



**GENERAL NOTES**

1. THE WORK SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY AND COUNTY OF SAN FRANCISCO STANDARD PLANS & SPECIFICATIONS, 2000 EDITION.
2. IT SHALL BE UNDERSTOOD THAT THE TERM "CITY ENGINEER" AS USED HEREIN IS THE CITY ENGINEER OF THE CITY OF SAN FRANCISCO OR HIS AUTHORIZED REPRESENTATIVE.
3. THE CONTRACTOR SHALL GIVE THE CITY ENGINEER TWO (2) WORKING DAYS ADVANCE NOTICE FOR INSPECTION SERVICES.
4. ALL REVISIONS TO THESE PLANS MUST BE REVIEWED AND APPROVED IN WRITING BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION OF AFFECTED ITEMS, REVISIONS SHALL BE ACCURATELY SHOWN ON REVISED PLANS.
5. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE ENTIRE PROJECT SITE AT ALL TIMES. THE SITE SHALL BE SPRINKLED AS NECESSARY TO PREVENT DUST NUISANCE. INCREASED WATERING SHALL BE REQUIRED WHEN WIND SPEEDS EXCEED 10 MPH OR WHEN DIRECTED BY THE CITY. IN THE EVENT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE CITY RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
6. NO PERSON SHALL, WHEN HAULING ANY EARTH, SAND, GRAVEL, DEBRIS, PAPER, OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREETS OR OTHER PUBLIC PLACE, ALLOW MATERIAL TO BLOW OR SPILL OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY. ALL LOADS LEAVING THE SITE SHALL BE COVERED.
7. THE CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION DRIVES TO PREVENT THE TRACKING OF SOIL, DUST, MUD, OR CONSTRUCTION DEBRIS ON PUBLIC STREETS.
8. DURING CONSTRUCTION, THE PUBLIC STREETS SHALL BE CLEANED AS OFTEN AS REQUIRED TO REMOVE ANY ACCUMULATION OF MUD AND DEBRIS RESULTING FROM THIS CONSTRUCTION. IF IMPORT OR EXPORT OF DIRT IS NECESSARY, THE CONTRACTOR SHALL OBTAIN AN APPROVAL FOR THE HAULING ROUTE FROM THE CITY IF REQUIRED.
9. THE HAULING ROUTES SHALL BE STRICTLY ADHERED TO BY THE CONTRACTOR AND ALL SUBCONTRACTORS.
10. SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR SPECIFIED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER, BKF ENGINEERS AT (650) 482-6300, BEFORE PROCEEDING WITH THE WORK IN QUESTION.
11. WHEN SPECIFICATIONS OR STANDARDS FROM DIFFERENT AUTHORITIES DIFFER FOR THE SAME SUBJECT MATTER, THE MOST STRINGENT SHALL GOVERN UNLESS OTHERWISE NOTED.
12. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED UP AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE AND RUBBISH OF ANY NATURE BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF SAN FRANCISCO.
13. ALL CONSTRUCTION STAKING SHALL BE DONE BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA. UPON COMPLETION OF GRADING, THE CONTRACTOR SHALL REQUEST THE LICENSED LAND SURVEYOR TO CHECK THE GRADES AND CERTIFY THAT THE PADS ARE GRADED TO WITHIN ± 0.10 FOOT OF FINISH PAD GRADE.
14. CONTRACTOR SHALL OBTAIN RIGHT OF ENTRY FROM ADJACENT PROPERTY OWNERS FOR WORK WITHIN ADJACENT PROPERTIES.
15. CONTRACTOR SHALL ARRANGE FOR REQUIRED INSPECTIONS BY THE CITY ENGINEER. NO DELAY OF WORK CLAIM WILL BE ALLOWED DUE TO CONTRACTOR'S FAILURE TO ARRANGE FOR REQUIRED CITY INSPECTIONS IN ADVANCE. CONTRACTOR SHALL PROVIDE NOTICE TO CITY ENGINEER A MINIMUM OF 2 WORKING DAYS IN ADVANCE OF REQUIRED INSPECTIONS.
16. THE CONTRACTOR SHALL RESTORE ALL WALLS, FENCES, SERVICES, UTILITIES, PAVEMENT & CURB MARKINGS IMPROVEMENTS OR FEATURES OF WHATEVER NATURE WHICH ARE DAMAGED DUE TO THE CONTRACTOR'S WORK TO THEIR PREVIOUS CONDITION.
17. EXISTING PEDESTRIAN WALKWAYS, BIKEPATHS AND HANDICAP ACCESS PATHWAYS SHALL BE MAINTAINED DURING CONSTRUCTION TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
18. IF TEMPORARY LANE CLOSURES ARE REQUIRED FOR CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND OBTAIN APPROVAL FROM THE CITY ENGINEER BEFORE COMMENCING WORK. THE CONTRACTOR SHALL ALSO PROVIDE FLAG MEN, CONES OR BARRICADES, AS NECESSARY TO CONTROL TRAFFIC AND PREVENT HAZARDOUS CONDITIONS, PER CALTRANS STANDARDS.
19. EXISTING PEDESTRIAN WALKWAYS, BIKE PATHS AND HANDICAP ACCESS PATHWAYS SHALL BE MAINTAINED DURING CONSTRUCTION TO THE SATISFACTION OF THE CITY ENGINEER AND INSPECTOR.
20. IF PREHISTORIC OR HISTORIC-PERIOD CULTURAL MATERIALS ARE UNEARTHED DURING GROUND-DISTURBING ACTIVITIES, STOP WORK AND NOTIFY CITY ENGINEER FOR DIRECTION ON HOW TO PROCEED.

**EXISTING CONDITIONS**

1. EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS IS BASED ON A ALTA BOUNDARY SURVEY BY MARTIN M. RON ASSOCIATES DATED 3/5/12 AND TOPOGRAPHIC SURVEY BY BKF ENGINEERS DATED 02/25/13 TO 04/04/13. GRADES ENCOUNTERED ON-SITE MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS AND CONDUCT FIELD VESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.
2. INFORMATION REGARDING EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES SHOWN ON THESE PLANS WAS TAKEN FROM RECORD DATA KNOWN TO THE DESIGN ENGINEER AND IS NOT MEANT TO BE A FULL CATALOG OF EXISTING CONDITIONS. CONTRACTOR SHALL CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES (WHETHER SHOWN ON THESE PLANS OR NOT) PRIOR TO THE COMMENCEMENT OF WORK. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS IN THE FIELD AND INFORMATION SHOWN ON THESE PLANS.
3. ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO START OF ANY CONSTRUCTION AFFECTING SAID LINES.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE EXISTENCE OF ANY AND ALL UNDERGROUND FACILITIES, WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF HIS OPERATIONS. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT (800) 227-2600, 48 HOURS PRIOR TO ANY EXCAVATION. WORK SHALL START WITHIN 5 DAYS AFTER THE ISSUANCE OF A USA INQUIRY IDENTIFICATION NUMBER. COMPLETE REMOVAL OF THE USA MARKINGS SHALL BE WITHIN 2 WORKING DAYS AFTER COMPLETION OF THE EXCAVATION. BACKFILL AND SURFACE REPLACEMENT OR FOURTEEN (14) CALENDAR DAYS FOLLOWING THE ISSUANCE OF THE INQUIRY IDENTIFICATION NUMBER, WHICHEVER IS EARLIER.
5. CONTACTING USA DOES NOT RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO DETERMINE LOCATION AND DEPTH OF BURIED UTILITIES OR REPAIR OF BURIED UTILITIES DAMAGED BY HIS OPERATION.

**GRADING**

1. ALL GRADING WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE NOTES AND THE REQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE SOILS REPORT.
2. REFER TO SOILS REPORT TITLED "BOSTON PROPERTIES/HINES TRANSBAY TOWER GEOTECHNICAL DATA REPORT DATED APRIL 25, 2013.
3. ALSO REFER TO DRAFT SITE MITIGATION PLAN BY TREADWELL & ROLLO DATED APRIL 10, 2013.
4. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT AT THE SITE DURING GRADING OPERATIONS AND SHALL PERFORM ALL TESTING DEEMED NECESSARY. THE GEOTECHNICAL ENGINEER SHALL OBSERVE GRADING OPERATIONS AND IDENTIFY THOSE CONDITIONS WITH RECOMMENDED CORRECTIVE MEASURES TO THE CONTRACTOR AND THE CONSTRUCTION MANAGER.
5. EARTHWORK AND SITE DRAINAGE, INCLUDING PIER FOUNDATION EXCAVATIONS, RETAINING WALL BACKFILL, SUBGRADE PREPARATION BENEATH HARDSCAPE PLACEMENT, AND COMPACTION OF ENGINEERED FILL BENEATH HARDSCAPE, AND INSTALLATION OF SURFACE AND SUBSURFACE DRAINAGE SYSTEMS SHOULD BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHOULD BE PROVIDED AT LEAST 48 HOURS ADVANCE NOTIFICATION OF ANY EARTHWORK OPERATIONS AND SHOULD BE PRESENT TO OBSERVE AND/OR TEST AS NECESSARY THE EARTHWORK AND FOUNDATION INSTALLATION PHASES OF THE PROJECT.
6. EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING AND SHEETING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR SHALL EFFECT NECESSARY REPAIRS OR RECONSTRUCTION AT HIS OWN EXPENSE. WHERE THE EXCAVATION FOR A TRENCH, STRUCTURE AND/OR BORING OR JACKING PIT IS 5 FIVE FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL COMPLY WITH OSHA REQUIREMENTS AT ALL TIMES.
7. CONTRACTOR SHALL EXERCISE EXTREME CARE TO CONFORM TO THE LINES, GRADES, SECTIONS, AND DIMENSIONS AS SET FORTH ON THESE PLANS. GRADED AREAS SHALL CONFORM TO THE VERTICAL ELEVATIONS SHOWN WITHIN TOLERANCE OF ONE-TENTH OF A FOOT. WHERE GRADED AREAS DO NOT CONFORM TO THESE TOLERANCES, THE CONTRACTOR SHALL BE REQUIRED TO DO CORRECTIVE GRADING, AT NO EXTRA COST TO THE OWNER.
8. PROJECT SHALL CONFORM WITH SAN FRANCISCO DEPARTMENT OF PUBLIC WORKS ORDER NO. 178940 REGARDING EXCAVATING AND RESTORING STREETS IN SAN FRANCISCO.

**NOISE REDUCTION**

1. CONSTRUCTION CONTRACTORS SHALL MUFFLE AND SHIELD INTAKES AND EXHAUSTS, SHROUD OR SHIELD IMPACT TOOLS, AND USE ELECTRIC-POWERED RATHER THAN DIESEL POWERED CONSTRUCTION EQUIPMENT (AS FEASIBLE).
2. ALL STATIONARY NOISE GENERATING EQUIPMENT SHALL BE LOCATED AS FAR AWAY AS POSSIBLE FROM NEIGHBORING PROPERTY LINES.

**UTILITIES**

1. CONTRACTOR TO MAKE ARRANGEMENTS WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO ANY TIE-IN, ABANDONMENT OF, OR WORK WITH THEIR FACILITIES.
2. A MINIMUM OF TWELVE (12) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN ADJACENT UTILITY PIPES AT ALL UTILITY CROSSINGS WHERE POSSIBLE.
3. CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE DURING COMPACTION OF ROADWAY SUBGRADE AND PRIOR TO PLACEMENT OF THE FINAL PAVEMENT SECTION.
4. ALL UTILITY BOXES, LIDS AND GRATES IN PAVED AREAS SHALL ACCEPT H-20 LOADS UNLESS OTHERWISE NOTED THE ENTIRE BOX, NOT JUST THE LID OR GRATE, MUST ACCEPT H-20 LOADS.
5. CONTRACTOR IS CAUTIONED THAT PVC PIPE DERIVES ITS STRENGTH FROM THE COMPACTED BEDDING MATERIAL BELOW AND BESIDE THE PIPE HAUNCHES. CARE SHOULD BE EXERCISED IN THE PLACEMENT AND COMPACTION OF THIS MATERIAL AND THE INSERTION AND REMOVAL OF SHORING ADJACENT TO IT. CONTRACTOR SHALL USE CAUTION WHEN OPERATING EQUIPMENT ON SUBGRADE NEAR PVC PIPE INSTALLATIONS.
6. BACKFILL FOR UTILITY TRENCHES AND OTHER EXCAVATIONS IS ALSO CONSIDERED FILL, AND SHOULD BE PLACED AND COMPACTED ACCORDING TO THE GRADING RECOMMENDATIONS. IF IMPORTED CLEAN SAND OR GRAVEL (DEFINED AS SOIL WITH LESS THAN 10 PERCENT FINES) IS USED AS BACKFILL, IT SHALL BE COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION. JETTING OF TRENCH BACKFILL IS NOT PERMITTED.
7. BEFORE DISCONNECTING UTILITY SERVICE TO ANY ESTABLISHMENT, CONTRACTOR SHALL GIVE ADVANCE NOTICE TO ESTABLISHMENT BEFORE THEIR UTILITY SHUT DOWN, MAKE ARRANGEMENTS WITH THOSE ESTABLISHMENTS FOR A SCHEDULED SHUT DOWN AND COORDINATE DATE OF SHUT DOWN, DURATION, INCONVENIENCE, DELAYS, ETC. WITH A REPRESENTATIVE OF THE CITY.
8. WHERE COVER OF PROPOSED UTILITIES IS LESS THAN 3 FEET, TRENCH BACKFILL SHALL BE CEMENT SLURRY IN ACCORDANCE WITH SECTION 19-3.062 OF THE CALTRANS STANDARD SPECIFICATIONS EXCEPT THAT THE CEMENT CONTENT SHALL BE NOT LESS THAN 94 NOR MORE THAN 100 POUNDS PER CUBIC YARD OF MATERIAL PRODUCED.
9. TRACER WIRE AND TRACER TAPE SHALL BE INSTALLED WITH THE WATER MAIN. THE WIRE SHALL BE PLACED IMMEDIATELY UNDER THE PIPE AND EXTENDED TO THE STREET OR GROUND SURFACE AT EVERY VALVE BOX. THE TAPE SHALL BE 2" INCHES WIDE NON-METALLIC AS DIRECTED BY THE CITY ENGINEER AND PLACED NOT LESS THAN 6 INCHES BELOW THE SUBGRADE AND NOT LESS THAN 12 INCHES ABOVE THE PIPE.
10. ALL IRRIGATION SLEEVES REQUIRED BY LANDSCAPING PLANS SHALL BE INSTALLED BY THIS CONTRACTOR PRIOR TO CONSTRUCTING SURFACE IMPROVEMENTS. REFER TO LANDSCAPE PLANS FOR REQUIRED SIZE AND QUANTITY OF IRRIGATION SLEEVES. THEY SHALL EXTEND A MINIMUM TWELVE (12) INCHES BEHIND THE BACK OF CURB OR BACK OF WALK AT A MINIMUM DEPTH OF THIRTY-SIX (36) INCHES BELOW GRADE.
11. PROJECT IS REQUIRED TO INSTALL RECYCLED WATER LINE IN ACCORDANCE WITH SFPUC WATER DEPARTMENT STANDARDS. MAINTAIN A MINIMUM OF FOUR FEET CLEAR TO DOMESTIC WATER.
12. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT PROPOSED UTILITY INSTALLATIONS AND CROSSINGS. REPORT TOP AND BOTTOM DEPTHS TO ENGINEER. PROPOSED GRAVITY SEWER LATERALS MUST BE INSTALLED TO THE SPECIFIED GRADES AND FREE OF SAGS. IF CONTRACTOR SHOULD DETERMINE CROSSING OBSTRUCTION, CONTACT ENGINEER TO REVIEW DATA AND DETERMINE ALTERNATE CONNECTION POINTS.

**RECORD DRAWINGS**

1. CONTRACTOR SHALL KEEP ACCURATE RECORD DRAWINGS WHICH SHOW THE FINAL LOCATION, ELEVATION AND DESCRIPTION OF ALL WORK. CONTRACTOR SHALL ALSO NOTE THE LOCATION AND ELEVATION OF ANY EXISTING IMPROVEMENTS ENCOUNTERED. RECORD DRAWINGS SHALL BE "REDLINED" ON A SET OF PRINTS. THE REDLINED PRINTS SHALL BE DELIVERED TO THE CONSTRUCTION MANAGER.

**STATEMENT OF RESPONSIBILITY**

1. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL AND CITY HARMLESS FROM ANY AND ALL ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
2. CONTRACTOR SHALL COMPLY WITH ALL STATE, COUNTY AND CITY LAWS AND ORDINANCES AND REGULATIONS OF THE DEPARTMENT OF INDUSTRIAL RELATIONS, OSHA AND INDUSTRIAL ACCIDENT COMMISSION RELATING TO SAFETY AND CHARACTER OF WORK EQUIPMENT AND LABOR PERSONNEL.

**UNAUTHORIZED CHANGES AND USES**

1. THE DESIGN ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

**EROSION & SEDIMENT CONTROL**

1. CONTRACTOR SHALL IMPLEMENT MEASURES AS DETAILED IN THE APPROVED EROSION AND SEDIMENT CONTROL PLAN BY BKF ENGINEERS, DATED MAY 15, 2013
2. CONTRACTOR IS REQUIRED TO OBTAIN ALL REQUIRED BATCH-WASTE WATER DISCHARGE PERMITS FROM DEWATERING ACTIVITIES.
3. MEASURES SHOWN IN THE EROSION CONTROL PLAN ARE MINIMUM REQUIREMENTS AND ADDITIONAL MEASURES SHOULD BE INCORPORATED AS NECESSARY FOR COMPLIANCE.
4. CONTRACTOR MAY ADJUST MEASURES AS SITE CONDITION CHANGES.

**WATER INSTALLATION NOTES**

1. THIS PROJECT REQUIRES INSTALLATION OF A DUAL-PLUMBING SYSTEM FOR RECYCLED WATER USE IN ACCORDANCE WITH ORDINANCES 390-91, 391-91, AND 393-94.
2. ONE WATER METER IS REQUIRED FOR EACH WATER LINE. THIS INCLUDES WATER METER AND RELIEF VALVE FOR FIRE PROTECTION LINE PLACED WITHIN PROPERTY LINE PER SF DWG A-1290.2.
3. ALL BACKFLOW PREVENTION ASSEMBLIES MUST BE APPROVED BY THE SFPUC'S WATER QUALITY DIVISION.
4. EACH WATER LINE REQUIRES AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR.
5. THE BACKFLOW PREVENTION ASSEMBLY FOR DOMESTIC WATER PLUMBING INSIDE THE BUILDING AND FOR THE RECYCLED WATER SYSTEM MUST MEET THE CCSF'S PLUMBING CODE AND HEALTH CODE.
6. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH REGULATIONS REQUIRE NEW WATER MAINS AND NEW SUPPLY LINES TO BE INSTALLED AT LEAST 4- FEET HORIZONTALLY FROM, AND 1-FOOT VERTICALLY ABOVE A PARALLEL PIPELINE CONVEYING RECYCLED WATER.
7. RECYCLED WATER PIPE TYPE SHALL BE THE FOLLOWING:  
  
TRANSMISSION LINES & MAINS – DUCTILE IRON  
DISTRIBUTION AND SERVICE LINES – PURPLE PVC OR EQUIVALENT  
IRRIGATIN LINES – PURPLE PVC OR EQUIVALENT  
DUAL PLUMBING – REFER TO CITY AND COUNTY OF SF PLUMBING CODE
8. SFPUC MUST SIGN OFF ON PIPE TYPE PRIOR TO INSTALLATION. CONTACT THE CITY DISTRIBUTION DIVISION AT (415) 550-4952.
9. THE POTABLE WATER LINE WILL BE USED TO FEED THE RECYCLED WATER LINE(S) UNTIL SUCH TIME THAT RECYCLED WATER BECOMES AVAILABLE. WHEN RECYCLED WATER BECOMES AVAILABLE, THE CROSS-CONNECTION WILL BE BROKEN BY THE SFPUC, AND THE POTABLE AND RECYCLED WATER LINES WILL BE TOTALLY SEPARATED. BEFORE RECYCLED WATER IS DELIVERED TO THE PROPERTY, CROSS-CONNECTION AND BACKFLOW TESTING WILL TAKE PLACE TO ASSURE SEPARATION.
10. UNDER NO CIRCUMSTANCES ARE DEVELOPERS OR PROPERTY OWNERS TO "T-OFF" OF THE POTABLE WATER LINE TO THE RECYCLED WATER LINES.

**BOLLARD NOTES**

1. SEE SHEET C8.50 FOR BOLLARD INSTALLATION NOTES.



- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALLHEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEPFP Engineer
- PWP LANDSCAPE ARCHITECTURE**  
Landscape Architect
- BKF ENGINEERS**  
Civil Engineer
- PERSOHNHAHN ASSOCIATES, INC.**  
Elevator Consultant
- AON FIRE PROTECTION ENGINEERING**  
Building Security
- HWA PARKING**  
Parking Consultant
- ARUP**  
Geotechnical Consultant
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Curtain Wall Consultant
- ENVIRONMENTAL BUILDING STRATEGIES**  
LEED Consultant
- HMA CONSULTING**  
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Aerial Tram Consultant
- DEBRA NICHOLS DESIGN**  
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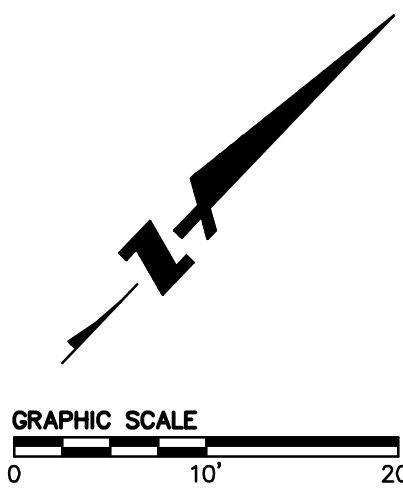
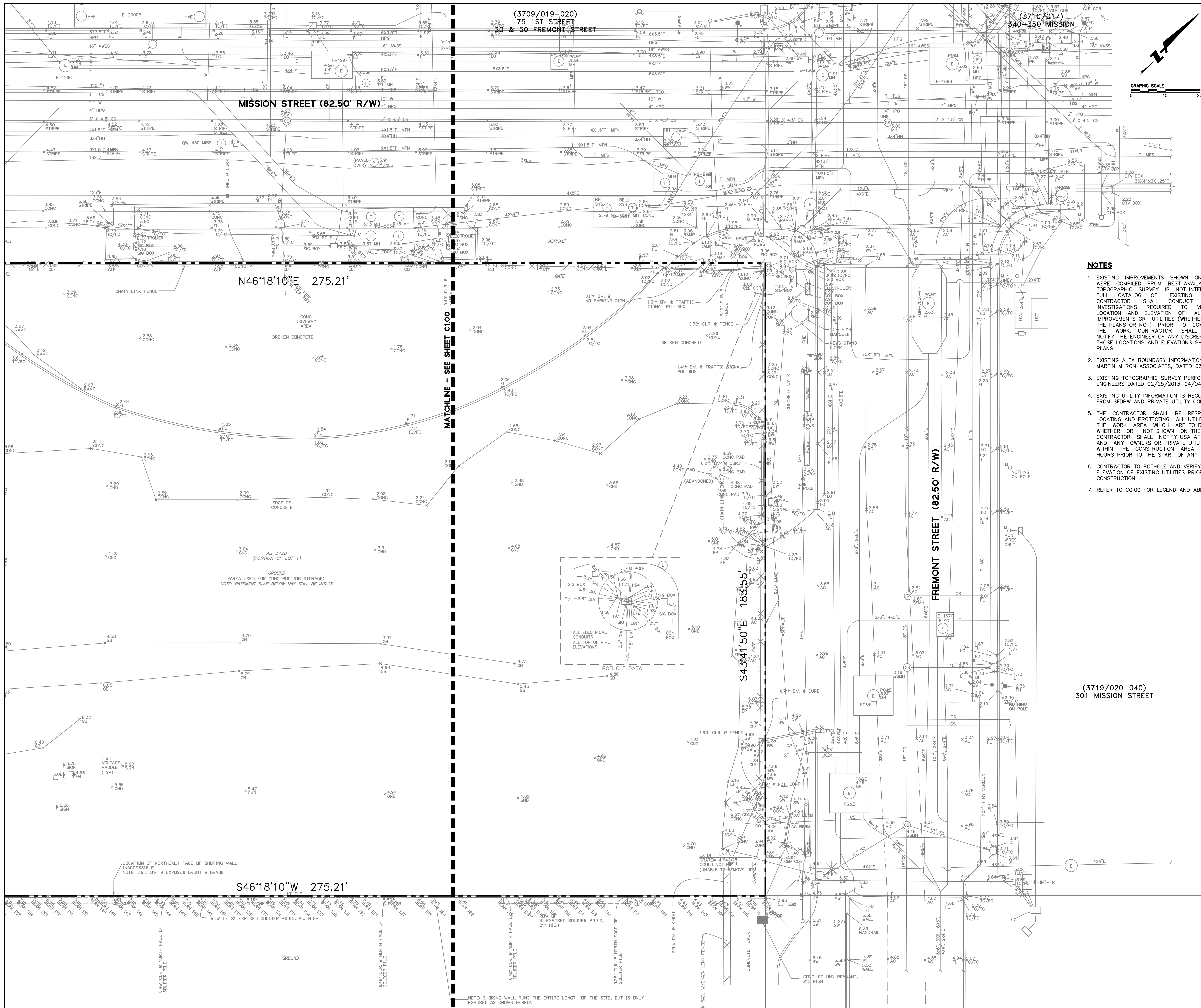
NO.	DATE	ISSUE
7	02 MAY 14	GMP
6	10 FEB 14	BID ADDENDUM #2
5	16 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

**Note Sheet**



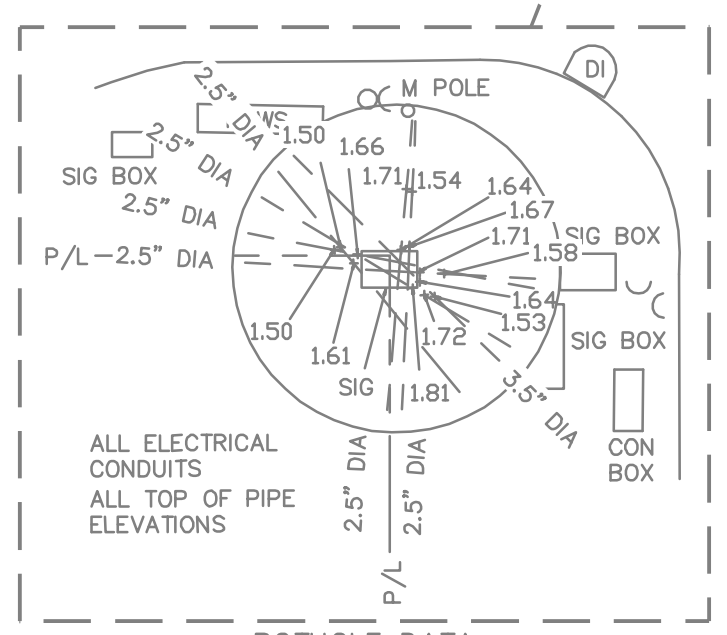


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**NOTES**

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- EXISTING ALTA BOUNDARY INFORMATION PROVIDED BY MARTIN M RON ASSOCIATES, DATED 03/05/2012.
- EXISTING TOPOGRAPHIC SURVEY PERFORMED BY BKF ENGINEERS DATED 02/25/2013-04/04/2013.
- EXISTING UTILITY INFORMATION IS RECORD INFORMATION FROM SFPDW AND PRIVATE UTILITY COMPANIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES WITHIN THE WORK AREA WHICH ARE TO REMAIN IN USE, WHETHER OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY USA AT 800-227-2600 AND ANY OWNERS OR PRIVATE UTILITY COMPANIES WITHIN THE CONSTRUCTION AREA AT LEAST 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
- CONTRACTOR TO POTHOLE AND VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
- REFER TO CO.00 FOR LEGEND AND ABBREVIATIONS.



GROUND (AREA USED FOR CONSTRUCTION STORAGE)  
NOTE: BASEMENT SLAB BELOW MAY STILL BE INTACT

LOCATION OF NORTHERLY FACE OF SHORING WALL INACCESSIBLE  
NOTE: 0.6' DIV. @ EXPOSED GROUT @ GRADE

NOTE: SHORING WALL RUNS THE ENTIRE LENGTH OF THE SITE, BUT IS ONLY EXPOSED AS SHOWN HEREIN.

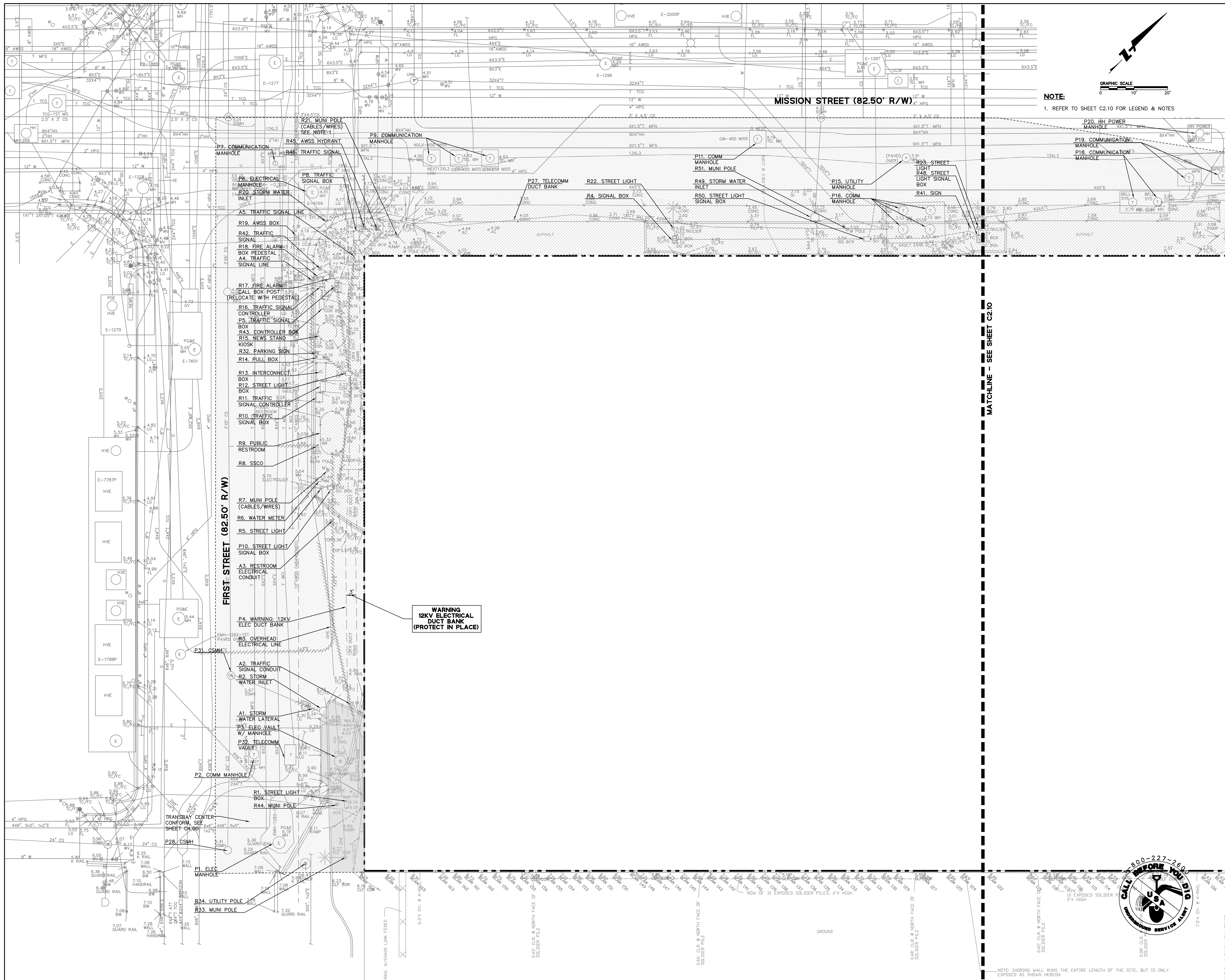
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301 MISSION STREET

NO.	DATE	ISSUE
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2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

DRAWING TITLE

**Existing Conditions  
Plan (East)**

NO. PROJECT NO. 08044  
DRAWING NUMBER C1.10

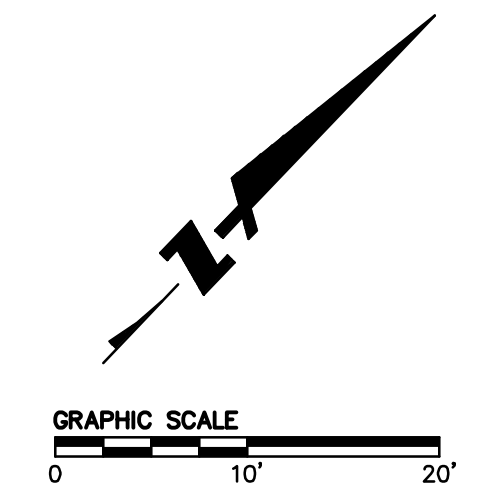
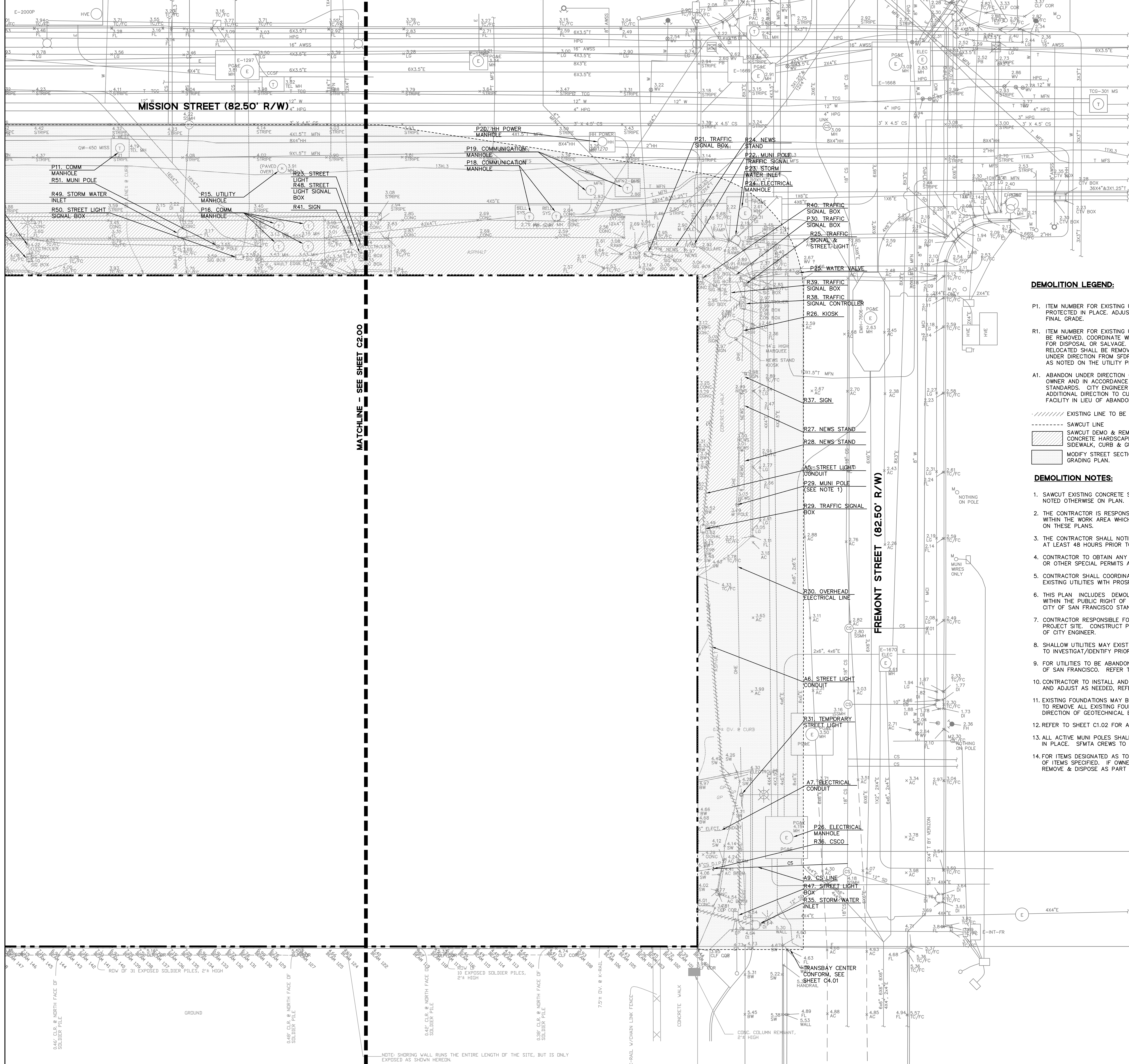


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Landscape Architect of Record

NO.	DATE	ISSUE
7	02 MAY 14	GMP
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5	16 DEC 13	BID AND ADDENDUM #3 PERMIT
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3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

**Demolition Plan (West)**

PROJECT NO. 08044 DRAWING NUMBER C2.00



**Transbay Tower**  
101 First Street  
San Francisco, CA

- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALL HEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEPFP Engineer
- PWP LANDSCAPE ARCHITECTURE**  
Landscape Architect
- BKF ENGINEERS**  
Civil Engineer
- PERSOHN/HAHN ASSOCIATES, INC.**  
Elevator Consultant
- AON FIRE PROTECTION ENGINEERING**  
Building Security
- HWA PARKING**  
Parking Consultant
- ARUP**  
Geotechnical Consultant
- HLB LIGHTING DESIGN, INC.**  
Lighting Consultant
- CERAMI AND ASSOCIATES, INC.**  
Acoustical Consultant
- MORRISON HERSHFIELD**  
Curtain Wall Consultant
- ENVIRONMENTAL BUILDING STRATEGIES**  
LEED Consultant
- HMA CONSULTING**  
Building Management and Controls Engineer
- C.S. CAULKINS CO., INC.**  
Window Washing Consultant
- ENGINEERING SPECIALTIES GROUP**  
Aerial Tram Consultant
- DEBRA NICHOLS DESIGN**  
Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

**DEMOLITION LEGEND:**

- P1. ITEM NUMBER FOR EXISTING UTILITY TO BE PROTECTED IN PLACE. ADJUST UTILITY TO FINAL GRADE.
- R1. ITEM NUMBER FOR EXISTING UTILITY TO BE REMOVED. COORDINATE WITH UTILITY COMPANY FOR DISPOSAL OR SALVAGE. ITEMS SAID TO BE RELOCATED SHALL BE REMOVED & PROTECTED UNDER DIRECTION FROM SFPW & RE-INSTALLED AS NOTED ON THE UTILITY PLAN & SCHEDULE.
- A1. ABANDON UNDER DIRECTION OF UTILITY OWNER AND IN ACCORDANCE WITH CITY STANDARDS. CITY ENGINEER MAY GIVE ADDITIONAL DIRECTION TO CUT/CAP OR REMOVE FACILITY IN LIEU OF ABANDONMENT.

- EXISTING LINE TO BE ABANDONED
- SAWCUT LINE
- SAWCUT DEMO & REMOVE EXISTING CONCRETE HARDSCAPE INCLUDING SIDEWALK, CURB & GUTTER
- MODIFY STREET SECTION AS REQUIRED. SEE GRADING PLAN.

**DEMOLITION NOTES:**

1. SAWCUT EXISTING CONCRETE SIDEWALKS ONLY AT EXISTING SCORE MARKS UNLESS NOTED OTHERWISE ON PLAN.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES WITHIN THE WORK AREA WHICH ARE TO REMAIN IN USE, WHETHER OR NOT SHOWN ON THESE PLANS.
3. THE CONTRACTOR SHALL NOTIFY USA (UNDERGROUND SERVICE ALERT) 800-227-2600 AT LEAST 48 HOURS PRIOR TO THE START OF ANY WORK.
4. CONTRACTOR TO OBTAIN ANY REQUIRED ENCROACHMENT, SIDEWALK, PARKING, HAULING OR OTHER SPECIAL PERMITS AS PART OF THIS WORK.
5. CONTRACTOR SHALL COORDINATE SAFE-OFF AND REMOVAL/ABANDONMENT OF EXISTING UTILITIES WITH PROSPECTIVE UTILITY OWNER ONLY.
6. THIS PLAN INCLUDES DEMOLITION WITHIN THE PUBLIC RIGHT OF WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY IS TO BE PERFORMED IN ACCORDANCE WITH THE CITY OF SAN FRANCISCO STANDARD PLANS AND SPECIFICATIONS.
7. CONTRACTOR RESPONSIBLE FOR PROVIDING SAFE PEDESTRIAN PATH IN FRONT OF PROJECT SITE. CONSTRUCT PEDESTRIAN ACCESS/TRAFFIC CONTROL TO SATISFACTION OF CITY ENGINEER.
8. SHALLOW UTILITIES MAY EXIST UNDER CURB, SIDEWALK & PAVEMENTS. CONTRACTOR TO INVESTIGATE/IDENTIFY PRIOR TO SAWCUTTING AND DEMOLITION.
9. FOR UTILITIES TO BE ABANDONED, CONTRACTOR SHALL COORDINATE WITH THE CITY OF SAN FRANCISCO. REFER TO SHEET C5.20 FOR PRELIMINARY CONTACT INFORMATION.
10. CONTRACTOR TO INSTALL AND MAINTAIN EROSION CONTROL DEVICES THROUGHOUT WORK AND ADJUST AS NEEDED, REFER TO C7.00 & C7.10 FOR ADDITIONAL INFORMATION.
11. EXISTING FOUNDATIONS MAY BE ENCOUNTERED DURING CONSTRUCTION. CONTRACTOR TO REMOVE ALL EXISTING FOUNDATION ELEMENTS IN THE PATH OF CONSTRUCTION UNDER DIRECTION OF GEOTECHNICAL ENGINEER.
12. REFER TO SHEET C1.02 FOR ADDITIONAL NOTES AND REQUIREMENTS.
13. ALL ACTIVE MUNI POLES SHALL REMAIN IN PLACE UNTIL NEW FOUNDATION AND POLE IS IN PLACE. SFMTA CREWS TO DETACH AND RE-ATTACH WIRES, CONTRACTOR TO COORDINATE.
14. FOR ITEMS DESIGNATED AS TO BE SALVAGED: COORDINATE TEMPORARY STORAGE & DELIVERY OF ITEMS SPECIFIED. IF OWNER OF SAID ITEM ELECTS TO DISPOSE ITEM, CONTRACTOR TO REMOVE & DISPOSE AS PART OF THIS WORK.

MATCHLINE - SEE SHEET C2.00

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DRAWING TITLE

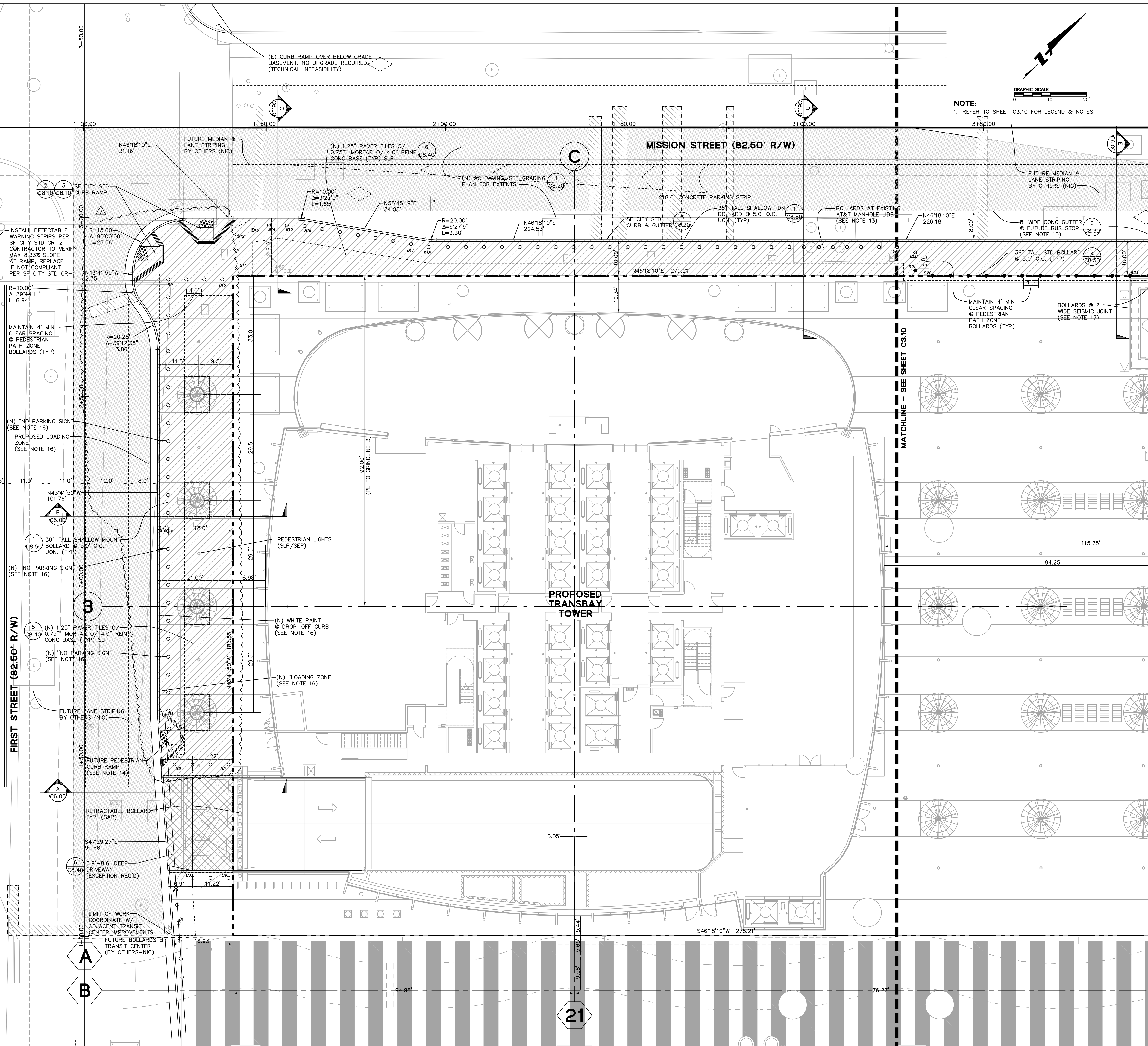
**Demolition Plan (East)**

NO. PROJECT NO. 08044 DRAWING NUMBER C2.10





**NOTE:**  
1. REFER TO SHEET C3.10 FOR LEGEND & NOTES



- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALL HEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEFPF Engineer
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Landscape Architect of Record

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CDD FILENAME  
DRAWING TITLE

**Horizontal Control Plan**

NO. PROJECT NO. 08044  
DRAWING NUMBER: **C3.00**





- BOSTON PROPERTIES / HINES**  
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Architect of Record
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- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

**LEGEND:**

- C** PROJECT GRIDLINE REFERENCE, SEE ARCH DWG'S FOR INTERMEDIATE GRIDLINE RELATIONSHIPS
- 21** TRANSIT CENTER (ADJACENT PROJECT) GRIDLINE SHOWN FOR REFERENCE ONLY, REFER TO DRAWINGS BY TJPA FOR ADDITIONAL COORDINATION
- INSTALL CONCRETE SIDEWALK / CURB & GUTTER IMPROVEMENTS PER SFPDP STANDARDS. SEE GRADING PLAN (CB.40)
- ASPHALT CONCRETE PAVING (CB.20, CB.30)
- DRIVEWAY PAVING (CB.40)
- UTILITY TRENCH, BACKFILL & COMPACT PER CITY SPECIFICATIONS

**BOLLARD LEGEND:**

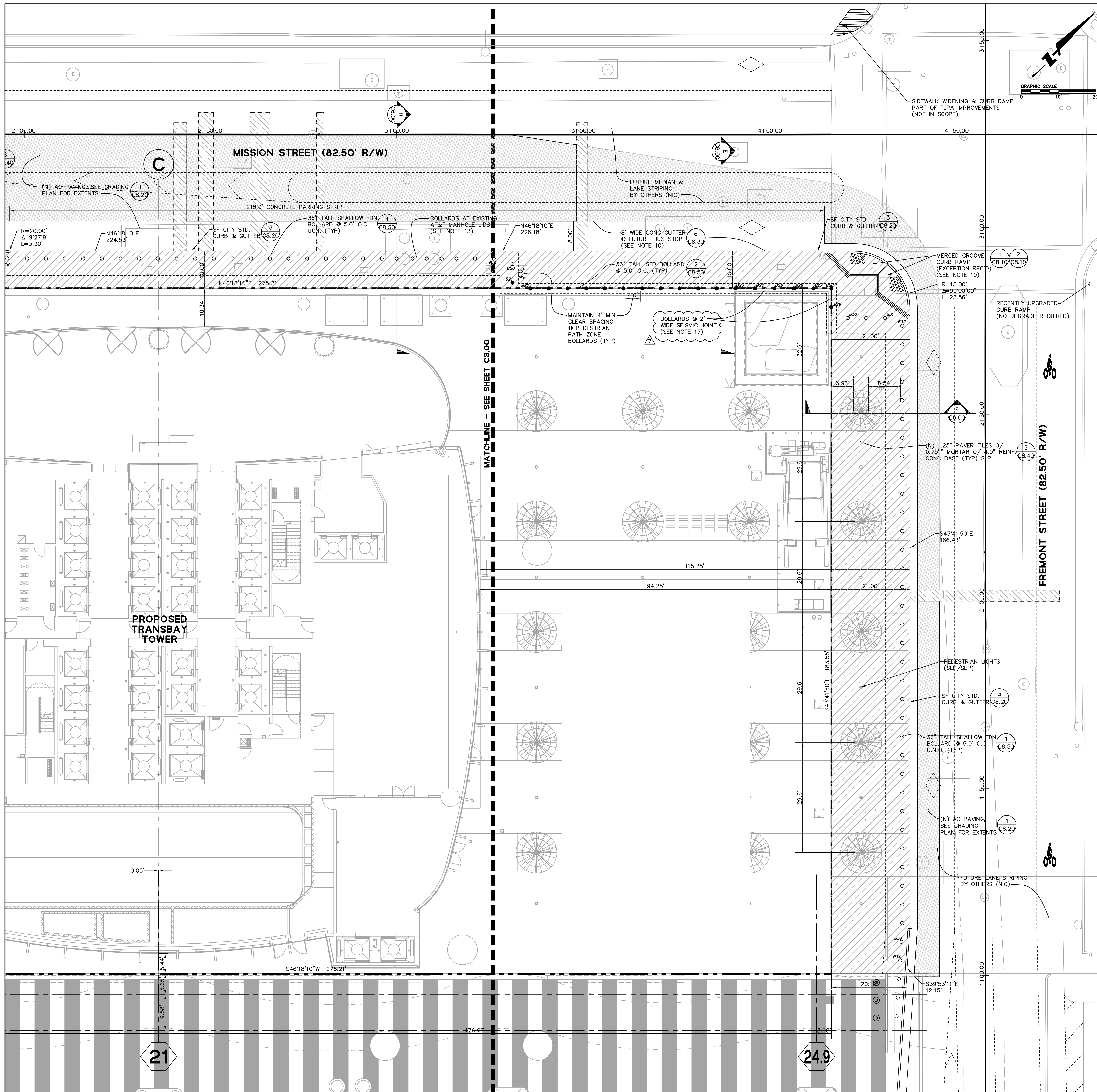
- STANDARD MOUNT BOLLARD (SECURE USA) (CB.50)
- SHALLOW MOUNT BOLLARD (SECURE USA) (CB.50)
- SEE BOLLARD SCHEDULE FOR STATION/OFFSET INFORMATION
- ACTIVE RETRACTABLE BOLLARD (REFER TO ARCH DWGS)
- EXTENT OF BOLLARD SYSTEM FOOTING BELOW (SEE SHEET CB.50 FOR DETAILS)

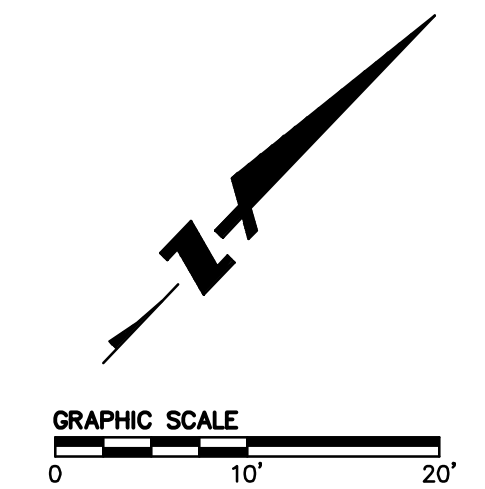
**HORIZONTAL CONTROL NOTES:**

1. CURB RETURN RADII AND CURB DATA ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. OBTAIN ENCROACHMENT/SIDEWALK PERMITS PRIOR TO ANY WORK IN PUBLIC RIGHT-OF-WAY.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO CONFORM TO THE LINES, GRADES, SECTIONS AND DIMENSION AS SET FORTH ON THESE PLANS.
4. REFER TO SHEET C1.00 FOR ADDITIONAL NOTES.
5. REFER TO LANDSCAPE DRAWINGS FOR PAVER TYPE, LAYOUT PATTERN, AND JOINT LOCATIONS.
6. REFER TO LANDSCAPE DRAWINGS FOR TREE GRATE AND PEDESTRIAN LIGHT DETAILS.
7. NEIGHBORING CURB RAMPS CONNECTING TO PROJECT CURB RAMPS SHALL BE UPGRADED PER SFPDP ORDER 175,387. NO UPGRADE WILL BE REQUIRED WHERE A BASEMENT/STRUCTURAL SLAB EXISTS BELOW (TECHNICAL INFEASIBILITY).
8. PROPOSED CURB ALIGNMENTS ARE BASED ON CONCEPTUAL PLANNING EXHIBITS PROVIDED BY THE CITY OF SAN FRANCISCO DATED MAY 2012 AND APRIL 2013.
9. AT THE TIME THESE PLANS WERE PRODUCED, THE CURB TRANSITIONS AT FIRST AND FREMONT WERE NOT APPROVED BY THE CITY AND TJPA. THE FINAL CURB ALIGNMENT, LOCATION AND CORRESPONDING GRADES MAY VARY FROM THESE PLANS PENDING FINAL APPROVAL.
10. SFMTA TO DETERMINE FINAL EXTENT OF BUS STOP ISLAND LOCATION INCLUDING EXTENT & WIDTH OF REINFORCED CONCRETE GUTTER.
11. REFER TO SHEET CB.50 FOR BOLLARD INSTALLATION NOTES.
12. THE BOLLARD SCHEDULE PROVIDED BELOW PROVIDES SELECTIVE LOCATIONS AT BEGINNING, END AND ANGLE POINTS. ALL INTERIOR BOLLARDS SHOULD BE AT REGULAR 5.0' ON CENTER INTERVALS UNLESS OTHERWISE NOTED ON THE PLAN. A VARIATION IN SPACING IS REQUIRED AT THE EXISTING AT&T MANHOLE LIDS TO AVOID CONFLICT AND ENABLE LIDS TO OPEN FOLLOWING IMPROVEMENTS.
13. PROPOSED BOLLARDS IN VICINITY OF EXISTING AT&T MANHOLE COVERS SHALL BE STAGGERED OR CUSTOM MANUFACTURER ENGINEERED TO ALLOW FULL ACCESS & OPERATION OF MANHOLE COVERS IN FINAL BUILT CONDITION.
14. PROPOSED CURB RAMP INDICATED NORTH OF THE DRIVEWAY IS FOR FUTURE PEDESTRIAN CROSSING INSTALLED BY TJPA PENDING APPROVAL BY THE CITY. CONTRACTOR TO ALLOW FOR INSTALLATION OF THIS CURB RAMP AS PART OF TRANSBAY TOWER SIDEWALK CONSTRUCTION.
15. VARIANCE REQUIRED AT PROPOSED CURB RAMPS. SURFACE OF RAMPS INCLUDING FLARES IS FINISHED WITH A SLIP RESISTANT PAVER. SEE LANDSCAPE PLANS FOR PAVER TYPE AND PATTERN. GROOVES AT TOP OF RAMP ARE CUSTOM CUT INTO PAVERS AS DETAILED ON LANDSCAPE PLANS. INSTALL TRUNCATED DOMES OVER PAVER FINISH AS REQUIRED BY DETAIL 2 ON SHEET CB.10.
16. PROPOSED BULB OUT WITH DROP-OFF LANE AT 1ST STREET PENDING CITY APPROVAL. SFMTA TO DETERMINE FINAL SIGNAGE & STRIPING.
17. CUSTOM BOLLARD INSTALLATION REQUIRED AT 2.0' WIDE SEISMIC JOINT AT STATUE FOUNDATION. REFER TO CB.50 FOR SHOP DRAWING AND SUBMITTAL REQUIREMENTS. THIS LOCATION WILL REQUIRE CUSTOM ATTACHMENT TO WALL BELOW, KEYED FOOTING AT SIDEWALK, FINAL DESIGN BY SECURE USA TO MAINTAIN K12 RATING.

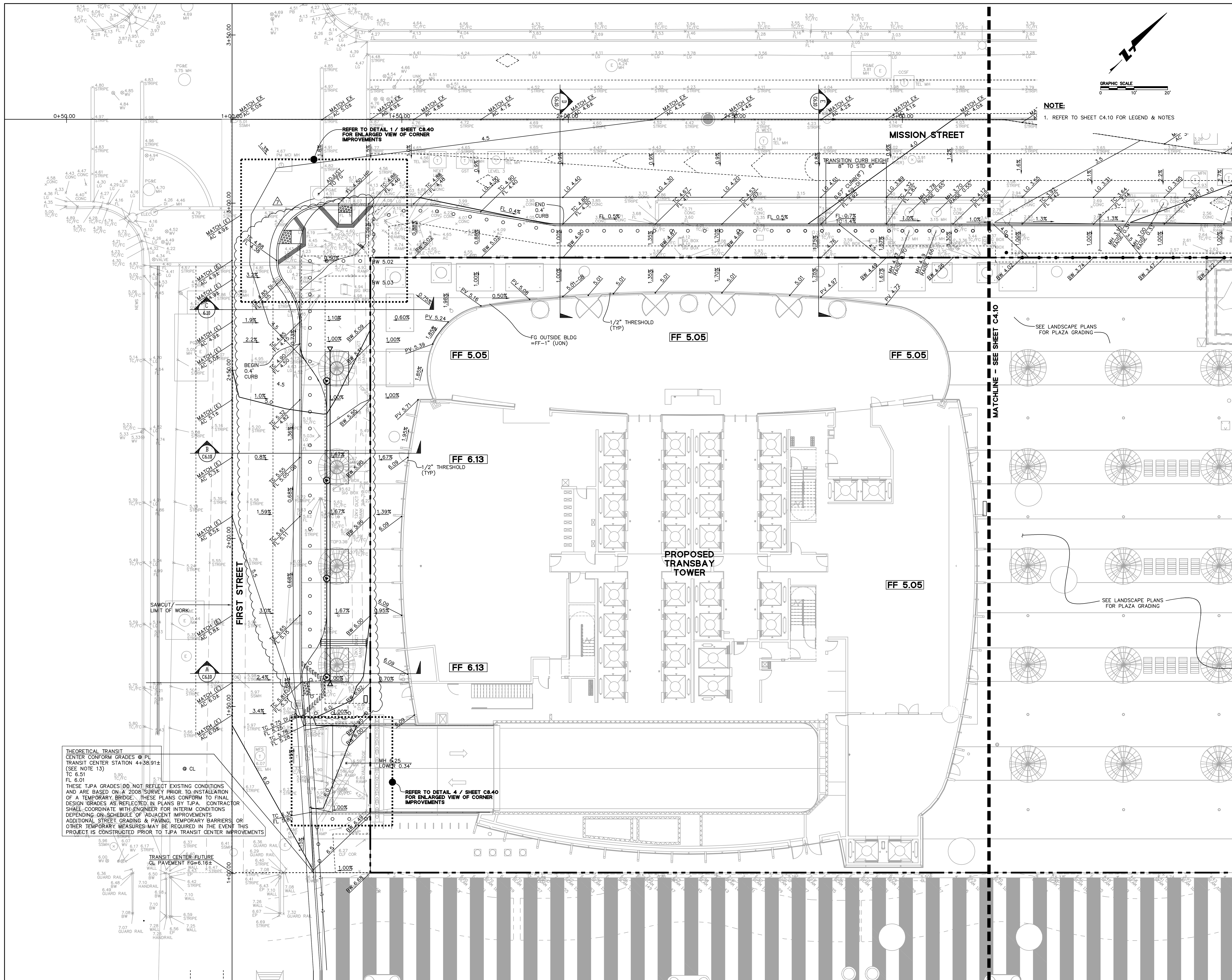
**BOLLARD SCHEDULE**

BOLLARD #	STATION	OFFSET
B1	A:1+03.53	26.09 R
B2	A:1+13.50	25.42 R
B3	A:1+16.03	29.98 R
B4	A:1+16.03	39.98 R
B5	A:1+47.59	39.98 R
B6	A:1+47.59	23.98 R
B7	A:1+52.57	23.84 R
B8	A:1+62.56	23.25 R
B9	A:2+82.55	23.25 R
B10	A:2+92.55	39.25 R
B11	B:1+42.25	39.25 R
B12	B:1+42.25	29.25 R
B13	B:1+46.70	27.25 R
B14	B:1+51.25	27.25 R
B15	B:1+56.21	27.25 R
B16	B:1+61.15	27.42 R
B17	B:1+90.74	32.36 R
B18	B:1+95.66	33.25 R
B19	B:3+25.99	33.25 R
B20	B:3+30.99	34.75 R
B21	B:3+30.99	39.75 R
B22	B:3+35.76	41.25 R
B23	B:3+90.76	41.25 R
B24	B:3+95.97	41.25 R
B25	B:4+01.19	41.25 R
B26	B:4+06.41	41.25 R
B27	B:4+11.52	41.25 R
B28	B:4+16.46	41.25 R
B29	C:2+78.58	41.29 L
B30	C:2+75.66	36.92 L
B31	C:2+75.66	28.92 L
B32	C:2+73.58	23.25 L
B33	C:1+08.58	22.49 L
B34	C:1+03.60	22.83 L





**NOTE:**  
1. REFER TO SHEET C4.10 FOR LEGEND & NOTES



THEORETICAL TRANSIT CENTER CONFORM GRADES @ FL TRANSIT CENTER GRADES 4+38.91± (SEE NOTE 13) TO 6.51 FL 6.01 THESE T.J.P.A. GRADES DO NOT REFLECT EXISTING CONDITIONS AND ARE BASED ON A 2008 SURVEY PRIOR TO INSTALLATION OF A TEMPORARY BRIDGE. THESE PLANS CONFORM TO FINAL DESIGN GRADES AS REFLECTED IN PLANS BY T.J.P.A. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR INTERIM CONDITIONS DEPENDING ON SCHEDULE OF ADJACENT IMPROVEMENTS ADDITIONAL STREET GRADING & PAVING TEMPORARY BARRIERS OR OTHER TEMPORARY MEASURES MAY BE REQUIRED IN THE EVENT THIS PROJECT IS CONSTRUCTED PRIOR TO T.J.P.A. TRANSIT CENTER IMPROVEMENTS

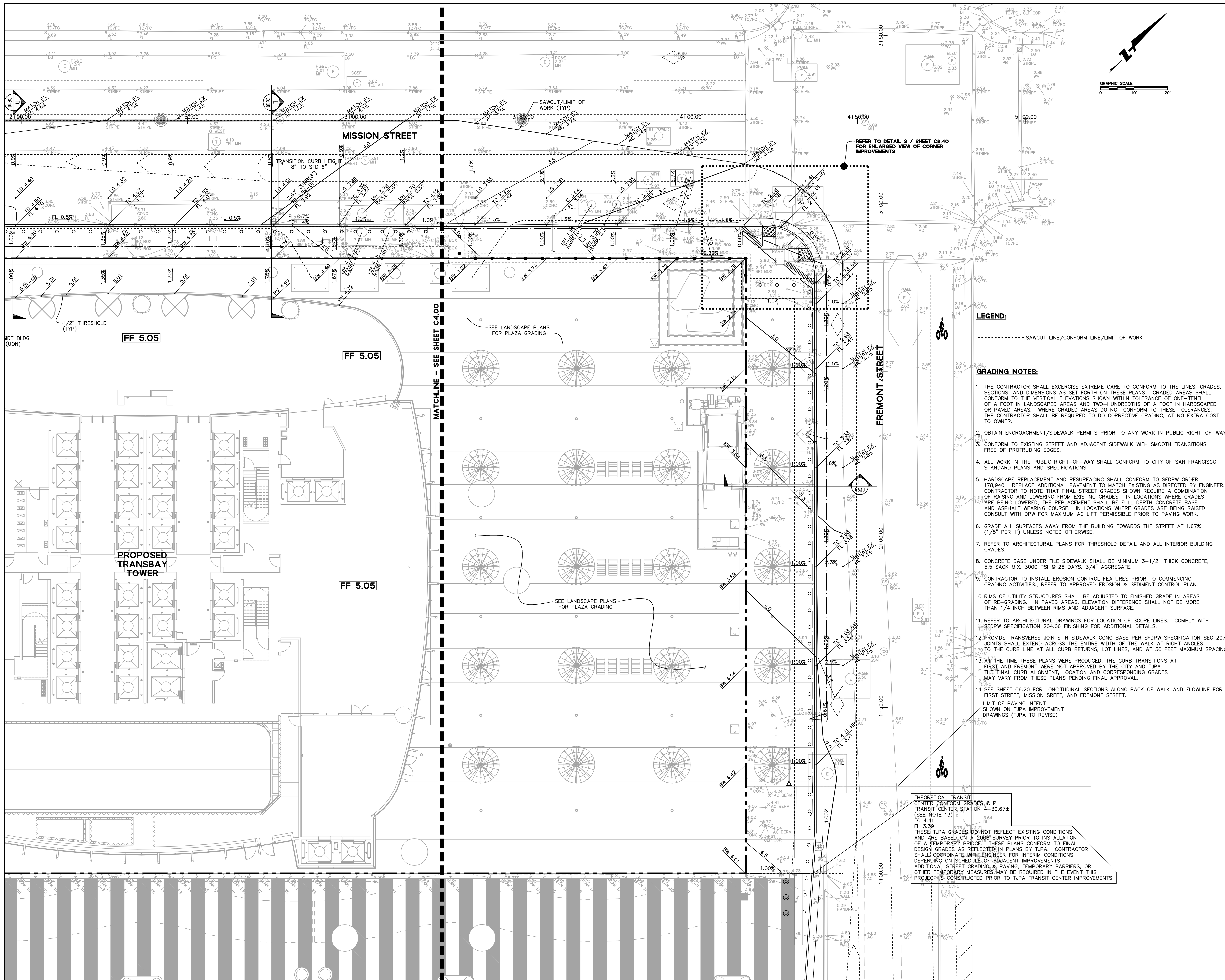
REFER TO DETAIL 4 / SHEET C8.40 FOR ENLARGED VIEW OF CORNER IMPROVEMENTS

REFER TO DETAIL 1 / SHEET C8.40 FOR ENLARGED VIEW OF CORNER IMPROVEMENTS

- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALLHEATH ASSOCIATES, INC.**  
Architect of Record
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Structural Engineer
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**Grading Plan (West)**



REFER TO DETAIL 2 / SHEET C6.40 FOR ENLARGED VIEW OF CORNER IMPROVEMENTS

**LEGEND:**

----- SAWCUT LINE/CONFORM LINE/LIMIT OF WORK

**GRADING NOTES:**

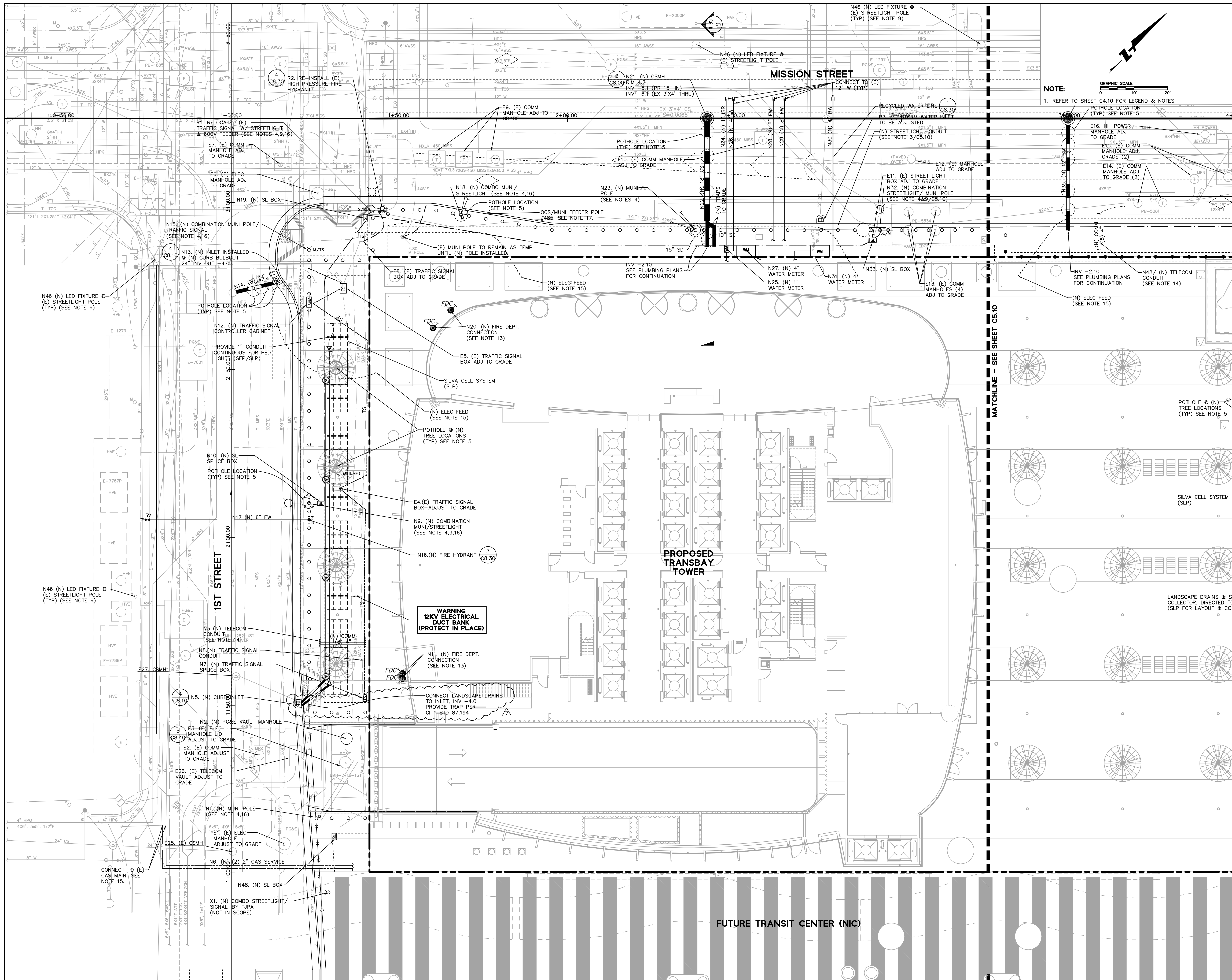
1. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO CONFORM TO THE LINES, GRADES, SECTIONS, AND DIMENSIONS AS SET FORTH ON THESE PLANS. GRADED AREAS SHALL CONFORM TO THE VERTICAL ELEVATIONS SHOWN WITHIN TOLERANCE OF ONE-TENTH OF A FOOT IN LANDSCAPED AREAS AND TWO-HUNDREDTHS OF A FOOT IN HARDSCAPED OR PAVED AREAS. WHERE GRADED AREAS DO NOT CONFORM TO THESE TOLERANCES, THE CONTRACTOR SHALL BE REQUIRED TO DO CORRECTIVE GRADING, AT NO EXTRA COST TO OBTAIN.
2. OBTAIN ENCROACHMENT/SIDEWALK PERMITS PRIOR TO ANY WORK IN PUBLIC RIGHT-OF-WAY.
3. CONFORM TO EXISTING STREET AND ADJACENT SIDEWALK WITH SMOOTH TRANSITIONS FREE OF PROTRUDING EDGES.
4. ALL WORK IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CITY OF SAN FRANCISCO STANDARD PLANS AND SPECIFICATIONS.
5. HARDSCAPE REPLACEMENT AND RESURFACING SHALL CONFORM TO SFPDPW ORDER 178.940. REPLACE ADDITIONAL PAVEMENT TO MATCH EXISTING AS DIRECTED BY ENGINEER. CONTRACTOR TO NOTE THAT FINAL STREET GRADES SHOWN REQUIRE A COMBINATION OF RAISING AND LOWERING FROM EXISTING GRADES. IN LOCATIONS WHERE GRADES ARE BEING LOWERED, THE REPLACEMENT SHALL BE FULL DEPTH CONCRETE BASE AND ASPHALT WEARING COURSE. IN LOCATIONS WHERE GRADES ARE BEING RAISED CONSULT WITH DPW FOR MAXIMUM AC LIFT PERMISSIBLE PRIOR TO PAVING WORK.
6. GRADE ALL SURFACES AWAY FROM THE BUILDING TOWARDS THE STREET AT 1.67% (1/5" PER 1') UNLESS NOTED OTHERWISE.
7. REFER TO ARCHITECTURAL PLANS FOR THRESHOLD DETAIL AND ALL INTERIOR BUILDING GRADES.
8. CONCRETE BASE UNDER TILE SIDEWALK SHALL BE MINIMUM 3-1/2" THICK CONCRETE, 5.5 SACK MIX, 3000 PSI @ 28 DAYS, 3/4" AGGREGATE.
9. CONTRACTOR TO INSTALL EROSION CONTROL FEATURES PRIOR TO COMMENCING GRADING ACTIVITIES. REFER TO APPROVED EROSION & SEDIMENT CONTROL PLAN.
10. RIMS OF UTILITY STRUCTURES SHALL BE ADJUSTED TO FINISHED GRADE IN AREAS OF RE-GRADING. IN PAVED AREAS, ELEVATION DIFFERENCE SHALL NOT BE MORE THAN 1/4 INCH BETWEEN RIMS AND ADJACENT SURFACE.
11. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF SCORE LINES. COMPLY WITH SFPDPW SPECIFICATION 204.06 FINISHING FOR ADDITIONAL DETAILS.
12. PROVIDE TRANSVERSE JOINTS IN SIDEWALK CONC BASE PER SFPDPW SPECIFICATION SEC 207. JOINTS SHALL EXTEND ACROSS THE ENTIRE WIDTH OF THE WALK AT RIGHT ANGLES TO THE CURB LINE AT ALL CURB RETURNS, LOT LINES, AND AT 30 FEET MAXIMUM SPACING.
13. AT THE TIME THESE PLANS WERE PRODUCED, THE CURB TRANSITIONS AT FIRST AND FREMONT WERE NOT APPROVED BY THE CITY AND TJPA. THE FINAL CURB ALIGNMENT, LOCATION AND CORRESPONDING GRADES MAY VARY FROM THESE PLANS PENDING FINAL APPROVAL.
14. SEE SHEET C6.20 FOR LONGITUDINAL SECTIONS ALONG BACK OF WALK AND FLOWLINE FOR FIRST STREET, MISSION STREET, AND FREMONT STREET.

THEORETICAL TRANSIT CENTER CONFORM GRADES @ PL TRANSIT CENTER STATION 4+30.67± (SEE NOTE 13) TO 4+41.11± FL 3.39 THESE TJPA GRADES DO NOT REFLECT EXISTING CONDITIONS AND ARE BASED ON A 2008 SURVEY PRIOR TO INSTALLATION OF A TEMPORARY BRIDGE. THESE PLANS CONFORM TO FINAL DESIGN GRADES AS REFLECTED IN PLANS BY TJPA. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR INTERIM CONDITIONS DEPENDING ON SCHEDULE OF ADJACENT IMPROVEMENTS ADDITIONAL STREET GRADING & PAVING TEMPORARY BARRIERS, OR OTHER TEMPORARY MEASURES MAY BE REQUIRED IN THE EVENT THIS PROJECT'S CONSTRUCTED PRIOR TO TJPA TRANSIT CENTER IMPROVEMENTS

- BOSTON PROPERTIES / HINES**  
Owner
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Design Architect
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DRAWING TITLE	
<b>Grading Plan (East)</b>	
TJPA PROJECT NO.	DRAWING NUMBER
08044	<b>C4.10</b>



**NOTE:**  
1. REFER TO SHEET C4.10 FOR LEGEND & NOTES

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- HWA PARKING**  
Parking Consultant
- ARUP**  
Geotechnical Consultant
- HLB LIGHTING DESIGN, INC.**  
Lighting Consultant
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Acoustical Consultant
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Curtain Wall Consultant
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Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

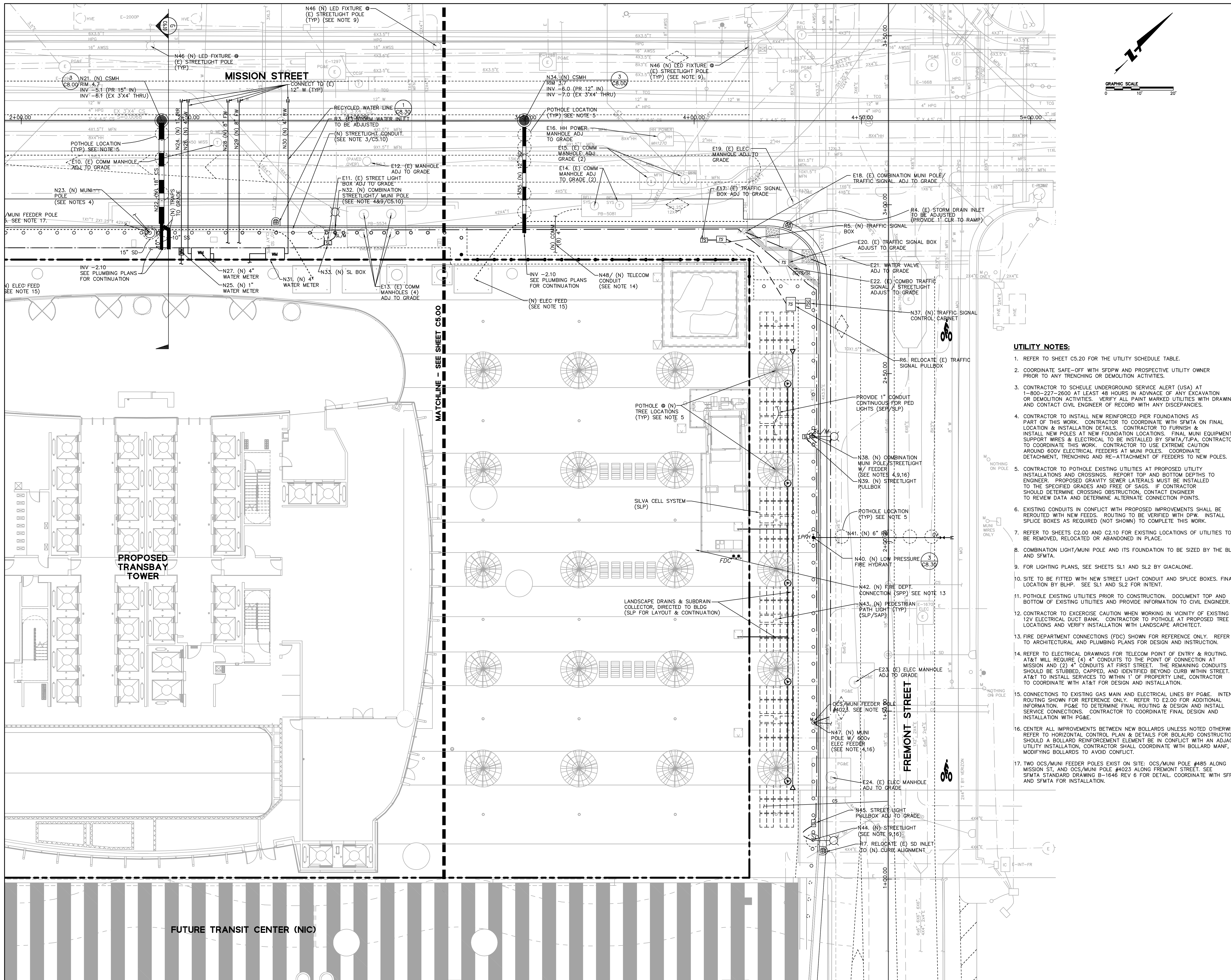
NO.	DATE	ISSUE
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5	16 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

DRAWING TITLE

**Utility Plan  
(West)**



- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALLHEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEFPF Engineer
- PWP LANDSCAPE ARCHITECTURE**  
Landscape Architect
- BKF ENGINEERS**  
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CDD FILENAME  
DRAWING TITLE

**Utility Plan (East)**



**UTILITY LABEL LEGEND:**

- R1. ITEM NUMBER FOR EXISTING UTILITY TO BE REMOVED OR RELOCATED FROM CURRENT LOCATION OR ABANDONED IN CURRENT LOCATION.
- E1. ITEM NUMBER FOR EXISTING UTILITY TO REMAIN IN CURRENT LOCATION, ADJUST TO FINISHED GRADE AS REQUIRED.
- N1. ITEM NUMBER FOR NEW PROPOSED UTILITY
- X1. ITEM NUMBER FOR UTILITY BY OTHERS/TJPA FOR REFERENCE ONLY

**UTILITY SCHEDULE:**

NO.	ITEM DESCRIPTION	STREET	ACTION	AGENCY TO COORDINATE	STATION/OFFSET	NOTES
E1	(E) ELEC MANHOLE @ VAULT	FIRST	ADJUST TO GRADE	PG&E	A:1+08.40 / 15.86 R	TRAFFIC CONTROL/BARRIER REQ'D
E2	(E) COMM MANHOLE	FIRST	ADJUST TO GRADE	MFS COMMUNICATIONS	A:1+34.80 / 8.39 R	TRAFFIC CONTROL/BARRIER REQ'D
E3	(E) ELEC MANHOLE LID	FIRST	ADJUST TO GRADE	PG&E	A:1+31.85 / 32.75 R	TRAFFIC CONTROL/BARRIER REQ'D
E4	(E) TRAFFIC SIGNAL BOX	FIRST	ADJUST TO GRADE	SFMTA	A:2+14.42 / 31.26 R	REPLACE BOX/LID AT OWNERS OPTION
E5	(E) TRAFFIC SIGNAL BOX	FIRST	ADJUST TO GRADE	SFMTA	A:2+74.15 / 33.41 R	REPLACE BOX/LID AT OWNERS OPTION
E6	(E) ELEC MANHOLE	FIRST	ADJUST TO GRADE	PG&E	A:3+02.51 / 25.82 R	TRAFFIC CONTROL/BARRIER REQ'D
E7	(E) COMM MANHOLE	FIRST	ADJUST TO GRADE	MFS	A:3+11.16 / 14.69 R	TRAFFIC CONTROL/BARRIER REQ'D
E8	(E) TRAFFIC SIGNAL BOX	MISSION	ADJUST TO GRADE	SFMTA	B:1+38.82 / 33.85 R	TRAFFIC CONTROL/BARRIER REQ'D
E9	(E) COMM MANHOLE (TYP OF 3)	MISSION	ADJUST TO GRADE	NEXT LINK/GST/LEVEL 3	B:1+69.48 / 12.25 R	TRAFFIC CONTROL/BARRIER REQ'D
E10	(E) COMM MANHOLE	MISSION	ADJUST TO GRADE	QWEST	B:2+58.59 / 6.43 R	TRAFFIC CONTROL/BARRIER REQ'D
E11	(E) STREETLIGHT BOX	MISSION	ADJUST TO GRADE	BLHP/SFDPW	B:2+91.44 / 36.29 R	TRAFFIC CONTROL/BARRIER REQ'D
E12	(E) MANHOLE	MISSION	ADJUST TO GRADE	SFDPW	B:3+02.90 / 12.00 R	
E13	(E) COMM MANHOLES (TYP OF 4)	MISSION	ADJUST TO GRADE	AT&T	B:3+06.01 / 30.58 R	
E14	(E) COMM MANHOLES (TYP OF 2)	MISSION	ADJUST TO GRADE	BELL SYS	B:3+74.17 / 25.19 R	
E15	(E) COMM MANHOLES (TYP OF 2)	MISSION	ADJUST TO GRADE	MFN	B:3+92.97 / 17.70 R	
E16	(E) HH POWER MANHOLE	MISSION	ADJUST TO GRADE	HETCH HETCHY/SFPUC	B:3+90.49 / 4.72 R	
E17	(E) TRAFFIC SIGNAL BOX	MISSION	ADJUST TO GRADE	SFMTA	B:4+03.03 / 35.47 R	
E18	(E) COMBO MUNI/TRAFFIC SIGNAL	MISSION	ADJUST TO GRADE	SFMTA	B:4+15.29 / 33.10 R	
E19	(E) ELECTRIC MANHOLE	MISSION	ADJUST TO GRADE	PG&E	B:4+29.52 / 24.21 R	TRAFFIC CONTROL/BARRIER REQ'D
E20	(E) TRAFFIC SIGNAL BOX	FREMONT	ADJUST TO GRADE	SFMTA	C:2+82.71 / 30.95 L	
E21	(E) WATER VALVE	FREMONT	ADJUST TO GRADE	SFDPW/SF WATER	C:2+84.34 / 13.94 L	
E22	(E) COMBO TRAFFIC SIGNAL/STREETLIGHT	FREMONT	ADJUST TO GRADE	BLHP/SFDPW	C:2+80.94 / 28.29 L	
E23	(E) ELEC MANHOLE	FREMONT	ADJUST TO GRADE	PG&E	C:1+58.08 / 9.89 L	TRAFFIC CONTROL/BARRIER REQ'D
E24	(E) ELEC MANHOLE	FREMONT	ADJUST TO GRADE	PG&E	C:1+29.83 / 16.89 L	TRAFFIC CONTROL/BARRIER REQ'D
E25	(E) CSMH	FIRST	ADJUST TO GRADE	SFDPW	A:1+05.96 / 0.64 R	TRAFFIC CONTROL/BARRIER REQ'D
E26	(E) TELECOM VAULT	FIRST	ADJUST TO GRADE	SFDPW/PG&E	A:1+34.62 / 19.17 R	TRAFFIC CONTROL/BARRIER REQ'D
E27	(E) CSMH	FIRST	ADJUST TO GRADE	SFDPW	A:1+58.32 / 1.44 R	TRAFFIC CONTROL/BARRIER REQ'D
R1	RELOCATE (E) TRAFFIC SIGNAL	MISSION	RELOCATE	SFMTA	B:1+41.98 / 25.74 R	POTHOLE PRIOR TO INSTALL, CAMERA ON POLE TO REMAIN
R2	RELOCATE (E) HPFH	MISSION	RELOCATE	SFFD/SFDPW	B:1+45.10 / 25.78 R	PROVIDE (N) PIPE & FITTINGS & THRUST BLOCK PER CITY STD.
R3	(E) STORM DRAIN INLET	MISSION	RELOCATE	SFDPW	B:2+75.90 / 30.25 R	INSTALL AT NEW CURB ALIGNMENT/ADJUST TO GRADE
R4	(E) STORM DRAIN INLET	MISSION	RELOCATE	SFDPW	B:4+27.91 / 31.24 R	SET AT NEW CURB ALIGNMENT/GRADE
R5	(N) TRAFFIC SIGNAL BOX	MISSION	RELOCATE	SFMTA	B:4+08.17 / 35.19 R	REPLACES EXISTING BOX IN CONFLICT W/ BOLLARDS, INSTALL NEW CONDUIT
R6	RELOCATE (E) TRAFFIC SIGNAL PULLBOX	FREMONT	RELOCATE	SFMTA	C:2+70.36 / 28.95 L	
R7	RELOCATE (E) STORM DRAIN INLET	FREMONT	RELOCATE	SFDPW	C:1+08.05 / 19.52 L	
N1	(N) MUNI POLE	FIRST	DESIGN BY SFMTA	SFMTA	A:1+15.97 / 25.44 R	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N2	(N) PG&E VAULT MANHOLE	FIRST	DESIGN BY PG&E	PG&E	A:1+39.74 / 34.41 R	
N3	(N) TELECOM CONDUIT	ALL		SFDPW/PG&E		
N4	NOT USED					
N5	(N) CURB INLET	FIRST		SFDPW	A:1+46.84 / 20.21 R	CONNECT TO (E) LATERAL PER CITY STD.
N6	(N) (2) 2" GAS SERVICE	FIRST		PG&E	A:1+01.98	CONNECTION BY PG&E, PROVIDE CURB VALVE AS REQ'S BY DOC. J-15
N7	(N) TRAFFIC SIGNAL SPLICE BOX	FIRST		SFMTA	A:1+51.82 / 39.87 R	FINAL METHOD & LOCATION BY SFMTA
N8	(N) TRAFFIC SIGNAL CONDUIT	FIRST		SFMTA/BLHP	A:1+72.64 / 39.81 R	FINAL DESIGN SIZE/ROUTING BY SFMTA
N9	(N) COMBO MUNI/STREETLIGHT	FIRST		SFMTA/BLHP/SFDPW	A:2+10.08 / 23.25 R	
N10	(N) STREET LIGHT CONDUIT SPLICE BOX	FIRST		SFMTA	A:2+09.99 / 26.71 R	
N11	(N) FIRE DEPARTMENT CONNECTION	FIRST		SFFD	A:1+58.45 / 51.10 R	REFER TO PLUMBING PLANS FOR CONTINUATION
N12	(N) TRAFFIC SIGNAL CONTROL CABINET	FIRST		SFMTA	A:2+70.11 / 23.28 R	CONSTRUCT NEW PAD/PULL NEW CONDUITS AS REQ'D
N13	(N) CITY STD. CURB INLET	FIRST		SFDPW	A:2+76.46 / 13.99 R	X
N14	(N) 24" CS LATERAL	FIRST		SFDPW	A:2+74.38 / 7.08 R	CONNECT (N) INLET TO (E) MH, INSTALL PER CITY STD.
N15	(N) COMBO MUNI POLE/TRAFFIC SIGNAL	FIRST		SFMTA	A:2+85.55 / 23.25 R	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N16	(N) LOW PRESSURE FIRE HYDRANT	FIRST		SFFD/SFDPW	A:2+05.06 / 23.25 R	INSTALL PER CITY STD
N17	(N) 8" FIRE WATER LATERAL	FIRST		SFDPW	A:2+03.13	PROVIDE GATE VALVE, CONNECT TO (E) 12" W @ MISSION
N18	(N) COMBO MUNI/STREETLIGHT	MISSION		SFMTA/BLHP/SFDPW	B:1+68.54 / 28.65 R	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N19	(N) STREET LIGHT CONDUIT SPLICE BOX	MISSION		BLHP/SFDPW	B:1+40.06 / 29.58 R	X
N20	(N) FIRE DEPARTMENT CONNECTION	MISSION		SFFD	B:1+62.85 / 59.81 R	SEE PLUMBING PLANS FOR CONTINUATION
N21	(N) COMBINED SEWER MANHOLE	MISSION		SFDPW-HYDRAULICS	B:2+42.00 / 0.09 L	POTHOLE EXISTING UTILITIES PRIOR TO INSTALL/VERIFY WITH ENGINEER
N22	(N) 18" COMBINED SEWER LATERAL	MISSION		SFDPW-HYDRAULICS	B:2+41.99 / 15.51 R	POTHOLE EXISTING UTILITIES PRIOR TO INSTALL/VERIFY WITH ENGINEER
N23	(N) MUNI POLE	MISSION		SFMTA	B:2+38.49 / 33.25 R	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N24	(N) 1" IRRIGATION WATER SERVICE	MISSION		SF WATER/SFDPW	B:2+47.95	SF WATER INSTALLS TO METER
N25	(N) 1" WATER METER	MISSION		SF WATER/SFDPW	B:2+47.78 / 38.88 R	INSTALLED BY SF WATER
N26	(N) 4" WATER SERVICE (DOMESTIC)	MISSION		SF WATER/SFDPW	B:2+49.85	SF WATER INSTALLS TO METER
N27	(N) 4" WATER METER	MISSION		SF WATER/SFDPW	B:2+53.68 / 39.33 R	INSTALLED BY SF WATER
N28	(N) 8" FIRE WATER SERVICE	MISSION		SF WATER/SFDPW/SF FIRE	B:2+61.89	INSTALLED BY SF WATER/SEE PLUMBING FOR CONTINUATION
N29	(N) 8" FIRE WATER SERVICE	MISSION		SF WATER/SFDPW/SF FIRE	B:2+65.01	INSTALLED BY SF WATER/SEE PLUMBING FOR CONTINUATION
N30	(N) 4" RECLAIMED WATER SERVICE	MISSION		SF WATER/SFDPW	B:2+79.52	SF WATER INSTALLS TO METER
N31	(N) 4" WATER METER	MISSION		SF WATER/SFDPW	B:2+75.69 / 39.48 R	INSTALLED BY SF WATER
N32	(N) COMBO MUNI/STREETLIGHT	MISSION		SFMTA/BLHP/SFDPW	B:2+93.49 / 33.25 R	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N33	(N) STREET LIGHT CONDUIT SPLICE BOX	MISSION		BLHP/SFDPW	B:2+91.44 / 36.29 R	
N34	(N) COMBINED SEWER MANHOLE	MISSION		SFDPW	B:3+49.66 / 0.10 L	INSTALL PER CITY STD
N35	(N) 12" STORM DRAIN	MISSION		SFDPW	B:3+49.66 / 17+56 R	INSTALL PER CITY STD
N36	NOT USED					
N37	(N) TRAFFIC SIGNAL CONTROL CABINET	FREMONT		SFMTA	C:2+70.58 / 23.87 L	
N38	(N) COMBO MUNI/STREETLIGHT	FREMONT		SFMTA	C:2+31.08 / 22.25 L	
N39	(N) STREETLIGHT PULLBOX	FREMONT		SFDPW	C:2+31.01 / 24.42 L	
N40	(N) STANDARD FIRE HYDRANT (LPH)	FREMONT		SFDPW	C:2+01.06 / 22.25 L	
N41	(N) 8" FIRE WATER SERVICE	FREMONT		SFFD/SFDPW	C:2+01.04	PROVIDE GATE VALVE, INSTALL PER CITY STANDARDS
N42	(N) FIRE DEPARTMENT CONNECTION	FREMONT		SFFD	C:1+97.42 / 57.42 L	SEE PLUMBING PLANS FOR CONTINUATION
N43	(N) PEDESTRIAN PATH LIGHT	FREMONT		SFMTA	C:1+76.80 / 33.33 L	SEE LANDSCAPE & ELECTRICAL PLANS
N44	(N) STREETLIGHT	FREMONT		BLHP/SFDPW	C:1+11.08 / 22.37 L	
N45	(N) STREETLIGHT PULLBOX	FREMONT		BLHP/SFDPW	C:1+16.22 / 22.18 L	
N46	(N) LED FIXTURE @ (E) STREETLIGHT	ALL		BLHP		PROJECT TO SUPPLY FIXTURES/BLHP TO INSTALL
N47	(N) MUNI POLE	FREMONT		SFMTA	C:1+46.08 / 24.25 L	INSTALL FDN & POLE PER SFMTA SPEC. WIRE ATTACHMENT BY SFMTA
N48	(N) STREET LIGHT PULL BOX	FIRST		BLHP/SFDPW	C:1+10.84 / 30.72 R	
X1	COMBO STREETLIGHT/SIGNAL	FIRST	NOT IN SCOPE	TJPA/SFMTA	A:0+93.88 / 29.02 R	BY OTHERS-COORDINATE WITH TJPA

CONTACT INFORMATION SHOWN BELOW ARE PRELIMINARY POINTS OF CONTACT TO ASSIST WITH CONTRACTOR COORDINATION PRIOR TO CONSTRUCTION.

**CONTACT INFORMATION**

DEPARTMENT/COMPANY	CONTACT NAME	CONTACT NUMBER	NOTES
AT&T	HUAN HUYNH/KE KU	(415) 644-7040	COORDINATE ALL ADJUSTMENTS TO AT&T EQUIPMENT
PG&E	MIKE BALMY	(415) 695-3513	COORDINATE ALL ADJUSTMENTS TO AT&T EQUIPMENT
SFMTA	TIM LIPPS	(415) 554-9227	OVERHEAD MUNI POLES & WIRES
SFMTA	NORMAN WONG	(415) 701-4600	MUNI
SFDPW-WATER	MICHAEL GARDINER	(415) 550-4918	WATER UTILITIES AND SERVICE
SFDPW-BLHP	RANJIT PARHAR	(415) 227-8507	STREETLIGHTING
SFDPW-BSM	-	(415) 554-5810	SIDEWALK & STREET IMPROVEMENTS
SFDPW	-	(415) 554-6920	GENERAL QUESTIONS/INSPECTIONS
USA-UNDERGROUND SERVICE ALERT	-	(800) 227-2600	UTILITY MARKING PRIOR TO START OF WORK

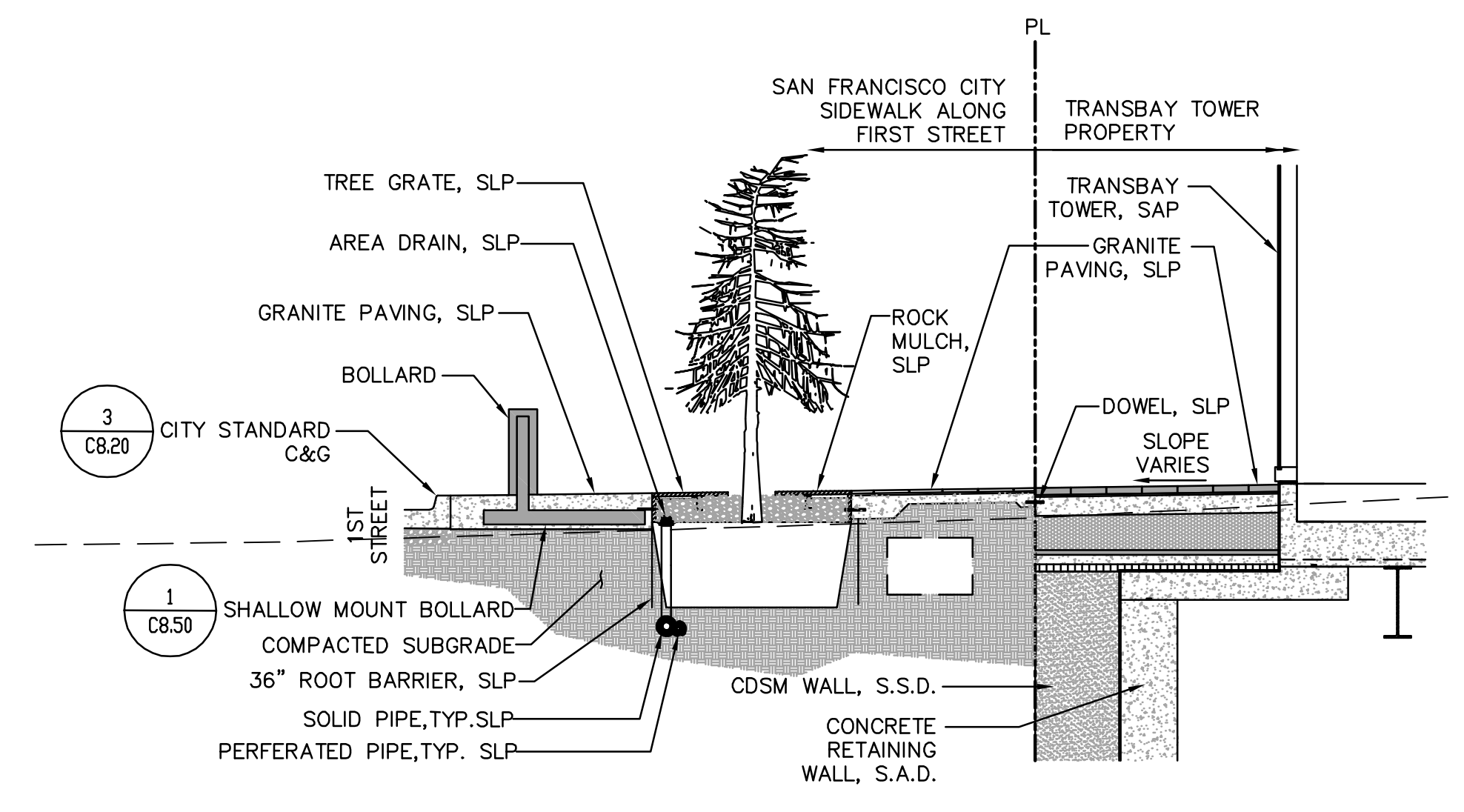
- BOSTON PROPERTIES / HINES**  
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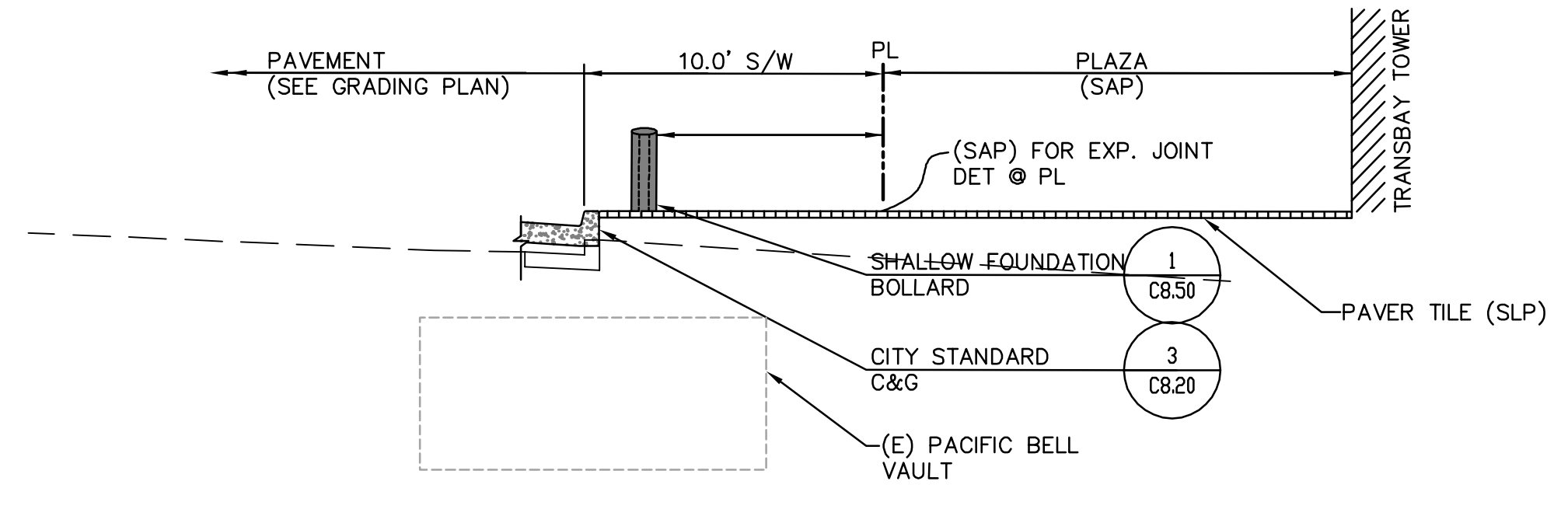
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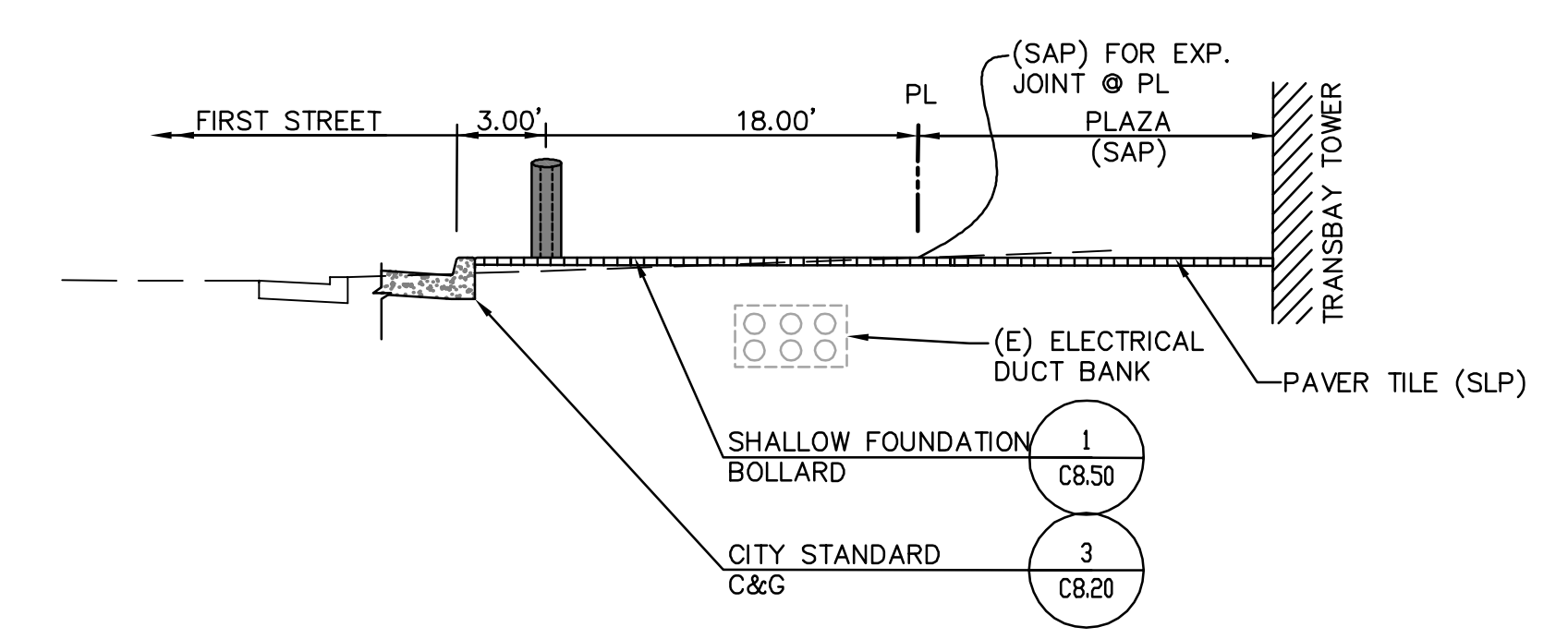
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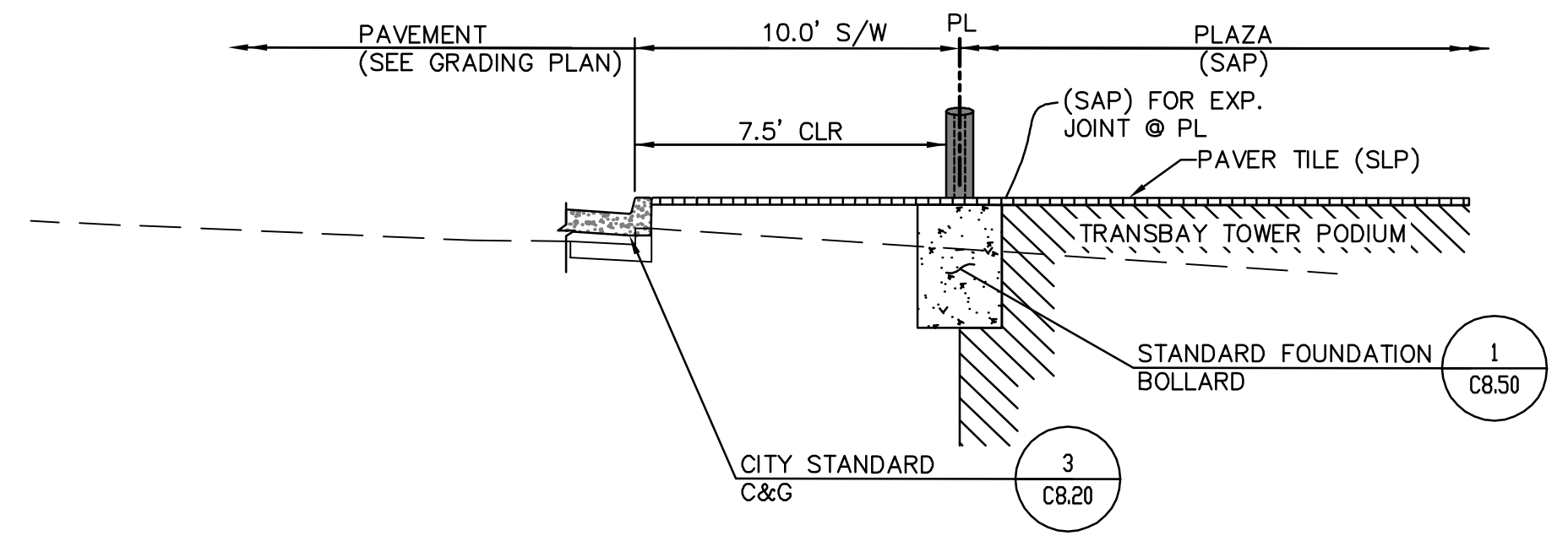
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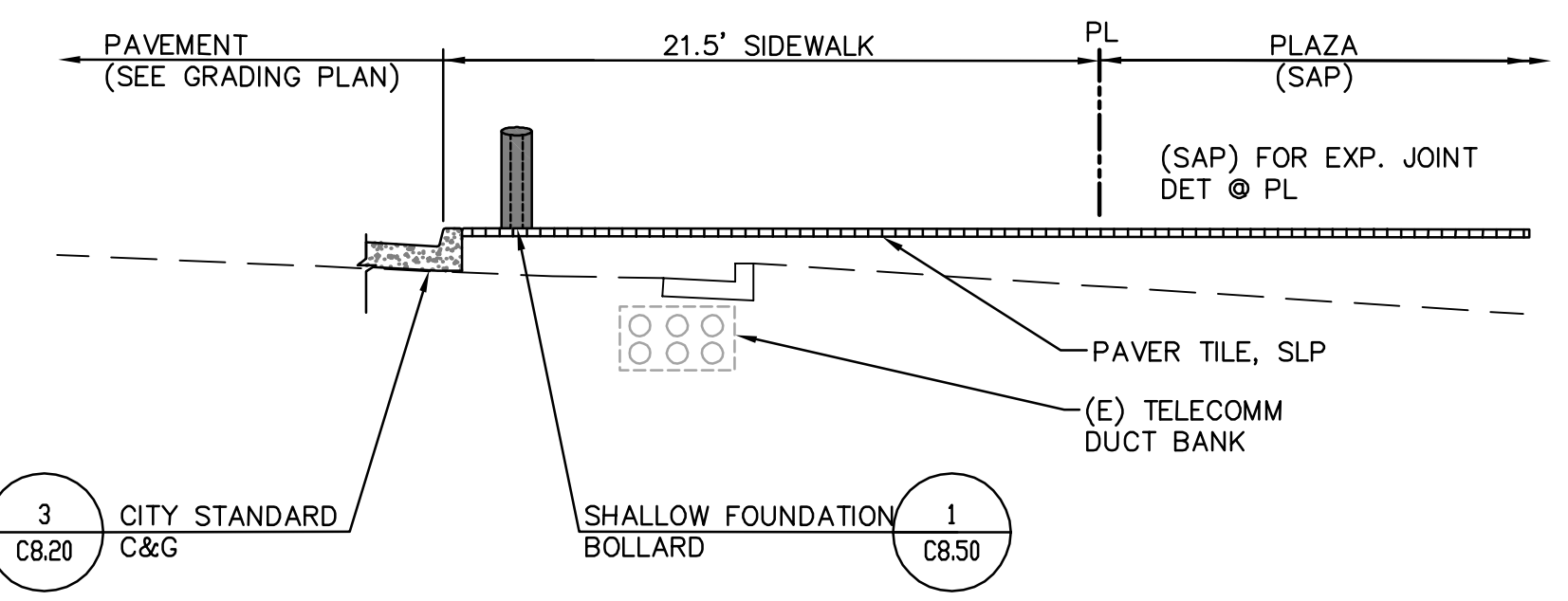
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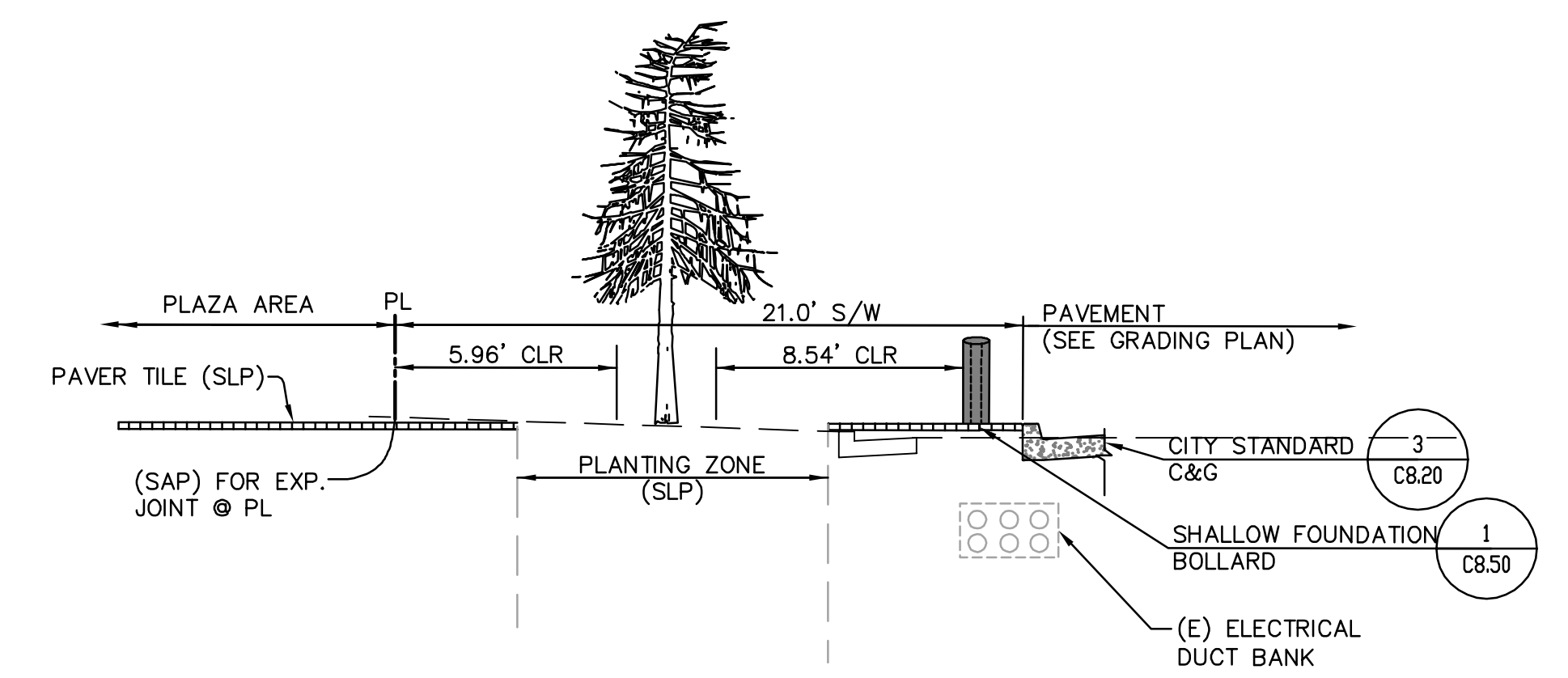
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**E**  
MISSION STREET SECTION  
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**C**  
FIRST STREET SECTION  
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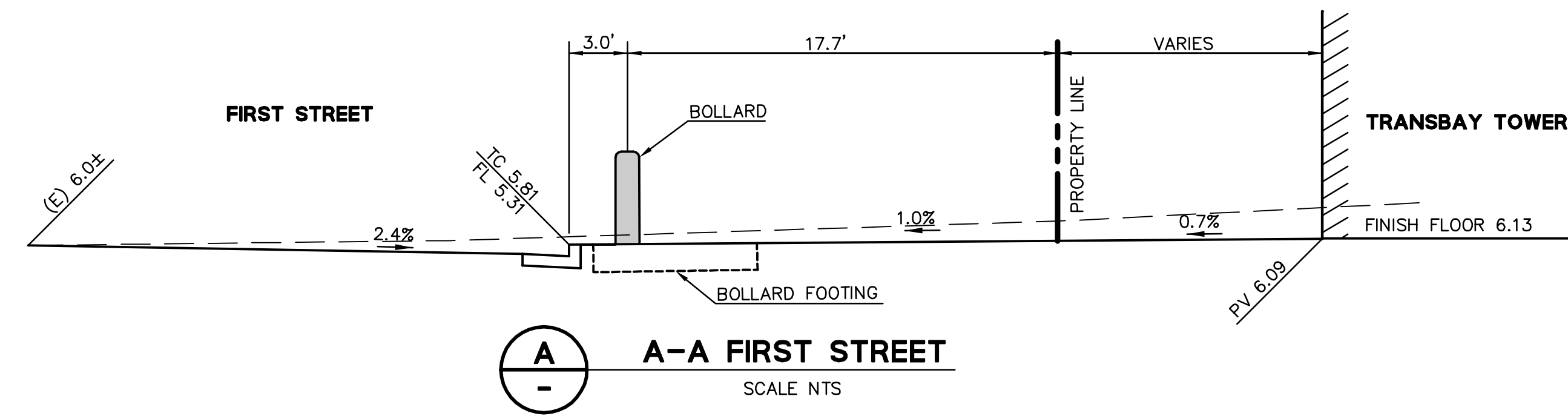
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FREMONT STREET SECTION  
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- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
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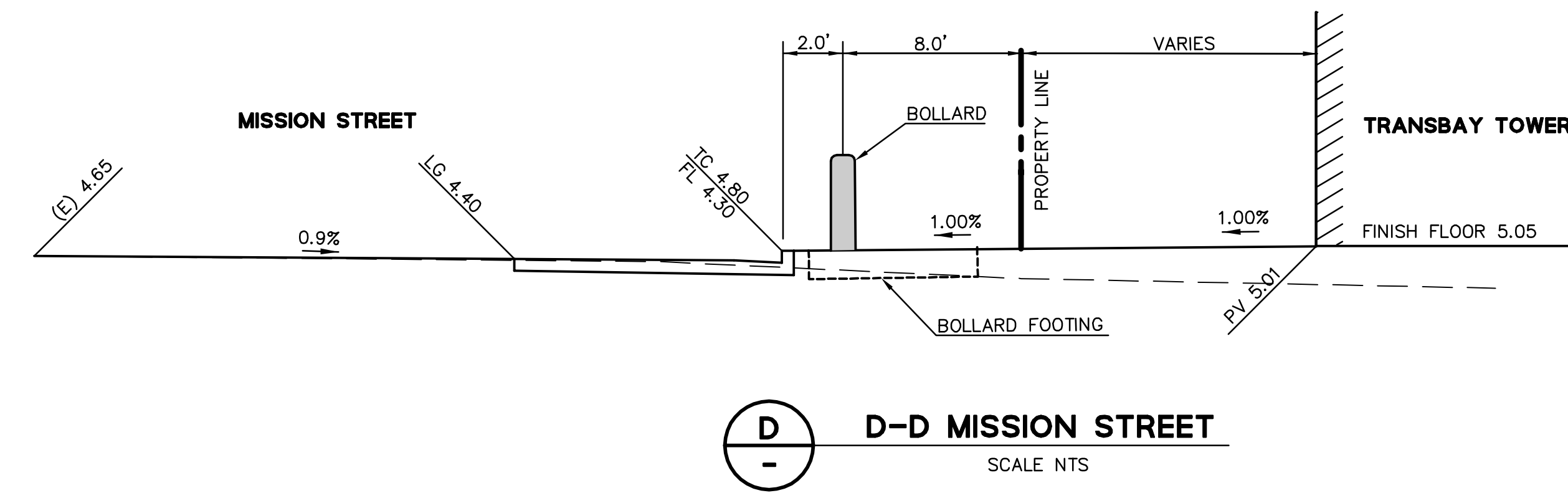
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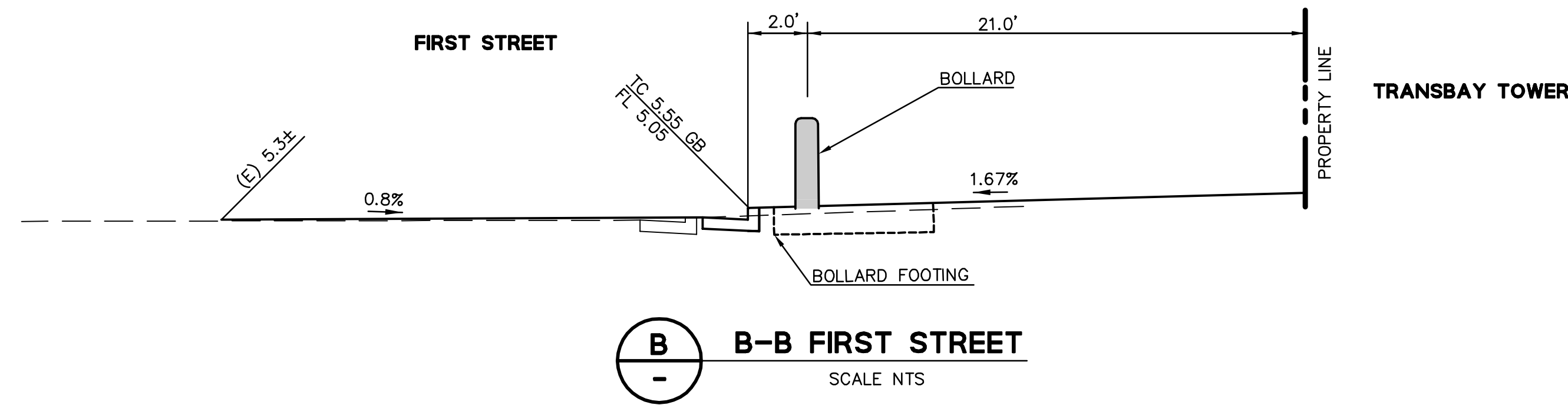
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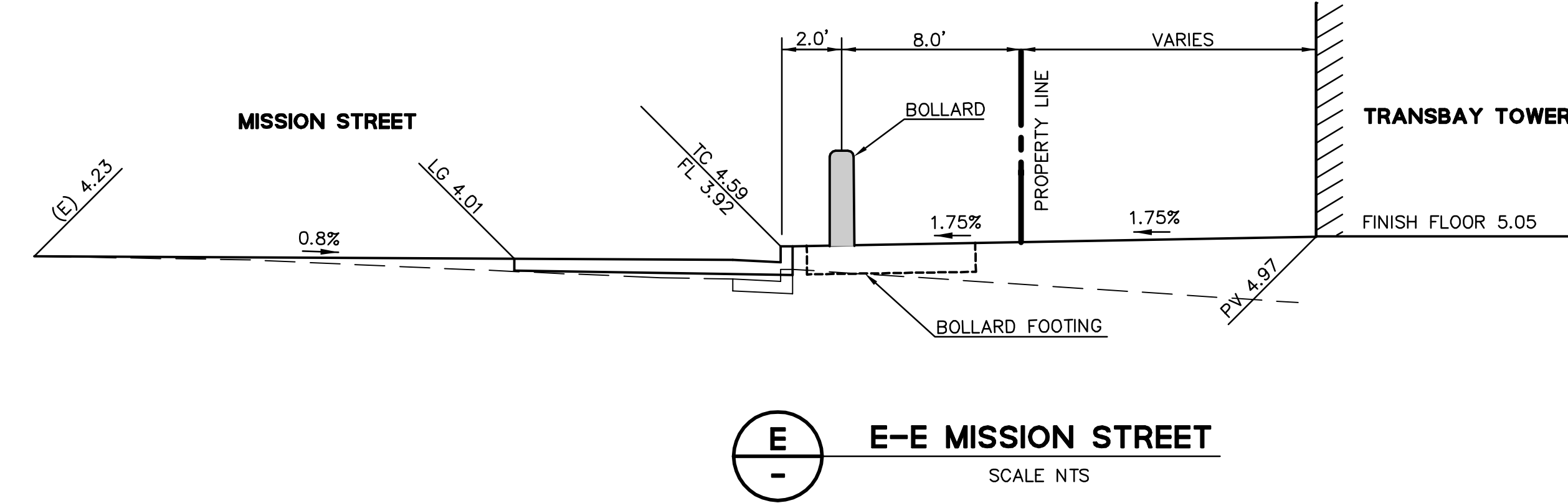
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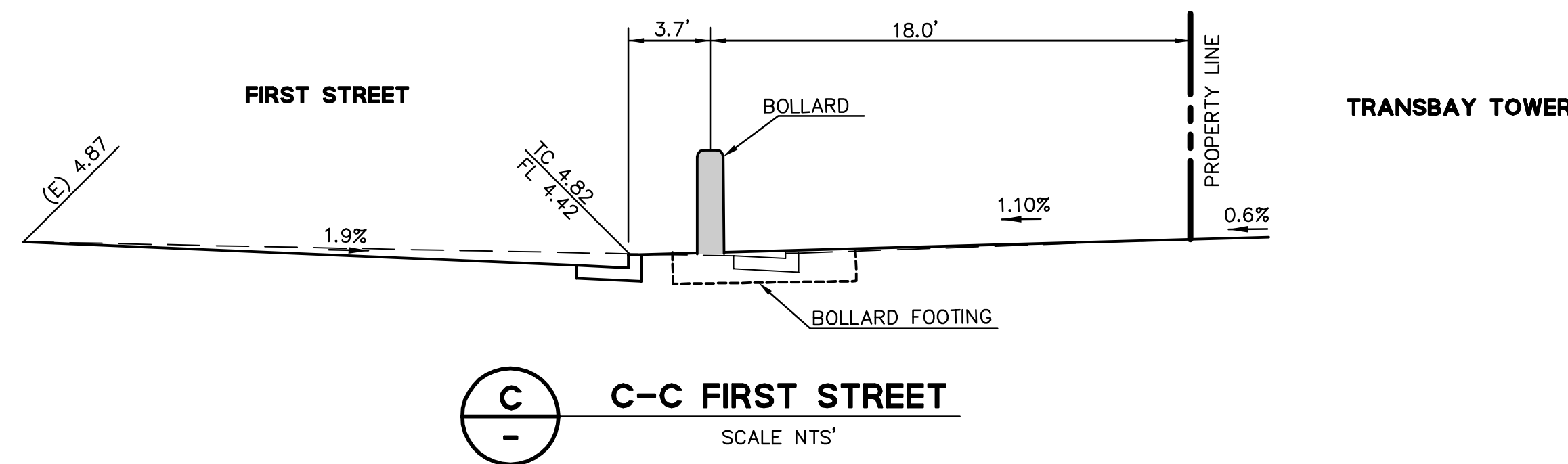
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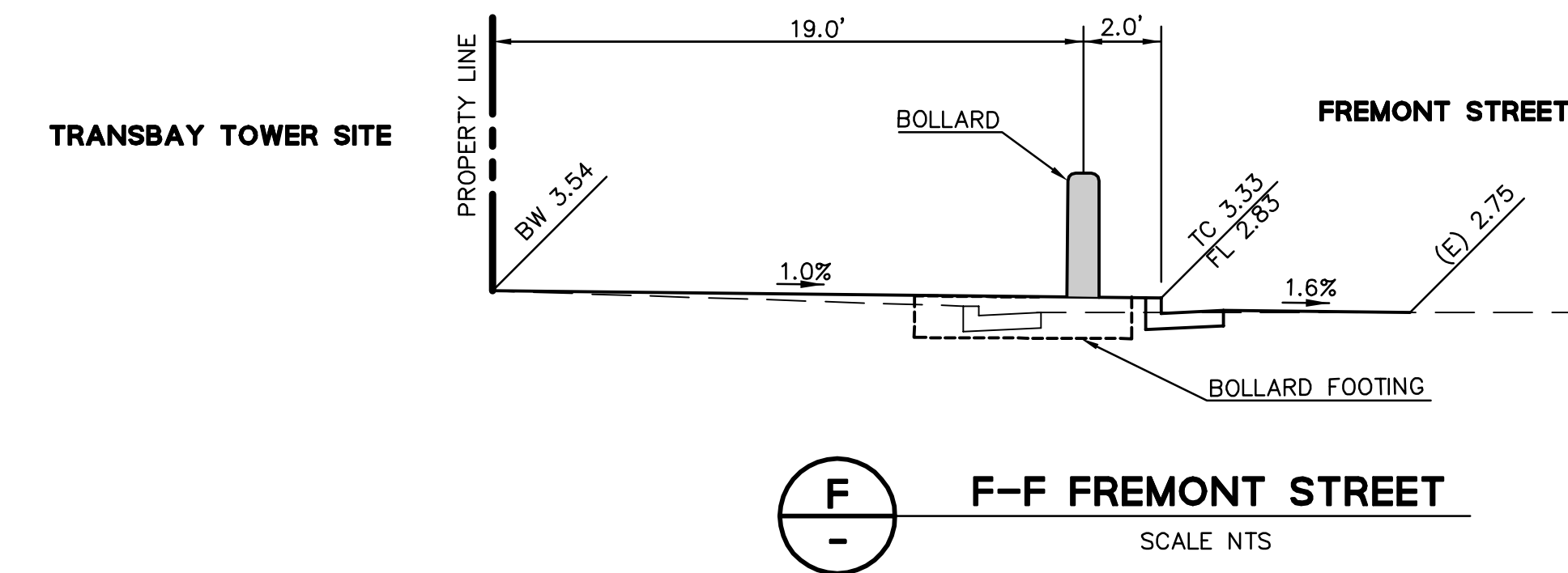
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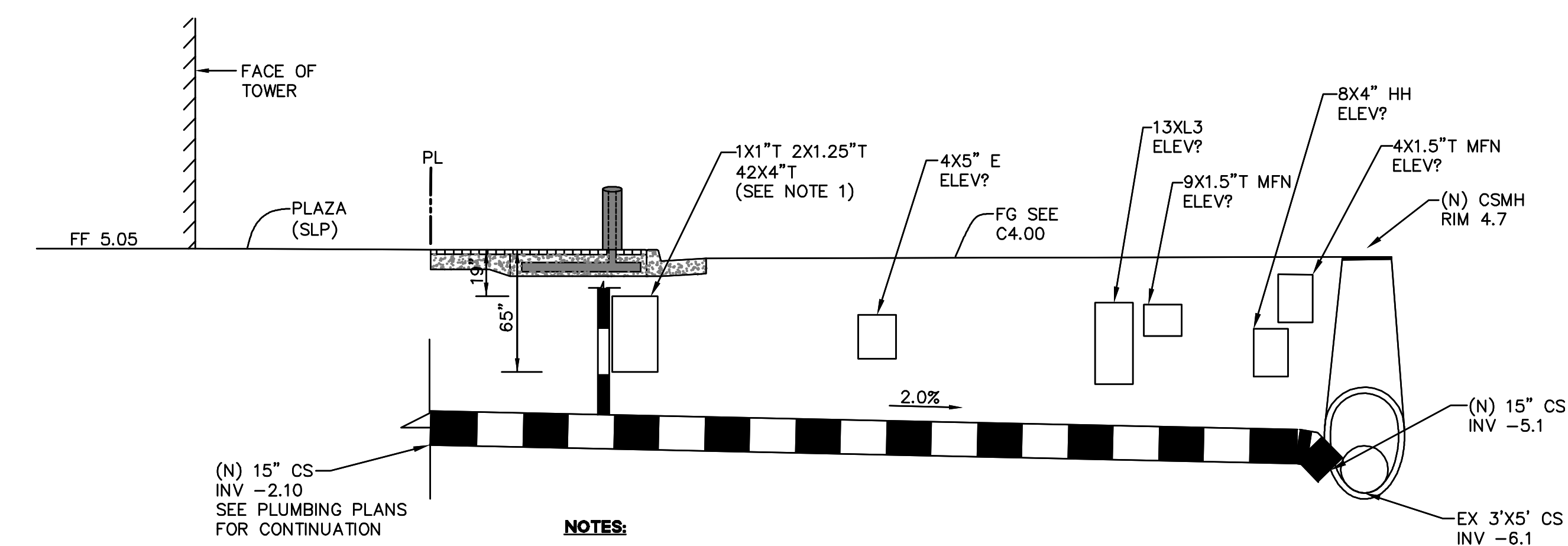
**E** E-E MISSION STREET  
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**C** C-C FIRST STREET  
SCALE NTS



**F** F-F FREMONT STREET  
SCALE NTS



**NOTES:**

1. THE EXISTING AT&T 42X4 DUCTBANK WAS POTHOLED BY CONTRACTOR AND NOTED 19" OF COVER AND 65" TO BOTTOM OF CONCRETE ENCASED DUCT BANK.
2. VERIFY BY POTHOLING OTHER IDENTIFIED CROSSING AND REPORT TOP & BOTTOM ELEVATIONS TO ENGINEER FOR REVIEW.
3. REFER TO DETAIL 1/SHEET CS.00 FOR CITY STANDARD INSTALLATION. REQUIRED TRAPS SHALL EXTEND TO GRADE. CONTRACTOR TO COORDINATE FINAL BOLLARD LOCATIONS TO ALLOW FOR TRAP GRATE.

**G** NEW SEWER LATERAL PROFILE  
SCALE 1"=5'

- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALL HEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEPFP Engineer
- PWP LANDSCAPE ARCHITECTURE**  
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- DEBRA NICHOLS DESIGN**  
Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

NO.	DATE	ISSUE
7	02 MAY 14	GMP
6	10 FEB 14	BID ADDENDUM #2
5	16 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

CAD FILENAME

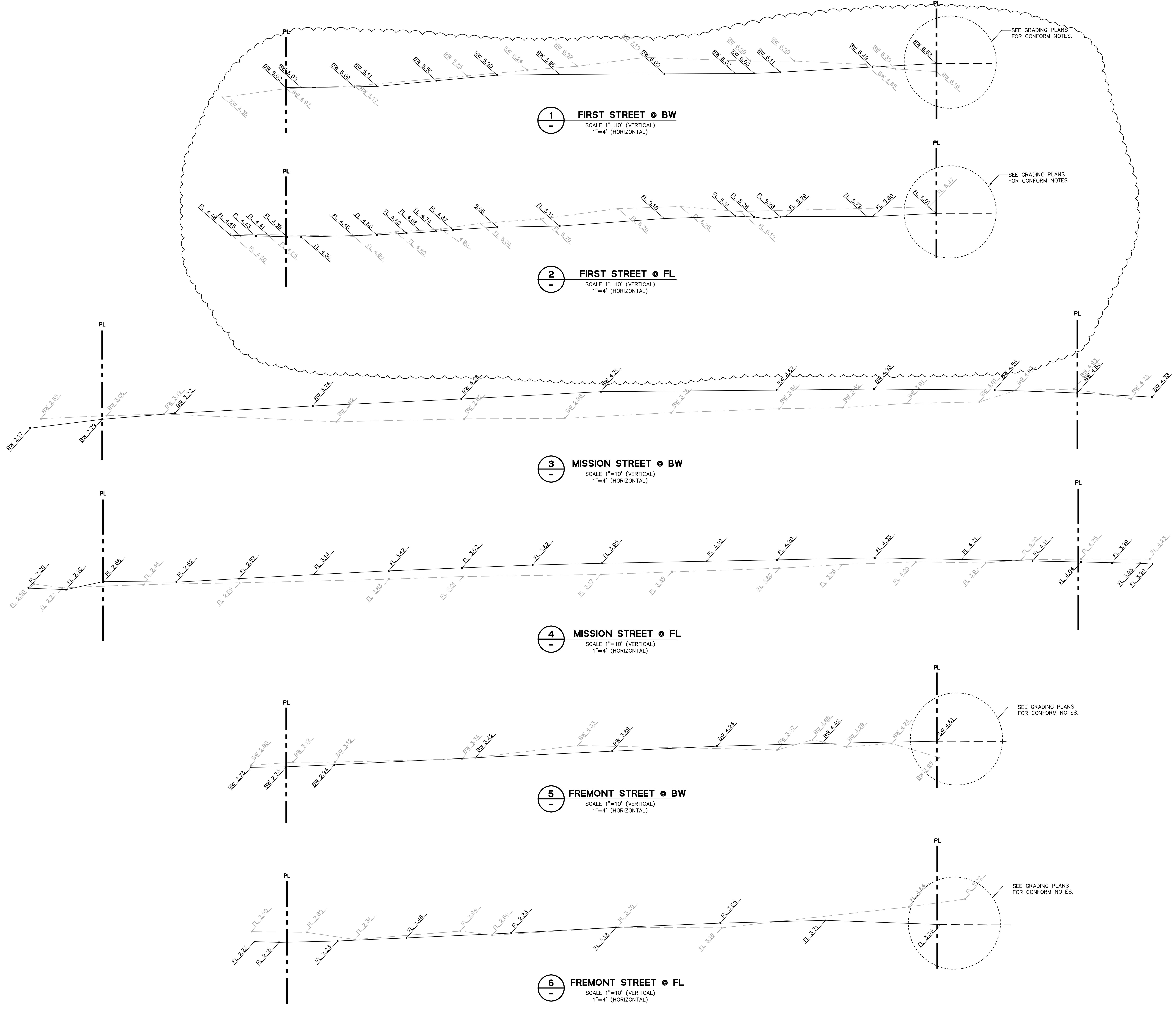
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**Sections**





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CID FILENAME  
DRAWING TITLE

**Longitudinal Sidewalk Sections**

PROJECT NO. 08044  
DRAWING NUMBER: **C6.20**



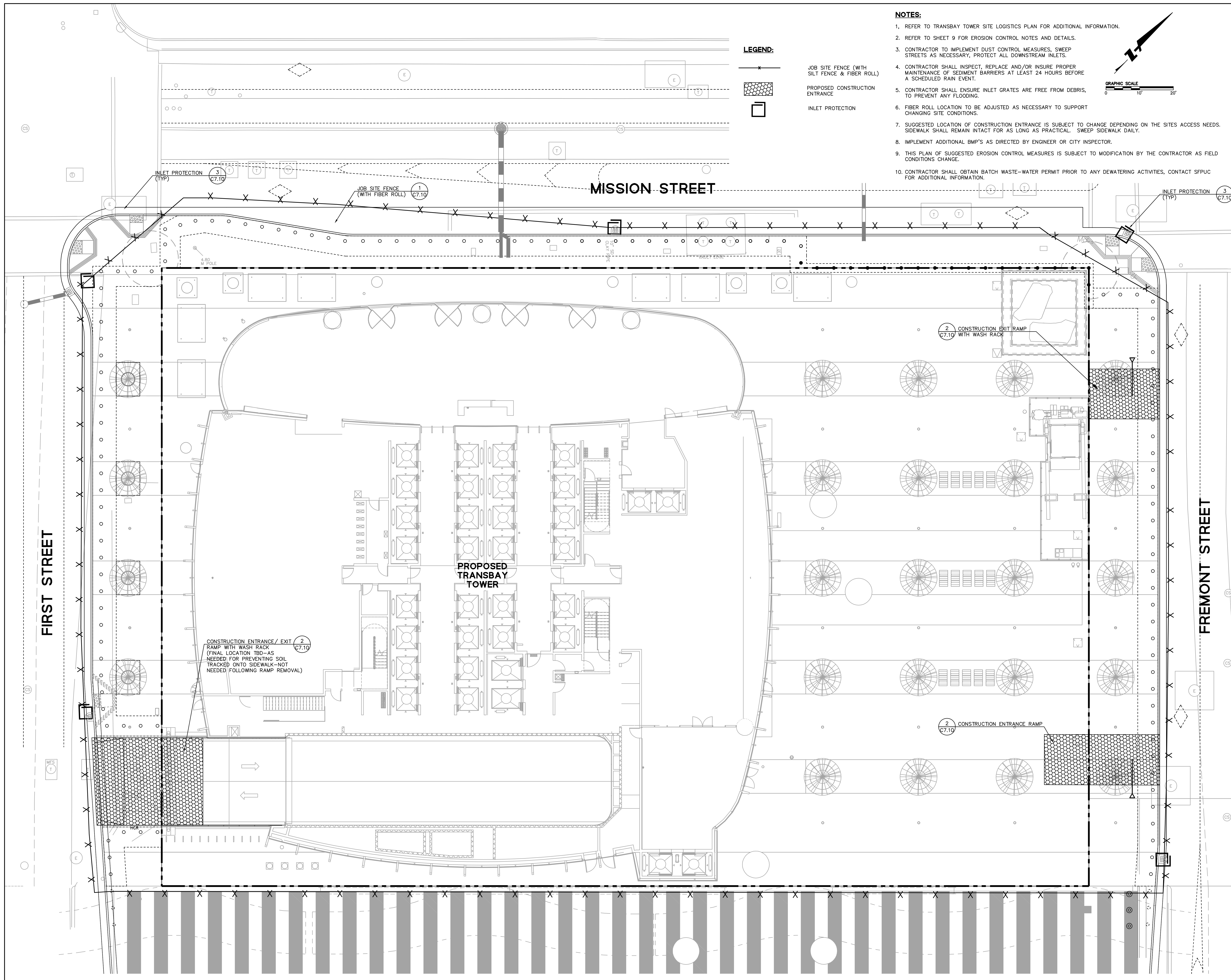
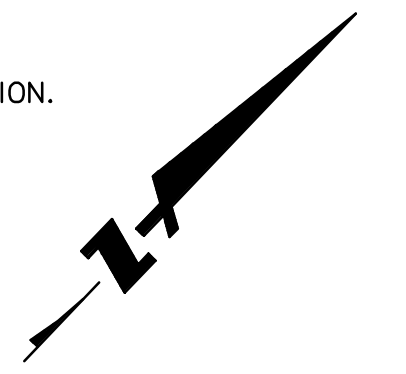
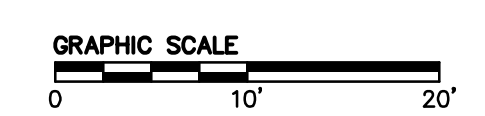
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**NOTES:**

1. REFER TO TRANSBAY TOWER SITE LOGISTICS PLAN FOR ADDITIONAL INFORMATION.
2. REFER TO SHEET 9 FOR EROSION CONTROL NOTES AND DETAILS.
3. CONTRACTOR TO IMPLEMENT DUST CONTROL MEASURES, SWEEP STREETS AS NECESSARY, PROTECT ALL DOWNSTREAM INLETS.
4. CONTRACTOR SHALL INSPECT, REPLACE AND/OR INSURE PROPER MAINTENANCE OF SEDIMENT BARRIERS AT LEAST 24 HOURS BEFORE A SCHEDULED RAIN EVENT.
5. CONTRACTOR SHALL ENSURE INLET GRATES ARE FREE FROM DEBRIS, TO PREVENT ANY FLOODING.
6. FIBER ROLL LOCATION TO BE ADJUSTED AS NECESSARY TO SUPPORT CHANGING SITE CONDITIONS.
7. SUGGESTED LOCATION OF CONSTRUCTION ENTRANCE IS SUBJECT TO CHANGE DEPENDING ON THE SITES ACCESS NEEDS. SIDEWALK SHALL REMAIN INTACT FOR AS LONG AS PRACTICAL. SWEEP SIDEWALK DAILY.
8. IMPLEMENT ADDITIONAL BMP'S AS DIRECTED BY ENGINEER OR CITY INSPECTOR.
9. THIS PLAN OF SUGGESTED EROSION CONTROL MEASURES IS SUBJECT TO MODIFICATION BY THE CONTRACTOR AS FIELD CONDITIONS CHANGE.
10. CONTRACTOR SHALL OBTAIN BATCH WASTE-WATER PERMIT PRIOR TO ANY DEWATERING ACTIVITIES, CONTACT SFPUC FOR ADDITIONAL INFORMATION.

**LEGEND:**

- JOB SITE FENCE (WITH SILT FENCE & FIBER ROLL)
- PROPOSED CONSTRUCTION ENTRANCE
- INLET PROTECTION



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**Erosion Control Plan**

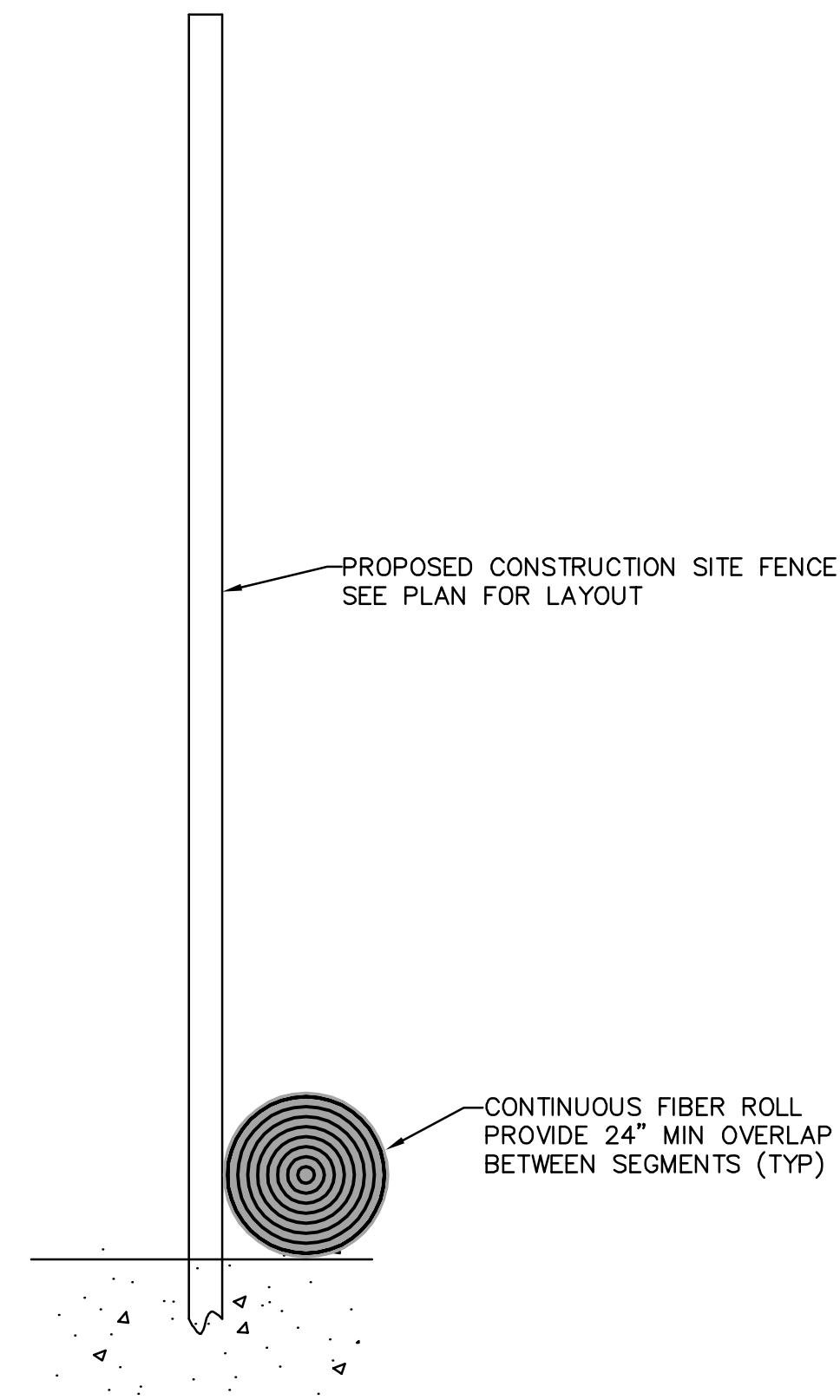
PROJECT NO. 08044 DRAWING NUMBER **C7.00**



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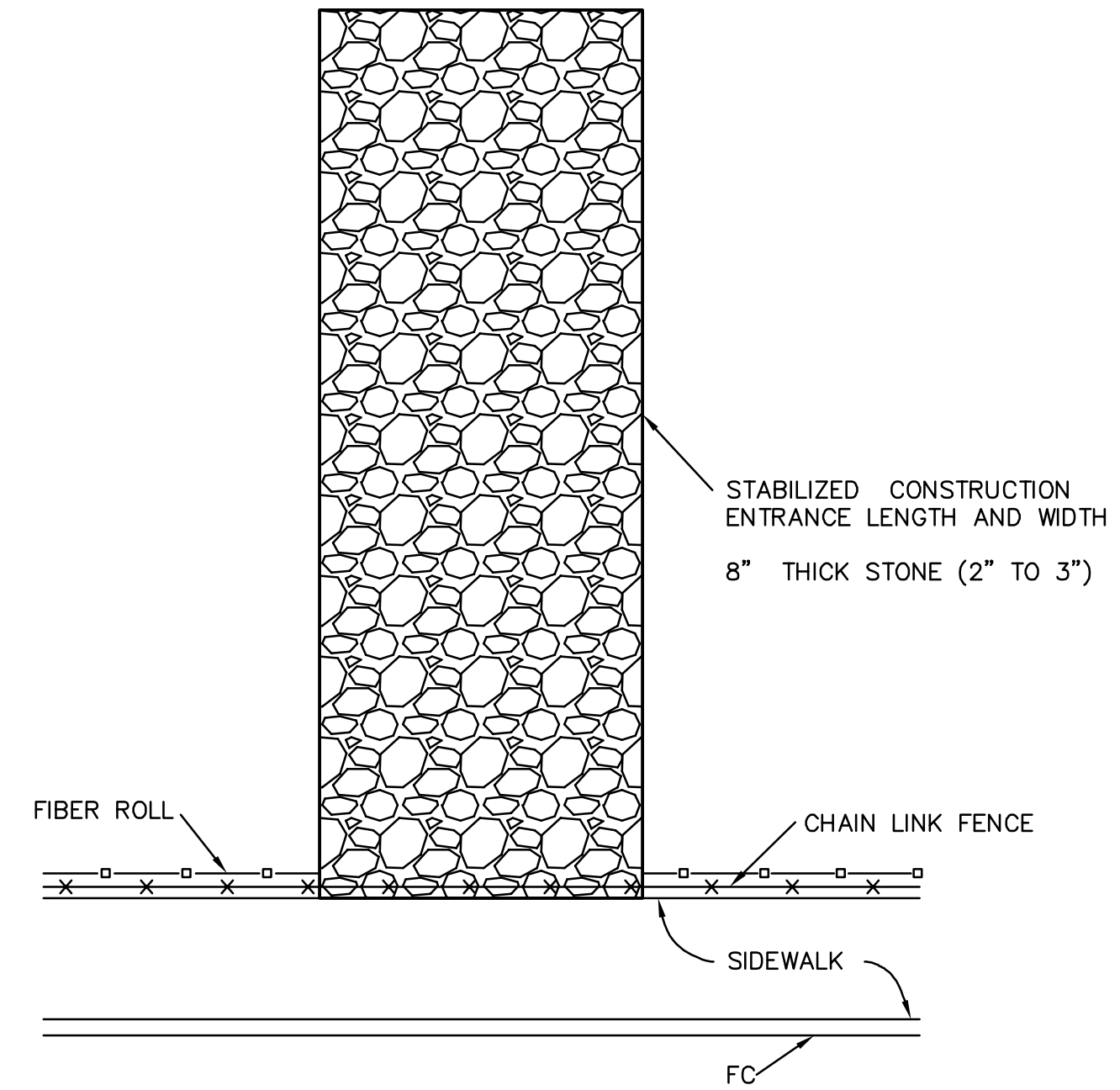
**EROSION & SEDIMENT CONTROL NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES TO PUBLIC AND/OR PRIVATELY OWNED AND MAINTAINED ROADS CAUSED BY THE CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE. ADJACENT PUBLIC ROADS SHALL BE CLEANED AT THE END OF EACH WORKING DAY.
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES.
- DURING CONSTRUCTION, THE MAINTENANCE OF SUMMERTIME DRAINAGE THROUGH THE SITE IS THE RESPONSIBILITY OF THE CONTRACTOR.
- MAINTENANCE, MONITORING, AND INSPECTION SHALL BE CONDUCTED ACCORDING TO BEST MANAGEMENT PRACTICES. TRAINING OF INSPECTION PERSONNEL WILL BE CONDUCTED PRIOR TO IMPLEMENTATION OF THE MONITORING PROGRAM. THE MONITORING PROGRAM SHALL INCLUDE REGULAR SITE INSPECTIONS AND REPORTS. IN ADDITION, MONITORING FORMS AND COMPLIANCE CERTIFICATION SHALL BE PROVIDED TO THE OWNER AND ENGINEER BY JULY 1 FOR THE PREVIOUS YEARS ACTIVITIES.
- THE NAME, ADDRESS, AND 24 HOUR TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER AND THE CITY.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE PROJECT INSPECTOR.
- THE EROSION CONTROL PLAN COVERS ONLY THE FIRST WINTER DURING WHICH CONSTRUCTION IS TO TAKE PLACE. PLANS ARE TO BE RESUBMITTED PRIOR TO SEPTEMBER 1ST OF EACH SUBSEQUENT YEAR UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED BY CONSTRUCTION MANAGER, THE ARCHITECT AND THE ENGINEER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT AND REPAIR ALL EROSION CONTROL FACILITIES AT THE END OF EACH WORK DAY DURING THE RAINY SEASON.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DURING GRADING OPERATION, BEFORE OCTOBER 1 AND PRIOR TO INSTALLATION OF THE STORM DRAINAGE SYSTEM. SUCH ADDITIONAL MEASURES WILL BE CONTINGENT UPON THE STAGE OF GRADING OPERATION. THE CONTRACTOR SHALL IMPLEMENT ANY ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED BY THE ENGINEER.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AND MAKE ALL NECESSARY REPAIRS AFTER EACH STORM EVENT.
- THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. IN GENERAL, THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT-LADEN STORM WATER RUNOFF FROM LEAVING THE SITE. STRAW WATTLES, SAND BAGS, AND SILT FENCES SHALL BE USED BY THE CONTRACTOR ON AN AS NEEDED BASIS TO INHIBIT SILT FROM LEAVING THE SITE AND ENTERING THE STORM DRAIN SYSTEM. PROTECT DOWNSTREAM CATCH BASINS & DRAIN INLETS AS NECESSARY. ALL EXISTING, TEMPORARY, OR PERMANENT CATCH BASINS SHALL USE ONE OF THE SEDIMENT BARRIERS OR INSERTS SHOWN UNTIL UPSTREAM SOILS ARE STABILIZED.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY REQUIRED PERMITS PRIOR TO CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE YEAR ROUND OR UNTIL VEGETATION IS ESTABLISHED ON UPSTREAM DISTURBED SURFACES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT BORROW AND TEMPORARY STOCKPILES WITH APPROPRIATE EROSION CONTROL MEASURES (TARPS, STRAW WATTLES, SILT FENCES ETC.) TO ENSURE SILT DOES NOT LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM.
- ALL TRUCK TIRES SHALL BE CLEAN PRIOR TO EXITING THE PROPERTY.
- DURING PERIODS WHEN STORMS ARE FORECAST -  
A. EXCAVATED SOILS SHOULD NOT BE PLACED IN STREETS OR ON PAVED AREAS.  
B. WHERE STOCKPILING IS NECESSARY, USE A TARPULIN OR SURROUND THE STOCKPILED MATERIAL WITH STRAW BALES, SILT FENCE, OR OTHER RUNOFF CONTROLS.  
C. THOROUGHLY SWEEP ALL PAVED AREAS EXPOSED TO SOIL EXCAVATION AND PLACEMENT.  
DURING PERIODS WHEN STORMS ARE NOT FORECAST -  
A. PREVENT STOCKPILED MATERIAL FROM ENTERING THE STORM DRAIN SYSTEM.  
B. THOROUGHLY REMOVE LOOSE SOIL VIA SWEEPING FOLLOWING REMOVAL OF DIRT.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CURRENT COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN (ESCP) AND KEEPING IT ON SITE AT ALL TIMES. THE CONTRACTOR SHALL REVIEW THE ESCP AND MAINTAIN THE SITE AS REQUIRED.
- COVER EXPOSED SOIL AT STREET/SIDEWALK LEVEL WITH EROSION CONTROL BLANKET, NORTH AMERICAN GREEN S75BN, OR APPROVED EQUIVALENT.



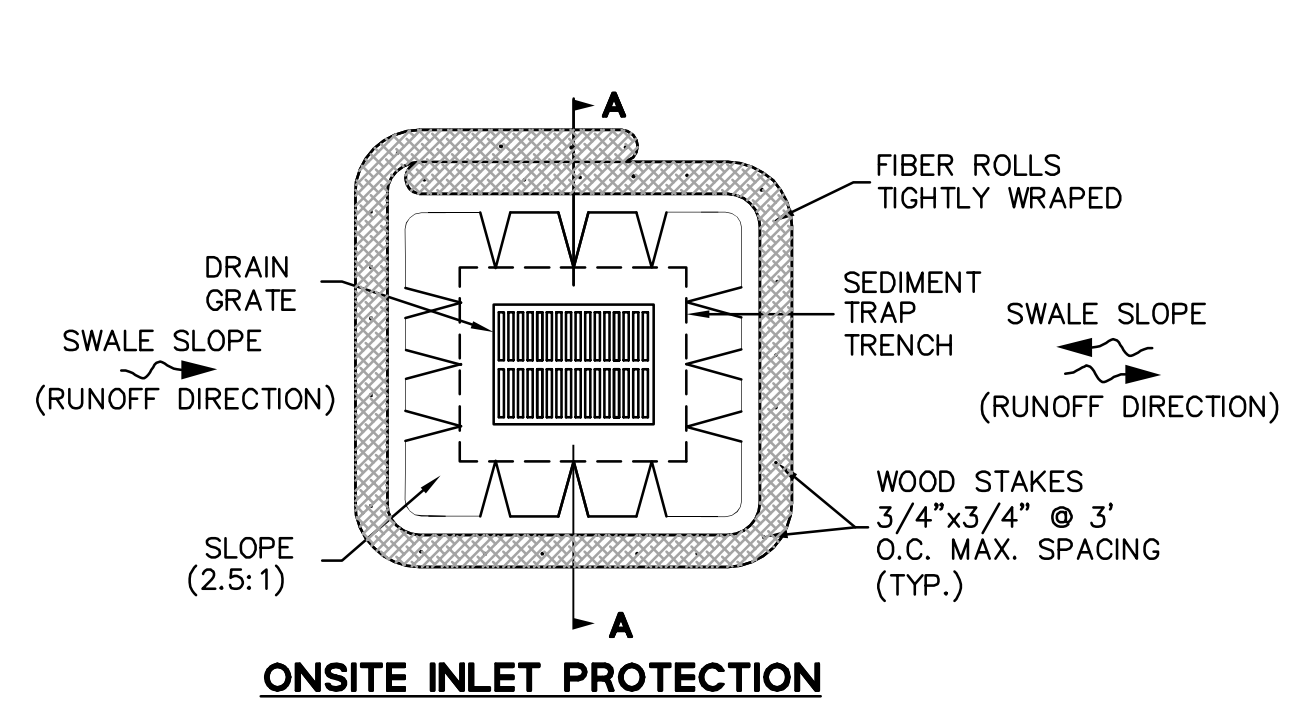
- NOTES**
- SILT FENCE SHALL BE STAKED OR CLIPPED ALONG CONSTRUCTION SIDE OF CONSTRUCTION FENCING, IN BACK OF FIBER ROLLS.
  - INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
  - REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
  - USE REED & GRAHAM, INC. GEOSYNTHETICS STRAW WATTLE FIBER ROLL (COMES IN 9" X 25' ROLLS) OR EQUIVALENT.

**1 SITE FENCE WITH SILT FENCE & FIBER ROLL**  
NTS



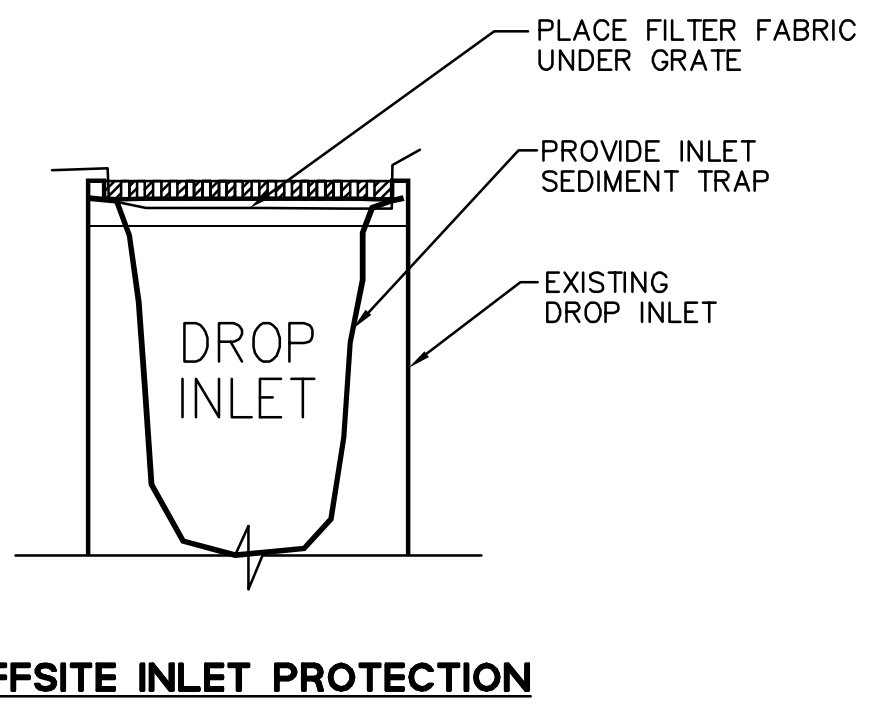
- NOTES**
- THIS DETAIL SHALL APPLY ONLY DURING MAIN EXCAVATION, WITH SOIL RAMP EXTENDING TO SURFACE FOR ACCESS OF EQUIPMENT.
  - ALL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USE TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE REMOVED IMMEDIATELY.
  - WHEELS SHALL BE CLEAN PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF INLET PROTECTION (E.G. SAND BAGS OR OTHER APPROVED METHODS).
  - THE MATERIAL FOR CONSTRUCTION OF THE PAD SHALL BE 3" TO 6" STONE.
  - THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 12".
  - THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
  - THE LENGTH OF THE PAD SHALL NOT BE LESS THAN 50'.

**2 STABILIZED CONSTRUCTION ENTRANCE/EXIT**  
NTS

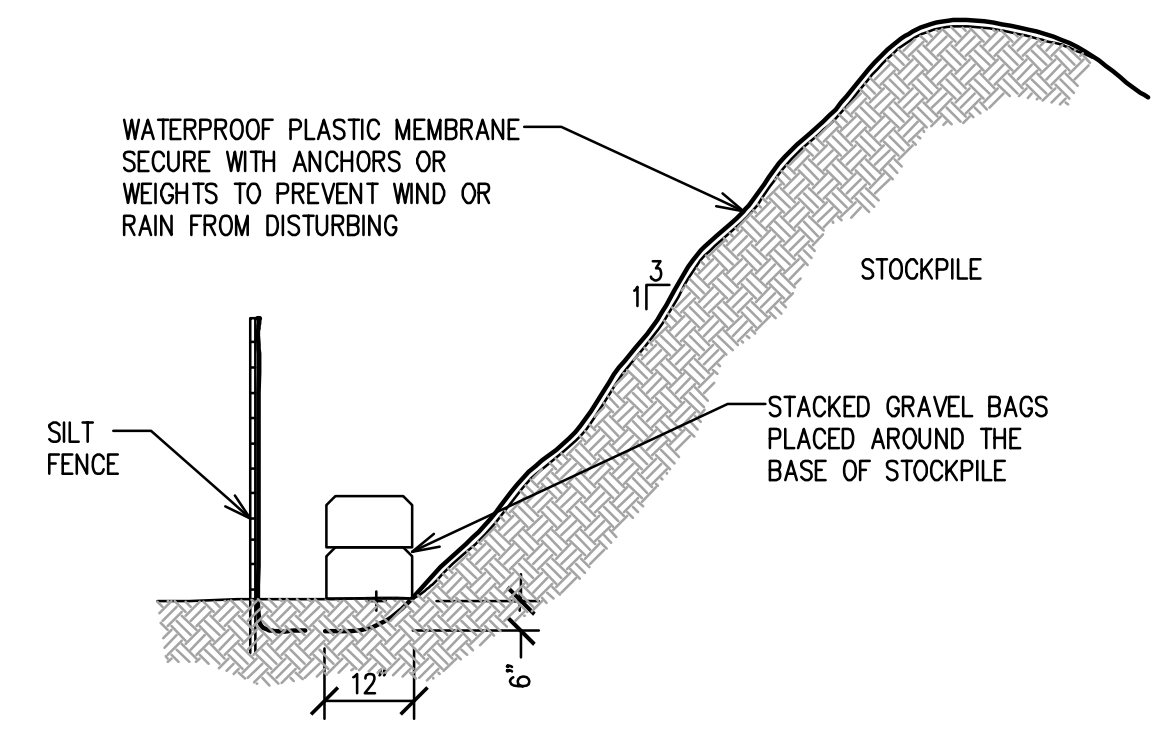


- NOTES:**
- PLACE FIBER ROLLS AROUND THE INLET CONSISTENT WITH DROP INLET GRAVEL BAG PROTECTION AND CURB INLET GRAVEL BAG PROTECTION DETAILS SHOWN ON THIS SHEET. ROLLS ARE TUBES MADE FROM STRAW BOUND W/ PLASTIC NETTING, APPROX. 8" DIAMETER AND 20 TO 30 FEET LONG.
  - FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE FIBER ROLL IN A TRENCH, 3" - 4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.
  - THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWNSLOPE OF THE STRUCTURE MAY BE NECESSARY.
  - TEMPORARY REMOVABLE TRASH RACK: IF SITE CONDITIONS WARRANT, PROVIDE AND INSTALL TRASH RACK MADE FROM GALVANIZED WELDED WIRE FABRIC WITH OPENING SIZE 2" BY 2" FORMED AND ATTACHED TO THE INLET TOP GRATE WITH STEEL WIRE TIES AND BURRY WELDED WIRE FABRIC 4" MINIMUM BELOW TEMPORARY ROUGH GRADE GROUND ELEVATION.

**3 ON-SITE INLET PROTECTION**  
NTS



**OFFSITE INLET PROTECTION**



**4 STOCKPILE COVERING**  
NTS

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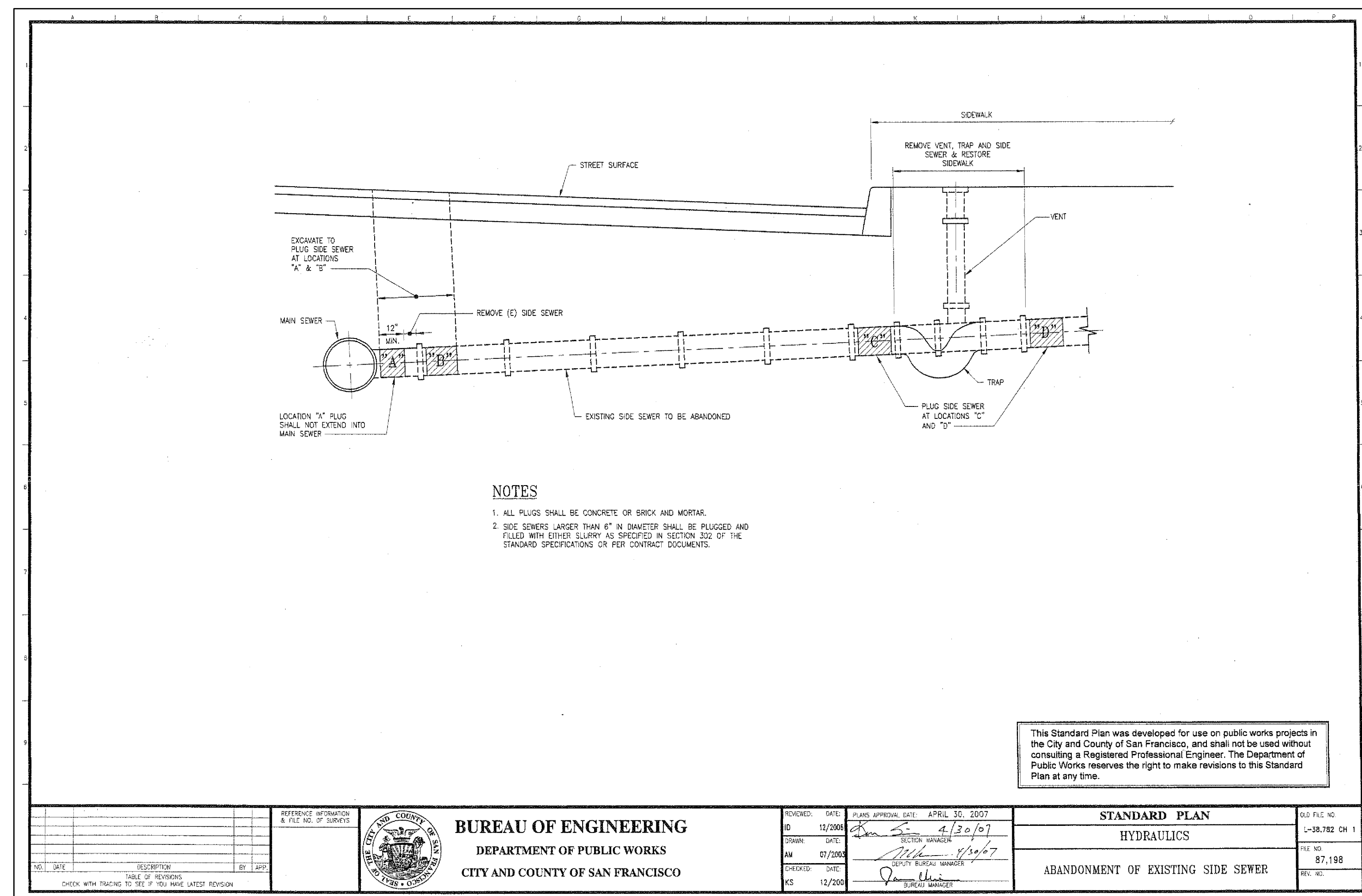
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**Erosion Control Notes and Details**

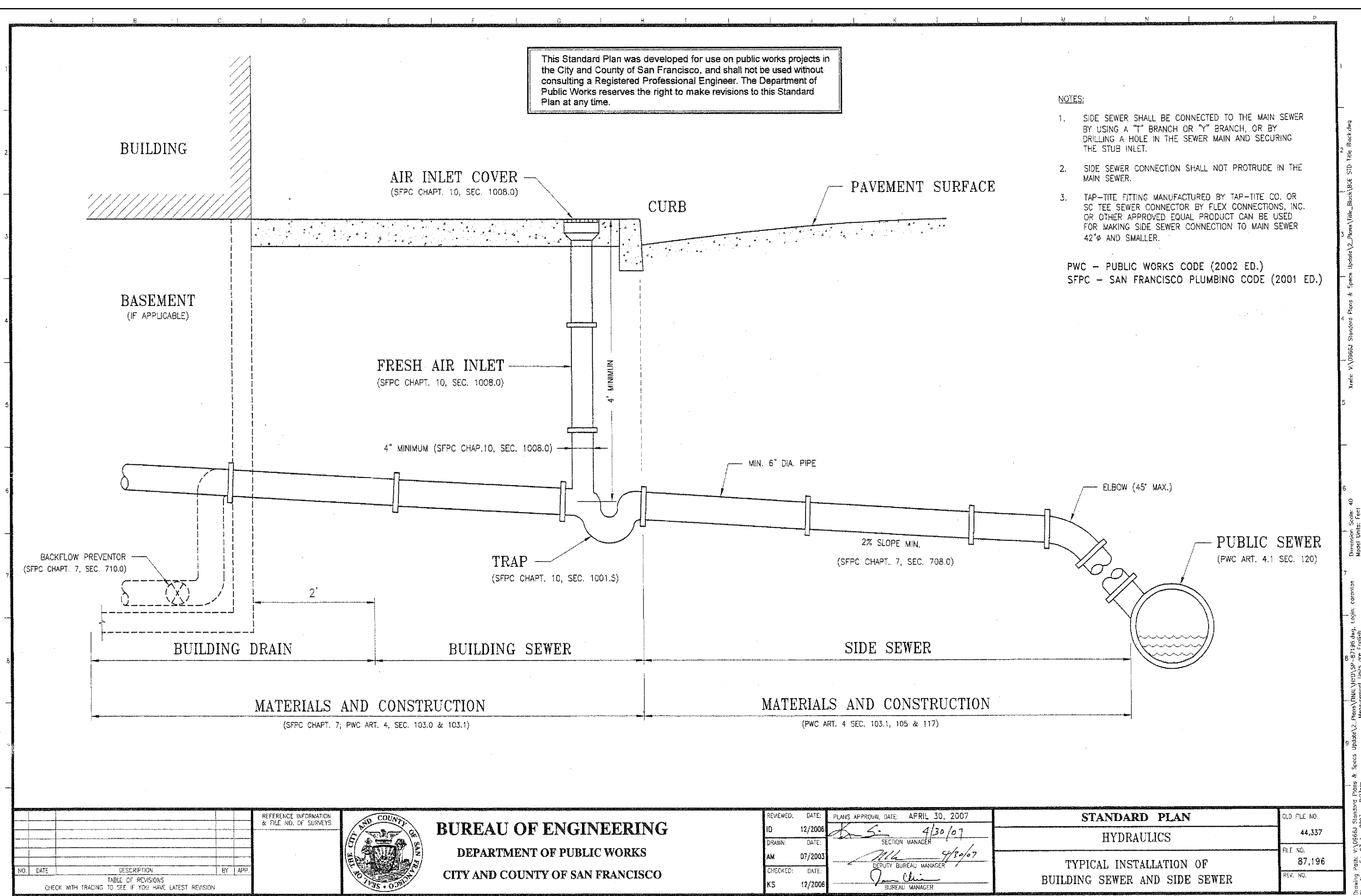
NHA PROJECT NO. 08044 DRAWING NUMBER C7.10



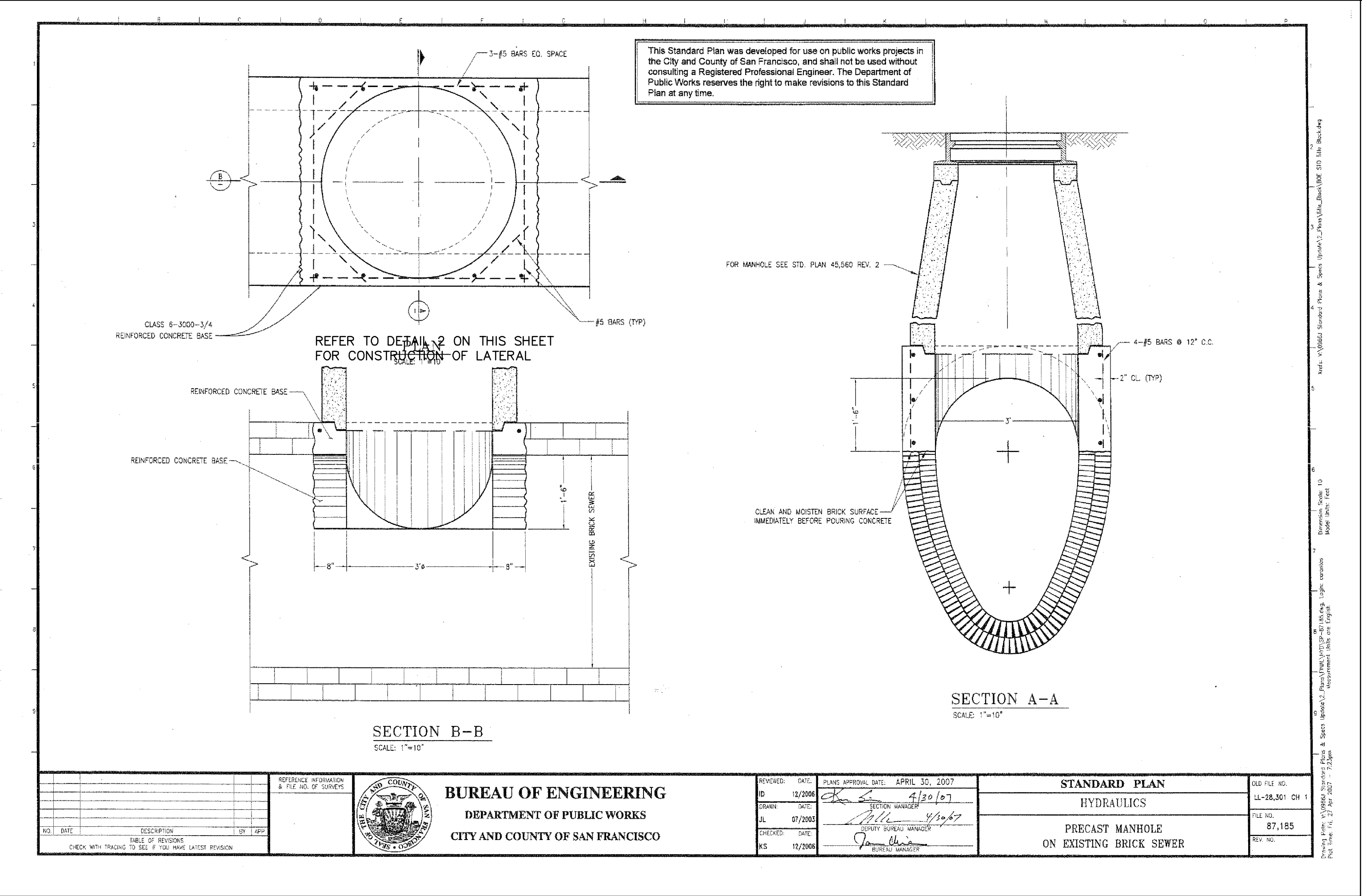
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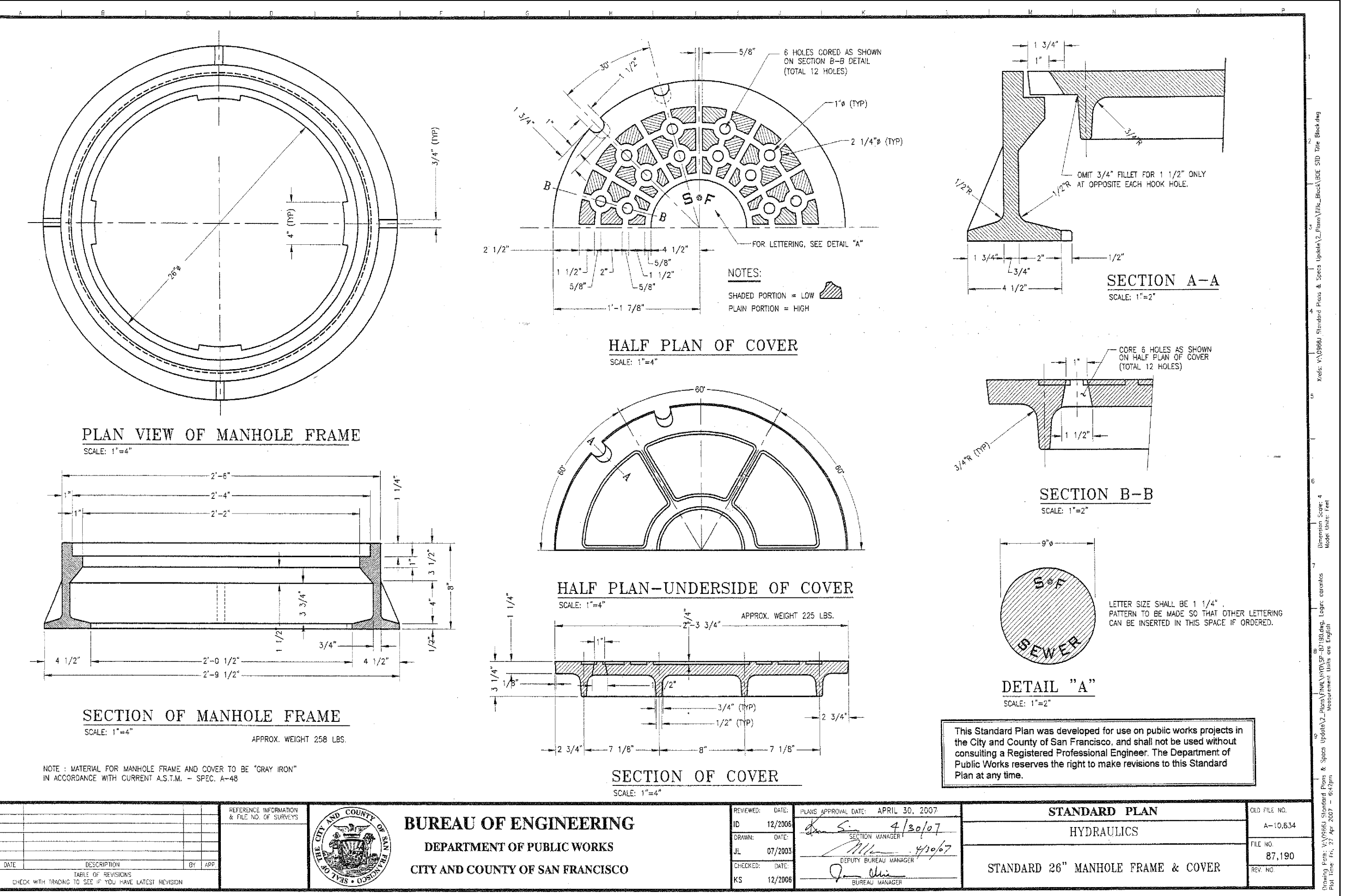
**1**  
ABANDONMENT OF EXISTING SIDE SEWER  
NTS



**2**  
TYPICAL SEWER LATERAL INSTALLATION  
NTS



**3**  
NEW MANHOLE AT EXISTING BRICK SEWER  
NTS



**4**  
26" MANHOLE FRAME & COVER  
NTS

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**SHEET NOTES**

- THE EXCEPTION CURB RAMPS SHOWN ON THIS DRAWING SHALL BE USED ONLY WITH PRIOR APPROVAL FROM THE CITY ENGINEER, CIVIL DISABILITY ACCESS COORDINATOR, OR THEIR DESIGNEE AND UPON PROPER DOCUMENTATION OF HARDSHIP INDICATING LEGAL AND/OR PHYSICAL CONSTRAINTS. THE EXCEPTION CURB RAMPS SHEETS SHALL BE USED IN DESCENDING ORDER OF PRIORITY, FROM C-A TO C-E, AND SO ON.
- ALL OTHER NOTES ON DRAWING CR-1, FILE NUMBER 05017, STANDARD CURB RAMPS, REV. 3, SHALL APPLY TO THIS SHEET FOR DETECTABLE SURFACE DETAILS AND NOTES, SEE DRAWING CR-1.
- THE CURB RAMP EXCEPTIONS SHALL BE USED IN DESCENDING ORDER OF PRIORITY, FROM EXCEPTION "A" TO "E" EXCEPT "E" IS NOT USUALLY REFERRED TO DRAWING CR-1.
- EXCEPTION "A" SHALL BE USED WHEN THE 4'-0" MINIMUM DISTANCE BETWEEN THE TWO CURB RAMPS CANNOT BE ACHIEVED DUE TO HARDSHIP. THE DISTANCE BETWEEN THE TWO RAMPS CAN BE REDUCED TO 4'-0" GROUNDED BORDER. IT IS PREFERRED THAT LARGER THAN 12" DISTANCE BE PROVIDED, AS MUCH AS FEASIBLE.
- EXCEPTION "B" SHALL BE USED WHEN THE SPACE WITHIN THE CURB RETURN, LIMITED AND CONTAINING THE WIDEST BORDER WILL ALLOW THE INSTALLATION OF TWO ADJACENT CURB RAMPS.
- WHEN THE RAMP WIDTH IS LESS THAN 48 INCHES OR THE TOP LANDING WIDTH IS LESS THAN 48 INCHES, THEN THE SLOPE OF THE FLARED SIDES SHALL BE 0.33% (1/3%) MAXIMUM.
- THE CURB HEIGHT AT THE WEDGE POINT BETWEEN THE TWO CURB RAMPS SHALL BE 4 INCHES MAXIMUM.

**CURB RAMP EXCEPTION A**  
MERGED GROOVED BORDER

**CURB RAMP EXCEPTION B**  
MERGED FLARED SIDES

**CURB RAMP EXCEPTION C**  
48' TOP LANDING - 36' AND 48' RAMPS

**CURB RAMP EXCEPTION D**  
48' TOP LANDING - 36' RAMPS

**CURB RAMP EXCEPTION E**  
36' TOP LANDING - 36' RAMPS

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**EXCEPTION CURB RAMPS**  
NOT TO SCALE  
SHEET OF SHEETS  
DATE: 11/22/07  
BY: [Signature]  
CHECKED BY: [Signature]

1 MERGED GROOVE BORDER CURB RAMP  
NTS

2 DETECTABLE SURFACE DETAILS AND NOTES  
NTS

**GENERAL NOTES**

- THE STANDARD CURB RAMP FINISHES AND SLOPE SHALL BE AS SHOWN IN ALL PREVIOUS DRAWINGS. FINISHES AND SLOPE SHALL BE PART OF THE NEW CURB RAMP STANDARD DRAWINGS. ALL WORK SHALL CONFORM TO STANDARD DRAWING PLAN AND SECTION, LATEST EDITIONS.
- A CURB RAMP IS DEFINED AS THE CONCRETE SURFACE AREA WHICH INCLUDES THE RAMP AND THE FLARES. THE RAMP IS DEFINED AS THE 4'-0" WIDE CENTER PORTION INCLUDING THE DETECTABLE SURFACE, AND SHALL BE IN A SLOPED PLANE OF 0.33% (1/3%) MAXIMUM AND CROSS SLOPE NOT TO EXCEED 0.33%. THE FLARED SIDES SHALL BE IN A SLOPED PLANE OF 0.33% (1/3%) MAXIMUM AND CROSS SLOPE NOT TO EXCEED 0.33%.
- THE STANDARD CURB RAMP LAYOUT SHALL BE USED UNLESS OTHERWISE SHOWN FROM THE STANDARD CURB RAMP PLAN. ALL APPROVED BY THE CITY ENGINEER, CIVIL DISABILITY ACCESS COORDINATOR, OR THEIR DESIGNEE ON A CASE BY CASE BASIS AND WITH NECESSARY DOCUMENTATION FOR LEGAL OR PHYSICAL CONSTRAINTS.
- THE SLOPED SIDE SHALL BE SLOPED IN SLOPE UNLESS OTHERWISE SHOWN FROM THE PLANNED SIDE PORTION OF THE CURB RAMP FINISHED FROM ANGLE OF 45 DEGREES TO 90 DEGREES AS SHOWN ON THE DRAWING.
- WHERE VERTICAL OBSTRUCTIONS ARE PRESENT NEAR THE CURB AT THE END OF THE FLARED SIDE, OR WHEN THE CURB RAMP IS ADJACENT TO A VERTICAL OBSTRUCTION, THE CURB RAMP SHALL BE SLOPED TO THE OBSTRUCTION. THE SLOPE SHALL BE ACHIEVED BY THE USE OF A SLOPED PLANE OF 0.33% (1/3%) MAXIMUM AND CROSS SLOPE NOT TO EXCEED 0.33%.
- A LEVEL LANDING OF 3 FEET MINIMUM DEPTH, 2% MAXIMUM CROSS SLOPE, SHALL BE PROVIDED AT THE LOWER END OF THE RAMP AND OVER THE FULL WIDTH OF THE RAMP TO ALLOW SAFE CROSSING OF THE ADJACENT SURFACES BETWEEN THE ADJACENT SURFACES SHALL NOT EXCEED 1/32".
- THE CURB RAMP SHALL BE BOUNDED BY A 12-INCH WIDE GROOVED BORDER WITH A 1/4-INCH WIDE BY 1/4-INCH DEEP GROOVES SPACING 3/4-INCH MINIMUM CENTER TO CENTER.
- THE BOTTOM OF THE RAMP SHALL BE FLUSH WITH THE LOWER LANDING (DO NOT BUMP UP).
- A LEVEL LANDING 4 FEET DEEP MINIMUM 2% MAXIMUM SLOPE EACH DIRECTION SHALL BE PROVIDED AT THE UPPER END OF EACH CURB RAMP TO ALLOW SAFE CROSSING FROM THE RAMP SURFACE. THE WIDTH OF THE LEVEL LANDING SHALL BE AT LEAST AS WIDE AS THE WIDTH OF THE RAMP.
- EXISTING VERTICAL OBSTRUCTIONS, UTILITY HOLES OR STREET FURNITURE MAY BE INCORPORATED INTO THE FLARED SIDES OF THE CURB RAMP. THE OBSTRUCTIONS SHALL BE MINIMUM 6 INCHES FROM THE EDGE OF THE RAMP. THE HORIZONTAL CLEARANCE SHALL BE DETERMINED FROM THE HIGHEST PROTRUDING PARTS OF THE OBSTRUCTION. EXISTING VERTICAL OBSTRUCTIONS SHALL BE MINIMUM 6 INCHES FROM THE EDGE OF THE RAMP. THE HORIZONTAL CLEARANCE SHALL BE DETERMINED FROM THE HIGHEST PROTRUDING PARTS OF THE OBSTRUCTION. EXISTING VERTICAL OBSTRUCTIONS SHALL BE MINIMUM 6 INCHES FROM THE EDGE OF THE RAMP. THE HORIZONTAL CLEARANCE SHALL BE DETERMINED FROM THE HIGHEST PROTRUDING PARTS OF THE OBSTRUCTION.
- EXISTING UTILITY HOLES AND COVERS SHALL BE ADJUSTED TO CONFORM FLUSH WITH THE CURB RAMP SURFACE AND SHALL NOT EXCEED ANY CHANGE IN PLANE OR MATERIAL SUBJECT TO THE APPROVAL OF THE UTILITY JOB OWNER. EXISTING UTILITY HOLES AND COVERS WITHIN THE DETECTABLE SURFACE SHALL BE ADJUSTED TO CONFORM FLUSH WITH THE CURB RAMP SURFACE. THE DETECTABLE SURFACE SHALL BE ADJUSTED TO CONFORM FLUSH WITH THE CURB RAMP SURFACE. THE DETECTABLE SURFACE SHALL BE ADJUSTED TO CONFORM FLUSH WITH THE CURB RAMP SURFACE.
- THE SURFACE OF THE CURB RAMP AND DETECTABLE SURFACE MATERIAL SHALL BE STABLE, FIRM AND SLIP RESISTANT. THE CURB RAMP AND DETECTABLE SURFACE SHALL BE PROVED FINISHED TRANSPORT TO THE END OF THE RAMP AND SHALL BE SLIGHTLY ROUGHER THAN THE FINISH ON THE ADJACENT SURFACE. ALL CURB RAMP SURFACES SHALL BE SLIP RESISTANT. THE SURFACE OF THE CURB RAMP AND DETECTABLE SURFACE SHALL BE STABLE, FIRM AND SLIP RESISTANT. THE CURB RAMP AND DETECTABLE SURFACE SHALL BE PROVED FINISHED TRANSPORT TO THE END OF THE RAMP AND SHALL BE SLIGHTLY ROUGHER THAN THE FINISH ON THE ADJACENT SURFACE. ALL CURB RAMP SURFACES SHALL BE SLIP RESISTANT.
- THE DEPTH OF THE FORWARD CONCRETE CURB AND OUTER SHALL BE EQUAL TO THE DEPTH OF THE EXISTING FORWARD STRUCTURAL SECTION OR 6 INCHES, WHICHEVER IS GREATER.
- ALL CURB RAMPS SHALL BE FINISHED SEPARATELY FROM AND SHALL CONTRAST VISUALLY WITH ADJACENT SIDEWALK SURFACES. INTERFERING WITH A MINIMUM 2% COLOR CONTRAST OF 100:1 ON LIGHT OR DARK FOR CITY STANDARD SPECIFICATIONS AS DETERMINED IN SECTION 206 OF THE STANDARD SPECIFICATIONS. THE CURB RAMPS SHALL BE PROVIDED WITH A BROWN OR BROWNISH-GREY COLOR FOR SIDEWALKS WITHIN THE STANDARD SPECIFICATIONS. THE CURB RAMPS SHALL BE PROVIDED WITH A BROWN OR BROWNISH-GREY COLOR FOR SIDEWALKS WITHIN THE STANDARD SPECIFICATIONS. THE CURB RAMPS SHALL BE PROVIDED WITH A BROWN OR BROWNISH-GREY COLOR FOR SIDEWALKS WITHIN THE STANDARD SPECIFICATIONS.
- THE DEPTH OF THE CURB RAMP SHALL BE CONSTRUCTED UP TO 15 FEET LONG TO ACHIEVE THE SLOPE REQUIREMENTS IF THE MAXIMUM SLOPE OF 0.33% CANNOT BE ACHIEVED DUE TO THE SLOPE OF THE EXISTING TERRAIN. THE LENGTH OF THE CURB RAMP SHALL NOT BE REQUIRED TO BE LONGER THAN 15 FEET, REGARDLESS OF THE RESULTING RAMP SLOPE.
- THE RAMP CENTER LINE AND PART OF TRAVEL MUST BE PARALLEL TO THE CROSSWALK. THE FULL WIDTH OF THE RAMP SHALL BE WITHIN THE CROSSWALK AREA. IT IS DESIRABLE THAT THE LOCATION OF THE RAMP BE AS CLOSE AS POSSIBLE TO THE CENTER OF THE CROSSWALK.
- THE 4'-0" MINIMUM DISTANCE BETWEEN FLARED SIDES OF TWO ADJACENT CURB RAMPS MAY BE REDUCED TO 3 FEET, WITH CONSULTATION OF THE CIVIL DISABILITY ACCESS COORDINATOR OR PHYSICAL CONSTRAINTS PROVIDED TO THE CITY ENGINEER, CIVIL DISABILITY ACCESS COORDINATOR, OR THEIR DESIGNEE.
- THE CONTINUATION SHALL BE PROVIDED AND PRESERVE ANY EXISTING ROADWAYS WITHIN THE LIMITS OF WORK. A GRAPHIC RECORD OF RECORD OF SURVEY SHALL BE FILED WITH THE COUNTY SUPERVISOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTINUATION SHALL BE PROVIDED AND PRESERVE ANY EXISTING ROADWAYS WITHIN THE LIMITS OF WORK. A GRAPHIC RECORD OF RECORD OF SURVEY SHALL BE FILED WITH THE COUNTY SUPERVISOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

**STANDARD CURB RAMP PLAN A**  
TYPICAL NORMAL LAYOUT  
REFER TO DETAIL 2 ON THIS SHEET FOR CONSTRUCTION OF LATERAL

**STANDARD CURB RAMP PLAN B**  
TYPICAL DIAGONAL LAYOUT

**STANDARD CURB RAMP PLAN C**  
TYPICAL DIAGONAL LAYOUT

**GROOVED BORDER DETAIL**

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD CURB RAMPS**  
NOT TO SCALE  
SHEET OF SHEETS  
DATE: 11/22/07  
BY: [Signature]  
CHECKED BY: [Signature]

3 STANDARD CURB RAMP PLANS AND GENERAL NOTES  
NTS

VARIANCE REQUIRED AT PROPOSED CURB RAMPS. SURFACE OF RAMPS INCLUDING FLARES IS A SLIP RESISTANT PAVEMENT, SEE LANDSCAPE PLANS. GROOVES AT TOP OF RAMP ARE CUSTOM CUT INTO PAVERS AS DETAILED ON LANDSCAPE PLANS. INSTALL TRUNCATED DOMES OVER PAVEMENT FINISH AS REQUIRED BY DETAIL CR-2.

**DETECTABLE SURFACE LAYOUT**  
RAMP ON STRAIGHT EDGE

**DETECTABLE SURFACE LAYOUT**  
RAMP ON CURVED EDGE

**SECTION**

**DETECTABLE SURFACE LAYOUT**  
RAMP SLOPE = 6.67%

**SECTION AT CUT EDGE**

**DETAIL AT CUT DOME**

**SHEET NOTES**

- SEE DRAWING FILE NO. 05017, STANDARD CURB RAMPS, REV. 3, FOR ALL GENERAL NOTES AND DETAILS THAT APPLY TO THIS DRAWING.
- THE DETECTABLE SURFACE DOME SHALL BE INSTALLED SUCH THAT THE BOWS ARE PARALLEL WITH THE DIRECTION OF THE RAMP. BOWS SHALL BE 1/2" APART. A DETECTABLE SURFACE SHALL BE INSTALLED ON THE LOWER RAMP PORTION. THE SLOPE OF THE CURB PORTION OF THE RAMP SHALL MATCH THE SLOPE OF THE RAMP SIDES.
- WHEN THE CURB IS WIDER THAN 8 INCHES, THE CURB WITHIN THE CURB RAMP SHALL BE 1/2" WIDER MAXIMUM. THE WIDE CURB PORTION SHALL TRAVEL THROUGH THE GROOVED BORDER AS SHOWN ON THE DRAWING.
- WHEN THE MAXIMUM SLOPE OF THE RAMP IS LESS THAN OR EQUAL TO 0.33% (1/3%), A DETECTABLE SURFACE SHALL BE INSTALLED ON THE LOWER RAMP PORTION.
- WHEN A DETECTABLE SURFACE DOME IS CUT, THE REMAINING DOME SHALL BE BENT TO A MINIMUM SLOPE OF 1/2% CROSS SLOPE OR TO ADJACENT SURFACES WITH CONTINUITY IN ACCORDANCE WITH DETECTABLE SURFACE MANUFACTURER'S REQUIREMENTS.
- THE DETECTABLE SURFACE SHALL HAVE A MINIMUM RESISTANT AND GRIT FOR SLIP ON SOME DIFFICULTERS, WHEN INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DETECTABLE SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. THE COLOR OF THE DETECTABLE SURFACE SHALL CONFORM TO FEDERAL STANDARD COLOR TABLE 65. COLOR FINISHES FOR NEW RAMP CONSTRUCTION SHALL BE PROVIDED WITH 50% APPROVED FINISHES THAT ARE LIGHT-BROWN/TAPE. THE MANUFACTURER'S INSTRUCTIONS, RECOMMENDATIONS SHALL BE PROVIDED WITH 50% APPROVED UNITS THAT ARE APPROVED AND MECHANICALLY FASTENED PER MANUFACTURER'S INSTRUCTIONS.
- THE EDGE OF THE DETECTABLE SURFACE SHALL HAVE A BEVELLED EDGE SLOPE. AT 12" MAXIMUM FROM THE DETECTABLE SURFACE TO THE CUT AND THE BEVELLED EDGE IS NOT FLUSH WITH THE SURFACE OF THE CURB RAMP. THE EDGE SHALL BE BEVELLED TO CONFORM WITH AN APPROVED FINISH AT 1/2% MAXIMUM SLOPE, IN ACCORDANCE WITH THE APPROVED DETECTABLE SURFACE MANUFACTURER'S REQUIREMENTS.
- GRADE BREAK ACROSS THE DETECTABLE SURFACE SHALL BE ALLOWED WHEN NECESSARY TO MEET CURB ELEVATIONS.

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD CURB RAMPS**  
NOT TO SCALE  
SHEET OF SHEETS  
DATE: 11/22/07  
BY: [Signature]  
CHECKED BY: [Signature]

4 STORM WATER INLET  
NTS

**GENERAL NOTES**

- CAST IRON SHALL BE IN ACCORDANCE WITH THE CURRENT A.S.T.M. STANDARD SPECIFICATIONS FOR GRAY-IRON CASTINGS (A 151), DESIGNATION A-8.
- PRESENT REINFORCING CONCRETE PIPE SHALL BE IN ACCORDANCE WITH THE CURRENT A.S.T.M. STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT STORM DRAIN AND STAFF PIPE, DESIGNATION C-15.
- COMPACTED WEIGHT OF FINISH - 25% POINTS.
- THE NAME OF THE FOUNDRY, THE YEAR OF MANUFACTURE AND THE PATTERN NUMBER SHALL BE CAST ON THE UNDERSIDE OF EACH CASTING IN 3/4" LETTERS BAVED 1/2".
- THE WORD "SAN FRANCISCO" SHALL BE CAST AT THE CENTER ON THE TOP OF THE CASTING IN 3/4" LETTERS BAVED 1/2".
- FINISH OVER HIGH SPOTS FROM CONTACT SURFACES TO BE BEARING OF GRAINING ON FINE.
- PIPE BARS MAY BE PROVIDED WITH A WOODRUFF AS SHOWN ON THE CULVERT CONNECTION MAY BE MADE BY CHIPPING OUT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- CULVERT PIPE MAY BE POINTED IN ANY DIRECTION.

**SECTION A-A**

**SECTION B-B**

**SECTION C-C**

**SECTION D-D**

**SECTION E-E**

**SECTION F-F**

**STORM WATER INLET**

**CAST IRON FRAME**

**CAST IRON GRATING**

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD CURB RAMPS**  
NOT TO SCALE  
SHEET OF SHEETS  
DATE: 11/22/07  
BY: [Signature]  
CHECKED BY: [Signature]



- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALLHEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEFPF Engineer
- PWP LANDSCAPE ARCHITECTURE**  
Landscape Architect
- BKF ENGINEERS**  
Civil Engineer
- PERSOHNHAHN ASSOCIATES, INC.**  
Elevator Consultant
- AON FIRE PROTECTION ENGINEERING**  
Building Security
- HWA PARKING**  
Parking Consultant
- ARUP**  
Geotechnical Consultant
- HLB LIGHTING DESIGN, INC.**  
Lighting Consultant
- CERAMI AND ASSOCIATES, INC.**  
Acoustical Consultant
- MORRISON HERSHFIELD**  
Curtain Wall Consultant
- ENVIRONMENTAL BUILDING STRATEGIES**  
LEED Consultant
- HMA CONSULTING**  
Building Management and Controls Engineer
- C.S. CAULKINS CO., INC.**  
Window Washing Consultant
- ENGINEERING SPECIALTIES GROUP**  
Aerial Tram Consultant
- DEBRA NICHOLS DESIGN**  
Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

NO.	DATE	ISSUE
7	02 MAY 14	GMP
8	10 FEB 14	BID ADDENDUM #2
9	16 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

NO. DATE ISSUE

CDD FILENAME

DRAWING TITLE

**Civil Details**

VIA PROJECT NO. 08044 DRAWING NUMBER **C8.20**

**1 STANDARD COLD PLANING AND RESURFACING CROSS SECTIONS**  
NTS

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD PLAN**  
STREETS AND HIGHWAYS  
STANDARD COLD PLANING AND RESURFACING CROSS SECTIONS

REVISED: DATE: 04/30/07  
APPROVED: DATE: 04/30/07  
DESIGNED: DATE: 04/30/07  
CHECKED: DATE: 04/30/07

**2 DRIVEWAY CONSTRUCTION**  
NTS

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD PLAN**  
STREETS AND HIGHWAYS  
DRIVEWAY CONSTRUCTION

REVISED: DATE: 04/30/07  
APPROVED: DATE: 04/30/07  
DESIGNED: DATE: 04/30/07  
CHECKED: DATE: 04/30/07

**3 CURB AND GUTTER**  
NTS

**BUREAU OF ENGINEERING**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD PLAN**  
STREETS AND HIGHWAYS  
STANDARD COMBINED CURB AND PARKING STRIP OR GUTTER

REVISED: DATE: 04/30/07  
APPROVED: DATE: 04/30/07  
DESIGNED: DATE: 04/30/07  
CHECKED: DATE: 04/30/07

**4 SIDEWALK**  
NTS

**INFRASTRUCTURE DIVISION**  
DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF SAN FRANCISCO

**STANDARD PLAN**  
STREETS AND HIGHWAYS  
STEEL REINFORCED BARS FOR SIDEWALK CONSTRUCTION

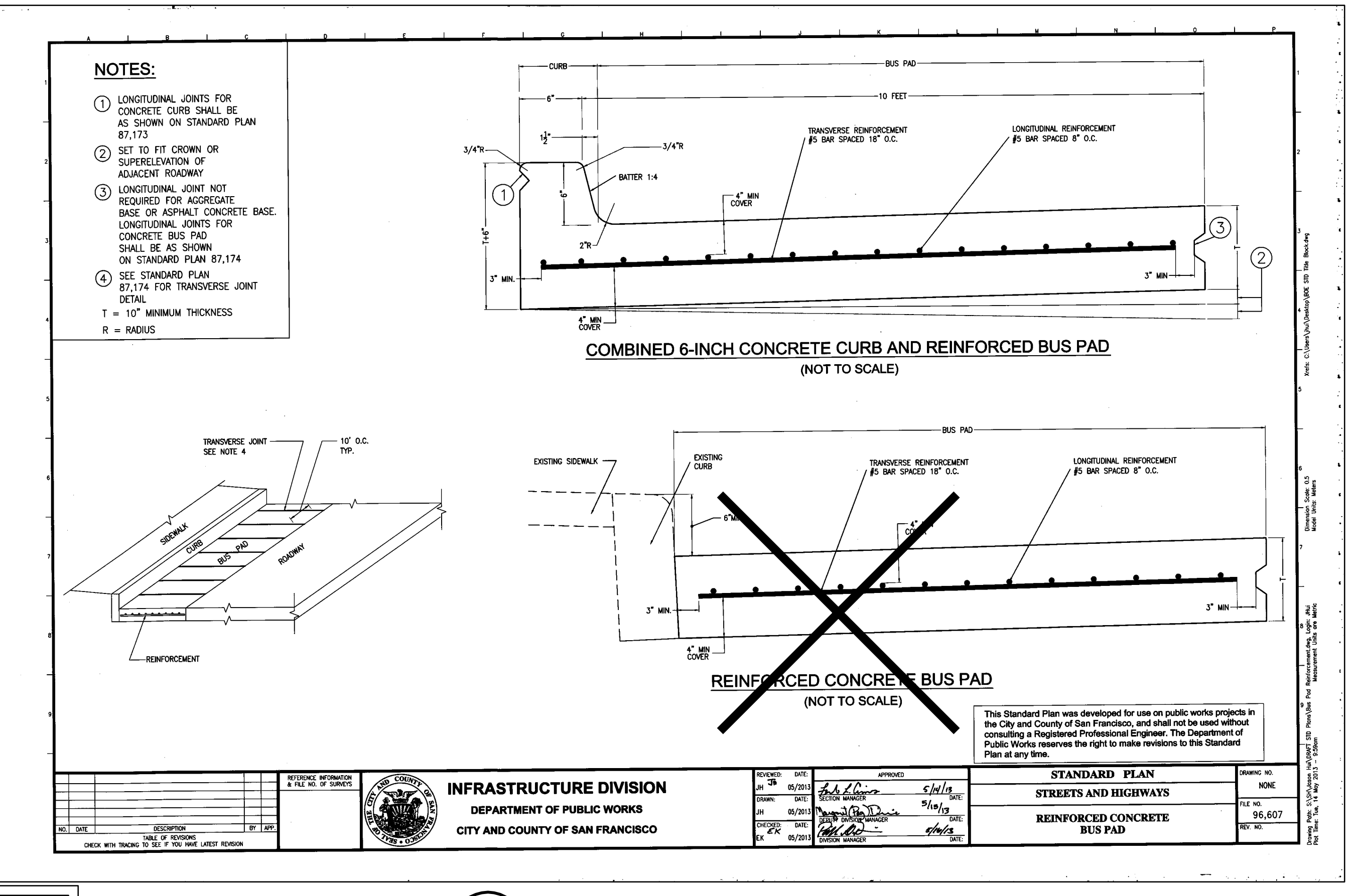
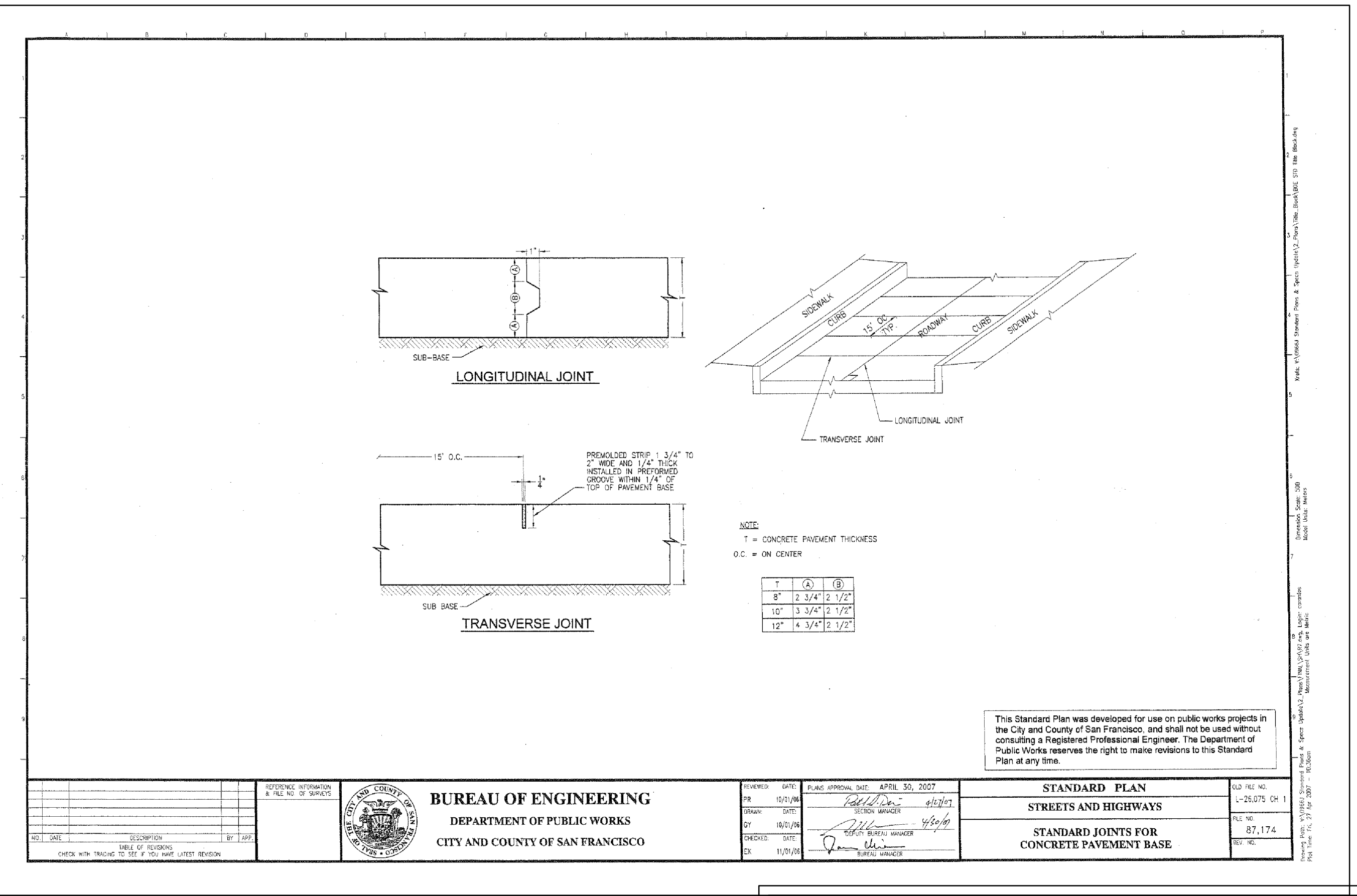
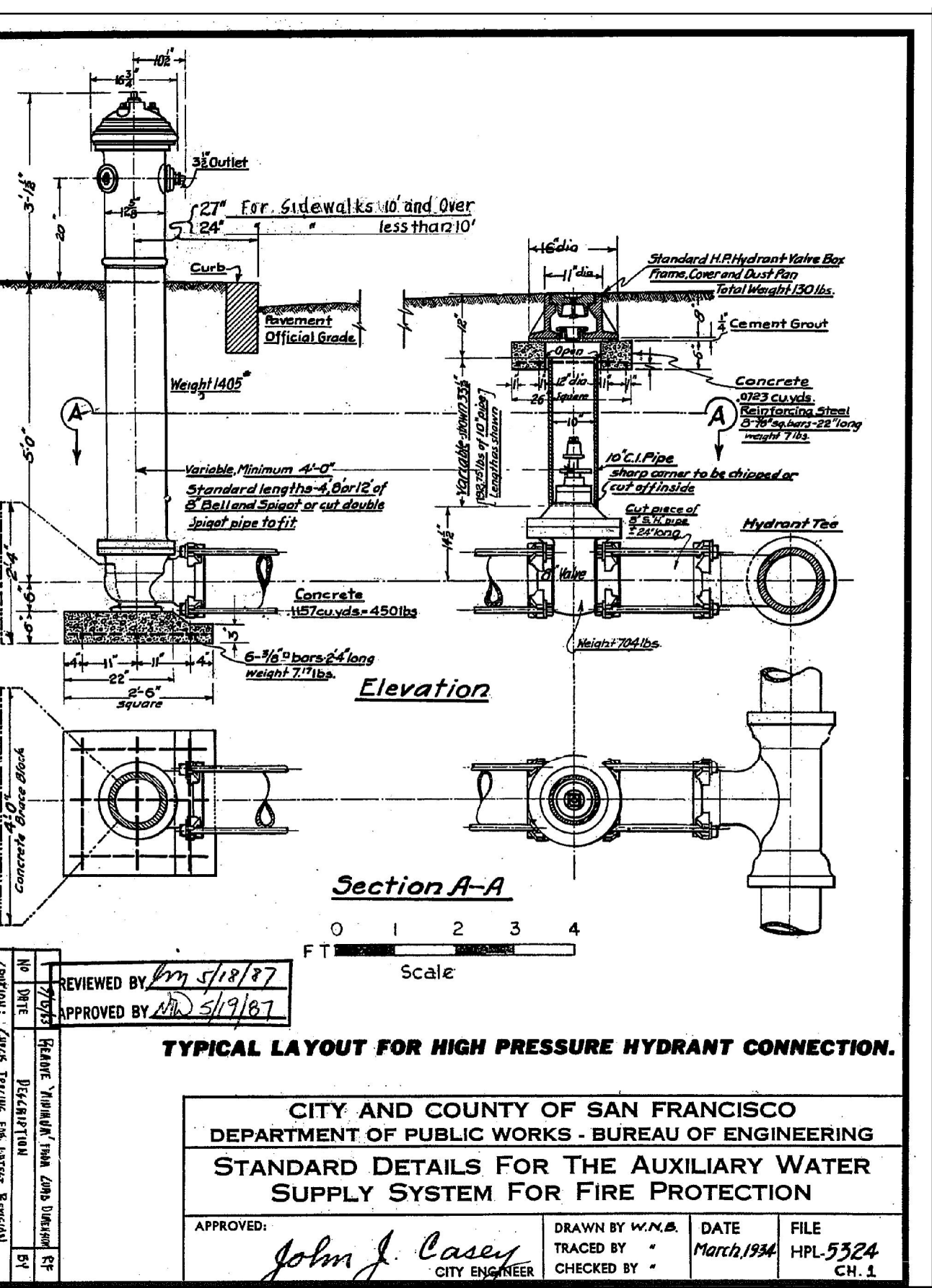
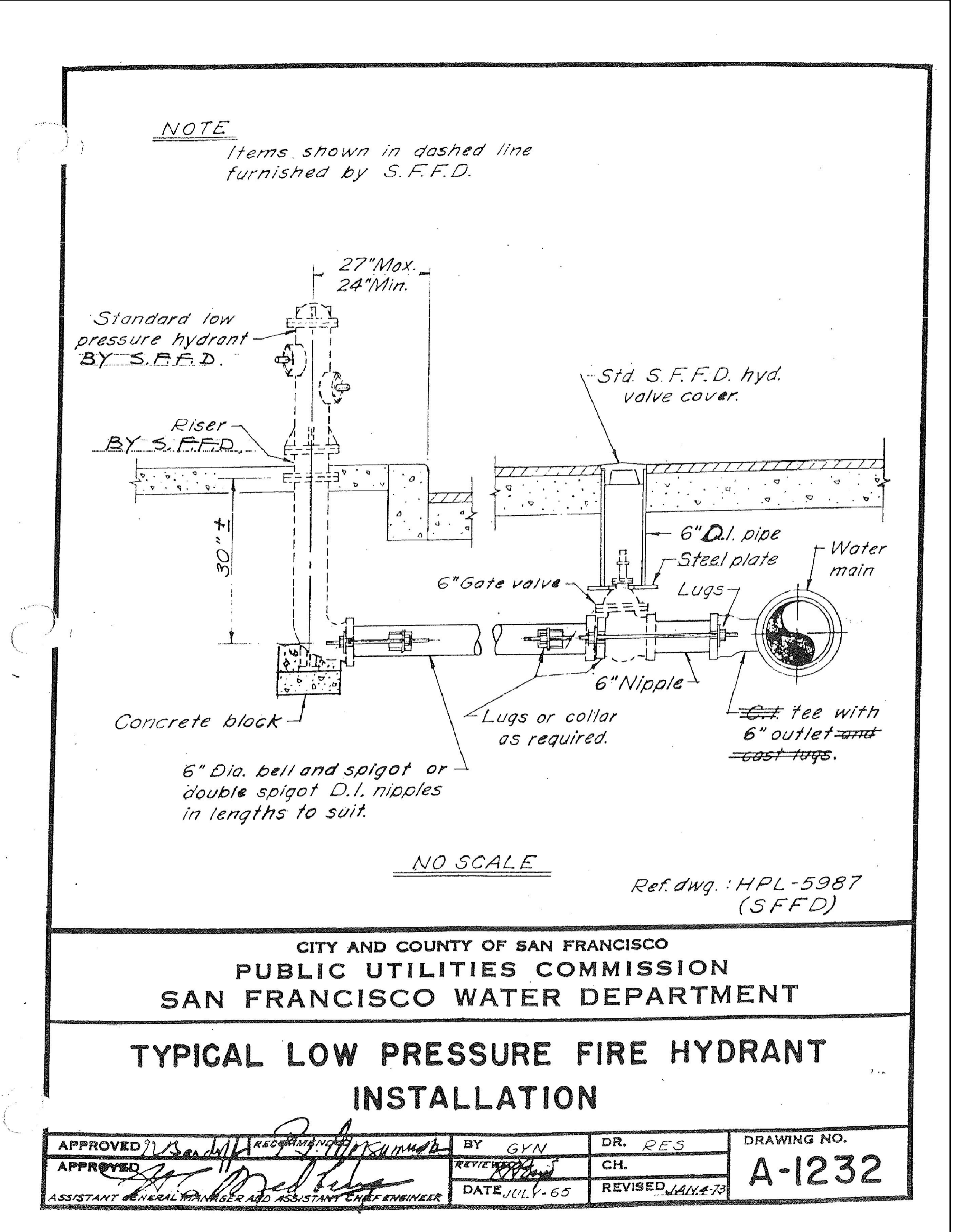
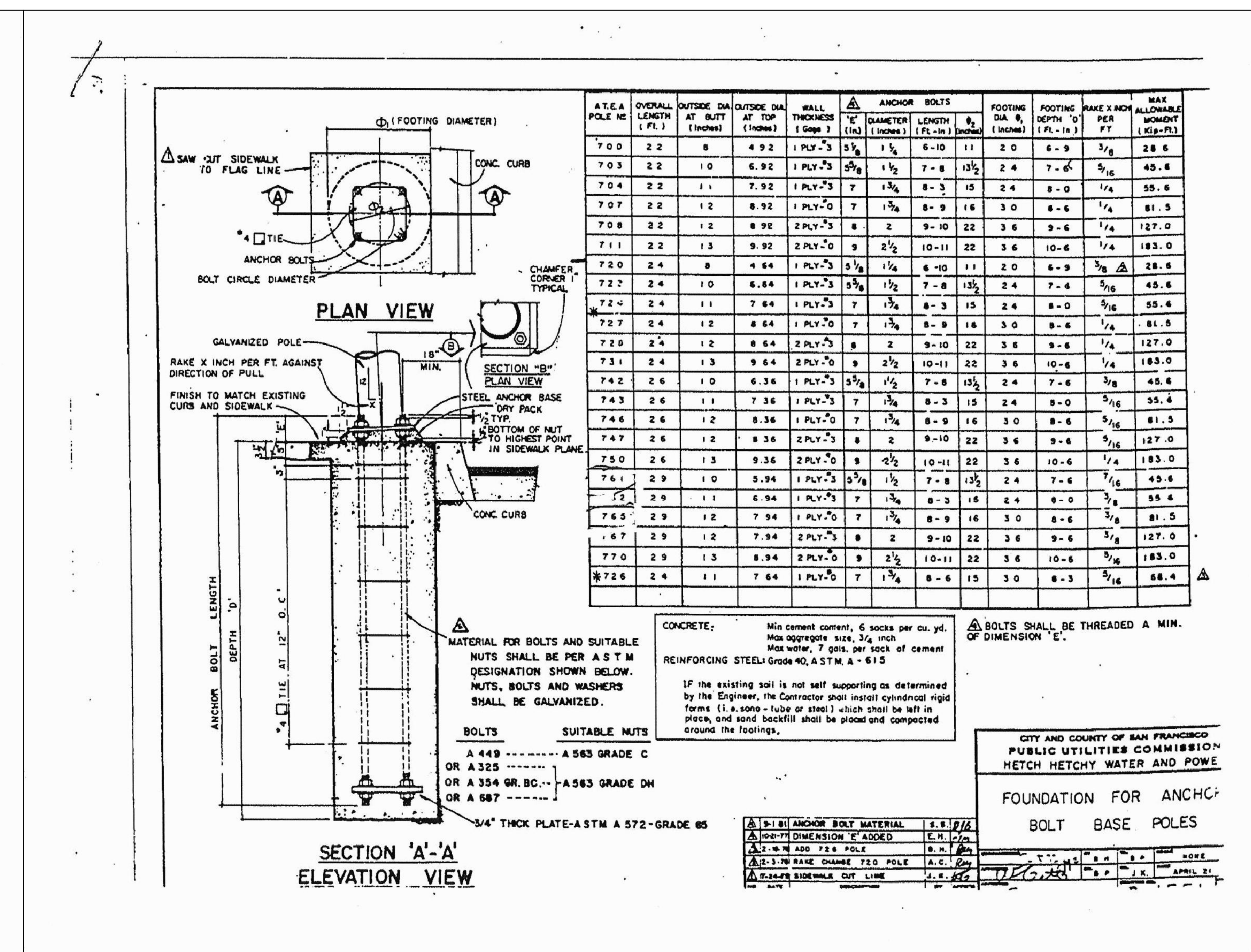
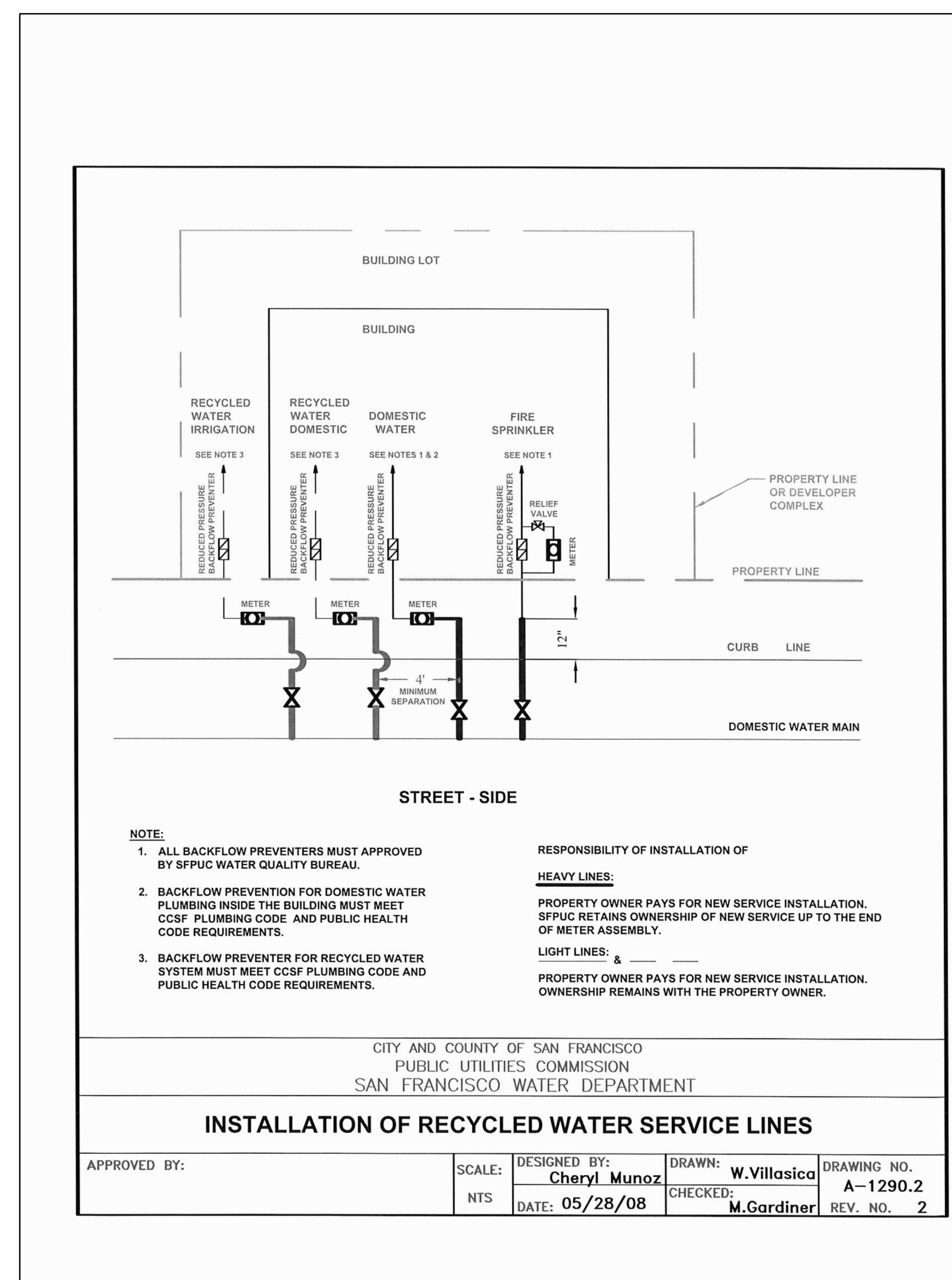
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APPROVED: DATE: 04/30/07  
DESIGNED: DATE: 04/30/07  
CHECKED: DATE: 04/30/07

NOTE: CONTRACTOR TO REFER TO CITY STANDARD DETAIL 87.173 FOR JOINTS IN CURBS.

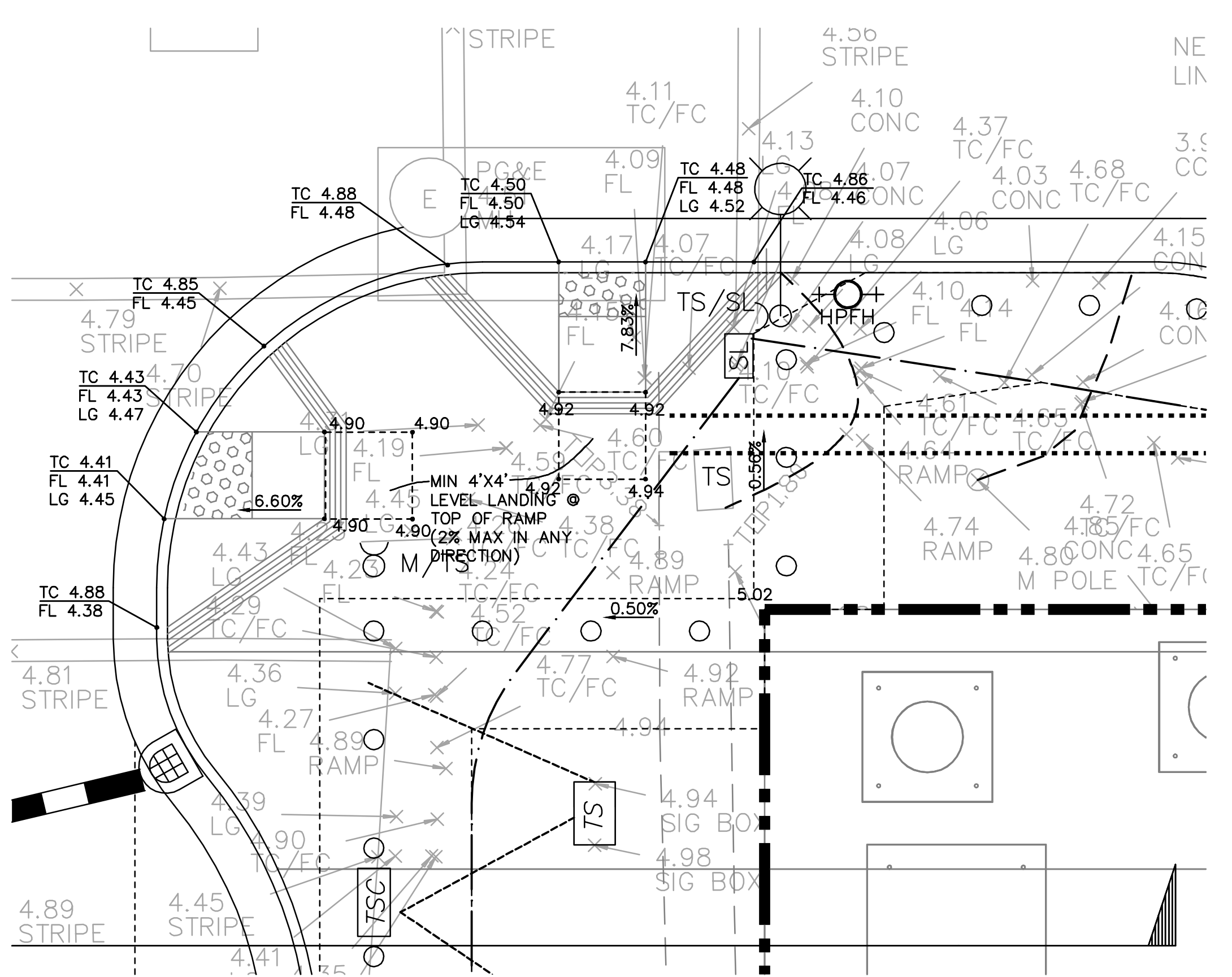
NOTE: THE CONTRACTOR SHOULD REVIEW DETAIL 6 ON SHEET C8.40 FOR THE FINAL PAVEMENT SECTION WHICH INCLUDES STEEL REINFORCEMENT IN THE CONCRETE SUBSLAB AND MORTAR FIXED PAVERS ABOVE. THE INTENT OF THE DETAILED PROVIDED ABOVE IS TO SHOW REQUIRED STEEL DETAILING AT CORNERS, RAMPS, AND UTILITY BOXES, AS WELL AS JOINT CONSTRUCTION.



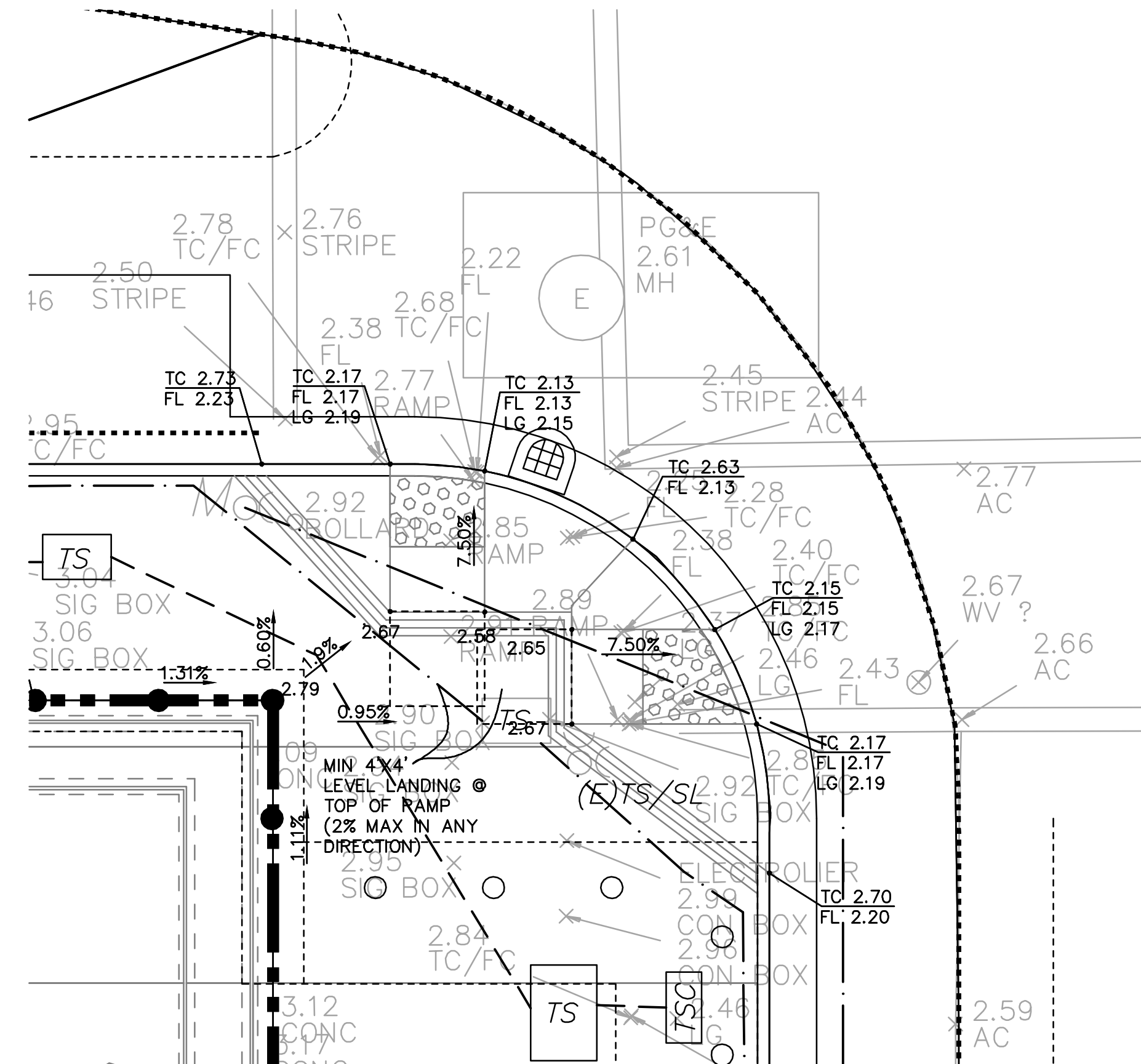
- BOSTON PROPERTIES / HINES  
Owner
- PELLI CLARKE PELLI ARCHITECTS  
Design Architect
- KENDALLHEATON ASSOCIATES, INC.  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES  
Structural Engineer
- WSP  
MEFPF Engineer
- PWP LANDSCAPE ARCHITECTURE  
Landscape Architect
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Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY  
Landscape Architect of Record



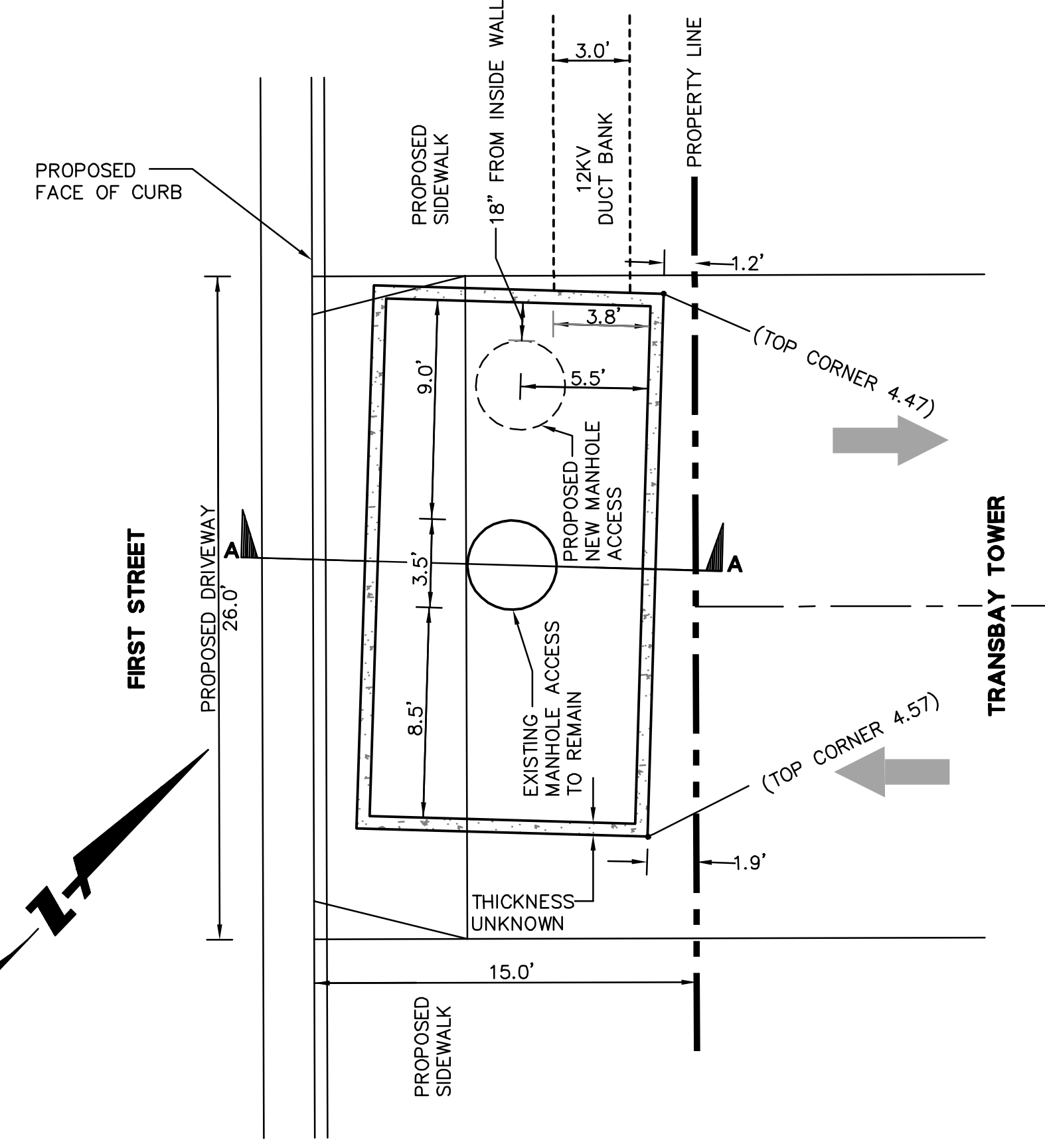
NO.	DATE	ISSUE
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		PIPE BARRIER PERMIT
2	06 MAY 13	SIDEWALK WIDENING PROCESS
1	11 MAR 13	SITE PERMIT
		SITE PERMIT



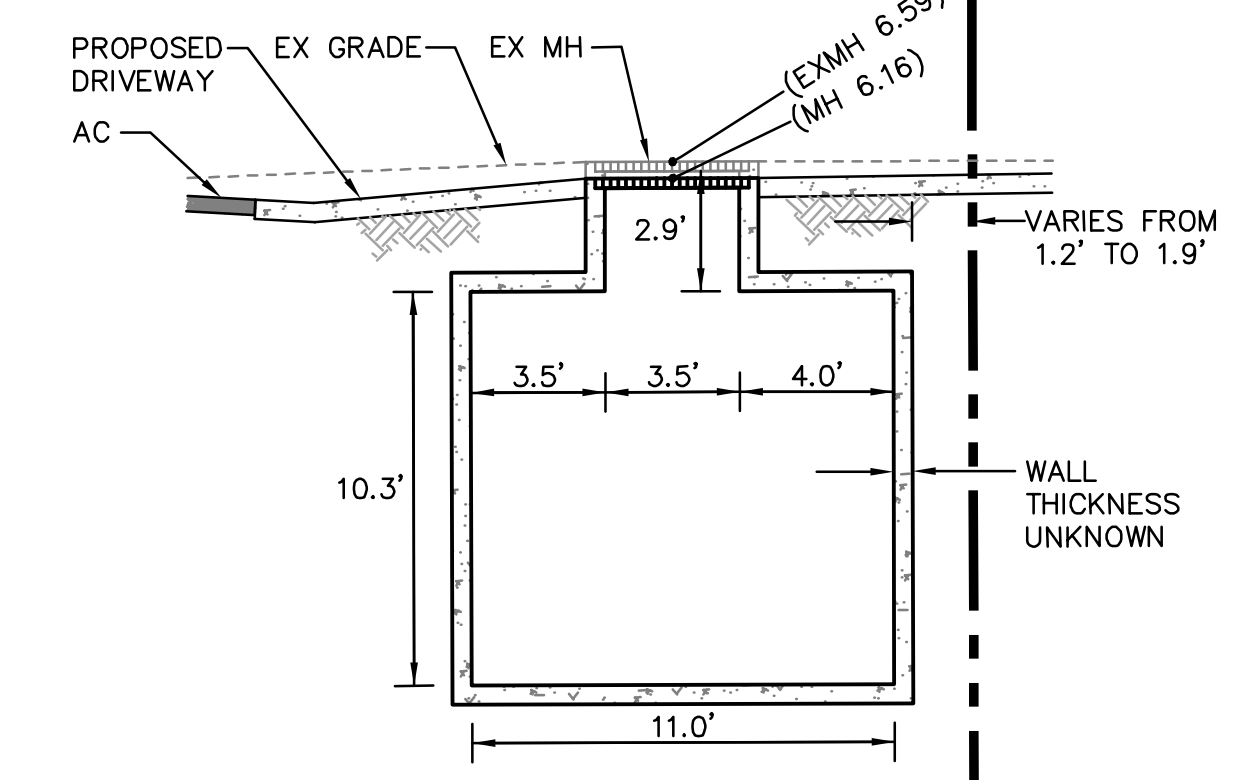
**1**  
-  
**DETAILED CURB RAMP GRADING**  
● CORNER OF 1ST & MISSION  
NTS



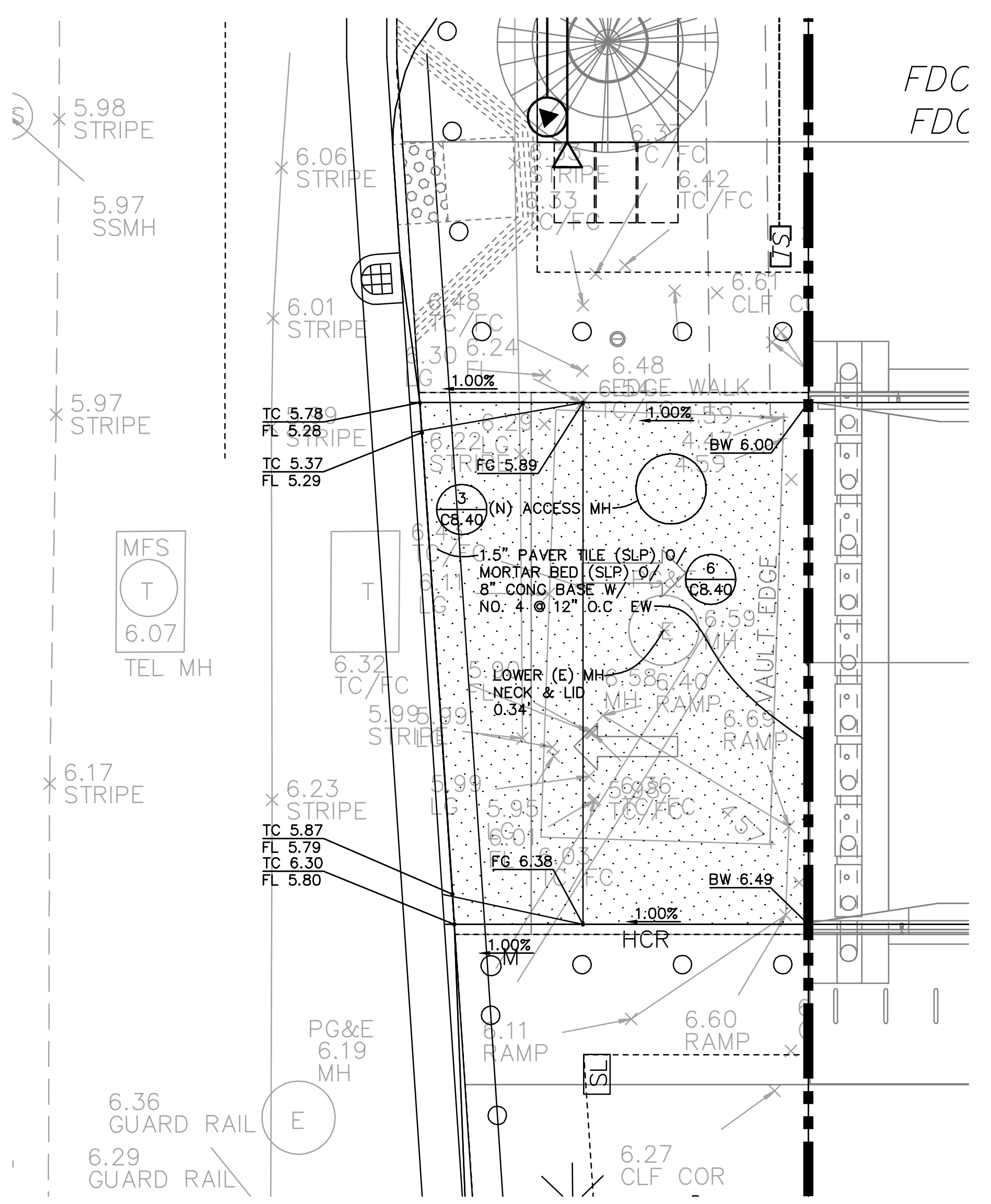
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**DETAILED CURB RAMP GRADING**  
● CORNER OF MISSION & FREMONT  
NTS



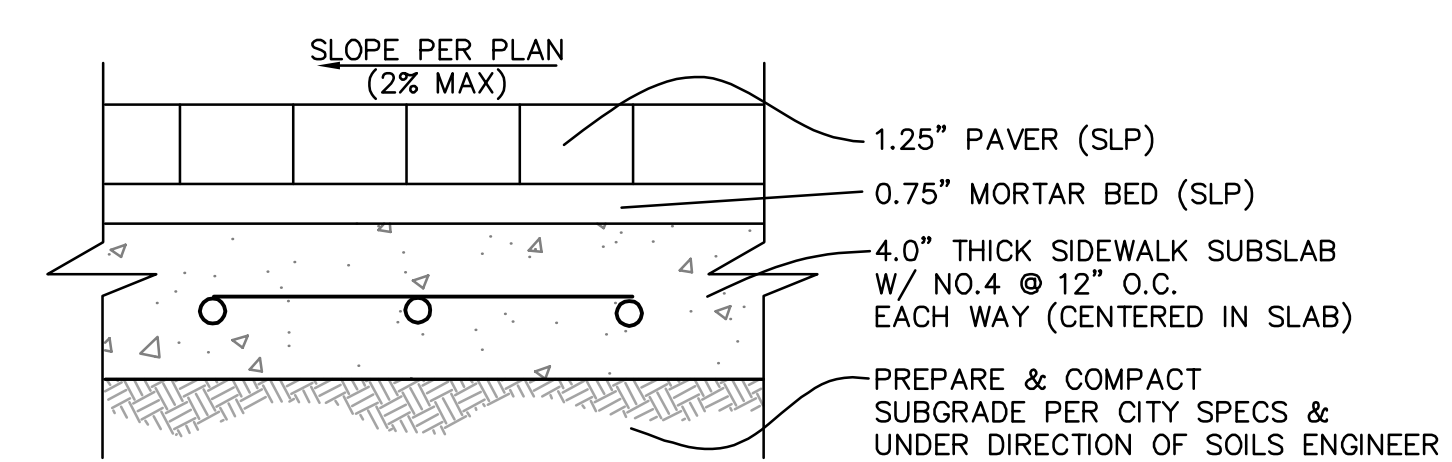
**3**  
-  
**PG&E NETWORK VAULT 7712 - 1ST**  
1"=5'



**PROFILE A-A**  
**PG&E NETWORK VAULT EMH - 7712-1ST**  
SCALE: 1"=5'

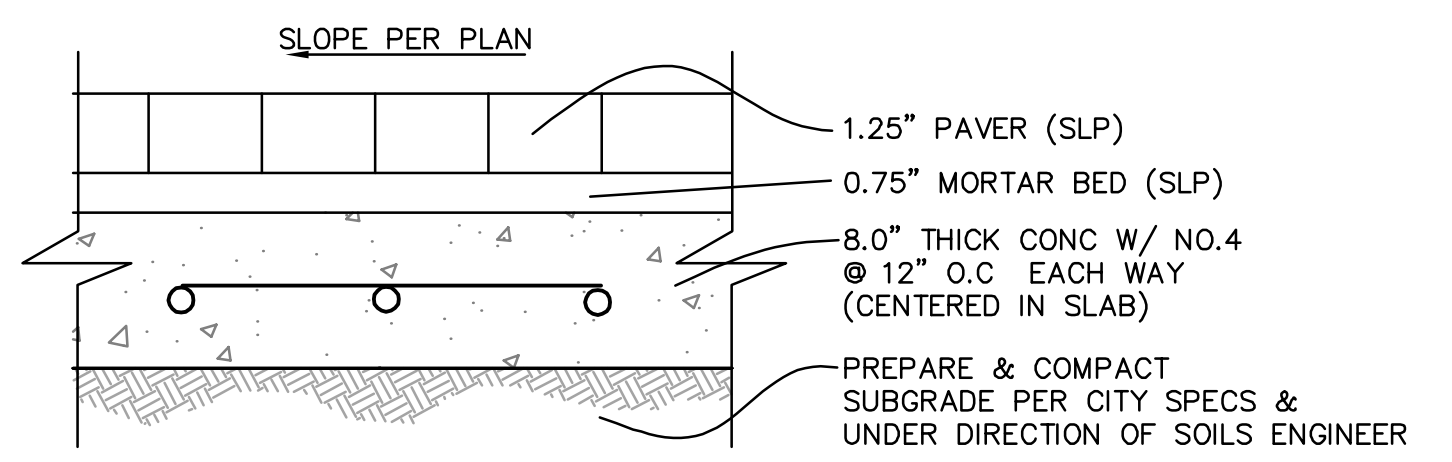


**4**  
-  
**DETAILED DRIVEWAY GRADING**  
● 1ST STREET  
NTS



- NOTES:**
1. CONCRETE BASE MIX SHALL CONFORM TO SF STANDARD SPECIFICATIONS, INCLUDING MIX DESIGN, SUBGRADE PREP, & JOINTING.
  2. REFER TO LANDSCAPE DRAWINGS FOR PAVER TILE TYPE & FINISH. SFDPM-BSM TO APPROVE SLIP RESISTANCE OF MATERIAL PRODUCT PRIOR TO INSTALLATION.
  3. REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR DETAILING OF JOINTS AT PAVER SURFACE AND AT PROPERTY LINE.
  4. THE SIDEWALK REINFORCED CONCRETE SUBBASE SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS SET FORTH IN SF STANDARD SPECIFICATION SECTION 204 FOR CONCRETE SIDEWALKS.
  5. INSTALL TRANSVERSE JOINTS AT ALL CURB RETURNS, LOT LINES, AND INTERMEDIAT SPACING NOT TO EXCEED 30 FEET. REFER TO SF SPECIFICATION SECTION 204.07

**5**  
-  
**SIDEWALK PAVING (PL TO BACK OF CURB)**  
NTS



- NOTES:**
1. CONCRETE BASE MIX SHALL CONFORM TO SF STANDARD SPECIFICATIONS, INCLUDING MIX DESIGN, SUBGRADE PREP, & JOINTING.
  2. REFER TO LANDSCAPE DRAWINGS FOR PAVER TILE TYPE & FINISH. SFDPM-BSM TO APPROVE SLIP RESISTANCE OF MATERIAL PRODUCT PRIOR TO INSTALLATION.
  3. REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR DETAILING OF JOINTS AT PAVER SURFACE AND AT PROPERTY LINE.
  4. THE SIDEWALK REINFORCED CONCRETE SUBBASE SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS SET FORTH IN SF STANDARD SPECIFICATION SECTION 204 FOR CONCRETE SIDEWALKS.
  5. INSTALL TRANSVERSE JOINTS AT ALL CURB RETURNS, LOT LINES, AND INTERMEDIAT SPACING NOT TO EXCEED 30 FEET. REFER TO SF SPECIFICATION SECTION 204.07

**6**  
-  
**DRIVEWAY PAVING (PL TO BACK OF CURB)**  
NTS

- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
Design Architect
- KENDALL HEATON ASSOCIATES, INC.**  
Architect of Record
- MAGNUSON KLEMENCIC ASSOCIATES**  
Structural Engineer
- WSP**  
MEPFP Engineer
- PWP LANDSCAPE ARCHITECTURE**  
Landscape Architect
- BKF ENGINEERS**  
Civil Engineer
- PERSOHNHAHN ASSOCIATES, INC.**  
Elevator Consultant
- AON FIRE PROTECTION ENGINEERING**  
Building Security
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Parking Consultant
- ARUP**  
Geotechnical Consultant
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- C.S. CAULKINS CO., INC.**  
Window Washing Consultant
- ENGINEERING SPECIALTIES GROUP**  
Aerial Tram Consultant
- DEBRA NICHOLS DESIGN**  
Graphic Design Consultant
- ROYSTON HANAMOTO ALLEY & ABEY**  
Landscape Architect of Record

NO.	DATE	ISSUE
7	02 MAY 14	GMP
8	10 FEB 14	BID ADDENDUM #2
5	16 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	29 OCT 13	STREET IMPROVEMENT PERMIT
		PIPE BARRIER PERMIT
		SIDEWALK WIDENING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

DRAWING TITLE

**Civil  
Details**







- BOSTON PROPERTIES / HINES**  
Owner
- PELLI CLARKE PELLI ARCHITECTS**  
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1	11 MAR 13	SITE PERMIT

CAD FILENAME  
DRAWING TITLE

**Civil Details**

**4 OF 4**

**ANTI-RAM BOLLARDS (K-12)**  
DS-22  
SEB Standard Details

DATE: 2/18/07 UNCLASSIFIED

**NOTES:**

- REINFORCING STEEL - ASTM A-615, fy=420 MPa (MIN)(60 KSI) EQUIVALENT INTERNATIONAL REINFORCING BARS ARE SHOWN IN PARENTHESES. THE SUBSTITUTION OF NON ASTM BAR SIZES MUST BE APPROVED BY CONTRACTING OFFICER.
- INSTEEL PIPE - ASTM A-53 GRADE-B, fy=250 MPa (MIN)(36 KSI) HOT DIPPED GALVANIZED  
OPTION 1: SCHEDULE 140 (1" TH. WALL)  
OPTION 2: SCHEDULE 80 (1 1/2" TH. WALL)  
USE PL 1" TH. X 6'-11 1/4" WITH OPTION 2.
- STEEL PLATE - ASTM A-36, fy=250 MPa (MAX)(36 KSI).
- CONCRETE - Fc = 25 MPa (3600 PSI) IN ACCORDANCE WITH ASTM C31, C39 AND C470.
- SOILS - ALL BACKFILL SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF SE-STD-02-01, SECTION 5.1.2. IF THE LATERAL CAPACITY OF THE EXISTING SOILS IS NOT IN COMPLIANCE WITH THE REQUIREMENTS OF SE-STD-02-01, SECTION 5.1.2, THEN THE EXISTING SOIL SHALL BE REPLACED.
- STAGGERED, CLASS-A TENSION SPLICES SHALL BE ALLOWED FOR SPLICING OF HORIZONTAL BARS.
- CROSSTIES: THE (#5) CROSSTIE HAS 90° AND 180° HOOK AT EACH END. (SEE DETAIL D). THE 90° HOOK SHOULD BE PLACED AT THE ATTACK SIDE OF THE BOLLARD. PROVIDE 7-PAIR CROSSTIES COMBINING WITH THE FIRST ROW OF THE STIRRUP AT EACH SIDE OF THE BOLLARD. (SEE ELEVATION 1)
- ALL DIMENSIONS ARE IN FEET/INCHES U.N.C.
- REBAR CHART

NOMINAL DIAMETER	A615 #	A615 INCH-POUND BAR SIZES
15.9mm / .625"	#5	#5
25.4mm / 1.00"	#8	#8
32.3mm / 1.27"	#10	#10

**SOIL REQUIREMENTS:**  
THE SOIL SHOULD BE LOW-COHESIVE, WELL-GRADED CRUSHED OR BROKEN GRAVEL OF A PARTICLE SIZE DISTRIBUTION COMPARABLE TO TABLE 1. SOIL DEPTH SHOULD BE AT LEAST THE FOUNDATION DEPTH AND 1.5 TIMES EMBEDEDMENT DEPTH BEHIND THE INSTALLATION OR 0.8 METERS (2 FEET), WHICHEVER IS GREATER UP TO A MAXIMUM OF 2 METERS (6 FEET). SOIL SHOULD BE COMPACTED TO A DENSITY OF NOT LESS THAN 90 PERCENT MAXIMUM DRY DENSITY.

Sieve Size	Mass Percent Passing
50.0 mm (2 in.)	100
25.0 mm (1 in.)	75-95
9.5 mm (3/8 in.)	40-75
4.75 mm (No. 4)	30-60
2.00 mm (No. 10)	20-45
0.425 mm (No. 40)	15-30
0.075 mm (No. 200)	5-20

**TABLE: RECOMMENDED SOIL FOUNDATION MATERIAL**

U.S. Department of State  
ANTI-RAM BOLLARDS (K-12)  
DS-22  
SEB Standard Details  
DATE: 2/18/07 UNCLASSIFIED

4 STANDARD BOLLARD DETAIL NTS

**3 OF 4**

**ANTI-RAM BOLLARDS (K-12)**  
DS-22  
SEB Standard Details

DATE: 2/18/07 UNCLASSIFIED

**DETAIL PLAN**  
SCALE: 1:10

**GROUT TEMPLATE**  
SCALE: 1:10

**CROSSTIE DETAIL**  
SCALE: 1:10

**NOTE:** WELD STEEL PLATE W/IN STEEL PIPE PARALLEL TO VEHICLE TRAVEL DIRECTION (SEE NOTE 2; USE WITH SCHEDULE 80 PIPE ONLY)

**ATTACK SIDE**

**PROTECTED SIDE**

10" X 7'-0" LG. STEEL PIPE (SEE NOTE 2)

PL 1" X 6'-11 1/4"; WELD W/ (4) 1/4" X 2" FILLET WELDS TOP AND BOTTOM. SEE DETAIL 1; PLAN B (SEE NOTE 2 - USE WITH SCHED. 80 PIPE ONLY)

4-#10 REBARS TOP 2 LAYERS

10-#8 REBARS TYP.

#5 REBARS CROSSTIES W/ 90° HOOK AT ATTACK SIDE (SEE DETAIL D)

10 3/4"

GROUT WASH, FORMED W/STEEL TEMPLATE (SEE DETAIL C)

CONCRETE FILL, (SEE NOTE 4)

FINISH GRADE

SOILS, (SEE NOTE 5)

3"

FOOTING - TAMPED, UNDISTURBED SOIL OR GRANULAR FILL OR LEAN CONCRETE

1" CLEAR

2-7 1/2"

3 3/4"

90° HOOK

180° HOOK

#5 REBAR 2 1/2"

7 1/2"

3 3/4"

1 3/16"

3/16"

1 3/16"

10 7/8"

R=7 7/8"

BOTH 1/4" X 2" ENDS 1/4" X 2" OF PIPE

U.S. Department of State  
ANTI-RAM BOLLARDS (K-12)  
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3 STANDARD BOLLARD DETAIL NTS

**2 OF 4**

**ANTI-RAM BOLLARDS (K-12)**  
DS-22  
SEB Standard Details

DATE: 2/18/07 UNCLASSIFIED

**SECTION - TYPICAL ANTI-RAM BOLLARD**  
SCALE: 1:25

**NOTE:** THIS BOLLARD DESIGN IS USED WHERE K-12 ANTI-RAM PROTECTION IS REQUIRED.

U.S. Department of State  
ANTI-RAM BOLLARDS (K-12)  
DS-22  
SEB Standard Details  
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2 STANDARD BOLLARD DETAIL NTS

**1 OF 4**

**ANTI-RAM BOLLARDS (K-12)**  
DS-22  
SEB Standard Details

DATE: 2/18/07 UNCLASSIFIED

**SECTION - ANTI-RAM BOLLARD-ATTACK SIDE**  
SCALE: 1:25

**NOTE:** THIS BOLLARD DESIGN IS USED WHERE K-12 ANTI-RAM PROTECTION IS REQUIRED.

MATERIAL SPECIFICATIONS  
REINFORCED STEEL:  
fy=420 MPa (MIN)(60 KSI)  
CONCRETE:  
fc=25 MPa (MIN)(44 KSI)

STEEL PLATE, 1" X 9 1/4" X 6'-11 1/4";  
NOTE 2: USE WITH SCHEDULE 80 PIPE

4'-0" MAX.

4'-0" MAX.

7-PAIR #5 REBAR CROSSTIES @ BOTH SIDES OF BOLLARD

CONCRETE FILL, (SEE NOTE 4)

CONCRETE

#5 STIRRUPS @ 7 7/8" O.C.

#10 REBAR

10-#8

4'-0"

1'-10"

4'-0"

4'-0"

4'-0"

4'-0"

4'-0"

4'-0"

EARTH (TYP.)

U.S. Department of State  
ANTI-RAM BOLLARDS (K-12)  
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DATE: 2/18/07 UNCLASSIFIED

1 STANDARD BOLLARD DETAIL NTS

**ISOMETRIC VIEW**

10" BOLLARD

SUB-FRAME STRUCTURES

240 S.F. OF CONCRETE FOUNDATION (180 CU. FEET)

12'-0" CONCRETE FOUNDATION

20'-0" CONCRETE FOUNDATION

10" BOLLARD

SUB-FRAME BASEPLATES

OPTION #1: ROTATE SUB-FRAME FOR CLEARANCE OF NEW OR EXISTING POLE, SIGN, ETC.

120 S.F. OF CONCRETE FOUNDATION (120 CU. FEET)

6'-0" CONCRETE FOUNDATION

OPTION #2: ROTATE SUB-FRAME 180° FOR CLEARANCE OF NEW OR EXISTING FUEL PORT, ETC.

20'-0" CONCRETE FOUNDATION

5'-0"

5'-0"

5'-0"

5'-0"

10" BOLLARD

SUB-FRAME STRUCTURES

5'-0"

5'-0"

5'-0"

5'-0"

10" BOLLARD

SUB-FRAME BASEPLATES

SU-SWB3608 BOLLARD - SHALLOW FOUNDATION

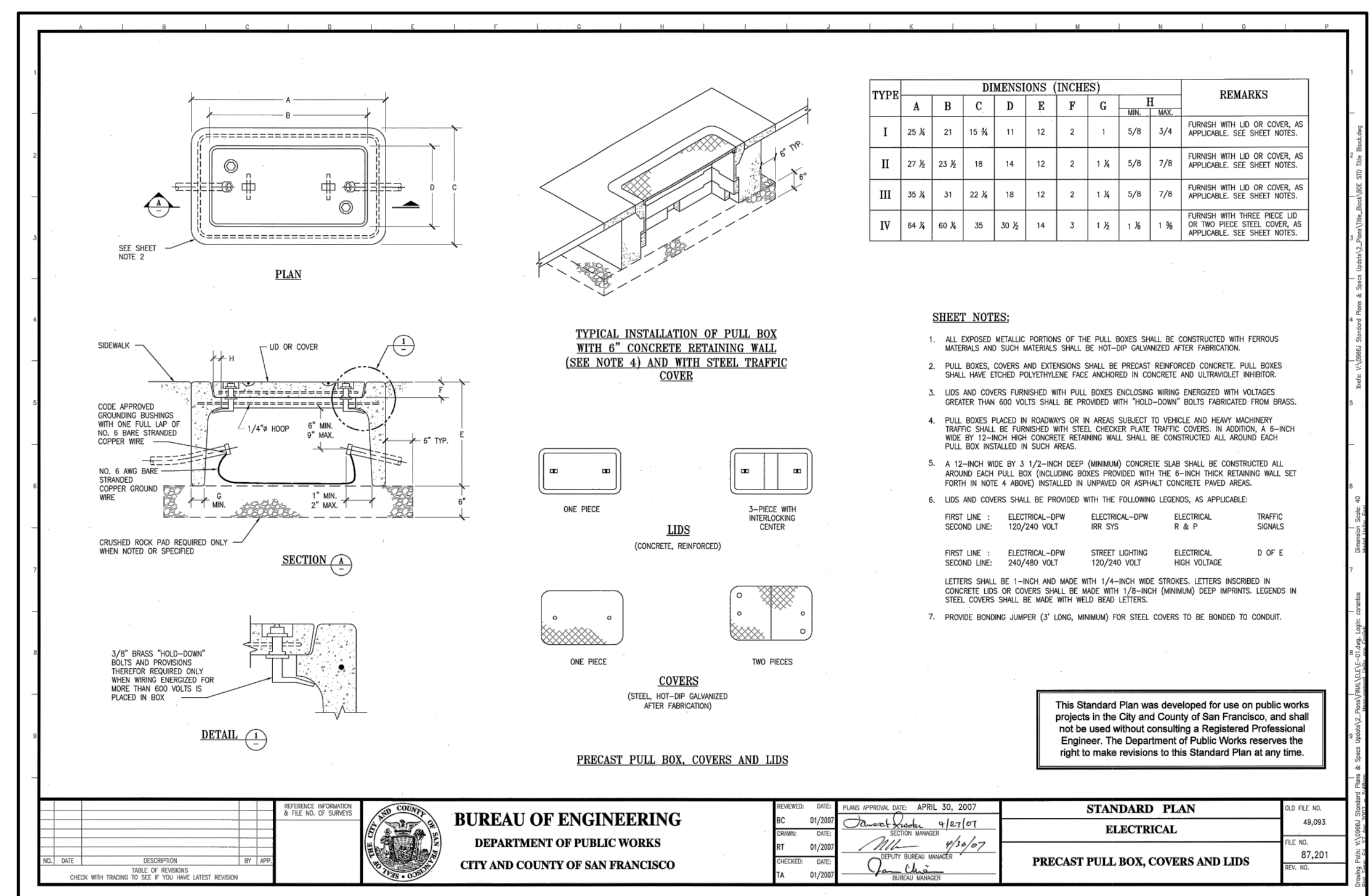
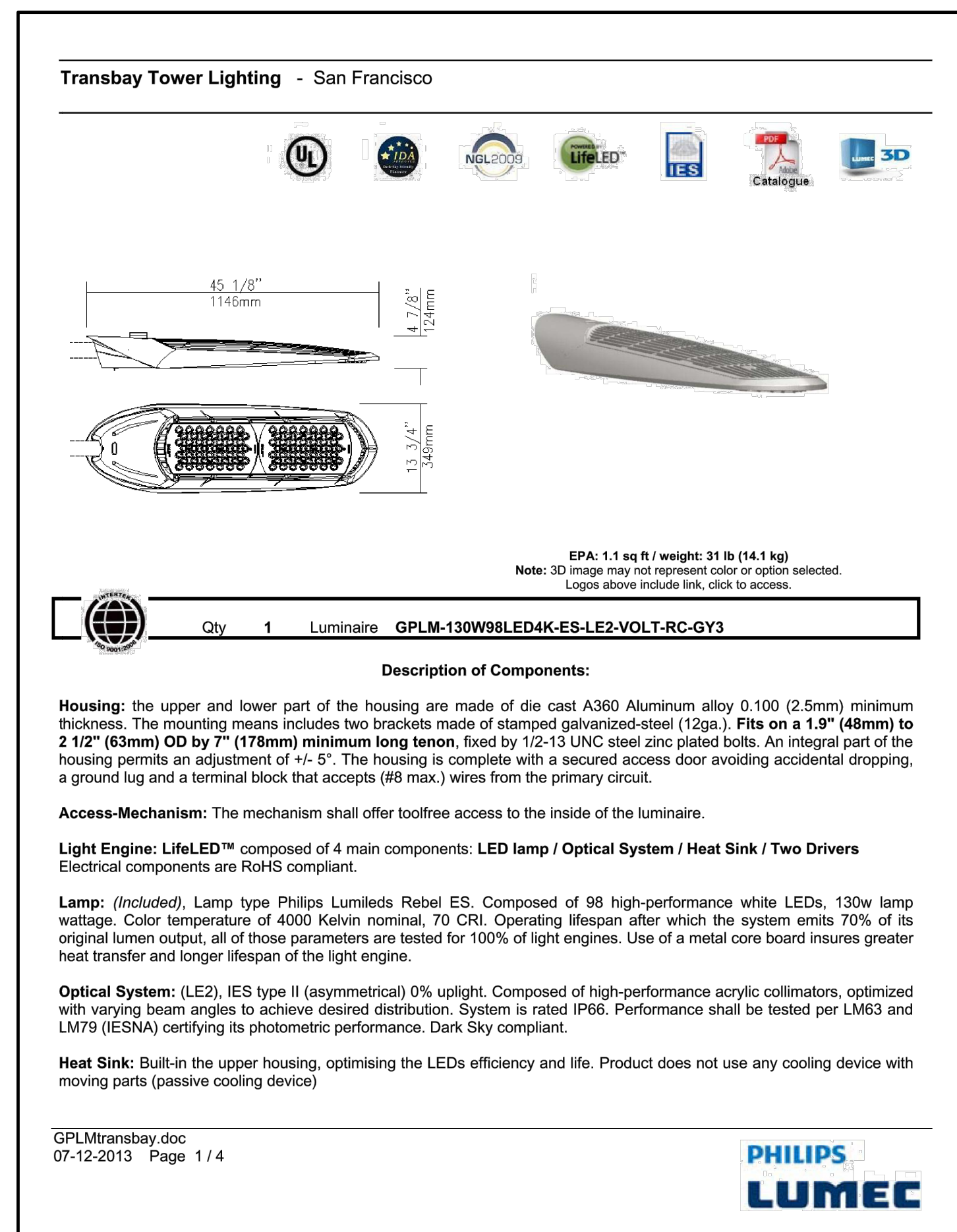
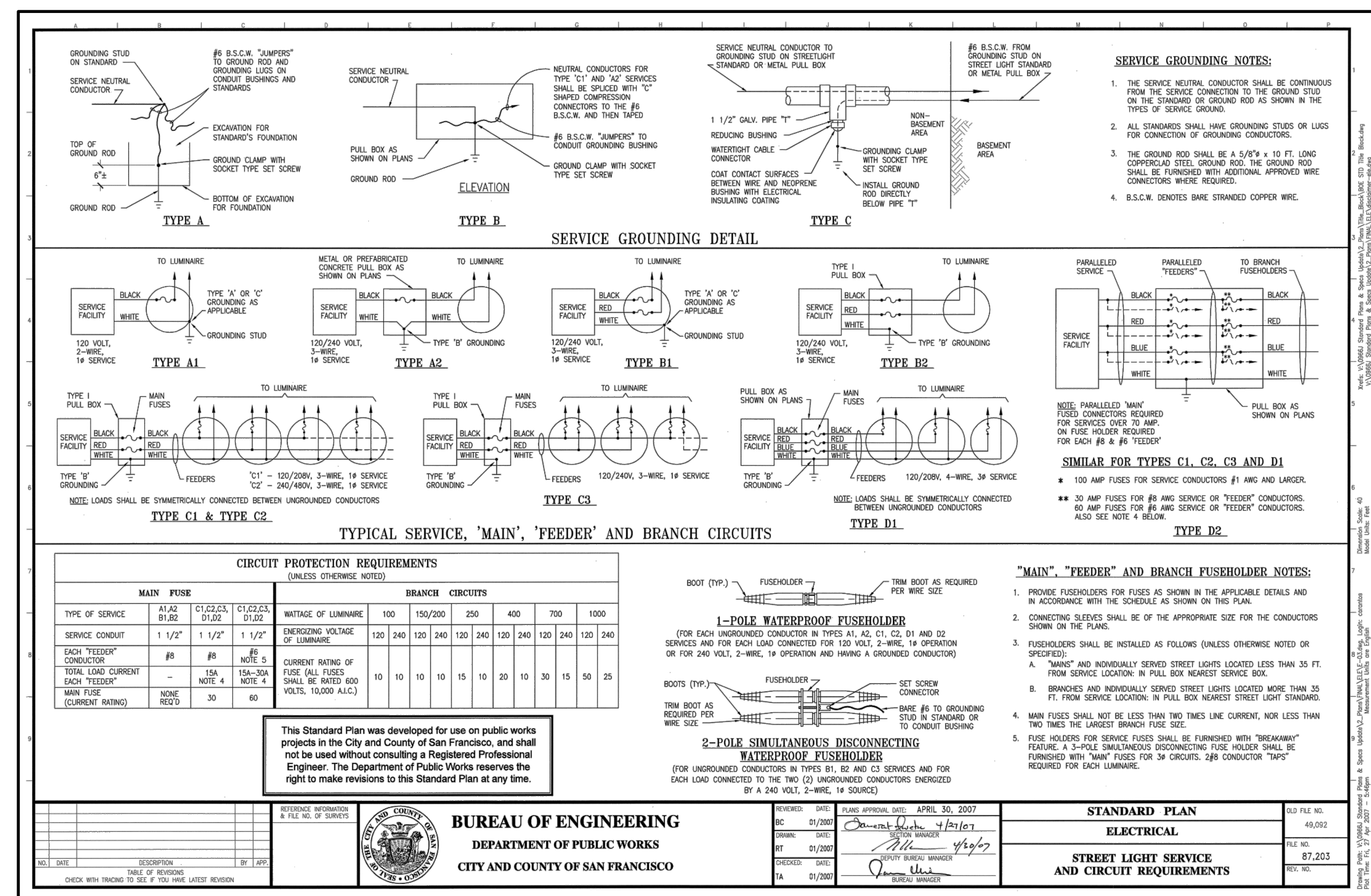
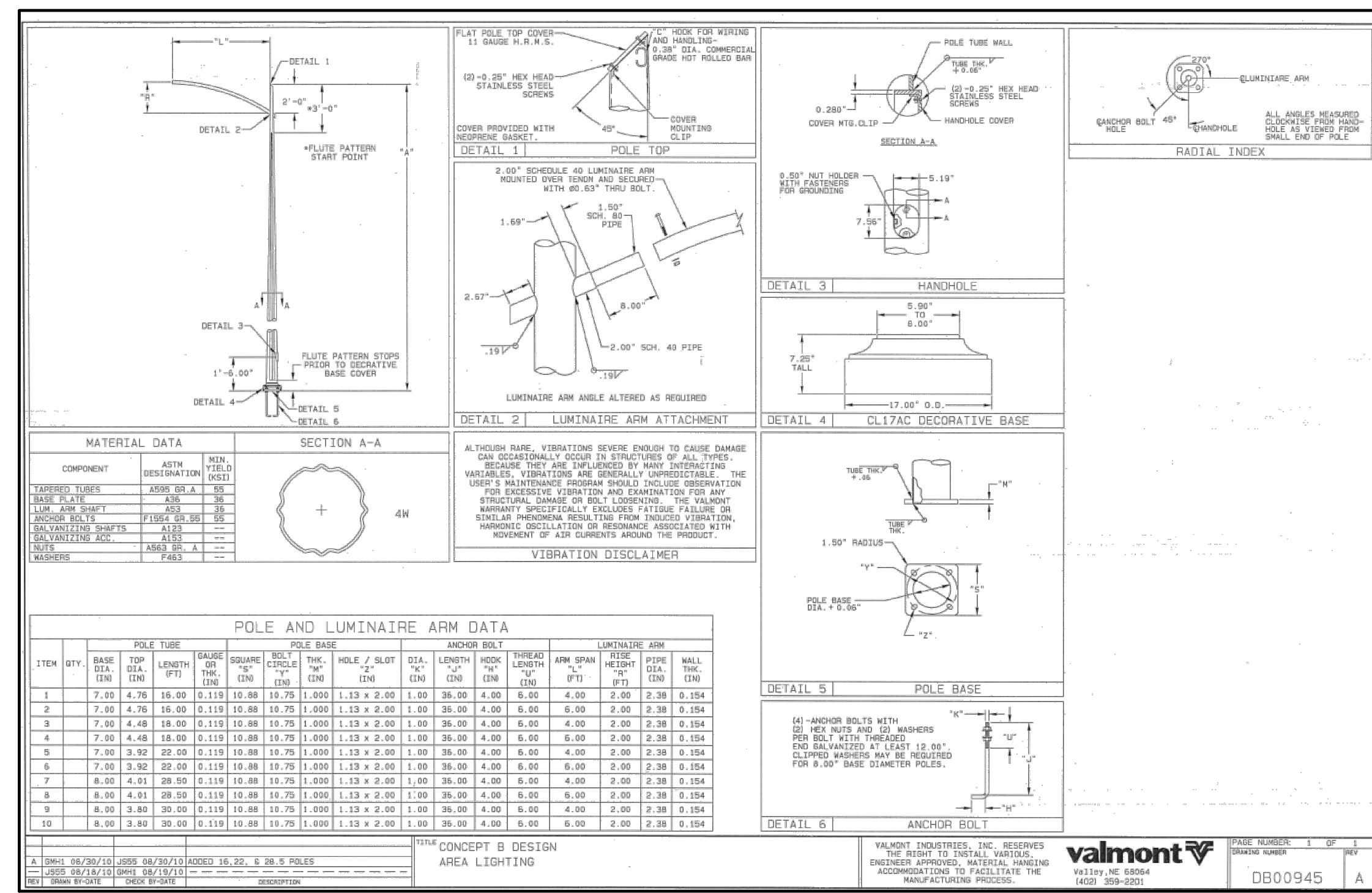
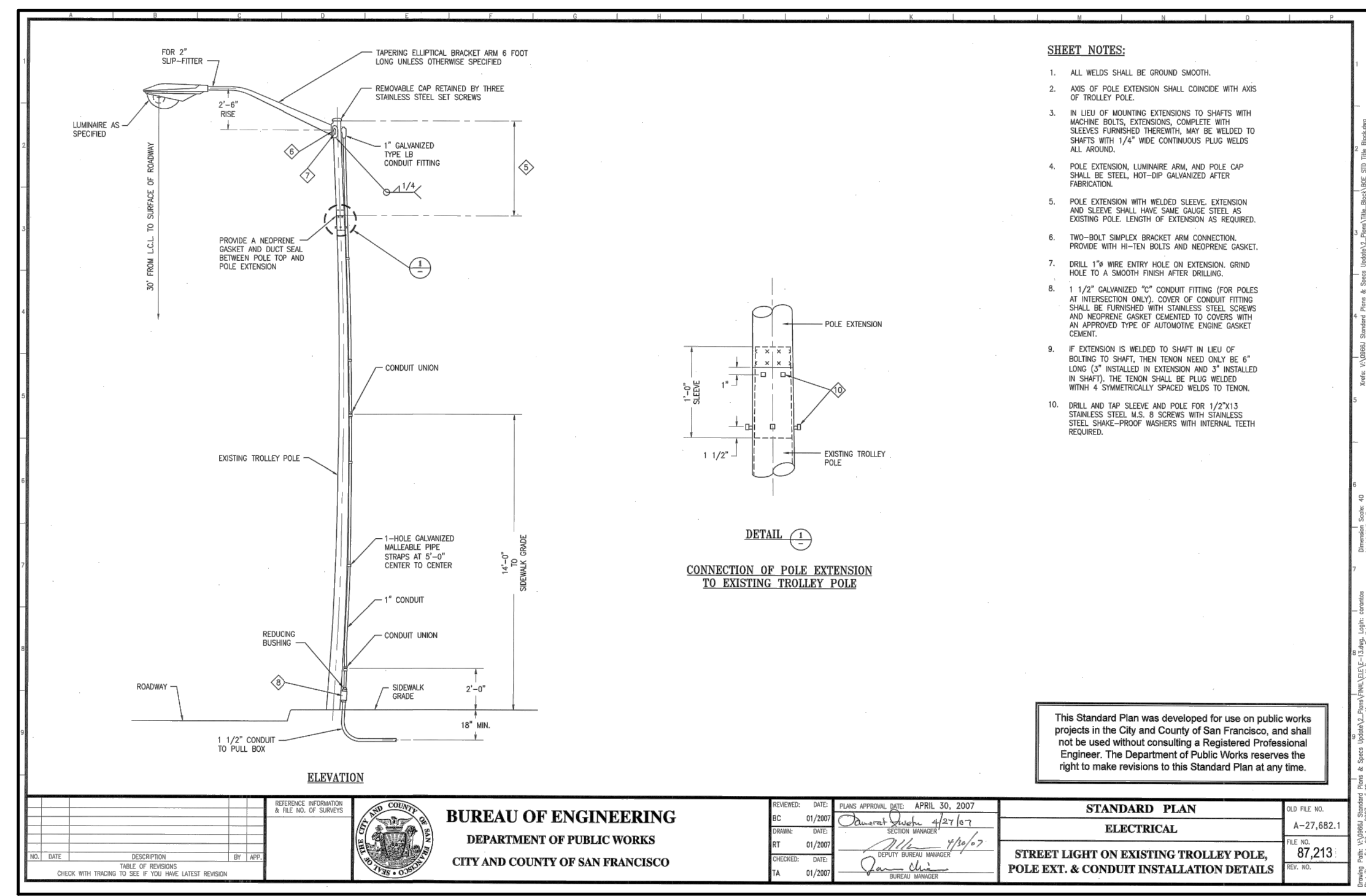
**SecureUSA**  
Perimeter Defense Solutions

**SecureUSA**  
Perimeter Defense Solutions

**SHALLOW-MOUNT BOLLARDS**

DATE: 2/18/07 UNCLASSIFIED

5 SHALLOW BOLLARD DETAIL NTS



### CONTRACTORS NOTES

- ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHALL, FEDERAL AND ALL APPLICABLE CITY, COUNTY, STATE AND LOCAL UTILITY COMPANY REGULATIONS, N.E.C., AND THE LATEST APPROVED STANDARDS OF I.E.E., A.S.A., N.E.C.M.A., U.L. AND OSHA WHERE APPLICABLE. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE ABOVE. ALSO, ALL SECTIONS OF STATE OF CALIFORNIA P.U.C. G.O. 95 SHALL APPLY.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL THE UNDERGROUND SERVICE FROM THE LUMINAIRE TO PG&E SERVICE POINT AND TERMINATE CONDUIT AND WIRES AT BOX AS DIRECTED BY PG&E.
- KEEP STREET LIGHTS A MINIMUM OF 3 FEET AWAY FROM THE EDGE OF DRIVEWAYS AND 3 FEET AWAY FROM LOW PRESSURE FIRE HYDRANTS, AND 6 FEET FROM HIGH PRESSURE HYDRANTS.
- TWO OR MORE STREET LIGHTS ON THE SAME CIRCUIT SHALL BE WIRED TO BALANCE THE LOAD. (SEE WIRING DIAGRAM)
- CONDUIT AND FITTINGS: ALL CONDUIT AND FITTINGS SHALL BE U.L. APPROVED, UNLESS OTHERWISE NOTED OR REQUIRED. USE MINIMUM 1-1/2" HOT DIPPED GALVANIZED CONDUIT AND FITTINGS. NOT SCHEDULE 40 P.V.C. MINIMUM RADIUS BENDS SHALL BE 18". PROVIDE PULL WIRE IN ALL EMPTY CONDUITS. ALL CROSSINGS TO BE PERPENDICULAR TO STREET.
- CONDUIT DEPTH: CONDUIT SHALL NOT BE INSTALLED AT A DEPTH GREATER THAN 36" BELOW PAVEMENT SURFACE, NOR 30" BELOW GROUND SURFACE IN UNPAVED AREAS; AND MINIMUM DEPTH OF CONDUIT SHALL BE 24" IN ROADWAY AREAS AND 18" IN SIDEWALK AND UNPAVED AREAS.
- CABLE: ALL WIRING SHALL BE THW INSULATION TYPE. THWN IS NOT ACCEPTABLE FOR STREET LIGHTING. NO. 10 THW SOLID TYPE IN POLE MAY BE USED.
- SPLICE BOXES: FURNISH AND INSTALL AS PER SFDPM STANDARD PLANS AND SPECIFICATIONS NOT PER CALTRANS STANDARDS.
- FUSES: EACH POLE SHALL BE FUSED WITH WATERPROOF IN-LINE FUSE HOLDERS (BUSHMAN HB SERIES) AT EACH ADJACENT SPLICE BOX WITH 10 AMP FUSE.
- SPLICING: SPLICES SHALL BE MADE WITH 'C' SHAPED COMPRESSION CONNECTORS OR SPLIT BOLT CONNECTORS. INSTALLED CONNECTORS SHALL BE WRAPPED WITH A MINIMUM OF 4 HALF-LAPPED LAYERS OF RUBBER OR RUBBER MASTIC TAPE. OVERLAP WITH AT LEAST 2 HALF LAPPED LAYERS OF SCOTCH 33+ VINYL OR APPROVED PREMIUM TAPE. AFTER TAPING SPLICES, APPLY SCOTCHKOTE ELECTRICAL COATING EVENLY OVER SPLICES OR AS RECOMMENDED BY THE MANUFACTURER.
- POLE NUMBERS: COORDINATE WITH SFCU - POWER ENTERPRISE (BLHP) STREET LIGHTING DEPARTMENT.
- TRENCH: CONDUIT CAN BE PLACED IN JOINT TRENCH. CONDUIT LAYOUT IS SHOWN SCHEMATICALLY. SEE COMPOSITE DRAWING FOR TRENCH LOCATION. ANY INCIDENTAL TRENCHING NOT PROVIDED BY TRENCHING AGENT IS CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR TO INSTALL CIRCUIT GROUNDING AND GROUND WIRE IN CONDUIT AS PER PLANS.
- CENTERLINE OF STREET LIGHTS SHALL BE LOCATED ON THE LOT LINE UNLESS OTHERWISE NOTED ON THESE PLANS.
- A LIST OF ALL MATERIALS & SUPPLIERS SHOULD BE PROVIDED TO AUTHORITY HAVING JURISDICTION FOR APPROVAL.
- BURN TEST: DAY BURN FOR 24 HOURS FOR 5 CONSECUTIVE DAYS FOR COUNTY INSPECTOR APPROVAL.
- GROUNDING AND BONDING SHALL PROPERLY INTERCONNECT ALL METAL PARTS OF THE SYSTEM.
- ALL CONNECTIONS SHALL BE SECURED WITH LOCK NUTS AND INSULATED BUSHINGS.
- CONTRACTOR SHALL CONSULT LOCAL AGENCIES FOR THEIR CIRCUIT GROUNDING REQUIREMENTS. IF GROUND WIRE IS REQUIRED IN CONDUIT, INSTALL ACCORDINGLY.
- WATERPROOF INLINE FUSES SHALL BE PROVIDED IN THE SPLICE BOX NEXT TO EACH NEW OR REPLACED STREET LIGHT. IF THE DESIGN IS SUCH THAT NO BOXES WILL BE INSTALLED, THE SPLICE SHALL BE LOCATED IN THE HANDHOLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE OPERATING SYSTEM.
- EACH STREET LIGHT SHALL BE CONTROLLED BY A PHOTO ELECTRIC CELL MOUNTED ON TOP OF EACH LUMINAIRE OR THE TOP OF EACH POLE DEPENDING UPON THE MANUFACTURER'S RECOMMENDATIONS OR CONTROLLED BY OTHER MEANS AS SHOWN ON THE DRAWINGS.
- FOUNDATION MOUNTED ELECTROLITERS SHALL BE PLUMBED BY ADJUSTING THE NUTS ON THE ANCHOR BOLTS BEFORE THE FOUNDATION CAP IS PLACED. SHIMS OR OTHER SIMILAR DEVICES FOR PLUMBING OR RANKING WILL NOT BE PERMITTED. AFTER PLUMBING THE STANDARD, ANCHOR BOLTS SHALL BE CUT OFF 1/4" TO 1/2" ABOVE THE NUTS AND THE EXPOSED SURFACES SHALL BE REPAIRED AS INDICATED BY THE INSPECTING AGENCY.
- AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE STREET LIGHT ADMINISTRATION DEPT. OF THE COUNTY PRIOR TO ACCEPTANCE OF THE STREET LIGHTING SYSTEM.
- CLEARANCE BETWEEN STREETLIGHT AND TREE SHALL BE IN ACCORDANCE WITH SFDPM ORDINANCE NO. 165-95:
  - 1. SMALL TREE - NO CLOSER THAN 9 FEET.
  - 2. MEDIUM TREE - NO CLOSER THAN 15 FEET.
  - 3. LARGE TREE - NO CLOSER THAN 21 FEET.
  - \* MATURE SIZE OF TREE DETERMINED BY SFDPM STREET TREE PLANTING GUIDE.
- EACH STREET LIGHT POLE MUST HAVE AN INDIVIDUAL PULL BOX INSTALLED IN THE SIDEWALK WITHIN 3 TO 5 FEET OF THE BASE FOUNDATION.

### STREET LIGHTING GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHALL, FEDERAL AND ALL APPLICABLE CITY, COUNTY, STATE AND LOCAL UTILITY COMPANY REGULATIONS, N.E.C., AND THE LATEST APPROVED STANDARDS OF I.E.E., A.S.A., N.E.C.M.A., U.L. AND OSHA WHERE APPLICABLE. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE ABOVE. ALSO, ALL SECTIONS OF STATE OF CALIFORNIA P.U.C. G.O. 95 SHALL APPLY.
- MATERIALS FURNISHED UNDER THIS SECTION OF THESE SPECIFICATIONS FOR WHICH UL STANDARDS HAVE BEEN ESTABLISHED SHALL BE LISTED AND BEAR THE LABEL OF UNDERWRITER'S LABORATORIES, INC.
- WHERE REQUIREMENTS OF APPLICABLE CODES AND STANDARDS CONFLICT WITH THE DRAWINGS OR THESE SPECIFICATIONS THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT FIRST NOTIFYING & OBTAINING APPROVAL FROM CITY/COUNTY AGENCY & GIALOCONE DESIGN SERVICES, INC.
- GIALOCONE DESIGN SERVICES, INC. ASSUMES NO RESPONSIBILITY FOR ANY VARIANCE BETWEEN THESE PLANS AND THE ACTUAL FIELD CONDITIONS. CONTRACTOR SHOULD REVIEW PROJECT SITE PRIOR TO SUBMITTING ITS BID.
- LEGEND SYMBOLS ARE SHOWN IN STREET AREA FOR CLARITY. INSTALL BEHIND CURB AND/OR SIDEWALK PER COUNTY SPECIFICATIONS KEEP CLEAR OF DRIVEWAYS AND PATHWAYS (TYPICAL).
- ANY CHANGES OR MODIFICATIONS TO PROPOSED STREET LIGHT LOCATIONS SHALL BE APPROVED, IN WRITING, BY THE CITY/COUNTY AGENCY PRIOR TO INSTALLATION.

**Transbay Tower**  
101 First Street  
San Francisco, CA



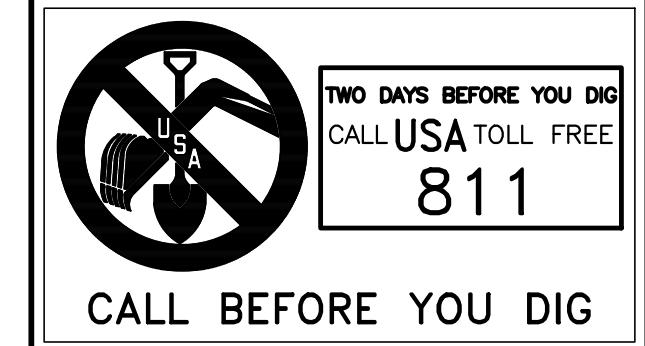
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**CAUTION:**  
CONTACT U.S.A. (811) (2) FULL WORKING DAYS PRIOR TO STARTING WORK IF EXISTING UTILITIES CONFLICT WITH POLE LOCATION, FIELD ADJUST TO CLEAR EXISTING UTILITIES A MINIMUM OF 3'-0".

**NOTE:**  
COORDINATE WITH LHP TO DELIVER 10% OF 6 NEW FIXTURES BEING INSTALLED, (1 SPARE LED FIXTURE HEAD) TO THEIR INVENTORY YARD.

LUMINAIRE SCHEDULE				
TYPE	LUMINAIRE	POLE	MATERIAL	QUANTITY
GPLM, LED	130W, 98 LED, 120V	BY OTHERS	ALUMINUM	6 + 1 SPARE

NOTE: CONTRACTOR TO VERIFY ALL QUANTITIES AND SPECIFICATIONS PRIOR TO ORDERING.



**STREET LIGHTING TITLE SHEET**

RWA PROJECT NO. 08044 DRAWING NUMBER SL1



BOSTON PROPERTIES / HINES  
Owner

PELLI CLARKE PELLI ARCHITECTS  
Design Architect

KENDALL HEATON ASSOCIATES, INC.  
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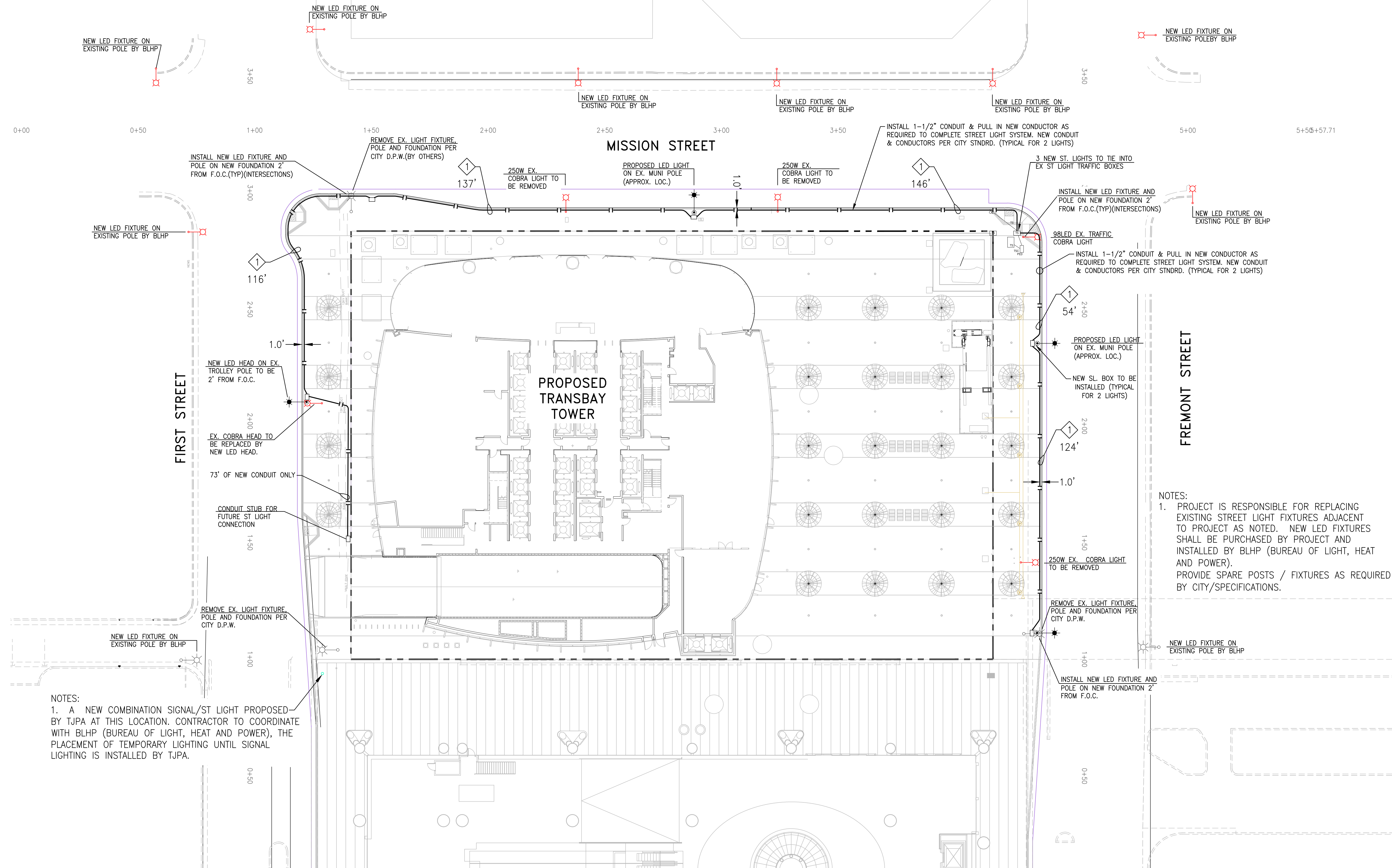
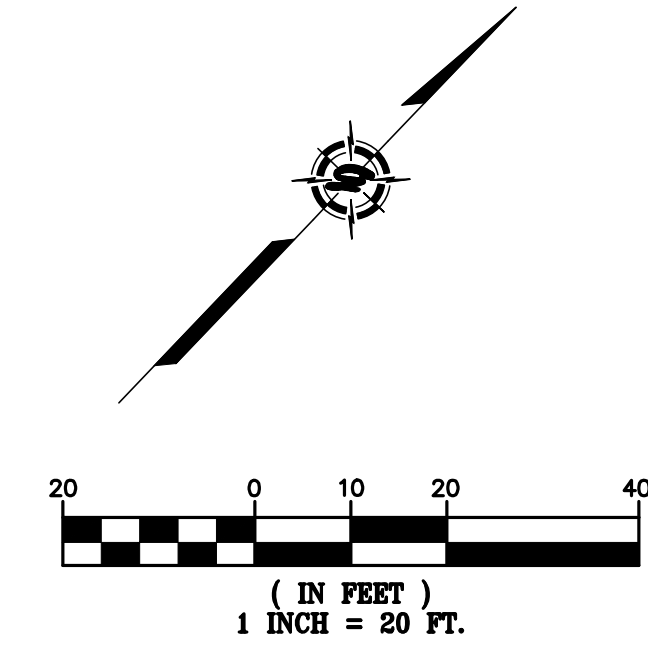
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Landscape Architect of Record



**NOTES:**  
1. PROJECT IS RESPONSIBLE FOR REPLACING EXISTING STREET LIGHT FIXTURES ADJACENT TO PROJECT AS NOTED. NEW LED FIXTURES SHALL BE PURCHASED BY PROJECT AND INSTALLED BY BLHP (BUREAU OF LIGHT, HEAT AND POWER). PROVIDE SPARE POSTS / FIXTURES AS REQUIRED BY CITY/SPECIFICATIONS.

**NOTES:**  
1. A NEW COMBINATION SIGNAL/ST LIGHT PROPOSED BY TJPA AT THIS LOCATION. CONTRACTOR TO COORDINATE WITH BLHP (BUREAU OF LIGHT, HEAT AND POWER), THE PLACEMENT OF TEMPORARY LIGHTING UNTIL SIGNAL LIGHTING IS INSTALLED BY TJPA.

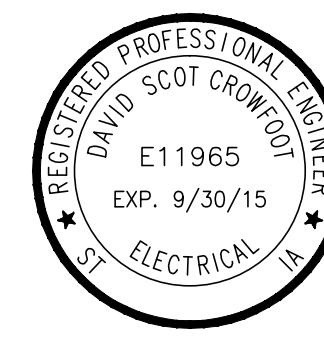
**LEGEND**

	PROPOSED 1 1/2" HOT DIPPED CONDUIT
	PROPOSED SINGLE ARM STREET LIGHT (LED)
	EXISTING STREET LIGHT
	STREET LIGHT BOX (STATE TYPE 3 1/2)

**CONDUCTOR AND CONDUIT SCHEDULE**

AWG OR CABLE	RUN NUMBER	
	1	2
#4		
#6	GND 2	3
#8	GND 1	
#10	GND 1	1
#12	GND	
CONDUIT SIZE	1 1/2"	1 1/2"

**CAUTION:**  
CONTACT U.S.A. (811) (2) FULL WORKING DAYS PRIOR TO STARTING WORK IF EXISTING UTILITIES CONFLICT WITH POLE LOCATION, FIELD ADJUST TO CLEAR EXISTING UTILITIES A MINIMUM OF 3'-0".



NO.	DATE	ISSUE
7	02 MAY 14	GMP
6	10 FEB 14	BID ADDENDUM #2
5	18 DEC 13	BID AND ADDENDUM #3 PERMIT
4	18 DEC 13	RESPONSE TO COMMENTS
3	28 OCT 13	STREET IMPROVEMENT PERMIT
		PIP/BARRIER PERMIT
		BIOWALK/BIOWALKING PROCESS
2	06 MAY 13	SITE PERMIT REVISION NO. 2
1	11 MAR 13	SITE PERMIT

**STREET LIGHTING SITE PLAN**