MARIN AVENUE BIKEWAY AND UNDERGROUNDING DISTRICT

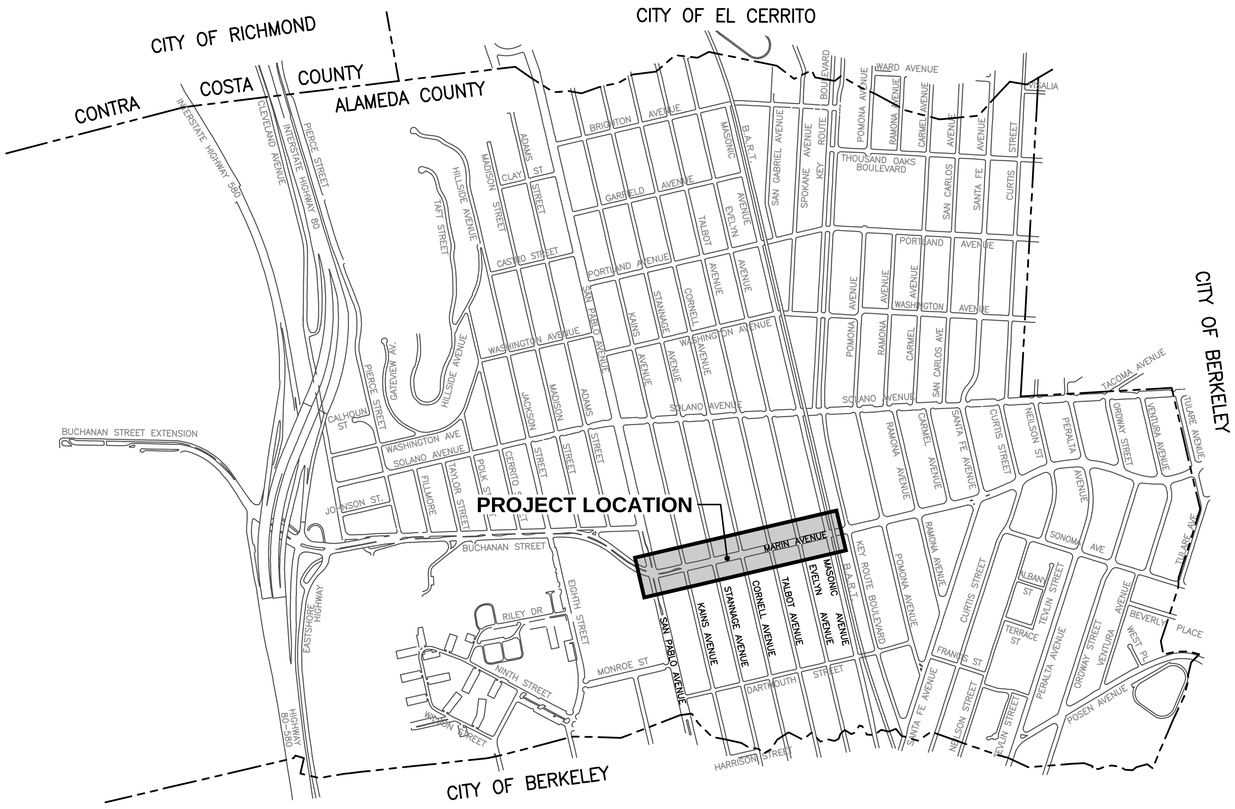
SAN PABLO AVENUE TO CORNELL AVENUE

ALAMEDA COUNTY, CALIFORNIA

City of Albany

CONTRACT NO. CXX-X

AUGUST 2015



VICINITY MAP

NOT TO SCALE

SHEET INDEX

SHT. NO.	SHT. REF	DESCRIPTION
01	C-1.0	TITLE SHEET AND SHEET INDEX
02	C-2.0	POLLUTION PREVENTION
03	C-2.1	GENERAL NOTES, ABBREVIATIONS AND LEGEND
04	C-2.2	HORIZONTAL CONTROL AND TYPICAL SECTIONS
05	C-3.0	DEMOLITION PLAN - STA 0+00.00 TO STA 5+14.86
06	C-3.1	DEMOLITION PLAN - STA 5+14.86 TO 11+27.32
07	C-4.0	HORIZONTAL LAYOUT - STA 0+00.00 TO STA 5+14.86
08	C-4.1	HORIZONTAL LAYOUT - STA 5+14.86 TO 11+27.32
09	C-5.0	GRADING PLAN - STA 0+00.00 TO STA 5+14.86
10	C-5.1	GRADING PLAN - STA 5+14.86 TO 11+27.32
11	C-6.0	CURB RETURN PROFILES - MARIN AVENUE AT KAINS AVENUE
12	C-6.1	CURB RETURN PROFILES - MARIN AVENUE AT STANNAGE AVENUE
13	C-6.2	CURB RETURN PROFILES - MARIN AVENUE AT CORNELL AVENUE
14	C-7.1	UTILITY PLAN - STA 0+00.00 TO STA 5+14.86
15	C-7.2	UTILITY PLAN - STA 5+14.86 TO 11+27.32
16	C-8.0	SIGNAGE AND STRIPING PLAN - STA 0+00.00 TO STA 5+14.86
17	C-8.1	SIGNAGE AND STRIPING PLAN - STA 5+14.86 TO 11+27.32
18	C-9.0	CONSTRUCTION DETAILS
19	TS-1.0	TRAFFIC SIGNAL PLAN - EXISTING AND DEMOLITION PLAN
20	TS-1.1	TRAFFIC SIGNAL PLAN - PROPOSED LAYOUT
21	TS-1.2	CONDUCTOR AND CONDUIT SCHEDULE
22	W-10345-01	8" PVC (DRY) PIPE INSTALLATION - SAN PABLO AVE TO MASONIC AVE
23	W-10345-02	SYMBOLS, GENERAL NOTES AND LIST OF DRAWINGS
24	W-10345-03	8" PVC (DRY) PIPE INSTALLATION - SAN PABLO AVE TO STA 6+50
25	W-10345-04	8" PVC (DRY) PIPE INSTALLATION - STA 6+50 TO MASONIC AVE
26	W-10345-05	PROJECT DETAILS
27	W-10345-06	PROJECT DETAILS
28	W-10345-07	PROJECT DETAILS
29	JT-1	JOINT TRENCH TITLE SHEET
30	JT-2	PHASE 1 - JOINT TRENCH COMPOSITE
31	JT-3	PHASE 1 - JOINT TRENCH COMPOSITE
32	JT-4	PHASE 1 - JOINT TRENCH COMPOSITE
33	JT-5	PHASE 1 - JOINT TRENCH COMPOSITE
34	JT-6	PHASE 1 - JOINT TRENCH COMPOSITE
35	JT-7	PHASE 1 - JOINT TRENCH COMPOSITE
36	JT-8	JOINT TRENCH SECTIONS

CAUTION:

HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
EXISTING 12" HPF ALONG CENTER LINE OF KAINS AVENUE
EXISTING 20" HPF ALONG EAST SIDE OF CORNELL AVENUE
CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
CHECKED BY: J. WHITE
REVIEWED BY: R. STEVENS
DATE: AUGUST 25, 2015

REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA
08/28/2015

BkF
ENGINEERS / SURVEYORS / PLANNERS
322 HARBOUR WAY, STE 23
RICHMOND, CA 94801
PH: (510) 529-0336
FAX: (510) 529-0336

CLIENT:
CITY OF ALBANY CALIFORNIA URBAN VILLAGE BY THE BAY

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

TITLE SHEET
SHEET INDEX

SHEET: C-1.0
DWG No. 01 OF 36

90% SUBMITTAL (08/25/2015)

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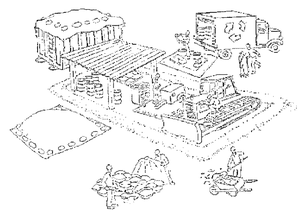
Pollution Prevention - It's Part of the Plan



Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution and damage to creeks and the San Francisco Bay. Construction activities can directly affect the health of creeks and the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines and the project specifications will ensure your compliance with County of Alameda requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- Sand, dirt, and similar materials must be stored at least 10 feet (3 meters) from catch basins. All construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control as needed.
- Sweep or vacuum streets and other paved areas daily. Do not wash down streets or work areas with water!
- Recycle all asphalt, concrete, and aggregate base material from demolition activities. Comply with Alameda County Ordinances for recycling construction materials, wood, gyp board, pipe, etc.
- Check dumpsters regularly for leaks and to make sure they are not overfilled. Repair or replace leaking dumpsters promptly.
- Cover all dumpsters with a tarp at the end of every work day or during wet weather.

Hazardous materials management

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecasted.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecasted within 24 hours.
- Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- Dispose of all containment and cleanup materials properly.
- Report any hazardous materials spills immediately! Dial 911 or Alameda County Public Works Agency dispatch at (510) 670-5500

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking.

Vehicle and equipment maintenance & cleaning

- Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks.
- Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Earthwork & contaminated soils

- Keep excavated soil on the site where it will not collect in the street.
- Transfer to dump trucks should take place on the site, not in the street.
- Use fiber rolls, silt fences, or other control measures to minimize the flow of silt off the site.

- Earth moving activities are only allowed during dry weather by permit and as approved by the County Inspector in the Field.
- Mature vegetation is the best form of erosion control. Minimize disturbance to existing vegetation whenever possible.
- If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place fiber rolls down-slope until soil is secure.
- If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call the Engineer for help in determining what should be done, and manage disposal of cntaminated soil according to their instructions.

Dewatering operations

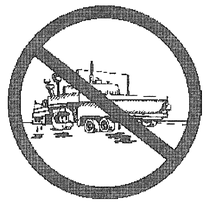
- Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance.
- Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.

- Be sure to notify and obtain approval from the Engineer before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine what testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or sand/gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work



- Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- Protect gutters, ditches, and drainage courses with sand/gravel bags, or earthen berms.
- Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- Store concrete, grout, and mortar under cover, on pallets, and away from drainage areas. These materials must never reach a storm drain.
- Wash out concrete equipment/trucks off-site or into contained washout areas that will not allow discharge of wash water onto the underlying soil or onto the surrounding areas.

- Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal off site.

Painting

- Never rinse paint brushes or materials in a gutter or street!
- Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink.
- Paint out excess oil-based paint before cleaning brushes in thinner.
- Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

Landscape Materials

- Contain, cover, and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.

Storm drain polluters may be liable for fines of $10,000 or more per day!

For references and more detailed information:
www.cleanwaterprogram.org
www.cabmphandbooks.com

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RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

POLLUTION PREVENTION

SHEET: C-2.0
DWG No. 02 OF 36

90% SUBMITTAL (08/25/2015)

GENERAL NOTES

1. ALL WORK IS TO BE DONE UNDER THE DIRECTION OF THE ENGINEER
2. CALTRANS STANDARD SPECIFICATIONS MAY 2010 AND STANDARD PLANS, MAY 2010 EDITIONS, AND THE SUBSEQUENT ERRATA ARE PART OF THESE PLANS.
3. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORK HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES DURING CONSTRUCTION. PROPER REPAIR SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY.
5. ALL PIPELINES AND OTHER UNDERGROUND FACILITIES MAY NOT BE SHOWN. EXISTING UNDERGROUND FACILITIES AS SHOWN ARE APPROXIMATE ONLY AND WERE OBTAINED FROM AVAILABLE UTILITY RECORDS. HOWEVER, THE COUNTY ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY OR COMPLETENESS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITIES AND TO HAVE ALL FACILITIES LOCATED IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 1-800-227-2600 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.
6. SLOPES OF ALL EMBANKMENT FILL SHALL BE 2:1 (HORIZONTAL:VERTICAL) UNLESS OTHERWISE NOTED ON PLANS OR AS DIRECTED BY THE ENGINEER. SLOPES OF ALL EMBANKMENT CUTS SHALL BE 3:1 (HORIZONTAL:VERTICAL) UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ATTENTION IS DIRECTED TO CALTRANS STANDARD SPECIFICATIONS, SECTION 19, FOR EMBANKMENT CONSTRUCTIONS WHERE APPLICABLE.
7. SEE SPECIFICATIONS FOR DETAILS NOT SHOWN HEREIN.
8. ALL POLES, VALVES, BOXES WITHIN THE PROJECT AREA WILL BE REMOVED, RELOCATED, OR ADJUSTED TO GRADE OF NEW IMPROVEMENTS AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
9. THE CONTRACTOR SHALL NOT PERFORM WORK OUTSIDE THE PROJECT LIMIT.
10. THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOBSITE.
11. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL OF THE WORK PERFORMED BY HIS SUBCONTRACTORS, WITHOUT EXCEPTION.
12. THE CONTRACTOR SHALL IDENTIFY A RESPONSIBLE CONTACT PERSON, WHO IS AN EMPLOYEE OF THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER TO CALL TO RESOLVE PROBLEMS WITH NOISE, DUST OR OTHER CONSTRUCTION-RELATED ISSUES. THIS SIGN SHALL BE APPROVED BY THE CITY IS REPRESENTATIVE PRIOR TO CONSTRUCTION.
13. THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE RIGHTS-OF-WAY AND EASEMENTS OBTAINED FOR THIS PROJECT UNLESS OTHERWISE SHOWN. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATIONS, AND STOCKPILED NEW MATERIAL.
14. THE CONTRACTOR SHALL PROVIDE PROTECTION DEVICES INCLUDING BARRICADES, FENCING, WARNING SIGNS, LIGHTS, FLAGGERS OR OTHER ITEMS NECESSARY TO ENSURE PUBLIC SAFETY WITHIN THE PROJECT SITE. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
15. CONTRACTOR SHALL EXERCISE DUE CAUTION DURING CONSTRUCTION TO PROTECT ANY EXISTING LANDSCAPING, FIXTURES, EQUIPMENT, CONCRETE SIDEWALK, CONCRETE DRIVEWAY, CONCRETE CURB & GUTTER, AND AC PAVING TO REMAIN. ANY DAMAGE RESULTING FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE CITY'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE CITY.
16. CONTRACTOR SHALL CONFORM TO THE CITY OF ALBANY MONUMENT PRESERVATION POLICY AND PRESERVE ALL SURVEY MARKERS AND MONUMENTATION. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF ANY EXISTING FEDERAL, STATE, COUNTY, AND PRIVATE LAND SURVEY MARKER REQUIRING RESETTING.
17. CONSTRUCTION ACTIVITY SHALL BE RESTRICTED TO THE HOURS OF 8:00 AM TO 6:00 PM, MONDAY THROUGH SATURDAYS AND 10:00 AM TO 6:00 PM SUNDAYS AND LEGAL HOLIDAYS, UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY ENGINEER
18. DUST SHALL BE CONTROLLED AND ADJOINING STREET AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF PROJECT DIRT, MUD, MATERIALS AND DEBRIS, TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT DIRECTOR.

APPROVAL / COORDINATION NOTES

1. THE CONTRACTOR SHALL CONTACT "UNDERGROUND SERVICE ALERT AT 1-(800) 227-2600 AT LEAST 5 DAYS PRIOR TO CONSTRUCTION AND 48 HOURS PRIOR TO ANY EXCAVATION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE PLANS FROM THE APPROPRIATE AGENCIES, PRIOR TO PERFORMING ANY WORK.
3. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL SOUND CONTROL AND NOISE LEVEL RULES, REGULATION AND ORDINANCES WHICH APPLY TO ANY WORK PERFORMED UNDER THE CONTRACT. EACH INTERNAL COMBUSTION ENGINE USED ON THE PROJECT SHALL BE EQUIPPED WITH A MUFFLER RECOMMENDED BY THE MANUFACTURER. NO INTERNAL COMBUSTION ENGINE SHALL BE OPERATED ON THE PROJECT WITHOUT SAID MUFFLER. NOISE LEVELS SHALL BE KEPT TO THE SATISFACTION OF THE CITY ENGINEER.
4. ALL WORK SHALL CONFORM TO THE CITY OF ALBANY STANDARD SPECIFICATIONS DATED JULY 1993, THE CITY OF ALBANY STANDARD DETAILS, AND THE CALTRANS STANDARD SPECIFICATIONS (CURRENT EDITION) WHEN REFERENCED.
5. COORDINATE ALL WORK INVOLVING UTILITIES WITH THE APPROPRIATE UTILITY COMPANY.
6. PROVIDE TEMPORARY SIGNS, CONES BARRICADES AND ADVANCE WARNING SIGNS PER CALTRANS REQUIREMENTS.
7. OBSTRUCTIONS INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH WITH THE APPROPRIATE AGENCIES. CALL (800) 642-2444, A MINIMUM OF 48 HOURS PRIOR TO ANY CONSTRUCTION.
8. CONTRACTOR SHALL EXPOSE ALL POTENTIAL UTILITY CONFLICT CROSSINGS AS WELL AS CONNECTION POINTS TO EXISTING UTILITIES. HE SHALL COORDINATE WITH ENGINEER TO LOCATE AND VERIFY DEPTHS. ENGINEER SHALL THEN MAKE ANY REVISIONS TO HIS DESIGN PRIOR TO CONSTRUCTION. ALL REVISIONS MUST BE APPROVED BY THE CITY OF ALBANY PUBLIC WORKS
9. MAINTAIN ONE TEN-FOOT TRAFFIC LANE IN EACH DIRECTION IN PUBLIC STREETS AT ALL TIMES DURING WORKING HOURS OR PROVIDE FLAGGERS PER CALTRANS REQUIREMENTS.
10. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO STARTING ANY WORK IN THE PUBLIC STREETS.
11. NO OPEN EXCAVATION SHALL BE LEFT UNSUPERVISED AT ANY TIME.
12. PRUNING OF TREE ROOTS & BRANCHES SHALL BE APPROVED IN ADVANCE AS DIRECTED BY THE CITY.

TREE PROTECTION NOTES

1. ARBORIST: CONTRACTOR SHALL MAKE PROVISIONS IN HIS BID TO RETAIN A LICENSED CERTIFIED, CITY APPROVED ARBORIST FOR "ON-CALL" CONSULTATION DURING CONSTRUCTION. NO EQUIPMENT SHALL BE PERMITTED ON-SITE UNTIL THE ARBORIST HAS APPROVED THE PROPOSED STAGING AREA(S). NO TREE PRUNING, REMOVAL OR ROOT-CUTTING SHALL OCCUR WITHOUT THE ARBORIST DIRECTION, RECOMMENDATIONS OR APPROVAL.
2. TRENCHING: ALL TRENCHING WITHIN THE DRIP LINE OF EXISTING TREES SHALL BE BY HAND WITH CARE TAKEN NOT TO DAMAGE ROOTS OVER 2" DIAMETER.
3. ADVANCE MARKING: CONTRACTOR'S ARBORIST SHALL MARK LIMITS OF AREA WITHIN DRIP LINES IN ADVANCE PRIOR TO EXCAVATION.
4. PRUNING: TREES SHALL BE PRUNED ONLY AS RECOMMENDED BY CONTRACTORS ARBORIST.
5. CONSTRUCTION OPERATIONS: NO CONSTRUCTION OPERATIONS SHALL BE CARRIED ON WITHIN THE DRIP LINE AREA OF ANY TREE DESIGNATED TO BE SAVED EXCEPT AS AUTHORIZED BY THE CONTRACTORS ARBORIST.
6. STORAGE: THE AREA UNDER THE DRIP LINE OF THE TREE SHALL BE KEPT CLEAN. NO CONSTRUCTION MATERIALS NOR CHEMICAL SOLVENTS SHALL BE STORED OR DUMPED
7. TREE DAMAGE: ANY DAMAGE OF EXISTING TREE CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY AN APPROVED TREE SURGEON UNDER THE DIRECTION OF THE CONTRACTORS ARBORIST.

SURFACE RESTORATION NOTES

1. ALL PAVEMENT CUTS SHALL BE SAWCUT, SMOOTH AND VERTICAL. THE PAVEMENT AREA BEING REMOVED SHALL BE RECTANGULAR, UNLESS SHOWN OTHERWISE ON PLANS.
2. CONTRACTOR SHALL RESTORE ALL EXISTING PRIVATE AND PUBLIC IMPROVEMENTS TO THEIR EXISTING CONDITION OR BETTER. THIS INCLUDES, BUT IS NOT LIMITED TO ALL LANDSCAPING, IRRIGATION, DRIVEWAYS, AC PAVING, CONCRETE WORK AND UTILITIES UNLESS NOTED OR DIRECTED OTHERWISE BY THE CITY'S REPRESENTATIVE.
3. RIMS OF EXISTING UTILITY BOXES AND OTHER RELATED APPURTENANCES THAT ARE TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE ADJUSTED TO FINISH GRADES TO MAINTAIN ACCESSIBLE PATH. ANY DAMAGE RESULTING TO EXISTING UTILITY FACILITIES FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE APPROPRIATE AGENCY AT NO ADDITIONAL COST TO THE CITY OR UTILITY OWNER.
4. ALL MANHOLES, VALVES AND MONUMENT FRAMES SHALL BE SET TO FINISH GRADE AFTER/DURING PAVING AND TO MAINTAIN ACCESSIBLE PATH.
5. PROVIDE SMOOTH CONFORM TO EXISTING AC PAVEMENT.

LEGEND

EXISTING

- RIGHT OF WAY LINE
- G — GAS LINE
- E — ELECTRICAL LINE
- SD — STORM DRAIN LINE
- SS — SANITARY SEWER LINE
- T — TELEPHONE LINE (AT&T)
- W — DOMESTIC WATER LINE
- X — X — CHAIN LINK FENCE
- VERTICAL CURB
- CONCRETE CURB AND GUTTER
- Ⓜ UTILITY MANHOLE
- Ⓓ STORM DRAIN MANHOLE
- Ⓢ SANITARY SEWER MANHOLE
- Ⓣ TELEPHONE MANHOLE
- JOINT POLE
- EB ELECTRICAL BOX
- GUY WIRE
- CO SANITARY SEWER CLEANOUT
- WM WATER METER
- WV WATER VALVE
- FH FIRE HYDRANT
- GV GAS VALVE
- ELECTROLIER
- 6"T TREE WITH DIAMETER
- SIGN
- VEHICLE SIGNAL FACE
- PEDESTRIAN HEAD

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AT&T	AMERICAN TELEPHONE & TELEGRAPH
AWG	AMERICAN WIRE GAUGE
BC	BEGINNING OF CURVE
BFP	BACKFLOW PREVENTOR
BVC	BEGINNING OF VERTICAL CURVE
BW	BACK OF SIDEWALK
C&G	CURB AND GUTTER
CA	CALIFORNIA
CB	CATCH BASIN
CL, C/L	CENTER LINE
CLF	CHAIN LINK FENCE
CO	CLEANOUT
COA	COUNTY OF ALAMEDA
CONC	CONCRETE
CR	CURB RETURN
DH	DETECTOR HANDHOLD
DI	DRAINAGE INLET
DIA	DIAMETER
DLC	LOOP DETECTOR LEAD-IN CABLE
DW	DOMESTIC WATER
DWY	DRIVEWAY
DWG	DRAWING
E	ELECTRIC
EB	ELECTRICAL BOX
EBMUD	EAST BAY MUNICIPAL UTILITY DISTRICT
EC	END OF CURVE
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
ESMT	EASEMENT
EV	ELECTRICAL
EVC	END OF VERTICAL CURVE
EVP	EMERGENCY VEHICLE PREEMPTION
EX	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
FH	FIRE HYDRANT
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FL	FLOW LINE
FS	FINISHED SURFACE
FT	FOOT/FEET
G	GAS LINE
GB	GRADE BREAK
GM	GAS METER
GV	GAS VALVE
HMA	HOT MIXED ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT
HPF	HIGH PRIORITY FACILITY
HPS	HIGH PRESSURE SODIUM
ISSNS	INTERNALLY ILLUMINATES STREET NAME SIGN
INV	INVERT GRADE ELEVATION
JP	JOINT POLE
L	LENGTH OF CURVE
LF	LINEAR FEET
LG	LIP OF GUTTER
LT	LEFT
LUM	LUMINAIRE
MAS	MAST ARM MOUNTED VEHICLE SIGNAL FACES, SIDE ATTACHMENT
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MON	MONUMENT
MTG	MOUNTING
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD LINE
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PCR	POINT OF CURVE RETURN
PED	PEDESTRIAN
PPB	PEDESTRIAN PUSH BUTTON
PG&E	PACIFIC GAS AND ELECTRIC COMPANY
PGL	PROFILE GRADE LINE
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RR	RAILROAD
RT	RIGHT
ROW, R/W	RIGHT OF WAY
S	SLOPE
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SHDLR	SHOULDER
SS	SANITARY SEWER
SHT	SHEET
SIC	SIGNAL INTERCONNECT CABLE
SIG	SIGNAL
SSMH	SANITARY SEWER MANHOLE
SW, S/W	SIDEWALK
STA	STATION
STND	STANDARD
T	TELEPHONE
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TOU	TIME OF USE
TSB	TRAFFIC SIGNAL BOX
TWLTL	TWO WAY LEFT TURN LANE
TYP	TYPICAL
UB	UTILITY BOX
UPRR	UNION PACIFIC RAILROAD
UR	UTILITY RELOCATION
UT	UTILITY
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEH	VEHICLE
VERT	VERTICAL
VLT	VAULT
W	WATER
WM	WATER METER
WV	WATER VALVE

APPLICABLE STANDARD PLANS

CITY OF ALBANY STANDARD PLANS WITH SPECIAL PROVISIONS

ST-1	VERTICAL CURB AND GUTTER
ST-2	RESIDENTIAL SIDEWALK / DRIVEWAY (SEPARATED)
ST-3	SIDEWALK (MONOLITHIC)
ST-4	CURB AND SIDEWALK JOINTS
ST-5	CURB, GUTTER AND SIDEWALK REPAIRS
ST-7	LEGEND AND NOTES - SIDEWALK, DRIVEWAY AND CURB AND GUTTER
ST-8	STREET AND TRAFFIC SIGN MOUNTING STANDARDS
ST-8A	SIGN ANCHOR DETAIL
ST-9	TRENCH SURFACE RESTORATION DETAIL
SS-2A	RAISED MANHOLE RING AND COVER
SS-4	TYPICAL TRENCH SECTION
SS-5	STANDARD LATERALS AND CLEANOUTS
SS-6	STANDARD CLEANOUTS AND BACKWATER PREVENTION DEVICE

**LIST NOT ALL INCLUSIVE

CAUTION:
HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
EXISTING 12" HPF ALONG CENTER LINE OF KAINS AVENUE
EXISTING 20" HPF ALONG EAST SIDE OF CORNELL AVENUE
CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
CHECKED BY: J. WHITE
REVIEWED BY: R. STEVENS
DATE: AUGUST 25, 2015

REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER — ROBERT C. STEVENS — No. C 058660 — CIVIL — STATE OF CALIFORNIA
08/28/2015

BkF
ENGINEERS / SURVEYORS / PLANNERS
322 HARBOUR WAY, STE 23
RICHMOND, CA 94801
PH: (510) 529-0336
FAX: (510) 529-0336

CLIENT:
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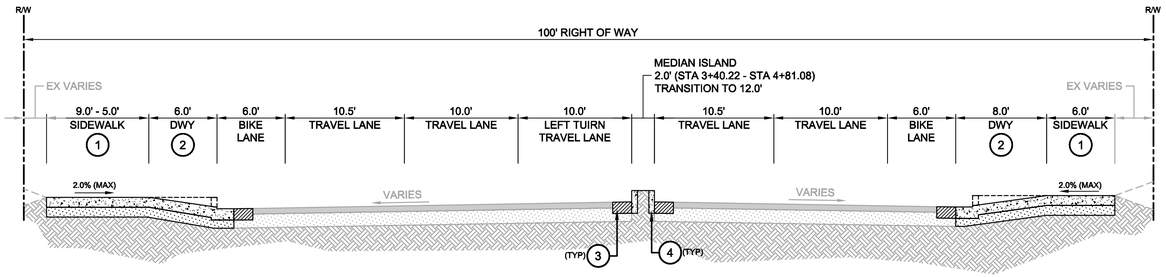
REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES
REGISTERED PROFESSIONAL ENGINEER — RAY CHAN — No. C56473 — Exp. 06/30/15 — CIVIL — STATE OF CALIFORNIA
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

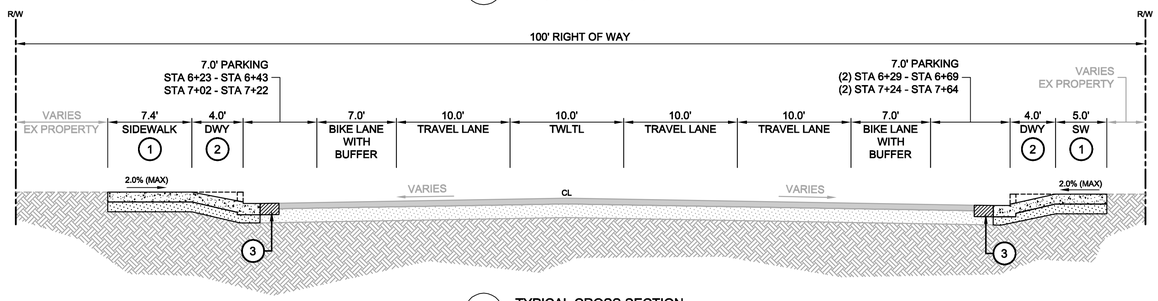
GENERAL NOTES
ABBREVIATIONS & LEGEND

SHEET: C-2.1
DWG No. 03 OF 36

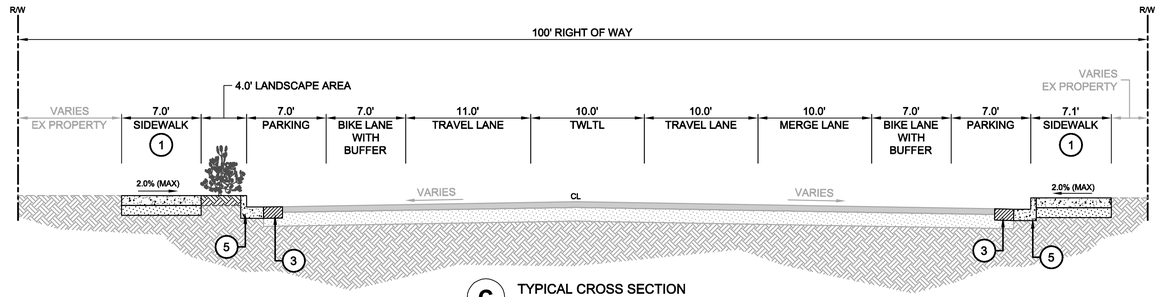
90% SUBMITTAL (08/25/2015)



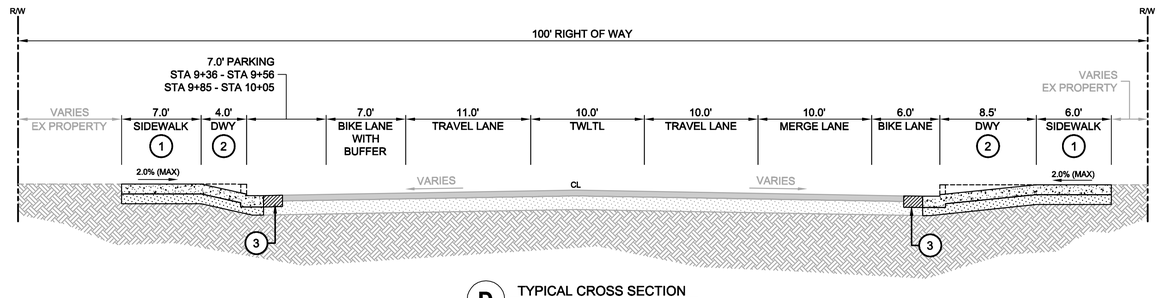
A TYPICAL CROSS SECTION
STA 3+40± - STA 5+57±



B TYPICAL CROSS SECTION
STA 5+99± - STA 7+89±



C TYPICAL CROSS SECTION
STA 8+50± - STA 9+08±

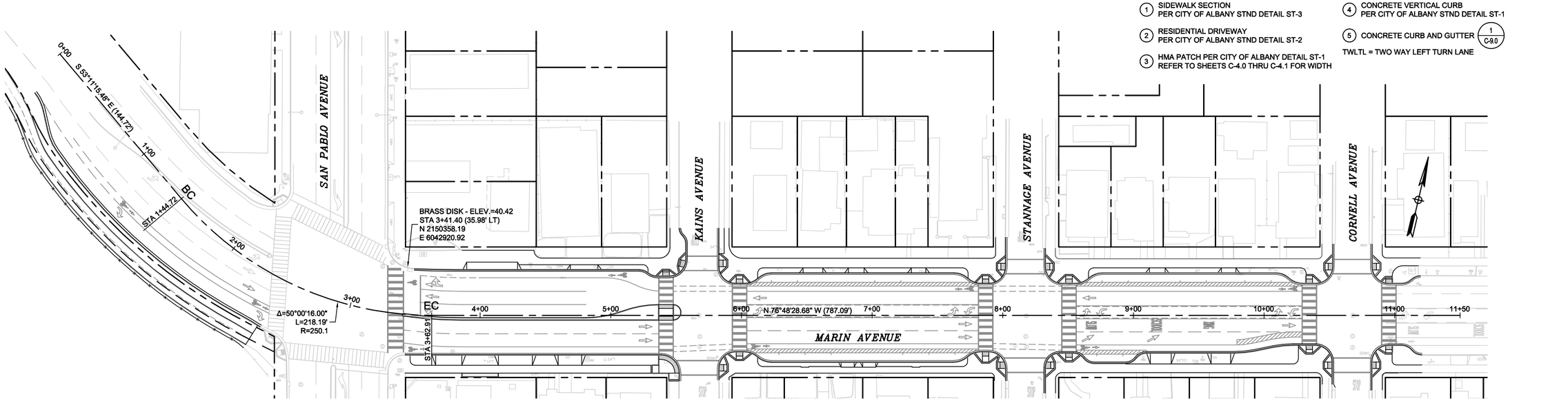


D TYPICAL CROSS SECTION
STA 9+08± - STA 10+34±

KEY NOTES

1. SIDEWALK SECTION PER CITY OF ALBANY STND DETAIL ST-3
2. RESIDENTIAL DRIVEWAY PER CITY OF ALBANY STND DETAIL ST-2
3. HMA PATCH PER CITY OF ALBANY DETAIL ST-1 REFER TO SHEETS C-4.0 THRU C-4.1 FOR WIDTH
4. CONCRETE VERTICAL CURB PER CITY OF ALBANY STND DETAIL ST-1
5. CONCRETE CURB AND GUTTER (1 / C-9.0)

TWLTL = TWO WAY LEFT TURN LANE



HORIZONTAL CONTROL
SCALE: 1" = 40'

20 0 20 40
GRAPHIC SCALE: 1" = 20'

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REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

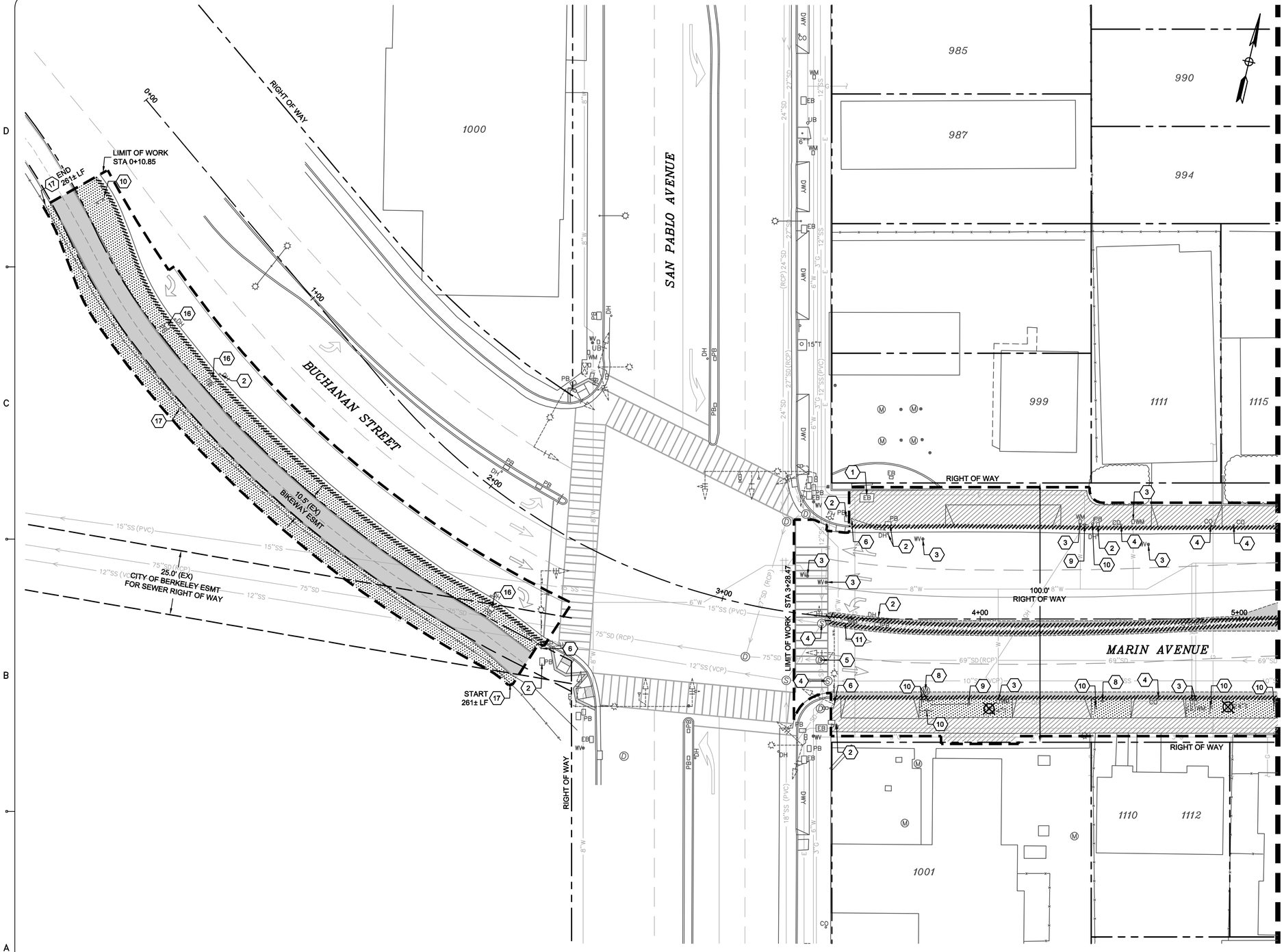
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

HORIZONTAL CONTROL TYPICAL SECTIONS

SHEET: C-2.2
DWG No. 04 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

PROPOSED

- RIGHT OF WAY (R/W)
- LIMIT OF WORK
- REMOVE CONCRETE CURB AND GUTTER
- WATER LATERAL TO BE CUT AND CAPPED AT MAIN (BY EMBUD)
- FULL DEPTH ASPHALT CONCRETE REMOVAL
- CONCRETE REMOVAL
- CLEAR AND GRUB
- TREE REMOVAL
- (#) KEYNOTE NOT USED ON SHEET

KEY NOTES

1. PROTECT ELECTRICAL STRUCTURE
2. PROTECT TRAFFIC SIGNAL STRUCTURE
3. PROTECT WATER STRUCTURE
4. PROTECT SANITARY SEWER STRUCTURE
5. PROTECT STORM DRAIN STRUCTURE
6. PROTECT TRAFFIC SIGNAL POLE, CONDUCTORS AND FOUNDATION
7. PROTECT GAS STRUCTURE
8. PROTECT TELEPHONE (AT&T) STRUCTURE
9. PROTECT JOINT POLE (SEE NOTE 14)
10. REMOVE AND SALVAGE SIGN COORDINATE WITH CITY OF ALBANY
11. RELOCATE WATER METER SEE SHEET C4.0 - C4.1 FOR NEW LOCATION
12. RELOCATE SANITARY SEWER CLEANOUT SEE SHEET C4.0 - C4.1 FOR NEW LOCATION
13. RELOCATE FIRE HYDRANT SEE SHEET C4.0 - C4.1 FOR NEW LOCATION
14. REMOVE AND SALVAGE GAS WARNING STRUCTURE COORDINATE WITH CITY OF ALBANY
15. PROTECT UTILITY STRUCTURE
16. RELOCATE TRAFFIC SIGNAL BOX SEE SHEETS TS-1.0 THRU TS-1.2 FOR NEW LOCATION
17. REMOVE CHAIN LINK FENCE (CLF)
18. PROTECT TREE
19. RELOCATE WATER VALVE SEE SHEET C4.0 - C4.1 FOR NEW LOCATION

DEMOLITION NOTES

REFER TO SHEET C3.1 FOR NOTES

GRAPHIC SCALE: 1" = 20'

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RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany

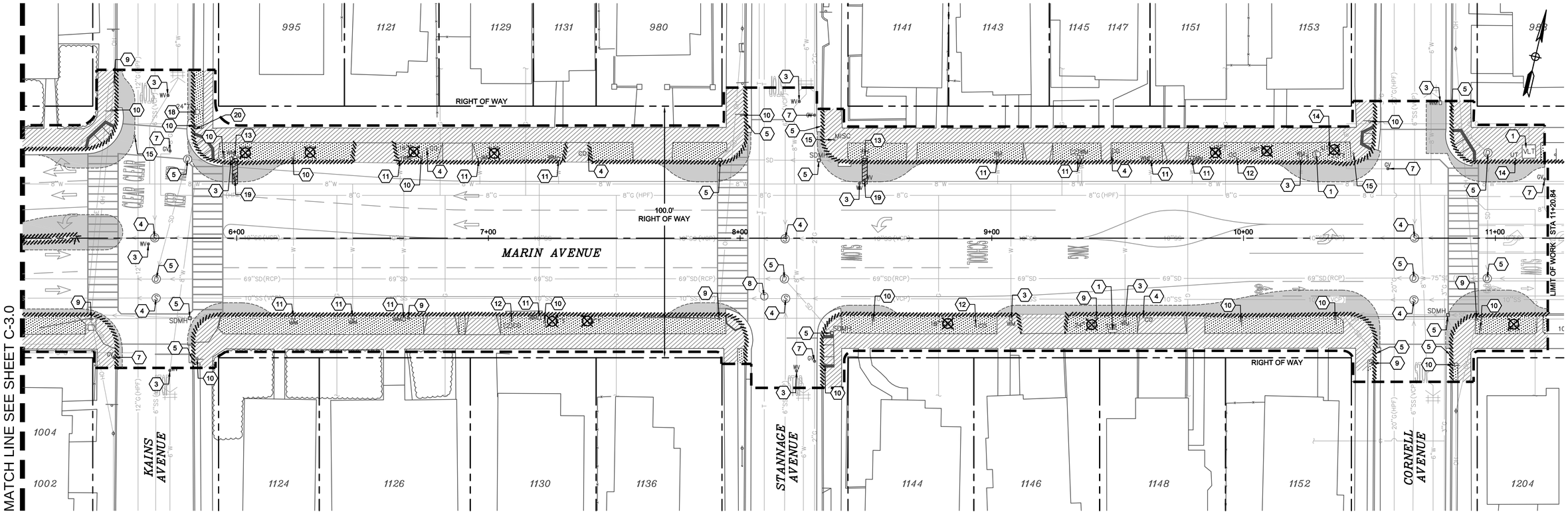
Marin Ave Bikeway and Undergrounding District

DEMOLITION PLAN

MARIN AVE (SAN PABLO AVE INTERSECTION)
STA 0+00.00 TO STA 5+14.86

SHEET: C-3.0
DWG No. 05 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

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- LIMIT OF WORK
- REMOVE CONCRETE CURB AND GUTTER
- WATER LATERAL TO BE CUT AND CAPPED AT MAIN (BY EMBUD)
- FULL DEPTH ASPHALT CONCRETE REMOVAL
- CONCRETE REMOVAL
- CLEAR AND GRUB
- TREE REMOVAL
- (#) KEYNOTE NOT USED ON SHEET

KEY NOTES

1. PROTECT ELECTRICAL STRUCTURE
2. PROTECT TRAFFIC SIGNAL STRUCTURE
3. PROTECT WATER STRUCTURE
4. PROTECT SANITARY SEWER STRUCTURE
5. PROTECT STORM DRAIN STRUCTURE
6. PROTECT TRAFFIC SIGNAL POLE, CONDUCTORS AND FOUNDATION
7. PROTECT GAS STRUCTURE
8. PROTECT TELEPHONE (AT&T) STRUCTURE
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17. REMOVE CHAIN LINK FENCE (CLF)
18. PROTECT TREE
19. RELOCATE WATER VALVE SEE SHEET C4.0 - C4.1 FOR NEW LOCATION
20. REMOVE STORM DRAIN STRUCTURE

DEMOLITION NOTES

1. THE UTILITIES SHOWN ON THIS PLAN AREA DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES, WALLS, TREES, PRIVATE LANDSCAPING, CURBS, ABOVEGROUND UTILITIES (JOINT POLES, STREET LIGHTS), AND UNDERGROUND UTILITIES (STORM DRAIN, SANITARY SEWER, WATER AND GAS) UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL DOCUMENT SURVEY CONTROL POINTS SHOWN ON SHEET C2.3 PRIOR TO BEGINNING OF DEMOLITION.
4. ALL EXISTING UTILITY STRUCTURES WITHIN THE LIMIT OF WORK ARE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL PROVIDE CONTINUOUS BICYCLE AND ADA ACCESSIBLE PEDESTRIAN PATHWAYS THROUGHOUT THE PROJECT SITE. ORDER OF WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PHASED SUCH THAT CLOSURE OF PUBLIC FACILITIES ARE MINIMIZED.
6. CONTRACTOR TO PROTECT ALL TREES NOT DESIGNATED TO BE REMOVED, INCLUDING BUT NOT LIMITED TO TREES WITHIN AND OUTSIDE OF THE PROJECT LIMITS OF WORK.
7. ALL SIDEWALK SAWCUTS, CUT AT THE NEAREST EXPANSION JOINT AS APPROVED BY THE CITY INSPECTOR AND/OR APPROVED REPRESENTATIVE.
8. CONTRACTOR IS RESPONSIBLE TO LEGALLY DISPOSE OF ALL REMOVED MATERIAL.
9. WITHIN LIMIT OF DEMOLITION DIAMOND GRIND ALL STRIPING AND PAVMENT MARKINGS AS DIRECTED BY ENGINEER.
10. WATER INFORMATION SHOWN IS FOR REFERENCE ONLY. ALL WATER INFRASTRUCTURES TO BE REMOVED OR REPLACED (INCLUDING WATER MAIN LINES, LATERALS, METER, VALVE AND FIRE HYDRANTS) SHALL BE DONE BY EBMUD. ORIENTATION OF WATER METERS TO BE DETERMINED IN FIELD BY EBMUD.
11. FUTURE WATER METERS RELOCATED BY EBMUD (SHOWN ON SHEETS C3.0 THRU C3.1) SHALL BE PROTECTED AND ADJUSTED TO FINISHED GRADE.
12. FOR REMOVAL AND RELOCATION OF UTILITY STRUCTURES NOT SHOWN ON THIS PLAN, SEE UTILITY PLAN (SHEETS C3.0 THRU C3.1)
13. REFER TO LAYOUT PLAN FOR EXACT LIMITS OF DEMOLITION.
14. JOINT POLES WITH IN PROJECTS LIMITS SHALL BE PROTECTED AND REMOVED AS PART OF THE BUCHANAN STREET RULE 20 - PHASE 1 PROJECT. REFER TO JOINT TRENCH PLAN SHEETS JT-01 THRU JT-08 FOR MORE DETAILS.
15. REFER TO SHEET C2.2 FOR ADDITIONAL GENERAL PROJECT NOTES.

20 0 20 40
GRAPHIC SCALE: 1" = 20'

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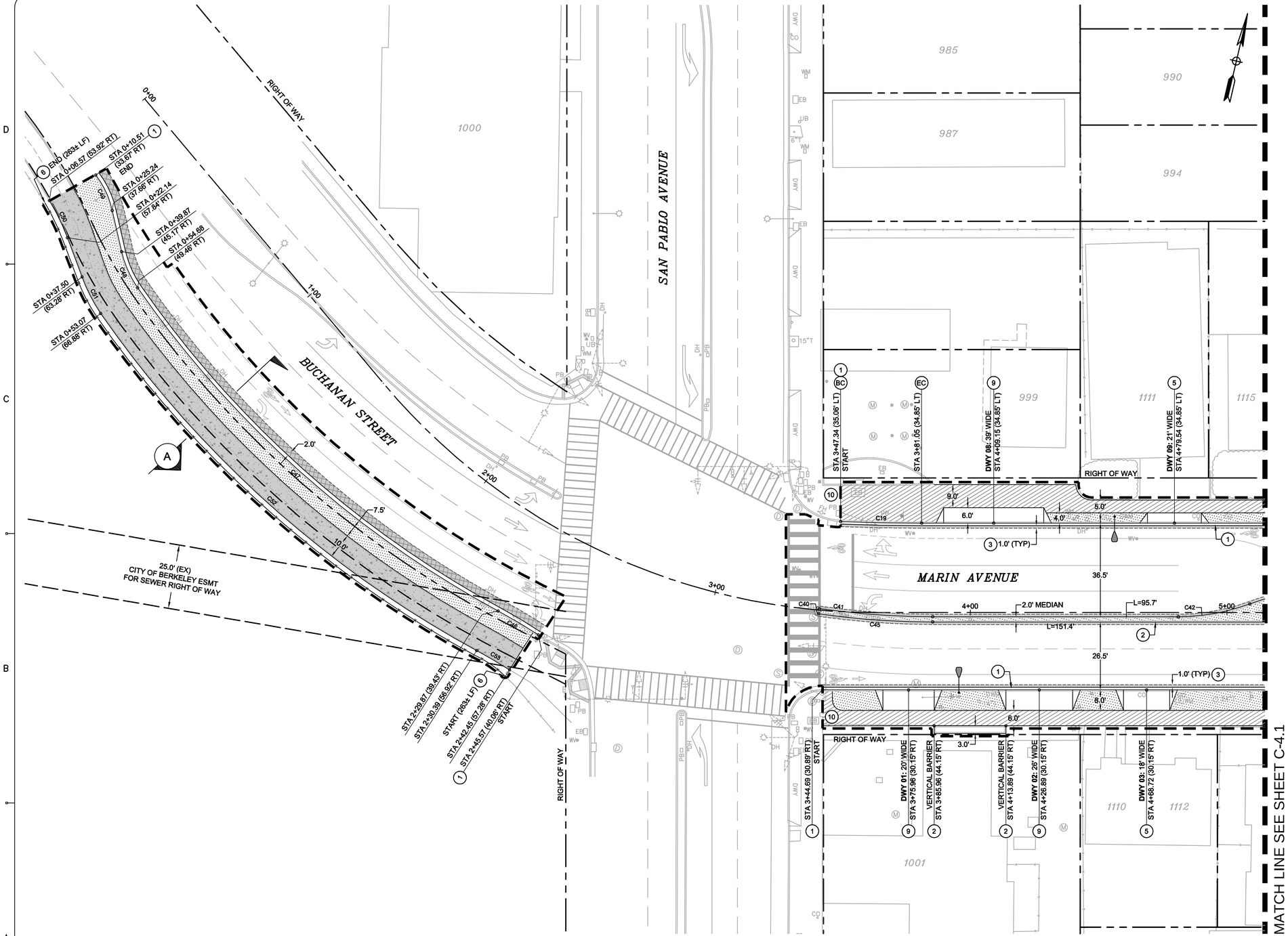
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

DEMOLITION PLAN
MARIN AVE (KAINS AVE TO CORNELL AVE)
STA 5+14.86 TO STA 11+27.32

SHEET: C-3.1
DWG No. 06 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

PROPOSED

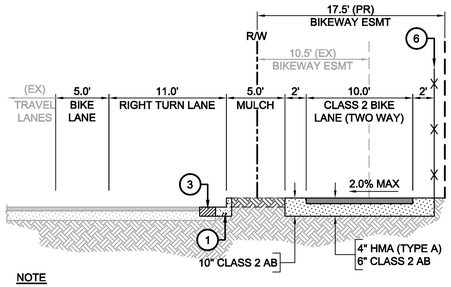
- RIGHT OF WAY (R/W)
- LIMIT OF WORK
- HMA PATCH (6" MINIMUM DEPTH) REFER TO PLANS FOR WIDTH
- FULL DEPTH ASPHALT REPAIR MATCH EXISTING OR 8" THICK WHICHEVER IS GREATER (OVER 8.5" AB)
- CLASS 2 BIKE LANE 4" HMA (TYPE A) OVER 6" CLASS 2 AB
- LANDSCAPE AREA PLACE 6" OF MULCH
- CONCRETE SIDEWALK 4" PCC OVER 4" CLASS 2 AB PER CITY OF ALBANY DETAIL ST-2
- (BC) BEGINNING OF CURVE
- (EC) END OF CURVE
- (#) KEYNOTE NOT USED ON SHEET

LAYOUT KEYNOTES

1. 12-INCH CONCRETE CURB AND GUTTER (1 / C-9.0)
2. VERTICAL CURB PER CITY OF ALBANY DETAIL ST-1
3. HMA PATCH (6" MINIMUM DEPTH) PER CITY OF ALBANY DETAIL ST-1
4. DETECTABLE WARNING SURFACE
5. RESIDENTIAL DRIVEWAY CITY OF ALBANY DETAIL ST-2
6. CHAIN LINK FENCE (8.0' TALL)
7. ACCESSIBLE RAMP - CASE A PER CALTRANS STND PLAN RSP A88A
8. ACCESSIBLE RAMP - CASE B PER CALTRANS STND PLAN RSP A88A
9. COMMERCIAL DRIVEWAY APPROACH (2 / C-9.0)
10. CURB, GUTTER AND SIDEWALK REPAIR PER CITY OF ALBANY DETAIL ST-5
11. FUTURE TREE WELL LOCATION (5 / C-9.0)

LAYOUT NOTES

REFER TO SHEET C4.1 FOR NOTES AND CURVE TABLES



NOTE
KEY NOTE CALLOUTS TO MATCH PLAN VIEW

A BIKEWAY TYPICAL SECTION
STA 0+10.51 - STA 2+45.57

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811 Know what's **below.** **Call** before you dig.

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RAY CHAN
CITY ENGINEER
DATE: 04/14/14

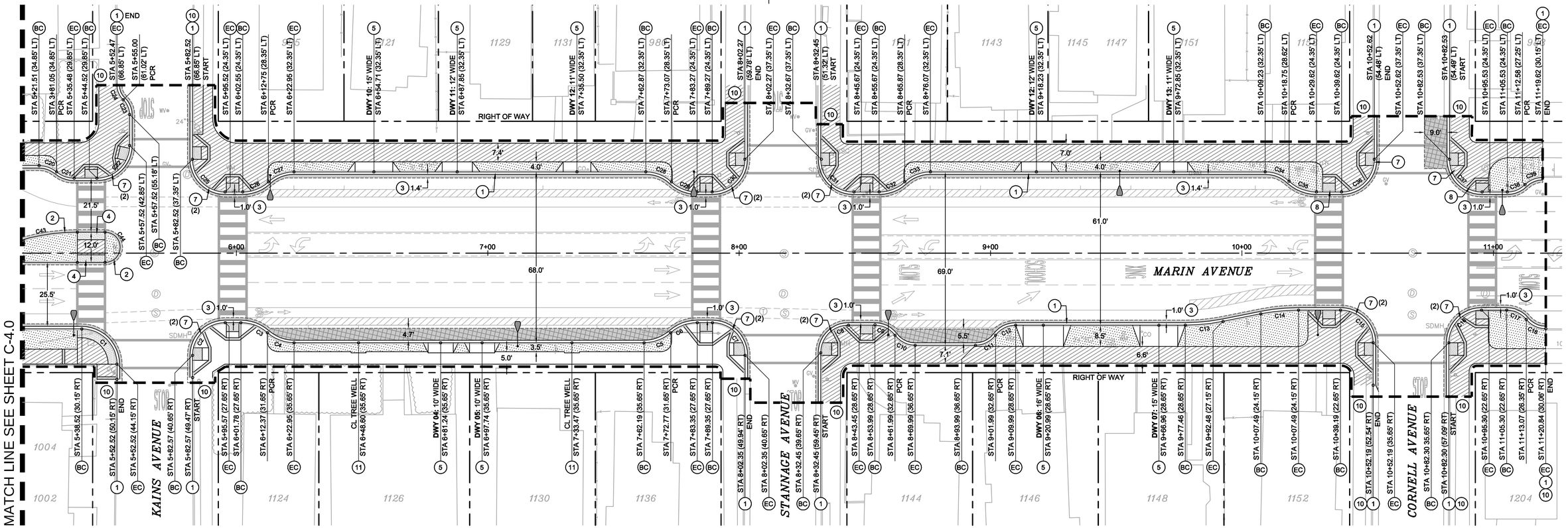
REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

City of Albany
Marin Ave Bikeway and Undergrounding District

HORIZONTAL LAYOUT
MARIN AVE (SAN PABLO AVE INTERSECTION)
STA 0+00.00 TO STA 5+14.86

SHEET: C-4.0
DWG No. 07 OF 36

90% SUBMITTAL (08/25/2015)



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2. VERTICAL CURB PER CITY OF ALBANY DETAIL ST-1
3. HMA PATCH (6" MINIMUM DEPTH) PER CITY OF ALBANY DETAIL ST-1
4. DETECTABLE WARNING SURFACE PER CITY OF ALBANY STANDARDS
5. RESIDENTIAL DRIVEWAY PER CITY OF ALBANY DETAIL ST-2
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7. ACCESSIBLE RAMP - CASE A PER CALTRANS STND PLAN RSP A88A
8. ACCESSIBLE RAMP - CASE B PER CALTRANS STND PLAN RSP A88A
9. COMMERCIAL DRIVEWAY (2 / C-8.0)
10. CURB, GUTTER AND SIDEWALK REPAIR PER CITY OF ALBANY DETAIL ST-5
11. FUTURE TREE WELL LOCATION (5 / C-9.0)

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2. CONTRACTOR SHALL PROVIDE CONTINUOUS BICYCLE AND ADA ACCESSIBLE PEDESTRIAN PATHWAYS THROUGHOUT THE PROJECT SITE. ORDER OF WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PHASED SUCH THAT CLOSURE OF PUBLIC FACILITIES ARE MINIMIZED.
3. FOR SIGNAGE AND STRIPING DETAILS REFER TO SHEETS C-8.0 THRU C-8.1.
4. FOR TRAFFIC SIGNAL IMPROVEMENTS REFER TO SHEETS TS-1.0 THRU TS-1.2.
5. AT ALL SIDEWALK SAWCUTS, CUT AT THE NEAREST EXPANSION JOINT OR CONTROL JOINT. COORDINATE LAYOUT WITH ENGINEER BEFORE DEMOLITION.
6. FOR CURB AND SIDEWALK JOINTS REFER TO CITY OF ALBANY DETAIL ST-4.
7. REFER TO SHEET C2.2 FOR ADDITIONAL GENERAL PROJECT NOTES.

CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
C1	21.99	14.00	090°00'00"
C2	20.42	13.00	090°00'00"
C3	11.56	16.00	041°24'35"
C4	11.56	16.00	041°24'35"
C5	11.56	16.00	041°24'35"
C6	11.56	16.00	041°24'35"
C7	20.42	13.00	090°00'00"
C8	17.28	11.00	090°00'00"
C9	9.27	10.00	053°07'48"
C10	9.27	10.00	053°07'48"
C11	9.27	10.00	053°07'48"
C12	9.27	10.00	053°07'48"
C13	15.11	76.82	011°16'20"
C14	15.11	76.82	011°16'20"
C15	20.42	13.00	090°00'00"
C16	20.42	13.00	090°00'00"
C17	8.90	10.00	050°59'42"
C18	8.90	10.00	050°59'42"

* REFER TO SHEET C4.0

CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
* C19	31.52	800.00	002°15'28"
C20	7.56	11.00	039°24'02"
C21	7.56	11.00	039°24'02"
C22	20.42	13.00	090°00'00"
C23	6.54	8.00	046°50'42"
C24	6.54	8.00	046°50'42"
C25	20.42	13.00	090°00'00"
C26	11.21	15.00	042°50'00"
C27	11.21	15.00	042°50'00"
C28	11.21	15.00	042°50'00"
C29	11.21	15.00	042°50'00"
C30	20.42	13.00	090°00'00"
C31	20.42	13.00	090°00'00"
C32	11.21	15.00	042°50'00"
C33	11.21	15.00	042°50'00"
C34	10.47	14.00	042°50'00"
C35	11.96	16.00	042°50'00"
C36	20.42	13.00	090°00'00"

CURVE TABLE			
CURVE NO.	LENGTH	RADIUS	DELTA
C37	20.42	13.00	090°00'00"
C38	7.81	10.00	044°46'06"
C39	7.81	10.00	044°46'06"
* C40	2.89	1.01	163°40'21"
* C41	44.33	310.00	008°11'39"
* C42	28.43	80.00	020°21'51"
C43	28.43	80.00	020°21'51"
C44	18.85	6.00	180°00'00"
* C45	44.62	312.00	008°11'38"
* C46	18.21	215.00	004°51'06"
* C47	190.34	408.00	026°43'47"
* C48	15.51	40.88	021°44'31"
* C49	15.37	35.92	024°31'38"
* C50	16.07	94.45	009°45'03"
* C51	16.02	64.58	014°12'43"
* C52	198.56	425.52	026°44'06"
* C53	14.81	197.50	004°17'50"

GRAPHIC SCALE: 1" = 20'

Know what's **below.** **Call** before you dig.

90% SUBMITTAL (08/25/2015)

CAUTION:
HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
EXISTING 12" HPF ALONG CENTER LINE OF KAINS AVENUE
EXISTING 20" HPF ALONG EAST SIDE OF CORNELL AVENUE
CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
CHECKED BY: J. WHITE
REVIEWED BY: R. STEVENS
DATE: AUGUST 25, 2015

REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER — ROBERT C. STEVENS — No. C 058660 — CIVIL — STATE OF CALIFORNIA
08/28/2015

BkF
ENGINEERS / SURVEYORS / PLANNERS
322 HARBOUR WAY, STE 23
RICHMOND, CA 94801
PH: (510) 529-0336
FAX: (510) 529-0336

CLIENT:
CITY OF ALBANY — URBAN VILLAGE BY THE BAY — CALIFORNIA

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

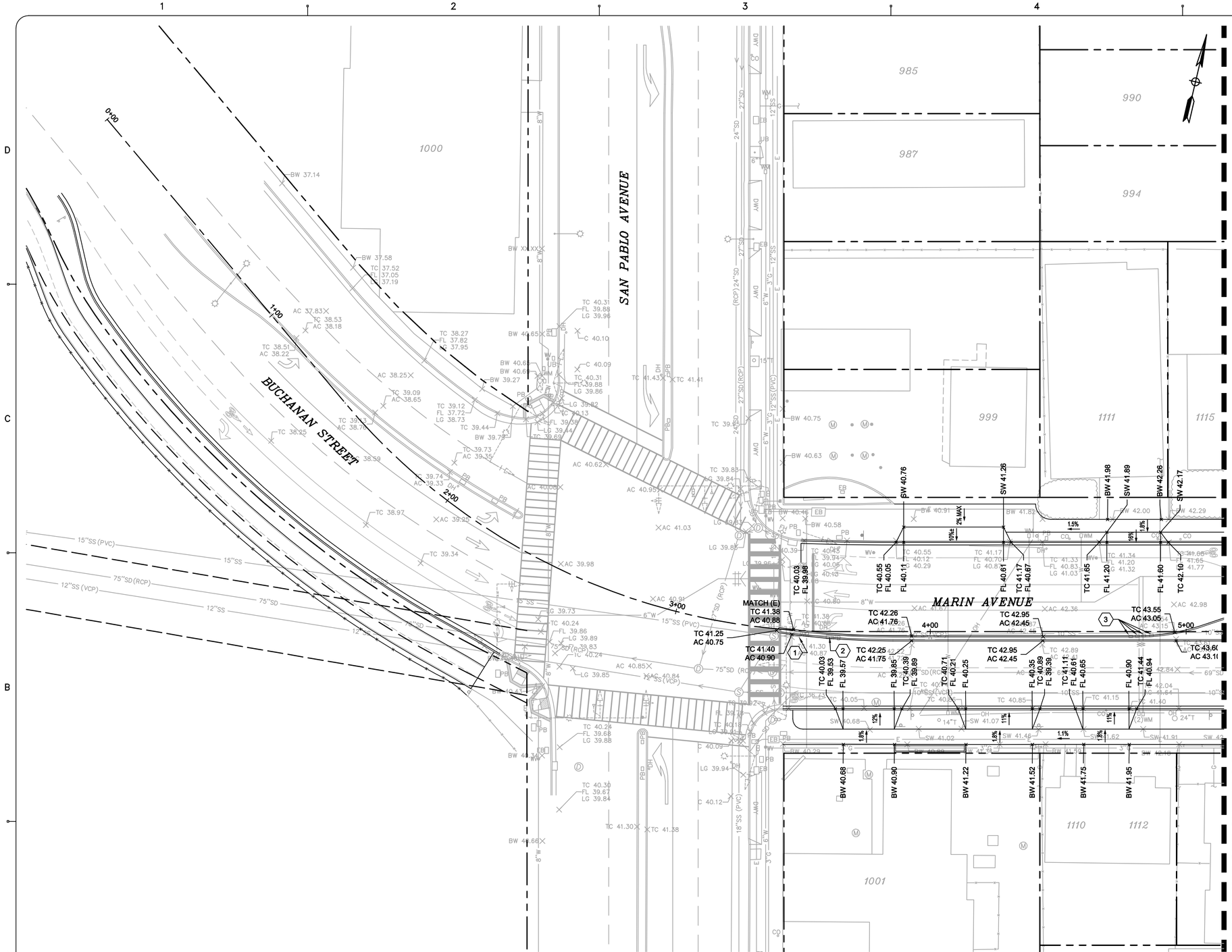
REGISTERED PROFESSIONAL ENGINEER — RAY CHAN — No. C56473 — Exp. 06/30/15 — CIVIL — STATE OF CALIFORNIA

RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

HORIZONTAL LAYOUT
MARIN AVE (KAINS AVE TO CORNELL AVE)
STA 5+14.86 TO STA 11+27.32

SHEET: C-4.1
DWG No. 08 OF 36



LEGEND

- RIGHT OF WAY (R/W)
- (#) KEYNOTE NOT USED ON SHEET
- LG XX.XX —×— SPOT ELEVATION
- 0.6% DIRECTION AND SLOPE

ABBREVIATIONS

(E)	EXISTING
AC	ASPHALT CONCRETE
BW	BACK OF WALK
FL	FLOW LINE
LG	LIP OF GUTTER
SW	SIDEWALK
TC	TOP OF CURB

KEY NOTES

1. RELOCATE WATER METER WITHIN MEDIAN
2. RELOCATE PULLBOX WITHIN MEDIAN
3. RELOCATE UTILITY BOX WITHIN MEDIAN

GRADING NOTES

1. THE UTILITIES SHOWN ON THIS PLAN AREA DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION.
2. ALL EXISTING UTILITY STRUCTURES WITHIN THE LIMIT OF WORK ARE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
3. GRADING OPERATIONS WILL OCCUR OVER EXISTING UTILITIES. CONTRACTOR SHALL EXERCISE THE NECESSARY CARE TO ENSURE EXISTING UTILITIES ARE NOT DAMAGED OR EXPERIENCE ANY INTERRUPTION IN SERVICE. ANY UTILITIES DAMAGED DUE TO THE CONTRACTORS ACTIVITIES SHALL BE REPAIRED TO ORIGINAL CONDITION AT THE EXPENSE OF THE CONTRACTOR.
3. CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK.
4. CONTRACTOR TO POTHOLE AND FIELD VERIFY ALL UTILITY CROSSINGS.
5. CONTRACTOR TO CONTACT USA AT (800)247-2600 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION. UTILITY REMOVAL OR EXCAVATION.
6. REFER TO SHEET C2.2 FOR ADDITIONAL GENERAL PROJECT NOTES.

GRAPHIC SCALE: 1" = 20'

811 Know what's **below.** **Call** before you dig.

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RAY CHAN
CITY ENGINEER
DATE: 04/14/14

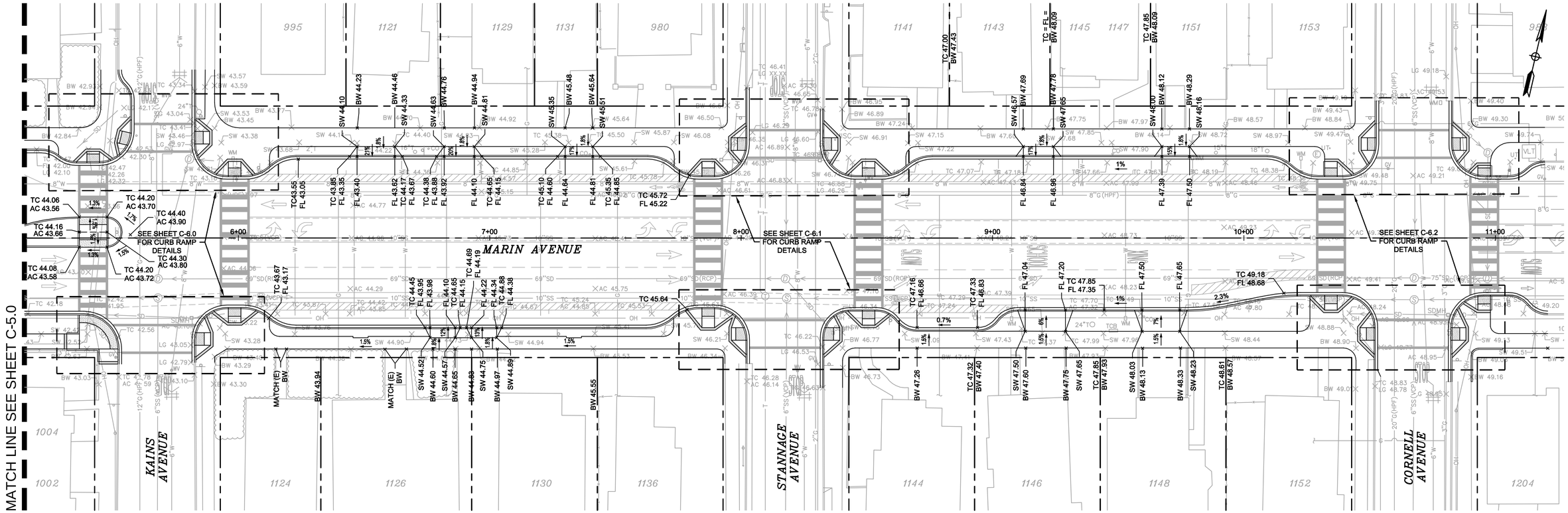
REGISTERED PROFESSIONAL ENGINEER — RAY CHAN — No. C56473 — Exp. 06/30/15 — CIVIL — STATE OF CALIFORNIA

City of Albany
Marin Ave Bikeway and Undergrounding District

GRADING PLAN
MARIN AVE (SAN PABLO AVE INTERSECTION)
STA 0+00.00 TO STA 5+14.86

SHEET: C-5.0
DWG No. 09 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

- RIGHT OF WAY (R/W)
- (#) KEYNOTE NOT USED ON SHEET
- LG XX.XX SPOT ELEVATION
- 6.6% DIRECTION AND SLOPE

ABBREVIATIONS

(E)	EXISTING
AC	ASPHALT CONCRETE
BW	BACK OF WALK
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LG	LIP OF GUTTER
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KEY NOTES

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20 0 20 40
GRAPHIC SCALE: 1" = 20'

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90% SUBMITTAL (08/25/2015)

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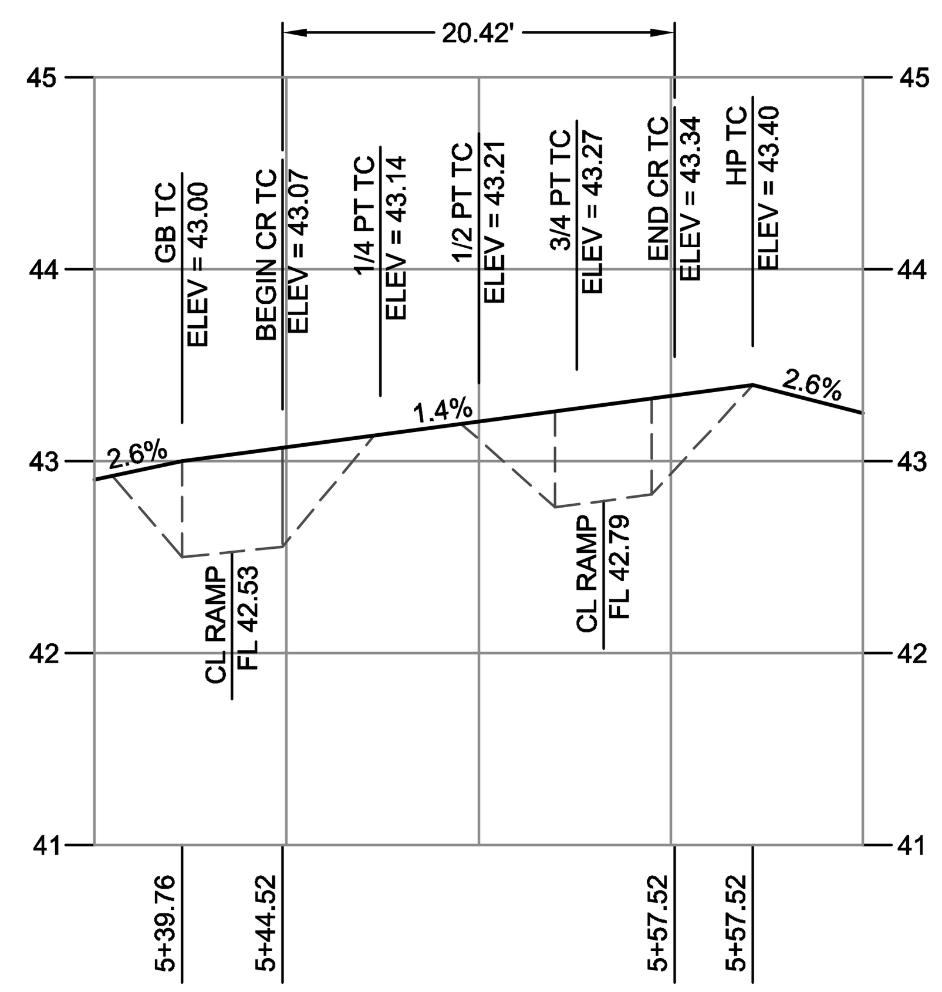
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

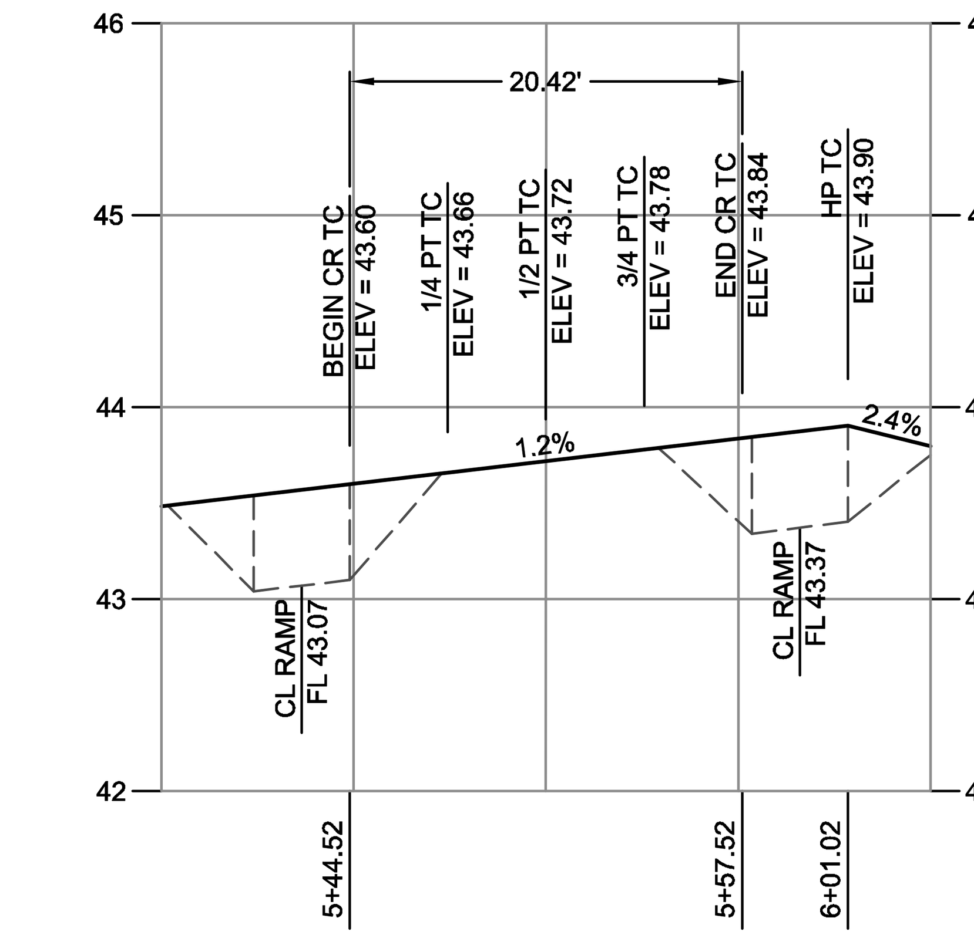
City of Albany
Marin Ave Bikeway and Undergrounding District

GRADING PLAN
MARIN AVE (KAINS AVE TO CORNELL AVE)
STA 5+14.86 TO STA 11+27.32

SHEET: C-5.1
DWG No. 10 OF 36



CURB RETURN PROFILE
NORTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.



CURB RETURN PROFILE
NORTHEAST CORNER
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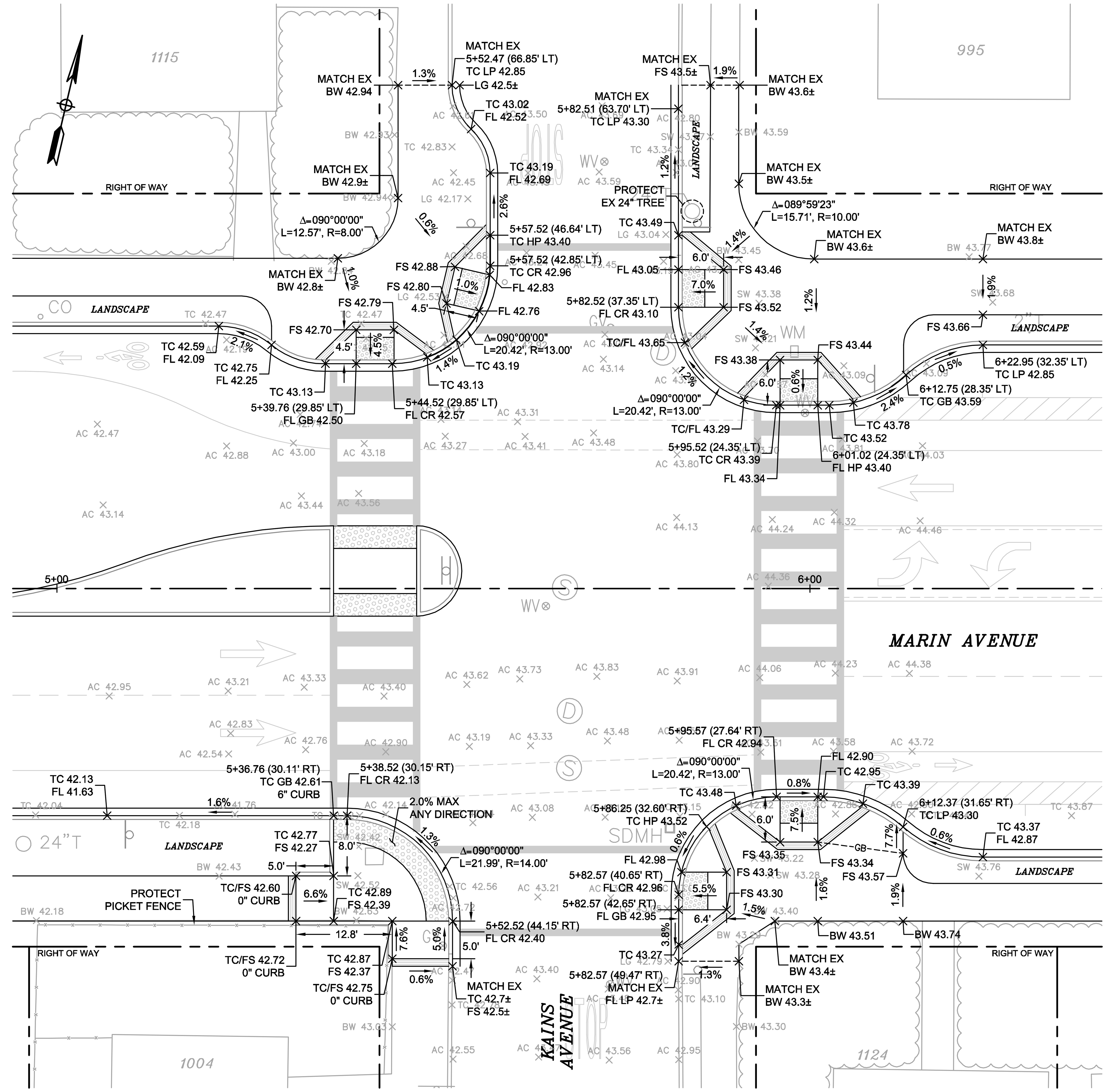
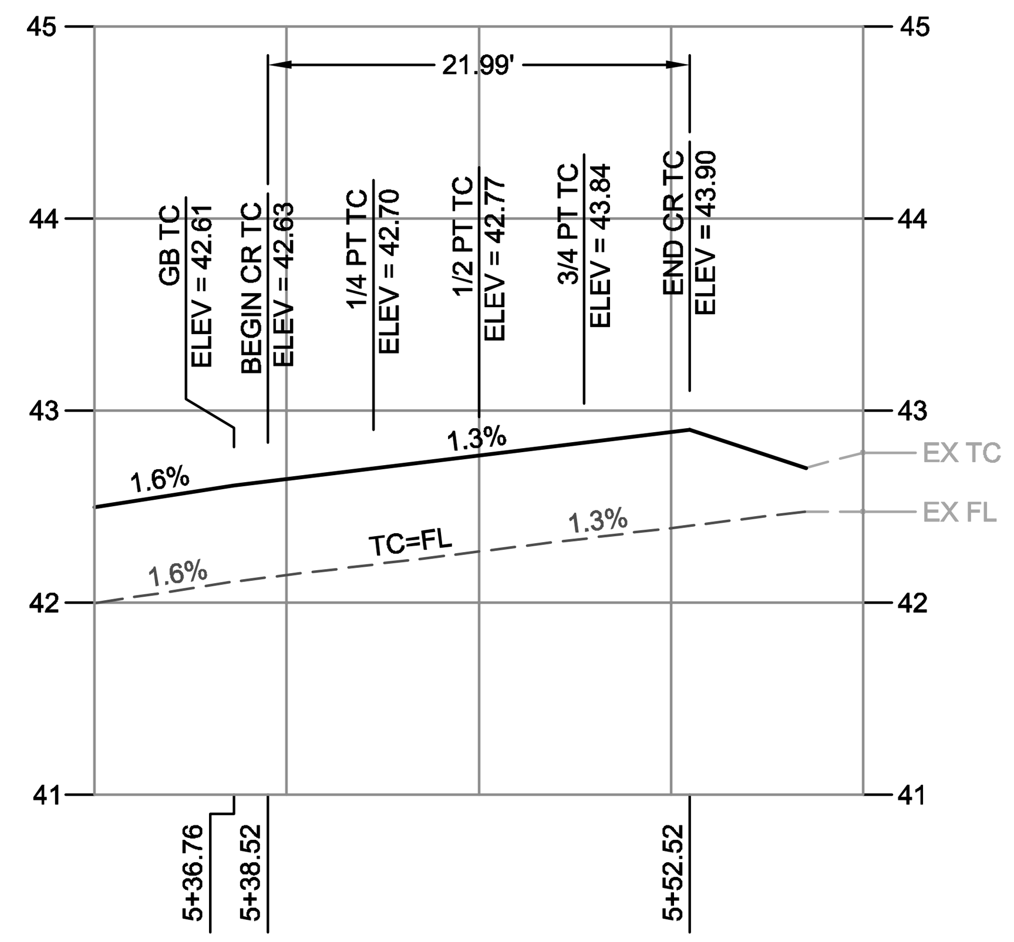
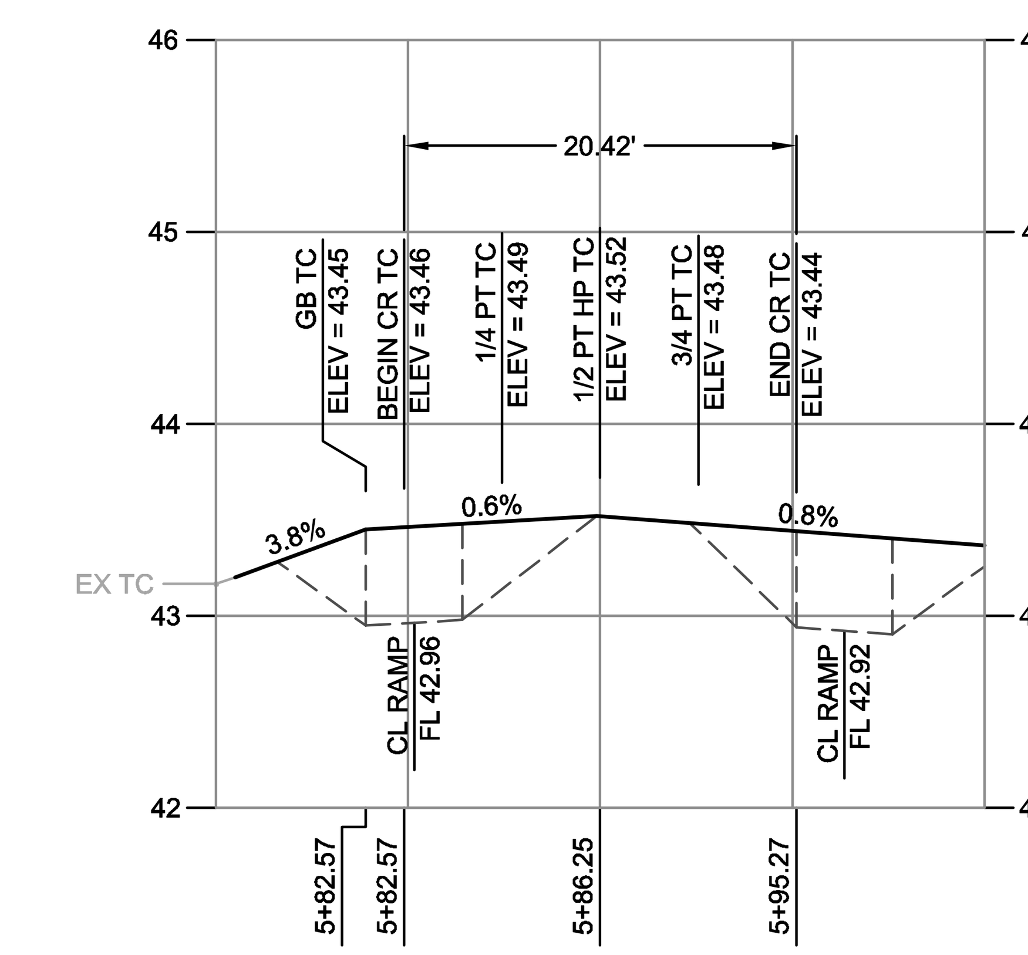
1"=1' VERT.



CURB RETURN PROFILE
MARIN AVENUE AT KAINS AVENUE
SCALE: 1" = 10'



CURB RETURN PROFILE
SOUTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.



CURB RETURN PROFILE
SOUTHEAST CORNER
1"=10' HORZ.
1"=1' VERT.

GRAPHIC SCALE: 1" = 1'

GRAPHIC SCALE: 1" = 10

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08/28/2015

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REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

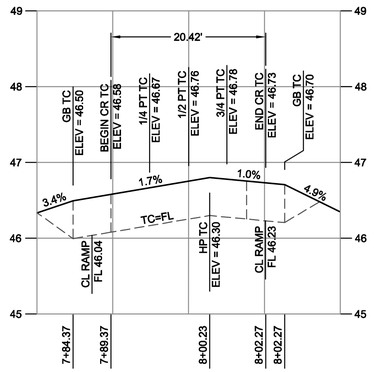
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

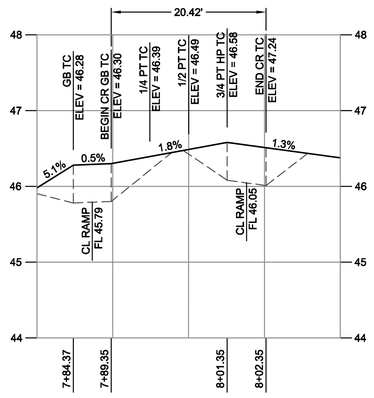
CURB RETURN PROFILES
MARIN AVENUE AT KAINS AVENUE

SHEET: C-6.0
DWG No. 11 OF 36

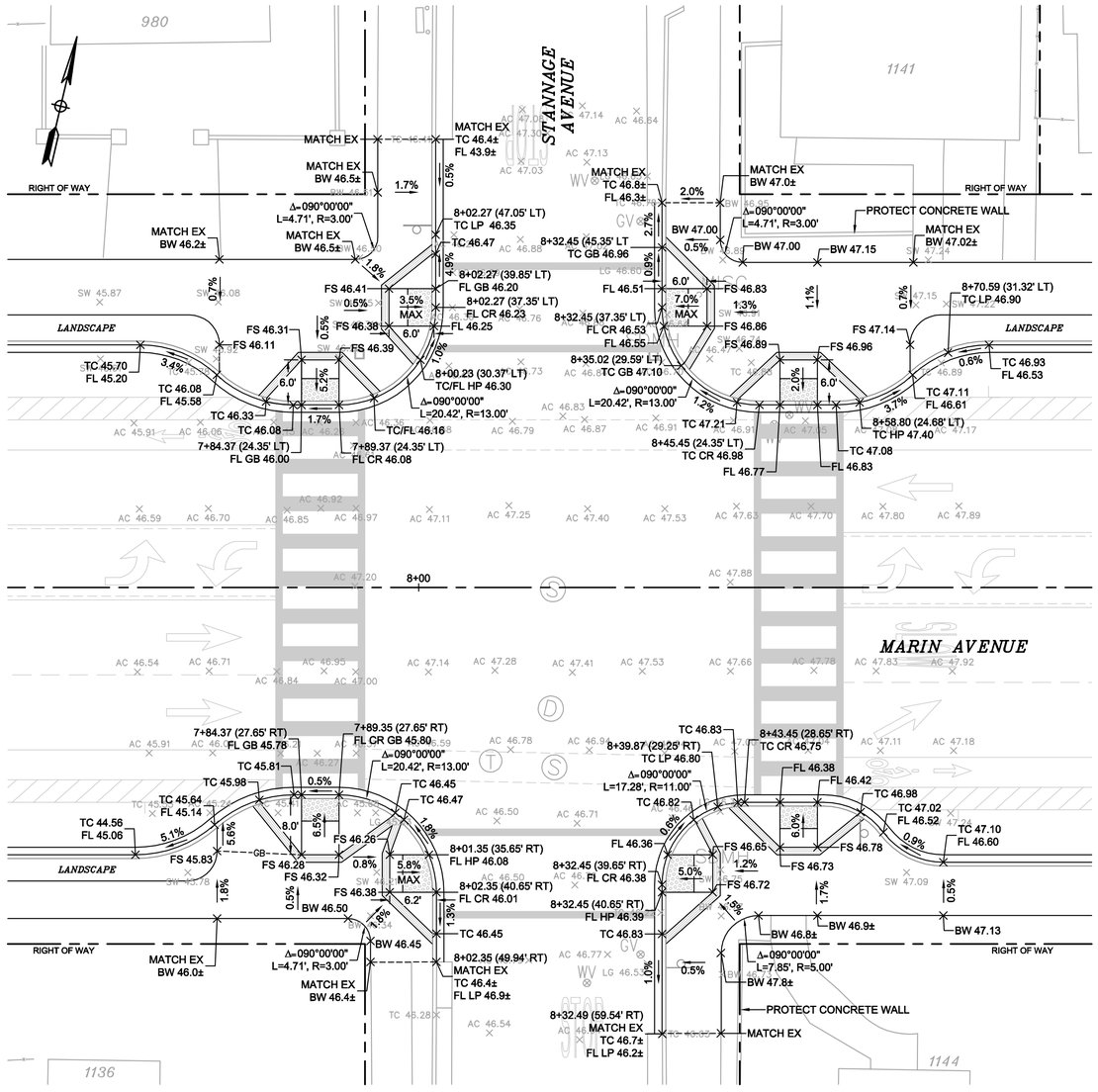
90% SUBMITTAL (08/25/2015)



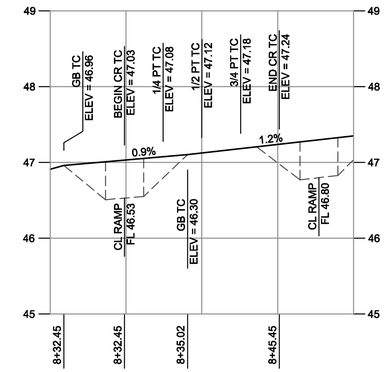
CURB RETURN PROFILE
NORTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.



CURB RETURN PROFILE
SOUTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.



CURB RETURN PROFILE
MARIN AVENUE AT STANNAGE AVENUE
SCALE: 1" = 10'



CURB RETURN PROFILE
NORTHEAST CORNER
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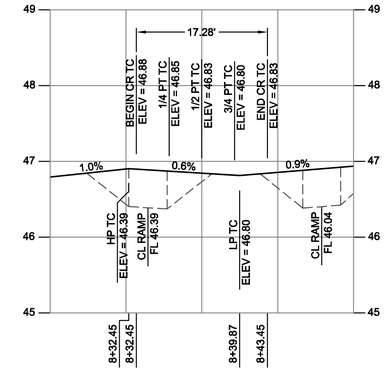

CURB RETURN PROFILE
SOUTHEAST CORNER
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GRAPHIC SCALE: 1" = 1'

GRAPHIC SCALE: 1" = 10

Know what's **below.** **Call** before you dig.

CAUTION:
HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
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CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
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REVIEWED BY: R. STEVENS
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REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA
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REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

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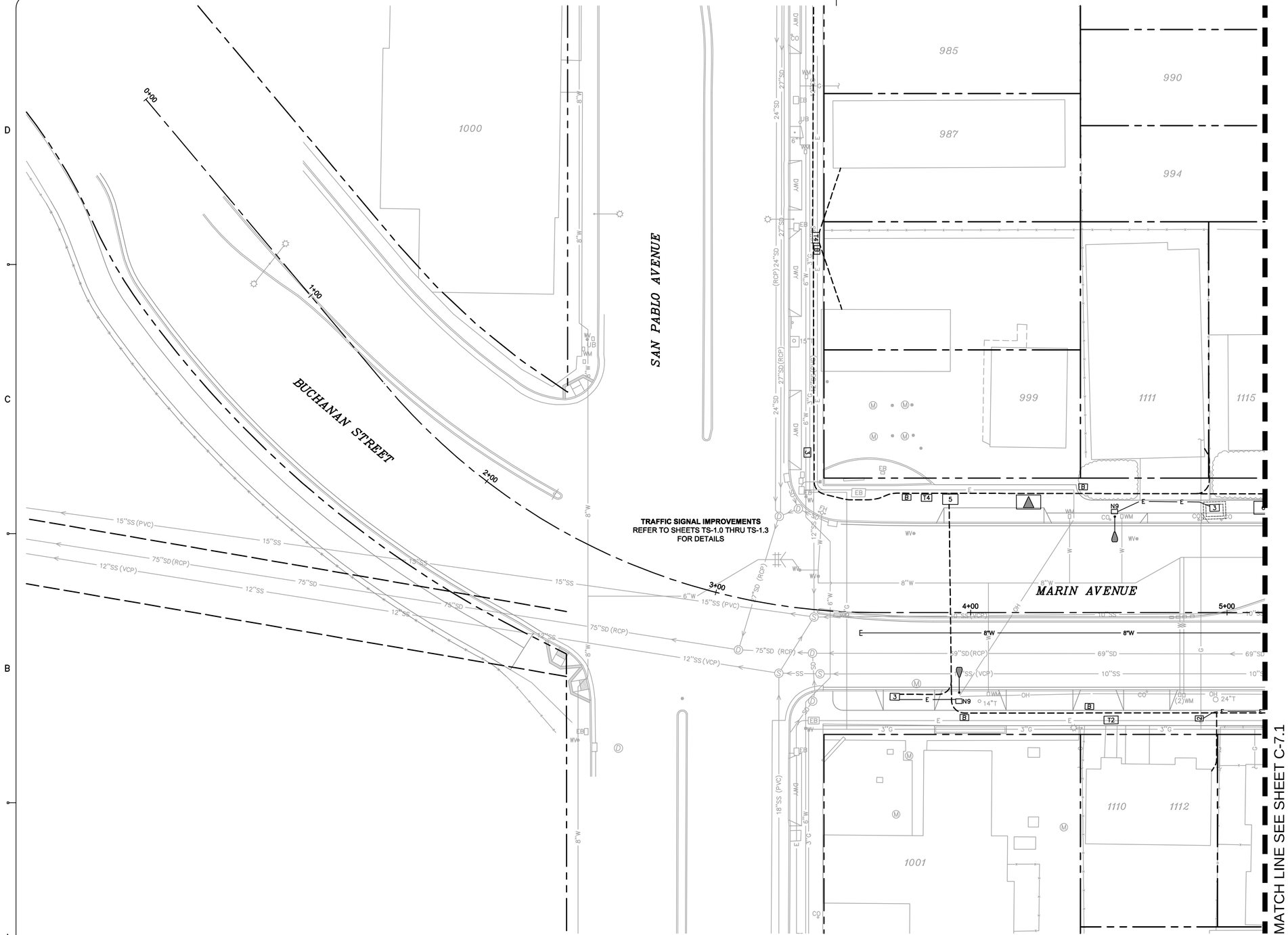
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

CURB RETURN PROFILE
MARIN AVENUE AT STANNAGE AVENUE

SHEET: C-6.1
DWG No. 12 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

PROPOSED

- RIGHT OF WAY (R/W)
- JOINT TRENCH LINE (SEE NOTE 5)
- E — ELECTRICAL LINE (SEE NOTE 5)
- 8"W — 8" PVC RECYCLED WATER LINE - DRY (SEE NOTE 6)
- HDPE STORM DRAIN LINE (SIZE NOTED ON PLANS)
- STREET LIGHT (SEE NOTE 5)
- ELECTRICAL / JOINT TRENCH VAULT (SEE NOTE 5)
- STORM DRAIN INLET (TYPE F) PER CONTRA COSTA COUNTY STND CD25
- STORM DRAIN JUNCTION BOX (SIZE NOTE ON PLANS) 7 / C-9.0

UTILITY NOTES

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2. WATER INFORMATION SHOWN IS FOR REFERENCE ONLY. ALL WATER INFRASTRUCTURES TO BE REMOVED OR REPLACED (INCLUDING WATER MAIN LINES, LATERALS, METER, VALVE AND FIRE HYDRANTS) SHALL BE DONE BY EBMUD. ORIENTATION OF WATER METERS TO BE DETERMINED IN FIELD BY EBMUD.
3. FOR REMOVAL AND RELOCATION OF UTILITY STRUCTURES NOT SHOWN ON THIS PLAN, SEE DEMOLITION PLAN (SHEETS C3.0 THRU C3.1)
4. HYDRANT TO BE SET BEHIND SIDEWALK SHALL BE LOCATED IN CONFORMANCE WITH THE FIRE AGENCY'S AND CITY OF ALBANY OR COUNTY REQUIREMENTS
5. JOINT TRENCH AND ELECTRICAL INFORMATION SHOWN FOR REFERENCE ONLY. INSTALLATION WILL BE PART OF THE BUCHANAN STREET RULE 20 - PHASE 1 PROJECT. REFER TO JOINT TRENCH PLANS SHEETS JT-01 THRU JT-08 FOR MORE DETAILS.
6. RECYCLED WATER LINE INFORMATION SHOWN FOR REFERENCE ONLY. REFER TO EBMUD PLANS SHEETS W-10345-1 THRU W-10345-07 FOR MORE DETAILS.
7. ALL UTILITY TRENCH REPAIR (WATER, SEWER, STORM DRAIN, ETC.) SHALL CONFORM TO EBMUD STANDARD DRAWING 1992-A.
8. REFER TO SHEET C2.2 FOR ADDITIONAL GENERAL PROJECT NOTES.

GRAPHIC SCALE: 1" = 20'

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09/15/2015

BKF
ENGINEERS / SURVEYORS / PLANNERS
322 HARBOUR WAY, STE 23
RICHMOND, CA 94801
PH: (510) 529-0336
FAX: (510) 529-0336

CLIENT:
CITY OF ALBANY — URBAN VILLAGE BY THE BAY — CALIFORNIA

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER — RAY CHAN — No. C56473 — Exp. 06/30/15 — CIVIL — STATE OF CALIFORNIA

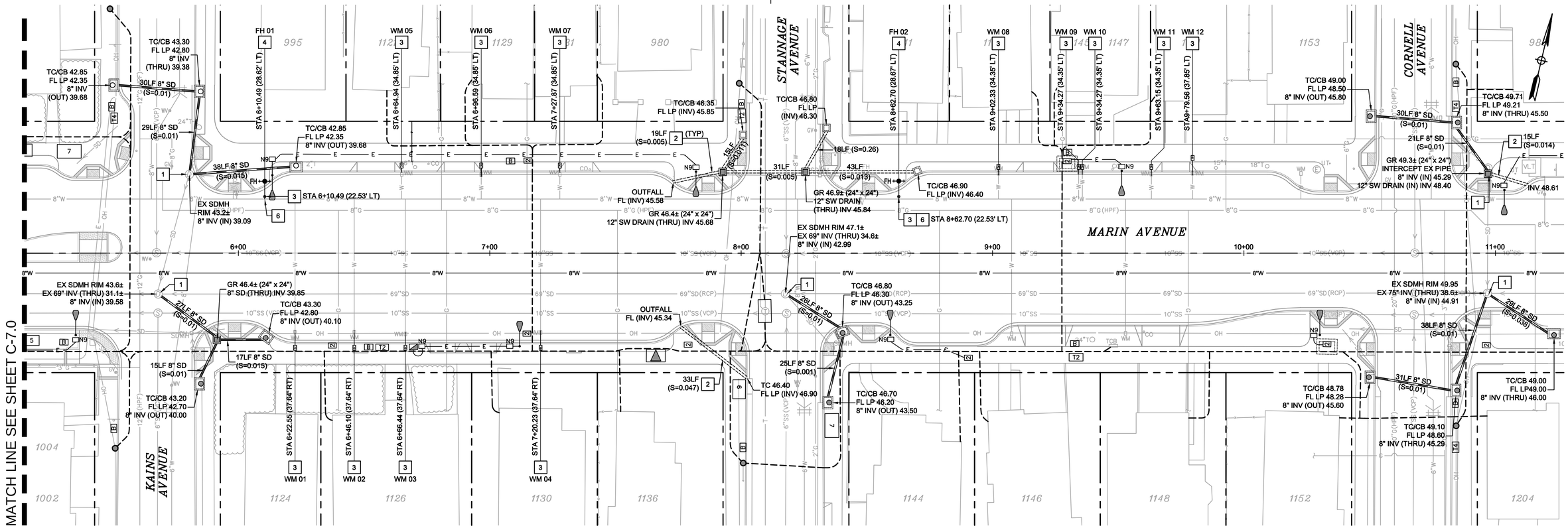
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

UTILITY PLAN
MARIN AVE (KAINS AVE TO CORNELL AVE)
STA 0+00.00 TO STA 5+14.86

SHEET: C-7.0
DWG No. 14 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

PROPOSED

- RIGHT OF WAY (R/W)
- JOINT TRENCH LINE (SEE NOTE 5)
- E — ELECTRICAL LINE (SEE NOTE 5)
- 8"W — 8" PVC RECYCLED WATER LINE - DRY (SEE NOTE 6)
- HDPE STORM DRAIN LINE (SIZE NOTED ON PLANS)
- STREET LIGHT (SEE NOTE 5)
- ELECTRICAL / JOINT TRENCH VAULT (SEE NOTE 5)
- STORM DRAIN INLET (TYPE F) PER CONTRA COSTA COUNTY STND CD25
- STORM DRAIN JUNCTION BOX (SIZE NOTE ON PLANS) (7 / C-9.0)

KEY NOTES

1. PIPE CONNECTION INTO EXISTING STRUCTURE (6 / C-9.0)
2. 3.25" x 12" 18 GAGE GALVANIZED METAL SIDEWALK DRAIN PER ALAMEDA COUNTY STND SD-513
3. RELOCATE WATER METER BY EBMUD SEE DETAIL A THIS SHEET
4. RELOCATED FIRE HYDRANT BY EBMUD
5. WATER VALVE PER EBMUD STND DETAIL 288-EA
6. WATER LATERAL CONNECTION TO MAIN PER EBMUD STND DETAIL 238-EA

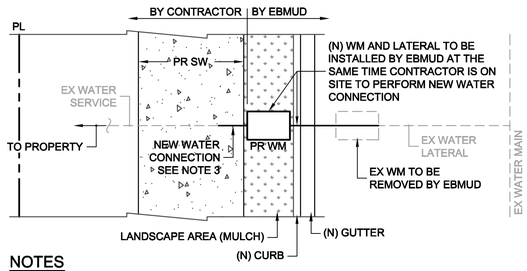
LATERAL SCHEDULE

HOUSE NUMBER	WATER METER NUMBER	NEW LATER LENGTH (FT)
1124	WM 01	13.0'
1126	WM 02	13.0'
1126	WM 03	13.0'
1130	WM 04	13.0'
1121	WM 05	10.0'
1129	WM 06	10.0'

HOUSE NUMBER	WATER METER NUMBER	NEW LATER LENGTH (FT)
1131	WM 07	10.0'
1143	WM 08	10.0'
1145	WM 09	10.0'
1147	WM 10	10.0'
1151	WM 11	10.0'
1151	WM 12	13.0'

UTILITY NOTES

1. THE UTILITIES SHOWN ON THIS PLAN AREA DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION.
2. WATER INFORMATION SHOWN IS FOR REFERENCE ONLY. ALL WATER INFRASTRUCTURES TO BE REMOVED OR REPLACED (INCLUDING WATER MAIN LINES, LATERALS, METER, VALVE AND FIRE HYDRANTS) SHALL BE DONE BY EBMUD. ORIENTATION OF WATER METERS TO BE DETERMINED IN FIELD BY EBMUD.
3. FOR REMOVAL AND RELOCATION OF UTILITY STRUCTURES NOT SHOWN ON THIS PLAN, SEE DEMOLITION PLAN (SHEETS C3.0 THRU C3.1)
4. HYDRANT TO BE SET BEHIND SIDEWALK SHALL BE LOCATED IN CONFORMANCE WITH THE FIRE AGENCY'S AND CITY OF ALBANY OR COUNTY REQUIREMENTS
5. JOINT TRENCH AND ELECTRICAL INFORMATION SHOWN FOR REFERENCE ONLY. INSTALLATION WILL BE PART OF THE BUCHANAN STREET RULE 20 - PHASE 1 PROJECT. REFER TO JOINT TRENCH PLANS SHEETS JT-01 THRU JT-08 FOR MORE DETAILS.
6. RECYCLED WATER LINE INFORMATION SHOWN FOR REFERENCE ONLY. REFER TO EBMUD PLANS SHEETS W-10345-1 THRU W-10345-07 FOR MORE DETAILS.
7. ALL UTILITY TRENCH REPAIR (WATER, SEWER, STORM DRAIN, ETC.) SHALL CONFORM TO EBMUD STANDARD DRAWING 1992-A.
8. PRIOR TO CONSTRUCITON CONTRACTOR TO POTHOLE AND VERIFY LOCATION, DEPTH AND SIZE OF ALL EXISTING UTILITY CROSSINGS. NOTIFY ENGINEER OF ANY DISCREPENCIES.
9. REFER TO SHEET C2.2 FOR ADDITIONAL GENERAL PROJECT NOTES.



NOTES

1. PRIOR TO CONSTRUCTION CONTRACTOR TO VERIFY DEPTH, SIZE AND MATERIAL OF WATER LATERALS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. EBMUD TO INSTALL THERE FACILITIES FIRST AND CONNECT TO EXISTING WATER LATERAL.
3. CONTRACTOR TO REPAIR APPROXIMATELY 5FT OF WATER LATERAL. FINAL LENGTH WILL BE VERIFIED BY RESIDENT ENGINEER WORKING WITH PROPERTY OWNER.
4. ALL WATER INFASTRUCTURE SHALL BE PER EBMUD STANDARD DRAWINGS (2008).
5. WATER LINE TO MAINTAIN A MINIMUM CLEARANCE OF 12-INCHES UNDER SIDEWALK, CURB OR PAVEMENT SECTION.

(A) WATER METER RELOCATION
NOT TO SCALE

GRAPHIC SCALE: 1" = 20'

Know what's **below.** **Call** before you dig.

CAUTION:
HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
EXISTING 12" HPF ALONG CENTER LINE OF KAINS AVENUE
EXISTING 20" HPF ALONG EAST SIDE OF CORNELL AVENUE
CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
CHECKED BY: J. WHITE
REVIEWED BY: R. STEVENS
DATE: AUGUST 25, 2015

REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA
09/15/2015

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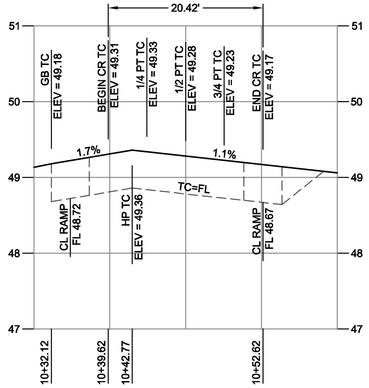
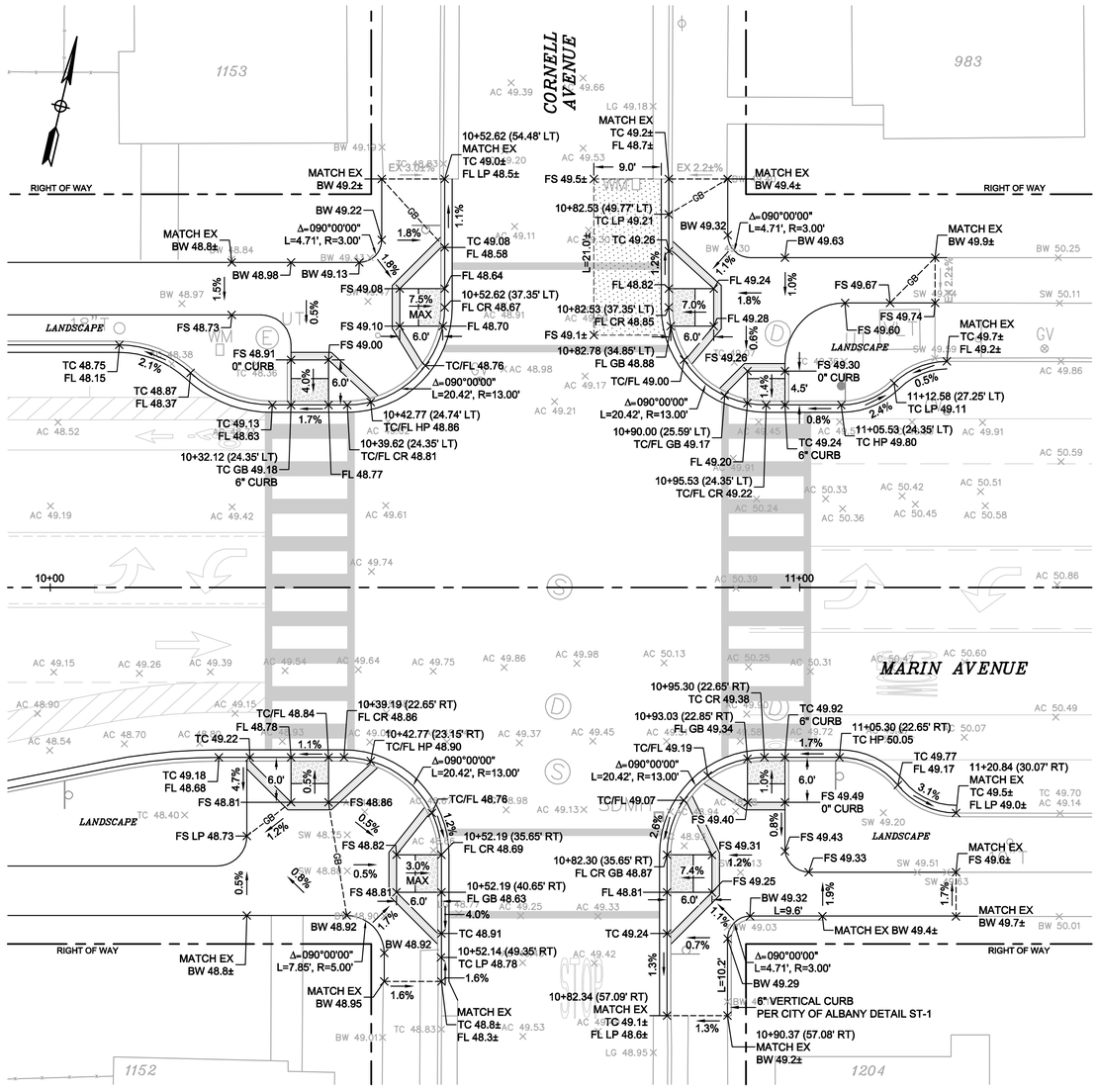
UTILITY PLAN
MARIN AVE (KAINS AVE TO CORNELL AVE)
STA 5+14.86 TO STA 11+27.32

SHEET: C-7.1
DWG No. 15 OF 36

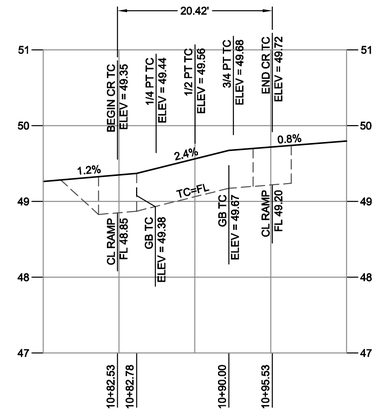
90% SUBMITTAL (08/25/2015)



CURB RETURN PROFILE
NORTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.



CURB RETURN PROFILE
MARIN AVENUE AT CORNELL AVENUE
SCALE: 1" = 10'



CURB RETURN PROFILE
NORTHEAST CORNER
1"=10' HORZ.
1"=1' VERT.

CURB RETURN PROFILE
SOUTHWEST CORNER
1"=10' HORZ.
1"=1' VERT.

CURB RETURN PROFILE
SOUTHEAST CORNER
1"=10' HORZ.
1"=1' VERT.

GRAPHIC SCALE: 1" = 1'

GRAPHIC SCALE: 1" = 10

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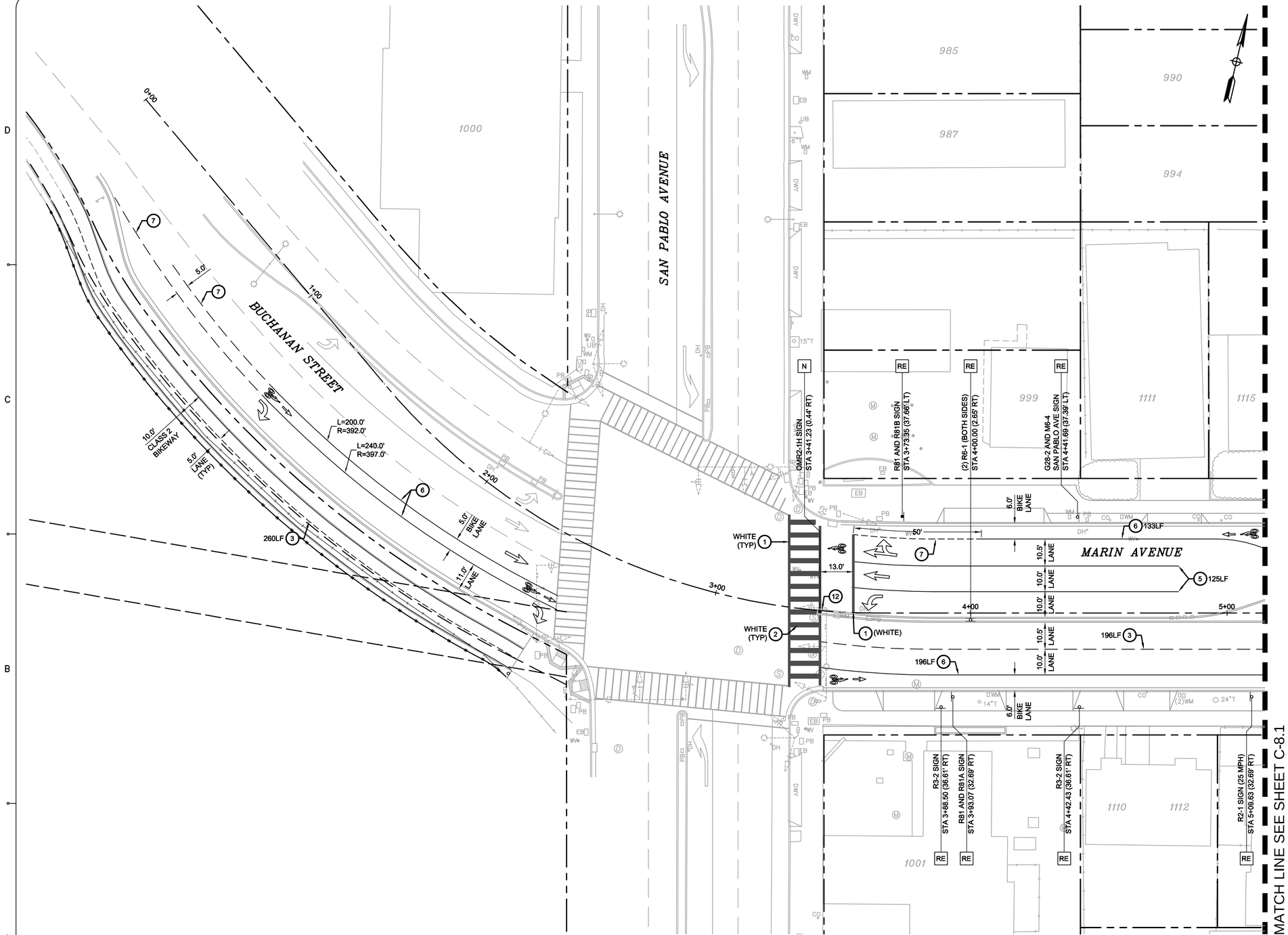
Marin Ave Bikeway and Undergrounding District

CURB RETURN PROFILES
MARIN AVENUE AT CORNELL AVE

SHEET: C-6.2
DWG No. 13 OF 36

90% SUBMITTAL (08/25/2015)



LEGEND

PROPOSED

- RIGHT OF WAY (R/W)
- LIMIT OF WORK
- RE — REUSE EXISTING SIGN. INSTALL ON NEW POST AND FOUNDATION POST INSTALLATION PER CITY OF ALBANY STND ST-8A
- N — PROPOSED SIGN, POST AND FOUNDATION INSTALLATION POST INSTALLATION PER CITY OF ALBANY STND ST-8A
- BIKE LANE SYMBOL WITH PERSON AND ARROW PER CALTRANS STND PLAN RSP A24A AND RSP A24C
- TYPE I (10') ARROW PER CALTRANS STND PLAN RSP A24A
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- TYPE VI (RIGHT LANE DROP) ARROW PER CALTRANS STND PLAN RSP A24A
- TYPE VIII WITH RIGHT TURN ARROW PER CALTRANS STND PLAN RSP A24A
- PAVEMENT MARKINGS (ALL WORDS) PER CALTRANS STND PLAN A24D

KEY NOTES

1. 12" WIDE STRIPE (COLOR NOTED ON PLANS)
2. 24" WIDE STRIPE (COLOR NOTED ON PLANS)
3. LANE LINE (DETAIL 8) PER CALTRANS STND PLAN A20A
4. TWO WAY LEFT TURN LANE (DETAIL 31) PER CALTRANS STND PLAN A20B
5. CHANNELIZING LINE (DETAIL 38A) PER CALTRANS STND PLAN A20D
6. BIKE LANE LINE (DETAIL 39) PER CALTRANS STND PLAN A20D
7. BIKE LANE - INTERSECTION LINE (DETAIL 39A) PER CALTRANS STND PLAN A20D
8. LANE LINE EXTENSIONS THROUGH INTERSECTIONS PER CALTRANS STND PLAN A20D
9. BIKE LANE BUFFER (2 / C-9.0)
10. (6) YELLOW FLEXPOST FLEX BOLLARD OR APPROVED EQUAL
11. YELLOW REFLECTORS AT MEDIAN NOSE PAINT NOSE CURB YELLOW (2 / C-9.0)

SIGNAGE AND STRIPING NOTES

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6. INSTALL NEW SIGN POLE AND FOUNDATION FOR ALL NEW AND SALVAGED SIGNS PER CITY OF ALBANY STANDRAD DETAILS ST-8 AND ST-8A.
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GRAPHIC SCALE: 1" = 20'

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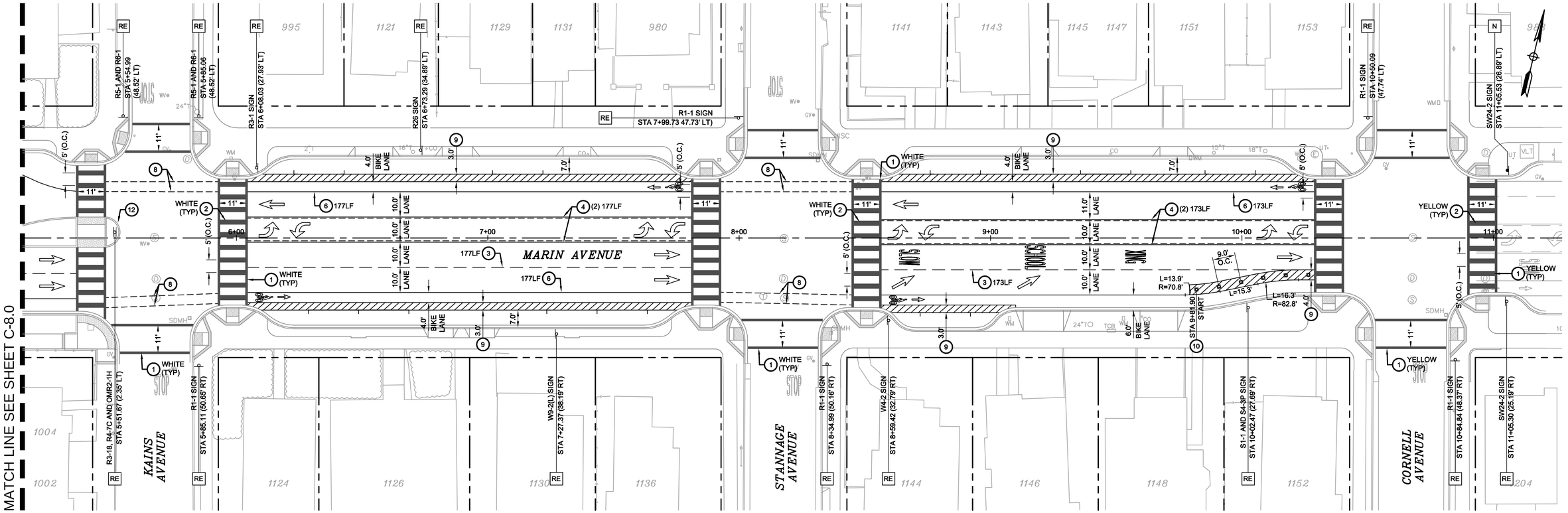
Marin Ave Bikeway and Undergrounding District

SIGNAGE AND STRIPING PLAN

MARIN AVE (SAN PABLO AVE INTERSECTION)
STA 0+00.00 TO STA 5+14.86

SHEET: C-8.0
DWG No. 16 OF 36

90% SUBMITTAL (08/25/2015)



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STREET SIGN CODES

G28-2	CALIFORNIA 123 MARKER
M6-4	DIRECTIONAL ARROW (GREEN SIGN)
OMR2-1H	TYPE 2 OBJECT MARKER
R1-1	STOP
R2-1	SPEED LIMIT
R3-1	NO RIGHT TURN
R3-2	NO LEFT TURN
R3-18	NO LEFT TURN OR U TURN
R4-7C	KEEP LEFT - MEDIAN
R5-1	DO NOT ENTER
R6-1	ONE WAY
R26	NO PARKING ANY TIME
R81	BIKE LANE
R81A	"BEGIN"
R81B	"END"
R99	ACCESSIBLE PARKING ONLY
S1-1	SCHOOL CROSSING
S4-3P	"SCHOOL"
SW24-2	SCHOOL CROSSING WITH ARROW
W4-2	LAND ENDS SYMBOL
W9-2(L)	LANE ENDS MERGE LEFT

GRAPHIC SCALE: 1" = 20'

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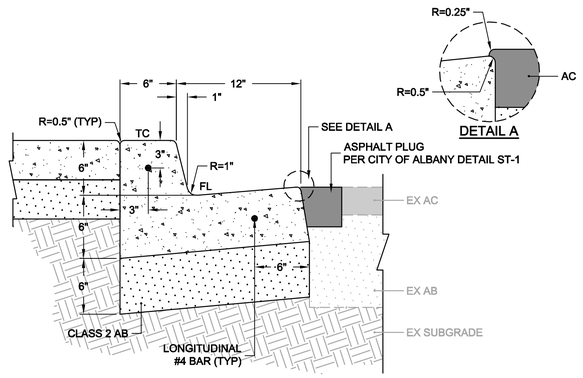
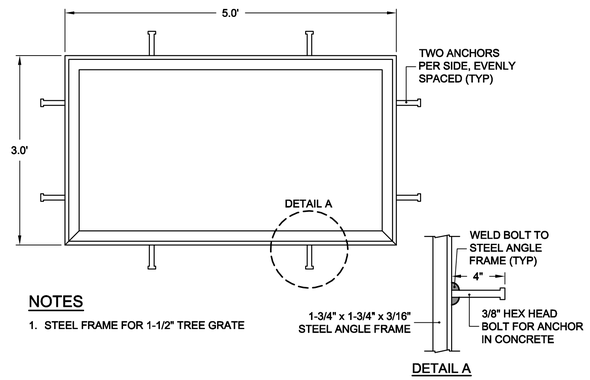


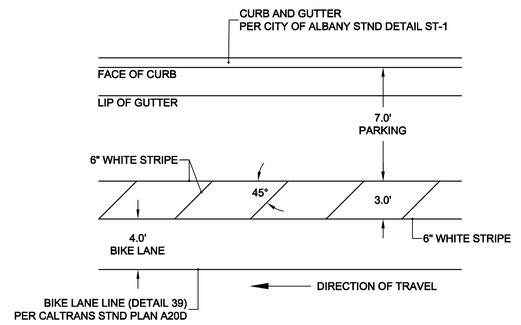
12 INCH CONCRETE CURB AND GUTTER
NOT TO SCALE | 1



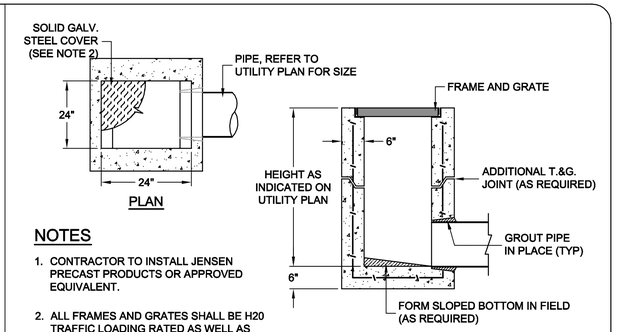
NOTES

1. STEEL FRAME FOR 1-1/2" TREE GRATE

TREE GRATE FRAME
NOT TO SCALE | 3



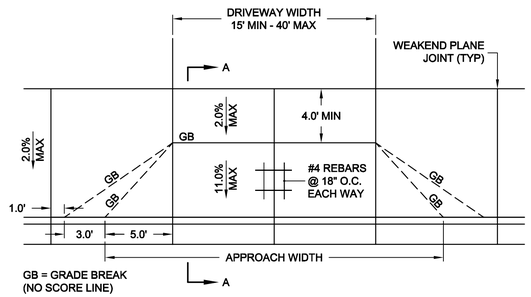
BIKE LANE BUFFER STRIPE
NOT TO SCALE | 5



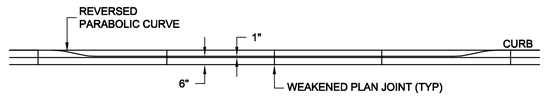
NOTES

1. CONTRACTOR TO INSTALL JENSEN PRECAST PRODUCTS OR APPROVED EQUIVALENT.
2. ALL FRAMES AND GRATES SHALL BE H20 TRAFFIC LOADING RATED AS WELL AS BICYCLE AND PEDESTRIAN APPROVED. ALL GRATES SHALL HAVE LOCKING DEVICE.

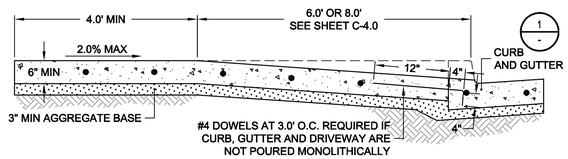
STORM DRAIN JUNCTION STRUCTURE
NOT TO SCALE | 7



PLAN VIEW



ELEVATION VIEW

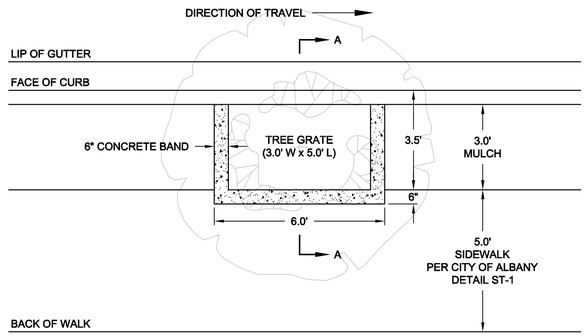


SECTION A-A

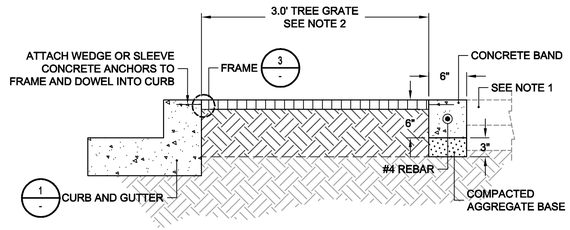
NOTES

1. WHEN DISTANCES BETWEEN DRIVEWAY FLARES IS LESS THAN 5.0', ELIMINATE ADJACENT FLARES AND CONSTRUCT AS A COMMON DRIVEWAY.
2. STEEL WITHIN DRIVEWAY EXTENDS TO WEAKENED PLANE JOINTS.
3. CONCRETE SHALL BE MIN 2,500 PSI AT 28 DAYS, 3/4" AGGREGATE WITH 1 LB LAMP BLACK PER CUBIC YARD.

COMMERCIAL DRIVEWAY APPROACH
NOT TO SCALE | 2



PLAN VIEW

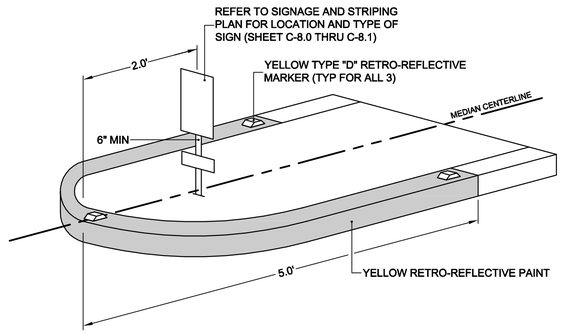


SECTION A-A

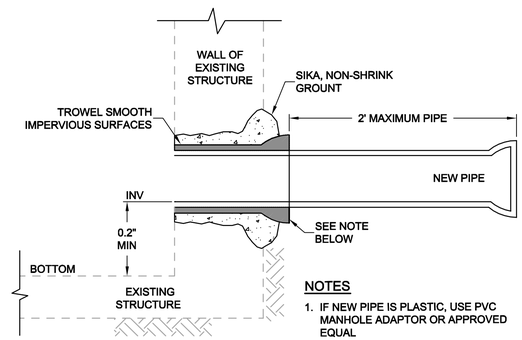
NOTES

1. DOWEL INTO SIDEWALK PER CITY OF ALBANY DETAIL ST-5, WHEN CONCRETE BAND INSTALLED NEXT TO TO EXISTING SIDEWALK.
2. TREE GRATE = IRONSMITH 6054-2 STARBURST (3.0' W x 5.0' L) OR APPROVED EQUAL.
3. CONTRACTOR TO COORDINATE WITH CITY OF ALBANY ON SPEICES OF TREE TO BE PLANTED AT FUTURE TREE WELLS LOCATIONS.
4. TREE WELL LOCATIONS PER HORIZONTAL LAYOUT PLAN (SHEETS C-3.0 THRU C-3.1)

FUTURE TREE AND GRATE INSTALLTION
NOT TO SCALE | 4



YELLOW REFLECTORS AT MEDIAN NOSE
NOT TO SCALE | 6



NOTES

1. IF NEW PIPE IS PLASTIC, USE PVC MANHOLE ADAPTOR OR APPROVED EQUAL

PIPE CONNECTION INTO EXISTING STRUCTURE
NOT TO SCALE | 6

CAUTION:
HIGH PRESSURE GAS LINES WITH IN PROJECT LIMITS (HPF)
EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
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EXISTING 20" HPF ALONG EAST SIDE OF CORNELL AVENUE
CONTRACTOR TO LOCATE LINE PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. EXERCISE EXTREME *CAUTION* WHEN WORKIN IN VICINITY OF GAS LINE

REV	DATE	DESCRIPTION

DESIGNED BY: J. YOUNG
DRAWN BY: J. YOUNG
CHECKED BY: J. WHITE
REVIEWED BY: R. STEVENS
DATE: AUGUST 25, 2015

REGISTRATION:
REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA
08/28/2015

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RICHMOND, CA 94801
PH: (510) 529-0336
FAX: (510) 529-0336

CLIENT:
CITY OF ALBANY CALIFORNIA
URBAN VILLAGE BY THE BAY

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER
RAY CHAN
No. C56473
Exp. 06/30/15
CIVIL
STATE OF CALIFORNIA

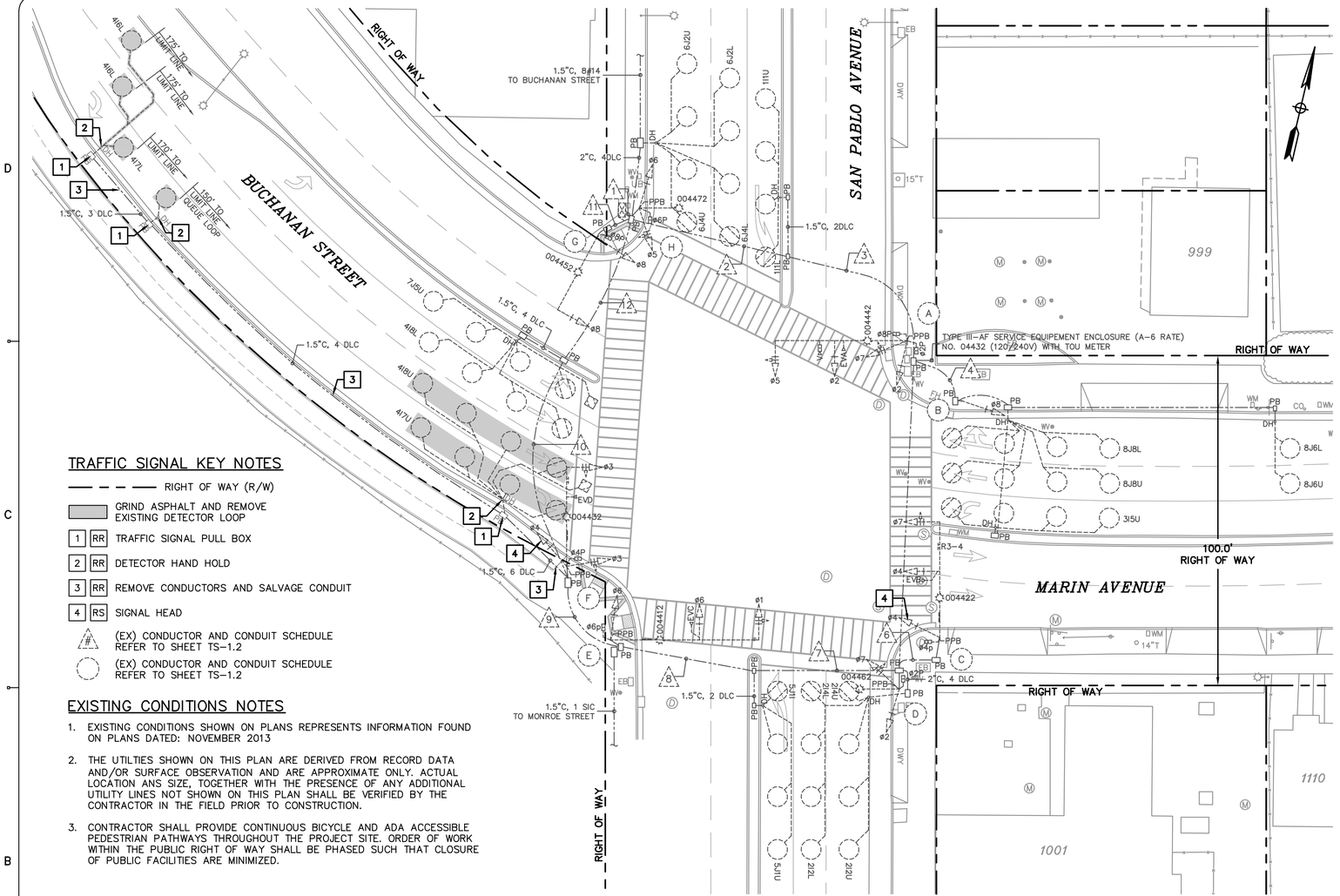
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

CONSTRUCTION DETAILS

SHEET: C-9.0
DWG No. 18 OF 36

90% SUBMITTAL (08/25/2015)



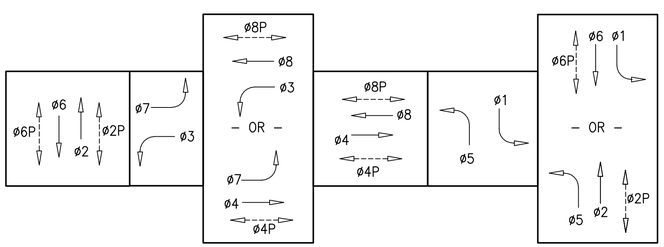
TRAFFIC SIGNAL KEY NOTES

- RIGHT OF WAY (R/W)
- GRIND ASPHALT AND REMOVE EXISTING DETECTOR LOOP
- 1 RR — TRAFFIC SIGNAL PULL BOX
- 2 RR — DETECTOR HAND HOLD
- 3 RR — REMOVE CONDUCTORS AND SALVAGE CONDUIT
- 4 RS — SIGNAL HEAD
- (#) (EX) CONDUCTOR AND CONDUIT SCHEDULE REFER TO SHEET TS-1.2
- (EX) CONDUCTOR AND CONDUIT SCHEDULE REFER TO SHEET TS-1.2

EXISTING CONDITIONS NOTES

1. EXISTING CONDITIONS SHOWN ON PLANS REPRESENTS INFORMATION FOUND ON PLANS DATED: NOVEMBER 2013
2. THE UTILTIES SHOWN ON THIS PLAN ARE DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION ANS SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE CONTINUOUS BICYCLE AND ADA ACCESSIBLE PEDESTRIAN PATHWAYS THROUGHOUT THE PROJECT SITE. ORDER OF WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PHASED SUCH THAT CLOSURE OF PUBLIC FACILITIES ARE MINIMIZED.

EXISTING PHASE DIAGRAM



EMERGENCY VEHICLE PREEMPTION

- ø2 = EVA
- ø4 = EVB
- ø6 = EVC
- ø8 = EVD

STANDARD TRAFFIC SIGNAL NOTES

1. PLANS ACCURATE FOR ELECTRICAL WORK ONLY.
2. ALL EQUIPMENT, MATERIALS AND WORKMANSHIP SHALL CONFORM TO CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD PLANS (MAY 2010).
3. ALL SYMBOLS ARE AS PER CALTRANS STANDARD PLANS (MAY 2010).
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONTACT USA (800-642-2444) AT LEAST 48 HOURS BEFORE BEGINNING WORK. WHERE MARKINGS ARE NEAR PROPOSED FOUNDATIONS, THE CONTRACTOR SHALL LOCATE UNDERGROUND UTILITIES BY POT HOLING PRIOR TO EXCAVATING.
5. EXISTING IMPROVEMENTS, INCLUDING SUBSTRUCTURES, THAT ARE DAMAGED BY THE CONTRACTOR, WHICH ARE NOT DESIGNATED BY THE PLANS OR SPECIFICATIONS TO BE DISTURBED, SHALL BE RESTORED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
6. SIGNAL STANDARDS, CONTROLLER ASSEMBLY, SERVICE EQUIPMENT ENCLOSURE, PULL BOXES, AND DETECTOR LAYOUTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. FINAL LOCATIONS ARE TO BE VERIFIED BY THE ENGINEER. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE ENGINEER FOR VERIFICATION OF EQUIPMENT LOCATIONS.
7. ALL PULL BOXES SHALL BE NO. 5, UNLESS OTHERWISE NOTED ON THE PLANS.
8. THE CONTRACTOR SHALL PROVIDE ALL CONDUCTORS, SIGNAL HEADS, DETECTORS, AND OTHER EQUIPMENT NECESSARY FOR THE SIGNAL TO OPERATE AS SHOWN ON THE PHASE DIAGRAM.
9. ALL VEHICLE SIGNAL HEAD SECTIONS (RED, YELLOW AND GREEN) AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LIGHT EMITTING DIODE (LED) TYPE.
10. EMERGENCY VEHICLE EMITTERS SHALL BE 3M OPTICOM MODEL 752 PHASE SELECTORS. EMERGENCY VEHICLE PREEMPTION DETECTOR UNIT SHALL BE 3M OPTICOM MODEL 711 OPTICAL DETECTORS.
11. ALL NEW VEHICLE SIGNAL HEADS SHALL HAVE 12" SECTIONS.
12. ALL CONDUCTORS AND THEIR TERMINATORS SHALL BE CLEARLY MARKED.
13. ALL LOOPS SHALL BE LOCATED IN THE EFFECTIVE CENTER OF THE TRAVEL WAY UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
14. ALL PULL BOX COVERS SHALL BE LABELED WITH APPROPRIATE LABELS "TRAFFIC", "LIGHTING", "SERVICE", "SIGNAL INTERCONNECT".
15. ALL PEDESTRIAN SIGNAL HEADS SHALL BE LED COUNTDOWN TYPE (FULL HAND/FULL MAN) WITH AUDIBLE PEDESTRIAN NOTIFICATION FEATURES TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

APPLICABLE STANDARD PLANS (2010)

RSP ES-1A:	LEGEND AND ABBREVIATIONS
RSP ES-1B:	LEGEND AND ABBREVIATIONS
RSP ES-1C:	LEGEND AND ABBREVIATIONS
RSP ES-4A:	VEHICULAR SIGNAL HEADS AND MOUNTINGS
RSP ES-4B:	PEDESTRIAN SIGNAL AND RAMP METERING SIGN
RSP ES-4C:	VEHICULAR SIGNAL HEADS AND MOUNTINGS
ES-4D:	SIGNAL MOUNTING
RSP ES-4E:	VEHICULAR SIGNAL HEADS AND OPTICAL DETECTOR MOUNTING
ES-5A:	DETECTORS
RSP ES-5B:	DETECTORS
RSP ES-5C:	ACCESSIBLE PEDESTRIAN SIGNAL, PUSH BUTTON ASSEMBLIES AND MAGNETIC VEHICLE DETECTOR
RSP ES-5D:	CURB TERMINATION AND HANDHOLD
RSP ES-7A:	SIGNAL AND LIGHTING STANDARD, TYPE TS AND PUSH BUTTON ASSEMBLY POST
ES-7B:	SIGNAL AND LIGHTING STANDARD, TYPE 1 AND EQUIPMENT NUMBERING
ES-13A:	SPLICING DETAILS

APPLICABLE STANDARD SPECIAL PROVISIONS

SECTION 86: TRAFFIC SIGNAL FACILITIES-ELECTRICAL SYSTEMS

GRAPHIC SCALE: 1" = 20'

811 Know what's **below.** **Call** before you dig.

CAUTION:
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CLIENT:
CITY OF ALBANY URBAN VILLAGE BY THE BAY CALIFORNIA

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

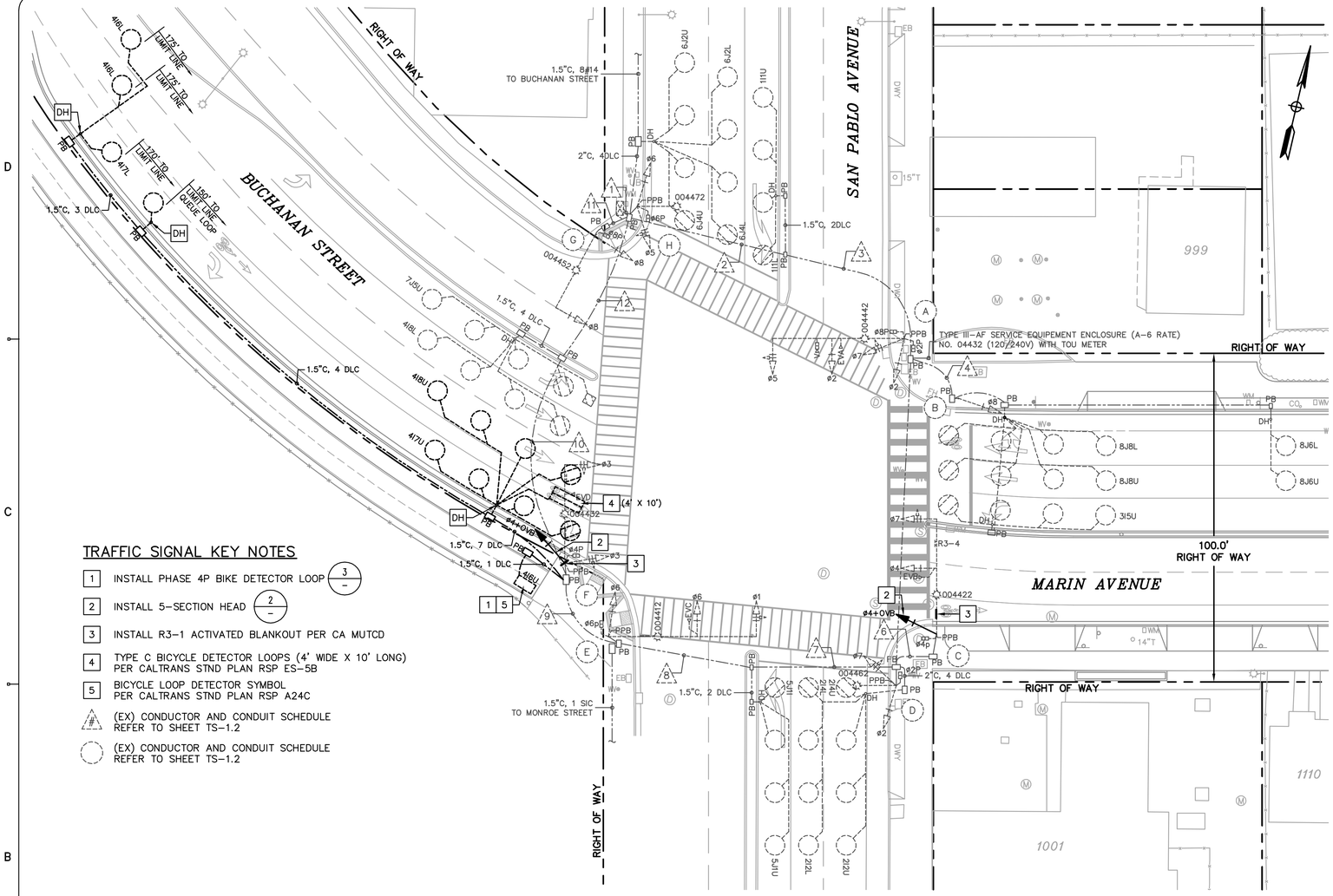
RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

TRAFFIC SIGNAL PLAN
EXISTING CONDITION AND DEMOLITION
MARIN AVE (SAN PABLO AVE INTERSECTION)

SHEET: TS-1.0
DWG No. 19 OF 36

90% SUBMITTAL (08/25/2015)

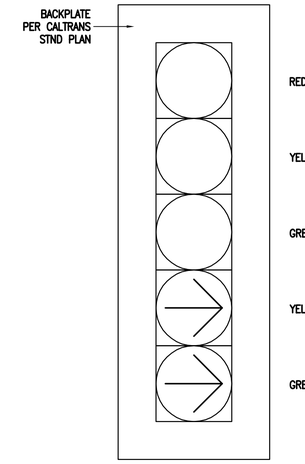


TRAFFIC SIGNAL KEY NOTES

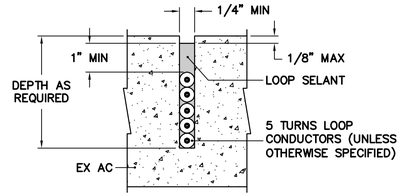
1. INSTALL PHASE 4P BIKE DETECTOR LOOP (3/–)
2. INSTALL 5-SECTION HEAD (2/–)
3. INSTALL R3-1 ACTIVATED BLANKOUT PER CA MUTCD
4. TYPE C BICYCLE DETECTOR LOOPS (4' WIDE X 10' LONG) PER CALTRANS STND PLAN RSP ES-5B
5. BICYCLE LOOP DETECTOR SYMBOL PER CALTRANS STND PLAN RSP A24C

(#) (EX) CONDUCTOR AND CONDUIT SCHEDULE REFER TO SHEET TS-1.2

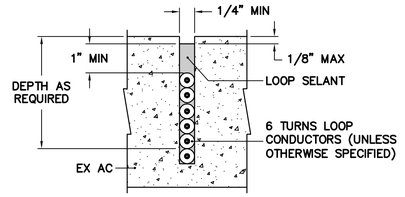
(EX) CONDUCTOR AND CONDUIT SCHEDULE REFER TO SHEET TS-1.2



1 5-SECTION SIGNAL HEAD
NOT TO SCALE

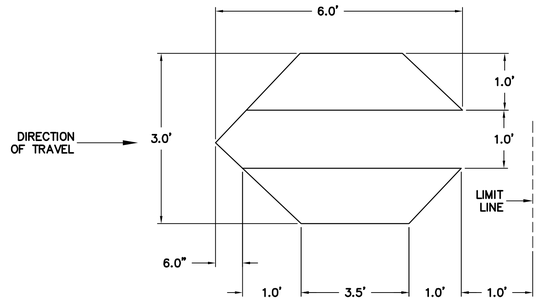


FIVE TURN SLOT DETAIL
NOT TO SCALE



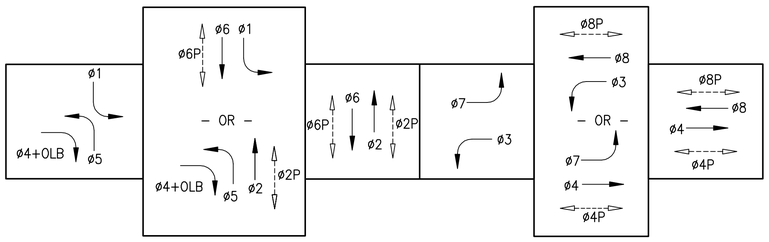
SIX TURN SLOT DETAIL
NOT TO SCALE

2 DETECTOR LOOP SLOT DETAIL
NOT TO SCALE



3 SPECIAL BIKE DETECTOR LOOP
(MODIFIED TYPE D LOOP) – NOT TO SCALE

PROPOSED PHASE DIAGRAM



EMERGENCY VEHICLE PREEMPTION

ø2	= EVA
ø4	= EVB
ø6	= EVC
ø8	= EVD

REFER TO SHEET TS-1.0 FOR TRAFFIC SIGNAL NOTES

GRAPHIC SCALE: 1" = 20' (20 0 20 40)

Know what's **below.** **Call** before you dig.

CAUTION:
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CITY OF ALBANY CALIFORNIA URBAN VILLAGE BY THE BAY

REVIEWED FOR GENERAL CONFORMANCE WITH THE CITY OF ALBANY STANDARD SPECIFICATIONS AND ORDINANCES

REGISTERED PROFESSIONAL ENGINEER RAY CHAN No. C56473 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

RAY CHAN
CITY ENGINEER
DATE: 04/14/14

City of Albany
Marin Ave Bikeway and Undergrounding District

TRAFFIC SIGNAL PLAN
PROPOSED LAYOUT
MARIN AVE (SAN PABLO AVE INTERSECTION)

SHEET: TS-1.1
DWG No. 20 OF 36

90% SUBMITTAL (08/25/2015)

CONDUCTOR AND CONDUIT SCHEDULE

AWG OR CABLE	CONDUIT RUN	1	2	3	4	5	6	7	8	9	10	11	12
14 AWG	VEHICLE ø1	3						3	3		3		3
	ø2	6	3	3				3	3		3		3
	ø3	3									3		3
	ø4	3 / **2**					3 / **2**	3 / **2**	3 / **2**	3 / **2**	3 / **2**		3 / **2**
	ø5	6	3	3									
	ø6	3									3		3
	ø7	6	3	3			3	3	3		3		3
	ø8	6	3	3	3							3	
	OVB	/ **2**					**2**	**2**	**2**	**2**	**2**		**2**
	ACTIVATED BLANKOUT	/ **2**					**2**	**2**	**2**	**2**	**2**		**2**
	PED ø2P	4	2	2				2	2		2		2
	ø4P	2					2	2	2		2		2
	ø6P	2									2		2
	ø8P	4	2	2								2	
	PPB ø2	2	1	1			1	1	1		1		1
	ø4	1						1	1		1		1
	ø6	2								1	1	1	1
	ø8	1	1	1									
	PPB COMMON	2	1	1			1	1	1	1	1		1
	SPARES	6	3	3	3		3	3	3	3	3	3	3
	TOTAL NO. 14	62 / **2**	22	22	6		13 / **6**	22 / **6**	22 / **6**	8 / **6**	31 / **6**	9	31 / **6**
DLC	DETECTOR CABLES												
	1I1U, 1I1L	2	2										
	2I2U, 2I2L, 2I4L, 2I4U	4						4	4	4	4		4
	3I5U	1	1	1	1								1
	4I6L, 4I6U, 4I7L, 4I8U 4I8L, **4I8U**	1 / **5**									1 / **5**		1 / **5**
	5J1L, 5J1U	2							2	2	2		2
	6J2L, 6J2U	2											
	7J5U	1											1
	8J6L, 8J6U, 8J8L, 8J8U	4	4	4	4								
	QUEUE LOOP	/ **1**									/ **1**		/ **1**
	TOTAL DETECTOR CABLES	17 / **6**	7	5	5			4	6	6	7 / **6**		8 / **6**
10 AWG	LIGHTING (120V)		2	2			2	2	2	2		2	
	IISNS		2				2	2		2	2		2
	TOTAL NO. 10		4	2			4	4	2	4		2	
8 AWG	SIGNAL NEUTRAL (120V)	2	1	1	1		1	1	1	1	1	1	1
	SERVICE TO CONTROLLER	2	2	2									
	TOTAL NO. 8	4	3	3	1		1	1	1	1	1	1	1
INTER-CONNECTION SYSYEM	#14 INTERCONNECT	8											
	SIC	1											
OPTICOM													
	EVA	1	1	1									
	EVB	1					1	1	1	1	1		1
	EVC	1								1	1		1
	EVD	1									1		1
	TOTAL EVP CABLE	4	1	1			1	1	1	2	3		3
CONDUIT QUANTITY AND SIZE (INCHES)		34%	18%	15%	13%		9%	9%	11%	10%	12%		12%
PERCENT FILL		2-3"	2.5"	2.5"	2"		3"	3"	3"	3"	4"	2"	4"

POLE AND EQUIPMENT SCHEDULE

NO.	STANDARD TYPE	STANDARD SIG M.A.	STANDARD LUM M.A.	VEH SIG MTG MAST ARM	VEH SIG MTG POLE	PED SIGNAL MTG	PPB ø	PPB ARROW	HPS LUMINAIRE	STREET NAME SIGN (IISNS)	SPECIAL REQUIREMENTS
Ⓐ	26-3-70	40'	12'	MAS MAS	SV-2-TA	SP-2-T	2	←	139W		
							8	→			
Ⓑ	1-B				TV-1-T						
Ⓒ	24-3-100	35'	12'	MAS	**SV-1-T**	SP-1-T	4	←	139W		**NEW R3-1 ACTIVATED BLANKOUT AND NEW 5-SECTION SIGNAL HEAD PER DETAIL SHEET TS1.2**
Ⓓ	15TS				SV-2-TA	SP-1-T	2	→	139W		
Ⓔ	26-3-100	45'	15'	MAS	SV-1-T	SP-1-T	4	→	139W		
							4	←			
Ⓕ	19-2-100	30'	15'	MAS	**SV-2-T**	SP-1-T	6	←	139W		**NEW R3-1 ACTIVATED BLANKOUT AND NEW 5-SECTION SIGNAL HEAD PER DETAIL SHEET TS1.2**
Ⓖ	24-3-70	25'	12'	MAS	SV-1-T	SP-1-T	6	→	139W		
Ⓗ	15TS				SV-2-T	SP-1-T	8	→			

REFER TO SHEET TS-1.0 FOR TRAFFIC SIGNAL NOTES

Know what's **below.** **Call** before you dig.

CAUTION:
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EXISTING 8" HPF PARALLEL WITH MARIN AVENUE ALONG NORTH SIDE
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08/28/2015

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RAY CHAN
CITY ENGINEER
DATE: 04/14/14

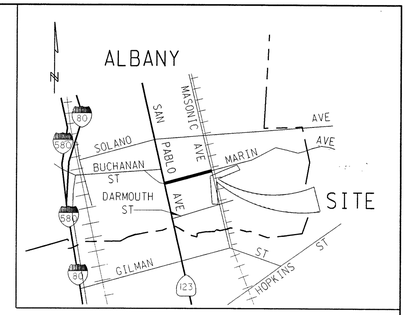
REGISTERED PROFESSIONAL ENGINEER — RAY CHAN — No. C56473 — Exp. 06/30/15 — CIVIL — STATE OF CALIFORNIA

City of Albany
Marin Ave Bikeway and Undergrounding District

CONDUCTOR AND CONDUIT SCHEDULE
MARIN AVE (SAN PABLO AVE INTERSECTION)

SHEET: TS-1.2
DWG No. 21 OF 36

90% SUBMITTAL (08/25/2015)



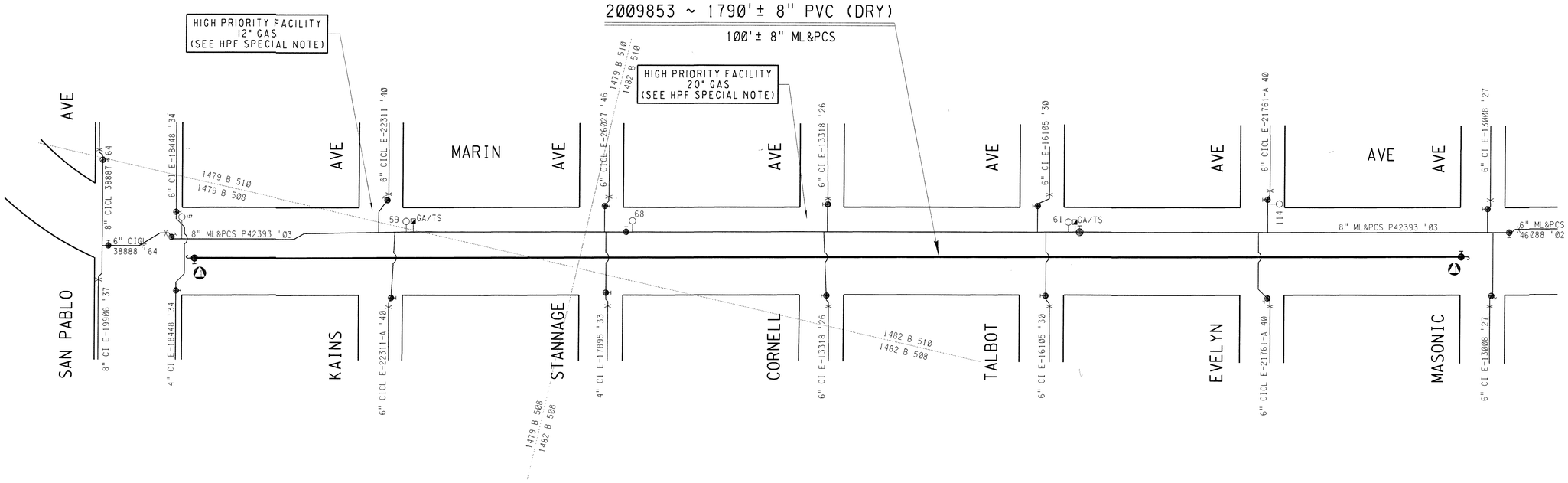
VICINITY MAP
N.T.S.

2009853 ~ 1790'± 8" PVC (DRY)

100'± 8" ML&PCS

HIGH PRIORITY FACILITY
12" GAS
(SEE HPF SPECIAL NOTE)

HIGH PRIORITY FACILITY
20" GAS
(SEE HPF SPECIAL NOTE)



HIGH PRIORITY FACILITY SPECIAL NOTE

HIGH PRIORITY FACILITY:
12" & 20" GAS

CONTACT:
DON JONES
510 231 2847
510 760 8199 (CELL)
1100 S. 27TH ST, RICHMOND

2009853

BEFORE YOU DIG
CALL UNDERGROUND SERVICE ALERT
800-642-2444

CONSTRUCTION BY CONTRACT
CONTRACT NO.
JUSTIFICATION SYSTEM IMPROVEMENT
PAVING 1900'± AC
REFERENCE FB 2412

CHRISTOPHER F. DODGE — No. 43650 — Exp. 03/31/15 — CIVIL — STATE OF CALIFORNIA

NO.	DATE	REVISION	BY	REC.	APP.
3	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	DWD	GD	CFD

DESIGN: DESIGNED BY Gary Balboa; DESIGN CHECKED BY DWD; DRAWN BY
REVIEW: CORROSION CHECK BY; RECOMMENDED SR.CIVIL ENGINEER R.P.E. NO. C 43650 CF Dodge; APPROVED MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY
8" PVC (DRY)
PIPE INSTALLATION
MARIN AVE
SAN PABLO AVE TO MASONIC AVE

STRUCTURE OR ZONE DESIGNATION
SCALE 1" = 100'
DATE 17 FEB '15

W-10345-1 7

DISTRIBUTION SYSTEM MAP NO. 1479 B 510 / 1479 B 508

PLOT DATE: 27-AUG-2015 09:51
FILE: H:\mgr-sw\10345dgn\sw1034501.dgn

PROJECT DRAWINGS	
DRAWING NO.	**DESCRIPTION**
W-10345-1	8" PVC (DRY) PIPE INSTALLATION
W-10345-2	SYMBOLS, GENERAL NOTES & LIST OF DRAWINGS
W-10345-3	8" PVC (DRY) PIPE INSTALLATION
W-10345-4	8" PVC (DRY) PIPE INSTALLATION
(5) W-10345-5	PROJECT DETAILS
(6) W-10345-6	PROJECT DETAILS
(7) W-10345-7	PROJECT DETAILS

SYMBOLS

SIZE ON SIZE MAIN-LINE VALVE WITH 4"BLOWOFF

BLOWOFF & PUMPING TEE

AIR VALVE

MAIN LINE VALVE

HORIZONTAL ELBOW

VERTICAL ELBOW

HORIZONTAL SINGLE FIELD CUT

VERTICAL SINGLE FIELD CUT

SADDLE NOZZLE (TURNOUT)

TEE

FLEX COUPLING

ADAPTOR BELL

CHANGE OF PIPE

REDUCER/TAPER

OFFSET RETURN (BEGIN TO END)

PROPOSED PIPELINE UNDER 20"

EXISTING PIPELINE UNDER 20"

EXISTING PIPELINE 20" AND OVER

GALVANIC ANODE WITH TEST STATION

HYDRANT (PROPOSED)

HYDRANT (EXISTING)

TELEPHONE

CABLE TV

GAS

SEWER

ELECTRIC

STORM DRAIN

TRAFFIC STRIPING

TRAFFIC LOOP

RIGHT OF WAY STREET

RIGHT OF WAY EBMUD

ABBREVIATIONS

AB	AGGREGATE BASE
ABS	ASBESTOS
ABAN	ABANDONED
AC	ASPHALTIC CONCRETE/ ABESTOS CEMENT
ASB	AGGREGATE SUB-BASE
AV	AIR RELEASE & VACUUM VALVE
AVE	AVENUE
BC	BEGINNING OF CURVE
BEG	BEGIN
BF	BUTTERFLY
B'FLY	BUTTERFLY
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BLVD	BOULEVARD
BO	BLOWOFF
BO&PT	BLOWOFF & PUMPING TEE
C	COVER
CATV	CABLE TV
CB	CATCH BASIN
CI	CAST IRON, CURB INLET
CIPP	CURED IN PLACE PIPE
CIR	CIRCLE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT, COUNTY
CONN	CONNECTION
CONT'D	CONTINUED
CONST	CONSTRUCTION
CR	CURB RETURN
CT	COURT
DI	DRAINAGE INLET, DUCTAL IRON
DR	DRAIN, DRIVE
DN	DOWN
DWG	DRAWING
DWY, D/W	DRIVEWAY
EBMUD	EAST BAY MUNICIPAL UTILITY DISTRICT
E	EAST, ELECTRICAL
EC	END OF CURVE
EL	ELEVATION
ELL	ELBOW
E/L	EAST PROPERTY LINE
ELEC	ELECTRICAL
EP	EDGE OF PAVEMENT
EXIST	EXISTING
F/C	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
FL	FLOW
FLG'D	FLANGED
FO	FIBER OPTIC
FS	FIRE SERVICE
GA/TS, GA/ETS	GALVANIC ANODE W/TEST STATION
GV	GAS VALVE
H,HORIZ	HORIZONTAL
H-	HYDRANT
HDPE	HIGH DENSITY POLYETHYLENE
ID	IDENTIFICATION/ INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE
IRR	IRRIGATION
JT	JOINT TRENCH
JP	JOINT POLE
L	LENGTH
LB	POUND
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
ML&CS	MORTAR LINED & COATED STEEL
ML&PCDI	MORTAR LINED & POLYURETHANE COATED DUCTILE IRON
ML&PCS	MORTAR LINED & PLASTIC COATED STEEL OR TAPE WRAPPED STEEL
ML&TWS	MORTAR LINED & TAPE WRAPPED STEEL
MON	MONUMENT
MPH	MILES PER HOUR
N	NORTH
NAD	NORTH AMERICAN DATUM
N/L	NORTH PROPERTY LINE
NTS	NOT TO SCALE
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PG&E	PACIFC GAS & ELECTRIC
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PKY	PARKWAY
PT	POINT OF TANGENT
PRC	POINT OF REVERSE CURVE
POLY	POLYWRAPPED
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RED	REDUCER
RFS	REMOVE FROM SERVICE
R/R	RAILROAD
RRS	RAILROAD SPIKE
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SEW	SEWER
SFC	SINGLE FIELD CUT
S/L	SOUTH PROPERTY LINE
STA	STATION
STL	STEEL
SUBD	SUBDIVISION
TBA	TO BE ABANDONED
TC	TOP OF CURB TITON COMPATIBLE
TD	TRAFFIC DETECTOR
TEL	TELEPHONE
TV	TELEVISION
TYP	TYPICAL
TI	TRAFFIC INDEX
V,VERT	VERTICAL
VCP	VITRIFIED CLAY PIPE
VLV	VALVE
W, WAT	WEST,WATER
W/L	WEST PROPERTY LINE
WM	WATER METER

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, MINIMUM CONSTRUCTION COVER SHALL BE 36" OF COMPACTED MATERIAL AT ALL TIMES.

2. ALL GATE VALVES SHALL BE RESILIENT SEATED TYPE.

3. ALL OVERHEAD UTILITIES MAY NOT BE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL REMOVE, REPLACE AND/OR RELOCATE ALL OVERHEAD INTERFERENCE WHICH MAY AFFECT OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME.

4. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD POWER LINES OR UNDERGROUND POWER, GAS AND OTHER UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT AND SHALL BE RESPONSIBLE FOR ALL COSTS AND LIABILITY IN CONNECTION THEREWITH.

5. ALL EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN ON THE DRAWINGS. ALL KNOWN EXISTING UNDERGROUND CONDUITS, PIPELINES AND OTHER UTILITIES ARE SHOWN ON THE CONTRACT DRAWINGS IN THEIR APPROXIMATE LOCATION. THE ACCURACY OR COMPLETENESS OF UTILITIES INDICATED ON THE DRAWINGS IS NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND SERVICE CONNECTIONS ALONG THE PIPELINE.

6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY UTILITY LOCATIONS IN ADVANCE OF CONSTRUCTION.

7. ANY ABANDONED UTILITIES WHICH ARE WITHIN THE TRENCH EXCAVATION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. VERIFY WITH CONTRACTING OFFICER THAT UTILITIES ARE ABANDONED PRIOR TO START OF WORK.

8. CONTRACTOR SHALL PRESERVE ALL SURVEY MARKERS AND MONUMENTS WHEREVER POSSIBLE. THOSE REQUIRING REMOVAL SHALL BE RE-ESTABLISHED.

9. CONTRACTOR SHALL LIMIT CONSTRUCTION OPERATIONS TO WITHIN THE RIGHT-OF-WAY, DESIGNATED WORK AREAS AND PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS AS INDICATED ON DRAWINGS.

10. NO TRENCH SPOILS OR PIPE SHALL BE TEMPORARILY PLACED OVER WETLANDS OR LOCATED OUTSIDE THE TEMPORARY AND PERMANENT CONSTRUCTION EASEMENTS.

11. EXCAVATION SHOWN IN THE DETAILS ARE GRAPHICAL REPRESENTATION ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS CONSISTENT WITH THE SPECIFICATIONS AND CONFORMANCE WITH THE LOCAL, STATE AND FEDERAL CODES GOVERNING SAFETY OF EXCAVATION AND TRENCHES.

12. EXCAVATION SLOPE ANGLES DEPEND UPON SOIL TYPE, EXCAVATION DEPTH, SAFETY REGULATIONS AND OTHER FACTORS.

13. CONTRACTOR'S WATER SOURCE WILL BE THE HYDRANTS APPROVED FOR USE BY THE DISTRICT.

14. ALL TRAFFIC LOOPS MAY NOT BE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL REPLACE DAMAGED TRAFFIC LOOPS AS SOON AS POSSIBLE. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE CITY AT EACH TRAFFIC SIGNALED INTERSECTION BEFORE DOING WORK THAT WILL DAMAGE TRAFFIC LOOPS.

15. CONTRACTOR SHALL REPLACE DAMAGED DECORATIVE PAVING WITH EQUIVALENT REPLACEMENTS.

16. THE BOOKLET "STANDARD DRAWINGS FOR INSTALLATION OF EAST BAY MUNICIPAL UTILITY DISTRICT WATER MAINS 20" AND SMALLER" (DATED NOV 2012) IS ALSO PART OF THIS SPECIFICATION AND WILL BE PROVIDED UPON REQUEST.

BASIS OF BEARINGS

THE BASIS OF BEARING HERON IS BASED ON THE BEARING BETWEEN THE NGS MONUMENT DE8482, LOCATED 36.75 FEET WEST OF THE CENTERLINE OF GRIZZLY PEAK ROAD AND 35.80 FEET NORTH OF THE CENTERLINE OF SPRUCE STREET; AND THE CITY OF ALBANY CONTROL POINT NUMBER 423. A CUT CROSS IN THE SOUTHERLY END OF THE MEDIAN ISLAND ON SAN PABLO AVENUE, APPROXIMATELY 84.4 FEET NORTH OF THE INTERSECTION OF MARIN AVENUE AND SAN PABLO AVENUE, BEING S52°57'26"E (NAD83).

FOR CONTROL COORDINATES, SEE SHEET K-01.

VERTICAL DATUM

ELEVATIONS SHOWN HEREON ARE BASED UPON CITY OF ALBANY VERTICAL CONTROL POINT NUMBER 3017 (ELEVATION 25.626') LOCATED AT PROJECT "BU" LINE STATION 1014+76.02 AND "BW1" LINE STATION 110+54.11

HORIZONTAL DATUM

ALL COORDINATES AND DISTANCES SHOWN HEREON ARE BASED ON NORTH AMERICAN DATUM 1983, ZONE III (CORS96) 2002.00 EPOCH, AND ARE GIVEN IN U.S. SURVEY FEET. DISTANCES SHOWN HEREON ARE AT GROUND LEVEL.

PIPELINE NOTES

1. CONSTRUCTION SURVEY REQUIRED. SEE SPEC SECTION 02 21 13.

2. AS-BUILT DATA TO BE RECORDED IN ACCORDANCE WITH SPECIFICATION.

3. IRON ELLS 22-1/2° OR GREATER OR TEES SHALL BE ANCHORED PER STD. DWG. 3360-B

PVC PLASTIC PIPE

1. MAINTAIN ALIGNMENT OF PVC THROUGH CURVES BY USE OF IRON ELLS AND HIGH DEFLECTION PVC COUPLINGS. MINIMUM ALLOWABLE ALIGNMENT RADIUS WITH USE OF HIGH DEFLECTION PVC COUPLING IS 230 FT. NO BENDING OF PVC PIPE PERMITTED.

2. PVC PIPE SHALL BE AWWA C-900, CLASS 305, DR14. COLORED PURPLE (PANTONE PURPLE 512C) AND MARKED "NONPOTABLE".

3. IRON FITTINGS AND VALVES TO HAVE TYTON OR TYTON COMPATIBLE JOINTS (T.C.) UNLESS OTHERWISE INDICATED.

4. INSTALL METALLIC TRACER WIRES IN ACCORDANCE WITH SPECIFICATIONS.

ML&PCS PIPE

1. FITTINGS FOR USE ON 8" ML&PCS PIPELINES SHALL BE AS SHOWN ON STD. DWG. 309-EA UNLESS OTHERWISE INDICATED.

2. ALL UNCOATED FERROUS METAL SURFACES IN THE COMPLETED PIPELINES SHALL BE COATED IN ACCORDANCE WITH SPECIFICATIONS.

3. COATING SHALL BE COLORED PURPLE (PANTONE PURPLE 512C) AND MARKED "NONPOTABLE".

4. SINGLE FIELD CUTS SHALL NOT EXCEED 22-1/2° FOR 4"-12" PIPE. LARGER DEFLECTIONS SHALL BE CUT FROM STANDARD ELBOWS, STD. DWG. 309-EA.

5. ML&PCS IS MORTAR LINED AND PLASTIC COATED STEEL PIPE. 8" ML&PCS IS 8.625" O.D., 10 GA.

6. INSTALL 32-LB. ANODE PER STD. DWG. 286-EA, FIG. B-2 ON EACH ISOLATED RUN OF STEEL PIPE.

SPECIAL NOTES

1. WHEN CROSSING A POTABLE WATER LINE, A MINIMUM OF 10'-0" SEPARATION SHALL BE MAINTAINED BETWEEN ANY PVC JOINT IN THE RECYCLED WATER MAIN AND THE POTABLE WATER LINE. WHEN CROSSING OTHER UTILITIES OR STORM DRAINS. DIMENSIONS ON PROJECT DETAIL 1870-A SHALL BE UTILIZED.

TRENCH SPOILS HANDLING AND DISPOSAL

1. SEE SPECIFICATION SECTION 01 35 44 FOR TRENCH SPOILS HANDLING AND DISPOSAL.

STATION NOTES

1. ALL PLAN AND PROFILE DRAWINGS INCLUDE STATION NOTES. THESE NOTES WILL BE USED BY THE DISTRICT TO RECORD AS-BUILT INFORMATION INCLUDING LOCATION AND COVER.

2. STATION NOTES INDICATE THE SEQUENCE OF PIPELINE APPURTENANCES, CHANGES IN PIPELINE MATERIAL AND UTILITY CROSSING INFORMATION.

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER F. DODGE — No. 43650 — EXP. 03/31/15 — CIVIL — STATE OF CALIFORNIA

NO.	DATE	REVISION	BY	REC.	APP.
3	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	DWD	GD	CFD

DESIGN: DESIGNED BY Gary Babian; DESIGN CHECKED BY DWD Dawson; DRAWN BY

REVIEW: CORROSION CHECK BY; RECOMMENDED SR.CIVIL ENGINEER R.P.E. NO. C 43650 CF Dodge; APPROVED ACT MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170 Carroll

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER MARIN AVE, ALBANY

SYMBOLS, GENERAL NOTES & LIST OF DRAWINGS

MARIN AVE
SAN PABLO AVE TO MASONIC AVE

STRUCTURE OR ZONE DESIGNATION
SCALE NONE
DATE 17 FEB 15

W-10345-2

DISTRIBUTION SYSTEM MAP NO. 7

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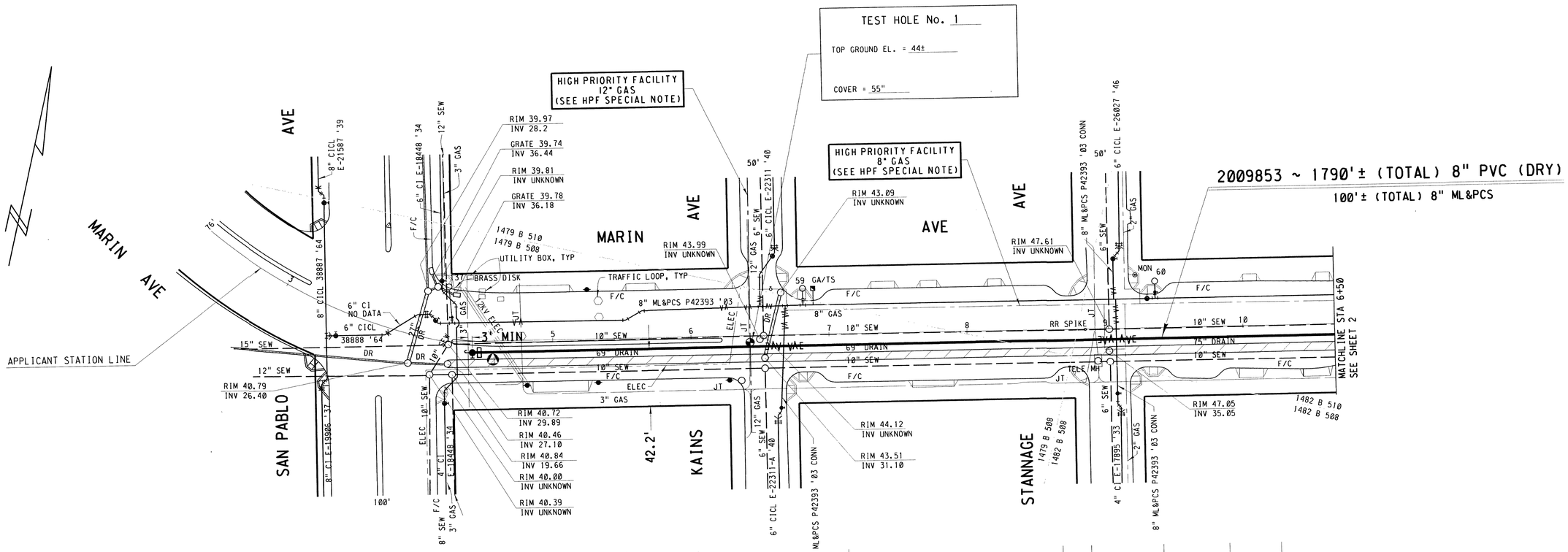

2009853

E/L SAN PABLO AVE

3" GAS C = ____

8" VALVE, GATE, FLG'D X TC C = ____
M:____ O:____ T:____
BEG 4" BLOWOFF
DWG 332-EA
8" ANCHOR
DWG 194-EA

INSTALL (OVER/UNDER) 12KV ELEC C = ____
8" PVC C = ____

INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____

W/L KAINS AVE

C = ____
INSTALL UNDER ELEC C = ____
8" PVC C = ____

INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____

INSTALL OVER 12" GAS C = ____
8" PVC
(HIGH PRIORITY FACILITY CROSSING)

INSTALL OVER DRAIN C = ____
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
8" SKIRTED FLANGE
8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL UNDER 8" ML&PCS (P42393) C = ____
8" ML&PCS C = ____

8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____

8" SKIRTED FLANGE
8" ADAPTER, BELL FLG'D C = ____
(END 8" ML&PCS, BEG 8" PVC)

E/L KAINS AVE

W/L STANNAGE AVE

INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____

INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
8" SKIRTED FLANGE
INSTALL (OVER/UNDER) GAS C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL UNDER 8" ML&PCS (P42393) C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL (OVER/UNDER) 2" GAS C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
8" SKIRTED FLANGE
8" ADAPTER, BELL FLG'D C = ____
(END 8" ML&PCS, BEG 8" PVC)

E/L STANNAGE AVE

HIGH PRIORITY FACILITY SPECIAL NOTE

HIGH PRIORITY FACILITY:
12" GAS

CONTACT:
DON JONES
510 231 2847
510 760 8199 (CELL)
1100 S. 27TH ST, RICHMOND

2009853

NO.	DATE	REVISION	BY	REC.	APP.
3	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	EWO	GD	CFD

CHRISTOPHER F. DODGE No. 43650 Exp. 03/31/15 CIVIL STATE OF CALIFORNIA

DESIGN
DESIGNED BY Gary Baban
DESIGN CHECKED BY DMR
DRAWN BY
REVIEW
CORROSION CHECK BY
RECOMMENDED SR.CIVIL ENGINEER R.P.E. NO. C 43650 CF Dodge
APPROVED MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY
8" PVC (DRY)
PIPE INSTALLATION
MARIN AVE
SAN PABLO AVE TO STA 6+50

STRUCTURE OR ZONE DESIGNATION
SCALE 1" = 40'
DATE 17 FEB 15

W-10345-3 7

DISTRIBUTION SYSTEM MAP NO. 1479 B 508/510
1482 B 508/510

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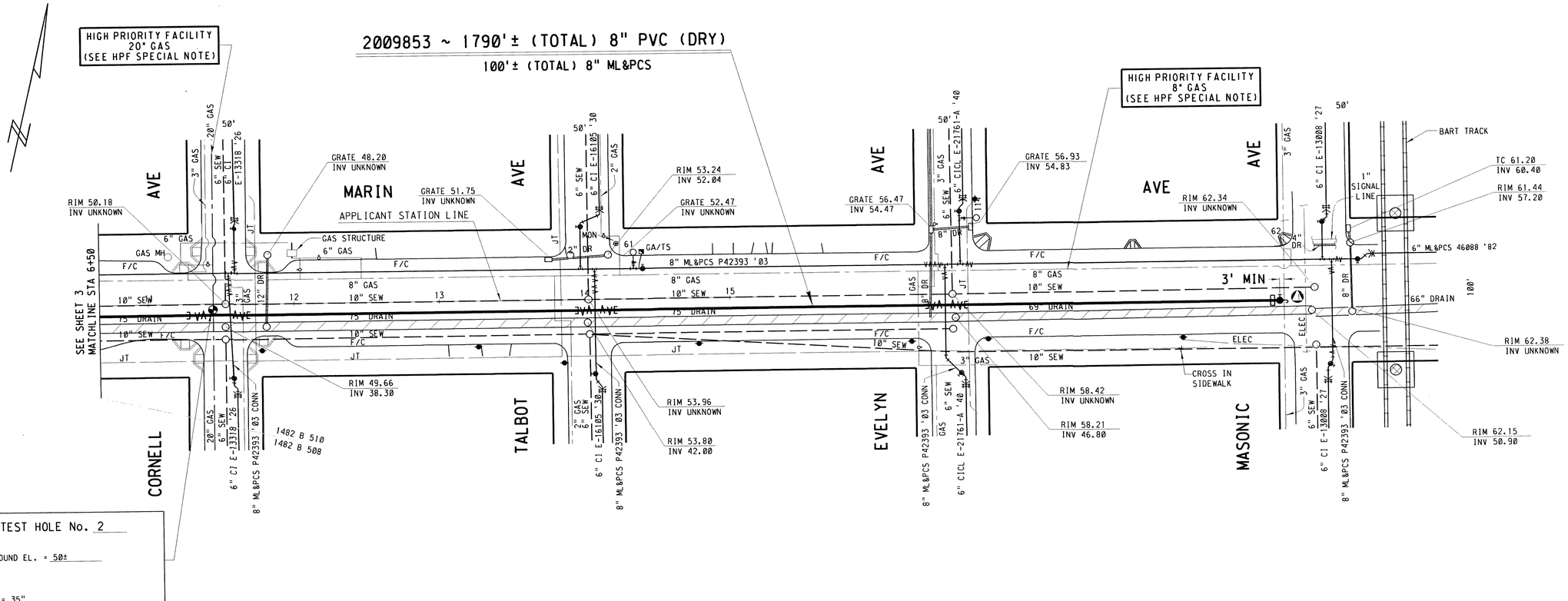

TEST HOLE No. 2

TOP GROUND EL. = 50±

COVER = 35"

2009853 (CONT'D)

W/L CORNELL AVE
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
8" SKIRTED FLANGE
8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL UNDER 20" GAS C = ____
8" ML&PCS C = ____
(HIGH PRIORITY FACILITY CROSSING)
INSTALL UNDER 8" ML&PCS (P42393) C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL (OVER/UNDER) GAS C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
8" SKIRTED FLANGE
8" ADAPTER, BELL FLG'D C = ____
(END 8" ML&PCS, BEG 8" PVC)
INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____
E/L CORNELL AVE
INSTALL (OVER/UNDER) 12" DRAIN C = ____
8" PVC C = ____
W/L TALBOT AVE
INSTALL (OVER/UNDER) 2" GAS C = ____
8" PVC C = ____
INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
8" SKIRTED FLANGE
8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
8" SKIRTED FLANGE
8" ADAPTER, BELL FLG'D C = ____
(END 8" ML&PCS, BEG 8" PVC)
E/L TALBOT AVE
W/L EVELYN AVE
INSTALL (OVER/UNDER) GAS C = ____
8" PVC C = ____
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
8" SKIRTED FLANGE
INSTALL (OVER/UNDER) 8" DRAIN C = ____
8" ML&PCS C = ____
8" ELL, 45° (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
INSTALL UNDER 8" ML&PCS (P42393) C = ____
8" ML&PCS C = ____
8" ELL, 45°, (VERT) C = ____
8" ELL, 45°, (VERT) C = ____
8" SKIRTED FLANGE
8" ADAPTER, BELL FLG'D C = ____
(END 8" PVC, BEG 8" ML&PCS)
INSTALL (OVER/UNDER) JOINT TRENCH C = ____
8" PVC C = ____
E/L EVELYN AVE
8" ANCHOR DWG 194-EA
8" VALVE, GATE, FLG'D X TC C = ____
M: ____ O: ____ T: ____
BEG 4" BLOWOFF DWG 332-EA
W/L MASONIC AVE
3" GAS C = ____

HIGH PRIORITY FACILITY SPECIAL NOTE

HIGH PRIORITY FACILITY:
12" GAS

CONTACT:
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510 760 8199 (CELL)
1100 S. 27TH ST, RICHMOND

2009853

NO.	DATE	REVISION	BY	REC.	APP.
1	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	DWD	CD	CFD

CHRISTOPHER F. DODGE No. 43650 Exp. 03/31/15 CIVIL REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

DESIGN: DESIGNED BY Gary Baban; DESIGN CHECKED BY DMP Dacmos; DRAWN BY

REVIEW: CORROSION CHECK BY; RECOMMENDED SR.CIVIL ENGINEER R.P.E. NO. C 43650; APPROVED MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170 CF Dodge

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY
8" PVC (DRY)
PIPE INSTALLATION
MARIN AVE
STA 6+50 TO MASONIC AVE

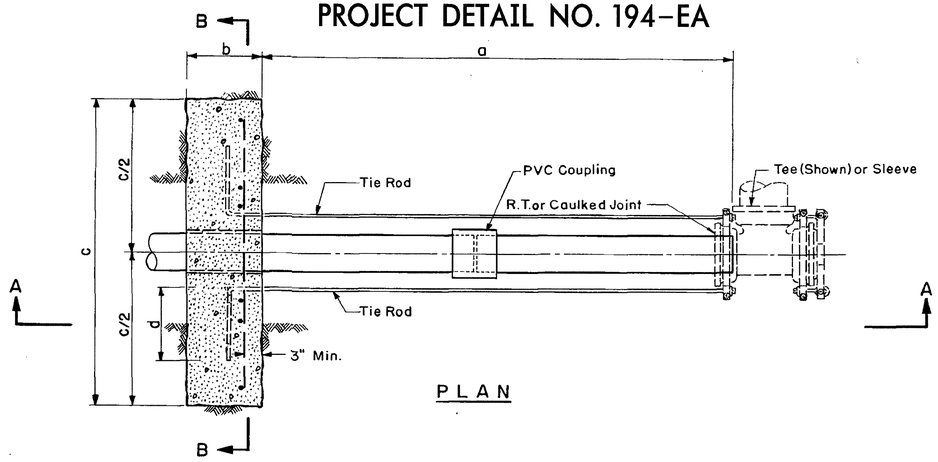
STRUCTURE OR ZONE DESIGNATION
SCALE 1" = 40'
DATE 17 FEB '15

W-10345-4 7

DISTRIBUTION SYSTEM MAP NO. 1482 B 510

USER: eowre
PLOT DATE: 27-AUG-2015 10:28
FILE: N:\Eng\pw10345\dgn\w10345d04.dgn

ANCHOR INSTALLATIONS FOR PLUGGED FITTING ON A.C. AND PVC PIPE PROJECT DETAIL NO. 194-EA



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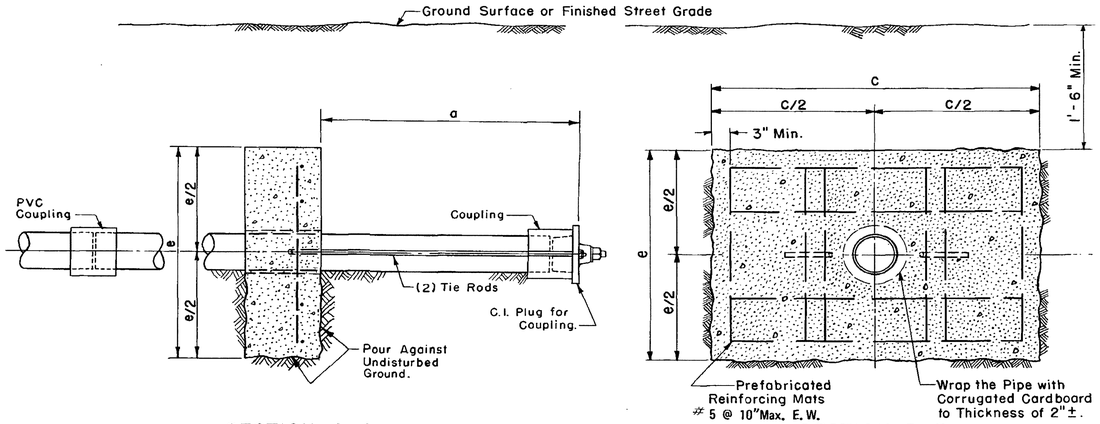


SECTION A-A

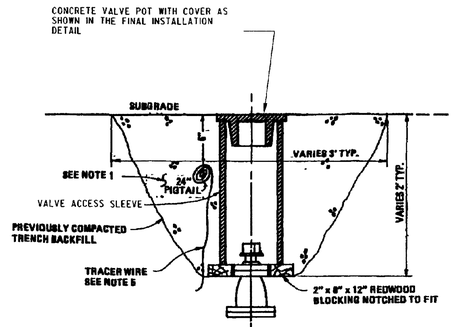
SECTION B-B

DIAMETER OF PIPE (Inches)	TIE ROD SIZE	DIMENSIONS				
		a	b	c	d	e
6	½"x 6'-6"	5'-0"	1'-0"	3'-0"	6"	3'-0"
8	⅝"x 7'-6"	6'-0"	1'-0"	3'-6"	6"	3'-6"
12	⅞"x 10'-0"	7'-9"	1'-0"	6'-1"	1'-3"	4'-9"

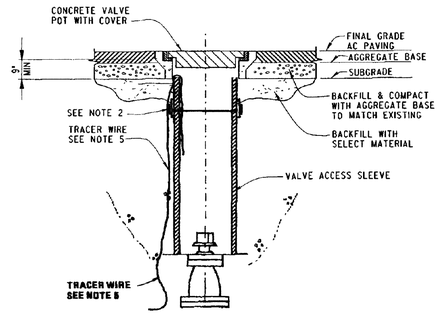
NOTES:

1. ANCHOR TIE ROD STOCK SHALL BE A-36 STEEL OR APPROVED EQUIVALENT, AND REINFORCING BARS TO BE GRADE 60 STEEL.
2. APPLY MASTIC, IN ACCORDANCE WITH SPECIFICATIONS.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGHT OF 3000 PSI AT 28 DAYS.
4. HORIZONTAL MAT BARS MAY BE TEMPORARILY REMOVED AND REPLACED TO PERMIT PIPE PLACEMENT.
5. USE RESTRAINED JOINTS AT 16" PIPE SIZES.

VALVE POT INSTALLATION PROJECT DETAIL NO. 321-EA

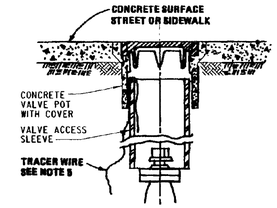


PRELIMINARY INSTALLATION PRIOR TO PLACING PAVING BASE

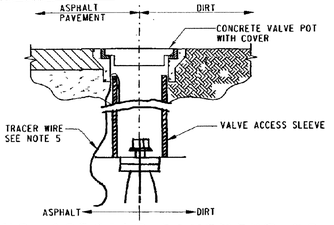


FINAL INSTALLATION AFTER PAVING IS COMPLETED

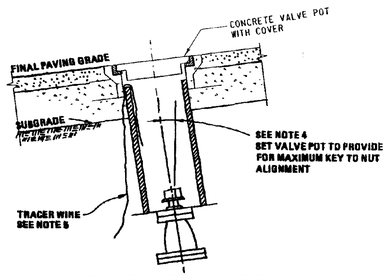
IN NEW A.C. STREET CONSTRUCTION



IN EXISTING **CONCRETE PAVEMENT**



IN EXISTING ASPHALT PAVEMENT OR DIRT



IN SLOPING GRADES

NOTES

1. AGGREGATE BASE OR OTHER SUITABLE MATERIAL FOR COMPACTING SEE SPECIFICATION.
2. USE REPAIR CLAMP, OR 3 WRAPS OF 2" WIDE PIPE TAPE, OR EQUIVALENT, TO HOLD JOINT IN ALIGNMENT WHILE PLACING CONCRETE.
3. VALVE ACCESS SLEEVE IS 8.625" O.D. STEEL PIPE, MIN. WALL 10 GA., MAX. SCHEDULE 40 OR SCHEDULE 40 PVC PIPE.
4. TOP OF VALVE COVER TO FIT FLUSH WITH FINISHED GRADE OF THE STREET OR RIGHT OF WAY.
5. NON-METALLIC MAINS REQUIRE TRACER WIRE TO BE EXTENDED INTO THE TOP OF THE VALVE POT, IN ACCORDANCE WITH SPECIFICATIONS.
6. ON STREET RESURFACING PROJECTS, INSTALL RISER RING(S), AS REQUIRED TO ALLOW GATE POT COVER TO CONFIRM WITH ADJACENT SURFACES.
7. USE CHRISTY "G05 TRAFFIC VALVE BOX" (10-3/8" X 12") LABELED "RECYCLED WATER" OR APPROVED EQUIVALENT. TRAFFIC BOX IS H/20 RATED. PAINT LID AND INTERIOR SURFACES OF POT 'PURPLE'.

NO.	DATE	REVISION	BY	REC.	APP.
1	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	EWD	BSD	CFD

CHRISTOPHER F. DODGE No. 43650 Exp. 03/31/15 CIVIL STATE OF CALIFORNIA

DESIGN: DESIGNED BY DM Dacumos; DESIGN CHECKED BY Elena Alos; DRAWN BY PID

REVIEW: CORROSION CHECK BY; RECOMMENDED SR. CIVIL ENGINEER R.P.E. NO. C 43650 CF Dodge; APPROVED MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY

PROJECT DETAILS

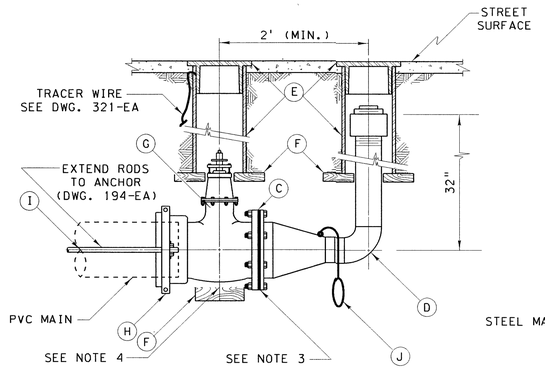
STRUCTURE OR ZONE DESIGNATION
SCALE NONE
DATE 30 MAR 15

W-10345-5 7

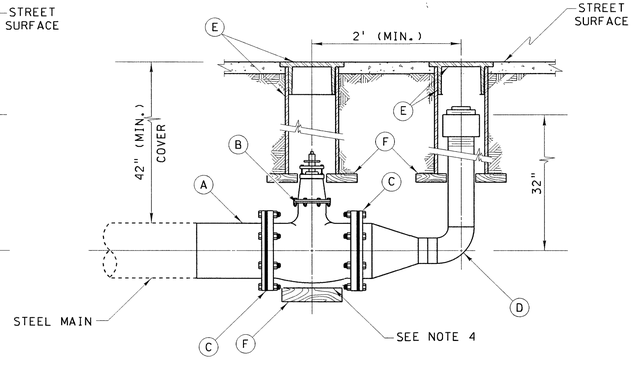
DISTRIBUTION SYSTEM MAP NO.

USER: drowe
PLOT DATE: 27-AUG-2015 10:31
FILE: H:\smpr-sw\10345\dgnsw\034505.dgn

SIZE ON SIZE MAIN-LINE VALVE WITH 4" BLOWOFF PROJECT DETAIL NO. 332-EA



4" BLOWOFF INSTALLATION
(FOR 6" AND 8" PVC MAINS)



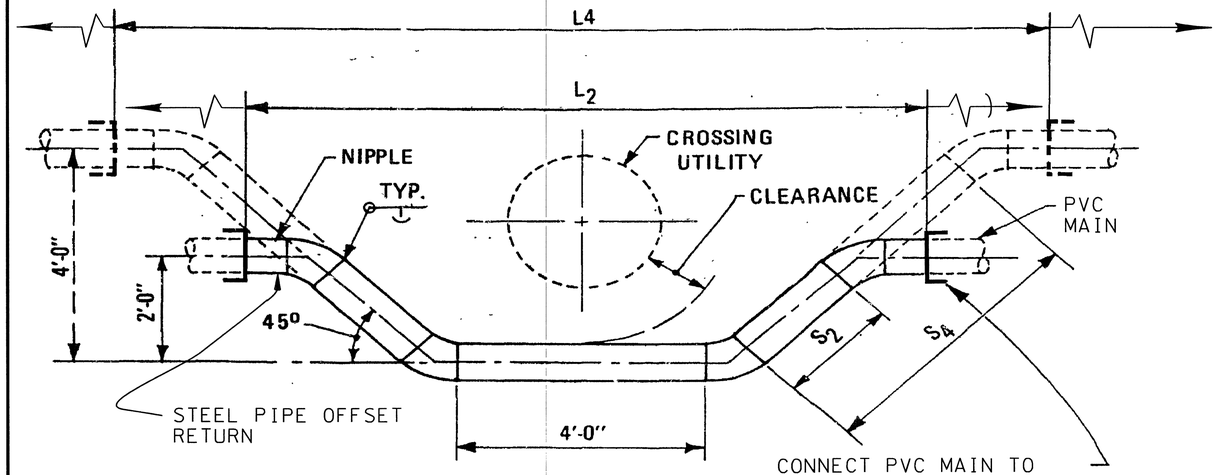
4" BLOWOFF INSTALLATION
(FOR 6" AND 8" STEEL MAINS)

ITEM NO.	MATERIAL LIST DESCRIPTION	QUANT. REQ'D	DISTRICT CODE PVC MAINS 6"	PVC MAINS 8"	STEEL MAINS 6"	STEEL MAINS 8"
A	SKIRTED FLANGE, ML&PCS, DWG.198-EA	1	-	-		
B	RESILIENT SEAT GATE VALVE, FLANGED, NON-RISING STEM, WITH NUT OPERATOR	1	-	-		
C	FLANGE GASKET, 150#, 1/16" THICK	2				
D	4" BLOWOFF ASSEMBLY PER DWG. 3677-B	1				
E	8" VALVE POT AND COVER, DWG. 321-EA	2				
F	2" x 8" x 12" REDWOOD BLOCKING	5				
G	GATE VALVE, PUSH ON BY FLANGED, RESILIENT SEAT, NON-RISING STEM WITH NUT OPERATOR	1			-	-
H	SINGLE COLLAR	1			-	-
I	TIE ROD 5/8" x 7'-6"	2			-	-
J	32 LB. GALVANIC ANODE, DWG. 286-EA, FIG. B	1			-	-

NOTES:

1. MASTIC COAT ITEMS B, G, H, AND I (INCLUDING RODS AND NUTS).
2. USE RUST INHIBITING GREASE ON ALL THREADS.
3. IF FUTURE EXTENSION IS REQUIRED, THEN USE FLANGE BY TYTON (OR TYTON COMPATIBLE) ADAPTER BELL DISTRICT CODE 055006 FOR 6" MAIN AND 055008 FOR 8" MAIN TO EXTEND PVC MAIN AFTER BLOWOFF IS REMOVED.
4. PLACE THREE (3) FOLDS POLYWRAP TUBING OR ONE (1) LAYER PIPE JOINT TAPE BETWEEN VALVE AND REDWOOD BLOCK.

MORTAR LINED & PLASTIC COATED STEEL PIPE OFFSET - RETURN PROJECT DETAIL NO. 1870-A



FIELD NOTES

1. **INSTALL 32 LB. GALVANIC ANODE, DWG. 286-EA, FIG. B, EXCEPT AS IN NOTES 2 AND 4.**
2. **WHEN INSTALLED AS PART OF A NEW PLASTIC COATED STEEL MAIN, MAKE THE CONNECTIONS WITH WELDED JOINTS INSTEAD OF FLEXIBLE COUPLINGS AND OMIT 32 LB. ANODE.**
3. **COAT ALL EXPOSED METAL PER SPECIFICATIONS.**
4. **IF CROSSING UTILITY IS STEEL PIPE AND CLEARANCE IS LESS THAN 12", PROVIDE FOR ELECTROLYSIS PROTECTION PER DWG. 308-EA, USING 32 LB. ANODES EACH SIDE.**

SHOP NOTES

1. FABRICATE FROM MORTAR LINED AND PLASTIC COATED STEEL PIPE, DWG. 1884-A, AND STEEL PIPE NIPPLES AND ELBOWS, DWG. 309-EA.
2. REPAIR PLASTIC COATING IN SHOP PER SPECIFICATIONS.
3. MORTAR LINING SHALL BE CONTINUOUS AND FLUSH WITH ENDS.
4. HOLD BACK COATING 2" FROM ENDS.

PIPE SIZE	2 FOOT OFFSET L_2	2 FOOT OFFSET S_2	4 FOOT OFFSET L_4	4 FOOT OFFSET S_4
4"	9' - 10"	2' - 5"	13' - 10"	5' - 3"
6"	10' - 9"	2' - 2-1/4"	14' - 9"	5' - 0 1/4"
8"	11' - 2"	2' - 0"	15' - 2"	4' - 10"
* 12"	12' - 4"	1' - 7"	16' - 4"	4' - 5"

CHRISTOPHER F. DODGE No. 43650 Exp. 03/31/15 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY	REC.	APP.
1	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	DWD	BD	CFD

DESIGN: DESIGNED BY DM Davimos; DESIGN CHECKED BY Elena Rose; DRAWN BY
REVIEW: CORROSION CHECK BY; RECOMMENDED SR.CIVIL ENGINEER R.P.E. NO. C 43650 CF Dodge; APPROVED MGR PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY

PROJECT DETAILS

STRUCTURE OR ZONE DESIGNATION
SCALE NONE
DATE 30 MAR '15

W-10345-6 7

DISTRIBUTION SYSTEM MAP NO.

USER: aowens
PLOT DATE: 27-AUG-2015 10:34
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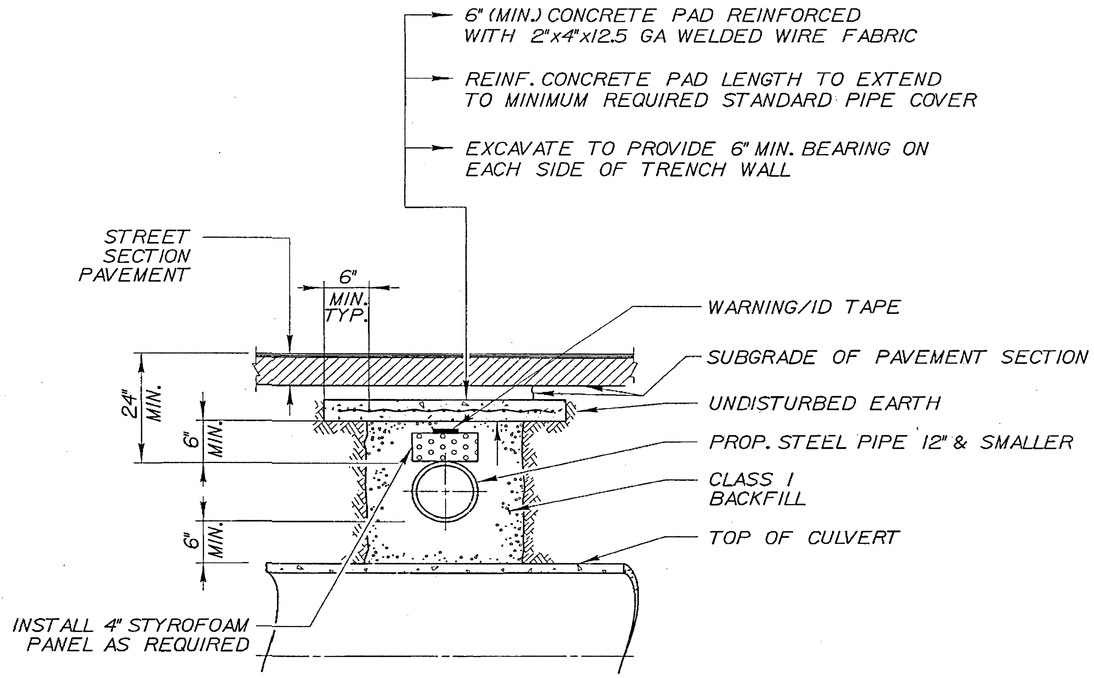
PROTECTIVE SLAB FOR SHALLOW UTILITY CROSSINGS PROJECT DETAIL NO. 2003-A



TYPICAL CULVERT CROSSING DETAIL WITH OFFSET-RETURN, DWG. 1870-A

N.T.S.

NOTES:

1. TO BE USED WHEN STANDARD MINIMUM COVER IS NOT OBTAINABLE. PROVIDE 4" STYROFOAM PANEL WIDTH EQUAL TO PIPE OUTSIDE DIAMETER FOR THE LENGTH OF THE CONCRETE SLAB.
2. WARNING/ID TAPE SHALL BE INSTALLED ABOVE THE STYROFOAM PANEL AND RUN CONTINOUSLY ALONG THE ENTIRE LENGTH OF PIPE.

CHRISTOPHER F. DODGE No. 43650 Exp. 03/31/15 CIVIL STATE OF CALIFORNIA

NO.	DATE	REVISION	BY	REC.	APP.
1	30 MAR 15	REVISE PIPE & ADDED PROJECT DETAIL SHEETS	DWD	CFD	

DESIGN
DESIGNED BY DM Dacumos
DESIGN CHECKED BY Elena Rose
DRAWN BY

REVIEW
CORROSION CHECK BY
RECOMMENDED SR. CIVIL ENGINEER R.P.E. NO. C 43650 C F Dodge
APPROVED MGR-PIPELINE INFRASTRUCTURE R.P.E. NO. C 57170

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

EAST BAYSHORE RECYCLED WATER
MARIN AVE, ALBANY

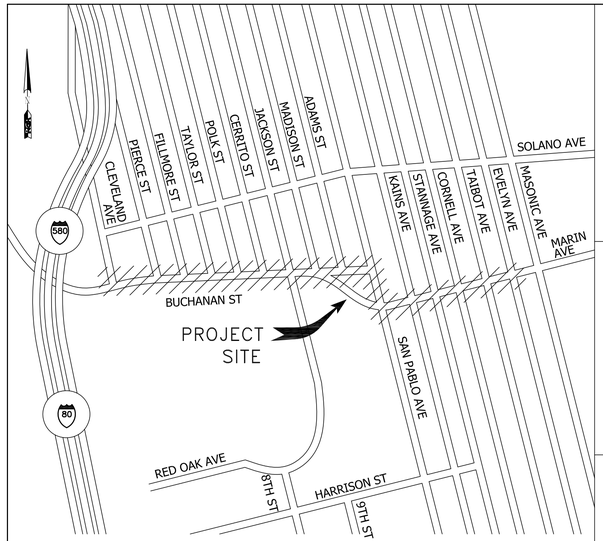
PROJECT DETAILS

STRUCTURE OR ZONE DESIGNATION
SCALE NONE
DATE 30 MAR '15

W-10345-7

7

DISTRIBUTION SYSTEM MAP NO.



VICINITY MAP

N. T. S.

WORK RESPONSIBILITY JOINT TRENCH

	PG&E ELECTRIC	PG&E GAS	TELEPHONE	C.A.T.V.	CONTRACTOR
TRENCHING					
EXCAVATE & BACKFILL	○	○	○	○	○
GAS MATERIAL					
SUPPLY & INSTALL	○	○	○	○	○
✱ ELECTRIC CABLE					
SUPPLY & INSTALL	○	○	○	○	○
ELECTRIC CONDUIT					
SUPPLY & INSTALL	○	○	○	○	○
ELECTRIC BOXES					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
ELECTRIC TRANSFORMER PADS					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
ELECTRIC SWITCHGEAR & TRANSFORMER					
SUPPLY & INSTALL	○	○	○	○	○
TELEPHONE CONDUIT					
SUPPLY & INSTALL	○	○	○	○	○
TELEPHONE CABLE					
SUPPLY & INSTALL	○	○	○	○	○
TELEPHONE SPLICE BOXES					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
TELEPHONE S.A.I. PAD					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
C.A.T.V. CONDUIT					
SUPPLY & INSTALL	○	○	○	○	○
C.A.T.V. SPLICE BOXES					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
DIRECTIONAL DRILL / JACK AND BORE					
SUPPLY & INSTALL CONDUIT	○	○	○	○	○
EXCAVATION	○	○	○	○	○

THE ● ABOVE DESIGNATES THE WORK TO BE PERFORMED BY THE RESPECTIVE CONTRACTOR & UTILITY COMPANIES.

○ NOT APPLICABLE UNLESS OTHERWISE SPECIFIED

✱ PG&E TO PULL CABLE INTO ENERGIZED ENCLOSURES

THESE PLANS WERE PREPARED IN CONJUNCTION WITH THE FOLLOWING PLANS:

	RECEIVED	APPROVED
CIVIL IMPROVEMENT PLANS/GRADING PLANS	12-05-14	PRELIMINARY
ARCHITECTURAL ELECTRONIC FILE	09-17-13	PRELIMINARY
APPLICANT DESIGN (GAS)	N/A	N/A
PG&E (ELECTRIC)	08-15-14	PRELIMINARY
TELEPHONE	12-09-14	PRELIMINARY
C.A.T.V.	07-02-13	PRELIMINARY
LANDSCAPE	07-02-13	PRELIMINARY
LIGHT LOCATIONS	BY RGA	PRELIMINARY

RGA DESIGN is not responsible for any subsequent changes or revisions.

Other utilities shown are approximate and based on field survey and available utility information. It is the contractors' responsibility to verify the actual location and extent of utilities prior to the commencement of work. Physical verification of utility locations shall be performed by careful probing or hand digging in accordance with Article 6 of the CAL/OSHA construction safety orders.

GAS PIPELINE UNDERGROUND WARNING TAPE NOTES:

1. A warning tape is to be installed in open trench installation over gas pipelines in both Transmission and Distribution facilities. This includes trenches, bell holes, excavations for repair purposes and riser replacements. The warning tape is intended for excavator digging in the "tolerance zone" to strike the warning tape prior than the pipeline. When the warning tape is exposed and grabbed with excavating equipment, it stretches without breaking, thus alerting the excavator of the gas facility below.

2. Install 6" wide warning tape above the gas pipeline at least 12" below grade, and no closer than 12" from the pipe. Installation should provide the greatest distance between the pipeline and the tape as possible. Install the tape along the length of the excavation. Ensure that the tape overlaps when two or more pieces of tape are used.

EXCEPTION: When a joint trench design does not allow for installment of warning tape within the "warning tape installation zone", install the warning tape a minimum of 6" above the gas pipeline, and below the facility above the pipe.

3. Warning tape shall be brightly colored yellow and marked "Caution: Gas Line Buried Below" or marked with a similar notification.

4. Warning tape shall be stored in such a manner that limits Ultraviolet (UV) exposure.

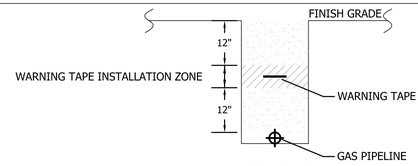
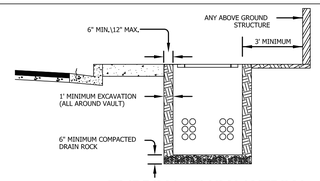


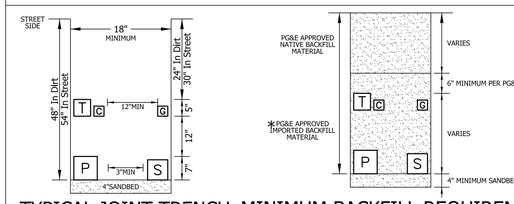
FIGURE 2

GAS PIPELINE UNDERGROUND WARNING TAPE INSTALLATION



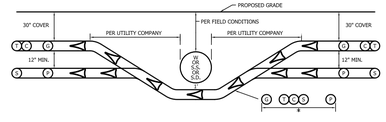
TYPICAL EXCAVATION

FOR PG&E PRIMARY VAULTS, TRANSFORMERS AND PHONE VAULTS AND MANHOLES



TYPICAL JOINT TRENCH MINIMUM BACKFILL REQUIREMENTS

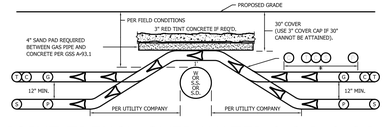
✱ CHECK WITH LOCAL GOVERNING AGENCIES FOR POSSIBLE VARIATIONS



JOINT TRENCH UNDER WATER & S.S. & S.D.

✱ WIDTH PER SIZE & NUMBER OF EACH UTILITY. PG&E AND CITY INSPECTOR TO DETERMINE METHOD OF CROSSING.

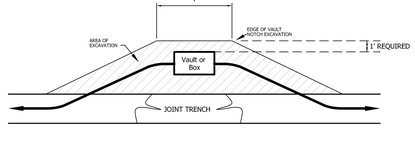
TRENCHING CONTRACTOR SHALL NOT ASSUME THAT EITHER OF THE BELOW DETAILS WILL BE ACCEPTABLE TO PG&E YOU ARE REQUIRED TO CONTACT THE LOCAL PG&E ENGINEERING OFFICE WITH ANY ISSUE RELATING TO COVERS LESS THAN MINIMUM OR COVERS REQUIRING SHORING. CONCRETE CAPPING IS ONLY ACCEPTABLE WHERE NO OTHER SOLUTION IS POSSIBLE AND ONLY WHEN CERTAIN CRITERIA ARE MET AND ONLY WITH PG&E APPROVAL.



JOINT TRENCH OVER WATER & S.S. & S.D.

✱ WIDTH PER SIZE & NUMBER OF EACH UTILITY. PG&E AND CITY INSPECTOR TO DETERMINE METHOD OF CROSSING.

NOTE: MAXIMUM DEPTH ON PLASTIC PIPE TO BE 10'



	BOX EXCAVATION	
PRIMARY BOX SIZE	"Y"	NOTE:
3' x 5'	7'	DISTANCE VARIES PER FIELD CONDITIONS
4'-6" x 8'-6"	11'	

TYPICAL PG&E PRIMARY BOX EXCAVATION DETAIL

GENERAL NOTES:

1. The preferred trench location is in a Public Utility easement (P.U.E.).

2. All depths and resulting cover requirements are measured from final grade.

3. Cover, clearances, and separation shall be as great as practicable under the circumstances, but under no circumstances shall be less than the minimum cover, clearance, and separation requirements set forth in General Order 128 and 49CFR 192.321 ,49CFR 192.325, and 49CFR 192.327. All facilities shall be anchored in place prior to compaction, or other means shall be taken to ensure no motion of the facilities. Dimensional requirements for shading, leveling, and backfilling shall be determined subsequent to compaction.

4. Trench dimensions shown are typical. Trench sizes and configurations may vary depending upon occupancy and/or field conditions. Trench size and configuration must at all times be constructed in a manner that ensures proper clearances and cover requirements are met. Any "change" to the trench width and configurations as shown in this exhibit must be designed to ensure this requirement.

5. It is preferred to have non-PG&E owned streetlights at a level other than the gas or electric level. Non-PG&E owned streetlights may be at the electric level of the trench as long as minimum clearances are provided and comply with all special notes for a joint trench with a second electric utility.

6. Non-Utility facilities are not allowed in any Joint Utility trench, e.g., irrigation control lines, building fire alarm systems, private telephone systems, outdoor electrical cable, etc.

7. When communication ducts are installed, a minimum of 12" radial separation shall be maintained from gas facilities. Exception: With mutual agreement, when 4-inch diameter or smaller gas pipe is installed, the separation may be reduced to not less than 6 inches.

8. Provide separation from trench wall and other facilities sufficient to ensure proper compaction.

9. Maintain proper separation between PG&E facilities and "wet" utility lines as described in UO Standard S5453. The minimum allowable horizontal separation between Company facilities and "wet" facilities is 3' with a minimum 1' of undisturbed earth or the installation of a suitable barrier between the facilities.

If a 3' horizontal separation cannot be attained between "wet" utilities and Company dry facilities, a variance may be approved by the local Inspection Supervisor and submitted to the Service Planning Support Program Manager for approval. Separations of 1' or less are not permissible and will not be allowed. The Company may agree to waive the minimum 3' separation requirement at the request of an applicant if warranted and the need is justified. The request for a waiver must:

- Be made in writing and submitted to the Company ADE during the planning and design phase of the project,

- Clearly describe the conditions necessitating the waiver,

- Include a proposed design,

- And, include a design for a barrier between the "wet" utilities and Company dry facilities in the event 1' of undisturbed earth cannot be maintained.

Note: Drain lines connected to downspouts on buildings are considered a _wet" utility for the purposes of this standard.

10. Separations shall be maintained at aboveground termination points.

11. Procedures for approving native backfill for shading of PG&E gas facilities:

- Random soil samples shall be taken from a minimum of 3 locations per 1,000' of trench. 100% of the sample must pass through a 1/2" sieve and 75% must pass through a #4 screen. Additional samples must be taken if existing soil conditions change and are to be taken at the discretion of the PG&E representative on site.

- The soils must not contain any rocks that have sharp edges or that may otherwise be abrasive.

- The soils must not contain clods larger than 1/2" if to be used as shading, bedding, or leveling materials.

- Compaction requirements must meet any applicable PG&E, Federal, State, County, or local requirements.

- At no time shall the over saturation of native soils be used to achieve these requirements.

The sieves and screens shall be:

- 1/2" Sieve: 8" diameter by 2" deep, stainless steel mesh screen.

- #4 Screen: 8" diameter by 2" deep, stainless steel mesh screen.

12. Procedures for approving native backfill for shading at PG&E electric facilities:

- Random soil samples shall be taken from a minimum of 3 locations per 1,000' of trench. Additional samples must be taken if existing soil conditions change and are to be taken at the discretion of the PG&E representative on site.

- Shading material containing large rock, paving material, cinders, sharply angular substances, or corrosive material shall not be placed in the trench where such material may damage the conduits and/or prevent proper compaction over or around the conduits.

- Native soils containing clods not to exceed 6" in diameter may be included in the shading material provided the clods are readily breakable by hand.

Note: Soils consisting primarily of adobe, hard compact (dense) clay, and bay muds shall not be used as shading material.

- At no time shall the over saturation of native soils be used to achieve these requirements.

- Refer to Engineering Document 062288, Item 13 on Page 2.

13. Competent native soils are preferred to be used for shading, bedding, and backfilling throughout the trench.

- Where native soils exceed 1/2" minus and/or where gas is to be placed at the bottom of a trench in areas that exceed 1/2" minus soil conditions, or where the bottom of a trench is considered to consist of hard pan, PG&E approved 1/2" minus import material shall be used for shading and/or bedding of gas facilities.

- PG&E approved import material is per CGT Engineering Guideline 4123.

- If a leveling course is required for gas facilities, the use of native soils is preferred, but if 1/2" minus conditions are not attainable with the native soils, then the use of PG&E approved import materials is required. Bedding under gas facilities will be a minimum of 2" of compacted 1/2" minus native soils or PG&E approved import material.

- For electric facilities, refer to Note 12. This applies to leveling courses as well as shading.

- The minimum PG&E approved bedding material may be increased at the discretion of PG&E when warranted by existing field conditions (e.g., rocky soils, hard pan, etc.).

- The use of any imported material for backfilling purposes shall be limited to those situations when native soils do not allow for required compaction.

14. The applicant is responsible for the removal of excess spoil and associated costs.

15. Separation between gas facilities and electric facilities may be reduced to 6" when crossing.

16. Service saddles are the preferred service fittings for use throughout the joint trench project. All projects will be designed and estimated using service saddles. However, service tees may be used if all clearances, separation, and coverage requirements are maintained.

TRANSFORMER CLEARANCE REQUIREMENTS:

1. Above any single phase transformer location, maintain 20' unobstructed overhead clearance over transformer vault/pad.

2. Above any three phase transformer location, maintain 30' unobstructed overhead clearance over transformer vault/pad.

Electric Conduit
Minimum Bend Radius for New Construction

Conduit Diameter	Vertical Radius	Horizontal
2"	24"	36"
3"	24"	36"
4"	36"	36"
5"	36"	60"

NOTE:

300° DEGREES MAX BENDS IN ANY CONDUIT RUN

SUBSTRUCTURE VERIFICATION STAMP

DEVELOPER
PLEASE NOTE AND SIGN

ALL PG&E ENCLOSURES AND BOXES HAVE BEEN SET TO GRADE ACCORDING TO GRADE STAKES PROVIDED BY DEVELOPERS ENGINEER. ALL COSTS TO RELOCATE OR RE-ADJUST BOXES AT A LATER DATE WILL BE BILLED TO THE DEVELOPER. PLEASE HAVE YOUR SUPT. VERIFY THE CORRECT GRADE OF ALL ENCLOSURES OR BOXES, AND SIGN AND DATE DRAWING.

THANK YOU

SIGNED _____

DATE _____

PG&E PM#:
ELECTRIC:
PM# 30922578

DESIGN CHANGE COMPONENT
ANY CHANGES TO THIS DESIGN MUST BE APPROVED BY

_____ _____

PG&E Gas ADE

CONSTRUCTION NOTES:

1. All trenching, backfilling and installation by contractor must comply with PG&E UO Standard S5453 (EFFECTIVE DATE 7-5-2006).

2. All work must comply with P.G. & E., Telephone, C.A.T.V., standards and practices. All work must be inspected and approved by respective inspectors. Random soil samples shall be taken from a minimum of three locations per 1,000' of trench. 100% of the sample must pass through a ½" sieve and 75% must pass through a #4 screen. Additional samples must be taken if existing soil conditions change and is to be at the discretion of the PG&E representative on site.
The soils must not contain any rocks that have sharp edges or that may otherwise be abrasive. The soils must not contain clods larger than ½" if to be used as shading, bedding or leveling materials. Compaction requirements must meet any applicable P.G.& E. Federal, State, County or local requirements. Any native soils or import materials used must not hinder those efforts.

3. Backfill shall be approved by the utility companies and the City. Compaction will be tested and passed by the soils engineer.

4. If soil is not rock free, add 4" depth of trench for sand bedding.

5. Verify splice box excavation sizes with supplier(s).

6. The trenching contractor shall coordinate the utility companies' installation.

7. Contractor shall make himself familiar with the project improvement plans and conduct his work accordingly.

8. It is the trenching contractor's responsibility to protect in place all existing facilities. No extra payment will be considered for crossing other systems.

9. RGA DESIGN assumes no responsibility for the project conditions. These drawings were prepared using data supplied by PG&E, Telephone, C.A.T.V., improvement plans and the City's various "As Built" information. It shall be the contractor's responsibility to physically review the project prior to submitting his bid.

10. Contractor will comply with all laws, ordinances and regulations. Contractor shall be familiar with O.S.H.A., industrial safety orders and shall conduct his work accordingly. When working near energized or "hot" equipment, the utility owner shall be notified to supply the appropriate man power. Public safety and traffic control measures are the contractor's responsibility.

11. The Contractor shall protect construction staking. He shall coordinate staking with the project's Civil Engineer.

12. Contractor shall notify Underground Service Alert (USA) two working days prior to start of work. 811.

13. Contractor shall notify inspectors of any potential conflicts prior to start of work.

14. This plan is to be used for sole purpose of digging the Joint Trench. See PG&E, AT&T, and Comcast plans for exact size and number of conduits installed in the Joint Trench. It is the contractor's responsibility to ensure the correct number, size and types of conduits are installed per the engineered plans by each Utility Company.

15. Note plans issued at the pre-construction meeting may be subject to revisions, if final plans from each utility company were not available at the start of construction.

16. Water, sewer, drains, sanitary waste, fuels (including diesel and gasoline), oil, propane and other volatile heavier than air gases, sprinkler, irrigation, steam and other "wet" facilities shall maintain a minimum of three feet from the nearest outer surface of PG&E facilities with no less than one foot of earth (soil barrier) between the adjacent sides of the individual trenches.

17. In the extraordinary case that the minimum three foot horizontal separation cannot be attained between "wet" utilities and Company dry facilities, a variance may approved by the local Inspection Supervisor and submitted to Service Planning Support Program Manager for approval.

18. 1. All Meter Panels: Individual, residential, or nonresidential applicants with a meter panel rating of any size, installed inside a meter room or other structure, must follow all of the requirements described below.

a. Install, own, and maintain a separate, nominal, 2-inch diameter conduit with pull tape inside. The conduit and pull tape must extend from the outside surface of the building and terminate outside the meter panel or switchboard at the top of the meter section.

b. Ensure the 2-inch diameter conduit and pull tape exit the outside of the building a minimum of 8 feet and a maximum of 10 feet above ground. The open end of the conduit that is exposed to the outside must have a removable, temporary cap or plug.

c. Do not use the conduit. The conduit is for PG&E's metering equipment only.

UTILITY APPROVALS		
UTILITY	APPROVED BY	DATE
PG&E ELECTRIC		
PG&E GAS		
AT&T (Phone)		
Comcast (CATV)		
CITY ENGINEER		

CLIENT:

CITY OF ALBANY
1000 SAN PABLO AVENUE
ALBANY, CA 94706
ANN CHANEY
510-528-5760 FAX: 510-524-9359

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Index

JT-1 JOINT TRENCH TITLE SHEET
JT-2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT-8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
No. 26429
Exp. 03-31-16
CIVIL
STATE OF CALIFORNIA

REVISION

DELTA NO:

CALL 811 BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA

JOINT TRENCH TITLE SHEET

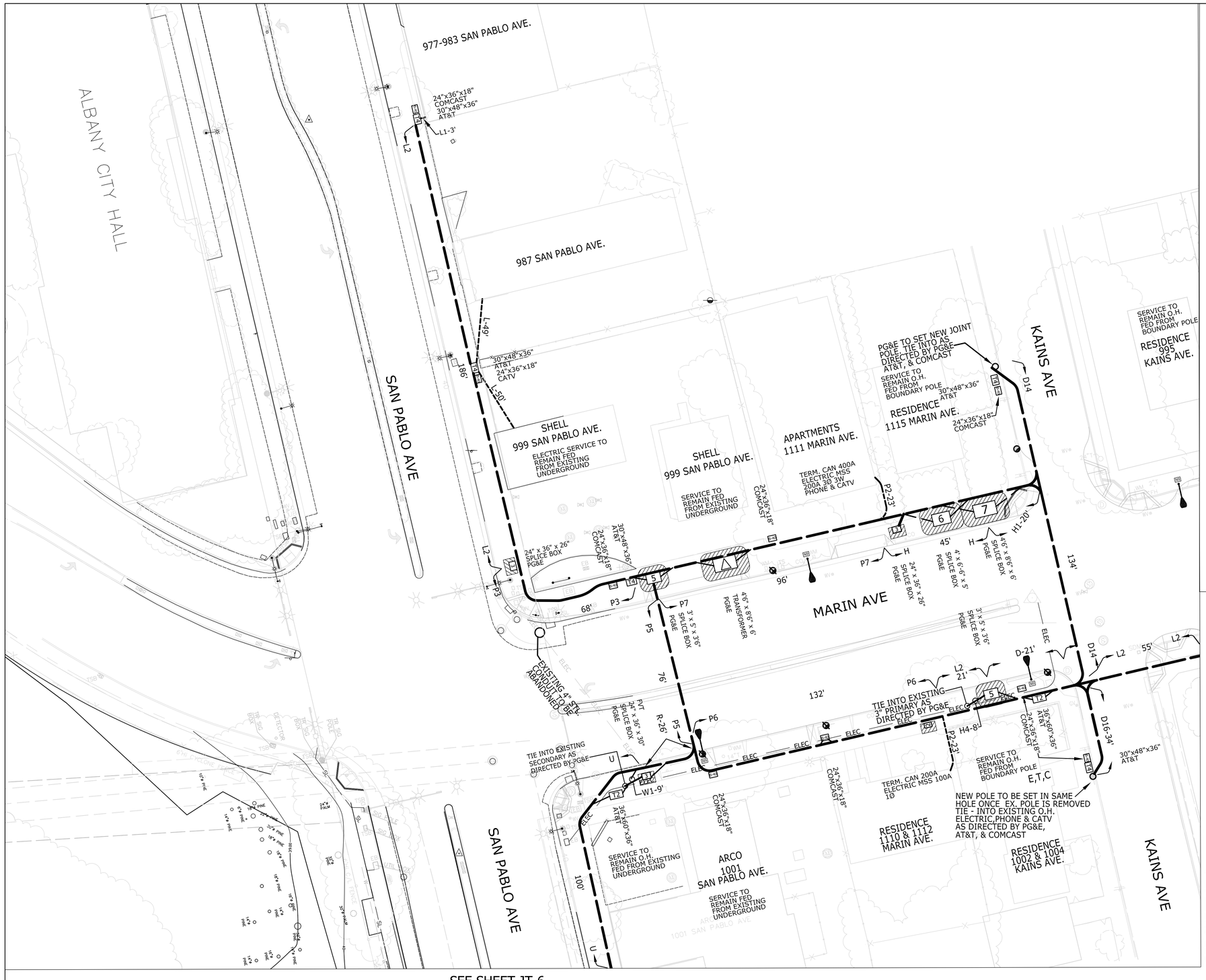
BUCHANAN ST RULE 20 - PHASE 1

CITY OF ALBANY CALIFORNIA

ALBANY

RGA Design LLC
UTILITY CONSULTANTS & ENGINEERS - STREETLIGHT DESIGN
6400 VILLAGE PARKWAY, SUITE 204 DUBLIN, CA 94568
Tel (925) 556-9860 Fax (925) 556-9877

PROJ. NO: 11-284
SCALE: N/A
PM: R. HANKINS
DRAWN BY: M. WEBB
CHECKED BY: D. VOORHIES
LAST UPDATED: 02-18-15
DRAWING NO: JT-1
SHEET: 1 OF: 8



LEGEND:

- PROPOSED JOINT TRENCH
- PROPOSED SERVICE TRENCH
- EXISTING POLE TO REMAIN
- EXISTING POLE TO BE REMOVED
- EXISTING O.H. SERVICE
- PROPOSED LED STREET LIGHT
- 11" x 17" x 24" SPLICE BOX - AT&T
- 30" x 48" x 36" SPLICE BOX - AT&T
- 36" x 60" x 36" SPLICE BOX - AT&T
- 24" x 36" x 14" B-40 VAULT - COMCAST
- 4'-6" x 8'-6" x 6'-0" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 4' x 6'-6" x 6' SUBSURFACE TRANSF. - PG&E WORKING SPACE SHOWN
- 4'-6" x 8'-6" x 6'-0" TRANSF. - PG&E WORKING SPACE SHOWN
- 4' x 6'-6" x 5' SUBSURFACE SWITCH - PG&E WORKING SPACE SHOWN
- 3' x 5' x 3'-6" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 24" x 36" x 26" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 17" x 30" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 13" x 24" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- NEW JOINT POLE
- EXISTING POLE TO REMAIN

PRELIMINARY
NOT FOR CONSTRUCTION

NOTE:
REFER TO PG&E UTILITY BULLETIN TD-7001B-005 DOCUMENT FOR SMART METER ANTENNA CONSTRUCTION REQUIREMENTS

SUBSTRUCTURE LOCATIONS MUST BE STAKED BY A LICENSED SURVEYOR PRIOR TO CONSTRUCTION

N

10 5 0 10 20

Sheet Index

JT-1 JOINT TRENCH TITLE SHEET
JT-2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT-8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
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STATE OF CALIFORNIA

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JOINT TRENCH COMPOSITE

BUCHANAN ST RULE 20 - PHASE 1

CITY OF ALBANY

ALBANY CALIFORNIA

RGA Design LLC
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DRAWN BY: M. WEBB
CHECKED BY: D. VOORHIES
LAST UPDATED: 02-18-15
DRAWING NO: JT-2
SHEET: 2 OF: 8

SEE SHEET JT-2

SEE SHEET JT-2

SEE SHEET JT-4

LEGEND:

- PROPOSED JOINT TRENCH
- PROPOSED SERVICE TRENCH
- EXISTING POLE TO REMAIN
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- EXISTING O.H. SERVICE
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JOINT TRENCH COMPOSITE
BUCHANAN ST RULE 20 - PHASE 1
CITY OF ALBANY
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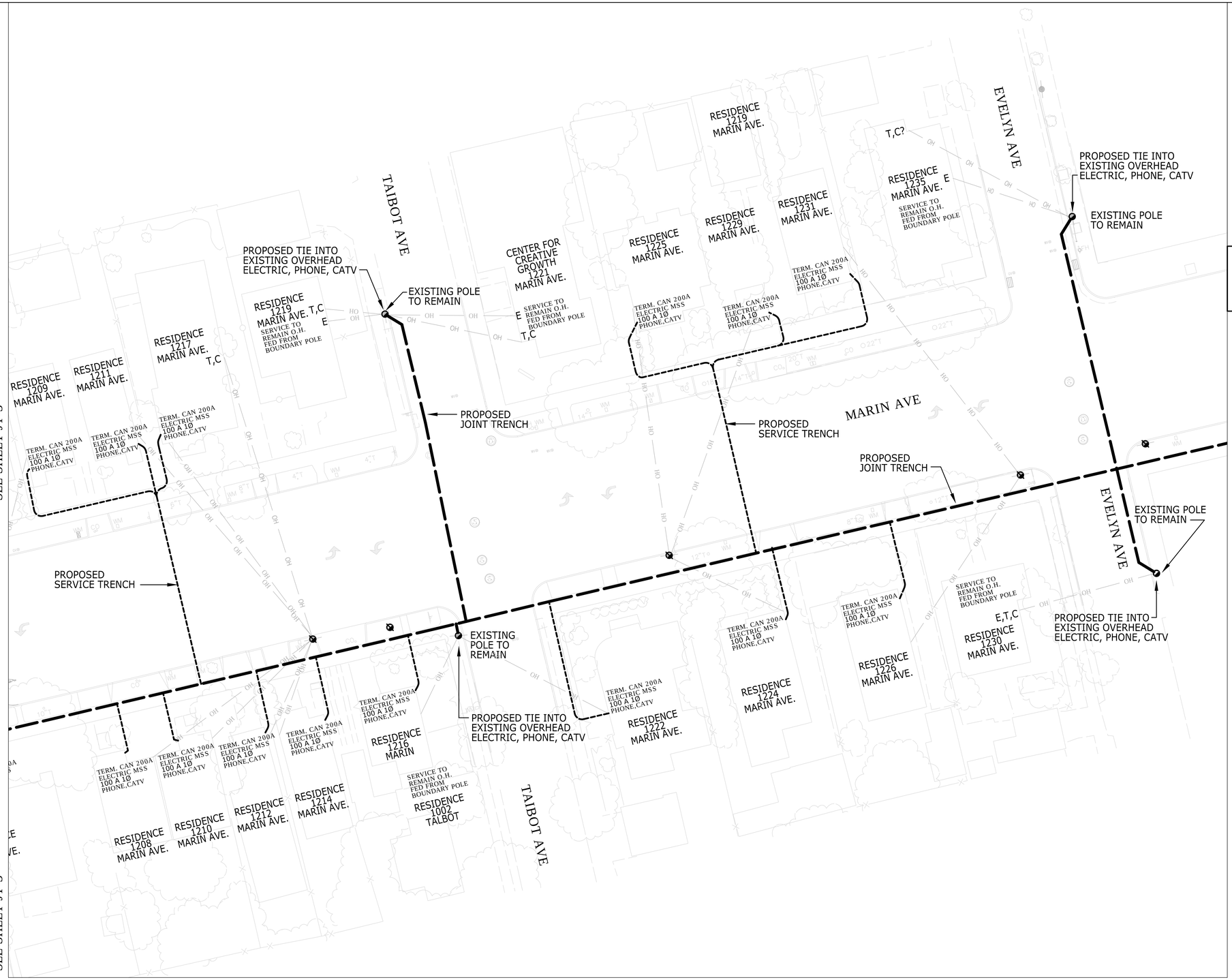
DRAWN BY:	M. WEBB
CHECKED BY:	D. VOORHIES
LAST UPDATED:	02-18-15
DRAWING NO:	JT-3
SHEET:	3 OF: 8



LEGEND:

- PROPOSED JOINT TRENCH
- PROPOSED SERVICE TRENCH
- EXISTING POLE TO REMAIN
- EXISTING POLE TO BE REMOVED
- OH — OH — EXISTING O.H. SERVICE

NOTE:
REFER TO PG&E UTILITY BULLETIN TD-7001B-005 DOCUMENT FOR SMART METER ANTENNA CONSTRUCTION REQUIREMENTS

UTILITIES
PLEASE CONFIRM
TIE IN LOCATIONS

INTENT DRAWING
NOT FOR CONSTRUCTION

SUBSTRUCTURE LOCATIONS MUST BE STAKED BY A LICENSED SURVEYOR PRIOR TO CONSTRUCTION

Sheet Index

JT-1 JOINT TRENCH TITLE SHEET
JT-2 to 5 PHASE 1 JOINT TRENCH INTENT

REGISTERED PROFESSIONAL ENGINEER
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CIVIL
STATE OF CALIFORNIA

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BUCHANAN ST RULE 20 - PHASE 1
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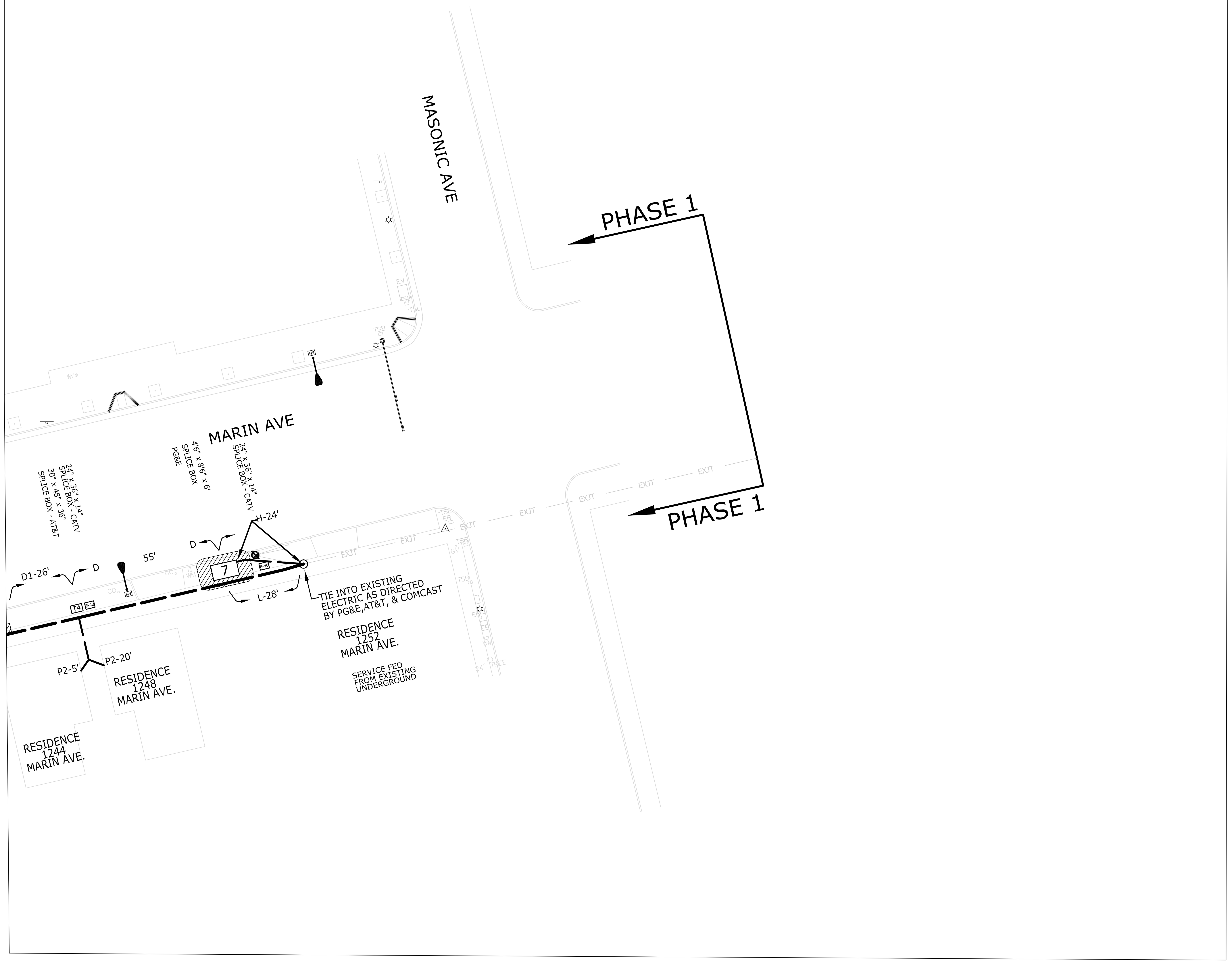
DRAWN BY:	M. WEBB
CHECKED BY:	D.VOORHIES
LAST UPDATED:	09-09-13
DRAWING NO:	JT-4
SHEET:	4 OF: 5



LEGEND:

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- 13" x 24" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- NEW JOINT POLE
- EXISTING POLE TO REMAIN

NOTE:
REFER TO PG&E UTILITY BULLETIN TD-7001B-005 DOCUMENT FOR SMART METER ANTENNA CONSTRUCTION REQUIREMENTS

SUBSTRUCTURE LOCATIONS MUST BE STAKED BY A LICENSED SURVEYOR PRIOR TO CONSTRUCTION

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Index

JT–1 JOINT TRENCH TITLE SHEET
JT–2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT–8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
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CIVIL
STATE OF CALIFORNIA

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JOINT TRENCH COMPOSITE
BUCHANAN ST RULE 20 - PHASE 1
CITY OF ALBANY
CALIFORNIA
ALBANY

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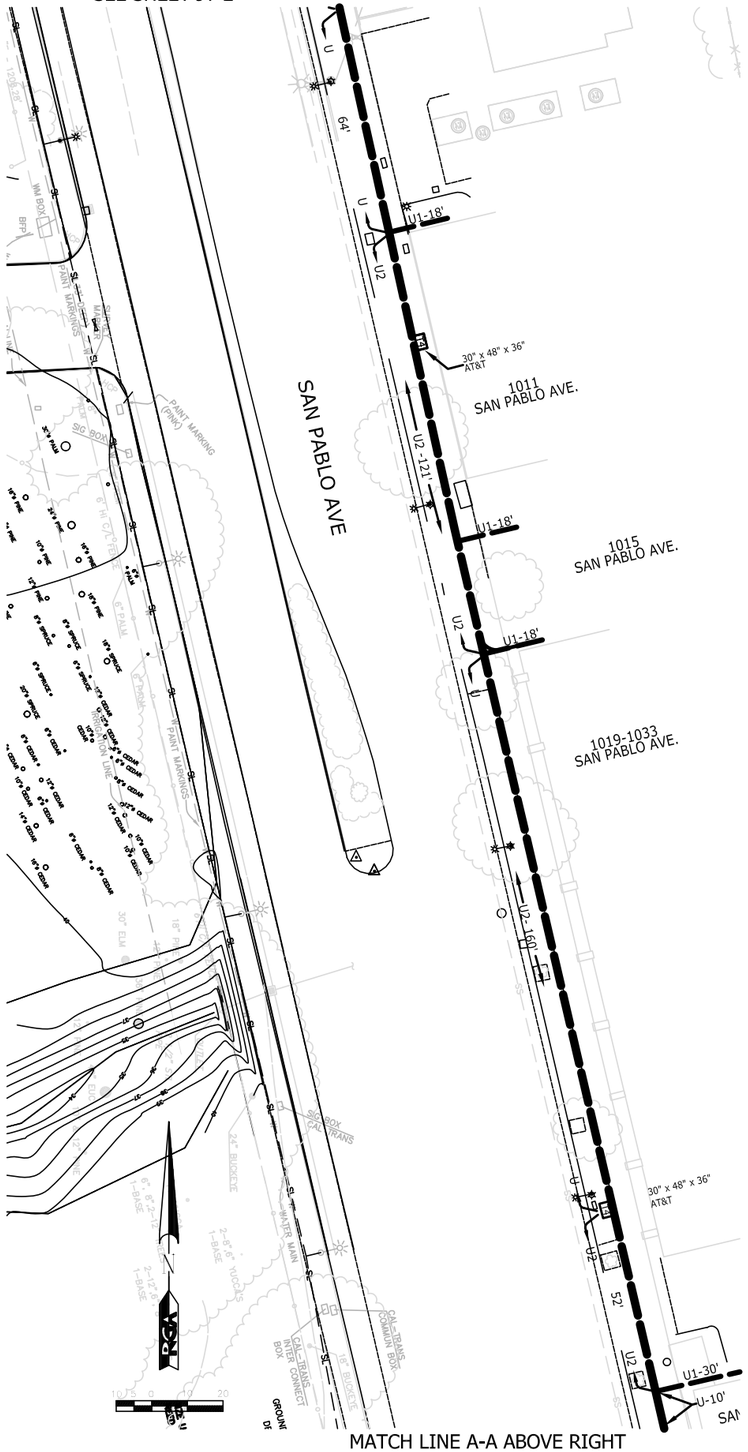
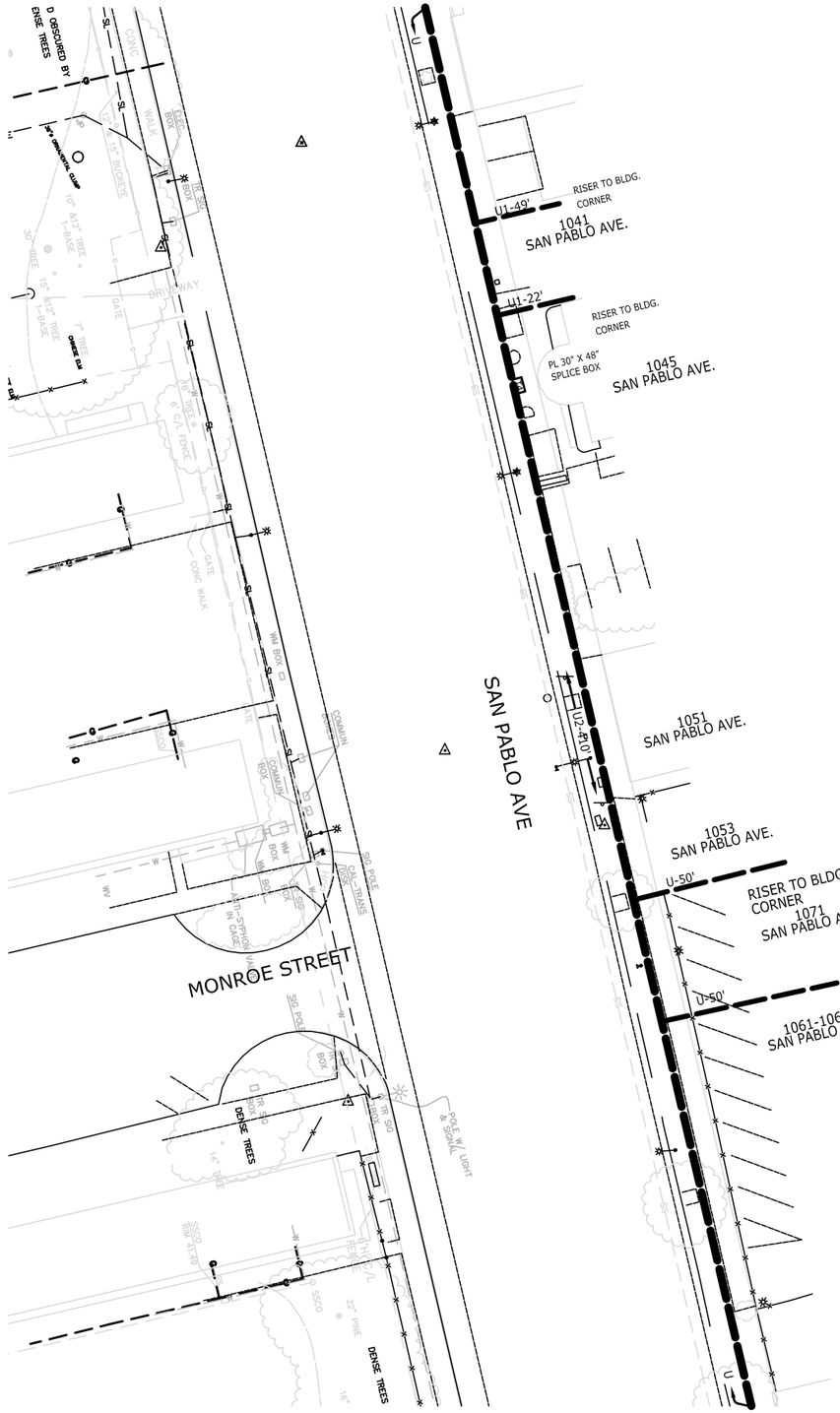
PROJ. NO: 11-284
SCALE: 1" = 20'
PM: R. HANKINS
DRAWN BY: M. WEBB
CHECKED BY: D. VOORHIES
LAST UPDATED: 02-18-15
DRAWING NO: JT-5
SHEET: 5 OF: 8

SEE SHEET JT-2



MATCH LINE A-A ABOVE RIGHT

MATCH LINE A-A BELOW LEFT



SEE SHEET JT-7

LEGEND:

- PROPOSED JOINT TRENCH
- PROPOSED SERVICE TRENCH
- EXISTING POLE TO REMAIN
- EXISTING POLE TO BE REMOVED
- EXISTING O.H. SERVICE
- PROPOSED LED STREET LIGHT
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- 36" x 60" x 36" SPLICE BOX - AT&T
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- 24" x 36" x 26" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 17" x 30" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 13" x 24" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- NEW JOINT POLE

N

10 5 0 10 20

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Index

JT-1 JOINT TRENCH TITLE SHEET
JT-2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT-8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
No. 26429
Exp. 03-31-16
CIVIL
STATE OF CALIFORNIA

REVISION

DET.TA NO.

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JOINT TRENCH SECTIONS

BUCHANAN ST RULE 20 - PHASE 1

CITY OF ALBANY

CALIFORNIA

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UTILITY CONSULTANTS & ENGINEERS - STREETLIGHT DESIGN
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Tel (925) 556-9860 Fax (925) 556-9877

PROJ. NO:	11-284
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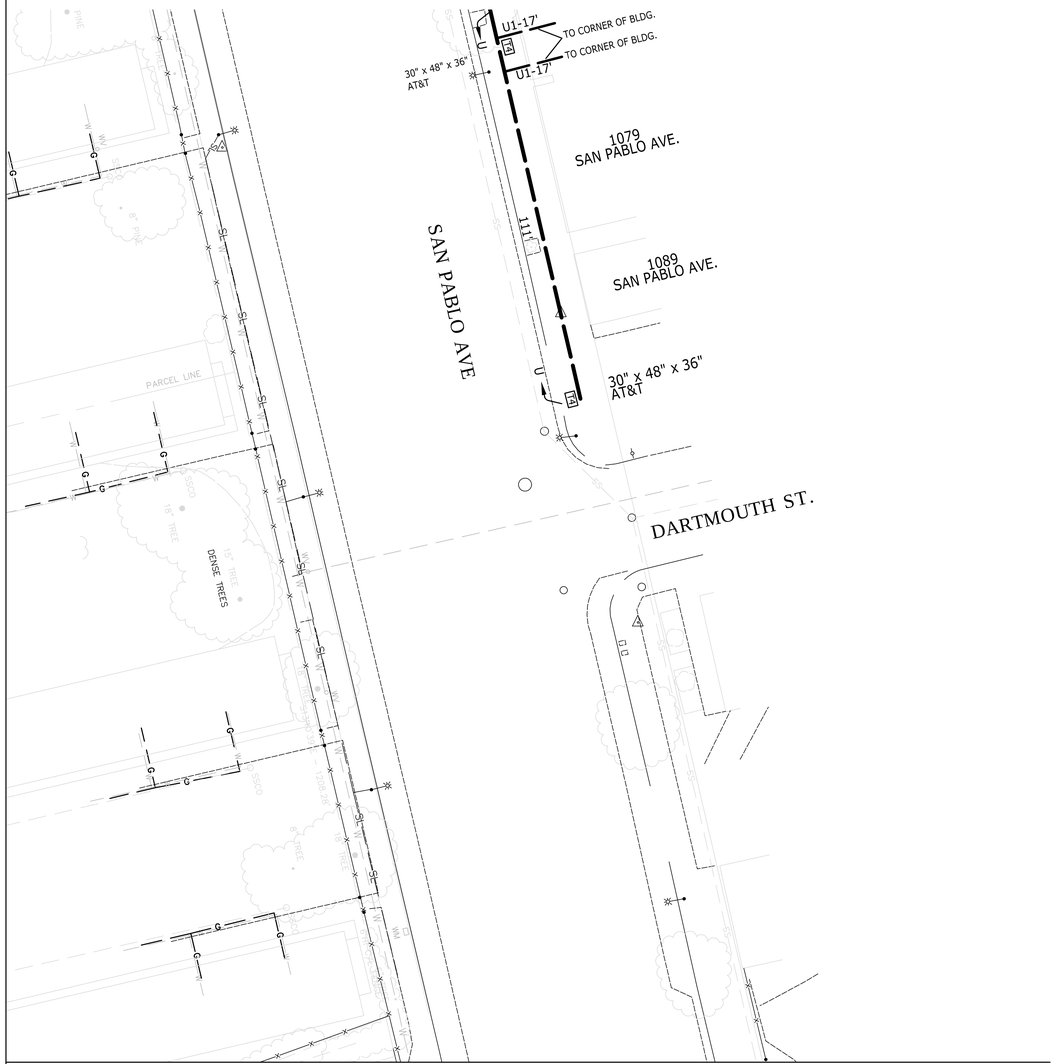
DRAWN BY:	M. WEBB
CHECKED BY:	D. VOORHIES
LAST UPDATED:	02-18-15
DRAWING NO:	JT-6
SHEET:	6 OF: 8

SEE SHEET JT-6



LEGEND:

- PROPOSED JOINT TRENCH
- PROPOSED SERVICE TRENCH
- EXISTING POLE TO REMAIN
- EXISTING POLE TO BE REMOVED
- OH — OH — EXISTING O.H. SERVICE
- PROPOSED LED STREET LIGHT
- 11" x 17" x 24" SPLICE BOX - AT&T
- T8 — 30" x 48" x 36" SPLICE BOX - AT&T
- T2 — 36" x 60" x 36" SPLICE BOX - AT&T
- 24" x 36" x 14" B-40 VAULT - COMCAST
- 7 — 4'-6" x 8'-6" x 6'-0" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 4' x 6'-6" x 6' SUBSURFACE TRANSF. - PG&E WORKING SPACE SHOWN
- 4'-6" x 8'-6" x 6'-0" TRANSF. - PG&E WORKING SPACE SHOWN
- 6 — 4' x 6'-6" x 5' SUBSURFACE SWITCH - PG&E WORKING SPACE SHOWN
- 5 — 3' x 5' x 3'-6" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 24" x 36" x 26" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 17" x 30" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- 13" x 24" x 18" SPLICE BOX - PG&E WORKING SPACE SHOWN
- NEW JOINT POLE

N

19 5 0 10 20

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Index

JT-1 JOINT TRENCH TITLE SHEET
JT-2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT-8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
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Exp. 03-31-16
CIVIL
STATE OF CALIFORNIA

REVISION

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UNDERGROUND SERVICE ALERT

JOINT TRENCH COMPOSITE

BUCHANAN ST RULE 20 - PHASE 1

CITY OF ALBANY

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CALIFORNIA

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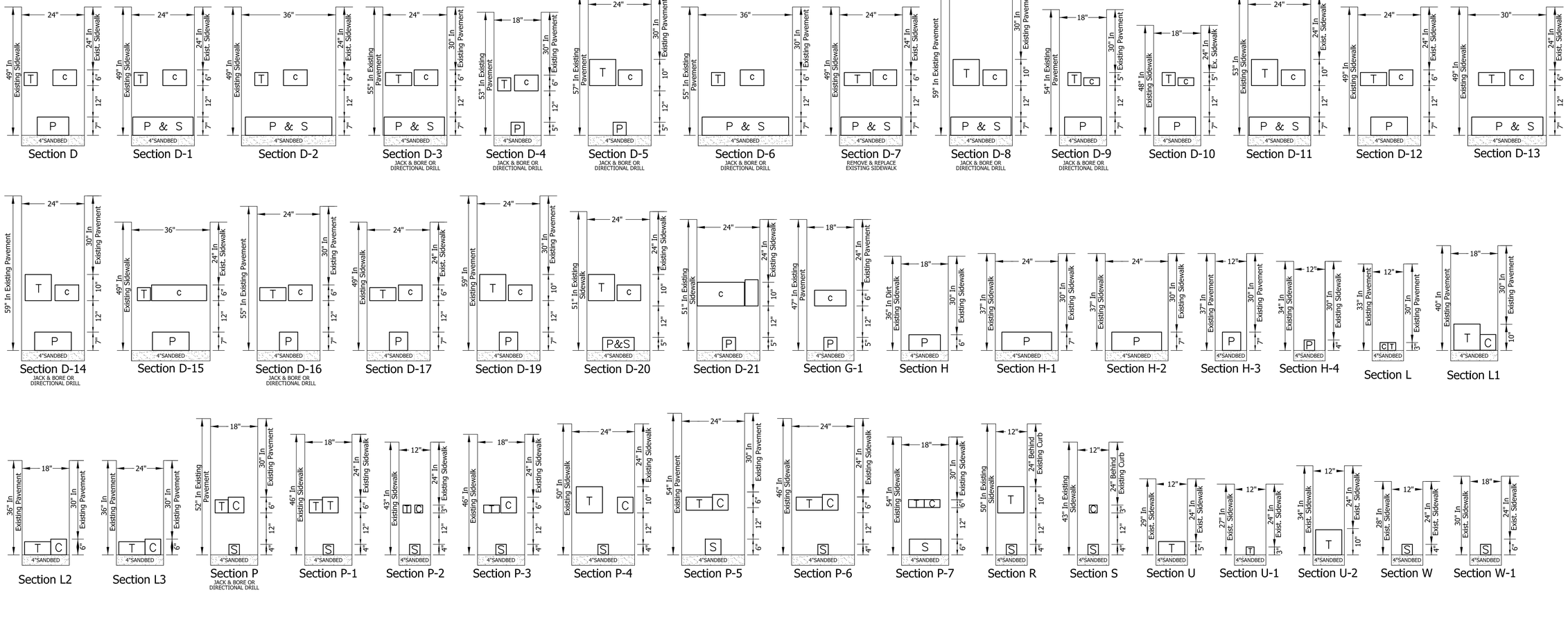
SCALE:	N/A
PM:	R. HANKINS
DRAWN BY:	M. WEBB
CHECKED BY:	D. VOORHIES
LAST UPDATED:	02-18-15
DRAWING NO:	JT-7
SHEET:	7 OF: 8



TRENCH OCCUPANCY GUIDE						
SECTION	G	T	C	S	P	(OTHER)
A*	X	X	X	X	X	
B*	X	X		X	X	
C*	X		X	X	X	
D*		X	X	X	X	
E*	X			X	X	
F*		X		X	X	
G*			X	X	X	
H*				X	X	
I	X	X	X			
J	X	X				
K	X		X			
L		X	X			
M	X	X	X	X		
N	X	X		X		
O	X		X	X		
P		X	X	X		
Q	X			X		
R		X		X		
S			X	X		
T	X					
U		X				
V			X			
W				X		
X						X

*THESE SECTIONS MAY OR MAY NOT CONTAIN SECONDARY

SOILS NOTES:

1. RGA is not responsible for any soils engineering to determine the abilty to construct or the project conditions.

2. RGA assumes no responsibility for additional work due to adverse job site conditions.

3. PG&E will require soils analysis for subsurface transformer (If Applicable).

CONTRACTOR NOTES:

1. The symbols [P][S][T][C][G] indicate occupancy only. See Electric, Gas, Comcast, & AT&T plans for exact size and number of conduits.

2. This plan is to be used as a guide for trenching width and depth and not conduit installation.

3. Contractor to include incidental trenching in splice box, vault, or transformer excavation in areas where no entrance or exit of trench is shown.

MINIMUM SEPARATION AND CLEARANCE REQUIREMENTS						
	G	T	C	S	P	Min. Cover
G (Gas)	0"	12"	12"	6"	12"	24"; 30" in street
T (Telephone)	12"	0"	1"	12"	12"	24"; 30" in street
C (C.A.T.V.)	12"	1"	0"	12"	12"	24"; 30" in street
S (Elect. Secondary)	6"	12"	12"	0"	3"	24"; 30" in street
P (Elect. Primary)	12"	12"	12"	3"	0"	30"; 36" in street

ABBREVIATIONS:

- [P] PRIMARY (PG&E)
- [S] SECONDARY (PG&E)
- [C] CATV (COMCAST)
- [T] PHONE (AT&T)
- [G] GAS (PG&E)

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Index

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JT-2 to 7 PHASE 1 JOINT TRENCH COMPOSITE
JT-8 JOINT TRENCH SECTIONS

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
No. 26429
Exp. 03-31-16
CIVIL
STATE OF CALIFORNIA

REVISION

DELTA NO:

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JOINT TRENCH COMPOSITE - TRENCH SECTIONS

BUCHANAN ST RULE 20 - PHASE 1

CITY OF ALBANY

ALBANY CALIFORNIA

RGA Design LLC
UTILITY CONSULTANTS & ENGINEERS - STREETLIGHT DESIGN
6400 VILLAGE PARKWAY , SUITE 204 DUBLIN, CA 94568
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SCALE: N/A
PM: R. HANKINS
DRAWN BY: M. WEBB
CHECKED BY: D. VOORHIES
LAST UPDATED: 02-18-15
DRAWING NO: JT-8
SHEET: 8 OF: 8