GOLDEN GATE MASTER PUMP STATION AND SITE IMP

CONSTRUCTION PLANS

Located in Collier County

Sections 27 and 28, Township 49 South, Range 26 East

Plans Prepared For:



ENGINEERING AND PROJECT MANAGEMENT DIVISION PUBLIC UTILITIES DEPARTMENT PROJECT MANAGER: CORINNE TRTAN 3339 TAMIAMI TRAIL E SUITE 303 NAPLES, FL 34112 TEL: (239) 252-4233 FAX: (239) 252-3989

PROPERTY DATA: SITE ADDRESS: 4931 32nd AVE S.W. PARCEL NO: 36450440006 STRAP NO: 324700 257 14B28

LEGAL DESCRIPTION: GOLDEN GATE UNIT 7 ALL OF BLK 255, BLK 258+ALL VACATED LOTS, ROADS, ALLEY WAYS, & EASEMENTS IN SAID BLOCKS O.R. 1270, PG's 2130-40.

ORIGINAL SHEET SIZE: 11x17



Know what's below. Call before you dig. DESIGN TICKET:



 $\underline{\text{Location Map}}_{\text{N.T.S.}}$

Prepared by:



O. Grady Minor and Associates, P.A. 3800 Via Del Rey Bonita Springs, Florida 34134

Civil Engineers • Land Surveyors • Planners • Landscape Architects Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Bonita Springs: 239.947.1144 www.GradyMinor.com

Business LC 26000266 Fort Myers: 239.690.4380

PROVEMENTS	DATE: FEBRUARY, 2024 FILE NAME: GGMPS_COVER.DWG JOB CODE: GGMPS DRAWING NUMBER 1
	SUBMITTAL PHASE 1 BID
	Golden Gate Master Pump Station PHASE 1 BID PLANS
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ALEXANDER PAUL DUNKO, P.E. O. GRADY MINOR & ASSOC., P.A. 3800 VIA DEL REY BONTA SPRINCS, FL 34134	NEERING, PROJ-ENG, GGMP

FLORIDA P.E. LICENSE NO. 88695 EB/LB 0005151

Revision

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	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:		THIS IT SEALED
ALEXANDER PAUL DUNKO, P.E. LICENSE #88695		TYLER WAINRIGHT, P.E.	
Grady Minor & Assoc. 3800 Via Del Rey Bonita Springs, Florida 34134	ON THE DATE ADJACENT TO THE SEAL	Tetra Tech Inc. 10600 Chevrolet Way, Ste. 102 Estero, Florida 33928	ON THE PRINTER
	CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY	Engineering Business No. 2429	CONSIDE SIGNATU
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	BRADI MINOR AND ASSOC. 3800 VIA DEL REY BONITA SPRINGS, FL 34134 ALEXANDER PAUL DUNKO, P.E. 88695		10600 CI ESTERO, TYLER W

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO	SHEET DESCRIPTION	<u>SHEET NO.</u>	SHEET DESCRIP
1	KEY SHEET	E - 001	ELECTRICAL NO
2	SIGNATURE SHEET	E-002	ELECTRICAL NO
3	SIGNATURE SHEET	E-003	ELECTRICAL NO
4	GENERAL NOTES	E - 101	ELECTRICAL SI
5	GENERAL NOTES	E - 201	ENLARGED POWE
6	AERIAL PHOTOGRAPH AND EXISTING CONDITIONS PLAN	E - 202	ENLARGED GROU
7	SITE PLAN AND UTILITY PLAN	E - 301	SINGLE-LINE D
8	PUMP STATION SITE PLAN	E - 401	PANELBOARD SC
9	GRADING, PAVING, AND DRAINAGE PLAN	E - 501	ELECTRICAL DE
10	PLAN VIEW-EQUIPMENT SECTIONS	E-502	ELECTRICAL DE
11	SUMMARY OF DRAINAGE STRUCTURES		
12	EQUIPMENT SECTIONS		
13	EQUIPMENT SECTIONS		
14	EQUIPMENT SECTIONS		
15	STRUCTURAL DETAILS		
16	MISCELLANEOUS DETAILS		
17			

17	MISCLLLANLOUS	DLIAILS
18	MISCELLANEOUS	DETAILS



				DESIGNED BY: A.P.D.	O. Crady Minon and Accordate. P.A.	COLDEN CATE MASTER PUM
				DRAWN BY:	Grady Minor (). Grady Minor and Associates, 1.A.	
				E.M.N.	Bonita Springs, Florida 34134	
				APPROVED:		CIONA
				A.P.D.	Civil Engineers • Land Surveyors • Planners • Landscape Architects	SIGNA
				JOB CODE:	Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266	
				GGMPS		l
D	Date	Description	By	SCALE: 11x17 N.T.S.	Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED U CONVERSION FACTOR TO NATIONAL GEO

TEM HAS BEEN DIGITALLY SIGNED AND BY:

DATE ADJACENT TO THE SEAL

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TECH HEVROLET WAY, STE 102 , FL 33928 VAINRIGHT, P.E. 80476

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	MUNICIPALITY:	Ś
PUMP STATION AND SITE IMPROVEMENTS	COLLIER COUNTY	ŝ
	SEC/TWN/RGE:	-
	27 AND 28/49S/26E	c
	DATE:	ĉ
NATURE SHEET	FEBRUARY, 2024	C No
	SUBMITTAL TYPE:	ĉ
	PHASE 1 BID	1
SED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)	SHEET 2	

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

John D. Reed, P.E. P.E. No. 73082, FL

201 East Pine Street, Suite 1000 Orlando, Florida 32801 Engineering Business No. 2429

DATE _____

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TETRA TECH 5621 2nd STREET WEST ORLANDO, FL 32801 JOHN D. REED, P.E. 73082

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

<u>SHEET NO.</u> <u>SHEET DESCRIPTION</u>

I - 001	INSTRUMENTATION LEGEND AND ABBREVIATIONS
I-002	INSTRUMENTATION LEGEND AND ABBREVIATIONS
I - 101	PLANT NETWORK ARCHITECTURE
I - 201	PUMP STATION P&ID
I - 301	MPS CP LAYOUT
I - 302	TRANSMITTER TO FIBER PANEL
I - 501	INSTRUMENTATION DETAILS

I-502 INSTRUMENTATION DETAILS



			DESIGNED BY:					MUNICIPALITY:
			A.P.D.		O. Grady Minor and Associates. P.A.	COLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS	1	COLLIER COUNTY
		1	DRAWN BY:	M GradyMinor	3800 Via Del Rev		1	SEC/TWN/RGE:
			E.M.N.	Gradyminor	Bonita Springs Florida 34134		1	27 AND 28/49S/26E
			APPROVED:		bonna opringo, rioriaa o rior		1	DATE:
- F			A.P.D.	Civil Engineers Lond Sumewore Pl	anners Landscape Architecte	SIGNATURE SHEET	1	FEBRUARY, 2024
- F			JOB CODE:	Civil Engineers • Land Surveyors • 11	anners • Lanuscape Architects		1	SUBMITTAL TYPE:
			GGMPS	Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151	Business LC 26000266		1	PHASE 1 BID
ŀ	Revision Date Description	Ву	SCALE: 11×17 N.T.S.	Bonita Springs: 239.947.1144 www.GradyMin	Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)	1	SHEET 3

GENERAL NOTES:

- 1. ALL ELEVATIONS REFER TO NATIONAL AMERICAN VERTICAL DATUM OF 1988 (NAVD-88). THE CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD-29) IS +1.270'.
- 2. THE CONTRACTOR SHALL POT HOLE TO LOCATE (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PROVIDE IN WRITING ANY DISCREPANCIES TO THE COUNTY. EXTREME CAUTION TO BE USED WHEN EXCAVATING, AS NUMBER AND LOCATION OF EXISTING UTILITIES ARE BASED ON RECORD INFORMATION THAT HAS NOT BEEN FIELD VERIFIED.
- 3. IT IS THE CONTRACTOR'S RESPONSIBILITY DURING CONSTRUCTION TO PROTECT ANY EXISTING UTILITIES. DAMAGE TO EXISTING UTILITIES AND PROPERTY DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE.
- 4. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY OWNERS PRIOR TO THE BEGINNING OF CONSTRUCTION AND COORDINATE WITH UTILITY OWNERS DURING CONSTRUCTION. THE PRESENCE OF THE UTILITIES ARE LIKELY IN THE PROJECT AREA. CONTRACTOR TO COORDINATE WITH, BUT NOT LIMITED TO, THESE UTILITIES PRIOR TO AND DURING CONSTRUCTION:

SERVICE PROVIDER	UTILITY COMPANY	TELEPHONE
ELECTRIC	FLORIDA POWER & LIGHT (24 HOUR EMERGENCY)	239-353-6010
TELEPHONE CABLE T.V.	CENTURY LINK COMCAST	1-800-339-1811 (239) 432-1850
UNDERGROUND FACILITY LOCATION SERVICES	SUNSHINE ONE CALL	811 or 1-800-432-4770
WASTEWATER	COLLIER COUNTY	(239) 252-6886
WATER	COLLIER COUNTY	(239) 252-6245
GAS	TECO ENERGY	1-877-832-6747
COMMUNICATIONS	CROWN CASTLE FIBER	1-866-787-2637
COMMUNICATIONS	SUMMIT BROADBAND	(239) 444-0400
STORMWATER	COLLIER COUNTY	(239) 252-8192

- 5. EXISTING FACILITIES INCLUDING DRIVEWAYS, SIDEWALK, UTILITIES AND OTHER EXISTING FACILITIES SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN WHAT EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE COUNTY.
- 6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE/REPAIR ANY EXISTING LANDSCAPING/PRIVATE IMPROVEMENTS WITHIN THE ROW, E.G. SOD, SPRINKLER PIPING, SPRINKLER HEADS, IRRIGATION SYSTEMS, AND FENCING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE OWNER, CONTRACTOR TO REPLACE OR REPAR DAMAGED PROPERTY OR IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TEMPORARILY CONNECT IRRIGATION COMPONENTS DURING CONSTRUCTION TO ENSURE IRRIGATION SYSTEMS CONTINUED USE DURING CONSTRUCTION.
- 7. ANY SURVEY MONUMENTS INCLUDING PROPERTY CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHALL PROPERLY REFERENCE ITS LOCATION AND RESET THE MONUMENT AS REQUIRED BY THE CONTRACTOR'S FLORIDA LICENSED SURVEYOR, AT NO ADDITIONAL COST TO THE OWNER.
- 8. CONTRACTOR TO PROVIDE SILT FENCE, STACKED SYNTHETIC BALES AND OTHER APPROPRIATE MEASURES TO EFFECT THE FILTRATION OF SURFACE WATER FLOWS AND TO PROVIDE EROSION PROTECTION DURING CONSTRUCTION ACTIVITIES. PROTECTION IS TO BE MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL DISTURBED SOILS HAVE BEEN STABILIZED WITH GRASS OR SUITABLE EROSION PROTECTION TREATMENT.
- 9. EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.
- 10. SHOP DRAWINGS FOR ANY EQUIPMENT AND MATERIAL MUST BE APPROVED PRIOR TO FABRICATION AND INSTALLATION.
- 11. CONTRACTOR SHALL RETAIN, ON THE WORK SITE, COPIES OF ALL PERMITS NECESSARY FOR CONSTRUCTION.
- 12. CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER OF RECORD AND COUNTY PROJECT MANAGER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
- 13. CONTRACTOR SHALL PROMPTLY REPORT ALL FIELD CHANGES TO THE ENGINEER OF RECORD, CEI REPRESENTATIVE, AND COUNTY PROJECT MANAGER.
- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED BY THEIR WORK. ALL DISTURBED AREAS SHALL BE SODDED TO MATCH EXISTING CONDITIONS WITH SOD SET NO MORE THAN 1/2" BELOW ADJACENT DRIVEWAYS. NEWLY INSTALLED SOD SHALL BE WATERED UNTIL ESTABLISHED/ROOTED. IF SOD IS REQUIRED TO BE REINSTALLED DURING THE COURSE OF CONSTRUCTION FOR WHATEVER REASON, CONTRACTOR SHALL BE REQUIRED TO WATER REINSTALLED SECTIONS UNTIL THEY ARE ESTABLISHED/ROOTED.
- 15. AFTER SUBSTANTIAL COMPLETION AND PRIOR TO FINAL COMPLETION, THE CONTRACTOR SHALL ACCURATELY RECORD AND PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER OF RECORD, AND COLLIER COUNTY.
- 16. SURVEY LAYOUT AND RECORD DRAWINGS ARE TO BE PERFORMED BY A FLORIDA LICENSED LAND SURVEYOR PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE PROPERTY CORNERS AND RIGHT-OF-WAY LINES. ALL ELEVATIONS MUST REFER TO NAVD-88.
- 17. CONTRACTORS WILL BE RESPONSIBLE FOR STORING ALL MATERIALS FOR THE PROJECT, INCLUDING



				A.P.D. DRAWN BY: E.M.N.	M GradyMinor Q. Grady Minor and Associates, P.A. 3800 Via Del Rey Bonita Springs, Florida 34134
				A.P.D.	Civil Engineers • Land Surveyors • Planners • Landscape Architects Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266
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ALL MATERIALS PURCHASED BY COLLIER COUNTY IN A SECURED, FENCED IN STORAGE AREA.

- 18. DAMAGE TO EXISTING UTILITIES AND PROPERTY DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR EXPENSE
- 19. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING UTILITY SERVICE AT ALL TIMES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS. THIS INCLUDES HAVING A SUPPLY OF REPAIR MATERIALS ONSITE THAT MATCHES EXISTING IN THE EVENT OF A BREAK.
- 20. CONTRACTOR WILL BE EXPECTED TO PROVIDE A TWO (2) WEEK LOOK AHEAD FOR ALL CONSTRUCTION ACTIVITIES EVERY TWO (2) WEEKS AND ATTEND ALL MEETINGS AT THE COUNTY'S DISCRETION.
- 21. CONTRACTOR SHALL NOT LEAVE TRENCHES OR HOLES OPEN OVER NIGHT OR OVER WEEKENDS/HOLIDAYS.
- 22. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- 23. WORK AREAS ARE TO BE CLEANED ON A DAILY BASIS INCLUDING, BUT NOT LIMITED TO SWEEPING STREETS AND DAILY WATERING.
- 24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RIGHT-OF-WAY, TREE REMOVAL, AND DEWATERING PERMITS AS APPLICABLE.
- 25. ALL CONTRACTORS AND REPRESENTATIVES ON-SITE MUST HAVE COLLIER COUNTY CONTRACTOR IDENTIFICATION BADGES ON THEIR PERSON, CLEARLY DISPLAYED, AT ALL TIMES.
- 26. THE APPROVAL OF THESE CONSTRUCTION PLANS DOES NOT AUTHORIZE CONSTRUCTION OF REQUIRED IMPROVEMENTS WHICH ARE INCONSISTENT WITH EASEMENT OF RECORD.
- 27. COLLIER COUNTY PUBLIC UTILITIES DEPARTMENT IS RESPONSIBLE FOR THE MAINTENANCE OF THE INFRASTRUCTURE ON THIS SITE.
- 28. ALL PROHIBITED EXOTIC VEGETATION SHALL BE REMOVED FROM THE SITE AND IT SHALL BE MAINTAINED FREE OF EXOTICS IN PERPETUITY. (LDC 3.05.08)
- 29. A SEPARATE PERMIT IS REQUIRED FOR THE INSTALLATION OF ANY GATES (I.E. SLIDING, MANUAL ROLLING, MOTORIZED OR OTHER) THAT PREVENT ACCESS BY FIRE APPARATUS. ACCESS BOXES FOR MANUAL GATES AND EVAC SYSTEMS FOR ELECTRONIC GATES WILL BE REQUIRED. (FLORIDA FIRE PREVENTION CODE 6TH ED. 1: 18.2.2.2.
- 30. COUNTY PERMIT TO PERFORM WORK AND/OR MAINTENANCE IN PUBLIC RIGHT-OF-WAY IS REQUIRED FOR WORK WITHIN THE PUBLIC ROAD ROW.
- 31. COLLIER COUNTY PUBLIC UTILITIES IS RESPONSIBLE FOR THE MAINTENANCE OF THE WATER MANAGEMENT FACILITIES ON THIS SITE.

		MUNICIPALITY:
OLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY
		SEC/TWN/RGE:
		27 AND 28/495/26E
		DATE:
GENERAL NOTES		FEBRUARY, 2024
		SUBMITTAL TYPE:
		PHASE 1 BID
EVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 4

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ELEVATIONS SHOWN HEREON ARE BAS

WATER and WASTEWATER NOTES:

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC STANDARDS, (LATEST EDITION), COLLIER COUNTY'S DEVELOPMENT STANDARDS AND SPECIFICATIONS, AND COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES STANDARDS MANUAL.
- 2. OWNER HAS OBTAINED ALL FDEP WATER AND WASTEWATER CONSTRUCTION PERMITS.
- 3. ALL COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES (DESIGN CRITERIA, SPECIFICATIONS, AND DETAILS) ARE APPLICABLE TO THIS PROJECT AND ARE MADE PART OF THE CONTRACT DOCUMENTS BY REFERENCE TO CURRENT COUNTY UTILITY STANDARDS, LOCATED AT THE FOLLOWING WEB ADDRESS: HTTPS://WWW.COLLIERCOUNTYFL.GOV/GOVERNMENT/PUBLIC-UTILITIES/WATER-SEWER-DISTRICT/ENGINEERING-AND-PROJECT -MANAGEMENT/RESOURCES IN THE EVENT OF CONFLICT BETWEEN THE COUNTY UTILITY STANDARDS AND THESE SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- 4. DESIGN IS BASED UPON SURVEY PERFORMED BY GRADYMINOR IN 2021. DESIGN IS ALSO BASED ON RECORD DRAWINGS PROVIDED BY COLLIER COUNTY.
- 5. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL LOCATE BY POTHOLING OR SOFT DIGGING ALL UTILITIES WITHIN THE LIMITS OF THE PROJECT AND PROVIDE THE COUNTY, EOR, AND CEI A REPORT (BEFORE CONSTRUCTION) OF THE FINDINGS AT EACH LOCATION THAT INCLUDES THE STATION AND OFFSET, LOCATION, UTILITY TYPE, DEPTH FROM GRADE, SIZE, MATERIAL, DATE, TIME, AND A MINIMUM OF (2) PICTURES (AN OVERALL SITE PICTURE AND A PICTURE OF THE UTILITY FOUND). THE CONTRACTOR SHALL MARK THE FOUND UTILITY WITH A WOODEN LATH AND RIBBON, WITH THE UTILITY TYPE FOUND, SIZE, AND DEPTH WRITTEN ON THE LATH.
- 6. THE CONTRACTOR SHALL NOTIFY COLLIER COUNTY UTILITIES DEPARTMENT AT LEAST 10 CALENDAR DAYS IN ADVANCE OF ALL PLANNED SERVICE INTERRUPTIONS & REQUESTS FOR VALVE OPERATION, AND RECEIVE COUNTY PROJECT MANAGER'S APPROVAL BEFORE PROCEEDING WITH PLANNED INTERRUPTIONS. ONLY COUNTY EMPLOYEES ARE PERMITTED TO OPERATE VALVES.
- 7. THE CONTRACTOR SHALL PROVIDE 10 DAYS WRITTEN NOTICE TO THE ENGINEER OF RECORD, OWNER'S CEI REPRESENTATIVE, AND COLLIER COUNTY PROJECT MANAGER PRIOR TO THE FOLLOWING ACTIVITIES:
 - a. COMMENCEMENT
 b. CHANGES TO APPROVED SCHEDULES, SUBCONTRACTORS, AND RESIDENT SUPERINTENDENT
 - c. WATER SYSTEM
 - i. HOT TAPS
 - ii. PRESSURE TESTS
 - iii. CHLORINATION OF WATER MAINS
 - iv. FLUSHING
 - v. BACTERIOLOGICAL SAMPLING
 - vi. FINAL CONNECTION OF NEW MAINS
 - VII. BEGINNING AC PIPE REMOVAL
 - viii. FINAL ABANDONMENT OF EXISTING MAINS ix. WATER SERVICE AND WATER METER SWITCH OVER
 - ix. WATER SERVICE AND WATER MET
 x. BACKFLOW DEVICE INSTALLATION
 - d. WASTEWATER SYSTEM
 - i. TESTING OF BYPASS PUMP STATION
 - ii. INFILTRATION/EXFILTRATION TESTS
 - iii. LAMPING OF SEWER LINE
 - iv. TELEVISING AND INSPECTION OF SEWER LINES
- 8. CONTRACTOR SHALL USE 45' BENDS WITH MEGALUGS AT CONFLICTS WITH RESTRAINTS PER COLLIER COUNTY DETAIL G-4.
- 9. NOT ALL PROPOSED BENDS ARE SHOWN IN THE PLANS. ADDITIONAL FITTINGS MAY BE REQUIRED TO BEND THE WATER MAIN OR FORCE MAIN AS REQUIRED.
- 10. THE TOP OF ALL WATER AND FORCE MAINS SHALL BE INSTALLED A MINIMUM OF 30" AND A MAXIMUM OF 48" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.
- 11. IN CASE OF ANY SERVICE INTERRUPTION DUE TO THE CONTRACTOR'S ACTIVITIES, COLLIER COUNTY WILL CALL THE CONTRACTOR, AND IF THEY DO NOT RESPOND VIA PHONE WITHIN 1 HOUR AND ARRIVE ONSITE WITHIN THE SECOND HOUR, THE COUNTY WILL COMPLETE THE REPAIR AND INVOICE THE CONTRACTOR. THE CONTRACTOR WILL BE INVOICED ON A TIME AND MATERIAL (T&M) BASIS, WITH A MINIMUM OF 2 HOURS AT \$82 AN HOUR. PRIVATE WATER CHARGES AS A RESULT OF THE CONTRACTOR'S WORK SHALL BE PAID FOR BY THE CONTRACTOR.
- 12. LOCATION MARKERS ARE TO BE PLACED AT THE FOLLOWING LOCATIONS:
- o. EVERY ONE HUNDRED (100) FEET ALONG THE PROPOSED WATER MAIN AND FORCE MAIN
- b. ONE (1) AT EVERY SERVICE LATERAL END
- c. ONE (1) AT EVERY FITTING, BEND, OR CHANGE IN ALIGNMENT, AND VALVES
- d. TWO (2) ON LONG SERVICES, ONE AT MAIN AND ONE NEAR ROAD
- e. ONE (1) ON SHORT SERVICES, NEAR THE ROAD
- 13. CONTRACTOR TO UTILIZE METALIZED TAPE AND MARKER BALLS FOR ALL UNDERGROUND PIPING PER COUNTY STANDARDS. ADDITIONALLY, TRACKING/LOCATING WIRE SHALL BE USED FOR HORIZONTAL DIRECTIONAL DRILLS PER COUNTY STANDARDS.
- 14. CONTRACTOR SHALL ASSUME ALL EXISTING MAINS ARE UNRESTRAINED AT THE CONNECTION POINTS AND SHALL RESTRAIN THE MAINS IN ACCORDANCE WITH THE COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES STANDARDS MANUAL.

GRADY MIN	NOR STANDARD ABBREVIATIONS	IME	LAKE MAINTENANCE FASEMENT	LEGEND	-
AC	ASBESTOS CEMENT	MES	MITERED END SECTION	5	EX MITERED END SECTION
ARV	AIR RELEASE VALVE	MH	MANHOLE	\square	EX. MITERED END GEOTION
REW	BUTT FUSION WELD	MI	MECHANICAL JOINT	Ē	EX. CATCH BASIN
BI	BASELINE	MIN	MINIMUM		
BLVD	BOULEVARD	NEPA	NATIONAL FIRE PROTECTION AGENCY		PROPOSED YARD DRAIN
BOC	BACK OF CURB	NGVD	NATIONAL GEODETIC VERTICAL DATUM		
RSP	BACTERIAL SAMPLE POINT	NIC	NOT IN CONTRACT	النار	PROPOSED CATCH BASIN
CATV	CABLE TELEVISION	NOL	NOTICE OF INTENT		PROPOSED NITERED END SECTION
CB	CATCH BASIN	OFF.	OFFSET		PROPOSED WITERED END SECTION
CEI	CONSTRUCTION ENGINEERING AND INSPECTION	OR	OFFICIAL RECORD	$\mathbf{\Omega}$	PROPOSED JUCTION BOX
CL	CENTERLINE	PB	PLAT BOOK	v	
CMP	CORRUGATED METAL PIPE	PBSP	PERMANENT BACTERIAL SAMPLE POINT	0	PROPOSED INLINE YARD DRAIN
со	CLEAN OUT	PG	PAGE	- -	
CONC.	CONCRETE	PL	PROPERTY LINE	<u></u>	PROPOSED WATER METER
CUE	COUNTY UTILITY EASEMENT	POT.	POTABLE	e LaT	
DE	DRAINAGE EASEMENT	PROP.	PROPOSED		PROPOSED FIRE HYDRANT & TEE
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE PIPE	•	PROPOSED SAN SEWER LATERAL & CO
EL. OR ELEV.	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION	`	
EOP	EDGE OF PAVEMENT	PVMT.	PAVEMENT		PROPOSED FUTURE SIDEWALK
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	P.S.	PUMP STATION		
EXIST. or EX	EXISTING	RED.	REDUCER		PROPOSED BURIED FIBER OPTIC (APPROXIMATE)
FDC	FIRE DEPARTMENT CONNECTION	RCP	REINFORCED CONCRETE PIPE		
FDEP	FLORIDA DEPARTMENT OF ENVIRNOMENTAL PROTECTION	ROW	RIGHT-OF-WAY		
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	SAN.	SANITARY	PAVEME	NT PATTERNS:
FE	FLARED END	SB	SOIL BORING		
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	SFWMD	SOUTH FLORIDA WATER MANAGEMENT DISTRICT	- 안동 문화 문	(10) L
FFE	FINISHED FLOOR ELEVATION	ST.	STREET		CONCRETE
FH	FIRE HYDRANT	STA.	STATION	6 M. 3. 14/6 3 M.	21.12.900 a
FLG	FLANGED FITTING	SWK.	SIDEWALK		
FM	FORCE MAIN	SWR.	SEWER	-0-0-0-0	STAMPED/DECORATIVE CONCRETE
FPL OR FP&L	FLORIDA POWER & LIGHT	TBSP	TEMPORARY BACTERIAL SAMPLE POINT	$\mathcal{H}(\mathcal{H})$	
GE	GENERAL ELECTRIC	TEMP.	TEMPORARY		
GV	GATE VALVE	TOB	TOP OF BANK		PAINTED CONCRETE
HDPE	HIGH DENSITY POLYETHYLENE	105	TOE OF SLOPE		
HORIZ.	HORIZONTAL	TYP.	TYPICAL		
HW	HEADWALL	UE	UTILITY EASEMENT		PAVERS
INC.	INCORPORATED	VCI	VITRIFIED CLAY PIPE		
INV.	INVERI	VERI.	VERTICAL		
IRR.	IRRIGATION	VG	VALLEY GUITER		ASDHALT OVERLAY
JB	JUNGTION BOX	W/	WITH		ASFRALI OVERLAT
LBK	LANDSCAPE BUFFER EASEMENT	WCS	WATER CONTROL STRUCTURE		
	INLINE UKAIN	WM	WATER MAIN		×
L.r.	LINEAR FEET	τυ	YAKU UKAIN		MILLING & RESURFACING



			DESIGNED BY:					MUNICIPALITY:
			A.P.	.D.	0 Grady Minor and Associates 1	GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY
			DRAWN BY:		Grady Vinor 3800 Via Dell	V		SEC/TWN/RGE:
			E.M.I	.N.	Bonita Springs, Florida 34	4		27 AND 28/49S/26E
			APPROVED:					DATE:
		-	A.P.	.D.	Civil Engineers Land Surveyors Planners Landscope Archite	GENERAL NUTES		FEBRUARY, 2024
			JOB CODE:		Givir Eigneers • Land Surveyors • Franners • Landscape Arcine	5		SUBMITTAL TYPE:
			GGMF	PS	Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266			PHASE 1 BID
Revision	Date Description	By	- SCALE: 11×17 N.T.	.s.	Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.43	ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 5

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	SURVI	EY KEY DESCRIPTIONS						
	00005			0005	DECODIDION		0005	DECODIDITION
	CODE	DESCRIPTION		CODE	DESCRIPTION		CODE	DESCRIPTION
	AC_	AIR CONDITIONING UNIT	A	FMN_	FOUND MAG NAIL_SIZE_LB# OR NOID		SFS_	FEATURE SIGN
	AKL_	ARROW LEFT	A	FNL_	FOUND NAIL_SIZE_LB# OR NOID		SG_	SPOT GRADE (ON VARIOUS TYPES OF PAVEMENT)
	AKK_	ARKOW RIGHT		FOC_	FACE OF CURB_TYPE (A, D, E, F, VG)			
	ARS_	ARROW STRAIGHT	Δ	FPK_	FOUND P/K NAIL_SIZE_LB# OR NOID	0	SIGN_	SIGN_TYPE (DONOT ENTER, HANDICAP, STOP, #MPH, 1WAY, NO
+	ARV_	AIR RELEASE VALVE		FPL_	FLORIDA POWER AND LIGHT			PARKING, TRAFFIC-GENERAL, ETC)
- 6	_BM_	BENCHMARK (START WBM OF FOLLOWS MON. CODE)		FRM_	FORCE MAIN_U(UNDERGROUND), A(ABOVE GROUNT)	_		
							SHI_	SET HUB TACK
	BC_	BUILDING CORNER		FSE_	FINISH SECOND FLOOR ELEVATION	•	SIR_	SET IRON ROD_SIZE
X200	A REA	BACK FLOW PREVENTOR		FWD_	FENCE WOOD		SL_	SEI LATHE_X (GRADE) OR C# (MARKED CUT) OR F# (MARKED
	BKK_	BIKE RACK	Ţ	GA_	GUY ANCHOR			FILL)
-	BOC_	BACK OF CURB_IYPE (A, D, E, F, VG)		GB_	GRADE BREAK		SNL_	SEI NAIL_SIZE
	BOL_	BULLARD_TTPE		GMM_	GAS MAIN MARKER		SPK_	SET PARKER KALUN NAIL_SIZE
	BPL_	BLUE PAINT LINE		GP_	GENERATOR PAD	~	SIL_	STEEL PIPE_SIZE
	BPK_	BRICK PAVER		GR_	GUIDE RAIL	Ø	SV_	SEWER VALVE
	BRA_	BRIDGE ABUTTMENT		GSL_	UNDERGROUND GAS LINE		SWB_	SEA WALL BUTTOW
	B5_	BACK SITE_POINT #	G	GSM_	GAS METER		SVVL_	SWALE/FLOW LINE
	BIS_	BOTTOM OF STEP	ø	GT_	GREASE TRAP	-	SWI_	SEA WALL TOP
Г	DW	BURIED UTILITY FLAG	M	GUMB_	GUMBO TREE_SIZE_#(IF CLUSTER)	(D)	IBX_	TELEPHONE BOX (IN GROUND)
	DVV_	BUTTOM OF WALL		01/	CARNANYE	-	TCP_	TERRA COTTA PIPE_SIZE
	CRLC_		9	UU		Q	TLC_	CONC. TRAFFIC POLE
	CHW	CONCRETE HEADWALL		HDM	HANDICAD MAN SYMBOL	ğ	TLM_	METAL TRAFFIC POLE
	CI H	CENTERLINE HEDGE WIDTH	Ē	IRR		Q	TOD	TOD OF DANK
	CMP	CORRUGATED METAL PIPE SIZE		IRV	IRRIGATION VALVE		TOP_	TOP OF BANK
	CNP	CONCRETE PAD	6	I DA	LANDSCAPE PLANTING AREA		TOW	TOP OF WALL
0	CO	CLEANOUT		LIT	LITTORAL SHELF	^	TD TD	TRAVERSE POINT
- T	CPP_	CORRUGATED PLASTIC PIPE_SIZE	J.	LP_	LIGHT POLE_TYPE (WOOD, METAL, FIBERGLASS, CONCRETE)		TREE	TREE TYPE SIZE #(IE CLUSTER)
	CS_	CONTROL STRUCTURE	- / }			ă	TRS	TELEPHONE RISER
	DCK_	DOCK OR DECK	·	LA_	LANDSCAPE LIGHT	U	TST	TOP OF STEP
0	DEAD_	DEAD TREE_SIZE_#(IF CLUSTER)	ø	MAL_	MALILUKA TREE_SIZE_#(IF CLUSTER)	n	TVB	CABLE TELEVISION BOX (IN GROUND)
-	DKP_	DOCK OR DECK PILING OR POLE	Ē	MB_	MAILBOX	R	TVR	CABLE TELEVISION RISER
	DP_	DUMPSTER PAD	0	MES_	MITERED END SECTION_PIPE SIZE (SHOT AT END OF PIPE AT	Ä	UGTP	UNDERGROUND TELEPHONE LINE
E	EB_	ELECTRIC BOX(IN GROUND)			INVERT)	č	UGTV	UNDERGROUND TELEVISION LINE
	ELC_	ELECTRC LINE	O	MHD_	DRAINAGE MANHOLE_DEPTH	Ĩ	UMKR_	UNDERGROUND BURIED CABLE MARKER
E	ELR_	ELECTRIC RISER	E	MHE_	ELECTRIC MANHOLE			
E	EM_	ELECTRIC METER	S	MHS_	SANITARY MANHOLE_DEPTH	Ø	UPC_	CONCRETE UTILITY POLE
	EOC_	EDGE OF CONCRETE	T	MHT_	TELEPHONE MANHOLE	×.	UPM_	METAL UTILITY POLE
	EOG_	EDGE OF GRAVEL		MHWL_	MEAN HIGH WATER LINE	ø	UPW_	WOOD UTILITY POLE
	EOP_	EDGE OF PAVEMENT		MUMT	MANUOLE WATER	_	VGL_	VEGETATION LINE
	EOW_	EDGE OF WATER		MI 100 1_	WANNOLE WATER	$\langle X \rangle$	WBSP_	WATER BACTERIAL SAMPLE POINT
	ERCP_	ELLIPTICAL RCP_SIZE		MNGO	MANGO TREE_SIZE #(IF CLUSTER)		WDI	WOODSLINE
(FT)	ESW_	ELGE SIDEWALK	-	MPL	MAPLE TREE_SIZE_#(IF CLUSTER)	00	WELL_	WATER WELL
E	EIP_	ELECTRIC TRANSFORMER PAD	-	NG	NATURAL GRADE (DIRT. GRASS. ETC.)	Ŭ	WLC_	WALL CONCRETE
	FOL_	FOR CONCRETE MONUMENT, SIZE LE# OD NOID	G	OAK	OAK TREE SIZE #(IE CLUSTER)		WLN_	WATER LINE_U(UNDERGROUND), A(ABOVE GROUNT)
	TOM_	TOORD CONCILETE MONOMENT_DIZE_ED# OK NOD	-05	OHW	OVERHEAD WIRES			
	FCR_	FENCE CORNER	×	PALM	PALM TREE SIZE #(IF CLUSTER)		WLW_	WALL WOOD
	FDC_	FIRE DEPARTMENT CONTROL	~	PBID	PELICAN BAY IMPROVEMENT DEISTRICT	W	WM_	WATER METER
ĪŌ	FDH_	FOUND DRILL HOLE	*	PINE_	PINE TREE_SIZE #(IF CLUSTER)		WPL_	WHITE PAINTED LINE
	FFE_	FINISHED FLOOR ELEVATION	·140.	POL	POINT ON LINE		WS_	WHEEL STOP
	FGE_	FINISHED GARAGE FLOOR	æ	PPR_	PAPER TREE	~	WTL_	WETLAND MARKER_DESIGNATION & NUMBER
	FGP_	FENCE GATE/GATE POST	<i>,</i>	RCP_	REINFORCED CONCRETE PIPE_SIZE	M	WV_	WATER VALVE
-	FH_	FIRE HYDRANT		RMP_	HANDICAP RAMP	0	TU_	TAKU UKAIN
- O	FIP_	FOUND IRON PIPE_SIZE_LB# OR NOID		SB_	STOP BAR STRIPING		IPL_	TELLOW PAINTED LINE
1 0	FIR_	FOUND IRON ROD_SIZE_LB# OR NOID		SCM_	SET CONCRETE MONUMENT			
	FLGP_	FLAG POLE	•	SDH_	SET DRILL HOLE			
	_ [DENOTES A SPACE AFTER CODE AND P	RIOR T	O ADD	ITIONAL INFORMATION			



EX. FORCEMAIN
EX. SANITARY SEWER
EX. WATERMAIN
EX. STORM SEWER
PROPOSED FORCEMAIN & GATE VALVES
PROPOSED SANITARY SEWER & MANHOLE
PROPOSED WATERMAIN & GATE VALVES
PROPOSED STORM SEWER
RIGHT-OF-WAY (ROW)
PROPOSED TOP OF BANK
PROPOSED TOE OF SLOPE
PROPOSED W.M./F.M. DEFLECTION





: A.P.D.	Q. Grady Minor and Associates, P.A.	COLDEN GATE MASTER P
E.M.N.	Grauy Million 3800 Via Del Reg Bonita Springs, Florida 3413-	AFRIAI
A.P.D.	Civil Engineers • Land Surveyors • Planners • Landscape Architects Cert. of Auth. LB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266	EXISTING
S NOTED	Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASE CONVERSION FACTOR TO NATIONAL



GINEERING\PROJ-ENG\G\GGMPS\01DWGS\SUBMITTALTYPE\CONST PLANS\<u>GGMPS_SITE</u> 8/7/20



GINEERING\PROJ-ENG\G\GGMPS\01DWGS\SUBMITTALTYPE\CONST PLANS\<u>GGMPS_PS_SITE</u> 8/7/2024 1





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					DESIGNED BY:	A.P.D.	0. Grady Minor and Associates, P.A.	COLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS
Courter					DRAWN BY: E. APPROVED:	E.M.N.	GradyWillior 3800 Via Del Rey Bonita Springs, Florida 34134	
ler County					A JOB CODE: GG	A.P.D.	Civil Engineers • Land Surveyors • Planners • Landscape Architects Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266	PLAN VIEW-EQUIPMENT SECTIONS
	Revision	Date	Description	By	SCALE: 3/16"=1	1'-0"	Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+11.270'

1	MUNICIPALITY:
	COLLIER COUNTY
1	SEC/TWN/RGE:
	27 AND 28/49S/26E
- D	DATE:
	FEBRUARY, 2024
1	SUBMITTAL TYPE:
	PHASE 1 BID
ſ	SHEET 10

7	10"x10"x10" TEE	D.I., FLANGED w/ S.S. BLIND FLANGE
8	16"x16"x10 TEE	D.I., M.J., RESTRAINED
9	12" PLUG VALVE	D.I., FLANGED
10	12" CHECK VALVE	D.I., FLANGED
11	12"-90° BEND	D.I., FLANGED
12	12"-45° BEND	D.I., FLANGED
13	16"x12" REDUCER	D.I., FLANGED
14	16"x16"x12" TEE	D.I., M.J., RESTRAINED
15	12"x12"x12" TEE	D.I., FLANGED
16	12" FLOW METER	D.I., FLANGED
17	16" PLUG VALVE	D.I., M.J., RESTRAINED
18	16" PLUG VALVE	D.I., FLANGED
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK
34	20" - 45° BEND	D.I., M.J., RESTRAINED
35	20" x 16" TEE	D.I., M.J., RESTRAINED
36	20" x 16" REDUCER	D.I., M.J., RESTRAINED
37	16" BLIND FLANGE	WITH 4" CAMLOCK

FITTINGS and VALVES TAG LIST

COMMENTS

D.I., FLANGED

D.I., FLANGED

D.I., FLANGED

D.I., FLANGED

D.I., FLANGED

D.I., FLANGED

DESCRIPTION

10"x6" REDUCER

6" PLUG VALVE

6" CHECK VALVE

10"-90° BEND

10" CHECK VALVE

10" PLUG VALVE

TAG No.

1

2

3

4

5

6



FITTINGS and VALVES TAG LIST

COMMENTS
D.I., FLANGED
D w/ S.S. BLIND FLANGE
I.J., RESTRAINED
D.I., FLANGED
I.J., RESTRAINED
.I., FLANGED

TAG No.	DESCRIPTION	COMMENTS
16	12" FLOW METER	D.I., FLANGED
17	16" PLUG VALVE	D.I., M.J., RESTRAINED
18	16" PLUG VALVE	D.I., FLANGED
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK

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		MUNICIPALITY:	ŝ
PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY	ŝ
		SEC/TWN/RGE:	Ľ.
		27 AND 28/49S/26E	
NENT CECTIONS		DATE:	2
MENT SECTIONS		FEBRUARY, 2024	L.
		SUBMITTAL TYPE:	
		PHASE 1 BID	le le
SED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 11	









TAG No.

DESCRIPTION	COMMENTS
10"x6" REDUCER	D.I., FLANGED
6" PLUG VALVE	D.I., FLANGED
6" CHECK VALVE	D.I., FLANGED
10"-90° BEND	D.I., FLANGED
10" CHECK VALVE	D.I., FLANGED
10" PLUG VALVE	D.I., FLANGED
10"x10"x10" TEE	D.I., FLANGED w/ S.S. BLIND FLANGE
16"x16"x10 TEE	D.I., M.J., RESTRAINED
12" PLUG VALVE	D.I., FLANGED
12" CHECK VALVE	D.I., FLANGED
12"-90° BEND	D.I., FLANGED
12"-45° BEND	D.I., FLANGED
16"x12" REDUCER	D.I., FLANGED
16"x16"x12" TEE	D.I., M.J., RESTRAINED
12"x12"x12" TEE	D.I., FLANGED
12" FLOW METER	D.I., FLANGED
16" PLUG VALVE	D.I., M.J., RESTRAINED
16" PLUG VALVE	D.I., FLANGED
16" ACTUATED PLUG VALVE	D.I., M.J.
16" CHECK VALVE	D.I., M.J. RESTRAINED
16"-90° BEND	D.I., M.J. RESTRAINED
16"-90° BEND	D.I., FLANGED
16"-45° BEND	D.I., MJ., RESTRAINED
16"x16"x16" TEE	D.I., M.J., RESTRAINED
16"x16"x16" TEE	D.I., FLANGED
18"x16" REDUCER	D.I., FLANGED
AIR RELEASE VALVE	STAINLESS STEEL
6"x6"x6" TEE	PVC
6"-90° BEND	PVC
D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
12" BLIND FLANGE	WITH 6" CAMLOCK
10" BLIND FLANGE	WITH 6" CAMLOCK

FITTINGS and VALVES TAG LIST

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		MUNICIPALITY:	19
PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY	lΫ
		SEC/TWN/RGE:	Ш
		27 AND 28/49S/26E	lố
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ED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 12	EN C



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B.

evision Date

Description

A.P.D

GGMP

Civil Engineers • Land Surveyors • Planners • Landscape Architects

www.GradyMinor.com

Business LC 26000266

Fort Myers: 239.690.4380

Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151

Bonita Springs: 239.947.1144

		MUNICIPALITY:
GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY
		SEC/TWN/RGE:
		27 AND 28/49S/268
		DATE:
EQUIPMENT SECTIONS		FEBRUARY, 2024
		SUBMITTAL TYPE:
		PHASE 1 BID
ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 13

LANGE	
)	
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TAG No.	DESCRIPTION	COMMENTS
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK
34	20" - 45° BEND	D.I., M.J., RESTRAINED

FITTINGS and VALVES TAG LIST

32nd AVE. S.W.

GENERAL NOTES

FOUNDATIONS

- 1. NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
- 2. IN GENERAL, EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN A MINIMUM OF 2'-0" BELOW FINISHED EXTERIOR GRADE.
- 3. ALL FOUNDATIONS SHALL BEAR ON 12. OF COMPACTED GRAVEL ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF NOT LESS THAN 2500 PSF
- 4. ALL FINISHED EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR HIS DESIGNEE BEFORE ANY CONCRETE IS PLACED.
- 5. ALL BACKFILL UNDER OR ADJACENT TO ANY PORTION OF THE STRUCTURES SHALL BE COMPACTED IN 12" LIFTS. SEE SPECIFICATIONS.
- 6. PROVIDE 6" GRAVEL, COMPACTED TO 90% MODIFIED PROCTOR DENSITY, UNDER AII SLABS ON GRADE AND WHERE INDICATED ON THE DRAWINGS OVER WELL COMPACTED STRUCTURAL FILL

CONCRETE

- 1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS. THE LATEST EDITION OF THE ACI BUILDING CODE (AC! 318) AND AC! 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, AND TO THE FLORIDA BUILDING CODE. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN
- 2. All CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
- 3. VERTICAL CONSTRUCTION JOINTS AND STOPS IN THE CONCRETE WORK SHALL BE MADE AT MIDSPAN. PROVIDE DOWELS AT CONSTRUCTION JOINTS OF AREA EQUAL TO 0.5% OF THE VERTICAL CONCRETE AREA. SEE SPECIFICATIONS. PROVIDE BEVELED KEYWAYS AT AII CONSTRUCTION JOINTS.
- 4. AT LEAST 48 HOURS SHALL ELAPSE BEFORE DEPOSITING NEW CONCRETE. AGAINST PREVIOUSLY PLACED CONCRETE.
- 5. All CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS AGE: FOOTINGS AND INTERIOR CONCRETE SLABS - 4,000 PSI., CONCRETE EXPOSED TO THE ELEMENTS (EXTERIOR SLABS) CONCRETE EXPOSED TO SEWAGE - 4,000 PSI. REFER TO SPECIFICATIONS AND AC! 301 FOR DESIGN STRENGTHS REQUIRED FOR SELECTING MIX PROPORTIONS.
- 6. ALL SLABS ON GRADE SHALL BE PLACED IN ALTERNATE PANELS NOT EXCEEDING 900 S.F

REINFORCING

- 1. ALL REINFORCING BAR DETAILS SHALL CONFORM TO THE LATEST ACI CODE AND DETAILING MANUAL. EXCEPT AS OTHERWISE SPECIFIED.
- 2. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 EXCEPT TIES AND STIRRUPS GRADE 40. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS. LAPS SHALL BE STAGGERED AND SHALL BE 1-1/2 FULL MESH MIN.
- 3. SCHEDULE WITH THE SHOP DRAWINGS ALL NECESSARY ACCESSORIES TO HOLD REINFORCING SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS - 4 FEET ON CENTERS; SLAB BOLSTERS -3'-6" ON CENTERS; SUPPORT BARS FOR HIGH CHAIRS - #5.
- 4. All BARS, EXCEPT AS OTHERWISE NOTED, SHALL BE CONTINUOUS AND SHALL BE RUN CONTINUOUSLY AROUND CORNERS, LAPPED AT NECESSARY SPLICES, AND HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE 30-BAR DIAMETÉR MINIMUM, UNLESS OTHERWISE NOTED.
- 5. THE CONCRETE PROTECTIVE COVERING FOR MAIN REINFORCEMENT SHALL BE, UNLESS SHOWN OTHERWISE:
 - A FOOTING BOTTOMS ... 3 INCHES.
 - B. COLUMNS, BEAMS AND FORMED SURFACES IN DIRECT CONTACT WITH
 - SOIL OR EXPOSED TO THE WEATHER (EXCEPT SLABS) ... 2 INCHES.
 - C. SLABS EXPOSED TO THE WEATHER ... 1 INCH.
 - D. INTERIOR SLABS ... 3/4 INCH.
- 6. ALL CONCRETE, UNLESS SPECIFICALLY NOTED TO BE PLAIN CONCRETE, SHALL BE REINFORCED.
- 7. All REINFORCING SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR HIS DESIGNEE BEFORE CONCRETE IS PLACED.



				DESIGNED BY:	
				DRAWN BY:	M Grady
				E.M.N. APPROVED:	
				A.P.D.	Civil Engineers •
				JOB CODE: GGMPS	Cert. of Auth. EB 0005151
ision	Date	Description	Ву	SCALE: N.T.S.	Bonita Springs: 239.947.11

LOW

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	O. Grady Minor and Associates, P.A.	COLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS		MUNICIPALITY: COLLIER COUNTY
/M GradyMinor	3800 Via Del Rey Bonita Springs, Florida 34134			SEC/TWN/RGE: 27 AND 28/49S/26E
Civil Engineers • Land Surveyors • Planner	rs • Landscape Architects	STRUCTURAL DETAILS		DATE: FEBRUARY, 2024
Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151	Business LC 26000266			PHASE-1 BID
Bonita Springs: 239.947.1144 www.GradyMinor.co	<i>m</i> Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 14



EQUIPMENT PAD, FLOW METER PAD. AND TRANSFORMER PAD SCALE: 1/8" = 1'-0

UNIT LENGTH + 1'-0"

PIPE SUPPORT

1/8'' = 1' - 0'



8" CONC. SLAB REIF. W/#5@12EW

6#4's CONCRETE PAD SCHEDULE Y Ζ 43'-0" 22'-0" 16" TRANSFORMER PAD 6'-0" 6'-0" 16" . FLOW METER PAD 7'-6" 38'-0" 16" . 10#4 3.0

Х

EQUIPMENT PAD





SMOOTH DOWEL BAR 34" DIA x 14" LONG AT 12" OC COATED TO PREVENT BOND







PUMPS 4 and 5 NOT TO SCALE PUMP PEDESTAL DETAIL

NOT TO SCALE





SAWED CONTROL JOIN







				DESIGNED BY:			MUNICIPALITY:
				A.P.D.	O Grady Minor and Associates PA	AENTS	COLLIER COUNTY
				DRAWN BY:	A GradyWinor 3800 Via Del Rev		SEC/TWN/RGE:
				E.M.N.	Bonita Springs, Florida 34134		27 AND 28/49S/26E
				APPROVED:			DATE:
				A.P.D.	Civil Engineers Land Surveyors Planners Landscore Architecte MISCELLANEOUS DETAILS		FEBRUARY, 2024
				JOB CODE:	Givit Engliteets • Land Surveyors • Frankers • Landscape Architects		SUBMITTAL TYPE:
				GGMPS	Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266		PHASE 1 BID
Revision (late	Description	Rv.	SCALE:	Bonita Springs: 239.947.1144 WWW. GradyMinor. com Fort Myers: 239.690.4380 ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988	NAVD '88) ALEXANDER PAUL DUNKO, P.E.	SHEET 15
	Jule	beachption	ЪУ	11x17 1"=20'	CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 29) IS (1.270 FLORIDA P.E. LICENSE NO. 88695	

AUTOMATIC FLUSHING DEVICE (SEE COUNTY APPROVED PRODUCT LIST, APPROVED THOMATIC CONCRETE COLLAR VALUEY VALUEY VALUEY VALUEY VALUEY VALUE OCULAR VALUE VAL	CURB, GUTTER, CONTRACTOR SHALL CONTACT LOCAL FIRE DISTRICT FOR PAINT COLOR AND DYTORANT 2-0" SPECIFICATIONS RULE CONCRETE COLLAR CONCRETE BREAK SIDEWALK TWO PIECE CAST IRON VALVE PAVEMENT TWO PIECE CAST IRON VALVE DR 18 PVC PIPE EXTENSION IN REDED CO-000 DR 14 PVC PIPE EXTENSION IN EACR ON VALVE OR WATER MAIN WATER MAIN M	PROVIDE SCREENED, DOWNWARD- FACING PVC BEND IN ACCORDANCE WITH BRASS SIZEL IPARDWARE HASP WITH BRASS LOCK (KEYED FOR COLLER COUNTY) ACCORDANCE WITH FAC 62-555 SECTION 320(21)(B) REQUIREMENT COMBINATION AR RELEASE VALVE PRODUCT LIST, APPENDIX F) SCHEDULE 80 NIPPLE 1" BRASS CORPORATION STOP SCHEDULE 80 NIPPLE 1" BRASS CORPORATION STOP SCHEDULE 80 NIPPLE 1" BRASS CORPORATION STOP SCHEDULE 80 NIPPLE 1" BRASS CORPORATION STOP SEC COUNTY APPROVED PRODUCT LIST, APPENDIX F) 1" BRASS CORPORATION STOP SEE COUNTY APPROVED 1" BRASS PIPE 1" BRASS CORPORATION STOP SEE COUNTY APPROVED 1" BRASS CONTY APPROVED 1" BRASS CORPORATION STOP SEE COUNTY APPROVED 1" BRASS CONTY APPROVED 1" BRASS PROVED 1" BRASS CONTY APPROVED 1" BRASS CONTY APPROVED 1" BRASS	RIGHT-OF-WAY LINE RIGHT-OF-WAY LINE OR SIDEWALK 4" x 4" REINFORCED 4" x 4" REINFORCED 1/2" STAINLESS STEEL 1/2" STAINLESS STEE
	NTS Decentions commented Image: Comparison of the commented of	NIS REVISE: AUGUST 2008 SERVICE CONNECTION SIZING CHART SIGLE SERVICE CONNECTION TO DOUBLE SERVICE CONNECTION TO BIGLE SERVICE CONNECTION TO DOUBLE SERVICE CONNECTION TO 2' METER 1-1' 1'' METER 1-1' 2'' METER 1'' 2'' METER 2'' 1'' MOLIARER METER SHUL RE ERROR IN SINCE SERVES ONLY. 1.1'' MOLIARER METER SHUL RE ERROR IN SINCE SERVES ONLY. 1.1'' MOLIARER METER SHUL RE ERROR IN SINCE SERVES ONLY. 1.1'' MOLIARER METER SHUL RE ERROR IN SINCE SERVES ONLY. 1.1'' MOLIARER METER SHUL RE ERROR IN SINCE SERVES ONLY. 1.1'' MOLIARER METER SHUL RE COMMANY ANY MERING RE COMMANY ANY MERGE SERVES INFORMATING, INFORMATING INTO A COMPOSITION ONLY. 1.1'' MOLIARER METERS SHUL RE COMMANY ANY MERGE COMMANY ANY MERGE SERVES INFORMATING, INFORMATING INTO A COMPOSITION ON MATHER AND A COMPOSITION ON TO A COMPOSITION O	MTS REVISED: AUGUST 2008 Image: Contraction of the contraction of

Revision

										4
		1	ESIGNED BY:							MUNICIPALITY:
				A.P.D.		0 Grad	v Minor and Associates P A	GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS		COLLIER COUNTY
		1	RAWN BY:		1 Ma GradyMinor	çi oraq	3800 Via Del Rev			SEC/TWN/RGE:
				E.M.N.	Gradyminor	Bo	onita Springs, Florida 34134			27 AND 28/49S/26E
		1	PPROVED:							DATE:
				A.P.D.	Civil Engineere Lond Surveyore	Plannara	Landscape Architecte	MISCELLANEOUS DETAILS		FEBRUARY, 2024
			OB CODE:		Givii Englieers • Land Surveyors •	i lainiers •	Lanuscape Architects			SUBMITTAL TYPE:
				GGMPS	Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151		Business LC 26000266			PHASE 1 BID
Date	Description	By	CALE: 11×17	1"=20'	Bonita Springs: 239.947.1144 www.Grad	yMinor.com	Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270	ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695	SHEET 16





					DESIGNED BY: A.P.D.	0. Grady Minor and Associates, P.A.	COLDEN GATE MASTER PUM
Country					DRAWN BY: E.M.N. APPROVED:	GradyMillor 3800 Via Del Rey Bonita Springs, Florida 34134	MISCELLA
Jounty					A.P.D. JOB CODE: GGMPS	Civil Engineers • Land Surveyors • Planners • Landscape Architects Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266	MISCELLA
	Revision	Date	Description	Ву	SCALE: 11×17 1"=20'	Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED U CONVERSION FACTOR TO NATIONAL GEO







				DRAWN BY:	A.P.D.	M Gra
					E.M.N.	UT U
				APPROVED:		
					A.P.D.	Civil Engineero
				JOB CODE:		CIVII Engineers
					GGMPS	Cert. of Auth. EB 000515
				SCALE		D 11 0 1 000
Revision	Date	Description	By	11x17	1"=20'	Bonita Springs: 239

A CradyMinor	Q. Grady Minor and Associates, P.A.	GOLDEN GATE MASTER FC
Grauywiiior	3800 Via Del Rey Bonita Springs, Florida 34134	
Civil Engineers • Land Surveyo Cert. of Auth. EB 0005151 Cert. of Auth. LB 000	 Planners • Landscape Architects Business LC 26000266 	MISCELL
Bonita Springs: 239.947.1144 WWW	. GradyMinor. com Fort Myers: 239.690.4380	ELEVATIONS SHOWN HEREON ARE BASED CONVERSION FACTOR TO NATIONAL G

- EXISTING DRIVEWAY (WHERE APPLICABLE) AT MATCH LINE
- STABILIZED SUBGRADE USING A MINIMUM OF SIX INCHES OF COMPACTED LIMEROCK BASE OR FOUR INCHES OF ABC-3 (BLACK BASE) WITH ONE AND ONE-HALF INCHES OF ABC-3 (BLACK BASE) WITH ONE AND ONE-HALF INCHES OF ASPHALT CONCRETE SUBFRACE COURSE, CONFORMING TO F.D. D.T. SPECIFICATIONS FOR TYPE S.
- DRIVEWAYS FOR MULTI-FAMILY, COMMERCIAL OR INDUSTRIAL USE SHALL BE CONSTRUCTED ON A STABILIZED SUBGRADE, USING A MINIMUM OF EIGHT INCHES OF COMPACTED LIMEROCK BASE (LBR-100) OR SIX INOCHES OF ABC-3 (PLACK BASE) WITH TWO INCHES OF ASPHALT CONCRETE SURFACE COURSE CONFORMING TO F.D.O.T. SPECIFICATIONS FOR TYPE S.
- 4. FOR GRAVEL DRIVEWAYS, BLEND IN EXISTING DRIVEWAY AT TERMINATION OF NEW APRON WITH LIKE MATERIAL (GRAVEL) AT PROPERTY LINE.

NICIPALIT COLLIER COUNTY SEC/TWN/RGE: 27 AND 28/495/26 ANEOUS DETAILS FEBRUARY, 2024 UBMITTAL TYPE: PHASE 1 BID D UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) SEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270' ALEXANDER PAUL DUNKO, P.E. FLORIDA P.E. LICENSE NO. 88695 SHEET 18



GENERAL AN	ID ANNOTATIVE SYMBOLS
<u>SYMBOL</u>	DESCRIPTION
	EXPOSED CONDUIT
	BRANCH CIRCUIT, CONCEALED ABOV WALL WHERE POSSIBLE. WHERE EXF PARALLEL AND PERPENDICULAR TO
	CONDUIT IN SLAB OR BELOW GRADE
——UE ——	UNDEGROUND ELECTRICAL PRIMARY
——UG——	DIRECT BURIED CABLE
—— DB ——	UNDERGROUND CONCRETE ENCASE
——E——	DIRECT BURIED CONDUIT
OE	OVERHEAD NON-RIGID LINE
	CONDUIT WITH CONDUIT SEAL FITTIN
	NON-RIGID CONDUIT
————	CONDUIT TO CABLE GLAND SEAL
o	CONDUIT BENDS TOWARD OBSERVE
———Э	CONDUIT BENDS AWAY FROM OBSEF
	CONDUIT STUB AND CAPPED
P1:X,Y,Z	BRANCH CIRCUIT HOME RUN. 3/4"C(# P1 - PANELBOARD X,Y,Z - CIRCUIT NUMBERS
—— —— ——	BELOW-GRADE PENETRATION COND
	WALL
	CONDUIT FIRE-RATED WALL PENETR

GENERAL AND ANNOTATIVE SYMBOLS		
<u>SYMBOL</u>	DESCRIPTION	
^{XX} -	5-20R DUPLEX RECEPTACLE, 20 AMP, 5-20R, 125V - 18" AFF INTERIOR, 48" AFG EXTERIOR, U.N.O. XX - MOUNTING HEIGHT GFCI - GROUND FAULT PROTECTION WP - WEATHERPROOF COVER WPU - WEATHERPROOF WHILE IN USE COVER IG - ISOLATED GROUND	
	NOTE: RECEPTACLE MODIFIERS APPLICABLE TO ALL RECEPTACLE TYPES.	
Ø	FLOOR MOUNT DUPLEX RECEPTACLE	
₩	QUADPLEX RECEPTACLE	
Ð	CEILING MOUNT DUPLEX RECEPTACLE	
-	DUPLEX RECEPTACLE - POWERED FROM UPS	
-	HALF SWITCHED DUPLEX RECEPTACLE	
-1	DUPLEX RECEPTACLE - MOUNT 6" ABOVE COUNTER	
¹	RECEPTACLE - DUPLEX OUTDOOR WP/GFCI w/ IN-USE COVER	
∇	RECEPTACLE - SPECIAL (AS INDICATED ON PLANS) T - TWIST LOCK	
	RECEPTACLE - WELDING	
上上	RECEPTACLE - PLUG STRIP	
FB	FURNITURE SYSTEM CONNECTION BOX	
P:X-Y	NUMBERS ADJACENT TO RECEPTACLE INDICATED SOURCE PANEL ("P:X") AND CIRCUIT NUMBER ("Y") FEEDING BRANCH CIRCUIT.	

SWITCH SYMBOLS		
<u>SYMBOL</u>	DESCRIPTION	
a S x	120/277V, SINGLE TOGGLE, LIGHT SWIT X - DENOTES TYPE 3 - 3 WAY 4 - 4 WAY D - DIMMING (1500 WATT U.N.O.) OS - OCCUPANCY SENSOR WITH OVERRIDE OSD - OCCUPANCY SENSOR WIT DIMMING AND MANUAL OV M - MOTOR RATED LOCKABLE TO SWITCH LV - LOW VOLTAGE DIGITAL LV2 - LOW VOLTAGE DIGITAL LV2 - LOW VOLTAGE DIGITAL WP - WEATHERPROOF COVER HOA - HAND-OFF-AUTO a - DENOTES FIXTURES CONTRO	
M	VACANCY/OCCUPANCY SENSOR, CEI	
PC	PHOTOCELL (MOUNT EXTERIOR OF B FACING NORTH U.N.O)	
LC	LIGHTING CONTACTOR.	

	LIGHTING S	YMBOLS	POWER	PLAN SYMBOLS
	<u>SYMBOL</u>	DESCRIPTION	<u>SYMBOL</u>	DESCRIPTION
VE CEILING OR IN POSED ROUTE STRUCTURE.	xx	CEILING MOUNTED EXIT SIGN. ARROW IF INDICATED DENOTES ARROWS ON EXIT FACE PLACE. HATCH INDICATES NUMBER OF EXIT FACES. XX - DENOTES TYPE. SEE FIXTURE SCHEDULE	3P/30A 4X X	DISCONNECT SWITCH (SIZE M/ DENOTE ACTUAL EQUIPM X - DENOTES TYPE E - FUSED
E	$\vdash \bigotimes$	WALL MOUNTED EXIT SIGN.		NF - NON-FUSED (OR LEF CB - ENCLOSED CIRCUIT 3P - NUMBER OF POLES
RY CONDUCTOR	P1:10	EMERGENCY UNIT LIGHT FIXTURE WITH 2 HEADS		30A - AMP RATING 4X - NEMA RATING 3R - PAINTED STEEL 4X - 316 STAINLESS STEE
ED DUCT BANK	XX a	CEILING LIGHT FIXTURE. SIZED PER PHYSICAL DIMENSIONS OF FIXTURE XX - DENOTES TYPE. SEE FIXTURE SCHEDULE a - DENOTES CONTROLLED BY SWITCH IF		N1 - INTERIOR RATED N12 - INTERIOR WITH DU 4XP - NON-METALLIC NEI N7 - EXPLOSION PROOF
NG		P1:10 - DENOTES SOURCE PANEL AND BRANCH CIRCUIT NUMBER NOTE: FIXTURE MODIFIERS APPLICABLE TO ALL FIXTURE TYPES.	ריין אין אין אין אין אין אין אין אין אין	COMBINATION TYPE STARTER X - NEMA STARTER SIZE M - MAGNETIC TYPE E - ELECTRONIC TYPE
ER		CEILING LIGHT FIXTURE HATCH DENOTES EQUIPPED WITH EMERGENCY BATTERY BACKUP UNIT	<u>100AF</u> 80AT	FULL VOLTAGE NON-REVERSI TOP NUMBER DENOTES FRAM BOTTOM NUMBER DENOTES T
	\Box	WALL MOUNTED LIGHT FIXTURE	J	JUNCTION BOX - GENERAL-PUI
#12 AWG MIN) U.N.O.	\oslash	RECESSED DOWN LIGHT FIXTURE	HxWxD	EXTERIOR JUNCTION BOX XX DENOTES NEMA RAT
DUIT SEAL	×	HIGH MAST LIGHT FIXTURE	РВ	PULL-BOX
		POLE MOUNTED LIGHT FIXTURE		HAND HOLE
KA HUN		POLE MOUNTED LIGHT FIXTURE WITH NUMBER OF ARMS OR HEADS AS SHOWN	МН ТВ	MAN HOLE TERMINAL BOX
		HANDRAIL MOUNTED LIGHT FIXTURE		UTILITY METER

VITCH. 48" AFF
9.) TH MANUAL /ITH DVERRIDE TOGGLE
VITH
ROLLED
EILING MOUNTED
BUILDING

	N12 - INTERIOR WITH D 4XP - NON-METALLIC N N7 - EXPLOSION PROOI
⊠r _{1x}	COMBINATION TYPE START X - NEMA STARTER SIZE M - MAGNETIC TYPE E - ELECTRONIC TYPE
\boxtimes	FULL VOLTAGE NON-REVER
100AF 80AT	TOP NUMBER DENOTES FRA BOTTOM NUMBER DENOTES
J	JUNCTION BOX - GENERAL-P
HxWxD	EXTERIOR JUNCTION BOX XX DENOTES NEMA RA HxWxD DENOTES DIME
РВ	PULL-BOX
НН	HAND HOLE
мн	MAN HOLE
ТВ	TERMINAL BOX
₽ M	UTILITY METER
∑ T <u>3</u> 8	DRY-TYP TRANSFORMER (U.N SIZE MAY VARY ON PLAN SHE ACTUAL TRANSFORMER DIME
	ELECTRICAL EQUIPMENT AS PLANS. SURFACE MOUNTED.
	ELECTRICAL EQUIPMENT AS PLANS. FLUSH OR RECESSED
x	MOTOR OR MOTOR CONNEC X - DENOTES HP
E	PROVIDE ELECTRICAL CONN EQUIPMENT FURNISHED BY (
●	CONTROL SWITCH OR STATIO MOTORS
SPD C3	SURGE PROTECTION DEVICE C3 = SERVICE ENTRANG B3 = DISTRIBUTION DEV A3 = POINT OF USE DEV
ST	SHUNT-TRIP BUTTON. FLUSH FOR EXTERIOR LOCATIONS
VFD	VARIABLE FREQUENCY DRIVE
RVSS	REDUCED VOLTAGE SOFT ST
ATS	AUTOMATIC TRANSFER SWIT
\bigcirc	GENERATOR
Ţ	THERMOSTAT
LC	LIGHTING CONTACTOR
С)	UTILITY POLE
	FLOAT SWITCH

	1 1 1 1	NESS NO. 2429	etratech.com	(, SUITE 102(0, FL 33928(39) 390-1769
CH (SIZE MAY VARY AND MAY JAL EQUIPMENT DIMENSIONS)		TRA T IGINEERING BUSI	www.t	EVROLET WAY ESTER D-1467 FAX: (2:
ED (OR LEFT BLANK) ED CIRCUIT BREAKER LES	C			10600 CHI JE: (239) 390
TING STEEL ILESS STEEL RATED R WITH DUST GASKET TALLIC NEMA 4X ON PROOF		ť	J	NOHG
E STARTER AND DISCONNECT SIZE E (PE				
N-REVERSING (FVNR) STARTER				
DTES FRAME SIZE DENOTES TRIP OR FUSE SIZE				
NERAL-PURPOSE			21	
N BOX NEMA RATING TES DIMENSIONS			Collier Commi	
RMER (U.N.O). PLAN SHEETS TO DENOTE MER DIMENSIONS			•	
IENT AS NOTED ON DUNTED.				
MENT AS NOTED ON ECESSED MOUNTED.				
CONNECTION POINT HP				
AL CONNECTION TO HED BY OTHERS	NO			
OR STATION FOR	SCRIPT			
N DEVICE ENTRANCE DEVICE (TYPE 1) TION DEVICE (TYPE 2) USE DEVICE (TYPE 3)	DATE DE			
N. FLUSH MOUNTED NEMA 4X ATIONS	MARK			
CY DRIVE				
SOFT STARTER	ES	_	В	
ER SWITCH	ΟυντΥ υτιμτ	N GATE WWTP PUMP STATION		LIMIDULS
OR	COLLIER C	GOLDEI MASTER	ELECTR	。 ろ
	Project Design Drawn	No.: ed By: By:	200-084	86-20013 JAS JAS
	Checke	ed By:		TW
	E	Ξ-()()	1



LIGHTNING PROTECTION SYMBOLS	
SYMBOL	DESCRIPTION
کھ _۶	AIR TERMINAL - ROOF MOUNTED (3/8"Ø X 12" U.N.O) F = ADHESIVE SECURED
	AIR TERMINAL - MOUNTED TO SIDE OF EQUIPMENT/PARAPET
À	AIR TERMINAL - MULTIPOINT
الله الم	AIR TERMINAL - ELEVATED HEIGHT WITH DIAGONAL BRACING H = OVERALL HEIGHT ABOVE MOUNTING SURFACE
· · ·	CROSS CONDUCTOR
—— CI ——	CLASS I LIGHTNING PROTECTION CABLE
—— CII ——	CLASS II LIGHTNING PROTECTION CABLE
<u>(</u>)	THROUGH-ROOF PENETRATION SEAL
L L	CONDUCTOR BONDING CONNECTION
} •	EQUIPMENT/BUILDING BONDING CONNECTION
	DOWN-LEAD CONDUCTOR (TO EARTH ELECTRODE SYSTEM) PROVIDE BI-METALLIC CONNECTION IN JUNCTION BOX BETWEEN LIGHTNING PROTECTION CABLE AND GROUNDING CABLE
l	

GROUNDING	S SYMBOLS
SYMBOL	DESCRIPTION
G	GROUND CONDUCTOR. BARE COPPER GROUND COUNTERPOISE. (4/0 TINNED COPPER)
— — G — — ©	GROUND CONDUCTOR BURIED 30" BELOW GRADE
— — G — —	GROUND CONDUCTOR WITH EXOTHERMIC CONNECTION. PIGTAIL 18" ABOVE FINISHED FLOOR.
— • G — —	GROUND CONDUCTOR WITH MECHANICAL CONNECTION.
—	GROUND BAR - SEE PLANS AND SPECS FOR DIMENSIONS AND REQUIREMENTS
\boxtimes	GROUND ROD WITH INSPECTION WELL
×	GROUND ROD (3/4"Ø X 10' COPPER-CLAD U.N.O)
*	CONCRETE ENCASED ELECTRODE OR INDICATES BONDING TO CONCRETE REBAR

ACCESS CO	
SYMBOL	DESCRIPTION
DC	DOOR CONTACT
RX	REQUEST TO EXIT
CR	CARD READER
CRP	CARD READER WITH PINPAD
DL	DOOR LATCH - ELECTRIC STRIKE
IDP	INTRUSION DETECTION PANEL. PROVIDE 120VAC BRANCH CIRCUIT
ACP	ACCESS CONTROL PANEL. PROVIDE 120VAC BRANCH CIRCUIT
HS	INTERCOM HANDSET
\searrow	INTERCOM SPEAKER

FIRE PROTE	IRE PROTECTION SYMBOLS						
SYMBOL	DESCRIPTION						
(FD) XX	FLAME DETECTOR XX-DENOTES TYPE UV/IR - COMBINATION UV - ULTRAVIOLET IR - INFRARED VR - VISIBLE RADIATION						
(HD) _{XX}	HEAT DETECTOR XX-DENOTES TYPE F - FIXED R - RATE OF RISE						
GD XX	GAS DETECTOR XX- GAS TYPE						
SD XX	SMOKE DETECTOR XX-DENOTES TYPE ID - IN DUCT I - IONIZATION P - PHOTO ELECTRIC IP - DUAL RATED R - RETURN S - SUPPLY						
—— F ——	FIRE ALARM SYSTEM CONDUIT AND WIRING						
\\ F	FIRE ALARM STROBE LIGHT WALL MOUNTED						
H	FIRE ALARM HORN ONLY						
F CD	FIRE ALARM HORN/STROBE LIGHT COMBINATION WALL MOUNTED CD = CANDELA RATING						
SP	MASS NOTIFICATION SPEAKER/STROBE LIGHT COMBINATION WALL MOUNTED						
F	FIRE ALARM SPEAKER/STROBE LIGHT COMBINATION CEILING MOUNT						
FAAP	FIRE ALARM ANNUNCIATOR PANEL						
FACP	FIRE ALARM CONTROL PANEL						
GAP	GRAPHIC ANNUNCIATOR						
ANN	REMOTE ANNUCIATOR PANEL						
RL	OUTPUT RELAY						
VS	VALVE SUPERVISOR SWITCH						
PS	PRESSURE SWITCH						
DH	DOOR HOLDER						
F	FIRE ALARM MANUAL PULL STATION						
R	FIRE ALARM RELAY						
FS	FIRE ALARM FLOW SWITCH						
FE	FIRE EXTINGUISHER						
TS	FIRE ALARM TAMPER SWITCH						

TELECOMMUNICATIONS SYMBOLS

SYMBOL	DESCRIPTION
4	TELECOMMUNICATIONS JACK. PRO CONDUIT TO SOURCE AS INDICATE AREAS WITH DROP CEILING PROVI TO ABOVE CEILING AND THEN UTIL OR "J" HOOKS TO ROUTE CAT-6 TO
4	COMBINATION TELECOMMUNICATION PROVIDE TWO CAT-6
\bigcirc	CEILING MOUNTED
	WIRELESS ACCESS POINT
\square	FLOOR MOUTED
TV	TELEVISION OUTLET, HEIGHT AS N PROVIDE 1" CONDUIT TO SOURCE
AV	A/V BOX, PROVIDE 2" CONDUIT TO
*****	BASKET TYPE CABLE TRAY
	LADDER TYPE CABLE TRAY



INDICATES QUANTITY

SINGLE-LINE	SINGLE-LINE DIAGRAM SYMBOLS							
<u>SYMBOL</u>	DESCRIPTION	SYMBOL	DESCRIPTION					
R XX	TRANSFORMER XX - DENOTES SIZE IN KVA YY - DENOTES VOLTAGE AND PHASE		HIGH VOLTAGE FUSE (ABOVE 600 V)					
K YY	R - DENOTE IMPEDANCE (PROVIDE STANDARD IF BLANK) K - DENOTES K-FACTOR	XX:A	LOW VOLTAGE FUSE XX DENOTES AMP RATING					
\bigtriangleup	DELTA CONFIGURED WINDING	0 0	CIRCUIT BREAKER					
	WYE CONFIGURED WINDING	$\langle \leftarrow \circ \circ \rightarrow \rangle$	DRAW OUT BREAKER					
	GROUND ELECTRODE (3/4"Ø X 10') COPPER-CLAD U.N.O.	x	MOTOR WITH ASSUMED HORSEPOWER. A HORSEPOWER MAY DIFFER - INCREASE A					
SPD	SURGE PROTECTION DEVICE	9	REQUIRED					
	DISCONNECT SWITCH	(ST)	SHUNT TRIP					
TTTT	HEATER w/ SIZE INDICATED	$\mathbf{\mathbf{Y}}$	UTILITY CONNECTION					
\otimes	SOLENOID VALVE	CT-M	CT ENCLOSURE WITH SEPARATE METER					
	TRANSFER SWITCH	G XX:KW YY:V Y_	GENERATOR XX: DENOTES SIZE IN KW YY: DENOTES VOLTAGE AND PHASE					
			FLOAT SWITCH					
000	LOW VOLTAGE DISCONNECT SWITCH	⊰ (3)	CURRENT TRANSFORMER, (3)					

CONTROL CIRCUIT & PILOT DEVICE LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DE
0	PRESS. ACTUATED SWITCH	-(CR)-	CONTROL RELAY COIL	0_0	TIME ON E
\sim	FLOAT ACTUATED SWITCH		CONTROL RELAY CONTACT-NORMALLY OPEN		MOI
	FLOW ACTUATED SWITCH	\searrow	CONTROL RELAY CONTACT-NORMALLY CLOSED	$\circ \mid \circ$	MOI
	TEMP. ACTUATED SWITCH		TWO COIL LATCHING RELAY	oto	PUS
\sim	LIMIT SWITCH - NORMALLY OPEN				FIEL
0470	LIMIT SWITCH - NORMALLY CLOSED	-(T)-	TIMING RELAY COIL		MAL
o <u>∽</u> o	LIGHT SWITCH - NORMALLY CLOSED HELD OPEN	\sim	TIMED CLOSED CONTACT ON ENERGIZATION		WAI
00	LIGHT SWITCH - NORMALLY OPEN HELD CLOSED	oto	TIMED OPEN CONTACT ON ENERGIZATION		MA PU
	FUSE	\sim	TIMED OPEN CONTACT ON DE-ENERGIZATION	-0/\0-	SO
					PL IN

OVIDE CAT-6 IN 1" ED ON PLANS. IN IDE 1" CONDUIT LIZE CABLE TRAY O SOURCE

FIONS JACK.

NOTED ON PLANS. E SHOWN SOURCE SHOWN



TW

E-002

Checked By:

1.	PERFORM WORK IN COMPLIANCE WITH CODES AND ORDINANCES APPLICABLE TO AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO; NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION CODES, BUILDING CODES, ENERGY CODES, HEALTH AND SAFETY	18.	
	CODES, LOCAL LAWS AND REGULATIONS, AND ACCESSIBILITY REQUIREMENTS. ADJUST WORK REQUIRED BY THIS CONTRACT WHERE NECESSARY FOR COMPLIANCE.	19.	
2.	ADHERE TO THE LATEST VERSION OF APPLICABLE INDUSTRY STANDARDS, INCLUDING BUT NOT		
	PRACTICES FOR LIGHTING, NETA ACCEPTANCE TESTING STANDARDS (ATS), INSTITUTE OF		
	ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE), ANSI, ELECTRONIC INDUSTRY ALLIANCE / TELECOMMUNICATIONS INDUSTRY ASSOCIATION (EIA / TIA), AND BUILDING INDUSTRY		
•	CONSULTING SERVICES INTERNATIONAL (BICSI.)	20.	
3.	TESTING LABORATORY ACCEPTABLE TO THE AUTHORITIES HAVING JURISDICTION. CONTROL		
	PANELS SHALL BE UL 508A LISTED AND LABELED. ANY PLC PANEL, UL 508A CONTROL PANEL, MCC, SWITCHGEAR, STANDALONE MOTOR CONTROLLERS, OR OTHER LISTED ELECTRICAL		
	EQUIPMENT MODIFIED IN THE FIELD AFTER IT HAS LEFT THE FACTORY SHALL BE EVALUATED BY AN NRTL TO PROVIDE A FIELD LISTING.	21.	
4.	ADHERE TO OWNER'S SITE-SPECIFIC PROTOCOLS INCLUDING, BUT NOT LIMITED TO; SYSTEM OPERATIONS, HEALTH AND SAFETY, SITE ACCESS RESTRICTIONS, AND LOCK-OUT / TAG-OUT PROCEDURES		
5.	PERFORM ELECTRICAL WORK IN ADHERENCE TO NECA 1 - STANDARD FOR GOOD		
6	WORKMANSHIP IN ELECTRICAL CONSTRUCTION.	22.	
0.	APPLICABLE.		
7.	THE CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO: TEMPORARY PROVISIONS TO MAINTAIN FACILITY USE. TEMPORARY	23.	
	CONSTRUCTION POWER AND COMMUNICATIONS, TOOLS / EQUIPMENT / AND MATERIALS		
	HEALTH AND SAFETY, CONSTRUCTION SCHEDULING, SEQUENCE OF CONSTRUCTION, AND	<u> </u>	
8.	PLAINING AND COORDINATION OF WORK. PREPARE AND SUBMIT COORDINATION DRAWINGS FOR ELECTRICAL EQUIPMENT PLACEMENT	24.	
	UNDERGROUND DUCT BANKS, AND OVERHEAD CONDUIT RACKS AND CABLE TRAYS. ILLUSTRATE	25.	
	ADJACENT ITEMS FOR CODE-REQUIRED CLEARANCES, AND ACCESS AS REQUIRED FOR	26.	
	EQUIPMENT SHOP DRAWING APPROVAL.)		
9.	PLAN, PERMIT AND EXECUTE TRAFFIC CONTROL MEASURES AS REQUIRED TO PERFORM WORK IN STREETS AND PUBLIC RIGHT-OF-WAY.	07	
10.	PROTECT NEW AND EXISTING EQUIPMENT AND MATERIALS FROM DAMAGE AND DETERIORATION	27.	
	DURING CONSTRUCTION. REPAIR OR REPLACE ITEMS DAMAGED DURING CONSTRUCTION TO THE EXTENT THEIR DAMAGE IS UNNOTICEABLE AND IN A MANNER THAT DOES NOT AFFECT		
	FUNCTION, USE, OR LONGEVITY (AT NO COST TO THE OWNER). WARRANTIES SHALL NOT BE AFFECTED BY ANY REPAIRS MADE IN THE FIELD.	00	
11.	THE OWNER HAS THE RIGHT TO RETAIN OR REFUSE ANY AND REMOVED MATERIALS.	28.	
	COORDINATE WITH THE OWNER ON RETAINED ITEMS AND EXERCISE CARE IN REMOVAL, HANDLING AND STORAGE. ITEMS NOT RETAINED BY THE OWNER SHALL BE RECYCLED WHERE	18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38.	
	SUCH PROGRAMS EXIST, NON-RECYCLABLE ITEMS SHALL BE LAWFULLY DISPOSED OF BY THE CONTRACTOR.		
12.	FACILITY OPERATIONS AND USE SHALL BE MAINTAINED, EXCEPT AS EXPLICITLY IDENTIFIED FOR	30.	
	DECOMMISSIONING. PROVIDE TEMPORARY FACILITIES AND SERVICES NECESSARY TO MAINTAIN FACILITY OPERATIONS DURING CONSTRUCTION. COORDINATE SCHEDULING AND TEMPORARY		
	PROVISIONS FOR SYSTEM OUTAGES WITH THE OWNER A MINIMUM OF TWO WEEKS IN ADVANCE OF WORK WHICH MAY AFFECT FACILITY OPERATIONS. THIS MAY INCLUDE TEMPORARY LIFE	31.	
	SAFETY SYSTEMS, TEMPORARY POWER, TEMPORARY COMMUNICATION NETWORKS, TEMPORARY CONTROLS SOFTWARE AND HARDWARE. THESE ITEMS ARE TO BE INCLUDED IN		
	THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR		
13.	WHERE NEW UTILITIES ARE INCLUDED IN THE SCOPE OF WORK, COORDINATE EXACT DIVISION	32.	
	OF UTILITY WORK WITH LOCAL UTILITY COMPANIES PROVIDING SERVICES. WHERE CONTRACT REQUIREMENTS EXCEED THIS COORDINATED RESPONSIBILITY, PROVIDE SUITABLE CREDIT FOR	33	
	WORK BEING PERFORMED BY OTHERS.		
14.	THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND REPRESENT SYSTEMS THAT ARE COMPLETE AND FUNCTIONAL FOR THEIR INTENDED USE. PROVIDE SUPPLEMENTAL	34.	
	MATERIALS, LABOR AND OTHER ANCILLARY ITEMS REQUIRED FOR COMPLETE INSTALLATION. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR	35.	
4-	CLAIMS OF ADDITIONAL COST OR TIME.		
15.	THE CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PROCESS EQUIPMENT SUPPLIERS. THE INTENT OF THE ELECTRICAL DRAWINGS IS TO PROVIDE A FULLY FUNCTIONAL HVAC AND	36.	
	PROCESS TREATMENT SYSTEM. AS SUCH, THE CONTRACTOR MAY BE REQUIRED TO MODIFY ELECTRICAL INSTALLATION INDICATED ON PLANS OR PROVIDE SUPPLEMENTAL MATERIALS,		
	LABOR AND OTHER ANCILLARY ITEMS REQUIRED FOR COMPLETE INSTALLATION. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF		
4.5	ADDITIONAL COST OR TIME	37.	
16.	PROVIDE ADDITIONAL JUNCTION BOXES, PULL BOXES AND HANDHOLES NECESSARY TO LIMIT INSTALLED CONDUIT BENDS TO NO MORE THAN 360-DEGREES FOR OVERHEAD WORK, AND	38.	
	270-DEGREES FOR UNDERGROUND WORK. LOCATE BOXES BASED OF CABLE PULLING TENSION AND ACCESSIBILITY. SIZE BOXES PER CABLE MANUFACTURES BENDING RADIUS		
	REQUIREMENTS AND THE NEC. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME. INSTALL ATION OF		
	NETWORK CABLING AND EQUIPMENT SHALL COMPLY WITH APPLICABLE EIA/TIA AND BICSI REQUIREMENTS.		
17.	CONVENIENCE OUTLETS SHOWN WITHOUT DESIGNATED CIRCUITRY SHALL INCLUDE CONDUIT		
	AND WIRE BACK TO THE NEAREST 120V BRANCH CIRCUIT PANELBOARD USING WIRING METHODS CONSISTENT WITH SIMILAR CIRCUITS WITHIN THAT AREA. THIS WORK SHALL BE		
	INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.		

/IDE BRANCH CIRCUIT WIRING AND CONTROLS FOR INSTALLED LIGHTING SYSTEMS. THIS RK IS TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS DDITIONAL COST OR TIME.

- JST BRANCH CIRCUIT CONDUCTOR SIZES TO COMPENSATE FOR VOLTAGE DROP AND ATING OF AMPACITY BASED ON THE NUMBER OF CONDUCTORS CONTAINED WITHIN A ECT RACEWAY. FOR 20-AMPERE BRANCH CIRCUITS EXCEEDING 75-FEET IN OVERALL ITIONAL COST OR TIME.
- NSIONAL TOLERANCES ARE NOT SPECIFICALLY INDICATED IN PLANS, DETAILS AND PENDED ITEMS SEPARATED BY 12" OR MORE TO A TOLERANCE OF 1/16". PLUMB ITEMS HIN 1/32" ACROSS ITS HORIZONTAL SURFACE IN EACH DIRECTION.
- ESS OTHERWISE NOTED AND INCLUDE AN INSULATED GREEN GROUNDING CONDUCTOR UDES INSTRUMENTATION DEVICES SUCH AS LEVEL, PRESSURE, FLOW TRANSMITTERS, SWITCHES, CONDUITS, NETWORK AND I/O CABLES.
- IPLETELY CONCEAL POLY-VINYL CHLORIDE (PVC) CONDUITS WITHIN CONCRETE OR BELOW DE (UNLESS SPECIFICALLY INDICATED OTHERWISE.) PROVIDE RIGID GALVANIZED STEEL RS AND ELBOWS (WITH OR WITHOUT PVC COATING AS SPECIFIED) FOR EMBEDDED / RGROUND PVC CONDUIT RUNS.
- STERED PROFESSIONAL ENGINEER FOR SEISMIC RESTRAINT.
- ERGROUND POWER AND CONTROL CONDUIT SYSTEMS SHALL BE SEPARATED BY 12" IMUM AND SHALL BE RUN THROUGH SEPARATE JUNCTION BOXES AND MANHOLES.
- EXTERIOR AREAS SHALL BE CONSIDERED WET AND CORROSIVE. EXTERIOR ELECTRICAL
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COORDINATED ELECTRICAL ER DISTRIBUTION SYSTEM IN ACCORDANCE WITH NEC ARTICLE 240.12 AND ARTICLE 700.27 RDINATION STUDIES SHALL BE APPROVED PRIOR TO ORDERING ELECTRICAL DISTRIBUTION PMENT AND BREAKERS.
- TRICAL SYSTEM INSTALLED IN HAZARDOUS LOCATIONS SHALL BE CONSTRUCTED IN EALED PER THE NEC. STANDARDS SUCH AS NFPA 820 AND API 500 SHALL BE USED IN ORDANCE WITH CHAPTER 5 OF THE NEC.
- ALLATION SHALL BE IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES AND TECTING SAID UTILITIES DURING THE INSTALLATION OF THE ELECTRICAL SYSTEM.
- RE SELECTIVE DEMOLITION TO EXISTING PAVEMENTS AND SIDEWALKS ARE REQUIRED TO
- E-DRILLING SHALL BE UTILIZED FOR CONCRETE WALLS AND FLOORS WHERE ID CUTTING STEEL WHERE POSSIBLE. WHERE CUTTING OF REINFORCING STEEL IS /OIDABLE, SUBMIT AN RFI AND OBTAIN STRUCTURAL APPROVAL FOR THE NECESSARY AIRS ASSOCIATED WITH CUTTING REINFORCING STEEL.
- FY VOLTAGE AND PHASE PRIOR TO ORDERING AND AGAIN PRIOR TO TERMINATION OF DUCTORS ON EQUIPMENT AND DEVICES. DAMAGES RESULTING FROM LACK OF FICATION SHALL BE BORNE BY THE CONTRACTOR.
- MUM STRUT LENGTH TO BE 12 INCHES, WHERE POSSIBLE.
- LOSURES.
- PERATURE CONDITIONS AND ELEVATIONS. SIZE EQUIPMENT AS HEAVY DUTY WHERE DITIONS OF USE WARRANT.
- NO ADDITIONAL COST TO THE OWNER.
- STARTERS IN ACCORDANCE WITH NEMA STANDARD ICS 18-2001 (CURRENT VERSION),
- NTAIN A COMPREHENSIVE SET OF UP TO DATE AS-CONSTRUCTED RECORD DOCUMENTS, TO INDICATE ADDED WORK OR REVISED LOCATIONS OF NEW WORK, GREEN FOR DELETED TENT, PURPLE FOR EXISTING CONDITIONS, AND BLUE FOR NON-TECHNICAL EXPLANATORY ES. YELLOW HIGHLIGHTING MAY BE USED TO INDICATE WORK COMPLETED AND IN FULL IPLIANCE WITH THE CONFORMED SET.

TH, INCREASE CONDUCTORS TO #10AWG SIZE (OR GREATER) AS REQUIRED TO REDUCE AGE DROP TO NO MORE THAN THREE PERCENT LINE-TO-NEUTRAL. THESE ADJUSTMENTS TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF

CIFICATIONS. ALIGN ABUTTING HORIZONTAL ITEMS WITHIN +/- 1/64", AND WALL-MOUNTED OR LL NOT DEVIATE FROM TRUE VERTICAL BY MORE THAN 1/8" IN 10'-0". LEVEL EQUIPMENT TO

CONDUITS SHALL BE MINIMUM ¾ INCH RGS (ABOVE GRADE) AND 1" PVC (BELOW GRADE) ED PER THE NEC. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED. THIS UND WIRE SHALL BE CONNECTED AT EACH END TO THE EQUIPMENT GROUND. THIS ALSO

IRELY FASTEN EQUIPMENT AND MATERIALS INTO PLACE TO PROVIDE RESTRAINT AGAINST EMENT AND SEPARATION DURING CONDITIONS OF REGULAR USE AND DURING SEISMIC ITS. PROVIDE AND SUBMIT FOR APPROVAL STRUCTURAL DESIGN AND CALCULATIONS BY A

OSURES SHALL BE NEMA 4X STAINLESS STEEL UNLESS SPECIFICALLY NOTED OTHERWISE.

DRDANCE WITH CHAPTER 5, ARTICLE 500 OF THE NEC. EQUIPMENT SHALL BE RATED FOR

HAZARDOUS AREA IN WHICH IT IS PLACED. CONDUITS LEAVING HAZARDOUS AREAS SHALL

CONTRACTOR SHALL SIZE WIRING NOT EXPLICITLY SHOWN ON THE DRAWINGS ACCORDING HE REQUIREMENT OF THE NEC FOR THE SPECIFIC APPLICATION AND CONDITIONS. THE

FORM CONSTRUCTION ACTIVITIES, NEATLY SAW-CUT SURFACES ALONG EDGES OF WORK

TRATIONS ARE REQUIRED. LOCATE REINFORCING STEEL PRIOR TO CORE DRILLING AND

IRE SURFACE-MOUNTED ELECTRICAL EQUIPMENT AND RACEWAYS WITH CHANNEL STRUT.

LY DUCT SEAL TO CONDUITS ENTERING CONTROL PANELS AND ELECTRICAL EQUIPMENT

UST EQUIPMENT RATINGS AND CAPACITIES TO COMPENSATE FOR SITE-SPECIFIC AMBIENT

FORM FINAL POWER STUDIES AND ARC-FLASH EVALUATION AFTER EQUIPMENT HAS BEEN ECTED, BUT PRIOR TO ORDERING, ALLOWING FOR ADJUSTMENTS TO OVERCURRENT DEVICE CTION AND EQUIPMENT RATINGS AS DETERMINED BY THE STUDY. UNSUITABLE EQUIPMENT ERED PRIOR TO PERFORMING THESE STUDIES SHALL BE REPLACED BY THE CONTRACTOR

SS IIB WIRING. SUBMIT ENGINEERED SHOP DRAWINGS FOR STARTERS SHOWN TO BE WIRED. CH SHALL BE KEPT AND AVAILABLE FOR ON-SITE REVIEW AT ALL TIMES. USING CONFORMED JMENTS AS A BASE, UTILIZE COLOR-CODED MARKUPS TO INDICATE FIELD MODIFICATIONS;

AB	BRE	ΓΙΟΝ

%	PERCENTAGE	FCV	FLOW CONTROL VALVE
2P	TWO POLE	FDR	FEEDER
А	AMPERES OR AMBER, OR AERATOR	FE	FLOW ELEMENT
AC	ABOVE COUNTER	FI	FLOW INDICATOR
ACS	ACCESS CONTROL STATION	FIT	FLOW INDICATING TRANSMITTER
AF	AMPERE FUSE	FMCP	FIRE ALARM & MASS NOTIFICATION CONTROL
AFF	ABOVE FINISHED FLOOR	50	
AFG	ABOVE FINISHED GRADE	FO	
AHJ	AUTHORITY HAVING JURISDICTION	FQI	
AHU	AIR HANDLING UNIT		
AI	ANALOG INPUT	FV	
AIC	AMPERES INTERRUPTING CURRENT	FVK	FULL VOLTAGE REVERSING
AIL	AMBER INDICATING LIGHT	GB	GROUND BUS
AIR	ANALYSIS INDICATING RECORDER	GC	GENERAL CONTRACTOR
AIT	ANALYSIS INDICATING TRANSMITTER	GEN	
AL	ALUMINUM	GFCI	
ALT	ALTERNATE OR ALTERNATOR		
AM	AMMETER	GI	
AMP	AMPERE		
ANN	ANNUNCIATOR	GRD	GROUP
AO	ANALOG OUTPUT	GRS	
AS	AMPERE SWITCH	ц	
ATS	AUTOMATIC TRANSFER SWITCH		
AUTO	AUTOMATIC	нц	HANDHOLE
AUX	AUXILIARY	НОЛ	
AWG	AMERICAN WIRE GAUGE	нр	
BAS	BUILDING AUTOMATION SYSTEM	нрс	
BC	BARE COPPER	HR	HAND RESET OF HOUR
BKR	CIRCUIT BREAKER	нс	
BLDG	BUILDING	HTR	HEATER
С	CONDUIT	H7	HERTZ
CAT	CATEGORY	1	INTERLOCK
СВ		1/0	
СН		i, C	
CHG			
CKI		IG	
CNIL		INST	
CP		INT	
CR		ΙΝΤΙΚ	INTERLOCK
CSI		ISP	INSTRUMENT AND SAMPLE PANEL
		IB	
		ĸ	KFY
DB		KCMIL	THOUSAND CIRCULAR MILS
		KV	KILOVOLTS
		KVA	KILOVOLT-AMPERES
		KVAR	KILOVARS (REACTIVE KILOVOLT-AMPERES)
	DOWN	КW	KILOWATTS
		кwн	KILOWATT HOUR
סט		КҮ	TIME RELAY
		LAH	HIGH LEVEL ALARM
		LAL	LOW LEVEL ALARM
		LC/C	LIGHTING CONTROL / CONTACTOR
ECU		LCP	LOCAL CONTROL PANEL
EE		LCV	LEVEL CONTROL VALVE
LI EH		LET	LEVEL ELEMENT TRANSMITTER
FI		LF	LINEAR FEET
EMER	EMERGENCY	LI	LEVEL INDICATOR
EMT		LIC	LEVEL INDICATING CONTROLLER
ENCI		LIR	LEVEL INDICATING RECORDER
ENET	ETHERNET	LLH	LEVEL LAMP HIGH
		LM	LUMEN
	FOLIPMENT	LOR	LOCAL-OFF-REMOTE
ETM	ELAPSED TIME METER	LOS	LOCK-OUT STOP
ETR	EXISTING TO REMAIN	LP	LIGHTING PANEL
EUH	ELECTRIC UNIT HEATER	LR & L	LATCHING RELAY
EWH	ELECTRIC WATER HEATER	LS	LEVEL SWITCH
EXDR	EXISTING DEVICE TO RFMAIN	LSH	LEVEL SWITCH HIGH
EXST	EXISTING	LSHL	LEVEL SWITCH HIGH/LOW
EXT	EXTERIOR	LSIG	LONG, SHORT, INSTANTANEOUS. GROUND
EXTN	EXTENSION	LSL	LEVEL SWITCH LOW
FA	FIRE ALARM	LT	LEVEL TRANSMITTER
FACP	FIRE ALARM CONTROL PANEL	LT	LEVEL TRANSMITTER OR LIGHT
FAH	FLOW ALARM HIGH	LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
FBC	FLORIDA BUILDING CODE	LTG	LIGHTING

	LTS	LIGHTING AND LIGHTS
	LV	LOW VOLTAGE
	LYR	
	ΜΔΝ	
L	MAX	MANOAL
	МСВ	MAIN CIRCUIT BREAKE
	MCC	MOTOR CONTROL CEN
	МСМ	THOUSAND CIRCULAR
	МСР	MAIN CONTROL PANE
	МСР	MOTOR CIRCUIT PROT
	MDP	MAIN DISTRIBUTION F
	MH	MANHOLE
	MIN	MINUTE, MINIMUM
	MIN	MINUTES OR MINIMU
Ŧ	MLO	MAIN LUGS ONLY
I	MM	MULTIMODE
	MPC	MINI POWER CENTER
	MS	MAGNETIC STARTER
	mV	
	N	NFUTRAL
	N/A	
	N1	NEMA 1 ENCLOSURE
	N12	NEMA 12 ENCLOSURE
	N3R	NEMA 3R ENCLOSURE
	NA	NON-AUTO
	NC	NORMALLY CLOSED
	NEC	NATIONAL ELECTRICA
	NEMA	NATIONAL ELECTRICA
	ASSOCIAT	ION
	NEUT	
	NU	
	NP	
	NTS	NOT TO SCALE
	ос	OPEN/CLOSE
	OL	OVERLOAD
	OLR	OVERLOAD RELAY
	00	ON-OFF
	OOR	ON-OFF RESET
	OUT	OUTPUT
	P&ID	PROCESS & INSTRUME
	PC	PHOTOELECTRIC CELL
	PCV	PRESSURE CONTROL V
	PDT	PRESSURE DIFFERENT
	PC	PHOTOELECTRIC CELL
	PE	PRESSURE ELEMENT
	PH	PHASE
		PRESSURE INDICATOR
	PMP	
	PNI	PANFI
	POE	POWER OVER ETHERN
	PP	POWER PANEL
	PR	SHIELDED PAIR
	PRI	PRIMARY
	PSH	PRESSURE SWITCH HIG
	PSI	POUNDS PER SQUARE
	PSL	PRESSURE SWITCH LO
	PVC	POLYVINYL CHLORIDE
	R	RED, RELAY, OR RUN
	RCP	REFLECTED CEILING PL
	RE	RELOCATE
	RECEPT	RECEPTACLE
	REF	
	KGA	RIGID GALVANIZED AL
	кар	RIGID GALVANIZED ST

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E-003

Checked By:

	0		1		
>	KEY NOTES: 1. NEW 300 KVA PAD MOUNTED FPL COORDINATE WITH FPL TO PROVID TRANSFORMER PAD PER FPL SPEC FROM AN APPROVED FPL VENDOR. FOR CONNECTION OF TRANSFORM 2. PROVIDE SUPPORT POSTS TO SU BREAKER. 3. CONTRACTOR SHALL CUT AND P	L UTILITY TRANSFORMER. CO DE TRANSFORMER. CONTRAC CIFICATIONS OR PRE-CAST T . CONTRACTOR SHALL COOR MER. UPPORT 400 AMP, MAIN SERV PATCH DRIVEWAY FOR COND	ONTRACTOR SHALL CTOR SHALL PROVIDE RANSFORMER PAD RDINATE WITH FPL VICE CIRCUIT UIT INSTALLATION.		TETRA TECH ENGINEERING BUSINESS NO. 2429
					Control Control
				B≺	
				DESCRIPTION	
				DATE	

AN

COLLIER COUNTY UTILITIES GOLDEN GATE WWTP MASTER PUMP STATION ELECTRICAL SITE PLAI

Designed By:

Checked By:

Drawn By:

NOTES:

- 1. PROVIDE CONDUITS WITH PULL-STRINGS FOR FUTURE EQUIPMENT. CAP CONDUITS ABOVE GRADE.
- 2. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EXISTING PLANT SCADA NETWORK SWITCHES LOCATION WITHIN THE BUILDING.
- 3. PUMP CONTROL PANEL PROVIDED BY PUMP VENDOR.
- 4. FACE CONTROL PANEL AND VFD'S NORTH.

NOTES :

- 1. UNIONS BELOW GRADE SHALL BE EXOTHERMICALLY CONNECTED. UNIONS ABOVE GRADE SHALL BE MECHANICALLY CONNECTED. APPLY SILICON SPRAY TO PROTECT MECHANICAL CONNECTIONS.
- 2. CONDUCTORS SHALL BE ROUTED AS INCONSPICUOUSLY AS POSSIBLE.
- 3. BOND ELECTRICAL EQUIPMENT TO NEAREST COUNTERPOISE VIA #2/0 WIRE.
- 4. STUB UP GROUND CONDUCTORS AND PROVIDE COILED UP BONDING CONDUCTOR FOR FUTURE EQUIPMENT.

			ENGINEERING BUSINESS NO. 2429)	www.tetratech.com	10600 CHEVROLET WAY, SUITE 102 ESTERO, FL 33928	PHONE: (239) 390-1467 FAX: (239) 390-1769
				CULIER COMPLY			
BΥ							
MARK DATE DESCRIPTION							
				ENLARGED			
Proj Des Dra Che	iect iigne wn E ecke	No.: ed B <u>y</u> 3y: d By	2 y: ':	2 ()84	B6-200 J. J.	013 AS AS

- 1. HSP NO. 2 & 4 CONTROL PANEL PROVIDED BY PUMP MANUFACTURER WITH TWO 20 HP VFD'S.
- 2. HSP NO. 3 AND HSP NO. 4 CONTROL PANELS PROVIDED BY PUMP MANUFACTURER WITH 60 HP VFD'S.
- 3. PROVIDE DISCONNECT SWITCHES FOR HSP NO. 2, 3, AND 4 WITH INTERLOCK SWITCHES.
- 4. CABLES BETWEEN VFD'S AND MOTORS SHALL BE VFD CABLE.

SERVICE CALCULATION					
LOAD NAME	CONNECTED LOAD				
HSP #2 (15 HP)	21A				
HSP #3 (15 HP)	21A				
HSP # 4 (50 HP FUTURE)	65A				
HSP #5 (50 HP FUTURE)	65A				
30 kVA XFMR	36A				
25% OF CONTINUOUS LOAD	52A				
TOTAL	260A				

			PANELBOARD:	LP1							
			SERVICE: 208/120V,	3 PH,	4 W						
			BUS SIZE: 100A		LOAD:			NOTES	5:	PROVIDE WITH SURGE PRC	TECTIO
			MAIN DEVICE: 100A	CONN	1.2	kVA			-		
			SFC RATING: 22,000AIC	DEM.	1.2	kVA		LOCAT	FION:	NEMA 4X.	
			MOUNTING: SURFACE	DEM.	3.3	Amps					
СКТ	TRIP/			CONNEC	ΓED LOA	D(VA)					
#	POLE	NOTES	CIRCUIT DESCRIPTION	PHA SE A		PHASE B	3	PHASEC	2	CIRCUIT DESCRIPTION	NOTE
1	20A/1		DIESEL PUMP BATTERY CHARGER	600	420					FLOW METER/MEDIA CONVERTER	
3	20A/1	GFI	RECEPTACLE			180	-]		SPARE	
5	20A/1		SPARE				•	-	-	SPARE	
7	20A/1		SPARE		-			•	•	SPARE	
9	20A/1		SPARE	-		-	-			SPARE	
11			SPACE			_		-	-	SPACE	
13			SPACE		-			_		SPACE	
15			SPACE	-		-	-			SPACE	
17	20/1		SPACE			_		-	-	SPACE	
19	20/1		SPACE	-	-					SPACE	
21	20/1		SPACE			-	-			SPACE	
23	20/1		SPACE			_		-	-	SPACE	
25	20/1		SPACE	-	-					SURGE PROTECTION DEVICE	
27	20/1		SPACE	i '		-	-]			
29	20/1		SPACE					-	-	-	
TOT	ALCON	NECTED	LOADS:	600	420	180	0	0	0		

PANEL LP1 SCHEDULE

SCALE: NONE

N		
	TRIP/	CKT
ES	POLE	#
	204/3	2
	20A/3	2
	20/1	4
	20/1	6
	20/1	8
	20/1	10
	20/1	12
	30/1	14
	20/1	16
	20/1	18
	20/1	20
	20/1	22
	20/1	24
	30A/3	26
	-	28
	-	30

			PANELBOARD:	MDP							
			SERVICE: 480/277V,	3 PH,	3 W						
			BUS SIZE: 400A		LOAD:	:		NOTES	:	Provide main with kirk-key	
			MAIN DEVICE: 400A	CONN	190.4	kVA			-		
			SFC RATING: 42,000AIC	DEM.	190.4	kVA		LOCAT	TION:	NEMA 4X	
			MOUNTING: SURFACE	DEM.	229.2	Amps					
СКТ	TRIP/			CONNEC	TED LOA	D(VA)					
#	POLE	NOTES	CIRCUIT DESCRIPTION	PHASE A	L	PHASE E	3	PHASE C	2	CIRCUIT DESCRIPTION	NOTE
1	125A/3	5	HSP NO. 2&3 CONTROL PANEL	13,025	19,398					HSP NO. 5 CONTROL PANEL	
3	-		-			13,025	19,398			-	
5	-		-			_		13,025	19,398	-	
7	150A/3		HSP NO. 4 CONTROL PANEL	19,398	831			_		MOV-100	
9	-		-			19,398	831			-	
11	-		-					19,398	831	-	
13	90A/3		XFMR T1	10,000	831					MOV-110	
15	-		-			10,000	831			-	
17	-		-			_		10,000	831	-	
19	400A/3	KIRK-KEY	PORTABLE GENERATOR	-	-					SURGE PROTECTION	
21	_		SPARE		1	_	-	1		-	
23	-		SPARE			L	1	-	-	-	
TOT	AL CO	NNECTED L	OADS:	42,423	21,061	42,423	21,060	42,423	21,060		

PANEL MDP SCHEDULE

	(TETRA TECH	ENGINEERING BUSINESS NO. 2429	www.tetratech.com	10600 CHEVROLET WAY, SUITE 102 ESTERO, FL 33928 PHONE: (239) 390-1467 FAX: (239) 390-1769	~ ~ ~
Image: Sector of the sector				CULLET CUMPLE		
Project No: 200-08486-20013 Project No: 200-08486-20013 Project No: 200-08486-20013 Drawn By: JAS Checked By: TVF E-401	ВҮ					
SOULT TATA Source Base Source	MARK DATE DESCRIPTION					
Project No.: 200-08486-20013 Designed By: JAS Drawn By: JAS Checked By: TW E-401	COLLIER COUNTY UTILITIES	GOLDEN GATE WWTP		PANELBUARD	SCHEDULES	
Checked By: TW E-401 TW	Projec Desig Drawr	ned By:	20 y:	00-084	86-20013 JAS JAS	a Tech
	Check	ked By	- 4	10	тw	Copyright: Tetre

	THIS TABLE APP	LIES ONLY TO THE	LETTERS E FUNCTIONAL IDENTIF	ICATION OF INSTRU	MENTS
	FIRST LET	TER	SU	CCEEDING LETTERS	3
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
Δ					
R R		ANALOO			
Ь			USER S CHOICE	USER S CHOICE	USER S CHOICE
С	(ELECTRICAL)		CONTROL	CONTROL	CLOSE
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL OR DIGITAL			
Е	VOLTAGE (EMF)	POWER	PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			FORWARD
G	GAUGING (ELECTRICAL)		GLASS		
Н	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE OR INPUT	HYDRAULIC	
J	POWER	SCAN			
К	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
М	MOISTURE OR HUMIDITY				MIDDLE OR INTERMEDIATE
N	VIBRATION		ECCENTRICITY	EXPANSION	ON/OPERATE
0	NETWORK COMS RTU		ORIFICE (RESTRICTION)		OPEN
Р	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R	RUN	RELIEF	RECORD OR PRINT		REVERSE
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
Т	TEMPERATURE			TRANSMIT	
U	UNIT		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTIO
V	VISCOSITY			VALVE, DAMPER OR	
W	WEIGHT OR FORCE		WELL		
Х	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT/STATE			RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE UNCLASSIFIED FINAL CONTROL FLEMENT	

MISCELLANEOUS ABBREVIATIONS

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I/O

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LEL

ΜV

MIL

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NIR

NC

Σ	ADD OR TOTALIZE
٩G	ABOVE GRADE
JG	BELOW GRADE
3F	BLIND FLANGE
(x)	CHARACTERISTIC
COND	CONDUCTIVITY
)	DERIVATIVE
	DIFFERENCE
DCS	DISTRIBUTED CONTROL SYSTEM
0	DIVIDE
ĒR	ELECTRICAL ROOM
•	HIGH SELECT
ΙP	HORSEPOWER OR HIGH PRESSURE

HYDROGEN ION CONCENTRATION	NO
	ØR
	OVF
MODE	ORP
INTERLOCK	00
LOCAL PANEL	02
LOW SELECT	PAR
LOWER EXPLOSIVE LIMIT	P
MEASURED VARIABLE	5.P.
MOTOR INDICATING LIGHT	TURI
MULTIPLY	VFD
NOT IN REMOTE	V
NORMALLY CLOSED	v
	VVVV

NO	NORMALLY OPEN
ÔR	OR SELECTION
OVF	OVERFLOW
ORP	OXIDATION/REDUCTION POTÆNTIAL
O2	OXYGEN
PART. CT.	PARTICLE COUNT
Ρ	PROPORTIONAL CONTROL MODE
S.P.	SET POINT
	SQUARE ROOT
TURB	TURBIDITY
VFD	VARIABLE FREQUENCY DRIVE
V	VENT
WW	WASTE WATER

	LETTER COMBINATION	DESCRIPTION
A	AL	ALARM AUDIBLE
	A/M	AUTOMATIC-MANUAL STATION
	ANN	
	AOV	
	C.	COMPRESSOR
	CLR	CLARIFIER
	CN	CENTRIFUGE
	CNV	CONVEYOR
	СТV	VALVE, CONTAINMENT, TRIP
D	DL	DELAY COIL
	DSPL	DISPLAY, CRT
E	E/E	REPEATER
	E/H	
	E/I	CONVERTER, VOLTAGE TO CURRENT
F	E/F ECV	
	FD	DETECTOR, FIRE OR HEAT
	FLT	FILTER
	FOP	FIBER OPTIC PATCH PANEL
G	GNDS	SWITCH, GROUND
Н	HYV	VALVE, HYDRAULICALLY OPERATED
	I/H	CONVERTER, CURRENT TO HYDRAULIC
	I/E	CONVERTER, CURRENT TO VOLTAGE
	/	
		SWITCH LIMIT
	MIX	MIXER
	MOG	MOTOR OPERATED GATE
	MOV	MOTOR OPERATED VALVE
N	NBA	ALARM, VIBRATION
	NBE	VIBRATION ELEMENT
	NBI	INDICATION, VIBRATION
	NBR	RECORDER, VIBRATION
	NBS	SWITCH, VIBRATION
	NXA	
	NXE	EXPANSION ELEMENT
	NXI	INDICATOR, EXPANSION
	NXR	RECORDER, EXPANSION
	NXS	SWITCH, EXPANSION
	NXT	TRANSMITTER, EXPANSION
P	Р	PUMP
	P/I	CONVERTER, PNEUMATIC TO CURRENT
	PSE	
R	RO	ORIFICE RESTRICTION
	ROM	REVERSE OSMOSIS MEMBRANE
	RTD	RESISTANCE TERMPERATURE DETECTOR
	RV	VALVE, RELIEF
	RY	RETRANSMITTED OUTPUT
S	SCA	SCALE
	SD	DETECTOR, SMOKE
	SOV	
	STR	STRAINER
	STS	SCREEN
	STV	VALVE, TRIP SOLENOID
Т	T/C	THERMOCOUPLE
	тк	TANK
	TQS	SWITCH, TORQUE
V	VM	VOLTMETER RELAY,
14/	VSK WM	
	WMI	
	WMR	RECORDER, WATT
	WMS	SWITCH, WATT
	WMX	COUNTER, WATT
	WV	VALVE, WEIGHT
X	XFMR	TRANSFORMER
	XR	RECORDER
Z	ZU	
	LUF	DRIVE, CONTROL, PNEUMATIC

EQUIPMENT CODE LIST

	L
	F
	F
	F
$\sum_{i=1}^{n}$	F
	F
PROVIDE AI INTEGRATO (E) SPECIFII (X) EXISTING (M) SPECIFII (H) SPECIFII (F) FURNISH (P) SPECIFII (D) SPECIFII PROVIDE AI DATA SHEE	LL IN IR U ED B G ED B ED B ED B LL IN TS A
	Δ
A AUTO C CLOS F FAST H HANE J JOG L LOCA M MANU O OPEN	DMAT SE OR JAL JAL

0		1			
INSTRUME	NT SYMBOL	S			
	MODI	FIER OR HAND SWITCH		0 100. 242 NO. 242 NO. 242 NO. 242 Sch.cor Sch.cor 11TE 10: 11TE 10: 13392 Sch.176	
LOOP NUMBER					
		1		GINEER GINEER EVROL	
MOUNTED		PLC ALARM		EN E	
/ PANEL			1	1060 NE: (23	
/ INDICATION		SCADA FUNCTION			
) FIELD MOUNTED		SCADA ALARM			
) FIELD INDICATION		INTERLOCK			
	SP	SURGE PROTECTOR - SEE SPECIFICATION			
PLC FUNCTION	\odot	REQUIRES 120 VAC POWER SUPPL	Y		
SUPPLIERS		GENERAL NOTES	1_		
ALL INSTRUMENTS AS PART OF THE	1. INSTRUM	IENT SUFFIX:		\geq	
FIED BY ELECTRICAL	NUMERIO WITH DIF	C SUFFIXES IDENTIFY INSTRUMENTS FFERENT FUNCTIONS (E.G., A L/R AND		1 t,	
ING	A O/S/C HS-102-1	SWITCH) ARE PRECEDED BY - (E.G., , AND HS-102-2)		IN	
IFIED BY MECHANICAL	ALPHABI OCCURF	ETIC SUFFIXES IDENTIFY MULTIPLE RENCES OF INSTRUMENTS WITH THE		റ്റ	
	SAME FU FOR DIFI	JNCTION (E.G., TWO L/R SWITCHES FERENT MOTORS IN SAME PANEL			
SHED WITH EQUIPMENT	(E.G. H3-	-103-1A, HS-103-2A)		<u></u>	
FIED BY PROCESS				R	
ALL INSTRUMENTS AS SPECIFIED ON EETS ATTACHED TO SPECIFICATION.				Ŭ	
				- 1	
PLC INPUT/O	UTPUT SYME	BOLS	ž		
∧ ANALOG ∇ ANALOG	DISCF				
		V OUTPUT			
HAND SWITCH I	POSITION SY	(MBOLS			
(UNLABELLED SWI	TCHES ARE TO BE	ON-OFF)	Z		
TOMATIC O/O ON/OFF	=	HOR HAND-OFF-REMOTE	RIPTIC		
OSE R RUN O	R REMOTE	HOA HAND-OFF-AUTO	DESC		
ST OR FORWARD S/S START	/STOP	D/R/A DISCHARGE-RECIRCULATE-AUTO	ATE		
ND E/S EMERG	GENCY STOP	OSC OPEN/STOP/CLOSE			
CAL E/R FORW	IDBY	FSR FORWARD/STOP/REVERSE	MARI		
NUAL L/R LOCAL	/REMOTE	TSM THRU/STOP/MIX		٩D	
EN OR OFF LOR LOCAL	-OFF-REMOTE	OSF OFF/SLOW/FAST	(0)	IS S	
		OTC OPEN/TRAVEL/CLOSE	ITIE		
COMMUNICA	TION LINE T	YPES	UTIL		
			NTY	ATE MP S ATIC EV	
ENET ENE	т ———	ETHERNET	cou		
			LIER	ASTE ASTE AB	
FO-SM FO-S	Μ	SINGLE MODE FIBER	COLI	ND ND ND	
				A	
FO-MM FO-M	M	MULTIMODE FIBER	Proje	Z ect No.: 200-08486-20013	
COAX COA	x	COAXIAL CABLE	Desi	gned By: REED	
		ELECTRICAL CONNECTION	Chec	cked By:	
				I-001	
~ <u></u> ~	J				

SINGLE LINE
CTUATOR SYMBOLS

MANUAL ACTUATOR	\bigcirc
HAND WHEEL ACTUATOR	\square
SOLENOID	
DIGITAL	
PISTON / PNEUMATIC ACTUATOR	
MOTORIZED ACTUATOR	
DIAPHRAGM ACTUATOR	
THROTTLING ACTUATOR	
PRESSURE REDUCING REGULATOR	
BACKPRESSURE REGULATOR SELF CONTAINED	
PRESSURE REDUCING REGULATOR W/ INTEGRAL OUTLET	
PRESSURE REDUCING REGULATOR W/ EXTERNAL TAP	
BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP	н⊳н ⊦мн
PRESSURE BALANCED DIAPHRAGM ACTUATOR	ŀ₿ŀ
DIFFERENTIAL PRESSURE REDUCING REGULATOR	н <mark>о</mark> н
SPRING	Ч⊒Ч Ч҉⊒Ч
DIAPHRAGM SPRING	ł
SOLENOID MANUAL RESET	
SOLENOID REMOTE RESET	
ROTARY MOTOR	
ELECTRO-HYDRAULIC	
SURGE ANTICIPATION RELIEF VALVE	Ø
MOTOR OPERATED ACTUATOR WITH POSITIONER	
PISTON OPERATED ACTUATOR WITH POSITIONER	

PISTON ACTUATOR WITH STROKE POSITIONER

\bigcirc	TURBINE
\mathcal{D}	VACUUM
	VERTICAL PUMP
	PERISTAL
Ĥ	DIAPHRAG
	ROTARY L
T	PROGRES CAVITY PL
	DIAPHRAG
H►H	VORTEX S
H M H	ELECTRO
н <mark>Х</mark> н	PROPELLE
۲ Ч	SONIC FLO
HOH	MASS FLO
$H_{1}H$	PITOT TUE
Ţ	VENTURI I METER
ł	POSITIVE
կ	TARGET
\bigotimes	ROTARY F
M	MOTOR
\sim	STATIC MI
	PROPELLE
Ø	FLAME AR
	FEEDER

CENTRIFUGAL PUMP
SUBMERSIBLE PUMP
SUMP PUMP
TURBINE
VACUUM
VERTICAL TURBINE PUMP
PERISTALTIC METERING PUMP
DIAPHRAGM PUMP
ROTARY LOBE PUMP
PROGRESSING CAVITY PUMP
DIAPHRAGM METERING PUMP
VORTEX SENSOR
ELECTROMAGNETIC FLOW METER
PROPELLER / TURBINE FLOW METER
SONIC FLOW METER
MASS FLOW METER
PITOT TUBE
VENTURI FLOW METER
POSITIVE DISPLACEMENT FLOW METER
TARGET
ROTARY FEEDER
MOTOR
STATIC MIXER
PROPELLER MIXER
FLAME ARRESTOR
FEEDER

SCREW CONVEYOR

BLOWER

5

SINGLE LINE EQUIPMENT LEGEND

\frown			
	METER / ROTAMETER		СР
	FLOW CONDITIONING DEVICE		XX VXX
-0-	FLOAT TYPE LEVEL INDICATOR		
))))	ULTRASONIC LEVEL SENSOR		T V
\bigcirc	PRESSURE GAUGE		
$[\mathbf{Z}]$	PRESSURE GAUGE DIAPHRAGM SEAL		
—	SURFACE MOUNTED TEMPERATURE SENSOR		STR
0	INSTRUMENT WELL		
$\left(\right)$	ORIFICE IN PLATE QUICK-CHANGE FITTING		
	ORIFICE PLATE		Ų
4 -4-	RESTRICTION ORIFICE		ΠιιιιιιιΠ
III D#41	UNION RESTRICTION ORIFICE		
л Г	DRILLED IN VALVE		ı Tı
د ح	QUICK COUPLING/HOSE		U
	CONNECTION		I FTI
			\bigcirc
	FLANGED NOZZLE		∇
	CAMLOCK W/ DUST CAP		
	RUPTURE DISK		
Г.J	FLEX COUPLING		
	FLEX CONNECTION		
	CORNER TAP		
	TUBE		
\Box	FLOW NOZZLE		STREAM
Ø	SAMPLE PORT		PI-4
0	PUMPOUT CONNECTION		STREAM TO/FROM
	GAP / BREAK		
\sim	FLUME		TO/FROM PI-4
\geq	WEIR		
ΗÌ	WYE STRAINER	-	
	DIAPHRAGM SEAL		
8 883	ANNULAR SEAL		
E	PIPE INSULATION		
E==]	CONTAINMENT PIPING		
	INJECTOR		
\bigcap	VENT		

3 I	-	7					
	TANKS AND					67 E	02 28 69
		VLOOL			.	tech.co	JITE 1(=L 339; 390-17(
CONTROL PANEL						vw.tetra	VAY, SI TERO, I : (239) (
			STORAGE TANK AS IDENTIFIED				OLET V ES ⁻ 67 FAX
INLINE 2 CHARACTER		, ,					CHEVR 390-14
		\rightarrow	STORAGE TANK		F		10600 (:: (239)
CONDENSATE TRAP			AS IDENTIFIED		ہے		PHONE
		2					
			AS IDENTIFIED	⊢			
STARTER		_					
CALIBRATION COLUMN			TANK/PROCESS AS IDENTIFIED				
PULSATION DAMPENER			PRESSURIZED TANK/PROCESS AS IDENTIFIED	╞			
FILTER PRESS		~				ty	
	\bigcirc		CARTRIDGE FILTE	R		ИИ	
BAG FILTER						S N	
		GATE	5			\mathbf{v}	
STRAINER			_			- Ee	
	CLOSED	OPEN			X	Į	
MISC EQUIP		[]	GENERIC GATE			U	
	Е-Ф-∃	E-⊗-∃	SLIDE GATE				
NORMAL LIQUID LEVEL			SLUICE GATE	BY			
PIPE MATERIAL CHANGE							
• PIPE CROSSING							
OPEN DRAIN							
				IPTION			
CLOSED DRAIN				DESCR			
STREAM TO AND FROM				ATE			
				ž D	$\left \right $		
STREAM TO AND FROM				MAF			
AND FROM						Б	NU NU
INJECTION QUILL WITH							
CORP STOP					ATE V MP S1		ΕVΙ
						NTA	BK
					GOLD	ME	A P
					ע ג ג	LRU LRU	ANL
						NS1	
				Pr	oject No.:	200-084	186-20013
				De Dr	signed By: awn By:		REED REED
				Cł	ecked By:		
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NOTES:

- 1. ALL PLC MONITORING AND CONTROL POINTS SHALL BE INTEGRATED INTO THE SCADA SYSTEM.
- 2. INTEGRATOR TO OBTAIN IP ADDRESS RANGE FROM CLIENT DURING CONSTRUCTION.
- 3. SCADA SOFTWARE SHALL INCLUDE PROPER DRIVER TO READ MODBUS TCP/IP DATA NATIVELY OVER THE PLANT NETWORK WITHOUT THE USE OF GATEWAYS.

MATERIAL NOTES:

- VFD DRIVES.

HARDWIRED DEVICES

FIELD INSTRUMENTS	
DIESEL PUMP	

ETHERNET DEVICES

DEVICE: PUMP NO.2 VFD	
IP: XXX.XXX.XXX.XXX	
PROTOCOL: ETHERNET/IP	
DEVICE: PUMP NO.3 VFD	
IP: XXX.XXX.XXX.XXX	
PROTOCOL: ETHERNET/IP	
DEVICE: PUMP NO.4 VFD	
IP: XXX.XXX.XXX.XXX	
PROTOCOL: ETHERNET/IP	
DEVICE: PUMP NO.5 VFD	
IP: XXX.XXX.XXX.XXX	
PROTOCOL: ETHERNET/IP	

FIBER DEVICES

DEVICE: FIT-100	
IP: XXX.XXX.XXX.XXX	
PROTOCOL: ETHERNET/IP	

A. SEE SECTION 406123 FOR PLC PN AND REQUIRED I/O MODULES.
B. STRATIX 5800, LAYER 3, PROVIDE EXPANSION MODULE AND/OR SECOND SWITCH BASED ON FIBER/COPPER LOAD FROM FIELD INSTRUMENTS AND

C. CORNING WCH WITH CCH PANELS AND SC CONNECTORS, SIZE HOUSING BASED ON FIBER LOAD TO PANEL.

		TETRA TECH	ENGINEERING BUSINESS NO. 2420)	WWW.IEIFAIECN.COM	10600 CHEVROLET WAY, SUITE 102 ESTERO. FL 33928	PHONE: (239) 390-1467 FAX: (239) 390-176
				CULLEY COMMLY			
BY							
MARK DATE DESCRIPTION							
		GOLDEN GATE WWTP		PLANT NETWORK			
Pro De Dra Ch	oject sign awn ecke	No.: ed By By: ed By	2 y: : 1	200-0 C	848	86-200 RE RE	D13 ED ED

KS N	Detended Detended Encide and
TION . BLOCKS JT AND OUTPUT ECTION JT AND OUTPUT OCKS	BY Control
	MARK DATE DESCRIPTION
	COLLIER COUNTY UTILITIES GOLDEN GATE WWTP MASTER PUMP STATION MPS CP LAYOUT
OR PANEL REQUIREMENTS. 5, BLACK 1" LETTERS ON WHITE FIELD. OP SHELF ON INSIDE OF DOOR, SHELF SHALL BE WELDED TO TING CHANGES TO ENCLOSURE. L SUNSHIELD IN FRONT OF HMI.	Project No.: 200-08486-20013 Designed By: REED Drawn By: REED Checked By: I-301 Sheet

ENCLOSURE SIDE ELEVATION VIEW SCALE: NTS

SCALE: NTS

SUBPANEL LAYOUT

			TETRA TECH	ENGINEERING BUSINESS NO. 2429)	WWW.IEIratecn.com	10600 CHEVROLET WAY, SUITE 102	ESTERO, FL 33928	PHONE: (239) 390-1467 FAX: (239) 390-1769
					COLLET COMPLY				
I	BΥ								
	MARK DATE DESCRIPTION								
	COLLIER COUNTY LITILITIES		GOLDEN GATE WWTP		TRANSMITTER TO		LIDER FANEL		
╞	Project No.: 200-08486-20013 Designed By: REED								
F	Checked By:								
	Sheet								

- NOTES: 1. SEE SECTION 406120 FOR PANEL REQUIREMENTS. 2. PROVIDE ENGRAVE TAG, BLACK 1" LETTERS ON WHITE FIELD.
- ANCHOR TO FLOOR W/ 6"X¹/₂" 316 SST EXPANSION ANCHORS, 4 PER FOOT.
 ALL NUTS AND BOLTS SHALL BE 316 SST.

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Bar Measures 1 inch

4

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ALOG ELD JMENTS
ND
OG D //ENTS
 NOTES: 1. PROVIDE SURGE PROTECTION ON ALL EXTERIOR DEVICES. 2. PROVIDE SUNSHIELD ON DEVICES
 3. PROVIDE DIN RAIL MOUNTED SURGE PROTECTION, PHOENIX CONTACT PT AND PLT OR EQUAL. MOUNT SURGE DEVICES IN 304SS NEMA 4X PANEL

NEAR TRANSMITTER.

			ENGINEERING BUSINESS NO. 2429)	www.tetratecn.com	10600 CHEVROLET WAY, SUITE 102 ESTERO, FL 33928	PHONE: (239) 390-1467 FAX: (239) 390-1769	
Coller County								
DESCRIPTION BY								
NRK DATE								
Pro De Dra Ch	oject signa awn ecke	No.: ed By 3y: d By	2 y: 5	00-0 C	848	6-200 RE RE	D13 ED ED	