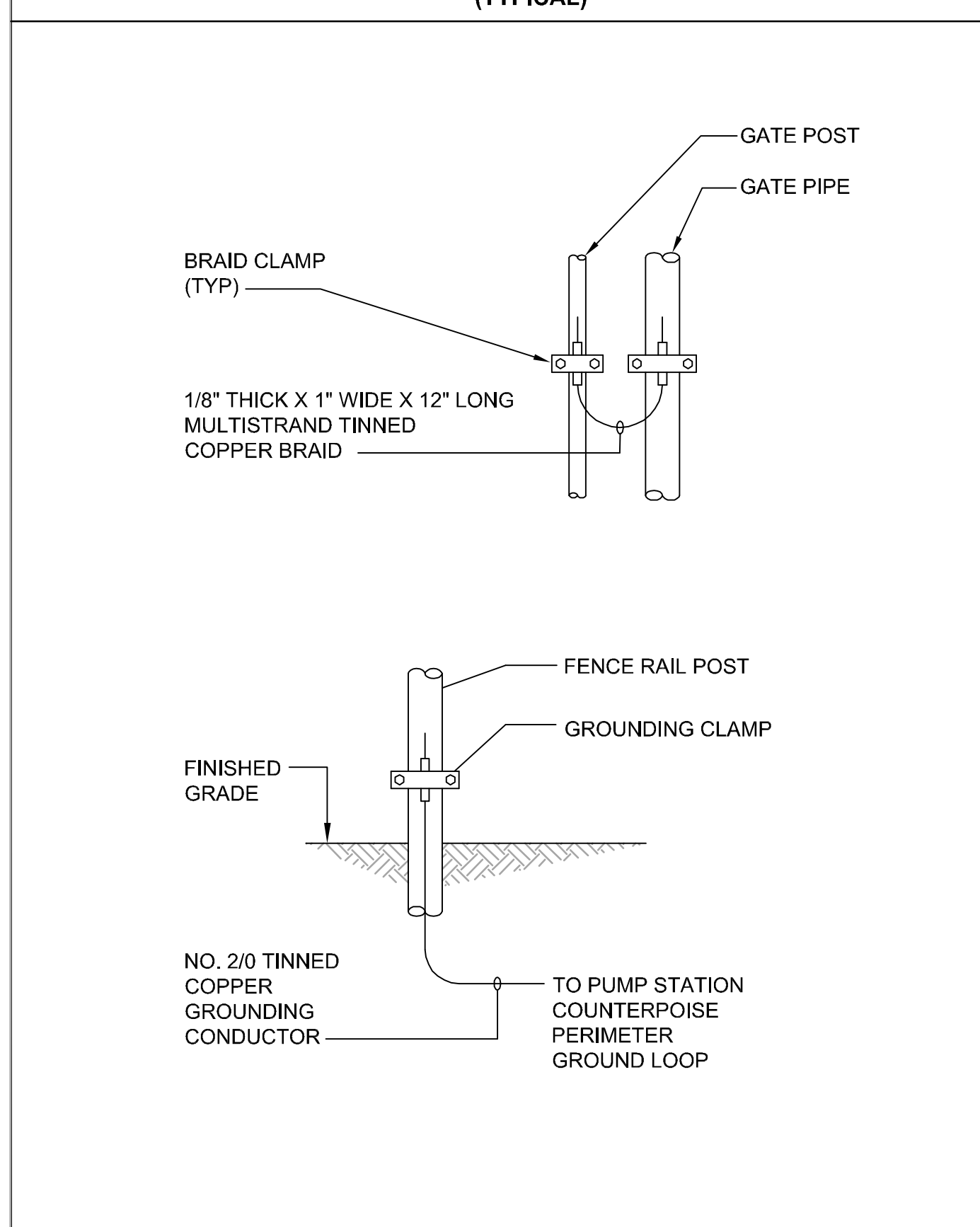
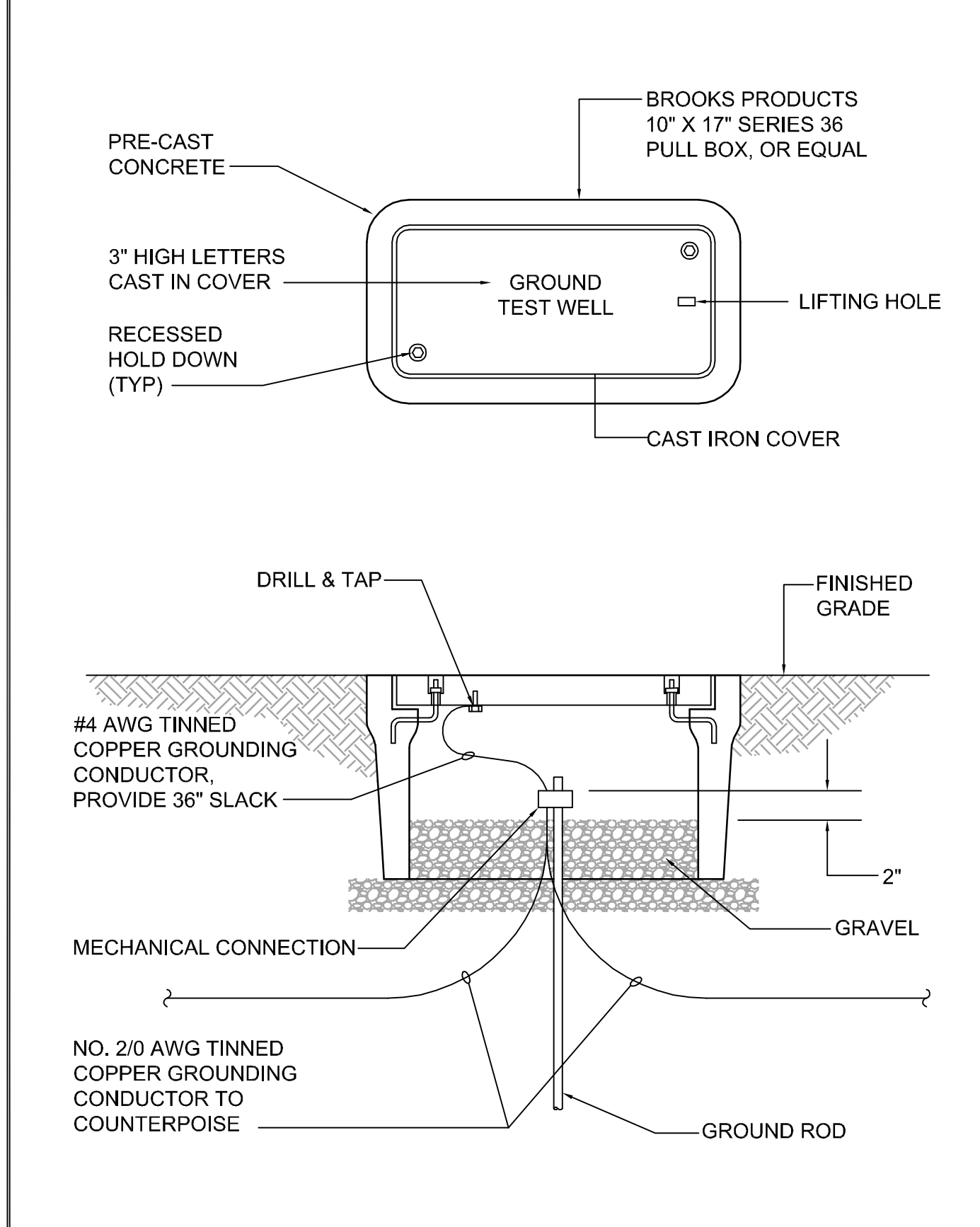




NOTES:  
 1. DETAIL IS GENERIC. SPECIFIC LOCATIONS OF EQUIPMENT MAY VARY.  
 2. TIE TO FENCE, MINIMUM 2 LOCATIONS. NOT REQUIRED WHERE PVC COATED, BLOCK, OR WOOD FENCE IS INSTALLED.  
 3. PROVIDE EXOTHERMIC WELDS UNLESS NOTED OTHERWISE.



NOTES:  
 1. ON COVERS WITH MULTIPLE DOORS, PROVIDE BRAID FROM FRAME TO DOOR ON EACH DOOR PROVIDE WATERPROOF CAULKING WHERE GROUND CABLE AND CONDUIT PENETRATES WETWELL TO PREVENT INTRUSION OF GROUNDWATER AND ESCAPE OF VAPORS FROM WETWELL.  
 2. INSTALL GROUND WIRE SO THAT IT WILL NOT CROSS CLEAR OPENING OR PREVENT OR IMPEDE NORMAL METHOD OF REMOVING FLOATS OR PUMPS.



REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)

**ORANGE COUNTY GOVERNMENT**  
**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



REISS ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION No. 8181  
 1016 SPRING VILLAS PT  
 WINTER SPRINGS, FL 32708  
 (407) 679-5358

**PACKAGE 8 ELECTRICAL DETAILS**

MARK K. WORSHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 63729

OCU FILE NO.: 74946
DESIGNED BY: MKW
DRAWN BY: LABS
CHECKED BY: MKW
CADD FILE: X100.DWG

SCALE: NOTED
DRAWING NO.:
<b>E401</b>
SHEET: 25 OF 26

VALVE ASSET TABLE																
ID Number	Utilities Asset Number	Plan Sheet #	Easting	Northing	Elevation	Valve Type	Main Type	Valve Size	Valve Manufacturer	Valve Model #	# of Turns to Close	Gear Actuator	Gear Ratio	Side Actuator	Actuator Manufacturer	Comments
PSV-01		C101				Tapping	Force Main	4"								
PSV-02		C101				Plug	ARV Isolation	2"								
PSV-03		C101				ARV	ARV	2								

PROPERTY CORNER/EASEMENT ASSET TABLE						
ID Number	Plan Sheet #	Easting	Northing	Elevation	Boundary Corner Type	Comments
PSPC-01	C101	507071.101	1567920.743		Property	PS #3391 Property Corner
PSPC-02	C101	507107.101	1567920.610		Property	PS #3391 Property Corner
PSPC-03	C101	507070.968	1567884.743		Property	PS #3391 Property Corner
PSPC-04	C101	507106.968	1567884.610		Property	PS #3391 Property Corner
PSPC-05	C201	498387.100	1548923.790		Property	PS #3676 Property Corner
PSPC-06	C201	498413.817	1548910.147		Property	PS #3676 Property Corner
PSPC-07	C201	498406.802	1548874.428		Property	PS #3676 Property Corner
PSPC-08	C201	498369.522	1548893.470		Property	PS #3676 Property Corner
PSPC-09	C301	501088.495	1531426.353		Property	PS #3265 Property Corner
PSPC-10	C301	501067.566	1531451.549		Property	PS #3265 Property Corner
PSPC-11	C301	501090.643	1531470.718		Property	PS #3265 Property Corner
PSPC-12	C301	501111.404	1531445.724		Property	PS #3265 Property Corner

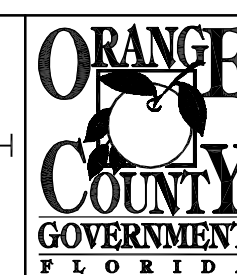
FITTING ASSET TABLE							
ID Number	Plan Sheet #	Easting	Northing	Elevation	Main Type	Fitting Type	Comments
PSF-01	C101				Force Main	4" Bend 90°	
PSF-02	C101				Force Main	4" Bend 90°	
PSF-03	C101				Force Main	4" Restrained Coupling	
PSF-04	C101				Force Main	4" Tapping Sleeve	

WATER METER ASSET TABLE						
ID Number	Plan Sheet #	Easting	Northing	Elevation	Main Type	Comments
WM-01	C101				2" Water Meter	
WM-02	C201				2" Water Meter	
WM-03	C301				2" Water Meter	

PUMP STATION ASSET TABLE					
ID Number	Plan Sheet #	Easting	Northing	Elevation	Comments
PSWW-01	C101	507087.535	1567901.072		PS #3391
PSWW-02	C201	498403.207	1548899.960		PS #3676
PSWW-03	C301	501085.870	1531452.900		PS #3265

REV	DATE	DESCRIPTION
D	7/10/15	FOR BID
C	6/26/15	100% DRAWINGS
B	1/21/15	90% DRAWINGS
A	11/12/14	60% DRAWINGS

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT SCALE ACCORDINGLY)



ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825



REISS ENGINEERING, INC.  
CERTIFICATE OF AUTHORIZATION No. 8181  
1016 SPRING VILLAS PT  
WINTER SPRINGS, FL 32708  
(407) 679-5358

PACKAGE 8  
COORDINATE ASSET AS-BUILT ATTRIBUTE TABLES

BRENT R. WHITE, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE #75588

OCU FILE NO.: 74946  
DESIGNED BY: BRW  
DRAWN BY: LABS  
CHECKED BY: BRW  
CADD FILE: X100.DWG

SCALE: NOTED  
DRAWING NO.:  
**X100**  
SHEET: 26 OF 26