

MITIGATION MEASURES
CONTRACTOR TO ADHERE TO AND IMPLEMENT THESE MITIGATION MEASURES

MITIGATION MEASURE	IMPLEMENTATION
D.06 - UNKNOWN ARCHAEOLOGICAL REMAINS	
D.06 THE ENTIRE MISSION BAY PROJECT AREA HAS AT LEAST SOME SENSITIVITY FOR THE PRESENCE OF UNKNOWN ARCHAEOLOGICAL REMAINS. PREHISTORIC CULTURAL DEPOSITS COULD BE ENCOUNTERED IN THREE DESIGNATED AREAS OF UNKNOWN HISTORICAL FEATURES, ARTIFACT CACHES AND DEBRIS AREAS COULD BE LOCATED ANYWHERE IN THE PROJECT AREA. FOLLOW PROCEDURES FOR INSTRUCTING EXCAVATION CREWS, NOTIFYING THE ERD AND PRESIDENT OF THE LPAB, AND DEVELOPING RECOVERY MEASURES, AS DESCRIBED IN MEASURE D.05 OF THE 1998 ER. IN ADDITION, IN THE EVENT THAT PREHISTORIC ARCHAEOLOGICAL DEPOSITS ARE DISCOVERED, CONSULT LOCAL NATIVE AMERICAN ORGANIZATIONS, DIALOGUE WITH THE ERD, LPAB AND THE ARCHAEOLOGICAL CONSULTANT WOULD TAKE PLACE IN DEVELOPING ACCEPTABLE ARCHAEOLOGICAL TESTING & EXCAVATION PROCEDURES, PARTICULARLY IN REGARD TO THE DISPOSITION OF CULTURAL MATERIALS AND NATIVE AMERICAN BURIALS. (CONDITION MAJOR PLAN ACCORDINGLY TO REQUIRE ON INDIVIDUAL BUILDING SITES OR POTENTIAL FOR SINGLE COORDINATED PROGRAM FOR BLOCK)	BY CONTRACTOR
E.10 FOURTH STREET/OWENS STREET	
E.10a INSTALL A NEW TRAFFIC SIGNAL.	THIS MITIGATION MEASURE IS ADDRESSED IN THE THIRD STREET CORRIDOR IMPROVEMENT PLANS.
F.2 CONSTRUCTION PM - DUST CONTROL - BY CONTRACTOR	
F.2a WATER ALL ACTIVE CONSTRUCTION AREAS AT LEAST TWICE A DAY, OR AS NEEDED TO PREVENT VISIBLE DUST PLUMES FROM BLOWING OFF-SITE.	C2 SERIES
F.2b USE TARPULINS OR OTHER EFFECTIVE COVERS FOR ON-SITE STORAGE PILES AND FOR HAUL TRUCKS THAT TRAVEL ON STREETS.	C2 SERIES
F.2c PAVE, APPLY WATER THREE TIMES DAILY, OR APPLY (NON-TOXIC) SOIL STABILIZERS ON ALL UNPAVED PARKING AREAS AND STAGING AREAS AT CONSTRUCTION SITES.	C2 SERIES
F.2d SWEEP ALL PAVED ACCESS ROUTES, PARKING AREAS, AND STAGING AREAS DAILY (PREFERABLY WITH WATER SWEEPERS).	C2 SERIES
F.2e SWEEP ALL STREETS DAILY (PREFERABLY WITH WATER SWEEPERS) IF VISIBLE AMOUNTS OF SOIL MATERIAL ARE CARRIED ONTO PUBLIC STREETS.	C2 SERIES
F.2f HYDROSEED OR APPLY (NON-TOXIC) SOIL STABILIZERS TO INACTIVE CONSTRUCTION AREAS. (PREVIOUSLY GRADED AREAS INACTIVE FOR TEN DAYS OR MORE).	C2 SERIES
F.2g ENCLOSE, COVER, WATER TWICE DAILY OR AS NECESSARY OR APPLY (NON-TOXIC) SOIL BINDERS TO EXPOSED STOCKPILES (DIRT, SAND, ETC.) TO PREVENT VISIBLE DUST PLUMES FROM MIGRATING OUTSIDE OF THE PARCEL UNDER DEVELOPMENT.	C2 SERIES
F.2h LIMIT TRAFFIC SPEEDS ON UNPAVED AREAS TO 15 MPH.	C2 SERIES
F.2i INSTALL SANDBAGS OR OTHER EROSION CONTROL MEASURES TO PREVENT SILT RUNOFF TO PUBLIC ROADWAYS.	C2 SERIES
F.2j REPLANT VEGETATION IN DISTURBED AREAS AS QUICKLY AS POSSIBLE.	C2 SERIES
F.2k INSTALL #8EEL WASHERS FOR ALL EXITING TRUCKS, OR WASH OFF THE TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT LEAVING THE SITE.	C2 SERIES
F.2l INSTALL WIND BREAKS, OR OTHERWISE PREVENT WIND FROM RAISING DUST.	C2 SERIES
F.2m SUSPEND EXCAVATION AND GRADING ACTIVITY WHEN WINDS (INSTANTANEOUS GUSTS) EXCEED 25 MPH.	C2 SERIES
F.2n MINIMIZE THE AREA SUBJECT TO EXCAVATION, GRADING AND OTHER CONSTRUCTION ACTIVITY AT ANY ONE TIME.	C2 SERIES
F.2o THE PROCEEDING ARE ACCEPTABLE MEASURES. FAILURE TO COMPLY SHALL RESULT IN \$500 LIQUIDATED DAMAGES PER VIOLATION PER DAY.	C2 SERIES
J.01 RISK MANAGEMENT PLAN(S)	
J.01f IDENTIFY PROTOCOLS FOR MANAGING SOIL DURING CONSTRUCTION, WHICH WILL INCLUDE AT A MINIMUM: 1. THE DUST CONTROLS FOUND IN MEASURE F.02 IN SECTION V.I.F. MITIGATION MEASURES; AIR QUALITY; 2. STANDARDS FOR IMPORTED FILL (DEFINED AS FILL BROUGHT ONTO THE SITE FROM OUTSIDE THE PROJECT AREA) THAT ARE PROTECTIVE OF HUMAN HEALTH AND THE AQUATIC ENVIRONMENT AND AN IDENTIFIED MINIMUM DEPTH OF FILL TO BE REQUIRED FOR LANDSCAPED AREAS; 3. A REQUIREMENT THAT PRIOR TO PLACEMENT, IF NATIVE SOIL IN THE PROJECT AREA IS TO BE USED ON SITE IN ANY MANNER THAT COULD RESULT IN DIRECT HUMAN EXPOSURE, CHARACTERIZATION OF THE SOIL BE CONDUCTED TO CONFIRM THAT IT MEETS APPROPRIATE STANDARDS APPROVED BY THE RWOCB AND WOULD BE APPROPRIATE FOR THE INTENDED USE; 4. PROTOCOLS FOR MANAGING STOCKPILED AND EXCAVATED SOILS; 5. A PROGRAM FOR OFF-SITE DUST MONITORING, CONSISTING OF REAL-TIME MONITORING FOR PM10 CONCENTRATIONS TO DEMONSTRATE THAT THE HEALTH AND SAFETY OF ALL INDIVIDUALS NOT ENGAGED IN CONSTRUCTION ACTIVITIES WOULD NOT BE ADVERSELY AFFECTED BY CHEMICALS THAT COULD BE CONTAINED IN DUST GENERATED BY SOIL-DISTURBING ACTIVITIES. IF MONITORING SHOWS DUST LEVELS EXCEEDING 250 G/M3, IMPLEMENT ADDITIONAL DUST CONTROL MEASURES, SUCH AS CONTINUOUS MISTING OF EXPOSED AREAS WITH WATER, UNTIL CONCENTRATIONS ARE REDUCED BELOW THE ACTION LEVEL.	AS REQUIRED BY RMP
J.01g POST-DEVELOPMENT EXCEPT WHERE TESTING DEMONSTRATES THAT NATIVE SOILS MEET STANDARDS ESTABLISHED BY THE RWOCB AS BEING PROTECTIVE OF HUMAN HEALTH AND THE AQUATIC ENVIRONMENT, REQUIRE THAT UPON PROJECT COMPLETION, ALL NATIVE SOILS SHALL BE CAPPED, SO AS TO PRECLUDE HUMAN CONTACT BY USING BUILDINGS, PAVED SURFACES (SUCH AS PARKING LOTS, SIDEWALKS, OR ROADWAYS), OR FILL OF A KIND AND DEPTH APPROVED BY THE RWOCB.	AS REQUIRED BY RMP
K.01 STORMWATER POLLUTION PREVENTION PROGRAM (SWPPP)	
K.01a MINIMIZE DUST DURING DEMOLITION, GRADING, AND CONSTRUCTION BY LIGHTLY SPRAYING EXPOSED SOIL ON A REGULAR BASIS.	BY CONTRACTOR
K.01b MINIMIZE WIND AND WATER EROSION ON TEMPORARY SOIL STOCKPILES BY SPRAYING WITH WATER DURING DRY WEATHER AND COVERING WITH PLASTIC SHEETING OR OTHER SIMILAR MATERIAL DURING THE RAINY SEASON (NOVEMBER TO APRIL).	BY CONTRACTOR
K.01c MINIMIZE THE AREA AND LENGTH OF TIME DURING WHICH THE SITE IS CLEARED AND GRADED.	BY CONTRACTOR
K.01d PREVENT THE RELEASE OF CONSTRUCTION POLLUTANTS SUCH AS CEMENT, MORTAR, PAINTS AND SOLVENTS, FUEL AND LUBRICATING OILS, PESTICIDES, AND HERBICIDES BY STORING SUCH MATERIALS IN A BERMED, OR OTHERWISE SECURED, AREA.	BY CONTRACTOR
K.01e AS NEEDED, INSTALL FILTER FENCES AROUND THE PERIMETER OF THE CONSTRUCTION SITE TO PREVENT OFF-SITE SEDIMENT DISCHARGE. PRIOR TO GRADING THE BANK SLOPES OF CHINA BASIN CHANNEL FOR THE PROPOSED CHANNEL-EDGE TREATMENTS, INSTALL SILT OR FILTER FENCES TO SLOW WATER AND REMOVE SEDIMENT, AS NEEDED, PROPERLY TRENCH AND ANCHOR IN THE SILT OR FILTER FENCES SO THAT THEY STAND UP TO THE FORCES OF TIDAL FLUCTUATION AND WAVE ACTION, AND DO NOT ALLOW SEDIMENT-LADEN WATER TO ESCAPE UNDERNEATH THEM.	BY CONTRACTOR

MITIGATION MEASURE	IMPLEMENTATION
K.01f FOLLOW DESIGN AND CONSTRUCTION STANDARDS FOUND IN THE MANUAL OF STANDARDS FOR EROSION AND SEDIMENT CONTROL MEASURES FOR PLACEMENT OF RIPRAP AND STONE SIZE.	BY CONTRACTOR
K.01g INSTALL AND MAINTAIN SEDIMENT AND OIL AND GREASE TRAPS IN LOCAL STORMWATER INTAKES DURING THE CONSTRUCTION PERIOD, OR OTHERWISE PROPERLY CONTROL OIL AND GREASE DISCHARGES.	BY CONTRACTOR
K.01h CLEAN WHEELS AND COVER LOADS OF TRUCKS CARRYING EXCAVATED SOILS BEFORE THEY LEAVE THE CONSTRUCTION SITE.	BY CONTRACTOR
K.01i IMPLEMENT A HAZARDOUS MATERIAL SPILL PREVENTION, CONTROL, AND CLEAN-UP PROGRAM FOR THE CONSTRUCTION PERIOD, AS NEEDED. THE PROGRAM WOULD INCLUDE MEASURES SUCH AS CONSTRUCTING SNALES AND BARRIERS THAT WOULD DIRECT ANY POTENTIAL SPILLS AWAY FROM THE CHANNEL AND THE BAY AND INTO CONTAINMENT BASINS TO PREVENT THE MOVEMENT OF ANY MATERIALS FROM THE CONSTRUCTION SITE INTO WATER.	BY CONTRACTOR
M.4 - SEWER AND WASTEWATER TREATMENT	
M.4 CONSTRUCT FENCES AROUND ANY INTERIM SURFACE DETENTION BASINS	N/A
P.01 - EXTREME NOISE CONTROL	
P.01a FILE DRIVE OR OTHER EXTREME NOISE GENERATING ACTIVITY (80dBA AT A DISTANCE OF 100 FEET) SHALL BE LIMITED TO 8:00AM TO 5PM, MONDAY THROUGH FRIDAY; NO PILE DRIVING OR OTHER EXTREME NOISE GENERATING ACTIVITY IS PERMITTED ON SATURDAY, SUNDAYS AND HOLIDAYS. REQUESTS FOR PILE DRIVING ON SATURDAY MAY BE CONSIDERED ON A CASE BY CASE BASIS BY THE REDEVELOPMENT AGENCY WITH APPROVAL AT THE SOLE DISCRETION OF THE AGENCY DIRECTOR.	N/A

FOR IMPLEMENTATION NOTES, THE CONTRACTOR SHALL VISIT THE WEBSITE ADDRESS:

[HTTP://WWW.RBFCONSULTING.COM/CA TELIUS/HMEASURES.ASP?USERID=](http://www.rbfconsulting.com/catelius/hmeasures.asp?userid=)

CLICK ON A PROJECT BLOCK ON THE MAP. THIS WILL DIRECT THE USER TO AN INDIVIDUAL BLOCK APPLICABLE MITIGATION MEASURE. SELECT "IMPROVEMENT PLAN-PLAN CHECK" UNDER APPLICABLE PHASE AND CLICK ON THE PULL DOWN MENU UNDER "MITIGATION MEASURE" FOR ALL SUBMEASURES.

NOTES

1. ABBREVIATIONS ON THIS SHEET APPLY ONLY TO THE CIVIL DRAWINGS.

2. THIS IS A STANDARD LEGEND SHEET. THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.

ABBREVIATIONS

A AT	(E), EX EXISTING	M-M MONUMENT TO MONUMENT	T TANGENT
AB ANCHOR BOLT, AGGREGATE BASE	E EAST, ELECTRIC	MAX MAXIMUM	T&B TOP AND BOTTOM
ABVD ABANDONED	EA END CURVE	MB MECHANICAL BOLT	TC TOP OF CURB
AC ASPHALTIC CONCRETE	ECC ECCENTRIC, END COMPOUND CURVE	MB RES MISSION BAY RESIDENTIAL	TECH TECHNICAL
ACCE ARMY CORPS OF ENGINEERS	EF EACH FACE	MBD EXT MISSION BAY DRIVE EXTENSION	TEL TELEPHONE
ACWS AC WEARING SURFACE	EFL EFFLUENT	MCC MOTOR CONTROL CENTER	TF TOP FACE
ADD ADDITIONAL	EL, ELEV ELEVATION	MCPW MISSION CREEK PARK NORTH	THD THREAD
ADH AB ADHESIVE ANCHOR BOLT	ELB, ELL ELBOW	MCH MECHANICAL	THK THICK
ADJ ADJACENT, ADJUSTABLE	ELEC ELECTRIC, ELECTRICAL	MCHN MANUFACTURER	TOB TOP OF BANK
ADFF ABOVE FINISH FLOOR	ENGR ENGINEER	MH MANHOLE	TP TURNING POINT
AFG ABOVE FINISH GRADE	EP EDGE OF PAVEMENT	MIN MINIMUM, MINUTE	TRANS TRANSITION
AHR ANCHOR	EOL SP EQUALLY SPACED	MJ MECHANICAL JOINT	TRANSV TRANSVERSE
AL ALUMINUM	EQPT EQUIPMENT	ML MONUMENT LINE	TSB TRAFFIC SIGNAL BOX
ALTN ALTERNATE	ERC END REVERSE CURVE	MON MONUMENT	TST TOP OF STEEL
APPROX APPROXIMATE	ERO ENVIRONMENTAL REVIEW OFFICER	MTL MATERIAL	TW TOP OF WALL
APVD APPROVED	EVC END OF VERTICAL CURVE		TYP TYPICAL
ARCH ARCHITECTURAL	EVC2 END OF VERTICAL CURVE	N NORTH, NEW	
ARY AIR RELEASE VALVE	EYCS END VERTICAL CURVE STATION	NIC NOT IN CONTRACT	(UG) UNDERGROUND
AUTO. AUTOMATIC	EW EACH WAY	NT NOT TO SCALE	UB UTILITY BOX
AUX AUXILIARY	EX, EXIST EXISTING	NPT NATIONAL PIPE THREAD	UBD UNIFORM BUILDING CODE
AWSS AMERICAN WATER SUPPLY SYSTEM	EXP EXPOSED, EXPANSION	NTS NOT TO SCALE	UNK UNKNOWN
AWWA AMERICAN WATER WORKS ASSOCIATION	EXP JT EXPANSION JOINT		UNO UNLESS NOTED OTHERWISE
	EWEF EACH WAY, EACH FACE	(OH) OVERHEAD	UTIL UTILITY
		OC ON CENTER	
		OCS OVERHEAD CONTACT SYSTEM	V VENT, VOLT, VALVE
		OF OUTSIDE DIAMETER, OVERFLOW DRAIN	VC VERTICAL CURVE
		OG ORIGINAL GROUND	VCP VITRIFIED CLAY PIPE
		OSD OPEN SITE DRAIN	VERT VERTICAL
		OPWG OPENING	VPI VERTICAL POINT OF INTERSECTION
			VTS VEHICLE TAGGING SYSTEM
		P PAVEMENT	
		PAE POINT OF ACCESS EASEMENT	W/ WEST
		PC POINT OF CURVE	WK, (WK) WALKER & KELLY IMPROVEMENT PLANS
		P.C.C. PORTLAND CEMENT CONCRETE	WM WATER METER
		PCC POINT OF COMPOUND CURVE	WS WATER SURFACE, WATER STOP
		PEN PENETRATION	WSP WELDED STEEL PIPE
		PI POINT OF INTERSECTION	WTR WATER
		PH PHASE	WWF WELDED WIRE FABRIC
		PIF PREWOLDED JOINT FILLER	
		PL PLATE, PROPERTY LINE	YD YARD
		PLYWD PLYWOOD	
		PCC POINT OF CONNECT	
		PDC POINT OF CURVE	
		PRC POINT OF REVERSE CURVE	
		PREP PERFORMED	
		PREPAB PREPARED	
		PRESS. PRESSURE	
		PROP. PROPERTY	
		PROP. COR. PROPERTY CORNER	
		PSF POUNDS PER SQUARE FOOT	
		PSI POUNDS PER SQUARE INCH	
		PSG POUNDS PER SQUARE INCH, GAUGE	
		PT POINT OF TANGENCY	
		PVE PUBLIC UTILITY EASEMENT	
		PVC POLYVINYL CHLORIDE PIPE	
		PTI POINT OF VERTICAL INTERSECTION	
		PWT PAVEMENT	
		PVT PRIVATE	
		R RADIUS, RIGHT	
		RC REINFORCED CONCRETE	
		RCP REINFORCED CONCRETE PIPE	
		RD ROAD, ROOF DRAIN	
		REDUC REDUCER	
		REF REFER OR REFERENCE	
		REIN REINFORCED, REINFORCING, REINFORCE	
		REQD REQUIRED	
		RM RIM ELEVATION OF MANHOLE	
		RJ RESTRAINED JOINT	
		ROOM ROOM	
		RMP RISK MANAGEMENT PLAN(S)	
		RO ROUGH OPENING	
		RST REINFORCING STEEL	
		RTR RECLAIMED WATER	
		RCW RIGHT-OF-WAY	
		ROW RIGHT	
		RI RIGHT	
		S SOUTH, SLOPE	
		SCH SCHEDULE	
		SD STORM DRAIN	
		SDPS STORM DRAIN PUMP STATION	
		SECT SECTION	
		SH SHEET	
		SIM SIMILAR	
		SP SPACE OR SPACES	
		SPEC SPECIFICATIONS	
		SPLY SUPPLY	
		SO FT SQUARE FOOT	
		SS SQUARE INCH	
		SSW SANITARY SEWER	
		SSPH SANITARY SEWER MANHOLE	
		SSPS SANITARY SEWER PUMP STATION	
		SSS STAINLESS STEEL	
		ST STREET	
		STA STATION	
		STD STANDARD	
		STL STEEL, STEEL PIPE	
		STLS STEEL PIPE (SPECIAL)	
		STR STRAIGHT	
		STRUC STRUCTURAL	
		STRUC STRUCTURE	
		S/W SIDEWALK	
		SW STORM WATER INLET	
		SYMM SYMMETRICAL	

AGENCY ACRONYMS

BCDC	SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
BLHP	BUREAU OF LIGHT, HEAT & POWER
BOE	BUREAU OF ENGINEERING
BSM	BUREAU OF STREET USE & MAPPING
CCSF	CITY & COUNTY OF SAN FRANCISCO
DEP	DEPARTMENT OF CITY PLANNING
DPW	DEPARTMENT OF PUBLIC WORKS
DPT	DEPARTMENT OF PARKING & TRAFFIC
DT	DEPARTMENT OF TELECOMMUNICATIONS
LPAB	LANDMARK PRESERVATION ADVISORY BOARD
PUC	PUBLIC UTILITIES COMMISSION
SFPD	SAN FRANCISCO FIRE DEPARTMENT
SFRA	SAN FRANCISCO REDEVELOPMENT AGENCY
SFWD	SAN FRANCISCO WATER DEPARTMENT
SFAC	SAN FRANCISCO ARTS COMMISSION

GENERAL SAFETY:

FOR EMERGENCY ACCESS, EXISTING STREET SIGNAGE SHALL BE MAINTAINED UNTIL RELOCATION OR ALTERNATE SIGNAGE IS APPROVED OR REMOVAL IS AUTHORIZED BY THE CITY IN ACCORDANCE WITH APPLICABLE LAWS. ANY CHANGES TO THE SIGNAGE, ANY ADDITIONAL SIGNAGE OR ANY PHYSICAL CHANGES (INSTALLATION OF BARRIERS, ETC.) THAT AFFECT THE EXISTING NETWORK FOR PEDESTRIAN AND VEHICULAR ACCESS MUST BE REPORTED IMMEDIATELY TO:

EMERGENCY COMMUNICATIONS DEPARTMENT (ECO)
1011 TURK STREET
SAN FRANCISCO, CA 94102
ATTN: MR. MICHAEL NICHOLS
PHONE (415) 558-3825

EMERGENCY COMMUNICATIONS DEPARTMENT (ECO)
1011 TURK STREET
SAN FRANCISCO, CA 94102
ATTN: BATTALION CHIEF DOUG GOODIN
PHONE (415) 558-3285

SAN FRANCISCO FIRE DEPARTMENT, M.I.S.
698 SECOND STREET
SAN FRANCISCO, CA
ATTN: MR. MICHAEL TAYLOR
PHONE (415) 558-3680
FAX (415) 558-3279

**ABBREVIATIONS AND
MITIGATION NOTES**
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
06/29/14	
07/01/14	
07/02/14	
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FOCIL-MB, LLC
OWNER
**Mission Bay
Development
Group, LLC**
DEVELOPMENT MANAGER

**FRYER
LAURETA, INC.**
076 ENGINEERS • ARCHITECTS • CONSTRUCTION MANAGERS
164 North San Mateo Drive, San Mateo, CA 94401
TEL: (415) 941-1100 FAX: (415) 941-1101
www.fryerlaureta.com

ELISABETH TAYLOR

DATE: 06/09/14
DESIGNED: JZF
DRAWN: JZF
CHECKED: JZF
PROJ. ENGR: JZF
SCALE: NTS
SHEET: 1
JOB NO. 42045

Z:\ACAD_SERVERS\H2_MissionBay\2014\Residental_Pk_2_Dwg\01\AA_Letstrs\01_2 - Abbrev-Mitigation_Sheets.dwg 8/15/2008 9:56:06 AM PJT

GENERAL NOTES

- 1A. OWNER: FOCIL-MB, LLC
 - 1B. PROJECT MANAGER: MISSION BAY DEVELOPMENT GROUP, LLC
255 CHANNEL STREET
SAN FRANCISCO, CA 94107
 - 1C. CIVIL ENGINEER: FREYER & LAURETA, INC.
144 NORTH SAN MATEO DRIVE
SAN MATEO, CA 94401
2. ELEVATIONS SHOWN ARE ON MISSION BAY DATUM (CITY OF SAN FRANCISCO DATUM +100.00 FEET). A CROW CUT ON THE OUTER RIM OF THE STORM WATER INLET IN THE SOUTHWESTERLY CORNER OF THE INTERSECTION OF BRAHMAN STREET AND THIRD STREET IS THE PRIMARY BENCHMARK AT AN ELEVATION OF 111.643 (ELEVATION 111.643 PER MISSION BAY DATUM). A SET MARK ON THE FREEWAY BENT (A2-BENT-6) AT THE NORTHEASTERLY CORNER OF SIXTH AND BERRY STREETS IS THE SECONDARY BENCHMARK AT AN ELEVATION OF 101.76.
 3. ALL WORK SHALL BE IN ACCORDANCE TO THE PROJECT MANUAL AND PROVISIONS OF THE MISSION BAY SUBDIVISION ORDINANCE, WHERE NOT COVERED IN THE PROJECT MANUAL REFER TO THE CITY AND COUNTY OF SAN FRANCISCO STANDARD SPECIFICATIONS, CALTRANS STANDARD SPECIFICATIONS, AND THE CURRENT UNIFORM PLUMBING CODE.
 - 3a. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE LATEST EDITIONS OF "CCSF REGULATIONS FOR WORKING IN SAN FRANCISCO STREETS".
 4. THIS APPLICATION IS SUBJECT TO THE MISSION BAY SOUTH REDEVELOPMENT PLAN.
 5. NO WORK SHALL START UNTIL NECESSARY PERMITS ARE OBTAINED BY THE CONTRACTOR FROM THE CITY AND COUNTY OF SAN FRANCISCO AND ALL OTHER AGENCIES INVOLVED.
 6. AN APPROVED TRAFFIC CONTROL PLAN WILL BE REQUIRED BEFORE THE START OF THE ACTUAL CONSTRUCTION IN THE STREET. THE CONTRACTOR SHALL REQUEST FROM THE CITY ON THE REQUIREMENTS OF THE TRAFFIC CONTROL PLAN SUBMITTALS.
 7. THE ENGINEER, PROJECT MANAGER AND THE CITY AND COUNTY OF SAN FRANCISCO SHALL BE NOTIFIED IN ADVANCE IN WRITING OF ANY CONSTRUCTION CONDITIONS THAT REQUIRE ANY CHANGES FROM THESE PLANS, ANY REVISIONS TO THE IMPROVEMENT PLAN WILL BE PROCESSED IN ACCORDANCE WITH THE PLAN AND PLAN DOCUMENTS.
 8. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING THE LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CITY OR THE ENGINEER.
 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, TO STREET IMPROVEMENTS AND APPURTENANCE AND PRIVATE PROPERTY, CAUSED BY THEIR ACTIVITIES AND ALSO SHALL BE RESPONSIBLE FOR ANY OTHER WORK REQUIRED PREVENTING SUCH DAMAGE. ANY DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER AND CITY ENGINEER.
 10. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A PERMIT COPY OF CONSTRUCTION PLANS AT PROJECT SITE DURING CONSTRUCTION.
 11. ALL DEBRIS AND UNSUITABLE MATERIAL WITHIN THE AREA OF WORK, WHICH ARE NOT INCORPORATED IN THE WORK, SHALL BE REMOVED TO A LEGAL DUMPSITE AT THE EXPENSE OF THE CONTRACTOR. ALL IMPORTED MATERIAL SHALL CONFORM TO THE PROJECT MANUAL.
 12. CONSTRUCTION FENCING SHALL BE PROVIDED AROUND THE SITE DURING AND AFTER GRADING. FENCING SHALL BE PLACED AS SHOWN ON PLAN. UPON COMPLETION OF SITE WORK PERMANENT FENCING SHALL BE INSTALLED PER CALTRANS STANDARD DETAIL ABS.
 13. SOIL EXCAVATED FROM MISSION BAY MAY BE DISPOSED OF WITHIN THE MISSION BAY PROJECT BOUNDARIES, AS DIRECTED BY THE OWNER'S AGENT, SUBJECT TO ALL APPLICABLE FEDERAL AND STATE LAWS AND REGULATIONS. CONTRACTOR IS BE DIRECTED TO THE MISSION BAY RISK MANAGEMENT PLAN AND OTHER APPLICABLE DOCUMENTS.
 14. IF WORK IS NOT BEING PERFORMED AT NIGHT, THEN THE PROJECT SHALL BE CLEARED AND NO HOLES OR STOCKPILES OF MATERIAL WILL BE ALLOWED IN/ON THE STREET OR BLOCKING ACCESS FROM 8 P.M. TO 6 A.M. ALL EXCAVATIONS SHALL BE BACKFILLED OR PLATED FOR H-20 LOADING.
 15. NOT USED.
 16. INFRASTRUCTURE IMPROVEMENTS SHOWN ON THESE PLANS HAVE BEEN DESIGNED TO ACCOMMODATE EARTHQUAKE-INDUCED SETTLEMENTS OF APPROXIMATELY 1 INCH TO 2 1/2 INCHES AND THE PREDICTED STATIC SETTLEMENTS OF 2 TO 3 INCHES IN TREADWELL & ROLLO'S FEBRUARY 27, 2002 GEOTECHNICAL REPORT.
 17. FLEXIBLE JOINTS HAVE BEEN PROVIDED, WHERE REQUIRED BY SETTLEMENT CRITERIA OF NOTE 16.
 18. CONTRACTOR SHALL PREPARE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT SITE AND SHALL ADHERE TO THE REQUIREMENTS OF THAT SWPPP DURING CONSTRUCTION ACTIVITIES.
 19. FOR ALL EXCAVATIONS CONTRACTOR SHALL IMPLEMENT SHORING AND BRACING PER REGULATORY REQUIREMENTS ACCORDING TO STATE LAW (OSHA).
 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SURVEY MONUMENTS AND CONTROL POINTS, WHETHER SUCH POINTS AND MONUMENTS ARE SHOWN ON THE DRAWINGS OR EXIST IN THE FIELD. THE CONTRACTOR SHALL COMPLY WITH ALL STATE LAWS AND CITY CODES, SPECIFICALLY THE PROVISIONS OF SECTION 8771 (B) OF THE PROFESSIONAL LAND SURVEYORS ACT FOR THE STATE OF CALIFORNIA. SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE RESET AT A LOCATION APPROVED BY THE COUNTY SURVEYOR. IN ADDITION, THE CONTRACTOR SHALL PLACE ALL PROPOSED MONUMENTS SHOWN ON THESE DRAWINGS.
 21. THE REMOVAL OF OBSTRUCTIONS AND ALL DEMOLITION ITEMS (POWER POLES, FENCES, RETAINING WALLS, TREE, STRUCTURES, PIPELINES, ETC.) SHALL BE AT THE CONTRACTOR'S EXPENSE.
 22. CUT AND FILL SLOPES SHALL BE ROUNDED AT THEIR EDGES. WHERE NECESSARY, CUT AND FILL SLOPES AT BACK OF SIDEWALK SHALL BE AT MAX. 2:1.
 23. ALL STORM DRAINPIPE SHALL BE AS NOTED ON THE PLANS.
 24. NOT USED.
 25. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE LOCATIONS BASED UPON DATA AVAILABLE FROM PG&E AT&T, CATV, IMPROVEMENT PLANS, RECORD "AS BUILT" PLANS, SURVEYS PROVIDED BY CATELLUS AND CCSF RECORDS. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE PRECISE LOCATIONS AND SIZES OF ALL UNDERGROUND FACILITIES AT LEAST SEVEN (7) DAYS PRIOR TO EXCAVATION. CONTRACTOR SHALL NOTIFY (USA 800-642-2444) AT LEAST 48 HOURS PRIOR TO START. CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNERS AGENT OF ANY INFORMATION DISCOVERED THAT IS INCONSISTENT WITH THESE PLANS.
 26. THE CONTRACTOR SHALL EXERCISE CARE WHEN WORKING NEAR EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGE, BREAKAGE OR LEAKS CAUSED BY THEIR WORK.
 27. WHERE EXISTING ABANDONED UNDERGROUND UTILITIES ARE ENCOUNTERED AND THEY ARE IN CONFLICT WITH WORK ASSOCIATED WITH THIS CONTRACT, THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE UTILITY OWNER, CONFIRM ABANDONMENT, THEN SHALL REMOVE SAID UTILITY AS NEEDED AND DISPOSE OF THE MATERIAL ACCORDING TO THE LATEST OSHA REGULATION AND THE CITY AND COUNTY OF SAN FRANCISCO REQUIREMENTS.
 28. MAXIMIZE THE HORIZONTAL SEPARATION BETWEEN WATER LINES, SEWER LINES, AND OTHER UTILITY LINES.
 29. SEE GROUND LEVEL PLUMBING PLAN FOR EXACT HORIZONTAL AND VERTICAL LOCATION OF UTILITY SERVICES FROM BUILDINGS. IF INFORMATION ABOUT PROPOSED SITE OF UTILITY SERVICE LOCATIONS AND SIZES BECOME AVAILABLE, THE OWNER WILL MAKE THAT INFORMATION AVAILABLE TO THE CONTRACTOR WHO WILL BE REQUIRED TO TAKE THAT INFORMATION INTO CONSIDERATION.
 - 30a. ALL WATER SERVICES ARE TO INCLUDE A STANDARD METER BOX INSTALLED BY THE CONTRACTOR. CONTRACTOR TO PROVIDE A METER YOKE IN THE METER BOX AND CONSTRUCT THE WATER SERVICE TO ONE FOOT BEYOND BACK OF SIDEWALK OR AS SHOWN ON PLAN. ALL METER INSTALLATIONS SHALL BE DONE BY SFDW PERSONNEL.

- 30B. NEW SERVICES AND NEW LATERALS TO NEW HYDRANTS FROM EXISTING WATER MAINS, CONTRACTOR INSTALLS PIPE, METER INSTALLATION AND CONNECTION TO EXISTING WATER MAIN SHALL BE DONE BY SFDW PERSONNEL. CONTRACTOR SHALL DO ALL REQUIRED EXCAVATION, BACKFILLING, AND PAVEMENT RESTORATION.
- 30C. NEW LATERALS TO NEW LPFH FROM NEW WATER MAINS, CONTRACTOR COMPLETES ALL WORK TO THE FIRE HYDRANT BREAK-OFF RISER OR FINISH GRADE OF THE SIDEWALK PER CCSF STANDARDS. SFDW PERSONNEL SHALL INSTALL THE FIRE HYDRANT.
- 30D. ALL CONNECTIONS OF NEW WATER MAINS TO EXISTING MAINS SHALL BE DONE BY SFDW PERSONNEL. THE DISCONNECTION OF (KILL) EXISTING SERVICE LINES SHALL BE DONE BY SFDW PERSONNEL. CONTRACTOR SHALL DO ALL REQUIRED EXCAVATION, BACKFILLING, AND PAVEMENT RESTORATION.
31. LOW PRESSURE WATER AND RECLAIMED WATER LINES SHALL BE INSTALLED PER SFDW STANDARDS AND RULES AND REGULATIONS GOVERNING WATER SERVICE TO CUSTOMERS.
32. CONTRACTOR SHALL PROVIDE ONE SET OF DETAILED "AS-BUILT" PLANS SHOWING ALL DIMENSIONS, CHANGES, ADDITIONS AND DELETIONS IN AUTOCAD OR DXF FORMAT. ONE SET SHALL BE MAINTAINED AT THE SITE AND UPDATED DAILY. ELECTRONIC "AS-BUILT" PLANS WILL BE SUBMITTED TO THE CITY UPON COMPLETION OF THE PROJECT IN AUTOCAD OR DXF FORMAT.
33. EXISTING FIRE AND POLICE BOXES TO REMAIN OR TO BE RELOCATED TO A SIMILAR FINISHED LOCATION AS PER THE APPROPRIATE AGENCIES SPECIFICATIONS.
34. ALL GRAVITY UTILITY SYSTEMS SHALL BE INSTALLED FIRST. PRESSURE UTILITY SYSTEMS SHALL BE ADJUSTED VERTICALLY TO CLEAR OBSTRUCTIONS.
35. ALL CONSTRUCTION IN CONJUNCTION WITH THIS PROJECT MUST FOLLOW THE PROTOCOL AS DETAILED IN THE "RISK MANAGEMENT PLAN FOR THE MISSION BAY AREA".
36. WHERE UTILITY TRENCHES EXTEND INTO BAY MUD A WORKING SURFACE SHALL BE CREATED BY THE CONTRACTOR. A GEOTEXTILE SHALL BE PLACED, OVERLAIN BY AT LEAST 12 INCHES OF CRUSHED ROCK AS DIRECTED BY THE OWNER'S AGENT.
37. NOT USED.
38. GEOTECHNICAL ENGINEER SHALL OBSERVE SITE PREPARATION, PLACEMENT AND COMPACTION OF FILL AND UTILITY TRENCH BACKFILL, PREPARATION OF PAVEMENT AND SIDEWALK SUBGRADE, COMPACTION OF AGGREGATE BASE, AND INSTALLATION OF FOUNDATIONS.
39. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL DEMOLITION AND CONSTRUCTION STAGING AMONG ALL ADJACENT PROJECTS, INCLUDING BUT NOT LIMITED TO TRAFFIC HANDLING, CURB RETURNS, UTILITIES, TRAFFIC SIGNALS AND DRAINAGE.
40. PRIOR TO COMMENCEMENT OF GRADING ON SITE, CONTRACTOR SHALL GIVE GEOTECHNICAL CONSULTANT 48 HOUR ADVANCE NOTIFICATION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION REPORTS PREPARED BY TREADWELL & ROLLO. REPORTS SUBMITTED UNDER SEPARATE COVER, TITLED AND DATED AS FOLLOWS:
 - A.) GEOTECHNICAL INVESTIGATION
BLOCK 1
MISSION BAY, SAN FRANCISCO, CA
DATED: FEBRUARY 27, 2002.
 - B.) GEOTECHNICAL RECOMMENDATIONS
INFRASTRUCTURE IMPROVEMENTS
MISSION BAY, SAN FRANCISCO, CA
DATED: APRIL 4, 2001.
41. ANY RELOCATION OF THE FIRE HYDRANT AND MAINS (IF ANY) THAT ARE IN CONFLICT WITH THE PROJECT SHALL BE SUBJECT TO THE APPROVAL OF THE SAN FRANCISCO FIRE DEPT. (SFFD) AND THE PERMITEE SHALL BE RESPONSIBLE FOR ALL COST (INCLUDING DESIGN COST BY DPW, CONSTRUCTION COST BY THE CONTRACTOR THAT IS APPROVED BY SFD AND COST OF TESTING AND OTHER MISCELLANEOUS WORK BY SFFD).
42. NOT USED.
43. ANY POTHOLING EXCAVATION SHALL BE DONE BY THE VACUUM TYPE METHOD, NOT WITH HEAVY EXCAVATION EQUIPMENT.
44. FOR EMERGENCY ACCESS, EXISTING STREET SIGNAGE SHALL BE MAINTAINED UNTIL RELOCATION OR ALTERNATE SIGNAGE IS APPROVED OR REMOVAL IS AUTHORIZED BY THE CITY IN ACCORDANCE WITH APPLICABLE LAWS. ANY CHANGES TO THE SIGNAGE, ANY ADDITIONAL SIGNAGE OR ANY PHYSICAL CHANGES (INSTALLATION OF BARRIERS, ETC.) THAT AFFECT THE EXISTING NETWORK FOR PEDESTRIAN AND VEHICULAR ACCESS MUST BE REPORTED IMMEDIATELY TO:

SAN FRANCISCO FIRE DEPARTMENT, M.I.S. 698 SECOND STREET SAN FRANCISCO, CA ATTN: MR. MICHAEL TAYLOR PHONE: (415) 558-3680 FAX: (415) 558-3279	ECD 1011 TURK STREET SAN FRANCISCO, CA 94102 ATTN: MR. MICHAEL NICHOLS PHONE: (415) 558-3825	ECD 1011 TURK STREET SAN FRANCISCO, CA 94102 ATTN: BATTALION CHIEF DOUG GOODIN PHONE: (415) 558-3285
---	--	--
45. PRIOR TO EXCAVATION, AN ARCHAEOLOGIST SHALL INSTRUCT ALL EXCAVATION AND FOUNDATION CREWS ON THE PROJECT SITE OF THE POTENTIAL FOR DISCOVERY OF HISTORIC ARCHAEOLOGICAL DEPOSITS AND ARTIFACTS, AND THE PROCEDURES TO BE FOLLOWED IF SUCH MATERIALS ARE UNCOVERED. ALL CONSTRUCTION ACTIVITIES (INCLUDING INFRASTRUCTURE IMPROVEMENTS) MUST INCLUDE MONITORING BY AN ARCHAEOLOGIST.
46. CONTRACTOR IS ADVISED THAT AUTHORIZATION TO WORK ON CITY PROPERTY SHALL BE PURSUANT TO ATTACHMENT 4 OF THE CONSTRUCTION AGREEMENT CONTAINED IN THE PROJECT MANUAL.
47. NOT USED.
48. PRE-CONSTRUCTION CONFERENCE IS TO BE HELD WITH THE CITY, CONTRACTOR, & RISK MANAGEMENT PLAN (RMP) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MANAGEMENT CONSULTANTS. TOPICS WILL INCLUDE:
 - A) SCOPE AND SCHEDULE OF WORK
 - B) CCSF INSPECTION NOTIFICATION REQUIREMENTS
 - C) TRAFFIC CONTROL
 - D) RMP IMPLEMENTATION INCLUDING TRACKING PREVENTION, DUST CONTROL, ETC.
 - E) SWPPP IMPLEMENTATION, INCLUDING WINTER RULES, MONITORING, MAINTENANCE PRACTICES.
 - F) GEOTECHNICAL SERVICES AND REPORTS TO CCSF INSPECTORS.
49. OWNER MAINTAINS THE RIGHT TO PERFORM SURVEYS TO CONFIRM CONTRACTOR IS CONSTRUCTING IMPROVEMENTS AT THE CORRECT LOCATION AND AT THE CORRECT GRADE.
50. CONTRACTOR SHALL MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC ON ALL EXISTING STREETS DURING CONSTRUCTION. CONTRACTOR SHALL PREPARE TRAFFIC CONTROL PLAN AND SUBMIT FOR APPROVAL BY DPT AND DPW/BSM PERMITS SECTION. TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST "MANUAL OF TRAFFIC CONTROLS" PUBLISHED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND AS REQUIRED BY THE PROJECT MANUAL.
51. ARCHITECTURAL VAULT COVERS (AVC'S): ALL VAULTS, PULL BOXES AND MANHOLES LOCATED WITHIN THE SIDEWALK AREAS (STREET FURNITURE ZONE AND CLEAR ZONE) SHALL BE SET RECESSED BELOW GRADE AND PROVIDED WITH AVC'S. THIS INCLUDES SAND TRAPS, IRRIGATION REMOTE CONTROL VALVES, ELEC VAULTS, AT&T VAULTS, PG&E VAULTS, WATER METER VAULTS AND ALL OTHER VAULTS AND PULL BOXES UNLESS NOTED OTHERWISE. REFER TO PROJECT SPECIFICATIONS AND AVC MATRIX FOR MORE INFORMATION. GAS VALVE COVERS, CATHODIC PROTECTION COMPONENT VAULTS AND COVERS, SEWER VENT COVERS, AND SEWER CLEANOUT COVERS DO NOT REQUIRE AVC'S.
52. PROVIDE NEW FRAMES AND COVERS FOR ALL MANHOLES LOCATED IN PORTIONS OF THE COMBINED SEWER SYSTEM TO BE CONVERTED TO THE SEPARATED STORM DRAIN SYSTEM OR SANITARY SEWER SYSTEM (FRAMES AND COVERS SHALL BE STANDARD SEPARATED STORM DRAIN OR SANITARY SEWER AS APPLICABLE).
53. ALL LPW AND RCW LINES SHALL BE SURVEY STAKED FOR HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO CONSTRUCTION OF FACILITIES.

54. ALL FIRE HYDRANT GATE VALVE COVERS SHALL HAVE INTEGRATED RAISED LETTERS STATING "SFFD-HYD-GV" OR AS DIRECTED BY THE CITY'S REPRESENTATIVE.
55. ALL NEW CONNECTIONS OR SERVICE PIPES FROM EXISTING GAS MAINS SHALL BE DONE ONLY BY PG&E. EXCAVATION AND BACKFILL SHALL BE DONE BY THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WORK WITH PG&E.
56. ADD A STAMP ON THE TOP FACE OF THE CURB DIRECTLY OVER A UTILITY SERVICE THAT IS NOT YET OPERATIONAL. THIS STAMP SHALL BE PLACED IN ACCORDANCE WITH THE PROVISIONS IN THE CITY OF SAN FRANCISCO STANDARD SPECIFICATIONS SECTION 202.05 AND 307.6. THE FOLLOWING ARE THE STAMPS TO BE USE:
 - STAMP THE LETTER "D" OVER THE STORM DRAIN LINE SERVICE LATERAL
 - STAMP THE LETTER "E" OVER ELECTRIC CONDUIT THAT IS STUBBED AT THE PROPERTY LINE
 - STAMP THE LETTER "G" OVER THE GAS LINE SERVICE LATERAL
 - STAMP THE LETTER "R" OVER THE RECLAIMED WATER LINE SERVICE LATERAL
 - STAMP THE LETTER "S" OVER THE SANITARY SEWER LINE SERVICE LATERAL
 - STAMP THE LETTER "W" OVER THE LOW PRESSURE WATER LINE SERVICE LATERAL
 - STAMP THE LETTER "Y" OVER A Y-BRANCH SEWER LINE SERVICE LATERAL
57. STREET NAMES SHALL BE STAMPED INTO THE CONCRETE AT THE INTERSECTION IN BOTH DIRECTIONS AT EACH CORNER WITHIN THE HANDICAP RAMP IN LETTERS AND NUMERALS 4 INCHES HIGH AND 1/2 INCH DEEP PER THE PROVISIONS IN THE CITY OF SAN FRANCISCO STANDARD SPECIFICATIONS SECTION 204.08 AND AS OTHERWISE MAYBE DIRECTED BY THE CITY REPRESENTATIVE.
58. NO STREET CLOSURES WILL BE ALLOWED ON 3RD STREET FROM 6.A.M. TO 7P.M. (M-F) AND DURING ANY MAJOR EVENTS IN THE CITY, INCLUDING WEEKENDS. ANY STREETS AND SIDEWALK CLOSURES SHALL HAVE PRIOR APPROVAL FROM THE CITY.
59. THE CONTRACTOR SHALL NOT IMPACT MUNI LRV OPERATIONS ALONG CHANNEL/3RD STREET DURING CONSTRUCTION.
60. ALL PROPOSED UTILITY BOXES AND STRUCTURES SHALL BE PLACED OUT OF NEW AND EXISTING CURB RETURNS, CURB RAMP SIDE FLARES AND WARNING BANDS. ELECTRICAL PLANS SHOW SCHEMATIC UTILITY BOX LOCATIONS ONLY.
61. AWSS FIRE HYDRANTS SHALL BE INSTALLED PER AWSS STANDARD DRAWINGS HPL-5323.1 AND HPL-5950.1 IN RELATION TO PROPOSED SIDEWALKS, CLEARANCE DIMENSIONS WILL BE VERIFIED. HYDRANTS SHALL BE PAINTED PER PROJECT SPECIFICATIONS AND ALL VALVE COVERS AND FRAMES SHALL BE FLUSH WITH FINAL AC PAVEMENT GRADE.
62. PILE DRIVING OR OTHER EXTREME NOISE GENERATING ACTIVITY (80dba AT A DISTANCE OF 100 FEET) SHALL BE LIMITED TO 8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY. NO PILE DRIVING OR OTHER EXTREME NOISE GENERATING ACTIVITY IS PERMITTED ON SATURDAY, SUNDAY OR HOLIDAYS. REQUESTS FOR PILE DRIVING OR OTHER EXTREME NOISE GENERATING ON SATURDAY MAY BE CONSIDERED IN A CASE-BY-CASE BASIS BY THE SUCCESSOR AGENCY OF THE REDEVELOPMENT AGENCY (OCA), WITH APPROVAL AT THE SOLE DISCRETION OF THE OCA DIRECTOR.

City and County of San Francisco

Edwin M. Lee, Mayor
Muhammad Nuru, Director

San Francisco Department of Public Works
Infrastructure Design and Construction
39 Van Ness Avenue, 30th Floor
San Francisco, CA 94102
Phone: (415) 551-4885 T: www.sfdpw.org
TTE: (415) 558-4088
Fax: (415) 558-4580

Kevin W. Jensen AIA, CSI, ADA/Accessibility Coordinator

DISABILITY ACCESS COMPLIANCE FOR CITY FUNDED PROJECTS
Applicant: Fill in project name and address and then scan onto plans.

PROJECT: MISSION BAY BLOCK 1

Project Address: _____

Leave Area Below Blank – For DAC Staff Use Only

PLAN REVIEW STAGE: DPW-DAC has approved:

<input type="checkbox"/> Unreasonable hardship / technically infeasible	Date: _____
<input type="checkbox"/> Playground ADA Inventory Form	Date: _____
<input type="checkbox"/> Pre-application review / site permit	Date: _____
<input type="checkbox"/> Final Construction Plan	Date: _____

INSPECTION STAGE: The following inspections are required, if selected. Call DAC at 557-1685 to schedule:

<input type="checkbox"/> Pre-Construction Conference
<input type="checkbox"/> Rough framing, after plumbing and electrical rough is complete
<input type="checkbox"/> Mock up inspection of bathrooms / kitchens
<input type="checkbox"/> Demonstration of adaptable cabinetry
<input type="checkbox"/> Signage, including proofs and color samples prior to fabrication
<input type="checkbox"/> Door closer pressure and timing
<input type="checkbox"/> Power door operator testing per BHMA A156.19
<input type="checkbox"/> Playground equipment, surface, and path of travel
<input type="checkbox"/> Final Signoff of Project

The following additional documents are required:

<input type="checkbox"/> Reasonable Accommodation Notices
<input type="checkbox"/> Signage approval from Lighthouse for the Blind
<input type="checkbox"/> Illustrated instruction manual to adapt unit interiors
<input type="checkbox"/> Inspection matrix listing each covered dwelling unit or common space

By: Kevin Jensen Date: _____

Rev February 10, 2014

GENERAL NOTES

MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION	DATE
08/09/14	DESIGNED	
08/09/14	DRAWN	
08/09/14	CHECKED	
08/09/14	PROJ. ENGINEER	
08/09/14	SCALE: NTS	
08/09/14	BAS IS ONE INCH ON ORIGINAL	
08/09/14	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDANTLY.	

FOCIL-MB, LLC
OWNER

Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER & LAURETA, INC.
CIVIL ENGINEER & SURVEYOR
144 NORTH SAN MATEO DRIVE
SAN MATEO, CA 94401
TEL: (415) 558-4088
WWW.FREYERLAURETA.COM

BUCONELL/TAVET

SHEET

C1.3

JOB NO.

42045

CIVIL LEGEND

EXISTING	PROPOSED	
		LIMIT OF WORK
		MONUMENT LINE
		PROPERTY LINE
		EASEMENT LINE
		STATION LINE
		GAS
		LOW PRESSURE WATER
		HIGH PRESSURE WATER
		RECLAIMED WATER
		SANITARY SEWER
		SANITARY FORCE MAIN
		STORM DRAIN
		PERFORATED PVC PIPE
		GATE VALVE
		SLOPE WITH FLOW DIRECTION
		CHAIN LINK FENCE
		SILT FENCE

EXISTING	PROPOSED	
		SANITARY SEWER MANHOLE
		STORM DRAIN MANHOLE
		OVERSIZED MAN
		COMBINED SEWER MANHOLE
		UTILITY MANHOLE
		ANODE FOR CATHODIC PROTECTION
		CATCH BASIN
		STREET LIGHT FIXTURE
		COMBINATION POLE
		POLICE AND FIRE ALARM BOX
		UTILITY BOX
		UTILITY POLE, MUNI POLE
		POWER POLE
		MONUMENT
		TREE
		ROAD SIGN, TRAFFIC SIGN
		WATER METER BOX
		CLEANOUT
		PIPE CAP, PLUG
		CURB RAMP
		DRIVEWAY, CURB CUT
		CURB & GUTTER
		VERTICAL CURB

EXISTING	PROPOSED	
		SPOT ELEVATION
		THRUST BLOCKS
		FIRE HYDRANT
		POST, GUARD POST, OR BOLLARD
		AIR RELEASE VALVE
		BLOW OFF
		GUY ANCHOR
		TEMPORARY PAVING SIDEWALK / STREET
		AC PAVEMENT ON PCC BASE (PERMANENT STRUCTURAL SECTION)
		AC CONFORM
		CONC SIDEWALK PAVER SIDEWALK
		CONTOUR LINE AND ELEVATION
		TOP OF CURB ELEVATION
		STRUCTURE, BUILDING OR FACILITY
		EMBANKMENT AND SLOPE
		DETAIL & SECTION NOTATION
		BACKFLOW PREVENTOR

REFERENCED STANDARD PLANS

CITY COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING
STANDARD PLANS, DATED APRIL 2007

FILE NO.	DESCRIPTION
87,168	TRENCH PAVEMENT RESTORATION
87,168	STD. COLD PLANING & RESURFACING
87,171	DRIVEWAY CONSTRUCTION
87,170	STANDARD COMBINED CURB & PARKING STRIP OR GUTTER
55,017	STANDARD CURB RAMP PLANS AND GENERAL NOTES
55,017.1	DETECTABLE SURFACE LAYOUT DETAILS AND NOTES
55,018	ALTERNATE CURB RAMP
55,018.1	MERGED GROOVED BORDER CURB RAMP PLANS
55,018.2	SINGLE CURB RAMP PLANS
55,018.3	SINGLE CURB RAMP PLANS

FILE NO.	DESCRIPTION
87,196	TYPICAL INSTALLATION OF BUILDING SEWER & SIDE SEWER
87,198	ABANDONMENT OF EXISTING SIDE SEWER
87,181	STANDARD PLAN FOR SEWER PRECAST CONCRETE MANHOLE 12" TO 24" DIA SEWER
87,182	STANDARD CONCRETE MANHOLE FOR PIPE SEWER 27" TO 48" DIAMETER

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION, LATEST EDITION

GENERAL ROAD WORK (DRAINAGE & MISC)

PLAN NO.	PLAN TITLE
A85	CHAIN LINK FENCE
D73	DRAINAGE INLET (TYPE C3)
D77B	BICYCLE PROOF GRATE DETAIL (TYPE 600-12X)

CIVIL LEGEND

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

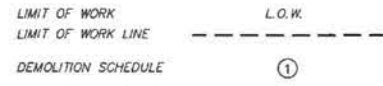
DATE	DESCRIPTION
06/09/14	100% SUBMITTAL
06/09/14	100% SUBMITTAL
06/09/14	100% SUBMITTAL

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER & LAURETA, INC.
CIVIL ENGINEERS & SURVEYORS • CONSTRUCTION MANAGERS
1850 CALIFORNIA STREET, SUITE 200, SAN FRANCISCO, CA 94109
(415) 441-4000 • FAX: (415) 441-4001 • WWW.FREYERLAURETA.COM
REGISTERED PROFESSIONAL ENGINEER NO. 50827
REGISTERED PROFESSIONAL SURVEYOR NO. 10000

DATE: 06/09/14	SCALE: NTS
DESIGNED: BIL	SCALE: 1" = 10'
DRAWN: JFP	SCALE: 1" = 10'
CHECKED: BIL	SCALE: 1" = 10'
PROJ. ENGR: BIL	SCALE: 1" = 10'
PROJ. ENGR: BIL	SCALE: 1" = 10'
SHEET	
C1.5	
JOB NO. 42045	

LEGEND



DEMOLITION NOTES

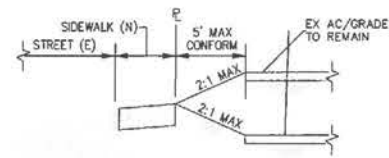
1. ALL EX UTILITY INFORMATION HAS BEEN COMPILED FROM TOPOGRAPHIC SURVEY AND RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF ALL SITE UTILITIES PRIOR TO DEMOLITION ACTIVITIES.
2. LIMITS OF WORK LINE SHALL BE USED FOR REFERENCE OF GENERAL SCOPE OF WORK. WHERE NOTED ON PLAN, UTILITIES AND SERVICES OUTSIDE OF L.O.W. ARE WITHIN SCOPE OF WORK. AS GENERAL REFERENCE CONTRACTOR SHALL REFER TO IMPROVEMENT PLANS FOR EXACT LIMITS OF PROPOSED IMPROVEMENTS.
3. ALL NEW FILL SHALL BE AS SPECIFIED IN THE SPECIFICATIONS. FILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS.
4. THICKNESS OF EX CONCRETE SURFACES, PAVEMENT SURFACES, AND BASE MATERIAL IS UNKNOWN. DEPTH OF POLE FOUNDATIONS IS UNKNOWN.
5. CONTRACTOR SHALL PROTECT EXISTING/PERMANENT ABOVE GROUND AND UNDERGROUND UTILITIES AND IMPROVEMENTS WITHIN AND OUTSIDE LIMITS OF WORK DURING DEMOLITION AND GRADING ACTIVITIES.

DEMOLITION SCHEDULE

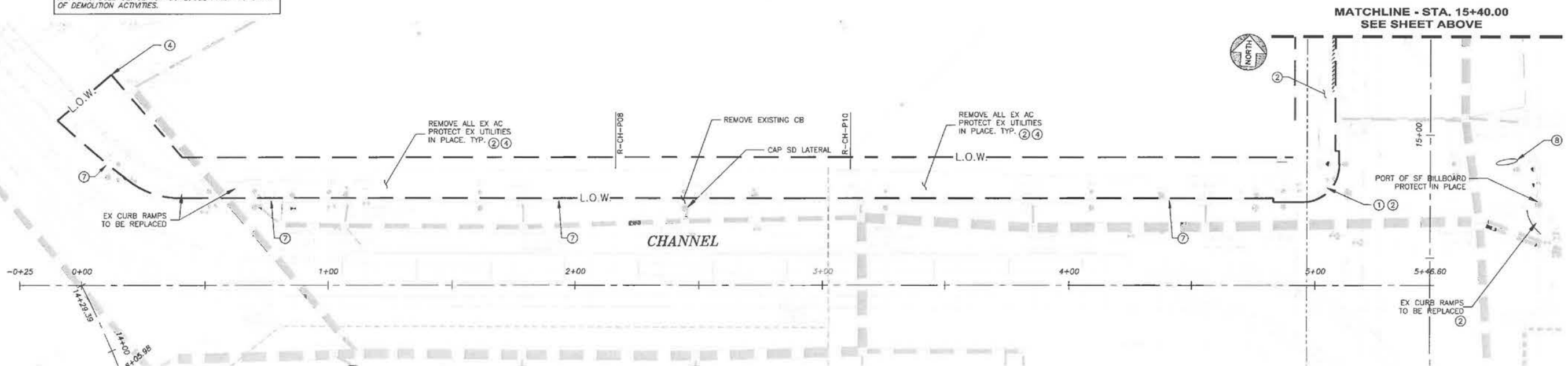
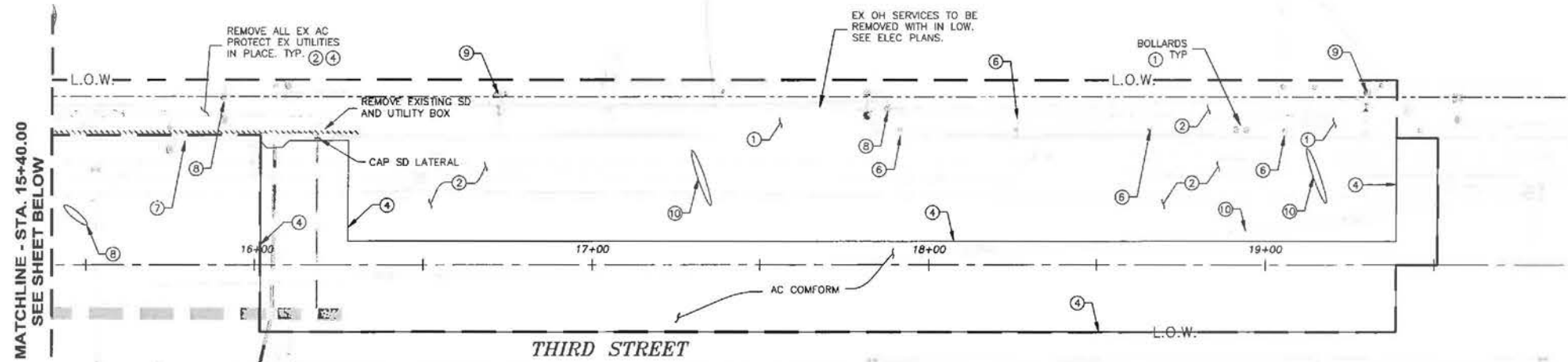
1. REMOVE AND DISPOSE ALL EX CONCRETE PAVEMENT, SLABS, SIDEWALKS, CURB AND GUTTER, BOLLARDS, RAMPS, DRIVEWAYS, AND BASE MATERIAL WITHIN THE LIMITS OF WORK. SEE DEMOLITION NOTE 5, ABOVE.
2. REMOVE AND DISPOSE ALL EX ASPHALT CONCRETE PAVEMENT AND BASE MATERIAL WITHIN THE LIMITS OF WORK. SEE DEMOLITION NOTE 5, ABOVE.
3. NOT USED
4. CONTRACTOR SHALL SAWCUT EX. AC PAVING AT L.O.W. AND ALONG AC PERIMETERS SHOWN TO REMAIN, AND AT LIMITS OF CONFORMS. SEE TYPICAL CONFORM SECTION ON THIS SHEET
5. EX FENCING TO BE REMOVED, INCLUDING FOOTINGS, GATES AND APPURTENANCES.
6. CITY REGULATORY SIGNS TO BE REMAIN ON CHANNEL STREET AND FOURTH STREET POLES WITHIN LOW. IN THIRD STREET REGULATORY SIGNS SHALL REMAIN ON POLES P-3-02 AND P-3-03 WITHIN IN LOW. ALL OTHER SIGNS WITHIN LOW SHALL BE REMOVED AND RETURNED TO THE CITY.
7. PROTECT EXISTING PERMANENT CURB/GUTTER IN PLACE AS SHOWN ON PLAN.
8. EX OVERHEAD SERVICES WITHIN LOW TO BE REMOVED INCLUDING POLES AND GUY WIRES. SEE ELECTRICAL PLANS FOR NEW UNDERGROUND SERVICES.
9. EX FIRE HYDRANTS TO BE REMOVED AND REINSTALLED PER UTILITY PLAN. ALL DISCONNECTIONS AND CONNECTIONS TO THE MAIN SHALL BE DONE BY SFWD.
10. EXISTING UNDERGROUND SERVICES AND APPURTENANCES WITHIN L.O.W. TO REMAIN IN PLACE.

SERVICE DISCONNECTION AND ABANDONMENT

UPON COMPLETION OF FIELD VERIFICATION OF ALL SITE UTILITIES BY THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS WITH PROPOSED DEMOLITION SCHEDULE PRIOR TO START OF DEMOLITION ACTIVITIES.



TYPICAL CONFORM SECTION AT PROPOSED BLOCKS. CONTRACTOR SHALL CONFORM TO EX GRADE.



DEMOLITION PLAN

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

REV	SUBMITTAL	DATE	DESCRIPTION
18/09/14	100% SUBMITTAL	10/09/14	
18/09/14	100% SUBMITTAL	10/09/14	

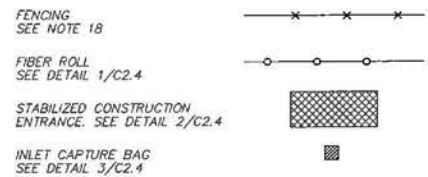
FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
CIVIL ENGINEER - SURVEYOR - CONSTRUCTION MANAGER
1400 CALIFORNIA STREET, SUITE 200, SAN FRANCISCO, CA 94109
(415) 398-1001 • FAX (415) 398-1002 • WWW.FREYERLAURETA.COM
SUBCONSULTANT:

DATE: 06/09/14	DESIGNED: JLL	DRAWN: JZF	CHECKED: JLL	PROJ. ENGR: JLL	SCALE: 1"=20'
SHEET C2.1					
JOB NO. 42045					

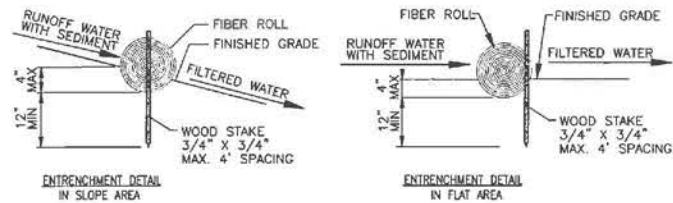
SHEET IS ONE INCH ON ORIGINAL
0 1"
NOT TO BE MODIFIED ON THIS SHEET.
ALWAYS SCALE ACCORDINGLY.

LEGEND



EROSION CONTROL NOTES

- ALL GRADING WORK SHALL BE WINTERIZED PRIOR TO OCTOBER 15, BY PLACING APPROPRIATE SILT FENCING, SILT FENCE/STRAW BALE DIKES AND STRAW BALES IN A MANNER TO MINIMIZE EROSION AND COLLECT SEDIMENT AND ALSO BY STRAW AND SEED DISTURBED AREAS.
- THIS PLAN IS INTENDED FOR EROSION CONTROL ONLY. OTHER INFORMATION SHOWN HEREIN MAY NOT BE THE MOST CURRENT. SEE GRADING PLAN FOR OTHER INFORMATION.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND FILING ALL PLANS WITH THE RELATED AGENCIES ASSOCIATED WITH THEIR WORK. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, PERMITS FOR STORAGE OF HAZARDOUS MATERIALS, BUSINESS PLANS, PERMITS FOR STORAGE OF FLAMMABLE LIQUIDS, GRADING PERMITS, OR OTHER PLANS OR PERMITS REQUIRED BY CITY AND COUNTY OF SAN FRANCISCO. ALL PROPERTY OWNERS, CONTRACTORS, OR SUBCONTRACTORS WORKING ON-SITE ARE INDIVIDUALLY RESPONSIBLE FOR OBTAINING AND SUBMITTING ANY BUSINESS PLANS OR PERMITS REQUIRED BY CITY, STATE OR FEDERAL AGENCIES.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED, YEAR ROUND AND RETAINED ON SITE UNTIL FINAL GRADING HAS BEEN ACHIEVED AND OR STABILIZED. CHANGES TO THIS PLAN TO MEET FIELD CONDITIONS WILL BE MADE ONLY WITH THE APPROVAL OF, OR AT THE DIRECTION OF THE OWNER. CHANGES MADE TO SUIT FIELD CONDITIONS WILL BE MADE ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE OWNER. CHANGES MADE TO SUIT FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER FOR APPROVAL.
- ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY OR DAILY DURING THE RAINY SEASON.
- IF SIGNIFICANT SEDIMENT OR OTHER VISUAL SYMPTOMS OF IMPURITIES ARE NOTICED IN THE STORM WATER, CONTACT THE OWNER IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR INSPECTION AND RESTORATION OF ALL ASPECTS OF THE EROSION CONTROL PLAN. SEDIMENT ON THE SIDEWALKS AND GUTTERS SHALL BE REMOVED BY SHOVEL OR BROOM AND DISPOSED OF APPROPRIATELY.
- ALL EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS ARE RESPONSIBLE FOR CONFORMING TO THE ELEMENTS SHOWN ON THIS PLAN OR RELATED DOCUMENTS.
- CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES (BMP'S) IN ACCORDANCE WITH THE ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG) LATEST RECOMMENDATIONS.
- ALL DUMPSTERS OR OTHER TRASH STORAGE ENCLOSURES SHALL BE UTILIZED SOLELY FOR NON-HAZARDOUS MATERIALS.
- DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO THAT A MINIMUM OF SEDIMENT-LADEN RUNOFF ENTERS THE STORM DRAIN SYSTEM. THESE PLANS SHALL REMAIN IN EFFECT UNTIL THE IMPROVEMENTS ARE ACCEPTED BY THE OWNER AND ALL SLOPES ARE STABILIZED.



NOTES:

- FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3" TO 4" DEEP.
- ADJACENT ROLLS SHALL TIGHTLY ABUT AND STAKES PLACED AT THE ENDS IN ORDER TO PREVENT "GAPS" FROM OPENING BETWEEN THE ROLLS.
- RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.
- EXACT LOCATION OF FIBER ROLL INSTALLATION FOR EACH SITE SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.

1 FIBER ROLL DETAIL
SCALE: NO SCALE

NOTES

- STABILIZED CONSTRUCTION SITE ACCESS SHALL BE CONSTRUCTED OF 3" TO 4" (76 MM TO 102 MM) WASHED, WELL-GRADED GRAVEL OR CRUSHED ROCK. MATERIAL SHALL BE PLACED TO A MINIMUM THICKNESS OF 6 INCHES (150 MM).
- LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 50 FEET (15 METERS). WIDTH SHALL BE A MIN. OF 15 FT (4.5 METERS) OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADIUS TO COVER ENTIRE ENTRANCE. ALL VEHICLES LEAVING SITE SHALL REMAIN COMPLETELY ON "STABILIZED ENTRANCE" PRIOR ENTERING PAVED RIGHT OF WAY.
- THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL TOP DRESSING WITH MATERIAL AS SPECIFIED IN NOTE 1. PERIODIC ROLLING COMPACTION OF THE ENTRANCE SHALL BE PERFORMED TO MAINTAIN CONSOLIDATION OF THE ROCK AND ENTRANCE THICKNESS.
- ACCESSES SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY DURING NORMAL USAGE, AND AFTER EACH RAINFALL, WITH MAINTENANCE PROVIDED AS NECESSARY. PERIODIC TOP DRESSING SHALL BE DONE AS NEEDED.
- LOCATIONS FOR ALTERNATE/ADDITIONAL CONSTRUCTION ENTRANCES SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL BE COVERED UNDER THE SWPPP.
- EXACT LOCATION OF CONSTRUCTION ENTRANCE SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.

2 STABILIZED CONSTRUCTION ENTRANCE DETAIL
SCALE: NO SCALE

INSTALLATION DETAIL

NOTES:

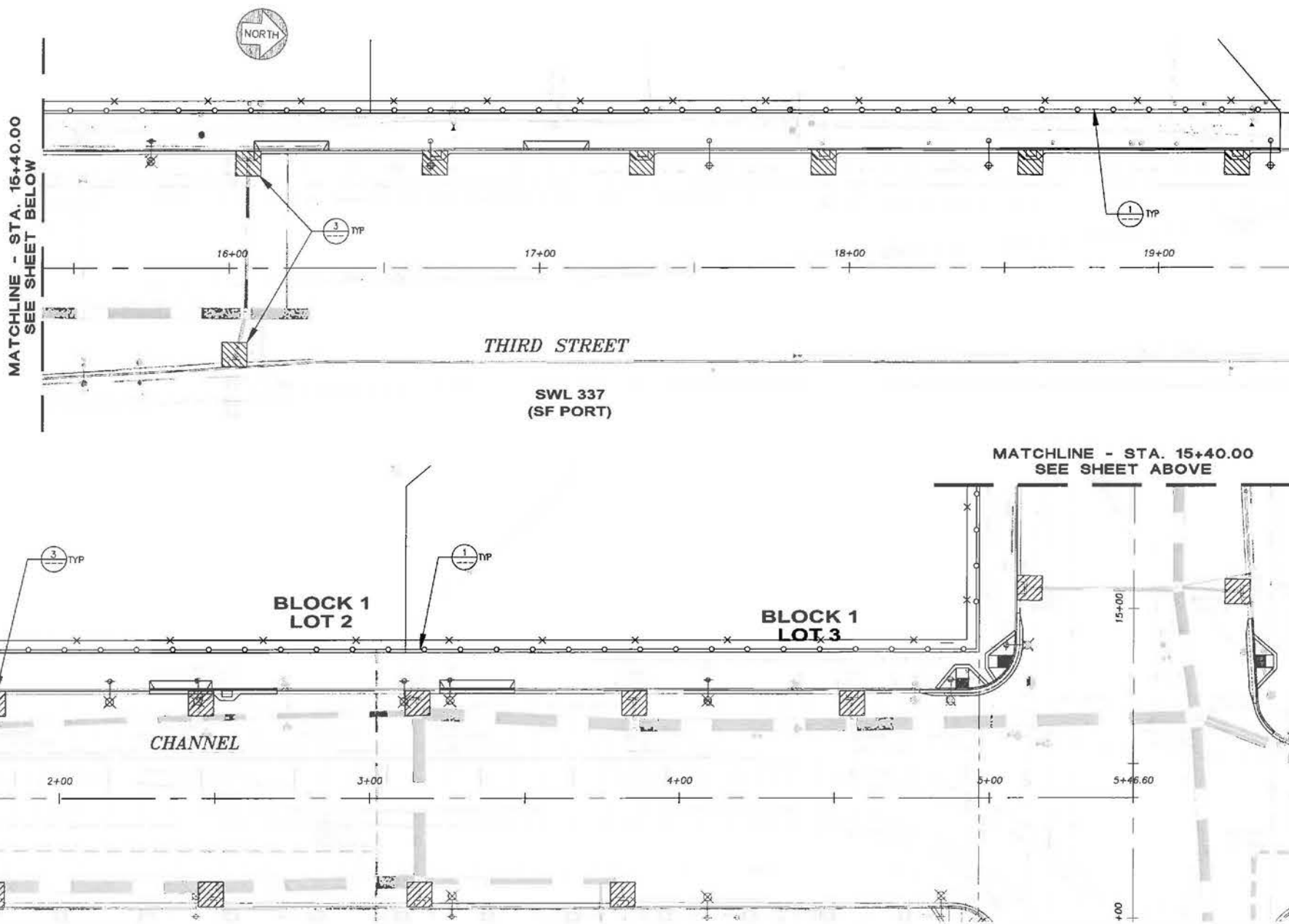
- SEDIMENT FILTERS SHALL BE INSPECTED REGULARLY THROUGHOUT THE COURSE OF CONSTRUCTION TO INSURE PROPER PLACEMENT AND CONDITION OF FILTER.
- DAMAGED OR PUNCTURED SEDIMENT FILTERS SHALL BE REPLACED IMMEDIATELY AND ALL CAPTURED SEDIMENT/DEBRIS SHALL BE PROPERLY DISPOSED OF.
- TYPE OF SEDIMENT BAG TO BE DETERMINED IN THE FIELD BY OWNER'S REPRESENTATIVE.
- EXACT LOCATION OF INLET CAPTURE BAG INSTALLATION FOR EACH SITE SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.

3 INLET CAPTURE BAG DETAIL
SCALE: NO SCALE

- BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE CITY AND COUNTY OF SAN FRANCISCO.
- REMOVE SPOILS PROMPTLY AND AVOID STOCKPILING OF FILL MATERIALS WHEN RAIN IS FORECAST. IF RAIN IS FORECAST OR APPARENT, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH PLASTIC OR A TARP.
- STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO PREVENT THEIR ENTRY TO THE STORM DRAIN SYSTEM. CONTRACTOR MUST NOT ALLOW CONCRETE, WASHWATERS, SLURRIES, PAINT OR OTHER MATERIALS TO ENTER THE CATCH BASINS, STORM DRAINAGE, OR ENTER SITE RUNOFF.
- USE FILTRATION OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
- NO CLEANING, FUELING OR MAINTAINING VEHICLES ON SITE SHALL BE PERMITTED TO ALLOW DELETERIOUS MATERIALS FROM ENTERING THE CATCH BASINS, STORM DRAINAGE, OR ENTER SITE RUNOFF.
- THE DIMENSIONS AND LOCATION OF THE STORM INLET SEDIMENTATION TRAPS ARE AS SHOWN ON THIS PLAN. THE SEDIMENTATION TRAPS SHOULD BE CONSTRUCTED BEFORE GRADING OPERATIONS.
- FENCING SHALL BE INSTALLED AROUND THE PERIMETER OF THE PROJECT AREA PER CALTRANS STANDARDS. ALL ENTRANCES SHALL HAVE A STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 2/C2.2.

NOTE:

EXACT LOCATION OF STABILIZED CONSTRUCTION ENTRANCES (2/C2.4) WILL BE DEFINED BY THE CONTRACTOR BASED ON THEIR MEANS AND METHODS FOR CONSTRUCTING AND CONTROLLING THE SITE. ADEQUACY OF STABILIZED CONSTRUCTION ENTRANCE WILL BE DETERMINED BY LILA HOUSSEIN ENVIRONMENTAL REVIEW SFRA (415) 749-2431.



EROSION CONTROL PLAN

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
08/09/14	75% SUBMITTAL
10/06/14	100% SUBMITTAL
12/17/14	100% SUBMITTAL

FOCIL-MB, LLC
OWNER

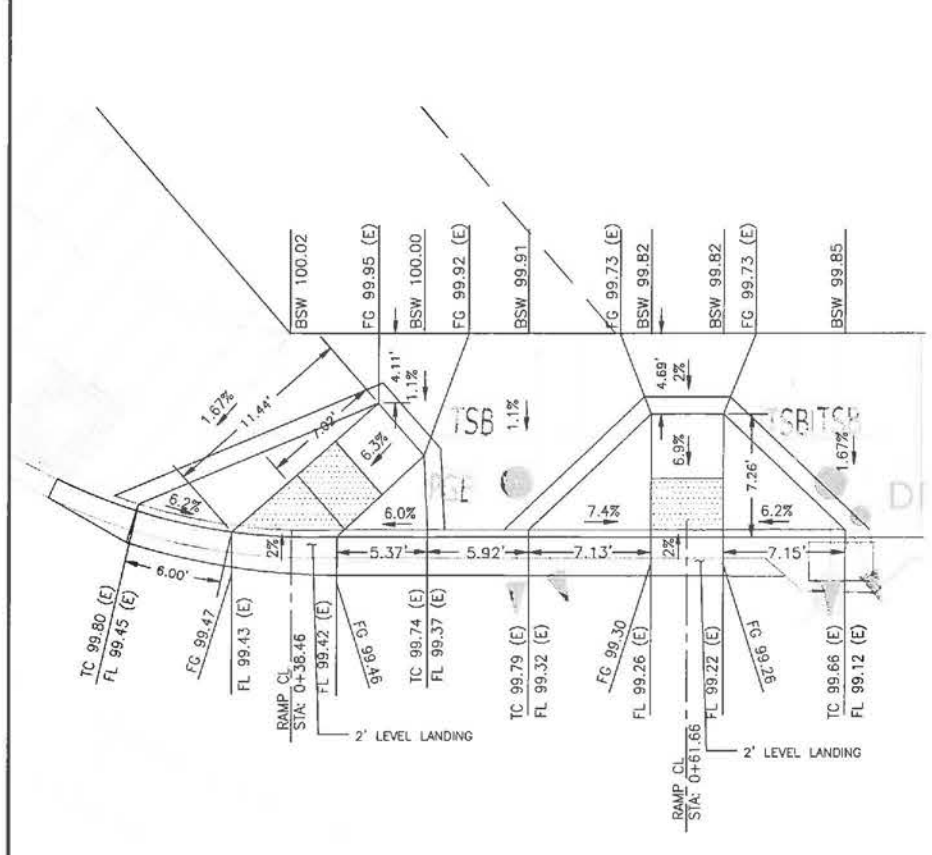
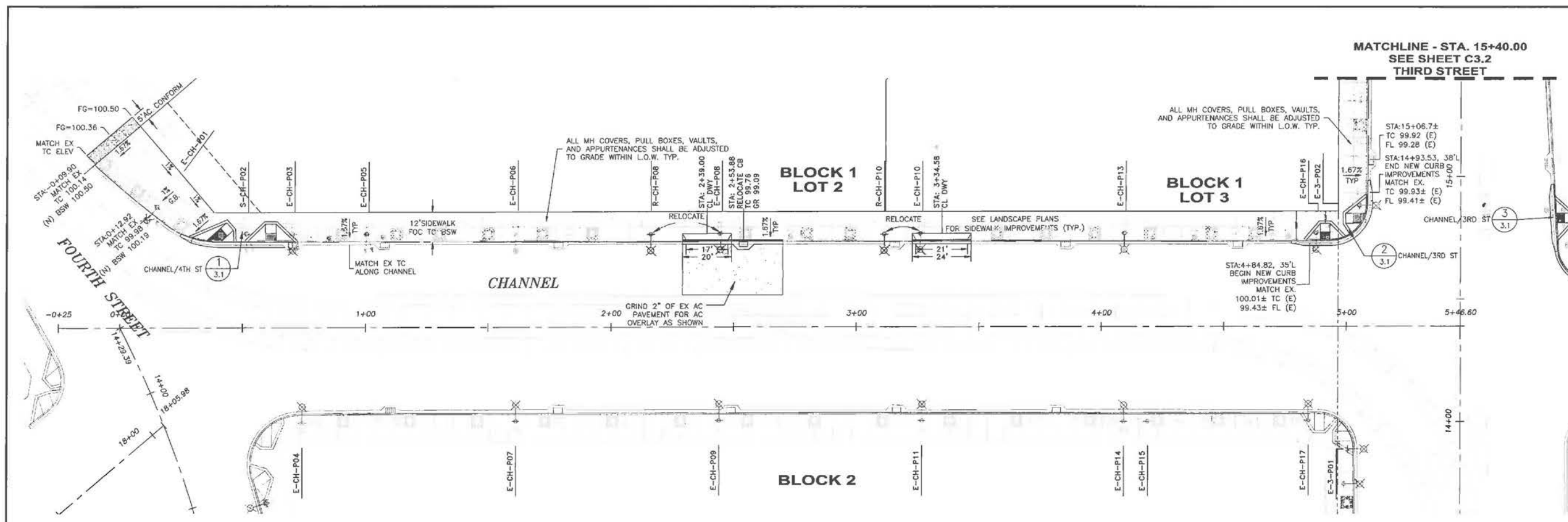
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FRYER LAURETA, INC.
SUBCONSULTANT

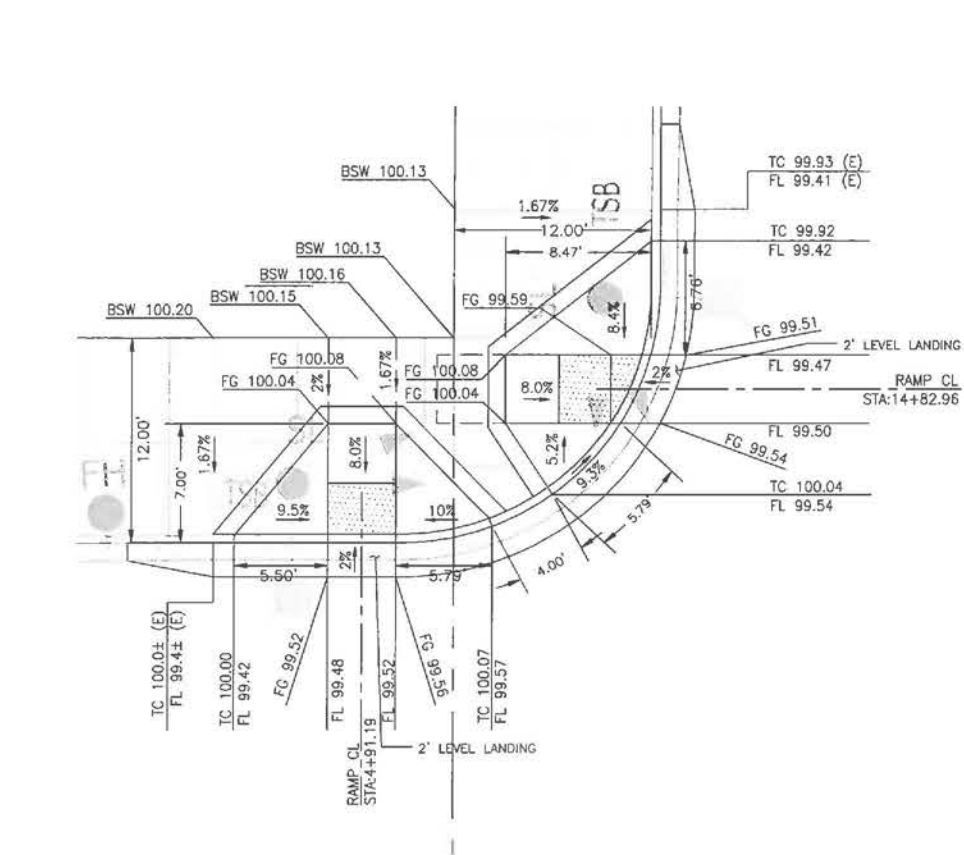
DATE: 08/09/14
DESIGNED: R/L
DRAWN: JZF
CHECKED: R/L
PROJ. ENGR: R/L
SCALE: 1" = 40'
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

SHEET C2.2

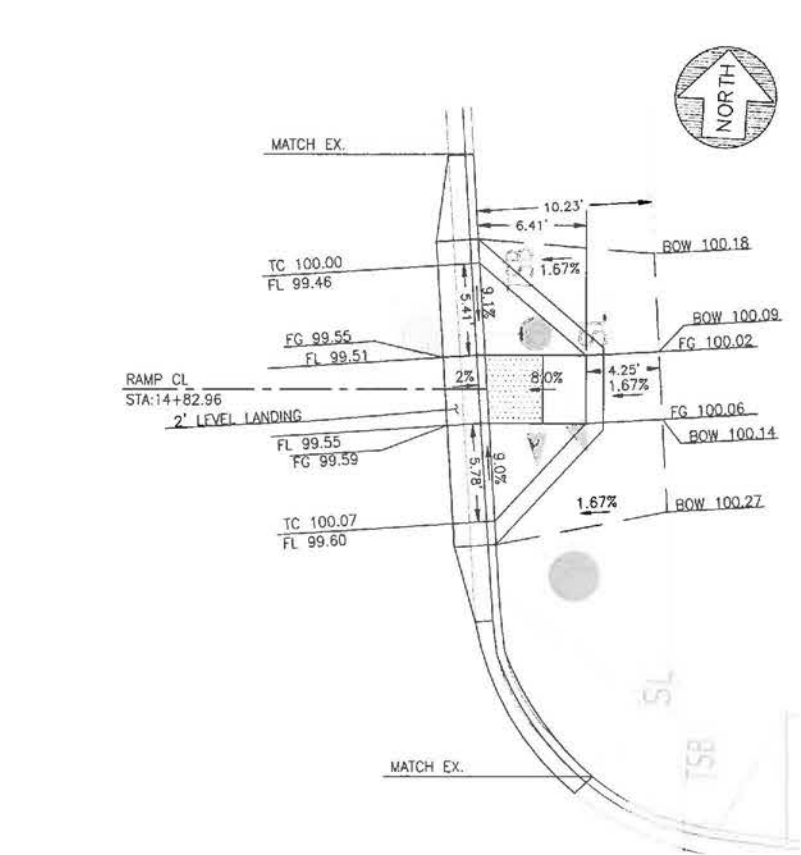
JOB No. 42045



1 CHANNEL/4TH ST
EXIST CURB RAMPS
SCALE: 1" = 5'



2 CHANNEL/3RD ST
CURB RAMP
SCALE: 1" = 5'



3 CHANNEL/3RD ST
CURB RAMP
SCALE: 1" = 5'

SURFACE IMPROVEMENT PLAN: CHANNEL ST.
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

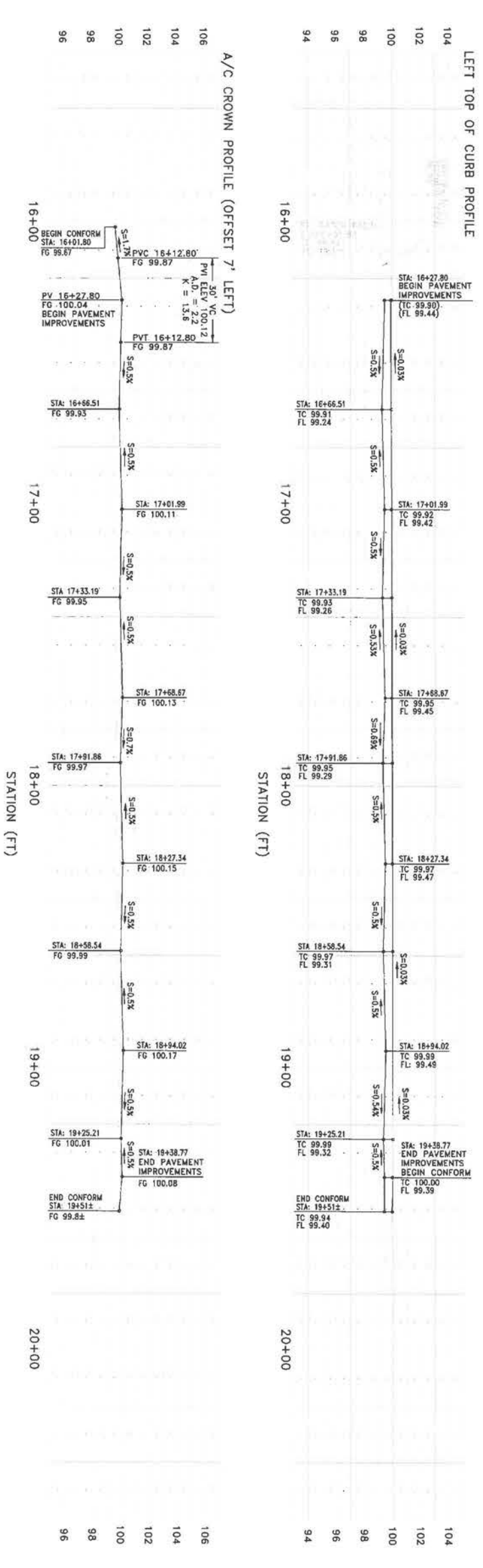
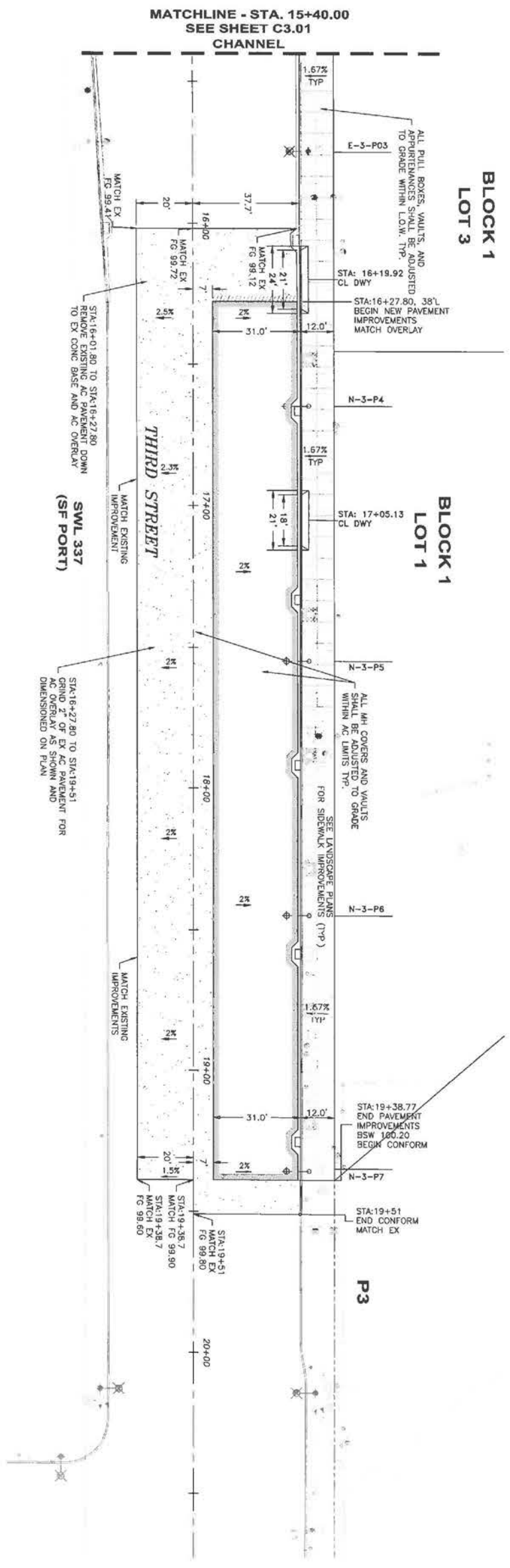
DATE	DESCRIPTION	DATE
08/09/14	70% SUBMITTAL	
10/08/14	80% SUBMITTAL	
10/15/14	100% SUBMITTAL	

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
DATE: 08/09/14
DESIGNED: BJL
DRAWN: JJP
CHECKED: BJL
PROJ. ENGR: BJL
SCALE: 1"=50'
BAY IS ONE INCH ON ORIGINAL
0 INCHES ON 1" SHEET.
ADJUST SCALE ACCORDINGLY

SHEET C3.1

JOB NO. 42045



PROFILE VIEW
 HORIZ: 1" = 20'
 VERT: 1" = 4'

JOB NO.
 42045

DATE: 06/09/14
 DESIGNED: RJL
 DRAWN: JJP
 CHECKED: RJL
 PROJ. ENGR: RJL

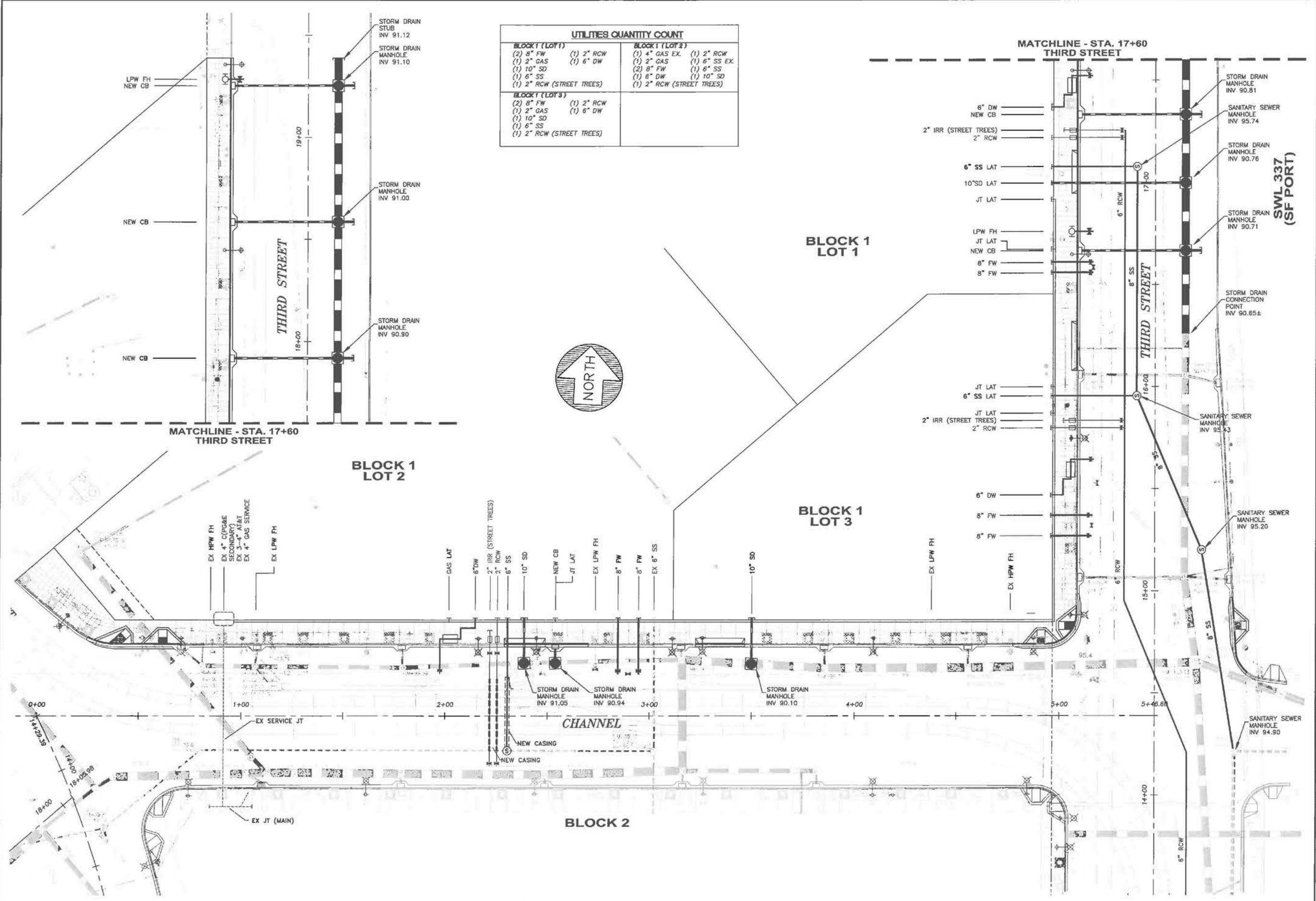
SCALE: 1" = 20'
 BAR IS ONE INCH ON ORIGINAL
 0 1"
 IF NOT ONE INCH ON THIS SHEET,
 ADJUST SCALE ACCORDINGLY

FREYER LAURETA, INC.
 CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
 144 North San Mateo Drive • San Mateo, CA 94401
 (650)344-0901 • Fax (650)344-9920 • www.freyerlaureta.com
 SUBCONSULTANT:

FOCIL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

DESCRIPTION	DATE
75% SUBMITTAL	06/09/14
90% SUBMITTAL	10/09/14
100% SUBMITTAL	10/19/14

SURFACE IMPROVEMENT PLAN: THIRD STREET
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA



UTILITIES QUANTITY COUNT			
BLOCK 1 (LOT 1)		BLOCK 1 (LOT 2)	
(2) 8" FW	(1) 2" RCW	(1) 4" GAS EX.	(1) 2" RCW
(1) 2" GAS	(1) 6" DW	(1) 2" GAS	(1) 6" SS EX.
(1) 10" SD		(2) 8" FW	(1) 6" SS
(1) 6" SS		(1) 6" DW	(1) 10" SD
(1) 2" RCW (STREET TREES)		(1) 2" RCW (STREET TREES)	
BLOCK 1 (LOT 3)			
(2) 8" FW	(1) 2" RCW		
(1) 2" GAS	(1) 6" DW		
(1) 10" SD			
(1) 6" SS			
(1) 2" RCW (STREET TREES)			

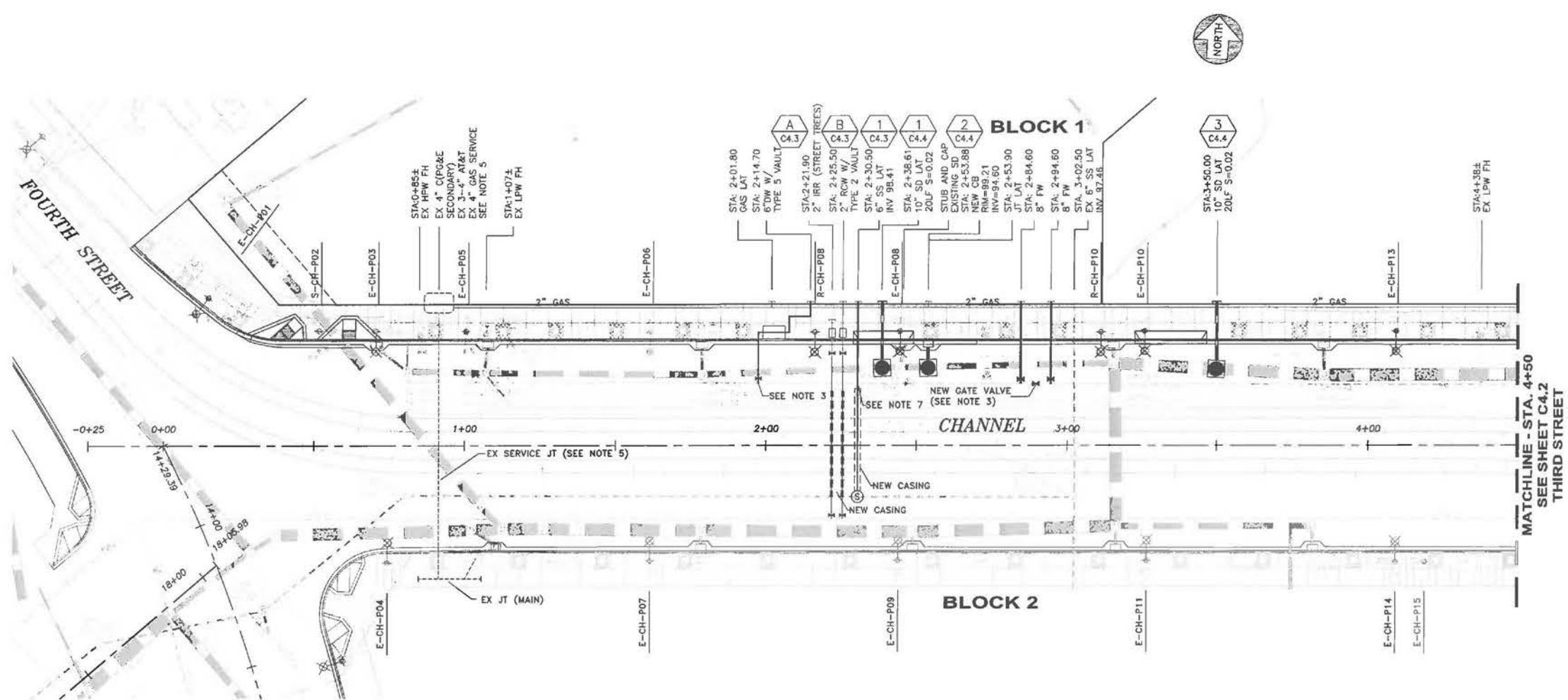


COMPOSITE UTILITY PLAN

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESIGNED	DRAWN	CHECKED	PROJ. ENGR.	SHEET	JOB NO.
08/09/14	JLF	JLF	JLF	JLF	C4.0	42045
<p>FOCAL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER</p>						<p>DESCRIPTION</p>
<p>FREYER LAURETA, INC. SUBCONSULTANT 144 West San Mateo Drive • San Mateo, CA 94401 415.338.8888 • www.freyerlaureta.com</p>						<p>DATE</p>

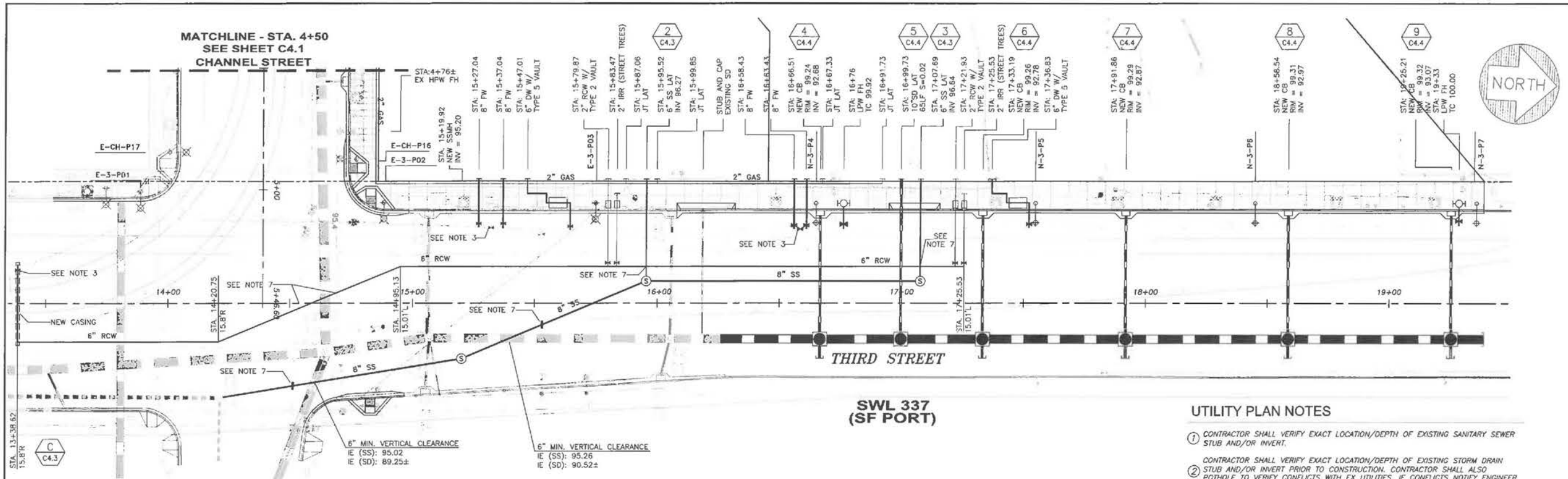
SCALE: 1" = 80'
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY



UTILITY PLAN NOTES

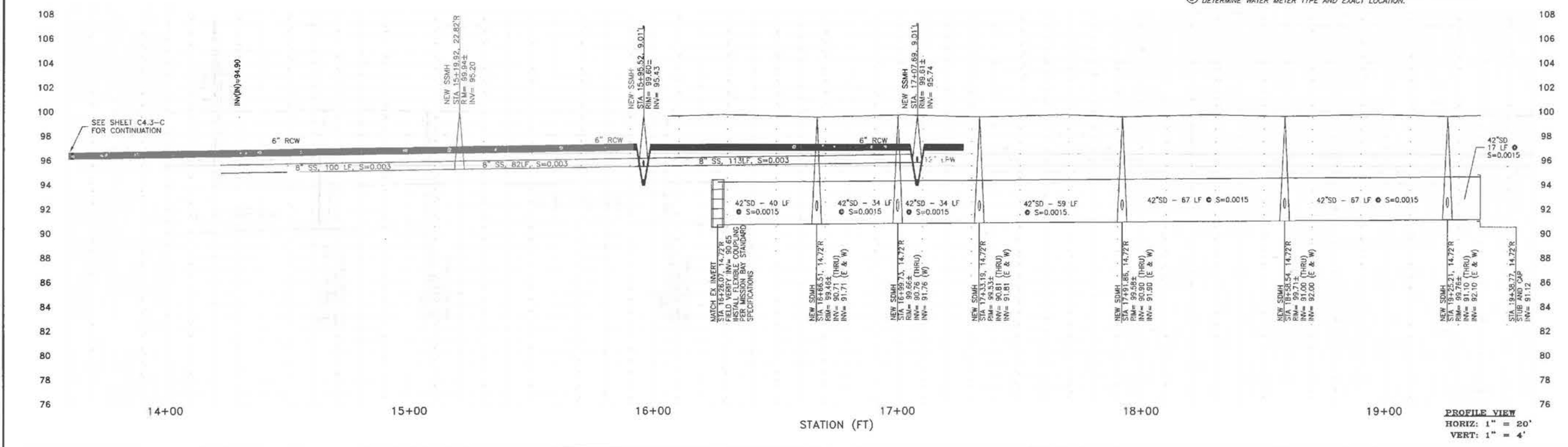
- ① CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING SANITARY SEWER STUB AND/OR INVERT.
- ② CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING STORM DRAIN STUB AND/OR INVERT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALSO POTHOLE TO VERIFY CONFLICTS WITH EX UTILITIES, IF CONFLICTS NOTIFY ENGINEER IN WRITING IMMEDIATELY.
- ③ CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING LPW AND/OR RCW STUBS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL EXPOSE ALL POINTS OF CONNECTION FOR SFWD TO PERFORM CONNECTION.
- ④ CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING GAS MAIN STUB AND/OR INVERT.
- ⑤ PER THIRD STREET CORRIDOR AS BUILD DRAWINGS.
- ⑥ FINAL CONNECTION TO EXISTING STORM DRAIN AND SANITARY SYSTEM SHALL BE LAST STEP AND BE MADE ONLY UPON WRITTEN APPROVAL BY CITY REPRESENTATIVE.
- ⑦ UTILITY CROSSINGS SHALL BE PER DETAIL #3 SHEET C5.2.
- ⑧ LPW AND RCW METERS ARE SHOWN FOR REFERENCE ONLY. SFWD SHALL DETERMINE WATER METER TYPE AND EXACT LOCATION.

UTILITY PLAN		CHANNEL STREET		MISSION BAY BLOCK 1	
MISSION BAY PROJECT, SAN FRANCISCO, CA		DATE		DESCRIPTION	
DATE:	DESIGNED:	DRAWN:	CHECKED:	PROJ. ENGR:	SCALE:
02/09/14	B.J.L.	J.F.P.	B.J.L.	B.J.L.	1"=80'
<p>DATE: 02/09/14 DESIGNED: B.J.L. DRAWN: J.F.P. CHECKED: B.J.L. PROJ. ENGR: B.J.L. SCALE: 1"=80'</p> <p>DATE: 02/09/14 DESIGNED: B.J.L. DRAWN: J.F.P. CHECKED: B.J.L. PROJ. ENGR: B.J.L. SCALE: 1"=80'</p>					
<p>FOCIL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER</p>					
<p>MISSION BAY PROJECT, SAN FRANCISCO, CA</p>					
<p>SHEET C4.1</p>					
<p>JOB NO. 42045</p>					



UTILITY PLAN NOTES

- 1 CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING SANITARY SEWER STUB AND/OR INVERT.
- 2 CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING STORM DRAIN STUB AND/OR INVERT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALSO POT-HOLE TO VERIFY CONFLICTS WITH EX UTILITIES, IF CONFLICTS NOTIFY ENGINEER IN WRITING IMMEDIATELY.
- 3 CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING LPW AND/OR RCW STUBS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL EXPOSE ALL POINTS OF CONNECTION FOR SFWD TO PERFORM CONNECTION.
- 4 CONTRACTOR SHALL VERIFY EXACT LOCATION/DEPTH OF EXISTING GAS MAIN STUB AND/OR INVERT.
- 5 PER THIRD STREET CORRIDOR AS BUILD DRAWINGS.
- 6 FINAL CONNECTION TO EXISTING STORM DRAIN AND SANITARY SYSTEM SHALL BE LAST STEP AND BE MADE ONLY UPON WRITTEN APPROVAL BY CITY REPRESENTATIVE.
- 7 UTILITY CROSSINGS SHALL BE PER DETAIL #3 SHEET C5.2.
- 8 LPW AND RCW METERS ARE SHOWN FOR REFERENCE ONLY. SFWD SHALL DETERMINE WATER METER TYPE AND EXACT LOCATION.



UTILITY PLAN
THIRD STREET
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

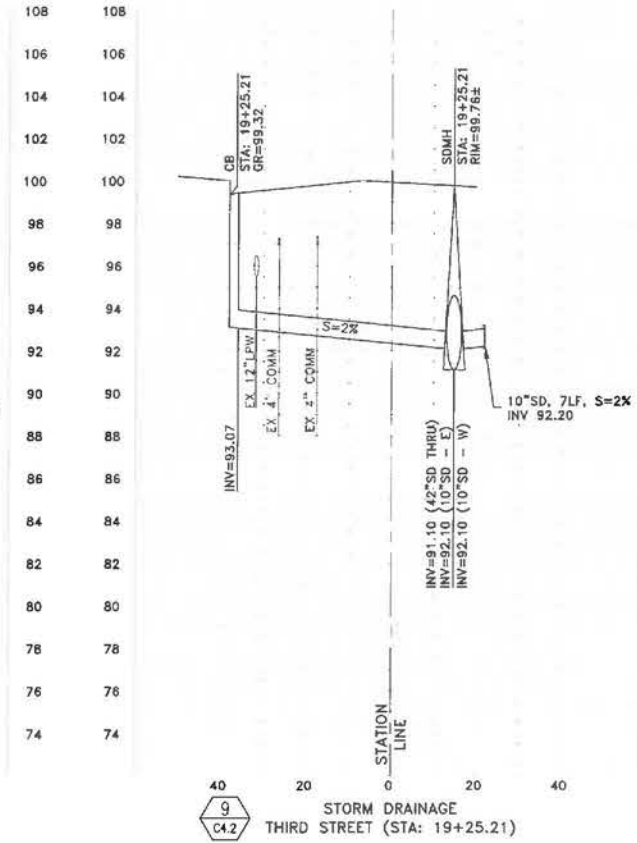
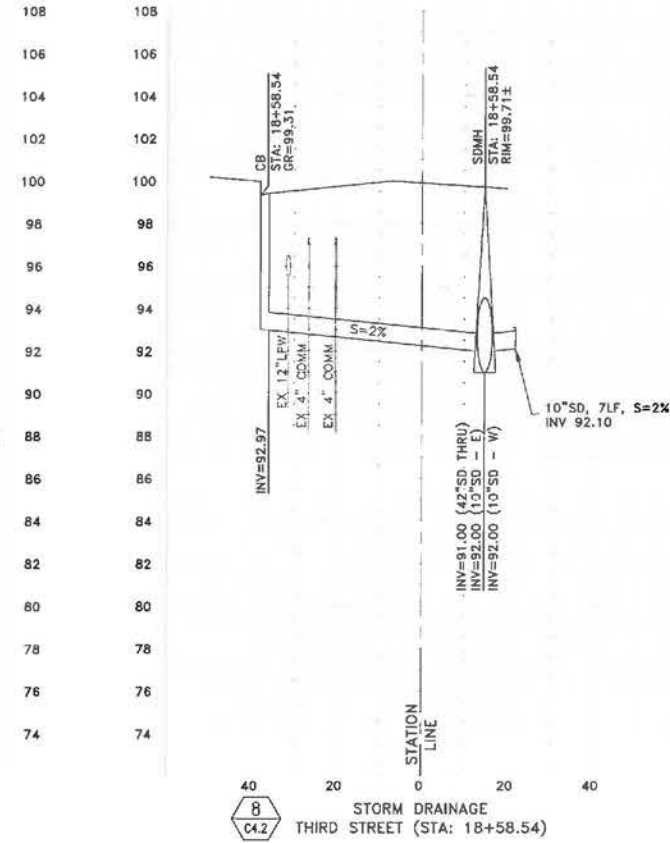
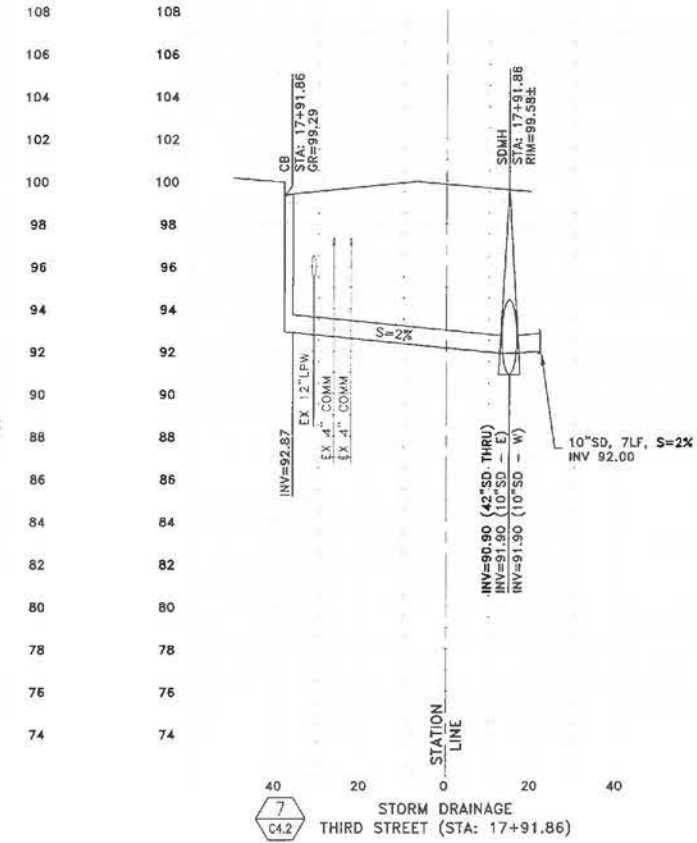
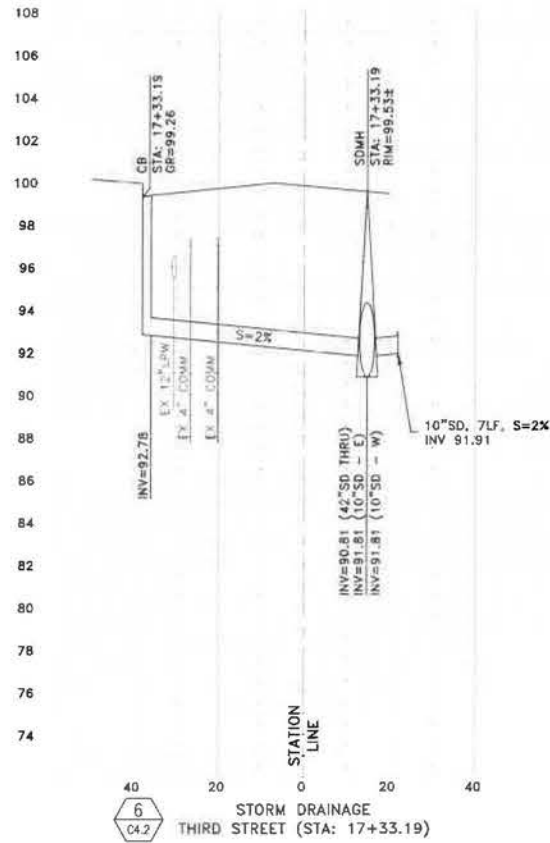
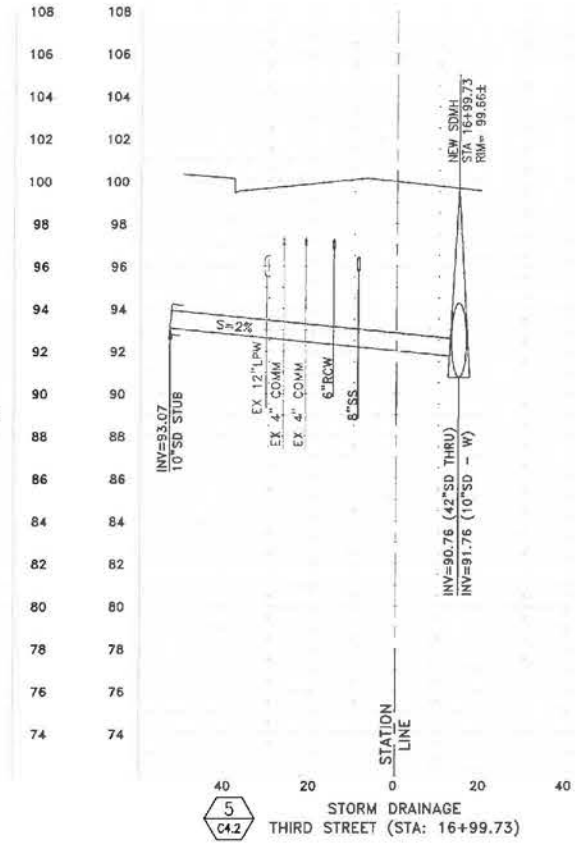
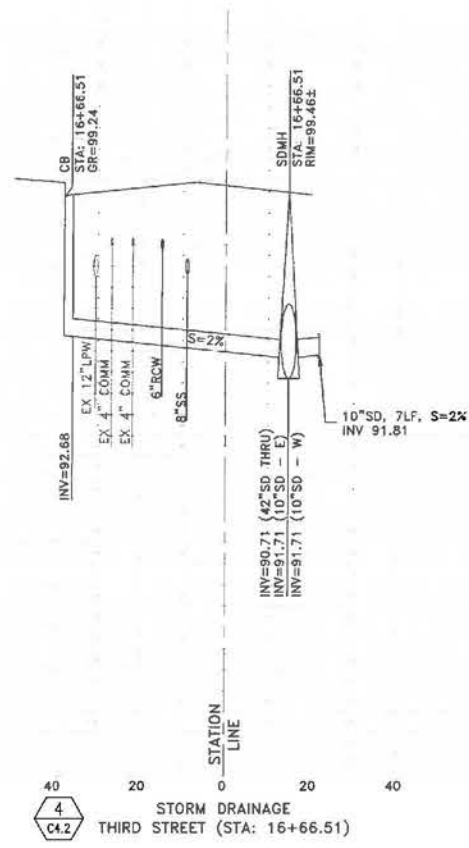
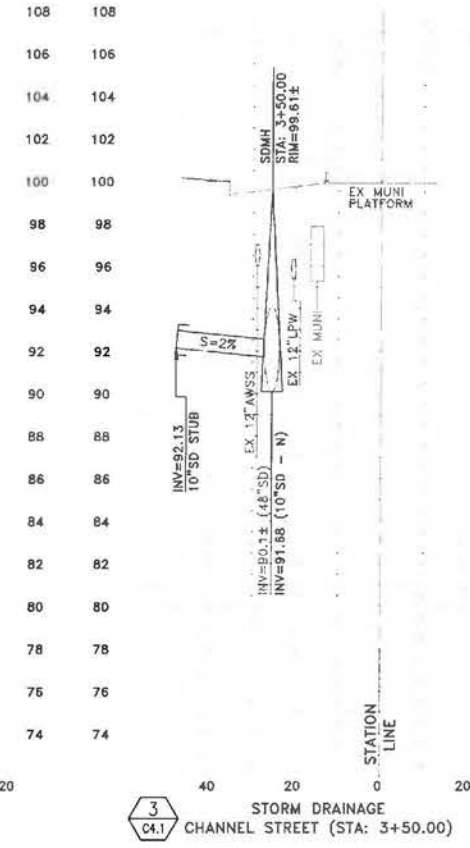
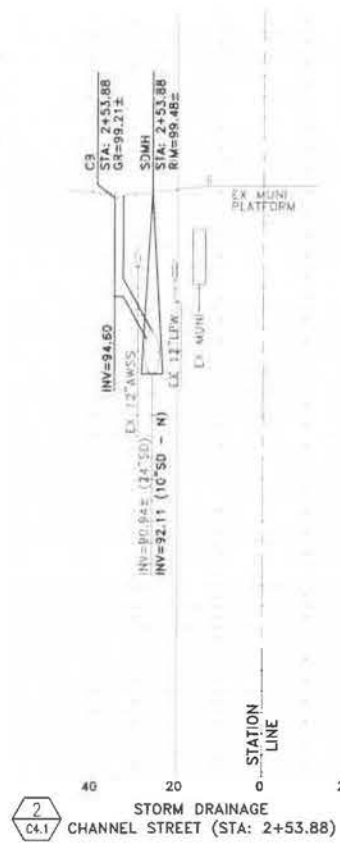
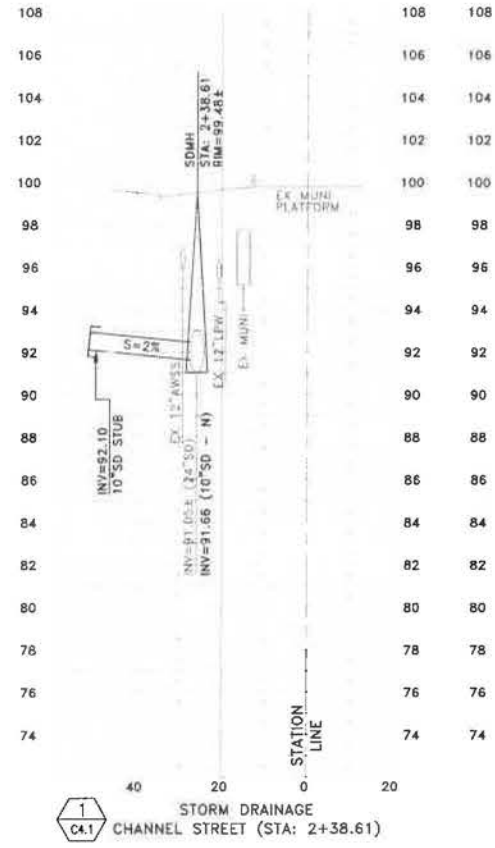
DATE	DESCRIPTION	DATE
06/09/14	75% SUBMITTAL	18/08/14
07/01/14	LOOK SUBMITTAL	18/08/14

FOCIL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

FREYER LAURETA, INC.
 011 LEONARDI - 2007000 - CONSTRUCTION MANAGER
 0503244-0001 - Fax: (650)344-9920 - www.freyerlaureta.com
 SUBCONTRACTOR

DATE: 06/09/14
 DESIGNED: RAL
 DRAWN: JFF
 CHECKED: RAL
 PROJ. ENGINEER: RAL
 SCALE: 1"=20'
 0' = 10' NEW PLAN
 1" = 40' EXISTING PLAN
 ALL DIMENSIONS PER PLAN UNLESS OTHERWISE NOTED

SHEET
C4.2
JOB NO.
42045



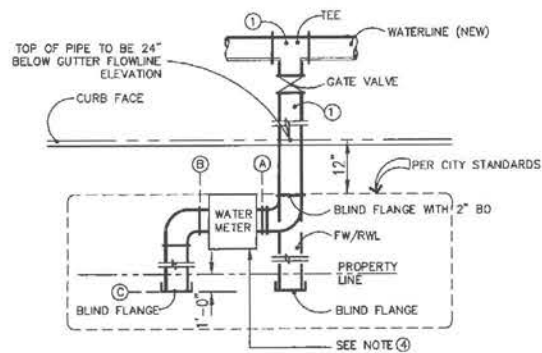
DATE	DESCRIPTION	DATE
08/09/14	75% SUBMITTAL	
10/02/14	80% SUBMITTAL	
12/18/14	100% SUBMITTAL	

STORM DRAINAGE CROSS-SECTIONS
THIRD AND CHANNEL STREET
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPER/HANDLER

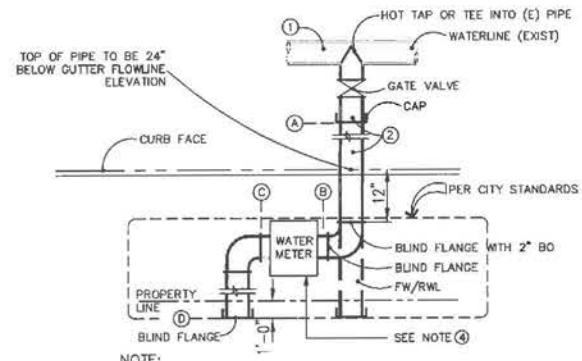
FRYER LAURETA, INC.
DATE: 08/09/14
DESIGNED: JFL
DRAWN: JJP
CHECKED: BAL
PROJ. ENGINE: BAL
SCALE: 1"=20'
B&E IS ONE INCH ON ORIGINAL
0"=1" ON THIS SHEET
A UNIT SHALL BE AS SHOWN

SHEET C4.4
JOB NO. 42045



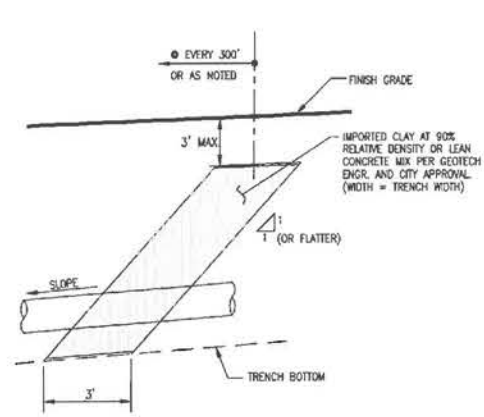
- NOTE:**
- CONTRACTOR TO INSTALL NEW WATERLINE TO POINT (C) WITH BLIND FLANGE FOR LPW. FOR FW AND RWL CONTRACTOR SHALL CONSTRUCT WATER LATERAL TO ONE (1) FOOT BEHIND PROPERTY LINE W/BLIND FLANGE.
 - SFWO TO INSTALL WATER METER
 - CONTRACTOR TO INSTALL ALL NECESSARY APPURTENANCES SUCH AS FITTINGS, MECHANICAL JOINTS, GATE VALVE, BLIND FLANGE, THURST BLOCKS, ETC.
 - PROVIDE MANIFOLD AND MULTIPLE METER BOXES PER SERVICE LINE SIZE OR LINE SIZE METER SPACER & SINGLE BOX. METER BOX TYPE AND SIZING SHALL BE APPROVED BY CCSF-PUC. (SEE TYPE 3 & 4 METER VAULT DETAILS)

1 WATERLINE INSTALLATION TO NEW MAIN
SCALE: NO SCALE

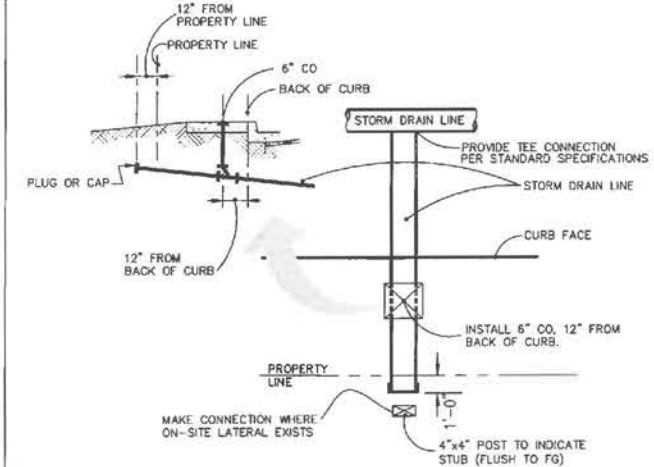


- NOTE:**
- SFWO TO INSTALL HOT TAP OR TEE & GV TO POINT (A) WITH CAP
 - CONTRACTOR TO INSTALL NEW WATERLINE FROM POINT (A) TO (C) FOR LPW. FOR FW AND RWL CONTRACTOR SHALL CONSTRUCT WATER LATERAL TO ONE (1) FOOT BEHIND PROPERTY LINE WITH BLIND FLANGE.
 - SFWO TO INSTALL WATER METER
 - PROVIDE MANIFOLD AND MULTIPLE METER BOXES PER SERVICE LINE SIZE OR LINE SIZE METER SPACER & SINGLE BOX. METER BOX TYPE AND SIZING SHALL BE APPROVED BY CCSF-PUC. (SEE TYPE 3 & 4 METER VAULT DETAILS)

2 WATERLINE INSTALLATION TO EXIST MAIN
SCALE: NO SCALE

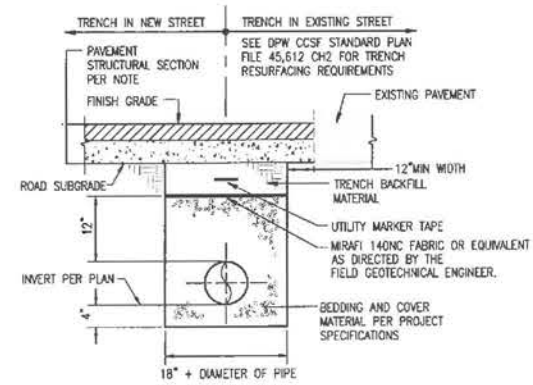


3 CLAY SEAL
SCALE: NO SCALE



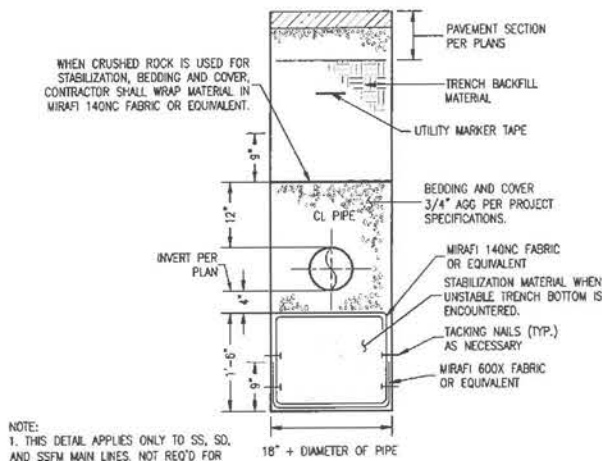
- NOTE:**
- PROVIDE CLEANOUT BOX PER PROJECT SPECIFICATIONS.

4 SEPARATED STORM DRAIN SYSTEM
SCALE: NO SCALE



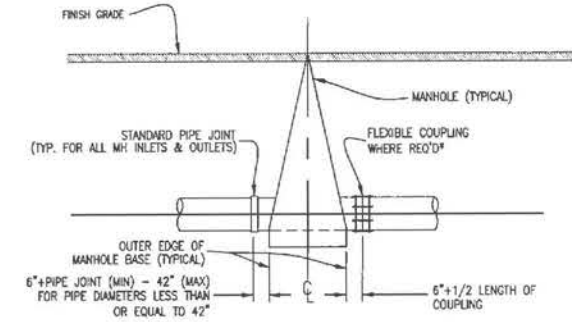
- NOTE:**
- BEDDING AND COVER MATERIAL SHALL BE SAND FOR LPW AND RWL.
 - CONTRACTOR SHALL RECOMPACT SUBGRADE AS APPROVED BY THE GEOTECHNICAL ENGINEER.

5 TYPICAL TRENCH SECTION
SCALE: NO SCALE



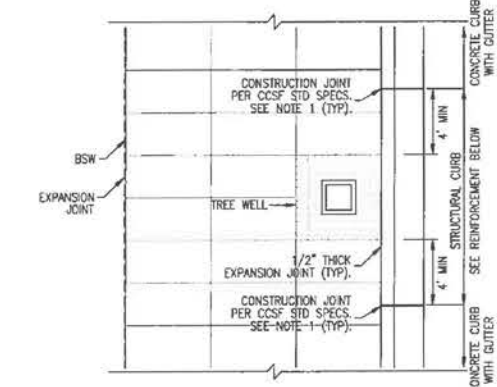
- NOTE:**
- THIS DETAIL APPLIES ONLY TO SS, SD, AND SSPM MAIN LINES. NOT REQ'D FOR LATERALS.
 - CONTRACTOR SHALL RECOMPACT SUBGRADE AS APPROVED BY THE GEOTECHNICAL ENGINEER.

6 UTILITY MAIN TRENCH SECTION W/STABILIZATION
SCALE: NO SCALE



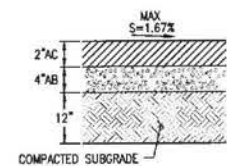
- NOTES:**
- WHERE THE DISTANCE BETWEEN MANHOLES RESULTS IN THE NEED TO CUT PIPE PER THE STANDARD PIPE JOINT REQUIREMENT, THE CUT ENDS ARE TO BE JOINED USING FLEXIBLE UNRESTRAINED COUPLING SUCH AS: VICTALIC 'DEPEND-O-LOK' EXE TYPE 2, BAKER COUPLING 200 SERIES, ROMAC COUPLING OR EQUAL. COUPLING BODY, BOLTS AND STUDS TO BE STAINLESS STEEL WITH NEOPRENE GASKETS AND SHALL BE A MINIMUM 12" WIDTH. CONTRACTOR SHALL SUBMIT COUPLING SPECIFICATIONS FOR APPROVAL.
- THIS DETAIL SHALL BE USED IN LIEU OF FLEXIBLE JOINTS CALLED FOR IN SECTION 02536 AND 02537 OF THE PROJECT MANUAL.

7 STORM DRAIN AND SANITARY SEWER MANHOLE FLEXIBLE JOINT - TYPICAL
SCALE: NO SCALE



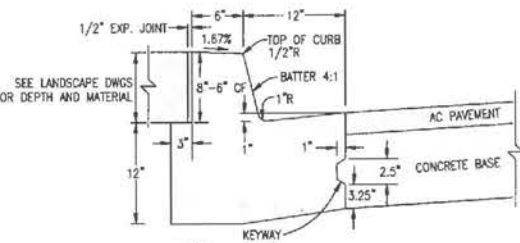
- NOTE:**
- CONSTRUCTION JOINTS SHALL BE INSTALLED THROUGH CONCRETE CURB AND GUTTER, PER CCSF STANDARDS, AT INTERVALS NOT TO EXCEED 7.5 FEET.

8 STRUCTURAL CURB/GUTTER AT TREE WELL LOCATIONS
SCALE: NO SCALE



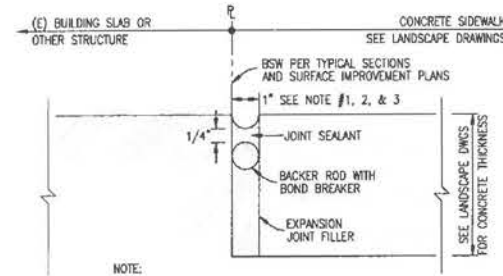
- NOTES:**
- AGGREGATE BASE SHALL BE CLASS 2 PER THE PROVISIONS IN SECTION 26, "AGGREGATE BASES", OF THE CALTRANS STANDARD SPECIFICATIONS AND COMPACTED TO A RELATIVE COMPACTION OF 95%.
 - ASPHALT CONCRETE WALK SHALL BE TYPE "B" 1/2" MAX MEDIUM PER THE PROVISIONS IN SECTION 39, "ASPHALT CONCRETE".
 - ALL WALKS SHALL BE CROSS SLOPED S=1.67% (TYP) TOWARDS THE STREET.

8 TEMPORARY SIDEWALK
SCALE: NO SCALE



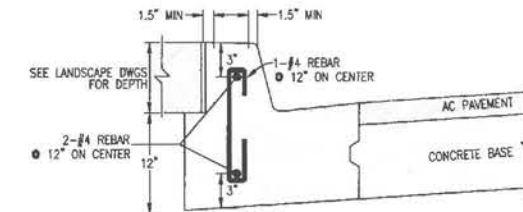
- NOTES:**
- CURB/GUTTER DETAIL VARIES AT TREE WELL LOCATIONS. REFER TO STRUCTURAL CURB DETAIL FOR INSTALLATION OF REINFORCEMENT.
 - CONSTRUCTION JOINTS SHALL BE INSTALLED THROUGH CONCRETE CURB/GUTTER, PER CCSF STANDARDS, AT INTERVALS NOT TO EXCEED 7.5 FEET.
 - WHERE THERE IS EXISTING CURB/GUTTER TO MATCH, CONTRACTOR SHALL MATCH EXISTING DIMENSIONS OF LONGITUDINAL JOINTS.
 - REFER TO GRADING PLAN FOR CURB FACE TRANSITION FROM 8" TO 6" CURB FACE (CF).

9 REVISED CITY STANDARD CURB/GUTTER DETAIL
SCALE: NO SCALE



- NOTE:**
- 1/2" THICK EXPANSION JOINT SHALL BE INSTALLED AT BOC (BACK OF CURB) PER DETAILS 9 AND 11 OF THIS SHEET.
 - 1" THICK EXPANSION JOINT SHALL BE INSTALLED BETWEEN BSW AND EXISTING STRUCTURES.
 - WHERE NO BUILDING EXISTS AT THE PROPERTY LINE BUT MAY BE BUILT AT THE BSW IN THE FUTURE, LEAVE A 1" GAP FROM BSW TO THE PROPERTY LINE.

10 EXPANSION JOINT
SCALE: NO SCALE



- NOTES:**
- FOR DIMENSIONS NOT SHOW, REFER TO REVISED CITY STANDARD CURB/GUTTER DETAIL.

11 STRUCTURAL CURB/GUTTER AT TREE WELL LOCATIONS
SCALE: NO SCALE

PLAN DETAILS
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
06/09/14	75% SUBMITTAL
10/28/14	100% SUBMITTAL
06/02/14	100% SUBMITTAL

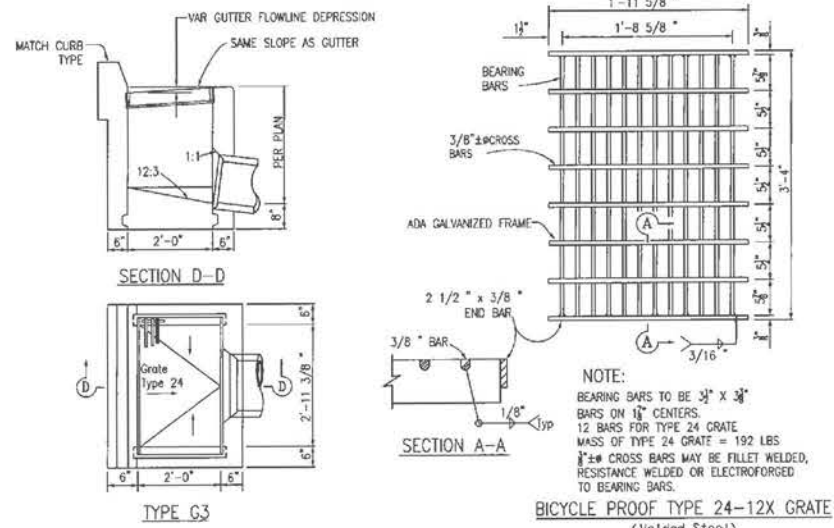
FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

LAURETA, INC.
ENGINEER - SURVEYOR & CONSTRUCTION MANAGER
174 ENGINEER - SURVEYOR & CONSTRUCTION MANAGER
144 North San Mateo Drive • San Mateo, CA 94401
(650) 344-6601 • Fax: (650) 344-6602 • www.laureta.com

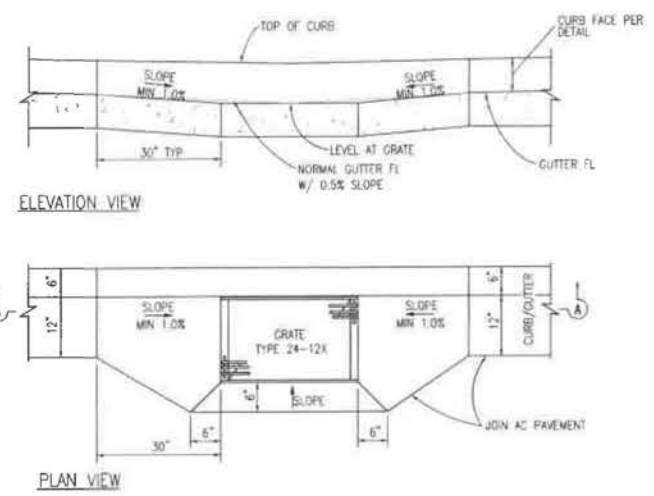
DATE	DESIGNED	CHECKED	PROJ. ENGR.	SCALE	NTS
06/09/14	RL	JFP	RL	1"	0

BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALE ACCORDINGLY.

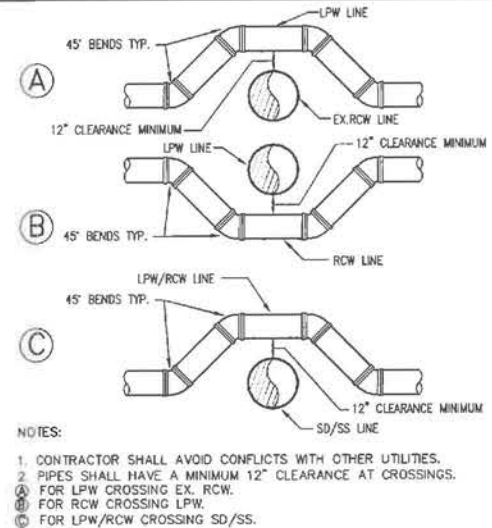
SHEET C5.1
JOB NO. 42045



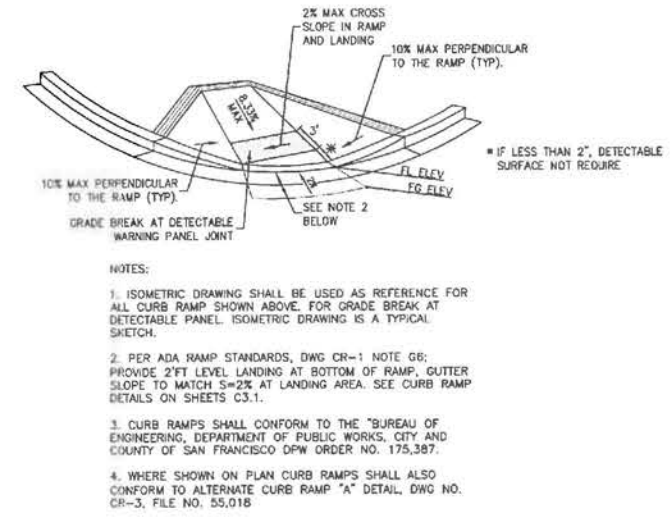
1 CATCH BASIN (SEPARATED STORM DRAIN)
SCALE: NO SCALE



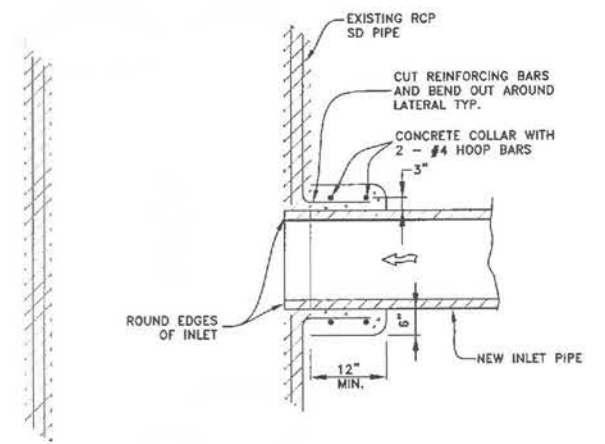
2 GUTTER APRON DETAIL
SCALE: NO SCALE



3 TYPICAL UTILITY CROSSINGS
SCALE: NO SCALE



6 ISOMETRIC CURB RAMP VIEW
SCALE: NO SCALE



7 LATERAL CONNECTION TO EXISTING RCP MAIN
SCALE: NO SCALE

8 NOT USED
SCALE: NO SCALE

9 NOT USED
SCALE: NO SCALE

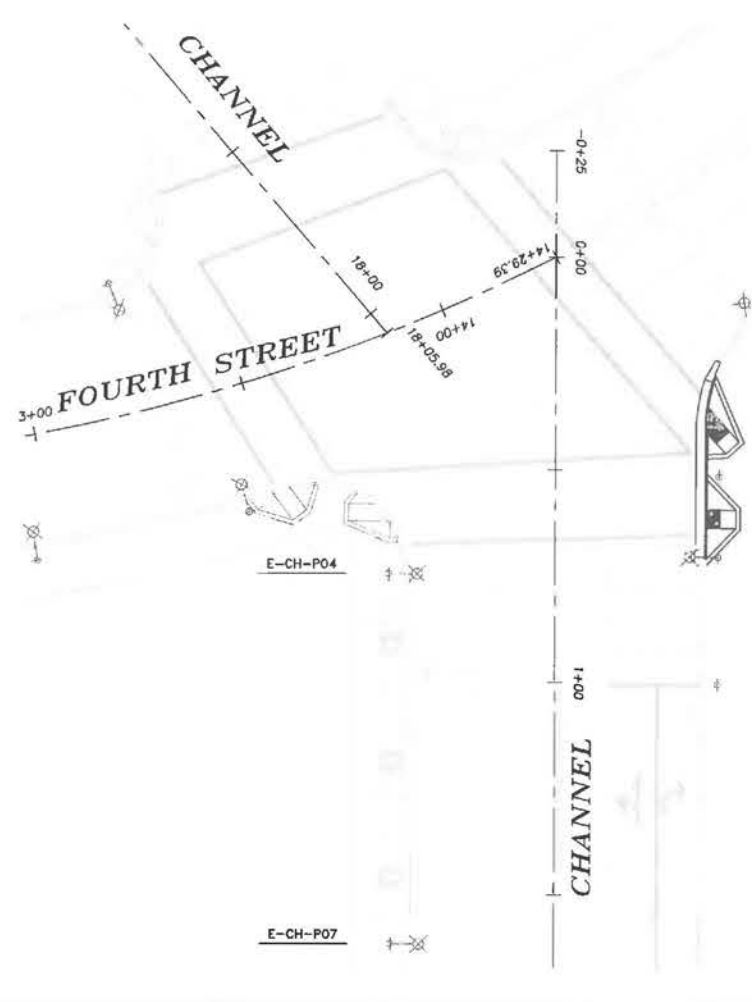
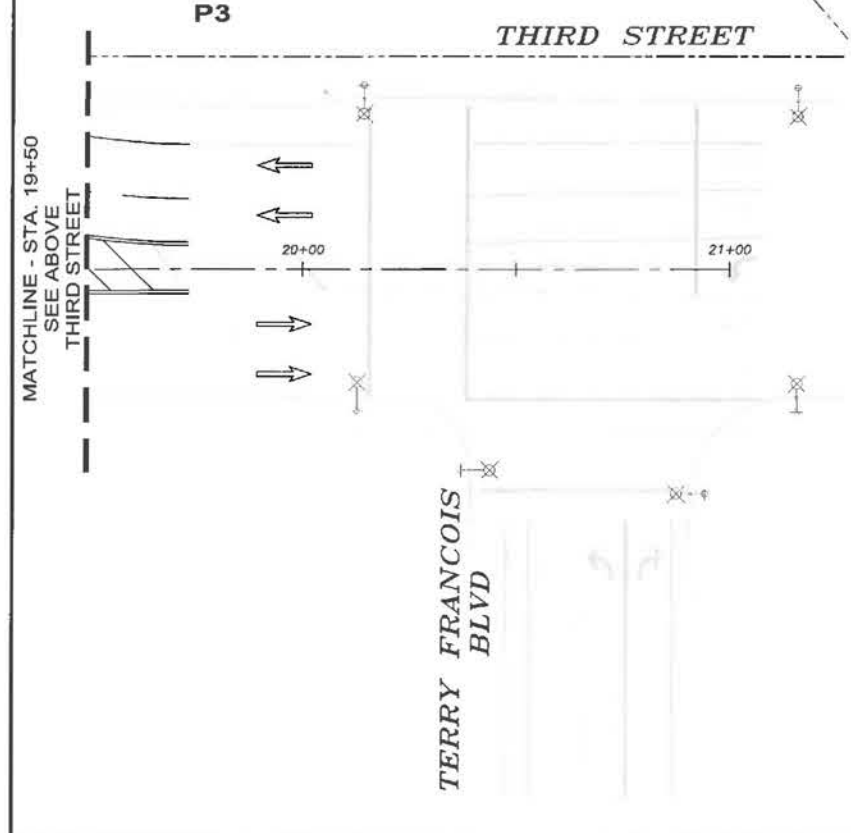
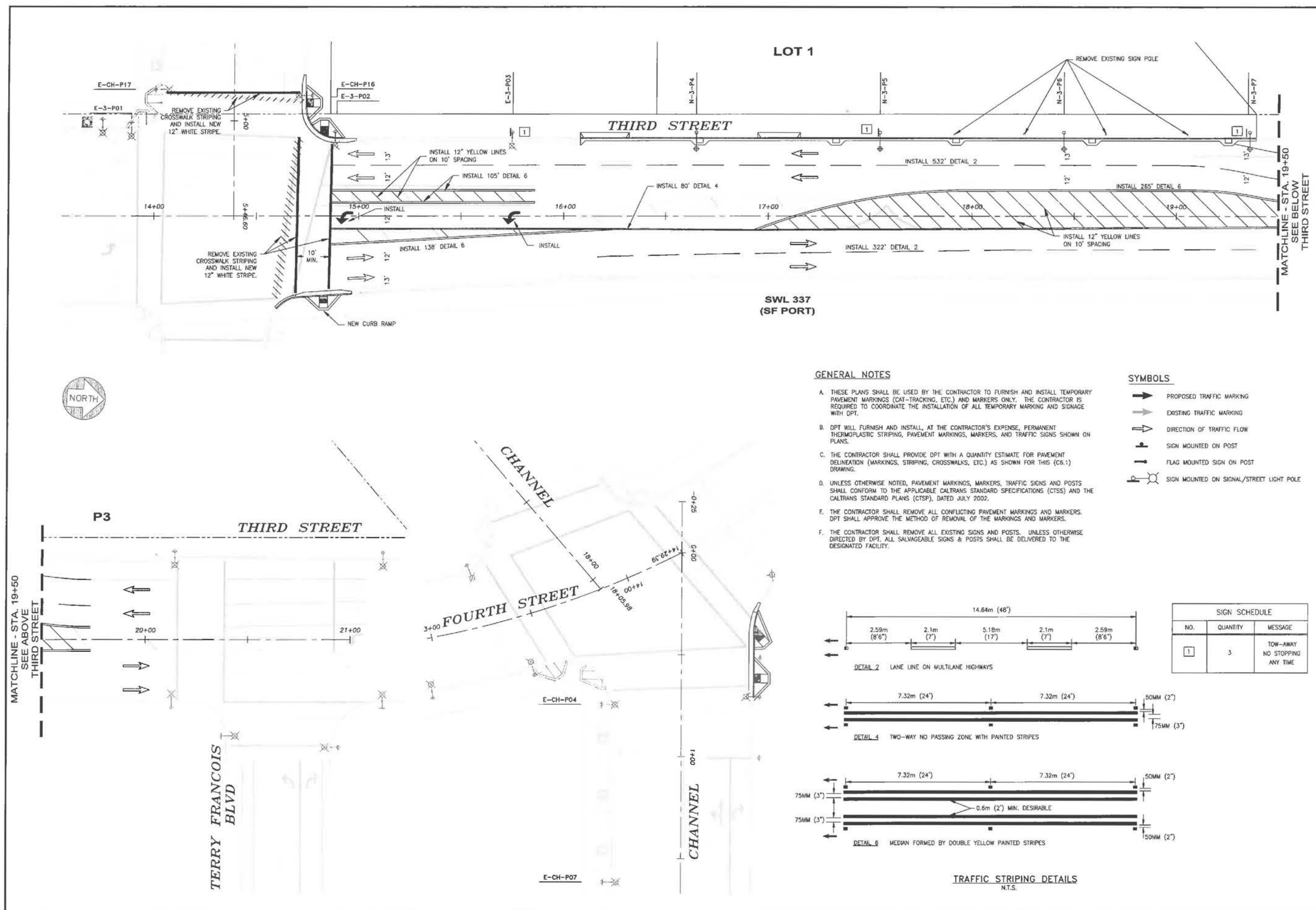
PLAN DETAILS		MISSION BAY BLOCK 1 MISSION BAY PROJECT, SAN FRANCISCO, CA	
DATE:	06/09/14	70% SUBMITTAL	06/09/14
DESIGNED:	RJL	100% SUBMITTAL	07/09/14
DRAWN:	JIF		
CHECKED:	RJL		
PROJ. ENGR:	RJL		
SCALE:	NTS		
BAR IS ONE INCH ON ORIGINAL			
IF NOT ONE INCH ON THIS SHEET,			
ADJUST SCALE ACCORDINGLY			
SHEET C5.2		DESCRIPTION	
JOB NO. 42045		DEVELOPMENT MANAGER	
FOCIL-MB, LLC		Mission Bay Development Group, LLC	
OWNER		DEVELOPMENT MANAGER	
FREYER LAURETA, INC.			
224 DOWNSIDE - SAN FRANCISCO - CONSTRUCTION MANAGERS			
144 North San Mateo Drive - San Mateo, CA 94401			
TEL: 415.338.8200 FAX: 415.338.8201 WWW.FREYERLAURETA.COM			
SUBCONTRACTOR			

SIGN AND STRIPING PLAN
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
06/09/14	DESIGNED
06/09/14	DRAWN
06/09/14	CHECKED
06/09/14	PROJECT ENGINEER
06/09/14	DATE

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
DATE: 06/09/14
DESIGNED: RIL
DRAWN: JIF
CHECKED: RIL
PROJ. ENGR: RIL
SCALE: 1" = 80'
SHEET
C6.0
JOB NO.
42045



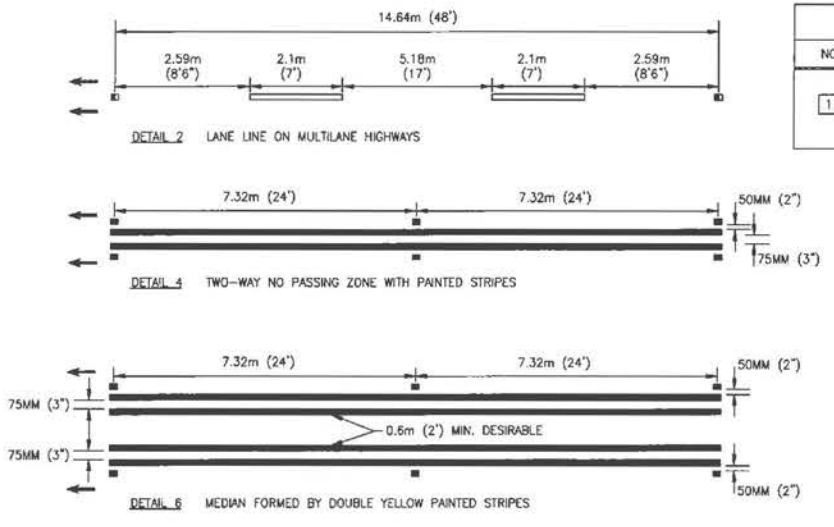
GENERAL NOTES

- THESE PLANS SHALL BE USED BY THE CONTRACTOR TO FURNISH AND INSTALL TEMPORARY PAVEMENT MARKINGS (CAT-TRACKING, ETC.) AND MARKERS ONLY. THE CONTRACTOR IS REQUIRED TO COORDINATE THE INSTALLATION OF ALL TEMPORARY MARKING AND SIGNAGE WITH DPT.
- DPT WILL FURNISH AND INSTALL, AT THE CONTRACTOR'S EXPENSE, PERMANENT THERMOPLASTIC STRIPING, PAVEMENT MARKINGS, MARKERS, AND TRAFFIC SIGNS SHOWN ON PLANS.
- THE CONTRACTOR SHALL PROVIDE DPT WITH A QUANTITY ESTIMATE FOR PAVEMENT DELINEATION (MARKINGS, STRIPING, CROSSWALKS, ETC.) AS SHOWN FOR THIS (C6.1) DRAWING.
- UNLESS OTHERWISE NOTED, PAVEMENT MARKINGS, MARKERS, TRAFFIC SIGNS AND POSTS SHALL CONFORM TO THE APPLICABLE CALTRANS STANDARD SPECIFICATIONS (CTSS) AND THE CALTRANS STANDARD PLANS (CTSP), DATED JULY 2002.
- THE CONTRACTOR SHALL REMOVE ALL CONFLICTING PAVEMENT MARKINGS AND MARKERS. DPT SHALL APPROVE THE METHOD OF REMOVAL OF THE MARKINGS AND MARKERS.
- THE CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS AND POSTS, UNLESS OTHERWISE DIRECTED BY DPT. ALL SALVAGEABLE SIGNS & POSTS SHALL BE DELIVERED TO THE DESIGNATED FACILITY.

SYMBOLS

- PROPOSED TRAFFIC MARKING
- EXISTING TRAFFIC MARKING
- DIRECTION OF TRAFFIC FLOW
- SIGN MOUNTED ON POST
- FLAG MOUNTED SIGN ON POST
- SIGN MOUNTED ON SIGNAL/STREET LIGHT POLE

SIGN SCHEDULE		
NO.	QUANTITY	MESSAGE
1	3	TOW-AWAY NO STOPPING ANY TIME



TRAFFIC STRIPING DETAILS
N.T.S.

POLE INVENTORY SCHEDULE

POLE I.D.	STATION	LUMINAIRE TYPE	POLE TYPE	POLE HEIGHT	SIGNS MOUNTED	BLHP NO.	COMMENTS
E-CH-P1	0+14.98, L	-	-	-	-	-	
E-CH-P2	0+51.74, R	-	-	-	-	-	
E-CH-P3	0+70.67, L	-	-	-	-	-	
E-CH-P4	0+74.36, R	-	-	-	-	-	
E-CH-P5	1+00.59, L	-	-	-	-	-	
E-CH-P6	1+61.38, L	-	-	-	-	-	FEEDER POLE (600V DC)
E-CH-P7	1+61.42, R	-	-	-	-	-	
E-CH-P8	2+44.65, L	-	-	-	-	-	TO BE RELOCATED SEE R-CH-P08
E-CH-P9	2+44.05, R	-	-	-	-	-	
E-CH-P10	3+25.99, L	-	-	-	-	-	TO BE RELOCATED SEE R-CH-P10
E-CH-P11	3+26.65, R	-	-	-	-	-	
E-CH-P13	4+09.36, L	-	-	-	-	-	
E-CH-P14	4+09.21, R	-	-	-	-	-	
E-CH-P15	4+18.98, R	-	-	-	-	-	
E-CH-P16	4+87.57, L	-	-	-	-	-	
E-CH-P17	4+84.57, R	-	-	-	-	-	
R-CH-P08	2+16.20, L	-	-	-	-	-	
R-CH-P10	3+11.20, L	-	-	-	-	-	

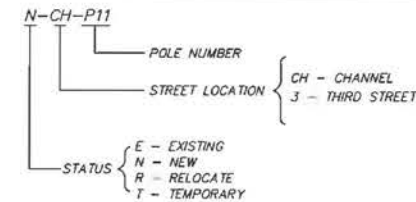
E-3-P01	13+88.75, L	L50	-	-	-	-	
E-3-P02	14+88.31, L	L50	-	-	-	-	
E-3-P03	15+74.77, L	L2A	-	-	-	-	
N-3-P04	16+64.78, L	L2A	JOMB	30'	-	-	SHALL MATCH EX. 3RD ST LIGHTS (SWOOSH STYLE)
N-3-P05	17+54.78, L	L2A	JOMB	30'	-	-	SHALL MATCH EX. 3RD ST LIGHTS (SWOOSH STYLE)
N-3-P06	18+44.79, L	L2A	JOMB	30'	-	-	SHALL MATCH EX. 3RD ST LIGHTS (SWOOSH STYLE)
N-3-P07	19+34.78, L	L2A	JOMB	30'	-	-	SHALL MATCH EX. 3RD ST LIGHTS (SWOOSH STYLE)

NOTES

- 1) STATION OFFSET NOTED IS TO CENTERLINE OF POLE BASE. REFER TO LIGHTING PLANS AND DETAILS AND FOUNDATION PLANS FOR ADDITIONAL INFORMATION.
- 2) WHERE SHOWN ON DEMOLITION PLANS (C2.1) FOR POLES TO BE RELOCATED BY OTHERS DURING CONSTRUCTION. COORDINATE OVERHEAD SERVICE TERMINATION W/PG&E, DTIS, AND SBC.
- 3) WHERE SHOWN ON OC FOUNDATIONS DETAILS, FURNISH SPECIAL BASE OR ADAPTER PLATE FOR THE TYPE OF CALTRANS POLE SHOWN IN THE OC SCHEDULE TO FIT OVER THE ANCHOR BOLTS OF THE MISSION BAY POLE FOUNDATION.
- 4) CONTRACTOR SHALL CROSS REFERENCE OCS SHEETS FOR MUNI POLE NUMBER IDENTIFICATION AND FOR FOUNDATION DETAILS.
- 5) REFERENCE PLANS AND SPECIFICATIONS.

- 1 SEE SPECIFICATIONS FOR LIGHTING DRAWINGS, DETAILS, AND LIGHTING APPURTENANCES.
- 2 SEE POLE FOUNDATION DETAILS (SEE BELOW)
- 3 SEE TRAFFIC SHEET (C6.0)
- 4 PAINT SCHEDULE "MISSION BAY GREY" PER PROJECT SPECIFICATIONS

POLE IDENTIFICATION



POLE TYPE
761MB (B)
"B" INDICATES MUNI POWER FEED

POLE INVENTORY		MISSION BAY BLOCK 1 MISSION BAY PROJECT, SAN FRANCISCO, CA	
DATE: 08/09/14	DESIGNED: EJP	DRAWN: EJP	CHECKED: EJP
PROJECT: ENGR: EJP	SCALE: NTS	BAR IS ONE INCH OR ORIGINAL 0 1"	
SHEET C7.0			
JOB NO. 42045			
DATE: 08/09/14		DESCRIPTION	
170% SUBMITTAL		DATE	
100% SUBMITTAL		DATE	
LOOK SUBMITTAL		DATE	
FOCIL-MB, LLC		MISSION BAY DEVELOPMENT GROUP, LLC	
OWNER		DEVELOPMENT MANAGER	
FREYER LAURETA, INC.		ELECTRICAL TANT	
CIVIL ENGINEER • SURVEYOR • CONSTRUCTION MANAGER 1050 MARKET STREET, SUITE 200, SAN FRANCISCO, CA 94102 TEL: (415) 774-1111 FAX: (415) 774-1112 WWW.FREYERLAURETA.COM			

GENERAL NOTES

- ALL STREET LIGHTING PROJECTS ARE SUBJECT TO BE REVIEW OR INSPECTED BY CCSF BCM. EASEMENTS ARE SUBJECT TO BE INSPECTED BY CCSF BCM. CONTRACTOR SHALL PAY ALL COSTS FOR PERMITS AND INSPECTIONS.
- NOT USED.
- THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH PG&E FOR SERVICE POINTS TO STREET LIGHTING AND IRRIGATION SERVICE PEDESTAL AND SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED THEREWITH WHICH SHALL BE PAID DIRECTLY TO PG&E. THE CONTRACTOR SHALL VERIFY THE STREET LIGHT SERVICE POINT LOCATION(S) WITH PG&E PRIOR TO INSTALLATION. PG&E PROVIDE FINAL CONNECTION FOR SERVICE AT SERVICE CONNECTION PULL BOX.
- THE CONTRACTOR SHALL INSTALL STREET LIGHT STANDARD WITH CONCRETE FOUNDATIONS PER CONTRACT DOCUMENTS. SHOP DRAWINGS/CATALOG CUTS OF ALL MATERIALS, SUCH AS POLE, ARM AND LUMINAIRES, CONDUIT, WIRE FUSES, FUSE HOLDERS AND ETC., SHALL BE SUBMITTED FOR CCSF BCM APPROVAL.
- THE CONTRACTOR SHALL NOTIFY CCSF BCM AT LEAST FIVE DAYS PRIOR TO PULL BOX SETTING, FOUNDATION POURING, CONDUIT AND WIRING INSTALLATION, ETC. FOR INSPECTION.
- SEVEN DAYS PRIOR TO COMPLETION OF STREET LIGHT WORK, CONTRACTOR SHALL NOTIFY BLHP AND CCSF BCM FOR FINAL INSPECTION BEFORE ACCEPTANCE OF NEWLY INSTALLED STREET LIGHTS. THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO OWNER BEFORE PROJECT ACCEPTANCE.
- SEE STRUCTURAL DRAWING DETAIL FOR STREET LIGHT POLE CONCRETE FOUNDATIONS.
- NOT USED.
- THE WIRING FOR THE STREET LIGHT SHALL CONFORM TO THE REQUIREMENTS OF PLAN 49,092 AND CONTRACT DOCUMENTS.
- CUT OFF LENSES AND DEVICES OF STREET LIGHTING SHALL REQUIRE SPECIFIC APPROVAL OF BLHP BY VARIANCE.
- EXCEPT AS NOTED, ALL WIRING METHODS AND EQUIPMENT CONSTRUCTION SHALL CONFORM TO THE NATIONAL ELECTRIC CODE (N.E.C.) AND APPLICABLE SECTIONS OF THE STANDARD PLANS AND SPECIFICATIONS, BUREAU OF ENGINEERING, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO DATED JULY 1986 AND LATEST CHANGES AND AMENDMENTS.
- ALL SPLICES SHALL BE MADE IN ACCORDANCE WITH PLAN 43,665 CHANGE 2.
- UNLESS AUTHORIZED OTHERWISE, ALL WIRING FOR STREET LIGHTS OF NO. 10 AWG SHALL BE SOLID COPPER AND NO. 8 AWG OR LARGER AS INDICATED ON DRAWINGS. SHALL BE STRANDED COPPER, INSULATED FOR 600 VOLTS WITH TYPE THW INSULATION. ALL WIRING SHALL BE OF THE FOLLOWING SIZES:
 - ALL FIELD WIRING: #8 MINIMUM (N.E.C.)
 - PULLBOX TO STREET LIGHT: #10 MINIMUM (N.E.C.)
 - ALL WIRE IN POLE: #10 MINIMUM (N.E.C.)
- CONDUIT SHALL BE 1 1/2 INCH HOT-DIP GALVANIZED RIGID STEEL U.O.N. AS INDICATED IN SECTION 601 OF STANDARD SPECIFICATIONS, BUREAU OF ENGINEERING, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO DATED NOVEMBER 2000.
- ALL STEEL CONDUIT AND OTHER METAL PARTS, INCLUDING BONDING BUSHING, SHALL BE HOT-DIP GALVANIZED AND SHALL BE N.E.C. APPROVED PARTS AND SHALL BE CONTINUOUSLY BONDED AND GROUNDED PER N.E.C. REQUIREMENTS.
- ALL BENDS AND /OR OFFSETS SHALL BE MADE WITH FACTORY SECTIONS USING APPROVED COUPLERS PER N.E.C. REQUIREMENTS.
- ALL EMPTY CONDUITS SHALL HAVE A ONE-QUARTER INCH POLYPROPYLENE PULL ROPE PROVIDED INSIDE AND SEALED WITH A DUCT SEAL, APPROVED BY CCSF BCM, ON BOTH ENDS OF THE CONDUIT.
- THE ENDS OF ALL CONDUITS INSTALLED SHALL BE SEALED WITH A DUCT SEAL APPROVED BY CCSF BCM. CONDUITS STUBBED FOR FUTURE EXTENSION SHALL BE CAPPED.
- ALL PULL BOXES SHALL BE PER PLAN 49,093 CHANGE 1 AND SHALL BE INSTALLED WITHIN FIVE FEET OF THE BASE OF ALL STREET LIGHT POLES. LOCATE ALL STREET LIGHT PULL BOXES BEHIND LIGHT POLES TOWARDS PROPERTY SIDE. SEE LANDSCAPE DRAWINGS FOR LOCATIONS AND OTHER DETAILS.
- ALL CONDUIT STUB OUTS MUST BE TERMINATED WITH GROUNDING BUSHING AND BOXED TO MEET CITY OF SAN FRANCISCO ELECTRIC CODE.
- ALL PULL BOX COVERS SHALL BE INSCRIBED WITH OWNERSHIP'S NAME, "AT&T", "COMCAST", "PG&E", ETC.
- PULL BOXES SHALL NOT BE PLACED WHERE THEY WILL BE SUBJECT TO VEHICULAR TRAFFIC.

GENERAL NOTES (CONT.)

- ALL STREET LIGHTING PULL BOX COVERS SHALL BE INSCRIBED WITH FIRST LINE, "STREET LIGHTING" AND THE SECOND LINE, "120/240 VOLT". LETTERS SHALL BE 1 INCH AND MADE WITH 1/4 INCH WIDE STROKES. LETTERS INSCRIBED IN CONCRETE LIDS SO COVERS SHALL BE MADE WITH 1/8 INCH (MINIMUM) DEEP IMPRINTS. LEGENDS IN STEEL COVERS SHALL BE MADE WITH WELD BEAD LETTERS.
- INSTALL ALL STREET LIGHTING CONDUITS AND IRRIGATION SYSTEM POWER CONDUITS IN JOINT TRENCH OR SEPERATE TRENCH AT CONTRACTOR'S OPTION.
- ALL UNDERGROUND CONDUIT CONNECTIONS SHALL BE WATERTIGHT AND ALL UNDERGROUND CABLE SPLICES SHALL BE MADE WATERPROOF.
- VAULT COVERS: ALL VAULTS AND PULLBOXES LOCATED WITHIN THE SIDEWALK AREA (STREET FURNITURE ZONE AND CLEAR ZONE) SHALL HAVE THE VAULT COVER TREATMENT AS SPECIFIED ON THE VAULT COVER MATRIX AND AS DETAILED IN THE L4.-SERIES DRAWINGS. WHERE AVC ARE INCORPORATED, LABELING SHALL BE ON COVER OF THE AVC. SEE LANDSCAPE DRAWINGS FOR EXACT LOCATION OF VAULTS AND PULLBOXES.
- ALL LIGHT POLES SHALL BE EQUIPPED WITH GROUND STUD WELDED TO THE INTERIOR SURFACE OF POLE AT OPPOSITE SIDE OF THE HANDHOLE OPENING. GROUND STUD SHALL BE 1/4" - 20 X (CONTINUOUSLY THREADED) X 3/4" LONG AND SHALL BE FURNISHED WITH A TYPE 316 STAINLESS STEEL NUT AND STAINLESS STEEL SHAKEPROOF WASHER. GROUND ALL LIGHT POLES WITH #6 AWG GROUND WIRE.

SYMBOL LEGEND

- UNDERGROUND CONDUIT & WIRING - EXISTING, NEW RESPECTIVELY
- CONDUIT STUB OUT WITH CONDUIT MARKER AND CAPPED FOR FUTURE
- SI--- EXISTING 1 1/2" C GRSC. FOR STREET LIGHTING
- SL--- NEW 1 1/2" C GRSC. FOR STREET LIGHTING 2#4 AWG U.O.N.
- JT--- EXISTING JOINT TRENCH
- JT--- NEW JOINT TRENCH
- ☉ ☽ SINGLE LUMINAIRE STREET LIGHT ON POLE - EXISTING, NEW RESPECTIVELY
- LP LPx "Lxx" DENOTES FIXTURE TYPE, "LPxx" DENOTES FIXTURE POLE TYPE
- [N-B-P2] POLE IDENTIFICATION, SEE POLE INVENTORY ON DRAWING ?.
- • □ EXISTING UTILITY VAULT OR PULL BOX, SIZE AS SHOWN ON DRAWINGS
- • □ NEW UTILITY VAULT OR PULL BOX, SIZE AS SHOWN ON DRAWINGS
- Ⓢ DETAIL OR DIAGRAM TAG
- Ⓢ SHEET NOTE TAG
- Ⓢ EQUIPMENT NOTE TAG

ABBREVIATIONS

- | | |
|--|---|
| A AMPERE | GRSC GALVANIZED RIGID STEEL CONDUIT |
| AFF ABOVE FINISHED FLOOR | HH HANDHOLE |
| BCM BUREAU OF CONSTRUCTION MANAGEMENT | HID HIGH INTENSIVE DISCHARGE |
| BSCW BARE STRANDED COPPER WIRE | KWH KILOWATT HOUR |
| BLHP BUREAU OF LIGHT, HEAT, AND POWER | MH MANHOLE |
| C CONDUIT | (N) NEW |
| CB CIRCUIT BREAKER | NTS NOT TO SCALE |
| CC COMCAST | P PROPERTY LINE |
| CCSF CITY & COUNTY OF SAN FRANCISCO | PB PULLBOX |
| CO CONDUIT ONLY | PG&E PACIFIC GAS & ELECTRIC |
| CDX CATELLUS DEVELOPMENT | PUC SAN FRANCISCO PUBLIC UTILITY COMMISSION |
| CTL CONTROL LINE | PVC POLYVINYL CHLORIDE CONDUIT |
| CU COPPER CONDUCTOR(S) | PWSP SAN FRANCISCO PUBLIC WORK STANDARD PLANS |
| DPW DEPARTMENT OF PUBLIC WORKS | SL STREET LIGHTING |
| DTIS CITY OF SAN FRANCISCO DEPARTMENT OF TELECOMMUNICATION AND INFORMATION SYSTEM. | TYP TYPICAL |
| (E) EXISTING TO REMAIN | UON UNLESS OTHERWISE NOTED |
| FT FEET | V, KV VOLT, KILOWATT |
| (G), GRD GROUND | W WATT |
| | WP WEATHERPROOF |

STREET LIGHTING VOLTAGE DROP CALCULATION *

POLE NO.	CONDUCTOR SIZE (CU)	DISTANCE	VOLT	AMP	AMP-FT	VD	VD%	VOLTAGE
P18	#4	400	240V, 1#	4.48	1792	1.1	0.5	239

* VOLTAGE DROP CALCULATION IS BASED ON #4 AWG(CU) WITH 90% POWER FACTOR.

STREET LIGHTING ELECTRICAL LOAD CALCULATION:

(E) SERVICE NO.	(E) TOTAL LOAD (WATTS)	(N) LOAD (WATTS)	(N) TOTAL LOAD (WATTS)	(N) TOTAL AMP @ 120/240V, 1#	(E) SERVICE SIZE
T1	2775	1075	3850	16.1	60A/2P



SYMBOL LEGEND, NOTES, ABBREVIATIONS + CALCULATIONS
 BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
08/09/14	DATE SUBMITTED
08/09/14	BOOK SUBMITTAL
07/10/14	100% SUBMITTAL

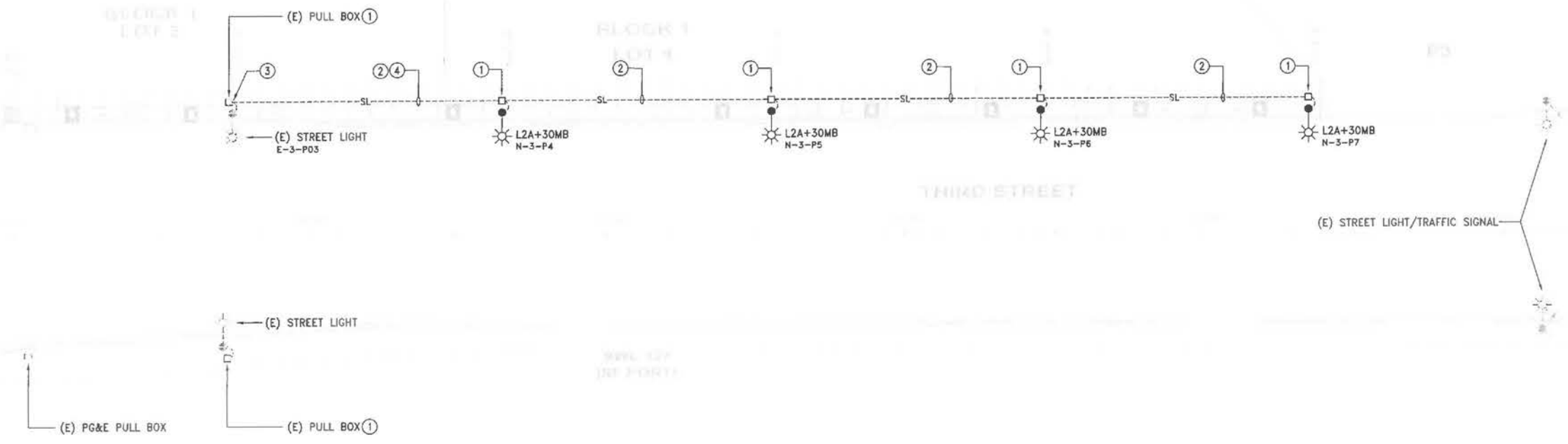
FOCAL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

Freyer & Laureta, Inc.
 civil engineers • surveyors • construction managers
 144 North San Mateo Drive • San Mateo, CA 94407
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 86-10TH STREET, SUITE 300, SE, CA 94102-1242
 PHONE: (415) 861-0286 FAX: (415) 861-0791



DATE: 08/09/14
 DESIGNED: EW
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 SCALE: NONE
 NOT TO SCALE UNLESS INDICATED OTHERWISE

SHEET
EO.1
 JOB NO.
42045



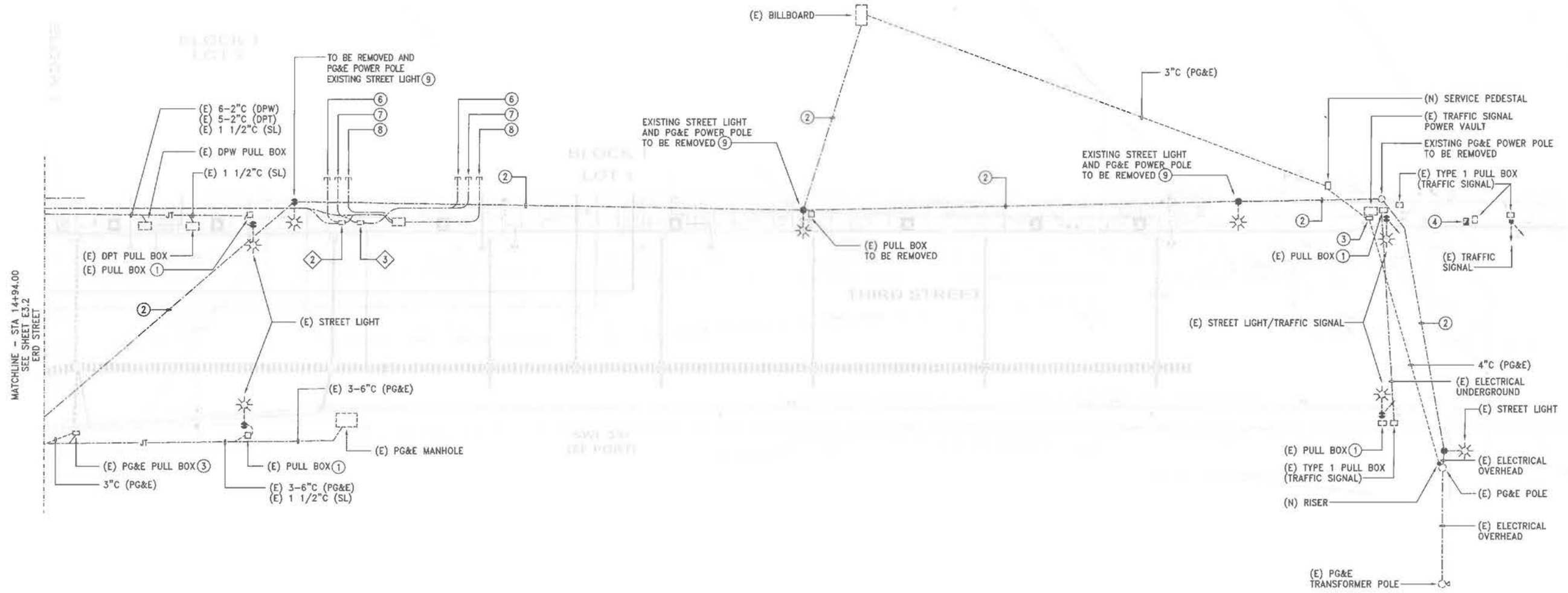
SITE LIGHTING PLAN
SCALE: 1"=20'-0"

SHEET NOTES

- ① TYPE 1 PULL BOX WITH AVC COVER BEHIND LIGHT POLE
INSTALL NO. 10 AWG CONDUCTORS FROM PULL BOX
TO LUMINAIRES. SEE LANDSCAPE DRAWINGS FOR EXACT
LOCATION. TYPICAL FOR ALL U.O.N.
- ② 1 1/2" GRSC, 2#4 AWG
- ③ INTERCEPT (E) 1-1/2" GRSC CONDUIT AND
EXTEND AS INDICATED FOR STREET LIGHTS.
CONTRACTOR SHALL VERIFY EXACT LOCATION
IN FIELD.
- ④ PROVIDE NEW CONDUCTORS FROM (E) STREET
LIGHT PULL BOX TO (N) STREET LIGHT PULL
BOX.



FOCIL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER	Freyer & Lauretta, Inc. SUBCONSULTANT civil engineers - surveyors - construction managers 144 North San Mateo Drive, San Mateo, CA 94401 (650)344-9901 Fax: (650)344-9920 www.freyerlauretta.com	F.W. ASSOCIATES, INC. CONSULTING ENGINEERS 68-1374 STREET SUITE 300, F.O. CA 94035-1342 PHONE: (415) 861-0288 FAX: (415) 861-0191	MISSION BAY PROJECT, SAN FRANCISCO, CA BLOCK 1 PARTIAL SITE LIGHTING PLAN	DATE: 08/09/14 DESIGNED: EW DRAWN: BR CHECKED: XXX PROJ. ENGR: EW SCALE: 1"=20'-0" 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.	DATE: 08/09/14 70% SUBMITTAL 80% SUBMITTAL 100% SUBMITTAL U.E. 19.11 DESCRIPTION DATE
SHEET E2.1 JOB NO. 42045					



MATCHLINE - STA 14+94.00
SEE SHEET E3.2
END STREET

SITE JOINT TRENCH PLAN
SCALE: 1"=20'-0"



- EQUIPMENT NOTES (TYPICAL FOR E3.1 THRU E3.7)**
- ① 3'W x 5'L x 3'-6"D VAULT FOR PG&E (025601).
 - ② 30"W x 48"L x 36"D VAULT FOR AT&T (PTS3048)
 - ③ 30-1/4"W x 48-1/4"L x 14"D, HIGH DENSITY REINFORCED CONCRETE PULL BOX FOR COMCAST.

- SHEET NOTES**
- ① TYPE 1 PULL BOX WITH AVC COVER BEHIND LIGHT POLE. INSTALL NO. 10 AWG CONDUCTORS FROM PULL BOX TO LUMINAIRES. SEE LANDSCAPE DRAWINGS FOR EXACT LOCATION. TYPICAL FOR ALL U.O.N.
 - ② EXISTING ELECTRICAL OVERHEAD TO BE REMOVED.
 - ③ 17"W x 30"L x 24"D PULL BOX FOR PG&E (043464). SERVICE CONNECTION POINT FOR STREET LIGHT, TRAFFIC SIGNAL, IRRIGATION PEDESTAL AND ETC.
 - ④ EXISTING TRAFFIC SIGNAL INTERSECTION CABINET.
 - ⑤ TWO 4" CONDUIT FOR PG&E.
 - ⑥ ONE 4" CONDUIT FOR AT&T.
 - ⑦ ONE 4" CONDUIT FOR COMCAST.
 - ⑧ ONE 4" CONDUIT FOR PG&E.
 - ⑨ CONTRACTOR TO PROVIDE TEMPORARY STREETLIGHTS TO RETAIN THE EXISTING MAIN ILLUMINATION OF THE STREET DUE TO REMOVAL OF PG&E POLE TEMPORARY LIGHTS UNTIL NEW LIGHTS ARE INSTALLED AND ENERGIZED.



PARTIAL JOINT TRENCH SITE PLAN
BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION	DATE
08/09/14	DATE SUBMITTED	
	DATE APPROVED	

FOCL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

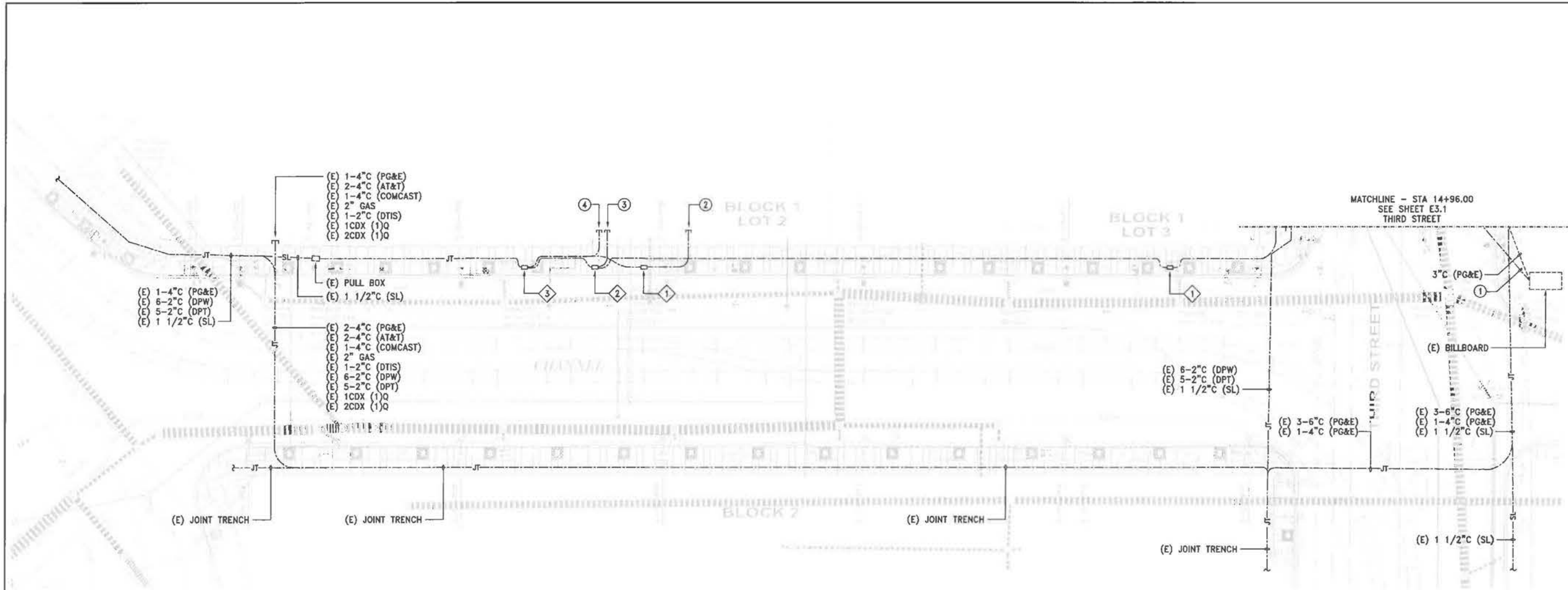
Freyer & Lareta, Inc.
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144 North San Mateo Drive, San Mateo, CA 94401
PHONE: (415) 841-5888 FAX: (415) 841-5911

F.W. A. ASSOCIATES, INC.
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1027th Street, Suite 300, SF, CA 94103-0442
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DATE: 08/09/14
DESIGNED: EW
DRAWN: EW
CHECKED: XXX
PROJ. ENGR: EW

SCALE: BAR IS ONE INCH ON ORIGINAL
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

SHEET E3.1
JOB NO. 42045



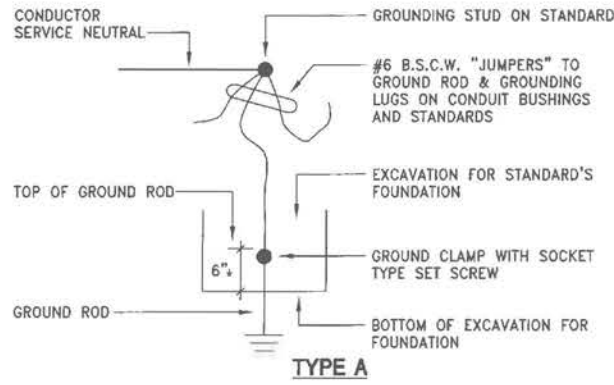
SITE JOINT TRENCH PLAN
SCALE: 1"=20'-0"



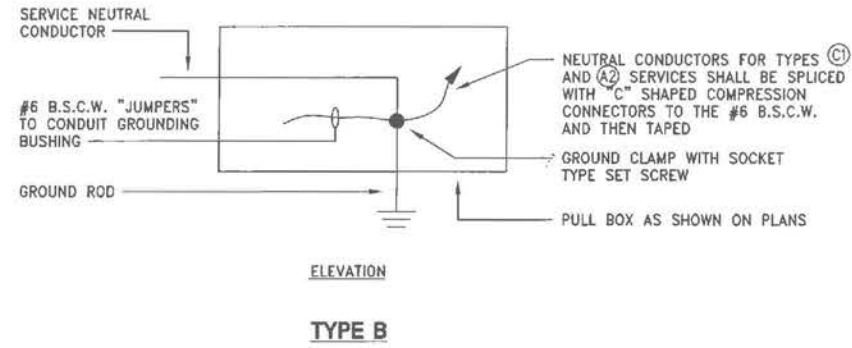
- SHEET NOTES**
- ① EXISTING ELECTRICAL OVERHEAD TO BE REMOVED.
 - ② TWO 4" CONDUITS FOR PG&E.
 - ③ TWO 4" CONDUIT FOR AT&T.
 - ④ ONE 4" CONDUIT FOR COMCAST.

- EQUIPMENT NOTES (TYPICAL FOR E3.1 THRU E3.7)**
- ① 3'W x 5'L x 3'-6"D VAULT FOR PG&E (025601).
 - ② 30"W x 48"L x 36"D VAULT FOR AT&T (PTS3048)
 - ③ 30-1/4"W x 48-1/4"L x 14"D, HIGH DENSITY REINFORCED CONCRETE PULL BOX FOR COMCAST.

PARTIAL JOINT TRENCH SITE PLAN		BLOCK 1 MISSION BAY PROJECT, SAN FRANCISCO, CA	
DATE		DESCRIPTION	
SUBMITTAL		SUBMITTAL	
DATE		DESCRIPTION	
FOCIL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER			
Freyer & Lareta, Inc. civil engineers • surveyors • construction managers 144 North San Mateo Drive • San Mateo, CA 94401 (650)334-9920 • www.freyerandlaretainc.com			
F.W. A SOCIATES, INC. CONSULTING ENGINEERS 68-1ST STREET, SUITE 300, SE, OAKLAND, CA 94612 PHONE: (415) 291-2028 FAX: (415) 291-0793			
DATE: 08/09/14	DESIGNED: EW	DRAWN: RE	CHECKED: XXX
PROJECT: EW	SCALE: 1"=20'-0"	SHEET IS ONE INCH OR ORIGINAL 0 = DIMENSIONS 1" = DIMENSIONS AS NOTED OTHERWISE	
REGISTERED PROFESSIONAL ENGINEER LINDA K. S. WONG No. 5042 Exp. 3-31-2016 STATE OF CALIFORNIA ELECTRICAL			
SHEET E3.2 JOB NO. 42045			



TYPE A



ELEVATION

TYPE B

SERVICE GROUNDING NOTES

1. THE SERVICE NEUTRAL CONDUCTOR SHALL BE CONTINUOUS FROM THE SERVICE CONNECTION TO THE GROUND STUD ON THE STANDARD OR GROUND ROD AS SHOWN IN THE TYPES OF SERVICE GROUND.
2. ALL STANDARDS SHALL HAVE GROUNDING STUDS OR LUGS FOR CONNECTION OF GROUNDING CONDUCTORS.
3. THE GROUND ROD SHALL BE A 3/4" x 10-FT. LONG COPPERCLAD STEEL GROUND ROD. THE GROUND ROD SHALL BE FURNISHED WITH ADDITIONAL APPROVED WIRE CONNECTORS WHERE REQUIRED.
4. B.S.C.W. DENOTES BARE STRANDED COPPER WIRE.

DETAIL

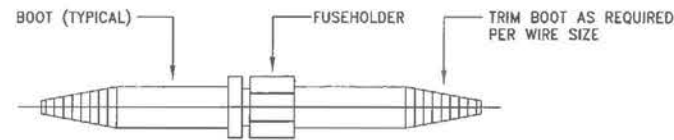
SERVICE GROUNDING PER CCSF PUBLIC WORK STANDARD PLANS AND SPECIFICATIONS

CIRCUIT PROTECTION REQUIREMENTS (UNLESS OTHERWISE NOTED)							
MAIN FUSE				BRANCH CIRCUITS			
TYPE OF SERVICE	SERVICE CONDUIT	EACH "FEEDER" CONDUCTOR	TOTAL LOAD CURRENT EACH "FEEDER"	MAIN FUSE (CURRENT RATING)	WATTAGE OF LUMINAIRE	ENERGIZING VOLTAGE OF LUMINAIRE	CURRENT RATING OF FUSE (ALL FUSES SHALL BE RATED 600 VOLTS, 10,000 A.I.C.)
A1,A2 B1,B2	1 1/2"	#8	-	NONE REQ'D	100	120 240	10 10
C1,C2 D1,D2 C3	1 1/2"	#8	15A *	30	150 OR 200	120 240	10 10
C1,C2 D1,D2 C3	1 1/2"	#6 **	15A-30A *	60	250	120 240	15 10
					400	120 240	20 10
					700	120 240	30 15
					1000	120 240	50 25

* SEE NOTE 4 AT RIGHT
 ** FUSE HOLDERS FOR SERVICE FUSES SHALL BE FURNISHED WITH "BREAKAWAY" FEATURE.
 A 3-POLE SIMULTANEOUS DISCONNECTING FUSE HOLDER SHALL BE FURNISHED WITH "MAIN" FUSES FOR 3φ CIRCUITS.
 2#8 CONDUCTOR "TAPS" REQUIRED FOR EACH LUMINAIRE.

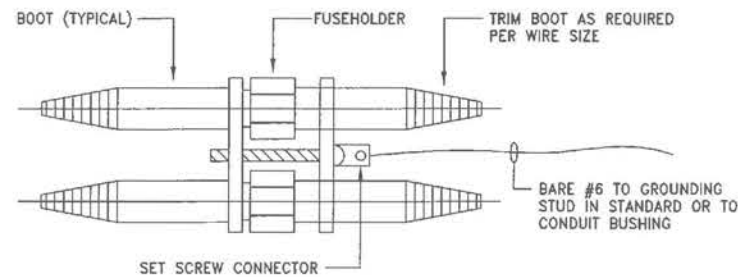
GENERAL NOTE

REFER TO PWSP FILE 49,092 FOR PARTICULARS REGARDING STREET LIGHT SERVICE CIRCUIT REQUIREMENTS.



1-POLE WATERPROOF FUSEHOLDER

(FOR EACH UNDERGROUND CONDUCTOR IN TYPES A1, A2, C1, C2, D1 AND D2 SERVICES AND FOR EACH LOAD CONNECTED FOR 120-VOLT, 2-WIRE, 1φ OPERATION OR FOR 240-VOLTS, 2 WIRE, 1φ OPERATION AND HAVING A GROUNDED CONDUCTOR)



2-POLE SIMULTANEOUS DISCONNECTING WATER PROOF FUSEHOLDER

(FOR UNDERGROUND CONDUCTORS IN TYPES B1, B2 AND C3 SERVICES AND FOR EACH LOAD CONNECTED TO THE TWO (2) UNGROUNDED CONDUCTORS ENERGIZED BY A 240-VOLT, 2-WIRE, 1φ SOURCE)

DETAIL PER CCSF PUBLIC WORK STANDARD PLANS AND SPECIFICATIONS

"MAIN", "FEEDER", AND BRANCH FUSEHOLDER NOTES

1. PROVIDE FUSEHOLDERS FOR FUSES AS SHOWN IN THE APPLICABLE DETAILS AND IN ACCORDANCE WITH CITY STANDARD PLANS AND THE SCHEDULE AS SHOWN ON THIS PLAN.
2. CONNECTING SLEEVES SHALL BE OF THE APPROPRIATE SIZE FOR THE CONDUCTORS SHOWN ON THE PLANS.
3. FUSEHOLDERS SHALL BE INSTALLED AS FOLLOWS (UNLESS OTHERWISE NOTED OR SPECIFIED):
 A. "MAINS" AND INDIVIDUALLY SERVED STREET LIGHTS LOCATED LESS THAN 35-FT. FROM SERVICE LOCATION: IN PULL BOX NEAREST SERVICE BOX.
 B. BRANCHES AND INDIVIDUALLY SERVED STREET LIGHTS LOCATED MORE THAN 35-FT. FROM SERVICE LOCATION: IN PULL BOX NEAREST STREET LIGHT STANDARD.
4. MAIN FUSES SHALL NOT BE LESS THAN TWO TIMES LINE CURRENT, NOR LESS THAN TWO TIMES THE LARGEST BRANCH FUSE SIZE.



DETAILS
BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION	DATE
09/09/14	100% SUBMITTAL	
10/08/14	100% SUBMITTAL	

FOCIL-MB, LLC
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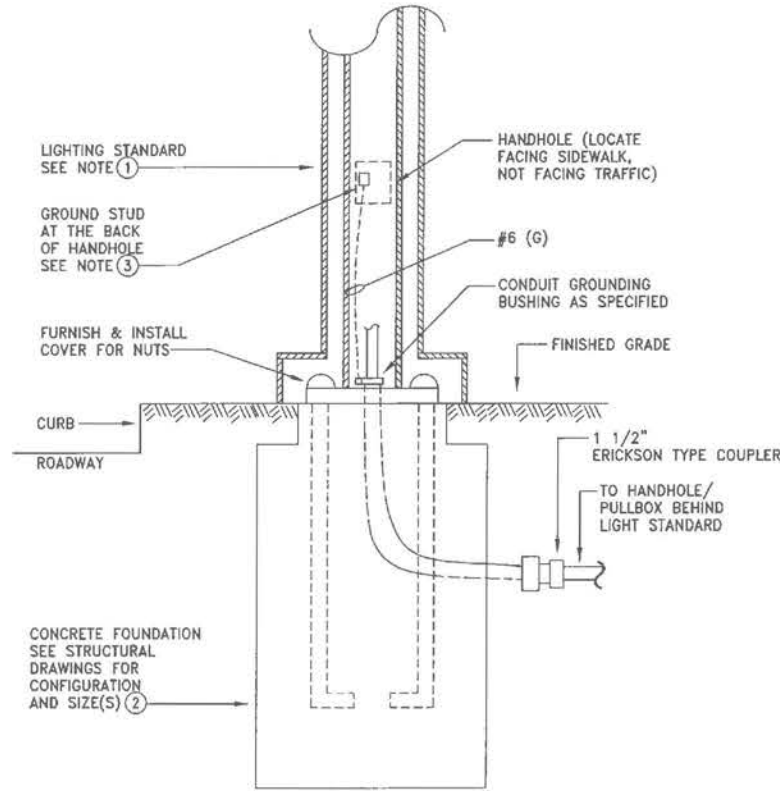
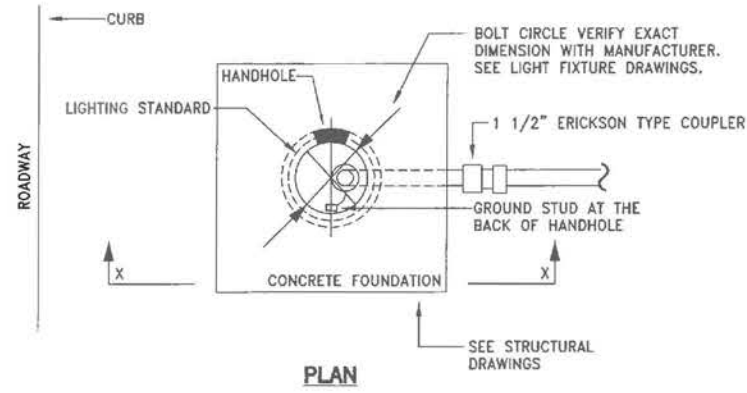
F.W. ASSOCIATES, INC.
CONSULTING ENGINEERS
86-12th STREET, SUITE 300, SF, CA 94103-1242
PHONE: (415) 861-0266 FAX: (415) 861-0191

F&L
SUBCONSULTANT

DATE: 08/09/14	DESIGNED: SW	RE: XXX
DRAWN: RE	CHECKED: XXX	PROJ. ENGR: EW
SCALE: NONE	BAR IS ONE INCH OR ORIGINAL IF NOT ONE INCH ON THIS SHEET, AUDIT SCALE ACCORDINGLY	

SHEET
E4.1

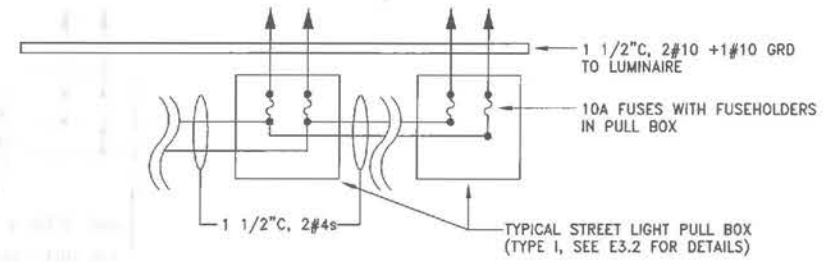
JOB NO.
42045



ELEVATION X - X
STREET LIGHT IN SIDEWALK AREA
DETAIL

SHEET NOTES FOR LIGHT POLES

- ① SEE LANDSCAPE DRAWING FOR LIGHT POLE LOCATION
- ② SEE STRUCTURAL DRAWINGS FOR FOUNDATION DETAIL.
- ③ GROUND STUD (WELDED TO INTERIOR SURFACE OF SHAFT OPPOSITE DOOR OPENING). STUD SHALL BE 1/4"x20 (CONTINUOUSLY THREADED) X 3/4" LONG & SHALL BE FURNISHED WITH A TYPE 316 STAINLESS STEEL NUT & A STAINLESS STEEL SHAKEPROOF WASHER.



INDICATES EXISTING
INDICATES NEW

① E3.1 TYPICAL SERVICE, "MAIN", "FEEDER" AND BRANCH CIRCUIT DIAGRAM FOR STREET LIGHTING

NOTE: PROVIDE PULL BOX BEHIND EACH LIGHT STANDARD AT PROPERTY SIDE AS SHOWN ON PLANS. ALL WIRING SHOULD PASS THROUGH THE PULL BOXES BEFORE ENTERING THE BASES OF THE LIGHT POLES. PROVIDE #6 BARE COPPER GROUND WIRE TO BOND ALL CONDUIT GROUNDING BUSHINGS TO MAINTAIN THE CONTINUITY OF THE GROUNDING SYSTEM. GROUND ALL LIGHT STANDARDS WITH #6 BARE COPPER GROUND WIRE.



DATE:	08/09/14	DESIGNED:	EW	DRAWN:	RE	CHECKED:	XXX	PROJ. ENGR:	EW	SCALE:	NONE	BAR IS ONE INCH ON ORIGINAL	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.
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E4.2													
JOB NO.													
42045													

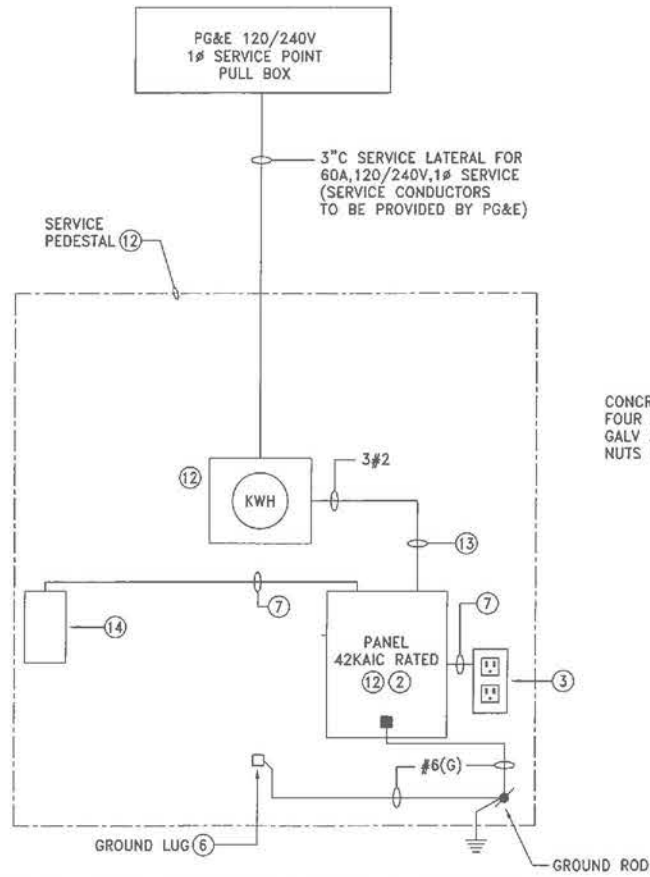
DATE:		DESCRIPTION:	
08/09/14	10/09/14	02	DATE

Freyer & Laureta, Inc. civil engineers • surveyors • construction managers 144 North San Mateo Drive • San Mateo, CA 94407 (650)344-9901 • Fax (650)344-9920 • www.freyerlaureta.com	F.W. ASSOCIATES, INC. CONSULTING ENGINEERS 85-12TH STREET, SUITE 300, SF, CA 94103-1243 PHONE: (415) 851-0266 FAX: (415) 851-0791	FOCIL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER
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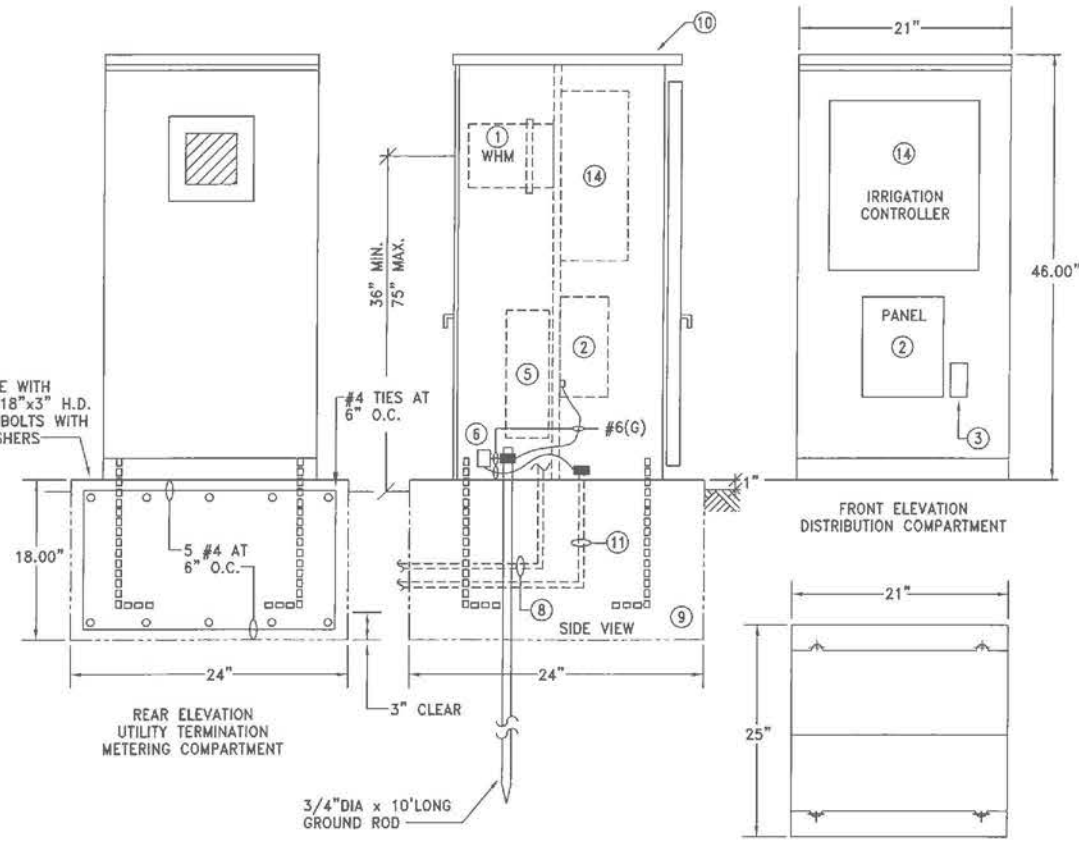
FSL SUBCONSULTANT

MISSION BAY PROJECT, SAN FRANCISCO, CA
BLOCK 1

DETAILS



SINGLE LINE DIAGRAM FOR SERVICE PEDESTAL
NOT TO SCALE



IRRIGATION SERVICE PEDESTAL ELEVATION DETAIL
NOT TO SCALE

PANEL SCHEDULE FOR TYPICAL IRRIGATION SERVICE PEDESTAL									
LOAD SERVED	LOAD		BREAKER		Poles	P. No	BREAKER		LOAD SERVED
	WATTS	TRIP	TRIP	POLES			P. No	WATTS	
IRRIGATION CONTROL PANEL	500	20	1	1	2	1	20		SPARE
RECEPTACLE	180	20	1	3	4	1	20		
SPARE				5	6	1	20		
SPACE				7	8	1	20		
				9	10				SPACE
				11	12				
BUS SIZE: 100A		TOTAL WATTS: 680W							
SERVICE: 120/240V, 1φ + GROUND		TOTAL AMPS: 4A							
MAIN CIRCUIT BREAKER: 60A/2P		42 KAC							

SERVICE PEDESTAL DETAIL NOTES:

- ① 120/240V, 1φ, 3W + G, 100A RATED KILOWATT HOUR ELECTRICAL METER SOCKET WITH TERMINATION LUGS TO COMPLY WITH PG&E'S REGULATION.
- ② 120/240V, 1φ, 100A, 3W + GROUND POWER PANEL. ALL CIRCUIT BREAKERS AND PANEL SHALL HAVE 42,000 AMPERE MINIMUM RMS SHORT CIRCUIT RATING. ALL CIRCUIT BREAKERS SHALL MOLDED CASE BOLT-ON TYPE. PANELBOARD BUSING SHALL BE COPPER. PROVIDE PANEL CIRCUIT DIRECTORY. SEE PANEL SCHEDULES.
- ③ 120V, 20A, GFCI DUPLEX RECEPTACLE TO PROVIDE AND PREWIRED BY PEDESTAL MANUFACTURER.
- ④ NOT USED
- ⑤ SERVICE TERMINATION BOX TO COMPLY WITH PG&E AND LOCAL REGULATIONS.
- ⑥ FACTORY INSTALLED GROUNDING LUG FOR PEDESTAL GROUNDING. PROVIDE #6 BARE COPPER GROUND CONDUCTOR TO GROUND PEDESTAL.
- ⑦ 2#12 AND 1#12 (G), 20A 120V POWER.
- ⑧ INCOMING SERVICE FROM PG&E SERVICE CONNECTION BOX.
- ⑨ PROVIDE CONCRETE FOOTING AND ANCHORING TO COMPLY WITH TITLE 24 SEISMIC REQUIREMENTS.
- ⑩ TESCO FLEX PEDESTAL 24-200 LB SERIES OR APPROVED EQUAL. SUBMIT 7 COPIES OF SHOP DRAWINGS FOR REVIEW.
- ⑪ IRRIGATION SYSTEM CIRCUITS. SEE LANDSCAPE DRAWINGS.
- ⑫ EQUIPMENT TO BE PROVIDED BY SERVICE PEDESTAL MANUFACTURER.
- ⑬ PREWIRED BY SERVICE PEDESTAL MANUFACTURER.
- ⑭ IRRIGATION CONTROL PANEL TO BE PROVIDED BY IRRIGATION CONTRACTOR. SEE LANDSCAPE DRAWINGS.

CABINET FABRICATION:

- MAXIMUM EXTERNAL DIMENSIONS: 21"WIDEx46"HIGHx25"DEEP MINIMUM OPENING TO CONTROL SECTION 20"Wx38"H.
- CABINET SHALL BE FABRICATED FROM 12 GAUGE HOT DIPPED GALVANIZED STEEL.
- INTERNAL PARTS SHALL BE FABRICATED FROM 14 GAUGE COLD ROLLED STEEL. PROVIDE ALL STRUCTURAL SUPPORT MEMBERS AND HARDWARE TO SECURE METER SOCKET, PANEL, TIME CLOCK AND IRRIGATION CONTROLLER TO CONFORM TO TITLE 24.
- CABINET SHALL BE ALL WELDED CONSTRUCTION WITH WELDING MATERIALS SPECIFICALLY DESIGNED FOR THE MATERIAL USED.
- ALL FASTENERS, LATCHES, AND HARDWARE SHALL BE OF STAINLESS STEEL AND ALL HINGES SHALL BE CONTINUOUS PIANO STYLE.
- THERE SHALL BE NO EXPOSED NUTS, BOLTS, SCREWS, RIVETS, OR OTHER FASTENERS ON THE EXTERIOR.
- REMOVABLE BACKPAN SHALL BE MOUNTED ON 4 WELDED 1/4"-20 THREADED STUDS.
- CABINET DOORS SHALL HAVE 2,000 LB. STRESS RATED HASP. WELDED TO THE CABINET AND DOOR. ALL DOOR SHALL BE PADLOCKABLE.
- CABINET SHALL HAVE FULLY FRAMED SIDE HINGED OUTER DOORS WITH SWAGGED CLOSE TOLERANCE SIDES FOR FLUSH FIT WITH TOP DRIP LIP.
- FINISH: FIVE STAGES TESCO POLY-PORC COATING WITH MISSION BAY GREY COLOR. SEE SPECIFICATION 09900.
- NEMA 3R WEATHERPROOF ENCLOSURE UL LISTED.

DEADFRONT SAFETY DOOR:

- DISTRIBUTION AND CONTROL PANEL SHALL HAVE A HINGED DEADFRONT PANEL WITH 1/4 TURN LATCH AND KNURLED KNOBS.
 - DEADFRONT SHALL BE HINGED ON THE SAME SIDE AS THE FRONT DOOR AND SHALL OPEN A MINIMUM OF 90°.
- NAMEPLATES AND DRAWINGS:**
- THE FUNCTION OF ALL CIRCUIT BREAKERS AND SWITCHES SHALL BE IDENTIFIED BY LAMINATED ENGRAVED PLASTIC NAMEPLATES WITH MINIMUM OF TWO #4-40 X 1/4" LONG MACHINE SCREWS. IDENTIFY SERVICE PEDESTAL WITH NAMEPLATE: "IRRIGATION SERVICE PEDESTAL "PNSN", "PNSS" AND KWH METER"
 - WIRING SCHEMATICS SHALL BE COMPUTER AIDED DRAFTING AND INCLUDE ALL EXTERNAL EQUIPMENT AND CONNECTIONS PER NEMA IIB.
 - AS BUILT FACTORY DRAWINGS SHALL BE ENCLOSED IN CLEAR PLASTIC AND HELD INSIDE THE OUTER DOOR BY WELDED HOOKS.

CERTIFICATION:

- MANUFACTURERS WILL BE REQUIRED TO FURNISH INDEPENDENT LABORATORY CERTIFICATION OF METAL PREPARATION AND FINISH AND WILL CONFIRM THAT THE OVERALL PRODUCT MEETS THESE SPECIFICATIONS.



DETAILS + DIAGRAMS

BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION	DATE
06/09/14		
10/09/14		
10/21/14		

75% SUBMITTAL
80% SUBMITTAL
100% SUBMITTAL

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

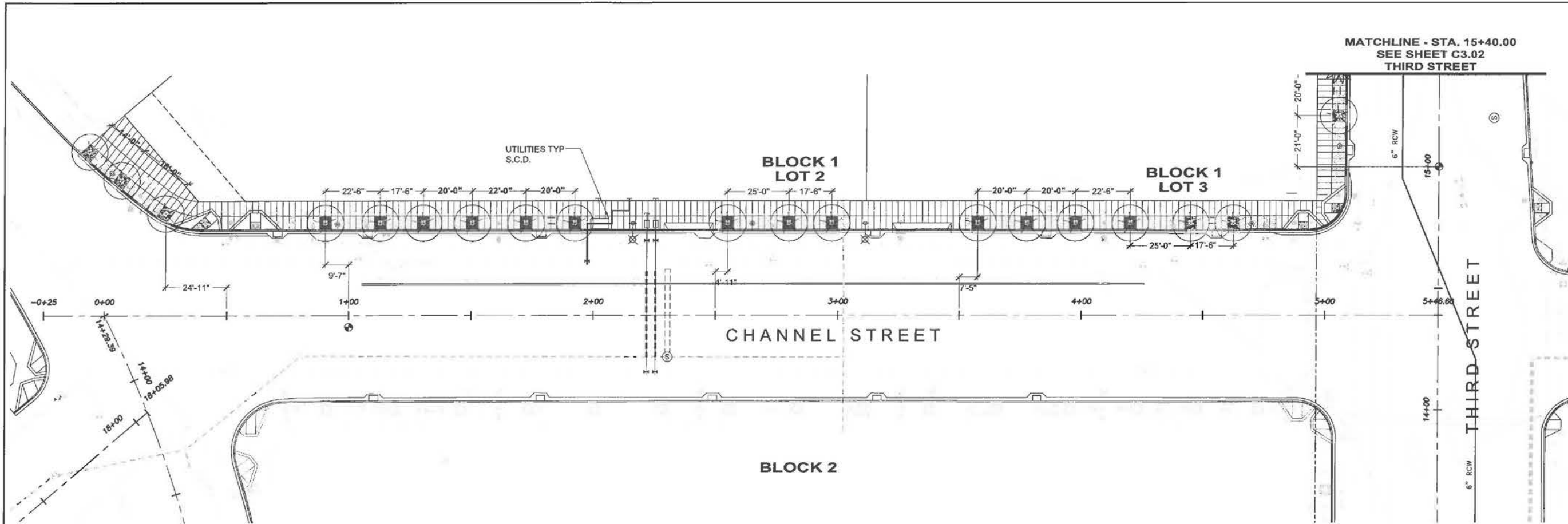
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DESIGNED: EW
DRAWN: RB
CHECKED: XXX
PROJ. ENGR: EW
SCALE: NONE
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

SHEET
E5.1

JOB NO.
42045



LANDSCAPE LAYOUT PLAN
CHANNEL
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

NO.	REVISION	DATE

GENERAL NOTES

- DO NOT SCALE OFF DRAWINGS, USE DRAWING DIMENSIONS ONLY. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. BRING TO THE ATTENTION OF OWNER DISCREPANCIES BETWEEN FIELD CONDITIONS AND DRAWINGS PRIOR TO BEGINNING OF WORK. FIELD CONDITION DISCREPANCIES SHALL NOT BE USED AS THE BASIS FOR CHANGE ORDER CLAIMS ONCE WORK HAS BEGUN.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK.
- PRESERVE AND PROTECT ALL EXISTING STRUCTURES, FURNISHINGS, SURFACE MATERIALS, ABOVE- AND BELOW-GRADE UTILITIES, FOOTINGS AND VEGETATION SLATED TO REMAIN WITHIN AND ADJACENT TO CONTRACT LIMIT LINE DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. EXISTING BELOW-GRADE UTILITIES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM TRUCK AND OTHER TRAFFIC BY STEEL PLATES.
- THE EXISTENCE AND LOCATION OF EACH AND EVERY UNDERGROUND UTILITY IS NOT GUARANTEED, AND UNDOCUMENTED CONDITIONS MAY EXIST. COORDINATE WITH UTILITY OWNERS FOR LOCATIONS OF UTILITIES NOT SHOWN ON THE BASE DRAWING INCLUDING, BUT NOT LIMITED TO, HIGH VOLTAGE ELECTRIC, ABANDONED STEAM LINES, ABANDONED WATER LINES, TELEPHONE, CABLE, ETC. STAKE OUT LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK.
- MAINTAIN VEHICULAR TRAFFIC FLOW TO AND AROUND THE SITE. MAINTAIN CLEARLY MARKED PEDESTRIAN ACCESS TO AREAS ON-SITE NOT AFFECTED BY CONSTRUCTION ACTIVITIES.

LAYOUT NOTES

- VERIFY LOCATION OF ALL BUILDINGS, WALLS, ROADS AND CURBS AFFECTING LANDSCAPE SCOPE OF WORK WITH EXISTING CONDITIONS AND CIVIL ENGINEER'S DRAWING.
- VERIFY LOCATION OF ALL VAULTS, ELECTRICAL DUCT BANKS, MANHOLES, CONDUIT AND PIPING, DRAINAGE STRUCTURES AND OTHER UTILITIES WITH EXISTING CONDITIONS AND WITH THE APPROPRIATE ENGINEERING DRAWINGS.
- TAKE ALL DIMENSIONS FROM FACE OF CURB, WALL OR BUILDING OR TO CENTERLINE OF TREES UNLESS OTHERWISE NOTED. ALL DIMENSIONS CALLED OUT AS "EQUAL" ARE EQUIDISTANT MEASUREMENTS TO DESIGNATED CENTERLINE(S).
- TAKE ALL DIMENSIONS PERPENDICULAR TO ANY REFERENCE LINE, WORK LINE, FACE OF BUILDING, FACE OF WALL, OR CENTERLINE.
- MAINTAIN HORIZONTAL ALIGNMENT OF ADJACENT ELEMENTS AS NOTED ON THE DRAWINGS.
- REFERENCE TO NORTH REFERS TO TRUE NORTH. REFERENCE TO SCALE IS FOR FULL-SIZED DRAWINGS ONLY. DO NOT SCALE FROM REDUCED DRAWINGS.
- DIMENSIONS TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS.
- NOTES AND DETAILS ON SPECIFIC DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- WHERE NOT SHOWN ON LANDSCAPE DRAWINGS, SEE CIVIL ENGINEER'S DRAWINGS FOR ROADWAY CENTERLINES, BUILDING SETBACKS AND BENCH MARKS.
- REFER TO APPROPRIATE DRAWINGS FOR LAYOUT INFORMATION, UTILITY COORDINATION, GRADING, DRAINAGE, IRRIGATION, PLANTING, ETC.
- PLACE VAULTS AS CLOSE AS POSSIBLE TO LOCATIONS AS SHOWN ON DRAWINGS. ALIGN PARALLEL AND PERPENDICULAR TO SCORE JOINTS.
- CONTRACTOR SHALL ADJUST ALL UTILITY STRUCTURES AS REQUIRED TO MEET PROPOSED GRADES, INCLUDING DRAIN INLETS, MANHOLES AND LIGHT POLE BASES. CONTRACTOR SHALL MEET EXISTING GRADES AT ALL EDGES OF CONTRACT LIMIT LINE.

BLOCK 2

- ADJUST LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES, STRUCTURES, ETC. TO MATCH GRADE.
- CLEAN DEBRIS FROM PUBLIC AREAS ON A DAILY BASIS. OWNER HAS THE RIGHT TO HAVE SITE CLEANED, AT CONTRACTOR'S EXPENSE, IF CONTRACTOR FAILS TO COMPLY. ALL PROJECT GENERATED DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED OF ACCORDING TO ALL APPLICABLE REGULATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY MEASURES TO PREVENT SOIL EROSION. APPROVED SOIL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE INSTALLED BEFORE SITE CLEARING AND SITE GRADING OPERATIONS BEGIN.

VAULT COVER LEGEND

DT	L-2457 CAST IRON AVC BY D&L FOUNDRY "DTIS"(26 $\frac{3}{8}$ " X 39 $\frac{1}{2}$ ")	PGE	PGE (5'-6" X 9'-6") 043371
DP	L-2457 CAST IRON AVC BY D&L FOUNDRY "TRAFFIC SIGNALS" (26 $\frac{3}{8}$ " X 39 $\frac{1}{2}$ ")	PGE TR	PGE POWER (17"X30") 043464
CDX I	L-2457 CAST IRON AVC BY D&L FOUNDRY "CDX II" (26 $\frac{3}{8}$ " X 39 $\frac{1}{2}$ ")	PGE TR	"PG&E TRANSFORMER" (3'-9" X 5'-9") 025597
CDX II	L-2457 CAST IRON AVC BY D&L FOUNDRY "CDX I" (26 $\frac{3}{8}$ " X 39 $\frac{1}{2}$ ")	G	L-2459 BY D&L FOUNDRY"SFWD-RCW-GV" (ENCLOSED IN TRIANGLE) (16X16")
MUN	L-2457 CAST IRON AVC BY D&L FOUNDRY "MUN" (26 $\frac{3}{8}$ " X 39 $\frac{1}{2}$ ")	WM	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER" (21.5 X 33.5)
PGE PWR	UTILITY VAULT 02-5601 "PG&E POWER"	WS	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER"
PGE TR	UTILITY VAULT 04-3371 "PG&E TRANSFORMER"	WS	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER"
AT&T	UTILITY VAULT PTS 3672	C	UTILITY VAULT "COMCAST" (30X48")
AT-T	AT&T UTILITY VAULT 30"X48" (04-3728) "AT&T"	IR	IRRIGATION CONTROL PEDESTAL
		IR	IRRIGATION REMOTE CONTROL VALVE
		SB	STREETLIGHT PULLBOX L-2458 CAST IRON 21"x31" BY D&L FOUNDRY

LAYOUT LEGEND

—	BICYCLE STAND (5, 8) (5.1, 5.1)	■	TREE WELL, GRANITE SETS (4) (5.1)
⊙	TRASH RECEPTACLE (7) (5.1)	⊙	STREET LIGHT
□	PALM TREE WELL, CRUSHED GRANITE (2) (5.2)	▬	STRUCTURAL SOIL (1) (5.2)
⊕	HYDRANT, SEE CIVIL DRAWINGS	▬	CONCRETE SCORE LINES (2,3) (5.1)

PROGRESS SET
 NOT FOR CONSTRUCTION

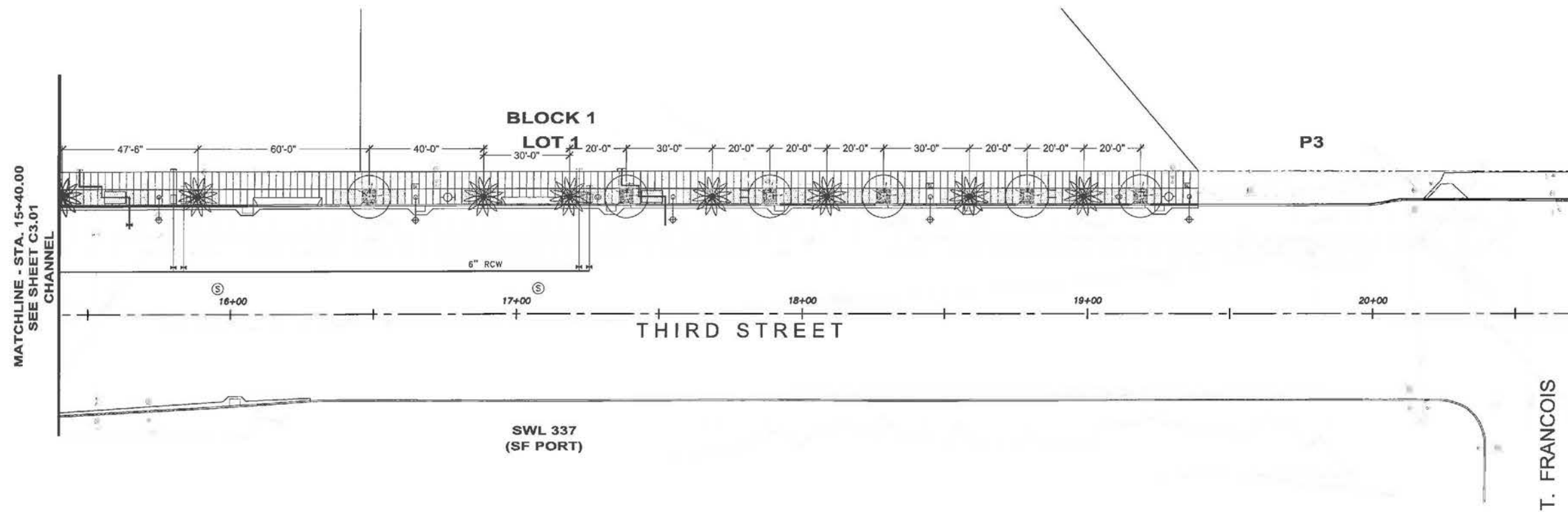


FOOL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

LAURETA, INC.
 1175 FOLSOM STREET
 SAN FRANCISCO, CA 94103
 415.431.0394
 415.431.0366 FAX

DATE: 09/09/14
 DRAWN: JZF
 CHECKED: BFL
 PROJ. ENGINEER: BFL
 SCALE: AS SHOWN
 BAR IS ONE INCH ON ORIGINAL
 IF ONE INCH ON THIS SHEET
 ADJUST SCALE ACCORDINGLY

SHEET
L1.1
JOB NO.
42045



LANDSCAPE LAYOUT PLAN
THIRD STREET
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

NO.	DATE	DESCRIPTION

FOOL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DESIGN/CONSTRUCTION MANAGER

GENERAL NOTES

- DO NOT SCALE OFF DRAWINGS, USE DRAWING DIMENSIONS ONLY. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. BRING TO THE ATTENTION OF OWNER DISCREPANCIES BETWEEN FIELD CONDITIONS AND DRAWINGS PRIOR TO BEGINNING OF WORK. FIELD CONDITION DISCREPANCIES SHALL NOT BE USED AS THE BASIS FOR CHANGE ORDER CLAIMS ONCE WORK HAS BEGUN.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK.
- PRESERVE AND PROTECT ALL EXISTING STRUCTURES, FURNISHINGS, SURFACE MATERIALS, ABOVE- AND BELOW-GRADE UTILITIES, FOOTINGS AND VEGETATION SLATED TO REMAIN WITHIN AND ADJACENT TO CONTRACT LIMIT LINE DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. EXISTING BELOW-GRADE UTILITIES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM TRUCK AND OTHER TRAFFIC BY STEEL PLATES.
- THE EXISTENCE AND LOCATION OF EACH AND EVERY UNDERGROUND UTILITY IS NOT GUARANTEED, AND UNDOCUMENTED CONDITIONS MAY EXIST. COORDINATE WITH UTILITY OWNERS FOR LOCATIONS OF UTILITIES NOT SHOWN ON THE BASE DRAWING INCLUDING, BUT NOT LIMITED TO, HIGH VOLTAGE ELECTRIC, ABANDONED STEAM LINES, ABANDONED WATER LINES, TELEPHONE, CABLE, ETC. STAKE OUT LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK.
- MAINTAIN VEHICULAR TRAFFIC FLOW TO AND AROUND THE SITE. MAINTAIN CLEARLY MARKED PEDESTRIAN ACCESS TO AREAS ON-SITE NOT AFFECTED BY CONSTRUCTION ACTIVITIES.

LAYOUT NOTES

- VERIFY LOCATION OF ALL BUILDINGS, WALLS, ROADS AND CURBS AFFECTING LANDSCAPE SCOPE OF WORK WITH EXISTING CONDITIONS AND CIVIL ENGINEER'S DRAWING.
- VERIFY LOCATION OF ALL VAULTS, ELECTRICAL DUCT BANKS, MANHOLES, CONDUIT AND PIPING, DRAINAGE STRUCTURES AND OTHER UTILITIES WITH EXISTING CONDITIONS AND WITH THE APPROPRIATE ENGINEERING DRAWINGS.
- TAKE ALL DIMENSIONS FROM FACE OF CURB, WALL OR BUILDING OR TO CENTERLINE OF TREES UNLESS OTHERWISE NOTED. ALL DIMENSIONS CALLED OUT AS "EQUAL" ARE EQUIDISTANT MEASUREMENTS TO DESIGNATED CENTERLINE(S).
- TAKE ALL DIMENSIONS PERPENDICULAR TO ANY REFERENCE LINE, WORK LINE, FACE OF BUILDING, FACE OF WALL, OR CENTERLINE.
- MAINTAIN HORIZONTAL ALIGNMENT OF ADJACENT ELEMENTS AS NOTED ON THE DRAWINGS.
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LAYOUT LEGEND

—	BICYCLE STAND	(5/5.1)	□	TREE WELL, GRANITE SETS	(4.8/5.1)
⊙	TRASH RECEPTACLE	(7/5.1)	⊙	STREET LIGHT	
⊠	PALM TREE WELL, CRUSHED GRANITE	(2/5.2)	▭	STRUCTURAL SOIL	(1/5.2)
⊕	HYDRANT, SEE CIVIL DRAWINGS		▭	CONCRETE SCORE LINES	(2.3/5.1)

VAULT COVER LEGEND

DT	L-2457 CAST IRON AVC BY D&L FOUNDRY "DTIS" (26 ⁷ / ₈ " X 39 ¹ / ₂ ")	PGE	PGE (5'-6" X 9'-6") 043371
DP	L-2457 CAST IRON AVC BY D&L FOUNDRY "TRAFFIC SIGNALS" (26 ⁷ / ₈ " X 39 ¹ / ₂ ")	PGE TR	PGE POWER (17"X30") 043464
EDA	L-2457 CAST IRON AVC BY D&L FOUNDRY "CDX II" (26 ⁷ / ₈ " X 39 ¹ / ₂ ")	PG&E TR	"PG&E TRANSFORMER" (3'-9" X 5'-9") 025597
EDX I	L-2457 CAST IRON AVC BY D&L FOUNDRY "CDX I" (26 ⁷ / ₈ " X 39 ¹ / ₂ ")	TR	L-2459 BY D&L FOUNDRY "SFWD-RCW-GV" (ENCLOSED IN TRIANGLE) (16X16")
EM	L-2457 CAST IRON AVC BY D&L FOUNDRY "MUNI" (26 ⁷ / ₈ " X 39 ¹ / ₂ ")	WM	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER" (21.5 X 33.5)
PGE PWR	UTILITY VAULT 02-5601 "PG&E POWER"	W4	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER"
PGE TR	UTILITY VAULT 04-3371 "PG&E TRANSFORMER"	W5	L-2468 & L-2469 BY D&L FOUNDRY "WATER METER"
AT&T	UTILITY VAULT PTS 3672	C	UTILITY VAULT "COMCAST" (30X48")
AT-T	AT&T UTILITY VAULT 30"X48" (04-3728) "AT&T"	IP	IRRIGATION CONTROL PEDESTAL
		IR	IRRIGATION REMOTE CONTROL VALVE
		SL	STREETLIGHT PULLBOX L-2458 CAST IRON 21"X31" BY D&L FOUNDRY

PROGRESS SET:
 NOT FOR CONSTRUCTION



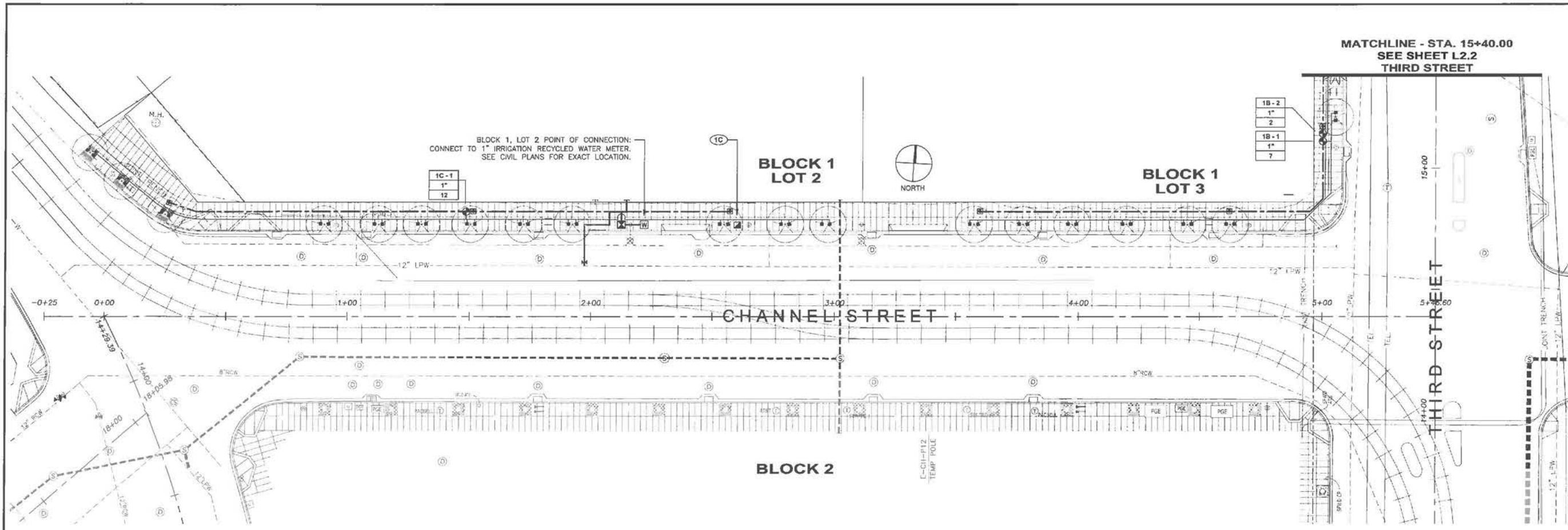
REVISIONS
 DATE: 08/09/14
 DESIGNED BY: JLF
 DRAWN BY: JLF
 CHECKED BY: JLF
 PROJECT: ENGR
 SCALE: AS SHOWN
 BAR IS ONE INCH ON ORIGINAL
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

FOOL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DESIGN/CONSTRUCTION MANAGER

LAURETA, INC.
DESIGNER
 201 E. COLLETTA - SUITE 2008 - SAN FRANCISCO, CA 94102
 144 North San Mateo Drive - San Mateo, CA 94401
 (650) 444-0051 • Fax: (650) 444-9925 • www.laureta.com

CLIFF LOWE
REGISTERED PROFESSIONAL ENGINEER
 1175 FOLSOM STREET
 SAN FRANCISCO, CA 94103
 415-431-0396
 415-931-0396 FAX

SHEET
L1.2
JOB NO.
42045



BLOCK 1, LOT 2 POINT OF CONNECTION:
CONNECT TO 1" IRRIGATION RECYCLED WATER METER.
SEE CIVIL PLANS FOR EXACT LOCATION.

MATCHLINE - STA. 15+40.00
SEE SHEET L2.2
THIRD STREET

IRRIGATION LEGEND

SYMBOL	MODEL	DESCRIPTION	PSI	GPM	RADIUS
■	1402	RAIN BIRD PRESSURE COMPENSATING BUBBLER INSTALL ON FLEX PVC RISER	30	0.5	--
□	1401	RAIN BIRD PRESSURE COMPENSATING BUBBLER INSTALL ON FLEX PVC RISER	30	0.25	--
■	ESP-BMC	RAIN BIRD CONTROLLER - WALL MOUNT			
■	975XLSE - 2" GS-2	WILKINS BACKFLOW PREVENTER, INSTALL IN GUARDSHACK ENCLOSURE			
⊕	2000 SERIES	GRISWOLD REMOTE CONTROL VALVE			
⊕	44NP	RAIN BIRD QUICK COUPLING VALVE			
⊕	--	IRRIGATION RECYCLED WATER METER, BY CIVIL - SIZE AS NOTED ON PLAN			

--- MAINLINE: SCH 40 GALVANIZED STEEL PIPE WITH GALVANIZED STEEL FITTINGS.
 ALL MAINLINE TO BE SIZE 2" UNLESS OTHERWISE NOTED ON PLAN.
 --- LATERAL LINE: SCH 40 PVC SOLVENT WELD PIPE WITH SCH 40 PVC
 SOLVENT WELD FITTINGS. LATERAL LINES TO BE SIZE 3/4" UNLESS
 OTHERWISE NOTED ON PLAN.

1B-1	CONTROLLER / STATION NUMBER
1"	REMOTE CONTROL VALVE SIZE
6	APPROXIMATE GPM THROUGH VALVE

(1B) CONTROLLER NUMBER

FOR IRRIGATION DETAILS, SEE SHEET L2.3

IRRIGATION NOTES

- IRRIGATION SYSTEM DEMAND IS 25 GPM AT 50 PSI MINIMUM STATIC PRESSURE AT EACH POINT OF CONNECTION. CONFIRM STATIC PRESSURE PRIOR TO START OF WORK. NOTIFY OWNER'S REPRESENTATIVE IF STATIC PRESSURE IS LOWER THAN STATED DEMAND. IF STATIC PRESSURE IS HIGHER THAN 65 PSI, INSTALL A WILKINS #600 PRESSURE REGULATOR DOWNSTREAM OF BACKFLOW PREVENTER. ADJUST OUTLET PRESSURE TO 50 PSI.
- IRRIGATION POINTS OF CONNECTION: CONNECT TO 2" STUB-OUTS PROVIDED AT RECYCLED WATER SERVICE METERS. SEE CIVIL PLANS FOR EXACT LOCATIONS AND COORDINATE WITH OTHER WORK AS REQUIRED. EXACT LOCATION OF BACKFLOW PREVENTERS TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- INSTALL IRRIGATION CONTROLLERS WITHIN SERVICE PEDESTALS AT LOCATIONS INDICATED ON PLAN. 120 VOLT A.C. ELECTRICAL SUPPLY IS PROVIDED FOR IN IMMEDIATE VICINITY BY ELECTRICAL SECTION OF CONTRACT. MAKE FINAL 120 VOLT ELECTRICAL CONNECTIONS USING EMT METAL CONDUIT. INSTALL AS DETAILED AND PER MANUFACTURER'S INSTRUCTIONS. GROUND CONTROLLER AND CONFORM TO APPLICABLE LOCAL CODES.
- THE IRRIGATION PLAN IS DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE COMPLETED. COORDINATE PIPE PLACEMENT WITH OTHER UTILITIES.
- LOCATE VALVE BOXES IN SIDEWALK PAVING ADJACENT TO TREE WELLS.
- INSTALL CHECK VALVES ON LATERAL LINES OR BUBBLER RISERS AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.
- INSTALL PIPE AND WIRE UNDER PAVING IN BED OF CLEAN SAND SURROUNDING PIPE 4" ON ALL SIDES.
- INSTALL LOW VOLTAGE VALVE CONTROL WIRING IN CONDUIT FROM CONTROLLERS TO MAINLINE TRENCH. DIRECT BURY WIRING WHERE INSTALLED IN MAINLINE TRENCH.

LANDSCAPE IRRIGATION PLAN
CHANNEL

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
08/09/14	75% SUBMITTAL
10/05/14	80% SUBMITTAL
10/18/14	100% SUBMITTAL

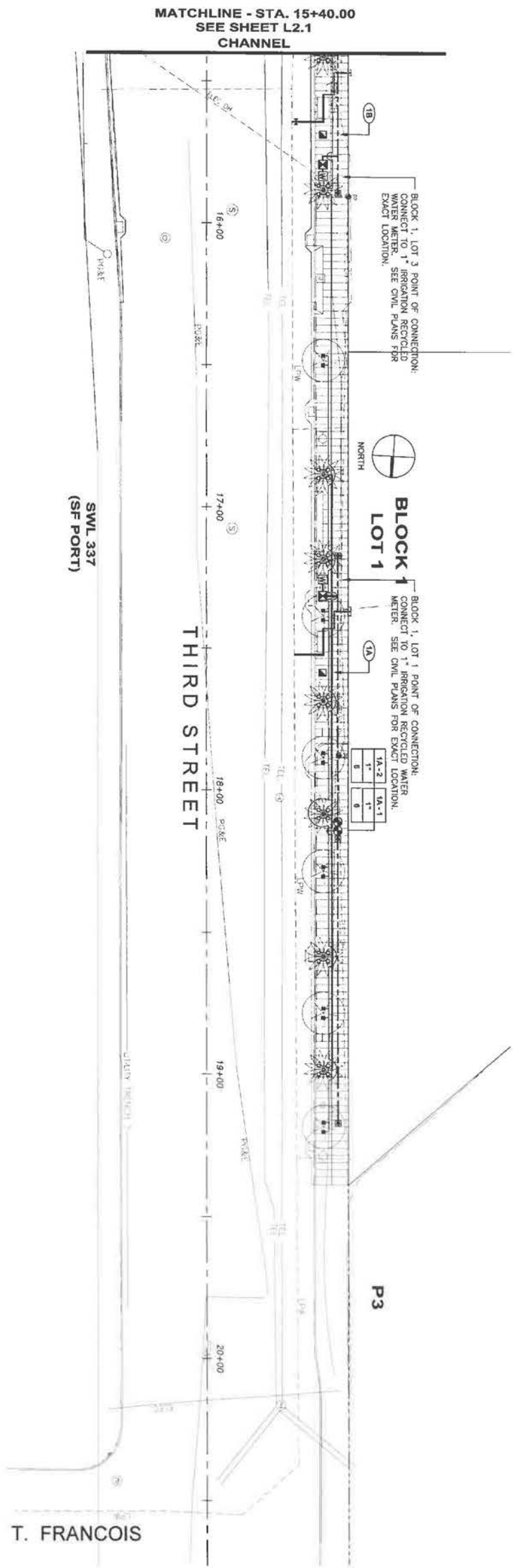
OWNER: **FOCIL-MB, LLC**
 Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

DESIGNER: **FREYER LAURETA, INC.**
 144 North San Mateo Drive • San Mateo, CA 94401
 (650)344-0001 • Fax: (650)344-0002 • www.freyerlaureta.com
 SUBCONSULTANT - IRRIGATION CONSULTANTS

DATE: 08/09/14
 DESIGNED BY: BT
 DRAWN BY: CF
 CHECKED BY: EIL
 PROJ. ENGR: EIL
 SCALE: 1" = 10' ON ORIGINAL
 BAR IS ONE INCH ON ORIGINAL
 IF NOT ONE INCH ON THIS SHEET,
 ADJUST SCALE APPROPRIATELY

SHEET
L2.1
 JOB NO.
42045





DATE: 08/09/14
 DESIGNED: BT
 DRAWN: BT
 CHECKED: CP
 PROJ. ENGR: RJL

SCALE:
 BAR IS ONE INCH ON ORIGINAL
 0 1"
 IF NOT ONE INCH ON THIS SHEET,
 ADJUST SCALE ACCORDINGLY

FREYER LAURETA, INC.
 CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
 144 North San Mateo Drive • San Mateo, CA 94401
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PGA design
 LANDSCAPE ARCHITECTS
 494 17th Street, Suite 200 • San Francisco, CA 94103
 T 415 461 1384
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CLIFF LOWE ASSOCIATES
 1775 FOLSOM STREET
 SAN FRANCISCO, CA 94110
 415.431.0394
 415.431.0396 FAX

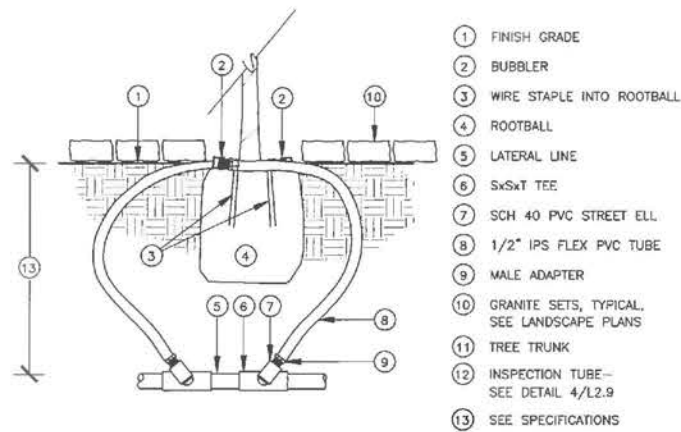
FOCIL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

DESCRIPTION	DATE
75% SUBMITTAL	08/09/14
90% SUBMITTAL	10/05/14
100% SUBMITTAL	12/19/14

LANDSCAPE IRRIGATION PLAN
THIRD STREET
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

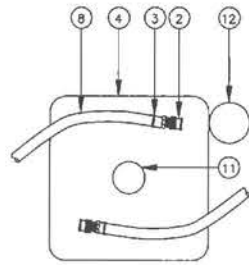
JOB NO.
42045

SHEET
L2.2



- 1 FINISH GRADE
- 2 BUBBLER
- 3 WIRE STAPLE INTO ROOTBALL
- 4 ROOTBALL
- 5 LATERAL LINE
- 6 SxSxT TEE
- 7 SCH 40 PVC STREET ELL
- 8 1/2" IPS FLEX PVC TUBE
- 9 MALE ADAPTER
- 10 GRANITE SETS, TYPICAL, SEE LANDSCAPE PLANS
- 11 TREE TRUNK
- 12 INSPECTION TUBE - SEE DETAIL 4/L2.9
- 13 SEE SPECIFICATIONS

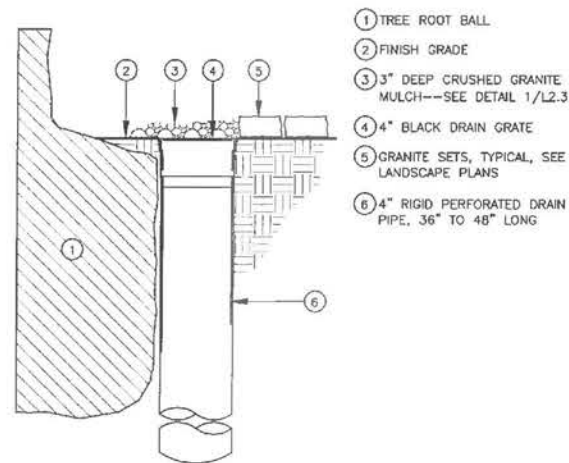
PROFILE



INSTALL BUBBLER ON TOP OF ROOTBALL, AWAY FROM ROOT CROWN. STAKE IN PLACE WITH WIRE STAPLE AND COVER WITH MULCH.

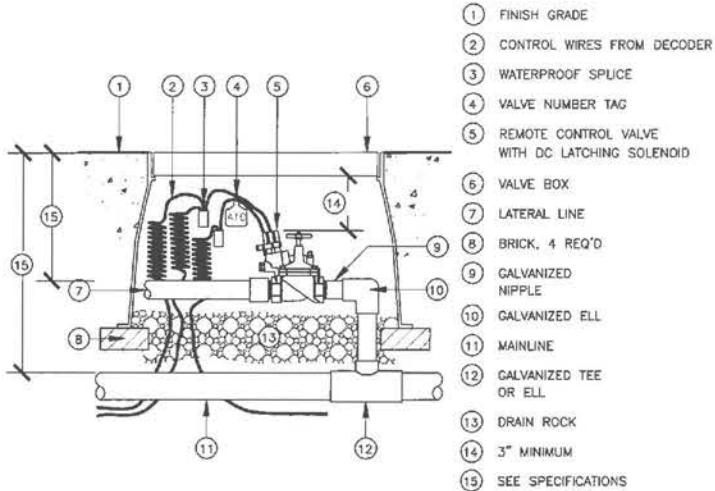
PLAN VIEW

1 BUBBLER ON FLEX RISER
SCALE: NTS



- 1 TREE ROOT BALL
- 2 FINISH GRADE
- 3 3" DEEP CRUSHED GRANITE MULCH--SEE DETAIL 1/L2.3
- 4 4" BLACK DRAIN GRATE
- 5 GRANITE SETS, TYPICAL, SEE LANDSCAPE PLANS
- 6 4" RIGID PERFORATED DRAIN PIPE, 36" TO 48" LONG

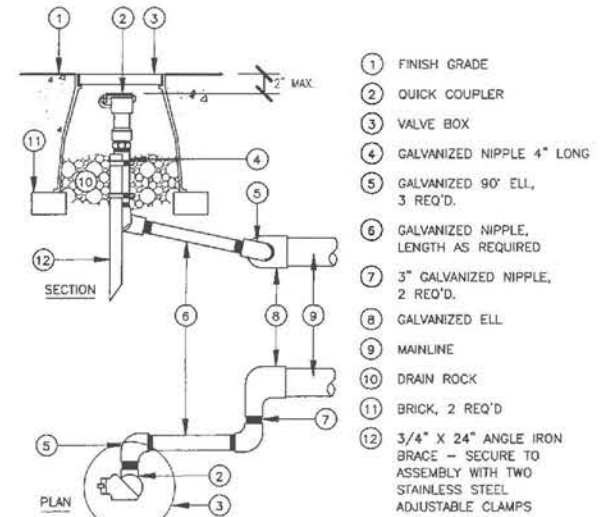
4 TREE INSPECTION TUBE
SCALE: NTS



- 1 FINISH GRADE
- 2 CONTROL WIRES FROM DECODER
- 3 WATERPROOF SPLICE
- 4 VALVE NUMBER TAG
- 5 REMOTE CONTROL VALVE WITH DC LATCHING SOLENOID
- 6 VALVE BOX
- 7 LATERAL LINE
- 8 BRICK, 4 REQ'D
- 9 GALVANIZED NIPPLE
- 10 GALVANIZED ELL
- 11 MAINLINE
- 12 GALVANIZED TEE OR ELL
- 13 DRAIN ROCK
- 14 3" MINIMUM
- 15 SEE SPECIFICATIONS

NOTE: WRAP FILTER FABRIC AROUND AND UNDER VALVE BOX PRIOR TO INSTALLATION OF DRAIN ROCK.

2 REMOTE CONTROL VALVE
SCALE: NTS



- 1 FINISH GRADE
- 2 QUICK COUPLER
- 3 VALVE BOX
- 4 GALVANIZED NIPPLE 4" LONG
- 5 GALVANIZED 90° ELL, 3 REQ'D
- 6 GALVANIZED NIPPLE, LENGTH AS REQUIRED
- 7 3" GALVANIZED NIPPLE, 2 REQ'D
- 8 GALVANIZED ELL
- 9 MAINLINE
- 10 DRAIN ROCK
- 11 BRICK, 2 REQ'D
- 12 3/4" X 24" ANGLE IRON BRACE - SECURE TO ASSEMBLY WITH TWO STAINLESS STEEL ADJUSTABLE CLAMPS

3 QUICK COUPLING VALVE
SCALE: NTS

IRRIGATION DETAILS

MISSION BAY PROJECT, SAN FRANCISCO, CA

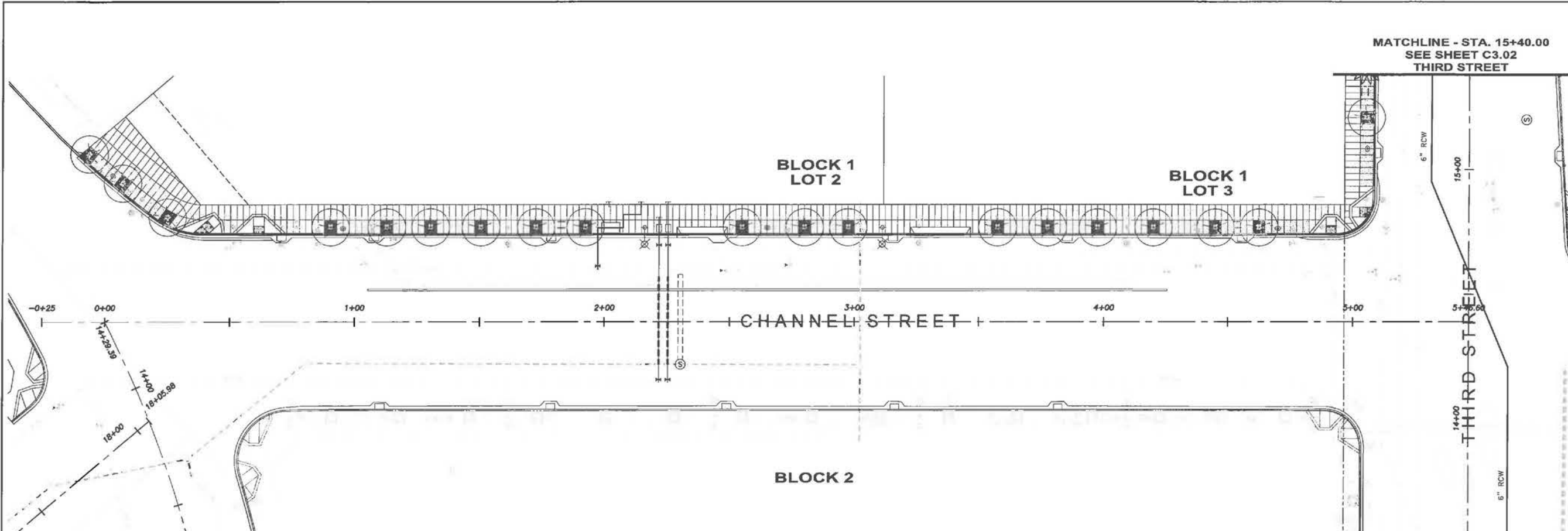
DATE	DESCRIPTION
09/08/14	75% SUBMITTAL
10/08/14	100% SUBMITTAL
12/19/14	LOOK SUBMITTAL

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
2035 CALIFORNIA STREET
144 NORTH SAN MATEO DRIVE - SAN MATEO, CA 94401
(650) 344-8901 • FAX (650) 344-8920 • WWW.FREYERLAURETA.COM
SUBCONSULTANT - IRRIGATION CONSULTANT
CLIFF LOWE ASSOCIATES
1400 CALIFORNIA STREET
SAN FRANCISCO, CA 94103
415-431-0394
415-431-0396 FAX

DATE: 09/08/14
DESIGNED: BT
DRAWN: BT
CHECKED: CP
PROJECT: R2L
SCALE: R2L
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY



SHEET
L2.3
JOB NO.
42045



PLANTING NOTES

- LANDSCAPING CONTRACT TO INCLUDE, BUT NOT NECESSARILY BE LIMITED TO:
 - PROVISION AND INSTALLATION OF STRUCTURAL SOIL
 - PLANTING OF TREES
 - MULCH
 - IRRIGATION
 - DRAINAGE
 - PREPARATION OF SUBSOIL
 - INSTALLATION OF INDICATOR FABRIC
- PLANTS:
 - TO BE FREE OF PEST AND DISEASE
 - TO BE WELL-STRUCTURED SPECIMENS
- CONTRACTOR TO COORDINATE WORK WITH COMPLETION OF UTILITY TRENCHING AND OTHER PROPOSED IMPROVEMENTS.
- INSTALL INDICATOR FABRIC IN ALL PLANTING AREAS BETWEEN NATIVE SOIL AND GROWING MEDIUM.
- REMOVE AND REPLACE ANY TREE DAMAGED BEYOND REPAIR WITH A TREE OF SIMILAR CHARACTER AND SIZE AS SPECIFIED BY THE OWNER, AT THE CONTRACTOR'S EXPENSE.
- GIVE 48 HOUR NOTICE TO THE LANDSCAPE ARCHITECT PRIOR TO FINAL INSPECTION OF ALL PLANT MATERIALS.

PLANTING LEGEND

-  ARBUTUS 'MARINA' - MARINA MADRONE
-  WASHINGTONIA ROBUSTA - MEXICAN FAN PALM

**LANDSCAPE PLANTING PLAN
CHANNEL**
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

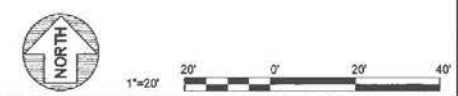
REVISION	DATE	DESCRIPTION

FOCL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPER/OWNER

FREYER LAURETA, INC.
ONE ENGINEER • SERVICES • CONSTRUCTION MANAGERS
144 North San Mateo Drive • San Mateo, CA 94401
PHONE: 650.534.5500 • FAX: 650.534.5501 • www.freyerlaureta.com
SUBCONSULTANT
CLIFF LOWE
1175 FOLSOM STREET
SAN FRANCISCO, CA 94103
PHONE: 415.431.0384
FAX: 415.431.0386

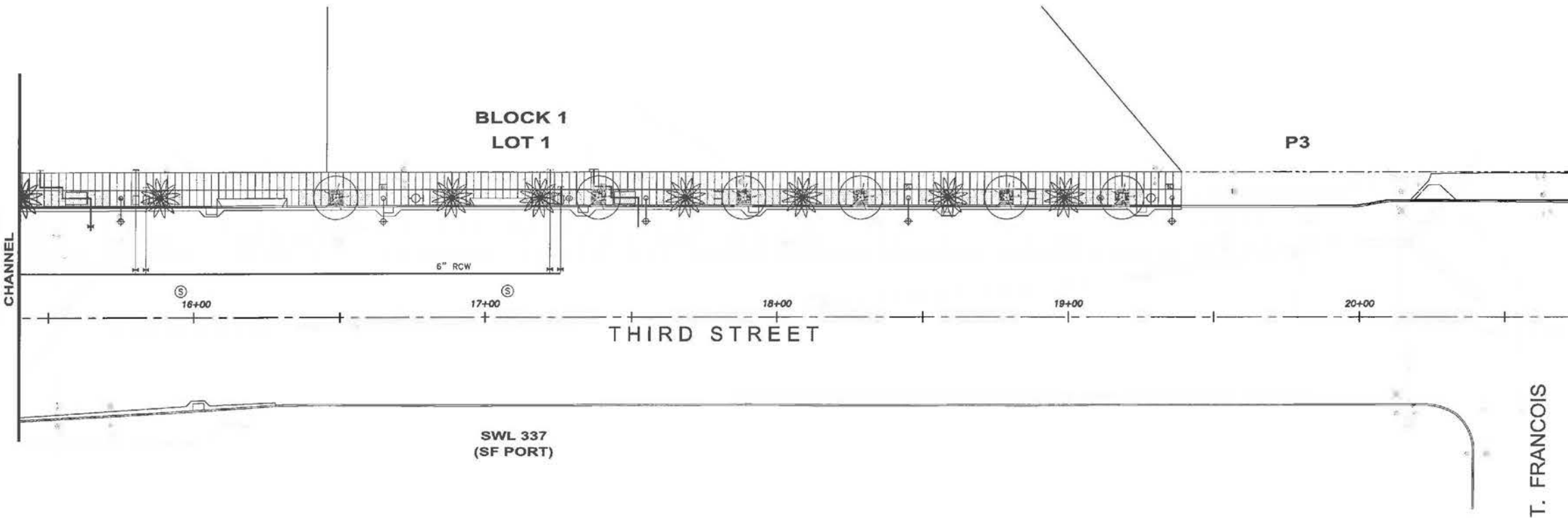
DATE	BY	DESCRIPTION
06/09/14	JJP	DESIGNED

PROGRESS SET:
NOT FOR CONSTRUCTION



SHEET
L3.1
JOB NO.
42045

MATCHLINE - STA. 15+40.00
SEE SHEET C3.01
CHANNEL



PLANTING NOTES

1. LANDSCAPING CONTRACT TO INCLUDE, BUT NOT NECESSARILY BE LIMITED TO:

- PROVISION AND INSTALLATION OF STRUCTURAL SOIL
- PLANTING OF TREES
- MULCH
- IRRIGATION
- DRAINAGE
- PREPARATION OF SUBSOIL
- INSTALLATION OF INDICATOR FABRIC

2. PLANTS:

- TO BE FREE OF PEST AND DISEASE
- TO BE WELL-STRUCTURED SPECIMENS

3. CONTRACTOR TO COORDINATE WORK WITH COMPLETION OF UTILITY TRENCHING AND OTHER PROPOSED IMPROVEMENTS.

4. INSTALL INDICATOR FABRIC IN ALL PLANTING AREAS BETWEEN NATIVE SOIL AND GROWING MEDIUM.

5. REMOVE AND REPLACE ANY TREE DAMAGED BEYOND REPAIR WITH A TREE OF SIMILAR CHARACTER AND SIZE AS SPECIFIED BY THE OWNER, AT THE CONTRACTOR'S EXPENSE.

6. GIVE 48 HOUR NOTICE TO THE LANDSCAPE ARCHITECT PRIOR TO FINAL INSPECTION OF ALL PLANT MATERIALS.

PLANTING LEGEND



ARBUTUS 'MARINA' - MARINA MADRONE



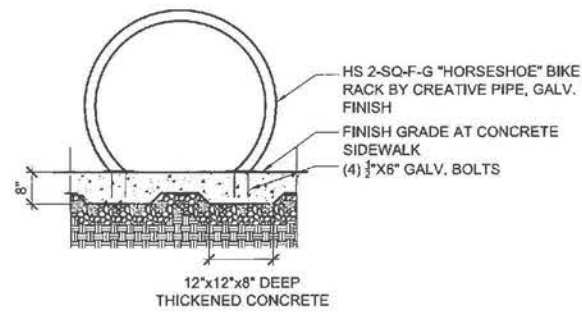
WASHINGTONIA ROBUSTA - MEXICAN FAN PALM

PROGRESS SET
NOT FOR CONSTRUCTION

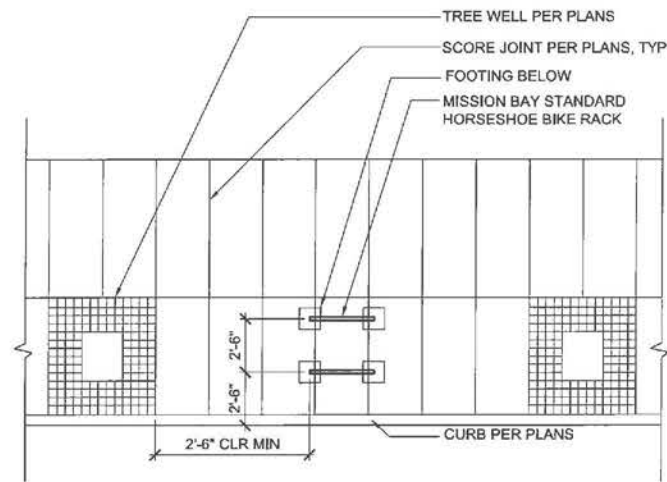


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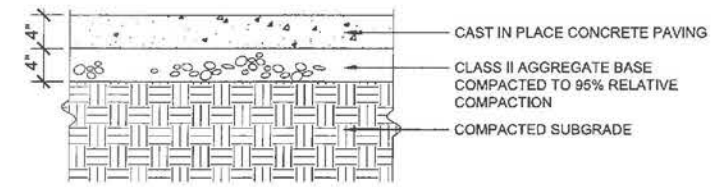
LANDSCAPE LAYOUT PLAN THIRD STREET																		
MISSION BAY BLOCK 1 MISSION BAY PROJECT, SAN FRANCISCO, CA																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">REV.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REV.	DATE	DESCRIPTION													<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"> FOCL-MB, LLC <small>OWNER</small> Mission Bay Development Group, LLC <small>DEVELOPER/OWNER</small> </td> <td style="width: 50%; text-align: center;"> FREYER LAURETA, INC. <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small> CLIFF LOWE INCORPORATED <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small> </td> </tr> </table>	FOCL-MB, LLC <small>OWNER</small> Mission Bay Development Group, LLC <small>DEVELOPER/OWNER</small>	FREYER LAURETA, INC. <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small> CLIFF LOWE INCORPORATED <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small>
REV.	DATE	DESCRIPTION																
FOCL-MB, LLC <small>OWNER</small> Mission Bay Development Group, LLC <small>DEVELOPER/OWNER</small>	FREYER LAURETA, INC. <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small> CLIFF LOWE INCORPORATED <small>1175 FOLSOM STREET SAN FRANCISCO, CA 94103 415.431.0384 415.431.0388 FAX</small>																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">DATE:</td> <td>06/09/14</td> </tr> <tr> <td>DESIGNED:</td> <td> </td> </tr> <tr> <td>DRAWN:</td> <td> </td> </tr> <tr> <td>CHECKED:</td> <td> </td> </tr> <tr> <td>PROJECT ENGINEER:</td> <td> </td> </tr> <tr> <td>SCALE:</td> <td> </td> </tr> </table>		DATE:	06/09/14	DESIGNED:		DRAWN:		CHECKED:		PROJECT ENGINEER:		SCALE:						
DATE:	06/09/14																	
DESIGNED:																		
DRAWN:																		
CHECKED:																		
PROJECT ENGINEER:																		
SCALE:																		
<p>1/8" = 1" ON ORIGINAL 0 = DIMENSIONS ON THIS SHEET AS NOTED SCALE VARIATIONS</p>																		
<p>SHEET L3.2</p>																		
<p>JOB NO. 42045</p>																		



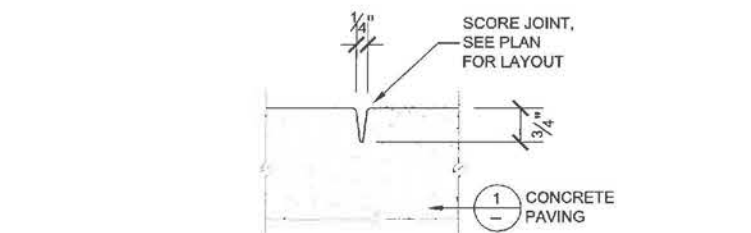
8 BIKE RACK
3/4" = 1'-0"
SECTION



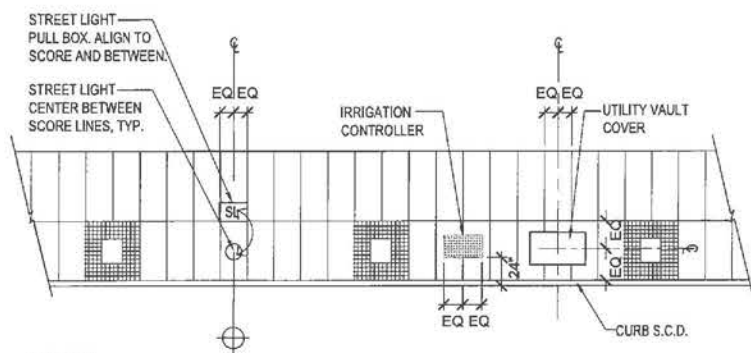
5 BIKE RACK PLAN
1/4" = 1'-0"
PLAN



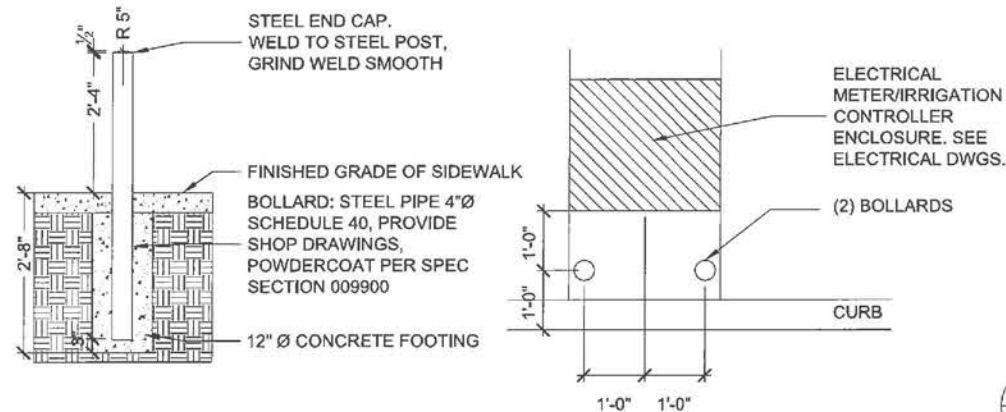
1 CONCRETE PAVING
NTS



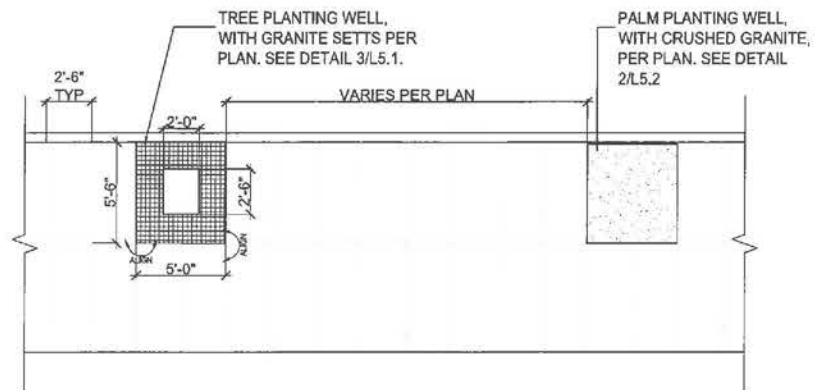
2 CONTROL JOINT
NTS



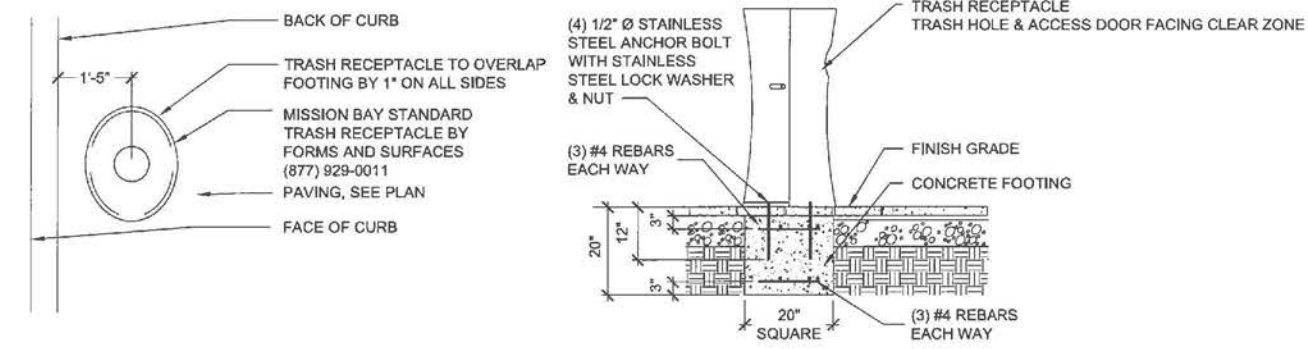
9 UTILITIES IN STREET FURNITURE ZONE
NTS
PLAN VIEW



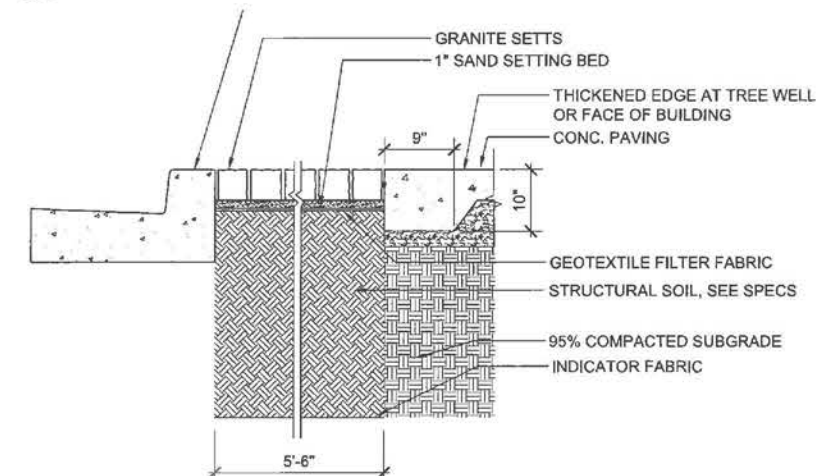
6 BOLLARD AT IRRIGATION PEDESTAL
NTS



3 CONCRETE PAVING - TYPE IIA
NTS



7 TRASH RECEPTACLE INSTALLATION
NTS
PLAN VIEW SECTION/ELEVATION



4 GRANITE SETTS
NTS

PROGRESS SET
NOT FOR CONSTRUCTION

LANDSCAPE CONSTRUCTION DETAILS

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	REVISION	DESCRIPTION
08/09/14	DESIGNED	
08/14/14	DRAWN	
08/14/14	CHECKED	
08/14/14	PROJ. ENGR.	
08/14/14	SUBCONSULTANT	

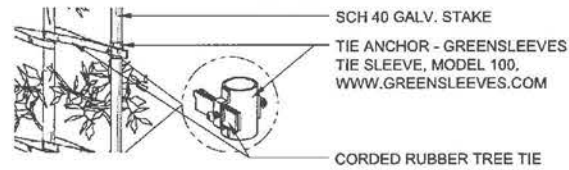
FOCAL-MB, LLC
Mission Bay Development Group, LLC

PREYER LAURETA, INC.
1175 FOLSOM STREET
SAN FRANCISCO, CA 94103
415.431.0394
415.431.0396 FAX

DATE: 08/09/14
DESIGNED: RLJ
DRAWN: JJP
CHECKED: RLJ
PROJ. ENGR: RLJ
SCALE: AS SHOWN ON ORIGINAL
THIS SET IS NOT TO BE USED FOR CONSTRUCTION WITHOUT THE ORIGINAL SET.

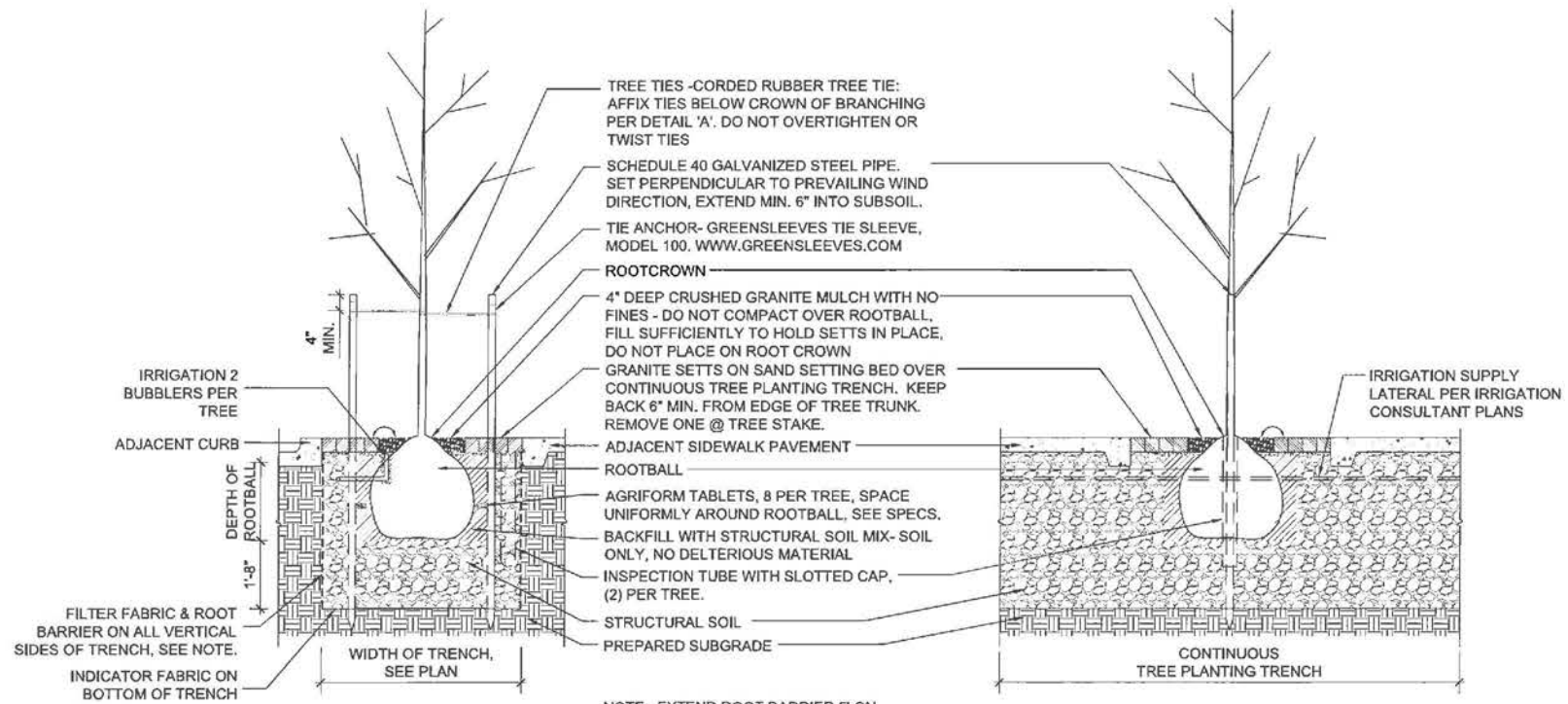
SHEET
L5.1

JOB NO.
42045

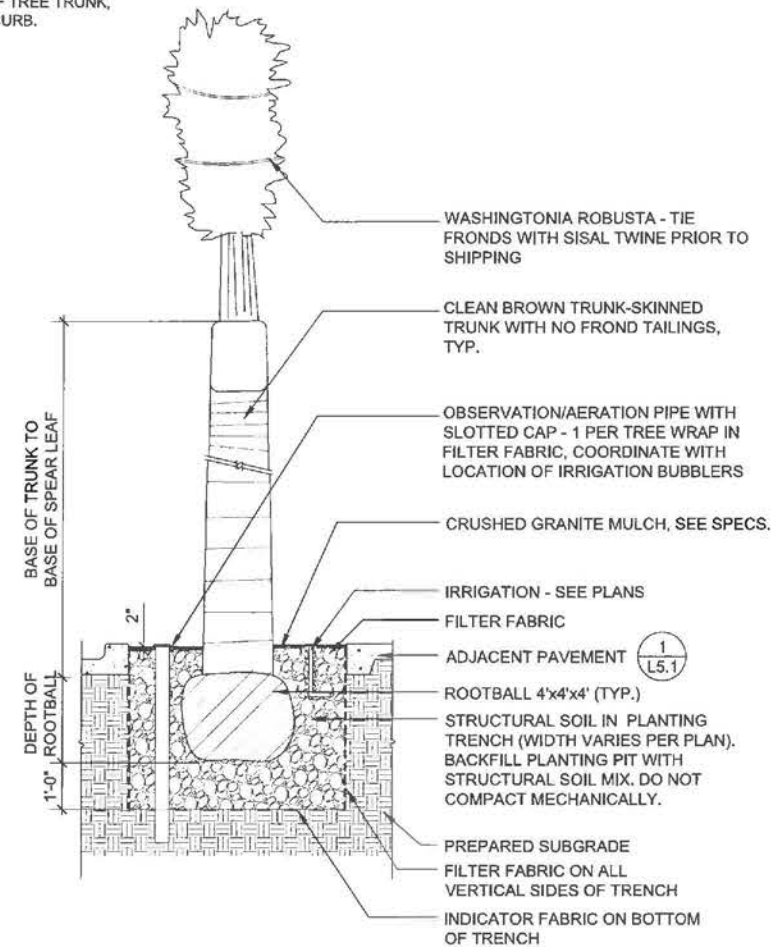


A GREENSLEEVES ATTACHMENT METHOD
NOT TO SCALE

1 STREET TREE PLANTING
NTS



NOTE: EXTEND ROOT BARRIER 5' ON EITHER SIDE OF TREE TRUNK, PARALLEL TO CURB.



2 PALM TREE PLANTING
NTS

PROGRESS SET
NOT FOR CONSTRUCTION

LANDSCAPE CONSTRUCTION
DETAILS
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

NO.	REVISION	DATE	DESCRIPTION

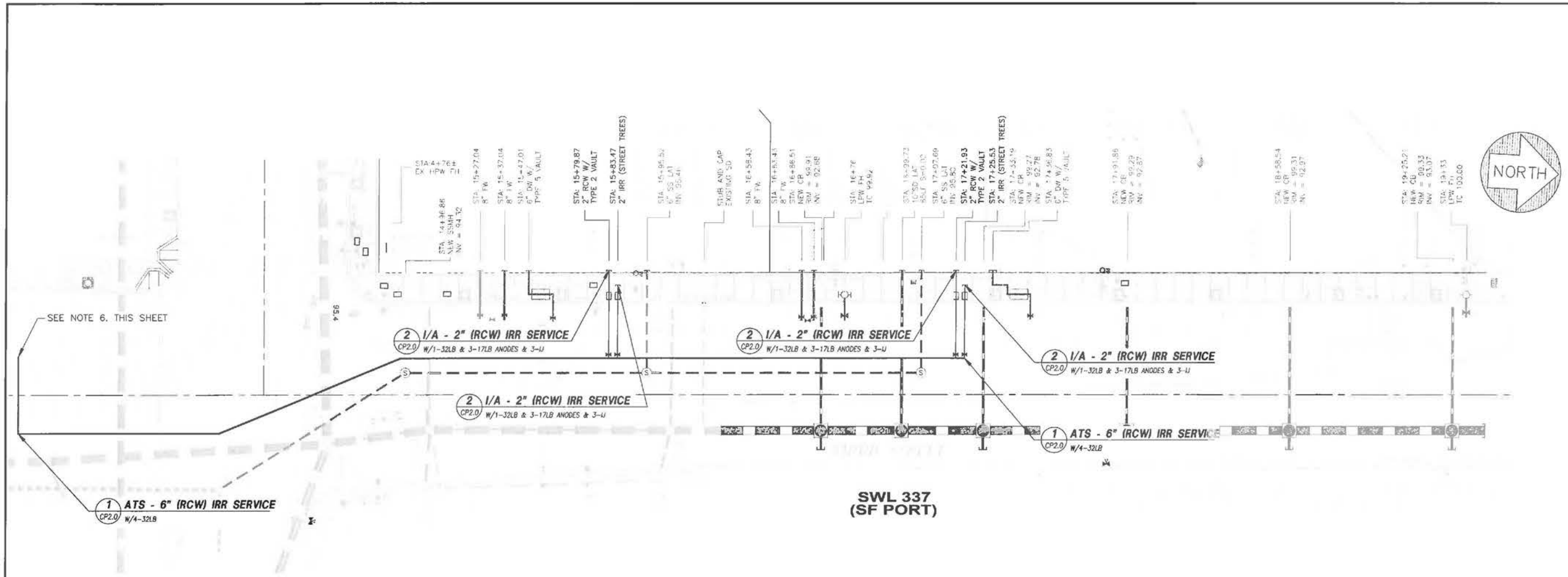
FOCL-MB, LLC
Mission Bay
Development
Group, LLC

FREYER LAURETA, INC.
175 FOLSOM STREET
SAN FRANCISCO, CA 94103
415.431.0394
415.431.0390 FAX

DATE: 08/09/14
DESIGNED: JLF
DRAWN: JLF
CHECKED: JLF
PROD. ENGINEER: JLF
SCALE: 1" = 1'-0"
BUY IS ONE INCH OR ORIGINAL
IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALE ACCORDINGLY

SECRET
L5.2

JOB NO.
42045



CATHODIC PROTECTION UTILITY PLAN
NOT TO SCALE

CATHODIC PROTECTION GENERAL NOTES:

1. THE CORROSION CONTROL SYSTEM CONSISTS OF FOUR LEVELS OF PROTECTION.
 - A) ALL NEW, BURIED, PRESSURIZED (RCW) DUCTILE IRON FLEXIBLE EXPANSION JOINTS SHALL BE ENCASED IN 8-MIL POLYETHYLENE IN ACCORDANCE WITH ANSI/AWWA SPECIFICATION C105/A21.5. COAT ALL BURIED BOLTS & NUTS FOR THE DUCTILE IRON PIPE WITH BITUMASTIC.
 - B) THE RCW COPPER PIPELINES SHALL BE ELECTRICALLY ISOLATED PER CATHODIC PROTECTION GENERAL NOTE 3.
 - C) ALL NEW, BURIED, RCW DUCTILE IRON PIPELINES AND ALL NEW RCW DUCTILE IRON EXPANSION JOINTS SHALL BE CATHODICALLY PROTECTED WITH PREPACKAGED HIGH POTENTIAL MAGNESIUM ANODES & ELECTRICALLY ISOLATED PER CATHODIC PROTECTION GENERAL NOTES 2. & 3.
 - D) ALL NEW, BURIED, LPW COPPER SERVICE PIPE SHALL BE PRIMED, TAPE WRAPPED, CATHODICALLY PROTECTED WITH PREPACKAGED HIGH POTENTIAL MAGNESIUM ANODES & ELECTRICALLY ISOLATED PER CATHODIC PROTECTION GENERAL NOTE 3. THESE NEW LATERALS FROM THE WATER MAIN TO THE WATER METER SHALL BE PRIMED AND TAPE COATED WITH A MINIMUM OF 35 MIL HALF-LAPPED PIPELINE TAPE SUCH AS POLYKEN 930 WITH 1027 PRIMER OR EQUAL.
2. THE NEW RCW METERED COPPER SERVICE RISERS SHALL BE ELECTRICALLY ISOLATED FROM THE WATER MAIN, THE METER AND THE INDOOR PLUMBING BY MEANS OF DIELECTRIC INSULATING FLANGES OR DIELECTRIC INSULATING UNIONS OR DIELECTRIC INSULATING CORPORATION STOPS PER DETAILS 1/CP2.0. SMALL DIAMETER DUCTILE IRON FORCE BALANCED EXPANSION JOINTS SHALL BE ELECTRICALLY ISOLATED FROM COPPER LATERALS BY MEANS OF DIELECTRIC INSULATING FLANGES. COAT BURIED INSULATING JOINTS PER DETAIL 5/CP3.0.
3. ALL BURIED, NON-WELDED, NON-INSULATING DUCTILE IRON PIPE JOINTS FOR THE NEW WATER PIPELINE WATER MAIN SHALL BE BONDED WITH ONE, #8 AWG/HMWPE INSULATED BOND CABLE PER JOINT, FOR ELECTRICAL CONTINUITY OF THE ENTIRE BURIED LENGTH OF THE NEW, PRESSURIZED PIPELINES.
4. CABLE-TO-PIPE CONNECTIONS MADE TO DUCTILE IRON EXPANSION JOINT SHALL BE MADE BY MEANS OF PIN BRAZING. ALL OTHER CONNECTIONS TO ALL OTHER DUCTILE IRON PIPE & FITTINGS SHALL BE MADE BY MEANS OF EXOTHERMIC WELDS. CABLE-TO-PIPE CONNECTIONS TO COPPER PIPE SHALL BE MADE BY MEANS OF GROUND CLAMPS.
5. FOR THE UNDERGROUND PLUMBING PIPE SLAB PENETRATION MAKE THE TERMINATION OF THE TAPE WRAP JUST BELOW THE VAPOR BARRIER MEMBRANE FOR BOTH THE DUCTILE IRON PIPE AND THE COPPER PIPE.
6. PROVIDE ELECTRICAL ISOLATION FROM ALL FUTURE PIPE CONNECTIONS.

ABBREVIATIONS	
A	ANODE INSTALLATION
ATS	ANODE TEST STATION
DIP	DUCTILE IRON PIPE
I	ELECTRICAL ISOLATION
IJ	INSULATING JOINT
LB	POUNDS
RCW	RECLAIMED WATER
SFWD	SAN FRANCISCO WATER DISTRICT
TYP	TYPICAL
W/	WITH



CATHODIC PROTECTION SYSTEM
SITE PLAN + NOTES
MISSION BAY PROJECT, SAN FRANCISCO, CA

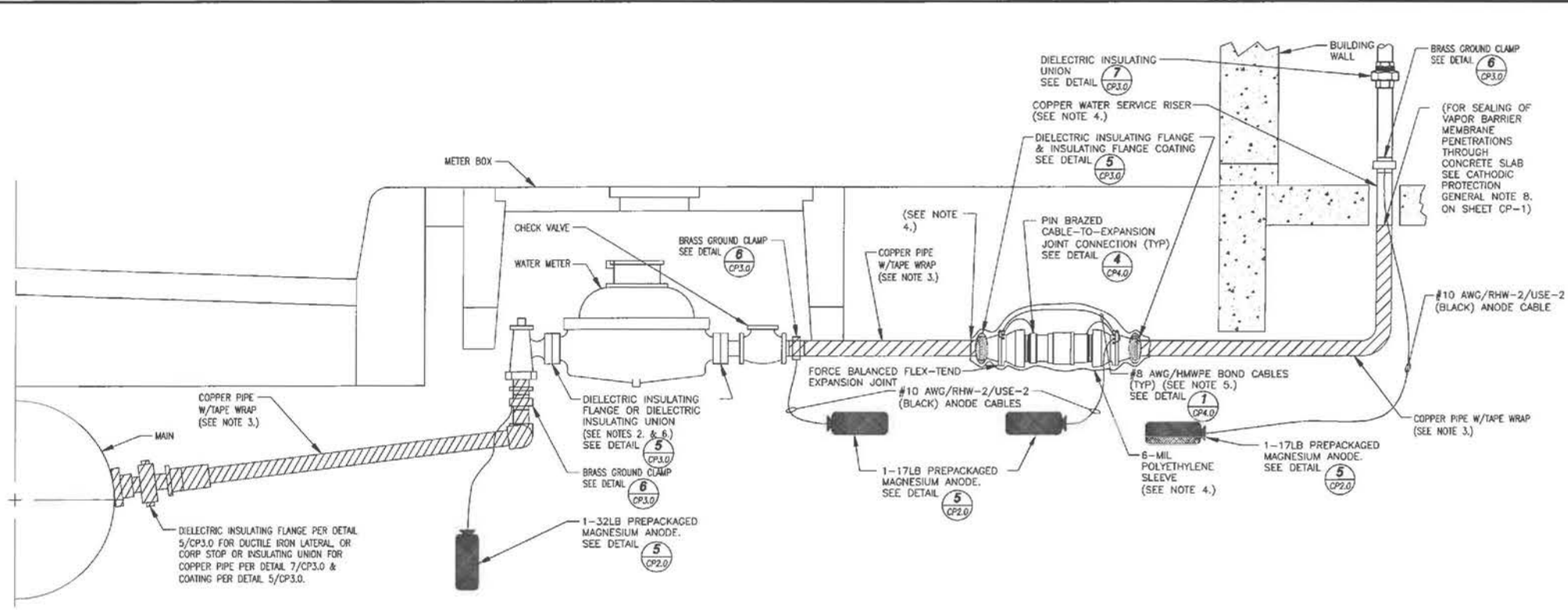
NO.	DATE	DESCRIPTION

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

LAURETA, INC.
CONSTRUCTION MANAGER
1100 Willow Pass Court, Concord, CA 94520
(925)927-6630 FAX (925)927-6634 WWW.JDH-CORROSION.COM

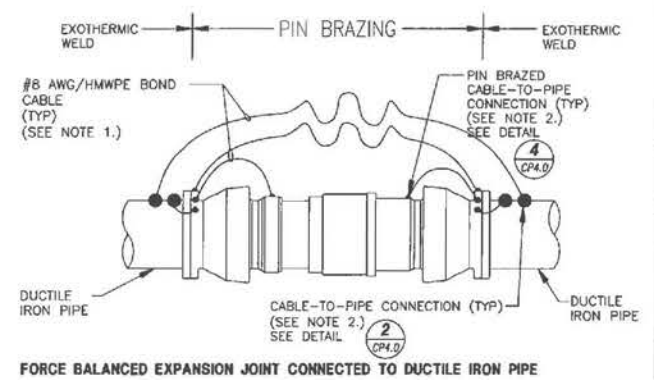
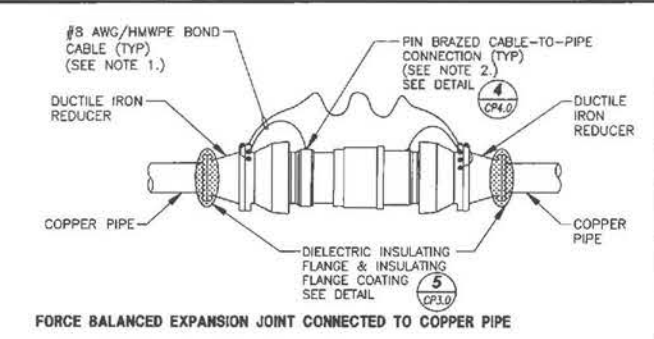
DATE: 08/06/14
DESIGNED: JAL
DRAWN: JFP
CHECKED: JAL
PROD. ENGR: JAL
SCALE: 1"=20'
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET
CP1.0
JOB NO.
42045



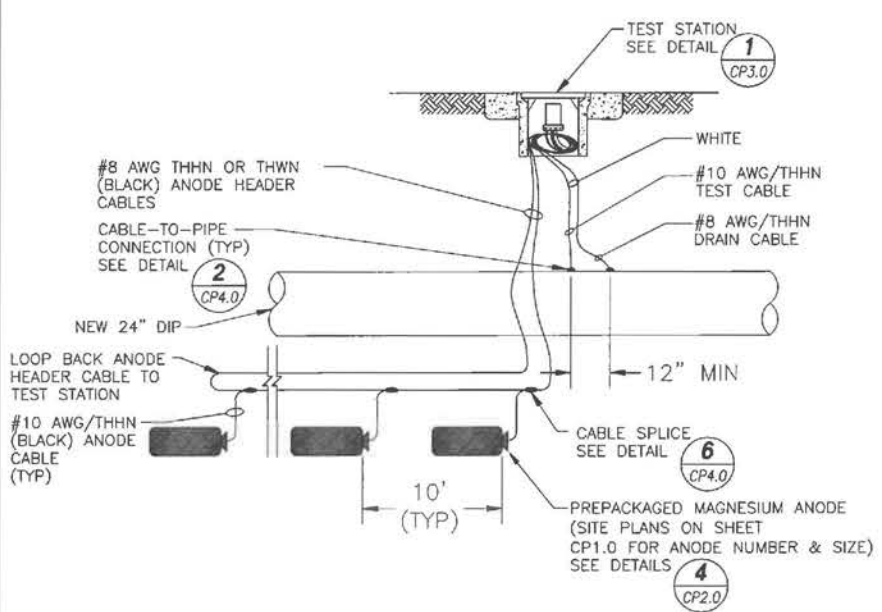
- NOTE:
 1. USE ALL BRASS BODY INSULATING UNION OR WATER METER WITH INSULATING ADAPTERS ON COPPER PIPE.
 2. USE INSULATING FLANGE KIT FOR METER WITH FLANGE CONNECTION. USE DIELECTRIC UNION FOR SCREW-IN METER CONNECTION.
 3. THE BURIED COPPER FROM THE MAIN TO THE METER AND BEYOND THE METER SHALL BE TAPE COATED WITH A LAYER OF PRIMED HALF-LAPPED TAPE COATING; THE MINIMUM 35MIL THICK TAPE COATING SHALL POLYKEN 930 WITH 1027 PRIMER OR EQUAL.
 4. THE BURIED DUCTILE IRON THE FLEX-TEND DEVICE SHALL BE ENCASED IN POLYETHYLENE PER CATHODIC PROTECTION GENERAL NOTE 1.A. ON SHEET CP-1. LAP JOINT AND TAPE SECURELY AT CONNECTION BETWEEN DUCTILE IRON EXPANSION JOINT AND THE COPPER PIPE.
 5. THE LENGTH OF THE BOND CABLES BETWEEN FITTINGS SHALL BE OF SUFFICIENT LENGTH TO ALLOW FOR SIGNIFICANT SOIL SUBSIDENCE AND PIPE MOVEMENT.
 6. ENSURE ELECTRICAL ISOLATION OF ALL METER BYPASS PIPING BY INSTALLING AN INSULATING TYPE FLANGE, INSULATING UNION, OR CORPORATION STOP AT THE DOWNSTREAM CONNECTION TO THE SERVICE.

1 1/A - ELECTRICAL ISOLATION OF MAIN, METER, SERVICE RISER & EXPANSION JOINT & ANODE INSTALLATION FOR 2" LATERAL AND FOR EXPANSION JOINT
 CP2.0 NOT TO SCALE



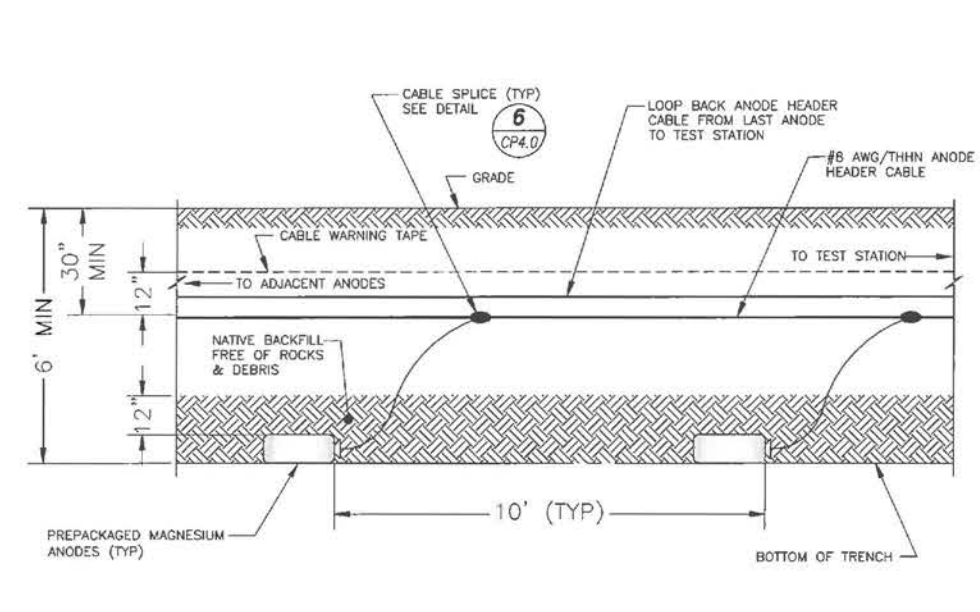
- NOTES:
 1. PROVIDE ENOUGH SLACK IN THE BOND CABLES SHALL BE OF SUFFICIENT LENGTH TO ALLOW FOR SIGNIFICANT SOIL SUBSIDENCE AND PIPE JOINT MOVEMENT.
 2. ALL CABLE-TO-PIPE CONNECTIONS MADE TO THE FORCE BALANCED FLEX-TEND EXPANSION JOINT SHALL BE MADE BY MEANS OF PIN BRAZING PER DETAIL 4/CP4.0 IN ORDER TO AVOID DAMAGING THE INTERIOR GASKETS OF THIS EXPANSION COUPLING. CABLE-TO-PIPE CONNECTIONS TO DUCTILE IRON SPOOL PIECES AND FITTINGS SHALL BE MADE BY EXOTHERMIC CADWELDS PER DETAIL 2/CP4.0.

2 BOND CABLES - DUCTILE IRON FORCE BALANCED EXPANSION JOINTS
 CP2.0 NOT TO SCALE



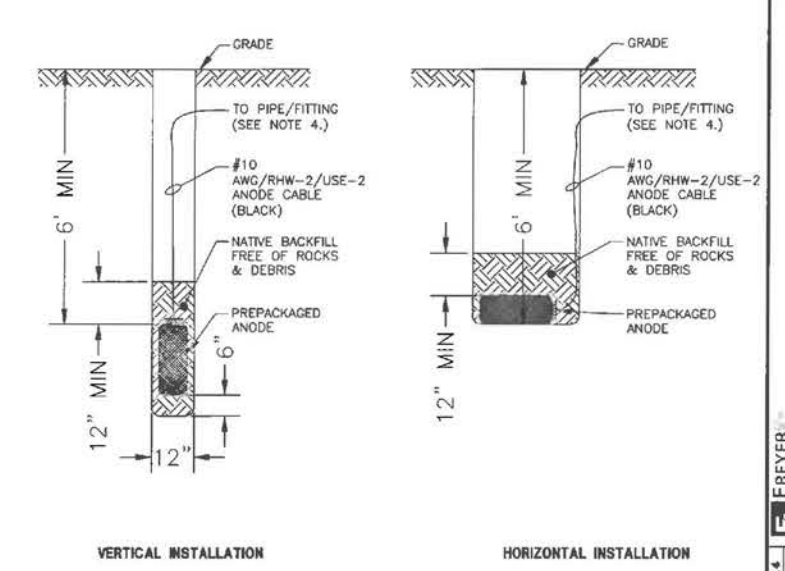
- NOTES:
 1. COAT ALL BURIED BOLTS & NUTS WITH BITUMASTIC AND ENCASE ALL DUCTILE IRON PIPE AND FITTINGS IN POLYETHYLENE PER CATHODIC PROTECTION GENERAL NOTE 2. ON SHEET CP-2.
 2. BOND ALL BURIED, NON-WELDED DUCTILE IRON PIPE JOINTS PER DETAIL 1/CP4.0. (DO NOT INSTALL BOND CABLES ACROSS INSULATING JOINT).

3 ATS - ANODE TEST STATION
 CP2.0 NOT TO SCALE



- NOTE:
 INSTALL ANODES PARALLEL TO THE PIPELINE AND 5 FT. OFF THE PIPE.

4 PROFILE - HORIZONTAL ANODE INSTALLATION
 CP1.2 NOT TO SCALE



- NOTES:
 1. INSTALL ANODES 3 FEET OFF THE PIPE/FITTING IN NATIVE SOIL.
 2. THE ANODES MAY BE INSTALLED HORIZONTALLY OR VERTICALLY UPON DISCRETION OF THE CONTRACTOR.
 3. MAINTAIN A MIN. DISTANCE OF 10 FEET BETWEEN ANODES IF MULTIPLE ANODES ARE INSTALLED.
 4. CONNECT ANODE CABLE TO TEST STATION OR DIRECTLY TO PIPE OR FITTING AS SHOWN IN THE DRAWINGS.

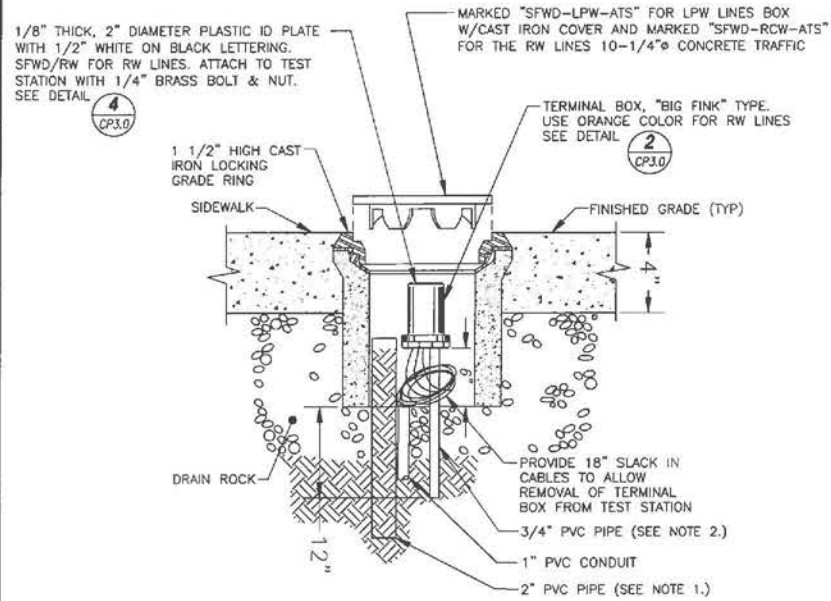
5 PROFILE - ANODE INSTALLATION
 CP2.0 NOT TO SCALE

NO.	DESCRIPTION	DATE

FOCIL-MB, LLC
 OWNER
 Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

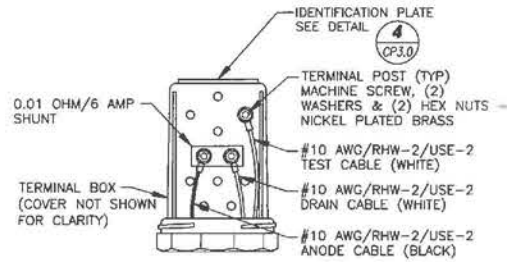
LAURETA, INC.
 FREYER
 CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
 1000 San Bruno Drive, San Bruno, CA 94066
 (415) 338-7222 • www.laureta.com

DATE: 08/09/14
 DESIGNED: JLF
 DRAWN: JLF
 CHECKED: JLF
 PROJECT: ENGR1
 SCALE: 1"=20'
 BARS ONE INCH ON ORIGINAL
 SHEET
CP2.0
 JOB NO.
42045



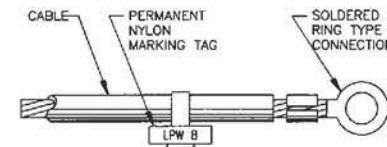
- NOTES:
1. IDENTIFY ALL CABLES PER DETAIL 7, SHEET CP-2.
 2. INSTALL TEST STATION IN SIDEWALK.
 3. INSTALL 2" PVC PIPE IN CLEAN NATIVE SOIL. FILL PIPE WITH CLEAN SOIL, FREE FROM ROCKS & DEBRIS.
 4. INSTALL 18" LENGTH OF 3/4" PVC PIPE TO ENSURE THAT THE TERMINAL BOX WILL REMAIN IN THE UPRIGHT POSITION. POSITION THE PIPE SO THAT THE TERMINAL BOX WILL BE AS HIGH AS POSSIBLE WITH THE CAST IRON LID STILL CLOSING PROPERLY.

1 FLUSH MOUNTED TEST STATION CONCRETE BOX
CP3.0 NOT TO SCALE



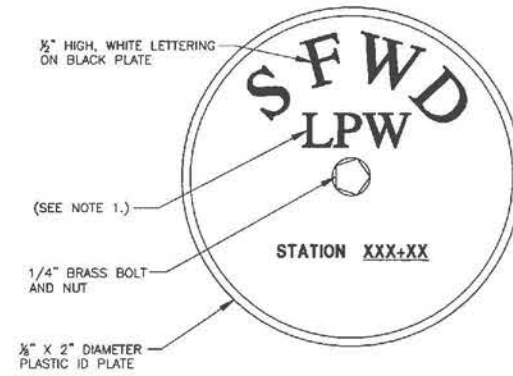
NOTE:
IDENTIFY ALL CABLES PER DETAIL 3/CP3.0.

2 TERMINAL BOX
CP3.0 NOT TO SCALE



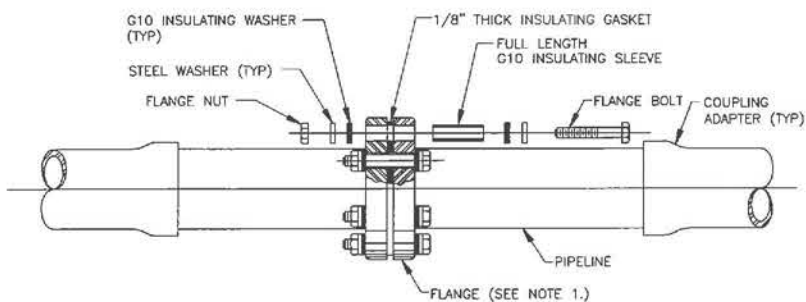
- ABBREVIATIONS
- RCW - RECLAIMED WATER
 - LPW - LOW PRESSURE WATER
 - AN - ANODE
 - EX - EXISTING PIPELINE
 - FW - FIRE WATER
 - DW - DOMESTIC WATER

3 CABLE IDENTIFICATION
CP3.0 NOT TO SCALE



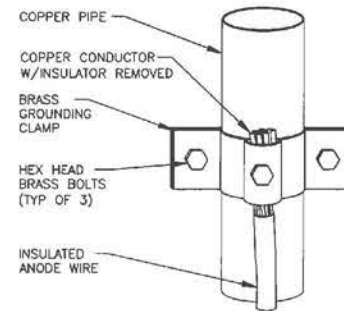
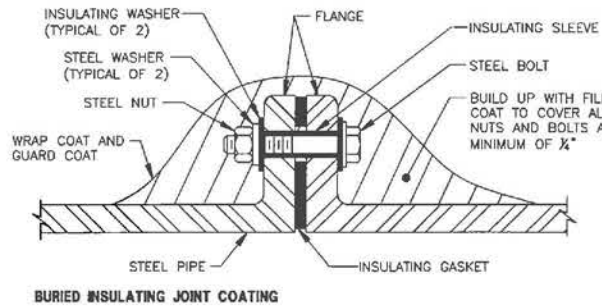
- NOTE:
1. USE LPW FOR TEST STATIONS ON LOW PRESSURE WATER LINES AND RCW FOR TEST STATIONS ON RECLAIMED WATER LINES.
 2. INCLUDE PIPE STATION FOR FUTURE IDENTIFICATION.

4 TERMINAL BOX ID PLATE
CP3.0 NOT TO SCALE

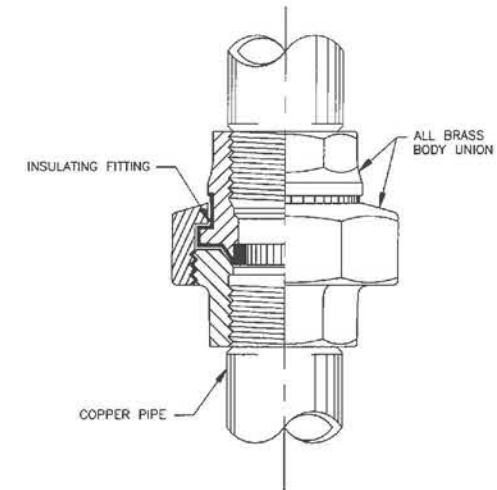


- NOTES:
1. THE INSULATING FLANGE KIT SHALL BE FOR WATER SERVICE, SUITABLE FOR WET & DRY LOCATIONS, AND BE OF SAME PRESSURE RATING AS THE FLANGE.
 2. THE ALLOY OF THE STEEL WASHERS SHALL BE THE SAME AS IS SPECIFIED FOR THE FLANGE BOLTS.
 3. OMIT COATING IF FLANGE IS LOCATED ABOVE GRADE OR IN VAULTS.
 4. FOR BURIED INSULATING JOINTS APPLY THE COATING SYSTEM AS SHOWN ABOVE.
 5. ALL INSULATING JOINTS SHALL BE TESTED AND APPROVED PRIOR TO BACKFILL.

5 DIELECTRIC INSULATING JOINT
CP3.0 NOT TO SCALE



6 BRASS GROUND CLAMP
CP3.0 NOT TO SCALE



7 DIELECTRIC INSULATING UNION
CP3.0 NOT TO SCALE

CATHODIC PROTECTION SYSTEM
DETAILS 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

NO.	DESCRIPTION	DATE

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPER/MANAGER

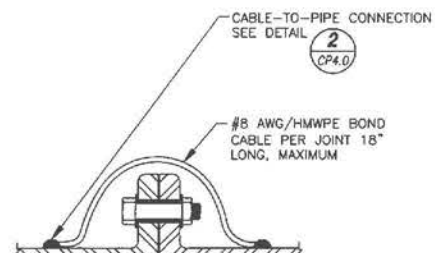
DATE: 06/06/14
DESIGNED: RJL
DRAWN: JJP
CHECKED: RJL
PREP. ENGINE: RJL
SCALE: 1"=20'
0 1 2
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALE ACCORDINGLY

www.jdhcorrosion.com
1100 Willow Pass Court Concord, CA 94520
(925)927-6630 FAX (925)927-6634

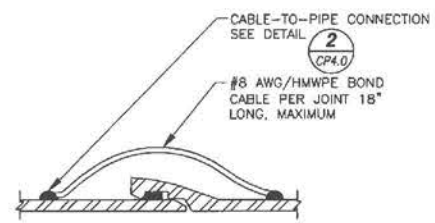
FREYER LAURETA, INC.
CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
144 North San Mateo Drive • San Mateo, CA 94401
TEL: (650) 253-2020 • WWW.FREYERLAURETA.COM

JDH corrosion
1100 Willow Pass Court Concord, CA 94520
(925)927-6630 FAX (925)927-6634 WWW.JDH-CORROSION.COM

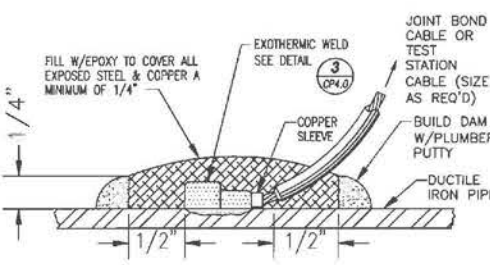
SHEET
CP3.0
JOB NO.
42045



FLANGED JOINT

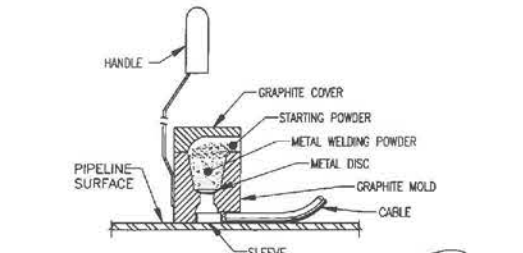


PUSH-ON JOINT



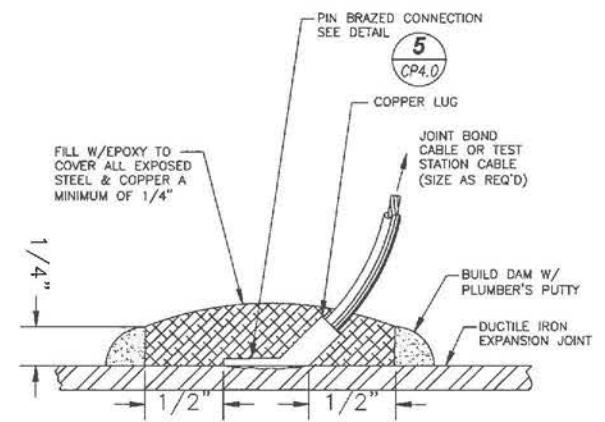
DUCTILE IRON SPOOL PIECES & FITTINGS

NOTE:
CABLE TO DUCTILE IRON PIPE CONNECTIONS MAY BE MADE BY MEANS OF PIN BRAZING PER DETAIL 4/CP4.0 IN LIEU OF EXOTHERMIC WELD CONNECTIONS AT THE DISCRETION OF THE CONTRACTOR.



- STEP 1.** FILE STRUCTURE CONNECTION AREA TO BARE SHINY METAL AND CLEAN.
- STEP 2.** STRIP INSULATION FROM WIRE. ATTACH SLEEVE REQUIRED ON #6 AWG WIRE OR SMALLER
- STEP 3.** HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN.
- STEP 4.** REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.
- STEP 5.** COVER CONNECTION AND EXPOSED STRUCTURE SURFACE WITH EPOXY COATING COMPOUND PER DETAIL 2/CP4.0.

NOTE:
PROCEDURE SHOWN ABOVE IS TO BE USED AS A GENERAL GUIDE ONLY. CONSULT MANUFACTURER'S LITERATURE FOR SPECIFIC INSTALLATION INSTRUCTIONS.



FORCE BALANCED EXPANSION JOINT

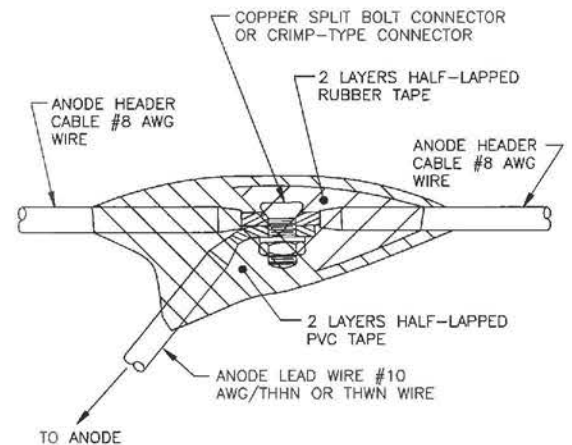
4 PIN-BRAZED CABLE-TO-EXPANSION JOINT CONNECTION
CP4.0 NOT TO SCALE

1 BOND CABLES - DUCTILE IRON PIPE JOINTS
CP4.0 NOT TO SCALE

2 CABLE-TO-PIPE CONNECTION
CP4.0 NOT TO SCALE

3 EXOTHERMIC WELD PROCEDURE
CP4.0 NOT TO SCALE

- STEP 1.** FILE STRUCTURE CONNECTION AREA TO BARE SHINY METAL AND CLEAN.
- STEP 2.** STRIP INSULATION FROM WIRE. ATTACH LUG TO CABLE BY CRIMPING.
- STEP 3.** LOAD GUN WITH THE LUG AND FERRULE. ADJUST AS NECESSARY. BRAZE.
- STEP 4.** PEEN CONNECTION WITH A HAMMER TO TEST CONNECTION FOR SOUNDNESS.
- STEP 5.** COVER CONNECTION AND EXPOSED STRUCTURE SURFACE WITH EPOXY COATING COMPOUND PER DETAIL 4/CP4.0.



6 SPLICE CONNECTION
CP4.0 NOT TO SCALE

NOTE:
PROCEDURE SHOWN ABOVE IS TO BE USED AS A GENERAL GUIDE ONLY. CONSULT MANUFACTURER'S LITERATURE FOR SPECIFIC INSTALLATION INSTRUCTIONS.

5 PIN-BRAZED CONNECTION
CP4.0 NOT TO SCALE

CATHODIC PROTECTION SYSTEM
DETAILS 1
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

NO.	DESCRIPTION	DATE

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FLAURETA, INC.
DESIGNED BY
144 North San Mateo Drive • San Mateo, CA 94401
TEL: (650) 253-7525 • FAX: (650) 253-7526 • WWW.FLAURETA.COM

job corrosion
1100 Willow Pass Court Concord, CA 94520
(925) 927-6630 FAX (925) 927-6634 WWW.JOBCORROSION.COM

DATE: 08/06/14
DESIGNED: RIL
DRAWN: JTF
CHECKED: RIL
PROJ. ENGR: RIL
SCALE: 1"=20'
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

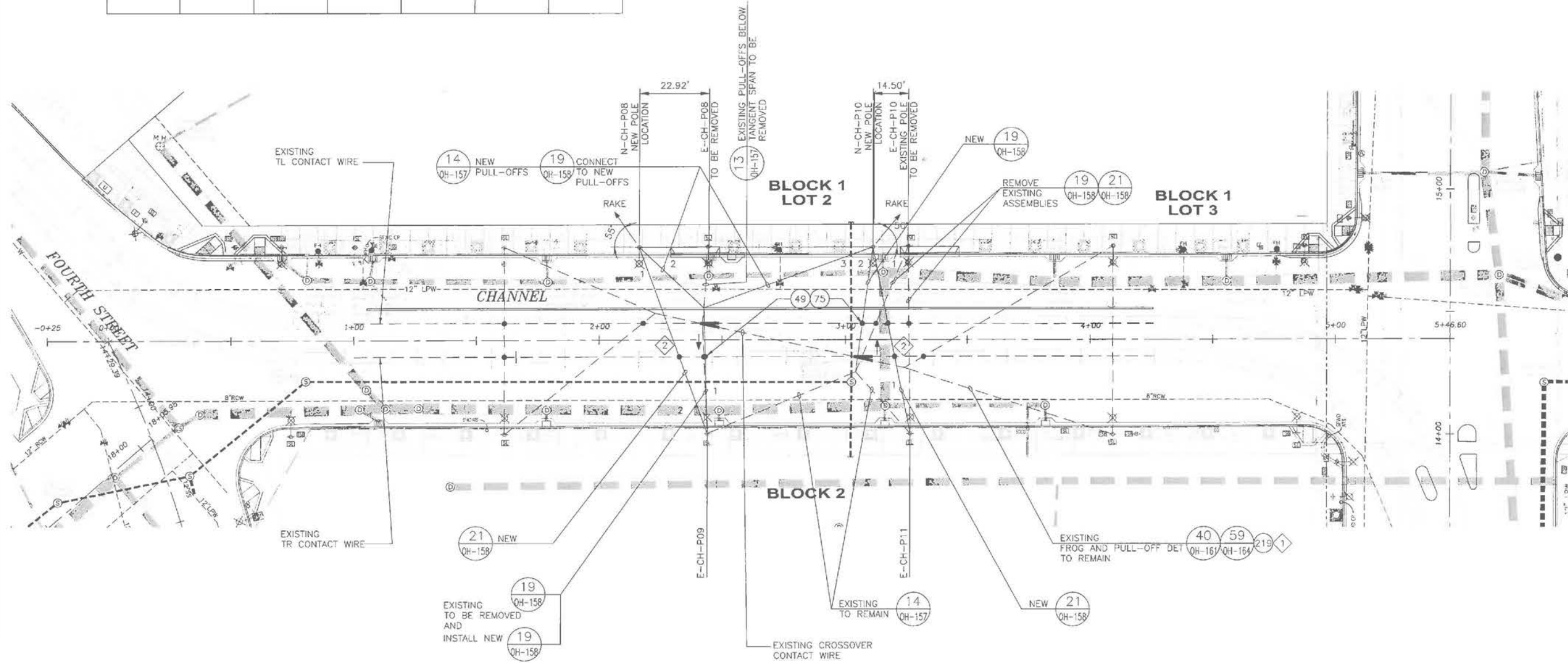
SHEET
CP4.0
JOB NO.
42045



TENSION (LB)/ ATTACHMENT HEIGHTS (FT)						
POLE NO.	TYPE	HEIGHT (FT)	RAKE (IN/FT)	GUY WIRE NO.		
				1	2	3
N-CH-P08	761MB	30.0	5/8	495 21.3	655 21.3	-
N-CH-P09	761MB	30.0	-	990 23.3	495 21.3	-
N-CH-P10	761MB	30.0	3/8	495 22.8	990 23.3	1060 21.5
N-CH-P11	761MB	30.0	-	495 21.3	-	-

SHEET NOTES:

1. CONTRACTOR TO MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACHIEVE SATISFACTORY TRACKING OF PANTOGRAPH AND PCC SHOE.
2. CENTERLINE OF FROG SHALL BE KEPT 4 3/4 INCHES FROM TRACK CENTERLINE AFTER INSTALLATION OF NEW GUY WIRES.
3. FOR OCS ASSEMBLY TYPES AND MATERIALS REFER TO MUNI OH SERIES OC-22 THRU OC-32 ATTACHED.
4. FOE NEW POLE AND FOUNDATION TYPE SEE DRAWING OC-21.
5. REMOVE AND DISPOSE OF POLE FOUNDATION AT LEAST 3'-0" BELOW FINISH GRADE.
6. REMOVE POLES SHALL BE RETURNED BY CONTRACTOR TO MUNI AND AS DIRECTED BY ENGINEER.



Dec 19, 2014 - 11:41am Y:\86341-100-FREYER & LAURITA\1000 BLOCK 1\WORKING\OC-20.cwg

OCS MODIFICATION AND POLE RELOCATION PLAN
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
08/09/14	70% SUBMITTAL
10/08/14	90% SUBMITTAL
12/19/14	100% SUBMITTAL

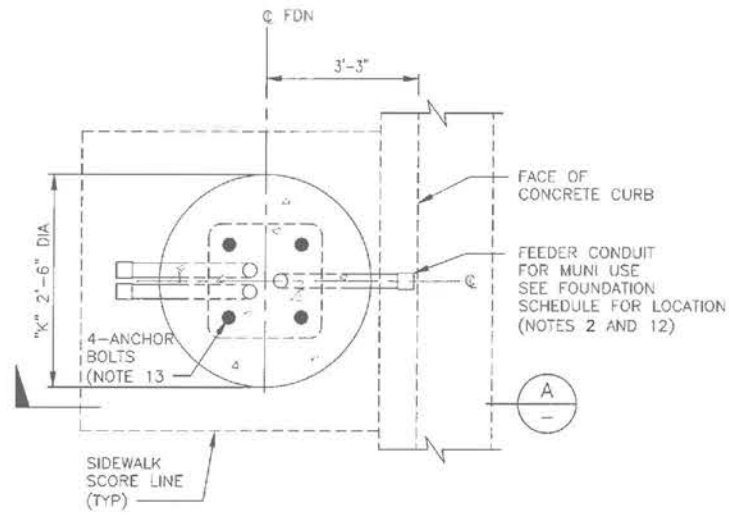
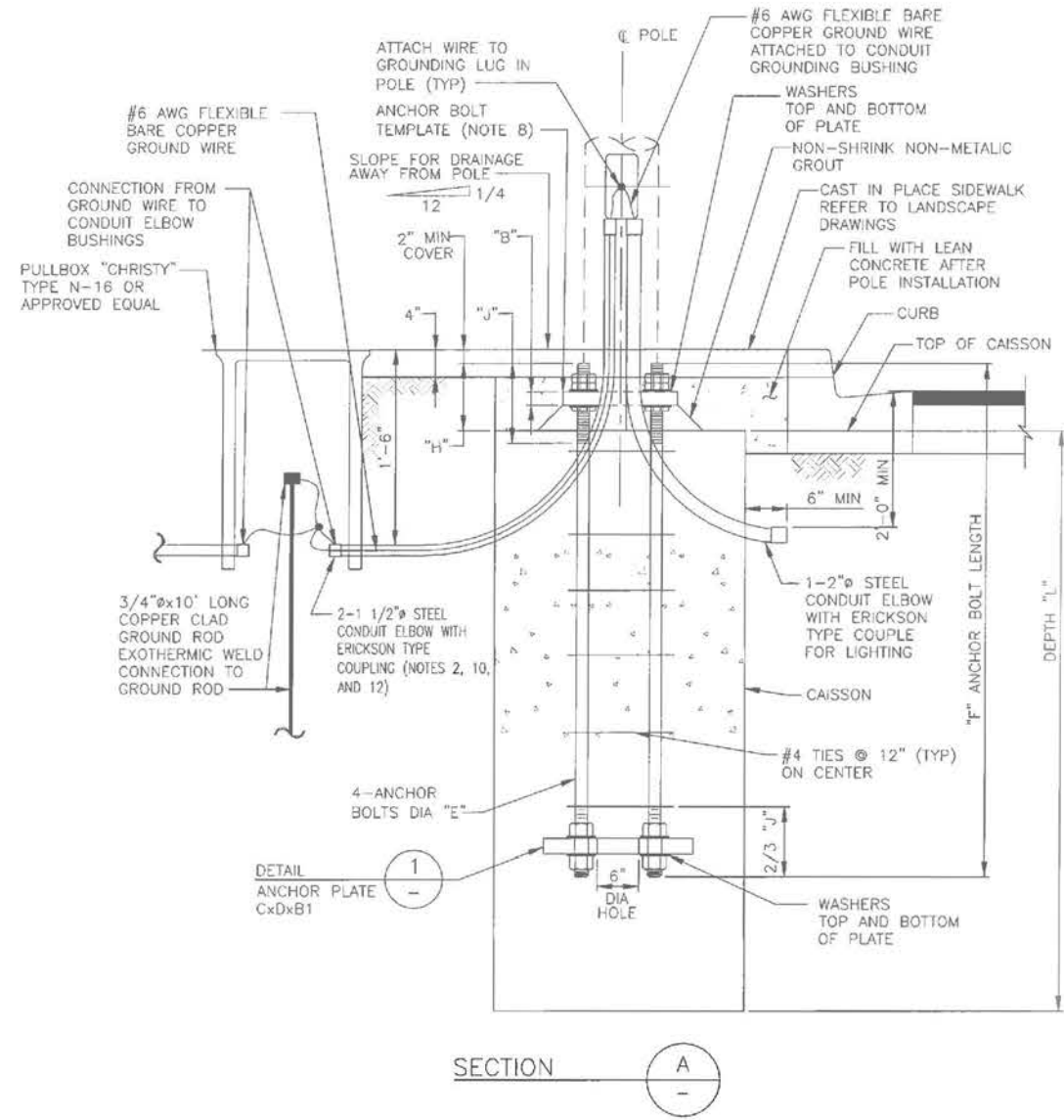
FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

DATE: 12/16/14
DESIGNED: MGQ
DRAWN: AL
CHECKED: MGQ
PROJ. ENGR: MGQ
SCALE: 1"=80'
BIM IS ONE INCH OR ORIGINAL
1"=80'
ADJUST SCALE ACCORDINGLY

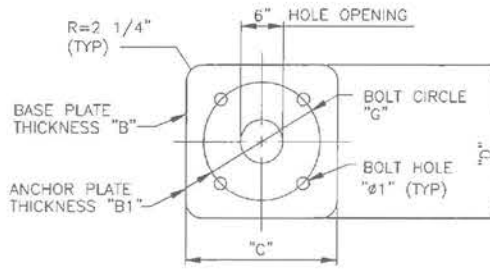
FOCAL ENGINEERING, INC.
SUBCONSULTANT
182 Second St. San Francisco, California 94105
Tel: (415) 566-0800

SHEET
OC-20
JOB NO.
42045

Dec 19, 2014 - 11:41am Y:\B6341-100-FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-21.dwg



FOUNDATION PLAN
TYPE "B" FOR MUNI/LIGHTING
POLES



DETAIL
BASE PLATE AND
ANCHOR PLATE

NOTES:

- FOR SHEET NOTES, SEE DRAWING OC-20.
- COORDINATE CONDUIT PLACEMENT WITH PULLBOX LOCATION.
- CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATION OF ALL UNDERGROUND UTILITIES WITH THE UTILITY PROVIDER PRIOR TO EXCAVATING FOUNDATIONS. ANY CONFLICT SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- REINFORCED CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4000psi AT 28 DAYS.
- STEEL REINFORCING SHALL BE ASTM A615, GRADE 60.
- ANCHOR BOLTS SHALL BE ASTM A325 TYPE 1 OR A354 GRADE BC, GALVANIZED.
- PROVIDE FIVE (5) ASTM A563 D1 OR 194 2H NUTS AND FOUR (4) ASTM F436 WASHERS PER BOLT, GALVANIZED, FOR FOUNDATION TYPE "D1". ALL OTHER FOUNDATIONS SHALL HAVE FOUR (4) NUTS AND FOUR (4) WASHERS.
- INSTALL ANCHOR BOLTS PLUMB AND WITH STEEL TEMPLATE OF SIZE AND DIMENSIONS OF ANCHOR PLATE.
- SEE TECHNICAL SPECIFICATIONS FOR ADDITIONAL FOUNDATION REQUIREMENTS.
- ONE 2" STEEL CONDUIT ELBOWS SHALL BE USED FOR LIGHTING. SEE TRAFFIC TO LIGHTING PULLBOX.
- FOR POLE FOUNDATION SCHEDULE AND DIMENSIONS, SEE POLE AND FOUNDATION TABLE BELOW.
- CONDUIT PROJECTION FOR ALL POLES SHALL BE TAKEN SAME AS BOTTOM OF THE POLE HANDHOLE.
- ANCHOR BOLTS SHALL BE ORIENTED PERPENDICULAR TO THE DIRECTION OF LUMINAIRE AND/OR MAST ARM TRAFFIC SIGNAL.

POLE AND FOUNDATION SCHEDULE - MISSION BAY BLOCK 1 PROJECT																			
POLE DESIGNATION		MAXIMUM DESIGN MOMENT FT-KIP	POLE O.D. AT BOTTOM (IN) A	BASE PLATE/ANCHOR PLATE					ANCHOR BOLTS					FDN TYPE	CAISSON		POLE RAKE IN/FT (NOTE 5)	REMARKS	
MISSION BAY STYLE LIGHTING AND POLE	MUNI POLE ID. NO.			BASE PLATE THICKNESS B	ANCHOR PLATE THICKNESS B1	LENGTH (IN) C	WIDTH (IN) D	DIAMETER OF BOLT HOLES E1	DIAMETER (IN) E	LENGTH (FT-IN) F	BOLT CIRCLE DIA (IN) G	BOLT PROJECTION (IN) H	THREAD LENGTH (IN) J		DIAMETER (IN) K	DEPTH (FT-IN) L			
L2A+761MB	N-CH-PB	45.6	10	1 1/2	1	17	17	2 1/4	1 1/2	7-6	15	9	12	B	30	7-6	-	MUNI JOINT USE - OCS/LIGHTING	
L2A+761MB	N-CH-P10	45.6	10	1 1/2	1	17	17	2 1/4	1 1/2	7-6	15	9	12	B	30	7-6	-	MUNI JOINT USE - OCS/LIGHTING	

**POLE FOUNDATION DETAIL,
SECTION AND SCHEDULE**

MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

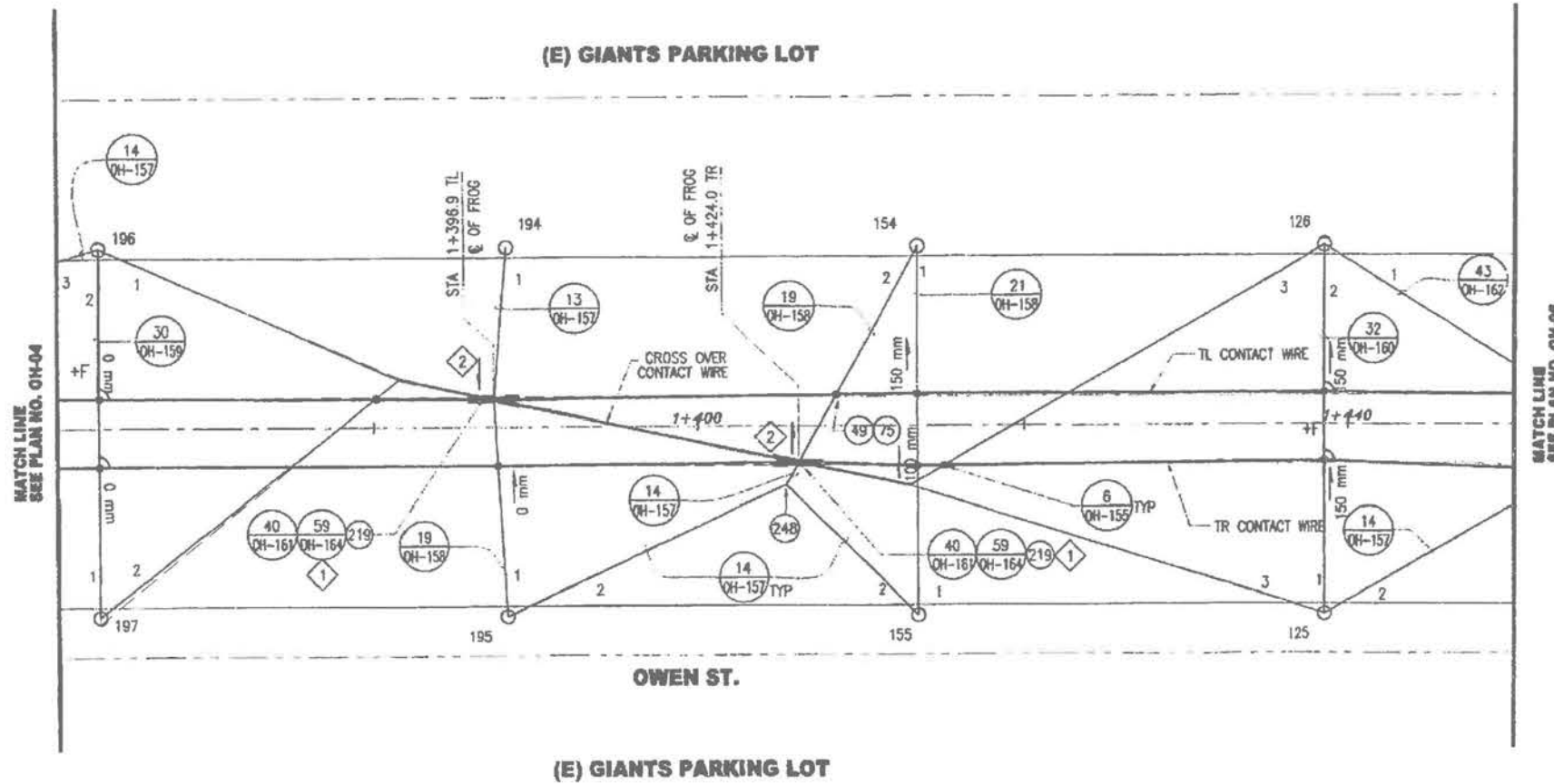
DATE: 12/18/14	DESIGNED: MGG	CHECKED: MGG	PROJ. ENGR: MGG	SCALE: NTS	SUBCONSULTANT:	DESCRIPTION	DATE
<p>75% SUBMITTAL 100% SUBMITTAL</p> <p>FOCIL-MB, LLC OWNER</p> <p>Mission Bay Development Group, LLC DEVELOPMENT MANAGER</p> <p>PREYER & LAURETA, INC. ONE ENGINEERS + ARCHITECTS + CONSTRUCTION MANAGERS 144 North San Mateo Drive, San Mateo, CA 94401 www.preyerandlaureta.com</p> <p>PGH Wong Engineering, Inc. 182 Second St, San Francisco, California 94105 Tel: (415) 866-0800</p>							
SHEET OC-21							
JOB NO. 42045							

Dec 19, 2014 - 11:42am Y:\86341-100_FREYER & LAURETA\1000_BLOCK_1\WORKING\OC-22.dwg

OCS SCHEDULE							
POLE NO.	POLE			GUYWIRE NO.			OVERHEAD NOTES
	TYPE	STYLE	RAKE (mm/m)	1	2	3	
125	-	-	-	2200 N 6.75 m	3600 N 6.60 m	15100 N 5.90 m	(1)
126	-	-	-	8200 N 5.90 m	2200 N 6.70 m	2200 N 7.70 m	(1) (2)
154	-	-	-	2200 N 6.95 m	4400 N 7.10 m	-	(1)
155	-	-	-	2200 N 6.50 m	2900 N 6.50 m	-	(1)
194	-	-	-	4400 N 7.45 m	-	-	(1)
195	-	-	-	4400 N 6.45 m	4700 N 6.55 m	-	(1)
196	-	-	-	14500 N 5.90 m	2200 N 6.80 m	1600 N 7.70 m	(1) (2)
197	-	-	-	2200 N 7.00 m	4400 N 6.70 m	-	(1)

SHEET NOTES:

- CONTRACTOR TO MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACHIEVE SATISFACTORY TRACKING OF LRV PANTOGRAPH AND PCC SHOE.
- OFFSET CENTERLINE OF FROG 120 mm FROM TRACK CENTERLINE IN THE DIRECTION OF ARROW.



FOR REFERENCE ONLY



NO.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED

DESIGNED: <i>T. Miller</i>	
CHECKED: <i>EDW</i>	
REVIEWED: <i>all</i>	
APPROVED: <i>Virginia Gu</i>	
DATE: 10/7/11	

CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY

APPROVED: *Vernity Harris*
DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.

OVERHEAD CONTACT SYSTEM
STATION 1+361 TO 1+450

DATE: 12/19/14	DESIGNED: MGR	CONTRACT: MR-1141
DRAWN: AL	CHECKED: JK	DRAWING: CL-12804
PROJ. ENGR: MGR	SCALE: NTS	SHEET: OC-22
SCALE: NTS	BAR IS ONE INCH ON ORIGINAL	JOB NO. 42045
SCALE: 1" = 100'	IF NOT ONE INCH ON THIS SHEET, REVISION SCALE APPLICABLE	

OCS REFERENCE DRAWING
SHEET 1 OF 11
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

75% SUBMITTAL	10/29/14	FOCIL-MB, LLC OWNER Mission Bay Development Group, LLC DEVELOPMENT MANAGER
100% SUBMITTAL	12/18/14	
		FREYER & LAURETA, INC. CONSULTANTS 182 Second St. San Francisco, California 94105 Tel: (415) 568-0800 www.freyerandlaureta.com

MATERIALS LIST I (ITEMS 1 - 100)

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
WIRES, CABLES AND JUMPERS			
1	2/0 TROLLEY WIRE, GROOVED BRONZE ALLOY 80	-	-
2	4/0 TROLLEY WIRE, GROOVED BRONZE ALLOY 80	-	-
3	NOT USED	-	-
4	GUY WIRE, 1/4" STEEL STRAND, HIGH STRENGTH GRADE, GALVANIZED, ASTM A475 CLASS A, 7 STRAND	-	-
5	GUY WIRE 3/8" STEEL STRAND, UTILITY GRADE, GALVANIZED, ASTM A475 CLASS A, 7 STRAND W/MINIMUM STRENGTH OF 51,000 N	-	-
6	DEAD END FOR 1/4" STRAND	PERFORMED LINE PRODUCTS	GDE 2104
7	DEAD END FOR 3/8" STRAND	PERFORMED LINE PRODUCTS	GDE 2107
8	STRANDWISE, 3/8"	IMPulse	57236-4001
9	STRANDWISE, 1/4"	IMPulse	57236-4006
10	CONTROL CABLE, TYPE CT-C, #12 AWG, 7 STRAND, 4 CONDUCTORS, 1000 VOLTS, WITH CABLE TIE AT 0.5 m SPACING AND WEATHER RESISTANT POLYETHYLENE BLACK SPIRAL WRAPPING ENTIRE LENGTH	ROME ANTEC PANDUIT	PAN104678 T50F-C0
11	FEEDER CABLE, 4/0 COPPER, INSULATED CLASS B STRANDING	-	-
12	JACKETED SHIELD CABLE	ALPHA	3246
13	JUMPER WIRE ASSEMBLY	IMPulse	56591-6638 56590-6453
14	4/0 INSULATED TROLLEY WIRE JUMPER, LENGTH AS REQUIRED	-	-
15	CABLE, BARE COPPER, 500 KCMIL	-	-
16	NOT USED	-	-
17	NOT USED	-	-
18	NOT USED	-	-
19	NOT USED	-	-
20	NOT USED	-	-
TIPS AND SPLICERS			
21	TIP, TYPE BR, FOR 2/0 GROOVED WIRE	IMPulse	690472-3001
22	TIP, TYPE BR, FOR 4/0 GROOVED WIRE	IMPulse	690472-3002
23	TIP, TYPE T, FOR 2/0 GROOVED WIRE	IMPulse	16831-2000
24	TIP, TYPE T, FOR 4/0 GROOVED WIRE	IMPulse	18210-2000
25	TIP, TYPE TC, FOR 2/0 GROOVED WIRE	IMPulse	17795-2000
26	TIP, TYPE TC FOR 4/0 GROOVED WIRE	IMPulse	17797-2000
27	TIP, TYPE TCL FOR 2/0 GROOVED WIRE	IMPulse	54950-3001
28	TIP, TYPE TCL, FOR 4/0 GROOVED WIRE	IMPulse	54950-3002
29	TIP, TYPE TL FOR 2/0 GROOVED WIRE	IMPulse	22433-2000
30	TIP, TYPE TL, FOR 4/0 GROOVED WIRE	IMPulse	23720-3003
31	SPLICER, BULLDOG TW, FOR SPLICING 2/0 TO 4/0 GROOVED WIRE	IMPulse	54944-3001
32	SPLICER, BULLDOG, FOR SPLICING 2/0 GROOVED WIRE	IMPulse	16607-2000
33	SPLICER, BULLDOG, FOR SPLICING 4/0 GROOVED WIRE	IMPulse	16685-2000
34	SPLICER FOR UNIVERSAL SPACER BAR	IMPulse	18553-2000
35	TIP, TYPE SR, FOR 2/0 WIRE	IMPulse	20748
36	TIP, TYPE SR, FOR 4/0 WIRE	IMPulse	20749
37	TIP WITH TONGUE FOR UNIVERSAL SPACER BAR	IMPulse	18431-2000
38	TIP WITH CLEVIS FOR UNIVERSAL SPACER BAR	IMPulse	18430-2000
39	NOT USED	-	-
40	NOT USED	-	-
CLAMPS AND HANGERS			
41	CLAMP, SINGLE STRAIN, TYPE T	IMPulse	16907-2000
42	CLAMP, DOUBLE STRAIN, TYPE T	IMPulse	17700-2000
43	CLAMP, STRAIN, TYPE TS	IMPulse	19004
44	CLAMP, STRAIN C/E	IMPulse	679446
45	CLAMP, FEEDER WIRE STRAIN WITH EYE	IMPulse	10571-2000
46	CLAMP, FEEDER WIRE STRAIN WITH CLEVIS	IMPulse	22798-2000
47	CLAMP, TROLLEY WIRE DEAD END, FOR 4/0 WIRE	IMPulse	15864-2000
48	CLAMP, TROLLEY WIRE DEAD END, FOR 2/0 WIRE	IMPulse	21326-2000
49	CLAMP, TYPE HS, 14" LONG, HOT DIP GALVANIZED MALLEABLE IRON	IMPulse	19440-2000
50	CLAMP, TYPE HS FEEDER, 14" LONG	IMPulse	19441-2000

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
CLAMPS AND HANGERS			
51	CLAMP, TYPE HSP FEEDER, 14" LONG	IMPulse	19880-2000
52	CLAMP, TYPE L2 HOLLOW SCREW	IMPulse	60021-3001
53	CLAMP, DUPLEX, 4/0 TO 4/0	IMPulse	16103-2000
54	CLAMP, DUPLEX, 4/0 TO 4/0	IMPulse	16373-3001
55	CLAMP, DUPLEX	IMPulse	13853-3006
56	CLAMP, INSULATED LEAD WIRE, 2/0 TO 4/0 GROOVED WIRE	IMPulse	19655-2000
57	CLAMP, UNIVERSAL FEEDER	IMPulse	18547-2000
58	CLAMP, UNIVERSAL SPACER SUPPORT	IMPulse	18544
59	CLAMP, STRAIGHT LINE DEAD END, TYPE SDF-A, FOR 1/4" STRAND	A.B. CHANCE	CSD5A
60	CLAMP, COPPER TEE, 500 KCMIL TO 4/0	BURNDY	QPX 3426
61	CLAMP, SPECIAL DETROIT FEED	IMPulse	54205
62	CLAMP, CABLE	BURNDY	BARTAP 06FL3181
63	CLAMP BODY	IMPulse	58034-4001
64	CLAMP CASTING, TYPE HS FEEDER WITH LUG	IMPulse	21088
65	HANGER ASSEMBLY, DOUBLE CURVE, TYPE PH	IMPulse	54962-3001
66	HANGER BODY, DOUBLE CURVE, TYPE H-1	IMPulse	11653-2000
67	HANGER, FEEDER SPAN	IMPulse	60118-3002
68	HANGER, POSITIVE OR NEGATIVE FEED SPAN, TYPE PH-1	IMPulse	54999-3001
69	HANGER, POSITIVE FEED SPAN, TYPE PH-4	IMPulse	54937-3001
70	HANGER, NEGATIVE FEED SPAN, TYPE PH-5	IMPulse	54936-3001
71	HANGER, INSULATED FEED SPAN, TYPE PH-7	IMPulse	56011-3001
72	HANGER, TYPE EZ	IMPulse	677427
73	HANGER, TANGENT SPAN, TYPE KW WITH ADJUSTABLE YOKE	IMPulse	56489-3001
74	HANGER, TANGENT SPAN, TYPE AGC WITH ADJUSTABLE CLAMP	IMPulse	19360-2000
75	HANGER, ADJUSTABLE HEIGHT WITH INSULATOR	IMPulse	681837
76	TROLLEY WIRE SUPPORT ASSEMBLY	IMPulse	54962-3003
77	NOT USED	-	-
78	STEEL ARM FOR DOUBLE CURVE HANGER BODY	IMPulse	16220
79	PIPE CLEVIS CLAMP	IMPulse	55375-3001
80	TUNNEL SUPPORT ASSEMBLY	IMPulse	59461
81	SHOVEL CLAMP FOR CONTACT WIRE	IMPulse	57219-3001
82	PIPE CLAMP - CLEVIS END	IMPulse	55375-3001
83	NOT USED	-	-
84	NOT USED	-	-
85	NOT USED	-	-
86	NOT USED	-	-
87	NOT USED	-	-
88	NOT USED	-	-
89	NOT USED	-	-
90	NOT USED	-	-
INSULATORS			
91	DIRIGO SPOOL INSULATOR, 11/16" STUD	IMPulse	16835-2000
92	DIRIGO SPOOL INSULATOR, 7/8" STUD	IMPulse	19305-3015
93	DIRIGO SPOOL INSULATOR, 1-1/4" STUD	IMPulse	20560-2000
94	INSULATOR, PORCELAIN STRAIN, TYPE J8	IMPulse	31504-3060
95	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & CLEVIS AT RIGHT ANGLE, 12"	IMPulse	54984-6121
96	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & CLEVIS IN SAME PLANE, 12"	IMPulse	54985-6121
97	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & EYE AT RIGHT ANGLE, 12.8"	IMPulse	54961-6128
98	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & EYE IN SAME PLANE, 12.8"	IMPulse	55289-6128
99	HI-LITE STRAIN INSULATOR, 5/8" EYE & EYE AT RIGHT ANGLE, 12.8"	IMPulse	56261-6128
100	HI-LITE STRAIN INSULATOR, 5/8" EYE & EYE IN SAME PLANE, 12.8"	IMPulse	55263-6128

SHEET NOTES FOR PLAN OH-150 TO OH-152:

- NOT ALL MATERIALS LISTED IN THE MATERIAL LIST ARE TO BE USED. IN ADDITION, ITEMS OTHER THAN THOSE LISTED IN THE MATERIAL LIST MAY BE NECESSARY TO COMPLETE THIS CONTRACT. REFER TO LAYOUT PLANS AND DETAILS FOR THE SPECIFIED MATERIALS TO BE USED.
- ALL PART NUMBERS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL VERIFY ALL PART NUMBERS WITH THE MANUFACTURER BEFORE ORDERING.
- ALL FERROUS METALS, FABRICATED OR MACHINED, SHALL CONFORM TO THE FOLLOWING:
 - A. BOLTS, NUTS, WASHERS AND LAG SCREWS: ASTM A307.
 - B. THREADS: ANSI B1.1 AND B1.10.
 - C. STEEL STRANDS: ASTM A475 CLASS C.
 - D. MALLEABLE IRON CASTINGS: ASTM A47 GRADE 35018.
- ALL FERROUS METALS, FABRICATED OR MACHINED, INCLUDING BOLTS, NUTS, WASHERS, LAG SCREWS, STRANDS, AND MALLEABLE IRON CASTINGS SHALL BE GALVANIZED PER ASTM A123 AND A153.
- STEEL PIPE SHALL BE MANUFACTURED AND GALVANIZED PER ASTM 153.

FOR REFERENCE ONLY

Dec 19, 2014 - 11:42am Y:\B6341-100_FREYER & LAURETIA\1000 BLOCK 1\WORKING\OC-23.dwg

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED

DESIGNED: *Pharis*
 DRAWN: *Mina*
 CHECKED: *Edwin*
 REVISIONS: *Abel*
 RECOMMENDED: *Yingming Gu*
 APPROVED: *W. Johnson*
 DATE: *10/21/01*



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY
 APPROVED: *Vernity Harris*
 DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
 THIRD STREET LIGHT RAIL TRANSIT
 KING ST. TO 22ND ST.
OVERHEAD CONTACT SYSTEM MATERIALS LIST I (ITEMS 1 - 100)

DATE: 12/19/14
 DESIGNED: MGR
 DRAWN: AL
 CHECKED: JK
 PROJ. ENGR: MGR
 SCALE: NTS
 SHEET: 0
 CONTRACT: MR-1141
 DRAWING: CL-12940
 SHEET: OH-150 / OH-166
 REVISION: 0
 SHEET: OC-23
 JOB NO.: 42045

OCS REFERENCE DRAWING
 SHEET 2 OF 11
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

FOCIL-MB, LLC
 Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

FREYER & LAURETIA, INC.
 CIVIL ENGINEERS - SURVEYORS - CONTRACT MANAGERS
 1850 S. 4TH ST., SUITE 200, SAN FRANCISCO, CA 94103
 TEL: (415) 666-8800
 WWW.FREYERANDLAURETIA.COM

PCH Wong Engineering, Inc.
 185 Second St. San Francisco, California 94105
 TEL: (415) 666-8800

MATERIALS LIST II (ITEMS 101 - 200)

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
INSULATORS			
101	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & CLEVIS AT RIGHT ANGLE, 36"	IMPulse	54964-6360
102	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & CLEVIS IN SAME PLANE, 36"	IMPulse	54965-6360
103	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & EYE AT RIGHT ANGLE, 36"	IMPulse	54961-6368
104	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & EYE IN SAME PLANE, 36"	IMPulse	55289-6368
105	HI-LITE STRAIN INSULATOR, 5/8" EYE & EYE AT RIGHT ANGLE, 36"	IMPulse	55261
106	HI-LITE STRAIN INSULATOR, 5/8" EYE & EYE IN SAME PLANE, 36"	IMPulse	55263
107	HI-LITE STRAIN INSULATOR, 5/8" CLEVIS & CLEVIS IN SAME PLANE, 21.25"	IMPulse	54990-6265
108	HI-LITE STRAIN INSULATOR, 7/8" CLEVIS & CLEVIS IN SAME PLANE, 12"	IMPulse	54975-6120
109	HI-LITE STRAIN INSULATOR, 7/8" CLEVIS & EYE AT RIGHT ANGLE, 12"	IMPulse	60360-6127
110	HI-LITE STRAIN INSULATOR, 7/8" ADJUSTABLE EYE	IMPulse	54980-6385
111	HI-LITE STRAIN INSULATOR, 5/8" EYE & EYE IN SAME PLANE, 15"	IMPulse	55629-6150
112	NO-BO SECTION INSULATOR	IMPulse	55025-3001
113	NO-BO SECTION INSULATOR WITH PERMANENT MAGNETIC ARC BLOWOUT UNIT	IMPulse	55030-3001
114	SECTION INSULATOR WITH GLIDE, NON-COMMUTATING	IMPulse	54674-3003
115	SECTION INSULATOR WITH GLIDE, COMMUTATING	IMPulse	54674-3004
116	SECTION INSULATOR WITH GLIDE, COMMUTATING, WITH YOKE ASSEMBLY	IMPulse	54674-3005
117	SECTION INSULATOR WITH GLIDE, NON-COMMUTATING, WITH YOKE ASSEMBLY	IMPulse	54674-3006
118	SECTION INSULATOR WITH GLIDE, COMMUTATING, WITH YOKE ASSEMBLY AND PERMANENT MAGNETIC ARC BLOWOUT UNIT	IMPulse	60376-3001
119	PERMANENT MAGNETIC ARC BLOWOUT UNIT	IMPulse	57201-3001
120	INSULATOR YOKE, TYPE S	IMPulse	22335
121	TRANSITE STRUT FOR 2" SCH 40 PIPE	IMPulse	56909-3001
122	TYPE CH INSULATED ADJUSTABLE SPACERS	IMPulse	54982-3001
123	INSULATED RUNNER	IMPulse	55033-3001
124	TRANSITE ROD, 7/8" - LENGTH TO SUIT	IMPulse	55070
125	NO-BO YOKE AND SUSPENSION ASSEMBLY	IMPulse	55025-3005
126	SADDLE-2" INSULATED HORIZONTAL STITCH	IMPulse	57183-3004
127	HI-LITE STRAIN INSULATOR, 7/8" EYE & EYE IN SAME PLANE, 13"	IMPulse	56262-6132
128	SECTION INSULATOR WITH GLIDE, COMMUTATING, WITH PERMANENT MAGNETIC ARC BLOWOUT UNIT	IMPulse	60376-3002
129	NOT USED		
130	NOT USED		
CURVE SEGMENTS			
131	FLEXIBLE CURVE SEGMENT, 3'-5'	IMPulse	58686-3006
132	FLEXIBLE CURVE SEGMENT, 5'-8'	IMPulse	58686-3002
133	FLEXIBLE CURVE SEGMENT, 8'-10'	IMPulse	58686-3003
134	FLEXIBLE CURVE SEGMENT, 10'-15'	IMPulse	58686-3004
135	1/2 CURVE SEGMENT, ADJUSTABLE 5'-12", TYPE C-2 WITHOUT TIPS	IMPulse	22301
136	1/2 CURVE SEGMENT, ADJUSTABLE 13'-27", TYPE C-2 WITHOUT TIPS	IMPulse	22302
137	CURVE SEGMENT, ADJUSTABLE 5'-12", TYPE C-2 WITHOUT TIPS	IMPulse	22301-3019
138	CURVE SEGMENT, ADJUSTABLE 13'-27", TYPE C-2 WITHOUT TIPS	IMPulse	22302-3009
139	CURVE SEGMENT, ADJUSTABLE 28'-47", TYPE C-2 WITHOUT TIPS	IMPulse	22303-3008
140	NOT USED		
141	NOT USED		
142	NOT USED		
143	NOT USED		
144	NOT USED		
145	NOT USED		
146	NOT USED		
147	NOT USED		
148	NOT USED		
149	NOT USED		
150	NOT USED		

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
CROSSOVERS			
151	NOT USED		
152	RIGID 27' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	59290-3001
153	RIGID 30' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	60401-3001
154	RIGID 35' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	675885
155	RIGID 40' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	675883
156	RIGID 45' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	675884
157	RIGID 50' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	60354-3001
158	RIGID 55' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 1XR WITH GLIDE	IMPulse	675882
159	NOT USED		
160	NOT USED		
161	NOT USED		
162	NOT USED		
163	NOT USED		
164	INSULATED RIGID 15' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60301-3001
165	INSULATED RIGID 23' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60304-3001
166	INSULATED RIGID 27' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60355-3001
167	INSULATED RIGID 35' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60356-3001
168	INSULATED RIGID 40' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60357-3001
169	INSULATED RIGID 45' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60358-3001
170	INSULATED RIGID 50' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	675878
171	INSULATED RIGID 55' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	60359-3001
172	INSULATED RIGID 60' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	675879
173	INSULATED RIGID 70' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	675880
174	INSULATED RIGID 75' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 2XR WITH GLIDE	IMPulse	675881
175	NOT USED		
176	NOT USED		
177	NOT USED		
178	INSULATED RIGID 23' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	58649
179	INSULATED RIGID 27' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	59290
180	INSULATED RIGID 30' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	55968
181	INSULATED RIGID 35' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	673658
182	INSULATED RIGID 37' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	58862
183	INSULATED RIGID 40' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	673659
184	INSULATED RIGID 45' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	55967
185	INSULATED RIGID 50' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	57857
186	INSULATED RIGID 55' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	60009
187	INSULATED RIGID 60' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	55966
188	INSULATED RIGID 70' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	57194
189	INSULATED RIGID 75' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	59059
190	INSULATED RIGID 90' DEEP RUNNER CROSSOVER ASSEMBLY, TYPE 4XR	IMPulse	55965
191	NOT USED		
192	NOT USED		
193	NOT USED		
194	NOT USED		
195	NOT USED		
196	NOT USED		
197	NOT USED		
198	NOT USED		
199	NOT USED		
200	NOT USED		

FOR REFERENCE ONLY

Dec 19, 2014 - 11:42am Y:\8634-100_FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-24.dwg

NO.	DATE	DESCRIPTION	REVISION	CHECKED	APPROVED

DESIGNED: <i>Thomas</i>	
DRAWN: <i>L. DYER</i>	
CHECKED: <i>Edman</i>	
REVIEWED: <i>Alba</i>	
REDESIGNED: <i>Guangyu Gu</i>	
APPROVED: <i>W. Nelson</i>	
DATE: 10/3/2001	



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY

APPROVED: *Vincent Harris*
 DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
 THIRD STREET LIGHT RAIL TRANSIT
 KING ST. TO 22ND ST.

OVERHEAD CONTACT SYSTEM
 MATERIALS LIST II (ITEMS 101 - 200)

CONTRACT: MR-1141
 DRAWING: CL-12941
 SHEET: OH-151
 REVISION: 0

JOB NO. 42045

OCS REFERENCE DRAWING
 SHEET 3 OF 11
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
05/09/14	
10/06/14	
10/19/14	

FOCIL-MB, LLC
 OWNER
 Mission Bay
 Development
 Group, LLC
 DEVELOPMENT NUMBER

DATE: 12/18/14
 DESIGNED: MGQ
 DRAWN: AL
 CHECKED: JK
 PROJ. ENGR: MGQ
 SCALE: NTS
 BAR IS ONE INCH ON ORIGINAL
 IF NOT ONE INCH ON THIS SHEET,
 ADJUST SCALE ACCORDINGLY

LAURETA, INC.
 CIVIL ENGINEERS & ARCHITECTS - CONSULTING ENGINEERS
 144 North San Mateo Drive, San Mateo, CA 94401
 (650) 351-1000 • Fax: (650) 351-0520 • www.laureta.com

PGH Wong Engineering, Inc.
 182 Second St. San Francisco, California 94105
 TEL: (415) 566-0800

MATERIALS LIST III (ITEMS 201 - 300)

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
SWITCHES			
201	15" ELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, LEFT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	55973-3006
202	15" ELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, RIGHT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	55973-3005
203	15" ELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, LEFT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	55964-3010
204	15" ELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, RIGHT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	55984-3009
205	15" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, LEFT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER	IMPulse	55981-3010
206	15" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, RIGHT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER	IMPulse	55981-3009
207	15" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, LEFT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER	IMPulse	55979-3012
208	15" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, RIGHT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER	IMPulse	55979-3011
209	30" SELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, LEFT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	57143-3008
210	30" SELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, RIGHT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	57143-3007
211	30" SELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, LEFT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	56425-3010
212	30" SELECTRIC FROG AND CROSSOVER ASSEMBLY, TYPE WSE-2S, RIGHT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER (SEE PLAN FOR FLIPPER RESET DIRECTION)	IMPulse	56425-3009
213	30" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, LEFT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER	IMPulse	56596-3008
214	30" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, RIGHT HAND, INSULATION IN STRAIGHT, STAINLESS STEEL FLIPPER	IMPulse	56596-3007
215	30" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, LEFT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER	IMPulse	56597-3014
216	30" TRAILING FROG AND CROSSOVER ASSEMBLY, TYPE WTR, RIGHT HAND, INSULATION IN CURVE, STAINLESS STEEL FLIPPER	IMPulse	56597-3013
217	10" FROG, TYPE SR, LEFT HAND, SHALLOW BODY, FEED THROUGH TYPE	IMPulse	60421-3001
218	10" FROG, TYPE SR, RIGHT HAND, SHALLOW BODY, FEED THROUGH TYPE	IMPulse	60421-3002
219	10" FROG ASSEMBLY, LRV, RIGHT HAND, SHALLOW BODY, FEED THROUGH TYPE WITH GLIDERS	IMPulse	675888
220	10" FROG ASSEMBLY, LRV, LEFT HAND, SHALLOW BODY, FEED THROUGH TYPE WITH GLIDERS	IMPulse	675889
221	12" ELECTRIC FROG ASSEMBLY, LRV, LEFT HAND, TWIN COILS, WITH GLIDERS	IMPulse	60374-3001
222	12" ELECTRIC FROG ASSEMBLY, LRV, RIGHT HAND, TWIN COILS, WITH GLIDERS	IMPulse	60374-3002
223	6" SPRING FROG, RIGHT HAND WITH GLIDERS	IMPulse	60433-3001
224	6" SPRING FROG, LEFT HAND WITH GLIDERS	IMPulse	60433-3002
225	NOT USED		
226	NOT USED		
227	NOT USED		
228	NOT USED		
229	NOT USED		
230	NOT USED		
231	NOT USED		
232	NOT USED		
233	NOT USED		
234	NOT USED		
235	NOT USED		
MISCELLANEOUS			
236	ANTENNA ASSEMBLY AND REQUIRED MOUNTING HARDWARE	IMPulse	320310-X
237	ELECTRIC FROG CONTACTOR FOR 2/0 TO 4/0 GROOVED WIRE, WITH #12 INSULATED WIRE, LENGTH AS REQUIRED	IMPulse	24556
238	CONTROL CONTACTOR COMPLETE FOR 2/0 TO 4/0 GROOVED WIRE, SHOE AND PANTOGRAPH INDICATOR LAMP ASSEMBLY, WITH #12 INSULATED WIRE, LENGTH AS REQUIRED, INCLUDES MESSENGER WIRE AND MOUNTING HARDWARE AS REQUIRED. FOR SPAN MOUNTED SIGNALS, USE SPAN WIRE FRAME, SIGNAL ENGINEERING #6156117	IMPulse	54671-3001
239	SWITCH CONTROL RECEIVER UNIT, INCLUDE ALL CABLES FROM ANTENNA TO RECEIVER TO SWITCH	IMPulse	320100-X

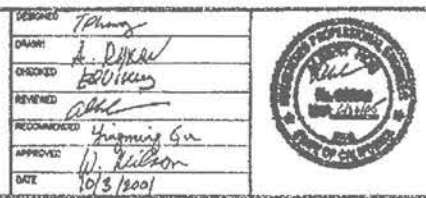
ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.
MISCELLANEOUS			
241	LIGHT SWITCH, TYPE TEP-2	IMPulse	21894-2000
242	RELAY BOX WITH MOUNTING FRAME		
243	SIGN, REFLECTIVE, ALUMINUM, 450 mm x 610 mm, 100 mm HIGH BLACK COLORED LETTERS READING "MUNI SIGNAL" ON YELLOW COLORED BACKGROUND, WITH ATTACHMENTS TO POLE		
244	SHACKLE, 3/4"	IMPulse	70709-2000
245	SHACKLE, 5/8"	IMPulse	13722-2000
246	SHACKLE, 5/8", WITH LOCK NUT	IMPulse	86681-2000
247	SHACKLE, 1/2"	IMPulse	60188-3001
248	BULLRING, 5/8" x 3" DIAMETER	IMPulse	18562-2000
249	BULLRING, 3/4" x 3" DIAMETER	IMPulse	18567-2000
250	YOKE W/CLAMPS, BRACE AND HARDWARE FOR SOLID BODY FROG	IMPulse	305600-561X
251	EXTENSION STEEL STRAP, LENGTH AS REQUIRED	IMPulse	93734
252	EYEBOLT, 7/8" Ø, STAINLESS STEEL, LENGTH AS SHOWN WITH STAINLESS STEEL WASHER (OGEE SHAPE) FOR 7/8" Ø BOLT		
253	EYEBOLT, 1" Ø, STAINLESS STEEL, LENGTH AS SHOWN WITH STAINLESS STEEL WASHER (OGEE SHAPE) FOR 1" BOLT		
254	EYEBOLT, 1/2" x 6" WITH NUTS AND WASHERS	IMPulse	11933-2000
255	EYEBOLT ASSEMBLY FOR WOOD POLE, GALVANIZED ASTM A489, LENGTH TO SUIT, 1/2" Ø WITH GALVANIZED 1/4" x 3/32" CURVED STEEL WASHER AND GALVANIZED STEEL NUT		
256	GALVANIZED 1/4" x 3/32" CURVED STEEL WASHER AND GALVANIZED STEEL NUT		
257	GUIDE CASTING ASSEMBLY FOR 2" PIPE	IMPulse	11817-2000
258	OUTER SPAN HOLDER FOR 2" PIPE	IMPulse	14245-2000
259	PIPE CAP FOR 2" GALVANIZED STEEL PIPE	IMPulse	56030-4001
260	STEEL PIPE, 2" Ø, SCH 40, GALVANIZED		
261	POLE BAND PER STD. DWG. A-1652, REV. 5 (3 PIECE)		
262	INSULATOR FEEDER SPAN SUPPORT	IMPulse	17706-2000
263	GROUNDING CONNECTOR (4/0)	IMPulse	674210
264	GROUNDING CONNECTOR (350 KCMIL)	IMPulse	674754
265	LIVE SPACER, TYPE T OR TC AS APPLICABLE, LENGTH TO SUIT	IMPulse	
266	STA-STRAP HEAVY CABLE TIE	PANDUIT	PLT-5EH
267	TREE GUARD, CLAMPED TO GUY WIRE, LENGTH TO SUIT	ANTEC	GR0003423
268	TIE WRAP WITH STEEL LOCKING TOOTH	ANTEC	PAN104678
269	FABRICATED PIPE ARM, GALVANIZED STEEL, SCH 80.		
270	PIPE ARM, 1/2" Ø, 72" LONG	IMPulse	677262
271	HINGE	IMPulse	56062-3002
272	HINGE BRACKET ASSEMBLY	IMPulse	56904
273	UNIVERSAL SPACER BAR, LENGTH TO SUIT	IMPulse	18718
274	SUPPORT ROD ASSEMBLY FOR STEEL POLE, GALVANIZED, 1/2" Ø, LENGTH TO SUIT	IMPulse	21048
275	SUPPORT ROD ASSEMBLY FOR WOOD POLE, GALVANIZED, 1/2" Ø, LENGTH TO SUIT	IMPulse	14176
276	CLEVIS FITTING	IMPulse	15278
277	PIPE, 1 1/4" Ø, LENGTH VARIES, SCHEDULE 40, STEEL GALV, THREADED AT BOTH ENDS		
278	PIPE END	IMPulse	11818
279	HORIZONTAL PIPE ADAPTER FOR 1 1/4" Ø PIPE	IMPulse	14356
280	MINE HANGER	IMPulse	14629
281	BAR CLEVIS	IMPulse	15573
282	STUD, 5/8" Ø x 1 5/8"	IMPulse	22483
283	TURNBUCKLE, 5/8" x 6", JAW AND EYE	IMPulse	95683-3008
284	GALVANIZED STEEL BAR, 1 1/4" x 3/8" x 700 mm LONG, WITH 3 HOLES 15 mm Ø		
285	HINGE POLE BAND ASSEMBLY	IMPulse	57217-3002
286	PIPE CLAMP FOR 2" PIPE	IMPulse	56024-3001
287	NOT USED		
288	NOT USED		
289	EYE FITTING FOR 2" PIPE	IMPulse	56463-3002
290	THIMBLE	IMPulse	56626-4003
291	CLIP-GUY WIRE	IMPulse	56574-3001
292	NOT USED		
293	NOT USED		
294	NOT USED		
295	NOT USED		
296	NOT USED		
297	NOT USED		
298	NOT USED		
299	NOT USED		
300	NOT USED		

FOR REFERENCE ONLY

Dec 19, 2014 - 11:42am Y:\86341-100_FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-25.dwg

REV.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED

DESIGNED	<i>Thony</i>
DRAWN	<i>J. DiRico</i>
CHECKED	<i>EDV/Kay</i>
REVIEWED	<i>ADL</i>
RECOMMENDED	<i>Yanming Gu</i>
APPROVED	<i>W. Wilson</i>
DATE	10/3/2001



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY
 APPROVED
Vernon Harris
 DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
 THIRD STREET LIGHT RAIL TRANSIT
 KING ST. TO 22ND ST.
 OVERHEAD CONTACT SYSTEM
 MATERIALS LIST III (ITEMS 201 - 300)

CONTRACT	MR-1141
DRAWING	CL-12942
DATE	12/19/14
DESIGNED	MGG
DRAWN	AL
CHECKED	JK
PROJ. ENGR.	MGG
SCALE:	NYS
SHEET 0C-25	
JOB NO. 42045	

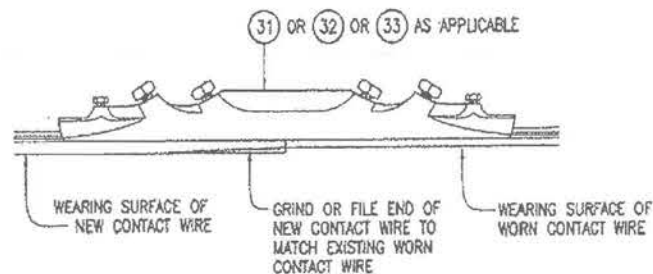
OCS REFERENCE DRAWING
 SHEET 4 OF 11
 MISSION BAY BLOCK 1
 MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION

FOCIL-MB, LLC
 OWNER
 Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

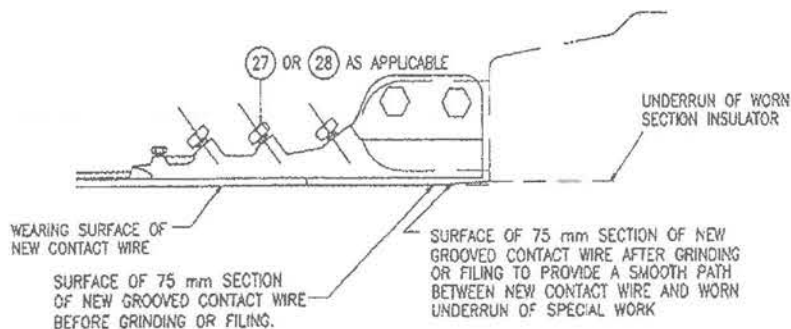
FREYER & LAURETA, INC.
 CIVIL ENGINEERS & SURVEYORS
 1851 MARKET STREET, SUITE 200
 SAN FRANCISCO, CA 94109
 TEL (415) 566-0800

SCALE: NYS
 DRAWING IS ONE INCH OR ORIGINAL
 IF NOT ONE INCH ON THIS SHEET,
 MUST BE SCALE ACCORDANT



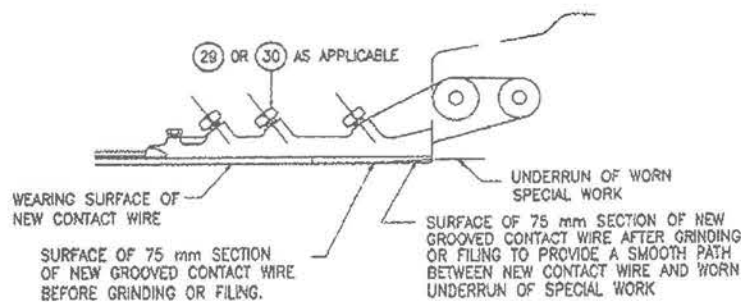
METHOD OF SPLICING (N) CONTACT WIRE TO (E) CONTACT WIRE

DETAIL 1



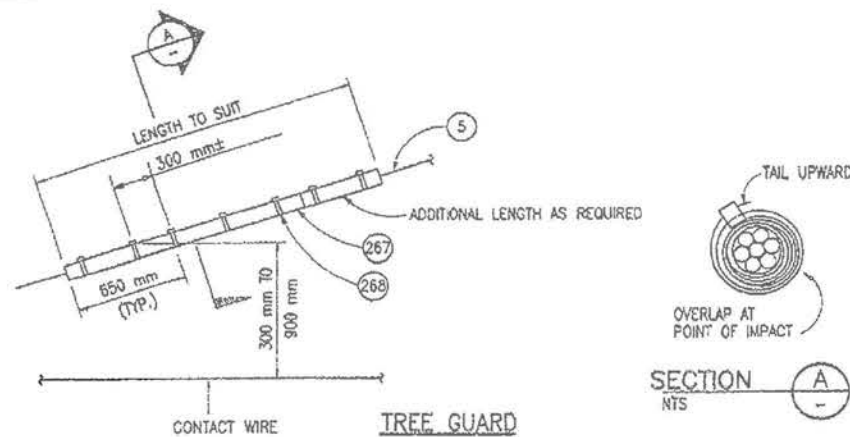
(N) CONTACT WIRE TO (E) SPECIAL WORK (WITH SECTION INSULATOR)

DETAIL 2

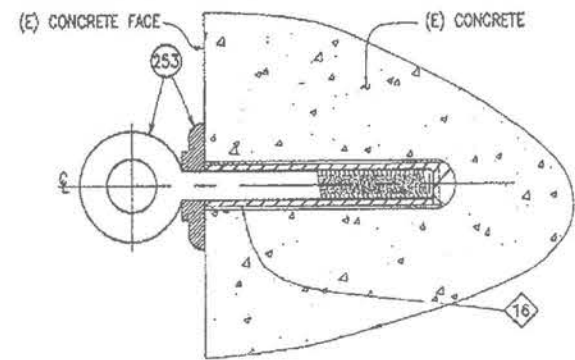


(N) CONTACT WIRE TO (E) SPECIAL WORK (WITHOUT SECTION INSULATOR)

DETAIL 3

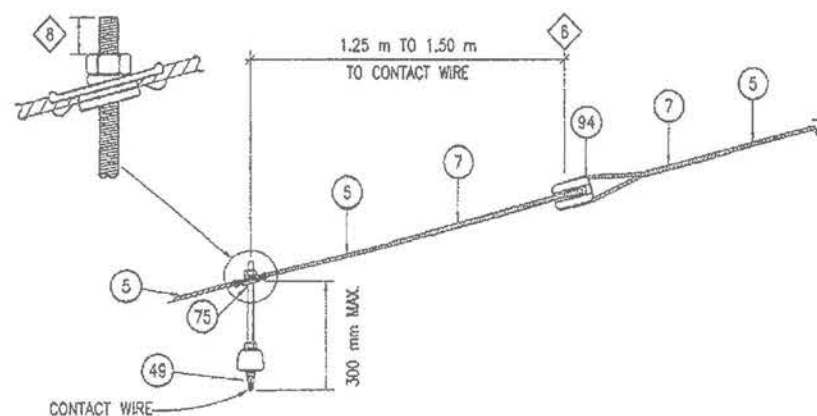


DETAIL 4



(N) EYEBOLT ON (E) CONCRETE

DETAIL 5



CONTACT WIRE/GUYWIRE SEPARATION

DETAIL 6

SHEET NOTES FOR PLANS OH-155 TO OH-166:

1. PROVIDE STRAIN INSULATOR, ITEM 108 OR 109, WHERE CONNECTS TO SWITCH FROG, CURVE SEGMENT, DEAD END CLAMP, CROSSOVER ASSEMBLY, AND ALL ENERGIZED OVERHEAD COMPONENTS.
2. PROVIDE 16 mm (5/8") STUD, NUT AND BEVELED WASHERS. AXIS OF STUD SHALL BE VERTICAL.
3. PROVIDE TWO PORCELAIN INSULATORS, ITEM 94, AND FOUR PREFORMS, ITEM 7 AS SHOWN IF THE DISTANCE BETWEEN CLAMPS IS 5.50 m OR MORE, OTHERWISE DELETE THESE ITEMS.
4. DO NOT STRIP CABLE TO ATTACH CLAMP.
5. STRIP CABLE TO ATTACH CLAMP. WRAP EXPOSED CABLE WITH TWO LAYERS OF ELECTRICAL TAPE AND TWO COATS OF INSULATING VARNISH.
6. THE ADJUSTABLE HEIGHT HANGER WITH INSULATOR, ITEM 76, SHALL BE ADJUSTED TO MAINTAIN THE REQUIRED CONTACT WIRES HEIGHT AND PROVIDE THE NECESSARY SEPARATION. WHERE THERE IS ONLY ONE SPAN INSULATOR BETWEEN THE ADJUSTABLE HANGER AND THE POLE AFTER THE INSTALLATION OF THE HANGER, PROVIDE AN ADDITIONAL PORCELAIN INSULATOR, ITEM 94, AND TWO PREFORMS, ITEM 7, 1.25 m TO 1.50 m AWAY FROM THE ADJUSTABLE HANGER.
7. PROVIDE APPROPRIATE JUMPER WIRE ASSEMBLY, ITEM 13, AND NO-BO INSULATOR, ITEM 112, WHERE INDICATED ON THE LAYOUT PLAN. PROVIDE A PERMANENT MAGNETIC BLOWOUT ASSEMBLY (ITEMS 119 AND 123) ON THE FIRST INSULATED RUNNER SECTION OF ALL CROSSOVERS, SECTION INSULATORS AND FROG ASSEMBLIES.
8. CUT UNUSED LENGTH OF STUD TO 25 mm AFTER FINAL ADJUSTMENT. DO NOT DAMAGE STUD THREADS.
9. REPLACE STRAIN INSULATOR, ITEM 108, WITH ONE EACH OF ITEM 120 AND 248, AND TWO OF ITEM 108 WHERE CONNECTS TO INSIDE OF CURVE SEGMENT.
10. SUBSTITUTE STRANDWISE, ITEMS 8 OR 9 FOR PREFORM, ITEM 8 OR 7, WHERE THERE IS INSUFFICIENT SPACE FOR PREFORM INSTALLATION. PREFORM SHALL NOT BE CUT TO FIT.
11. WHERE NO DISTANCE IS SHOWN, THE LOCATION OF ALL GUY WIRE INSULATORS SHALL COMPLY WITH APPLICABLE G.D. 95 REQUIREMENTS.
12. THE CLAMP HEIGHT FOR THE BOTTOM GUY WIRE SHALL BE 4.85 m WITH A TENSION OF 4400 N, UON.
13. IF LENGTH IS MORE THAN 1.22 m, PROVIDE INSULATOR, ITEM 94, 1.22 m TO 1.52 m FROM CONTACT WIRE. EITHER USE PREFORM, ITEM 7 OR STRANDWISE, ITEM 8, TO INSTALL THE INSULATOR.
14. INSTALL CURVE FITTING/CURVE HANGER IN THE DIRECTION OF PULL OF CONTACT WIRE.
15. DELETE ITEMS 4, 6, AND 97, WHERE CONTROL WIRE IS ATTACHED TO PULL-OFF.
16. INSTALL EYEBOLT WITH AN ADHESIVE ANCHORING SYSTEM TO ACHIEVE MINIMUM ALLOWABLE LOAD OF 22 kN PULL-OUT AND 22 kN SHEAR. INSTALLATION SHALL CONFORM TO THE ADHESIVE ANCHORING SYSTEM MANUFACTURER'S PUBLISHED INSTALLATION REQUIREMENTS AND INSTRUCTIONS TO ACHIEVE THE REQUIRED MINIMUM ALLOWABLE LOAD. THE CONTRACTOR SHALL AVOID DRILLING INTO (E) CONCRETE REINFORCEMENT BY USING NONDESTRUCTIVE MAGNETIC DEVICE (PACHOMETER) TO ESTABLISH LOCATION OF (E) REINFORCEMENT.
17. NOT ALL DETAILS SHOWN HERE ARE TO BE USED. REFER TO LAYOUT PLANS AND NOTES FOR APPLICABLE DETAILS.

FOR REFERENCE ONLY

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

Dec 19, 2014 - 11:42am Y:\86341-100_FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-26.dwg

NO.	DATE	DESCRIPTION	REVISION	DRAWN	CHECKED	APPROVED

DESIGNED: Phany
 DRAWN: [Signature]
 CHECKED: [Signature]
 REVIEWED: [Signature]
 NOTED/REVISED: [Signature]
 APPROVED: [Signature]
 DATE: [Signature]



CITY AND COUNTY OF SAN FRANCISCO
 MUNICIPAL RAILWAY

APPROVED: [Signature]
 DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
 THIRD STREET LIGHT RAIL TRANSIT
 KING ST. TO 22ND ST.
 OVERHEAD CONTACT SYSTEM
 DETAIL 1

CONTRACT: MR-1141
 DRAWING: CL-12945
 SHEET: OH-155 / OH-166
 REVISION: 0

OCS REFERENCE DRAWING
 SHEET 5 OF 11
 MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION	DATE
08/09/14	75% SUBMITTAL	
10/09/14	100% SUBMITTAL	
12/14/14	100% SUBMITTAL	

FOCIL-MB, LLC
 OWNER
 Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

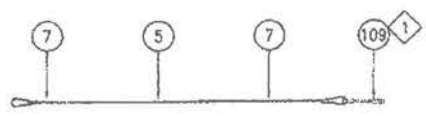
FREYER & LAURETA, INC.
 CIVIL ENGINEERS, ARCHITECTS, CONSTRUCTION MANAGERS
 144 North San Mateo Drive • San Mateo, CA 94401
 TEL: (415) 352-1212 • WWW.FREYERLAURETA.COM
 REGISTERED PROFESSIONAL ENGINEER

PGH Wong Engineering, Inc.
 182 Second St. San Francisco, California 94105
 TEL: (415) 566-0800

DATE: 12/18/14
 DESIGNED: MGR
 DRAWN: AL
 CHECKED: JK
 PROJ. ENGR: NGQ
 SCALE: NTS
 BAY IS ONE INCH ON ORIGINAL
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

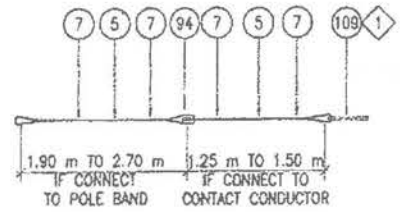
JOB NO. 42045

FOR REFERENCE ONLY



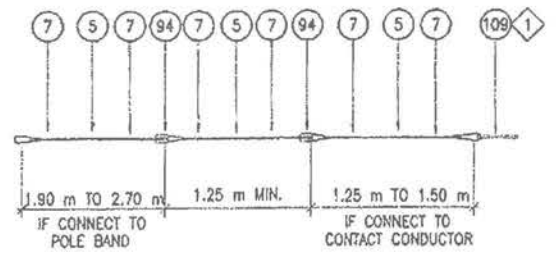
PULL-OFF (WITHOUT INSULATOR)

DETAIL 13
NTS



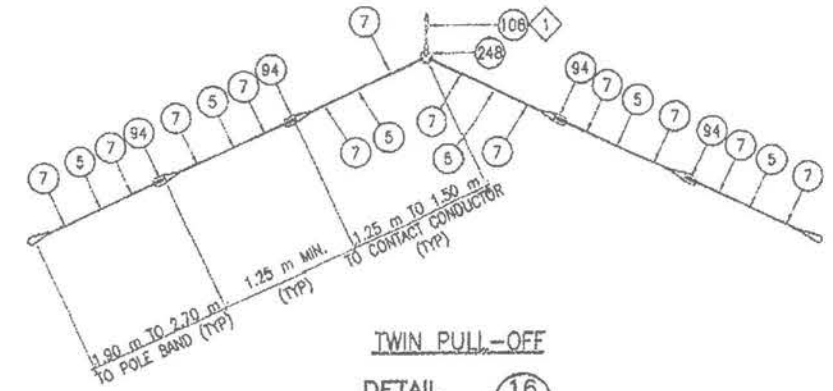
PULL-OFF (1 INSULATOR)

DETAIL 14
NTS



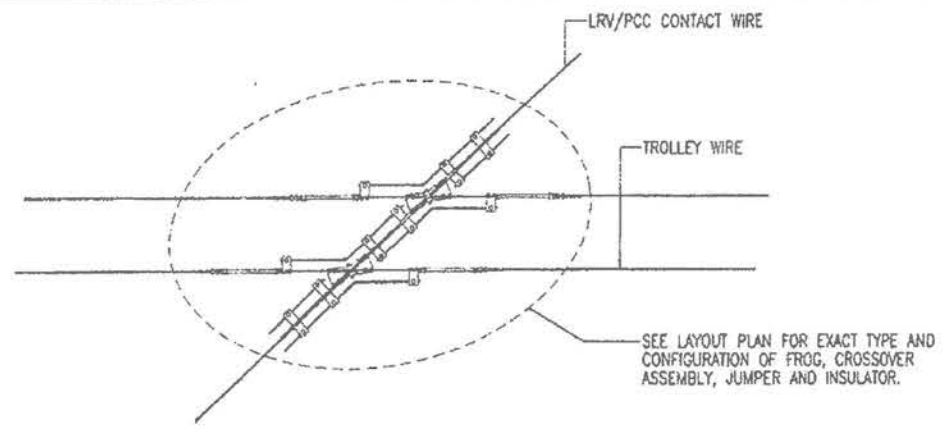
PULL-OFF (2 INSULATORS)

DETAIL 15
NTS



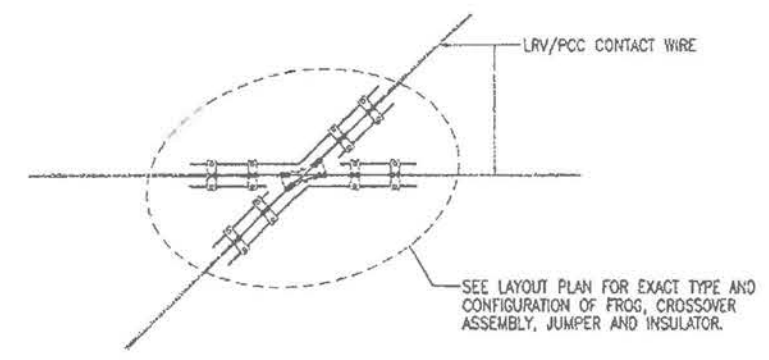
TWIN PULL-OFF

DETAIL 16
NTS



LRV/PCC/TROLLEY COACH CROSSOVER

DETAIL 17
NTS



LRV/PCC CROSSOVER

DETAIL 18
NTS

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

OCS REFERENCE DRAWING
SHEET 6 OF 11
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
12/19/14	100% SUBMITTAL
10/06/14	75% SUBMITTAL

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
CONSULTANT
182 Second St. San Francisco, California 94105
Tel: (415) 566-8800

Dec 19, 2014 - 11:42am Y:\86341-100_FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-27.dwg

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED: *TPhong*
DRAWN: *MW*
CHECKED: *EDW*
REVIEWED: *ALB*
RECORDMANAGER: *Springing 5m*
APPROVED: *W. Nelson*
DATE: *10/04/10*



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY

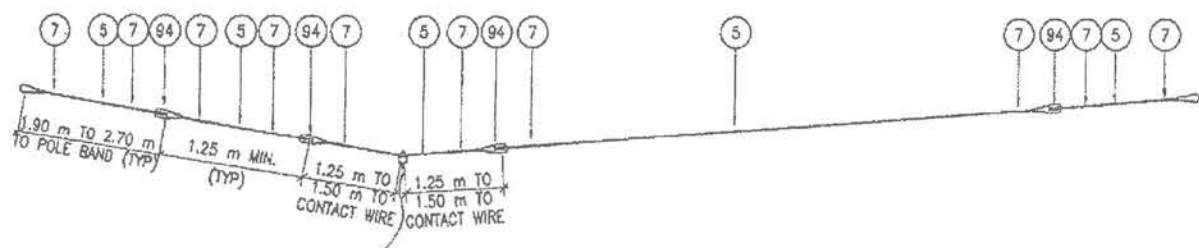
APPROVED
Vernice Harris
DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.
**OVERHEAD CONTACT SYSTEM
DETAIL III**

CONTRACT: **MR-1141**
DRAWING: **CL-12947**
SHEET: **OH-157**
REVISION: **0**
JOB NO.: **42045**

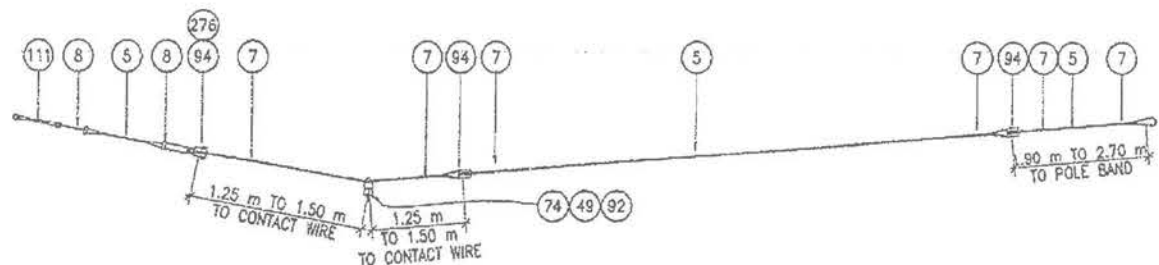
DATE: 12/18/14
DESIGNED: MGG
DRAWN: AL
CHECKED: JK
PROJ. ENGR: MGG
SCALE: NTS
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALE ACCORDINGLY

FOR REFERENCE ONLY



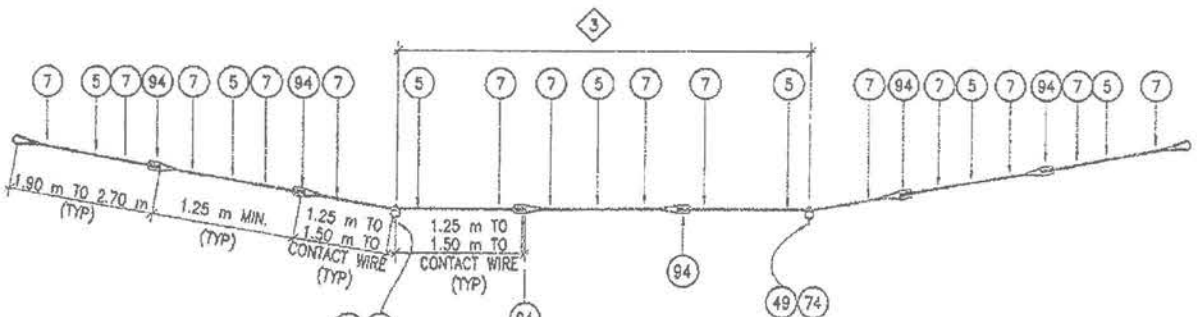
TANGENT SPAN (SINGLE TRACK)

DETAIL 19
NTS



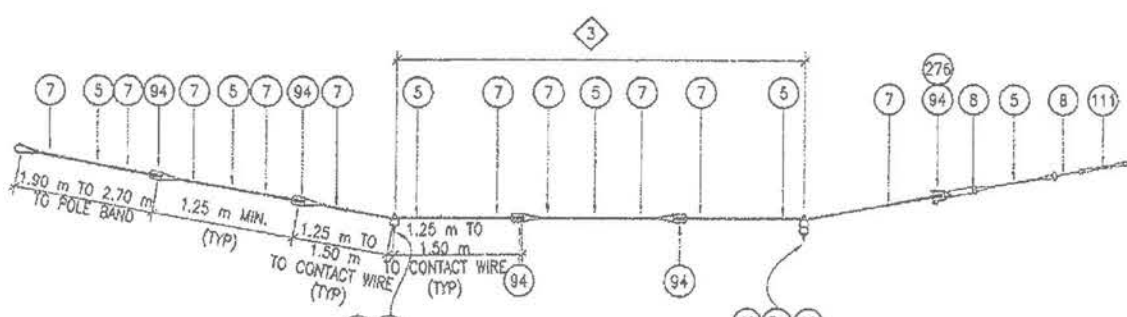
LIMITED ROOM TANGENT SPAN (SINGLE TRACK)

DETAIL 20
NTS



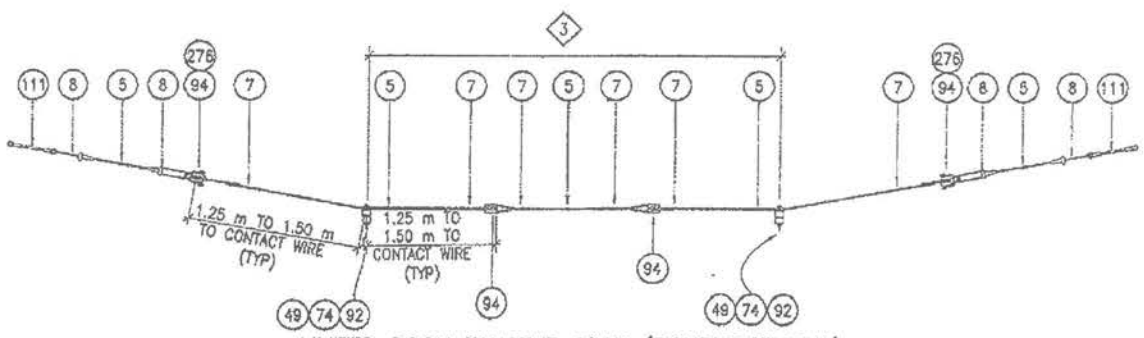
TANGENT SPAN (DOUBLE TRACKS)

DETAIL 21
NTS



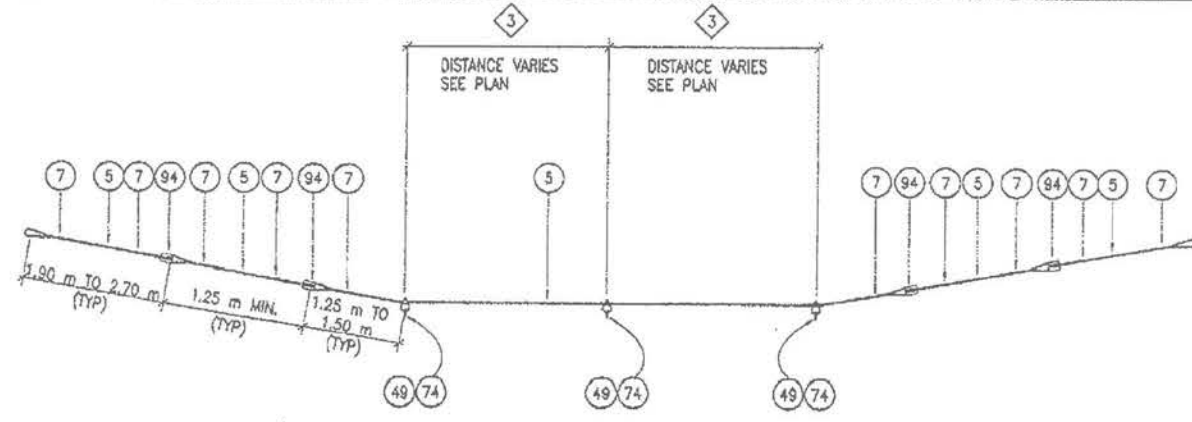
LIMITED ROOM TANGENT SPAN (DOUBLE TRACKS)

DETAIL 22
NTS



LIMITED ROOM TANGENT SPAN (DOUBLE TRACKS)

DETAIL 23
NTS



TANGENT SPAN (TRIPLE TRACKS)

DETAIL 24
NTS

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

OCS REFERENCE DRAWING
SHEET 7 OF 11
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
09/09/14	100% SUBMITTAL
10/09/14	100% SUBMITTAL

FOCL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

DATE: 12/10/14
DESIGNED: MGC
DRAWN: AL
CHECKED: JK
PROJECT ENGINEER: MGC
SCALE: NTS
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

CONTRACT: MR-1141
DRAWING: CL-12948
SHEET: OC-28
JOB NO.: 42045

Dec 19, 2014 1:00:34 PM - PREYER & LAURETA - 1000 BLOCK WORKING\OC-28.dwg

NO.	DATE	DESCRIPTION	REVISION	CHECKED	APPROVED
REVISIONS					

DESIGNED: JPhang
DRAWN: MGC
CHECKED: EDWang
PROJECT ENGINEER: MGC
RECOMMENDED: Yiping Gu
APPROVED: V. Hillson
DATE: 10/14/2014

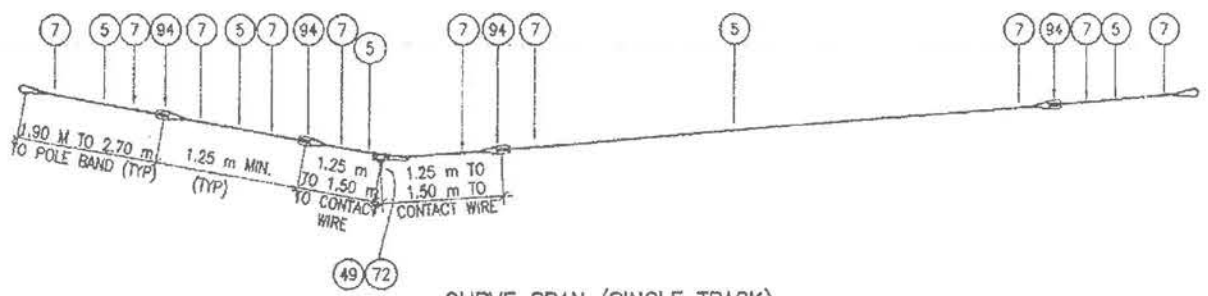


CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY

APPROVED: Vincent Harris
DIRECTOR OF TRANSPORTATION

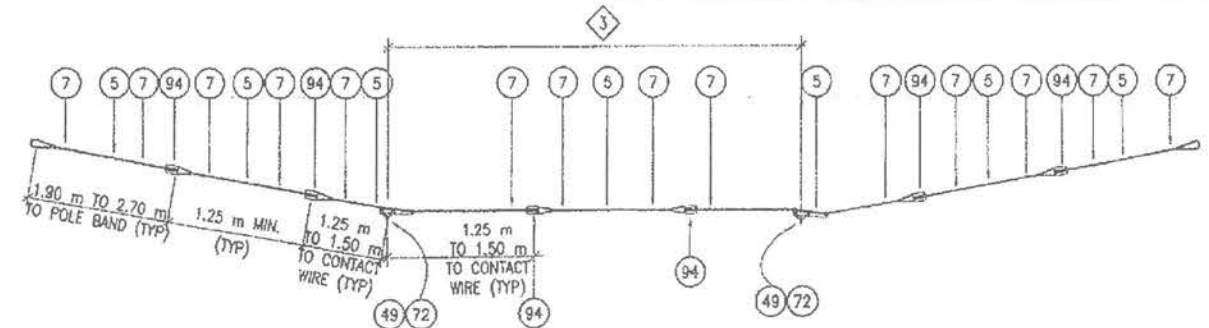
MUNI METRO SYSTEM
THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.
OVERHEAD CONTACT SYSTEM
DETAIL IV

FOR REFERENCE ONLY



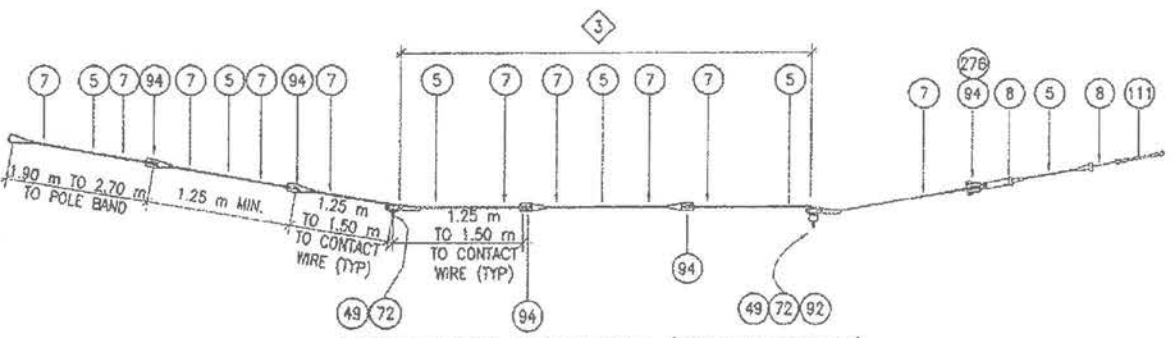
CURVE SPAN (SINGLE TRACK)

DETAIL 25
NTS



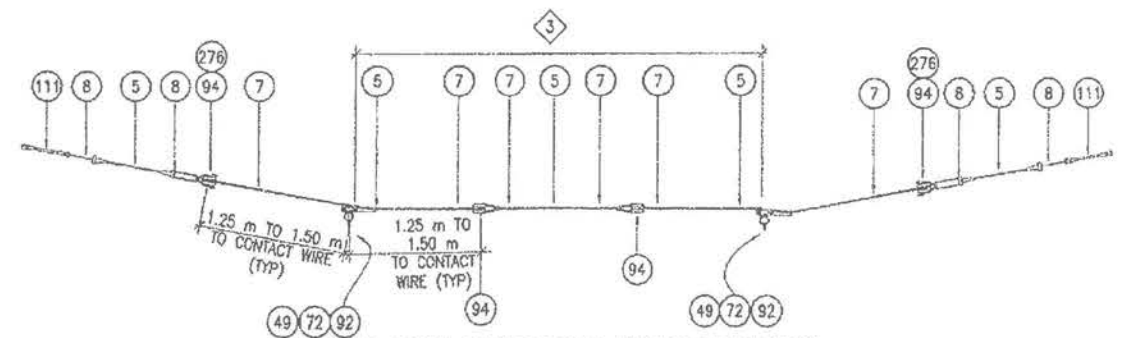
CURVE SPAN (DOUBLE TRACKS)

DETAIL 26
NTS



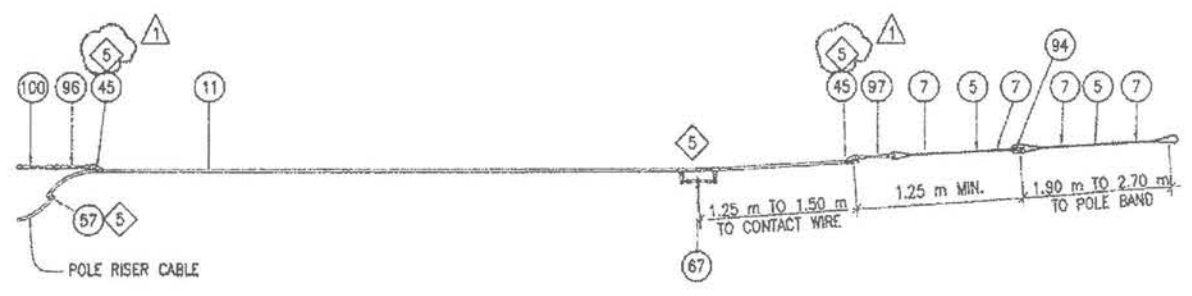
LIMITED ROOM CURVE SPAN (DOUBLE TRACKS)

DETAIL 27
NTS



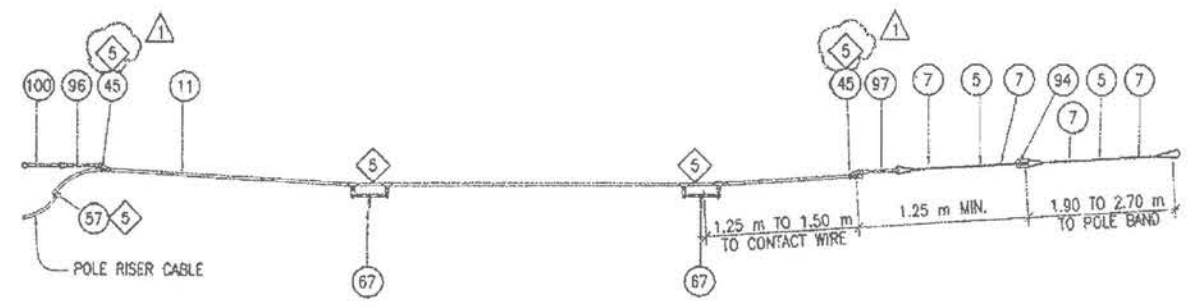
LIMITED ROOM CURVE SPAN (DOUBLE TRACKS)

DETAIL 28
NTS



FEED SPAN (SINGLE TRACK)

DETAIL 29
NTS



FEED SPAN (DOUBLE TRACKS)

DETAIL 30
NTS

FOR ORIGINAL SIGNATURES, SEE DRAWING NO. CL-12949 REV.0

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

Dec 19, 2014 11:42am Y:\8634\100.FREYER & LAURETIA\1000 BLOCK \WORKING\OC-29.dwg

NO.	DATE	DESCRIPTION	BY	CHKD	APPD
1	3/8/02	ADD NOTE 5	EVV	MB	
REVISIONS					

DESIGNED	T. PHANG
DRAWN	M. LUC
CHECKED	E. VIRAY
REVIEWED	A. HOE
RECOMMENDED	M. GU
APPROVED	W. NELSON
DATE	OCTOBER 4, 2001



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY
APPROVED
VINCE HARRIS
FOR DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.
OVERHEAD CONTACT SYSTEM
DETAIL V

CONTRACT	MR-1141
DRAWING	CL-12949
DATE	12/19/14
DESIGNED	AL MGR
DRAWN	JK MGR
CHECKED	JK MGR
PROJ. ENGR.	MGR
SCALE	NTS
SHEET	OC-29
JOB NO.	42045

OCS REFERENCE DRAWING
SHEET 8 OF 11
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

100% SUBMITTAL
100% SUBMITTAL

DATE

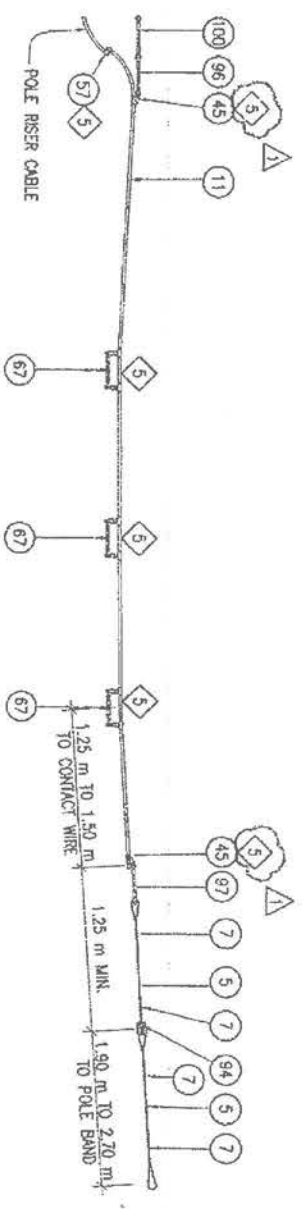
DESCRIPTION

DEVELOPMENT MANAGER

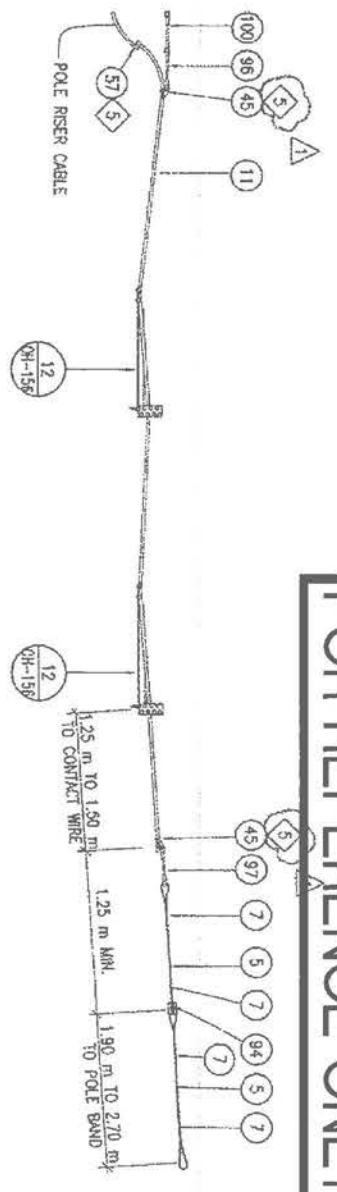
FOCIL-MB, LLC
Mission Bay Development Group, LLC

FREYER & LAURETIA, INC.
SUBCONSULTANT

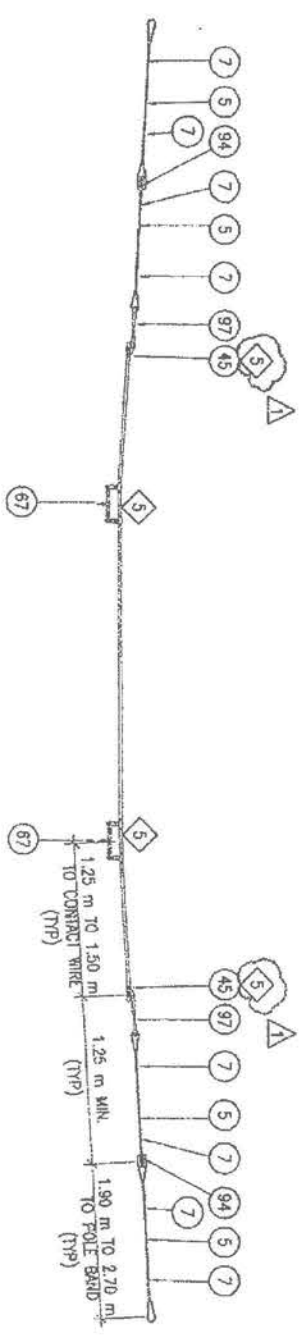
PGW Wong Engineering, Inc.
182 Second St. San Francisco, California 94105
TEL: (415) 566-0860



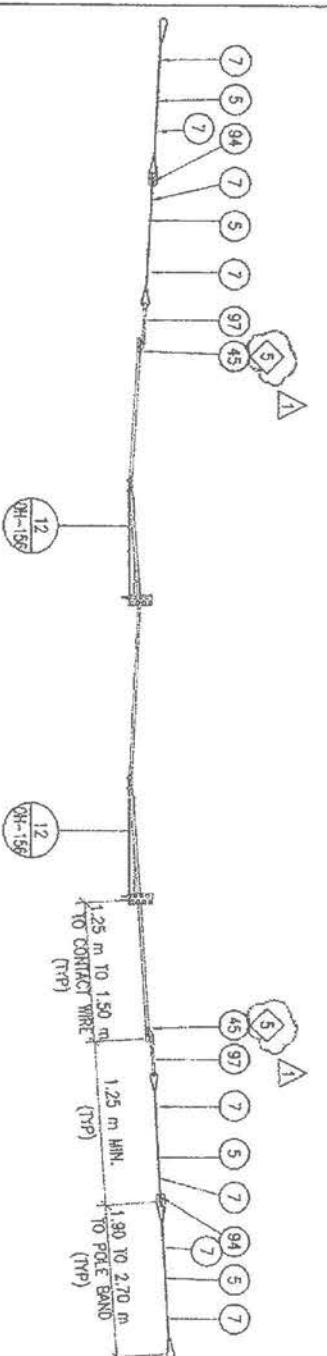
DETAIL 31
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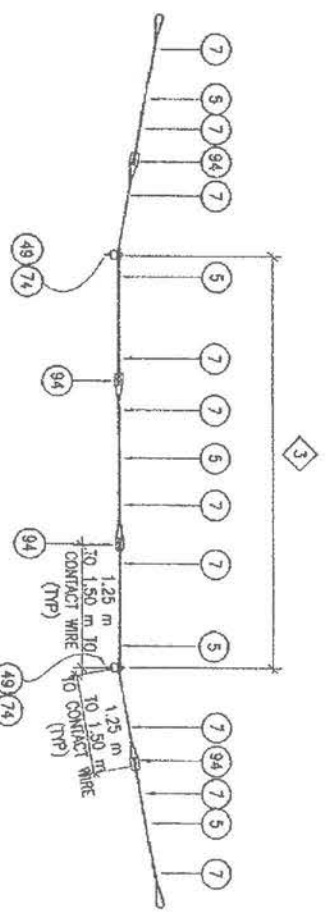
DETAIL 32
NTS



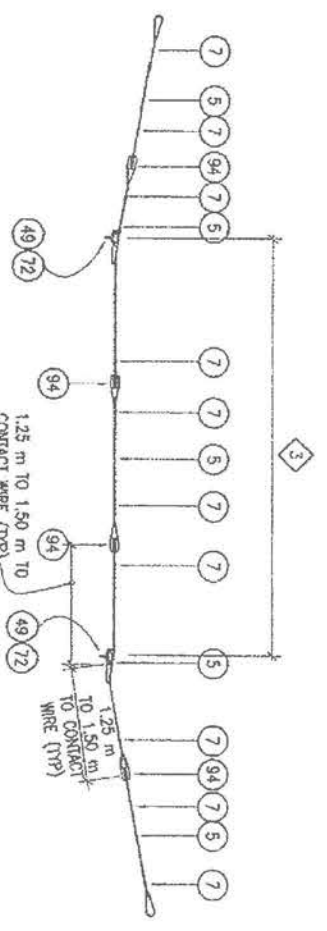
DETAIL 33
NTS



DETAIL 34
NTS



DETAIL 35
NTS



DETAIL 36
NTS

FOR ORIGINAL SIGNATURES, SEE DRAWING NO. CL-12950 REV.0

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

FOR REFERENCE ONLY

NO.	DATE	DESCRIPTION	BY	CHECKED	APPROVED
1	3/8/02	ADD NOTE 5	EV	AK	

DESIGNED	CHECKED	APPROVED
I. PHANG	M. LUC	E. VRAV
		A. HOE
		M. GU
		W. NEESON

SEAL OF THE CITY AND COUNTY OF SAN FRANCISCO

CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY

APPROVED
VINCE HARRIS
FOR DIRECTOR OF TRANSPORTATION

CONTRACT	DATE
MR-1141	12/16/14
CL-12950	12/16/14

THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.

OVERHEAD CONTACT SYSTEM
DETAIL VI

DATE	DESIGNED	DRAWN	CHECKED	PROJ. ENGR.
12/16/14	MGQ	AL	JK	MGQ

SCALE: NTS
BAR IS ONE INCH ON ORIGINAL
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

FREYER & LAURETA, INC.
154 North San Mateo Drive • San Mateo, CA 94401
(650) 254-9901 • Fax (650) 254-9902 • www.freyerlaureta.com

PGH Wong Engineering, Inc.
182 Second St. San Francisco, California 94105
Tel: (415) 566-8800

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

DESCRIPTION	DATE
75% SUBMITTAL	06/09/14
90% SUBMITTAL	10/08/14
100% SUBMITTAL	12/19/14

OCS REFERENCE DRAWING
SHEET 9 OF 11
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

FOR REFERENCE ONLY

OCS REFERENCE DRAWING
SHEET 10 OF 11
 MISSION BAY PROJECT, SAN FRANCISCO, CA

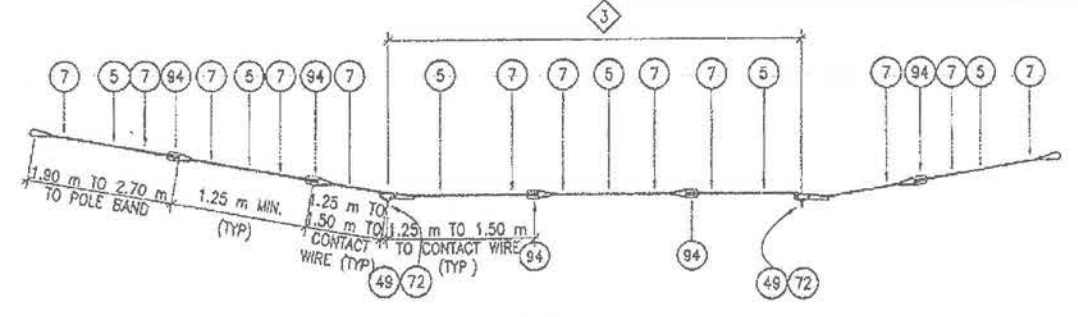
DATE	DESCRIPTION
06/29/14	100% SUBMITTAL
12/19/14	100% SUBMITTAL

FOCIL-MB, LLC
 OWNER
Mission Bay Development Group, LLC
 DEVELOPMENT MANAGER

FREYER & LAURETA, INC.
 CIVIL ENGINEERS - SURVEYORS - PROFESSIONAL ENGINEERS
 182 Second St. San Francisco, California 94105
 Tel: (415) 566-0800
 SUBCONSULTANT:
PCH Wong Engineering, Inc.
 182 Second St. San Francisco, California 94105
 Tel: (415) 566-0800

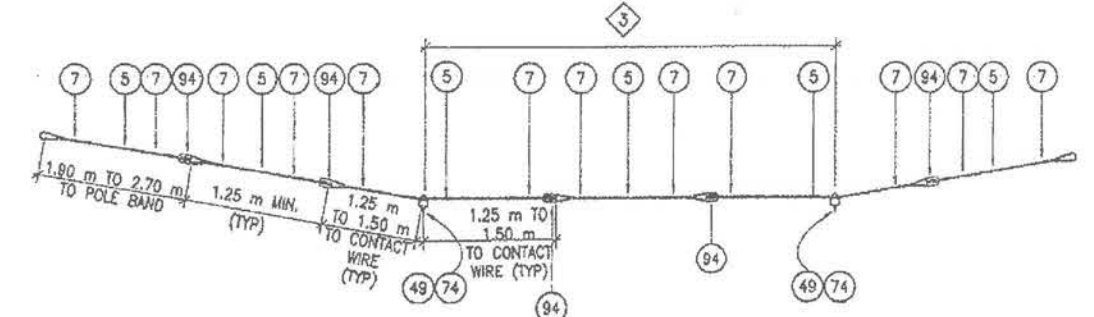
DATE: 12/19/14	DESIGNED: MGR	DRAWN: AL	CHECKED: JK	PROJ. ENGR: MGR	SCALE: NTS
CONTRACT: MR-1141	ORDER: CL-12951	SHEET: OH-161	REVISION: 0	SHEET: OC-31	
				JOB NO. 42045	

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.



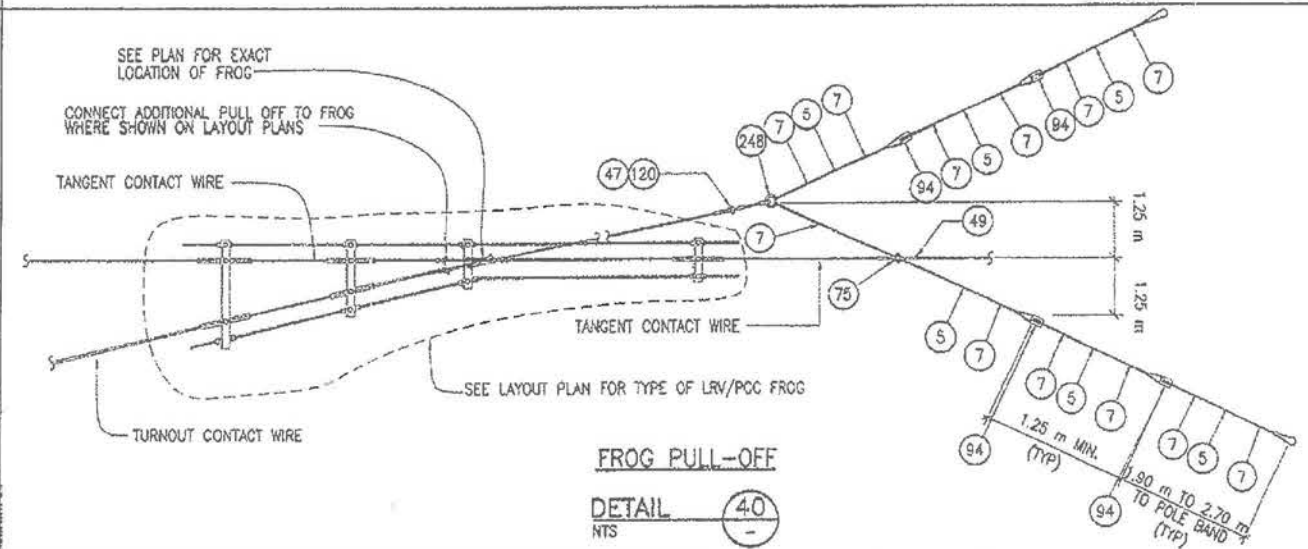
CURVE PULL-OFF SPAN

DETAIL 38
 NTS



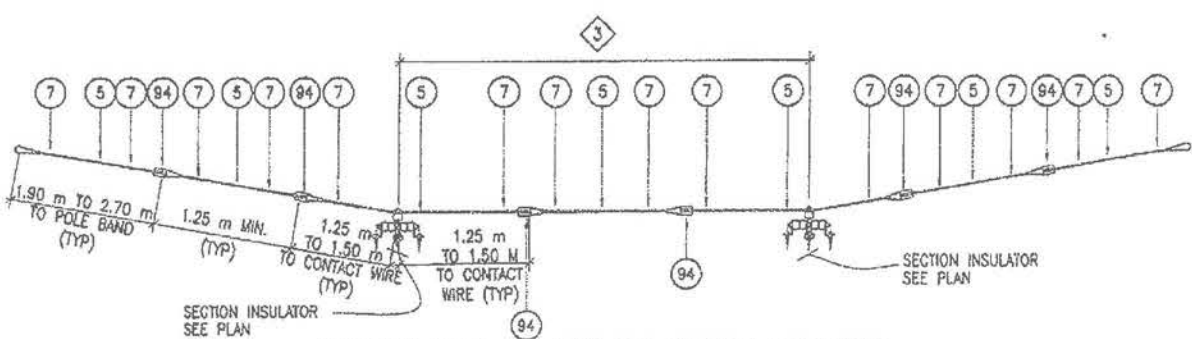
TANGENT PULL-OFF SPAN

DETAIL 37
 NTS



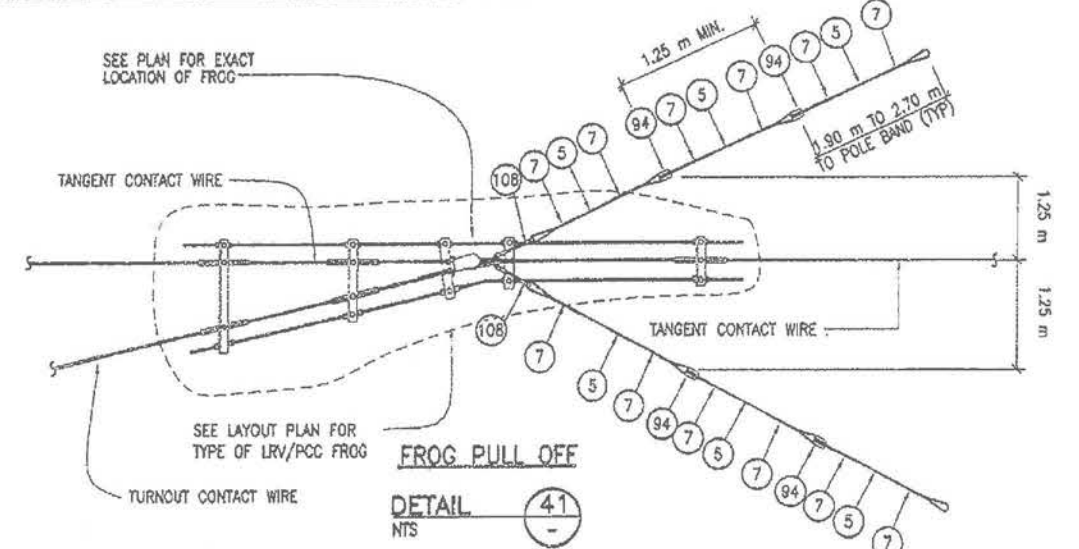
FROG PULL-OFF

DETAIL 40
 NTS



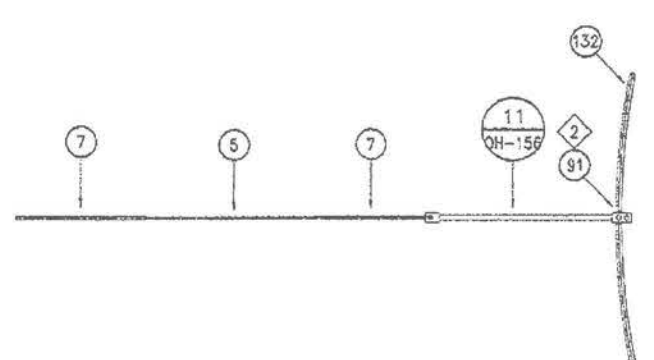
TANGENT SPAN SUPPORT FOR SECTION INSULATOR

DETAIL 39
 NTS



FROG PULL OFF

DETAIL 41
 NTS



PULL-OFF ARM SPAN

DETAIL 42
 NTS

Dec 19, 2014 - 11:42am Y:\86341-100_FREYER & LAURETA\1000 BLOCK 1\WORKING\OC-31.dwg

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED

DESIGNED: <i>MGR</i>
DRAWN: <i>AL</i>
CHECKED: <i>JK</i>
REVISIONS: <i>all</i>
RESPONSIBLE: <i>Gyming Gu</i>
APPROVED: <i>V. Wilson</i>
DATE: 12/14/14

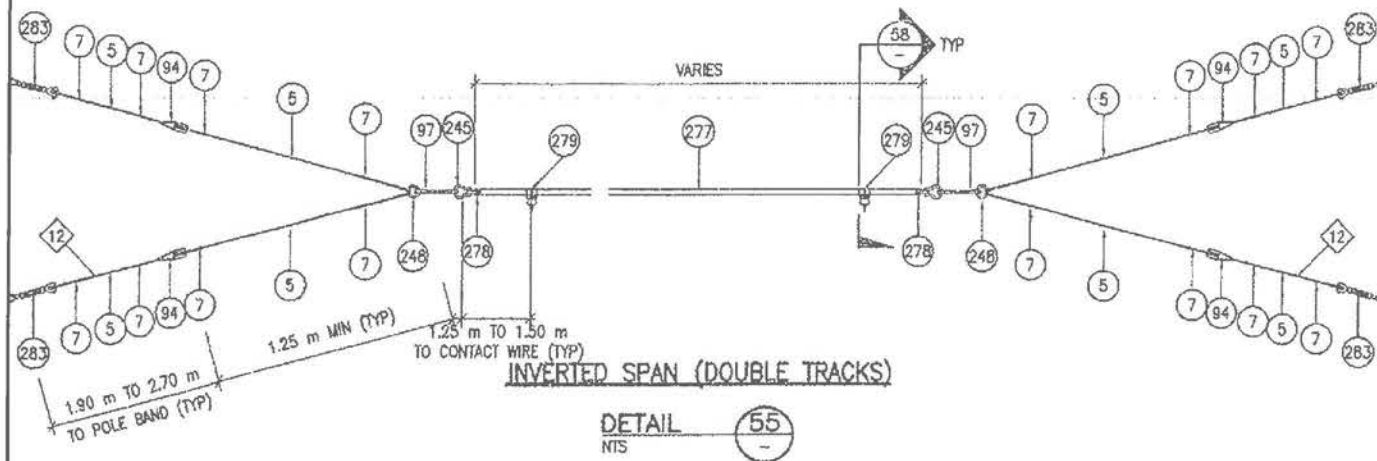


CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY
 APPROVED: *V. Wilson*
 DIRECTOR OF TRANSPORTATION

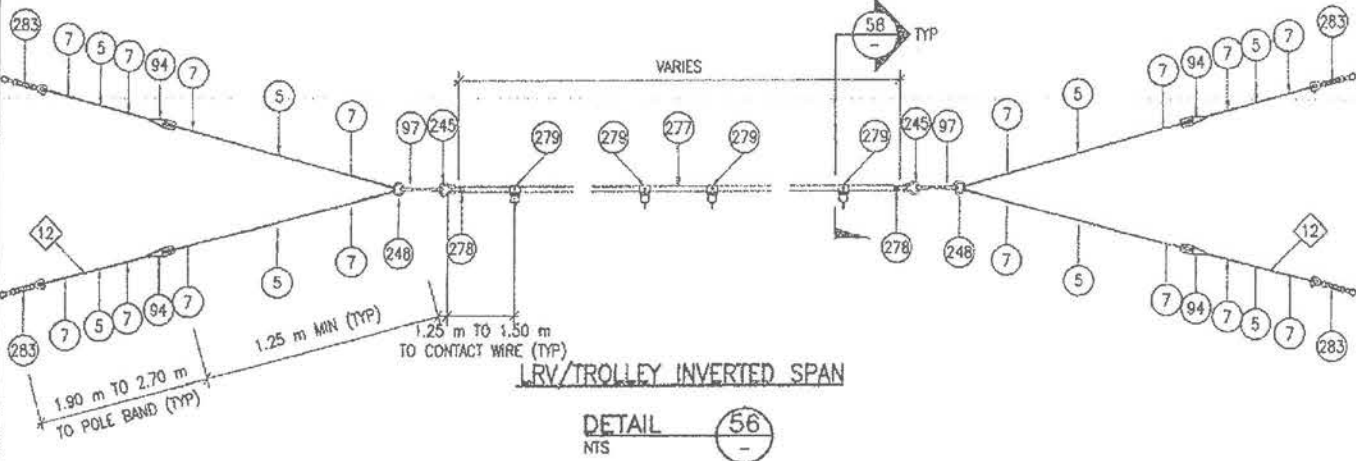
MUNI METRO SYSTEM
 THIRD STREET LIGHT RAIL TRANSIT
 KING ST. TO 22ND ST.
OVERHEAD CONTACT SYSTEM
 DETAIL VII

CONTRACT: MR-1141	ORDER: CL-12951
SHEET: OH-161	REVISION: 0
SHEET: OH-166	

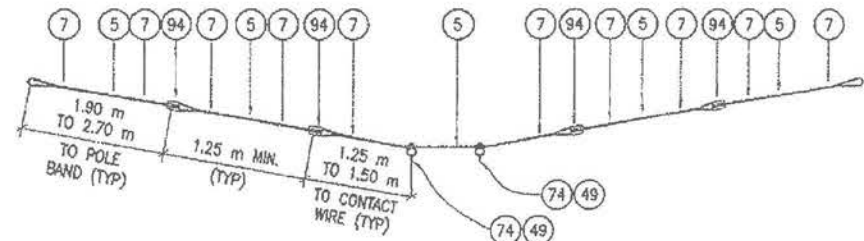
FOR REFERENCE ONLY



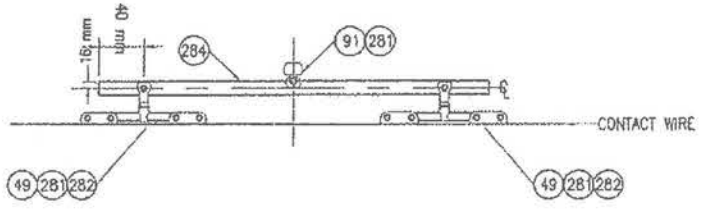
DETAIL 55
NTS



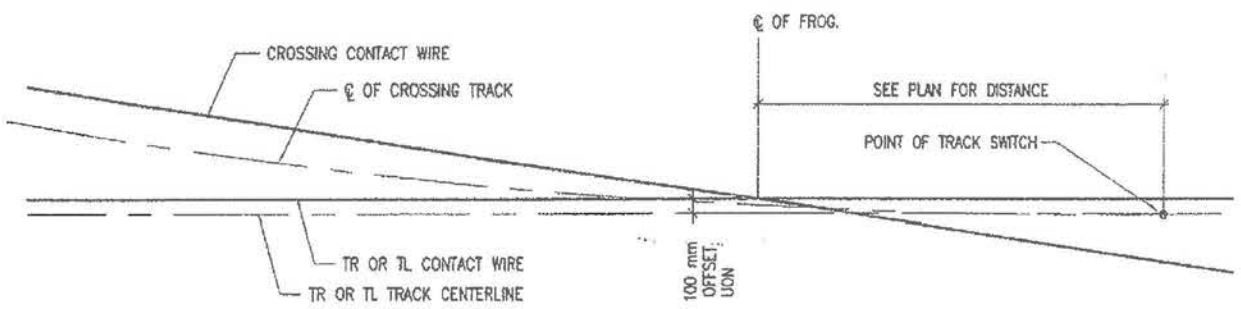
DETAIL 56
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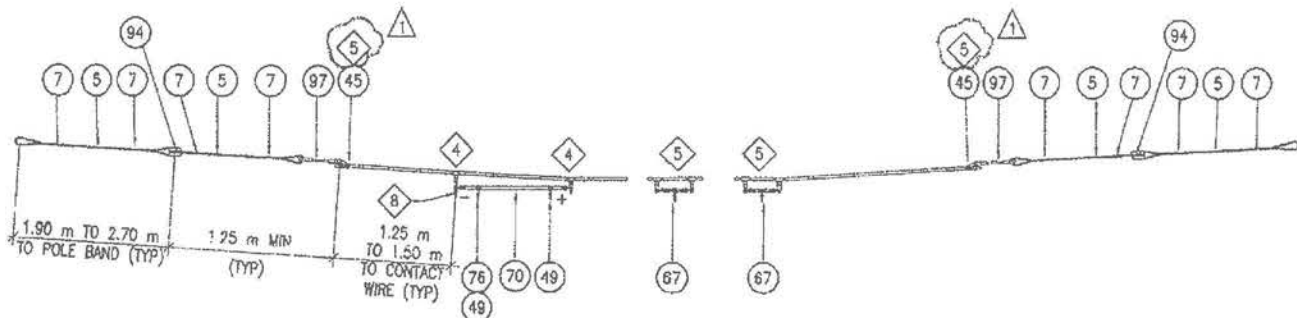
DETAIL 57
NTS



DETAIL 58
NTS



DETAIL 59
NTS



DETAIL 60
NTS

FOR ORIGINAL SIGNATURES, SEE DRAWING NO. CL-12954 REV.0

THE ENGINEER OF RECORD FOR THE LAYOUT PLANS SHALL BE RESPONSIBLE FOR THE PROPER USAGE AND APPLICATION OF THESE DETAILS.

OCS REFERENCE DRAWING
SHEET 11 OF 11
MISSION BAY BLOCK 1
MISSION BAY PROJECT, SAN FRANCISCO, CA

DATE	DESCRIPTION
09/09/14	75% SUBMITTAL
10/05/14	LOOK SUBMITTAL
12/10/14	LOOK SUBMITTAL

FOCIL-MB, LLC
OWNER
Mission Bay Development Group, LLC
DEVELOPMENT MANAGER

FREYER LAURETA, INC.
1000 MARKET STREET, SUITE 1000, SAN FRANCISCO, CA 94102
TEL: (415) 774-1100
SILVERCORN CONSULTANTS
PGW Wong Engineering, Inc.
182 Second St. San Francisco, California 94105
Tel: (415) 266-0800

Dec 19, 2014 1:06:34 PM - 1000-FREYER & LAURETA-1000 BLOCK 1-WORKING\OC-32.dwg

NO.	DATE	DESCRIPTION	BY	CHKD	APPD
1	3/8/02	ADD NOTE 5	TP	EPV	RP

DESIGNED	T. PHANG
DRAWN	M. LUC
CHECKED	E. VIRAY
REVIEWED	A. HOE
RECOMMENDED	M. GU
APPROVED	W. NELSON
DATE	OCTOBER 4, 2001



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL RAILWAY
APPROVED
VINCE HARRIS
FOR DIRECTOR OF TRANSPORTATION

MUNI METRO SYSTEM
THIRD STREET LIGHT RAIL TRANSIT
KING ST. TO 22ND ST.
OVERHEAD CONTACT SYSTEM
DETAIL X

CONTRACT	MR-1141
DRAWING	CL-12954
REVISION	OH-164
	OH-166
SHEET	1
JOB NO.	42045