RECORD DRAWINGS FOR THE MASTER PUMP STATIONS - ODOR CONTROL PROJECT SOUTH SERVICE AREA

PREPARED FOR THE

ORANGE COUNTY, FLORIDA BOARD OF COUNTY COMMISSIONERS

ORANGE COUNTY MAYORCOMMISSIONERDISTRICT 1COMMISSIONERDISTRICT 2COMMISSIONERDISTRICT 3COMMISSIONERDISTRICT 4COMMISSIONERDISTRICT 5COMMISSIONERDISTRICT 6

RICHARD CROTTY S. SCOTT BOYD FRED BRUMMER MILDRED FERNANDEZ LINDA STEWART BILL SEGAL TIFFANY MOORE RUSSELL

AJIT LALCHANDANI

COUNTY ADMINISTRATOR

DIRECTOR OF UTILITIES

MICHAEL L. CHANDLER

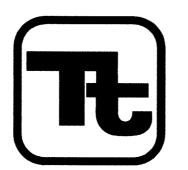
PROJECT SEQUENCE No. 38045

emp\OCU South PS\Dwg\5672.18-COVER.dwg



UTILITIES ENGINEERING ORANGE COUNTY, FLORIDA

FEBRUARY 2009 Tt PROJECT NO. 5672.18



TETRA TECH

CONSULTING ENGINEERS • PLANNERS

201 EAST PINE STREET, SUITE 1000. ORLANDO, FLORIDA 32801 PH: 407-839-3955 FAX: 407-839-3790

SOUTH SERVICE AREA PUMP STATIONS

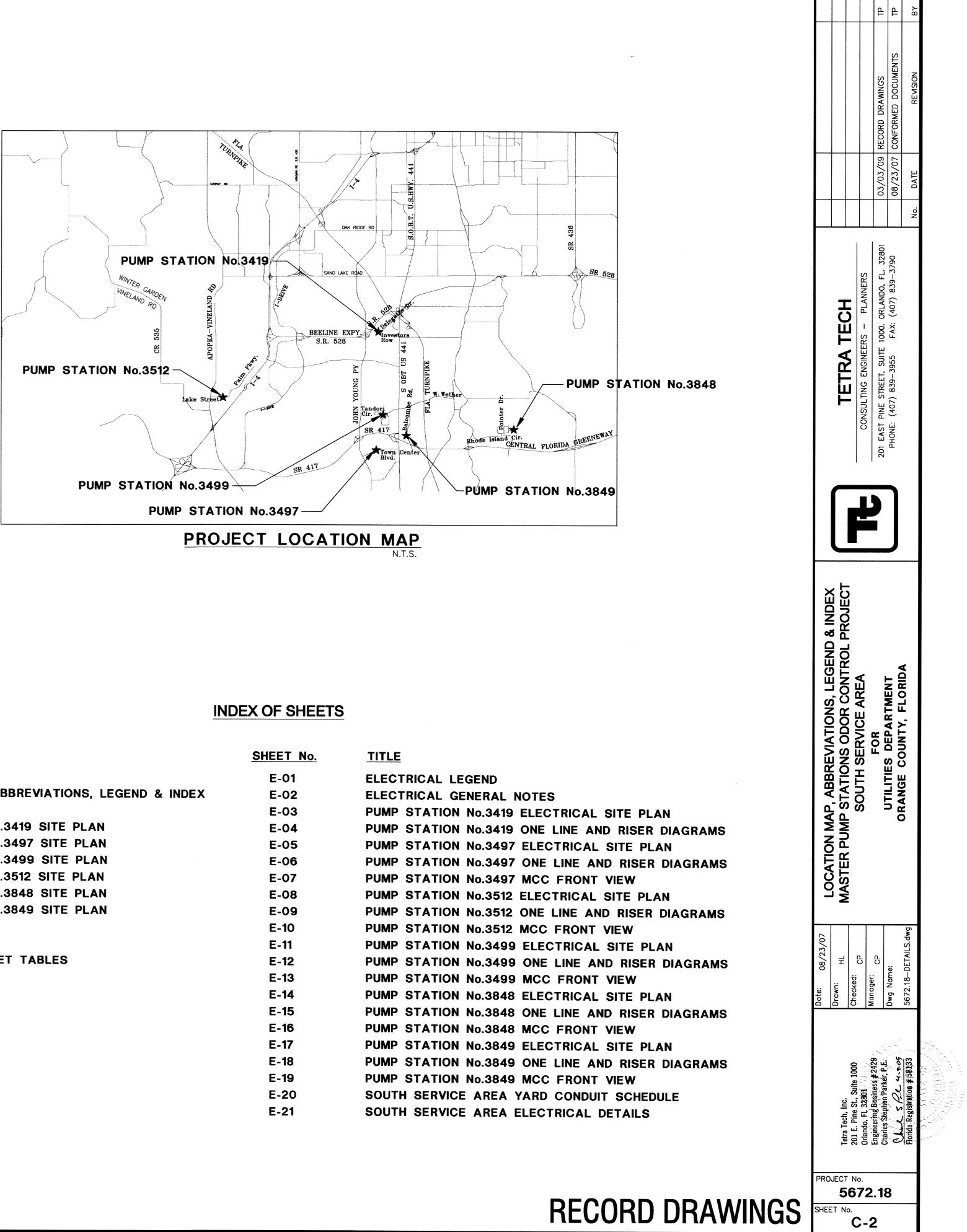
No.3419 No.3497 No.3499 No.3512 No.3848 No.3849

RECORD DRAWINGS

	LIGHT POLE		R/W LINE
(GUY ANCHOR		EXIST. BURIED TELEPHONE
F	POWER POLE	OE	EXISTING OVERHEAD ELECTRIC
{	EXIST. BACKFLOW PREVENTER		EXISTING WATER MAIN
Ċ	STORM DRAINAGE MANHOLE	FM	EXISTING FORCE MAIN
E	EXIST. WATER VALVE		CENTERLINE OF ROAD
E	EXIST. WATER VALVE	75	EXIST. CONTOUR LINE
S	SIGN		PROPOSED PVC PIPE
٧	WATER METER	~/	THO USED TWO FILE
٦	TREE		PROPOSED PVC AIR PIPE
٦	TRAFFIC SIGNAL CONTROL CABINET		
N	MAILBOX		
Т	TRAFFIC SIGNAL POLE (CONC.)		CONC. DRIVEWAY OPEN CUT
۷	WIRE PULLBOX	x ^{92.35}	EXISTING SPOT ELEVATION
E	EXIST. SEWER VALVE	XXXX	EXISTING FENCE
E	BENCH MARK	<u> </u>	PROPOSED FENCE

ABBREVIATIONS

ARV	AIR RELEASE VALVE	MJ	MECHANICAL JOINT	SHEET No.	TITLE	SHEET No.
BUR	BURIED	N.T.S	NOT TO SCALE	C-1	COVER SHEET	E-01
C/L	CENTERLINE	OD	OUTSIDE DIAMETER	C-2		
CATV	CABLE TELEVISION	PI	POINT OF INTERSECTION		LOCATION MAP, ABBREVIATIONS, LEGEND & INDEX	E-02
CMP	CORRUGATED METAL PIPE	PP	POWER POLE	C-3	GENERAL NOTES	E-03
DIP	DUCTILE IRON PIPE	PV	PLUG VALVE	C-4	PUMP STATION No.3419 SITE PLAN	E-04
EA.	EACH	PVC	POLYVINYL CHLORIDE	C-5	PUMP STATION No.3497 SITE PLAN	E-05
ELEC.	ELECTRIC	R/W	RIGHT OF WAY	C-6	PUMP STATION No.3499 SITE PLAN	E-06
ELEV.	ELEVATION	RCP	REINFORCED CONCRETE PIPE			
EXIST.	EXISTING	RJ	RESTRAINED JOINT	C-7	PUMP STATION No.3512 SITE PLAN	E-07
FH	FIRE HYDRANT	RT.	RIGHT	C-8	PUMP STATION No.3848 SITE PLAN	E-08
FM	FORCE MAIN	S.R.	STATE ROAD	C-9	PUMP STATION No.3849 SITE PLAN	E-09
FOC	FIBER OPTIC CABLE	SS	STAINLESS STEEL	C-10	UTILITY DETAILS	
FT.	FEET	STA.	STATION			E-10
GV	GATE VALVE	SV	SANITARY SEWER VALVE	C-11	UTILITY DETAILS	E-11
HORIZ.	HORIZONTAL	ТВ	TEST BORING	C-12	COORDINATE ASSET TABLES	E-12
INV.	INVERT	TEL.	TELEPHONE			E-13
IR	IRON ROD	TV	TELEVISION			
LF	LINEAR FEET	TYP.	TYPICAL			E-14
LT.	LEFT	UTIL.	UTILITY			E-15
		VERT.	VERTICAL			E-16
		WM	WATER MAIN			E-17



WATER VALVE

WV

GENERAL CONSTRUCTION NOTES

1. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH ORANGE COUNTY STANDARDS AND SPECIFICATIONS. THE DRAWINGS DO NOT INCLUDE WORK PERFORMED ON, OR FOR UTILITY SYSTEMS OWNED BY OTHERS, UNLESS STATED OTHERWISE ON THE DRAWINGS.

2. LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE AND LOCATION OF ALL ABOVE GROUND AND UNDERGROUND UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS AT LEAST SEVEN (7) WORKING DAYS PRIOR TO CONSTRUCTION AND A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS TASK.

3. ALL EXISTING AND NEW ORANGE COUNTY UTILITIES WATER AND SEWER VALVES, VALVE BOXES, AND MANHOLES SHALL BE PROTECTED. VALVES AND VALVE BOXES SHALL REMAIN ACCESSIBLE AT ALL TIMES. ANY VALVES THAT MIGHT BE COVERED DURING CONSTRUCTION SHALL BE MARKED WITH A MARKER (GREEN FOR SEWER AND BLUE FOR WATER), A MINIMUM OF FOUR (4) FEET ABOVE GRADE. ALL VALVES UNDER CONSTRUCTION ARE TO REMAIN CLOSED DURING CONSTRUCTION.

4. ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD "D" TEST (MODIFIED PROCTOR) IN OPEN AREAS AND TO NOT LESS THAN 98% MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD "D" TEST (MODIFIED PROCTOR) UNDER ASPHALT OR CONCRETE PAVEMENT. ALL SOIL TESTING TO BE CONDUCTED BY THE COUNTY. THE CONTRACTOR SHALL PROVIDE ALL REASONABLE ASSISTANCE DURING SOIL TESTING.

5. WHEN USING SCALED DATA CONSIDER THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE DURING REPRODUCTION. 6. LOCATIONS AND DIMENSIONS OF EXISTING RIGHT-OF-WAYS AND EASEMENTS ARE BASED ON BEST AVAILABLE INFORMATION. VERIFY AND STAKE THE LIMITS OF THE RIGHT-OF-WAYS AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.

7. WHEN OBTAINING DATA AND INFORMATION FROM THE PLANS, FIGURES SHALL BE USED IN PREFERENCE TO SCALED DIMENSIONS AND LARGER SCALE DRAWINGS IN PREFERENCE TO SMALLER SCALE DRAWINGS.

8. DISPOSE OF ALL EXCESS EARTHWORK MATERIAL.

9. PROVIDE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTROL MEASURES SHALL PROTECT EXISTING SLOPES AND CONTROL SEDIMENTATION AND TURBIDITY WITHIN WATERCOURSES AND WETLANDS TO MEET REQUIREMENTS OF JURISDICTIONAL AGENCIES.

10. PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION. 11. NOTIFY FIBER OPTICS COMPANIES SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION. EXTREME CAUTION SHALL BE EXERCISED IN

THE AREAS OF FIBER OPTICS.

12. SUPPORT & PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS FOR LOCATION OF ALL EXISTING FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS AND BE RESPONSIBLE FOR PROVIDING TEMPORARY SUPPORT FOR UTILITY POLES AND ALL OTHER UTILITIES.

13. EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR WASTEWATER FORCE MAINS. EXPOSE AND VERIFY LOCATION OF FORCE MAIN PRIOR TO EXCAVATION.

14. COMPLETE ALL CONSTRUCTION WITHIN RIGHT OF WAY LIMITS AND EASEMENT LIMITS, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND STAKING RIGHT OF WAY

15. RESTORE ALL EXISTING IMPROVEMENTS AND DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER.

16. PROTECT EXISTING IMPROVEMENTS TO THE MAXIMUM EXTENT POSSIBLE. ALL DAMAGED SIDEWALK, ROADWAY PAVEMENT, GRASS, LANDSCAPING AND OTHER IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS FOR CONSTRUCTION ACTIVITIES AND RELATED ACTIVITIES.

18. BENCHMARK LOCATIONS AND ELEVATION ARE SHOWN IN THE PLANS AS REPRESENTED BY SURVEYOR AT THE TIME OF THE SURVEY. CONTRACTOR SHALL VERIFY BENCHMARK CORRECTNESS AT THE TIME OF CONSTRUCTION AND INSTALL HIS OWN TEMPORARY BENCHMARKS.

19. IMMEDIATELY AT ONSET OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES CRITICAL TO COMPLETING THE PROJECT (INCLUDING WATER, SEWER, POWER, TELEPHONE, GAS, AND CABLE TV) AND SHALL EVALUATE POTENTIAL CONFLICTS IN A WRITTEN REPORT. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER/OWNER IMMEDIATELY UPON DISCOVERY AND DETAILED IN THE REPORT.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING TO HIS SATISFACTION, PRIOR TO EXECUTION OF THE CONTRACT, THE NATURE AND LOCATION OF THE WORK, THE CONFIRMATION OF THE EXISTING GROUND, THE CHARACTER AND QUALITY OF THE SUBSTRATA, THE TYPES AND QUANTITY OF EXISTING MATERIALS TO BE ENCOUNTERED, THE NATURE OF THE GROUND WATER CONDITIONS, THE CHARACTER OF EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING THE EXECUTION OF THE WORK, THE GENERAL AND LOCAL CONDITIONS, AND ALL OTHER MATTERS WHICH CAN IN ANY WAY EFECT THE WORK UNDER THIS CONTRACT. THE CONTRACT UNIT PRICES FOR THE ENTIRE CONTRACT WILL REFLECT ALL COSTS PERTAINING TO PROPOSED WORK.

21. THE CONTRACTOR SHALL, AT HIS EXPENSE, OBTAIN ALL DEVELOPMENT AND CONSTRUCTION PERMITS REQUIRED BY LOCAL REGULATIONS AND ORDINANCES PRIOR TO COMMENCEMENT OF WORK.

22. ANY DAMAGE TO EXISTING FACILITIES RESULTING FROM CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

23. PLAN BENCH MARK DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1988.

24. DEWATER AS NECESSARY TO PREVENT WATER FROM ENTERING THE TRENCH DURING EXCAVATION AND PIPE INSTALLATION. PIPE SHALL NOT BE LAID IN WATER. ALL EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH WORKDAY AND PIPE OPENINGS SHALL BE SEALED WITH MJ. PLUGS. ALL PIPE SHALL BE SEALED WITH A WATERTIGHT PLUG. PLASTIC, PLYWOOD OR FILTER FABRIC PLUGS ARE NOT ACCEPTABLE.

25. PIPE SIZES SHOWN ON PLANS ARE MINIMUM INSIDE DIAMETER.

26. WHERE MINIMUM SEPARATION BETWEEN UTILITIES OR STORM SEWERS IS REQUIRED, THE DISTANCE IS MEASURED FROM THE OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE.

27. WHERE REQUIRED, AT NO ADDITIONAL COST TO THE COUNTY, THE CONTRACTOR SHALL USE TEMPORARY SHEETING OR TRENCH BOXES TO MINIMIZE THE SIZE OF EXCAVATIONS AND PROTECT EXISTING ROADWAYS, WALLS, SIDEWALKS, UTILITIES AND OTHER FACILITIES. CONTRACTOR TO COMPLY WITH OSHA TRENCH SAFETY REQUIREMENTS AT ALL TIMES.

28. CONTRACTOR SHALL PROVIDE ALL NECESSARY LINE-STOPS, BY-PASS PIPING, PUMPING, TANKER TRUCKS AND ANY OTHER ITEMS NEEDED TO MAINTAIN UNINTERRUPTED SERVICE AT ALL TIMES.

LISTED MANUFACTURERS.

PUMP STATION ODOR CONTROL GENERAL NOTES

1. ODOR CONTROL UNITS SLAB FOOTPRINTS AND LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. FOR EACH PUMP STATION SITE, THE CONTRACTOR SHALL CHOOSE AN ODOR CONTROL UNIT FROM THE LIST OF APPROVED BIOFILTER MANUFACTURERS IN APENDIX "D" OF THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL AND CONSTRUCT THE SLAB TO THE DIMENSIONS REQUIRED TO ACCOMMODATE THE ODOR CONTROL UNIT. SOME SITES MAY NOT ACCOMODATE ALL APPROVED MODELS OF THE

2. ODOR CONTROL UNIT CONCRETE SLAB TOP ELEVATION SHALL MATCH $(\pm 6")$ EXISTING ADJACENT WET WELL, VALVE VAULT, OR DRIVEWAY SLAB ELEVATION, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT DIMENSIONS AND ORIENTATION OF THE CONCRETE SLAB AND ODOR CONTROL UNIT BASED ON THE SELECTED MANUFACTURER/MODEL AND REQUIRED MINIMUM CLEARANCE AND GRADING REQUIREMENTS AT THE SITE.

4. CONTRACTOR SHALL TIE THE METAL FRAME (IF PROVIDED AS PART OF UNIT) OF THE ODOR CONTROL UNIT TO THE EXISTING GROUNDING RING AT THE PUMP STATION.

5. CONSTRUCT 2-INCH SCHEDULE 80 PVC DRAIN RETURN PIPING FROM THE ODOR CONTROL UNIT TO THE WET WELL. CORE WET WELL WALL TO INSTALL DRAIN LINE BELOW GRADE. MINIMUM COVER SHALL BE 24" BELOW GRADE. A SIX-INCH (6") THICK CONC. SLAB MAY BE CONSTRUCTED OVER PROPOSED PIPING IN AREAS WHERE MIN. 24" COVER CAN NOT BE ACHIEVED. HAND DIG ALL TRENCHES.

6. CONSTRUCT SUCTION AIR PIPING, WITH DAMPER, FROM THE EXISTING PUMP STATION WET WELL. CORE WET WELL WALL TO INSTALL AIR PIPING. FROM WET WELL TO ODOR CONTROL UNIT CONSTRUCT AIR PIPING BELOW GRADE WITH 24" MIN. COVER. A SIX-INCH (6") THICK CONC. SLAB MAY BE CONSTRUCTED OVER PROPOSED PIPING IN AREAS WHERE MIN. 24" COVER CAN NOT BE ACHIEVED. AIR DUCT PIPING SHALL BE CORROSION/ACID RESISTANT SCH 40 PVC WITH SOLVENT CEMENT OR THERMAL WELDED JOINTS. ALL UNDERGROUND AIR PIPING SHALL MAINTAIN A CONSTANT SLOPE TO WET WELL (1/4"/FT. MIN.). HAND DIG ALL TRENCHES.

7. CONTRACTOR TO VERIFY DIMENSIONS AND LOCATION OF PUMP STATION WELL AND WELL WALLS PRIOR TO CONSTRUCTING AIR PIPING. LOCATION OF WELL MAY VARY FROM THAT SHOWN IN PLANS.

8. WHERE NOTED IN DRAWINGS REMOVE EXISTING WET WELL VENT AND CONSTRUCT NEW WET WELL VENT WITH DAMPER. NEW WET WELL VENT TO BE LOCATED AS SHOWN ON DRAWINGS TO MAXIMIZE DISTANCE BETWEEN VENT AND ODOR CONTROL UNIT SUCTION PIPING TO MINIMIZE SHORT CIRCUITING. ALL NEW VENT PIPING SHALL BE DUCTILE IRON PIPE WITH DOWN BENDS, MESH FRP SCREEN AND STAINLESS STEEL DAMPER. SEE DETAIL SHEET.

9. CONSTRUCT 1" SCHEDULE 80 PVC WATER MAIN PIPING FROM EXISTING WATER MAIN TO ODOR CONTROL UNIT FOR MEDIA/NUTRIENT VESSEL. CONSTRUCT QUICK CONNECT/SPIGOT, WITH HOSE RACK, FOR WASH DOWN AT EACH ODOR CONTROL UNIT. CONSTRUCT WATER MAIN BELOW GRADE WITH 18" MIN. COVER UNLESS NOTED OTHERWISE. A SIX-INCH (6") THICK CONC. SLAB MAY BE CONSTRUCTED OVER PROPOSED PIPING IN AREAS WHERE MIN. 18" COVER CAN NOT BE ACHIEVED. HAND DIG ALL TRENCHES.

10. CONTROL PANELS SHALL BE 316 STAINLESS STEEL, NEMA 3R WITH DRIP EDGE, DOOR SEAL AND LOCKING MECHANISM.

11. CONTRACTOR SHALL RECONFIGURE SCADA SYSTEM TO PROVIDE SIGNALS FOR THE FOLLOWING: BLOWER FAILURE; HYDROGEN SULFIDE INFLUENT CONCENTRATION; AND HYDROGEN SULFIDE EFFLUENT CONCENTRATION.

12. ALL LOCATIONS WHERE DRAIN PIPES ENTER THE WET WELL SHALL BE MADE WATERTIGHT WITH AN APPROVED SEAL FROM ONE OF THE MANUFACTURERS LISTED IN ORANGE COUNTY'S LIST OF APPROVED MATERIALS.

13. ALL LOCATIONS WHERE AIR PIPES ENTER THE WET WELL SHALL HAVE A SEAL MANUFACTURED BY ONE OF THE APPROVED MANUFACTURERS LISTED IN APPENDIX "D" OF THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL.

14. PROPOSED COVERS AT EXISTING WET WELL VENT HOLES WHERE VENTS HAVE BEEN REMOVED SHALL BE 1/4" ALUMINUM DIAMOND PLATE WITH STAINLESS STEEL LAG BOLTS & WASHERS. SEE DETAIL SHEET.

15. ALL ABOVE GROUND PVC PIPING INSTALLED FOR THIS PROJECT SHALL BE PAINTED WHITE PER SPECIFICATIONS, SECTION 09900.

16. FOR EACH ODOR CONTROL UNIT, THE CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DRAWINGS PREPARED BY A STRUCTURAL ENGINEER REGISTERED IN FLORIDA. FOR THE DESIGN OF THE CONCRETE SLAB, ANCHORING OF SELECTED ODOR CONTROL UNIT TO THE CONCRETE SLAB, AND CERTIFICATIONS THAT THE ODOR CONTROL UNIT AND ANCHORING MEET THE OVERTURNING REQUIREMENTS OF CHAPTER 16 OF THE FLORIDA BUILDING CODE. ALL UNITS TO BE MOUNTED ON CONCRETE SLABS. CONTRACTOR SHALL SUBMIT DRAWINGS AND ALL OTHER NECESSARY SUBMITTAL MATERIAL TO THE ORANGE COUNTY BUILDING DEPARTMENT AND OBTAIN BUILDING PERMIT FOR EACH IINIT

17. PUMP STATIONS SHALL REMAIN IN OPERATION AT ALL TIMES.

18. THE VIBRATION ISOLATION EXPANSION JOINTS SHALL BE SINGLE ARCH SPOOL TYPE NEOPRENE RUBBER EXPANSION JOINT WITH FLANGE CONNECTIONS. THE EXPANSION JOINT SHALL BE MANUFACTURED BY ONE OF THE MANUFACTURERS LISTED IN APPENDIX D, LIST OF APPROVED PRODUCTS.

EMERGENC WATER MAI

1. THE CONTRACT FORCE MAINS AND OR GUARANTEED.

2. THE ORANGE C MAIN, GRAVITY SEV

3. ALL DAMAGE TO CONTRACTOR'S EXI COUNTY UTILITIES CHARGED FOR REF

4. ORANGE COUNT ORANGE COUNTY ORANGE COUNTY ORANGE COUNTY ORANGE COUNTY I ORANGE COUNTY L

5. THE ORANGE CO SEVEN (7) DAYS F

6. THE ORANGE CO (407 - 254 - 9680)VALVE OPERATIONS

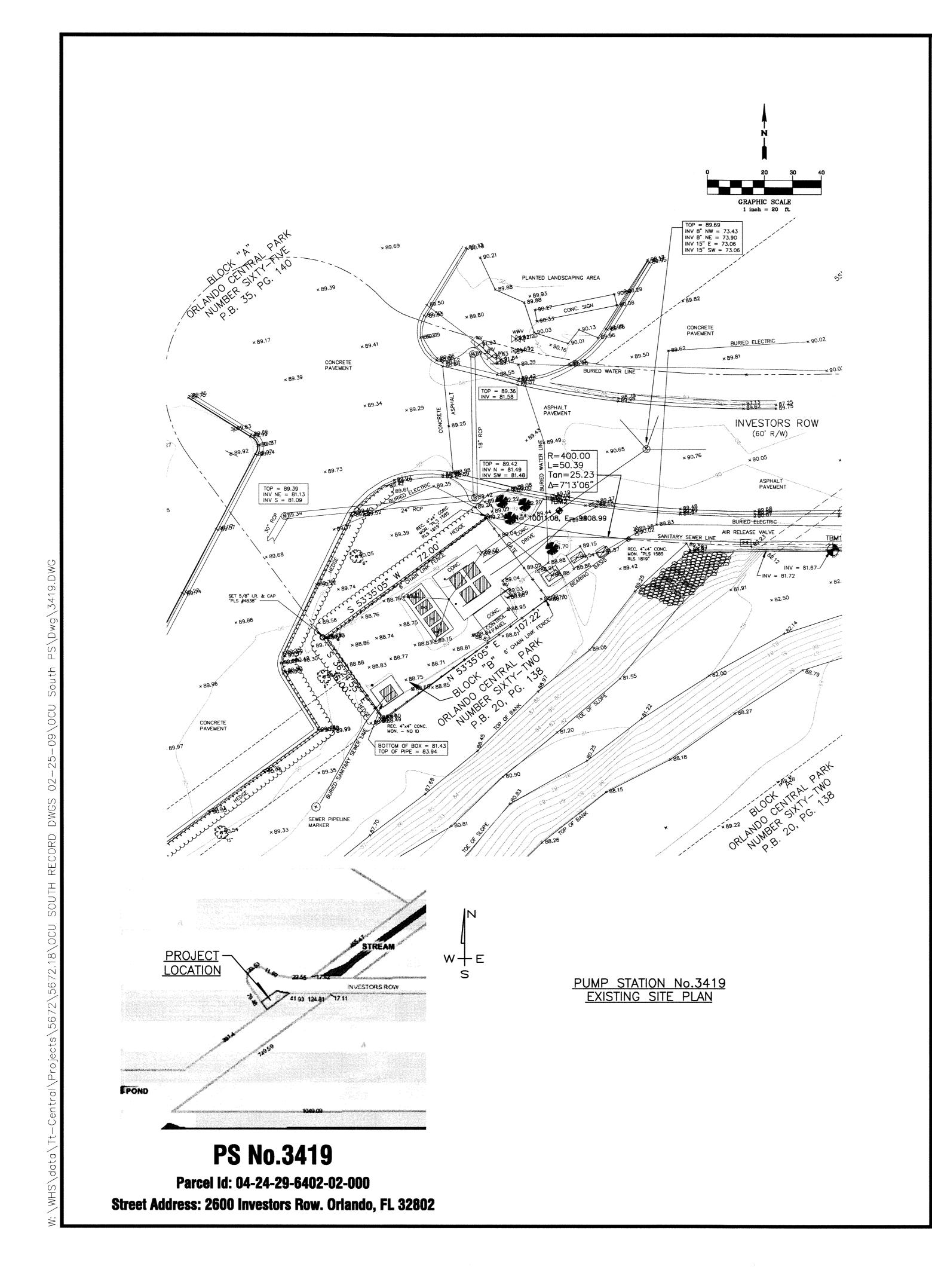
7. WATER, WASTEW COORDINATED BY DURING CONSTRUC

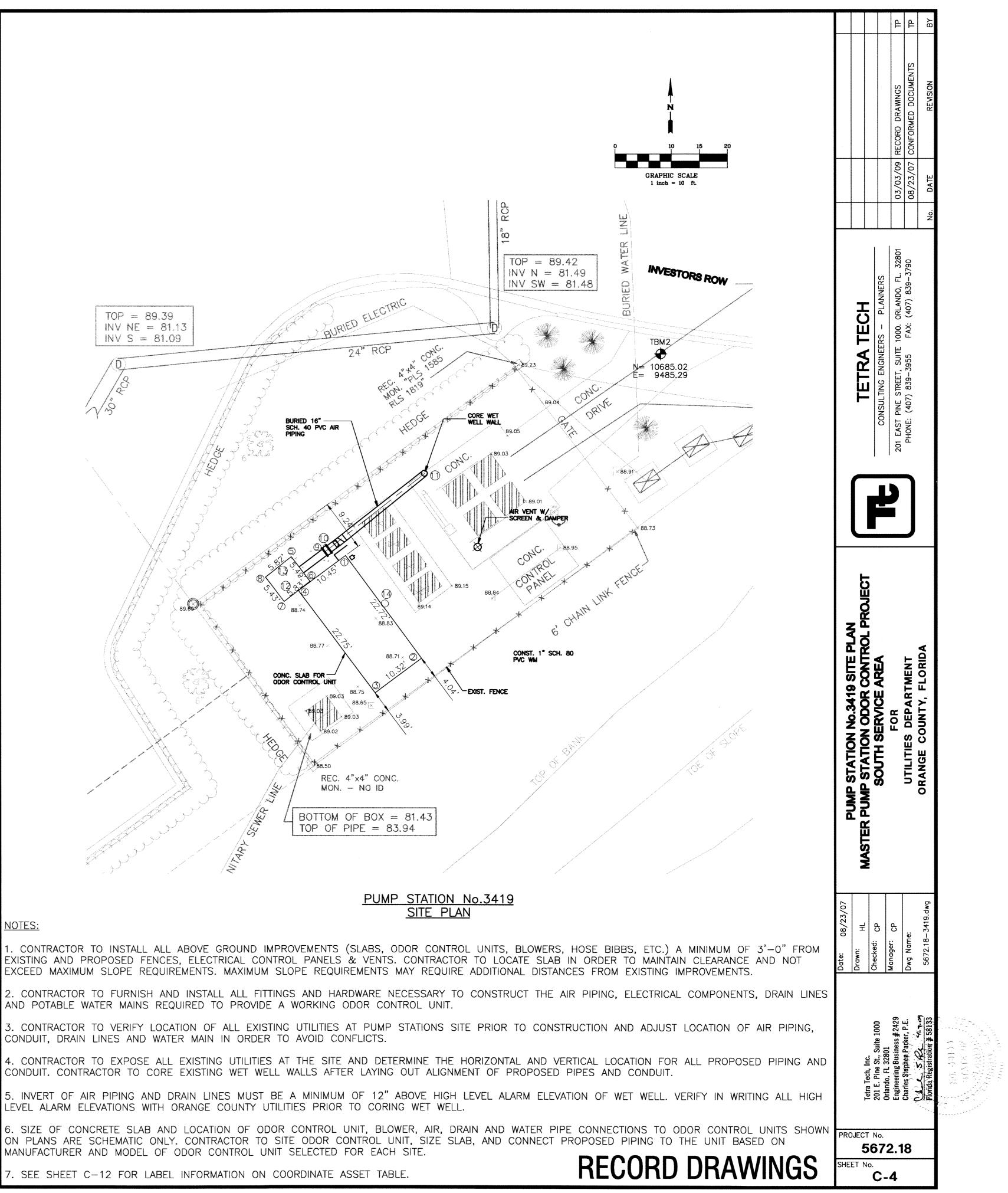
8. FOR OPERATION STATION OPERATIO (407-254-9798).

	E E E
CY WASTEWATER SPILL AND IN BREAK PROCEDURES	ON UMENTS
TOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF WASTEWATER D GRAVITY SEWERS. FORCE MAIN AND SEWER LOCATIONS SHOWN ON PLANS ARE NOT EXACT CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.	RECORD DRAMINGS CONFORMED DOCUMENTS REVISION
COUNTY DISPATCH OPERATOR SHALL BE NOTIFIED IMMEDIATELY IN THE EVENT OF A FORCE EWER, OR WATER MAIN BREAK OR DAMAGE AT (407- 836-2777).	
TO ORANGE COUNTY'S MAINS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT THE XPENSE. IF THE REPAIR IS NOT MADE IN A TIMELY MANNER, AS DETERMINED BY THE ORANGE INSPECTOR, ORANGE COUNTY MAY PERFORM REPAIRS AND THE CONTRACTOR WILL BE PAIRS.	03/03/09 08/23/07 08/23/07
TY UTILITIES DEPARTMENT GENERAL TELEPHONE NUMBERSDISPATCH	3790 No.
COUNTY UTILITIES CONSTRUCTION SECTION (407-254-9798) SHALL BE NOTIFIED AT LEAST PRIOR TO ANY CONSTRUCTION ACTIVITY.	PLANNERS ORLANDO, FL. 328 (407) 839–3790
COUNTY WATER DIVISION (407-254-9850) AND THE ORANGE COUNTY WASTEWATER DIVISION SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS IN ADVANCE TO SCHEDULE MAIN TIE-INS AND NS.	
WATER AND REUSE VALVES ARE TO BE OPERATED ONLY BY ORANGE COUNTY UTILITIES STAFF OCU INSPECTOR (407–254–9798). ALL VALVES BEING INSTALLED ARE TO REMAIN CLOSED CTION. N OF ORANGE COUNTY PUMP STATIONS THE CONTRACTOR SHALL COORDINATE ALL PUMP ON AND SHUT DOWN CONTROL WITH AN ORANGE COUNTY UTILITIES INSPECTOR	TETRA TI CONSULTING ENGINEERS ST PINE STREET, SUITE 100 IE: (407) 839–3955 FA
	COLEAST
	GENERAL NOTES GENERAL NOTES MASTER PUMP STATIONS ODOR CONTROL PROJECT SOUTH SERVICE AREA FOR UTILITIES DEPARTMENT ORANGE COUNTY, FLORIDA
	Date: 08/23/07 Drawn: HL Checked: CP Manager: CP Dwg Name: 5672.18-DETAILS.dwg
	Tetra Tech, Inc. 201 E. Pine St., Suite 1000 Orlando, FL 32801 Orlando, FL 32801 Engineering, Başiness # 2429 Charles Stephen Parker, P.E. Florida Registration # 58133
	PROJECT No. 5672.18

RECORD DRAWINGS

C-3

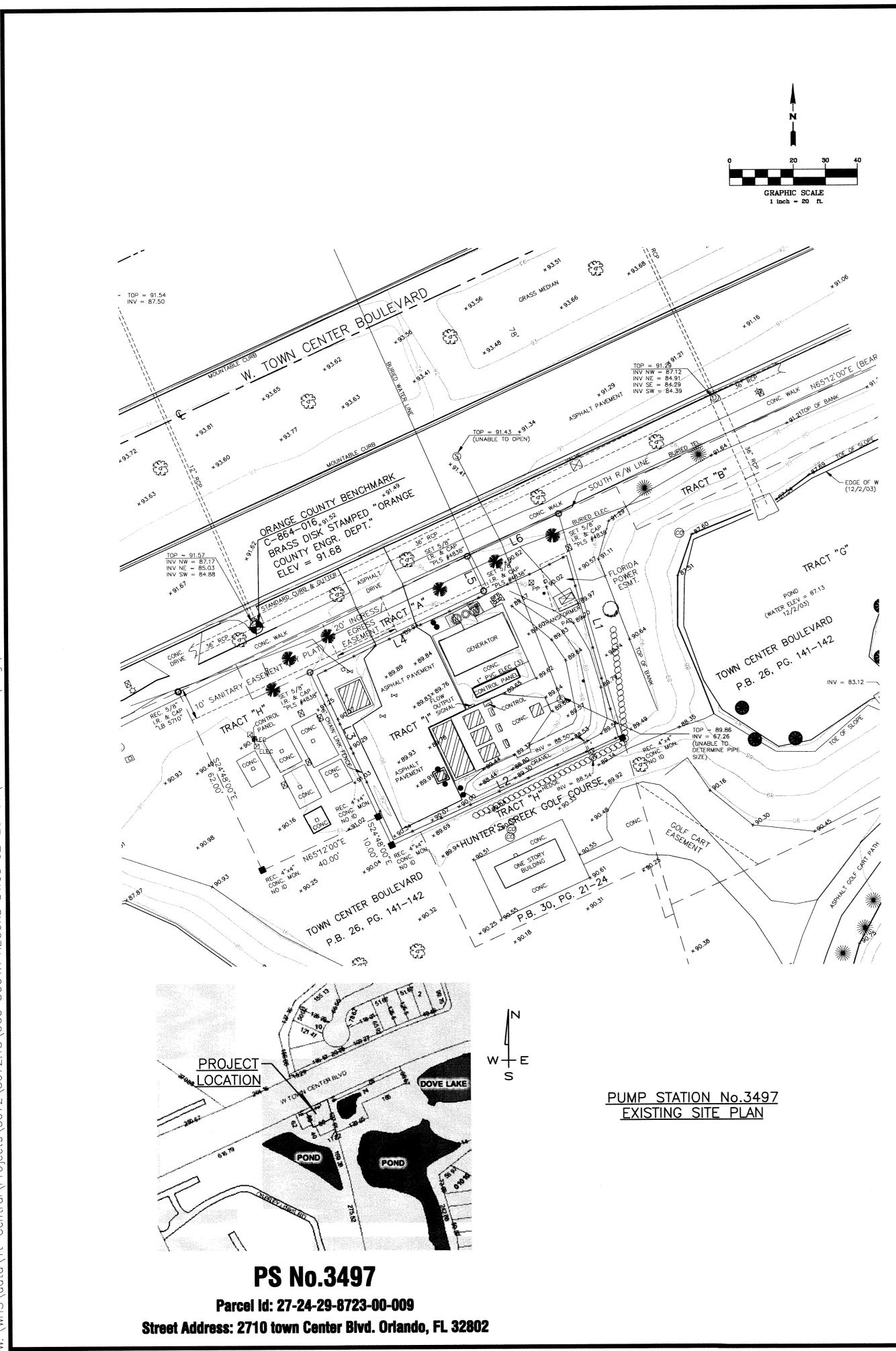


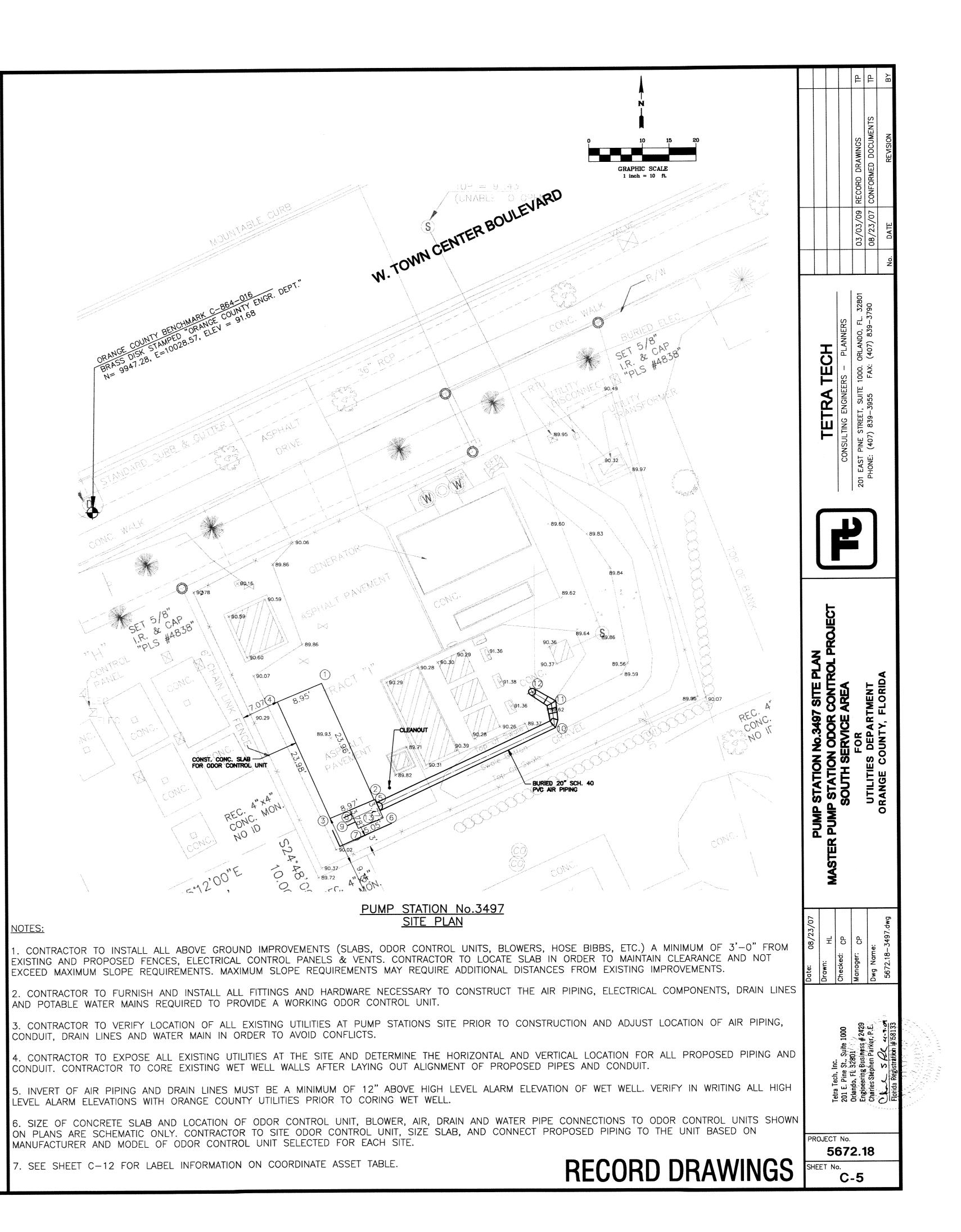


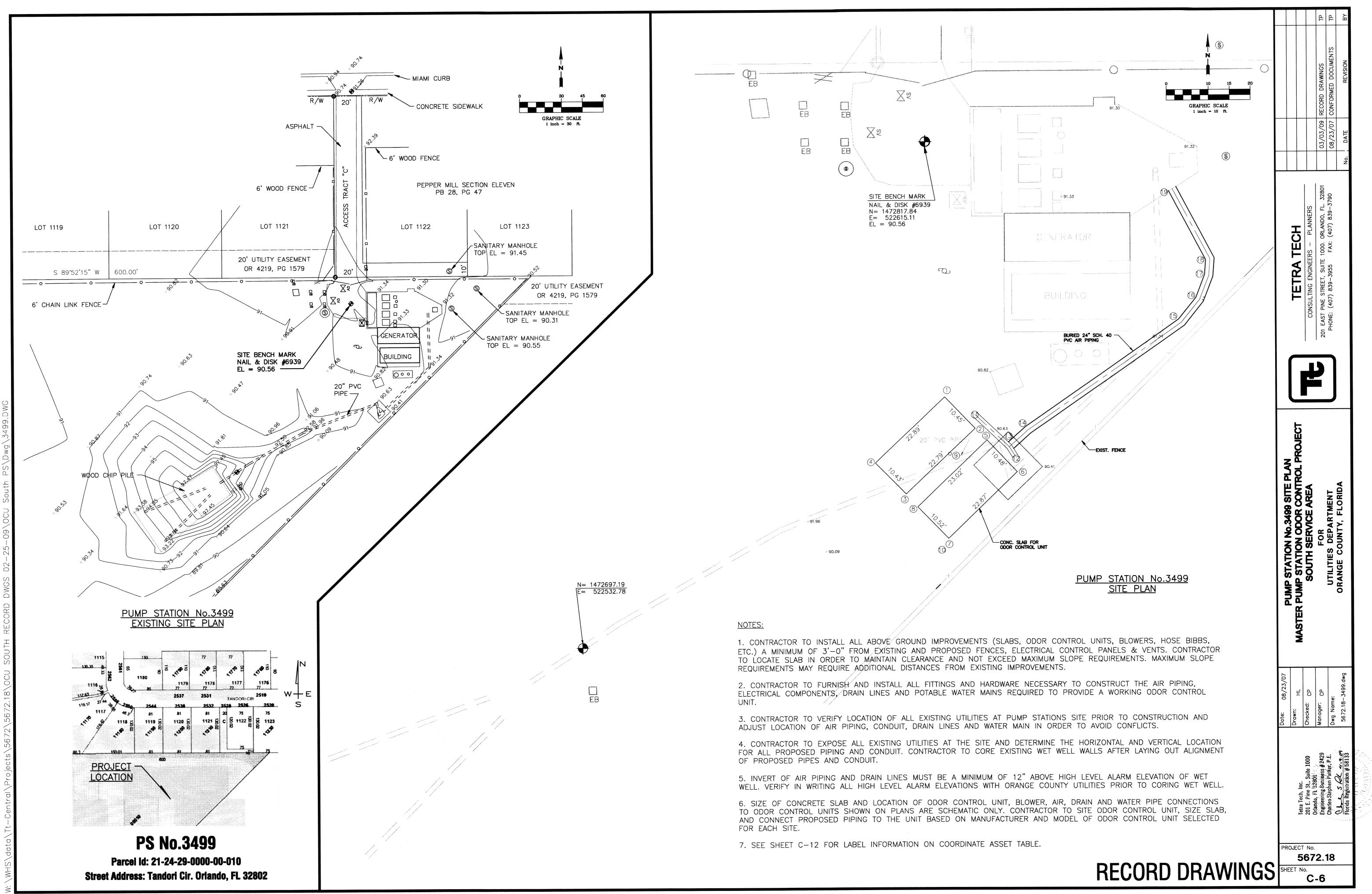
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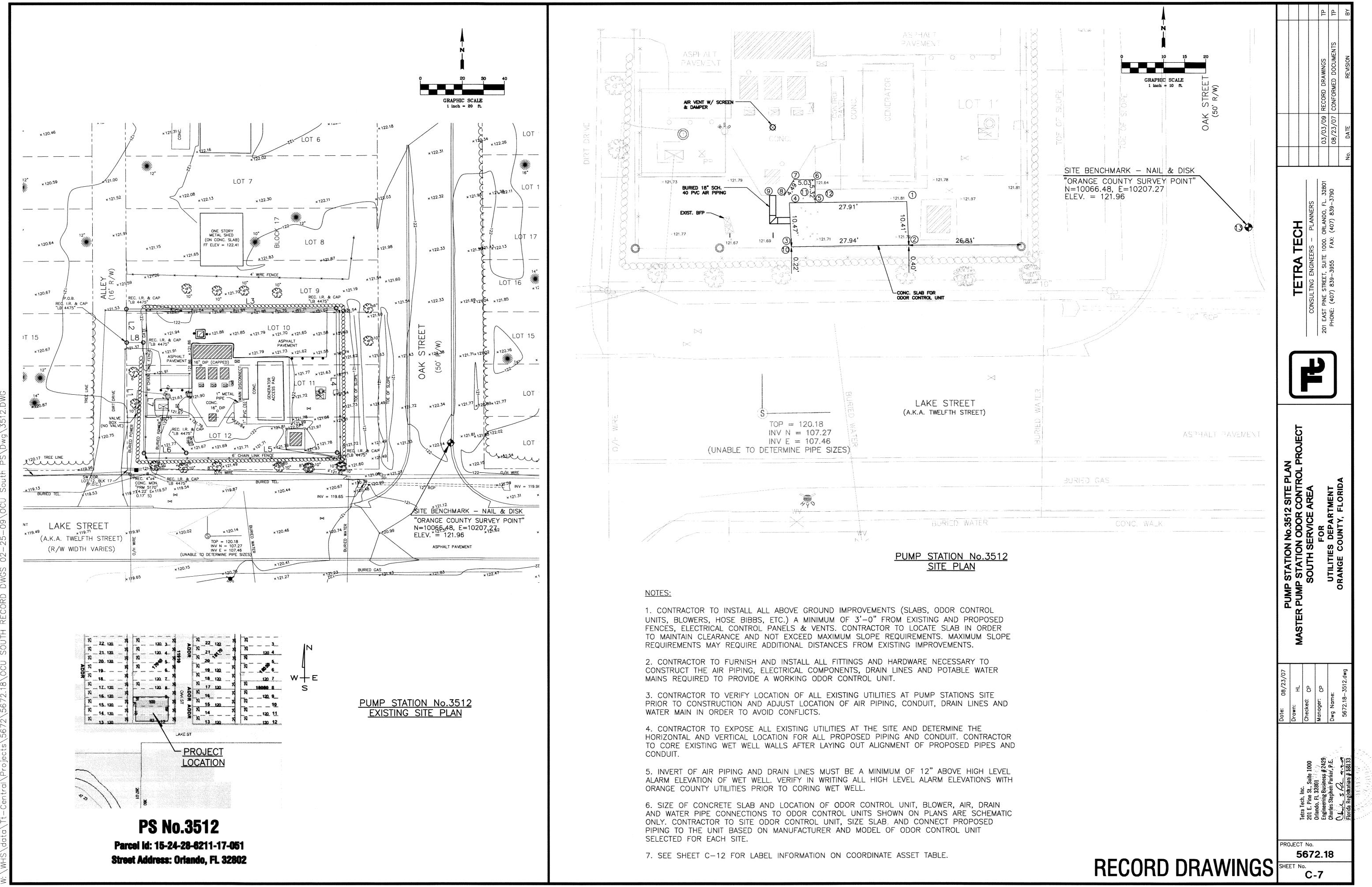
LEVEL ALARM ELEVATIONS WITH ORANGE COUNTY UTILITIES PRIOR TO CORING WET WELL

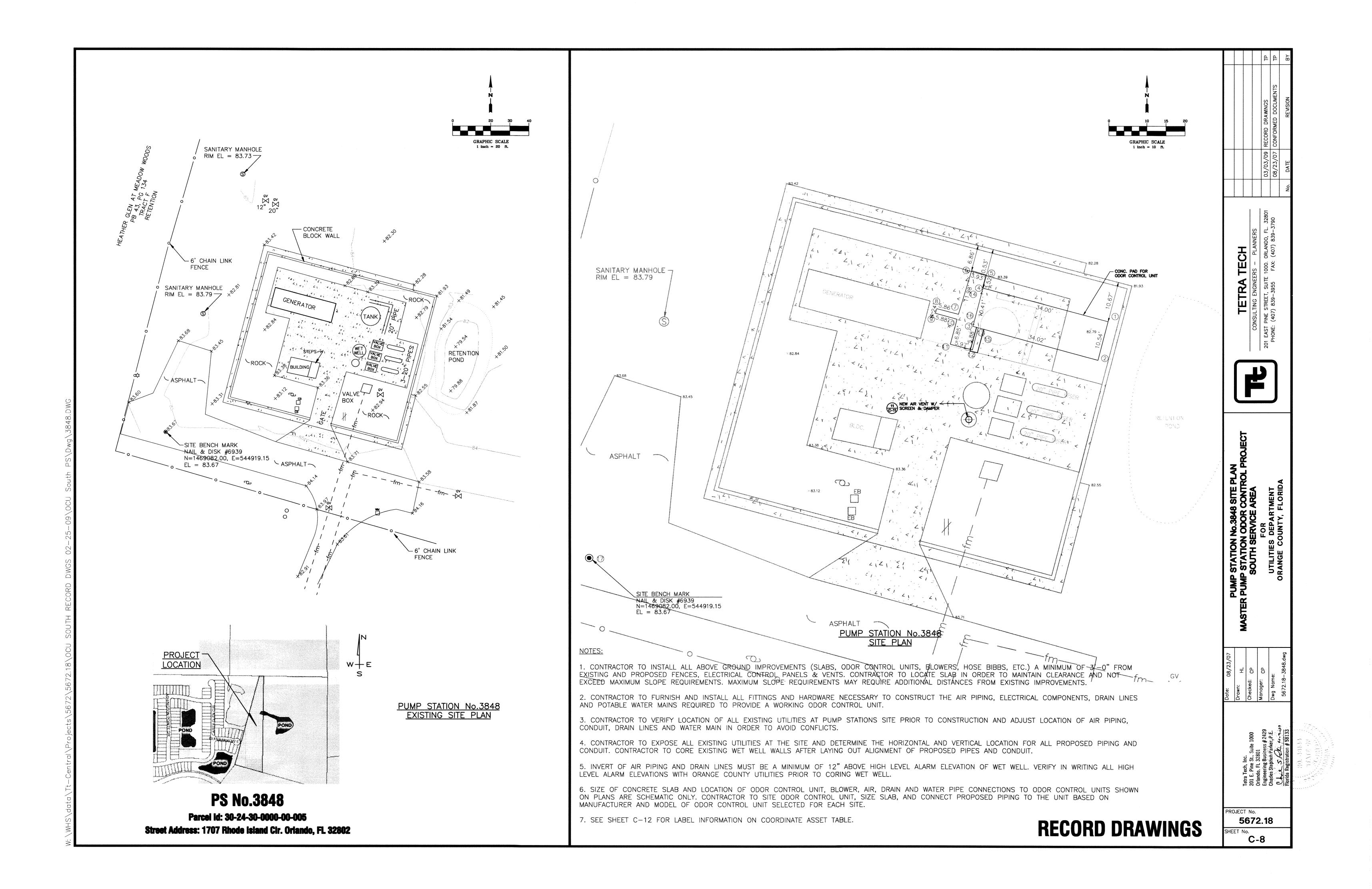
MANUFACTURER AND MODEL OF ODOR CONTROL UNIT SELECTED FOR EACH SITE.

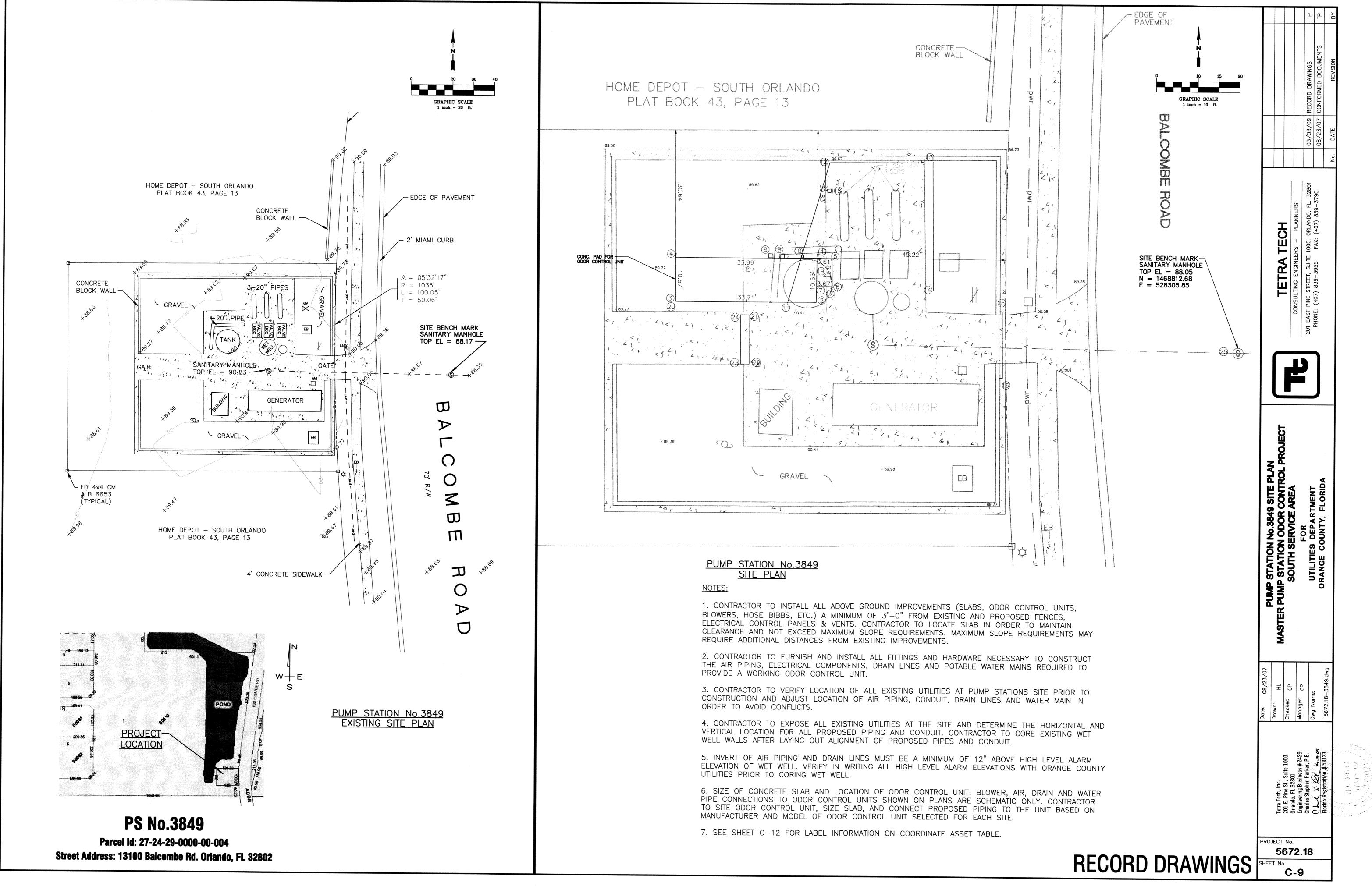


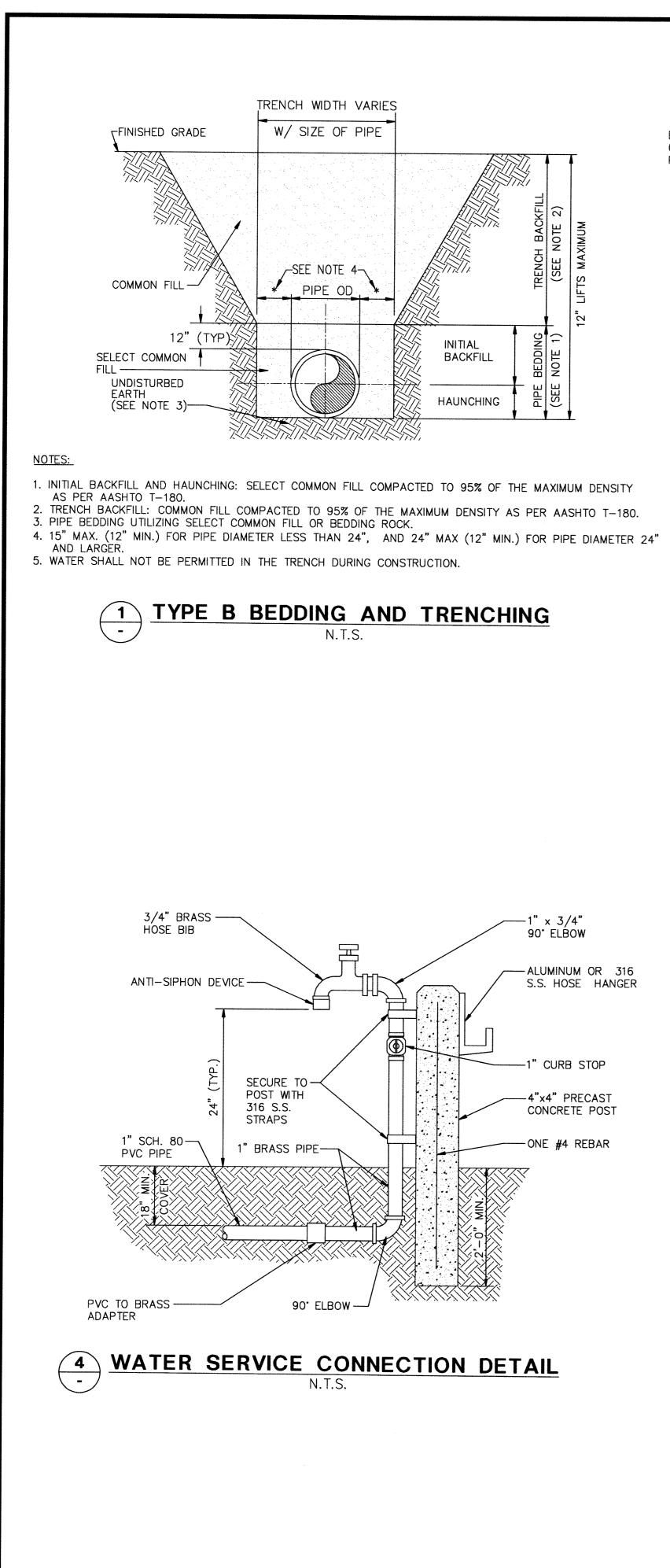






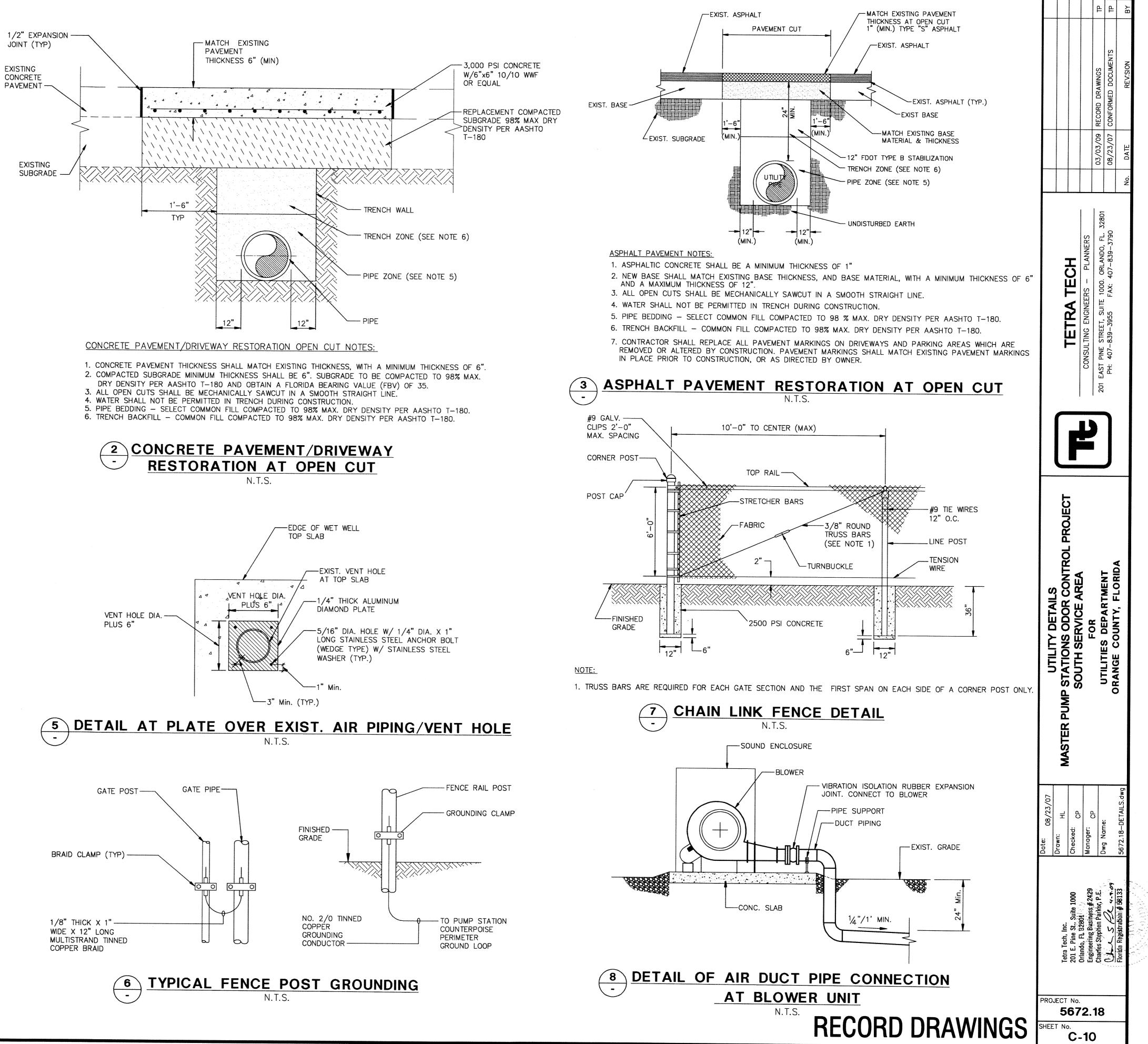


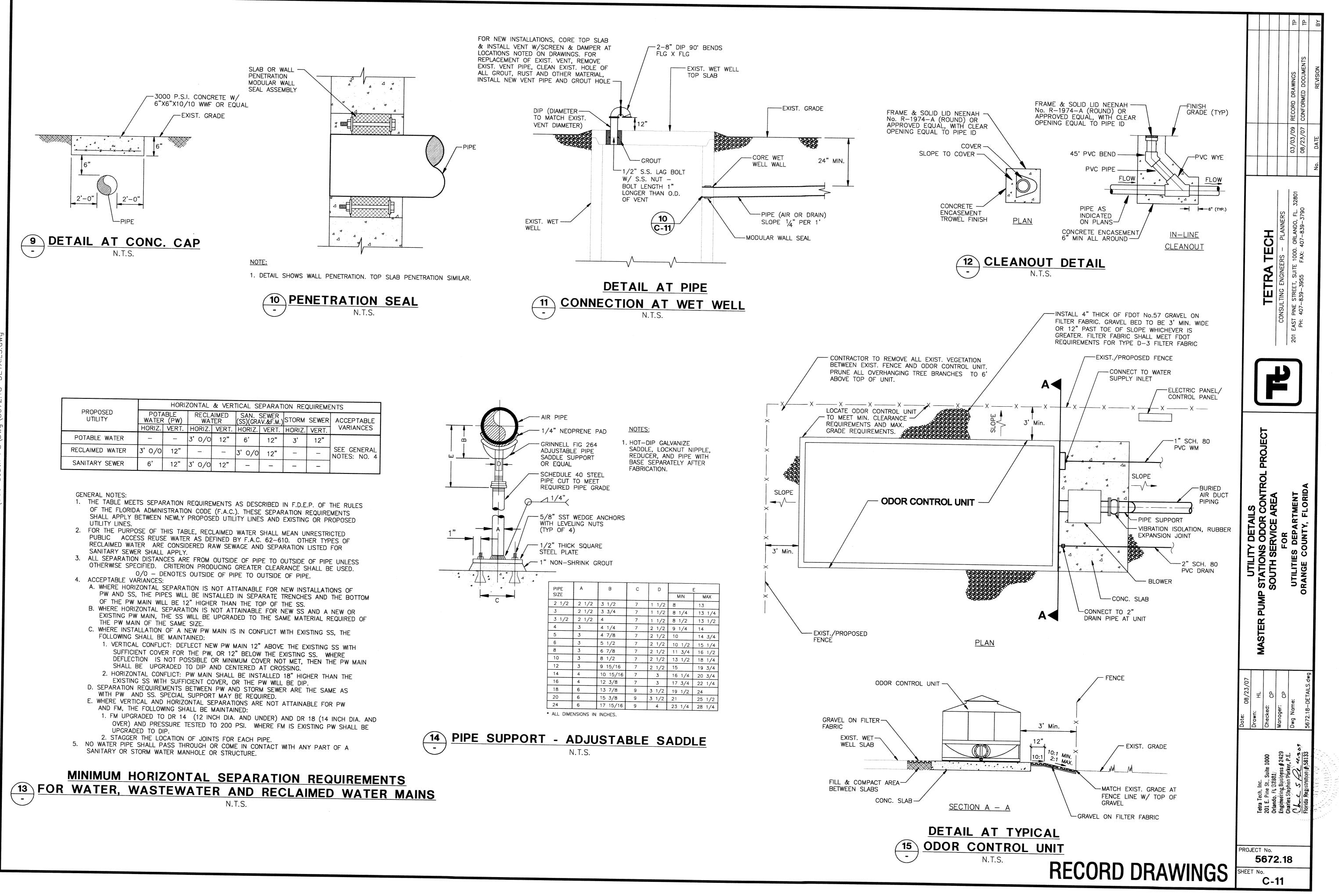






EXISTING





2.18\OCU SOUTH RECORD DWGS 02-25-09\OCU South PS\Dwa\567218-DFTAHS dwa

COORDINATE ASSET TABLE - PS No. 3419					
Annah Tima	ai	UTILITIES'	VTILITIES'	Asset Coordina	tes
Asset Type	Number	nber Asset Number 1 2	X	Y	Elevation
Odor Control Pad Corner	1		9463.18	10621.16	89.11
Odor Control Pad Corner	2		9485.45	10615.76	88.96
Odor Control Pad Corner	3		9482.98	10605.57	88.98
Odor Control Pad Corner	4		9460.65	10611.01	89.10
Control Pad Corner	5		9455.77	10614.89	89.07
Control Pad Corner	6		9461.17	10613.56	89.08
Control Pad Corner	7		9459.89	10607.85	89.09
Control Pad Corner	8		9454.56	10609.12	89.10
16" PVC 90"	9		9459.89	10619.31	89.05
16" PVC Top	10		9464.70	10641.74	86.78
16" PVC 90"	11		9460.18	10621.06	87.67
Test Well	12		9459.05	10610.20	89.10
CL CTL Panel	13		9455.86	10611.89	89.10
Hose Bibb	14		9474.12	10619.07	88.64

		ASSET TABLE -			
Asset Type	ID	UTILITIES'	UTILITIES'	Asset Coordina	68
,	Number	Asset Number	X	Y	Elevation
Odor Control Pad Corner	1		545939.18	1479032.72	90.23
Odor Control Pad Corner	2		545935.52	1479005.04	90.37
Odor Control Pad Corner	3		545925.18	1479006.58	90.39
Odor Control Pad Corner	4		545928.87	1479034.28	90.24
Control Pad Corner	5		575935.69	1479004.98	89.84
Control Pad Corner	6		545935.11	1479000.62	89.82
Control Pad Corner	7		545929.28	1479001.47	89.84
Control Pad Corner	8		545929.79	1479005.84	89.86
20" Steel Pipe Top	9		545927.67	1479004.12	89.87
20" Steel Pipe Bend 90' Top	10		545977.62	1478998.37	87.25
20" Steel Pipe Bend 22" Top	11		545979.47	1479002.76	87.18
20" Steel Pipe Top	12		545977.27	1479007.06	87.30
CL CTL Panel	13		545933.73	1479001.79	89.87

	COORDINATE	ASSET TABLE PS	5 No. 3849		
		I			
Asset Type	ID	UTILITIES'	UTILMES'	Asset Coordinat	es
	Number	Asset Number	X	Y	Elevation
Odor Control Pad Corner	1		528204.74	1468834.81	91.31
Odor Control Pad Corner	2		528204.58	1468824.26	91.29
Odor Control Pad Corner	3		528170.87	1468824.27	91.21
Odor Control Pad Corner	4		528170.76	1468834.83	91.22
Control Pad Corner	5		528208.36	1468834.66	91.27
Control Pad Corner	6		528208.41	1468828.05	91.05
Control Pad Corner	7		528204.73	1468828.07	91.28
Concete Pad 1x1	8		528193.13	1468834.90	90.81
Concete Pad 1x1	9		528196.86	1468835.84	90.82
Hose Bibb	10		528201.20	1468835.05	90.41
Water Main	11		528197.73	1468824.08	94.76
Water Main	12		528207.69	1468857.96	91.58
Water Main	13		528232.49	1468857.97	91.51
Water Main	14		528232.67	1468827.17	88.98
Concrete Block Wall	15		528249.24	1468822.24	90.95
Concrete Block Wall	16		528249.38	1468806.26	90.58
24" PVC Top	17		528207.94	1468826.26	88.26
Concete Pad 1x1	18		528207.23	1468850.52	90.86
CL CTL Panel	19		528205.58	1468831.70	91.31
Ground Test Well	20		528169.54	1468823.76	90.51
Concrete Slab	21		528188.46	1468821.19	90.84
Concrete Slab	22		528188.60	1468809.36	90.85
Concrete Slab	23		528186.55	1468809.35	90.79
Concrete Slab	24		528186.45	1468821.18	90.81
Site Benchmark	25		528305.85	1468812.68	88.05

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COORDINATE ASSET TABLES

	COUNDINALE	ASSET TABLE - F	-3 NU. 3012		
Asset Type	ID	UTILITIES'	UTILITIES'	Asset Coordinate	18
	Number	Asset Number	X	Y	Elevation
Odor Control Pad Corner	1		495499.94	1475401.22	122.26
Odor Control Pad Corner	2		495500.42	1475390.82	122.24
Odor Control Pad Corner	3		495472.48	1475390.54	122.49
Odor Control Pad Corner	4		495472.03	1475401.00	122.51
Control Pad Corner	5		495478.18	1475401.20	122.45
Control Pad Corner	6		495478.14	1475406.51	122.39
Control Pad Corner	7		495473.11	1475406.52	122.51
Control Pad Corner	8		495470.78	1475402.68	122.50
18" PVC Top	9		495468.16	1475401.38	121.27
Test Well	10		495471.12	1475389.78	122.25
CL CTL Panel	11		495475.36	1475402.30	122.50
Hose Bibb	12		495480.08	1475401.77	121.98
Site Benchmark	13		495581.38	1475395.09	121.96

COORDINATE ASSET TABLE - PS No. 3848					
Asset Type	ID	UTILITIES'	UTILITIES'	Asset Coordina	6 8
	Number		X	Y	Elevation
Odor Control Pad Corner	1		545260.55	1469517.97	83.24
Odor Control Pad Corner	2		545257.88	1469507.78	83.18
Odor Control Pad Corner	3		545225.04	1469516.66	83.34
Odor Control Pad Corner	4		545227.69	1469526.73	83.35
Concrete Pad	5		545228.46	1469530.24	82.70
Concrete Pad	6		545224.68	1469531.31	82.65
Concrete Pad	7		545221.22	1469519.84	82.76
Concrete Pad	8		545215.54	1469521.28	82.86
Concrete Pad	9		545215.18	1469520.10	82.70
Concrete Pad	10		545220.85	1469518.53	82.77
Concrete Pad	11		545219.10	1469511.91	82.84
Concrete Pad	12		545224.90	1469510.47	82.95
Concrete Pad	13		545226.36	1469516.16	82.94
24" Pipe Top	14		545224.43	1469525.21	82.75
24" 90" Bend Top	15		545229.01	1469513.18	79.86
CL CTL Panel	16		545224.28	1469519.56	82.75
Site Benchmark	17		545124.09	1469455.76	83.67

****	COORDINALE	ASSET TABLE -	rs no. 3499	73			
Asset Type	ID	UTILITIES' Asset	UTILITIES'	Asset Coordina	63		
	Number	Number	X	Y	Elevatio		
Odor Control Pad Corner	1		523619.59	1472756.83	91.03		
Odor Control Pad Corner	2		523626.83	1472749.29	91.07		
Odor Control Pad Corner	3		523610.29	1472733.61	90.95		
Odor Control Pad Corner	4		523603.04	1472741.05	90.92		
Odor Control Pad Corner	5		523629.65	1472806.45	90.39		
Odor Control Pad Corner	6		523636.84	1472738.84	91.05		
Odor Control Pad Corner	7		523620.39	1472722.94	90. 94		
Odor Control Pad Corner	8		523613.10	1472730.52	90.97		
Hose Bibb	9		523620.78	1472743.19	90.18		
Ground Test Well	10		523618.79	1472720.29	90.64		
16" PVC Pipe Top	11		523626.81	1472752.63	90.46		
16" PVC Pipe Top	12		523636.43	1472742.50	90.32		
15" PVC Pipe Top	13		523634.99	1472744.84	88.32		
16/24" PVC REDUCER TEE	14		523639.50	1472748.91	88.50		
24" PVC 22" Bend Top	15		523676.26	1472774.50	87.34		
24" PVC 22" Bend Top	16		523680.62	1472779.95	87.68		
24" PVC 45' Bend Top	17		523682.83	1472785.68	87.90		
24" PVC 45' Bend Top	18		523683.10	1472789.67	87.37		
24" PVC Top	19		523674.19	1472806.45	87.21		

	No. DATE REVISION
	TETRA TECH TETRA TECH CONSULTING ENGINEERS - PLANNERS CONSULTING ENGINEERS - PLANNERS 201 EAST PINE STREET, SUITE 1000. ORLANDO, FL. 32801 PHONE: (407) 839-3955 FAX: (407) 839-3790
	COORDINATE ASSET TABLES MASTER PUMP STATIONS ODOR CONTROL PROJECT SOUTH SERVICE AREA FOR UTILITIES DEPARTMENT ORANGE COUNTY, FLORIDA
	Date: 08/23/07 Drawn: HL Checked: CP Manager: CP Dwg Name: 5672.18-DETAILS.dwg
	Tetra Tech, Inc. 201 E. Pine St., Suite 1000 Orlando, FL 32801 Engineering Business # 2429 Charles Stephen Parker, P.E. Florida Registration # 58133
RECORD DRAWINGS	PROJECT No. 5672.18 SHEET No. C-12

SYMBOLDESCRIPTIONDESCRIPTIONDESCRIPTION				ONE LINE DIAGRAMS,	(N/LAYOUT	ELECTRICAL PLAN	
			01111202	CRIPTION	DESCRIP	SYMBO		 N	DESCRIPTION	SYMBOL	DESCRIPTION	YMBOL
	TION TION TOH, NEMA 4X UNLESS POLES AS REQUIRED 2 ENCLOSURE UNLESS EMA 4X 316 STAINLESS U DIAGRAMS FOR TYPE SIZE INDICATED, ERWISE, NEMA 12 6 STAINLESS STEEL E INDICATED FUSE RATING) ERWISE, NEMA 12 6 STAINLESS STEEL RATING INDICATED, NDICATED OTHERWISE. MBER OF POLES. STEEL INDICATED, NEMA 12 OTHERWISE. SEE 4X 316 STAINLESS STEEL BREAKER AS INDICATED). INDICATED OTHERWISE. MBER OF POLES. STEEL ITH COIL INDICATED WITH COIL INDICATED WITH COIL INDICATED WITH COIL INDICATED NUMBER L NUMBER TIAL NUMBER TIAL NUMBER CLOSED OPEN AFTER CLOSE D OPEN D CLOSED AFTER OPEN CONTACT WITH CHART IDENTIFIES X - CLOSED CONTACT N IPMENT SPECIFIED, UNDER OTHER SECTIONS. CONNECTION IN THIS	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	SYMBOL DESCRIPTION SM MANUAL MOTOR STARTER SWITCH OTHERWISE NOTED. NUMBER OF P PUSH-BUTTON STATION, NEMA 12 STEEL ENCLOSURE. SEE CONTROL PUSH BUTTON REQUIRED 4x STEEL ENCLOSURE. SEE CONTROL PUSH BUTTON REQUIRED 4x STEEL ENCLOSURE. SEE CONTROL PUSH BUTTON REQUIRED OTHERWISE AX 60 3 POLE UNLESS INDICATED OTHERWISE (60 = SWITCH RATING: 40 = FU ENCLOSURE, 4X = NEMA 4X 316 LIGHTING CONTACTOR, CURRENT RA ENCLOSURE, 4X = NEMA 4X 316 LIGHTING CONTACTOR, CURRENT RA ENCLOSURE, UNLESS INDICATED OTHER 4X 21 MAGNETIC STARTER, NEMA SIZE IN AX 22 MAGNETIC STARTER, NEMA SIZE IN MAGNETIC STARTER, NEMA SIZE IN AX 24 CONTROL DIAGRAM FOR NUME 4X = NEMA 4X 316 STAINLESS SINDICATED O' 4X 212 MAGNETIC STARTER, NEMA SIZE IN MAGNETIC STARTER MAGNETIC STARTER, NEMA SIZE IN MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER MAGNETIC STARTER M	CRIPTION L CAGE INDUCTION UNLESS D - HORSEPOWER INDICATED HEATER R WITH NEMA SIZE INDICATED PROTECTOR, MAGNETIC, 3 POLE D OTHERWISE. R, THERMAL MAGNETIC TRIP SHOWN INDICATED OTHERWISE. SWITCH AND FUSE CURRENT RATING LE UNLESS INDICATED OTHERWISE. SWITCH AND FUSE CURRENT RATING ENT RATING INDICATED, 3 POLE D OTHERWISE. T BREAKER, LOW VOLTAGE TING, 400=TRIP SETTING T BREAKER, MEDIUM VOLTAGE TING, 400=TRIP SETTING SWITCH, LOW OR MEDIUM VOLTAGE TING, 400=FUSE RATING FORMER, NUMBER OF TED VOLTAGES, PHASE AND D AS APPLICABLE STER SURGE CAPACITOR ANGE SHOWN IF REQUIRED YS PM - PHASE MONITOR TS P - POWER METER AGE SURGE SUPPRESSION FORMER RELAY WITH C.T. SWITCH, MOMENTARY CONTACT, N SWITCH, MOMENTARY CONTACT, SWITCH, MAINTAINED CONTACTS WIT TERLOCK	DESCRIP MOTOR, SQUIRREL CA OTHERWISE NOTED - OVERLOAD RELAY HEA MAGNETIC STARTER W MOTOR CIRCUIT PROT UNLESS INDICATED O CIRCUIT BREAKER, TH 3 POLE UNLESS INDI UNLESS INDICATED, 3 POLE U SWITCH - CURRENT UNLESS INDICATED O DRAWOUT CIRCUIT BR 600= FRAME RATING DRAWOUT CIRCUIT BR 600= FRAME RATING DRAWOUT CIRCUIT BR 600= FRAME RATING DRAWOUT FUSED SWI 600= FRAME RATING DRAWOUT FUSED SWI FUSE TRANSFORMER, VOLT FUSE TRANSIENT VOLTAGE GROUND CONTROL TRANSFORM ORDUND FAULT REL PUSH-BUTTON SWIT NORMALLY CLOSED PUSH BUTTON SWIT MECHANICAL INTERL	TON ER METER ANEL HOLE DLIED ER METER AC) MER CONDUIT T TEEL UNIT ED (5) (1) (400) (400) (400) (600) (600) (400) (600) (70)	ATIONS DESCRIPTION MAIN CIRCUIT BREAKER MOTOR CONTROL CENT MAIN DISTRIBUTION PAN MERCURY VAPOR MOTOR HEATER, MANHO MAIN LUGS ONLY MINI POWER ZONE MOTOR STARTER MANUFACTURER SUPPL CABLE MOUNT MOTOR TEMPERATURE DETECTOR MANUAL TRANSFER SWITCH NEUTRAL NORMALLY CLOSED NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION NORMALLY OPEN NAMEPLATE NOT TO SCALE OVERLOAD RELAY POLE PULL BOX, PUSHBUTTO STATION PHOTOCELL PHASE PHASE MONITOR, POWEF PANEL POWER PANEL (480VAO PAIR PRESSURE SWITCH POTENTIAL TRANSFORM POLYVINYL CHLORIDE O RECEPTACLE ROOT MEAN SQUARE RIGID STEEL CONDUIT REMOTE TELEMETRY UI SURGE CAPACITOR SUPPLY FAN SPACE HEATER SOLID NEUTRAL SPEED S SOLID STATE REDUCED VOLTAGE STARTER STARTER SOLENOID VALVE SWITCH SWITCHBOARD SWITCHBOARD SWITCHBOARD SWITCHBOARD SWITCHBOARD SWITCHBOARD	CTOR OR NEL PANEL SMITTER, R=RE VIATIONS ABBREVIA MCB MCC MDP MERC MH MLO MPZ MS MSC MT MTD MTS N NC NEMA NO NP NTS OL P PB PC PH PM PNL PP PR PS PT VIATIONS SF SF SF SF SF SF SF SF SF S	FIRE ALARM SMOKE DETECTOR FIRE ALARM HEAT DETECTOR FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR P BEAM DETECTOR, T=TRANSM DUCT SMOKE DETECTOR REMOTE TEST UNIT ABBREVI NS DESCRIPTION AMMETER, AMPERE ALTERNATING CURRENT AMPERE FRAME ADJUSTABLE FREQUENCY DRIVE ABOVE FINISHED FLOOR ABOVE FINISHED FLOOR ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AMMETER SWITCH, AMPERE SENSOR AIR SUPPLY UNIT AUTOMATIC TRANSFER SWITCH BYPASS CONTACTOR BREAKER CONDUIT, CONTACTOR CIRCUIT BREAKER CIRCUIT COMBINATION MOTOR STARTER CONTROL POWER TRANSFORMER DIRECT CURRENT DIVISION EXHAUST FAN ELECTRICAL GROUND ELAPSED TIME METER EXISTING FEEDER FLOW INDICATOR FLOOR STARTER FUDY FLOOR STARTER FUOW INDICATOR FLOOR STARTER FULL VOLTAGE NON-REVERSING GREEN, GROUND CALVANIZED GENERATOR GROUND FAULT INTERRUPTER GROUND FAULT RELAY GROUND FAULT PANEL (PANELBOARD)	SYMBOL SP FACP FACP FAAP BD R SD D RTU ABD R SD D RTU ABD R SD D R C C C C C C C C C C C C C	DESCRIPTION TELEPHONE TERMINAL CABINET TERMINAL JUNCTION BOX ELECTRICAL EQUIPMENT CEILING MOUNTED DOWNLIGHT LUMINAIRE – SEE SCHEDULE FOR TYPE FLOURESCENT LUMINAIRE, SURFACE OR LAY IN TYPE SEE SCHEDULE FOR TYPE LUMINAIRE AND POLE – SEE SCHEDULE FOR TYPE WALL MOUNTED LUMINAIRE – SEE SCHEDULE FOR TYPE FLOOD LIGHTS – AIM IN THE DIRECTION SHOWN SEE SCHEDULE FOR TYPE EXIT LIGHTS – SOLID SECTION IS DIRECTION OF FACE SEE SCHEDULE FOR TYPE EMERGENCY LIGHT WITH BATTERY PACK SEE SCHEDULE FOR TYPE LIGHTING FIXTURE POWER AND SWITCHING LEGEND X=PAYLTURE TYPE Y=PANEL-OIRCUIT BRKR Z=SWITCH IF NO Z INDICATED, CONNECT DIRECTLY TO CIRCUIT BREAKER. CONDUIT/CONDUCTOR – REFER TO CIRCUIT SCHEDULE HOME RUN – PANEL AND CIRCUIT NUMBER SHOWN EXPOSED CONDUIT AND CONDUCTORS* UNDERGROUND CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12, 1#12G IN 3/4*C. CONDUIT, STUBBED AND CAPPED AS SHOWN GROUND WIRE, 4/O UNLESS OTHERWISE NOTED 6 FOOT GROUND WIRE PIGTALL, 4/O UNLESS OTHERWISE NOTED WALL SWITCH: 2. DOUBLE POLE P. PILOT LIGHT 3. THREE WAY K. KEY OPERATED 4. FOUR WAY D. DIMMER WP-WEATHERPROOF C-CORROINN RESISTANT GFI-GROUND VIRE PICTALL, 4/O UNLESS OTHERWISE NOTED WALL SWITCH: 2. DOUBLE POLE P. PILOT LIGHT 3. THREE WAY K. KEY OPERATED 4. FOUR WAY D. DIMMER WP-WEATHERPROOF CRE. CORROINN RESISTANT GFI-GROUND FAULT INTERRUPTER CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS OTHERWISE NOTED CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS OTHERWISE NOTED CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE CONVENIENCE RECEPTAC	$= \underline{\text{TTC}}$ $= \underline{\text{TTC}}$ $= \underline{\text{TC}}$ \downarrow
J, J-BOX JUNCTION BOX TDR TIME DELAY RELAY K KEY INTERLOCK TJB TERMINAL JUNCTION BOX KK KIRK KEY INTERLOCK TS THERMAL SWITCH LA LIGHTING CONTACTOR TS THERMAL SWITCH LC LIGHTING PANEL (PANELBOARD) TVS TRANSIENT VOLTAGE LP LIGHTING PANEL (PANELBOARD) TWD TWD	TITIES, SIZES, AND TYPES.	E THE CONDUCTOR QUANTITIES, SIZES, AND TYPE MOLITION TO BE REMOVED OR DELETED	ARE THE CONDUCTOR QUANTIT	IT LETTER INDICATES COLOR G - GREEN R - RED	INDICATING LIGHT A - AMBER B - BLUE	BOX PAIR E	TERMINAL JUNCTION E THERMAL SWITCH TWISTED SHIELDED PA TRANSIENT VOLTAGE	TVSS	KEY INTERLOCK KIRK KEY INTERLOCK LIGHTNING ARRESTER LIGHTING CONTACTOR	J, J-BOX K KK LA LC	INDICATED OTHERWISE. 4X = NEMA 4X SS FIRE ALARM PULL STATION FIRE ALARM HORN/STROBE LIGHT	F F
LP LIGHTING PANEL (PANELBOARD) TYP TYP TYPICAL LR LOCAL/REMOTE, LATCHING RELAY UVR UNDER VOLTAGE RELAY UVR UNDER VOLTAGE RELAY LS LIMIT SWITCH V VOLTMETER, VOLT PUSH TO TEST AND CONNECT INDICATING LIGHT NEW EXISTING LT FLEX LIQUID TIGHT FLEX CONDUIT VFD VARIABLE FREQUENCY DRIVE A A MBER G - GREEN LTG LIGHTING VS VOLTMETER SWITCH A A - AMBER G - GREEN M MAGNETIC CONTACTOR COIL W WATT W WATT B - BLUE R - RED OR MOTOR WHD WATTHOUR DEMAND METER C - CLEAR W - WHITE APPEAR ON THIS SHEET AND NOT BE	FUTURE	D LEGEND SHEET. ABBREVIATIONS MAY HEET AND NOT BE	NOTE: THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY	AND CONNECT INDICATING LIGHT GRAMS ONLY G - GREEN R - RED	PUSH TO TEST AND SCHEMATIC DIAGRAM A - AMBER B - BLUE	CY DRIVE	TYPICAL UNDER VOLTAGE REL VOLTMETER, VOLT VARIABLE FREQUENCY VOLTMETER SWITCH WATT WATTHOUR DEMAND M WEATHERPROOF	LAY IYP UVR V VFD VS W	LOCAL/REMOTE, LATCHING RELA LIMIT SWITCH LIQUID TIGHT FLEX CONDUIT LIGHTING MAGNETIC CONTACTOR COIL		FIRE ALARM STROBE LIGHT ELEVATOR WARNING LIGHT	EH WH

GENERAL NOTES AND SPECIFICATIONS :

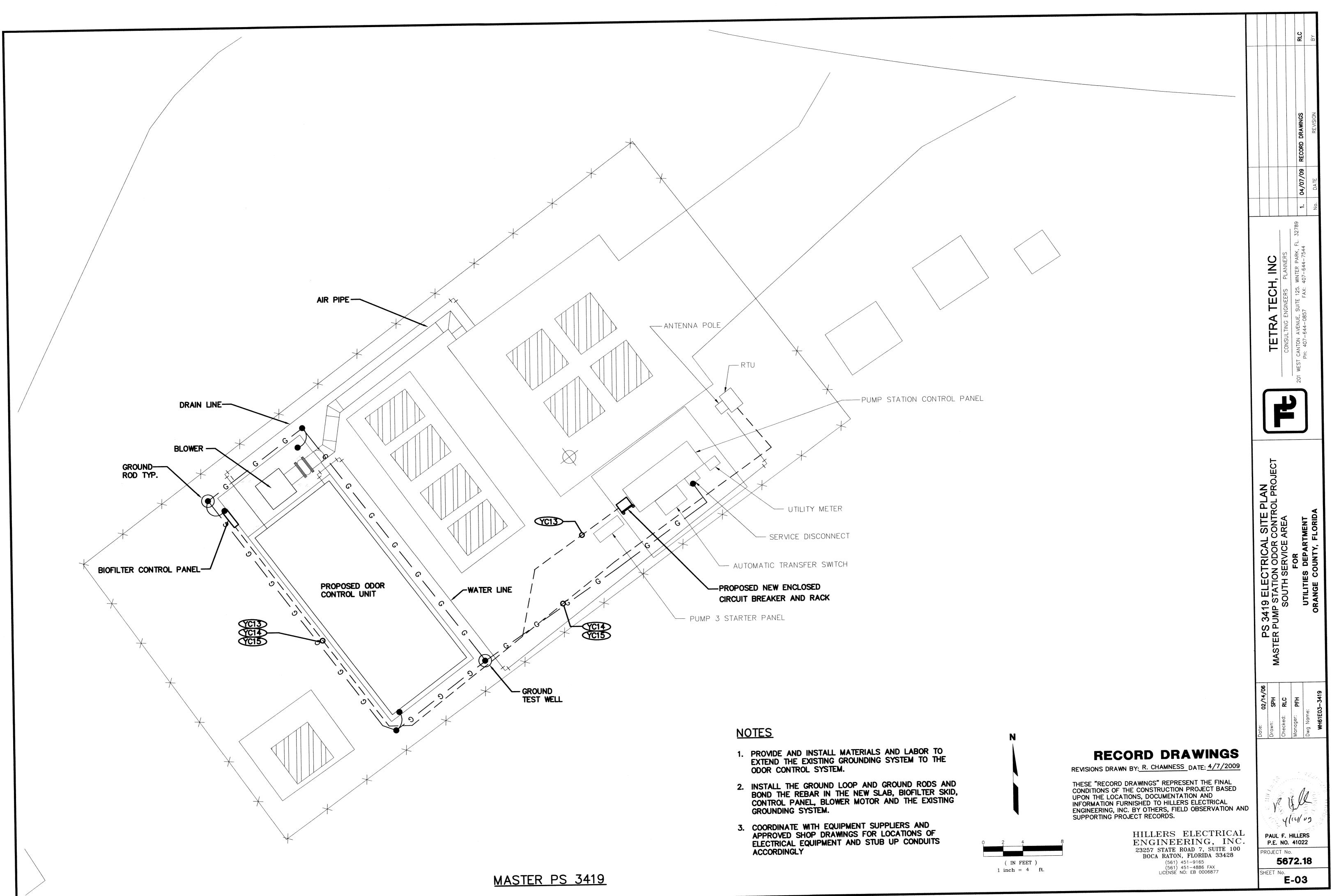
- 1. THE SCOPE OF WORK SHALL BE AS PER SPECIFICATION SECTION AS SHOWN ON PLANS.
- 2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- 3. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, FLORIDA BUILDING CODE AND ORANGE COUNTY STANDARDS.
- 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS.
- 5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING 6. CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
- 7. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 250. THE GROUNDING SYSTEM TEST SHALL NOT EXCEED A 48 HOUR DRY RESISTANCE OF 5 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED. PROVIDE A FINAL COPY OF ALL GROUNDING TEST RESULTS TO ORANGE COUNTY.
- 8. AN EQUIPMENT GROUND WIRE SIZED PER THE NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON PLANS.
- 9. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND UNUSED AND U.L. LISTED.
- 10. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL ELECTRICAL & CONTROL.
- 11. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- 12. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
- 13. ALL LOCATIONS OF EQUIPMENT, PANELS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE AND INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS.
- 14. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS.
- 15. USE RIGID ALUMINUM CONDUITS FOR ALL EXPOSED CONDUITS. PROVIDE PVC CONDUIT FOR ALL UNDERGROUND CONDUITS. ALL CONDUITS SHALL BE MINIMUM 24" BELOW GRADE AND BE INSTALLED WITH YELLOW "CAUTION" TAPE INSTALLED 6 INCHES BELOW GRADE.
- 16. FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.
- 17. TYPEWRITTEN PANEL SCHEDULES SHALL BE INSTALLED IN PANELBOARD, AND TERMINAL BLOCK SCHEDULES IN EACH CONTROL CABINET.
- 18. ALL SPARE CONDUITS SHALL BE SEALED WITH A CAP AND A PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS.
- 19. ALL CIRCUITS SHALL BE IDENTIFIED IN PULL BOXES, PANELS AND CONTROLLERS.

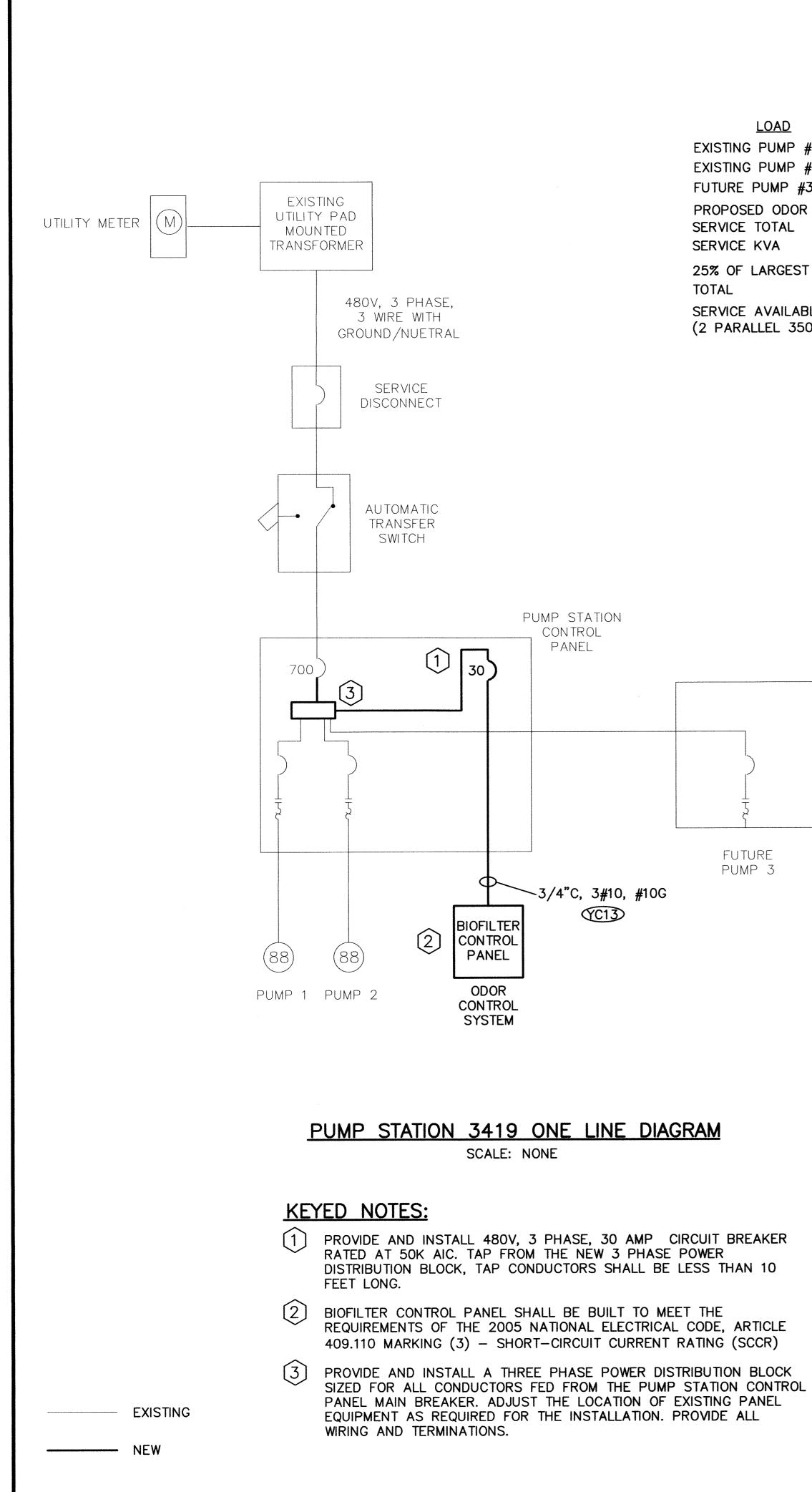
- 20. EXPOSED RUNS OF CONDUITS SHALL BE INSTALLED WITH RUNS PARA STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CONSISTING OF SYMMETRICAL BENDS OR PULL BOXES AS INDICATED SHALL BE AVOIDED WHERE POSSIBLE.
- 21. ALL BUSSES AND CABLES SHALL BE COPPER. NO ALUMINUM ALLOWE
- 22. THE PUMP STATION MUST REMAIN IN OPERATION AT ALL TIMES. THE COORDINATE ALL WORK WITH THE OWNER AND SUPPLY ANY BYPASS EQUIPMENT NECESSARY TO MAINTAIN CONTINUOUS 100% CAPACITY OF
- 23. ALL CONCRETE PENETRATIONS SHALL BE CORE DRILLED AND RESEAL
- 24. DURING SUBMITTAL THE CONTRACTOR SHALL VERIFY ALL SUPPLY BRE SYSTEMS, ETC. AND MODIFY ALL BREAKERS IN THE PANELBOARDS AC ANY ADDITIONAL COST TO THE OWNER.
- 25. NOT ALL CONDUITS SHOWN ON RISER ARE SHOWN ON BUILDING LAYO ALL CONDUITS AND CABLES AS SHOWN ON RISER DIAGRAMS.
- 26. ALL ENCLOSURES, JB, WIREWAY, PULL BOXES ETC. SHALL CONTAIN A RACEWAY BONDS TO THIS BUS VIA GROUNDING BUSHING AND EXTENI BUS TO THE ENCLOSURE.
- 27. CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.
- 28. MINIMUM PARALLEL DISTANCE ALLOWED BETWEEN POWER CONDUIT AN VOLTAGE DISTANCE 480V 2 FT 120V 1 FT

SITE NOTES:

- 1. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE EXISTING FACILITIES SHOWN NOR FOR ANY FACILITY NOT SHOW UTILITY PIPING SHOWN FOR REFERENCE PURPOSES ONLY. THESE DRAWINGS HAVE BEEN CREATED FROM AS-BUILT DRAWINGS PROVIDED BY THE OWNER.
- 2. ALL UNDERGROUND PIPING AND CONDUITS IN THE GENERAL AREA OF PROPOSED WORK SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL HAND DIG ALL UNDERGE CONDUIT INSTALLATIONS AND SHALL REPAIR ALL DAMAGES RESULTING F DIGGING INCLUDING, SOD, GRAVEL, ASPHALT, CONCRETE PADS, PIPING,

		B. Kr
		DRAMINGS REVISION
ALLEL OR PERPENDICULAR TO WALLS, CEILINGS, WITH RIGHT ANGLE TURNS ON THE DRAWINGS. BENDS AND OFFSETS		04/07/09 RECORD D
ED.		
CONTRACTOR SHALL PUMPING OR TEMPORARY PERATION.		FL. 32789
ED WITH NON-SHRINK GROUT.		PLANNERS NTER PARK, 17-644-7544
EAKER SIZES FOR ALL PACKAGED CCORDINGLY WITHOUT		ERS 125. WI
OUTS. CONTRACTOR SHALL SUPPLY		
A GROUNDING BUS. CONNECT ALL D BONDING JUMPER FROM THIS		CONSIC CONSIC
S RECOMMENDATION. CONTRACTOR SHALL		201 WEST
D SIGNAL (4–20mA) CONDUIT SHALL BE:		
		ECT
		IES IL PROJECT
		RAL NOT R CONTROI E AREA TMENT FLORIDA
		ELECTRICAL GENERAL NOT MASTER PUMP STATION ODOR CONTRO SOUTH SERVICE AREA FOR UTILITIES DEPARTMENT ORANGE COUNTY, FLORIDA
		L GENE ON ODOF SERVICE FOR ES DEPAR COUNTY,
		CTRICAL (AP STATION SOUTH SI UTILITIES ORANGE CC
VN.		
THE		MAS
ROUND		90/
ETC.		02/14/06 SPH d: RLC ar: PFH ame: WH61E02
		Date: Drawn: Checked: Manager: Dwg Name: WHG
RECORD DRAWINGS		A A A
EVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009 HESE "RECORD DRAWINGS" REPRESENT THE FINAL ONDITIONS OF THE CONSTRUCTION PROJECT BASED	HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100	PAUL F. HILLERS P.E. NO. 41022 PROJECT No.
PON THE LOCATIONS, DOCUMENTATION AND IFORMATION FURNISHED TO HILLERS ELECTRICAL NGINEERING, INC. BY OTHERS, FIELD OBSERVATION AND UPPORTING PROJECT RECORDS.	BOCA RATON, FLORIDA 33428 (561) 451-9165 (561) 451-4886 FAX LICENSE NO: EB 0006877	5672.18 SHEET No.
		E-02





SERVICE CALCULATION

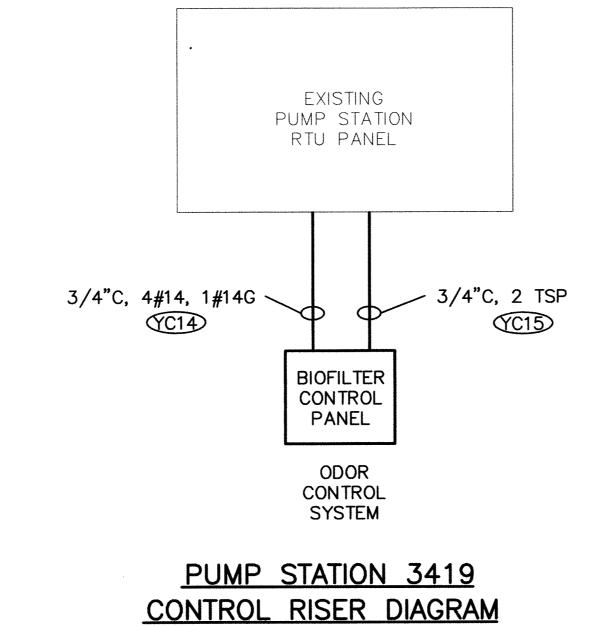
LOAD	CONNECTED LOAD (480V)	
G PUMP #1	113.0 A	
G PUMP #2	113.0 A	
PUMP #3	0.0 A	
ED ODOR CONTROL SYSTEM (5 1,	/2 HP) 9.0 A	
TOTAL	235.0 A	
KVA	195.4 KVA	
LARGEST MOTOR	28.3 A	
	263.3 A	
AVAILABLE	620.0 A	
ALLEL 350 KCM PER PHASE)		

RUNNING LOAD (480V) 113.0 A 113.0 A

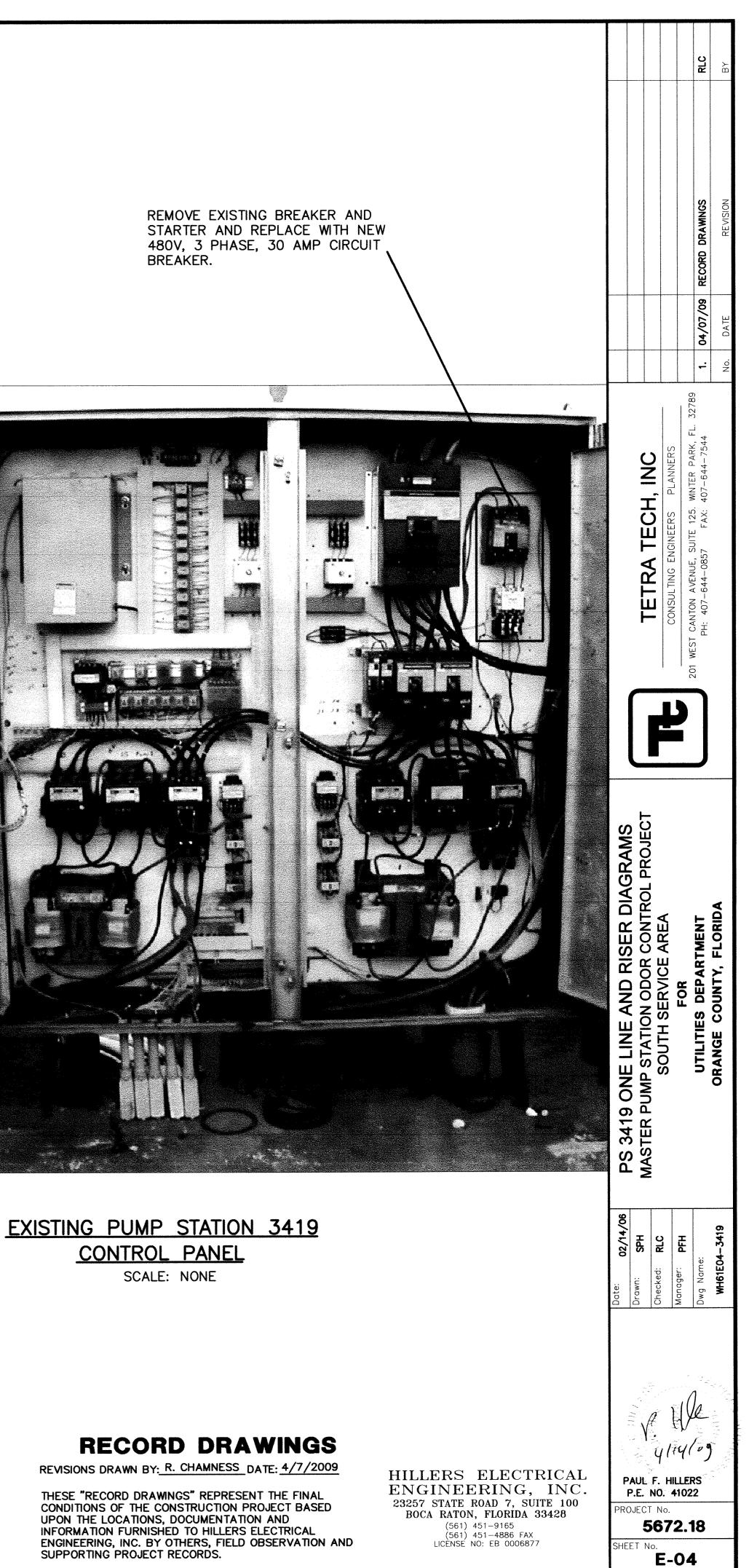
0.0 A 9.0 A 235.0 A 195.4 KVA

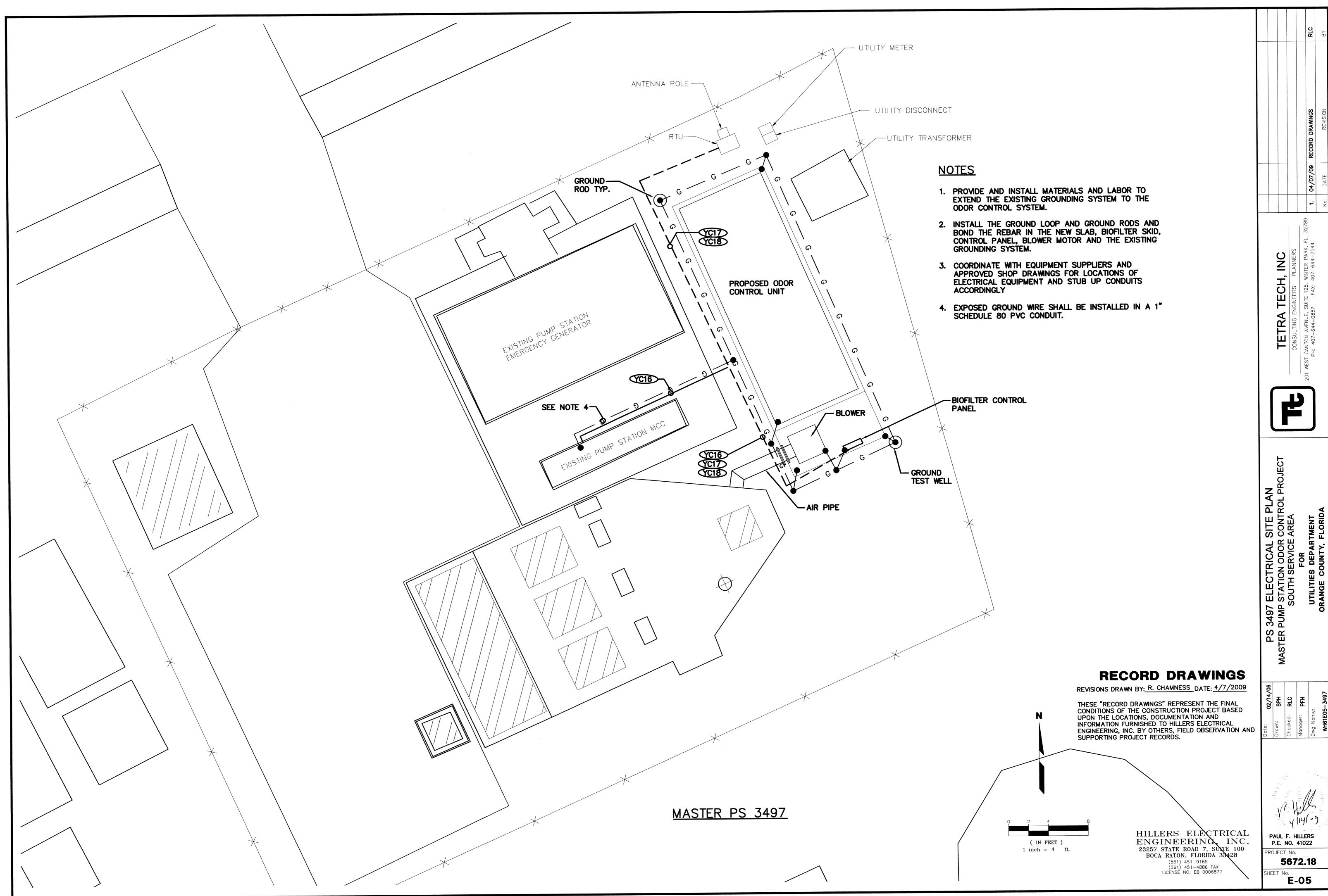
PUMP 3

STARTER PANEL

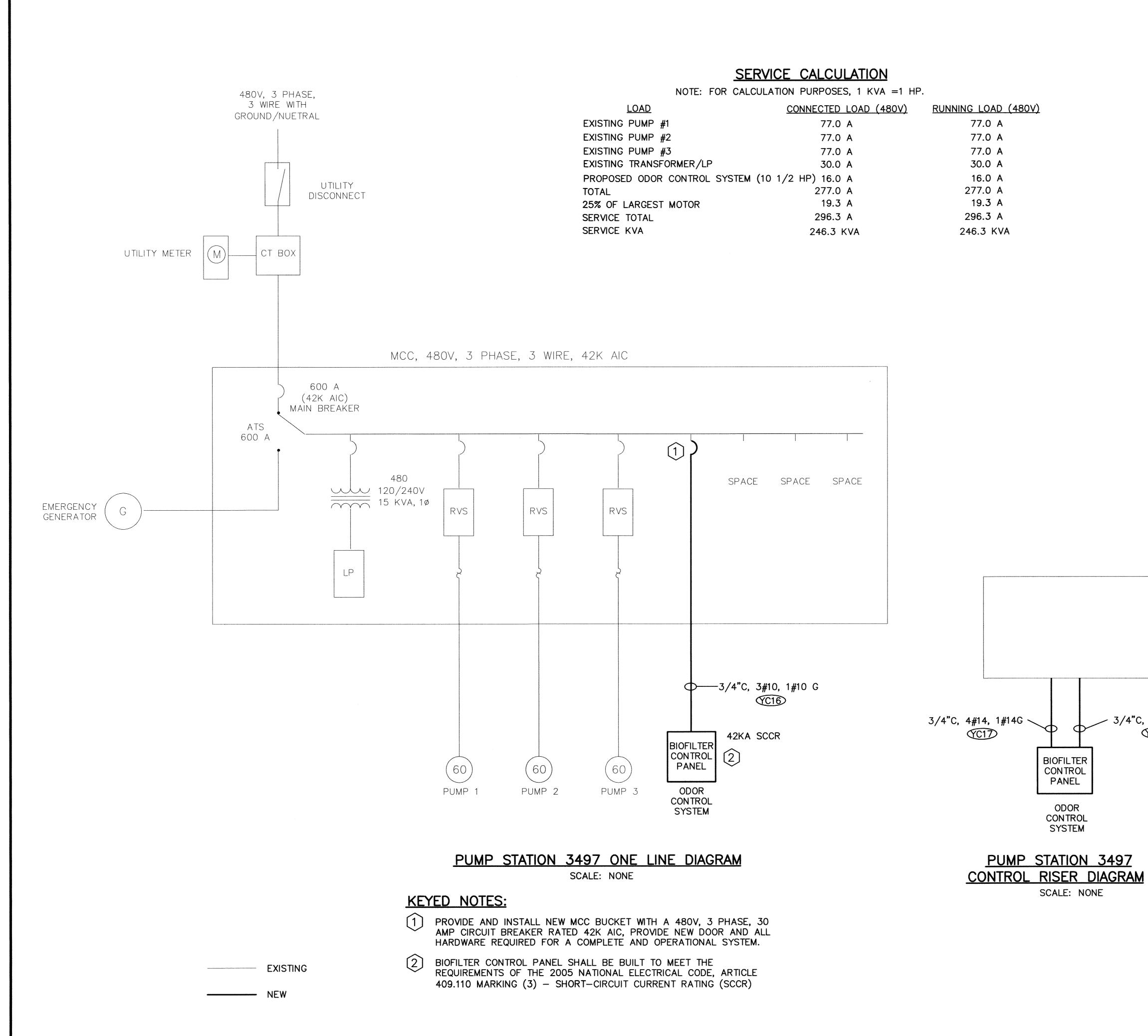


SCALE: NONE

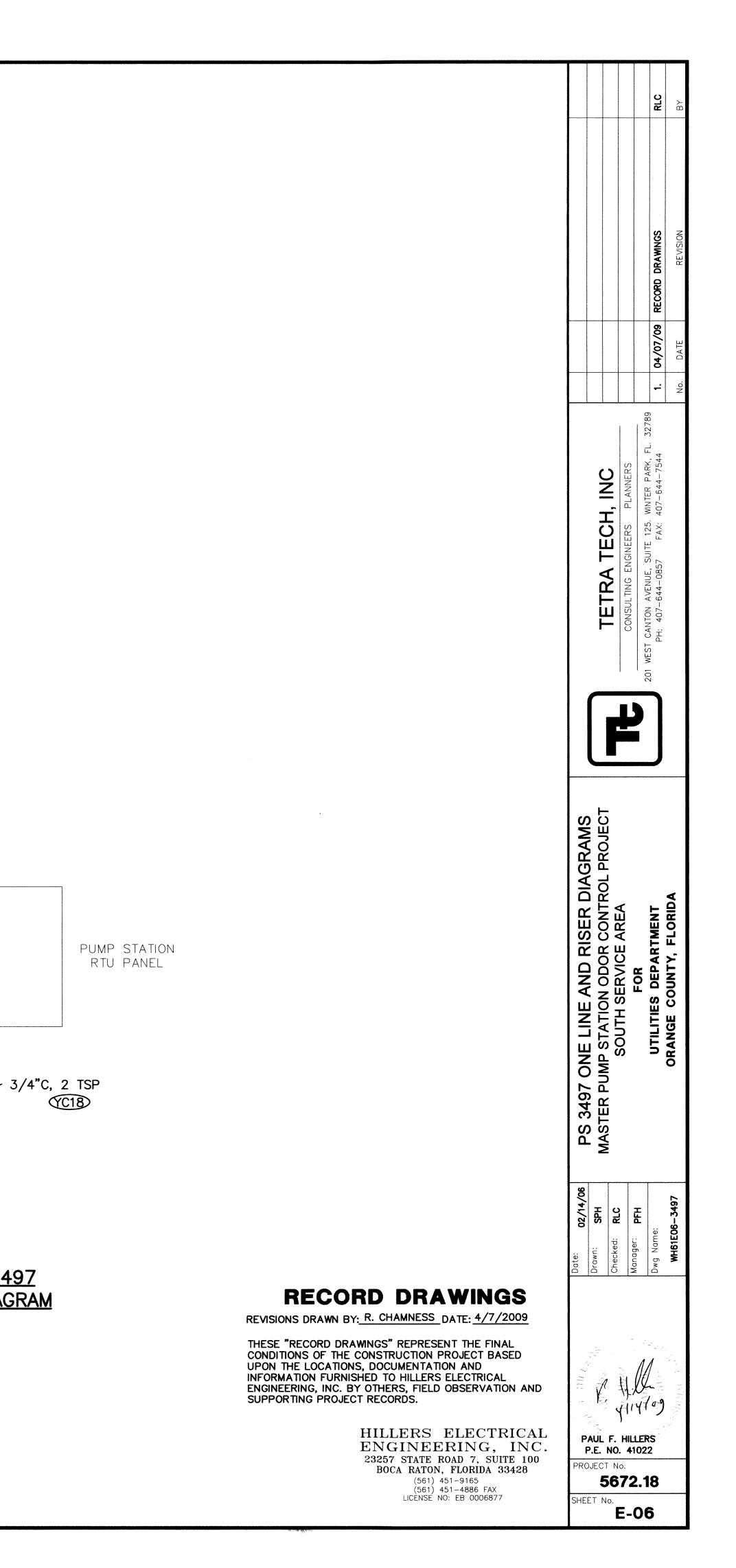


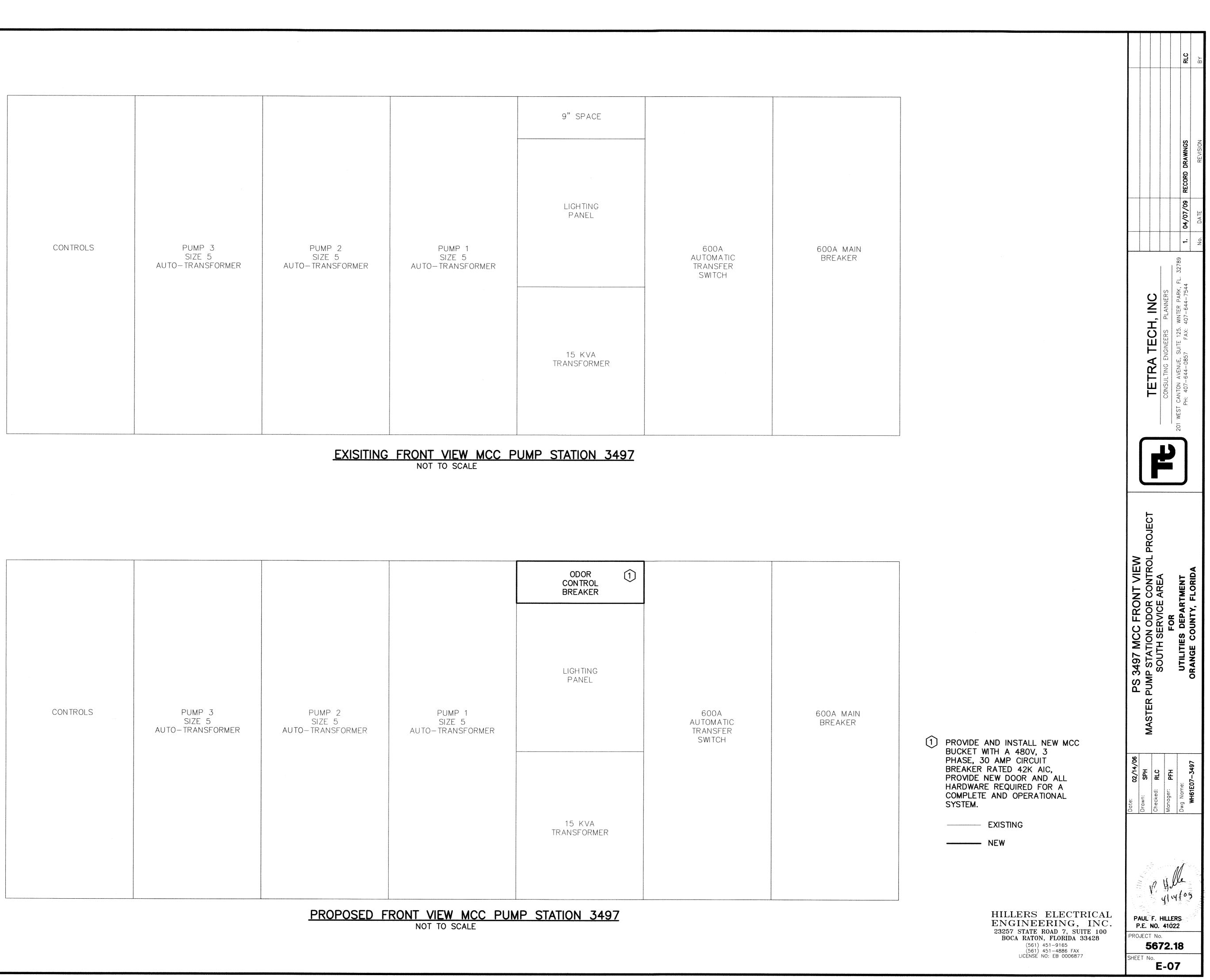


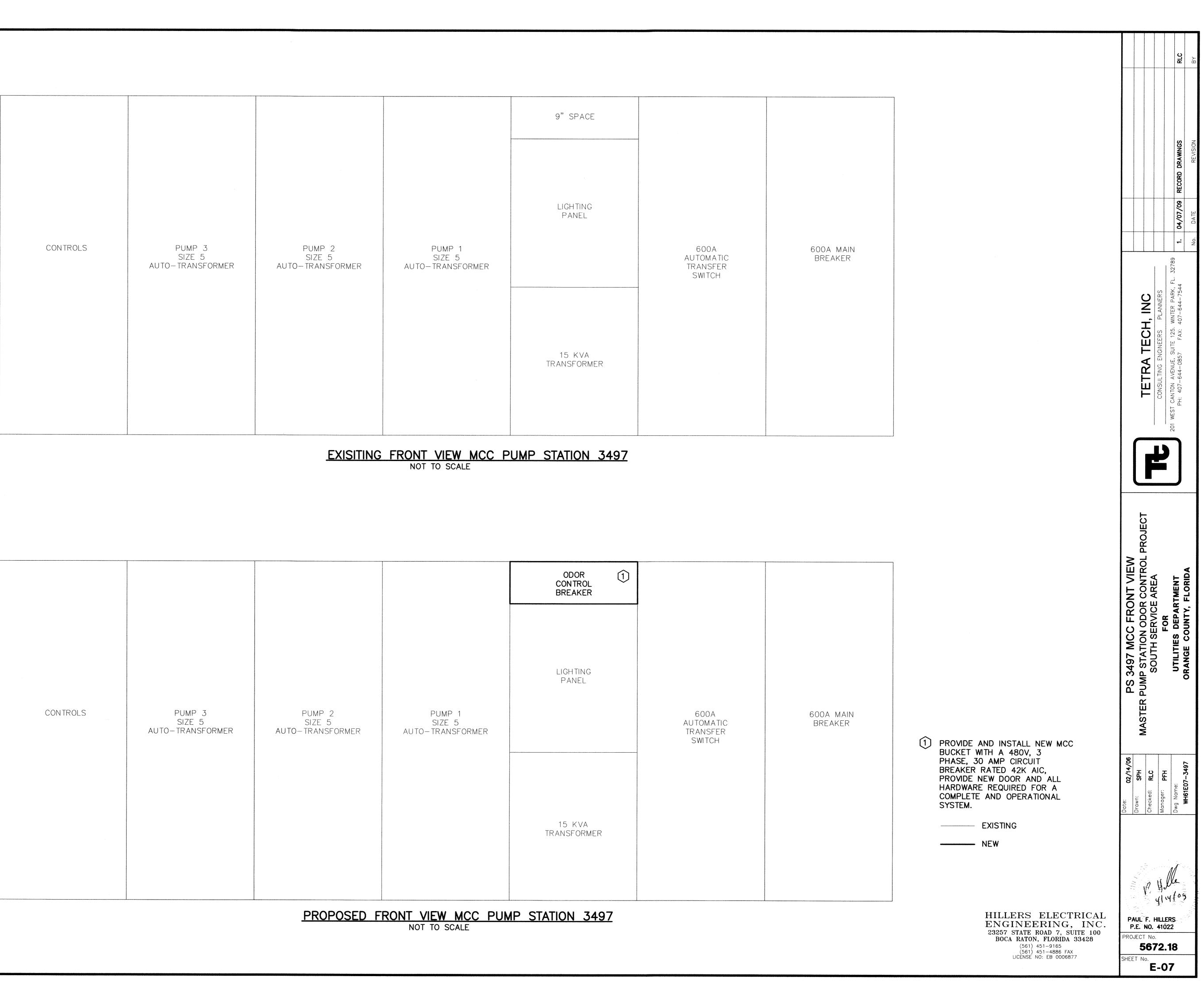




NOTE: FOR CALC	CULATION PURPOSES, 1 KVA = 1 HP.	
LOAD	CONNECTED LOAD (480V)	RUNNING LOAD (480V)
EXISTING PUMP #1	77.0 A	77.0 A
EXISTING PUMP #2	77.0 A	77.0 A
EXISTING PUMP #3	77.0 A	77.0 A
EXISTING TRANSFORMER/LP	30.0 A	30.0 A
PROPOSED ODOR CONTROL SYSTEM	(10 1/2 HP) 16.0 A	16.0 A
TOTAL	277.0 A	277.0 A
25% OF LARGEST MOTOR	19.3 A	19.3 A
SERVICE TOTAL	296.3 A	296.3 A
SERVICE KVA	246.3 KVA	246.3 KVA

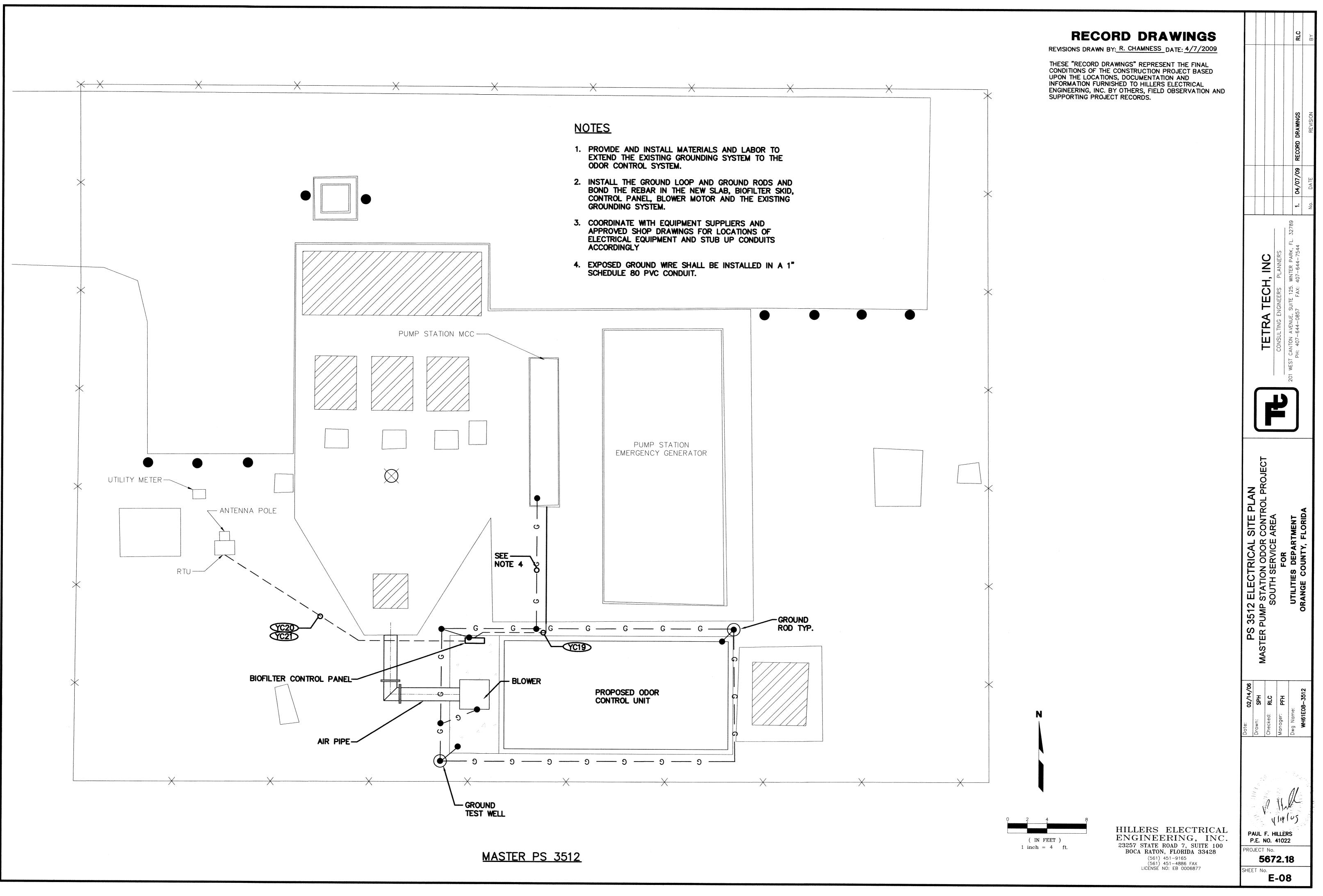


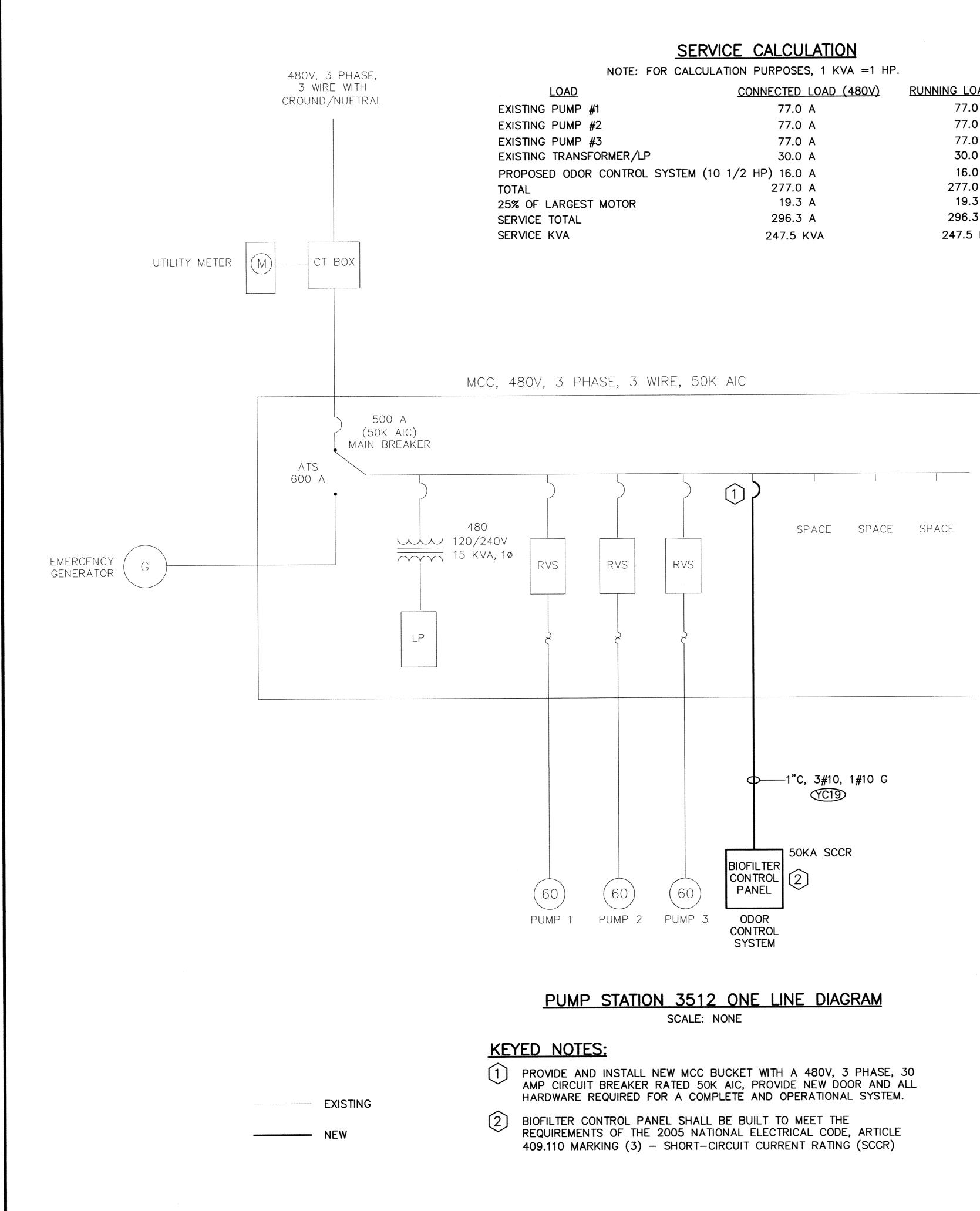




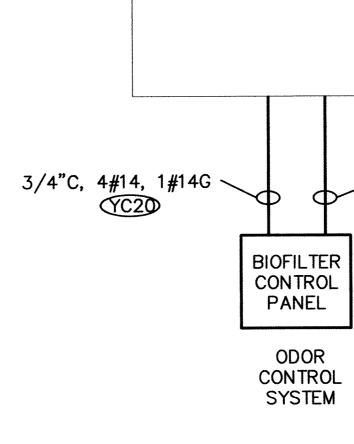
REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009

THESE "RECORD DRAWINGS" REPRESENT THE FINAL CONDITIONS OF THE CONSTRUCTION PROJECT BASED UPON THE LOCATIONS, DOCUMENTATION AND INFORMATION FURNISHED TO HILLERS ELECTRICAL ENGINEERING, INC. BY OTHERS, FIELD OBSERVATION AND SUPPORTING PROJECT RECORDS.





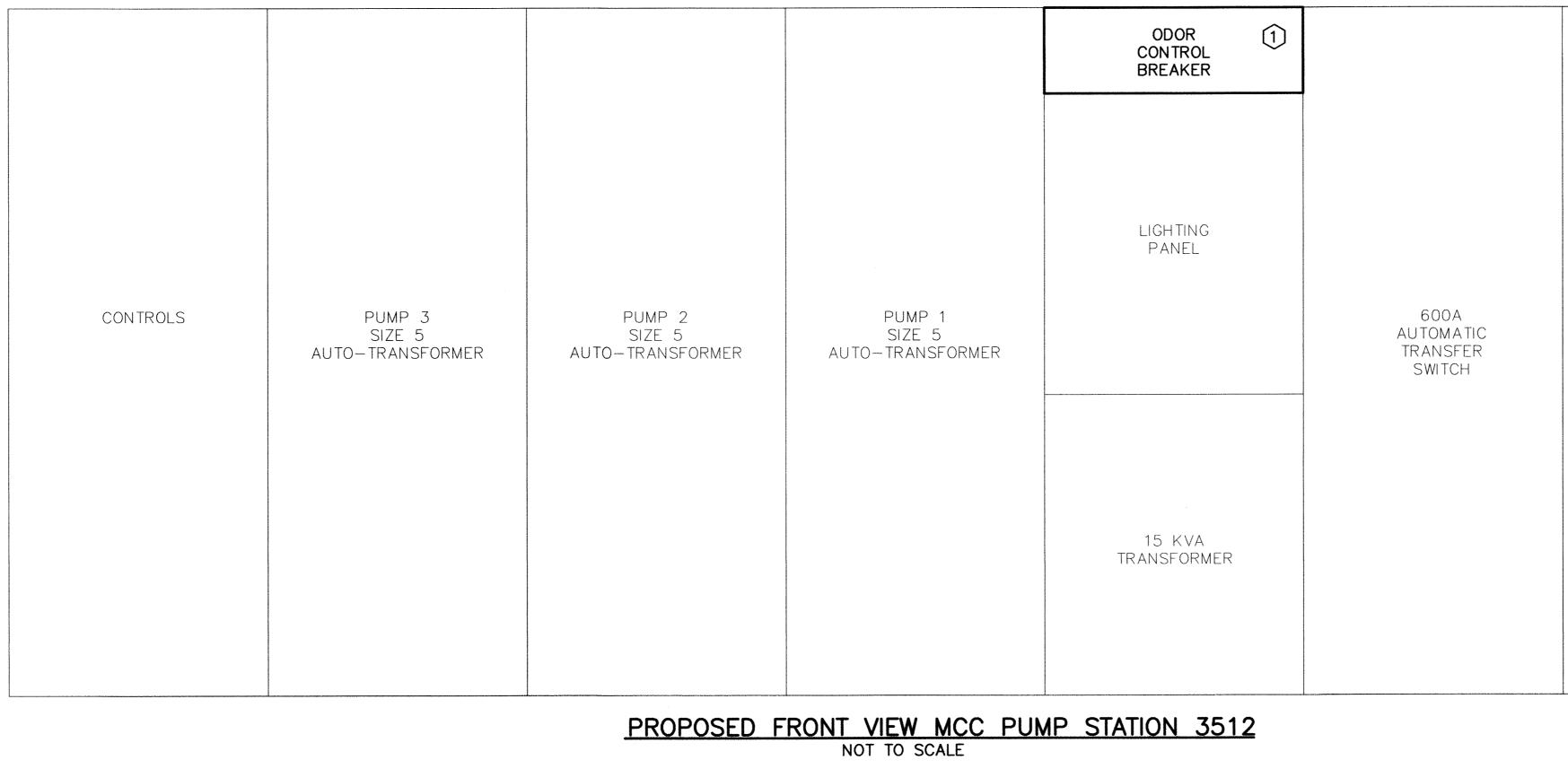
NOTE: FOR CALCUL	ATION PURPOSES, 1 KVA =1 HF	р.
	CONNECTED LOAD (480V)	<u>RUNNING LOAD (480V)</u>
	77.0 A	77.0 A
	77.0 A	77.0 A
	77.0 A	77.0 A
RMER/LP	30.0 A	30.0 A
CONTROL SYSTEM (1	0 1/2 HP) 16.0 A	16.0 A
	277.0 A	277.0 A
IOTOR	19.3 A	19.3 A
	296.3 A	296.3 A
	247.5 KVA	247.5 KVA



PUMP STATION CONTROL RISER D SCALE: NONE

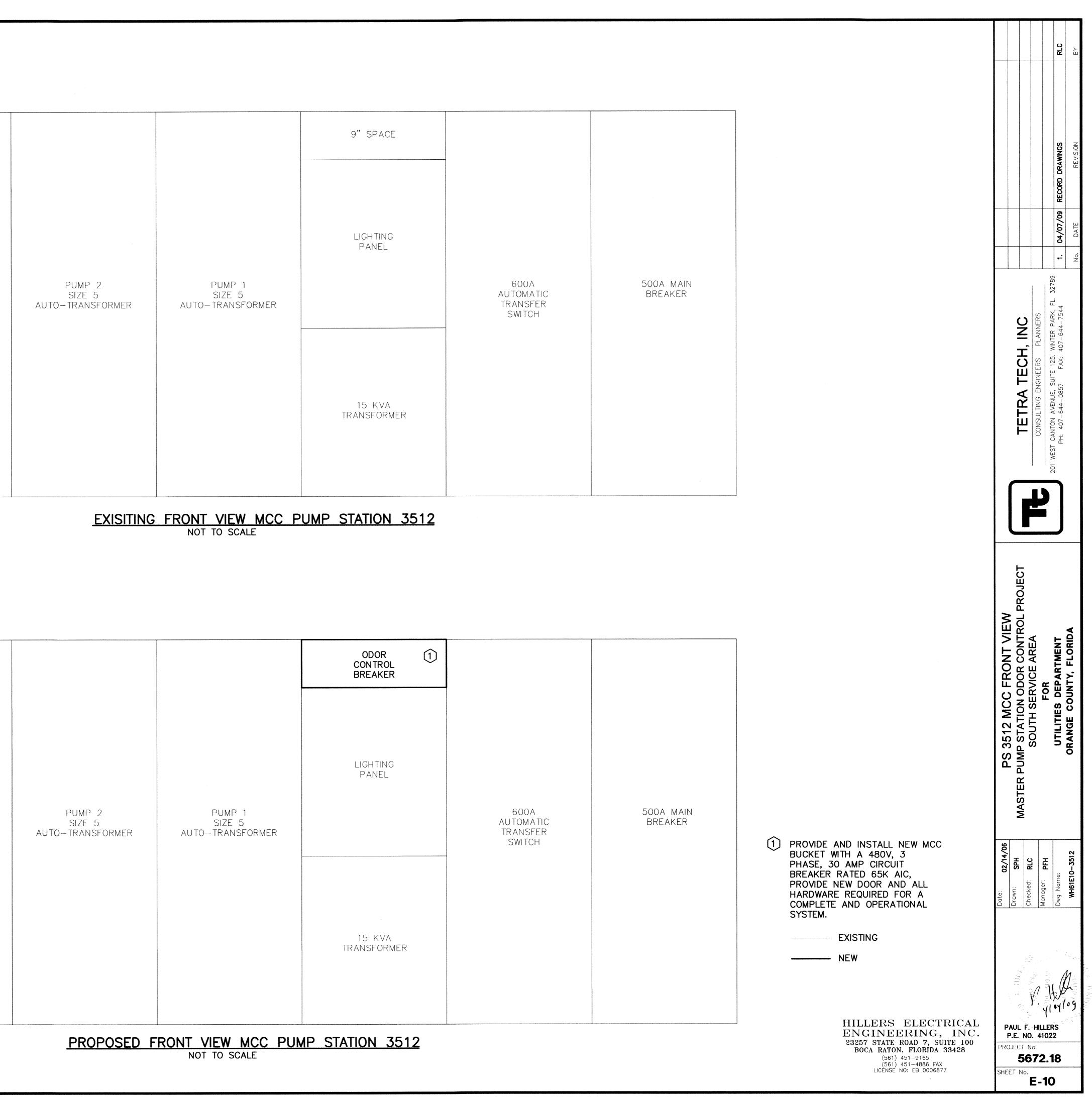
	RECORD DRAWINGS REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009	B≺ B≺
	THESE "RECORD DRAWINGS" REPRESENT THE FINAL CONDITIONS OF THE CONSTRUCTION PROJECT BASED UPON THE LOCATIONS, DOCUMENTATION AND INFORMATION FURNISHED TO HILLERS ELECTRICAL ENGINEERING, INC. BY OTHERS, FIELD OBSERVATION AND SUPPORTING PROJECT RECORDS.	
		96 RECORD DRAWINGS REVISION
		32789 1. 04/07/09 No. DATE
		TETRA TECH, INC CONSULTING ENGINEERS PLANNERS 201 WEST CANTON AVENUE, SUITE 125. WINTER PARK, FL. 32 201 WEST CANTON AVENUE, SUITE 125. WINTER PARK, FL. 32 PH: 407–644–0857
		S T
PUMP STATION RTU PANEL		PS 3512 ONE LINE AND RISER DIAGRAMS MASTER PUMP STATION ODOR CONTROL PROJECT SOUTH SERVICE AREA FOR UTILITIES DEPARTMENT ORANGE COUNTY, FLORIDA
<u>3512</u> DIAGRAM		Date: 02/14/06 Drawn: SPH Checked: RLC Manager: PFH Dwg Name: WH61E09-3512
	HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-9165 (561) 451-9165	PAUE F. HILLERS P.E. NO. 41022 PROJECT NO. 5672.18
	(561) 451-4886 FAX LICENSE NO: EB 0006877	SHEET NO. E-09

CONTROLS	PUMP 3 SIZE 5 AUTO-TRANSFORMER

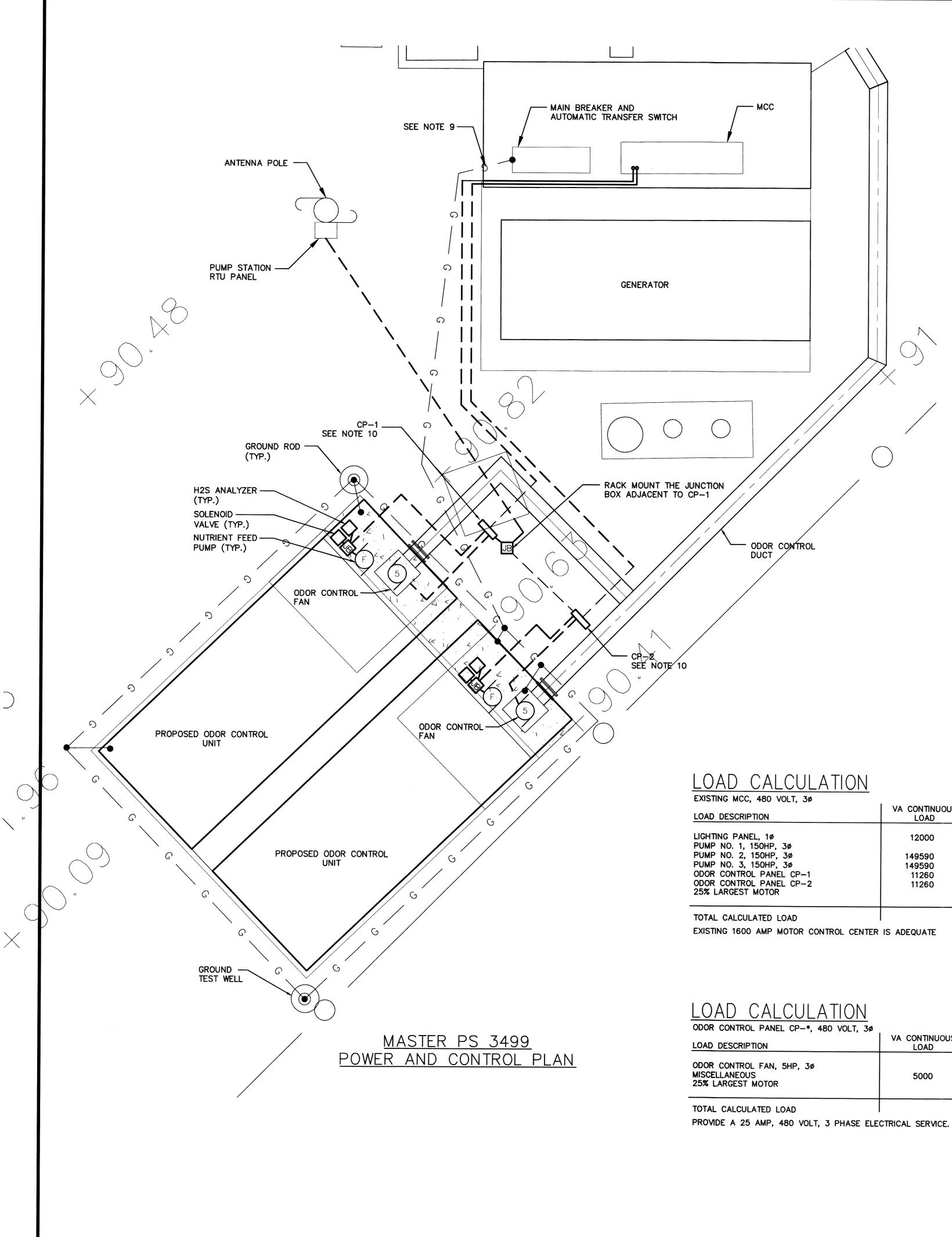


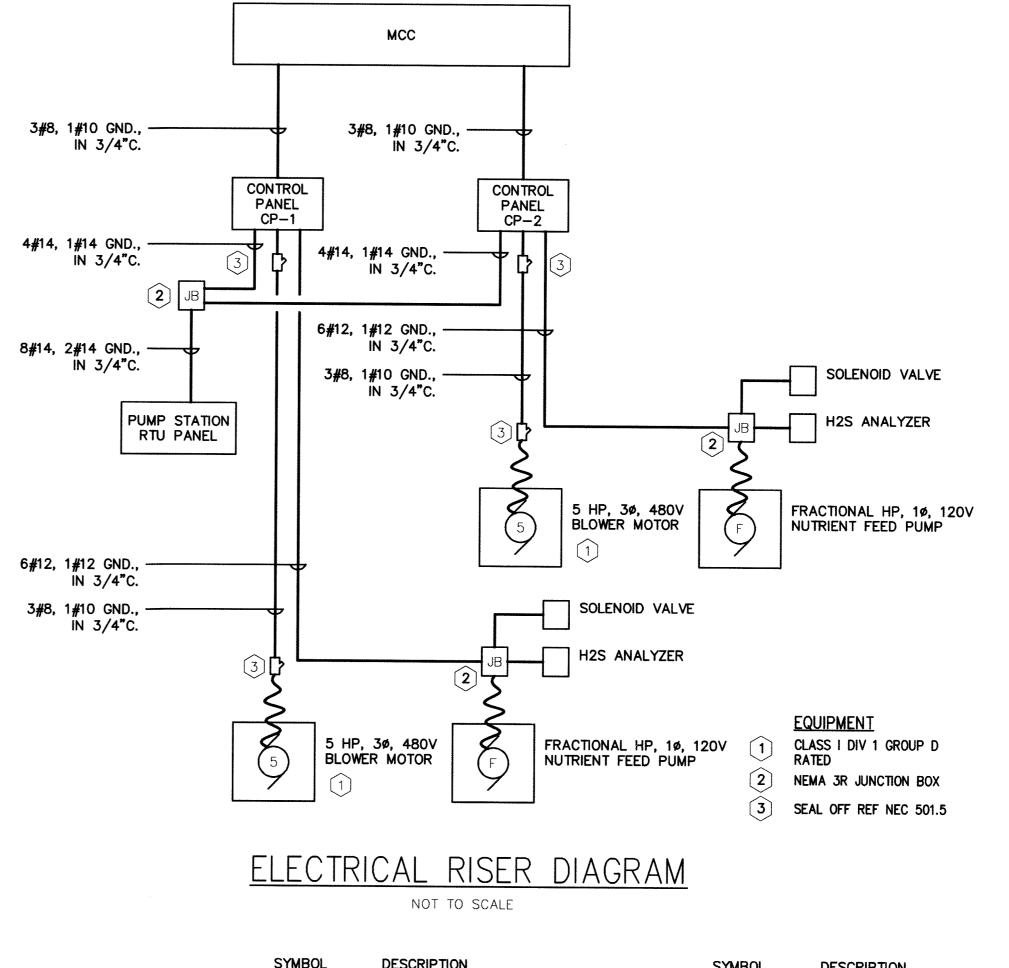
REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009

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INST.	THANK

(626.3 AMP)

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NOTES:

- 9. GROUNDING CONDUCTORS SHALL BE INSTALLED DIRECTLY EXPOSED TO EARTH.

LOAD DESCRIPTION	VA CONTINUOUS LOAD	VA LARGEST MOTOR	TOTAL VA
LIGHTING PANEL, 1Ø PUMP NO. 1, 150HP, 3Ø PUMP NO. 2, 150HP, 3Ø PUMP NO. 3, 150HP, 3Ø ODOR CONTROL PANEL CP-1 ODOR CONTROL PANEL CP-2 25% LARGEST MOTOR	12000 149590 149590 11260 11260	149590 37398	12000 149590 149590 149590 11260 11260 37398
TOTAL CALCULATED LOAD			520688

ODOR CONTROL PANEL CP-*, 480 VOL	T, 3ø		
LOAD DESCRIPTION	VA CONTINUOUS LOAD	VA LARGEST MOTOR	TOTAL VA
ODOR CONTROL FAN, 5HP, 30 MISCELLANEOUS 25% LARGEST MOTOR	5000	6320 1580	6320 5000 1580
TOTAL CALCULATED LOAD PROVIDE A 25 AMP, 480 VOLT, 3 PHA	SE ELECTRICAL SERVICE.	(1	12900 15.5 AMP)

RECORD DRAWINGS

10. INSTALL NEW ODOR CONTROL PANELS A MINIUMUM OF 10 FEET AWAY FROM THE NEW ODOR CONTROL UNITS.

8. COORDINATE WITH EQUIPMENT SUPPLIERS AND APPROVED SHOP DRAWINGS FOR LOCATIONS OF ELECTRICAL EQUIPMENT AND STUB-UP CONDUITS ACCORDINGLY.

7. INSTALL GROUND LOOP AND GROUIND RODS AND BOND TO THE REBAR IN THE NEW SLAB, BIOFILTER SKID, CONTROL PANELS, FAN MOTORS, AND THE EXISTING GROUNDING SYSTEM.

LIMITING AREA SHALL BE CONSIDERED CLASS I, DIVISION 2 IN ACCORDANCE WITH NEC 500. 6. FURNISH AND INSTALL ALL NECESSARY HARWARE AND ACCESSORIES TO EXTEND THE EXISTING GROUNDING SYSTEM TO THE NEW ODOR CONRTROL SYSTEM UNITS AS INDICATED.

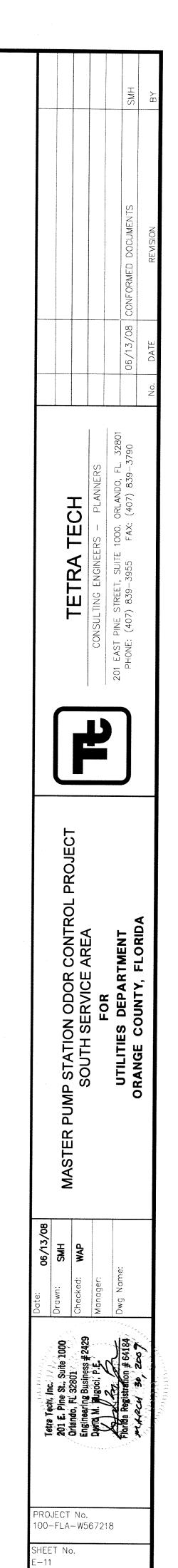
5. ALL ELECTRICAL EQUIPMENT INCLUDING CONDUIT AND FITTINGS FOR A DISTANCE OF TEN FEET WITHIN THE ODOR CONTROL UNITS AND FOR A DISTANCE OF 18 INCHES ABOVE GRADE AND FROM ALL GAS CARRYING PIPES, EQUIPMENT AND GAS SOURCES SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR HAZARDOUS LOCATIONS, CLASS I, DIVISION 1, GROUP D. AREAS WITHIN THIS 18 INCH

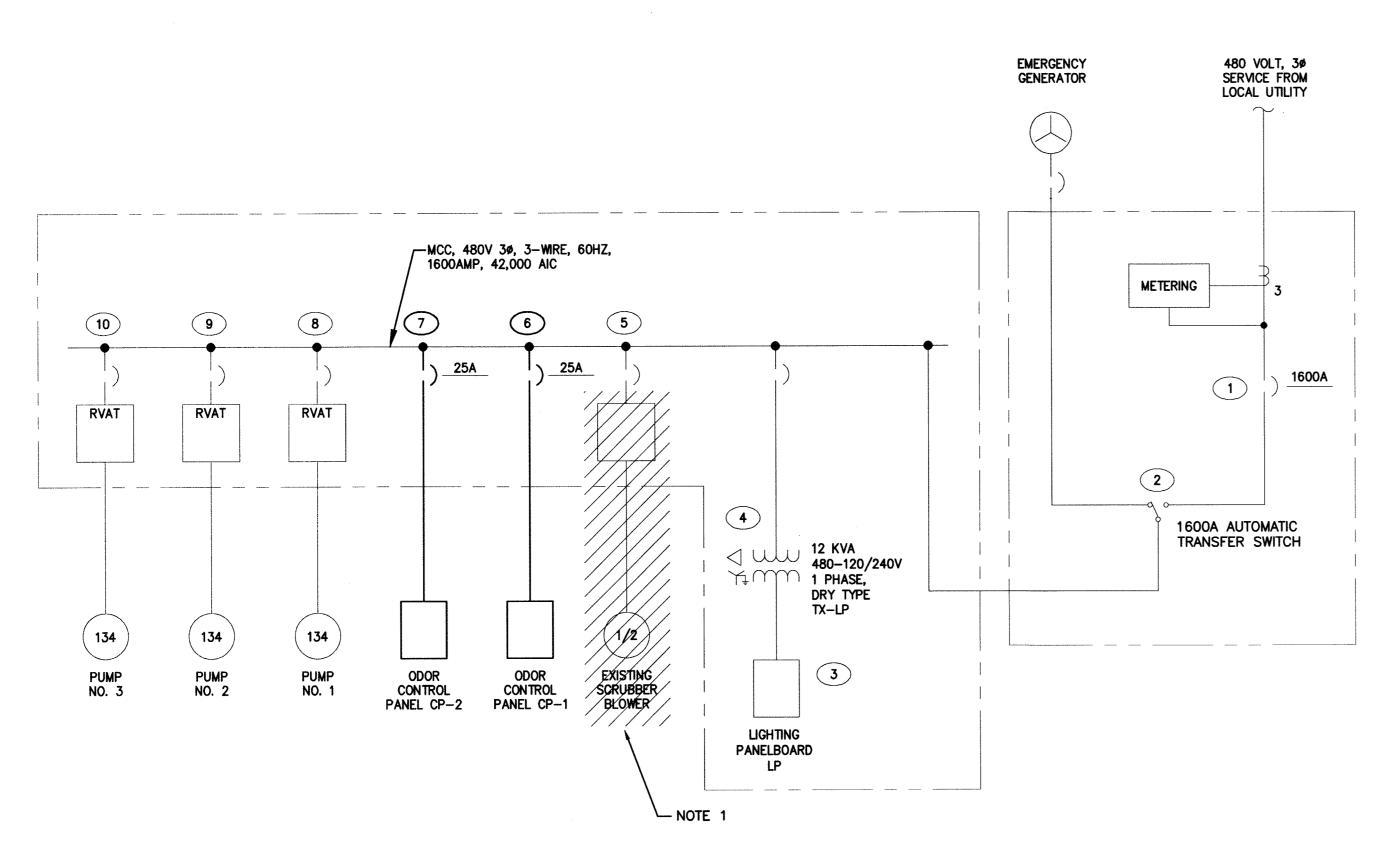
3. WIRE AND CABLE USED FOR POWER AND CONTROL SHALL BE COPPER WITH THWN-75 DEG. C INSULATION. WIRE SHALL NOT BE PROVIDED SMALLER THAN NO. 12 AWG UNLESS OTHERWISE STATED ON THE DRAWING. 4. PROVIDE RIGID GALVANIZED STEEL CONDUIT MEETING THE REQUIREMENTS OF UL-6. CONDUIT SHALL NOT BE PROVIDED SMALLER THAN 3/4 INCHES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

2. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.

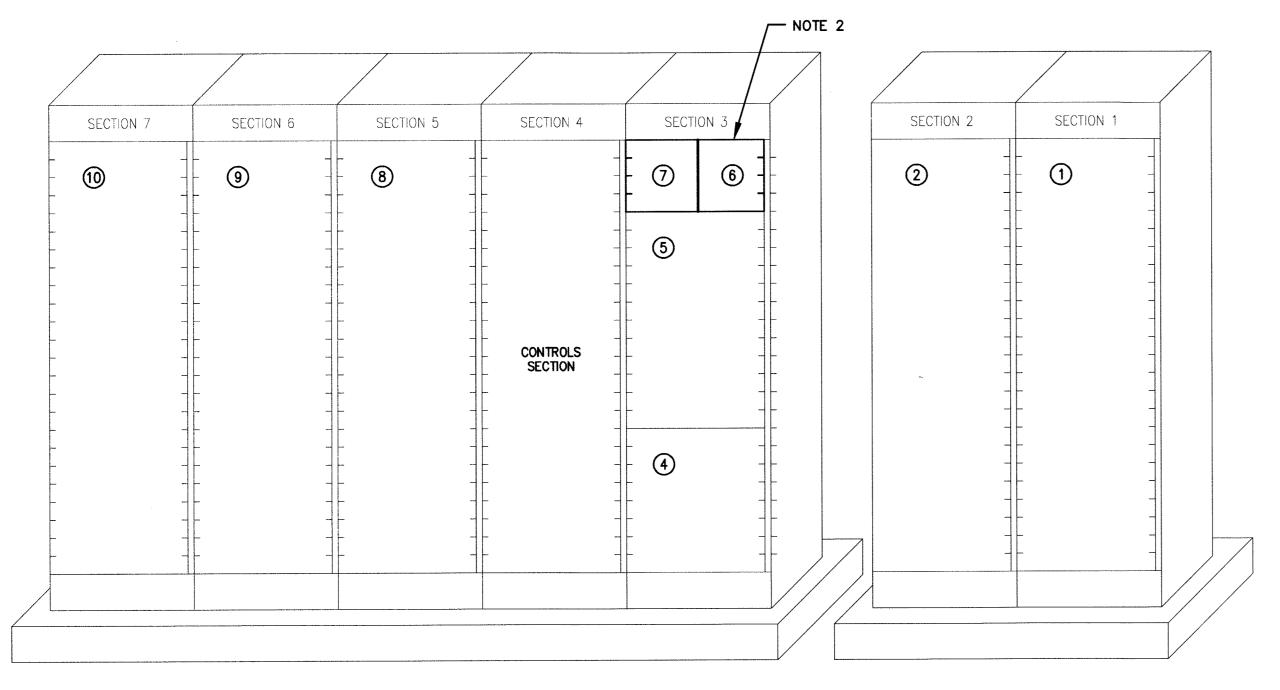
1. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL CODES.

5 HP, 30, 480V BLOWER MOTOR	F	FRACTIONAL HP, 1ø, 120V NUTRIENT FEED PUMP
JB H2S ANALYZER		
FRACTIONAL HP, 1ø, 1 FRACTIONAL HP, 1ø, 1 NUTRIENT FEED PUMP	20V (1) (2)	EQUIPMENT CLASS I DIV 1 GROUP D RATED NEMA 3R JUNCTION BOX SEAL OFF REF NEC 501.5
RISER DIAGRAM		
PTION	SYMBOL	DESCRIPTION
ON BOX		TIME-DELAY FUSE
ORMER	-(^{CR})-	CONTROL RELAY COIL
T EXPOSED	\bigcirc	
T CONCEALED o	X1X2_	120 VAC TRANSFORMER
OR SWITCH OPERATOR UNCTION SHOWN	00	LOW VOLTAGE DISCONNECT SWITCH
		LOW VOLTAGE FUSE (BELOW 600V)
	\bigcirc	600V, 3 POLE MOLDED CASE CIRCUIT BREAKER, FRAME & RATING AS SHOWN
	: Q5	INPUT TO PLC CONTROL SYSTEM
D TIME INDICATOR DO	1: Q1	OUTPUT FROM PLC CONTROL SYSTEM
RELAY TANEOUS CONTACTS	CP	CONTROL PANEL
<u>LEGEN</u> [<u>)</u>	

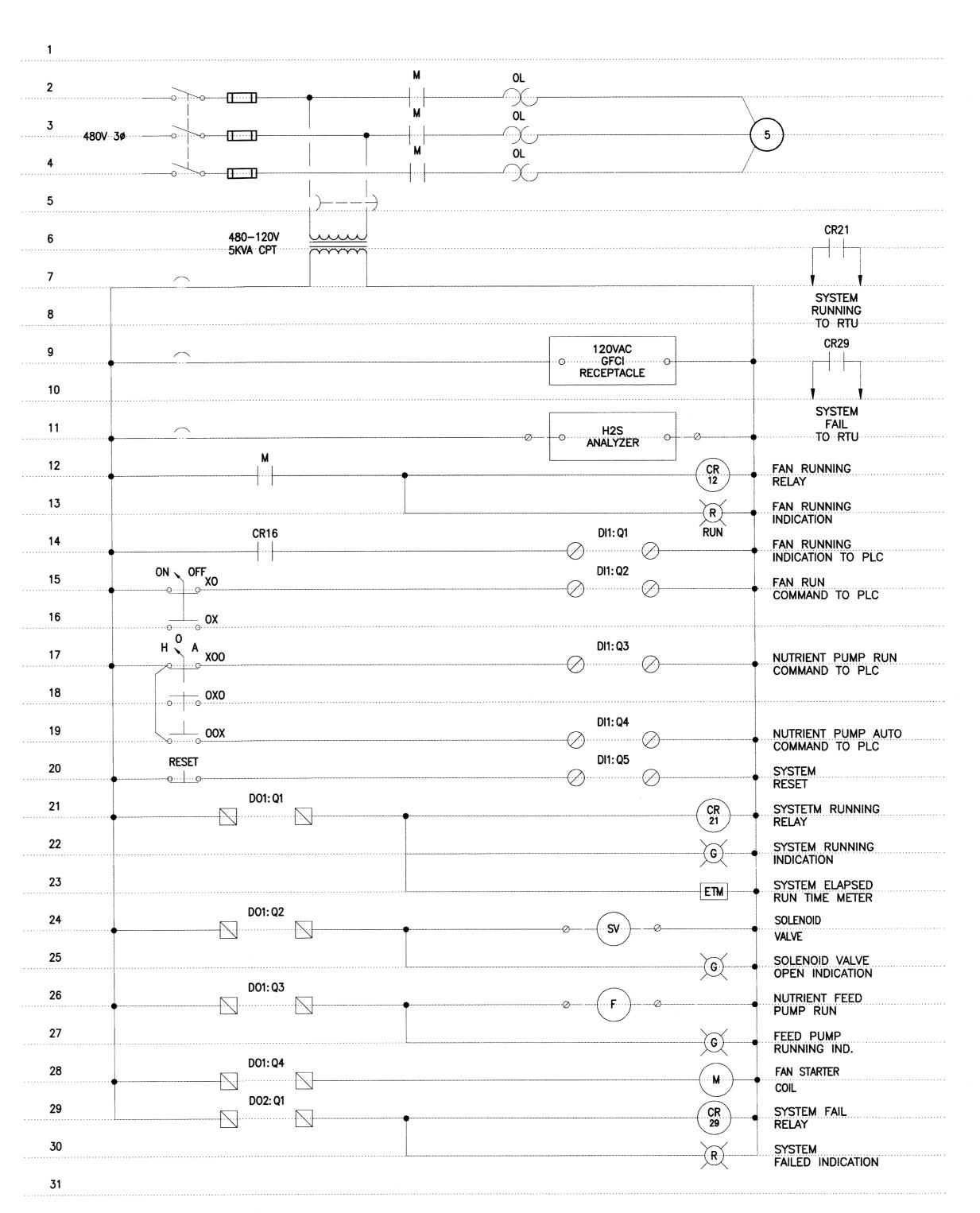




MCC SINGLE LINE DIAGRAM



MCC ELEVATION SCALE: N.T.S.





- NOTES:

ODOR CONTROL PANEL ELEMENTARY CONTROL DIAGRAM

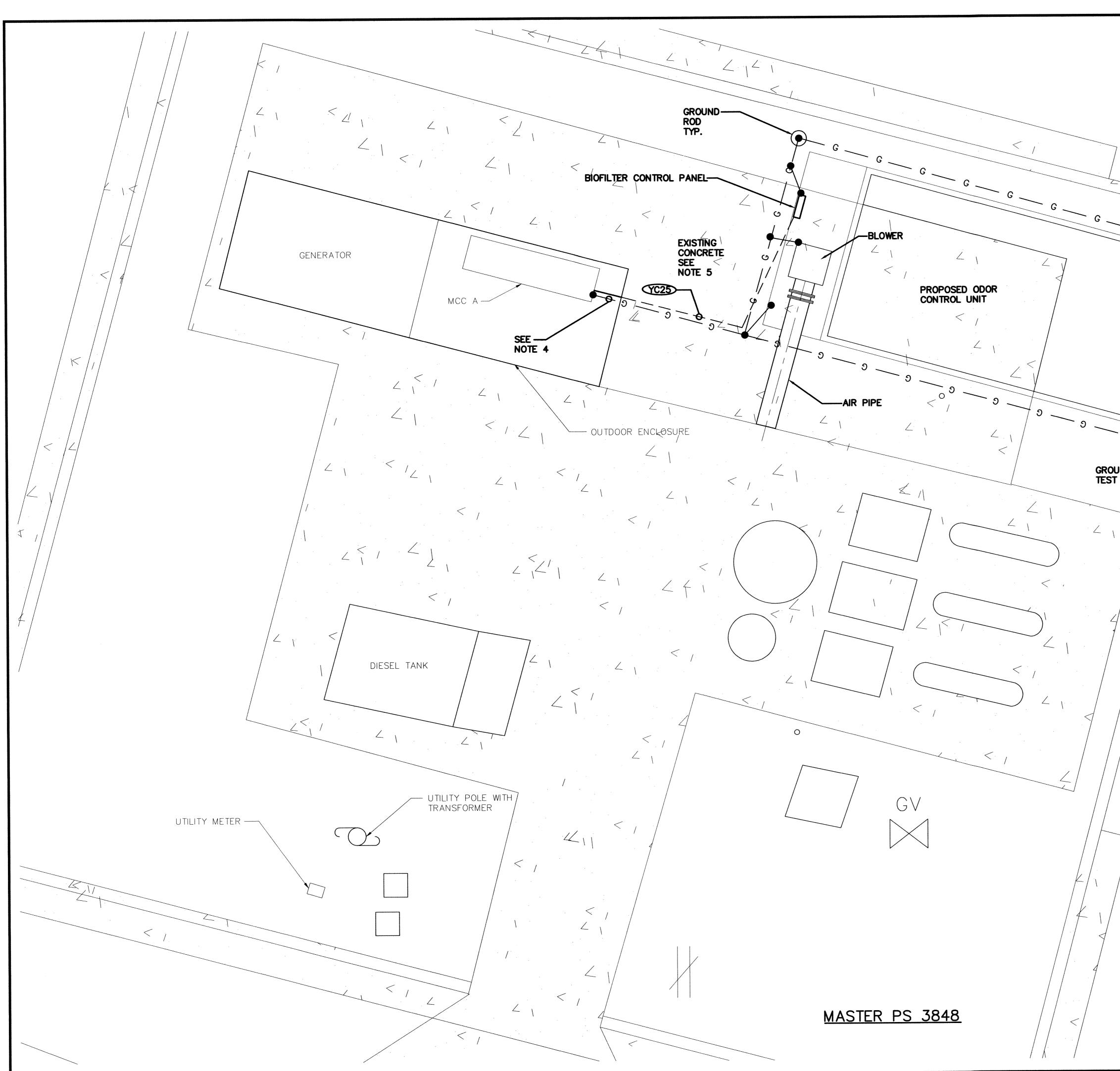
1. DISCONNECT EXISTING SCRUBBER BLOWER AND ALL WIRING. REMOVE ALL WIRING BACK TO THE SOURCE. CAP ABANDONED CONDUITS AND LABEL THE MCC BUCKET AS "SPARE".

2. PROVIDE AND INSTALL NEW MCC BUCKET WITH TWO (2) 25 AMP CIRCUIT BREAKERS RATED 42K AIC. PROVIDE NEW DOOR AND ALL HARDWARE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

3. ODOR CONTROL PANELS SHALL BE PROVIDED AS A UL LISTED ELECTRICAL ASSEMBLY BUILT TO MEET THE REQUIREMENTS OF THE 2002 NEC, ARTICLE 409.110 (3) RATED FOR 42K AIC. SHOP DRAWINGS AND CERTIFICATION OF THE UL LISTING SHALL BE PROVIDED TO THE ENGINEER-OF-RECORD FOR REVIEW AND APPROVAL PRIOR TO SHIPMENT.

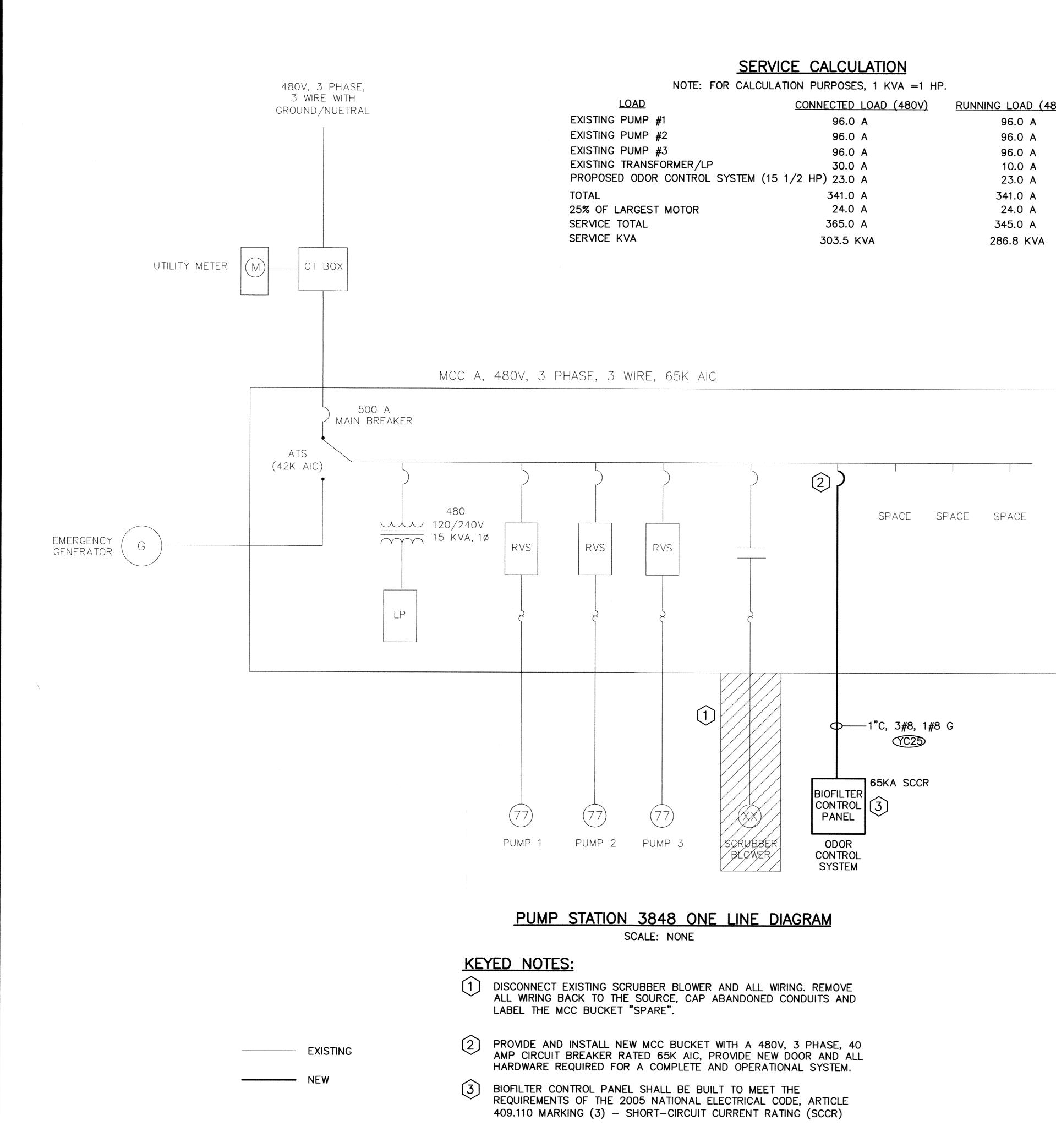
RECORD DRAWINGS

				06/13/08 CONFORMED DOCUMENTS SMH	No. DATE REVISION BY	
	TETRA TECH	CONSULTING ENGINEERS - PLANNERS	201 EAST DINE STREET SLITE 1000 ORI ANDO EL 32801	PHONE: (407) 839-3955 FAX: (407) 839-3790		
	TROL PROJECT]	DA	
	MASTER PUMP STATION ODOR CONTROL PROJECT	SOUTH SERVICE AREA	FOR	UTILITIES DEPARTMENT	ORANGE COUNTY, FLORIDA	
Date: 06/13/08	4_	<u></u>	Manager:	Dwg Name:	104	
	letra fech, Inc. 201 E Pine St. / Suite 1000	ss #242	ш а Х	1	14 04 282	



	RECORD DRAWING REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2	
	THESE "RECORD DRAWINGS" REPRESENT THE FINA CONDITIONS OF THE CONSTRUCTION PROJECT BAS UPON THE LOCATIONS, DOCUMENTATION AND INFORMATION FURNISHED TO HILLERS ELECTRICAL ENGINEERING, INC. BY OTHERS, FIELD OBSERVATIO SUPPORTING PROJECT RECORDS.	AL SED
		RECORD DRAWINGS REVISION
G _ G _		1. 04/07/09 F
6		TETRA TECH, INC CONSULTING ENGINEERS PLANNERS ANTON AVENUE, SUITE 125. WINTER PARK, FL. 32789 : 407-644-0857 FAX: 407-644-7544
SUND-SUND-SUND-SUND-SUND-SUND-SUND-SUND-	NOTES	TET 201 WEST CANTON 4 PH: 407-6
ST WELL	1. PROVIDE AND INSTALL MATERIALS AND LABOR TO EXTEND THE EXISTING GROUNDING SYSTEM TO THE ODOR CONTROL SYSTEM.	
	2. INSTALL THE GROUND LOOP AND GROUND RODS AN BOND THE REBAR IN THE NEW SLAB, BIOFILTER SK CONTROL PANEL, BLOWER MOTOR AND THE EXISTING GROUNDING SYSTEM.	(ID,
4	3. COORDINATE WITH EQUIPMENT SUPPLIERS AND APPROVED SHOP DRAWINGS FOR LOCATIONS OF ELECTRICAL EQUIPMENT AND STUB UP CONDUITS ACCORDINGLY	
	4. EXPOSED GROUND WIRE SHALL BE INSTALLED IN A SCHEDULE 80 PVC CONDUIT.	RICAL SITE F COOR CONTR ERVICE AREA FOR DEPARTMENT
	5. CONTRACTOR SHALL SAW CUT EXISTING CONCRETE THE INSTALLATION OF CONDUIT AND GROUNDING. P CONCRETE TO PATCH SURFACES BACK TO ORIGINAL CONDITION AFTER INSTALLATION OF CONDUIT AND GROUNDING SYSTEM	
	6. CONTRACTOR SHALL DISCONNECT EXISTING BLOWER REMOVE EXISTING WIRING BACK TO THE SOURCE. C CONDUITS AND LABEL MCC BREAKER AS SPARE.	
	N	Date: 02/14/06 Drawn: SPH Checked: RLC Manager: PFH Dwg Name: WH61E14-3848
		r 119/29
	0 2 4 8 (IN FEET) 1 inch = 4 ft. HILLERS ELECTRI ENGINEERING, I 23257 STATE ROAD 7, SUITE BOCA RATON, FLORIDA 334 (561) 451-9165 (561) 451-4886 FAX LICENSE NO: EB 0006877	INC. E 100 428 PROJECT No. 5672.18
	LICENSE NU: EB UUU08//	SHEET No. E-14

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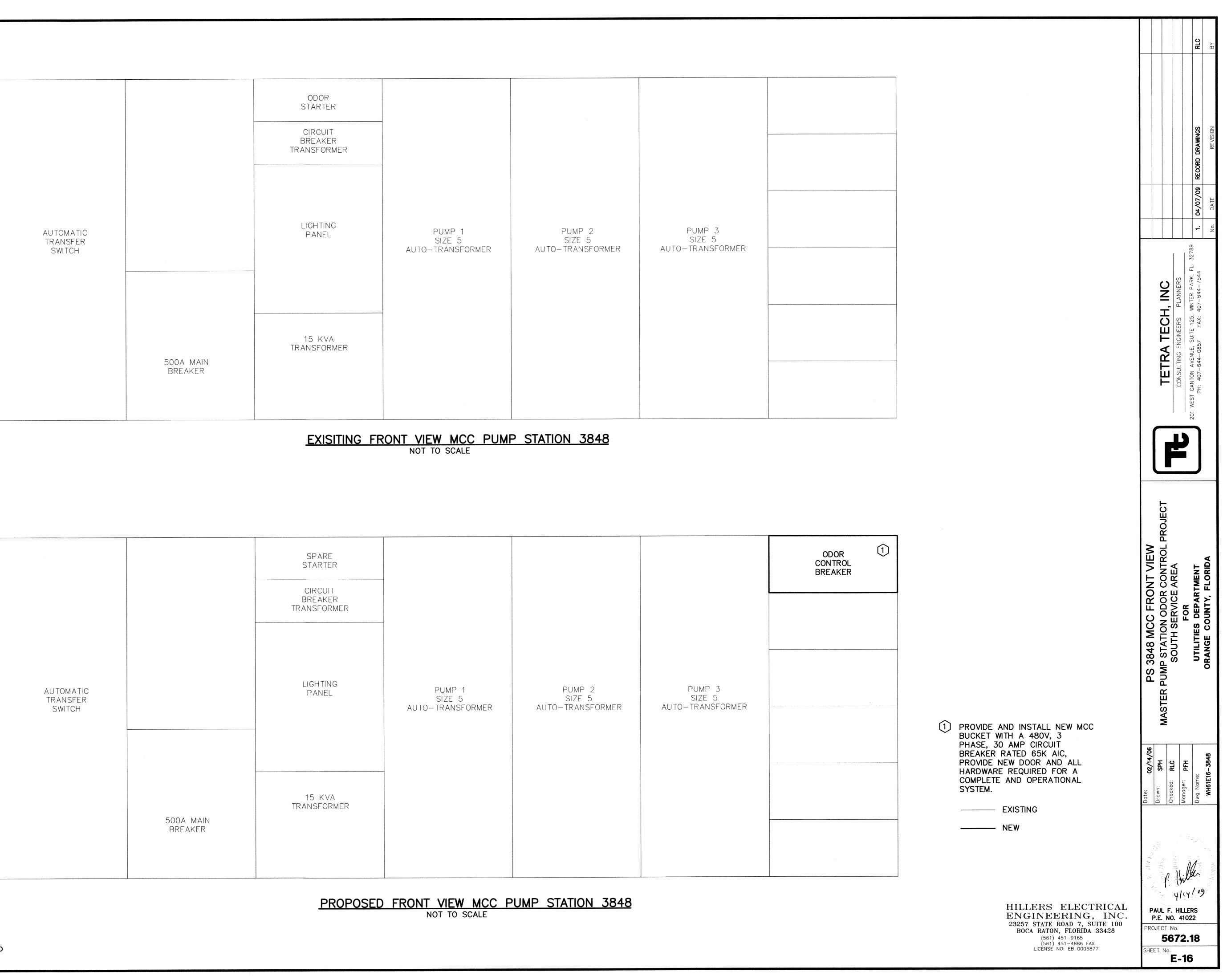
NOTE: FOR CALC	ULATION PURPOSES, 1 KVA =1 HP.	
LOAD	CONNECTED LOAD (480V)	RUNNING LOAD (480V)
EXISTING PUMP #1	96.0 A	96.0 A
EXISTING PUMP #2	96.0 A	96.0 A
EXISTING PUMP #3	96.0 A	96.0 A
EXISTING TRANSFORMER/LP	30.0 A	10.0 A
PROPOSED ODOR CONTROL SYSTEM	(15 1/2 HP) 23.0 A	23.0 A
TOTAL	341.0 A	341.0 A
25% OF LARGEST MOTOR	24.0 A	24.0 A
SERVICE TOTAL	365.0 A	345.0 A
SERVICE KVA	303.5 KVA	286.8 KVA

PA PRO SHEE	Date: 02/14/06	PS 3848 ONE LINE AND RISER DIAGRAMS					
.E. 1 JECT 5	Drawn: SPH	MASTER PUMP STATION ODOR CONTROL PROJECT					
Nc 67	Checked: RLC						
410	Manager: DFL			CONSULTING ENGINEERS PLANNERS			
				201 WEST CANTON AVENIJE SLITE 125 WINTER PARK FI 32789			
og B	Dwg Name:	UTILITIES DEPARTMENT]		1. 04	04/07/09 RECORD DRAWINGS	RLC
NA WICK	WH61E15-3848	ORANGE COUNTY, FLORIDA		L	No.	DATE REVISION	B

REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009

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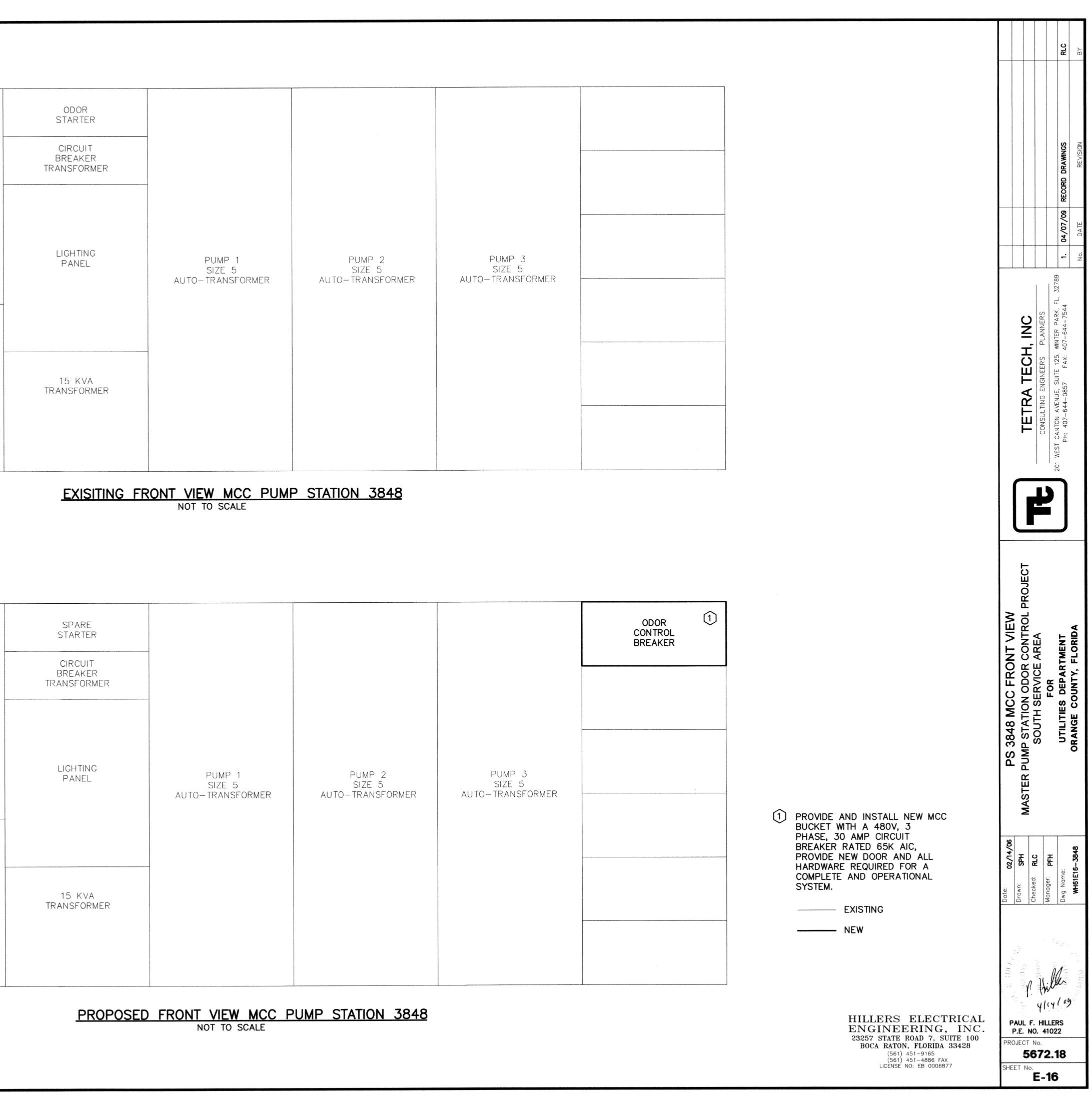
HILLERS ELECTRICAL ENGINEERING, INC. 23257 STATE ROAD 7, SUITE 100 BOCA RATON, FLORIDA 33428 (561) 451-9165 (561) 451–4886 FAX LICENSE NO: EB 0006877

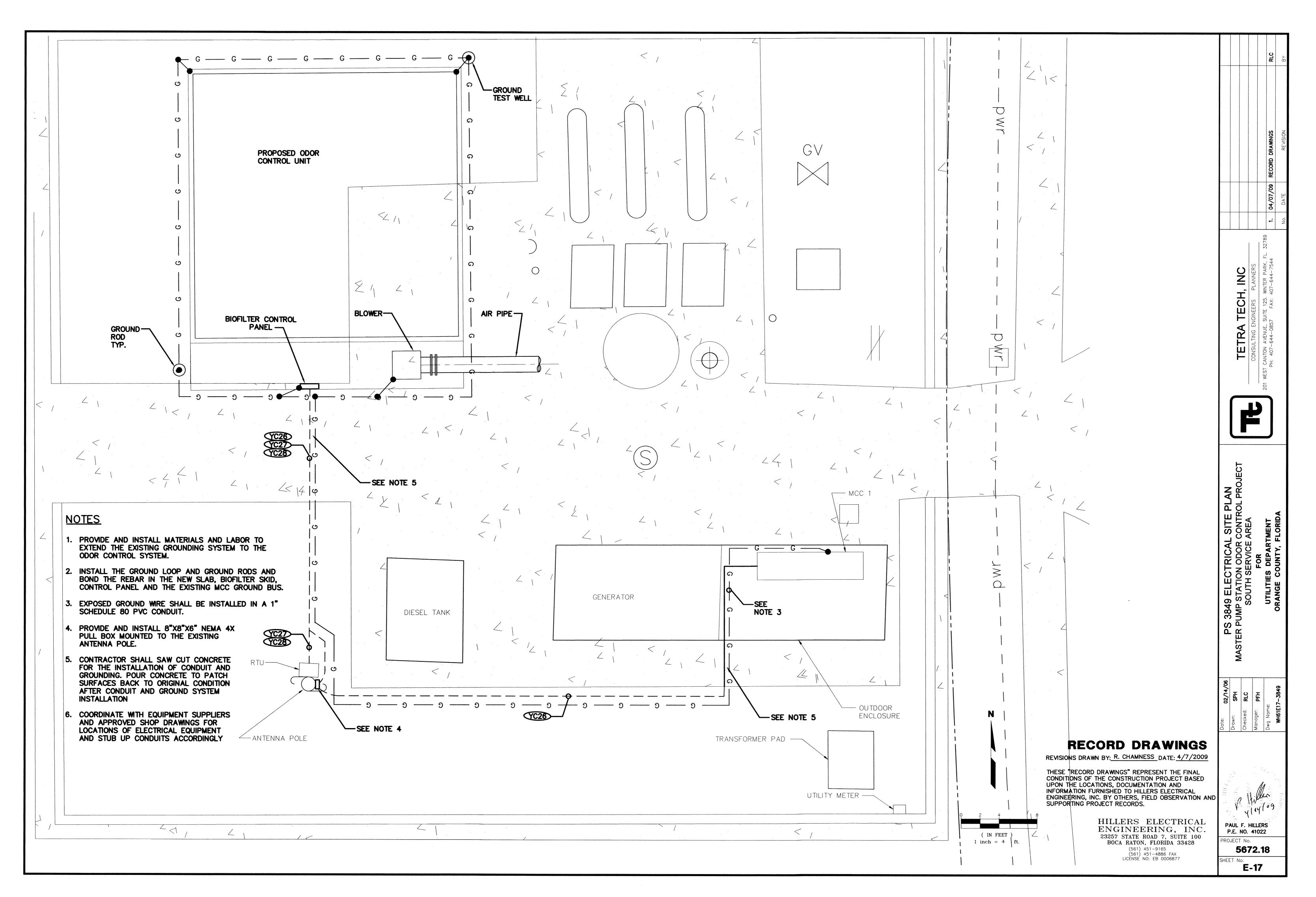


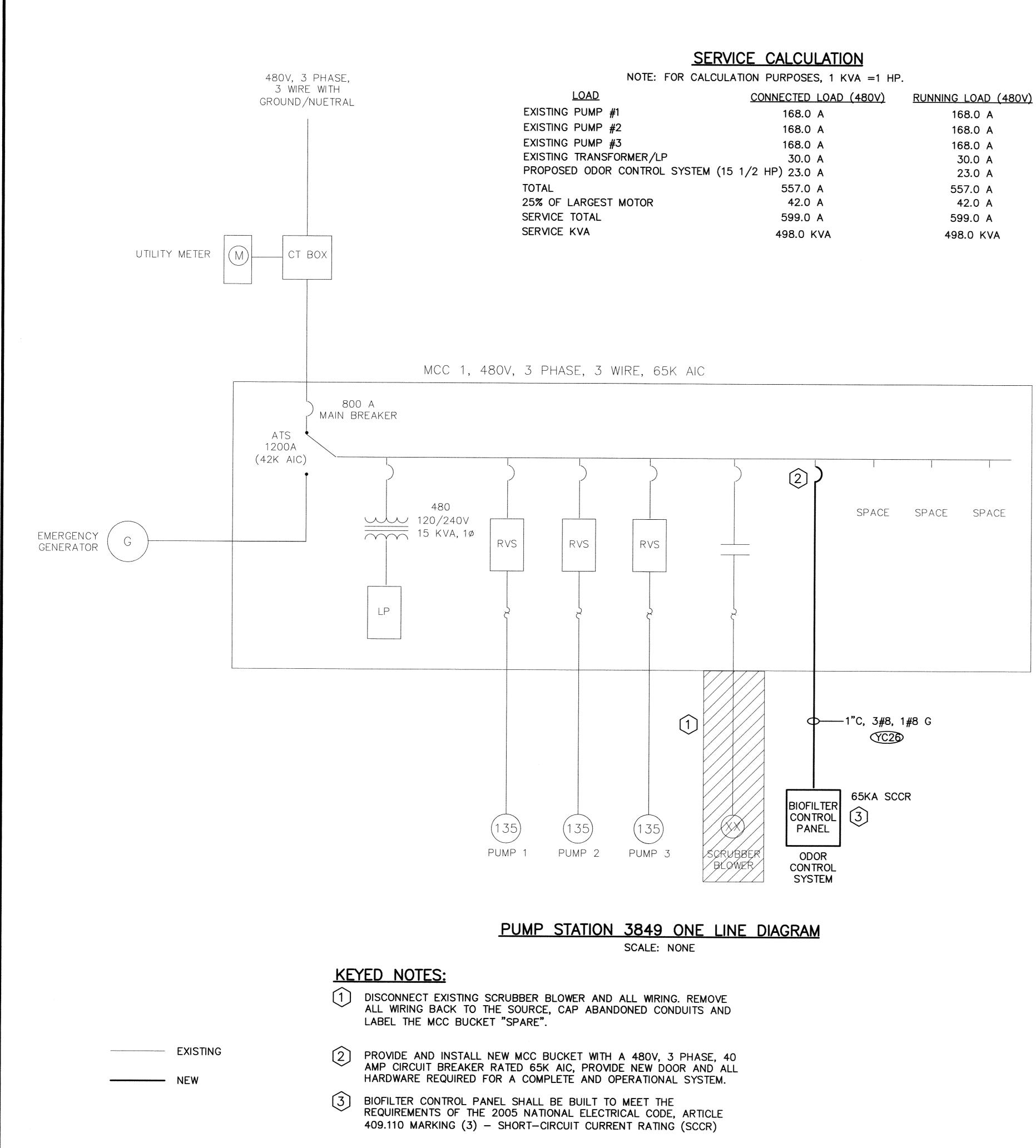


REVISIONS DRAWN BY: R. CHAMNESS DATE: 4/7/2009

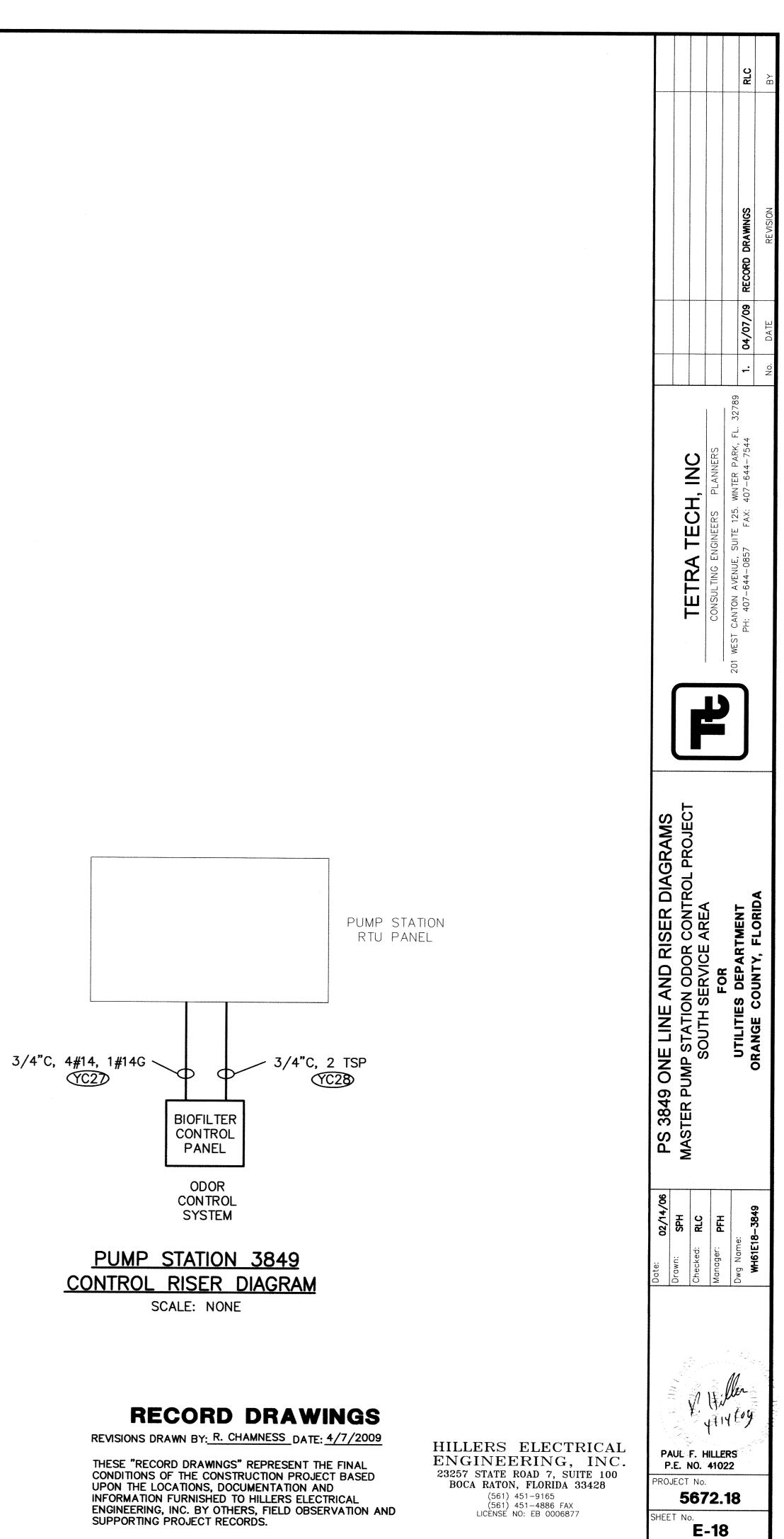
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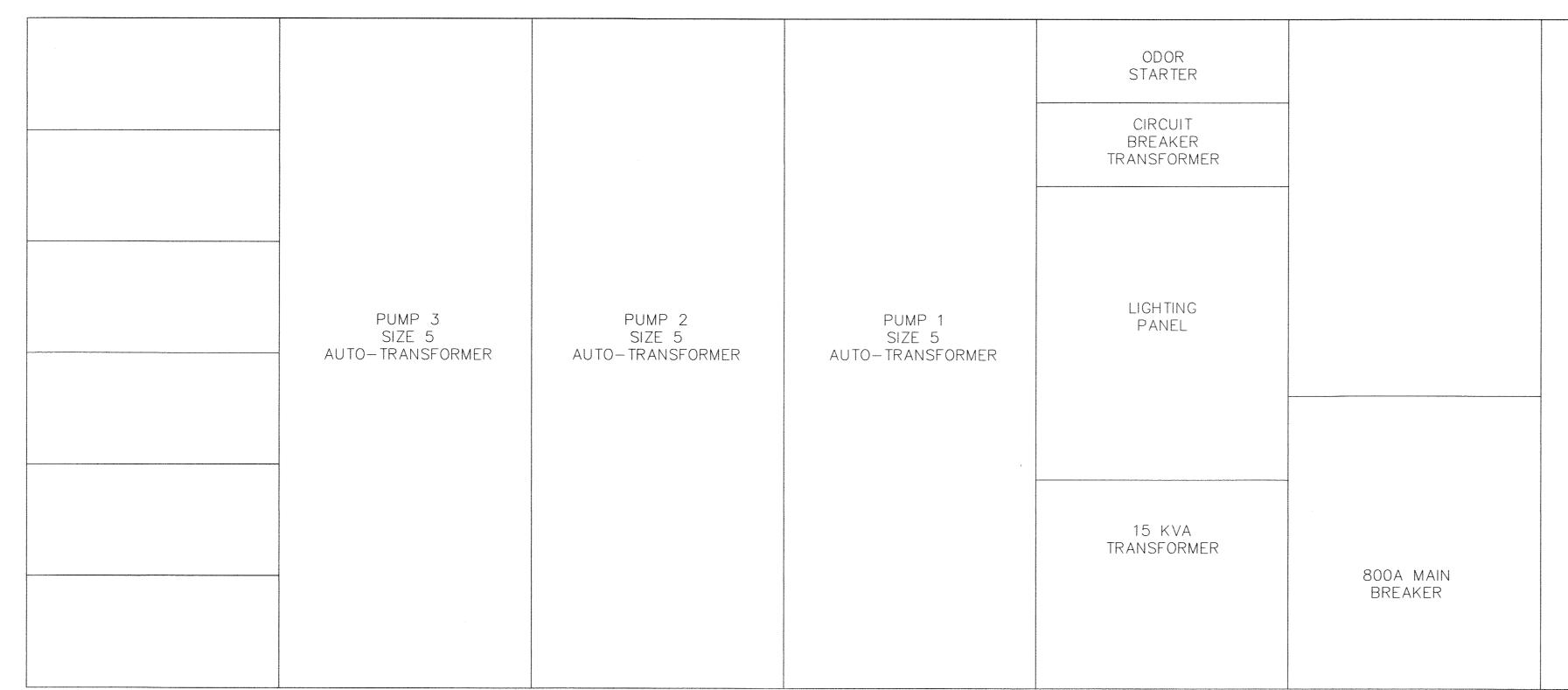


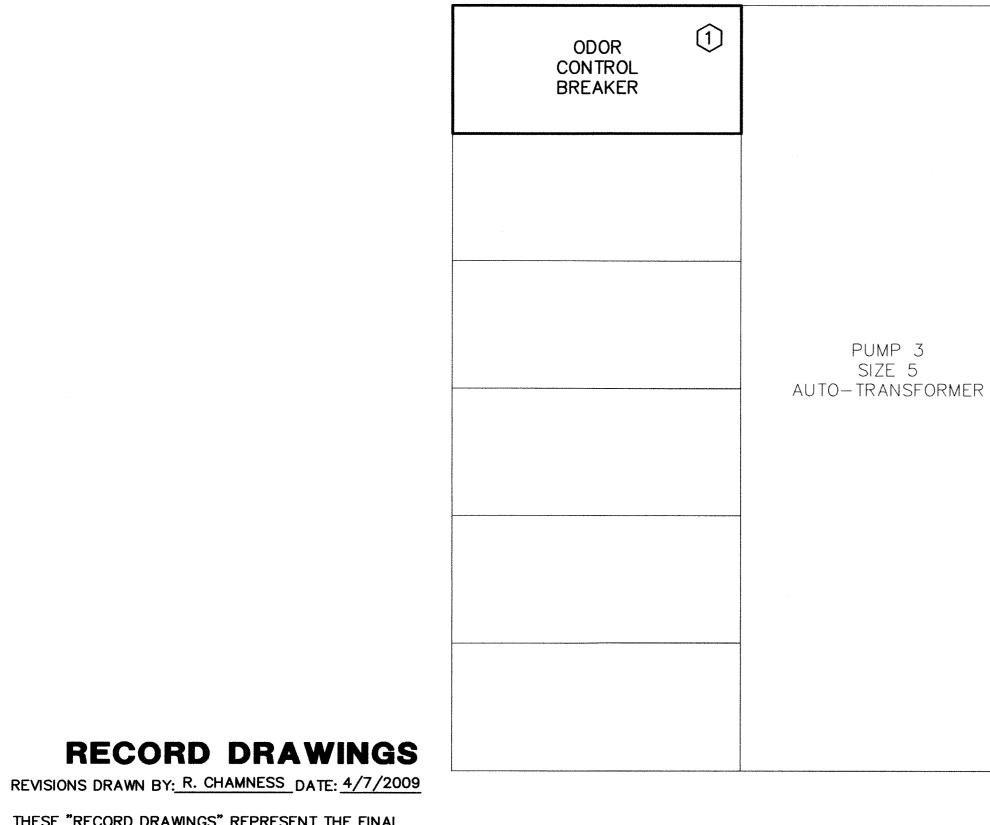




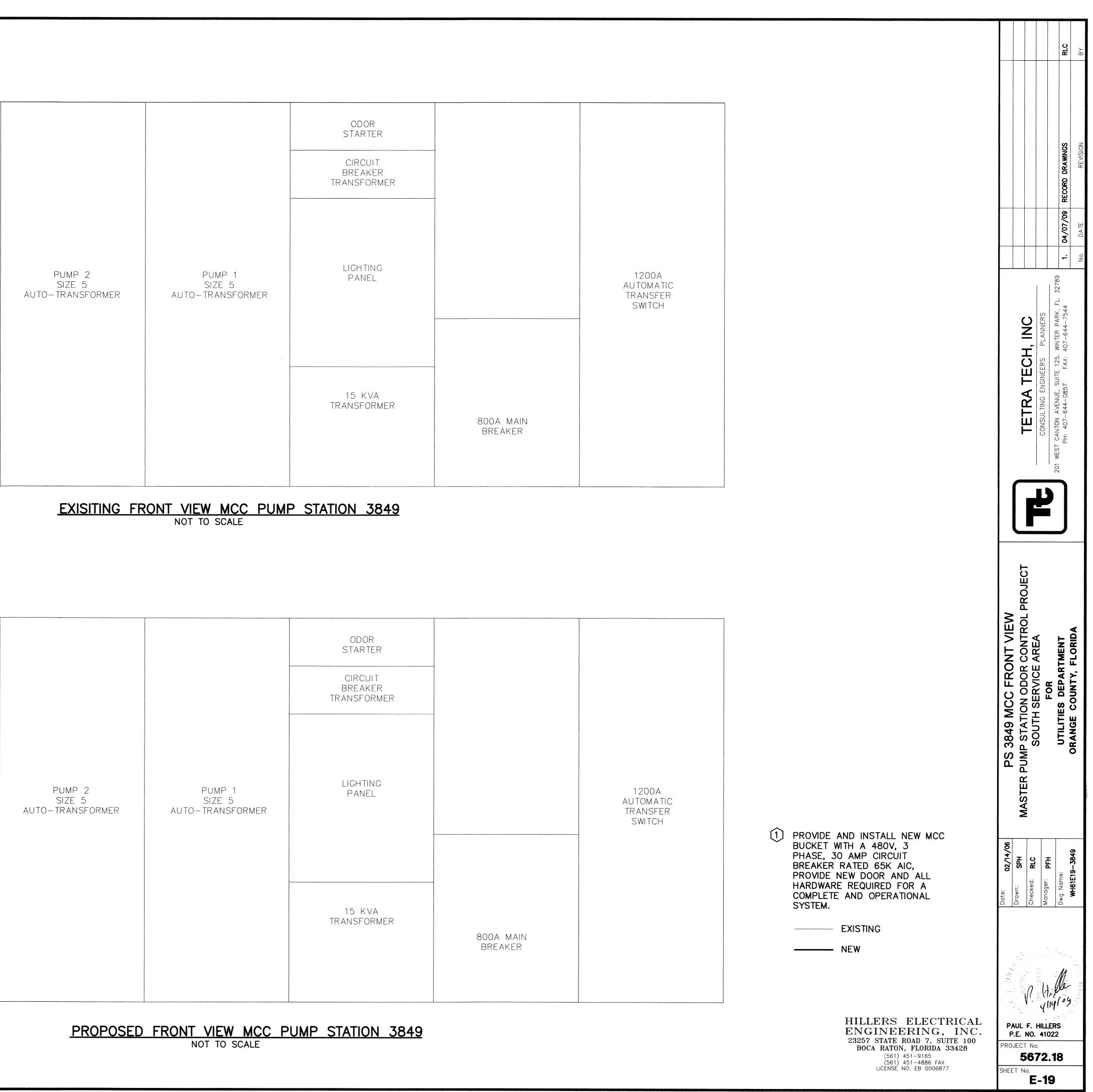
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LOAD	CONNECTED LOAD (480V)	RUNNING LOAD (480V
PUMP #1	168.0 A	168.0 A
PUMP #2	168.0 A	168.0 A
PUMP #3	168.0 A	168.0 A
TRANSFORMER/LP	30.0 A	30.0 A
D ODOR CONTROL SYSTEM (15	5 1/2 HP) 23.0 A	23.0 A
	557.0 A	557.0 A
ARGEST MOTOR	42.0 A	42.0 A
TOTAL	599.0 A	599.0 A
<va< td=""><td>498.0 KVA</td><td>498.0 KVA</td></va<>	498.0 KVA	498.0 KVA







THESE "RECORD DRAWINGS" REPRESENT THE FINAL CONDITIONS OF THE CONSTRUCTION PROJECT BASED UPON THE LOCATIONS, DOCUMENTATION AND INFORMATION FURNISHED TO HILLERS ELECTRICAL ENGINEERING, INC. BY OTHERS, FIELD OBSERVATION AND SUPPORTING PROJECT RECORDS.



YARD CONDUIT SCHEDULE FOR SOUTH PUMP STATIONS					
CKT I.D.	PUMP STATION I.D.	FROM	ТО	REMARKS	
YC13	3419	PROPOSED NEW BREAKER ENCLOSURE	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-04	
YC14	3419	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-04	
YC15	3419	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-04	
YC16	3497	PUMP STATION MCC	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-06	
YC17	3497	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-06	
YC18	3497	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-06	
YC19	3512	PUMP STATION MCC	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-09	
YC20	3512	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-09	
YC21	3512	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-09	
YC22	3499	PUMP STATION MCC	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-12	
YC23	3499	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-12	
YC24	3499	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-12	
YC25	3848	PUMP STATION MCC A	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-15	
YC26	3849	PUMP STATION MCC 1	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-18	
YC27	3849	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-18	
YC28	3849	PUMP STATION RTU PANEL	BIOFILTER CONTROL PANEL	SEE ONE LINE DWG E-18	

	CT TETRATECH, INC CONSULTING ENGINEERS PLANNERS 201 WEST CANTON AVENUE, SUITE 125. WINTER PARK, FL. 32789 PH: 407-644-0857 FAX: 407-644-7544 No.
	YARD CONDUIT SCHEDULE MASTER PUMP STATION ODOR CONTROL PROJECT SOUTH SERVICE AREA FOR UTILITIES DEPARTMENT ORANGE COUNTY, FLORIDA
	Date: 02/14/06 Drawn: SPH Checked: RLC Manager: PFH Dwg Name: WHG1E20
DRAWINGS	A Hills

RECORD D REVISIONS DRAWN BY: R. CHAM

THESE "RECORD DRAWINGS" REA CONDITIONS OF THE CONSTRUCT UPON THE LOCATIONS, DOCUME INFORMATION FURNISHED TO HIL ENGINEERING, INC. BY OTHERS, SUPPORTING PROJECT RECORDS

