ADDENDUM NO. 1 to the Project Manual for the

HUMBOLDT BAY MUNICIPAL WATER DISTRICT TRF GENERATOR PROJECT

This Addendum modifies and becomes a part of the Project Manual for the above project. It supersedes anything in the Project Manual with which it may conflict. Bidders shall acknowledge receipt of this Addendum by entering its number in the designated location on their Proposal.

- 1. A pre-bid meeting was held on February 5, 2025, at the Humboldt Bay Municipal Water District (HBMWD) Turbidity Reduction Facility. The Pre-Bid Meeting Attendance List is attached.
- 2. In response to a question raised during the Pre-Bid Meeting, questions during bidding will be accepted no later than at least 6 working days prior to bid opening, and the addenda shall be issued no later than 72 hours prior to bid opening. Refer to the Project Manual, Bid Requirements, page 1-2 for further information.
- 3. In response to a question raised during the Pre-Bid Meeting, bid opening shall occur in-person on March 5, 2025 at 3:00 p.m., at 828 Seventh Street, Eureka, CA 95501. Bid opening may be observed via Zoom using the following information:
 - a. Meeting ID: 851 6893 3576
 - b. Passcode: 861031
- 4. In response to a question raised during the Pre-Bid Meeting, both Federal prevailing wage rates and California State prevailing wage rates will be required on this project, whichever rate is higher should be used for the basis of bid. Refer to the Project Manual, Advertisement for Bids, page AD-2 for further information.
- 5. In response to a question raised during the Pre-Bid Meeting, the contract performance period of 340 days is driven by the performance period of the funding agency. If the generator lead time exceeds the contract performance period, an extension can be filed with the funding agency within 6 months of the grant performance period ending.
- 6. In response to a question raised during the Pre-Bid Meeting, see the attached SCADA screen examples from HBMWD for a similar site's generator information. SCADA modifications included as part of this project should be consistent with HBMWD standards.
- 7. In response to a question raised during the Pre-Bid Meeting, integration of the existing Tesla battery backup system into SCADA is not part of the project scope.
- 8. In response to a question raised during the Pre-Bid Meeting, Factory Talk and Studio 5000 are the programs used to configure HBMWD's existing SCADA system.
- 9. In response to a question raised during the Pre-Bid Meeting, over-excavation is only required below the generator structure and extended 2 feet beyond the structure perimeter as shown on Sheet C1.1, Note 5.
- 10. In response to a question raised during the Pre-Bid Meeting, the main power at the MSB will remain unaltered as part of this project. Refer to the Drawings, Sheet E1.1 for modifications to the existing electrical distribution system.

- 11. In response to a question raised via email, water is available on-site for use.
- 12. In response to a question raised via email, a City or County Building Permit is not required for this project.
- 13. In response to a question raised via email, the North Coast Unified Air Quality Management District (AQMD) does not explicitly require a Tier 4 Final emissions rating on a 750kW generator. The new 750kW generator emissions shall comply with State and Local air quality control requirements as stated in Technical Specification Section 263213.14 -Diesel Engine Generators, Part 2 - Products, Section 2.2.D., page 263213.14 - 3.
- 14. In response to a question raised via email, the prime/general contractor must possess a Class A license, and the electrical subcontractor must possess a Class C-10 license.

Refer to the Project Manual, Advertisement for Bids, page AD-1, paragraph 4, bulleted list. ADD the following new paragraph after the bulleted list: "The general/prime contractor must possess a Class A license, and the electrical subcontractor must possess a Class C-10 license."

- 15. Refer to the Project Manual, Advertisement for Bids, page AD-1, paragraph 5, bulleted list. REVISE the third bullet to read as follows: "List of a minimum of three completed projects over the last ten years of similar size and complexity for public entities. Include the following for each project:"
- Refer to the Project Manual, Technical Specification Section 259000 ORT and FAT Requirements. REPLACE the existing Technical Specification Section 259000 - ORT and FAT Requirements with the attached Technical Specification Section 259000 - ORT and FAT Requirements.
- 17. Refer to the Project Manual, Technical Specification Section 263213.14 Diesel Engine Generators. REVISE Part 2 - Products, Section 2.2.A.4., page 263213.14 - 3 to read as follows:
 "4. Seismic Design Category F."
- 18. Refer to the Drawings, Sheets C1.1, S1.0, S2.1, S2.3, and S3.0. REPLACE the existing Sheets C1.1, S1.0, S2.1, S2.3, and S3.0 with the new Sheets C1.1, S1.0, S2.1, S2.3, and S3.0 attached.



Iryan Gentles.

Bryan Gentles, Project Manager PACE Engineering, Inc. 5155 Venture Parkway Redding, CA 96002 (530) 244-0202

Date: February 14, 2025

M:\Jobs\3073.01 Humboldt Bay MWD - TRF Generator\15 Bidding-Award\03 Addendums\Addendum No. 1.docx

Pre-Bid Job Site Visit Attendance List

Project Name: H	lumboldt Boy MWD TRF Generator	Job #: 3075.0
Name	Firm/Agency	Phone Number
Mike Ayal	A NCSG THE	360-463-9223
BRUN PRITCH	HRD SEQUOIR CONST.	707-442-3596
Kyle Brou	wn Wahlund Construction	n 707.499-8283
Casey Coelho	Wahlund Const.	707-845-4165
Nick Rus	l Houven + Reise	707-481-7279
Set Adams	Hown i Ranc	107-601-6054
Will Seit	2 DAY'S GENERATOR	925-382-9510
	5	
P		





2MW DIESEL GENERATOR

0	L1 AMPS	25.9	BATTERY VDC
0	L2 AMPS	0	OIL PRESSURE kPa
0	L3 AMPS	44.6	OIL TEMP deg F
-1	NEUTRAL AMPS	55.0	COOLANT TEMP deg C
0	AVERAGE AMPS	0	ENGINE SPEED RPM
0	L1-L2 VOLTS	0.00	FUEL RATE gal/hr
0	L2-L3 VOLTS	3025.9	ENGINE RUNNING TIME HOURS
0	L3-L1 VOLTS	127	ENGINE NUMBER OF STARTS
0	KW	0.0	GENERATOR KWH
0	KVAR	85.8	10,000 GAL TANK LEVEL
1.00	KVAR	9617	10,000 GAL TANK GALLONS
0	KVA		

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CHECK GENSET GROUND FAULT HIGH AC VOLTS LOW AC VOLTS UNDER FREQUENCY OVERLOAD OVERCURRENT SHORT CIRCUIT REVERSE KW REVERSE KVAR FAIL TO SYNCH FAIL TO CLOSE LOAD DEMAND GENSET BKR TRIPPED UTILITY BKR TRIPPED EMERGENCY STOP

CLOSE



GENERATOR CONTROL

ÞS



History History A 2/6/2025 5:-	I2:47 AM ALARMS_PS2_B27_48_3 I1:54 AM PS2_STATUSPUMP1RDY	TRIP507 PS #2 Data FTRIPStatus Pump 21 RTRIPStatus Pump 21 R	ail eady
Alarm History	15:23 AM ETREAT_AIT581_AAH581 42:47 AM ALARMS_PS2_B27_48_3	TRIPWWR Pretreat InleTRIP507 PS #2 Data F	t High Turbidity Alarm ail

4







POWER

MENU

	PHASE A-B	PHASE B-C	PHASE C-A	PHASE A-N	PHASE B-N
VOLTAGE	485 V	480 V	484 V	280 V	278 V
	PHA SE A	PHA SE B	PHA SE C		
CURRENT	206 A	203 A	193 A]	
	COMBINED PHASES			·	
PHASE-TO-PHASE UNBALANCE	-0.6 %				
				480V	
PHASE-TO-NEUTRAL UNBALANCE	0.5 %				
		СН	IEMICAL BUILDING	The second secon	
FREQUENCY	60.0 Hz		MA	N SERVICE	
			SWI	TCHBOARD	
POWER FACTOR	-0.98		\frown $-$		
			GENERATOR	ATS	
REAL POWER	166 kW				
				+	
REACTIVE POWER	-28 kVAr		DIS		
APPARENT POWER	168 kVA				TRANSFORMER
				MCC D	E
POWER TOTAL	7319065.5 kW.Hr]			
Low Voltage Alarm 460	N V				
			RAPID	MIX PUMPS	
Voltage Unbalance Alarm 5.0	5 %				
			L		

Alarm History		▲ ▲ ▲	2/6/2025 8:01:51 AM 2/6/2025 7:57:47 AM 2/6/2025 5:42:47 AM 2/6/2025 5:41:54 AM	ETREAT_AIT581_AAH581 ANK2WATCHDOGALARM ALARMS_PS2_B27_48_3 PS2_STATUSPUMP1RDY	TRIP TRIP TRIP TRIP	WWR Pretreat Inlet High Turbidity Alarm BLUE LAKE T2 Watch Dog Alarm 507 PS #2 Data Fail Status Pump 21 Ready
	 	4	2/6/2025 5:41:54 AM	PS2_PUMP2RUNNING	TRIP	Alarm fault cleared: Alarm input quality is good

								-	×
ALARMS	9	2/06/20 8:09:48)25 AM	ESSEX	BACK				
				POWER TREND	T				
E B-N	PHASE	C-N		POWER	2				
78 V	27	8 V							



SECTION 259000 - ORT AND FAT REQUIREMENTS

PART 1 - GENERAL

1.1 SYSTEM OPERATION

A. See Supplement No. 2 – Functional Descriptions for a description of the system operation. The system shall operate as described, and any changes to the system operation shall be approved by the EEOR.

1.2 SUBMITTALS

- A. Refer to the Standard General Conditions and Supplementary Conditions.
- B. Completed ORT Form.
- C. FAT procedures.
- D. SCADA screens.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 TESTING

- A. Operational Readiness Test (ORT):
 - 1. The entire installed I&C system shall be certified (inspected, tested, and documented) that it is ready for operation. The objective of this test is to demonstrate that the I&C system is ready for functional acceptance testing. The ORT shall be completed, documented, and submitted to the engineer prior to commencing with the functional acceptance test. See Supplement No. 1 Example ORT Form for an example of an acceptable set of ORT forms.
 - 2. Point-to-Point Wire Check: After installation, termination, and identification of conductors, perform a point-to-point wire check to verify that all wiring has been properly installed and identified and that there are no shorts between wires, shields, and ground. Lift conductors from terminals as required to perform this test.
 - a. Sequence Test: The sequence test is a step-by-step check of a control circuit to verify that the circuit does function as shown on the elementary diagrams and schematic diagrams.
 - The test is performed with control busses energized. Load elements (relay coils, indicating lights, solenoid valves, etc.) are energized and de-energized by opening and closing contacts in the circuit leading to each load element. Each contact is checked individually, either by actual operation of the contact,

or if that is not practical, by simulated operation of the contact, or, if that is not practical, by simulated operation of the contact (removing a wire or shorting the contact).

- 2) The sequence test is performed by going through the elementary diagrams on a line-by-line basis. As each circuit is checked, the Drawing is marked with a colored pen. The objective is to confirm that the control circuitry agrees with the elementary diagrams. Corrections shall be made as required to the circuitry and to the Drawings. The end item is the set of marked-up elementary diagrams.
- 3) Simulate operation of remote devices by opening or jumpering control circuits.
- B. Functional Acceptance Testing (FAT):
 - 1. Testing:
 - a. Testing shall be scheduled and performed in accordance with the requirements detailed in the Engineer's Supplementary Conditions.
 - b. After the Contractor has completed all required ORT documentation, manufacturer startups, and equipment calibrations, the Engineer shall be notified for approval of ORT and startup documentation.
 - c. The Contractor shall be responsible for developing all FAT procedures and documentation. The FAT documents shall be submitted to PACE as a formal submittal for approval. No final testing or scheduling of final testing shall occur until the Engineer has given formal approval of all testing procedures within the FAT.
 - d. When integration and ORT testing is complete, Contractor shall provide written notice to the Engineer that the system is installed and ready for complete operation. The Engineer shall be informed at least two weeks prior to requested start of the FAT. Updated versions of the system documentation including O&M manuals and interconnection drawings shall be available at the job site both before and during the FAT.
 - e. The Integrator shall perform the FAT in the presence of the Engineer and the Owner's representative. The Contractor shall build one week into their schedule of work that includes FAT efforts. This additional time shall fall within the contract time schedule.
 - f. The FAT shall test all modes of operation as described in the Functional Descriptions. During this testing, it is required that all project equipment, including but not limited to pumps, motors, valves, instrumentation, and panels be operated to verify conformance to the Contract Documents. Perform test on all equipment and operate the equipment in every mode of operation. Verify all communications, controls, and alarms operate as intended. If any equipment or system fails the FAT, correct the problem and repeat the test until it is successful.
 - g. The Contractor shall remain responsible for all supplied equipment during the FAT. PACE shall not be liable for any actual or perceived damage that occurs during integration or functional testing.
- C. Any changes to wiring or product changes shall be documented in the respective documents such as O&M manuals, ORT forms, etc.

3.2 **SUPPLEMENTS**

- Supplements listed below are part of this Specification. А.
 - 1.
 - SUPPLEMENT NO. 1 Example ORT Form. SUPPLEMENT NO. 2 Functional Descriptions. 2.

END OF SECTION 259000

SUPPLEMENT NO. 1 EXAMPLE ORT FORM

PACE ENGINEERING OPERATIONAL READINESS TEST (ORT) - INSTRUMENT CALIBRATION

	COMPO	ONENT			MANUFA	CTURER	PROJECT			
Name:				Name:				Name:		
				Model:				Number:		
				Serial No.:						
					FUNCTIONS			·		
		Range	Un	iits	Control? Y/N	1				
Indicate? Y	/N				Action? Dire	ct/Reverse				
Record? Y/	N				Switch? Y/N					
Transmit?	//N				Unit Range: Differential:					
					Reset? Automatic/Manual					
		ANALO	DG CALIBRA	TIONS			DISCRETE CALIBRATIONS			
	REQUIRED			AS CALIBRATED REG				UIRED As Calibrated		
			Increasi	ng Input	Decreasing Input		Trip Point	Reset Point	Trip Point	Reset Point
Input	Indicated	Output	Indicated	Output	Indicated	Output	(Note rising	or falling)	(Note rising or falling)	
NOTES:							Component	Calibrated ar	nd Ready for S	Start-up
							By:			
							Date:			

SUPPLEMENT NO. 2 FUNCTIONAL DESCRIPTIONS

HUMBOLDT BAY MUNICIPAL WATER DISTRICT <u>TRF GENERATOR PROJECT</u> <u>FUNCTIONAL DESCRIPTIONS</u>

The following functional descriptions describes the control scheme for the emergency backup generators and automatic transfer switches at the Turbidity Reduction Facility (TRF):

Turbidity Reduction Facility

General:

The TRF consists of a Tesla battery energy storage system (BESS), two emergency backup generators, and an automatic transfer switch (ATS) for each generator. GEN-1 is a new 750kW generator, sized and connected to support the entire TRF site during a utility power outage. Its associated automatic transfer switch (ATS-1) is a 1,200A, 3-pole, open-transition switch. GEN-2 is an existing 100kW generator, sized and connected to support only select loads including supervisory control and data acquisition (SCADA) equipment, dosing pumps, sample pumps, analyzers, and wash water return pumps during a utility power outage. Its associated automatic transfer switch (ATS-2) is a 225A, 3-pole, closed-transition switch.

Generator Operation:

When the site initially loses utility power the BESS shall provide electrical power to the entire site and no generators shall be called to run.

After the batteries are fully discharged, GEN-2 shall be called to run. After ATS-2 senses quality emergency power, it shall transition to the generator position and provide power to distribution panel A (Dist PnI A). GEN-2 shall continue to run while GEN-1 remains off until manually called to run from SCADA to allow for backwashing. GEN-1 shall be called to run after operators press a button in SCADA. After ATS-1 senses quality emergency power, it shall transition to the generator position and provide power to the entire facility excluding Dist PnI A. When ATS-2 senses quality power from GEN-1 on the normal power side it shall call the generators to synchronize voltage, frequency, and phase. Once synchronization is achieved, ATS-2 shall transition from emergency power to normal power, ensuring a seamless transfer for Dist PnI A to be powered from GEN-2 to GEN-1. Once ATS-2 completes its transition to GEN-1 power, GEN-2 shall be called to stop.

When operators call GEN-1 to stop from SCADA, GEN-2 shall be called to run and synchronize with GEN-1. After synchronization is achieved, ATS-2 shall transition from GEN-1 power to GEN-2 power. After ATS-2 completes the transfer, GEN-1 shall be

called to stop. The transition between GEN-2 and GEN-1 can occur multiple times before utility power is restored. When utility power is restored, both ATS-1 and ATS-2 sense quality utility power, they shall transition to the normal position and both GEN-1 and GEN-2 shall be called to stop. ATS-2 shall always perform closed transitions except for when transitioning back to utility power, which shall be an open transition so as not to back feed generator power to the utility grid.

To accomplish these operations, generator and ATS controllers shall be capable of synchronizing and communicating the necessary information to accomplish this. GEN-2 shall be the main source of power for the facility during a power outage with GEN-1 only running when operators need to initiate a backwash.

SCADA Visualization:

The following values/statuses shall be displayed in SCADA:

- Generator ON Status (GEN-1 and GEN-2)
- Generator Fault Status (GEN-1 and GEN-2)
- Generator Not in Auto (GEN-1 and GEN-2)
- High or Low Battery Voltage (GEN-1 and GEN-2)
- Low Coolant Temperature (GEN-1 and GEN-2)
- High Engine Temperature (GEN-1 and GEN-2)
- Low Oil Pressure (GEN-1 and GEN-2)
- Low Coolant Level (GEN-1 and GEN-2)
- Low Fuel Level (GEN-1 and GEN-2)
- Generator Runtime Hours (GEN-1 and GEN-2)
- Phase Currents (GEN-1 and GEN-2)
- Line Voltage (GEN-1 and GEN-2)
- Power Output (kW) (GEN-1 and GEN-2)
- Battery Voltage (GEN-1 and GEN-2)
- Fuel Tank Level (GEN-1 and GEN-2)
- Oil Pressure and Temperature (GEN-1 and GEN-2)
- Engine Speed (GEN-1 and GEN-2)

- Fuel Consumption Rate (GEN-1 and GEN-2)
- Transfer switch position (normal vs. emergency) (ATS-1 and ATS-2)

Trending:

The following values shall be monitored in SCADA for historical trending:

- Generator ON Status (GEN-1 and GEN-2)
- Generator Runtime Hours (GEN-1 and GEN-2)

Generator Alarms:

Each of the following alarms shall be indicated in SCADA. Alarms shall be dialed out as indicated. All dial-out alarms shall have the ability to be ENABLED/DISABLED at SCADA. The following alarms shall be generated:

- Communication FAIL: When communication fails between SCADA and a generator for an operator-adjustable time delay, a COMM FAIL alarm shall be generated. Upon COMM FAIL, the generator shall be prevented from operating based on SCADA. The alarm shall be reset when communication is re-established. This alarm shall be communicated to the auto dialer for dial out.
- 2. **Generator ON:** Generator running status shall be monitored, and a generator ON alarm activated at SCADA when generator ON status is received from the generator control panel. The alarm shall be reset when the generator is no longer running. This alarm shall be communicated to the auto dialer for dial out.
- 3. **Generator FAULT:** Generator fault status shall be monitored, and a generator FAULT alarm activated at SCADA when generator FAULT status is received from the generator control panel. The alarm shall be reset locally at the generator control panel. This alarm shall be communicated to the auto dialer for dial out.
- 4. **Generator LOW Fuel:** Generator fuel status shall be monitored, and a generator LOW fuel alarm activated at SCADA when generator LOW fuel status is received from the generator control panel. The alarm shall be reset when the generator fuel level is above the LOW fuel setpoint. This alarm shall be communicated to the auto dialer for dial out.



ol Date: reutuary ic, 2023 - 3.17 ptil Login Natifie, yories Ie Name: Mi'Land Projects/3073.01 Humboldt Bay MWD TRF Gen/01 CAD/06 AFC/CMI Improvements_ADD01.dwg, Layout: STTE & GR

APPLICABLE CODES & REGULATIONS:

- 1. 2022 California Building Code, Volumes 1 & 2 (CBC)
- 2. 2022 California Electrical Code (CEC)
- 3. 2022 California Mechanical Code (CMC)
- 4. 2022 California Plumbing Code (CPC) 5. 2022 California Energy Code
- 6. 2022 California Fire Code
- 7. 2022 California Green Building Standards Code
- 8. 2022 California Administrative Code

STRUCTURAL DESIGN CRITERIA:

<u>Risk category:</u>	IV
<u>Live Load Data</u> Access Platform: Stairs: Handrails & Guardrails:	60 psf, minimum or 300 lbs concentrated load. 100 psf, minimum or 1,000 lbs concentrated load. 50 lb/ft or 200 lbs concentrated load applied in any direction.
<u>Wind Design Data</u> Ultimate Design Wind Speed: Exposure Category: Topographic Factor:	V _{ULT} = 103 mph C K _{ZT} = 1.15
<u>Seismic Design Data</u> Component Importance Factor: Seismic Coefficients:	$I_{p} = 1.50$ $a_{p} = 1.00 , R_{p} = 2.50 , \Omega_{0} = 2.00$ (Generator w/ Sub-base Fuel Tank)
	a_p = 2.50 , R_p = 6.00 , Ω_0 = 2.00 (ATS Cabinet & Panel Boards)
	R = 1.25 , Ω_0 = 2.00 , Cd = 2.50 (Access Platform & Stairs)
Acceleration Parameters: Site Class: Seismic Design Category: <u>Foundation Design Criteria</u> Allowable Bearing Pressures:	$S_{S} = 2.613$, $S_{1} = 1.072$ $S_{DS} = 1.742$, $S_{D1} = 1.822$ D F
DL + LL = 1500 PSF	

GENERAL REQUIREMENTS:

Coefficient of Friction = 0.40

DL + LL + SEISMIC = 2000 PSF DL + LL + WIND = 2000 PSF

All construction shall conform with 2022 California Building Code and all other applicable codes, ordinances, laws and provisions set forth in these Construction Documents. The Construction Documents are considered to be, but are not limited to, the plans and specifications, notifications, change orders, addendums, clarifications and instructions. Any construction that does not comply with the Construction Documents shall be subject to rejection by the Engineer.

CONTRACTOR REQUIREMENTS:

Dimensions shall be checked by the Contractor prior to construction between these plans and other plans. Verify existing dimensions prior to construction. Discrepancies shall be brought to the immediate attention of the Engineer for resolution.

<u>Temporary bracing</u> of the building or other structures during construction is the responsibility of the contractor. Such bracing shall account for material stockpile loads, removal of existing supports and loads from equipment and methods employed during construction. The building or other structures shall also be adequately braced to withstand any wind loads, seismic and snow loads which might occur during construction until the permanent structural framing system, including but not limited to all diaphragms, shear walls, bracing, etc., is completed.

STRUCTURAL REVIEWS AND INSPECTIONS:

See SPECIAL INSPECTION & TESTING CHECKLIST this sheet.

The Contractor shall notify the Special Inspector at least 4 days in advance of any construction activity which requires inspection.

FOUNDATION NOTES:

The footings shown on the plans were designed using the recommendations from the Geotechnical Report by KC Engineering Company (RD558) dated June 26, 2023. The maximum allowable bearing capacity is 1500 psf under Dead Load plus Live Load. The allowable bearing pressure is permitted a 1/3 increase for load combinations that include wind and seismic loads.

bar is one inch on			
ORIGINAL DRAWING	NO	DATE	
	1	2/14/25	ADDENDUM NO. 1
0″1″			
IF NOT ONE INCH ON THIS			
SHEET, ADJUST SCALES			
ACCORDINGLI			

EXCAVATIONS AI Special Inspectio
CONCRETE Special Inspectio
ADHESIVE ANCHO Special Inspectio (Per CBC Table 1
STRUCTURAL STEEL

extension D 🛏 180° HOOK NOTE: D = 6d FOR #3 THRU #8 BARSD = 8d FOR #9, 10, 11 BARS

,4d OR 2-1/2" MIN

STANDARD REBAR HOOKS

		SPECIAL IN	ISPECTION 8	R TESTING CHECKLIST				
	TESTING	INSPE	CTION					
	IESTING	BY TYPE						
EXCAVATIONS AND COMPACTION Special Inspection	COMPACTION	GEOTECH	SPOT	Observe excavations and compaction for conformance with the geotechnical report.				
CONCRETE Special Inspection	SLUMP AIR CONTENT COMP CYLINDERS	Special	CONT	Verify mix design. Prior to placement, measure temperature, air content and determine slump with slump cone. Make concrete cylinders (four 4x8 or three 6x12 cylinders minimum for each 150 yards or less of concrete per day). Check weigh masters certificate to confirm specified concrete mix. Prepare inspection report. Check consolidation, finishing, and curing methods.				
				spacing, secureness, lap splice locations and lengths, bend diameters. No double or reverse bending. Verify no dirt or oil on reinforcement.				
				Observe formwork for shape, location and dimensions of the concrete member being formed. Verify formwork is sufficiently tight to prevent leakage of concret and that it is installed in conformance with the approved shop drawings.				
ADHESIVE ANCHORS Special Inspection (Per CBC Table 1705.3 Item 4)	NONE	Special	CONT	Verify hole diameter and depth, brush and air clean, adhesive type, rod diamet and length, sufficient adhesive and clean-up.				
STRUCTURAL STEEL WELDING Special Inspection (Per CBC Table 1705A.2 Item 5)	NONE	SPECIAL	PERIODIC	Prior to the start of welding, the Special Inspector shall check all materials, fit-up joint geometry, welder certifications, welding procedures and process, welding position, welding electrode type and storage, etc. As the welding work progresses, the Special Inspector shall perform periodic visual inspections to cert that the work is being performed in accordance with the Contract Documents. Upon 100% completion of the welding, the Special Inspector shall perform a finc visual inspection of all welds. Continual visual inspection is not required if all of the above conditions are met.				
				Welding inspection reports and welder certification shall be submitted to the Owner and Engineer.				
				The Special Inspector shall be an AWS Certified Welding Inspector (CWI)				
				Inspection task shall follow AISC 360 Table N5.4-1, N5.4-2, and N5.4-3.				



		A	ADHESIVE ANCHOR INSTALLATION TABLE IN CONCRETE AND CML								U		
			HILTI HY - 200 ADH					SIMPSON SET-3G ADH					
ROD/REBAR Ø 3/8 1/2 5/8 3/4 7/8 1					1	3/8	1/2	5/8	3/4	7/8	1		
DRILL	ROD	7/16	9/16	3/4	7/8	1	1 1/8	1/2	5/8	3/4	7/8	1	1 1/8
bit Ø	REBAR	1/2	5/8	3/4	7/8	1	1 1/8	1/2	5/8	3/4	7/8	1	1 1/8
MAXIN INSTA TORQU	aum rod Allation Je (ft-lbs)	15	30	60	100	125	150	15	30	60	100	125	150

NOTES FOR INSTALLATION IN CONCRETE: 1. INSTALLATION SHALL BE IN ACCORDANCE W/ MNFRS EVALUATION REPORT (ICC ESR - 3187 FOR HILTI & ICC ESR - 4057 FOR SIMPSON) & INSTALLATION INSTRUCTIONS.

- HILTI HAS R 316 SS.





NTS



HUMBOLDT BAY MWD TRF GENERATOR

GENERAL STRUCTURAL

NOTES	&	TYPICAL	DETAILS
			•

440 PIPELINE RD ARCATA, CA

SHEET PG 5 OF 18

	responsible for the structural design or his representative. (PACE Engineering)
GEOTECH	Denotes Geotechnical engineer responsible for observing Geotechnical conditions. (KC Engineering)
CONT	Denotes full-time observation by the field inspector while the item is being constructed.
Spot	Denotes observation by the field inspector after the item is constructed to verify the item is satisfactory for the next phase of construction.
PERIODIC	Denotes observation by the field inspector during the course of construction to verify conformance with the Contract Documents as the work progresses.

SPECIAL INSPECTION AND TEST CHECKLIST NOTES:

Denotes an inspector qualified to perform the

inspection and/or testing for the particular item

shall approve the Special Inspector and testing

agency prior to employment for this project.

Denotes the Structural Engineer of Record

under consideration. The inspector shall not be an

employee of the Construction Contractor nor shall

he/she be selected by the Contractor. The Engineer

2. SPECIAL INSPECTION IS REQ'D DURING INSTALLATION.

3. MINIMUM BOLT EMBEDMENT & EDGE DISTANCE SHALL BE AS SHOWN ON THE DWGS. 4. THRD ROD SHALL BE ASTM A36, ASTM F1554 GR 36, OR HILTI HAS - V - 36 UNLESS NOTED OTHERWISE. WHERE SSTL ANCHORS ARE NOTED ON THE DRAWINGS, USE ASTM A193 GR. B8M (TYPE 316SS), OR

5. EXISTING REINF STEEL SHALL BE LOCATED PRIOR TO ADH ANCHOR INSTALLATION.

ADHESIVE ANCHOR INSTALLATION TABLE



nd ee leck ection and

Special

SEOR

nber ncrete

ameter

it-up,

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NOTES:

- INDICATES EXTENT OF OVER-EXCAVATION. OVER-EXCAVATION LIMITS SHALL EXTEND A MINIMUM 2-FEET BEYOND CONCRETE PAD AND A MINIMUM OF 1-FOOT BELOW EXISTING GRADE, UNLESS NOTED OTHERWISE. 2. AFTER OVER-EXCAVATION, UNDERLYING NATIVE EARTH SHALL BE SCARIFIED 8-INCHES MINIMUM AND COMPACTED TO 95% RELATIVE DENSITY. COMPACTION SHALL BE MEASURED BY ASTM D-1557. AGGREGATE
- BASE SHALL BE CALTRANS CLASS II AGGREGATE BASE (OR APPROVED EQUAL) MEETING STANDARD SPECIFICATIONS, SECTION 26 AND COMPACTED TO 95% RELATIVE DENSITY, UNLESS NOTED OTHERWISE. FILL LIFTS SHALL NOT EXCEED 6-INCHES LOOSE THICKNESS, UNLESS NOTED OTHERWISE.
- 3 CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZE, QUANTITY, AND LOCATION WITH GENERATOR SET MANUFACTURER. NOTIFY ENGINEER OF ANY DISCREPANCY.
- CONTRACTOR SHALL ADJUST REINFORCEMENT LOCATIONS AS REQUIRED TO AVOID CONFLICT WITH ANCHOR LOCATIONS. 4. 5. ADHESIVE SHALL BE SIMPSON SET-3G (ICC ESR-4057), HILTI HY-200 (ICC ERS-3187), OR APPROVED EQUAL. THREADED ROD SHALL BE ASTM A193 GR. B8M CLASS 2 (TYPE 316 STAINLESS STEEL) W/ TYPE 316 STAINLESS
- STEEL NUTS AND WASHERS. FOR ACCESS PLATFORM FRAMING & FOUNDATION INFORMATION, SEE STRUCTURAL SHEET \$2.2. ACCESS PLATFORM & FOUNDATION SUBJECT TO CHANGE DURING SUBMITTAL PHASE. 6
- 7. AT CONTRACTOR'S DISCRETION, PROVIDE ACCESS PLATFORM & STAIRS FROM GENERATOR SET MANUFACTURER OR APPROVED SUPPLIER. ACCESS PLATFORM & STAIRS SHALL MEET THE DESIGN REQUIREMENTS INDICATED BY THE CONSTRUCTION DRAWING AND TECHNICAL SPECIFICATIONS.
- 8. FOR ADDITIONAL INFORMATION NOT SHOWN, SEE ELECTRICAL SHEET E2.0.





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