

Orange County Fire Rescue Fuel Tank Automation and Replacement

100% Design Documents

November 23, 2018

Orange County Government Capital Planning Division

400 E. South Street
Orlando, Florida 32801

BASE BID & ADD ALTERNATES

- | | |
|---|---|
| <p>BASE BID</p> <ul style="list-style-type: none"> • STATION 27 • STATION 31 • STATION 33 • STATION 34 • STATION 35 • STATION 37 • STATION 40 • STATION 43 • STATION 51 • STATION 52 • STATION 56 • STATION 58 • STATION 65 • STATION 70 • STATION 77 • STATION 80 • STATION 81 • STATION 83 • STATION 84 • STATION 86 | <p>ADD ALTERNATE #1</p> <ul style="list-style-type: none"> • STATION 20 • STATION 55 • STATION 63 • STATION 66 • STATION 85 |
|---|---|

GENERAL SCOPE OF WORK

1. CREATE BRANCH FEED OF 120 VAC FROM EXISTING PANEL IN NEW UNDERGROUND CONDUIT TO POWER FUEL CONTROL TERMINAL (FCT).
2. PROVIDE AND INSTALL SEAL-OFFS AND CONDUIT TERMINATIONS IN FCT BASE AS PER LOCAL NEC CODE.
3. PROVIDE AND INSTALL NEW 12VDC PULSER BOARD.
4. PROVIDE NEW CONCRETE PAD.
5. INSTALL FCT UNIT.
6. CONNECT AND CONFIGURE PULSER BOARD TO FIRE RESCUE NETWORK VIA FCT.
7. CONFIGURE COMMUNICATION WITH FCT TO COMMUNICATE WITH FIRE RESCUE SERVER.
8. PROVIDE AND CONFIGURE FUEL MANAGEMENT SOFTWARE.
9. PROVIDE AND INSTALL HOSE MODULE ON EACH DISPENSER NOZZLE.
10. PROVIDE AND INSTALL FUEL TAGS ON ALL APPLICABLE VEHICLES.
11. CONNECT AND CONFIGURE HOSE MODULE AND FUEL TAGS TO FIRE RESCUE NETWORK VIA FCT.
12. PROVIDE AND INSTALL TANK LEVEL MONITOR.
13. CONNECT AND CONFIGURE FUEL TANK MONITOR TO FIRE RESCUE NETWORK VIA FCT.

SHEET INDEX

<u>GENERAL</u>	
G100	OVERALL PROJECT LOCATION PLAN
<u>CIVIL</u>	
C100	DEMOLITION PLAN
C200	SITE PLAN
<u>ELECTRICAL</u>	
E001	ELECTRICAL GENERAL INFORMATION
E101	ELECTRICAL POWER PLAN
E201	ELECTRICAL PANEL SCHEDULES AND DETAILS

BOARD OF COUNTY COMMISSIONERS

MAYOR - JERRY DEMMINGS

DISTRICT 1 COMMISSIONER - BETSY VANDERLEY

DISTRICT 2 COMMISSIONER - ROD A. LOVE

DISTRICT 3 COMMISSIONER - PETE CLARKE

DISTRICT 4 COMMISSIONER - JENNIFER THOMPSON

DISTRICT 5 COMMISSIONER - EMILY BONILLA

DISTRICT 6 COMMISSIONER - VICTORIA P. SIPLIN

PROJECT TEAM

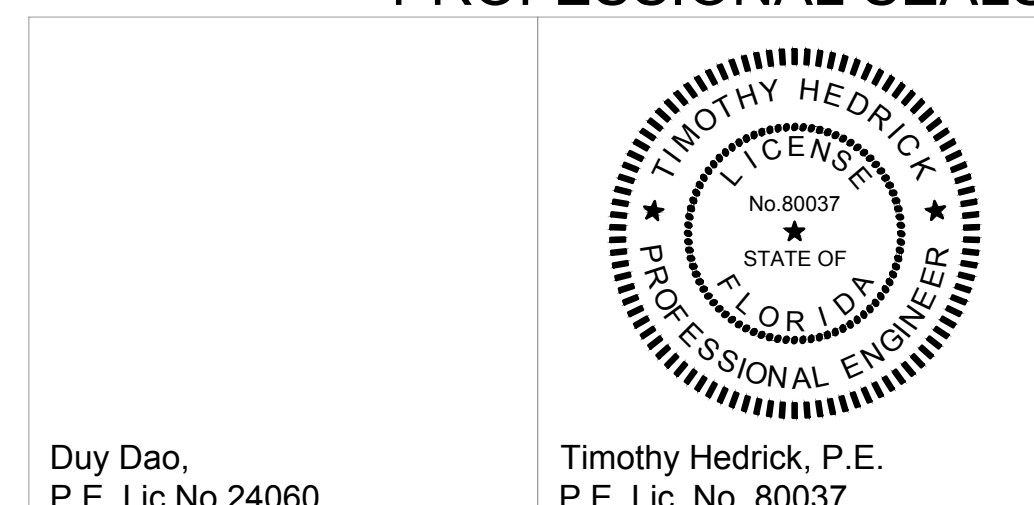
civil

DAO Consultants
1110 E Marks Street
Orlando, FL 32803
Phone: 407.898.6872

electrical

RTM Engineering
952 S Semoran Blvd
Suite 100
Winter Park, FL 32792
ph: (407) 678-2055
fax: (407) 678-2088
contact: Mitesh Smart

PROFESSIONAL SEALS

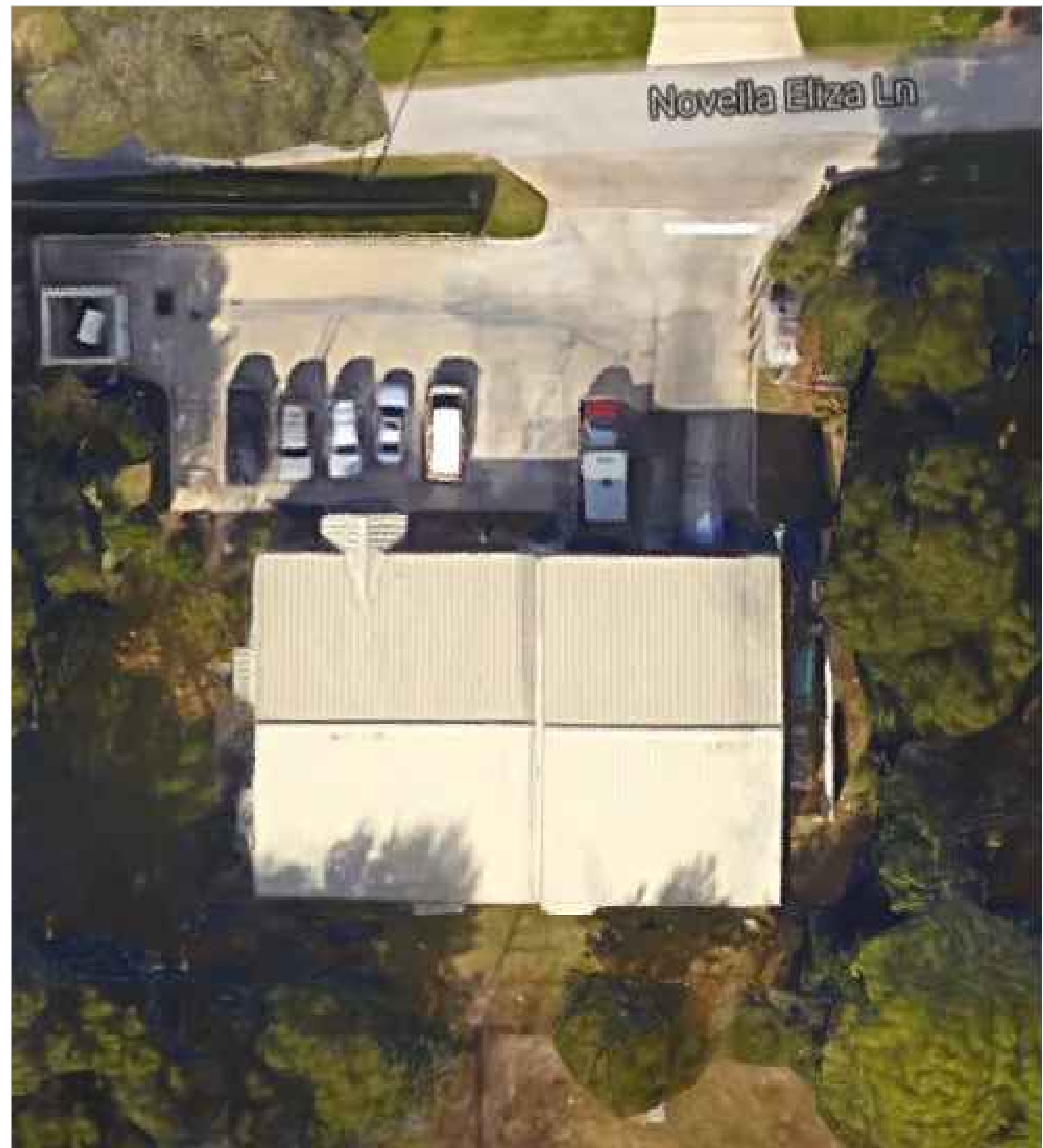


Revisions:

#	Date	Description

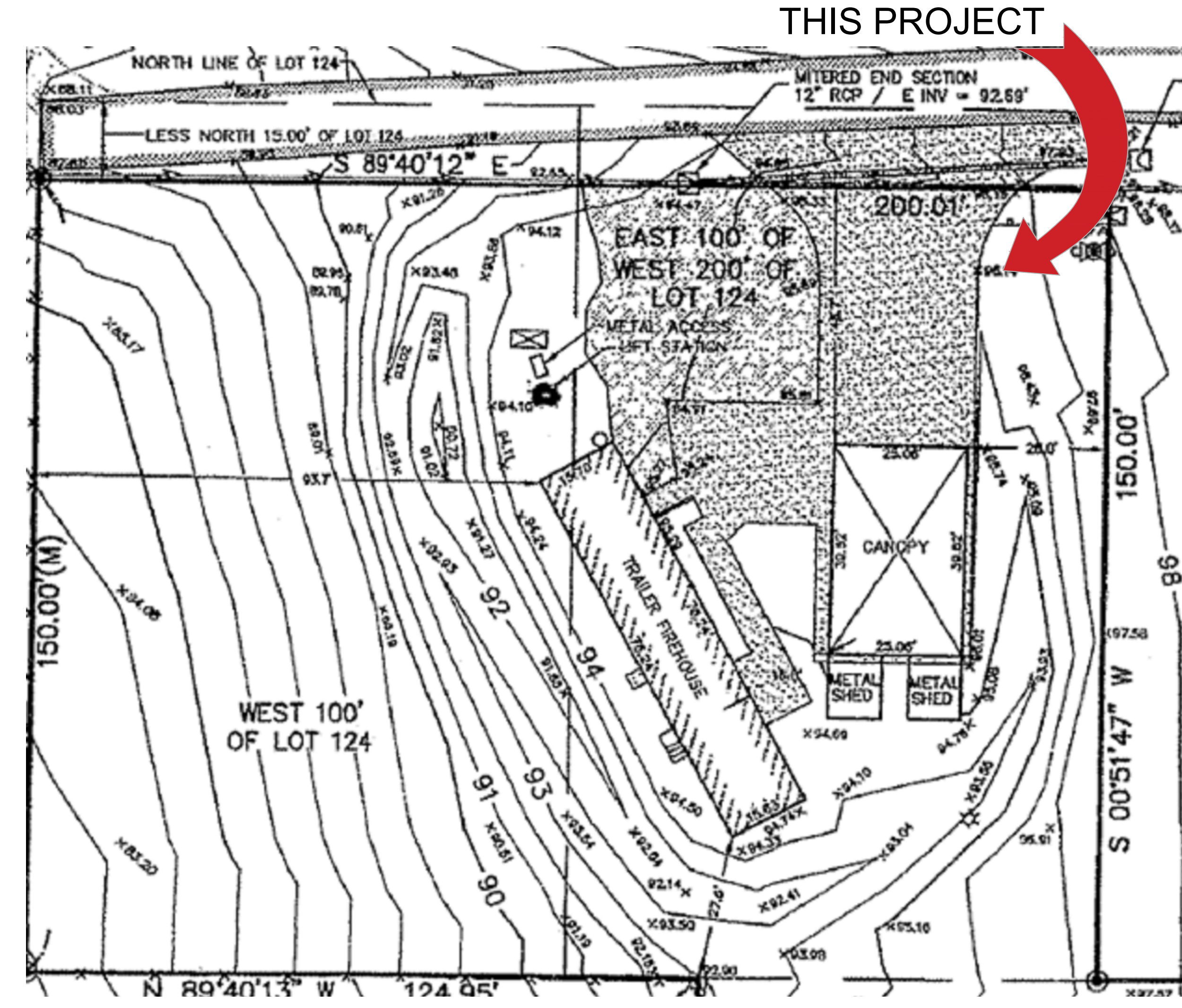
Date:
11.23.2018
Project Number:
16.OC.043
Drawn By:
S.D.H.
Checked By:
D.D.

Civil Demo Plan



EXISTING CONDITIONS
N.T.S.

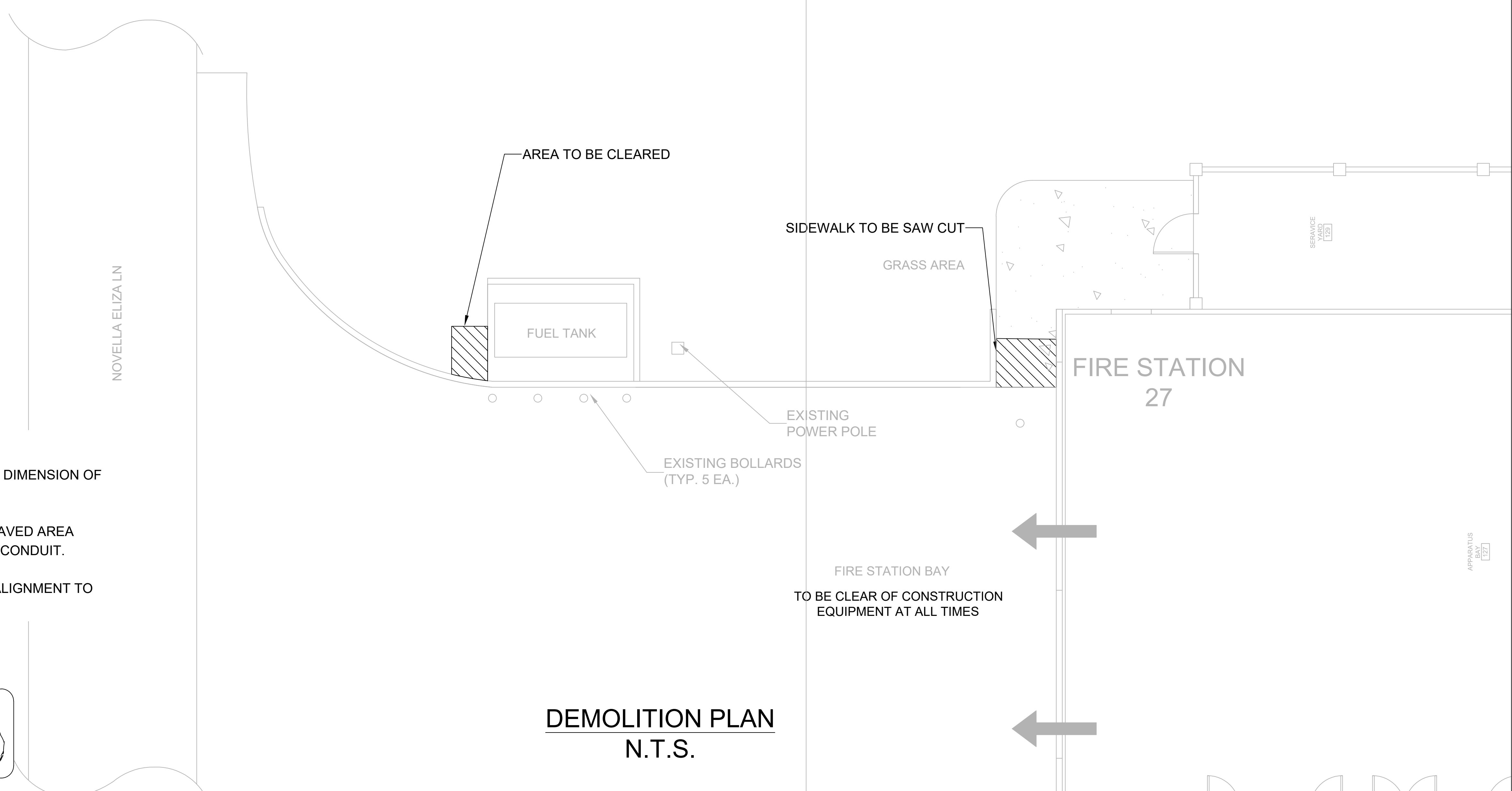
FROM GOOGLE EARTH 2017



LOCATION MAP
N.T.S.

GENERAL NOTES - CIVIL

- THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
- TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
- ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
- ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
- CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
- CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
- BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
- CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
- CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
- SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
- CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
- EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
- ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
- CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
- AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
- AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
- AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



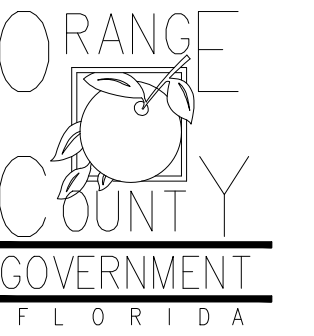
DEMOLITION PLAN
N.T.S.

DEMOLITION NOTES

- CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
- OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
- CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.



Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:
Fire Station 27
2248 NOVELLA ELIZA LN,
AOPKA, FL 32712

Issuance:
**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

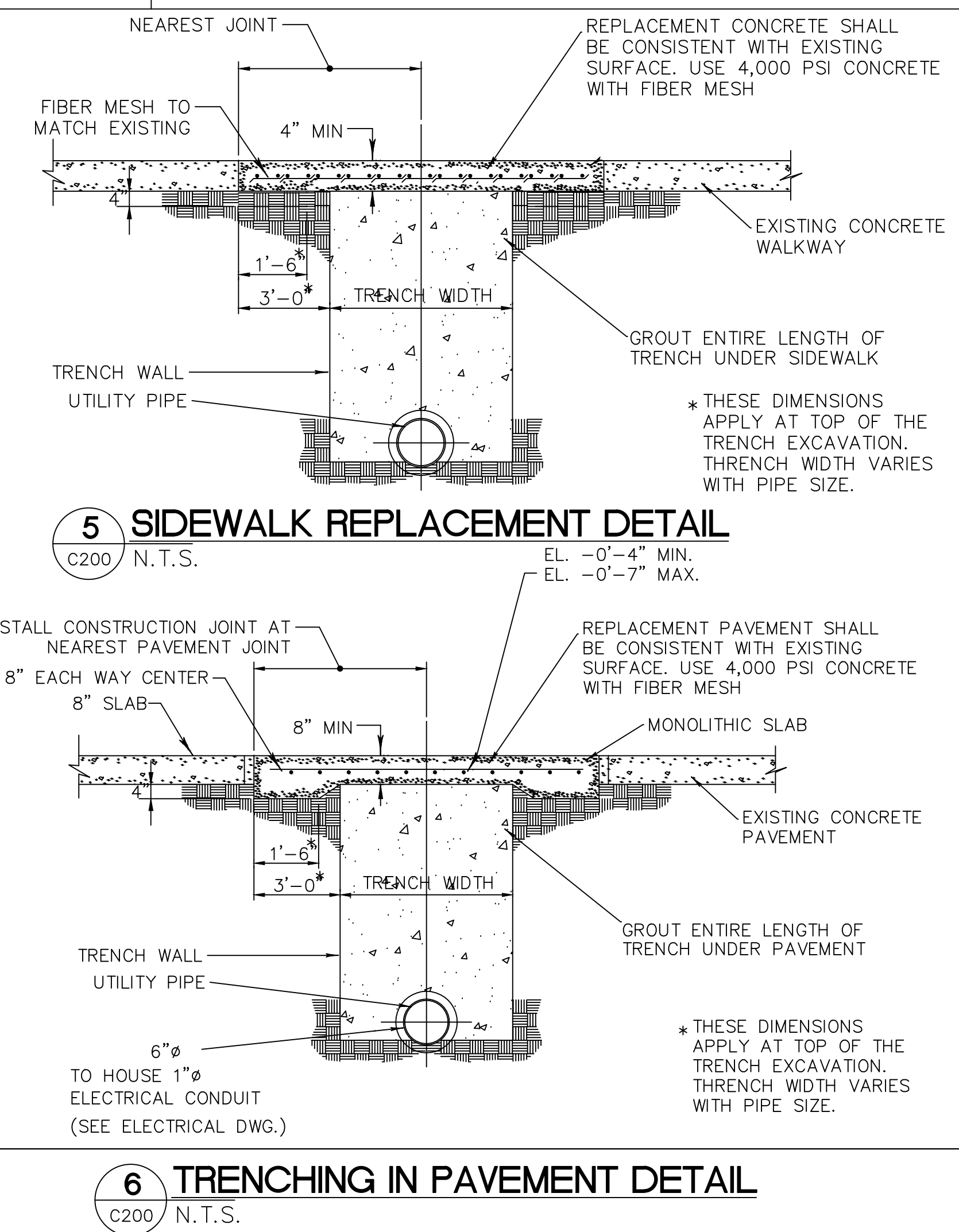
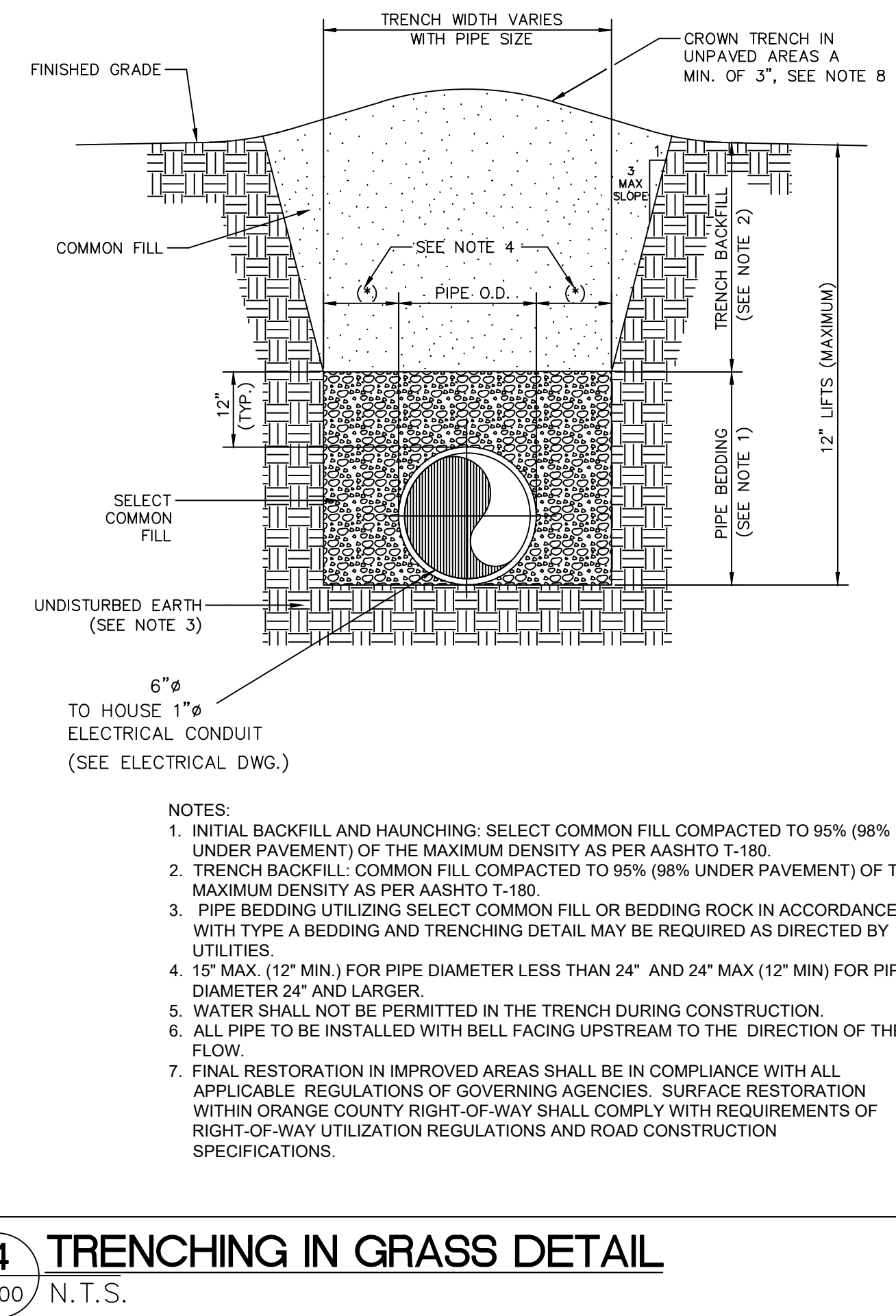
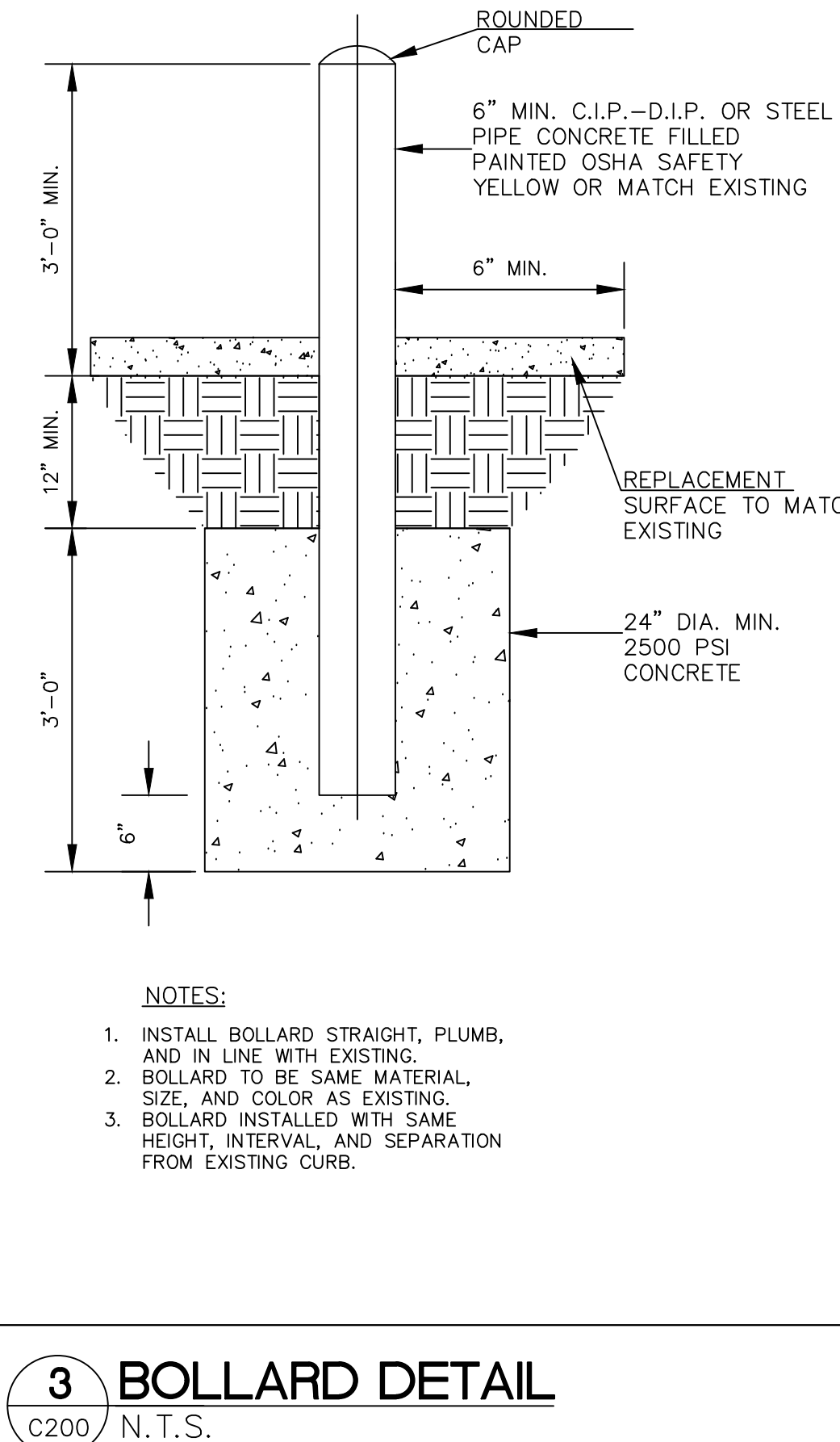
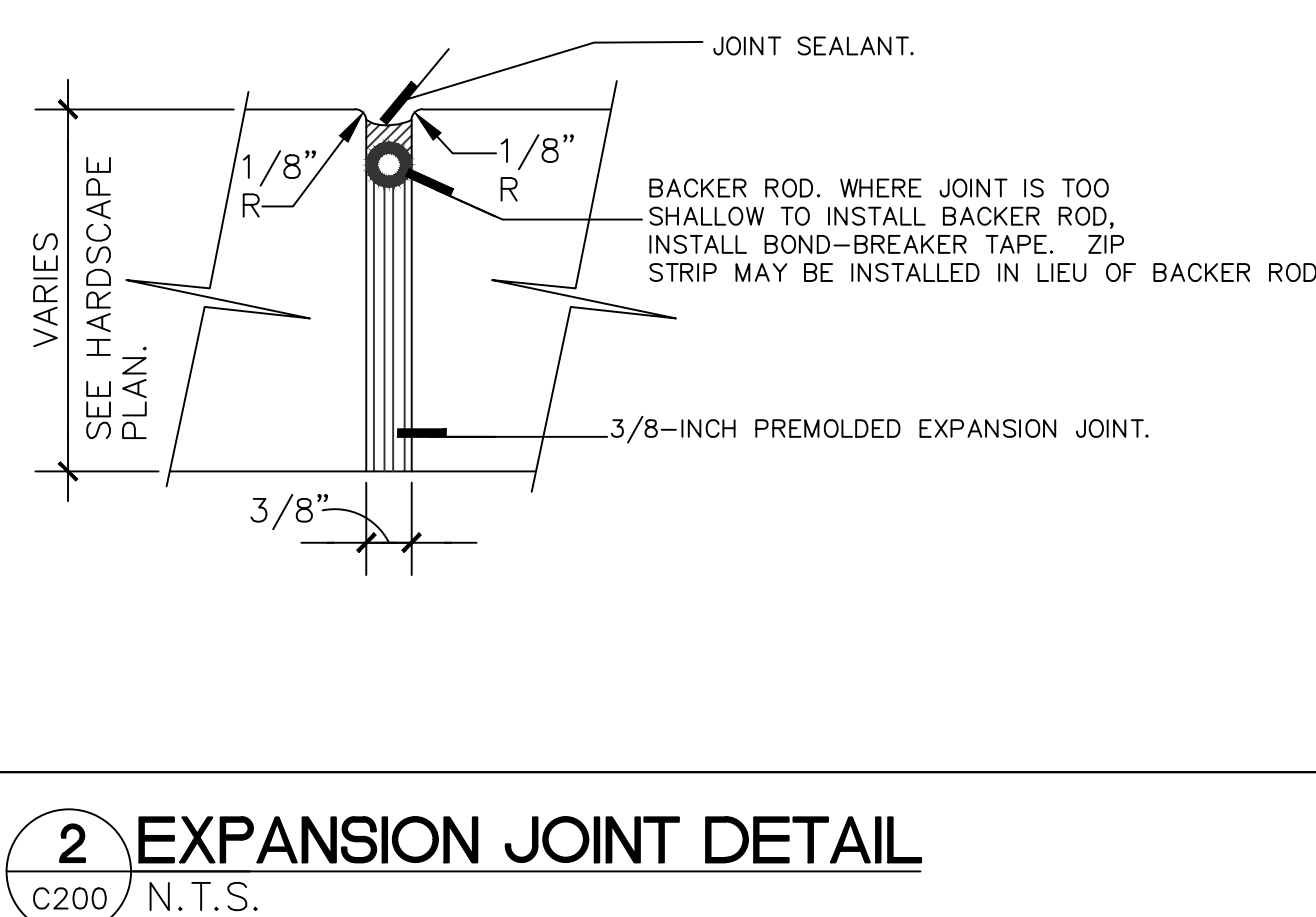
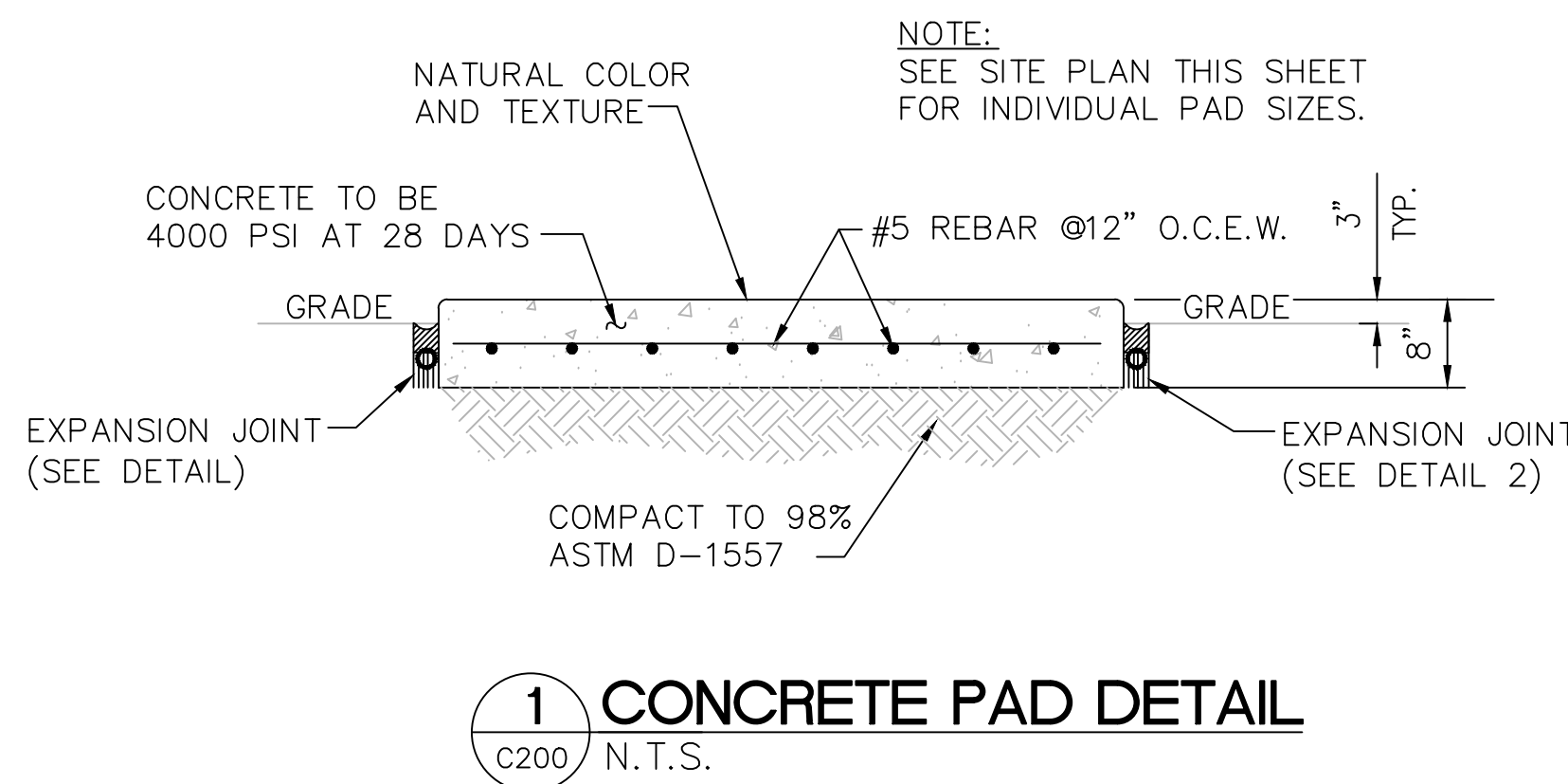
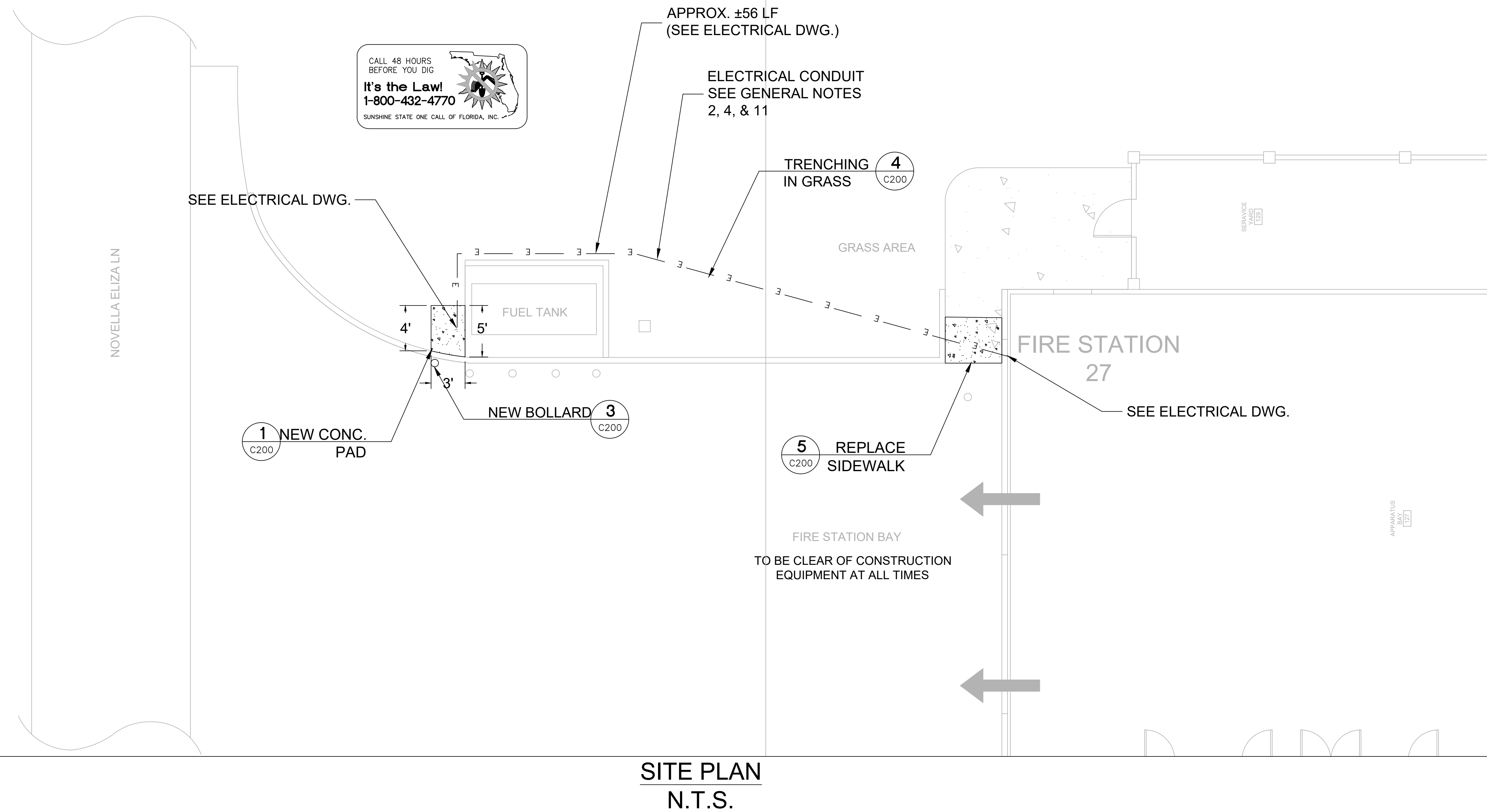
Civil Site Plan

Sheet No.:

27-C200

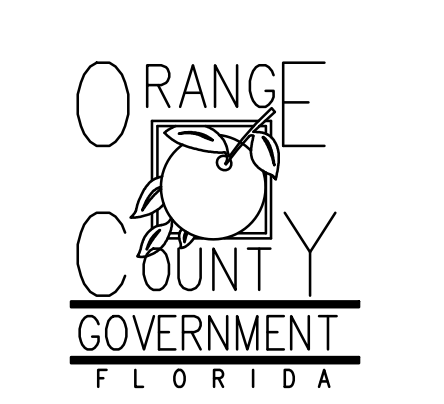
PROJECT SPECIFIC NOTES - CIVIL

- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
- CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
- TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
- SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
- CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
- CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
- CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
- INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



**MISCELLANEOUS DETAILS
N.T.S.**

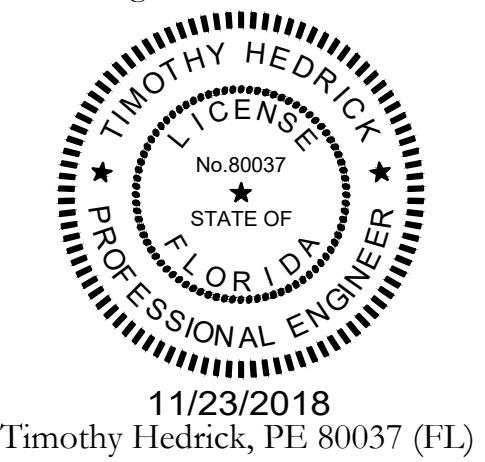
Client:



Consultants:



EOR Stamp:



Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 27
2248 NOVELLA ELIZA LN,
APOPKA, FL 32712

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

Project Number:
16.OC.043

Drawn By: **ME** Checked By: **SP**

ELECTRICAL POWER PLAN

Sheet No.:

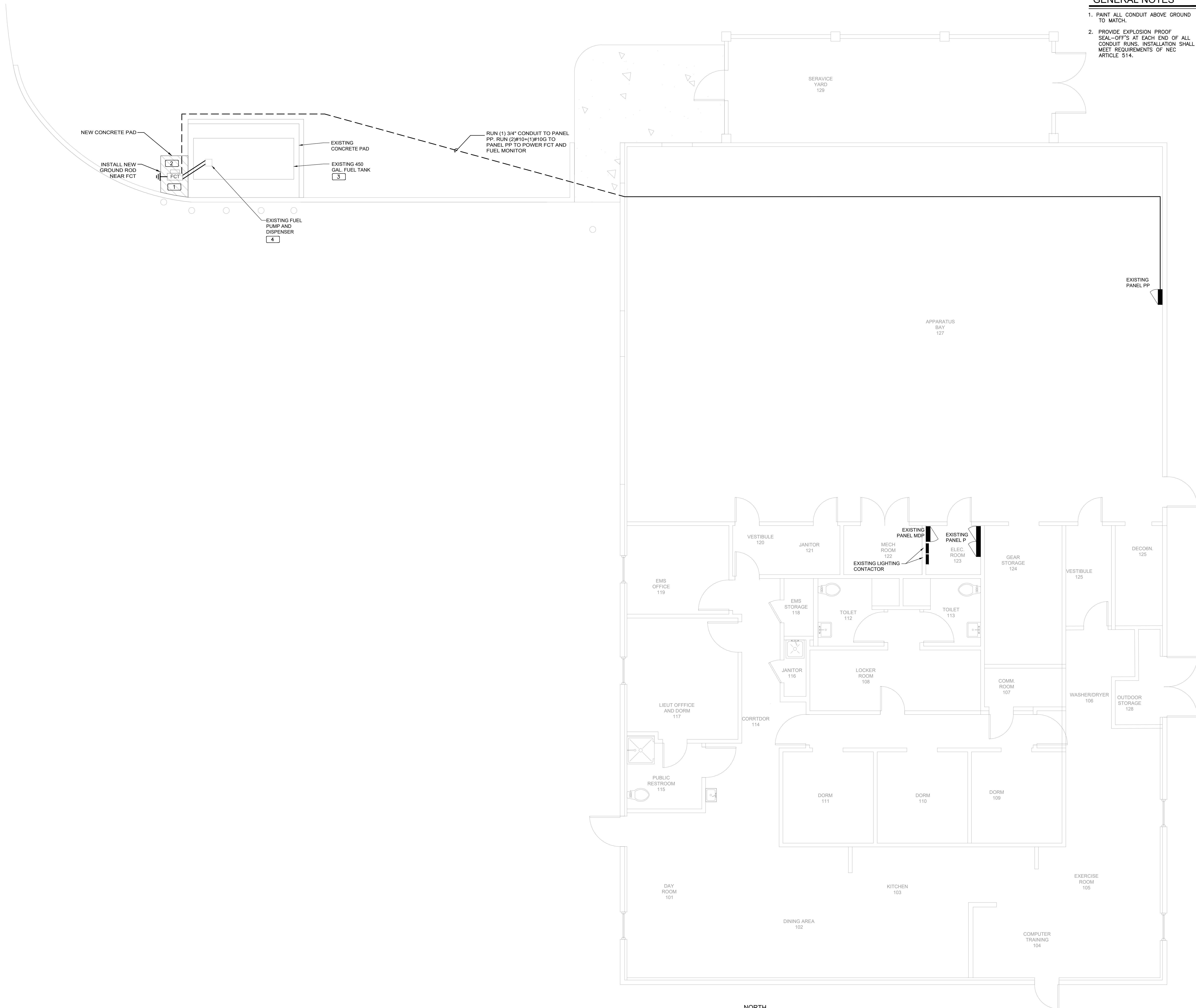
27-E001

GENERAL NOTES

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 10T. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



1 FIRE STATION 27 SITE PLAN - NEW POWER PLAN

0 2' 4' 8' 12'
1/4" = 1'-0"

NORTH

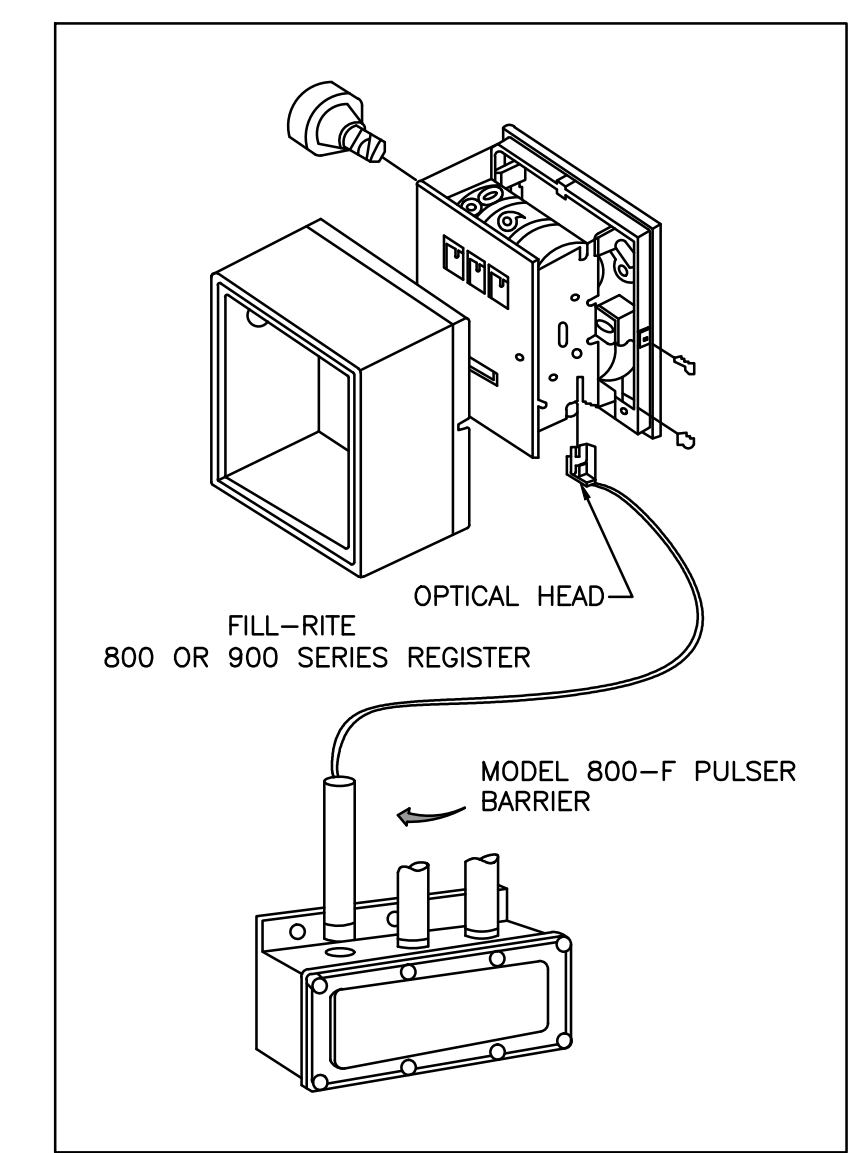
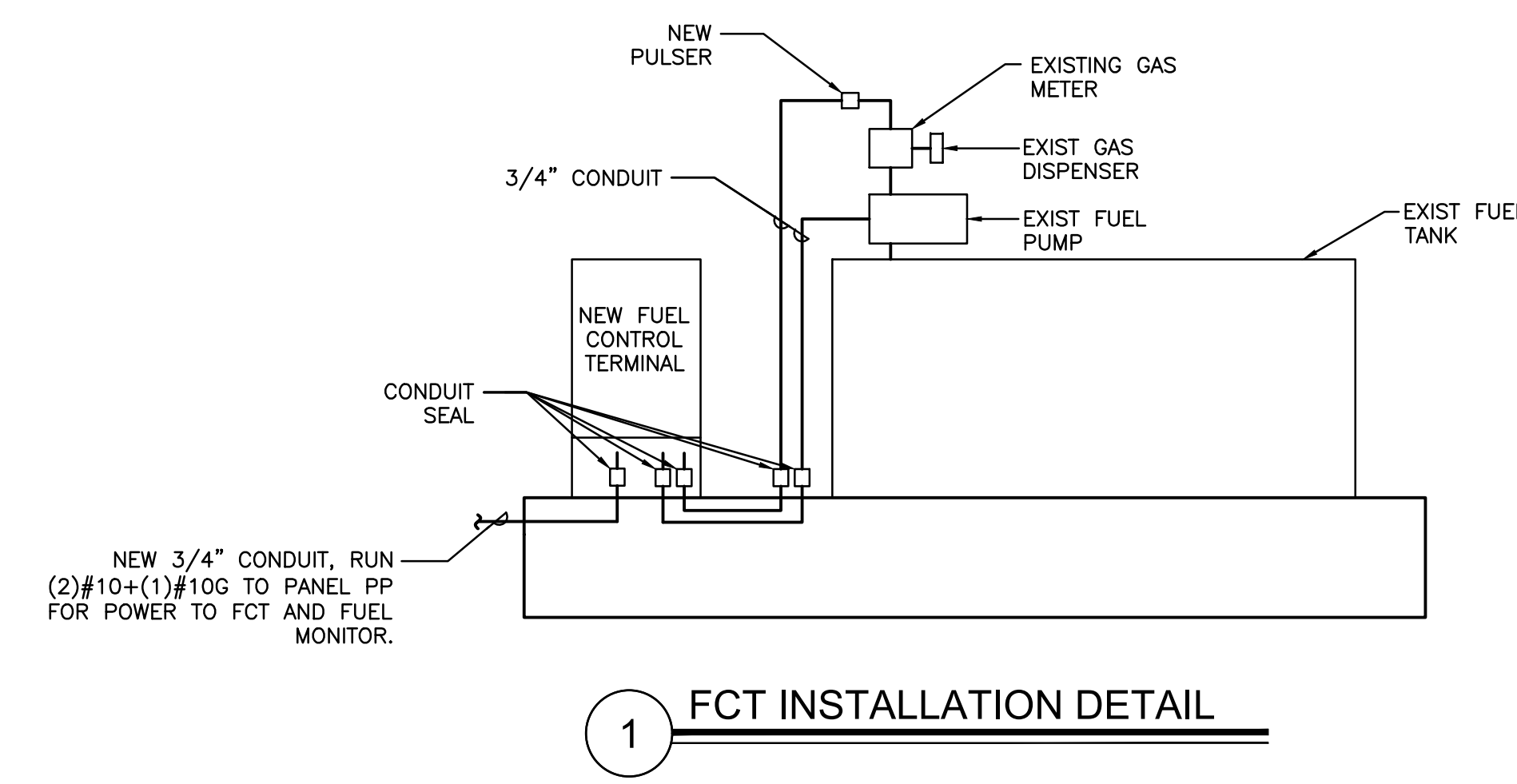
UPDATED: 11/13/2018 9:29 am
ISSUED FOR: APPROVAL

EXISTING PANEL PP

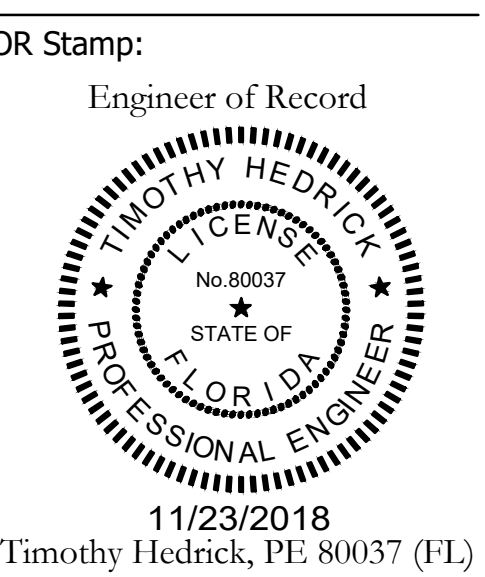
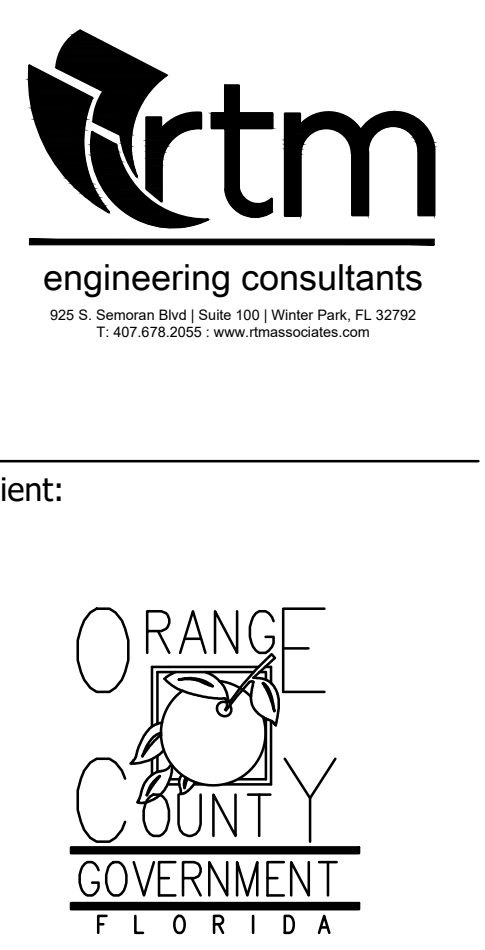
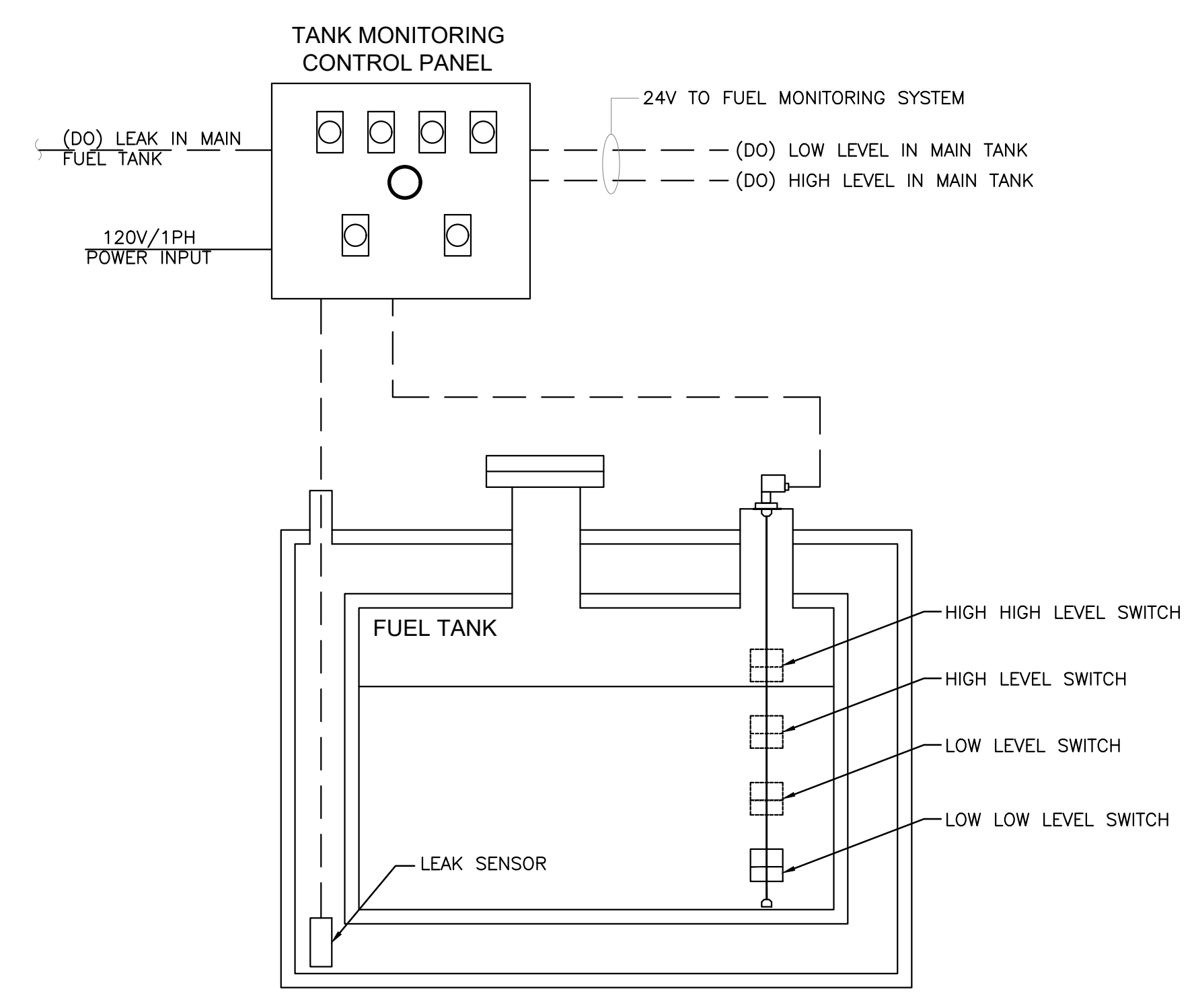
LOCATION: ELEC RM										MAIN: 110A MCB										CONN. LOAD: 18.8 KVA									
VOLTAGE: 120V/208V										SYSTEM: 3Ø, 4W										FEED: TOP									
TRIM: SURFACE										BUS RATING: 125A										GROUND BUS: YES COPPER									
CKT	LOAD SERVED	DNO	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	DNO	PHASE	NEUT	GND	LOAD SERVED	CKT											
1	DRYER					3Ø/2	R	2250			K	45/2						RANGE	2										
3								2250			K								4										
5	GAS PUMP					2Ø/1	N	1000			N	2Ø/1						EXISTING LOAD	6										
7	"							2250			N	3Ø/2						TVSS	8										
9	"							2250			N								10										
11	"								840	N	2Ø/1	3/4"	#10	#10	#10			FCT & FUEL MONITOR	12										
13	"																		14										
15	"																		16										
17	"																		18										

INTERRUPT RATING: 8000 8000 2840 FROM:

LOADS (IN VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0	
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	7340	1.0	7340	
RECEPTS TO 10 KVA	4500	1.0	4500	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	18.8	KVA	52.3	AMPS
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	7000	1.0	7000	MIN. FEEDER/PANEL CAP.	18.8	KVA	52.3	AMPS
AIR CONDITIONING	0	1.0	0					OVERALL DEMAND FACTOR	1.00			



- INSTALLATION**
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.
- IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.
- ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.
- CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.
- TELEPHONE 708-485-4200 FAX 708-485-7137



Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 27
2248 NOVELLA ELIZA LN,
APOPKA, FL 32712
Issuance:
100% Design Documents

Revisions:

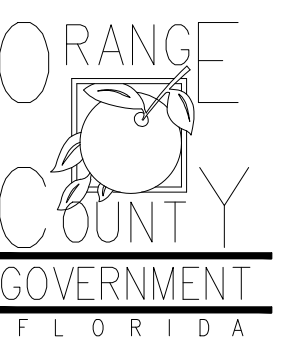
#	Date	Description

Date:
11.23.2018
Project Number:
16.OC.043
Drawn By: ME
Checked By: SP

ELECTRICAL DETAILS AND PANEL SCHEDULES

Sheet No.:
27-E201

Client:



Consultants:

EOR Stamp:

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 31
6116 APOPKA VINELAND RD,
ORLANDO, FL 32805

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

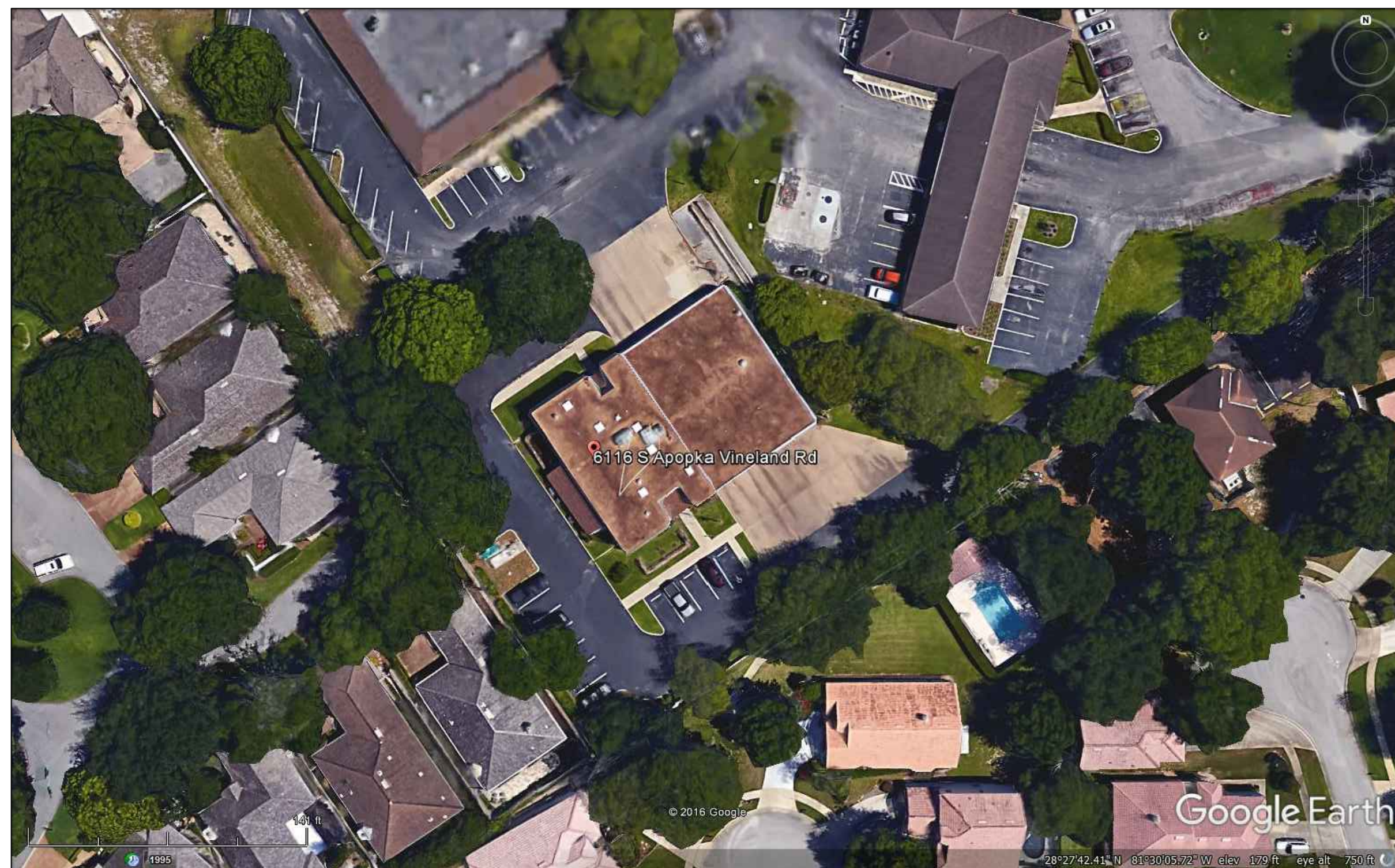
Civil Demo Plan

Sheet No.:

31-C100

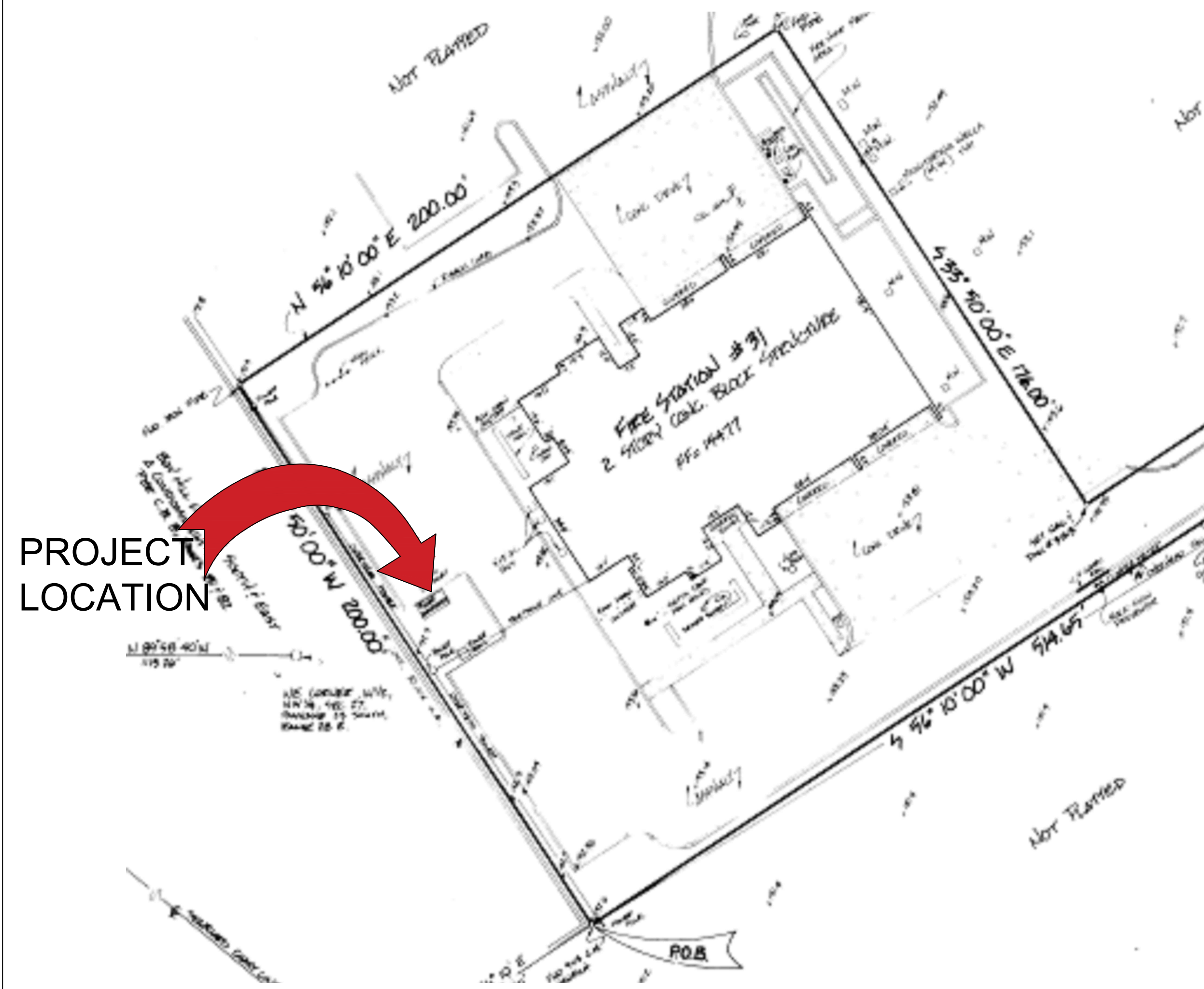
GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
16. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016

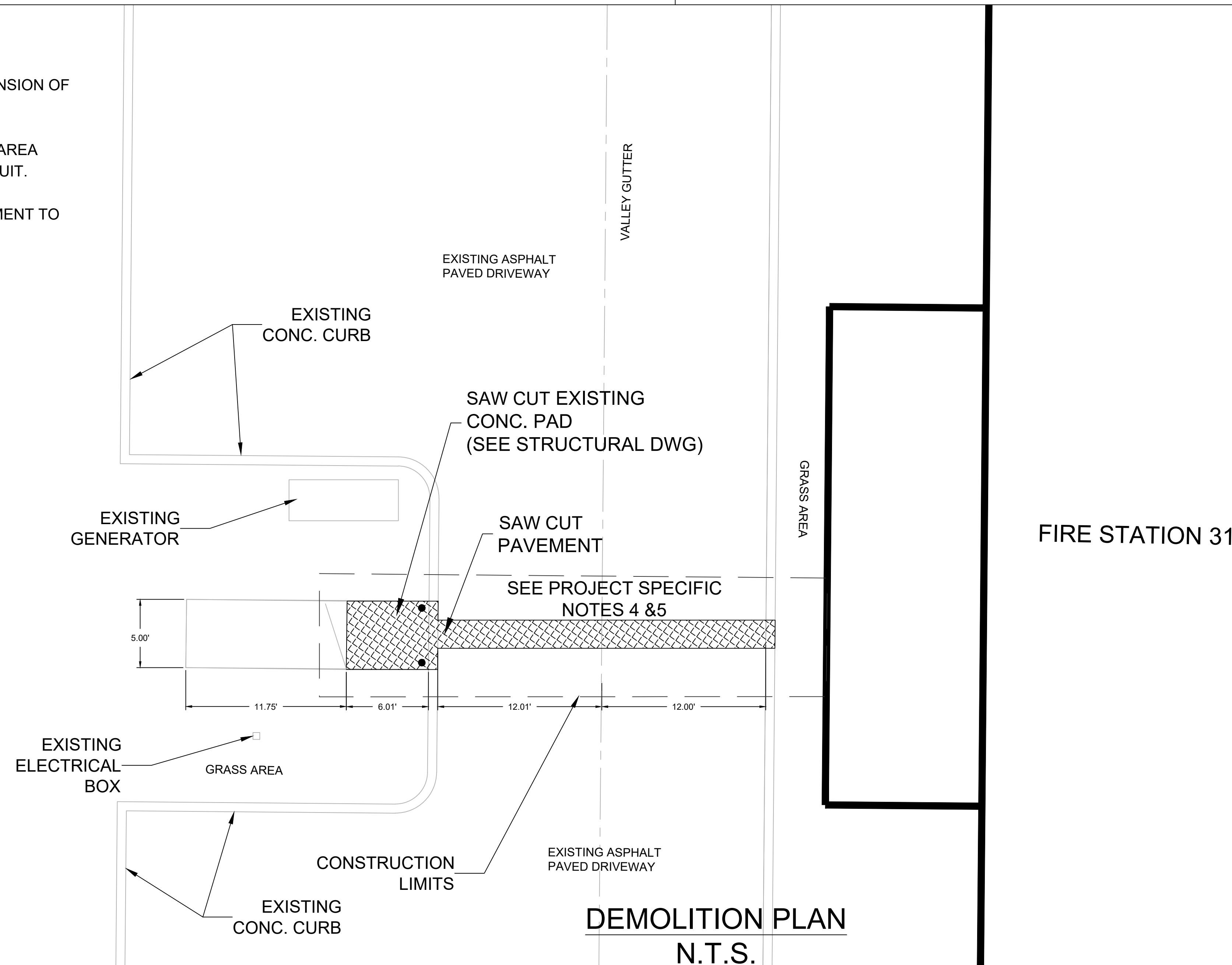


PROJECT LOCATION

LOCATION MAP
N.T.S.

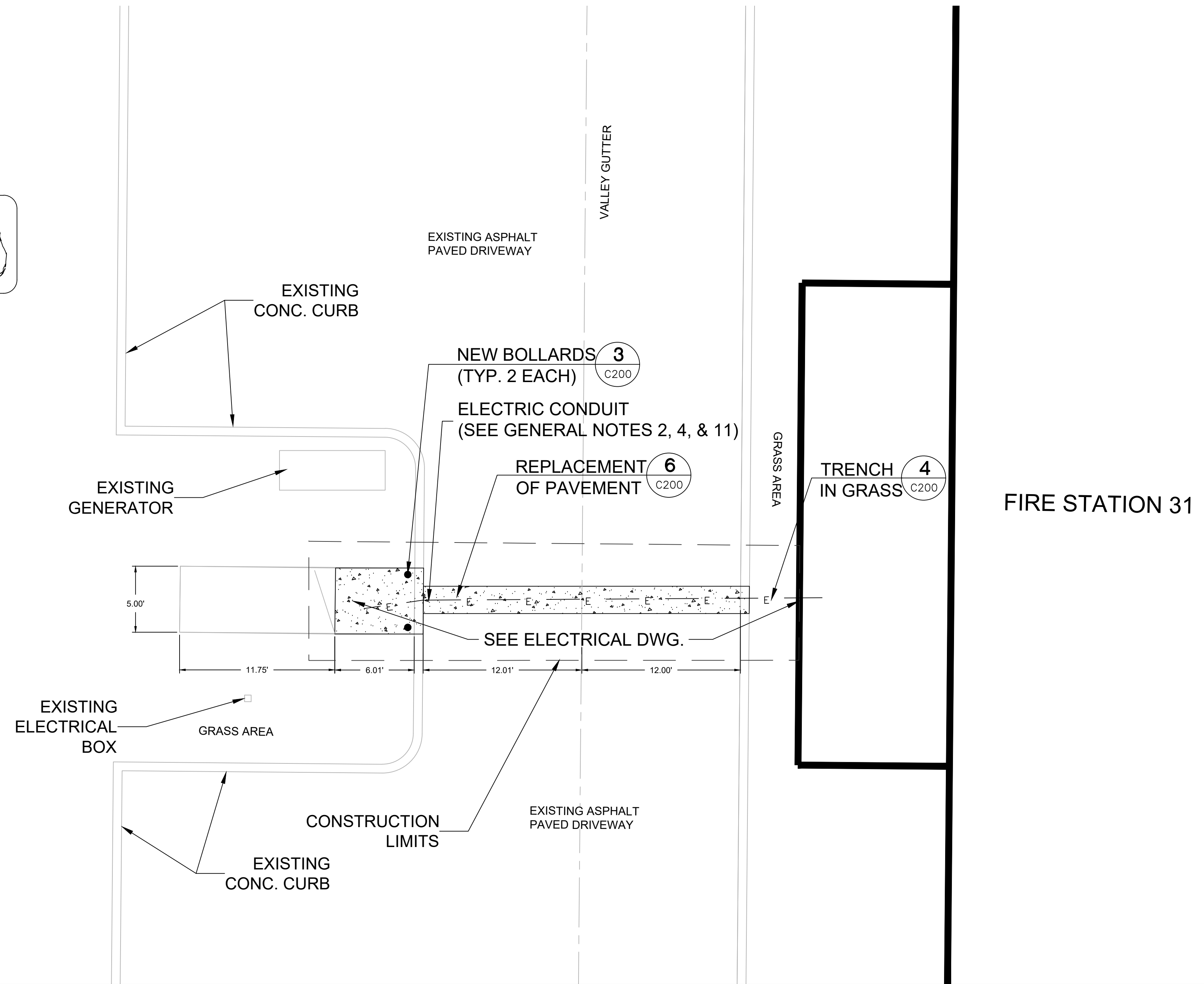
DEMOLITION NOTES

1. CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
2. OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
3. CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.



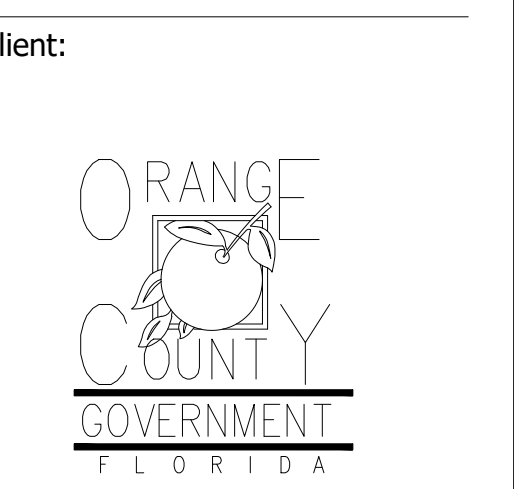
DEMOLITION PLAN
N.T.S.





PROJECT SPECIFIC NOTES - CIVIL

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
7. CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
9. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:

Consultants:

EOR Stamp:

Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
**Fire Station 31
6116 APOPKA VINELAND RD,
ORLANDO, FL 32805**

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

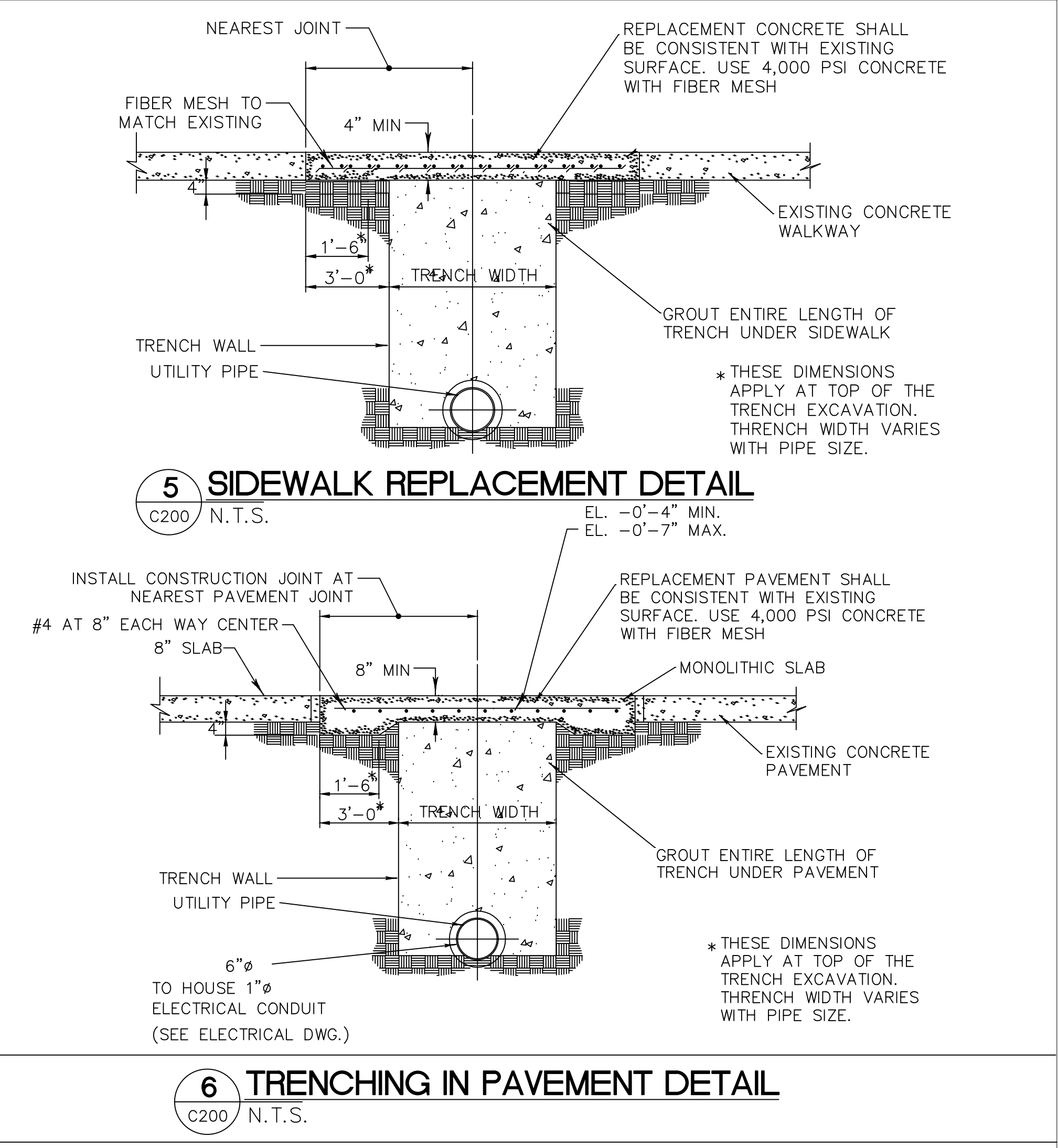
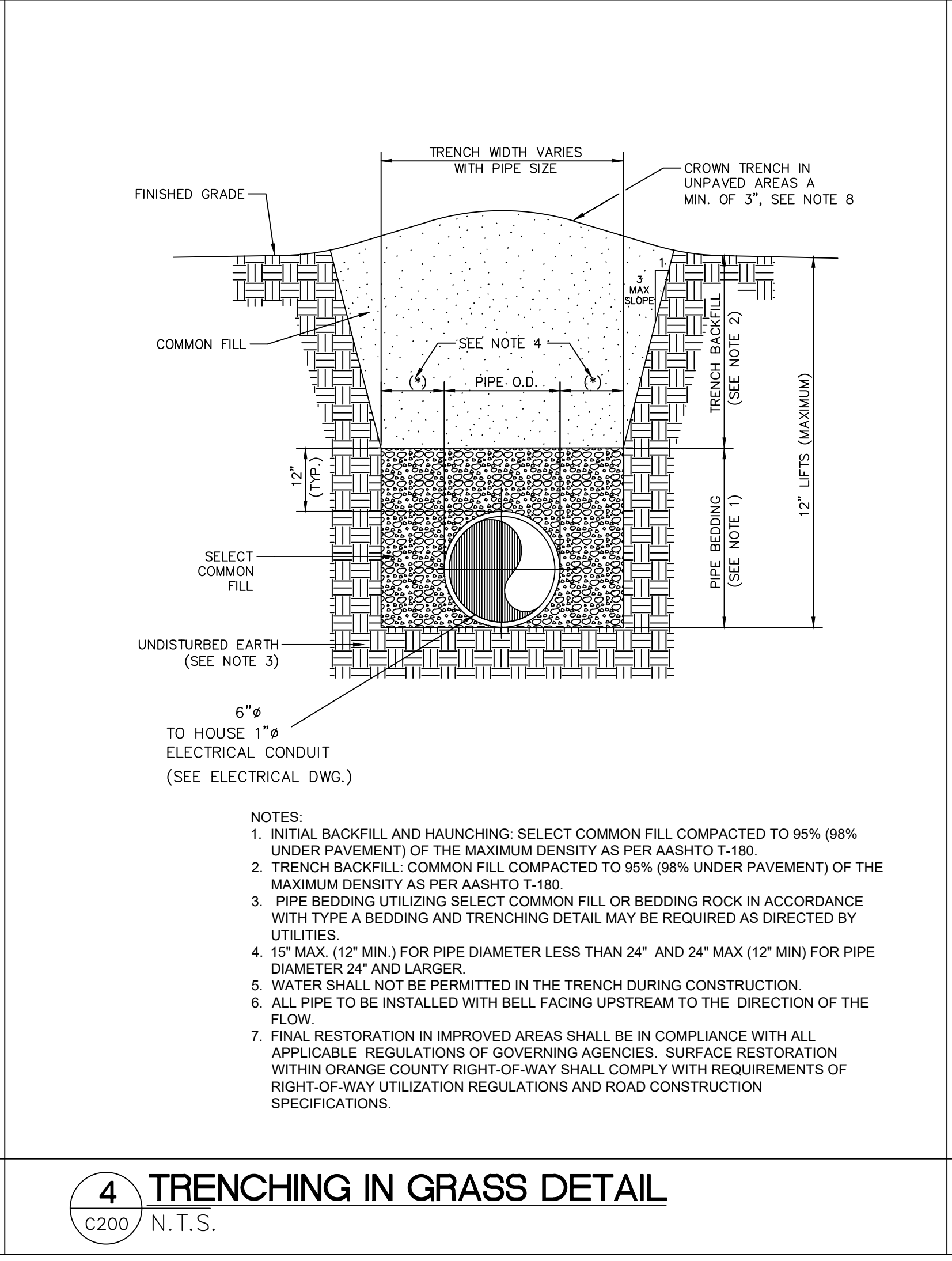
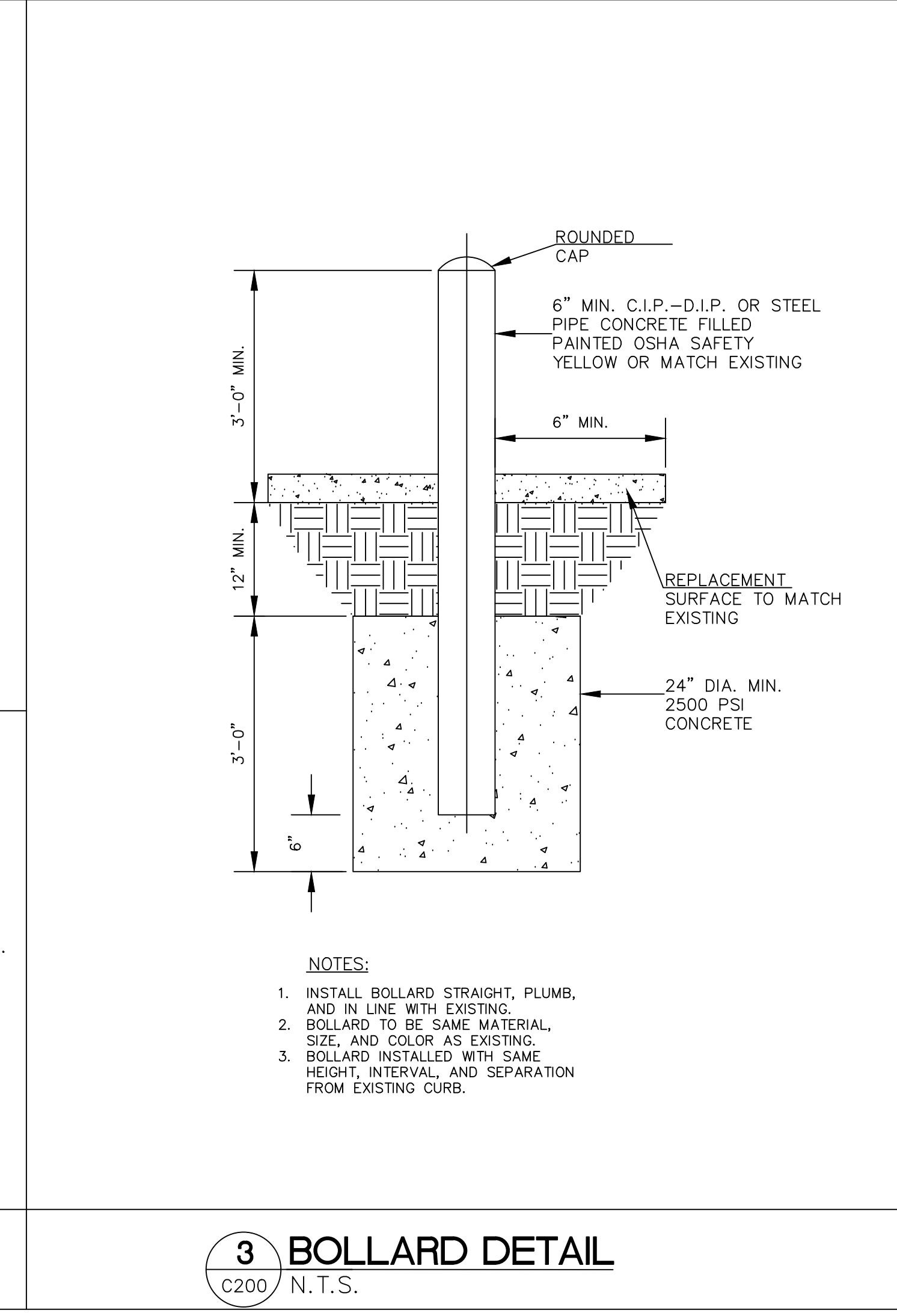
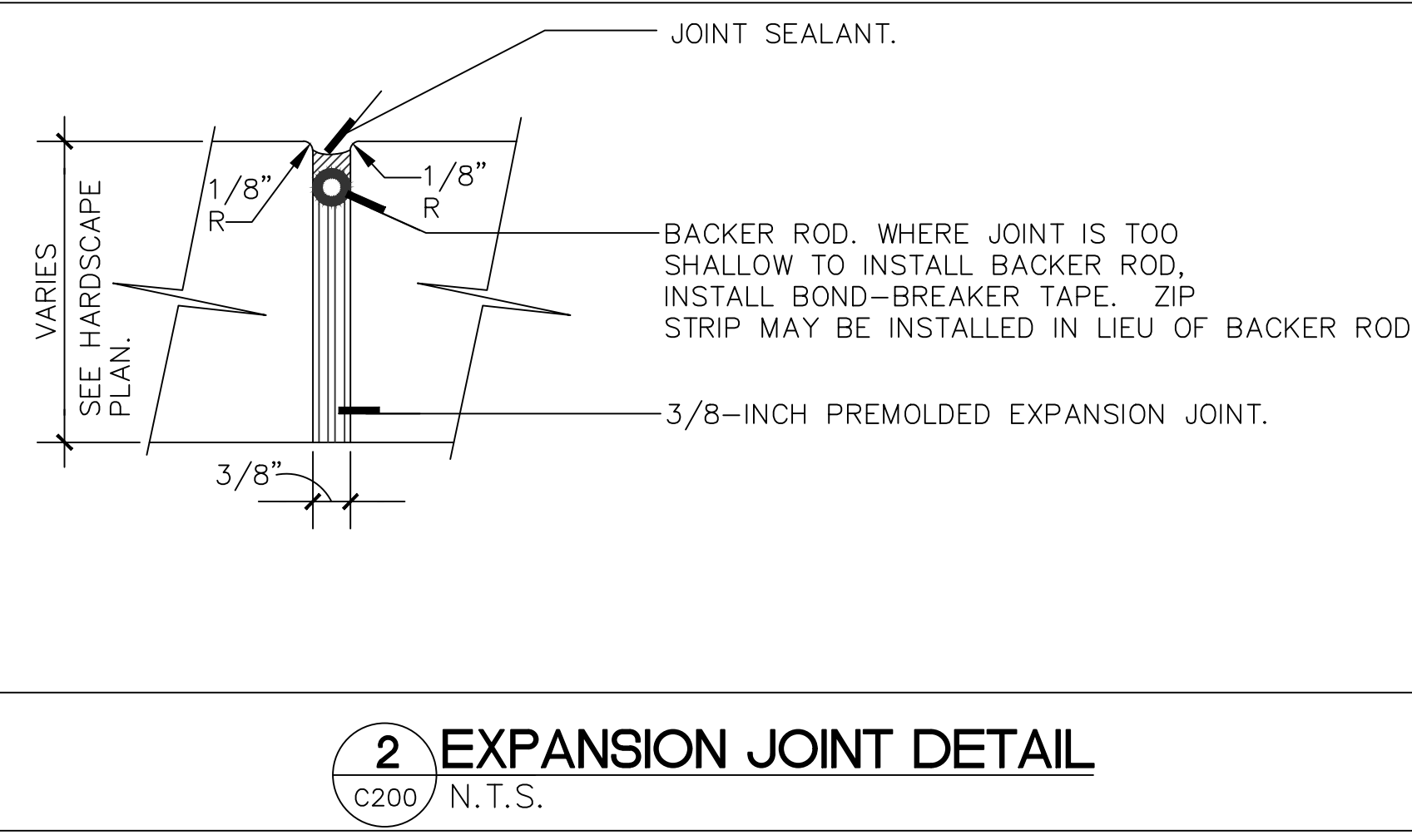
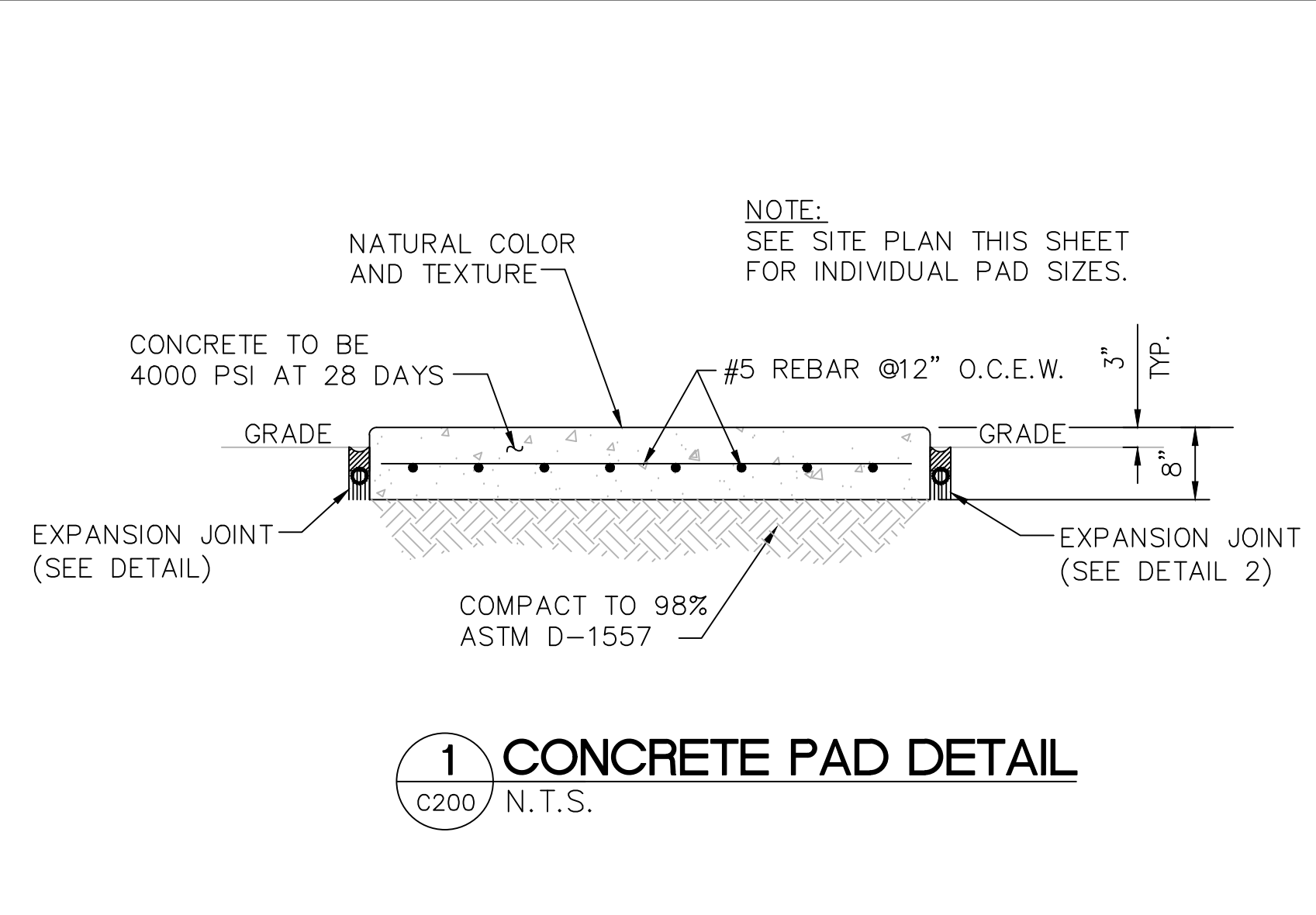
Project Number:
16.0C.043

Drawn By: **S.D.H.** Checked By: **D.D.**

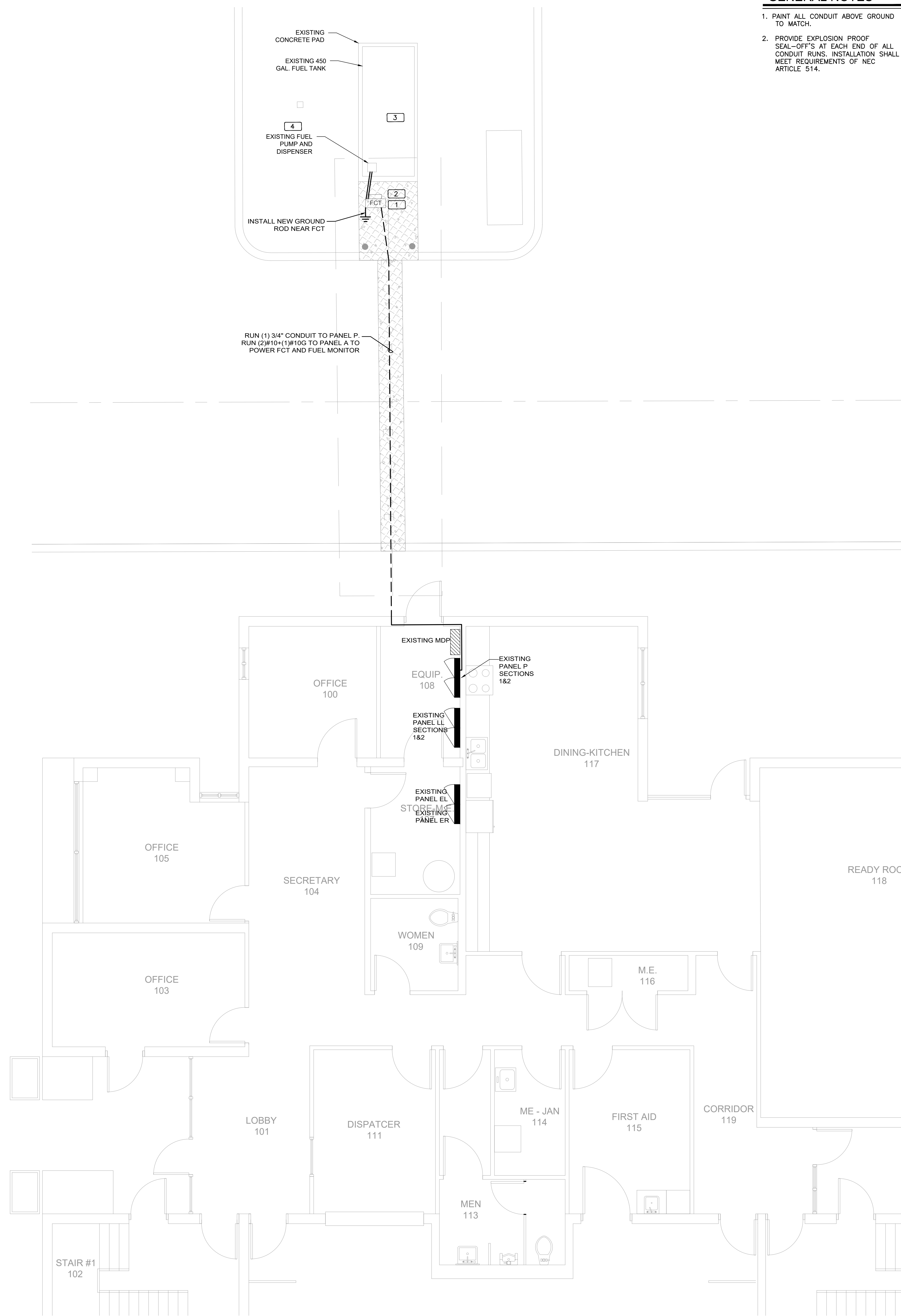
Civil Site Plan

Sheet No.:

31-C200



**MISCELLANEOUS DETAILS
N.T.S.**



GENERAL NOTES

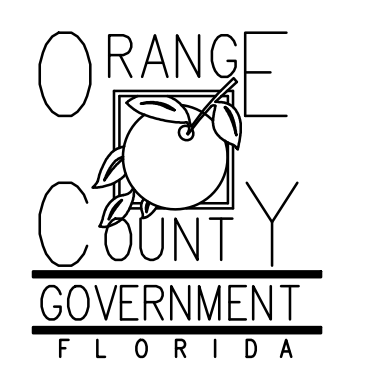
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCT), BASIS OF DESIGN EJ WARD W4 10T. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



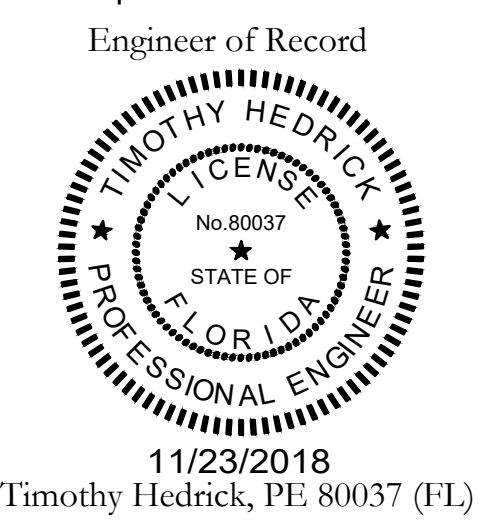
Client:



Consultants:



EOR Stamp:



11/23/2018
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:
Fire Station 31
6116 APOPKA VINELAND RD,
ORLANDO, FL 32805

Issuance:
**100% Design
Documents**

Revisions:

#	Date	Description

Date:
11.23.2018

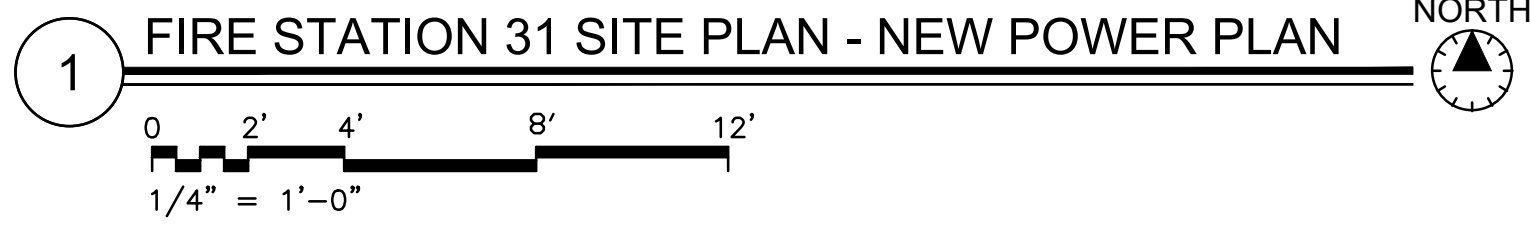
Project Number:
16.OC.043

Drawn By: ME
Checked By: SP

**ELECTRICAL
POWER PLAN**

Sheet No.:

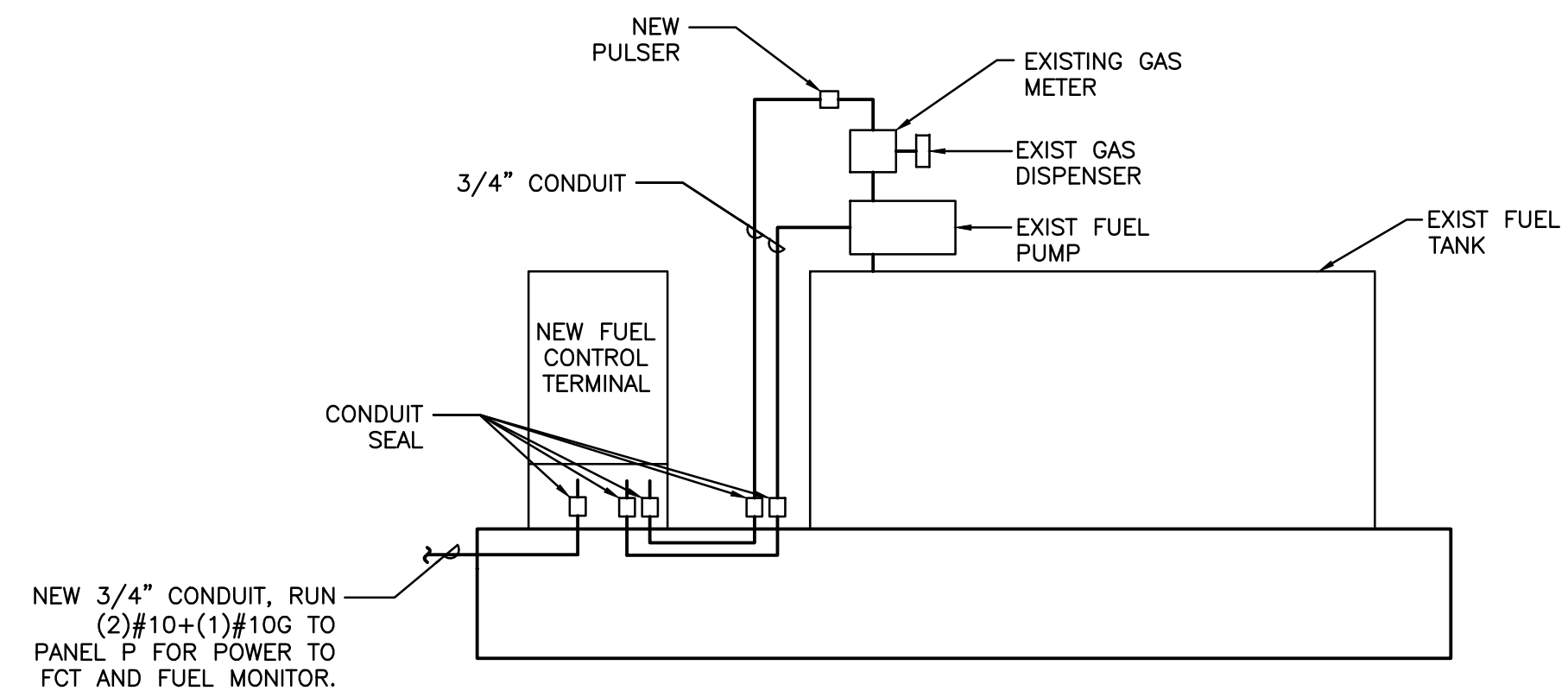
31-E101



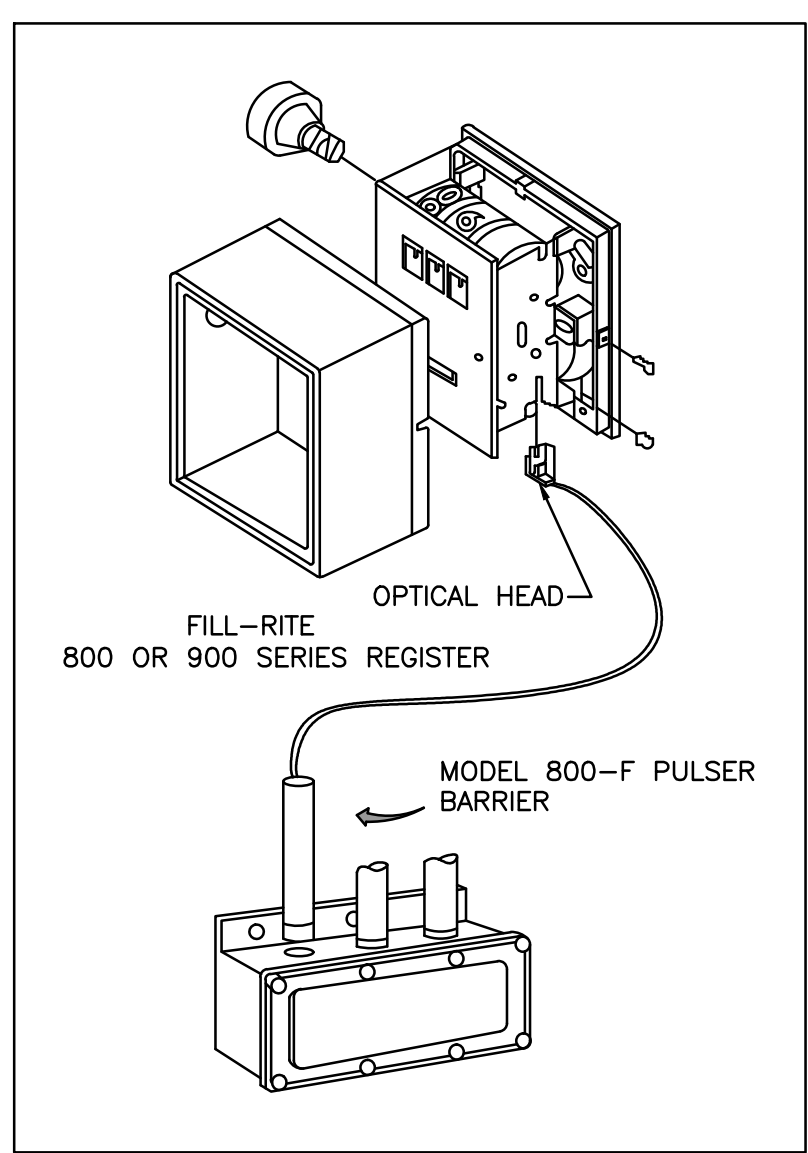
1 FIRE STATION 31 SITE PLAN - NEW POWER PLAN

EXISTING PANEL P (SECTION 1)														EXISTING PANEL P (SECTION 2)																									
UPDATED: 11/13/2018 11:48 am ISSUED FOR: APPROVAL LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE MAIN: 400A MLO SYSTEM: 3# 4W BUS RATING: 400A CONN. LOAD: 126.5 KVA FEED: TOP GROUND BUS: YES COPPER														UPDATED: 4/28/2017 10:29 am ISSUED FOR: APPROVAL LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE MAIN: 400A MLO SYSTEM: 3# 4W BUS RATING: 400A CONN. LOAD: 42.4 KVA FEED: TOP GROUND BUS: YES COPPER																									
CKT	LOAD SERVED	COND	PHASE	NEUT	QND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	QND	LOAD SERVED	CKT	CKT	LOAD SERVED	COND	PHASE	NEUT	QND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	QND	LOAD SERVED	CKT		
1	CU 1					35/3	A	2557	1967			N	25/3				EXISTING LOAD	2	1	AH 1					15/3	A	933									COMP	2		
3							A	2557	1967			N							4	3							933											4	
5							A	2557	1967			N							6	5							933											6	
7	CU 3					40/3	A	2833	2833			A	40/3				AC 3	8	7						60/3	W	2800									BAY HEATER S	8		
9							A	2833	2833			A							10	9							2800											10	
11							A	2833	2833			A							12	11							2800											12	
13	EXISTING LOAD					50/2	N	3350	3500			A	50/2				AH 3	14	13						60/3	H	2800									EXISTING LOAD	14		
15							N	3350	3500			A							16	15							2800											16	
17	SPACE																SPACE	18	17							1150												18	
19	AH 1					60/3	A	3657	3200			N	20/1				SHUNT TRIP	20	19						25/2	A	1200											20	
21							A	3657	3200			A	60/2				CU 2	22	21								600												22
23							A	3657	3200			A							24	23							600												24
25	AC 6					70/3	A	4687	1934			N	25/3				EXISTING LOAD	26	25								600											26	
27							A	4687	1934			N							28	27							600											28	
29							A	4687	1934			N							30	29							600												30
31								840				N	20/1	3/4"	#10	#10		FCT & FUEL MONITOR	32	31							2000											32	
33																			34	33																		34	
35																			36	35																			36
37																			38	37																			38
39																			40	39																			40
41																			42	41																			42

EXISTING PANEL P (SECTION 1)														EXISTING PANEL P (SECTION 2)														
LOADS (IN VA)														LOADS (IN VA)														
CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	REMAINING DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR	OVERALL DEMAND FACTOR	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	REMAINING DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR	OVERALL DEMAND FACTOR	
0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	0	26740	0	126.5 KVA	351.5	0.88	0.88	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	0	7300	0	0	42.4 KVA	117.8	0.87	0.87
3600	1.0	3600	LARGEST MOTOR	0	0.25	0	0	0	0	109.1 KVA	303.2			3600	1.0	3600	LARGEST MOTOR	0	0.25	0	0	0	0	0	0	0	0	0
0	0.5	0	WATER HEATING	8700	1.0	8700	0	0	0	109.1 KVA	303.2			0	0.5	0	WATER HEATING	8700	1.0	8700	0	0	0	0	0	0	0	0
17400	0.0	0	KITCHEN EQUIP.	0	1.0	0	0	0	0	109.1 KVA	303.2			17400	1.0	17400	KITCHEN EQUIP.	0	1.0	0	0	0	0	0	0	0	0	0
70100	1.0	70100												70100	0.0	0												



1 FCT INSTALLATION DETAIL



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

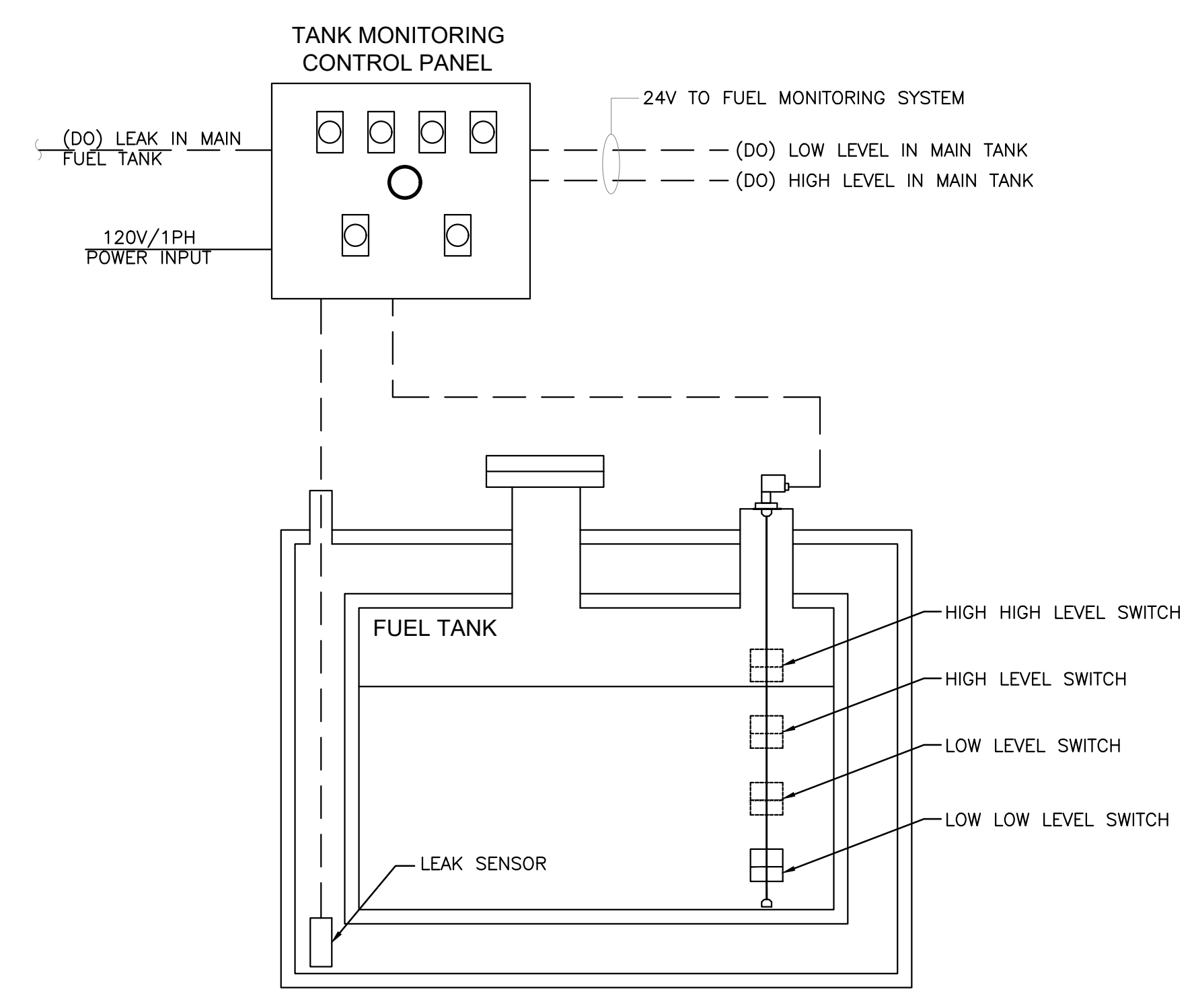
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

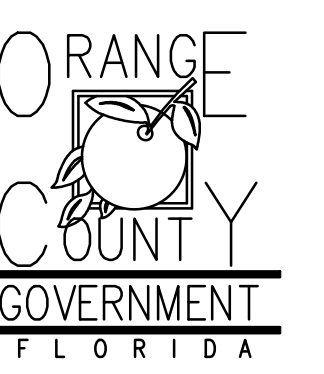
TELEPHONE 708-485-4200 FAX 708-485-7137

2 PULSER INSTALLATION DETAIL



3 FUEL TANK MONITORING SCHEMATIC

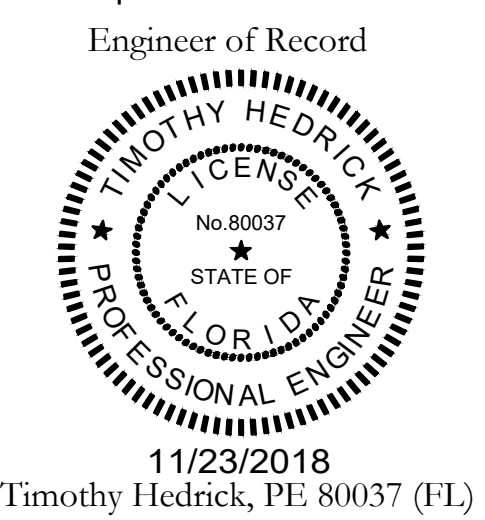
Client:



Consultants:



EOR Stamp:



11/23/2018
 Timothy Hedrick, PE 80037 (FL)

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
 Fire Station 31
 6116 APOPKA VINELAND RD,
 ORLANDO, FL 32805

Issuance:
 100% Design Documents

Revisions:

#	Date	Description

Date:
 11.23.2018

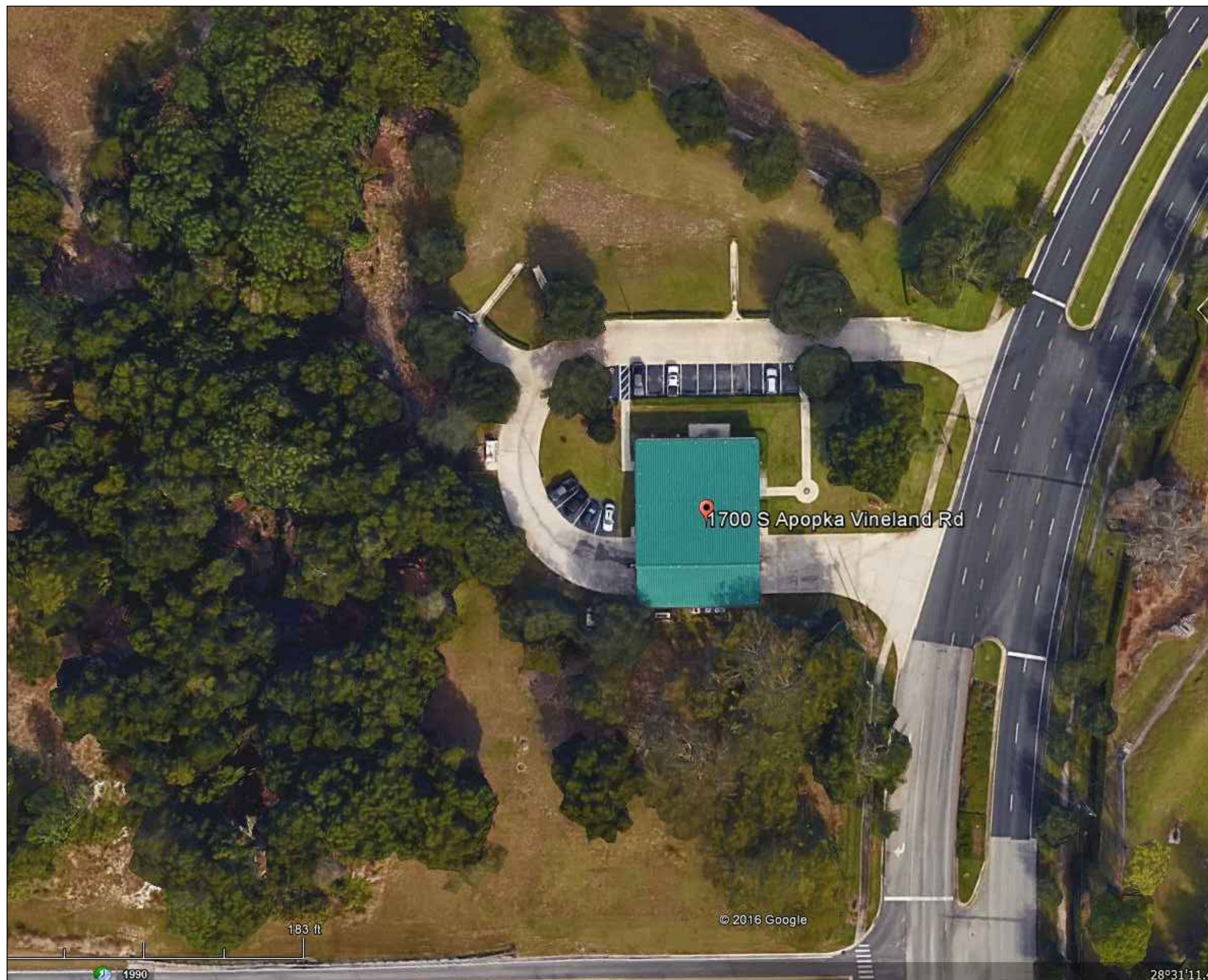
Project Number:
 16.OC.043

Drawn By: ME
 Checked By: SP

ELECTRICAL PANEL SCHEDULES AND DETAILS

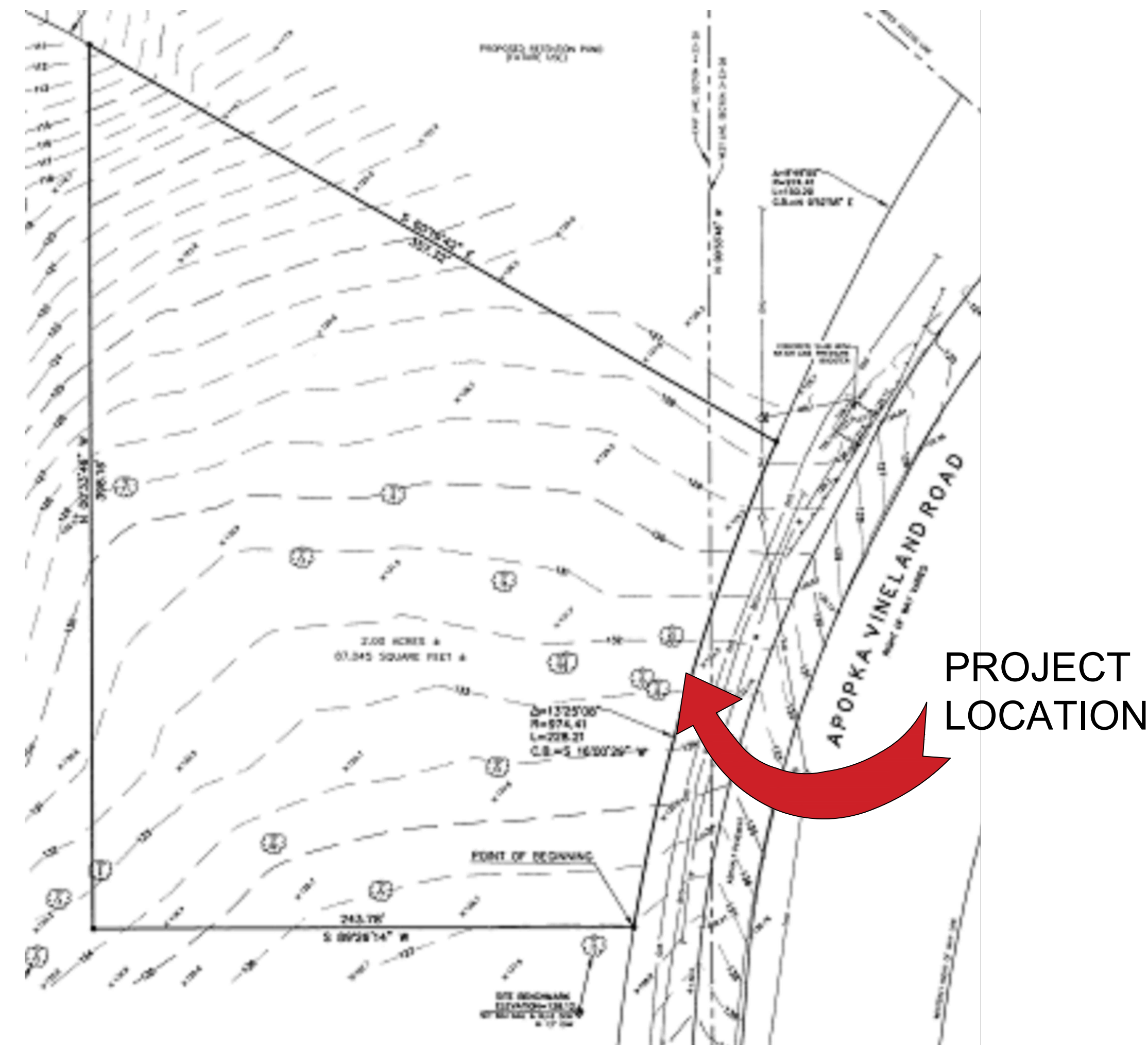
Sheet No.:

31-E201



EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016

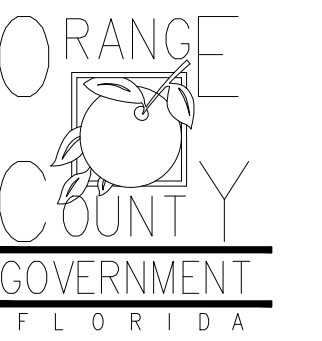


LOCATION MAP
N.T.S.

GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.

Client:



Consultants:

OR Stamp:
Engineer of Record

Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 33
1700 S APOPKA VINELAND RD, ORLANDO, FL 32835

Issuance:
Permit Documents

Revisions:

#	Date	Description

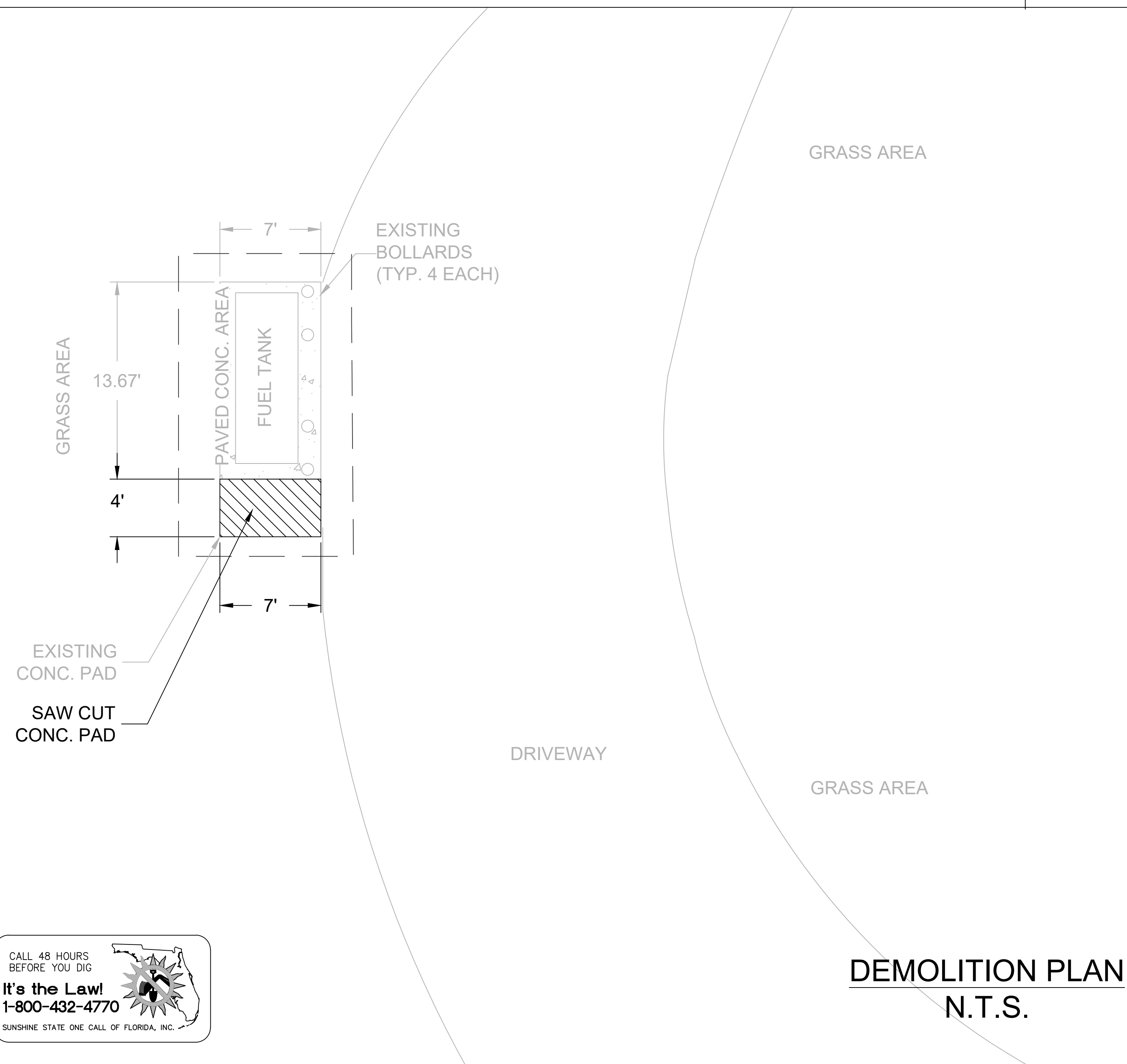
Date:
11.23.2018

Project Number:
16.OC.043

Drawn By: **S.D.H.** Checked By: **D.D.**

Civil Demo Plan

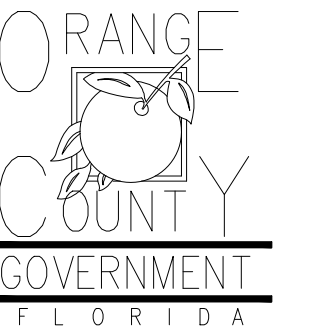
Sheet No.:
33-C100



FIRE STATION 33



Client:



Consultants:

EOR Stamp:
 Engineer of Record

Project:
**OC FIRE RESCUE
 FUEL TANK
 AUTOMATION AND
 REPLACEMENT
 DESIGN**

Location:
 Fire Station 33
 1700 S APOPKA VINELAND
 RD, ORLANDO, FL 32835

Issuance:
**Permit
 Documents**

Revisions:

#	Date	Description

Date:
 11.23.2018

Project Number:
 16.OC.043

Drawn By: S.D.H. Checked By: D.D.

Civil Site Plan

Sheet No.:

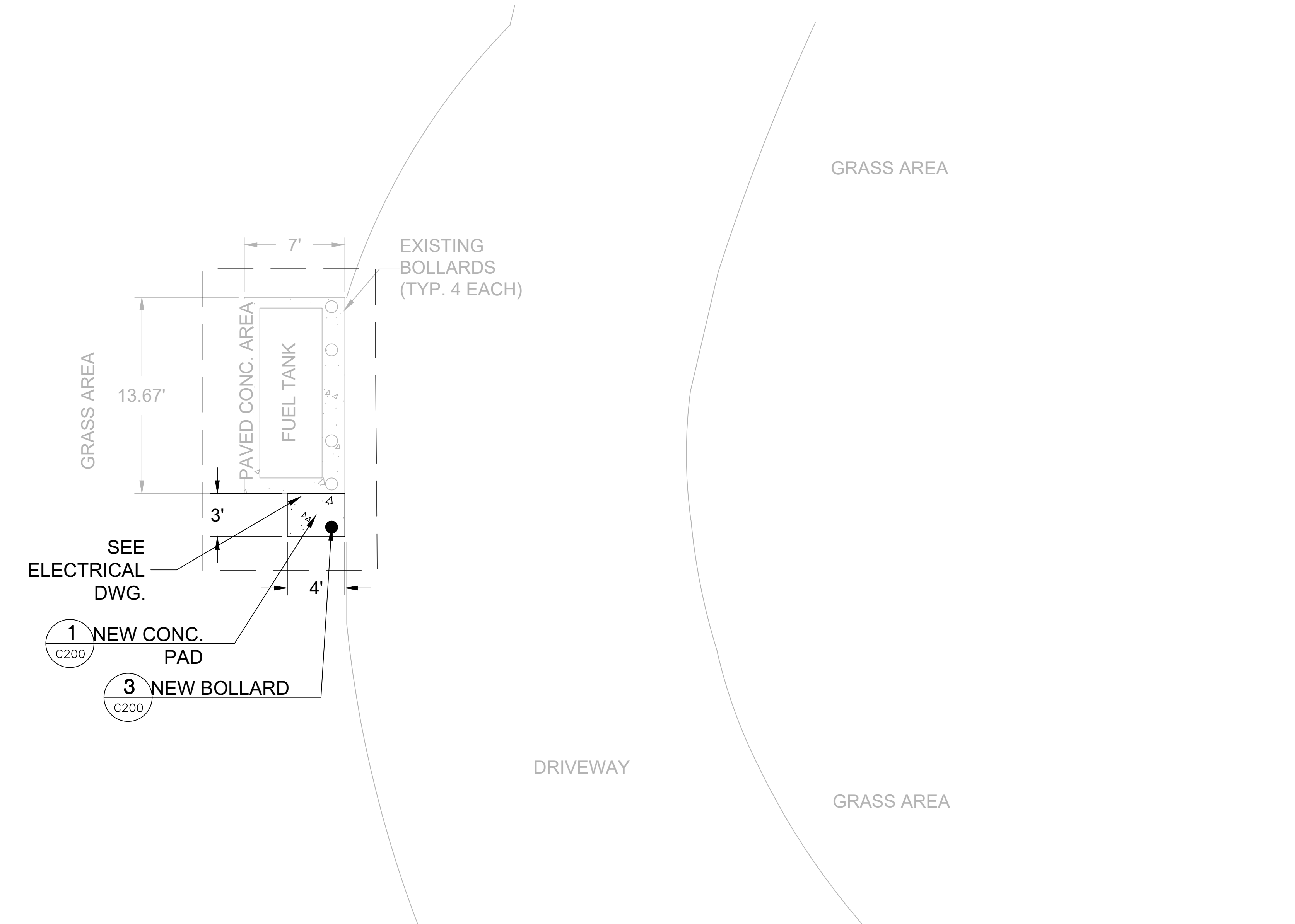
33-C200

PROJECT SPECIFIC NOTES - CIVIL

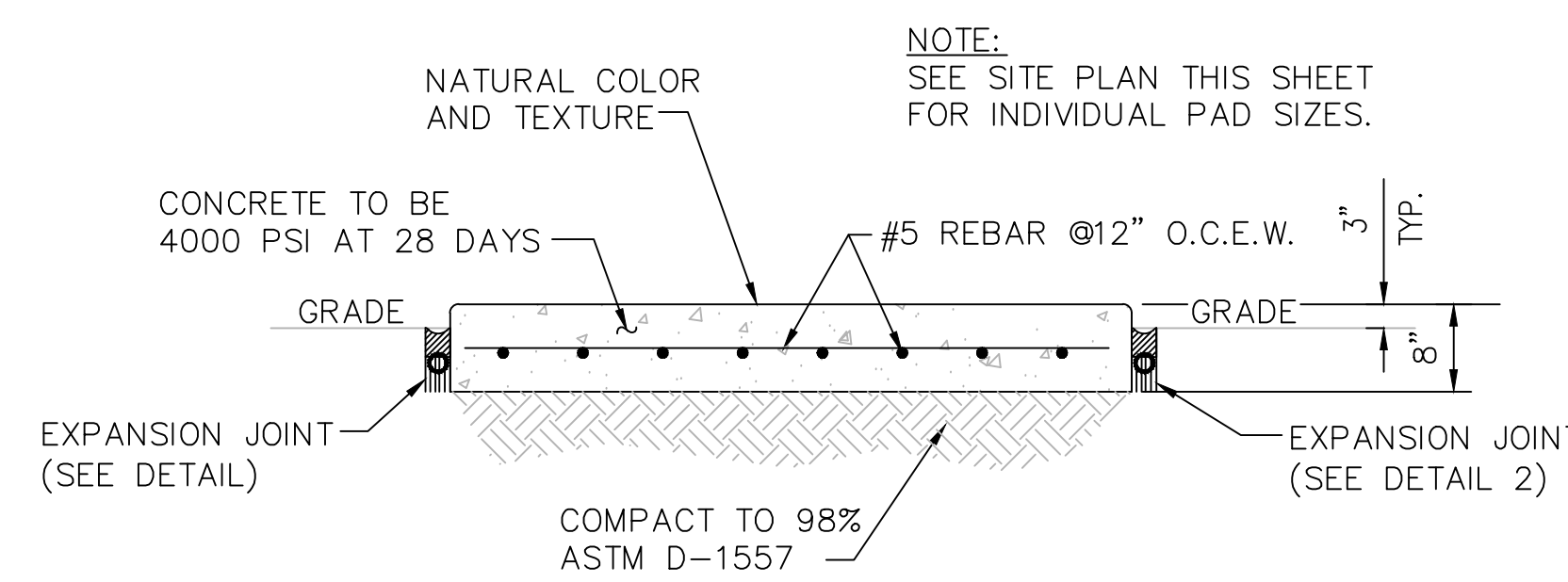
1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



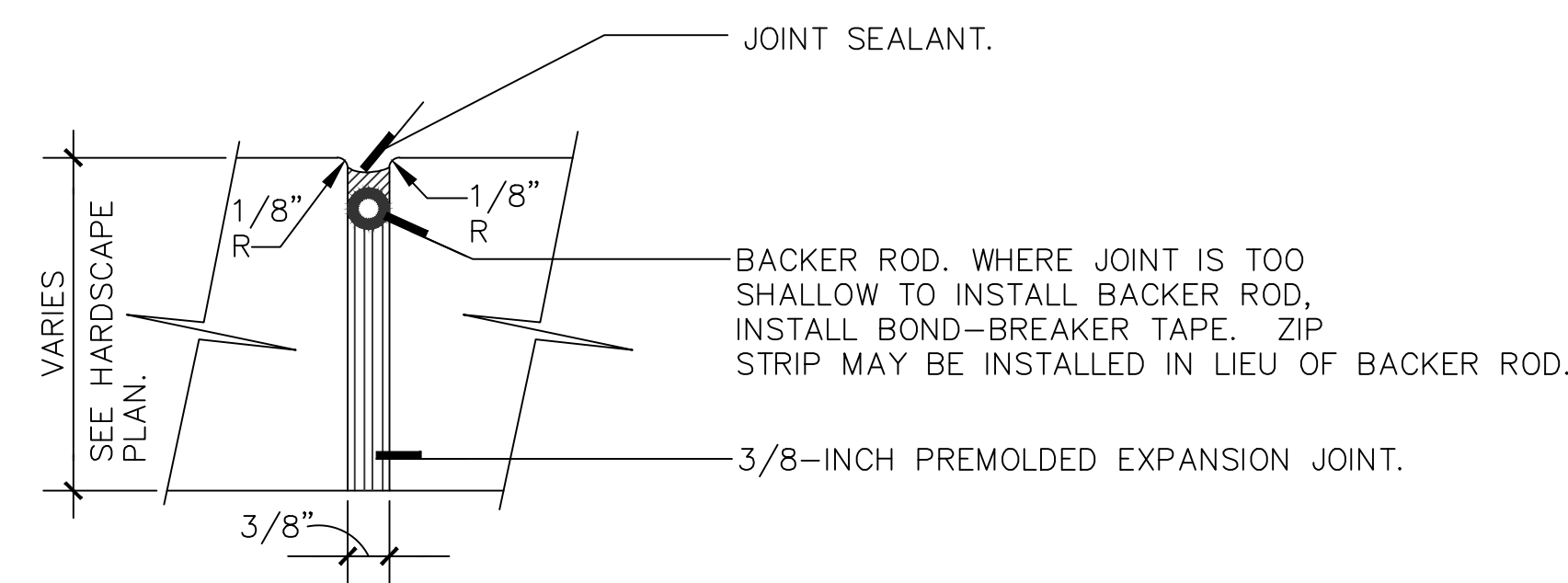
FIRE STATION 33



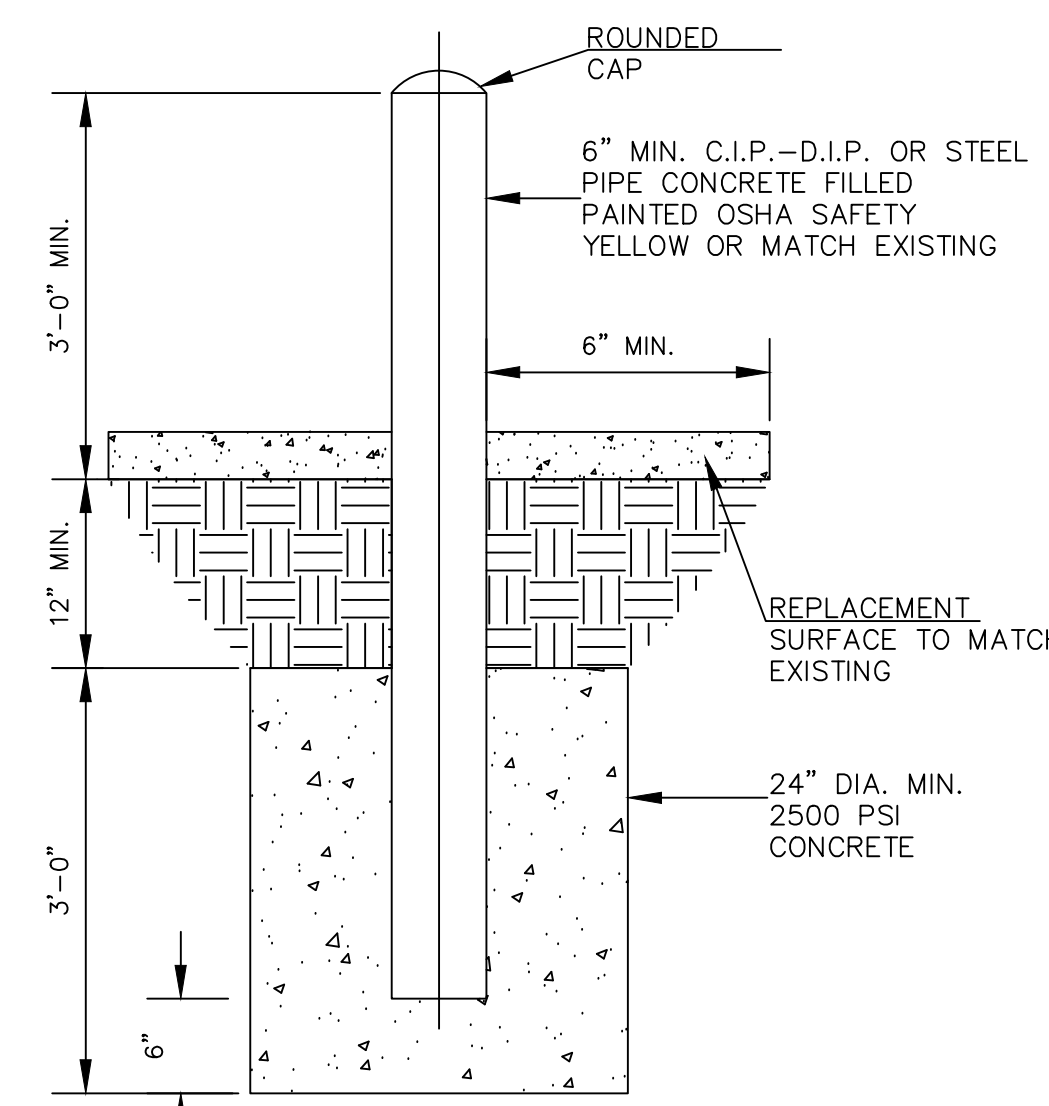
**SITE PLAN
 N.T.S.**



**1 CONCRETE PAD DETAIL
 C200 N.T.S.**



**2 EXPANSION JOINT DETAIL
 C200 N.T.S.**



- NOTES:
1. INSTALL BOLLARD STRAIGHT, PLUMB, AND IN LINE WITH EXISTING.
 2. BOLLARD TO BE SAME MATERIAL, SIZE, AND COLOR AS EXISTING.
 3. BOLLARD INSTALLED WITH SAME HEIGHT, INTERVAL, AND SEPARATION FROM EXISTING CURB.

**3 BOLLARD DETAIL
 C200 N.T.S.**

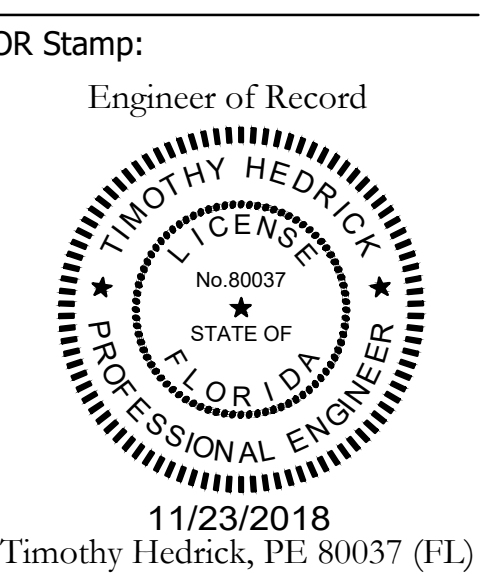
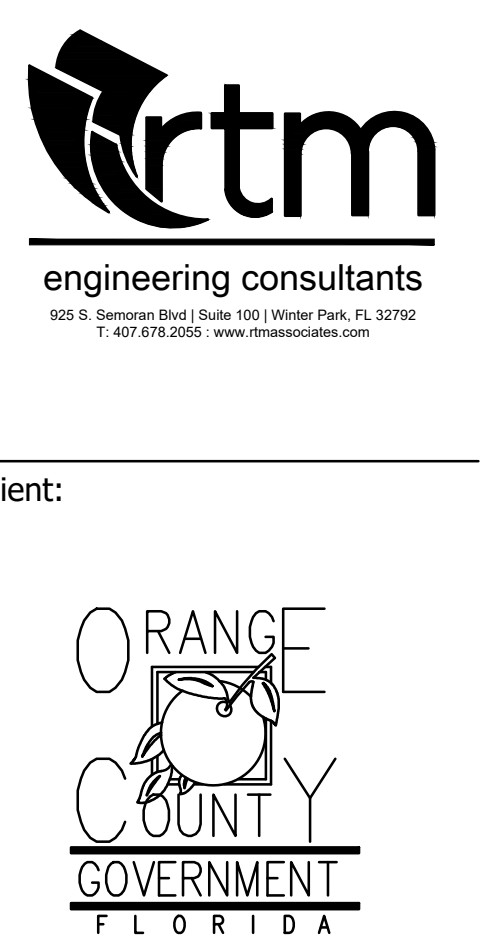
**MISCELLANEOUS DETAILS
 N.T.S.**

GENERAL NOTES

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL TERMINAL (FCT), BASIS OF DESIGN EJ WARD W4 10T. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH "BACKPACK" MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



11/23/2018
Timothy Hedrick, PE 80037 (FL)

Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 33
1700 S APOPKA VINELAND RD, ORLANDO, FL 32835

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

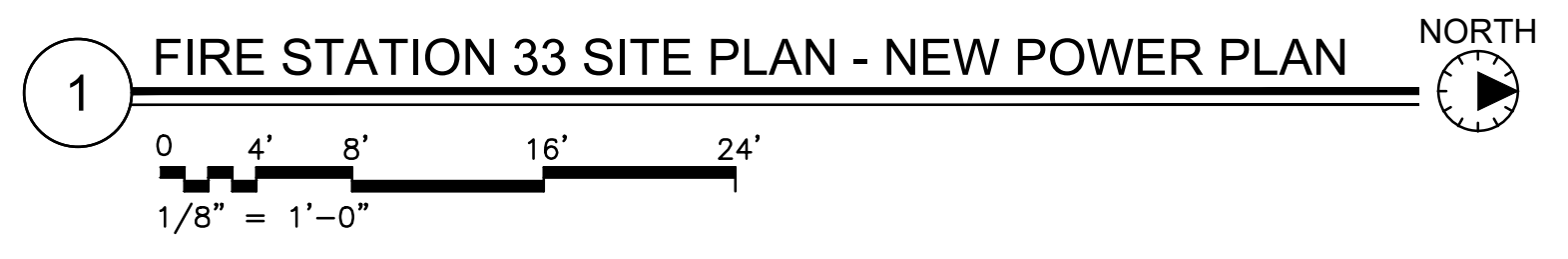
Project Number:
16.OC.043

Drawn By: ME
Checked By: SP

ELECTRICAL POWER PLAN

Sheet No.:

33-E101



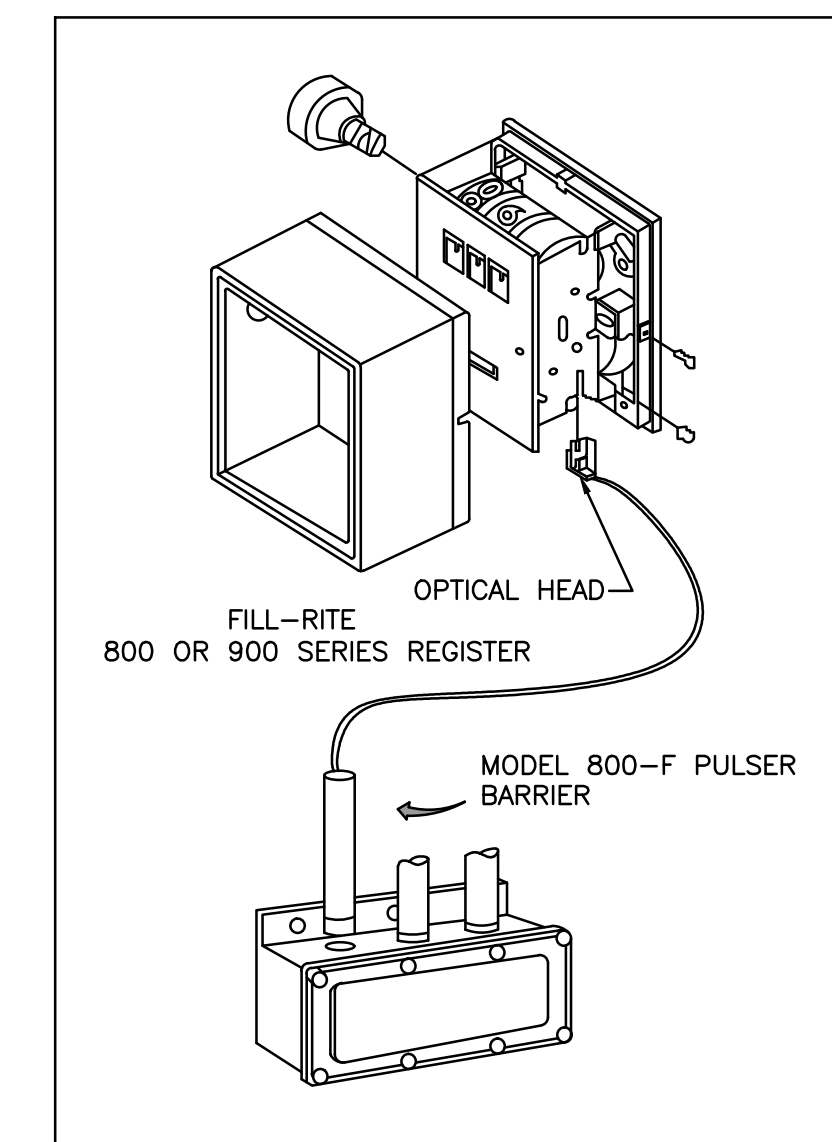
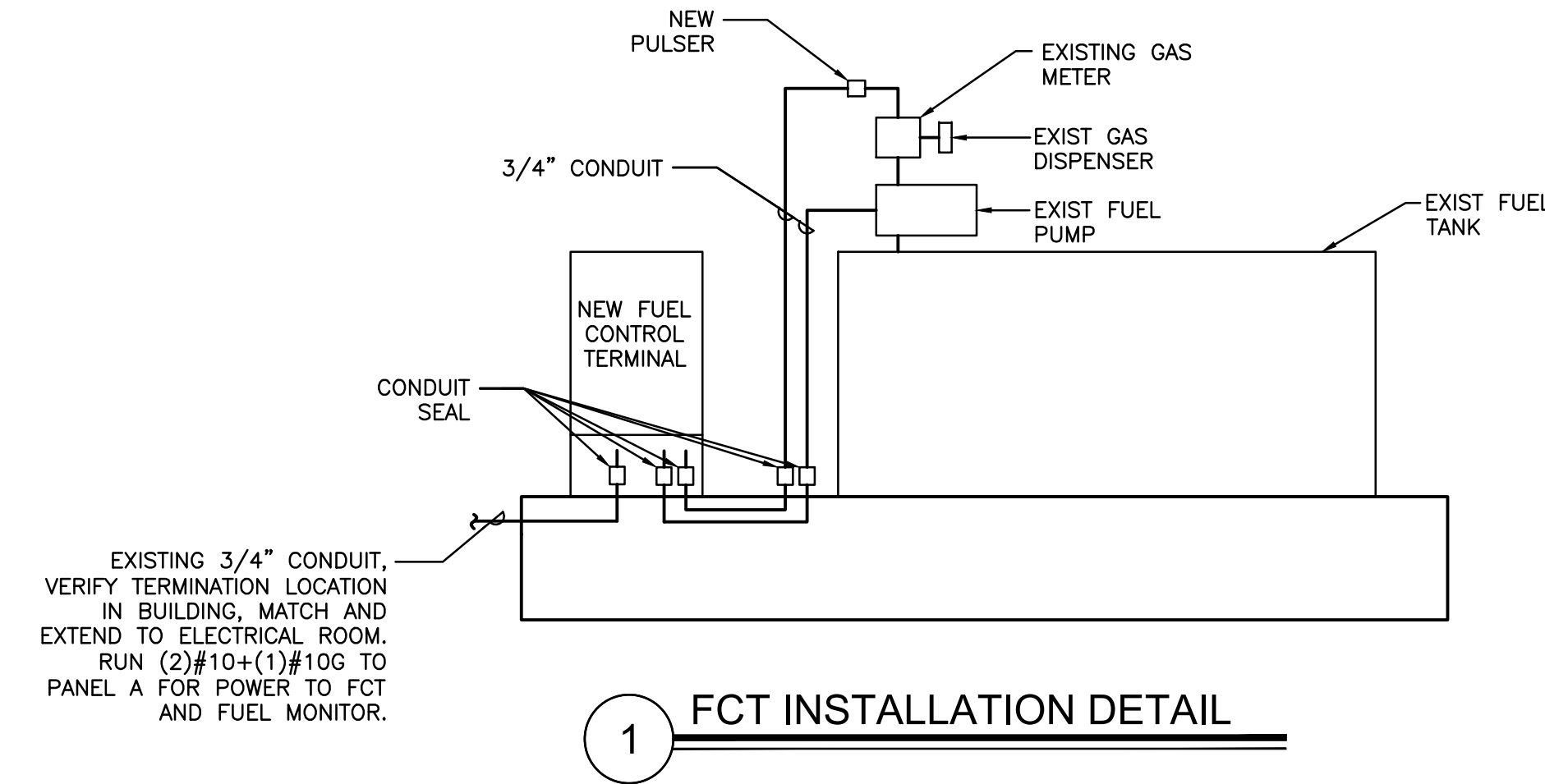
UPDATED: 4/26/2017 10:57 am
ISSUED FOR: APPROVAL

EXISTING PANEL A

LOCATION: ELEC RM		MAIN: 100A MLO		CONN. LOAD: 29.7 KVA			
VOLTAGE: 120V/208V		SYSTEM: 3Ø, 4W		FEED: TOP			
TRM: SURFACE		BUS RATING: 100A		GROUND BUS: YES COPPER			
CKT	LOAD SERVED	DNO	PHASE	NEUT	COND	LOAD SERVED	CKT
1	SPACE	-	-	-	R	20/1	2
3	SPACE	-	-	-	R	20/1	4
5	LIGHTING	20/1	L	-	N	20/1	6
7	LIGHTING	20/1	L	-	N	20/1	8
9	BAY LTS	20/1	L	-	R	20/1	10
11	LIGHTING	20/1	L	-	R	20/1	12
13	EXISTING LOAD	20/1	N	-	R	20/1	14
15	SITE LIGHTING	20/1	L	-	R	20/1	16
17	GEN HRT	20/1	N	-	R	20/1	18
19	EXISTING LOAD	20/1	N	-	R	30/2	20
21	EXISTING LOAD	20/1	N	-	N	20/1	22
23	EXISTING LOAD	60/3	N	-	N	20/1	24
25					N	20/1	26
27					K	20/1	28
29	SPACE	-	-	-	N	20/1	30
31	SPACE	-	-	-	-	-	32
33	SPACE	-	-	-	-	-	34
35	SPACE	-	-	-	R	20/1	36
37	SURGE SUPPRESSOR	20/3	N	-	R	20/1	38
39					-	-	40
41					N	20/1 3/4" #10 #10 #10	42

INTERRUPT RATING: 10566 9766 9366 FROM:

LOADS (N VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	REMAINING DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR
LIGHTING	2800	1.25	3500	NON-SEASONAL MOTORS	0	1.0	0	0	22898	0	29.7 KVA	30.4 KVA	1.02
RECEPTS TO 10 KVA	3200	1.0	3200	LARGEST MOTOR	0	0.25	0	0	0	0	82.5 AMPS	84.4 AMPS	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	0	0	0			
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	800	1.0	800	0	0	0			
AIR CONDITIONING	0	1.0	0										



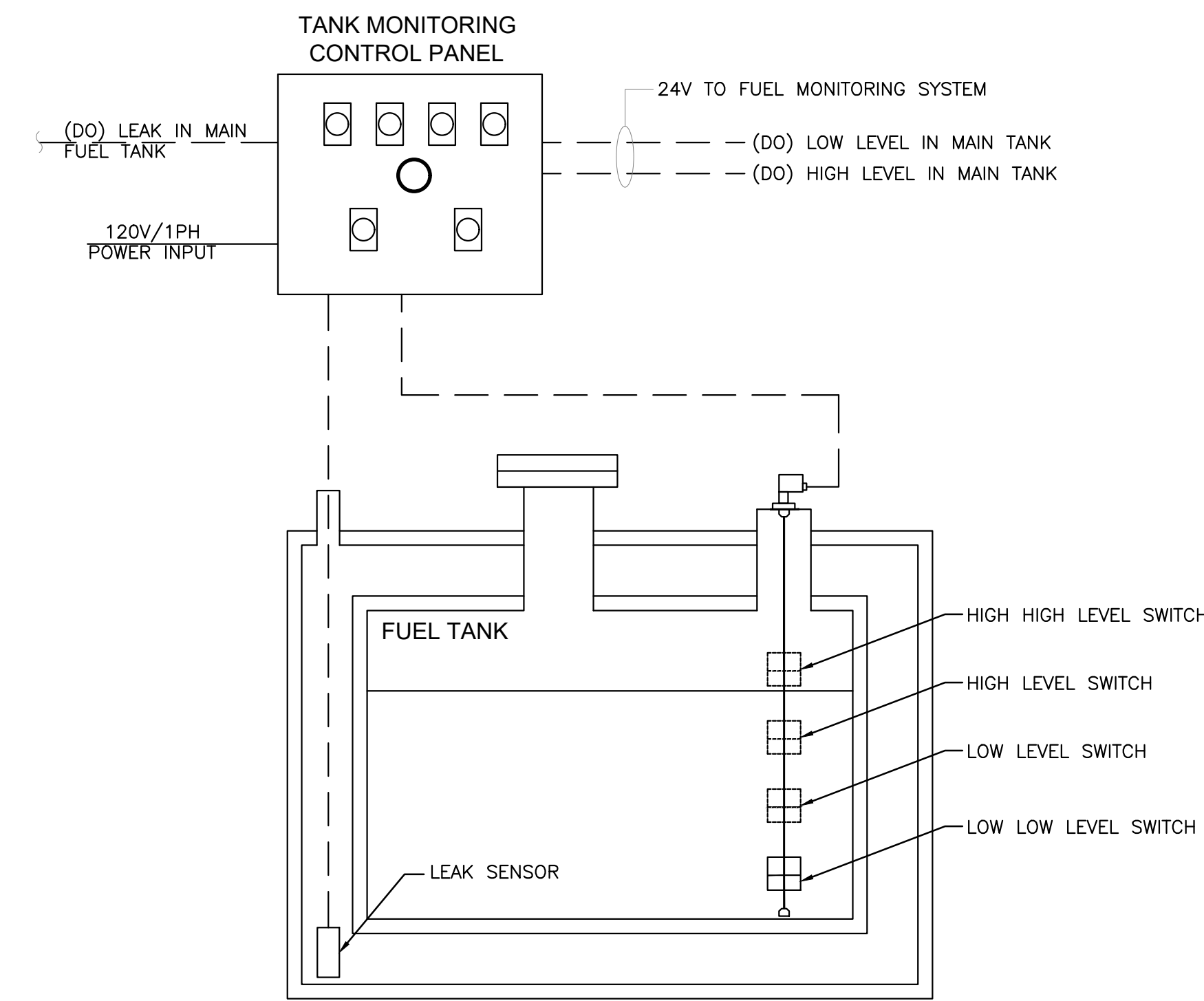
- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137



Revisions:

#	Date	Description

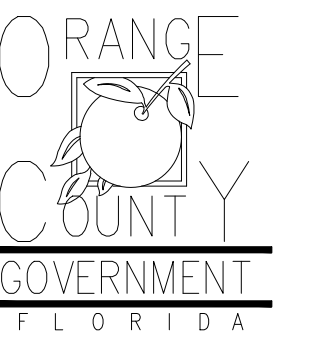
Date:
11.23.2018
Project Number:
16.OC.043

Drawn By: ME
Checked By: SP

ELECTRICAL PANEL SCHEDULES AND DETAILS

Sheet No.:

Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE
 FUEL TANK
 AUTOMATION AND
 REPLACEMENT
 DESIGN**

Location:

Fire Station 34
 4000 WINTER GARDEN
 VINELAND RD, WINTER
 GARDEN, FL 34787

Issuance:

**Permit
 Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

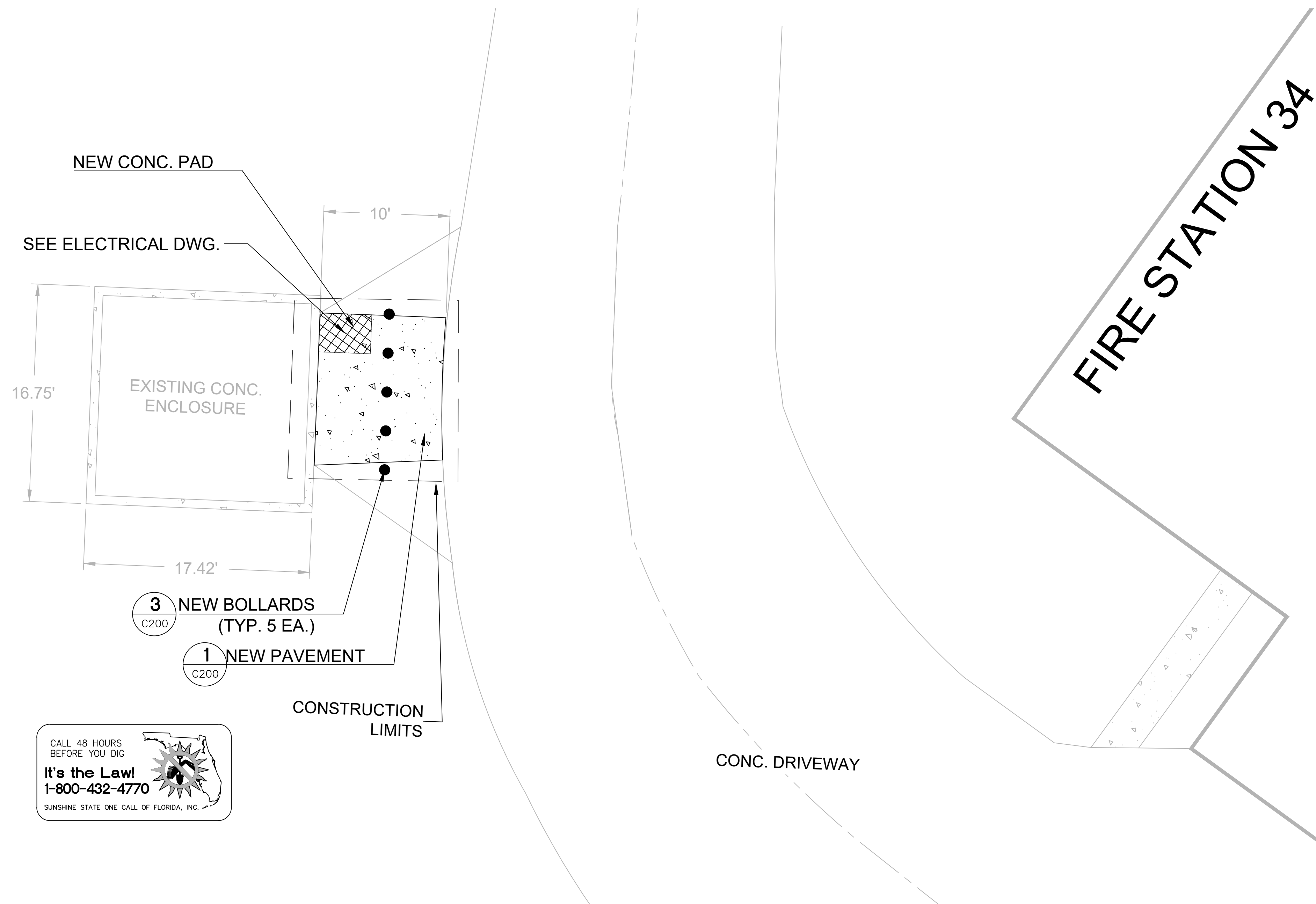
Checked By:

D.D.

Civil Site Plan

Sheet No.:

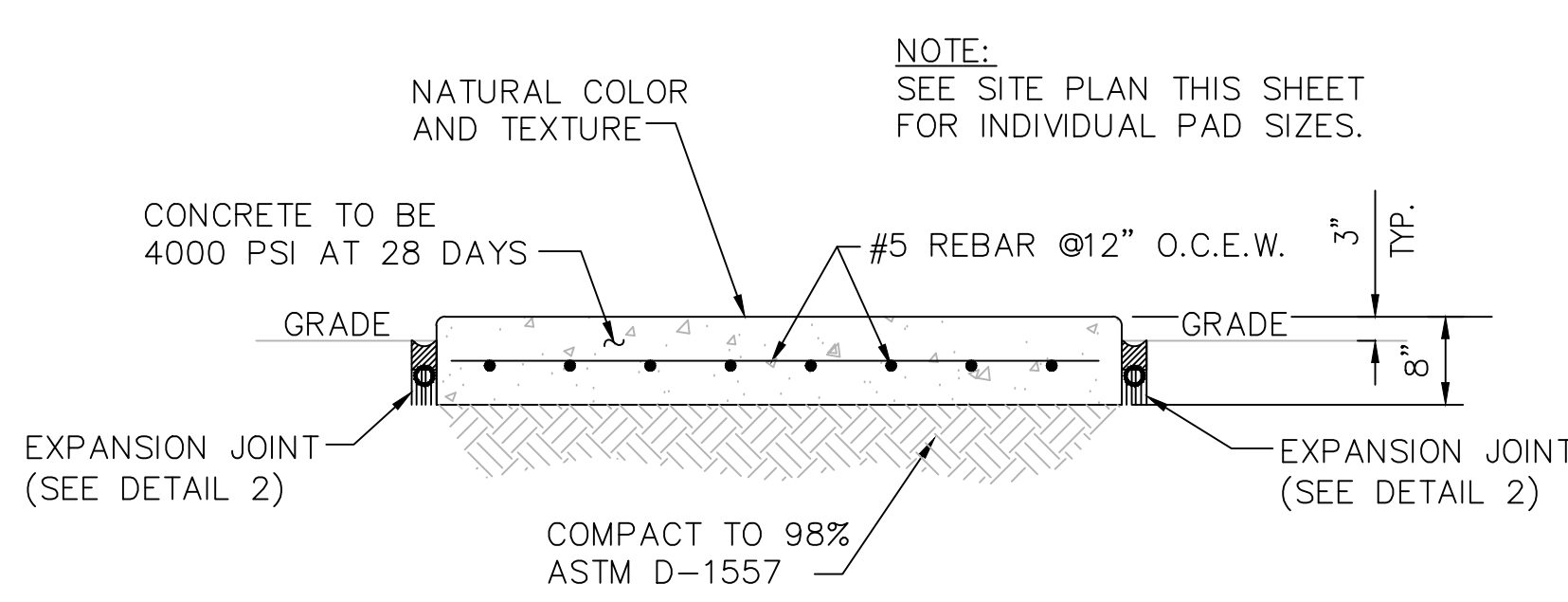
34-C200



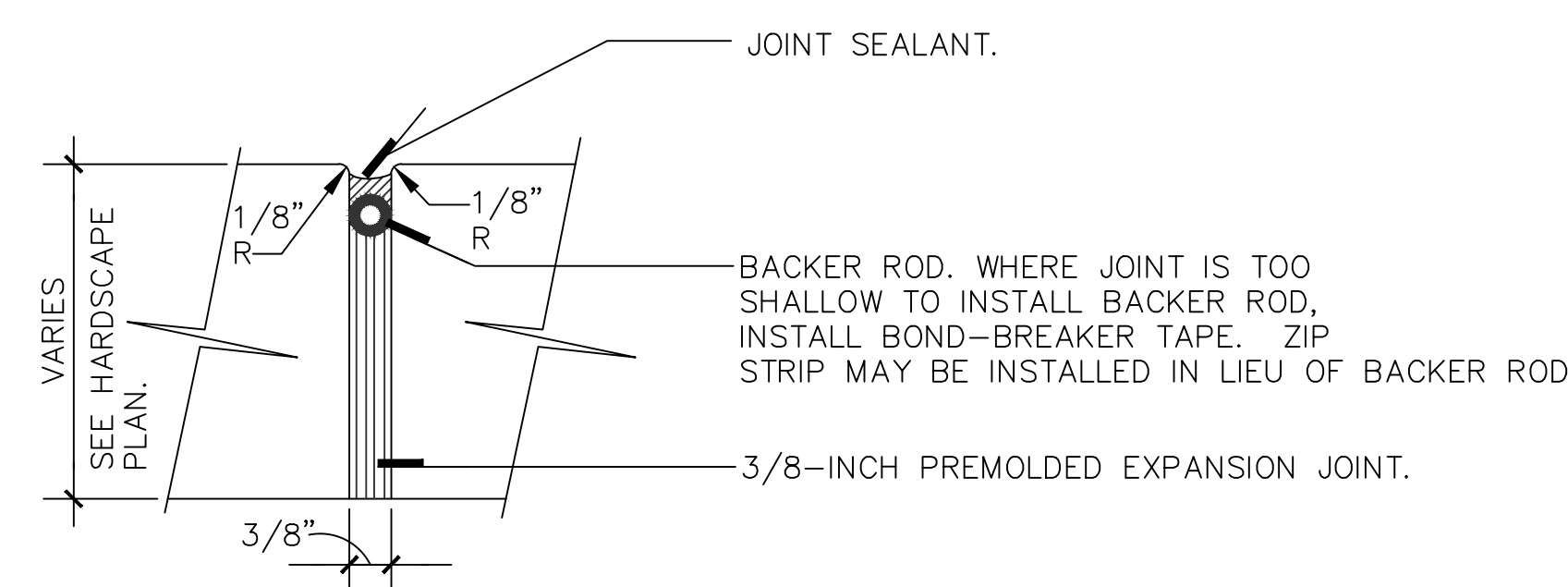
PROJECT SPECIFIC NOTES - CIVIL

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING FOR INSTALLATION OF CONCRETE PAD TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.

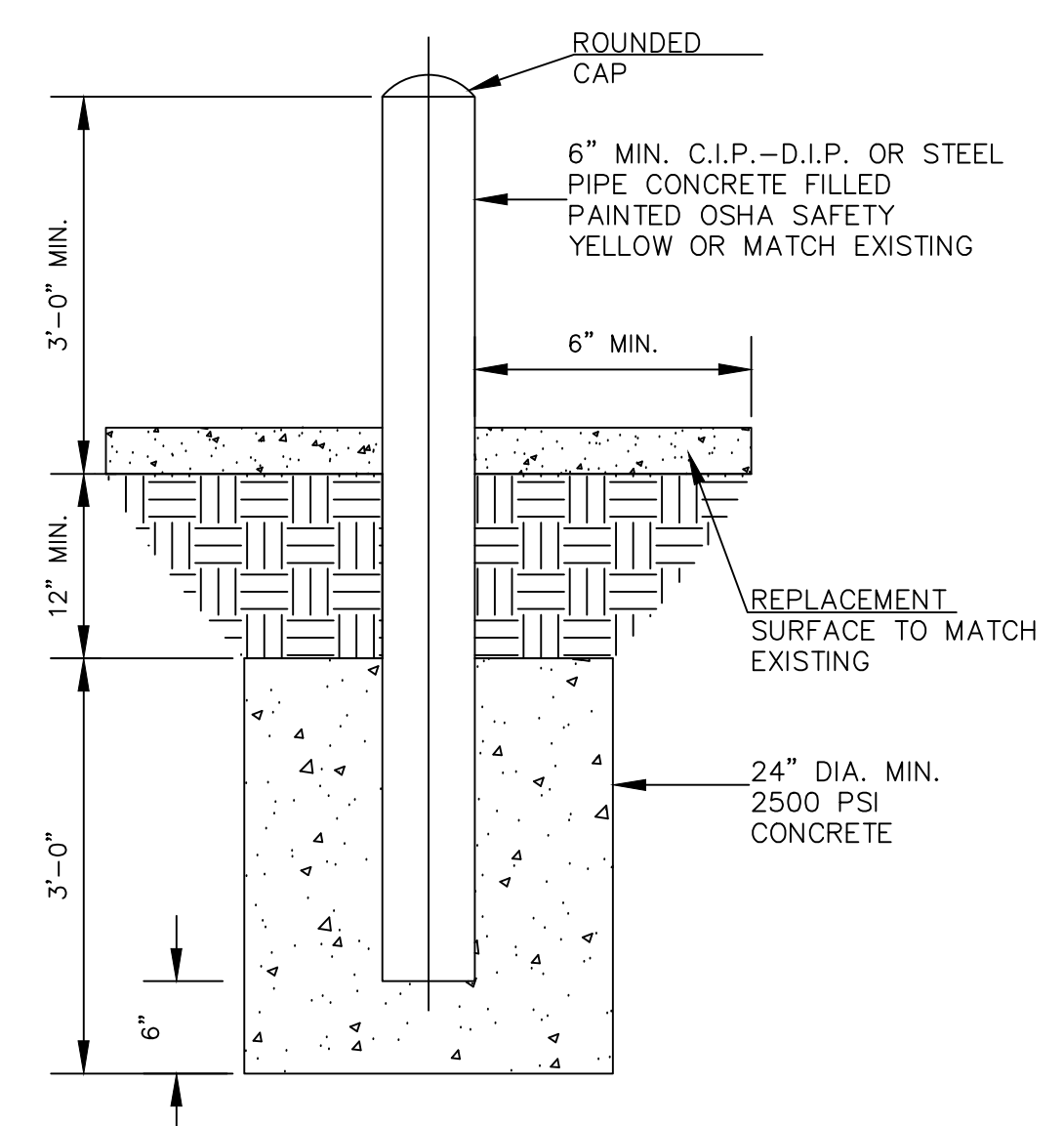
**SITE PLAN
 N.T.S.**



**1 CONCRETE PAD DETAIL
 C200 / N.T.S.**

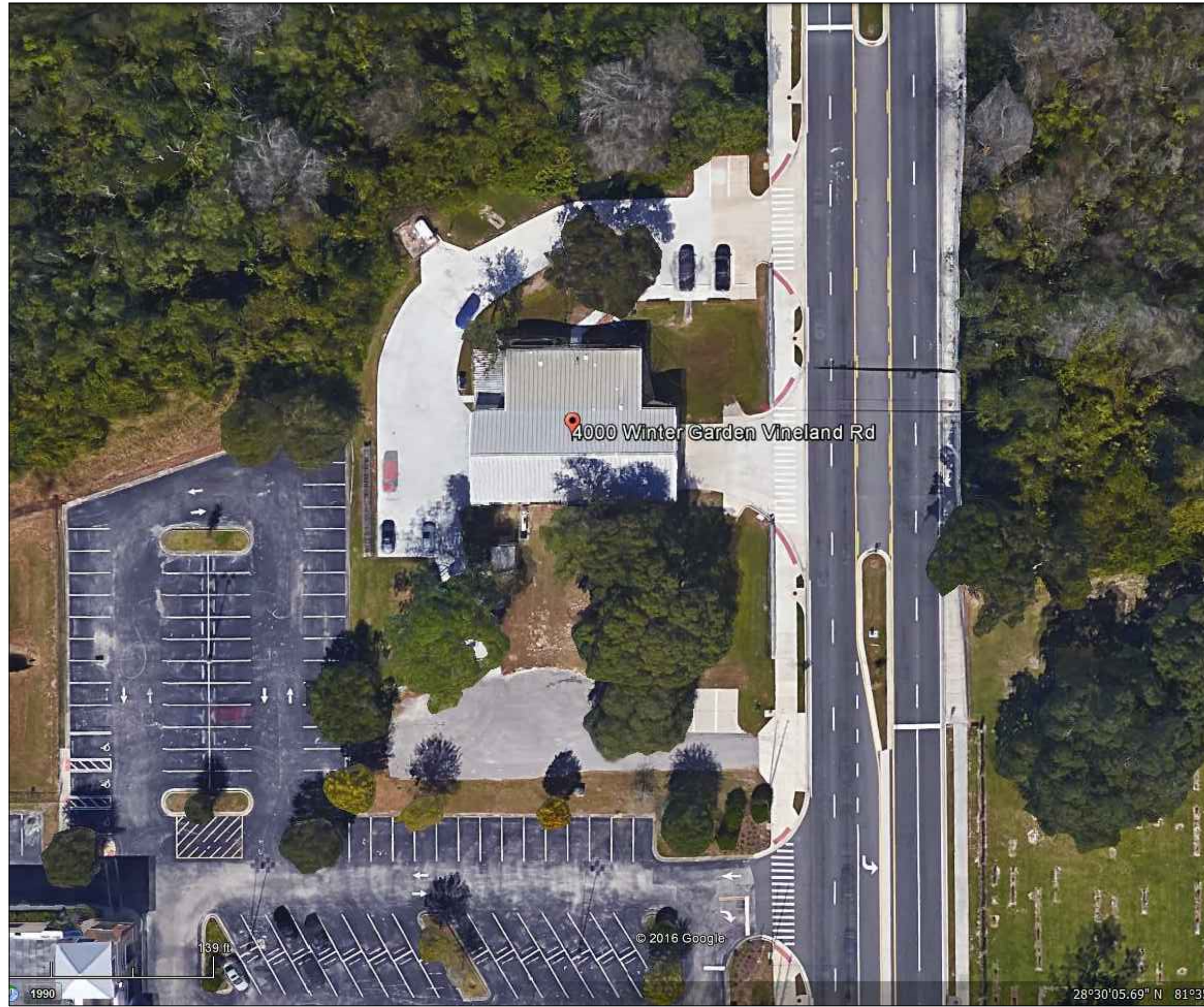


**2 EXPANSION JOINT DETAIL
 C200 / N.T.S.**



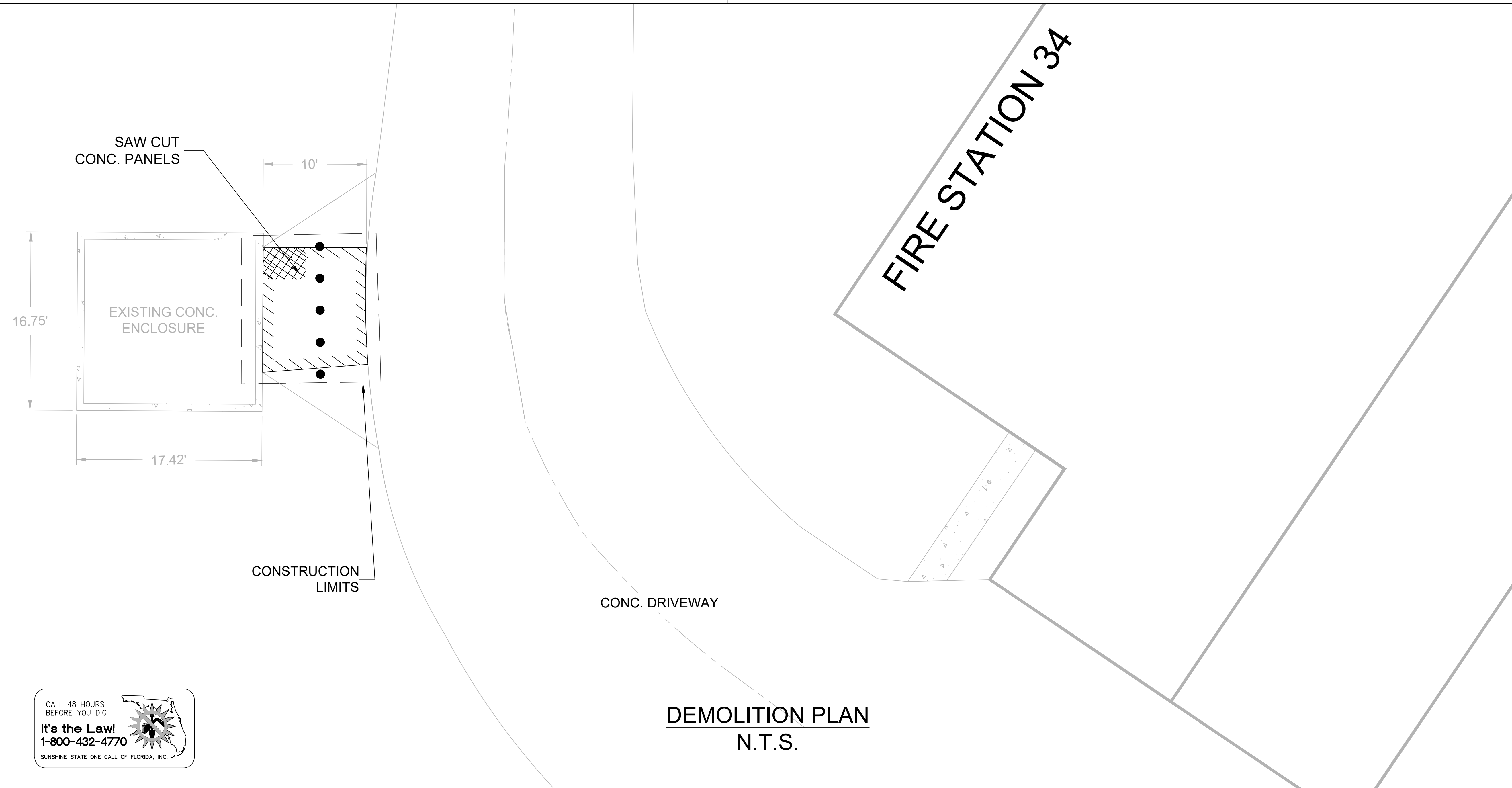
**3 BOLLARD DETAIL
 C200 / N.T.S.**

**MISCELLANEOUS DETAILS
 N.T.S.**



EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016



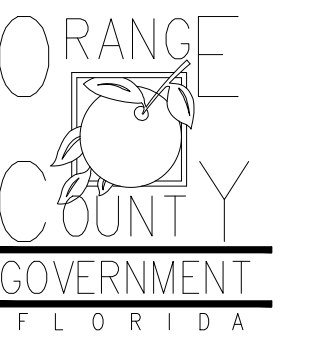
DEMOLITION PLAN
N.T.S.

GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 34
4000 WINTER GARDEN
VINELAND RD, WINTER
GARDEN, FL 34787

Issuance:

**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Demo
Plan**

Sheet No.:

34-C100



GENERAL NOTES

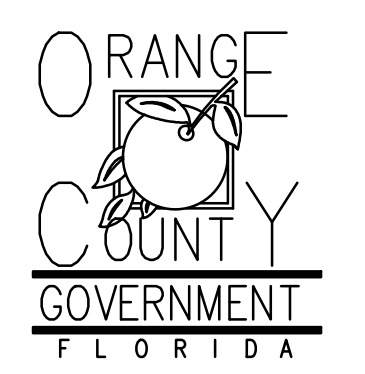
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 10T. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



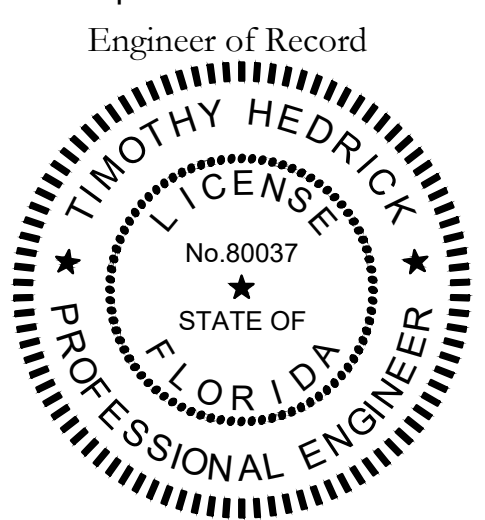
Client:



Consultants:



EOR Stamp:



Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 34
4000 WINTER GARDEN
VINELAND RD, WINTER
GARDEN, FL 34787

Issuance:

**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

**ELECTRICAL
POWER PLAN**

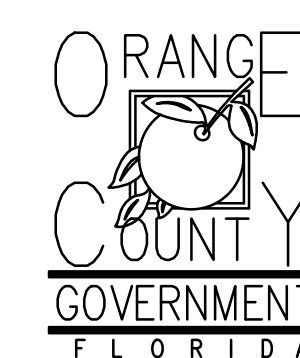
Sheet No.:

34-E101



1 FIRE STATION 34 SITE PLAN - NEW POWER PLAN NORTH
 0 2' 4' 8' 12'
 1/4" = 1'-0"

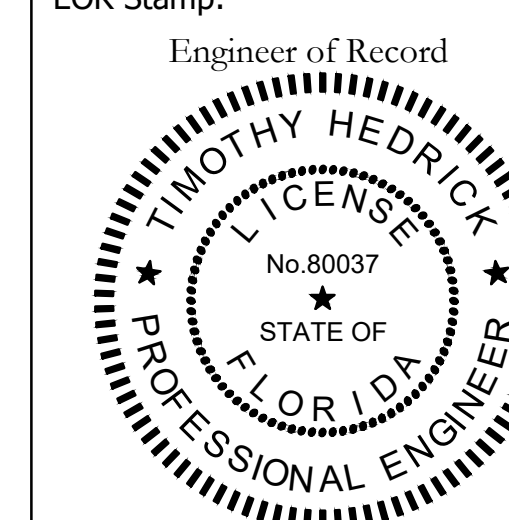
Client:



Consultants:



EOR Stamp:



Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 34
4000 WINTER GARDEN VINELAND RD, WINTER GARDEN, FL 34787

Issuance:
Permit Documents

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

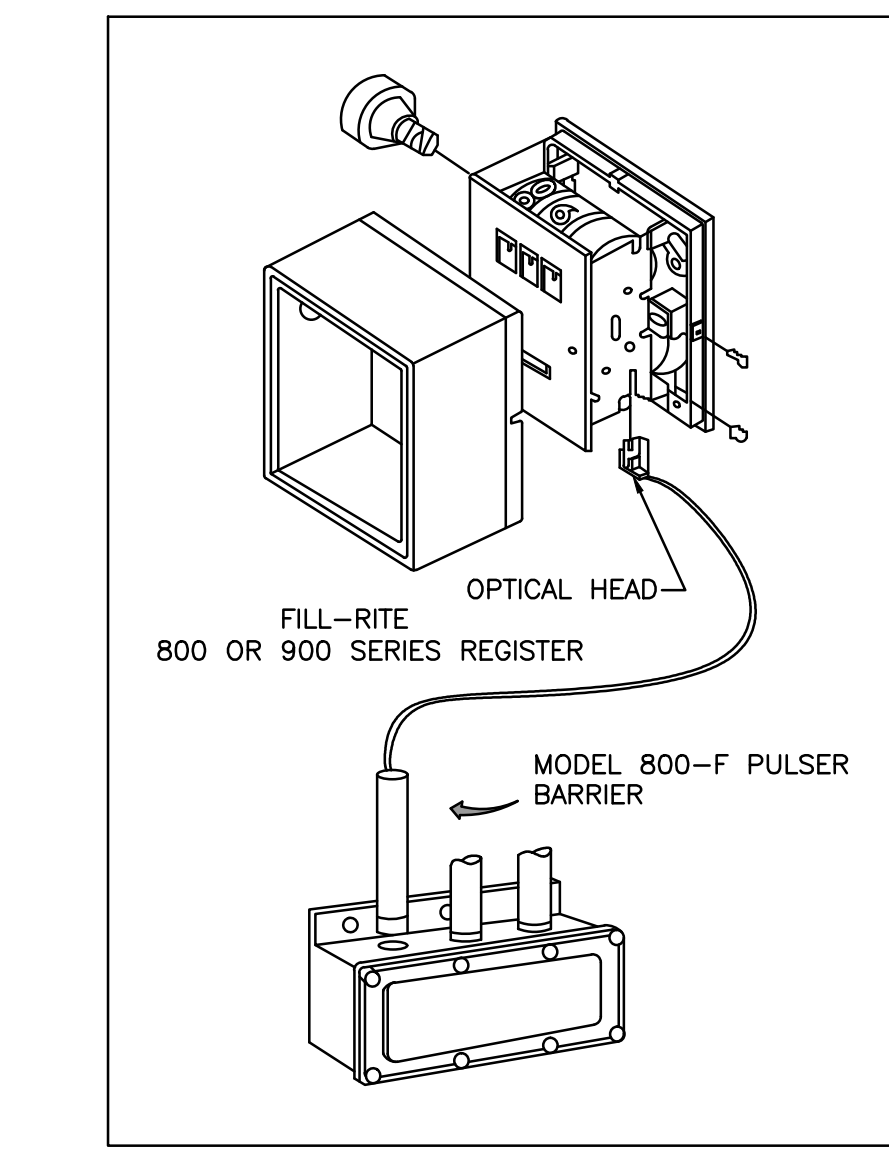
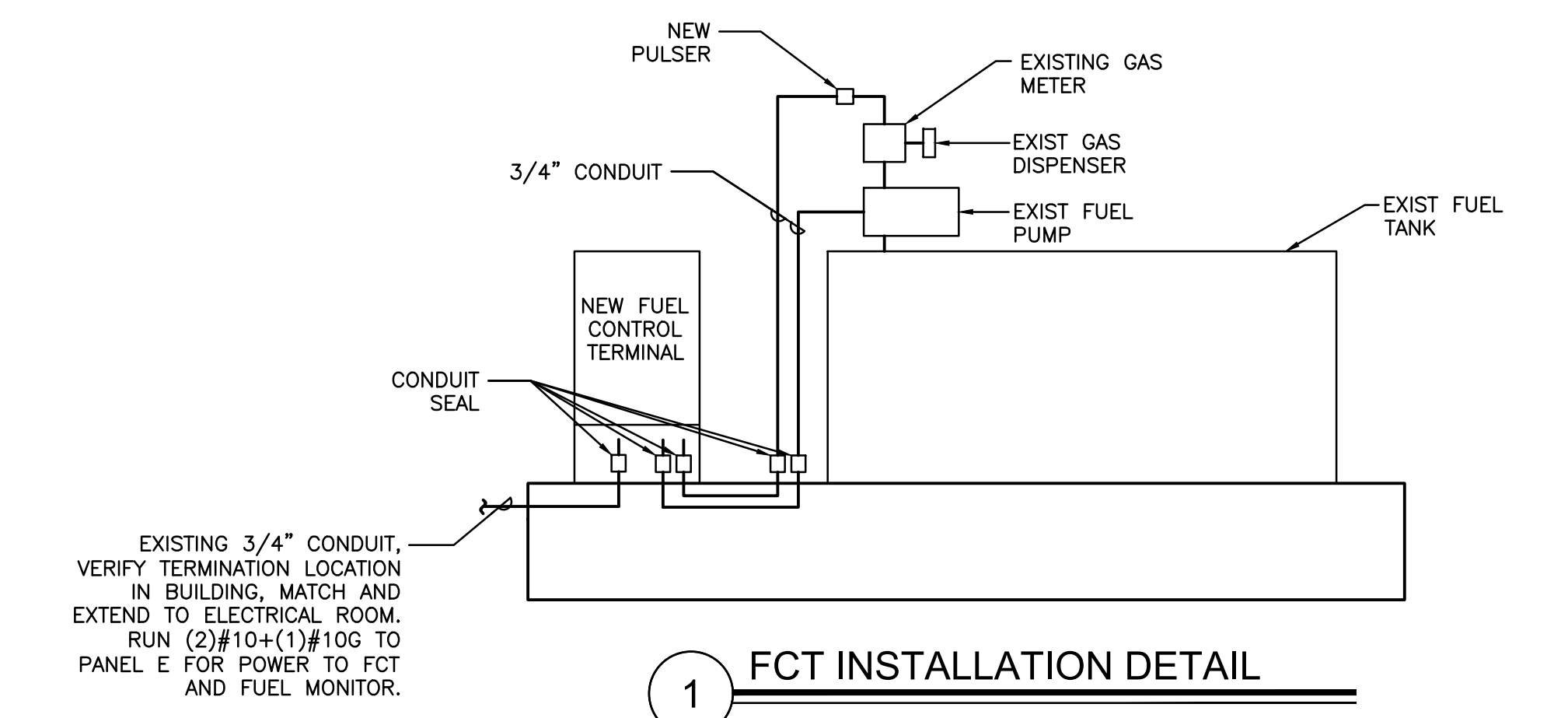
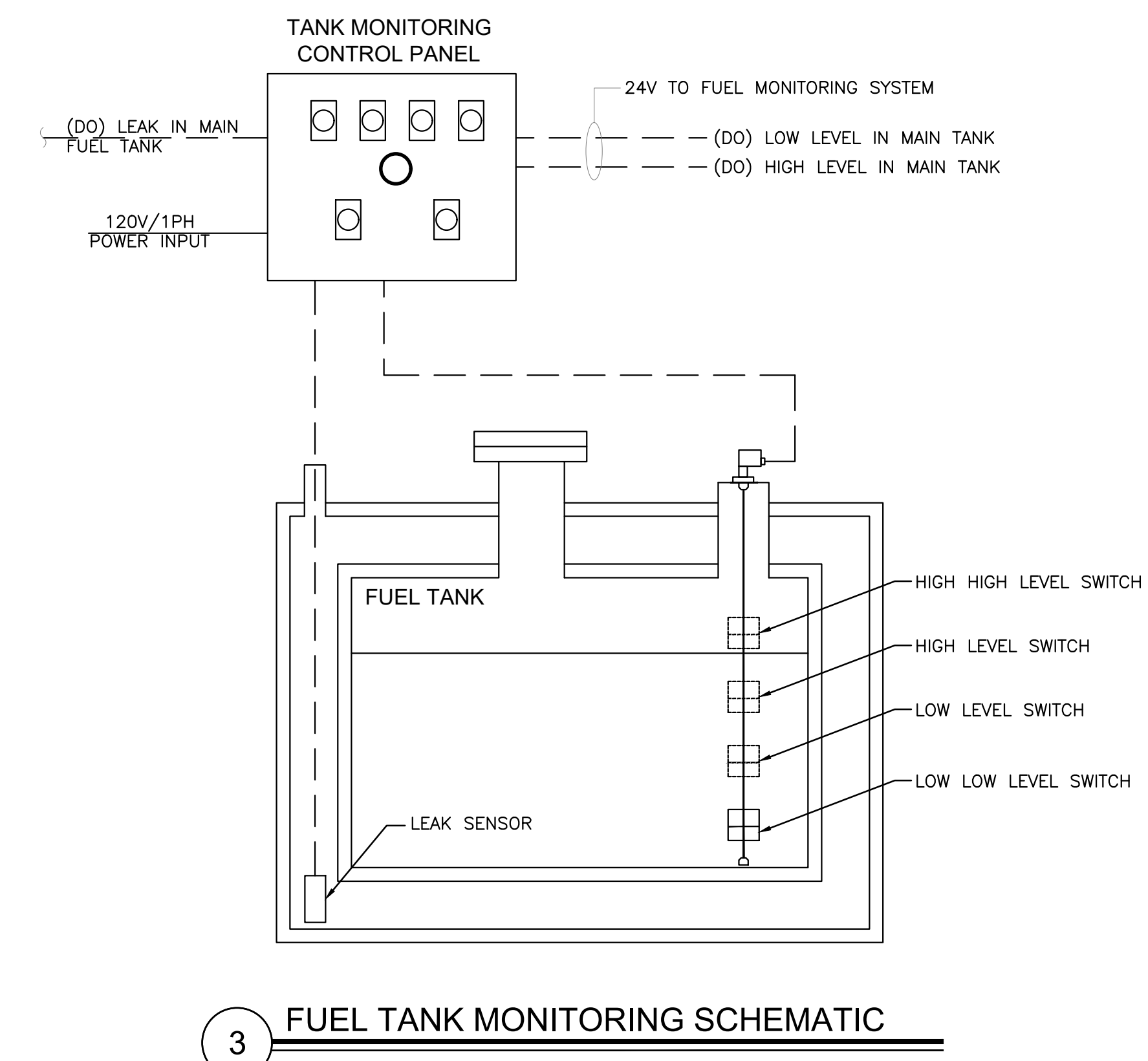
ELECTRICAL PANEL SCHEDULES AND DETAILS

Sheet No.:

34-E201

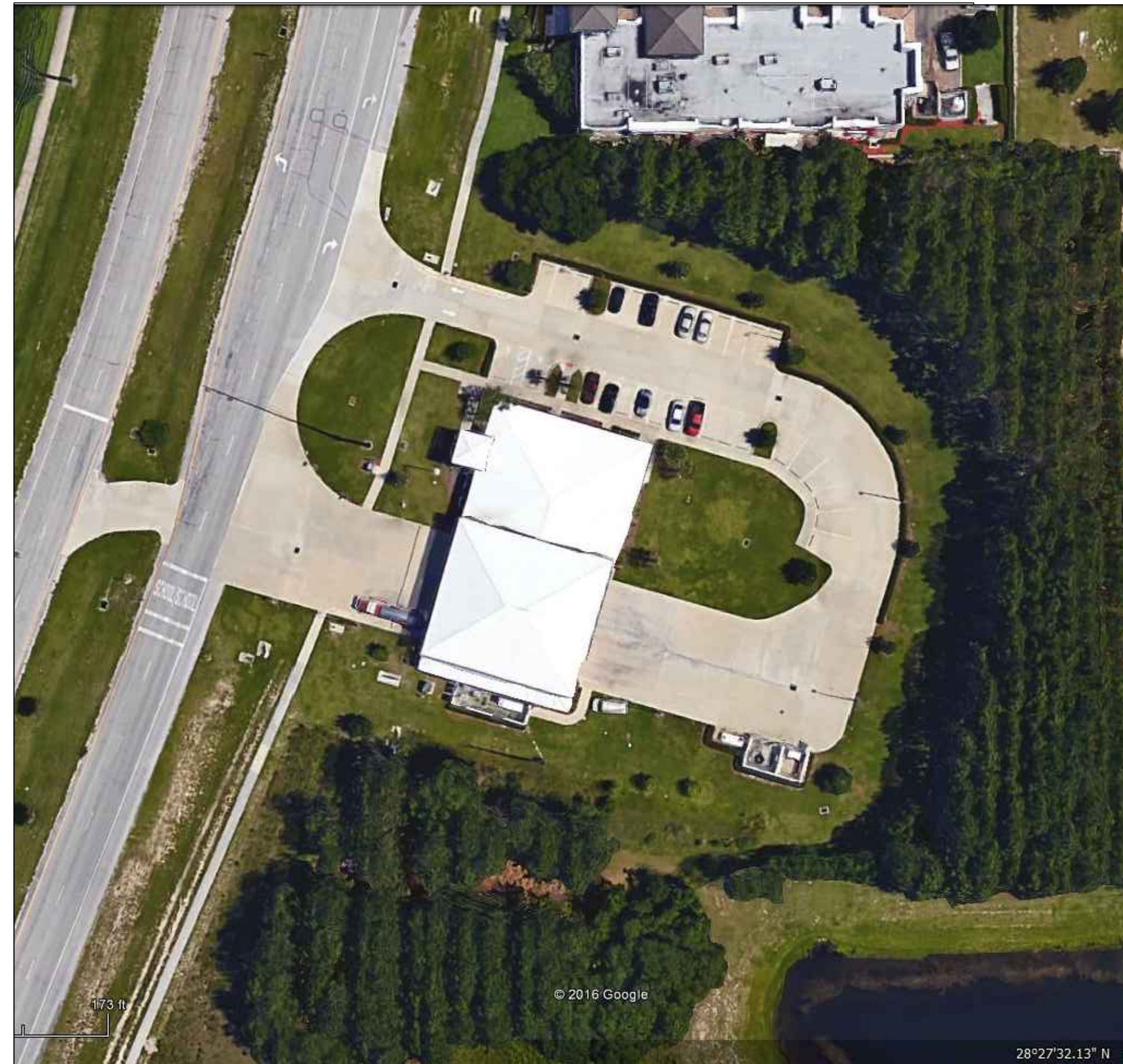
EXISTING PANEL E		LOCATION: ELEC RM		MAIN: 200A MLO		CONN. LOAD: 41.9 KVA													
VOLTAGE: 120V/208V		SYSTEM: 3Ø, 4W		FEED: TOP		GROUND BUS: YES COPPER													
TRM: SURFACE		BUS RATING: 200A		BUS RATING: 200A		GROUND BUS: YES COPPER													
CKT	LOAD SERVED	DNO	PHASE	NEUT	COND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	COND	LOAD SERVED	CKT	
1	FLOOD LIGHT E							1000										LIGHTS APPARATUS RM 109	2
3	LIGHTS APPARATUS RM 109							800										LIGHTS APPARATUS RM 109	4
5	LIGHTS APPARATUS RM 109							800										LIGHTS APPARATUS RM 109	6
7	LIGHTS APPARATUS RM 109							800										FLOOD LIGHT W	8
9	LIGHTS 105, 106, 104							1000										LIGHTS RM 102 103	10
11	LIGHTS 100, 108, 101, ENTRANCE							1000										FLAG LIGHTS	12
13	AUTO DOORS E							1000										AUTO DOORS W	14
15	RECEPTACLES							800										AUTO DOORS W	16
17	CORD DROP							1000										AUTO DOORS E	18
19	LIFT STATION							2500										FA POWER	20
21	KITCHEN RECEPTACLE							800										FUEL DISPENSER	22
23	DAY ROOM RECEPTACLE							2500										POLE LIGHT	24
25	WASHER							1000										KRONOS	26
27	REFRIGERATOR RECEPTACLE							1000										AUTO STK JR	28
29	CORD DROP TANK							1000										DRYER	30
31	CORD DROP ENG							2500											32
33	SHARE POWER							1920										SPARE	34
35	EXISTING LOAD							2500										SPACE	36
37	SPACE																	SPACE	38
39	SPACE																	SPACE	40
41	SPACE							1000	N	20/1	3/4"	#10	#10					FCT & FUEL MONITOR	42

LOADS (N VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	REMAINING DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR
LIGHTING	13100	1.25	16375	NON-SEASONAL MOTORS	0	1.0	0	0	18500	1.0	18500	45.2 KVA	1.08
RECEPTS TO 10 KVA	9300	1.0	9300	LARGEST MOTOR	0	0.25	0	0	0	0	41.9 KVA	116.4 AMPS	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	0	0	0	116.4 AMPS	125.5 AMPS	
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	1000	1.0	1000	0	0	0			
AIR CONDITIONING	0	1.0	0										



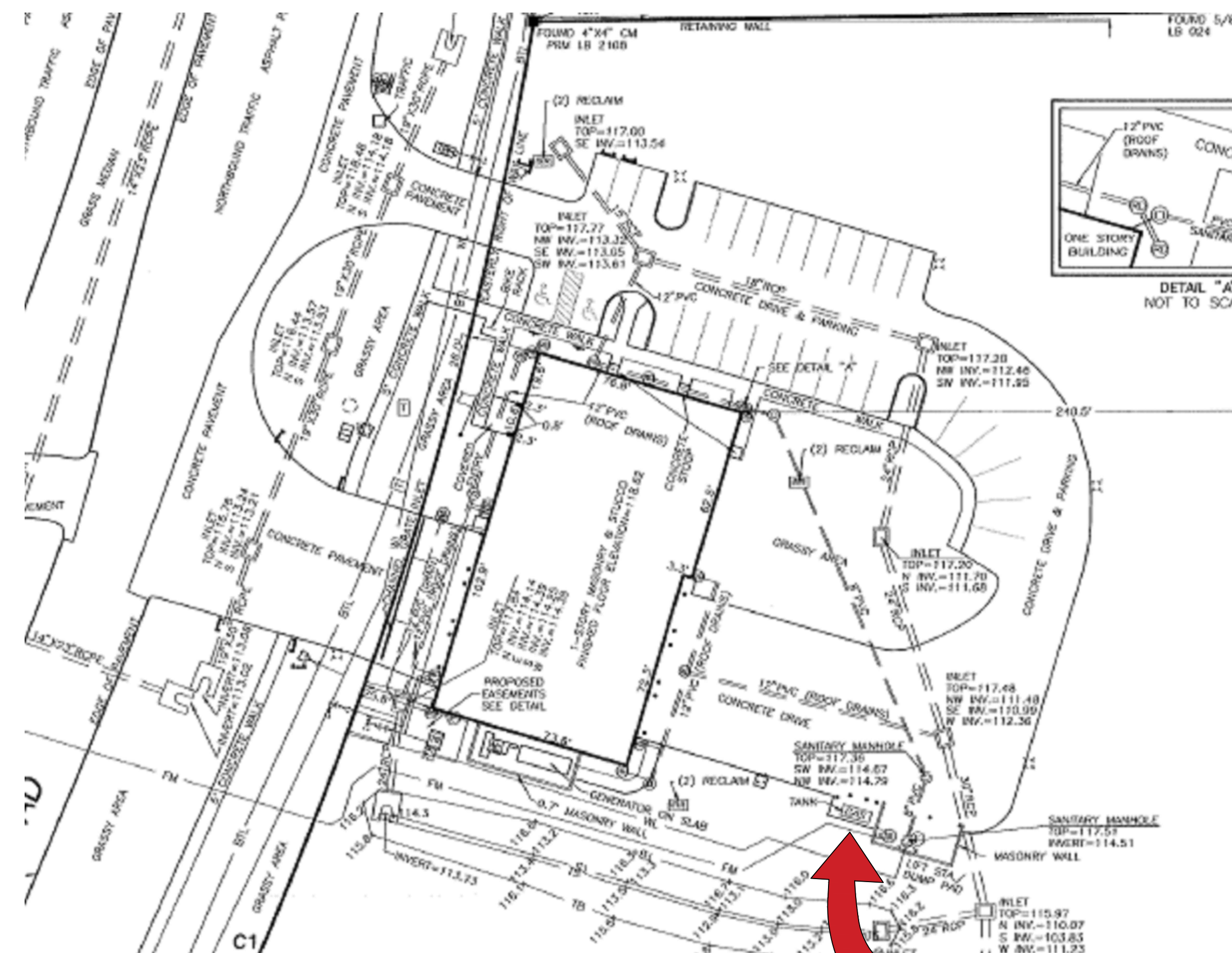
- INSTALLATION**
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP.2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.
- IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.
- ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.
- CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.
- TELEPHONE 708-485-4200 FAX 708-485-7137

2 PULSER INSTALLATION DETAIL



EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016

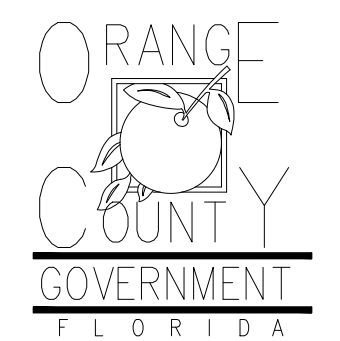


LOCATION MAP
N.T.S. **PROJECT LOCATION**

GENERAL NOTES - CIVIL

- THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
- TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
- ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
- ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
- CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
- CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
- BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
- CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
- CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
- SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
- CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
- EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
- ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
- CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
- AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
- AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
- AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.

Client:



Consultants:

EOR Stamp:

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 35
7435 WINTER GARDEN VINELAND RD,
WINDERMERE, FL 34786

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

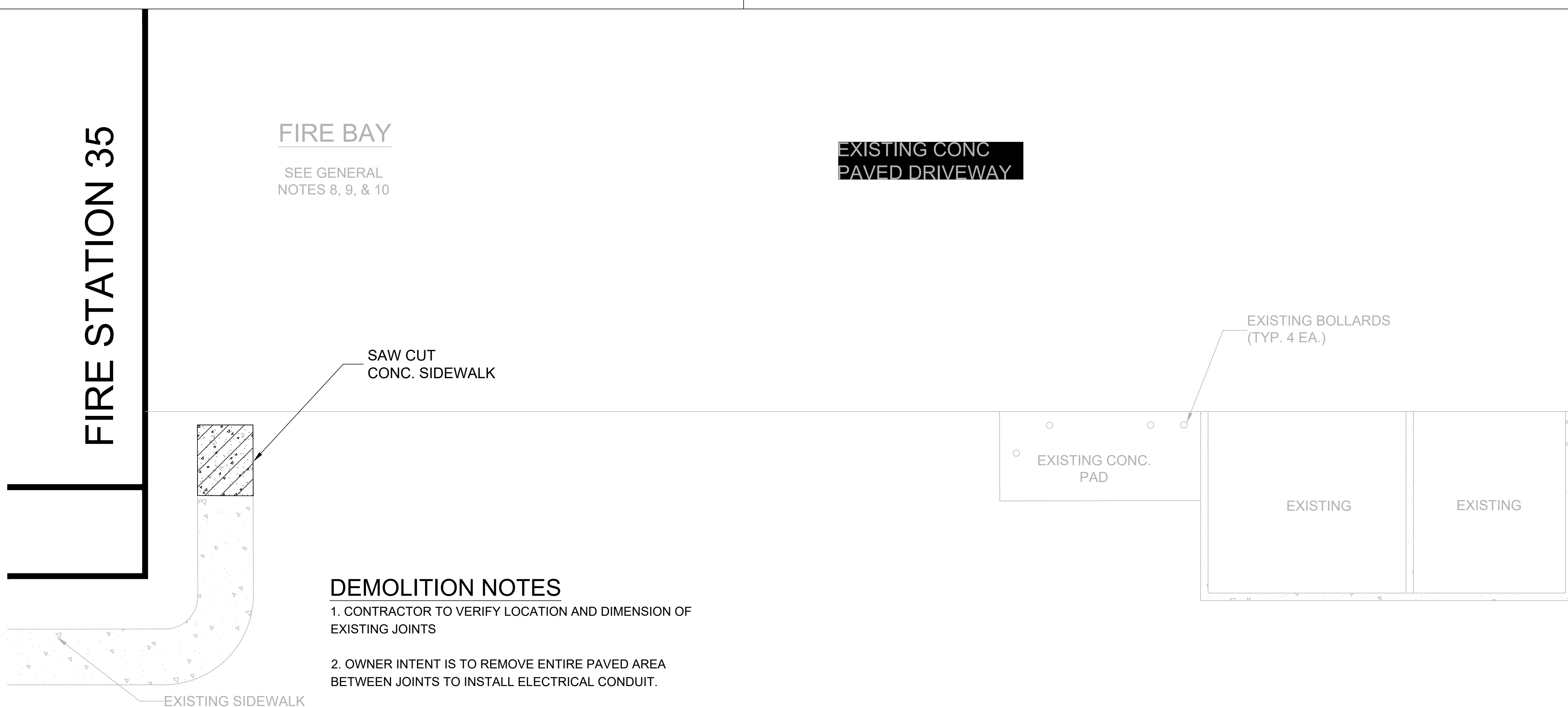
Checked By:

D.D.

Civil Demo Plan

Sheet No.:

35-C100



- DEMOLITION NOTES**
- CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
 - OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
 - CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.

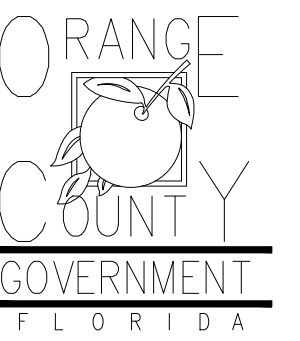
DEMOLITION PLAN
N.T.S.



PROJECT SPECIFIC NOTES - CIVIL

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
7. CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
9. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.

Client:



Consultants:

EOR Stamp:

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 35
7435 WINTER GARDEN VINELAND RD,
WINDERMERE, FL 34786

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

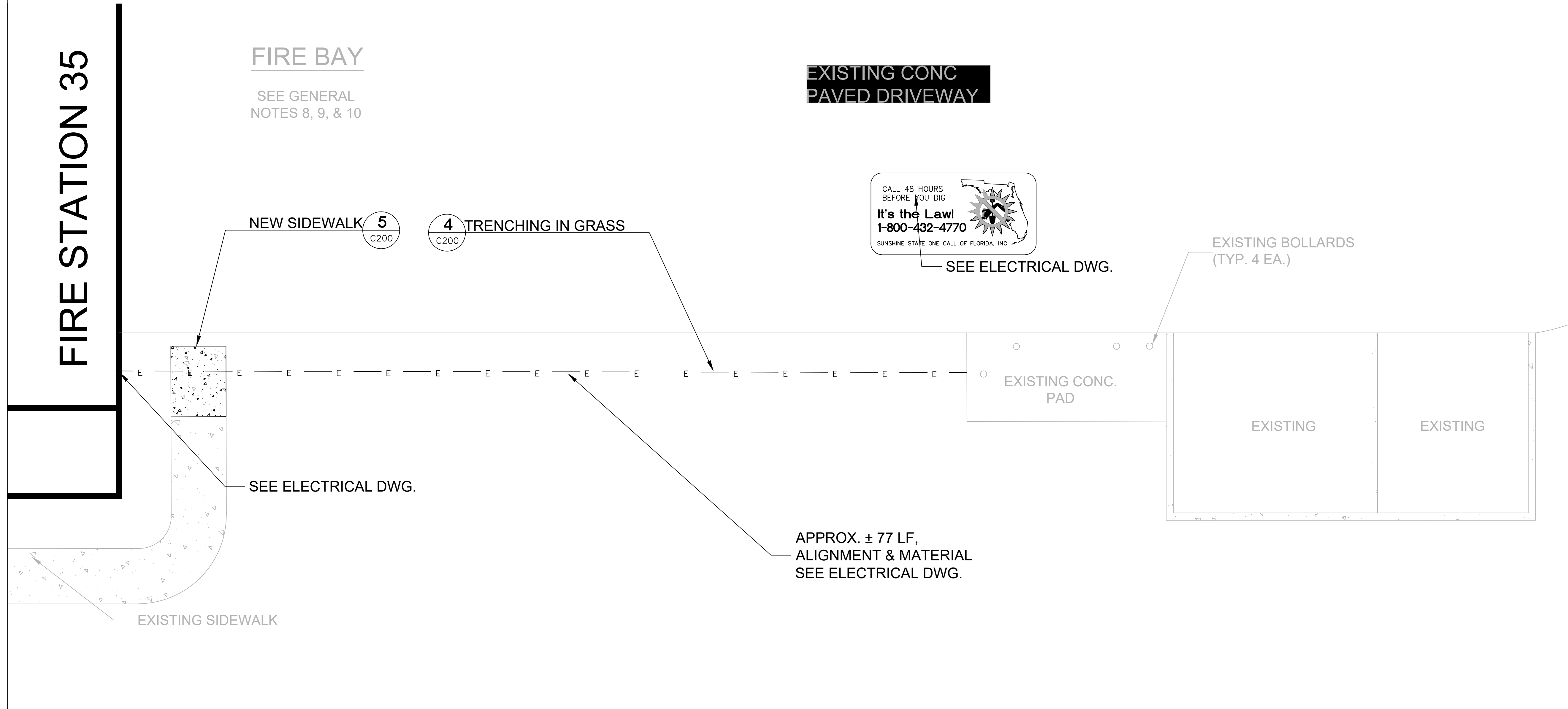
Project Number:
16.OC.043

Drawn By: S.D.H. Checked By: D.D.

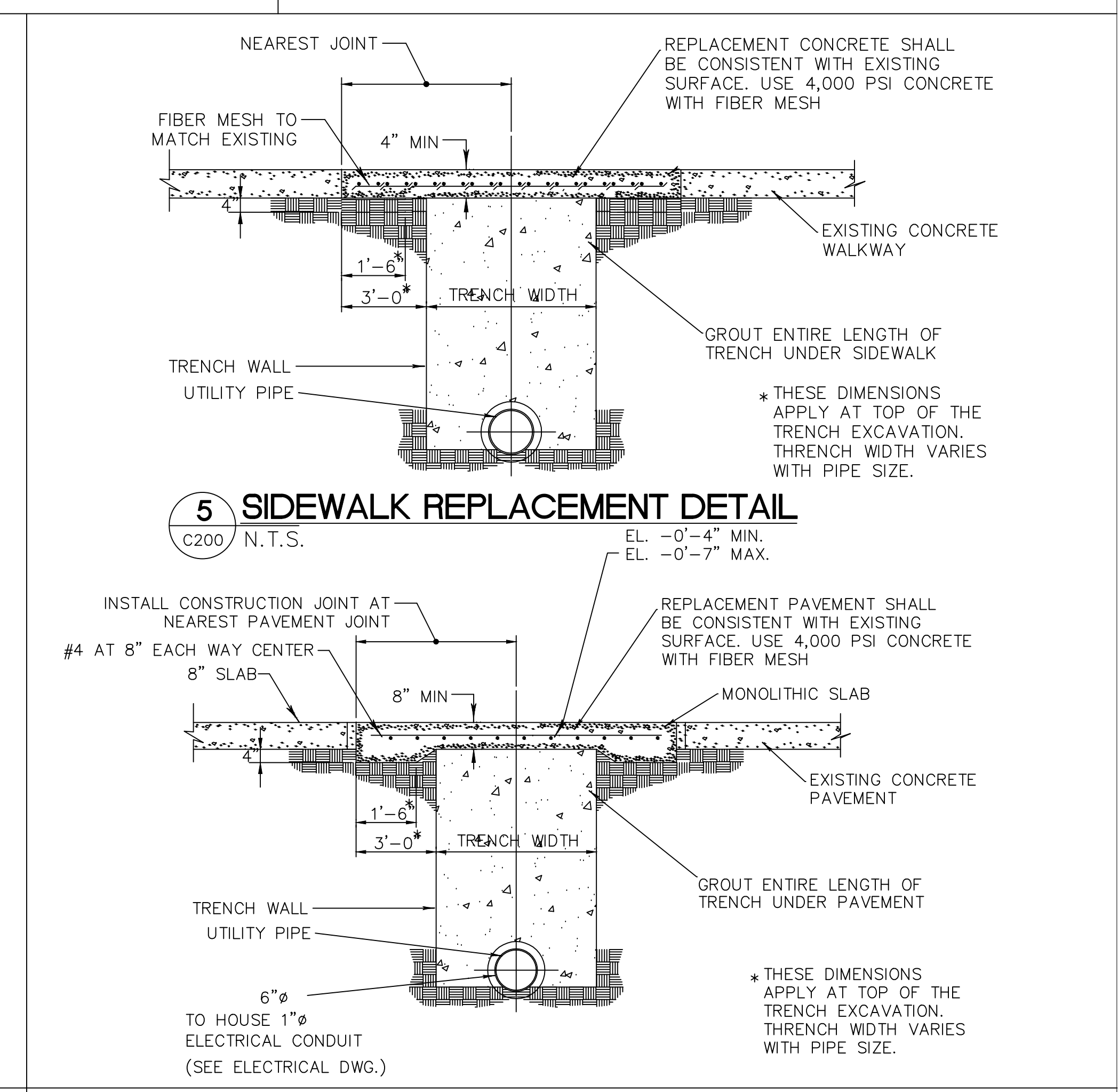
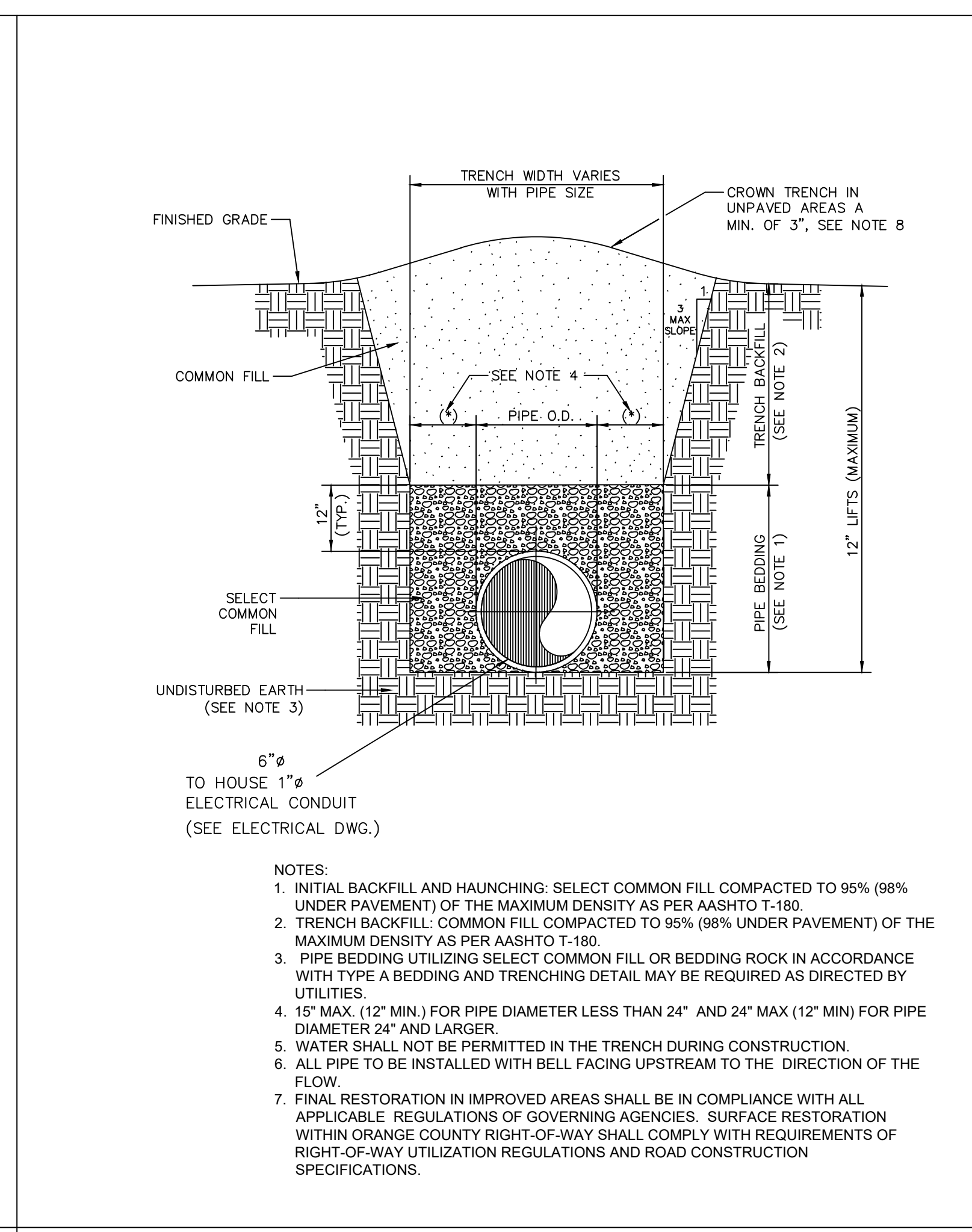
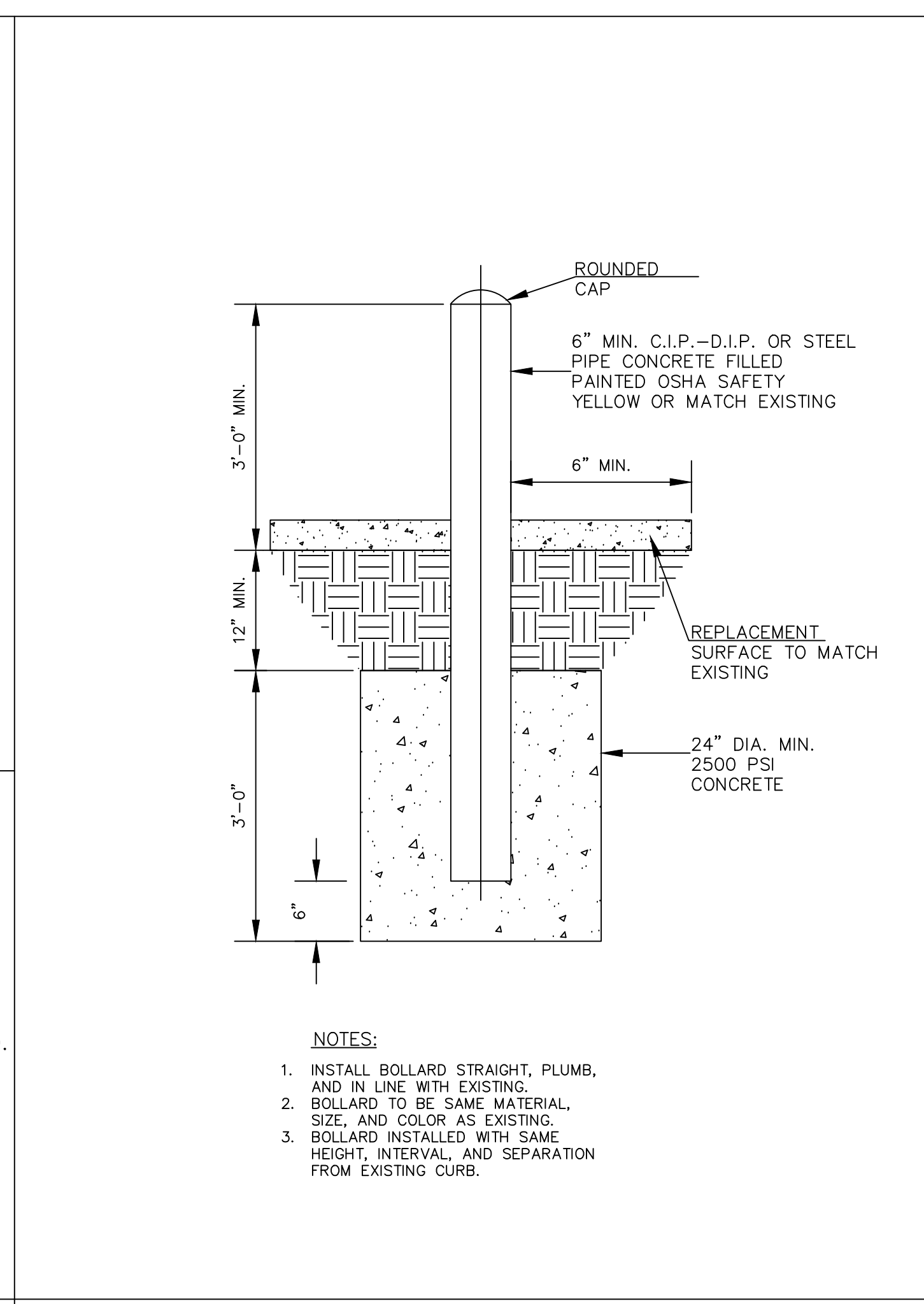
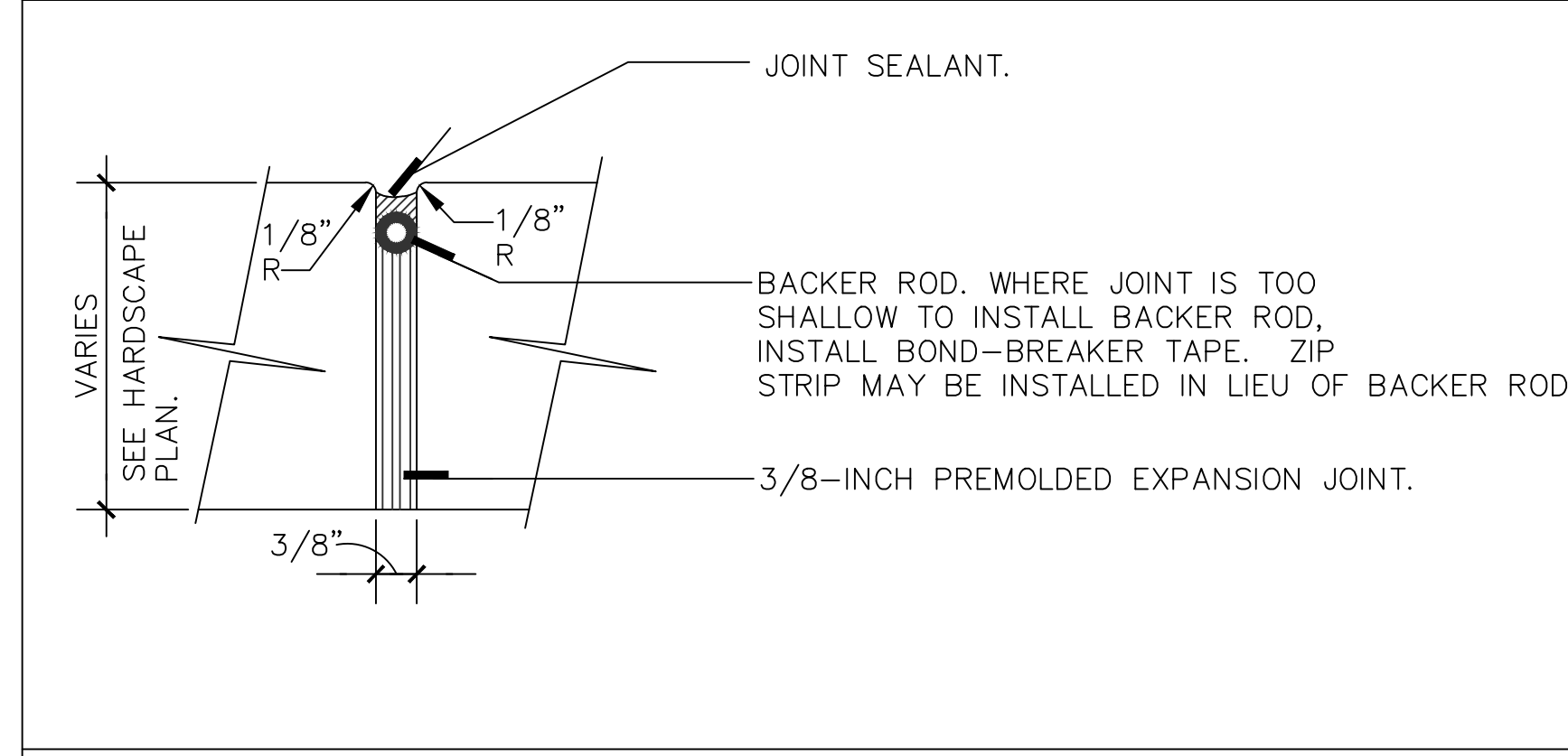
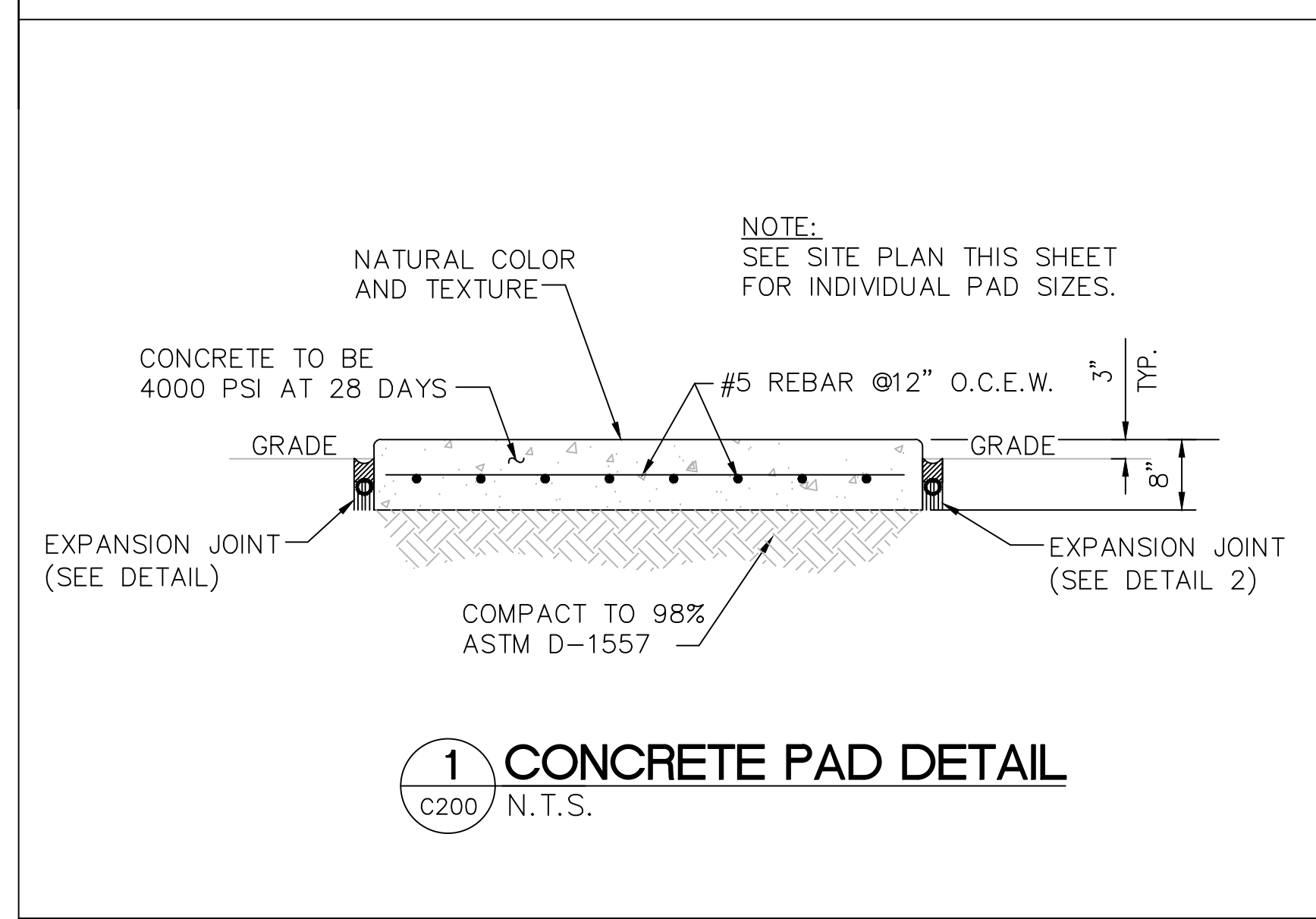
Civil Site Plan

Sheet No.:

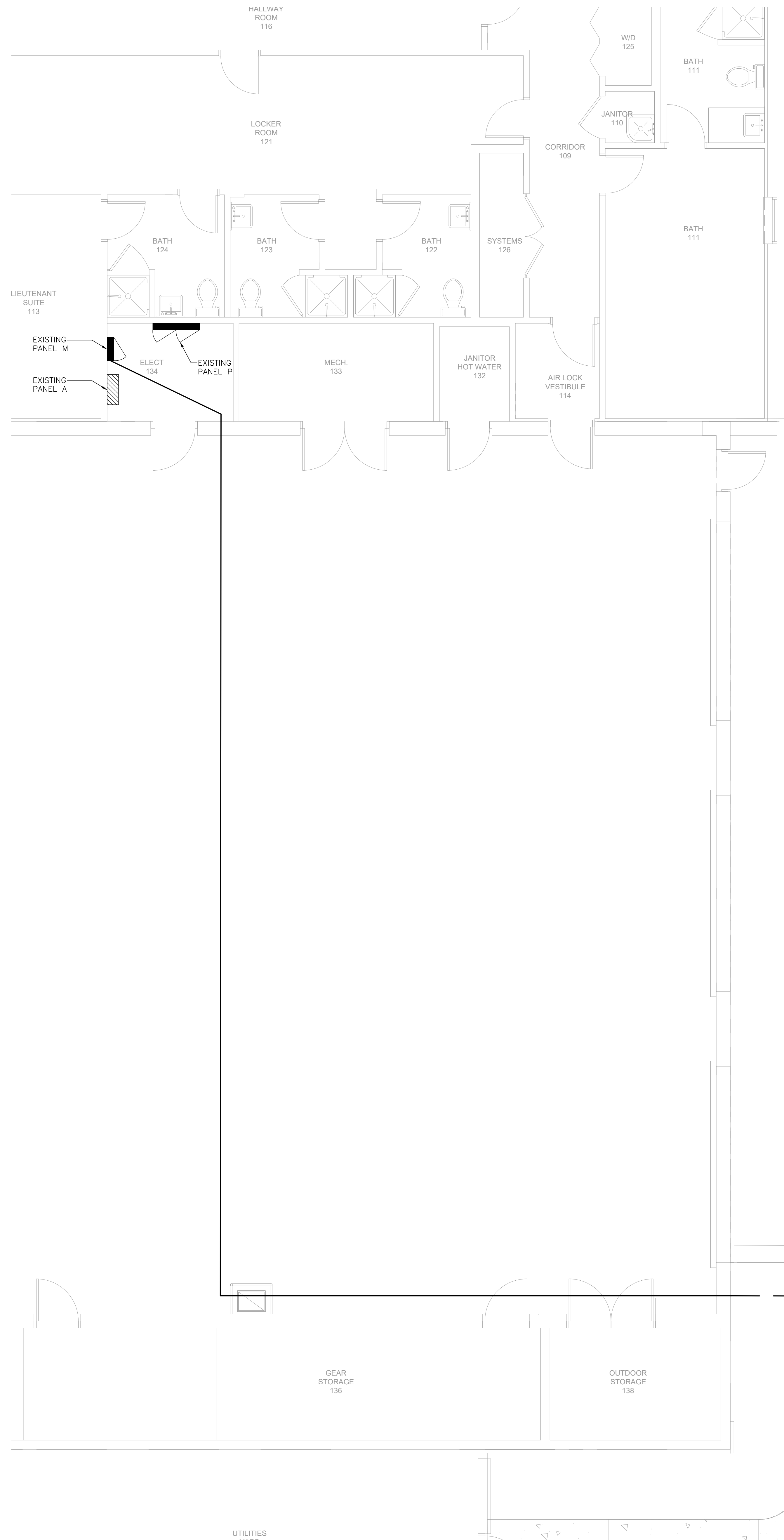
35-C100



SITE PLAN N.T.S.



MISCELLANEOUS DETAILS N.T.S.



GENERAL NOTES

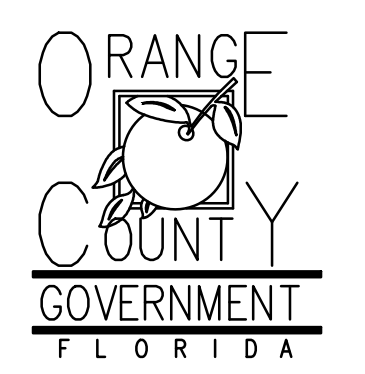
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCT), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



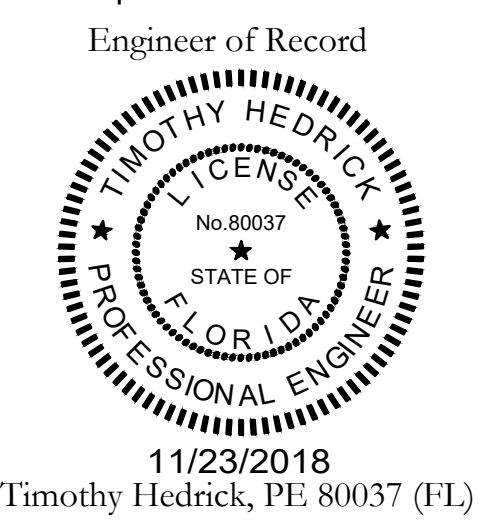
Client:



Consultants:



EOR Stamp:



11/23/2018
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 35
7435 WINTER GARDEN
VINELAND RD,
WINDERMERE, FL 34786

Issuance:

**100% Design
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

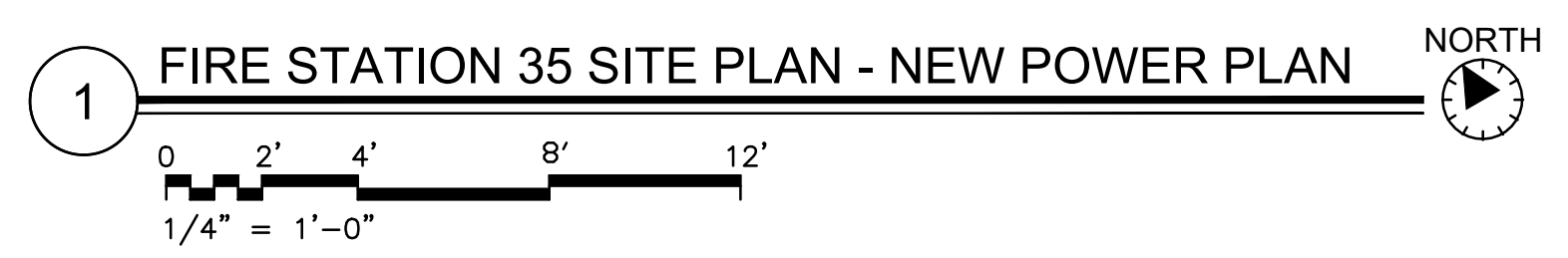
**ELECTRICAL
POWER PLAN**

Sheet No.:

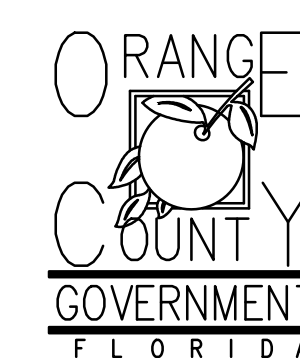
35-E101

RUN (1) 1" CONDUIT TO PANEL M.
RUN (2)#10-(1)#10G TO PANEL A TO
POWER FCT AND FUEL MONITOR

INSTALL NEW GROUND
ROD NEAR FCT



Client:

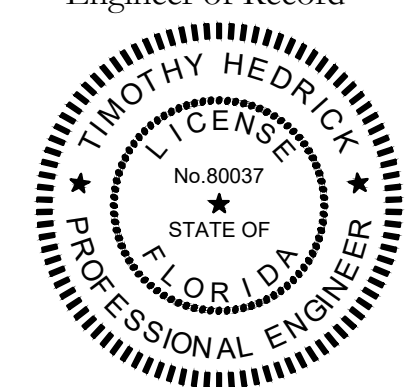


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018
Timothy Hedrick, PE 80037 (FL)

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 35
7435 WINTER GARDEN VINELAND RD,
WINDERMERE, FL 34786

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

Project Number:
16.OC.043

Drawn By: ME
Checked By: SP

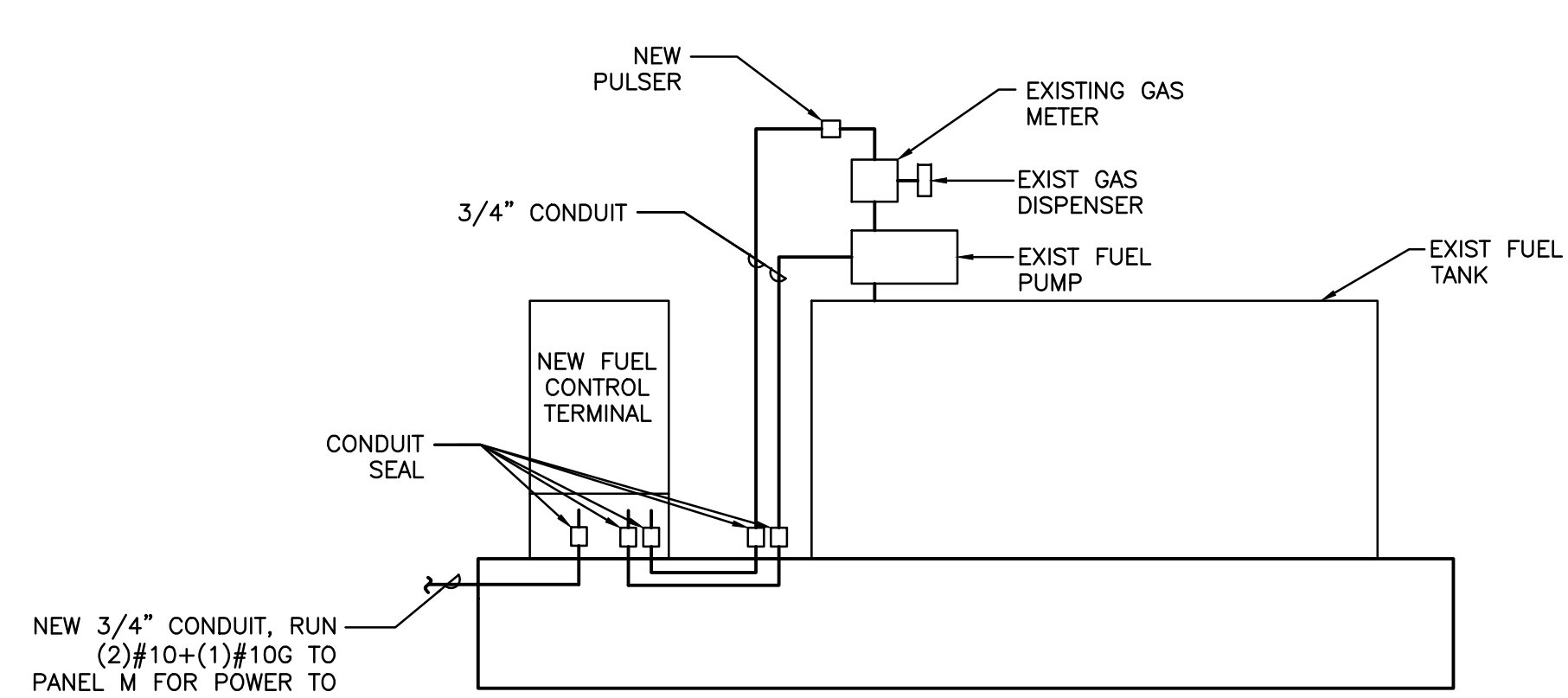
ELECTRICAL PANEL SCHEDULES AND DETAILS

Sheet No.:

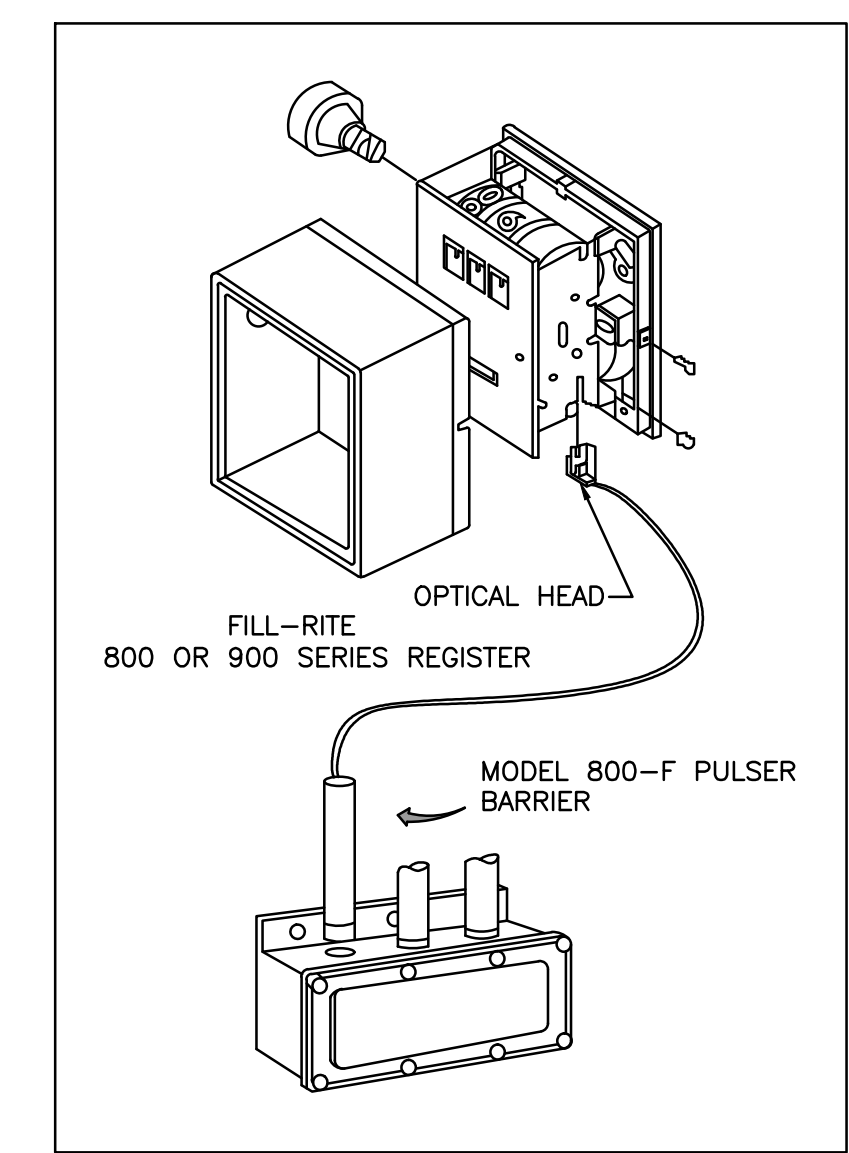
35-E201

UPDATED: 11/13/2018 1:39 pm		EXISTING PANEL M																
ISSUED FOR: APPROVAL		LOCATION: ELEC RM				MAIN: 400A MLO				CONN. LOAD: 90.3 KVA								
		VOLTAGE: 120V/208V				SYSTEM: 3Ø, 4W				FEED: TOP								
		TRIM: SURFACE				BUS RATING: 400A				GROUND BUS: YES COPPER								
OKT	LOAD SERVED	COND	PHASE	NEUT	END	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	END	LOAD SERVED	OKT
1	AHU 1				45/2	A	3744	1000				A	20/1				EF 1	2
3							3744					A	20/1				EF 2	4
5	AHU 2				45/2	A	3744	1000				A	20/1				EF 6	6
7							3744					N	20/1				EXISTING LOAD	8
9	AHU 3				45/2	A	3744	1000				A	20/1				EF 7	10
11							3744					A	20/1				EF 8	12
13	HP 1				50/2	A	4160	1248				M	15/2				GAS PUMP	14
15							4160					M						16
17	HP 2				50/2	A	4160	1248				N	20/1				EXISTING LOAD	18
19							4160					N	20/1				EXISTING LOAD	20
21	HP 3				50/2	H	4160	1248				A	20/1				EF 4	22
23							4160					A	20/1				EF 3	24
25	EF 5				30/3	A	2882	1441				A	15/3				EF 9	26
27							2882					A						28
29							2882					A						30
31	EXISTING LOAD				20/1	N	1000					N	20/1				EXISTING LOAD	32
33	EXISTING LOAD				20/1	N	1000					N	20/1				EXISTING LOAD	34
35	EXISTING LOAD				20/1	N	1000					N	20/1				EXISTING LOAD	36
37	EXISTING LOAD				20/1	N	1000					C	30/3				TVSS	38
39	SPACE						2882					C						40
41	FCT & FUEL MONITOR	3/4"	#10	#10	20/1	N	840	2882				C						42

LOADS (N VA)				LOADS				REMAINING CONTINUOUS LOADS			
CONNECTED	DEMAND FACTOR	MINIMUM FEEDER		CONNECTED	DEMAND FACTOR	MINIMUM FEEDER		REMAINING NON-CONTINUOUS LOADS	DEMAND FACTOR	MINIMUM FEEDER	
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	2496	1.0	2496	8646	1.25	10808	
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	REMAINING DEMAND LOADS	10840	1.0	10840
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	90.3	KVA	250.8
SPACE HEATING	8320	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	84.1	KVA	233.7
AIR CONDITIONING	59996	1.0	59996					OVERALL DEMAND FACTOR	0.93		



1 FCT INSTALLATION DETAIL



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

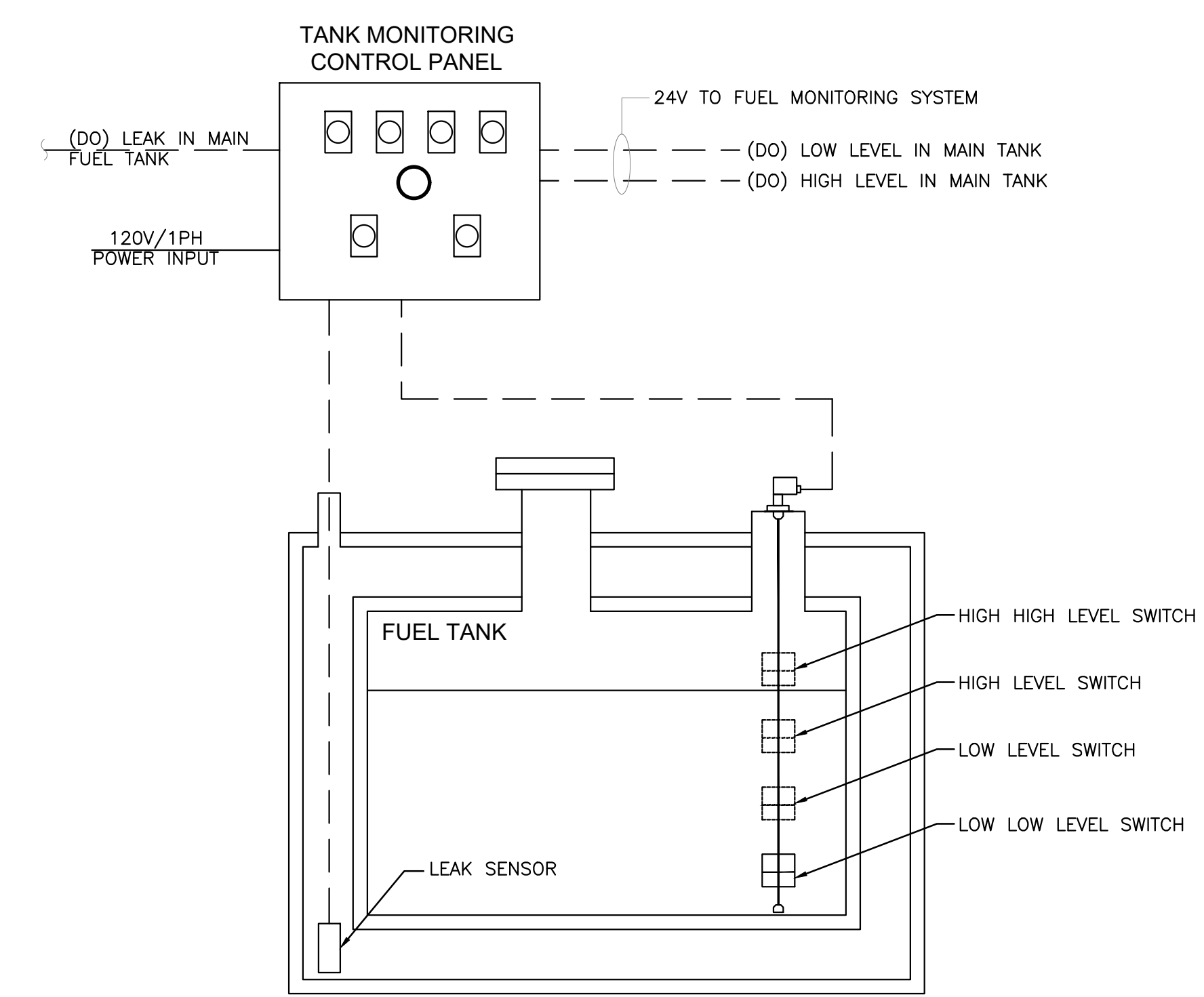
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

2 PULSER INSTALLATION DETAIL

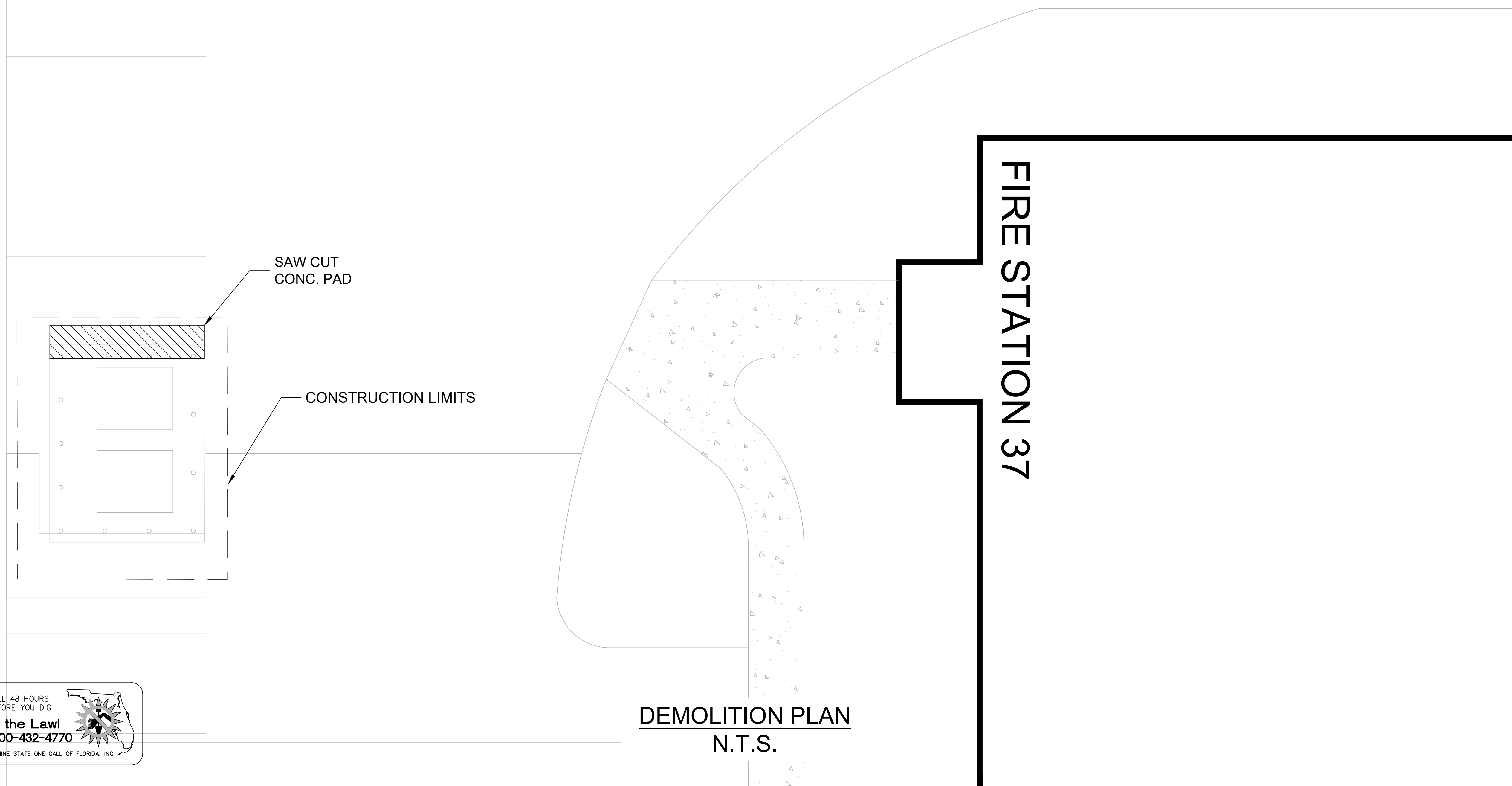


3 FUEL TANK MONITORING SCHEMATIC



EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016



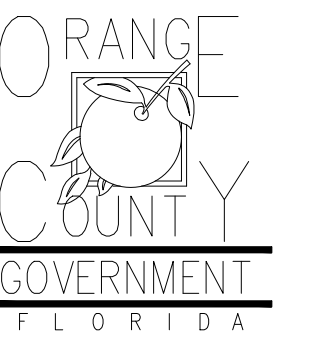
DEMOLITION PLAN
N.T.S.

GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 37
540 E Oakland Ave
Oakland, FL 34787

Issuance:

**100% Design
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Demo
Plan**

Sheet No.:

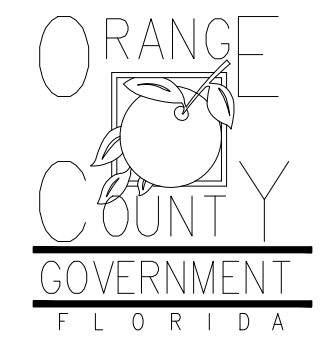
37-C100



PROJECT SPECIFIC NOTES - CIVIL

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DIG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.

Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 37
540 E Oakland Ave
Oakland, FL 34787

Issuance:

**100% Design
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

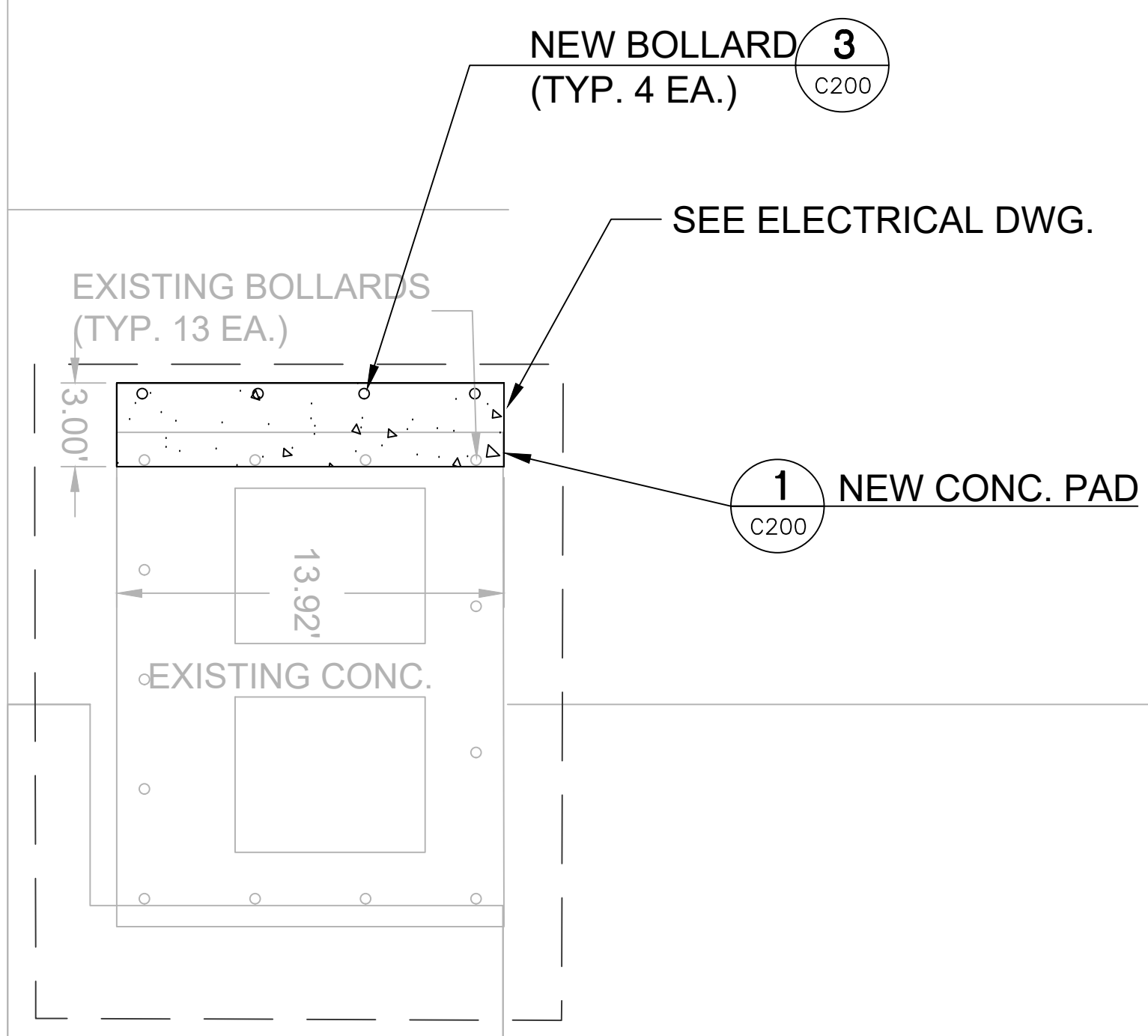
D.D.

Civil Site Plan

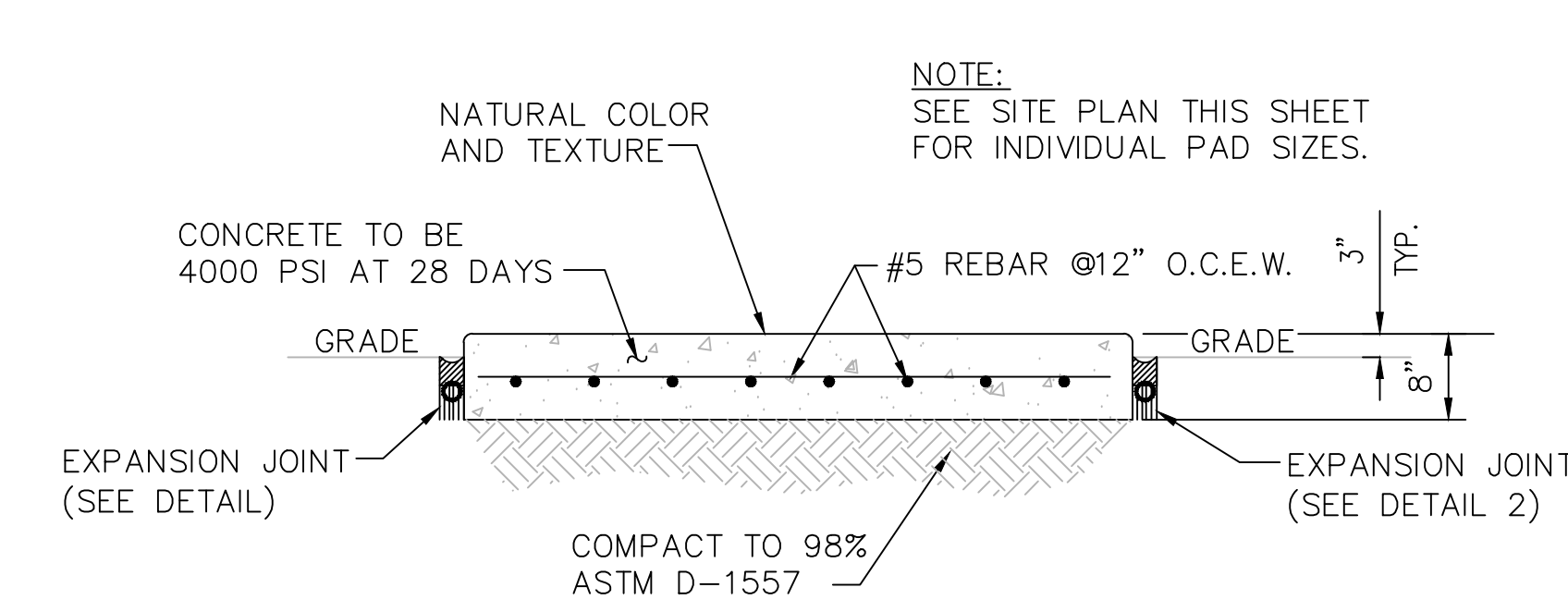
Sheet No.:

37-C200

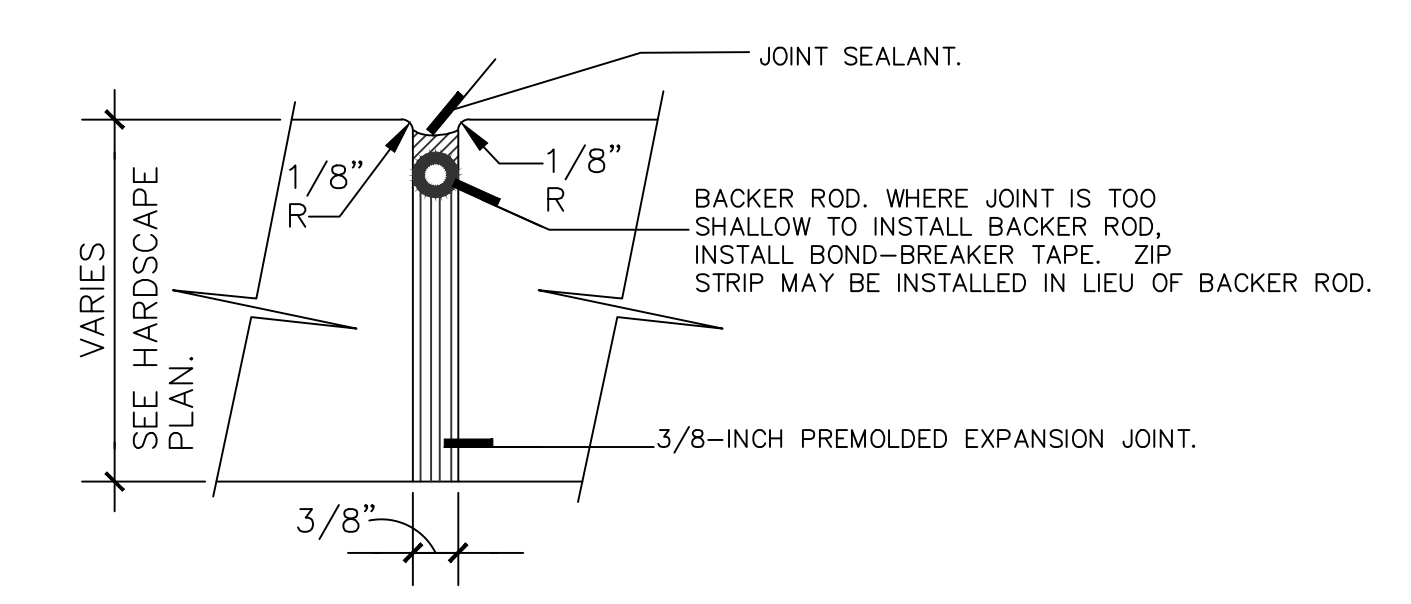
EXISTING CONC.
PAVED DRIVEWAY



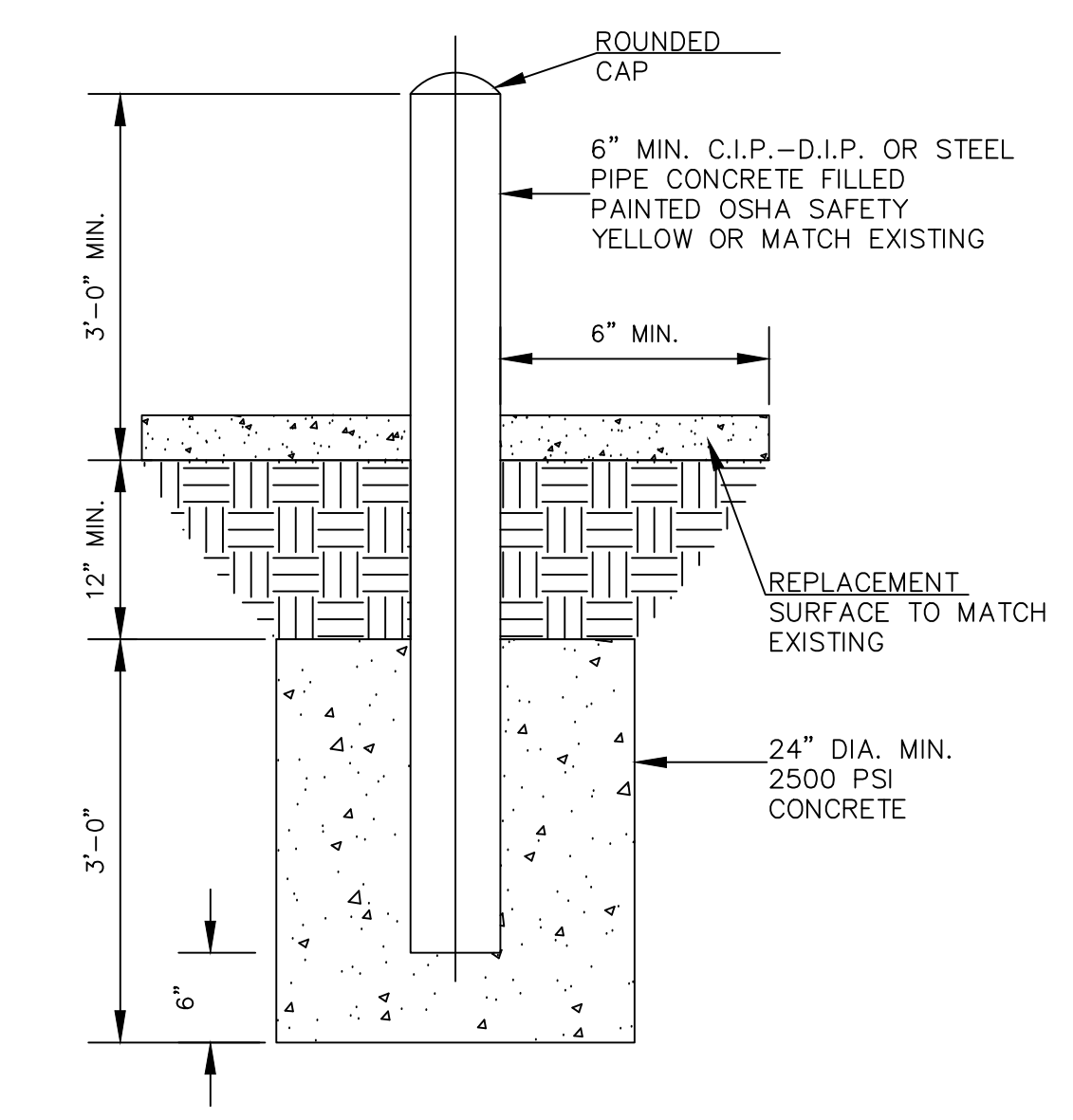
**SITE PLAN
N.T.S.**



1 CONCRETE PAD DETAIL
C200 / N.T.S.



2 EXPANSION JOINT DETAIL
C200 / N.T.S.



- NOTES:
1. INSTALL BOLLARD STRAIGHT, PLUMB, AND IN LINE WITH EXISTING.
 2. BOLLARD TO BE SAME MATERIAL, SIZE, AND COLOR AS EXISTING.
 3. BOLLARD INSTALLED WITH SAME HEIGHT, INTERVAL, AND SEPARATION FROM EXISTING CURB.

3 BOLLARD DETAIL
C200 / N.T.S.

**MISCELLANEOUS DETAILS
N.T.S.**

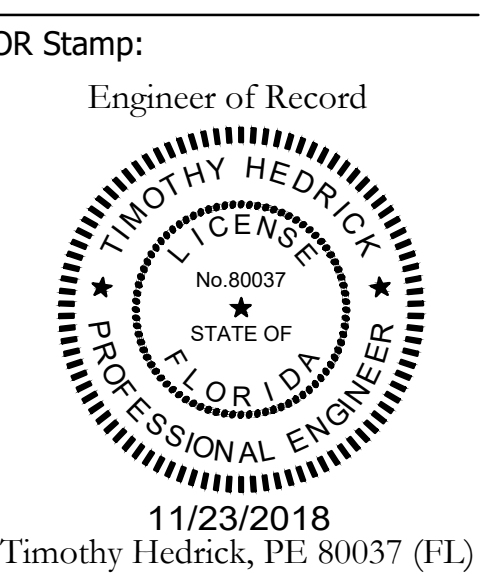
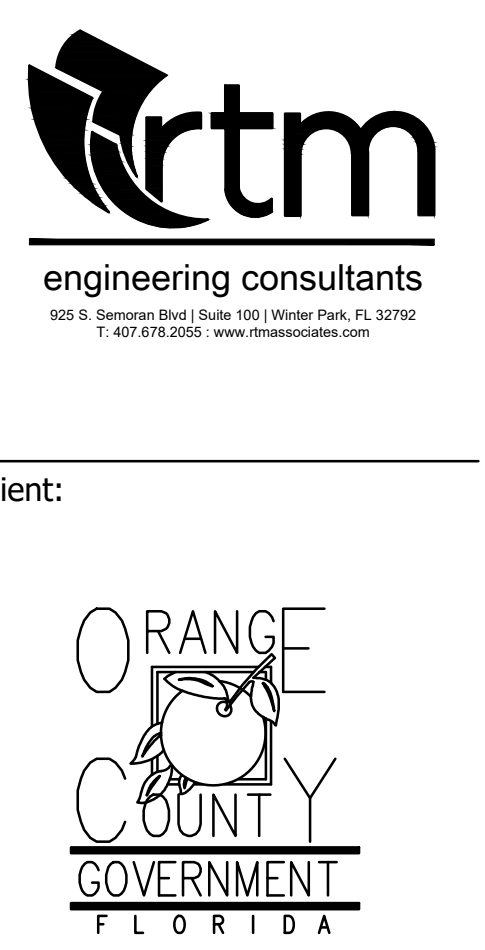


GENERAL NOTES

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F, SEE 2/E201 FOR MORE INFORMATION.



Client:
 Consultants:
 EOR Stamp:
 Engineer of Record
 Timothy Hedrick, PE 80037 (FL)
 Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
 Fire Station 37
 540 E Oakland Ave
 Oakland, FL 34787

Issuance:
100% Design Documents

Revisions:

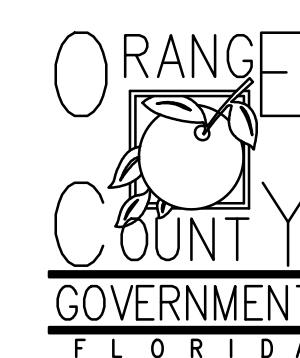
#	Date	Description

Date:
 11.23.2018
 Project Number:
 16.OC.043
 Drawn By: ME
 Checked By: SP

ELECTRICAL POWER PLAN

1 FIRE STATION 37 SITE PLAN - NEW POWER PLAN
 0 4' 8' 16' 24'
 1/8" = 1'-0"
 NORTH

Client:

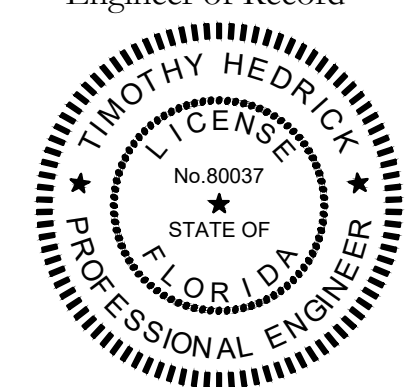


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:
Fire Station 37
540 E Oakland Ave
Oakland, FL 34787

Issuance:

**100% Design
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

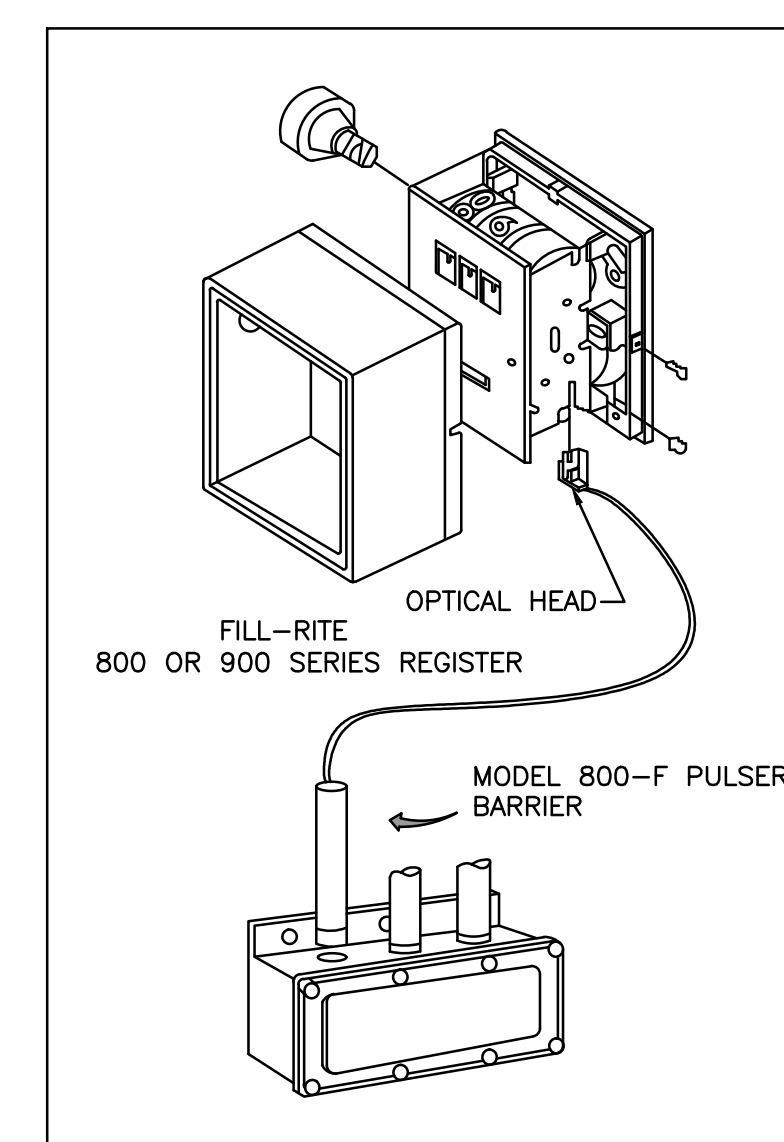
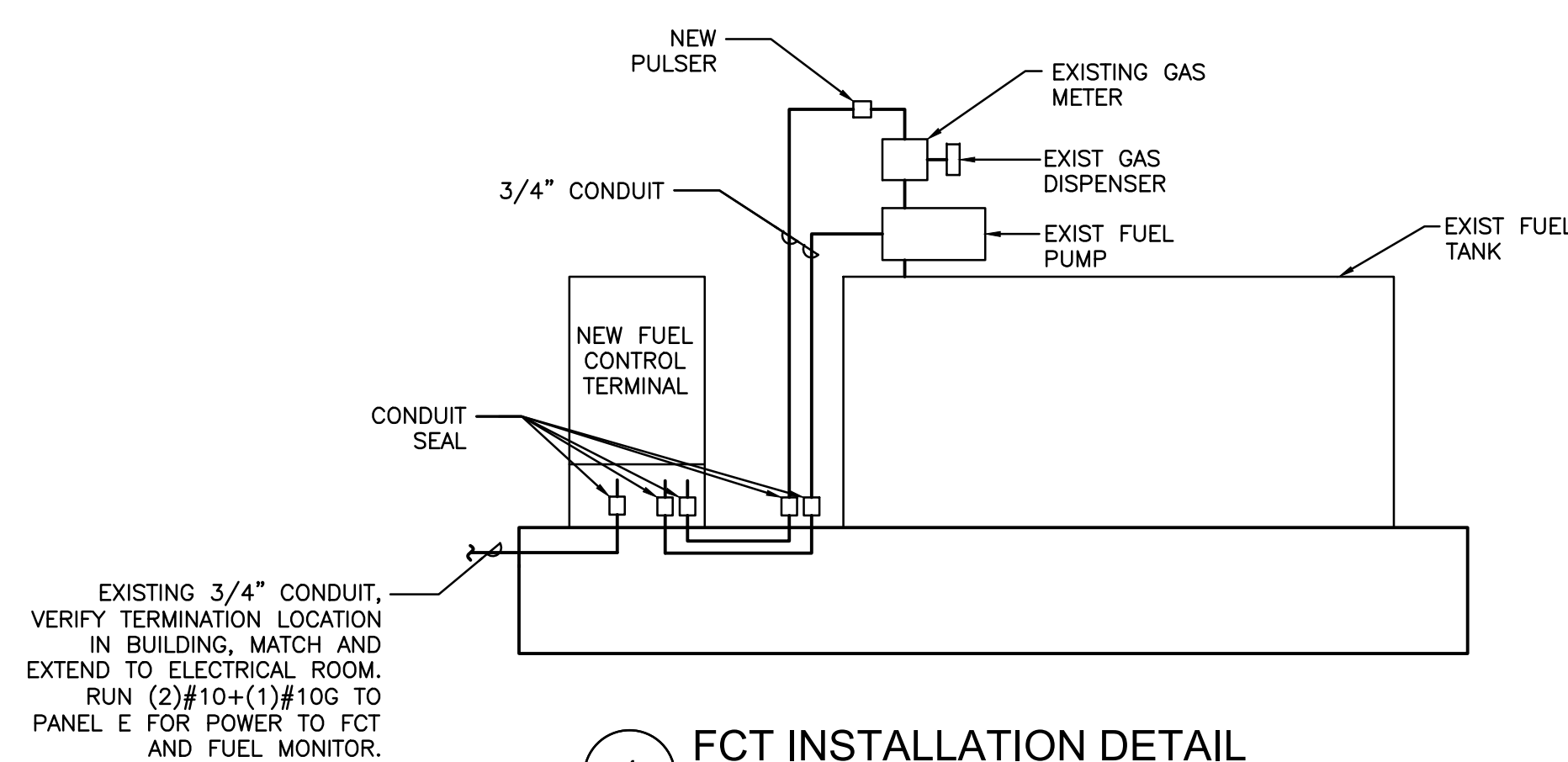
MKS

**ELECTRICAL
DETAILS AND
PANEL
SCHEDULES**

Sheet No.:

37-E201

UPDATED: 11/13/2018 2:36 pm ISSUED FOR: APPROVAL		EXISTING PANEL E																	
LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE										MAIN: 225A MLO SYSTEM: 3A, 4W BUS RATING: 225A				CONN. LOAD: 54.4 KVA FEED: TOP GROUND BUS: YES COPPER					
CKT	LOAD SERVED	DNO	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	CKT	
1	CU 1					30/3	A	2433										CU 4	2
3							A	1767											4
5							A	2233											6
7	CU 2					30/3	A	1767										CU 5	8
9							A	2633											10
11							A	1767											12
13	CU 3					25/3	A	1767										CU 6	14
15							A	2233											16
17							A	1767											18
19	GFI REC.					20/1	R	180										SHUNT TRIP CIRCUIT	20
21	SPACE							200											22
23	FCT & FUEL MONITOR	3/4"	#10	#10	#10	20/1	N												24
25	UNLEADED PUMP					30/3	A	2667										DIESEL PUMP	26
27	(SW. NEUTRAL)						A	2667										(SW. NEUTRAL)	28
29							A	2667											30
INTERRUPT RATING:								18114 17734 18574				FROM:							
LOADS (N VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0		1.25	0							
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	1040	1.0	1040								
RECEPTS TO 10 KVA	180	1.0	180	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0								
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	54.4	KVA	151.2	AMPS							
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	54.4	KVA	151.2	AMPS							
AIR CONDITIONING	53202	1.0	53202					OVERALL DEMAND FACTOR	1.00										



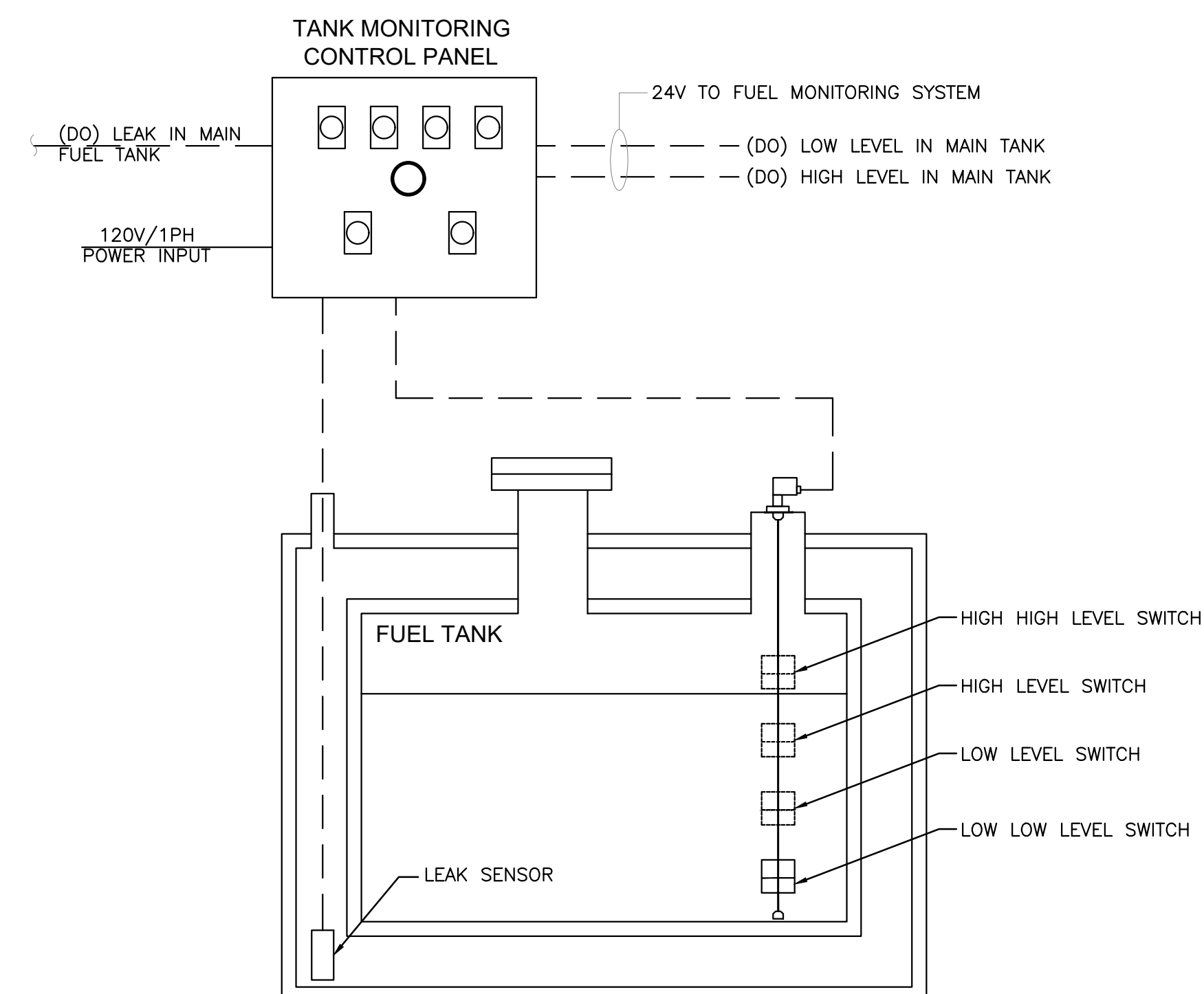
- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
 - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
 - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
 - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
 - REPLACE THE REGISTER COVER AND RESET BOX.
 - INSTALL THE BARRIER INTO THE JUNCTION BOX.
 - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
 - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

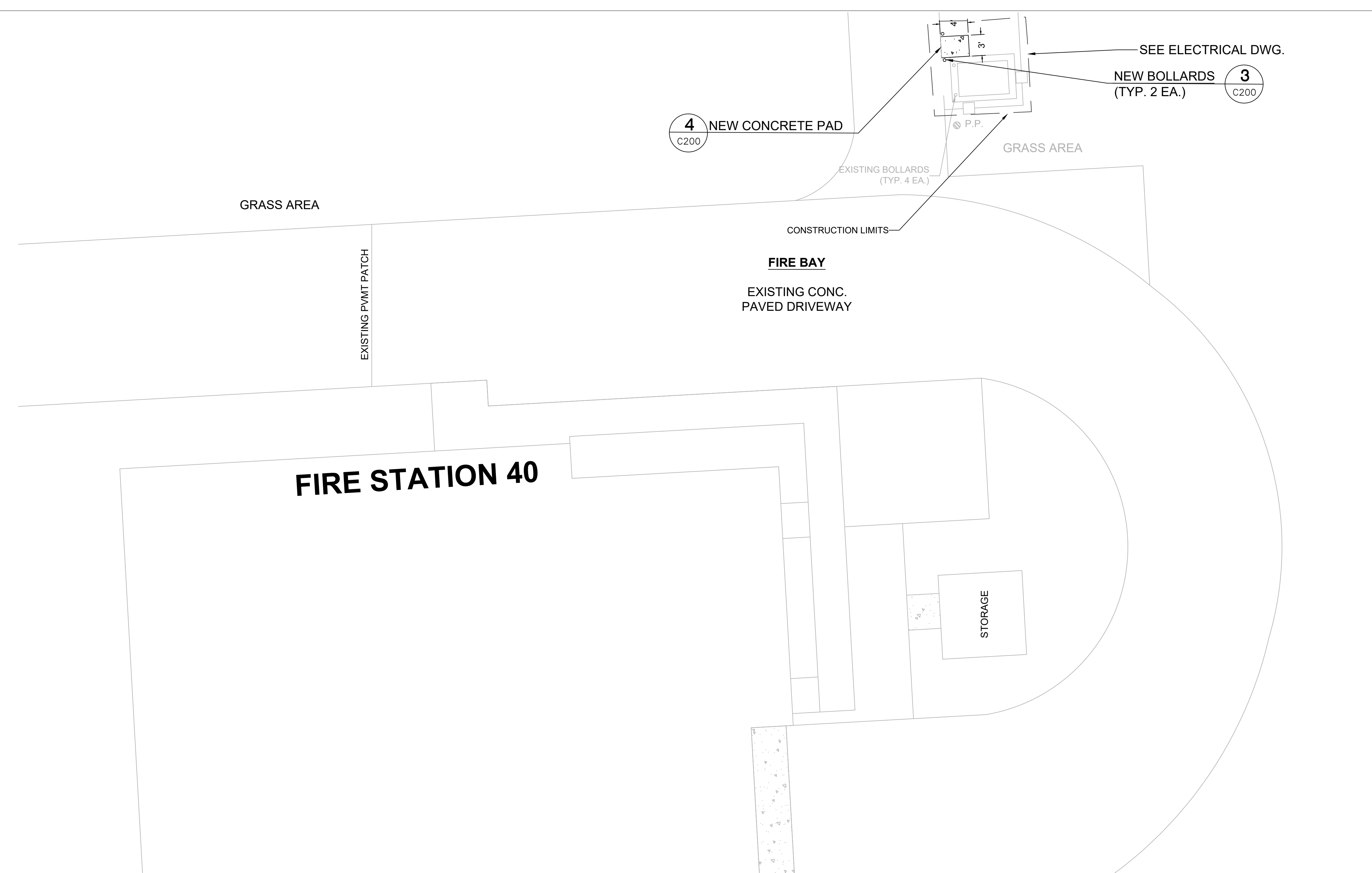
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

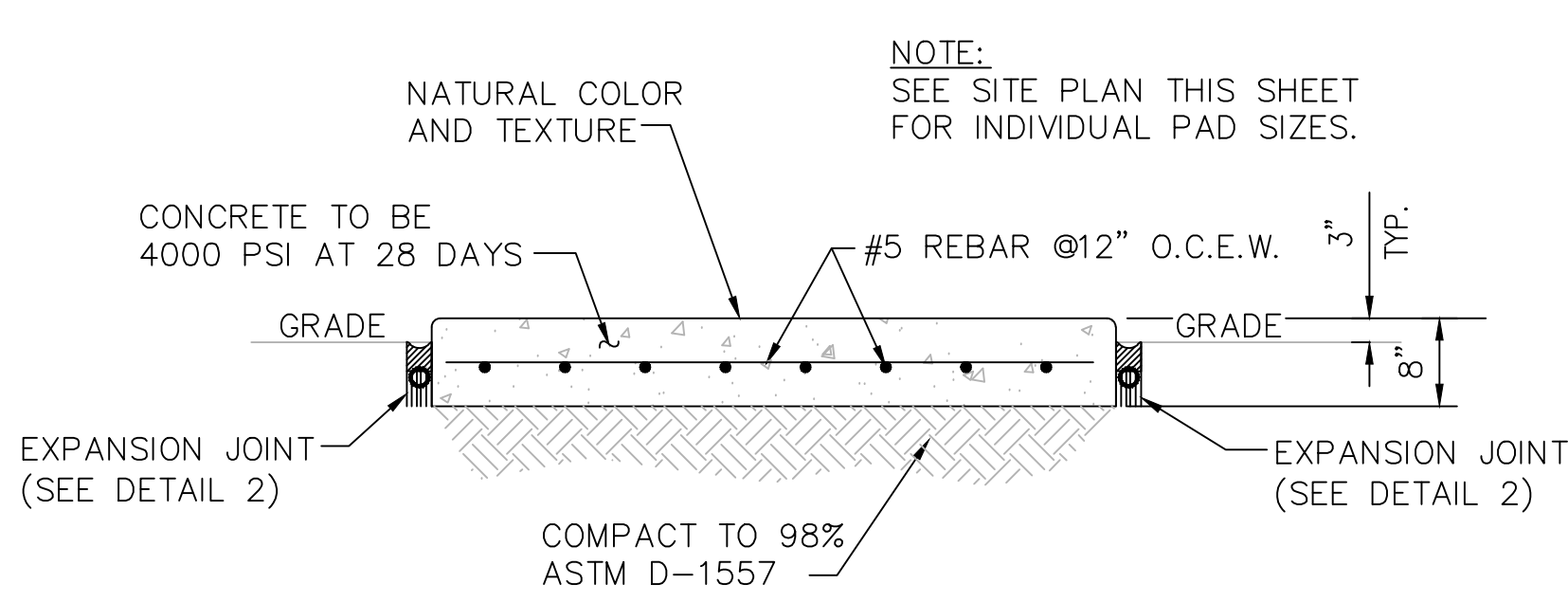
CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

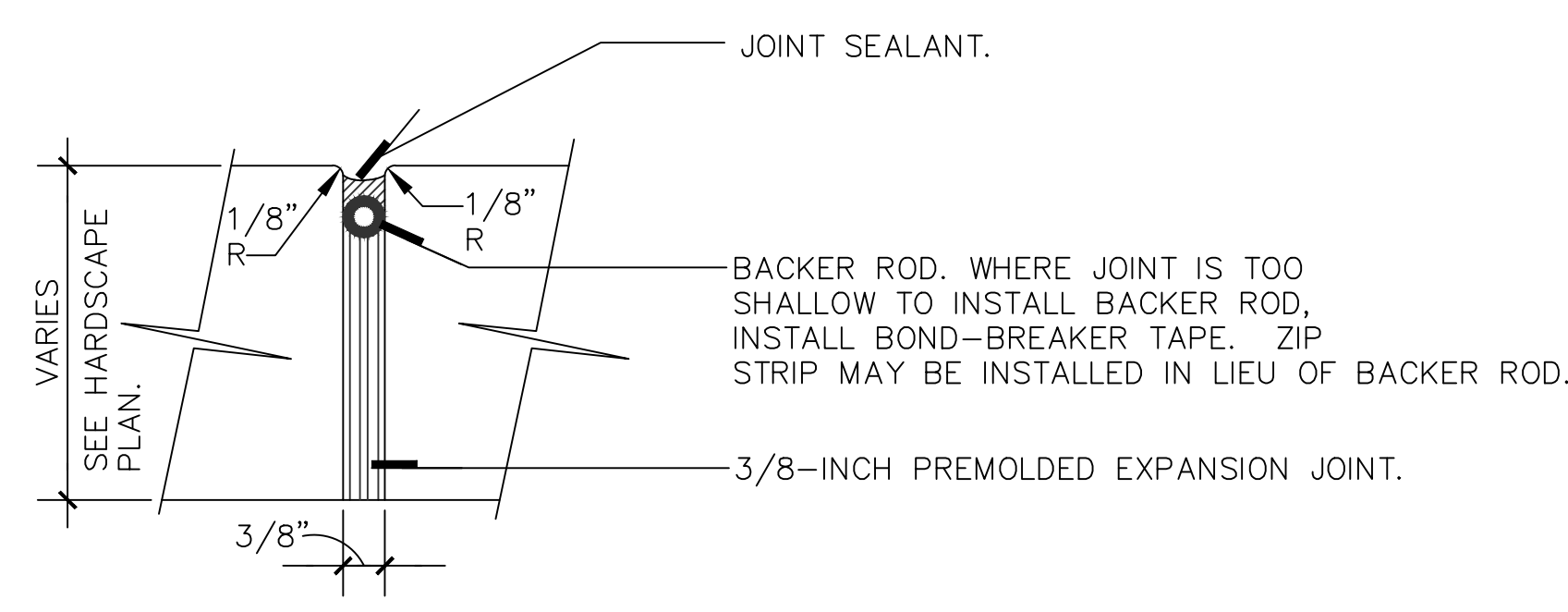




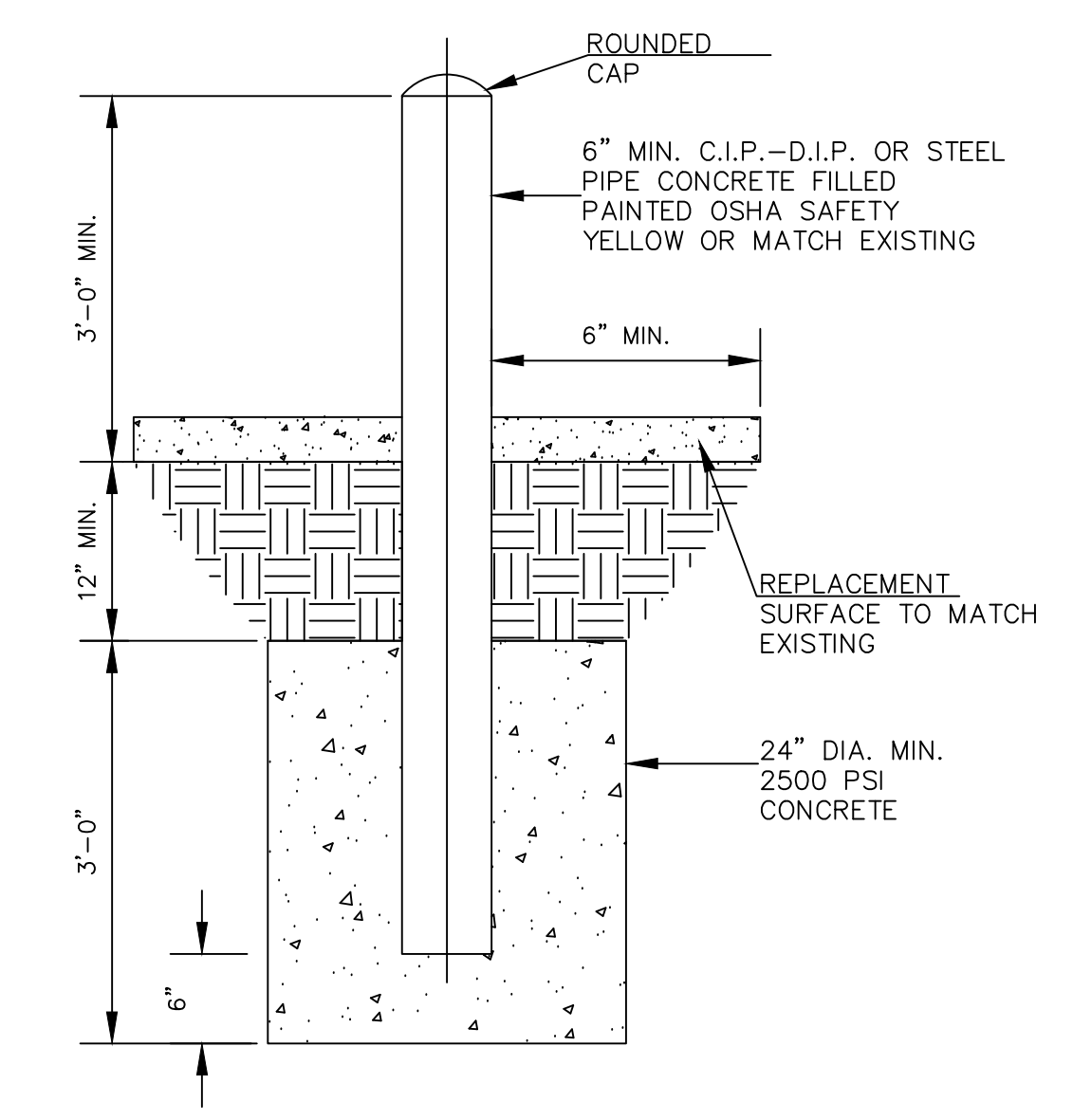
SITE PLAN
N.T.S.



1 CONCRETE PAD DETAIL
C200 N.T.S.



2 EXPANSION JOINT DETAIL
C200 N.T.S.



3 BOLLARD DETAIL
C200 N.T.S.

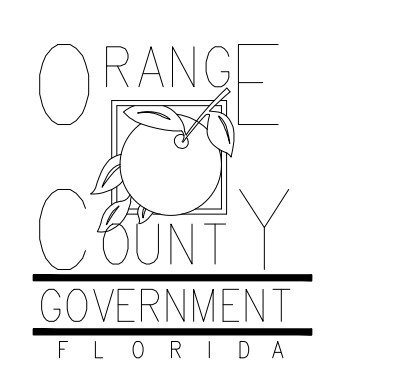
MISCELLANEOUS DETAILS
N.T.S.

PROJECT SPECIFIC NOTES - CIVIL

- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
- CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
- TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
- SAWCUTTING FOR INSTALLATION OF CONCRETE PAD TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
- INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:

Fire Station 40
5570 BEGGS RD,
ORLANDO, FL 32810

Issuance:

PERMIT DOCUMENTS

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

V.G.

Checked By:

D.D.

Civil Site Plan

Sheet No.:

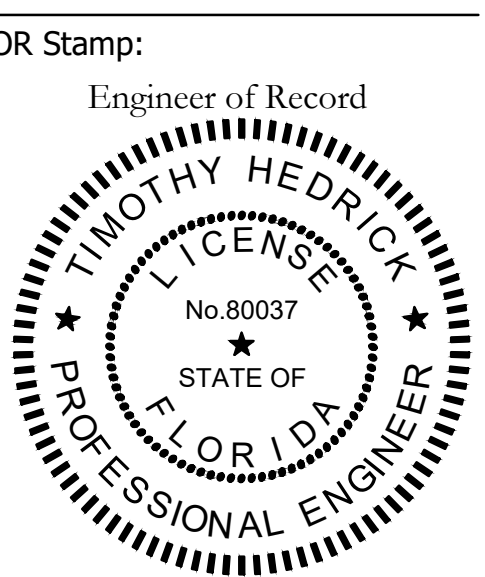
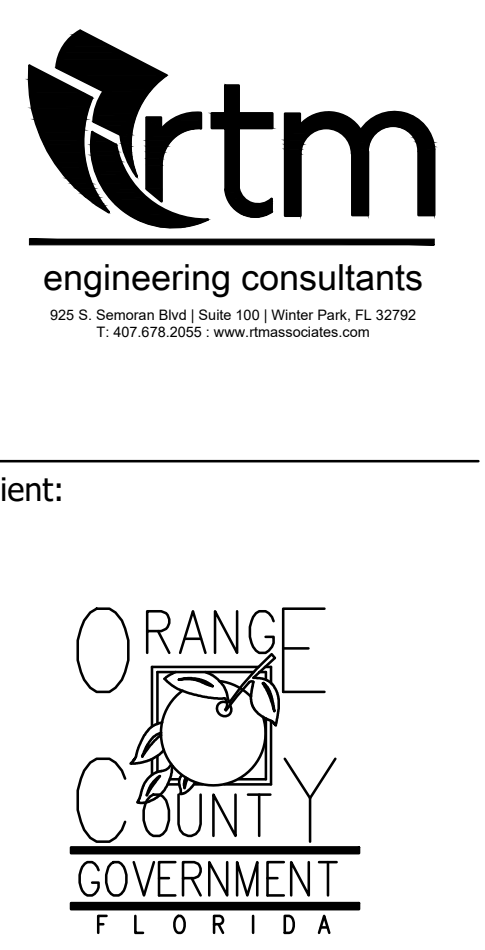
40-C200

GENERAL NOTES

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
 Fire Station 40
 5570 BEGGS RD,
 ORLANDO, FL 32810
 Issuance:
100% DESIGN DOCUMENTS

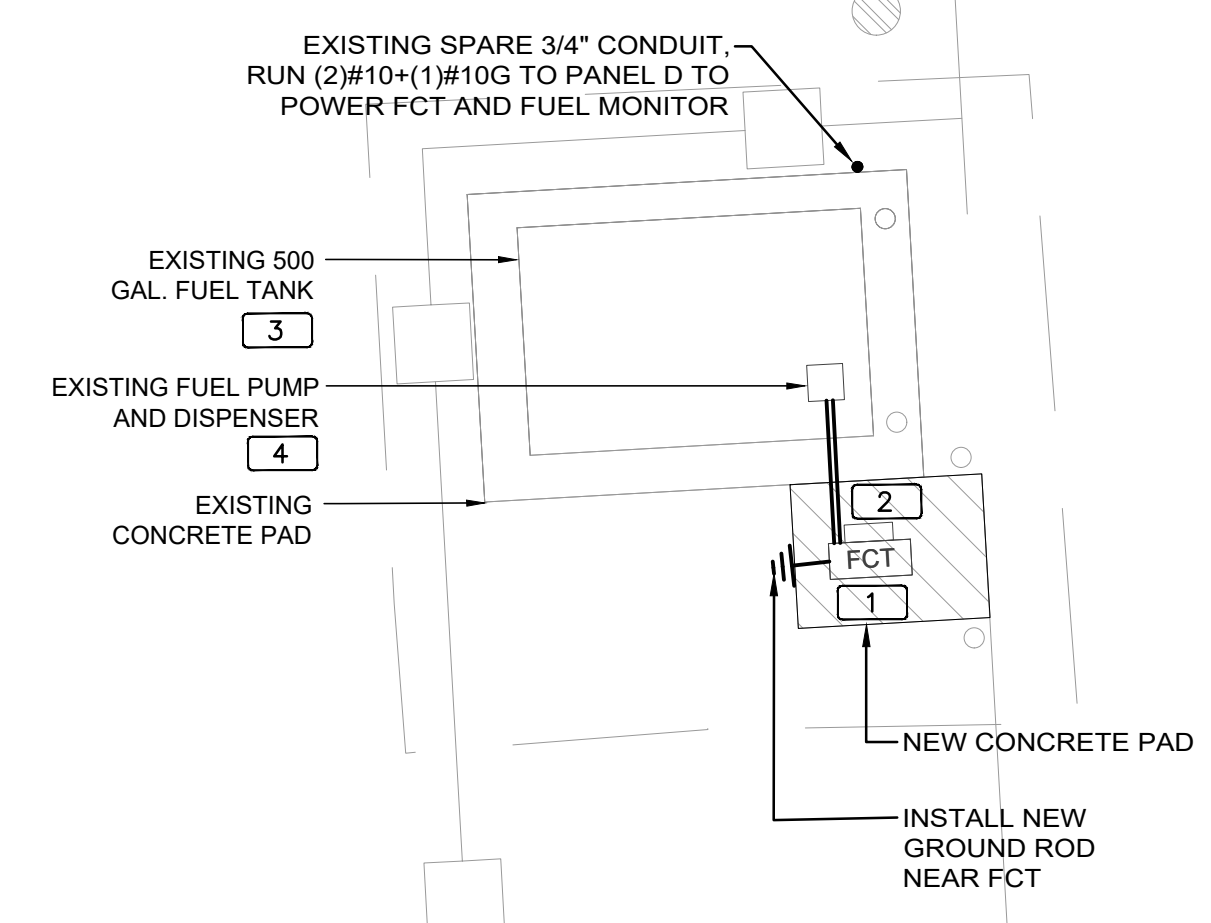
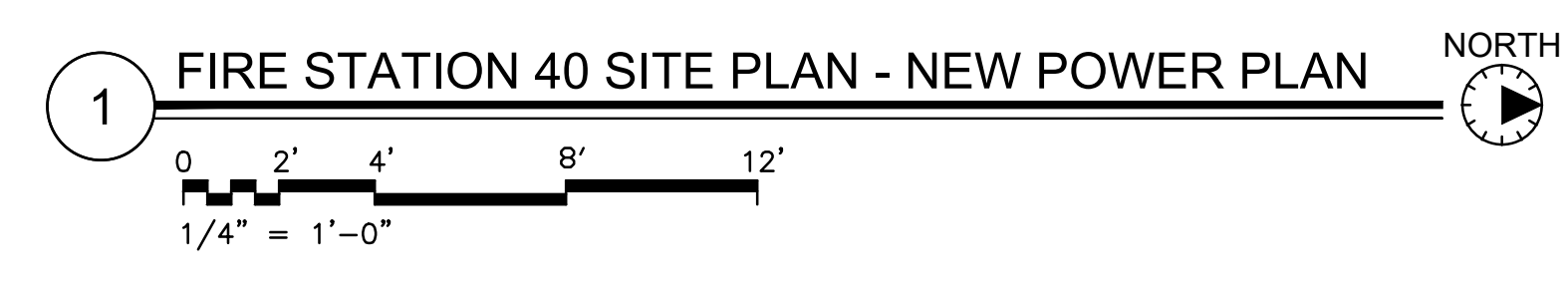
Revisions:

#	Date	Description

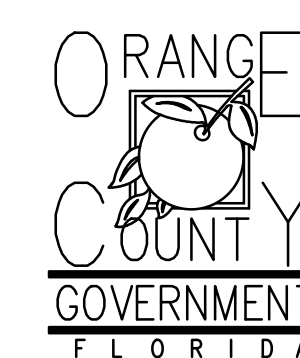
Date:
11.23.2018
 Project Number:
16.OC.043
 Drawn By: ME
 Checked By: SP

ELECTRICAL POWER PLAN

Sheet No.:
40-E101



Client:

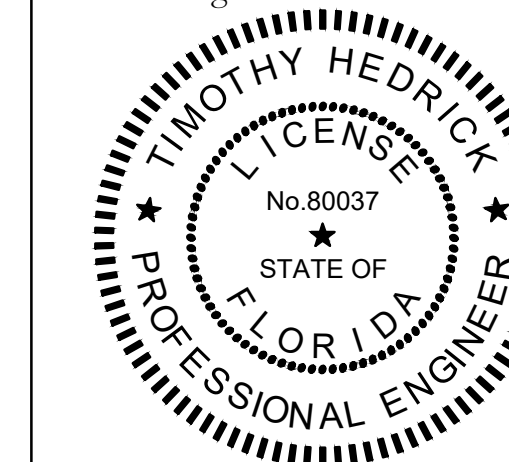


Consultants:



EOR Stamp:

Engineer of Record



Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:
Fire Station 40
5570 BEGGS RD,
ORLANDO, FL 32810

Issuance:
**100% DESIGN
DOCUMENTS**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

**ELECTRICAL
PANEL
SCHEDULES
AND DETAILS**

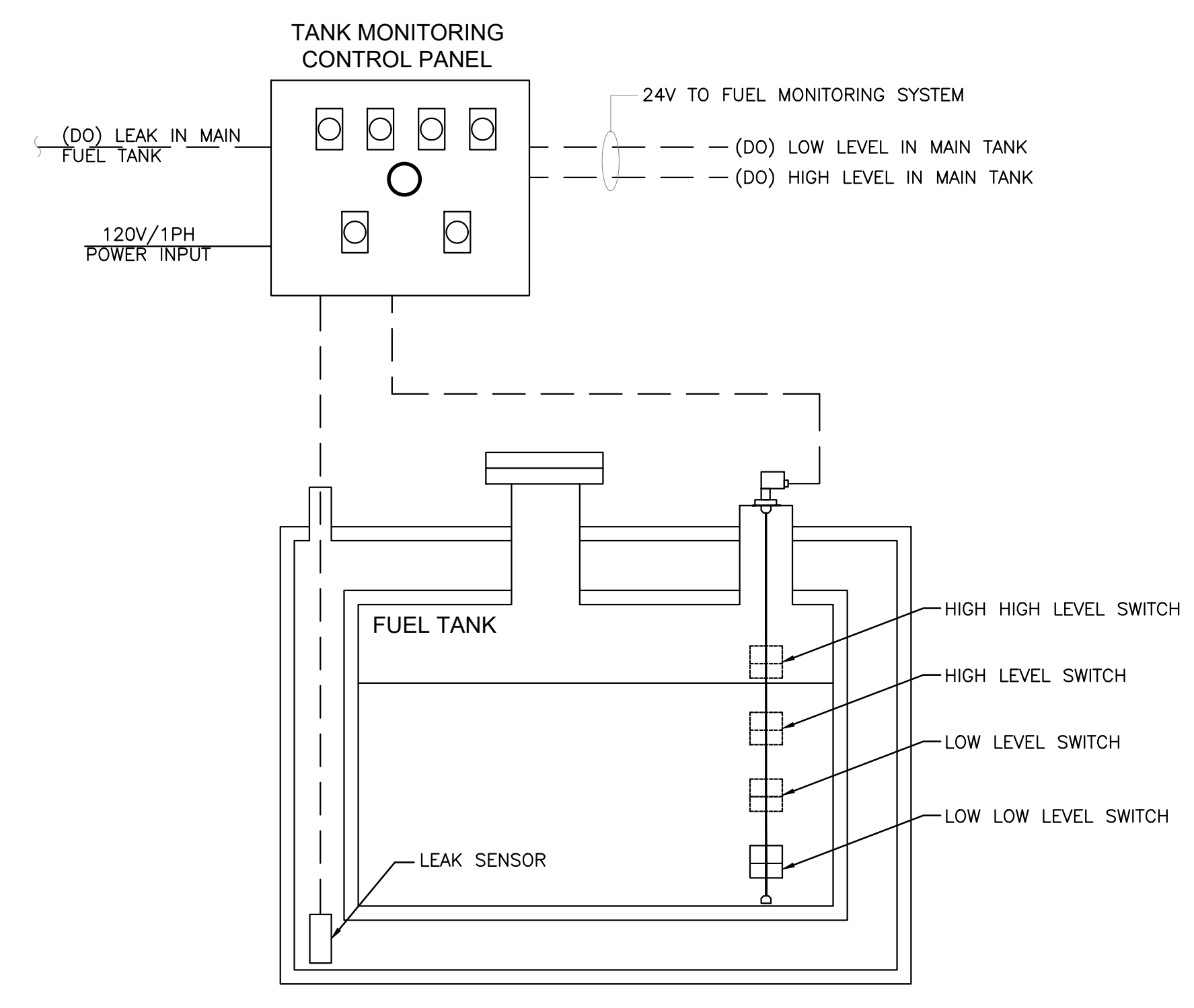
Sheet No.:

40-E201

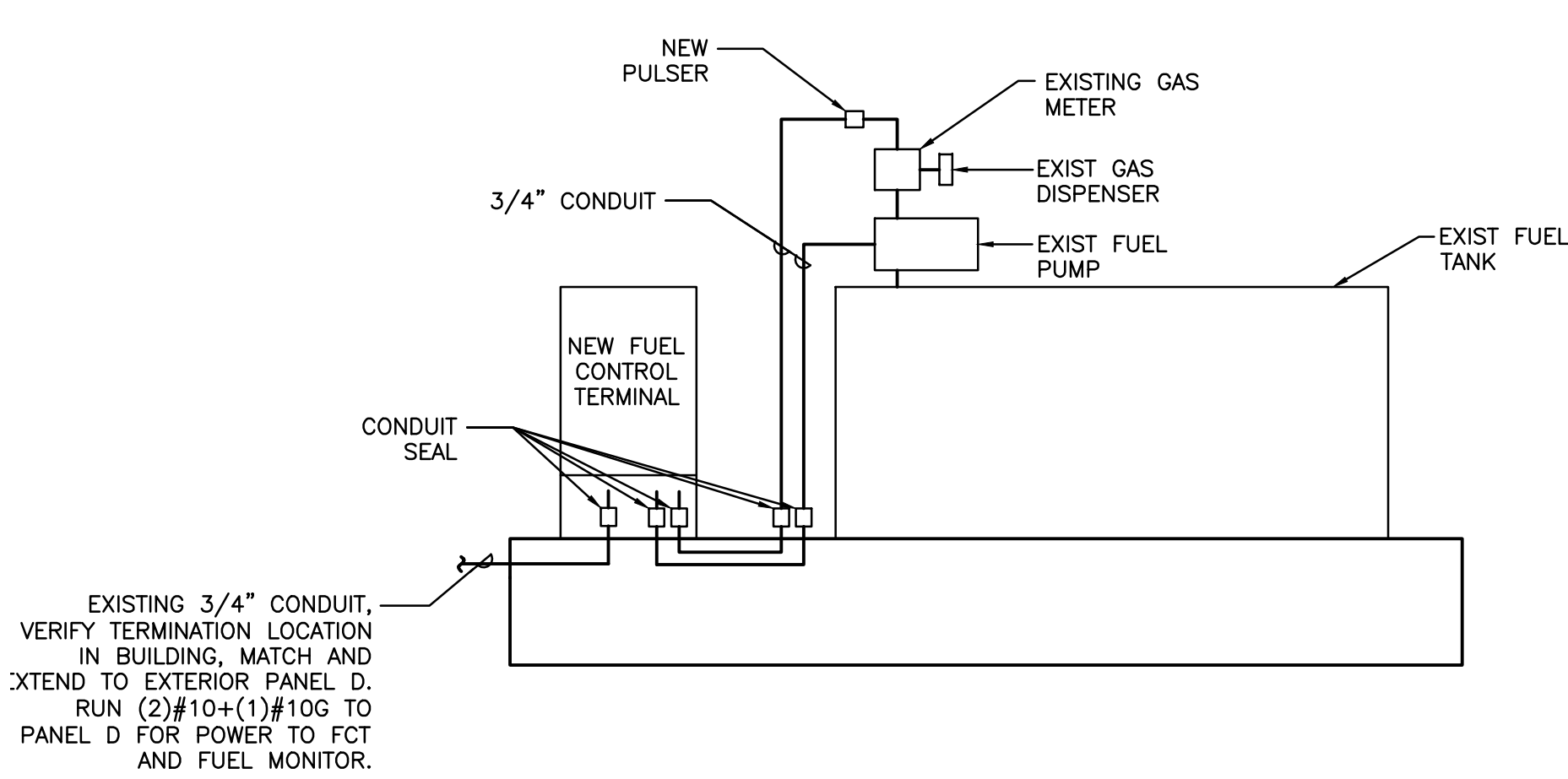
PANEL D																			
LOCATION: ELEC RM VOLTAGE: 120V/208V TRM: SURFACE						MAIN: 200A MCB SYSTEM: 3ø, 4W BUS RATING: 200A			CONN. LOAD: 40.2 KVA FEED: TOP GROUND BUS: YES COPPER										
OKT	LOAD SERVED	COND	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	OKT	
1	PKU-1					70/3	A	667 440			602							CU-1	2
3							A	667 440			602								4
5							A	667 440			25/2							CU-2	6
7	AHU-1					25/2	A	2600 1600			A								8
9							A	2600 1600			N	20/1						BAS CONTROLLER	10
11	EF-1					20/1	A				696							SPARE	12
13	SPARE					20/1													14
15	FCT & FUEL MONITOR	3/4"	#10	#10	#10	20/1	N	840											16
17																			18
19																			20
21																			22
23																			24

INTERRUPT RATING: 15507 15547 9163 FROM: 200A MAIN DISCONNECT

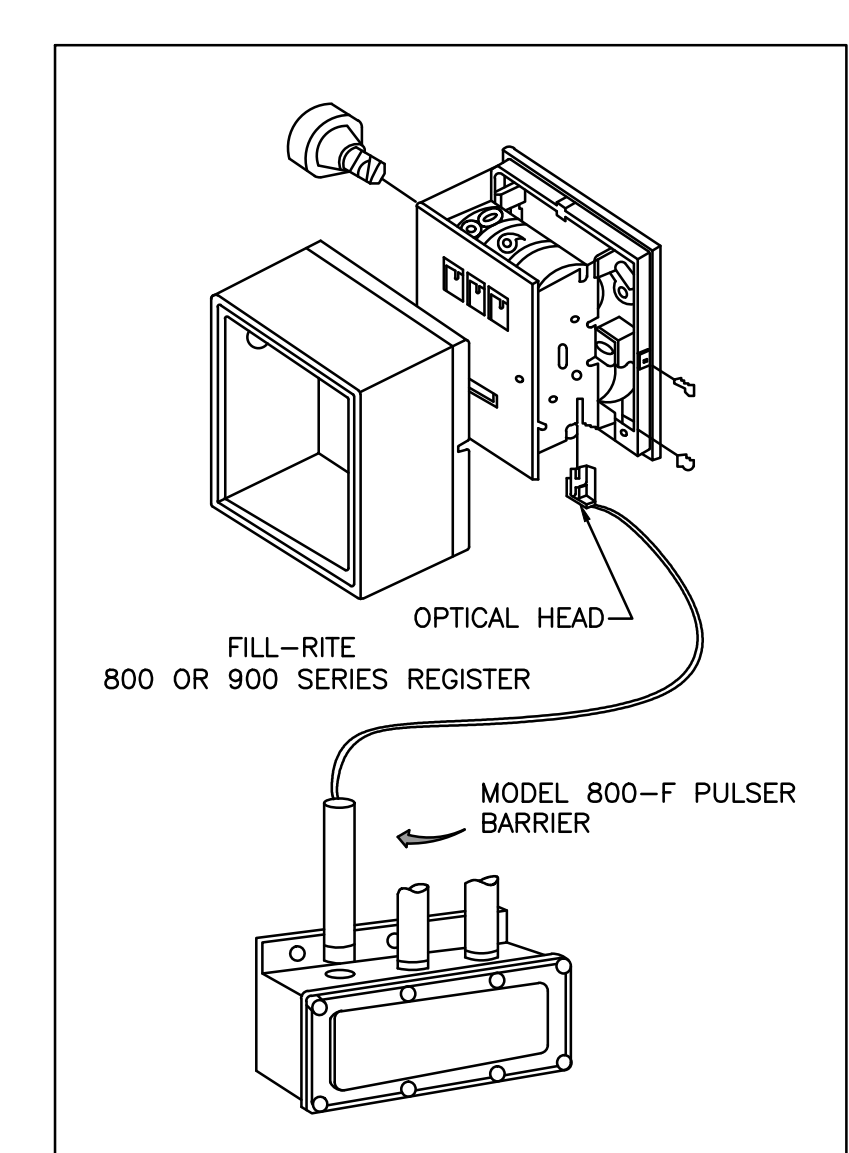
LOADS (IN VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	1840	1.0	1840
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	696	0.25	174	DEMAND LOADS	0	1.0	0
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	40.2	KVA	111.7
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	40.4	KVA	112.2
AIR CONDITIONING	38377	1.0	38377 10,000					OVERALL DEMAND FACTOR	1.00		



3 FUEL TANK MONITORING SCHEMATIC



1 FCT INSTALLATION DETAIL



INSTALLATION

- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
- (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
- PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
- (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT. REPLACE THE REGISTER COVER AND RESET BOX.
- INSTALL THE BARRIER INTO THE JUNCTION BOX.
- CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
- CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

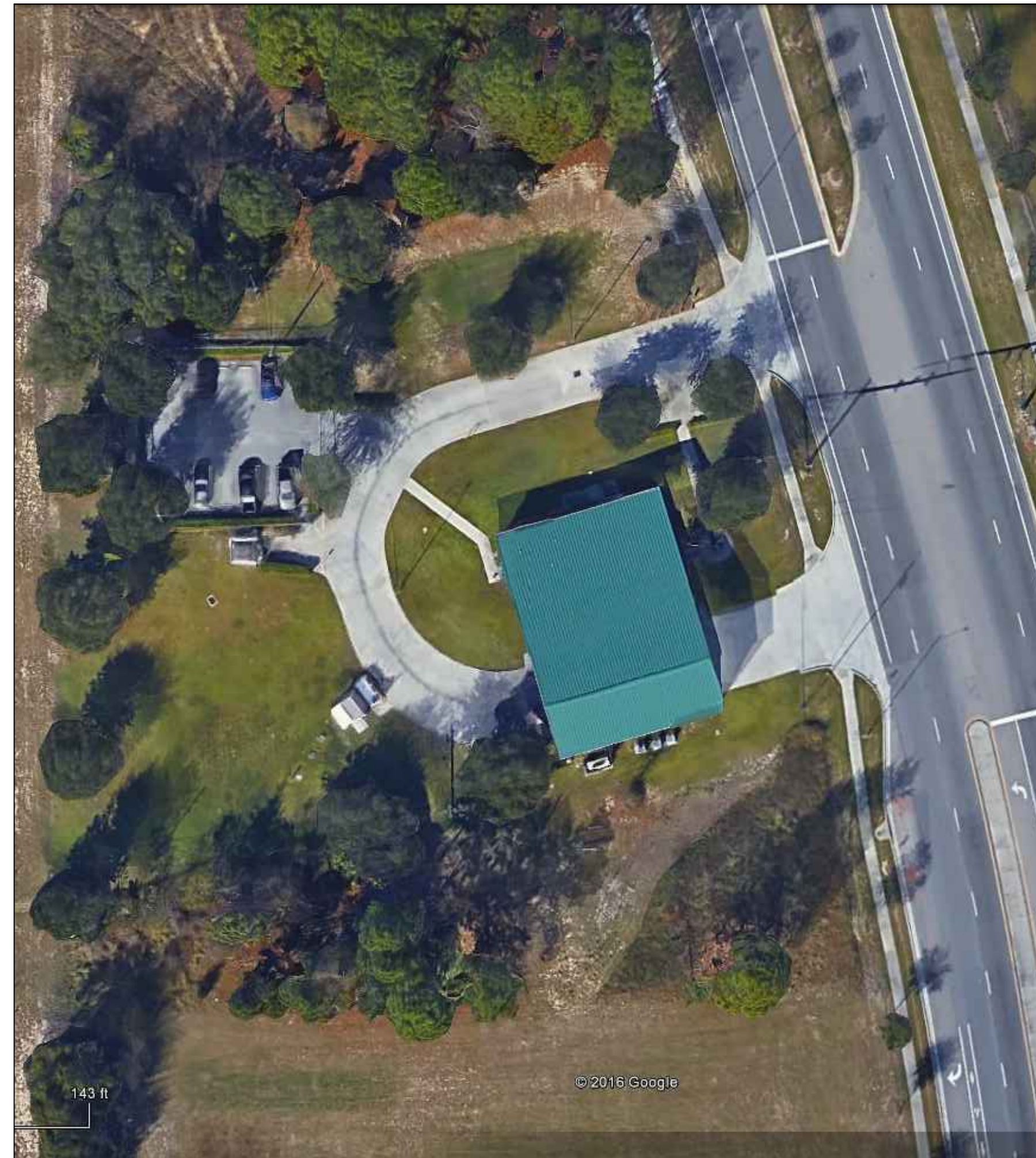
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODW AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

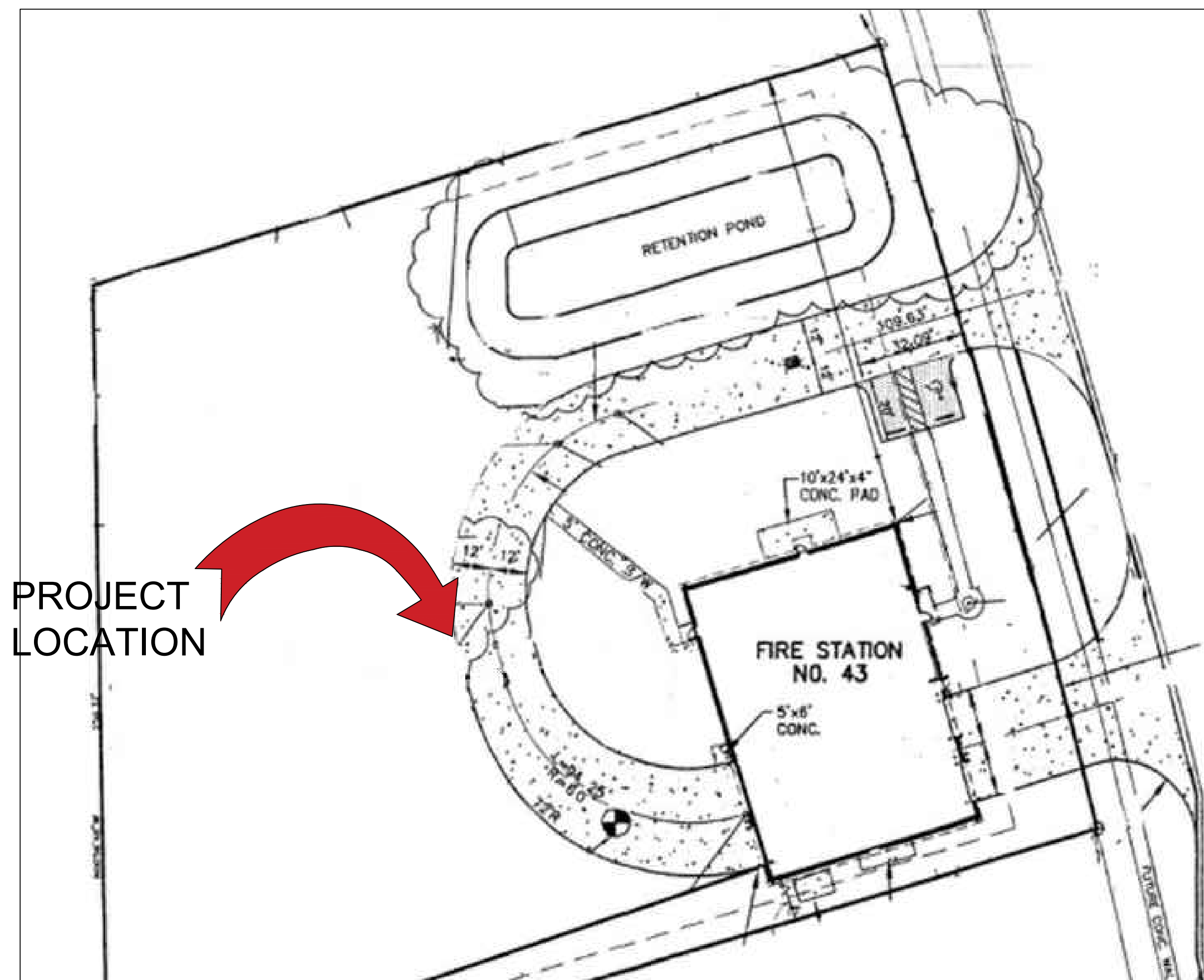
TELEPHONE 708-485-4200 FAX 708-485-7137

2 PULSER INSTALLATION DETAIL



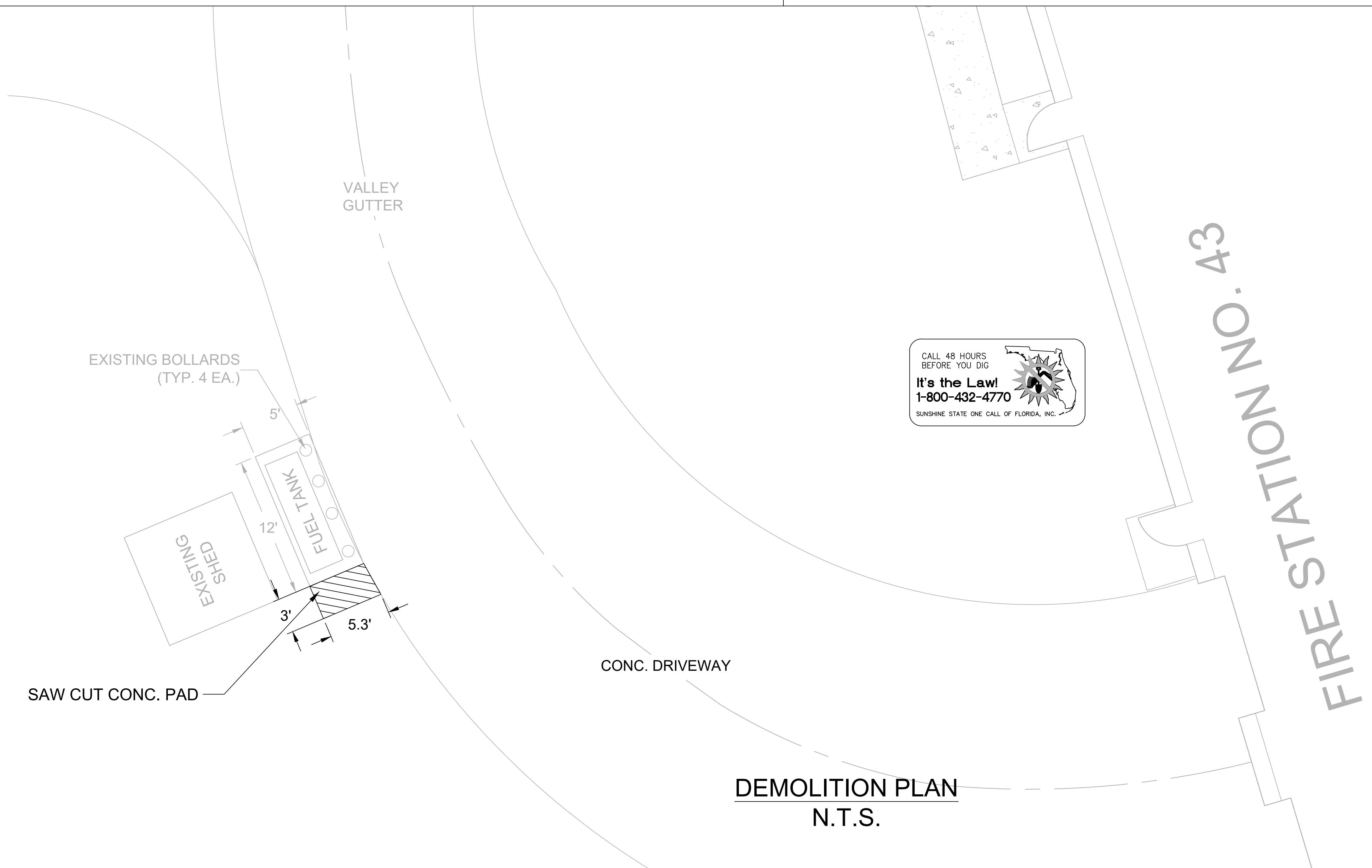
EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016



PROJECT
LOCATION

LOCATION MAP
N.T.S.



DEMOLITION PLAN
N.T.S.

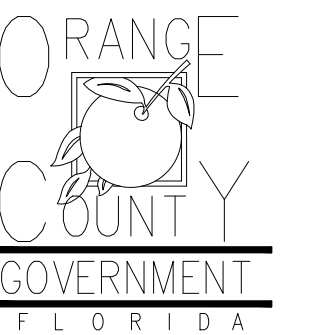


GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 43
2700 N APOPKA VINELAND
RD, OAKLAND, FL 34786

Issuance:

**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

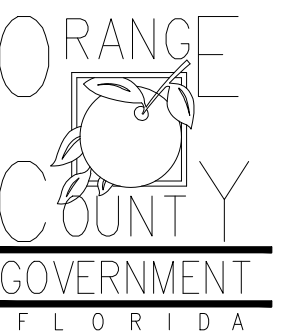
D.D.

**Civil Demo
Plan**

Sheet No.:

43-C100

Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:
Fire Station 43
2700 N APOPKA VINELAND
RD, OAKLAND, FL 34786

Issuance:
**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

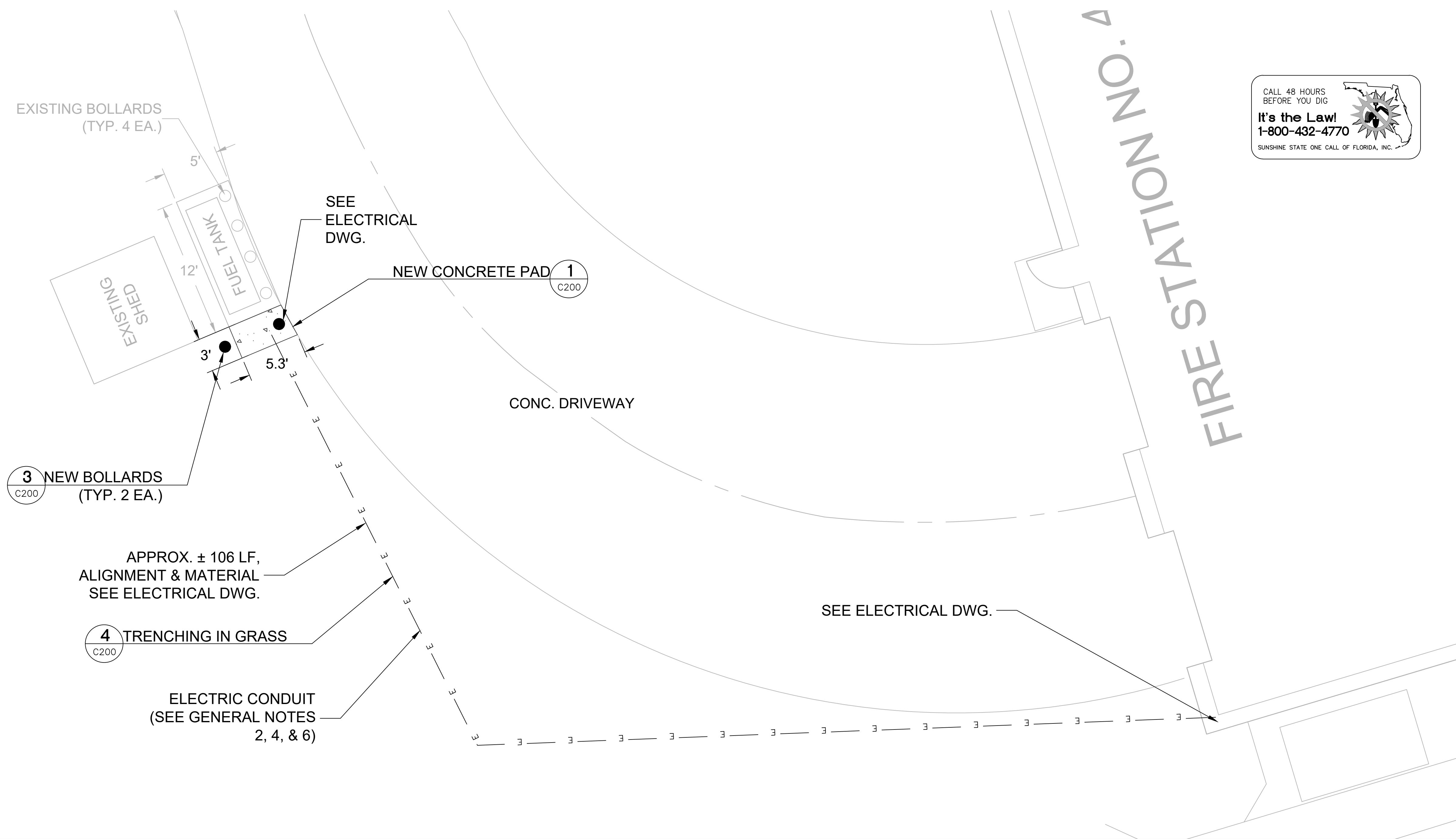
Checked By:

D.D.

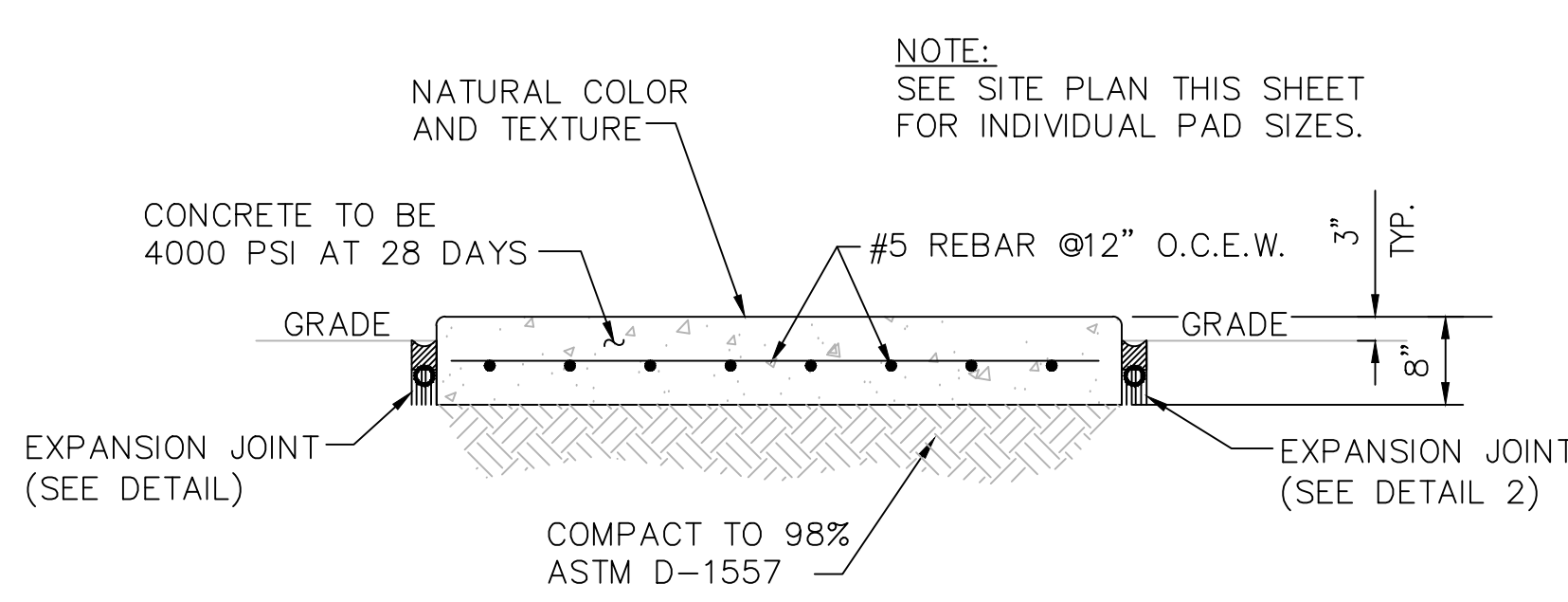
Civil Site Plan

Sheet No.:

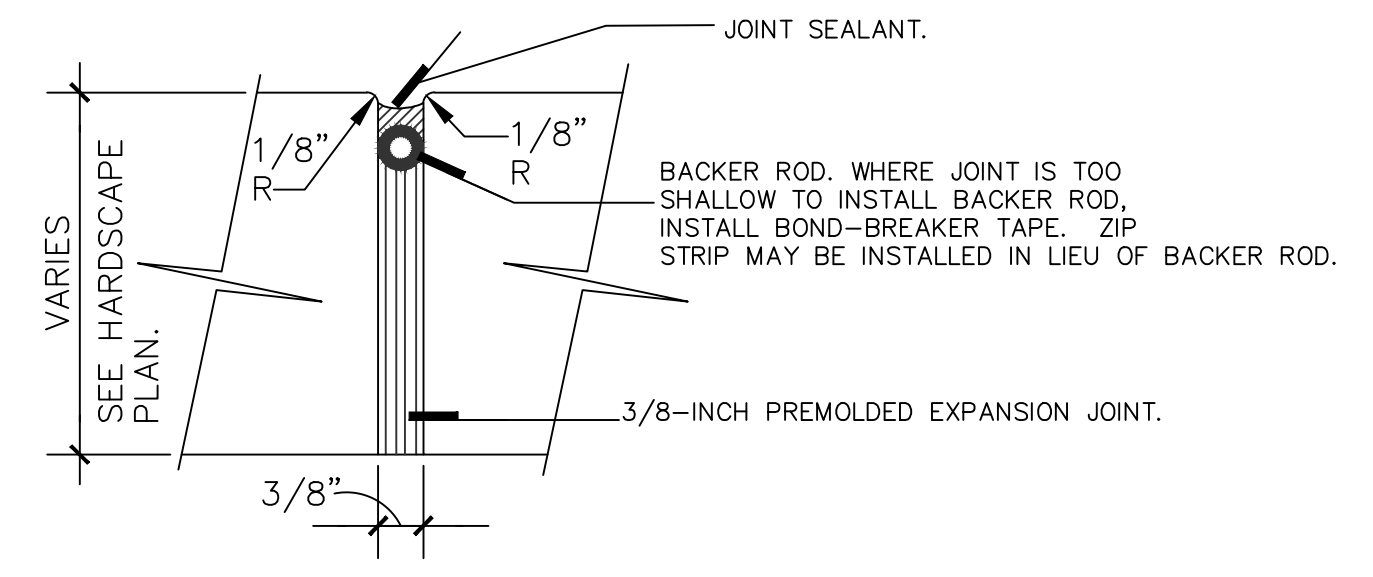
43-C200



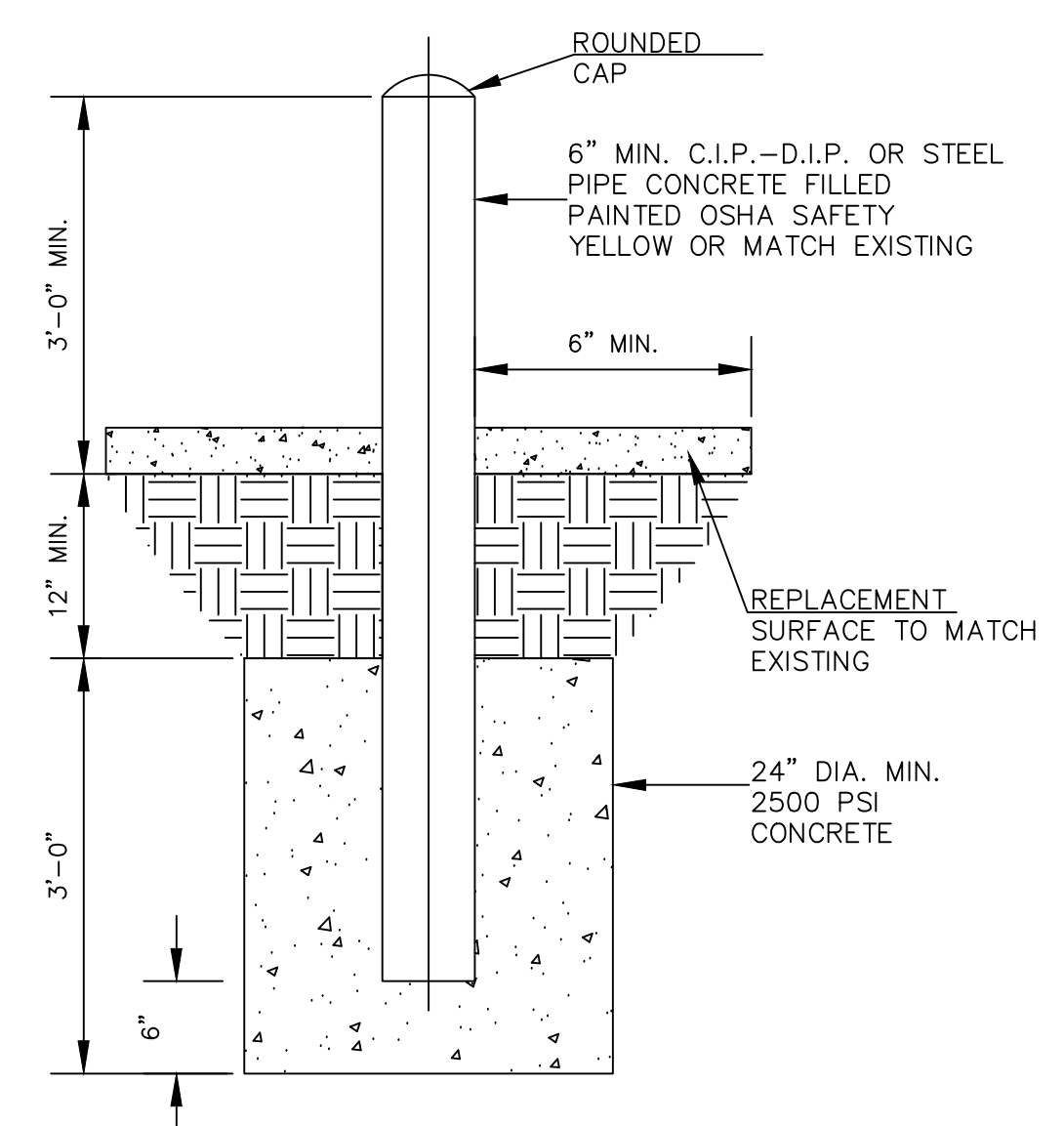
**SITE PLAN
N.T.S.**



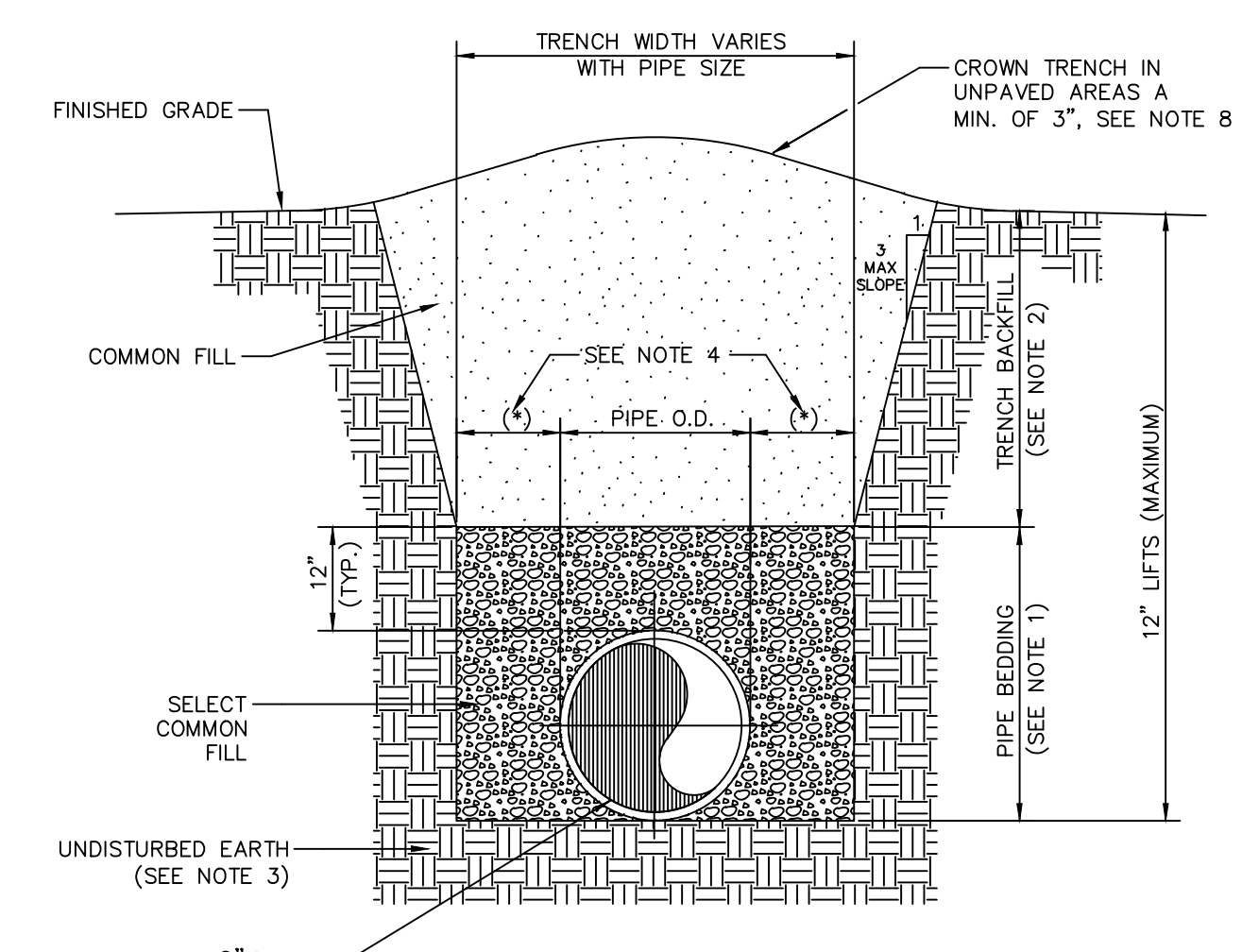
1 CONCRETE PAD DETAIL
C200 N.T.S.



2 EXPANSION JOINT DETAIL
C200 N.T.S.



3 BOLLARD DETAIL
C200 N.T.S.



4 TRENCHING IN GRASS DETAIL
C200 N.T.S.

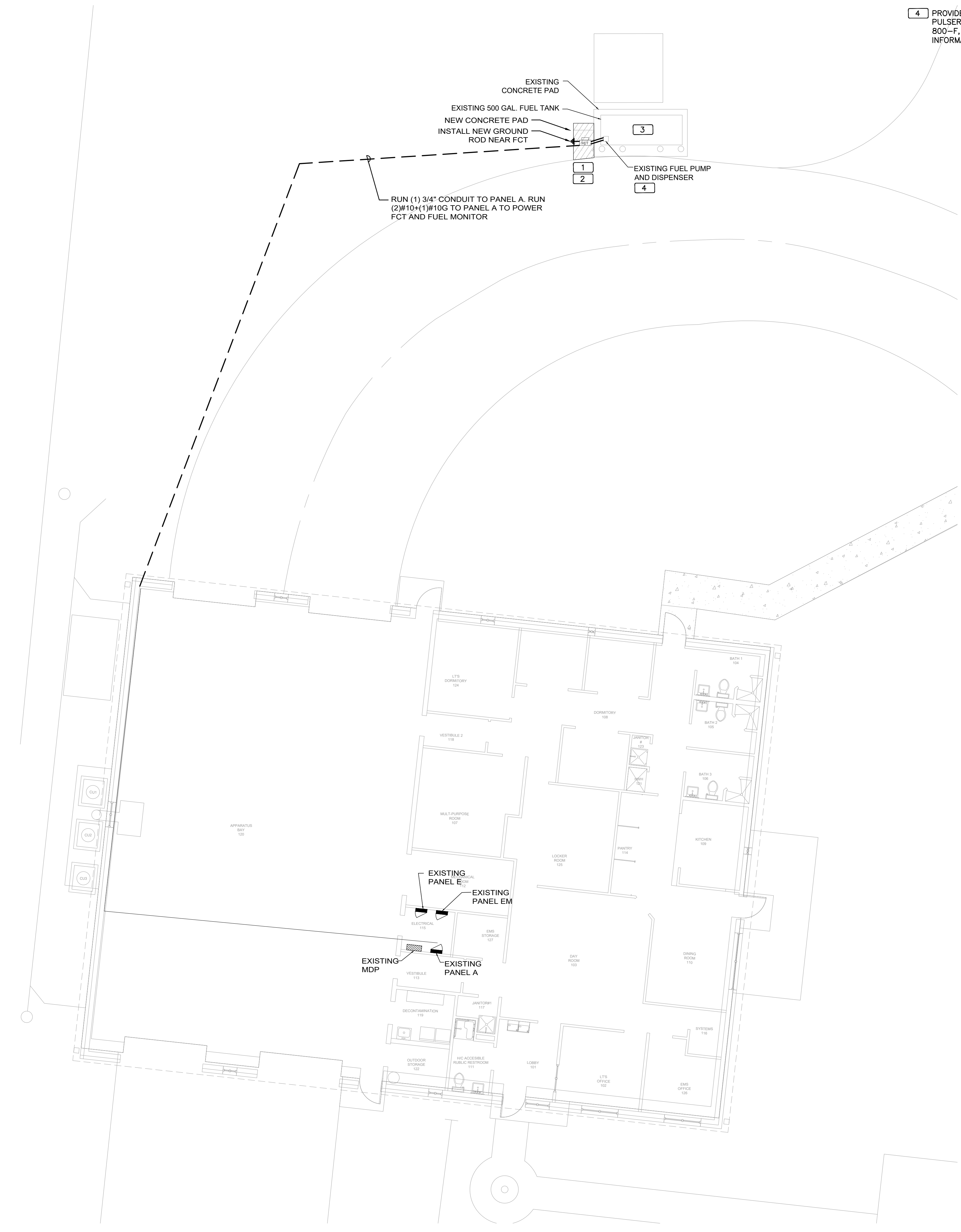
**MISCELLANEOUS. DETAILS
N.T.S.**

GENERAL NOTES

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

KEY NOTES

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.

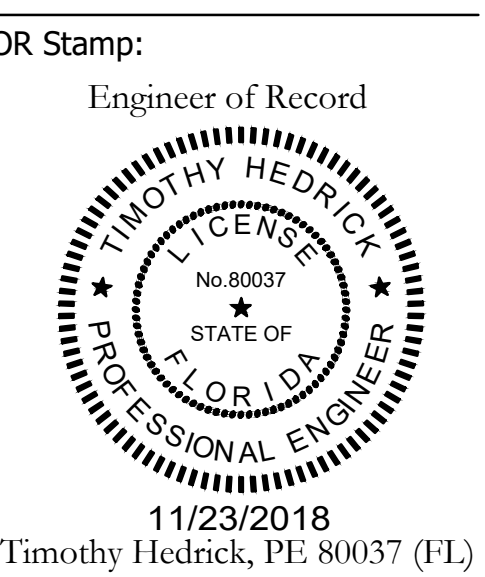
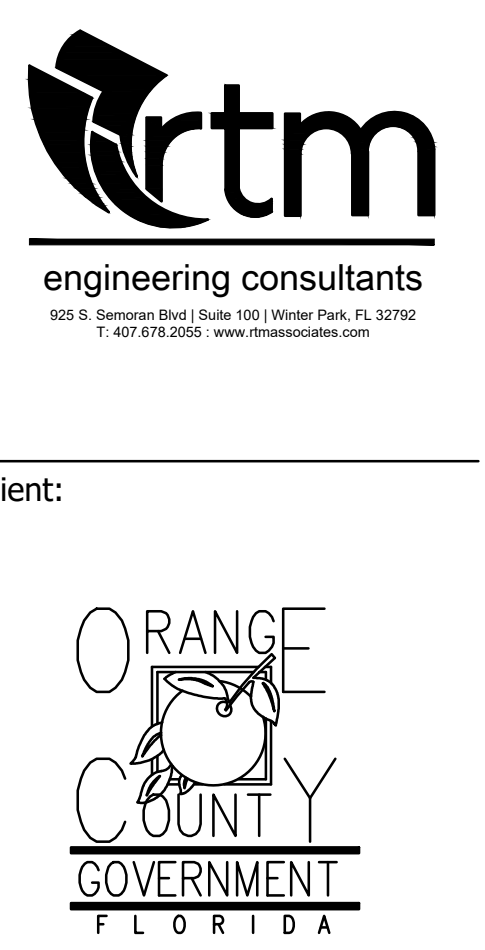


1 FIRE STATION 43 SITE PLAN - NEW POWER PLAN

0 4' 8' 16' 24'

1/8" = 1'-0"

NORTH



11/23/2018
 Timothy Hedrick, PE 80037 (FL)

Project:
OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
 Fire Station 43
 2700 N APOPKA VINELAND RD, OAKLAND, FL 34786

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
 11.23.2018

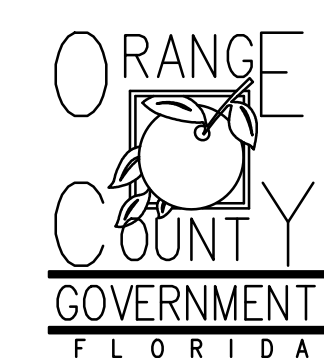
Project Number:
 16.OC.043

Drawn By: ME
 Checked By: SP

ELECTRICAL POWER PLAN

Sheet No.:
43-E001

Client:

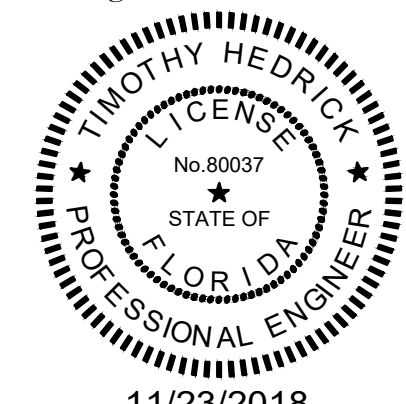


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018

Timothy Hedrick, PE 80037 (FL)

Project:

OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN

Location:
Fire Station 43
2700 N APOPKA VINELAND RD, OAKLAND, FL 34786

Issuance:
100% Design Documents

Revisions:

#	Date	Description

Date:
11.23.2018

Project Number:
16.OC.043

Drawn By: ME
Checked By: SP

ELECTRICAL DETAILS AND PANEL SCHEDULES

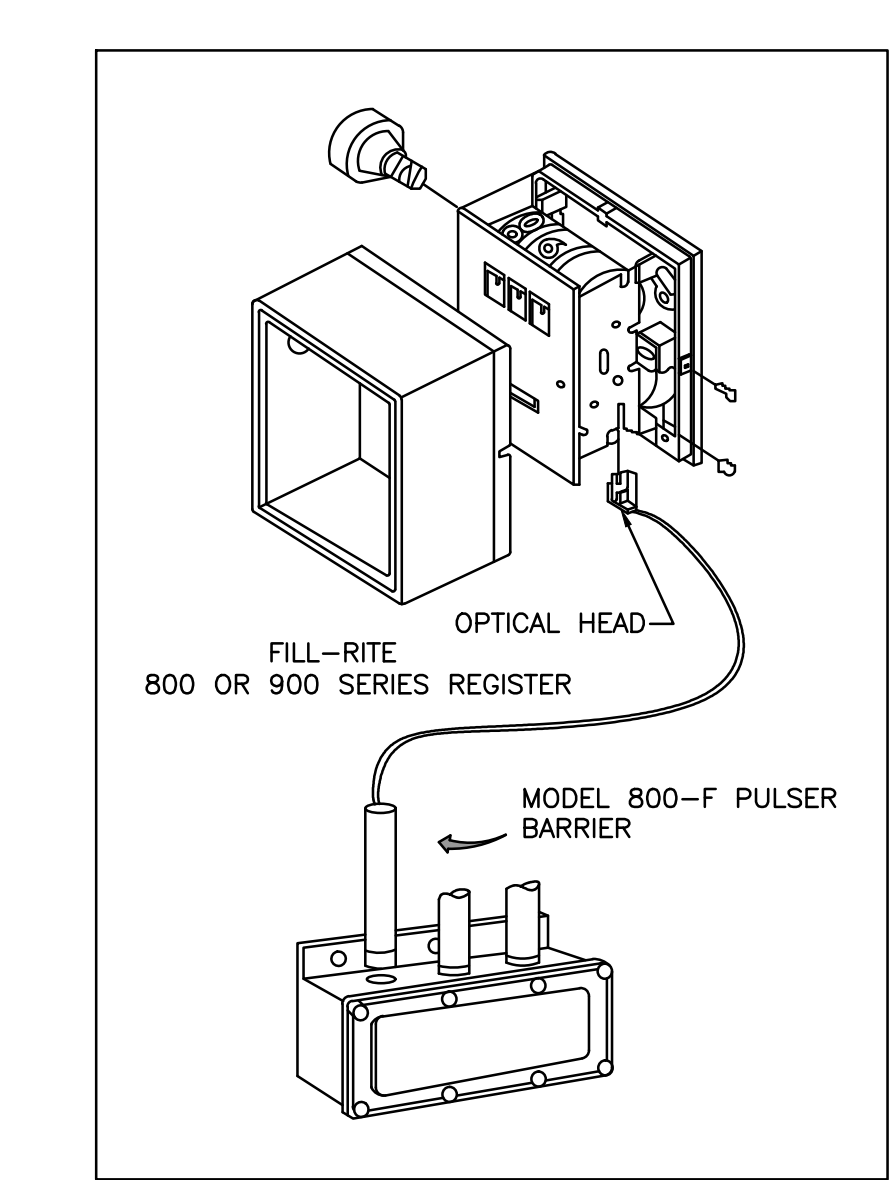
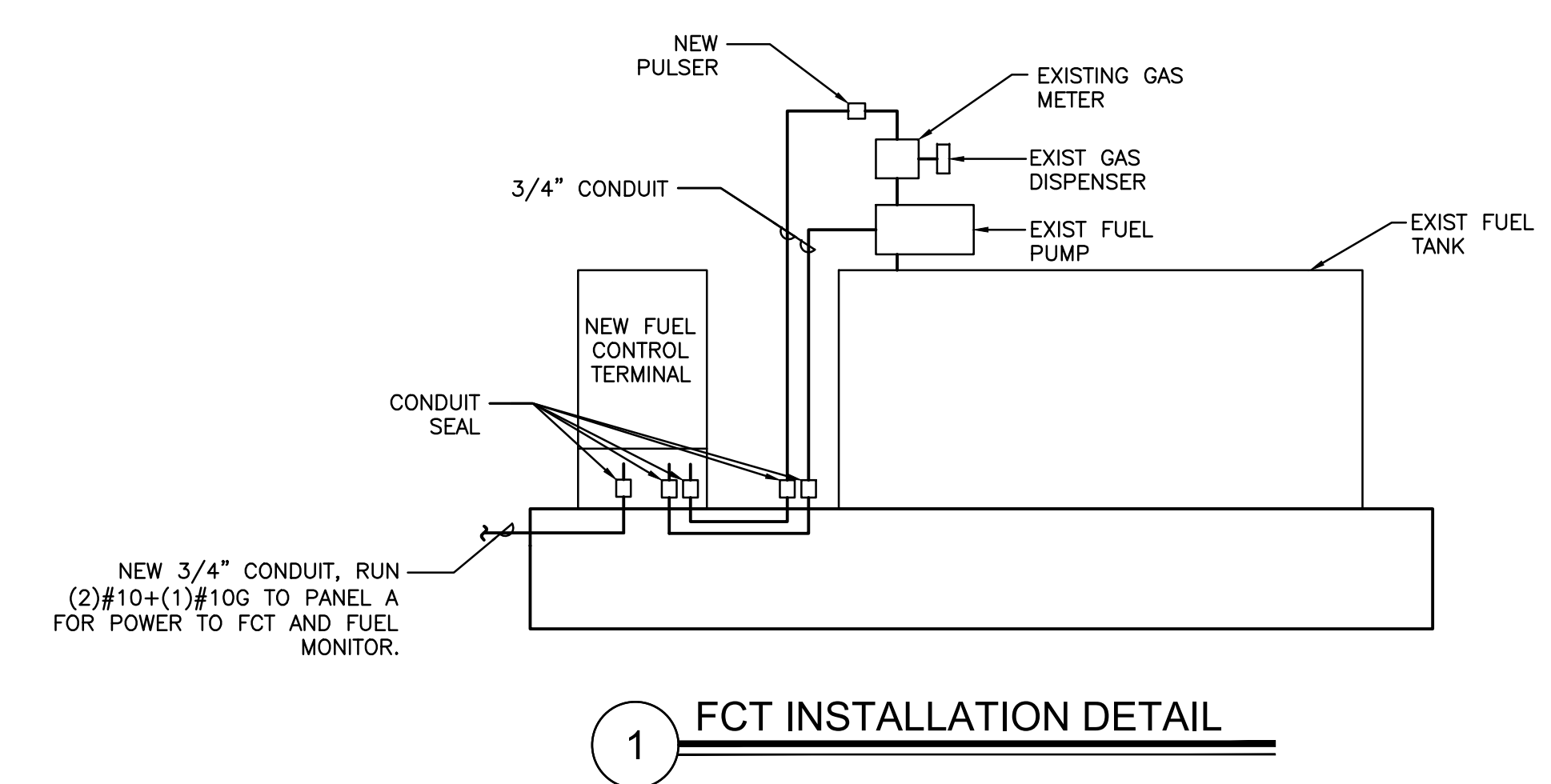
Sheet No.:

43-E201

EXISTING PANEL A		LOCATION: ELEC RM		MAIN: 100A MLO		CONN. LOAD: 17.7 KVA												
ISSUED FOR: APPROVAL		VOLTAGE: 120V/208V		SYSTEM: 3ø, 4W		FEED: TOP												
TRIM:		SURFACE		BUS RATING: 100A		GROUND: BUS: YES												
CKT	LOAD SERVED	COND	PHASE	NEUT	OND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	OND	LOAD SERVED	CKT
1	SPACE	--	--	--	--	--	--	--	--	R	20/1	--	--	--	--	--	RECEPT	2
3	SPACE	--	--	--	--	--	--	600	--	--	20/1	--	--	--	--	--	RECEPT	4
5	LIGHTING	--	--	--	--	20/1	L	500	500	--	--	--	--	--	--	--	SPACE	6
7	LIGHTING	--	--	--	--	20/1	L	500	--	--	--	--	--	--	--	--	SPACE	8
9	LIGHTING	--	--	--	--	20/1	L	500	500	--	R	20/1	--	--	--	--	RECEPT	10
11	LIGHTING	--	--	--	--	20/1	L	500	500	--	R	20/1	--	--	--	--	RECEPT	12
13	LIGHTING	--	--	--	--	20/1	L	500	500	--	R	20/1	--	--	--	--	RECEPT	14
15	LIGHTING	--	--	--	--	20/1	L	500	500	--	R	20/1	--	--	--	--	RECEPT	16
17	GEN. HTR	--	--	--	--	20/1	N	--	800	800	R	20/1	--	--	--	--	RECEPT	18
19	SPACE	--	--	--	--	--	--	1250	--	--	R	20/2	--	--	--	--	DRYER	20
21	EXISTING LOAD	--	--	--	--	20/1	N	800	800	--	R	--	--	--	--	--	SPACE	22
23	EXISTING LOAD	--	--	--	--	20/1	N	1250	800	--	N	20/1	--	--	--	--	EXISTING LOAD	24
25	SURGE SUPPRESSOR	--	--	--	--	20/3	--	800	800	--	N	20/1	--	--	--	--	EXISTING LOAD	26
27		--	--	--	--	--	--	800	--	--	N	20/1	--	--	--	--	EXISTING LOAD	28
29		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SPACE	30
31	EXISTING LOAD	--	--	--	--	20/1	N	800	--	--	--	--	--	--	--	--	SPACE	32
33	SPACE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SPACE	34
35	SPACE	--	--	--	--	--	--	--	800	N	20/1	--	--	--	--	--	EXISTING LOAD	36
37	SPACE	--	--	--	--	--	--	--	800	N	20/1	--	--	--	--	--	EXISTING LOAD	38
39	SPACE	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SPACE	40
41	FCT & FUEL MONITOR	3/4"	#10	#10	20/1	N	--	840	--	--	--	--	--	--	--	--	SPACE	42

INTERRUPT RATING:	5850	5650	6240	FROM:
-------------------	------	------	------	-------

LOADS (IN VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0	
LIGHTING	3000	1.25	3750	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	8040	1.0	8040	
RECEPTS TO 10 KVA	6700	1.0	6700	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	17.7	KVA	49.3	AMPS
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	18.5	KVA	51.4	AMPS
AIR CONDITIONING	0	1.0	0					OVERALL DEMAND FACTOR	1.04			



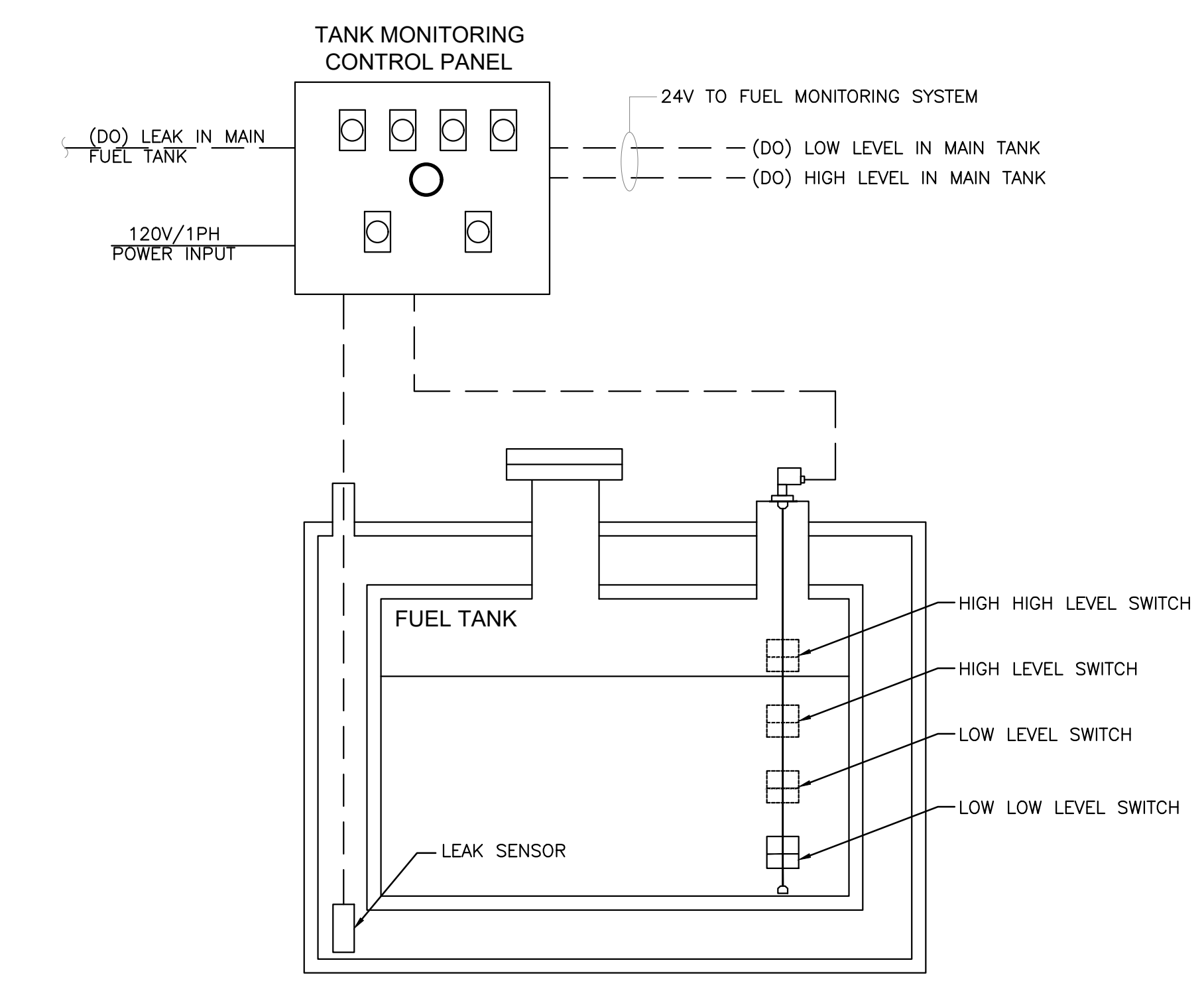
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
- (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
- PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW. (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
- REPLACE THE REGISTER COVER AND RESET BOX.
- INSTALL THE BARRIER INTO THE JUNCTION BOX.
- CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
- CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137



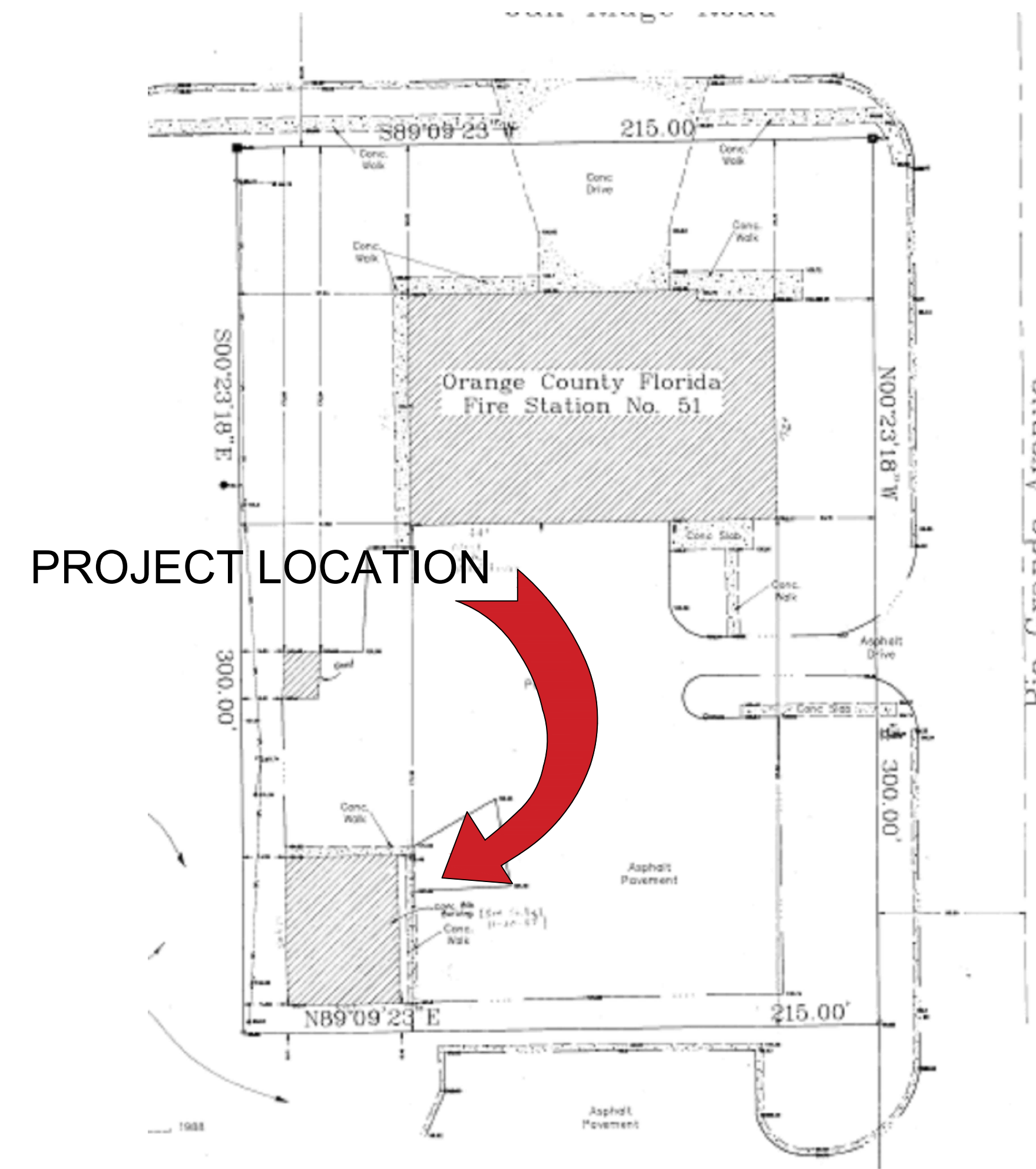
Sheet No.:

43-E201



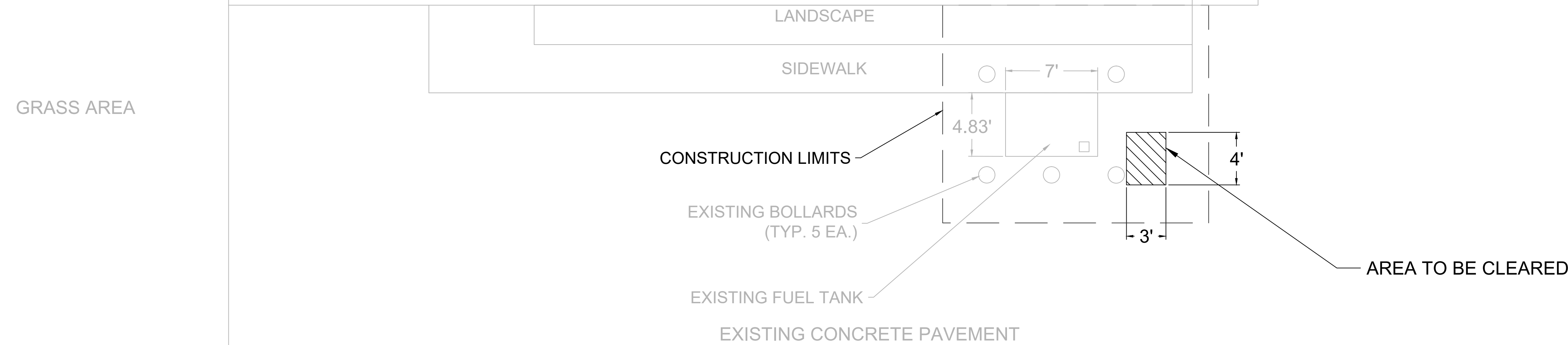
EXISTING CONDITIONS
N.T.S.

FROM GOOGLE EARTH 2016



LOCATION MAP
N.T.S.

**FIRE STATION 51
SCBA REPAIR SHOP**



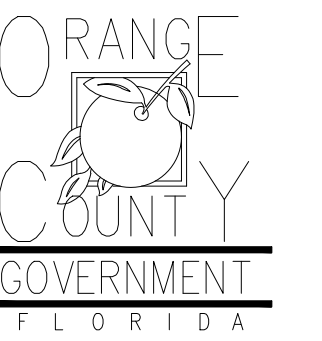
DEMOLITION PLAN
N.T.S.

GENERAL NOTES - CIVIL

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE
FUEL TANK
AUTOMATION AND
REPLACEMENT
DESIGN**

Location:

Fire Station 51
1700 W OAKRIDGE RD,
ORLANDO, FL 32809

Issuance:

**Permit
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Demo
Plan**

Sheet No.:

51-C100

