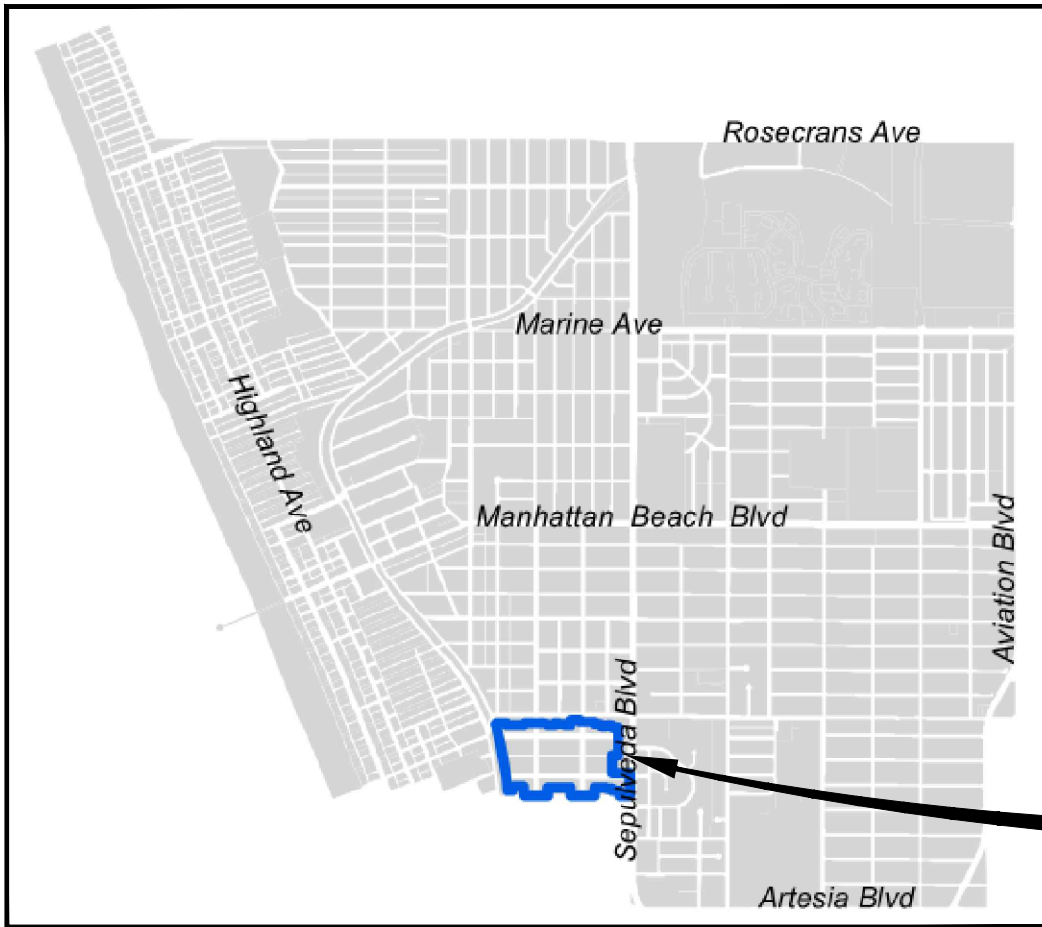


CITY OF MANHATTAN BEACH
PLANS FOR
UNDERGROUND UTILITY ASSESSMENT DISTRICT 4



PROJECT SITE

INDEX OF DRAWINGS	
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TOTAL SHEETS = 37	

STANDARD PLANS:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

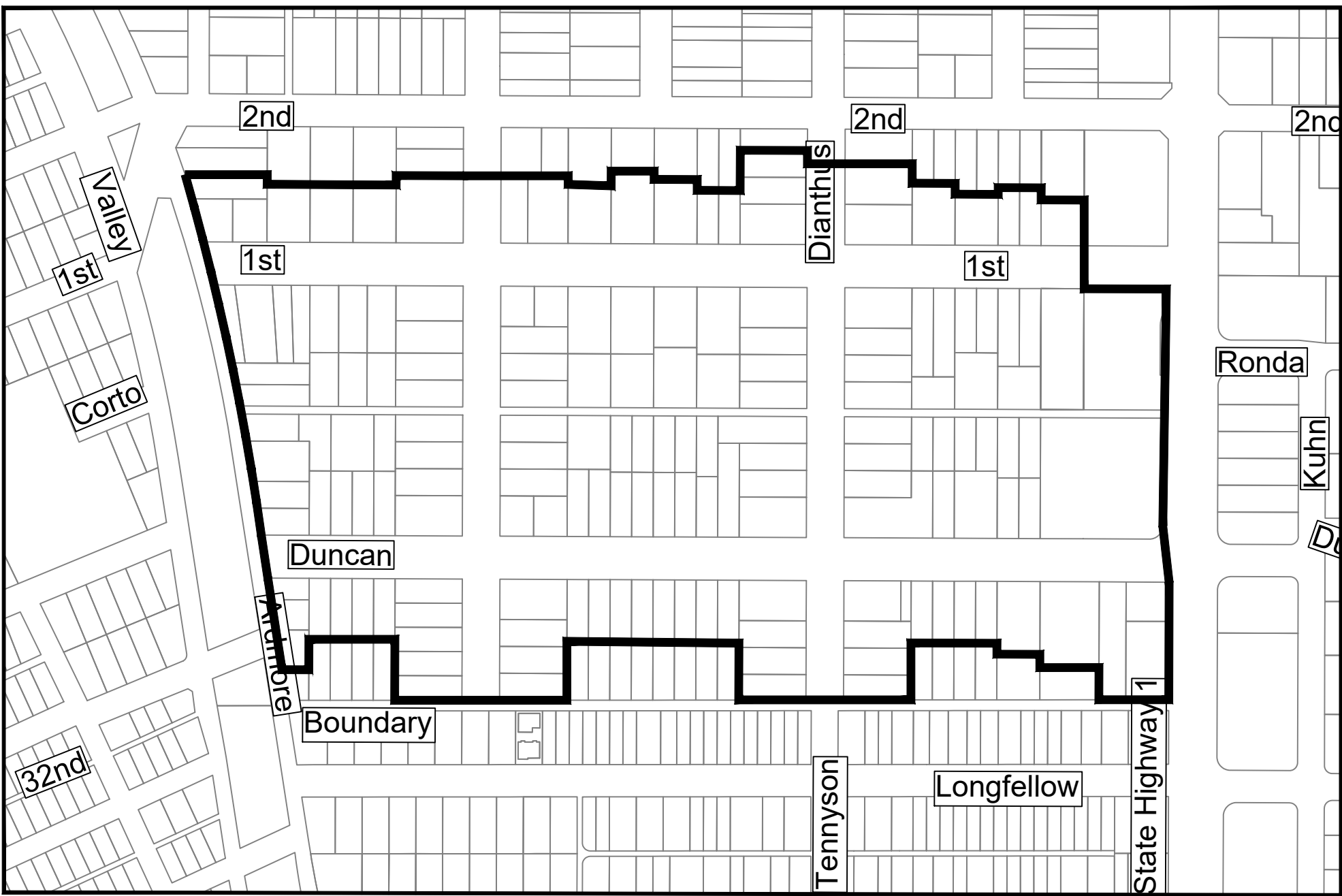
2000-1	LEGEND FOR SANITARY SEWER PLANS AND PROFILES AND DISTRICT MAPS.
2002-1	PRECAST CONCRETE SHALLOW MANHOLE.
2003-2	REINFORCED PRECAST CONCRETE MANHOLE.
2004-1	RECTANGULAR SHALLOW MANHOLE.
2014-1	RECTANGULAR MANHOLE FRAME AND COVER.
2015-1	STANDARD MANHOLE STEP.
2021-1	BEDDING FOR SEWER PIPE.
2023-2	CRADLING AND ENCASEMENT.
2024-1	WYE OR TEE SUPPORT.
2026-1	EROSION PROTECTION IN STEEP SLOPES.
2027-1	ALLOWABLE TRENCH WIDTHS.
6008-1	MINIMUM PUBLIC SAFETY REQUIREMENTS.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

200-3	PRECAST CONCRETE SEWER MANHOLE
201-2	PRECAST CONCRETE SHALLOW MANHOLE
202-2	DROP SEWER MANHOLE
204-2	TERMINAL CLEANOUT STRUCTURE
207-2	PRECAST REINFORCED CONCRETE MANHOLE BASE
208-2	BREAKING INTO EXISTING MANHOLES
210-3	MANHOLE FRAME AND COVER LOCKING TYPE
220-3	CHIMNEYS
221-2	PIPE ANCHORS AND BACKFILL STABILIZERS
222-2	HOUSE CONNECTION SEWER
223-2	HOUSE CONNECTION REMODELING



PUBLIC WORKS DEPARTMENT
3621 BELL AVENUE
MANHATTAN BEACH, CALIFORNIA 90266



LOCATION MAP
NOT TO SCALE

THOMAS GUIDE:
PAGE 732, GRID 6F

WORK SITE LOCATION

DECLARATION OF DESIGN ENGINEER OF RECORD

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF THE DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH CHECK DOES NOT THEREFORE RELIEVE ME OF MY RESPONSIBILITY FOR THE DESIGN OF THESE IMPROVEMENTS. I ALSO HEREBY DECLARE THAT I HAVE COMPARED THESE PLANS WITH ALL APPLICABLE ADA TITLE II REQUIREMENTS FOR DISABILITY ACCESS FOR THIS PROJECT AND THESE PLANS ARE IN FULL COMPLIANCE WITH THOSE REQUIREMENTS.

PROJECT UTILITY CONTACTS

CITY OF MANHATTAN BEACH (PUBLIC WORKS DEPARTMENT)...	STEPHANIE KATSIOULEAS...	(310) 802-5303
CITY OF MANHATTAN BEACH (POLICE DEPARTMENT)...	DERRICK ABELL.....	(310) 802-5103
CITY OF MANHATTAN BEACH (FIRE DEPARTMENT).....		(310) 802-5203
COUNTY SANITATION DISTRICT (COMPTON).....ENGINEERING COUNTER.....		(562) 908-4288 (Ext. 1204 or 1205)
AT&T DISTRIBUTION...SUBSTRUCTURE RECORDS REQUEST CONSTRUCTION & ENGINEERING.....		(510) 645-2929
CALIFORNIA WATER SERVICE...FRANK SCOTTY.....		(310) 257-1400
LA COUNTY PUBLIC WORKS - FLOOD MAINTENANCE...EDUARDO IVASAN or AHMET TATILIOVLO.....		(562) 861-0316
NEXTGLAVEN NETWORK...BRYANT LOWE.....		(724) 416-2193
SHELL OIL...CLARINDA MALDONADO.....		(310) 816-2063
SOUTHERN CALIFORNIA GAS COMPANY...GUILLERMO TEJEDA.....		(310) 687-2014
SOUTHERN CALIFORNIA EDISON...KRIS WALSH.....		(949) 533-6137
SPECTRUM (TIME WARNER CABLE)...ANTHONY XANPHIS.....		(310) 750-9185
T-MOBILE...SHAWN HENDERSON.....		(805) 279-3513
FRONTIER COMMUNICATION (PREVIOUSLY VERIZON)...DAN HAYES.....		(310) 793-4159
XO COMMUNICATIONS.....		(949) 417-7841

PROFESSIONAL ENGINEER'S NOTE:

THE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY THE ENGINEER OF RECORD USING AVAILABLE RECORD PLANS AND MAPS AND BASED ON FIELD RECONNAISSANCE OF EXISTING CONDITIONS. KNOWN UTILITIES AND OWNERS OF OTHER STRUCTURES HAVE BEEN GIVEN WRITTEN NOTICE OF THE PROJECT. HOWEVER, THE ENGINEER OF RECORD AND CITY OF MANHATTAN BEACH ARE NOT RESPONSIBLE FOR THE TOTAL ACCURACY AND/OR CORRECTNESS OF THE SHOWN INFORMATION. THE CONTRACTOR, BY SIGNING THE CONSTRUCTION CONTRACT FOR THIS PROJECT, ACCEPTS AND ASSUMES FULL RESPONSIBILITY FOR THE WORK AND ITS IMPACT ON THE EXISTING FACILITIES WHETHER SHOWN OR NOT ON THESE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE TO MAKE HIS OWN INVESTIGATION AND INSPECTION INCLUDING POTHOLING AND SUCH OTHER METHODS HE DEEMS NECESSARY TO ALLOW HIM TO PROCEED ON THE CONSTRUCTION OF THIS PROJECT IN COMPLIANCE WITH THE LAWS, ORDINANCES, REGULATIONS AND CITY STANDARDS APPLICABLE TO THE PROJECT, INCLUDING STATE SAFETY ORDERS AND PROCEDURES OF USA.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY SURVEYS REQUIRED TO ESTABLISH HORIZONTAL AND VERTICAL CONTROLS PRIOR TO AND DURING CONSTRUCTION, AND TO REPLACE DISTURBED OR COVERED EXISTING SURVEY MONUMENTS AT HIS EXPENSE. MONUMENT RESTORATION/REPLACEMENT TO BE RECORDED.



NO WORK SHALL BE DONE ON THIS SITE UNTIL USA AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE, TWO WORKING DAYS BEFORE YOU DIG.

SUPPLEMENTAL NOTES:

- THE CONTRACTOR SHALL LOCATE, VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. DAMAGED UTILITIES SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
- DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING WATER, SEWER AND/OR GAS LATERALS MAY NOT BE AT THE LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING.
- THE CONTRACTOR SHALL DETERMINE THE DEPTH OF THE GAS SCE, CABLE, SEWER, STORM DRAIN AND WATER AT ALL INTERSECTIONS AND INTERFERENCES PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS.

ENGINEER/ARCHITECT
OF RECORD STAMP

DATE SIGNED

DESIGN FIRM NAME,
ADDRESS, PHONE NUMBER

REVIEWED BY

DATE

REFERENCES

NO.	BY	DATE

REVISIONS

NO.	BY	DATE

CITY OF MANHATTAN BEACH
PUBLIC WORKS DEPARTMENT – ENGINEERING DIVISION

UNDERGROUND UTILITY ASSESSMENT DISTRICT 4
TITLE SHEET

RECOMMENDED BY CITY ENGINEER PREM KUMAR	DATE	DIRECTOR OF PUBLIC WORKS STEPHANIE KATSIOULEAS	DATE
REVIEWED BY PROJECT MANAGER	DATE	SCALE AS SHOWN	09-17-19
DESIGNED BY	DATE	DRAWING NO. U-01	SHEET 1 of 37

1. ALL WORK SHALL CONFORM TO THE STANDARD PLANS AND SPECIFICATIONS OF THE CITY OF MANHATTAN BEACH, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS (LACDPW), STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION AND CALTRANS STANDARDS AS APPLICABLE. ALL WORK SHALL BE SUBJECT TO THE CITY ENGINEER'S ACCEPTANCE AS A CONDITION OF COMPLETION OF WORK BY THE CONTRACTOR.
2. WORK NOT DONE IN THE PRESENCE OF THE CITY INSPECTOR IS SUBJECT TO REJECTION.
3. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE COMPLETED WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO TRAVELING PUBLIC.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH PROJECT CONSTRUCTION.
5. ANY WALLS, FENCE STRUCTURES AND/OR APPURTENANCE ADJACENT TO THIS PROJECT SHALL BE PROTECTED IN PLACE. IF THE CONTRACTOR'S ACTIVITIES DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNER(S).
6. ALL DAMAGED AND/OR REMOVED DRIVEWAY APPROACH, P.C.C. SIDEWALK OR CURB AND GUTTER SHALL BE RECONSTRUCTED ACCORDING TO THE CITY OF MANHATTAN BEACH STANDARD DRAWINGS ST-1, ST-2 AND ST-3, RESPECTIVELY (UNLESS NOTED OTHERWISE).
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING AND CLEANING OF THE PROPOSED WORK AREA.
8. THE CONTRACTOR IS RESPONSIBLE FOR OVERALL JOBSITE MAINTENANCE; INCLUDING, BUT NOT LIMITED TO: STREET/SITE SWEEPING, TRASH AND/OR CONSTRUCTION-RELATED DEBRIS/WASTE, STORMWATER POLLUTION PREVENTION BMP, ETC...
9. NO TRENCHES MAY BE LEFT OPEN OVERNIGHT UNLESS APPROVED IN WRITING BY THE CITY ENGINEER. SHOULD THE CONTRACTOR REQUEST TO LEAVE THE TRENCHES OPEN A PLAN FOR PROTECTING THE TRENCH AND THE PUBLIC SHALL BE SUBMITTED TO THE CITY ENGINEER IN WRITING FOR APPROVAL BEFORE BEING IMPLEMENTED. PLATING IS REQUIRED.
10. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) AS REQUIRED PRIOR TO THE START OF THE WORK. UPON EXPOSING ANY UTILITY'S UNDERGROUND FACILITY, THE CONTRACTOR SHALL NOTIFY THAT UTILITY IMMEDIATELY. IF ANY UTILITIES OR FACILITIES CONFLICT WITH PROPOSED IMPROVEMENTS, THE CITY ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
11. ALL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE IN PLACE PRIOR TO BEGINNING OF EXCAVATION. TRAFFIC CONTROL SHALL BE APPROVED BY THE CITY ENGINEER. STREET STRIPING SHALL BE COMPLETED PRIOR TO STREET OPENING.
12. CONSTRUCTION SITE SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIAL OTHER THAN STORM WATER ARE ALLOWED ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT: CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/ EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/ EQUIPMENT STEAM CLEANING OR CHEMICAL DREGREASING; AND SUPERCHLORINATED POTABLE WATER LINE FLUSHING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE, PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUN-OFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
13. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
14. THE CONTRACTOR SHALL NOT CONDUCT ANY OPERATIONS OR PERFORM ANY WORK PERTAINING TO THE PROJECT BETWEEN 4:30 P.M. AND 7:30 A.M. ON ANY WEEK DAY AND NOT ON SATURDAY, OR SUNDAY, OR HOLIDAYS AT ANY TIME EXCEPT AS APPROVED IN WRITING BY THE CITY ENGINEER.
15. CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY/SUBSTRUCTURE CROSSINGS AND WITHIN THE ALIGNMENT OF THE PROPOSED IMPROVEMENTS BEFORE CONSTRUCTING ANY UTILITIES. THE CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING UTILITIES/SUBSTRUCTURES ON THESE PLANS AND THOSE FOUND DURING CONSTRUCTION (SEE GENERAL NOTE NO 32).
16. THE CONTRACTOR IS ADVISED THAT ALL EXCAVATED MATERIALS SHALL BECOME HIS PROPERTY FOR BACKFILL SUBJECT TO APPROVAL OF SOILS ENGINEER AND ANY UNUSED MATERIAL SHALL BE REMOVED FROM THE JOB UNLESS INSTRUCTED BY THE CITY ENGINEER TO DO OTHERWISE.
17. THE CONTRACTOR SHALL BE RESPONSIBLE DURING ALL PHASES OF THE WORK TO PROVIDE FOR PUBLIC SAFETY AND CONVENIENCE. THE CONTRACTOR SHALL ESTABLISH ADEQUATE ACCESS TO ALL ENTRIES/DRIVEWAYS/GARAGES AND PARKING LOTS DURING THE WORKING DAY TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL GIVE COURTESY NOTICE (KNOCK ON DOOR) TO AN ADJACENT PROPERTY IMMEDIATELY PRIOR TO BLOCKING ENTRY/DRIVEWAY/GARAGE ACCESS. PEDESTRIAN ACCESS IS TO BE PROVIDED AND MAINTAINED BY THE CONTRACTOR.
18. THE CONTRACTOR SHALL ADJUST MANHOLES AND VALVE COVERS TO FINISHED GRADE. THE CONTRACTOR SHALL ADJUST, TIGHTEN AND/OR REPAIR MANHOLES, LIDS AND COVERS BY THE END OF EACH WORKING DAY TO ENSURE MINIMAL IMPACT (NOISE AND OTHERWISE) TO ADJACENT PROPERTY OWNERS.
19. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN FOR THE COMPLETION OF THE PROPOSED IMPROVEMENTS PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CALIFORNIA (LATEST EDITION) TO THE SATISFACTION OF THE CITY ENGINEER. ALL STREETS IN THE PROJECT HAVE AT LEAST 2 LANES (1 LANE IN EACH DIRECTION) WITH EITHER CURB SIDE OPEN PARKING OR CURB SIDE LIMITED PARKING OR NO PARKING.

THE CONTRACTOR CAN INCLUDE IN THE PLAN THE ELIMINATION OF PARKING ON ONE SIDE OF THE STREET DURING THE CONSTRUCTION DAY, CLOSURE OF THE ONE TRAFFIC LANE DURING THE CONSTRUCTION DAY ONE BLOCK AT A TIME. THE SIDE OF THE STREET WHERE PARKING IS ELIMINATED CAN BE USED DURING THE CONSTRUCTION TIME OF THE DAY FOR LOCAL ONE WAY TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED FLAG PERSONNEL ALL SUCH STREETS SHALL BE OPEN TO THE TRAFFIC AND CURB PARKING BETWEEN 5:00 PM AND 7:30 AM DAILY (MONDAY – FRIDAY, ALL STREETS SHALL BE OPEN ON HOLIDAYS AND SATURDAY & SUNDAY). IT IS THE CONTRACTOR'S RESPONSIBILITY TO POST "NO PARKING-TOW AWAY" SIGNS WITH SPECIFIC DATES/TIMES AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ACTUAL WORK.
20. USE OF TRENCH PLATING MAY BE APPROVED BY THE CITY ENGINEER UPON SUBMITTAL OF A PLATING PLAN AND APPROVAL OF PLAN BY THE CITY ENGINEER. ALL PLATES SHALL BE FIRMLY SUPPORTED ON ADJACENT PAVEMENT OR BEAMS. ALL PLATES IN A.C. PAVEMENT SHALL BE STUDED INTO PAVEMENT WITH TOP OF PLATES FLUSH WITH PAVEMENT SURFACE. THERE SHALL BE NO OPENINGS BETWEEN PLATES. PLATES SUPPORTED ON BEAMS SHALL BE BOLTED TO OR WELDED TO BEAMS BY TACK WELDING. TACK WELDING SHALL BE REQUIRED OF CONTIGUOUS PLATES. PLATES SHALL BE SECURED SO AS TO NOT MOVE, SLIP OR SLIDE AND CAPABLE OF CARRYING H-20 LOADING. ALL PLATE SURFACES SHALL BE ROUGHENED OR RAISED TO MINIMIZE TIRE SLIPPAGE. FOR CONCRETE SECTION OF STREETS THE PLATES MAY BE PLACED ON SURFACE AND HELD IN PLACE WITH ASPHALT CONCRETE EDGE BERMS AND STUDS INTO DRILLED HOLES.
21. THE CONTRACTOR SHALL PROVIDE A 72-HOUR WRITTEN NOTIFICATION TO AFFECTED PROPERTIES (IN A DOOR-HANGER FORMAT), POLICE DEPARTMENT, AND FIRE DEPARTMENT IN THE EVENT OF A STREET CLOSURE TO TRAFFIC AND/OR PUBLIC SAFETY VEHICLES OR IMPLEMENTATION OF PARKING RESTRICTIONS. THE CONTRACTOR SHALL COORDINATE THE PROJECT WORK AND ASSOCIATED PICK-UP ROUTES WITH THE CITY REFUSE COLLECTION COMPANY (WASTE MANAGEMENT) PRIOR TO THE COMMENCEMENT OF WORK.
22. THE CONTRACTOR SHALL FURNISH AND OPERATE A SELF-LOADING STREET SWEEPER WITH SPRAY NOZZLES AT LEAST TWICE EACH WORKING DAY TO KEEP PAVED AREAS ACCEPTABLY CLEAN WHEREVER CONSTRUCTION, INCLUDING RESTORATION, IS IN PROGRESS OR INCOMPLETE.
23. ALL PORTLAND CEMENT CONCRETE (P.C.C.) AND ASPHALT CONCRETE (A.C.) SHALL BE REMOVED TO A SAWCUT, COLD JOINT, SCORE MARK OR EDGE OF PAVEMENT. NO "FLOATER" SLABS WILL BE PERMITTED. SAWCUT SLURRY SHALL BE REMOVED WITH A VACUUM MACHINE AND DISPOSED OF PROPERLY. NO SLURRY SHALL BE ALLOWED TO ENTER THE STORM DRAIN SYSTEM.
24. A PERMIT IS REQUIRED FOR ALL WORK ON CITY STREETS. THE CITY WILL ISSUE A "NO FEE" PERMIT TO THE CONTRACTOR. SHOULD THE CONTRACTOR OPERATION INVOLVE ANOTHER AGENCY'S JURISDICTION OR INFRASTRUCTURE A PERMIT AND INSPECTION SHOULD BE OBTAINED THEREFOR FROM THAT AGENCY. THERE MAY BE A FEE THEREFOR PAYABLE BY CONTRACTOR.
25. IN SOME CASES MATCH LINES MAY OVERLAP FROM PLAN SHEET TO PLAN SHEET. CONTRACTOR SHOULD REVIEW PLANS THOROUGHLY.
26. ALL PORTIONS OF STREET AFFECTED BY CONSTRUCTION, AS DETERMINED BY CITY ENGINEER, OUTSIDE OF TRENCH INCLUDING T-CUT SHALL BE RESTORED PER CITY OF MANHATTAN BEACH STD DWG MBSI-132a-0 (ST-10). SHOULD ANY LINEAR OR AREA TRENCH JOINT BE LOCATED WITHIN 36" OF AN EXISTING PAVEMENT PATCH AND/OR CURB AND GUTTER ALIGNMENT, THE ADJACENT PAVEMENT SECTION/PATCH MUST BE REMOVED AND REPAVED ALONG WITH THE TRENCH PAVEMENT RESTORATION. ALL STRIPING & PAVEMENT MARKING SHALL BE REPLACED IN EXISTING & IN NEW PAVEMENT. GRINDING TO BE PERFORMED PER CITY ENGINEER INSTRUCTION. ALL TRAFFIC SIGNAL LOOPS DAMAGED BY PROJECT WORK SHALL BE REPLACED IN THEIR ENTIRETY BACK TO CONTROL PANEL. CONTRACTOR SHALL TUNNEL UNDER AND PROTECT IN PLACE STAMPED CONCRETE OR PAVERS, CROSSWALKS, CURB & GUTTERS. SHOULD CROSSWALKS BE DAMAGED ENTIRE CROSSWALK FROM CURB TO CURB SHALL BE REPLACED IN KIND WITHOUT ANY ADDITIONAL COMPENSATION TO THE CONTRACTOR.

- PRIVATE ENGINEERS NOTICE TO CONTRACTOR:

- | | |
|--|--|
|  <p>Know what's below.
Call before you dig.</p> | <p>SUPPLEMENTAL NOTES:</p> <ol style="list-style-type: none"> 1. THE CONTRACTOR SHALL LOCATE, VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. DAMAGED UTILITIES SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE. 2. DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING WATER, SEWER AND/OR GAS LATERALS MAY NOT BE AT THE LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY, THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING. 3. THE CONTRACTOR SHALL DETERMINE THE DEPTH OF THE GAS COSE, CABLE, SEWER, STORM DRAIN AND WATER AT ALL INTERSECTIONS AND INTERFERENCES PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS. |
|--|--|

DESIGN FIRM NAME,
ADDRESS, PHONE NUMBER

--	--

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.

- ## AMERICANS WITH DISABILITIES NOTES

- UTILITY NOTES:

- | | | | | | |
|----------------------------------|--|---|--|--|--|
| NAME, _____
FILE NUMBER _____ | | CITY OF MANHATTAN BEACH
PUBLIC WORKS DEPARTMENT – ENGINEERING DIVISION | | UNDERGROUND UTILITY ASSESSMENT DISTRICT
GENERAL NOTES | |
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WATER NOTES:

GENERAL:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, FIRE AND POLICE DEPARTMENT AT LEAST 72 HOURS PRIOR TO SHUTTING DOWN ANY WATER MAINS, FIRE HYDRANTS OR BLOCKING ACCESS TO ANY AREA. FIRE HYDRANT SHALL NOT BE OUT OF SERVICE FOR MORE THAN FOUR (4) HOURS AND NONE SHALL BE OUT OF SERVICE OVERNIGHT OR DURING WEEKENDS.
2. THE CONTRACTOR SHALL FIELD VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL DETERMINE THE DEPTH OF GAS, ELECTRICAL, TELEPHONE, TELEVISION, STORM DRAIN, SEWER AND WATER AT ALL INTERSECTIONS PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS. DAMAGED UTILITIES SHALL BE REPLACED IN KIND UNDER THE SUPERVISION OF THE OWNER AT CONTRACTOR'S EXPENSE.
3. DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING SEWER, GAS LATERALS AND/OR ELECTRICAL UNDERGROUNDING MAY NOT BE AT LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING. PRIOR TO SHUT DOWN AND CUTTING OF ANY EXISTING WATER MAIN, ALL EXISTING VALVES SHALL BE EXERCISED BY CITY PERSONNEL. THE CONTRACTOR SHALL NOTIFY THE CITY'S DEPARTMENT OF PUBLIC WORKS, WATER DIVISION INSPECTION SUPERVISOR A MINIMUM OF FOUR DAYS PRIOR TO COORDINATE THE SHUT DOWN OF ANY WATER MAIN.
5. CONTRACTOR SHALL PROTECT IN PLACE THE EXISTING SURVEY MONUMENTS DURING WATER MAIN CONSTRUCTION. IF MONUMENTS ARE DESTROYED, THE CONTRACTOR SHALL SURVEY AND RESET RECORDED MONUMENTS.

DUCTILE IRON PIPE:

6. ALL D.I.P. WATER LINES AND FITTINGS SHALL BE CEMENT LINED DOUBLE THICKNESS, CLASS 50 PRESSURE CLASS WITH POLYETHYLENE ENCASEMENT AND COMPLY WITH ANSI A.21.51 (AWWA C 151).
7. STATIC WATER PRESSURE IN VICINITY IS SHOWN FOR LOW AND HIGH ELEVATIONS ON THE PLANS. (REFER TO TOP OR BOTTOM OF SHEETS)
8. PIPE MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THESE CONSTRUCTION DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS.
9. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES EXCEPT AT POINTS OF CONNECTION TO EXISTING WATER MAINS.
10. THE CONTRACTOR MAY VARY THE GRADE IN THE ALIGNMENT OF THE WATERLINE IF FIELD CONDITIONS WARRANT WITH THE APPROVAL OF THE ENGINEER.
11. PIPE DEFLECTIONS SHALL NOT EXCEED 80% OF THE MANUFACTURER'S RECOMMENDED ALLOWABLE DEFLECTIONS FOR DUCTILE IRON PIPE AND FITTINGS INSTALLATION.
12. A MINIMUM OF 12-INCHES CLEARANCE BETWEEN THE EXISTING UTILITIES AND PROPOSED PIPELINES SHALL BE MAINTAINED AT CROSSINGS. UTILITIES SHALL BE SUPPORTED AS REQUIRED BY THE ENGINEER AND IN ACCORDANCE WITH APWA STD. DWG. 224-2 AND CITY OF MANHATTAN BEACH STD. DWG. ST-26.
13. THE OPEN ENDS OF ALL ABANDONED WATER LINES SHALL BE PLUGGED WITH CONCRETE. THE LOCATION OF THE CONCRETE PLUGS SHALL BE APPROVED BY THE CITY ENGINEER IN THE FIELD.
14. ALL EXCAVATIONS FOR THE INSTALLATION OF THE MAIN LINE PIPE AND SERVICES, INSTALLATION OF COMBINATION AIR VACUUM AND AIR RELEASE VALVES. INSTALLATION OF END OF LINE FLUSH-OUTS, AND ABANDONMENT OF EXISTING WATER MAINS SHALL BE BACKFILLED PER CITY OF MANHATTAN BEACH STD. DWG. ST-10.

FITTINGS:

15. ALL FITTINGS AND MECHANICAL JOINTS SHALL BE DUCTILE IRON UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER. ALL RESTRAINED JOINTS AS SHOWN SHALL BE CONSTRUCTED WITH RESTRAINTS (MEGALUG OR FIELD-LOK GASKETS).
16. ALL DUCTILE IRON TEES AND CROSSES SHALL BE CLASS 350 FLANGE FITTINGS UNLESS OTHERWISE NOTED ON PLANS. ALL OTHER DUCTILE IRON FITTINGS SHALL BE CLASS 350 WITH PUSH-ON JOINTS UNLESS OTHERWISE NOTED PLANS. PROVIDED FITTINGS WITH ENDS THAT ARE COMPATIBLE WITH MECHANICAL RESTRAINTS WHERE RESTRAINED JOINTS ARE REQUIRED.
17. ALL "TEE" INSTALLATIONS SHALL BE PER CITY STANDARDS, UNLESS SHOWN OTHERWISE ON PLANS.
18. CONTRACTOR SHALL FURNISH ALL FITTINGS NECESSARY FOR DEVIATION OF PIPE ALIGNMENT NOT SHOWN ON PLANS.

VALVES:

19. ALL VALVES SHALL BE GATE VALVES. VALVE ASSEMBLIES SHALL BE PER CITY STANDARDS.
20. GATE VALVES SHALL BE PLACED WITH OPERATING NUT EITHER NORTH OR WEST OF THE WATER MAIN.
21. ALL VALVES CONNECTING TO TEES, CROSSES AND REDUCERS SHALL HAVE FLANGED OR FLANGED X PUSH-ON ENDS.
22. NO VALVE SHALL BE LOCATED WITH A GUTTER OR OTHER CONCRETE DRAINAGE DEVICE, ALLEY GUTTERS, DRIVEWAY AND ALLEY APPROACHES OR SIDEWALKS, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE CITY ENGINEER.
23. THE CONTRACTOR SHALL ADJUST ALL VALVE SLEEVES TO FINISH GRADE UPON COMPLETION OF REPAVING.
24. EXISTING PIPE, TEES, CROSSES AND OTHER FITTINGS WHICH INTERFERE WITH THE PROPOSED WATER SYSTEM IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF PROPERLY OR SALVAGED AS DIRECTED BY THE ENGINEER.
25. EXISTING VALVES SHALL BE SALVAGED UNDER DIRECTION OF THE ENGINEER. VALVE CANS SHALL BE REMOVED, BACKFILLED AND PAVED OVER.

AIR VALVES AND PUMP WELLS:

26. THE CONTRACTOR SHALL CONSTRUCT A COMBINATION AIR/VAC AIR RELEASE VALVE ASSEMBLY PER CITY STANDARDS AT ALL HIGH POINTS IN THE ALIGNMENT WHETHER OR NOT SHOWN ON THESE DRAWINGS.
27. CONTRACTOR SHALL CONSTRUCT A BLOW-OFF ASSEMBLY PER CITY STANDARDS AT ALL LOW POINTS IN THE ALIGNMENT WHETHER OR NOT SHOWN ON THESE DRAWINGS.

FIRE HYDRANTS:

28. ALL FIRE HYDRANTS, VALVES AND OTHER ASSOCIATED FACILITIES SHALL BE LOCATED IN THE FIELD AS DIRECTED BY THE ENGINEER. THE LOCATION SHOWN ON THESE PLANS ARE APPROXIMATE.
29. REMOVAL OF THE EXISTING FIRE HYDRANTS WILL INCLUDE CUTTING FIRE HYDRANT BURY TWO FEET (2'-0") BELOW EXISTING GRADE AND BACKFILLING WITH CONCRETE. SALVAGED FIRE HYDRANTS SHALL BE DELIVERED TO THE CITY WATER DIVISION.
30. FIRE HYDRANT INSTALLATIONS SHALL INCLUDE NEW 6--INCH LATERALS, VALVES WITH 6" X 6" X 6" OR 8" X 6" X 8" TEE. SEE CITY OF MANHATTAN BEACH STD DWG ST-16.

WATER SERVICES AND METERS:

31. ALL WATER SERVICES AND FIRE LINES SHALL BE REPLACED FROM THE NEW WATER LINE UP TO THE METER PER DETAILS MODIFIED ST-15 AND ST-22.
32. CONTRACTOR SHALL LOCATE AND FIELD VERIFY ALL WATER SERVICE CONNECTIONS AND FIRE LINE SERVICES SIZES AND LOCATIONS PRIOR TO COMMENCING WORK ON PROJECT.
33. WATER SERVICE SHALL NOT BE CONSTRUCTED LESS THAN 18 INCHES FROM ANOTHER WATER SERVICE AND WATER MAIN JOINT.
34. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS, ADAPTERS, REDUCERS, AND/OR COUPLINGS NECESSARY TO CONNECT TO EXISTING PIPING AND METERS.

POTHOLING/UTILITIES:

35. THE CONTRACTOR SHALL POTHOLE ALL TIE IN CONNECTION LOCATIONS, PRIOR TO CONSTRUCTION TO FIELD VERIFY THE ACTUAL SIZE, DEPTH, AND ROUNDNESS OF THE EXISTING WATER SYSTEM. THE TIE IN WILL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
36. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE UNLESS OTHERWISE SHOWN.
37. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS A MINIMUM DISTANCE OF 200 FEET IN ADVANCE OF WATER MAIN TRENCHING TO DETERMINE THE EXACT LOCATION AND VERIFY THE MATERIAL, SIZE, DEPTH AND ROUNDNESS OF ALL PARALLEL AND CROSSING UTILITIES WITHIN THE ALIGNMENTS OF THE NEW WATER MAIN. PIPE JOINTS SHALL BE DEFLECTED A MAXIMUM 80% OF MANUFACTURER'S RECOMMENDATION TO CLEAR INTERFERENCES WITH KNOWN OBSTRUCTIONS OR OTHER UTILITIES WHICH ARE SHOWN OR NOT SHOWN ON THE PLAN UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY INFORMATION GATHERED DEVIATING FROM PLANS SHALL BE CONVEYED TO THE ENGINEER IN WRITING.
38. FAILURE TO COMPLY WITH ANY OF THE ABOVE ITEMS SHALL BE SUFFICIENT CAUSE FOR THE AGENCY TO ARRANGE FOR THE NECESSARY WORK TO BE PERFORMED BY OTHERS. ANY COSTS INCURRED TO COMPLETE THE NECESSARY WORK WILL BE CHARGED TO THE CONTRACTOR.

CONNECTIONS:

39. CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES INCLUDING WATER SERVICE AND FIRE PROTECTION SERVICE CONNECTIONS FROM THE ABANDONED OR REPLACED WATER MAIN TO THE NEW WATER MAIN. THE CONTRACTOR SHALL ALSO PROVIDE ALL REQUIRED TEES, BLIND FLANGES, CAPS, FITTINGS, PIPE AND RESTRAINED JOINT CONNECTIONS REQUIRED TO RECONNECT ALL SERVICES CONNECTIONS TO THE NEW WATER MAIN PER CITY OF MANHATTAN BEACH STANDARDS. WATER AND FIRE SERVICE CONNECTIONS HAVE NOT BEEN SHOWN IN DETAIL FOR PLAN CLARITY.
40. AT CONNECTION POINTS, THE CONTRACTOR SHALL REMOVE INTERFERING EXISTING PIPING AND VALVES AND INSTALL FITTINGS, VALVES AND MAKE UP SPOOL PIECES AND JOIN PIPE ENDS WITH TRANSITION COUPLINGS.
41. CONNECTIONS TO EXISTING WATER MAIN SHALL BE ACCORDING TO TYPICAL CITY STANDARDS.
42. REFER TO CONNECTIONS SHOWN ON CITY STANDARDS.
43. THRUST BLOCK OR RESTRAINING DEVICES SHALL BE INSTALLED ON BOTH SIDES OF ALL FITTINGS, VALVES, PLUGS, AND DEAD ENDS, AND ALL DIRECTION CHANGES. THRUST BLOCKS SHALL BE PER CITY OF MANHATTAN BEACH STD. DWG. (ST-20). THE REQUIRED RESTRAINED LENGTH FITTINGS SHALL BE PER CITY STANDARDS, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
44. DUAL PURPOSE COUPLING TRANSITION FITTINGS SHALL BE USED FOR GIP/DIP TRANSITIONS FOR 12" OR LARGER.

RESTRAINTS/THRUST BLOCKS:

45. THRUST BLOCKS SHALL BE CONSTRUCTED PER CITY OF MANHATTAN BEACH STD. DWG. ST-20.
46. ALL NEW AND EXISTING WATER MAINS SHALL BE PROPERLY RESTRAINED BY THE CONTRACTOR DURING CONSTRUCTION AND HYDROSTATIC TESTING.
47. ALL FIRE SERVICE CONNECTIONS SHALL BE RESTRAINED.

TESTING/DISINFECTION:

48. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT ALL WATER MAINS HAVE BEEN RELIEVED OF ENTRAPPED AIR BY HOLDING HYDROSTATIC PRESSURE IN PIPELINES BEING TESTED A MINIMUM OF 4 HOURS PER AWWA C600.
49. ALL WATER LINE INSTALLATIONS SHALL BE FREE OF DEBRIS AND ORGANIC MATERIALS. THE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED, FLUSHED AND CHLORINATED. CHLORINATING SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH DEPARTMENT, CONSISTING OF NOT LESS THAN 50 PPM INITIAL DOSAGE, WITH NOT LESS THAN 25 PPM RESIDUAL DOSAGE AFTER 24 HOURS. INSTALLATIONS SHALL BE FLUSHED AND A 48 HOUR BACTI TEST SHALL BE REQUIRED PRIOR TO PRESSURE TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE ALL BACTERIOLOGICAL TESTING BY A CERTIFIED LABORATORY. THE CONTRACTOR SHALL NOT HAVE CUSTODY OF THE WATER SAMPLES AT ANY TIME. ALL TESTING METHODS AND RESULTS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO CONNECTING THE NEW WATER MAIN TO THE CITY'S WATER SYSTEM.

50. ALL BACTI AND PRESSURE TESTS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PLACEMENT OF PERMANENT RESURFACING.

HIGH LINING (BY-PASS):

51. THE CONTRACTOR SHALL INSTALL BY-PASS LINES AS SHOWN AND PER SPECIFICATIONS. THE MINIMUM BY-PASS PIPING SIZE SHALL EQUAL THE SIZE OF THE MAIN TO BE REPLACED.
52. BY-PASS WATER PLANS SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER FOR ALL WATER MAINS TO BE REMOVED AND REPLACED PER PLAN. ALL BY-PASS PLANS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND COORDINATED AND APPROVED WITH THE CITY FIRE MARSHALL.

ABANDONMENT:

53. WHERE THE NEW WATER MAIN REPLACES AN EXISTING MAIN, THE EXISTING MAIN SHALL BE ABANDONED IN PLACE AND THE ENDS SHALL BE FILLED WITH 2 FEET MINIMUM OF SLURRY, CAPPED OR PLUGGED PROPERLY AND SECURED WITH CONCRETE PRIOR TO BACKFILLING.
54. REPLACED WATER SERVICES SHALL BE REMOVED.

SEPARATIONS:

55. ALL WATER MAIN SEPARATIONS SHALL COMPLY WITH DEPARTMENT OF HEALTH SERVICES GUIDANCE CRITERIA AND DIVISION OF DRINKING WATER (DDW) FOR THE SEPARATION OF WATER MAINS AD NON-POTABLE PIPELINES (LATEST ADDITION) AND CITY OF MANHATTAN BEACH STD. DWG. ST-26. THE MORE STRINGENT OF THE TWO SHALL GOVERN.
56. WHEREVER A WATER LINE CROSSES A SEWER LINE, VERTICAL SEPARATION SHALL NOT BE LESS THAN 4 INCHES. WHERE THE SEPARATION IS BETWEEN 4 INCHES AND ONE (1) FOOT, THE CONTRACTOR SHALL INSTALL THE WATER MAIN SO THAT A 16 FOOT SECTION OF PIPE IS CENTERED AT THE SEWER LINE, AND THERE SHALL NOT BE A PIPE JOINT WITHIN 8 FEET. SEE CITY OF MANHATTAN BEACH STD. DWG. ST-26.
57. IN AREAS WHERE THE PIPELINE IS INSTALLED ABOVE AN EXISTING STORM DRAIN, THE CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 12 INCHES BETWEEN THE TOP OF STORM DRAIN AND THE BOTTOM OF THE PIPELINE. IF A 12 INCH CLEARANCE CANNOT BE MAINTAINED, PIPE SHALL BE CONCRETE ENCASED ACROSS THE STORM DRAIN, PLUS 3 FEET ON BOTH SIDES. SEE CITY OF MANHATTAN BEACH STD. DWG. ST-26.
58. WHERE THE NEW WATER MAIN ENCROACHES WITH 4 FEET OF AN EXISTING SEWER OUTER DIAMETER SPECIAL CONSTRUCTION WILL BE REQUIRED BY CONSTRUCTING A CASING PIPE FOR THE NEW WATER MAIN. SEE CITY OF MANHATTAN BEACH STD. DWG. ST-26.

TRENCHING AND BACKFILLING:

59. NO MECHANICAL EQUIPMENT IS PERMITTED TO OPERATE WITHIN THREE FEET OF A GAS LINE AND ANY CLOSER WORK MUST BE DONE BY HAND.

SEWER NOTES:

1. THE CONTRACTOR'S ATTENTION IS CALLED TO CONTRACT SPECIFICATION'S SPECIAL PROVISION, PART 3, SECTION 306-1.2.15 CONVEYANCE OF SEWAGE FLOWS.
2. THE LOCATIONS OF EXISTING UTILITIES AND HOUSE LATERALS SHOWN ARE BASED ON CCTV INSPECTIONS AND PREVIOUS RECORDS. IT MAY OR MAY NOT BE ACCURATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND EXPOSE ALL EXISTING LATERALS TO DETERMINE EXACT LOCATION AND DEPTHS TO WHICH THE CONNECTIONS ARE TO BE MADE.
3. AN EXISTING SEWER TO BE REPLACED SHALL BE CUT AND PLUGGED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, SECTION 306-5 AND 306-6.
4. EXISTING DOWNSTREAM MANHOLES SHALL BE BULKHEADED WITH BRICK AND MORTAR OR PLUGS APPROVED BY THE ENGINEER AT NEW INLET DURING CONSTRUCTION OF NEW UPSTREAM LINES. BRICK AND MORTAR OR PLUG SHALL BE REMOVED IN THE PRESENCE OF THE ENGINEER DURING CLEARING OF THE FIRST UPSTREAM SECTION OF THE NEW SYSTEM.
5. THE NEW MAIN AND LATERALS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 306.1.4.4 OF THE STANDARD SPECIFICATIONS.
6. MANHOLE FRAMES AND COVERS SHALL HAVE NO LOCKING FEATURES AND CONFORM TO THE CITY OF MANHATTAN BEACH STANDARD DWG. MBSS-210A-0 (ST-19). A FOUNDRY IDENTIFICATION MARK SHALL BE LOCATED ON THE BOTTOM OF THE COVER AND INSIDE THE FRAME.
7. WHENEVER THE INVERT ELEVATION OF THE EXISTING AND THE NEW SEWER ARE THE SAME, THE LATERALS SHALL BE ANGLED TOWARD THE DOWNSTREAM DIRECTION AT THE MAXIMUM SLOPE POSSIBLE.
8. THE CONTRACTOR SHALL ADJUST ALL NEW SEWER MANHOLE FRAME COVERS TO FINISHED PAVEMENT GRADE.
9. ALL LATERAL LOCATIONS SHALL BE CLEARLY MARKED WITH A 2 INCH HIGH "S" CHISELED IN THE CURB FACE BY THE CONTRACTOR, WITH EXCEPTION AT PRIVATE IMPROVEMENTS IN ENCROACHMENT AREAS.
10. STATIONS SHOWN THUS 0+00 AS SHOWN ON THE PLAN AND PROFILE ARE SEWER STATIONS FROM RECORDED DRAWINGS AND ARE INDEPENDENT OF STREET STATIONS AND ARE STATIONS ALONG CENTERLINE OF SEWER. THESE MAY VARY FROM CCTV DERIVED DISTANCES.
11. SEWER LINE DISTANCE SHOWN IN PLAN AND PROFILE IS THE HORIZONTAL DISTANCE MEASURED BETWEEN MANHOLES.
12. SEWER MAIN CONSTRUCTION SHALL BE MONITORED BY VIDEOTAPE EQUIPMENT & THE VIDEOTAPE SHALL BE PROVIDED TO CITY ENGINEER. STATIONING IS TO SHOW ON VIDEOTAPE.
13. MANHOLE CONES FOR REPLACEMENT MANHOLES SHALL BE SET STRAIGHT SIDE UPSTREAM. MANHOLE STEPS SHALL BE MADE OF STEEL REINFORCED POLYPROPYLENE.
14. ALL VCP AND FITTINGS SHALL BE CLASS DESIGNATED "EXTRA-STRENGTH" AND TESTED IN ACCORDANCE WITH ASTM C-700 AND PER CITY STANDARDS.
15. IF A POWERPOLE IS WITHIN THREE FEET OF THE SEWER, THE SEWER SHALL BE ENCASED PER LACDPW STANDARD PLAN 2023-2, CASE II, TWO FEET ON EACH SIDE FROM THE POINT OF INTERFERENCE.
16. ALL JOINTS BETWEEN VITRIFIED CLAY PIPE AND OR PVC SEWER PIPE SHALL BE MADE WITH A RUBBER SLEEVE JOINT, TYPE "D" (WITH BUSHING IF NECESSARY) PER "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" SECTION 208-2.
17. WYE FITTINGS SHALL BE USED FOR LATERAL CONNECTIONS TO THE MAINLINE SEWERS EXCEPT AS NOTED.
18. NEW PIPE AND NEW MANHOLE BEDDING SHALL BE INSTALLED PER CITY OF MANHATTAN BEACH STANDARD DWG MBSI-132A-0 (ST-10).
19. CONTRACTOR TO COAT OUTSIDE OF ALL NEW SANITARY SEWER MANHOLES WITH WATERPROOF MEMBRANES.
20. ALL NEW SANITARY SEWER MANHOLE FRAMES AND COVERS SHALL BE WATERTIGHT.

SUPPLEMENTAL NOTES:

1. THE CONTRACTOR SHALL LOCATE, VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. DAMAGED UTILITIES SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
2. DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING WATER, SEWER AND/OR GAS LATERALS MAY NOT BE AT THE LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING.
3. THE CONTRACTOR SHALL DETERMINE THE DEPTH OF THE GAS SOE, CABLE, SEWER, STORM DRAIN AND WATER AT ALL INTERSECTIONS AND INTERFERENCES PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS.

ENGINEER/ARCHITECT
OF RECORD STAMP

DESIGN FIRM NAME,
ADDRESS, PHONE NUMBER

REVIEWED BY

DATE

NO.

BY

DATE

REVISIONS

NO.

DATE

REVIEWED BY

DATE

DESIGNED BY

DATE

CITY OF MANHATTAN BEACH

PUBLIC WORKS DEPARTMENT - ENGINEERING DIVISION

UNDERGROUND UTILITY ASSESSMENT DISTRICT 4

UTILITY NOTES

RECOMMENDED BY	DATE	APPROVED BY	DATE
CITY ENGINEER PREM KUMAR		DIRECTOR OF PUBLIC WORKS STEPHANNE KATSIOULEAS	
REVIEWED BY	DATE	SCALE	DATE
PROJECT MANAGER		AS SHOWN	09-17-19
DESIGNED BY	DATE	DRAWING NO.	
		SHEET 3 OF 37	

U-01

GRADING GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION AND AMENDMENTS OF THE CALIFORNIA BUILDING CODE. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE CITY/COUNTY STANDARDS AND STANDARD SPECIFICATIONS, LATEST ADOPTED EDITION AND AMENDMENTS. IF THERE IS A CONFLICT BETWEEN CODES, THE CONTRACTOR WILL NOTIFY THE CIVIL ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING AND DISPOSAL OF THE PROPOSED WORK AREA, THE CONTRACTOR SHALL DISPOSE OF ALL MATERIAL LEGALLY AND IS RESPONSIBLE FOR COMPLYING WITH LOCAL RECYCLING ORDINANCES.
3. NO FILL SHALL BE PLACED ON THE EXISTING GROUND SURFACE UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL, DELETERIOUS MATERIAL AND SCARIFIED AND COMPACTED PER THE GEOTECHNICAL RECOMMENDATIONS.
4. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN TWO FEET HORIZONTAL TO ONE FOOT VERTICAL, 2:1.
5. FILLS SHALL BE COMPACTED TO THE MINIMUM PERCENTAGE OF MAXIMUM DRY DENSITY AS SPECIFIED IN THE PROJECT SOILS REPORT AND CERTIFIED BY THE GEOTECHNICAL ENGINEER.
6. ALL EXISTING FILLS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER BEFORE ANY ADDITIONAL FILLS ARE ADDED.
7. ALL EXPOSED SLOPES SHALL BE PLANTED PER THE PROJECT LANDSCAPE PLANS AND IRRIGATED UNTIL GROUND COVER IS ESTABLISHED.
8. THE STOCKPILING OF EXCESS MATERIAL IS SUBJECT TO THE APPROVAL OF THE CITY.
9. ALL TRENCH BACKFILLS ARE TO BE TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER.
10. ALL CUT SLOPES SHALL BE INVESTIGATED BY THE GEOTECHNICAL ENGINEER DURING GRADING TO DETERMINE IF ANY POTENTIAL STABILITY PROBLEMS EXIST. SHOULD EXCAVATION DISCLOSE ANY GEOTECHNICAL HAZARDS OR POTENTIAL GEOTECHNICAL HAZARDS THE GEOTECHNICAL ENGINEER SHALL RECOMMEND NECESSARY TREATMENT TO THE CONTRACTOR.
11. THE FINAL COMPACTION REPORT AND APPROVAL FROM THE GEOTECHNICAL ENGINEER SHALL CONTAIN DETAILS REGARDING THE TYPE OF FIELD TESTING PERFORMED INCLUDING THE METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE, OR DRIVE RING SHALL BE NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.
12. SANITARY FACILITIES SHALL BE MAINTAINED ON SITE THROUGHOUT THE DURATION OF CONSTRUCTION.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF AND PROTECT ALL EXISTING UTILITIES AND TO ENSURE THAT SERVICE IS NOT DISRUPTED TO EXISTING FACILITIES.
14. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUNCTION, ESPECIALLY DURING STORM CONDITIONS. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT EXISTING STRUCTURES AND ADJACENT PROPERTIES DURING CONSTRUCTION. IF THE CONTRACTOR'S ACTIVITIES DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY DUE TO OBSTRUCTING EXISTING DRAINAGE PATTERNS, THE CONTRACTOR IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNER(S).
15. ALL PLANTERS ADJACENT TO THE FOUNDATIONS SHALL BE SEALED ALONG THE SIDE OF THE FOUNDATION FOOTING AND EXTENDED UNDER THE PLANTER A MINIMUM OF 12" TO PREVENT MOISTURE FROM REACHING THE FOUNDATION SUB-GRADE SOILS.
16. EXPORTED MATERIAL SHALL BE TAKEN TO A LEGAL DUMP SITE OR PERMITTED RECEIVING SITE APPROVED BY THE LOCAL AGENCY HAVING JURISDICTION.
17. PERMISSION IS REQUIRED FROM THE ADJACENT PROPERTY OWNER WHENEVER WORK IS PROPOSED OR NECESSARY ACROSS THE PROJECT'S PROPERTY LINES.
18. ANY DIRT, ROCK DEBRIS OR CONSTRUCTION MATERIAL THAT IS TRACKED OR DROPPED WITHIN THE PUBLIC RIGHT OF WAY DURING THE TRANSPORTATION OF THAT MATERIAL OR EQUIPMENT ASSOCIATED WITH THE PROJECT SHALL BE CLEANED OR REMOVED DAILY.
19. DIRT ACCESS RAMP OVER CURBS AND GUTTERS TO THE CONSTRUCTION SITE ARE PROHIBITED, WHEN NECESSARY FOR ENTRANCE TO SUCH CONSTRUCTION SITES, TEMPORARY ASPHALT RAMPS WITH A MINIMUM OF A 3" DIAMETER PIPE WILL CONSTRUCTED TO CONVEY GUTTER DRAINAGE.
20. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND OBTAINING REQUIRED PERMITS FROM THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (OSHA).
21. PROPOSED REVISIONS TO THE GRADING PLAN SHALL BE DRAWN IN RED PENCIL ON BOND COPIES OF THE APPROVED PLANS. THESE COPIES SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR APPROVAL. AFTER APPROVAL IS GIVEN, THE OWNER MAY REQUIRE AS-BUILT THE PLANS.
22. RULE 403, AIR QUALITY CONTROL MUST BE IMPLEMENTED DURING CONSTRUCTION:
- 22.1 PERSON SHALL NOT CAUSE OR ALLOW THE EMISSIONS OF FUGITIVE DUST FROM ANY TRANSPORT, HANDLING, CONSTRUCTION OR STORAGE ACTIVITY SO THAT THE PRESENCE OF SUCH DUST REMAINS VISIBLE IN THE ATMOSPHERE BEYOND THE PROPERTY LINE OF THE EMISSION SOURCE. (DOES NOT APPLY TO EMISSION EMANATING FROM UNPAVED ROADWAYS OPEN TO PUBLIC TRAVEL OR FARM ROADS. THIS EXCLUSION SHALL NOT APPLY TO INDUSTRIAL OR COMMERCIAL FACILITIES).
- 22.2 A PERSON SHALL TAKE EVERY RESPONSIBLE PRECAUTION TO MINIMIZE FUGITIVE DUST EMISSIONS FROM WRECKING, EXCAVATION, GRADING CLEARING OF LAND AND SOLID WASTE DISPOSAL OPERATIONS.
- 22.3 A PERSON SHALL NOT CAUSE OR ALLOW PARTICULATE MATTER TO EXCEED 100 MICROGRAMS PER CUBIC METER WHEN DETERMINED AS THE PROPERTY LINE FOR A MINIMUM OF FIVE HOURS.
- 22.4 A PERSON SHALL TAKE EVERY REASONABLE PRECAUTION TO PREVENT VISIBLE PARTICULATE MATTER FROM BEING DEPOSITED UPON PUBLIC ROADWAYS. PRECAUTIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE REMOVAL OF PARTICULATE MATTER FROM EQUIPMENT PRIOR TO THE MOVEMENT ON PAVED STREETS ONTO WHICH SUCH MATERIAL HAS BEEN DEPOSITED.
- 22.5 SUBSECTIONS (22.1) AND (22.2) SHALL NOT BE APPLICABLE WHEN THE WIND SPEED INSTANTANEOUSLY EXCEEDS 40 KILOMETERS (25 MILES PER HOUR), OR WHEN THE AVERAGE WIND SPEED DETERMINATIONS SHALL BE ON A 15 MINUTE AVERAGE AT THE NEAREST OFFICIAL AIR-MONITORING STATION OR BY A WIND INSTRUMENT LOCATED AND MONITORED ON SITE.
23. CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY BETWEEN THE HOURS OF 7:30 AM AND 4:30 PM, MONDAY THROUGH FRIDAY UNLESS OTHERWISE AUTHORIZED BY THE CITY.
24. CONTRACTOR SHALL USE LOW EMISSION MOBILE CONSTRUCTION EQUIPMENT DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES, WHERE FEASIBLE.
25. CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTIONS ENGINES TUNED CONSISTENT WITH MANUFACTURE'S SPECIFICATIONS DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.
- 25.1 CONTRACTOR SHALL USE LOW SULFUR FUEL FOR STATIONARY CONSTRUCTION EQUIPMENT AS REQUIRED BY AQMD RULE 431.1 AND 431.2 AND SHALL USE EXISTING POWER SOURCES AND CLEAN FUEL GENERATORS WHEN POSSIBLE AS FEASIBLE DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.

27. CONSTRUCTION PARKING SHALL BE ON-SITE, TRAFFIC CONTROL AND ACCESS SHALL BE IN ACCORDANCE WITH THE AGENCY HAVING JURISDICTION OVER THE PROJECT.
28. THE SPEED OF CONSTRUCTION VEHICLES ON-SITE SHALL BE LIMITED TO 15 MILES PER HOUR.
29. TRUCKS AND LARGE CONSTRUCTION VEHICLES SHALL OBTAIN APPROVED HAUL ROUTES FROM CITY PUBLIC WORKS.
30. CONTRACTOR SHALL CONTROL DUST IN AREAS USED FOR OFF-PAVEMENT PARKING, MATERIAL LAYDOWN AREAS OR THOSE AREAS AWAITING FUTURE CONSTRUCTION. FREQUENTLY ACCESSED AREAS SHALL BE PAVED OR BASED AS EARLY AS POSSIBLE TO MINIMIZE DIRT TRACKOUT THE PUBLIC RIGHT OF WAY.
31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING MEASURE:

31.1. CESSATION OF ACTIVITIES DURING A STAGE-2 SMOG EPISODE, CALL 800-242-4022 FOR THE DAILY SMOG FORECAST.

31.2. TRUCK ROUTES AND SCHEDULES FOR THE RECEIPT OF MATERIALS SHALL BE COORDINATED WITH THE APPROPRIATE AGENCIES.

31.3. WHERE FEASIBLE, ON-ROAD AND OFF-ROAD VEHICLES AND EQUIPMENT SHALL BE TURNED OFF AND SUBSEQUENTLY RESTARTED IF THE ANTICIPATED DURATION OF IDLING IS EXPECTED TO EXCEED FIVE MINUTES.
32. THE CONTRACTOR SHALL IMPLEMENT THE FOLLOWING HIGH WIND DUST CONTROL MEASURE WHEN INSTANTANEOUS WIND SPEEDS EXCEED 25 MILES PER HOUR.

32.1 TERMINATION / MODIFICATION OF SCRAPERS, GRADERS OR DOZERS ON UNPAVED SURFACES UNTIL WINDS SUBSIDE.

32.2 APPLICATION OF WATER AS NEEDED TO ANY PREVIOUSLY GRADED SURFACE IF DUST EMANATION IS VISIBLE FROM SUCH A SURFACE.
33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EQUIPMENT TO PREVENT VISIBLE SOOT FROM REDUCING LIGHT TRANSMISSION THROUGH THE EXHAUST STACK BY MORE THAN 20 PERCENT FOR MORE THAN THREE MINUTES PER HOUR AND USE LOW SULFUR FUEL AS REQUIRED BY THE APPROPRIATE AGENCY.
34. TRUCKS USED IN HAULING DIRT TO OR FROM THE SITE ON PUBLIC ROADS WILL BE COVERED OR WILL MAINTAIN A SIX INCH DIFFERENTIAL BETWEEN THE MAXIMUM HEIGHT OF ANY MATERIAL HAULED AND THE TOP OF THE TRAILER, HAUL TRUCK DRIVERS WILL LOAD PRIOR TO LEAVING THE SITE TO PREVENT SOIL LOSS DURING TRANSPORTATION.
35. PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE, EXISTING SURVEY MONUMENTS SHALL BE NOTED AND DOCUMENT BEFORE CONSTRUCTION. IF ANY MONUMENTS ARE DISTURBED DURING CONSTRUCTION THE CONTRACTORS SHALL PAY LICENSED LAND SURVEYOR OR REGISTERED ENGINEER TO RESET SUCH MONUMENTS.
36. PAD CERTIFICATION IS REQUIRED. A SOILS OR CIVIL ENGINEER SHALL DETERMINE THAT THE GRADING PERFORMED IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND SUITABLE TO SUPPORT THE INTENDED STRUCTURE.
37. ALL LANDSCAPE IRRIGATION BACKFLOW DEVICES MUST MEET CURRENT CITY REQUIREMENTS FOR PROPER INSTALLATION.
38. NO DISCHARGE OF CONSTRUCTION WASTEWATER, BUILDING MATERIALS, DEBRIS, OR SEDIMENT FROM THE SITE IS PERMITTED. IN ADDITION, CONTROL MEASURES MUST ALSO BE TAKEN TO PREVENT STREET SURFACE WATER FROM ENTERING THE CONSTRUCTION SITE.



NO WORK SHALL BE DONE ON THIS SITE UNTIL USA AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE, TWO WORKING DAYS BEFORE YOU DIG.

SUPPLEMENTAL NOTES:

1. THE CONTRACTOR SHALL LOCATE, VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. DAMAGED UTILITIES SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

2. DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING WATER, SEWER AND/OR GAS LATERALS MAY NOT BE AT THE LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING.

3. THE CONTRACTOR SHALL DETERMINE THE DEPTH OF THE GAS SOE, CABLE, SEWER, STORM DRAIN AND WATER AT ALL INTERSECTIONS AND INTERFERENCES PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS.

ENGINEER/ARCHITECT OF RECORD STAMP

DATE SIGNED _____

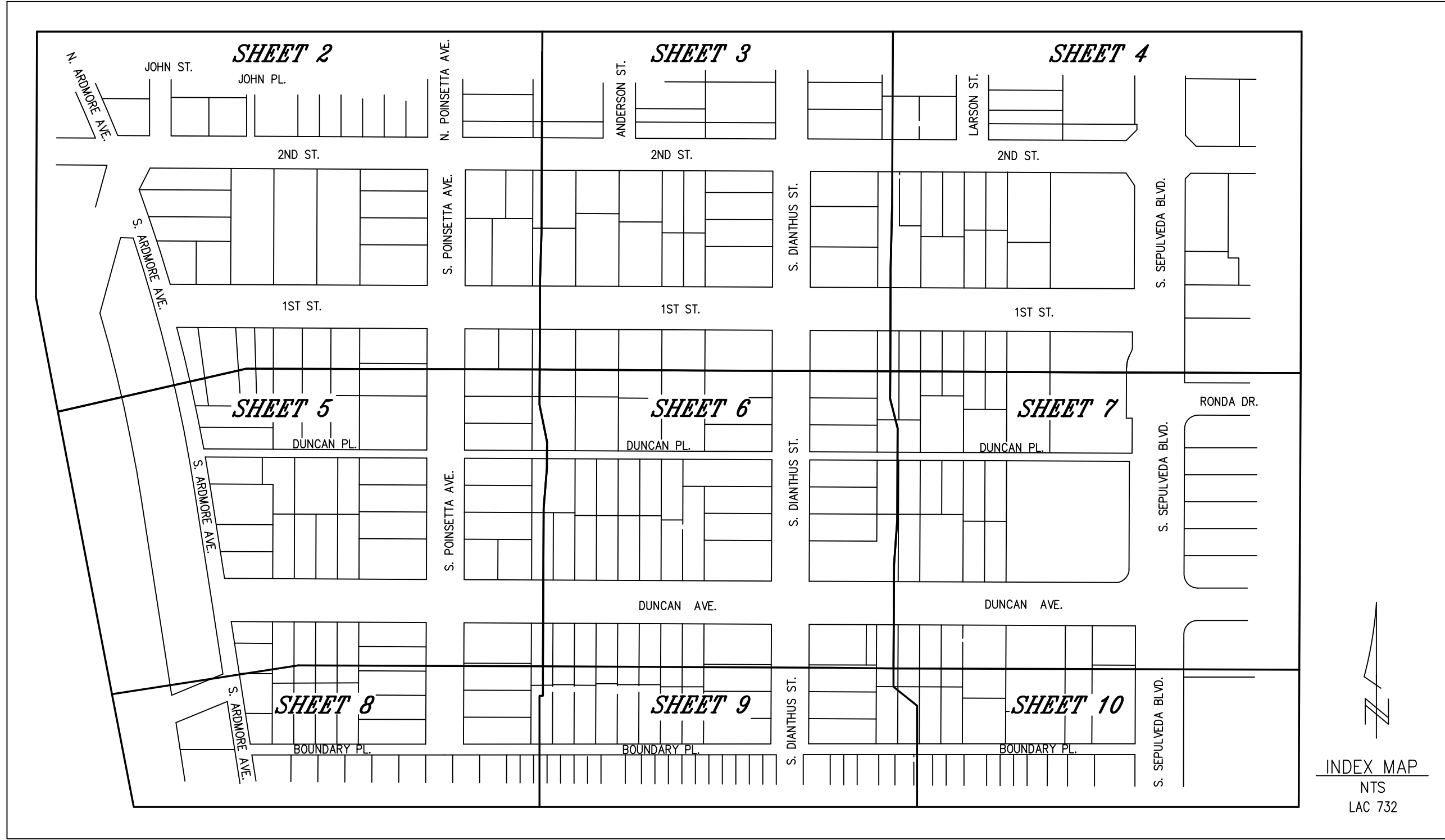
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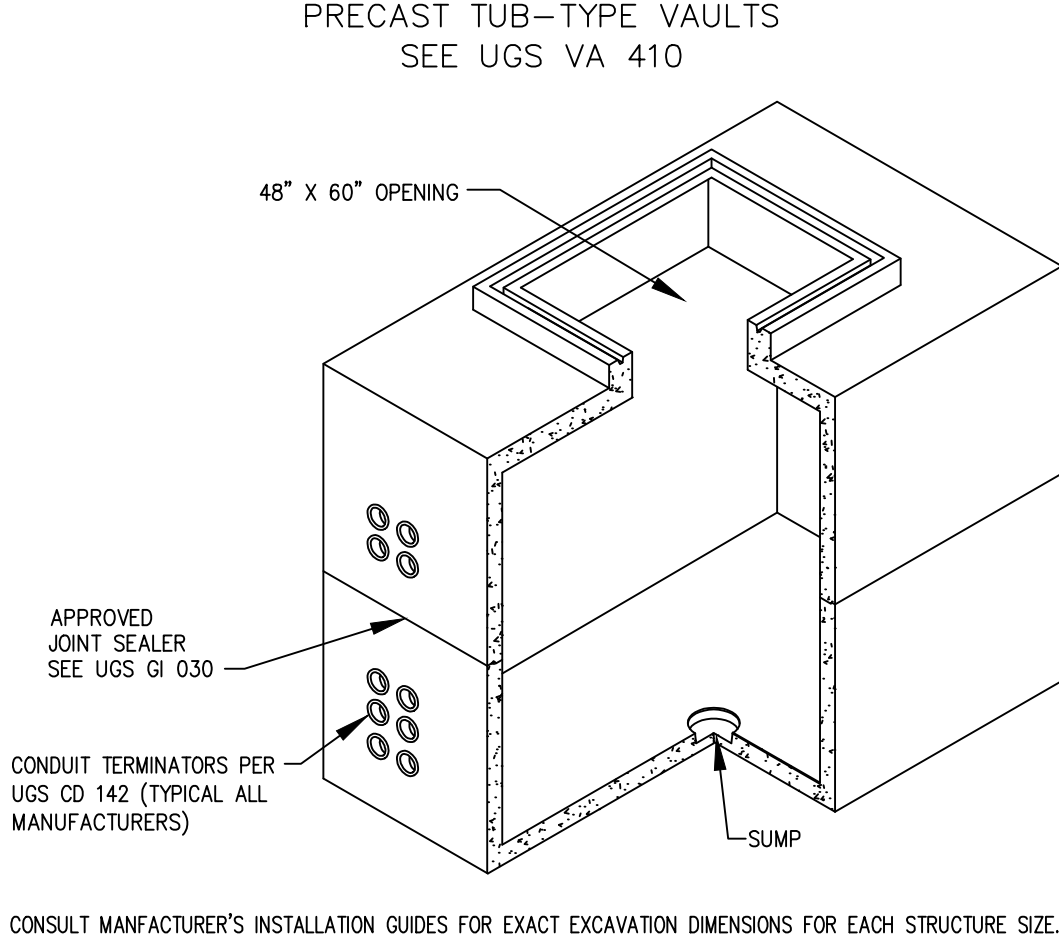
REFERENCES		
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REVISIONS	

CITY OF MANHATTAN BEACH PUBLIC WORKS DEPARTMENT – ENGINEERING DIVISION			
UNDERGROUND UTILITY ASSESSMENT DISTRICT 4 GRADING NOTES			
RECOMMENDED BY CITY ENGINEER PREM KUMAR		APPROVED BY DIRECTOR OF PUBLIC WORKS STEPHANIE KATSOULEAS	
REVIEWED BY PROJECT MANAGER	DATE 	SCALE AS SHOWN	DATE 09-17-19
DESIGNED BY 	DATE 	DRAWING NO. U-01	
SHEET 4 OF 37			



INDEX MAP
NTS
LAC 732



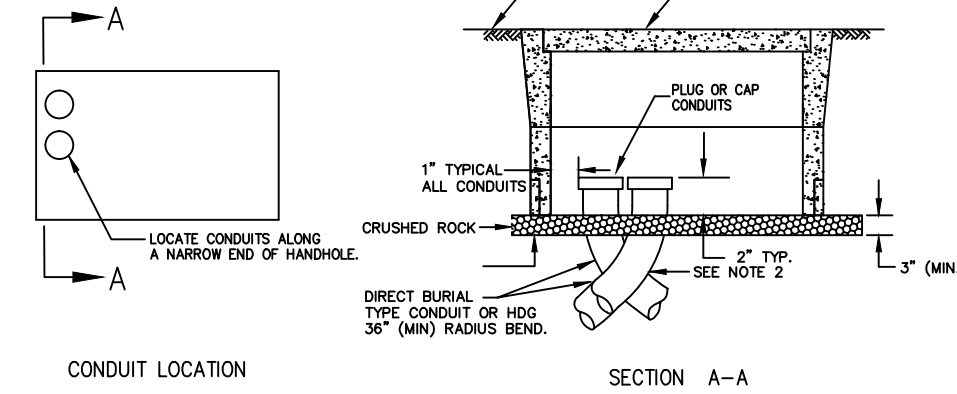
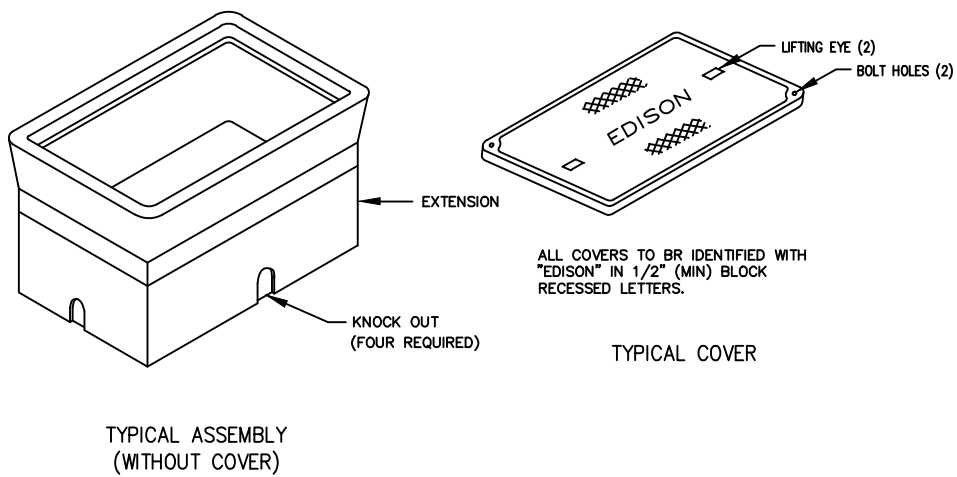
CONSULT MANUFACTURER'S INSTALLATION GUIDES FOR EXACT EXCAVATION DIMENSIONS FOR EACH STRUCTURE SIZE.

ITEM NUMBER	NOMINAL SIZE	TYPE	MANUFACTURER'S NUMBERS	
			JENSEN PRECAST	UTILITY VAULT CO.
V510	5' x 10'-6\" x 7'	TUB STYLE	K5106-FV84-11	ED 5106-84VT
V510I	5' x 10'-6\" x 7'	INTERCEPT	K5106-FV84-11-INT	ED 5106-84VT-INT
V612	6' x 12' x 7'	TUB STYLE	K612-FV84-11	ED 612-84VT
V612I	6' x 12' x 7'	INTERCEPT	K612-FV84-11-INT	ED 612-84VT-INT
V714	7' x 14' x 8'	TUB STYLE	K714-FV96-11	ED 714-96VT
V714I	7' x 14' x 8'	INTERCEPT	K714-FV96-11-INT	ED 714-96VT-INT
V718A	7' x 18' x 8' TYPE 1	TUB STYLE	K718-FV96-11	ED 718-96DV-TYPE 1
V718AI	7' x 18' x 8' TYPE 1	INTERCEPT	K718-FV96-11-INT	ED 718-96DV-TYPE 1
V718B	7' x 18' x 8' TYPE 2	TUB STYLE	---	---
V718BI	7' x 18' x 8' TYPE 2	INTERCEPT	---	---

- NOTES:
- CONDUIT TERMINATORS TO BE GENERALLY LOCATED AS SHOWN ON UGS CD 142. STANDARD CONDUIT ENTRANCE SHALL BE A FLATLAIN DESIGN. SLIGHT VARIATIONS BY MANUFACTURERS MAY BE ALLOWABLE WITH COMPANY APPROVAL.
 - TUB-TYPE STRUCTURES SHALL BE FURNISHED WITH 1/2\"
 - ALL VENT LOCATIONS TO BE FURNISHED WITH 10\"
 - INSIDE WALLS AND CEILING TO BE PAINTED WHITE.
- REF.:UGS GI 030 GENERAL SPECIFICATION FOR PRECAST STRUCTURES
UGS GI 035 ALLOWABLE TOLERANCES FOR INSTALLED PRECAST STRUCTURES
UGS VA 410 PRECAST TUB-TYPE VAULTS
UGS VA 470 VAULT NECK, POURED OR PRECAST
UGS FC 660 VAULT COVER-PRECAST CONCRETE 48\" x 60\"
UGS AC 711 SUMP DRAIN AND DETAIL
UGS AC 725 INSERTS: TYPE, LOCATION, AND QUANTITY
UGS AC 742 LADDER
UGS AC 751 VENT LOCATIONS

D64: Rev. 02/14/71

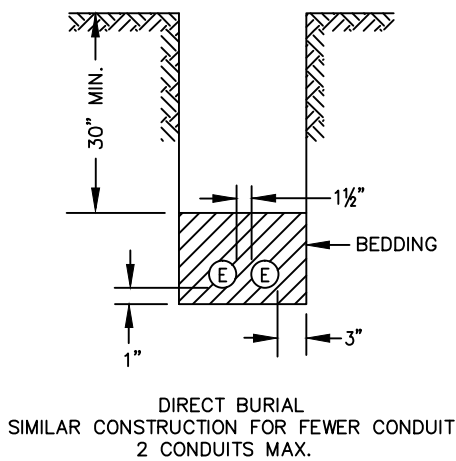
TYPICAL HANDHOLE INSTALLATION SEE UGS HP 205



- NOTES:
- SEE UGS HP 200 FOR DIMENSIONS OF VARIOUS SIZE HANDHOLES AVAILABLE.
 - RADIUS ANGLE MAY BE REDUCED TO LESS THAN 90\"
 - TWO HOLD DOWN DEVICES TO BE SUPPLIED WITH EACH HANDHOLE.

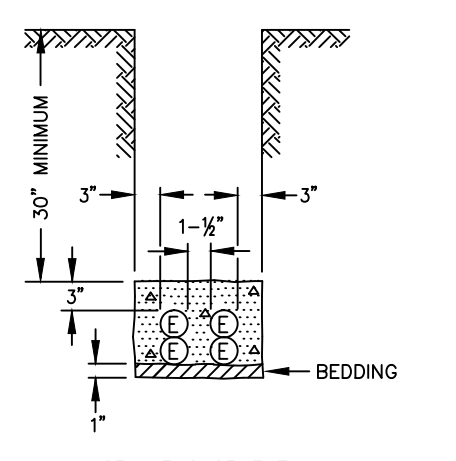
D75: Rev. 05/09/13

TYPICAL CONDUIT BANK SECTION SEE UGS CD 120



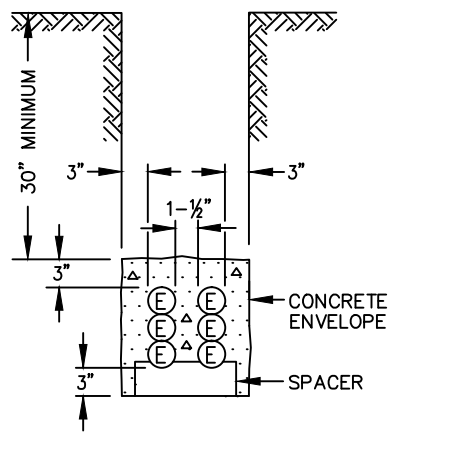
D81: Rev. 09/23/09

TYPICAL CONDUIT BANK SECTION SEE UGS CD 120



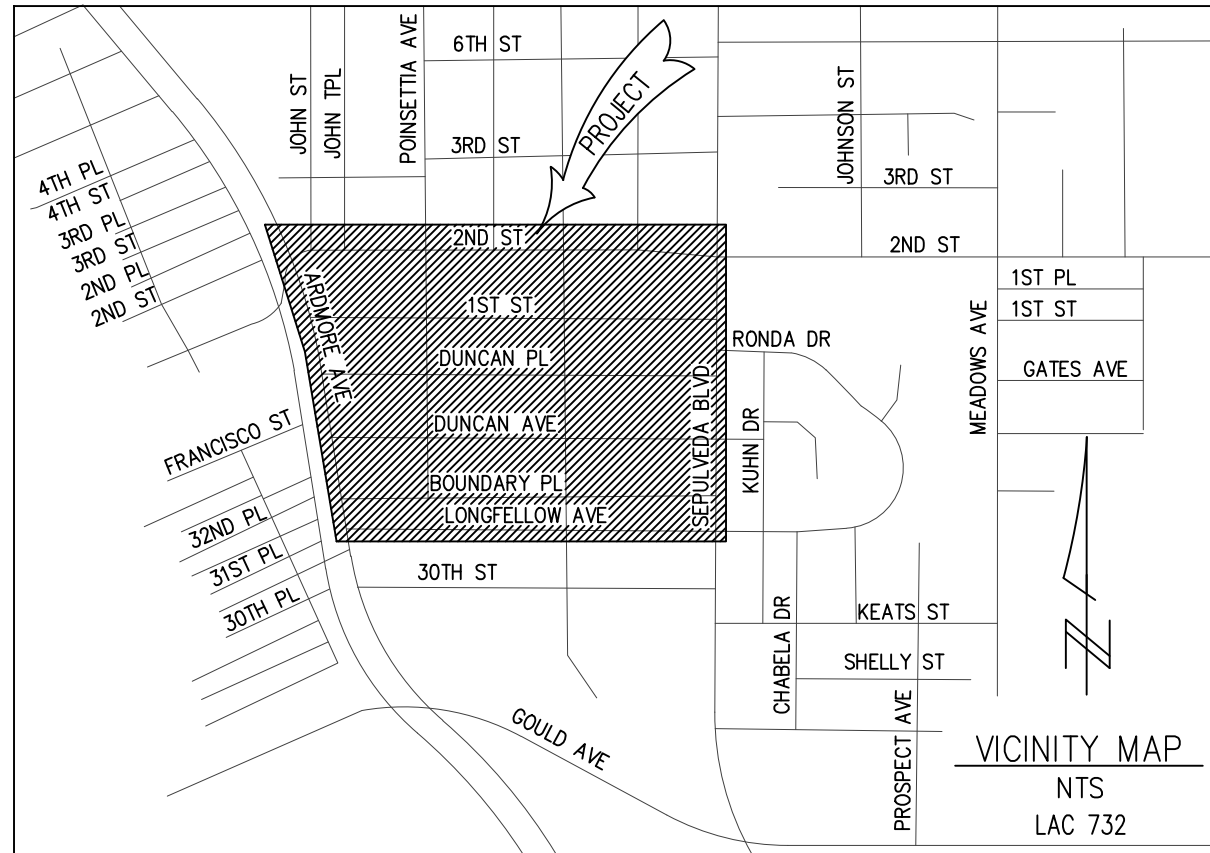
D73: Rev. 09/23/09

TYPICAL CONDUIT BANK SECTION SEE UGS CD 120



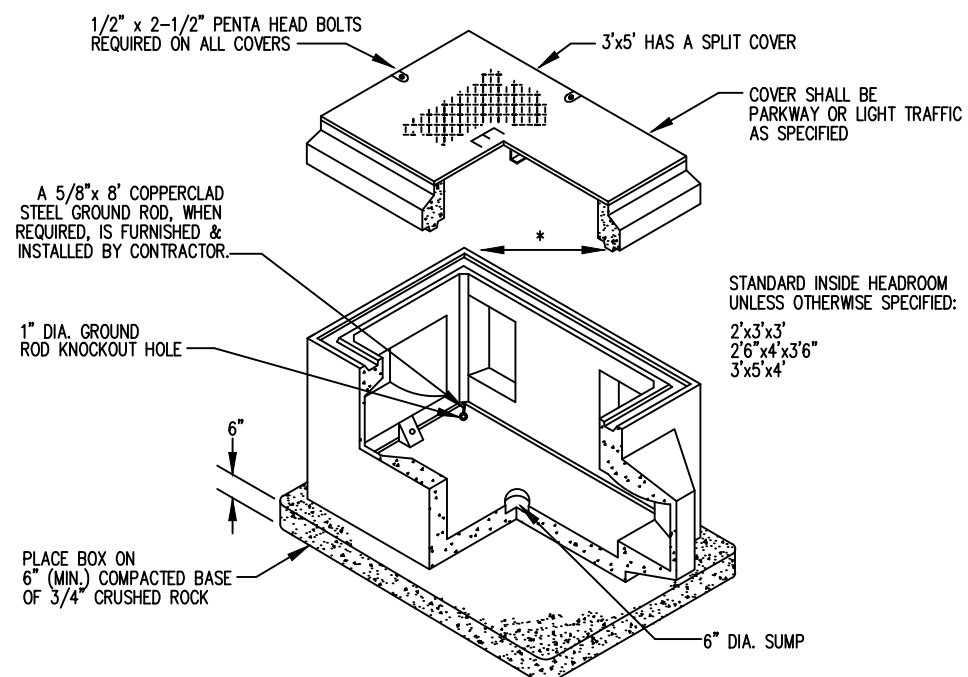
D72: Rev. 09/23/09

PRECAST TUB-TYPE VAULTS SEE UGS VA 410



VICINITY MAP
NTS
LAC 732

PRECAST CONCRETE PULL BOX WITH DEEP RECESSES (2' X 3' OR 2'6\" x 4' OR 3' X 5') SEE UGS HP 215, 220 & 225



* TYPE OF JOINT MAY VARY WITH MANUFACTURER
REF.:UGS HP 215
UGS HP 220
UGS HP 225

D53: Rev. 03/05/07

THIS PLAN APPROVED AS TO LOCATION AND TYPE OF ELECTRIC SUBSTRUCTURES

Developer: _____
Attn: _____
Address: _____
Telephone: _____
FAX: _____

Dwg./Rev.	Developer's Signature	Date
Original		
Rev.		
Rev.		

CHANGES IN THESE PLANS WILL REQUIRE AN ADDITIONAL 3 TO 4 WEEKS AND CUSTOMER WILL BE CHARGED IN ADVANCE FOR REQUESTED CHANGES.

D26: Rev. 02/12/08

CONNECTING TO EXISTING SCE STRUCTURES

- Per SCE requirements, customers are not allowed to enter, intercept or tie-in to existing SCE structures, equipment or conductors. This work will only be performed by SCE. Contact the appropriate SCE inspector to schedule an appointment. Customers may connect to an existing duct stub without a SCE inspector present.
- Per CPUC/SCE's Rule 15 B.1.A and Rule 16 D.1.A., the customer will provide all necessary excavations (with the exception of excavation under pads and primary splice boxes), material (including conduit and structures) and encasement, to be utilized in the intercept/tie-in process.
- The customer must adhere to all applicable Cal-OSHA, local, city, state and federal regulations, (including, but not limited to, all necessary shoring and traffic control in place to perform the intercept/tie-in work by SCE's underground civil contractors(s)).
- Intercept/tie-in work must be coordinated with SCE's civil contractors through the Division Inspector/CCM to limit exposure of excavation(s). Customer is responsible for securing excavation(s).

D08: 12/10/07

WARNING

THE EXCAVATOR MUST TAKE ALL STEPS NECESSARY TO AVOID CONTACT WITH UNDERGROUND FACILITIES WHICH MAY RESULT IN INJURY TO PERSONS OR DAMAGE TO FACILITIES IN THE AREA. THE INDICATED LOCATIONS OF EDISON UNDERGROUND FACILITIES, AS PROVIDED, ARE BELIEVED TO BE ACCURATE. HOWEVER, THE FINAL DETERMINATION OF EXACT LOCATIONS AND THE COST OF REPAIR TO DAMAGED FACILITIES IS THE RESPONSIBILITY OF THE EXCAVATOR.

WHERE CONDUITS ARE PICKED UP OR INTERCEPTED, CONDUIT SHALL BE MANEUVERED AND PULL ROPE INSTALLED FROM TERMINAL TO TERMINAL.

RUN NUMBER CALL-OUTS AS FOLLOWS:

- ① - 99 MAINLINE CONDUIT
- ⑩⑩ - 199 SERVICE CONDUIT
- ④⑩⑩ - 599 STREET LIGHT CONDUIT

D84: Rev. 2/12/08

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

CONTRACTOR _____

COST PLUS ☐ FIRM ☐ DEV. ☐

INCLUDES PERM. PAVING YES ☐ NO ☐

PERMIT NUMBER _____

DATE STARTED _____

DATE COMPLETED _____

INSPECTOR _____

PRECASTER _____ CONDUIT

PROJECT REQUIREMENTS (Y/N)

EDISON EASEMENT REQUIRED ☒

PRWD 88 REQUIRED ☒

UG CIVL ONLY WORK ORDER ☒

PERMIT REQUIRED ☒

PERMIT TYPE: EXCAVATION

OUTAGE REQUIRED ☒

OUTAGE DATE: _____ TIME: _____

TRAFFIC CONTROL REQUIRED ☒

PED. TRAFFIC CONTROL REQ'D ☒

CONVEYANCE LETTER REQ'D ☒

ENVIRONMENTAL CLEARANCE REQ'D ☒

CSD 140 (TLM) REQ'D ☒

D124: Rev. 02/08/18

UNDERGROUND SERVICE ALERT Dial 811 Call US: 1-800-480-4800 For Underground Locating 2 Working Days Before You Dig

INSTALL METHOD:

☐ EDISON

☐ APPLICANT

DISTRICT	PROJ. MGR.	PLANNER	SR NO.
44--SOUTH BAY	ROBERT CICCARELLI	SUSIE THOMPSON	2446859
FOREMAN	TRUCK NO.	PHONE	GRID NO.
	F/E	4363C2	LAC 732
PRODUCT/SAP NO.	BY-PASS	EXISTING	TLM
	CODE	CHANGE TO	CHECKED
TD 1351127	TD 1351129	J.P.A. NO.	ASSOCIATED DESIGN NO.
F S. THOMPSON	8/15/19	D. ESTRADA	TT
P	10/23/18	D. ESTRADA	TT
B	05/01/18	QUES/ES/JT/SL	QUES/SV/ES
TYP. APPROVED BY	DATE	CHECKED BY	DRAWN BY
			PAX #

INVENTORY MAP NO. 43-63C-2 43-63C-1 43-63C-5 43-62D-3 43-63C-8 43-62D-6 43-63C-7 43-62D-9 43-63C-4 43-62D-9 43-63A-7 43-63A-8 43-62D 43-63C

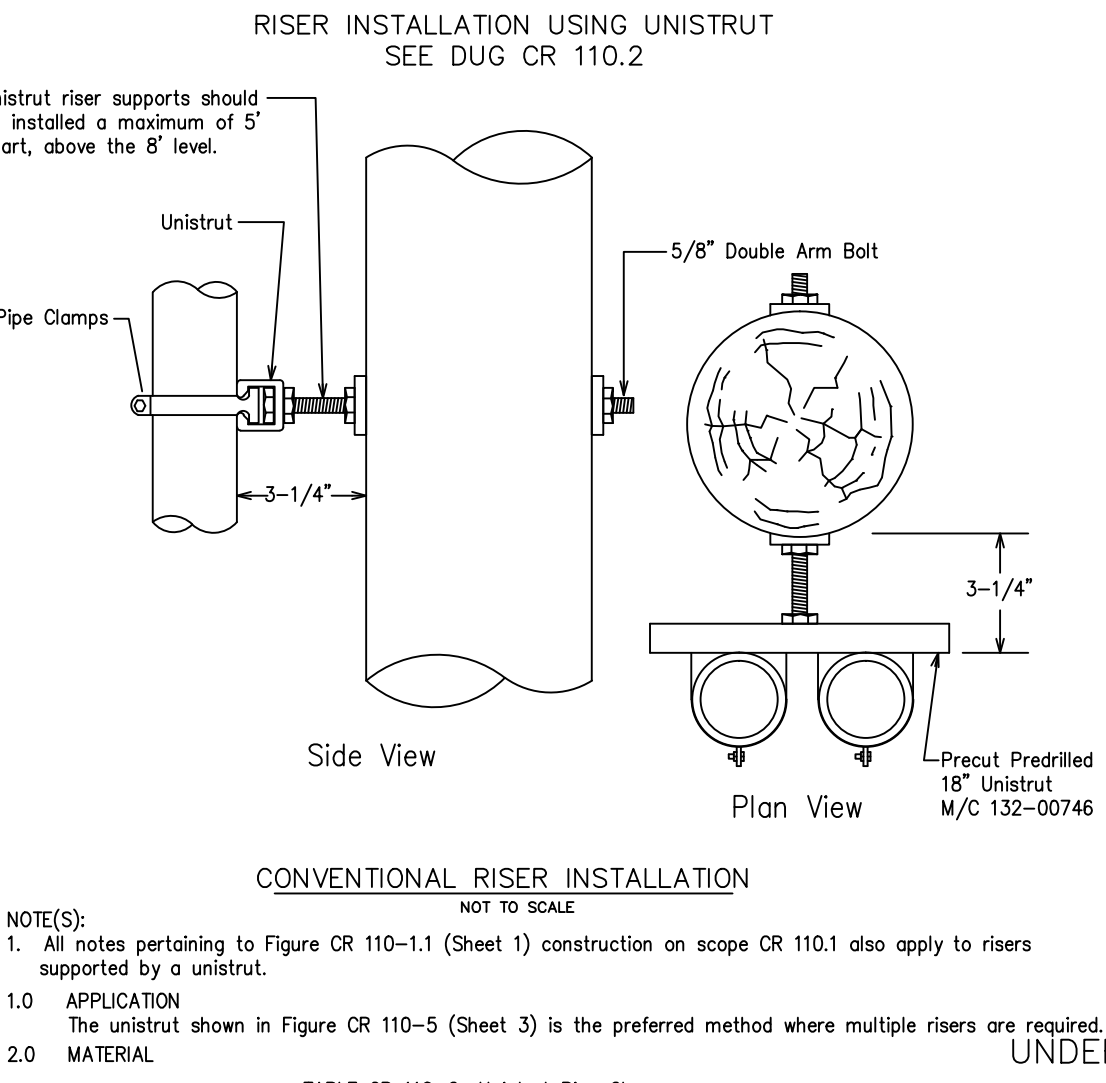
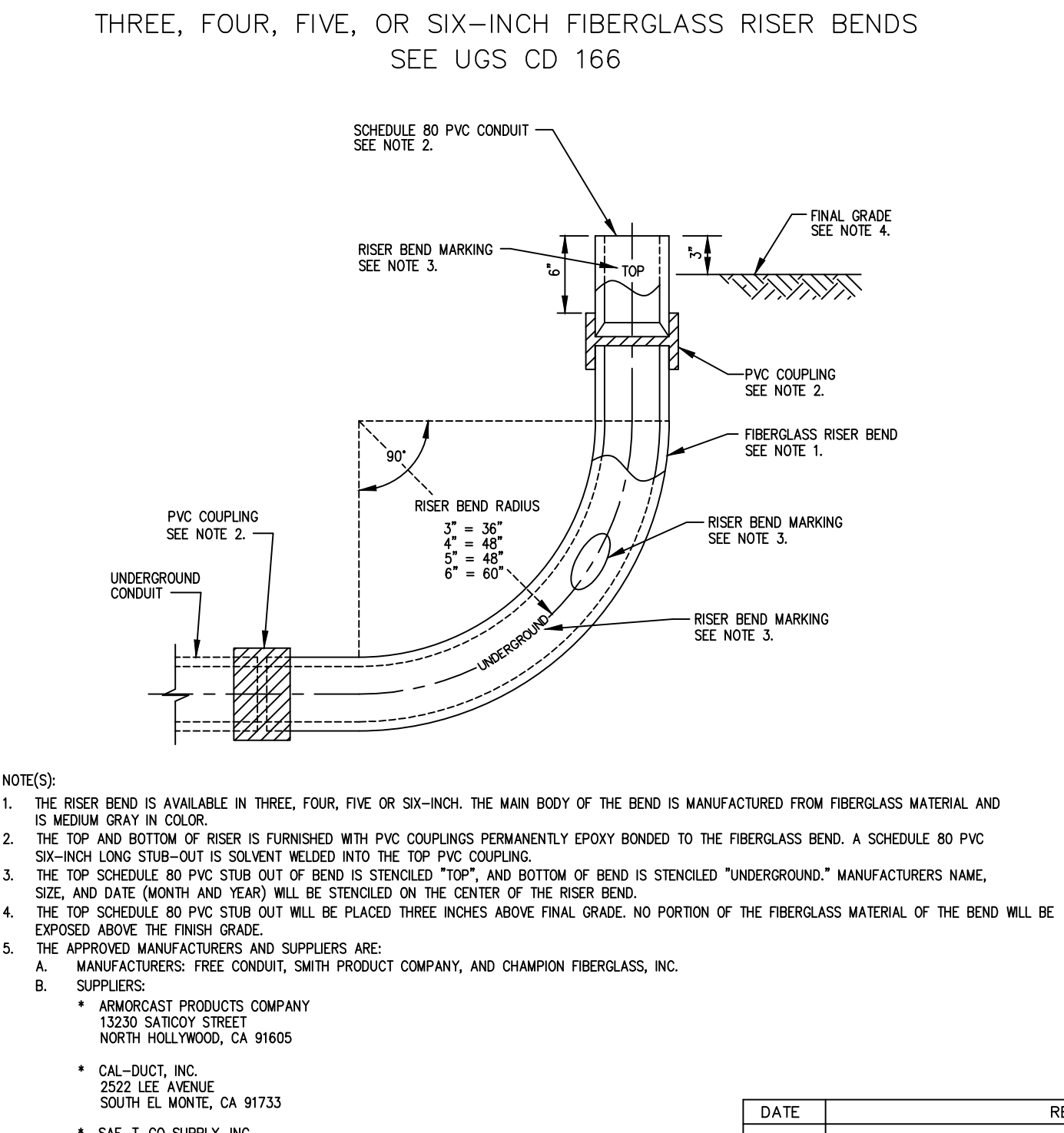
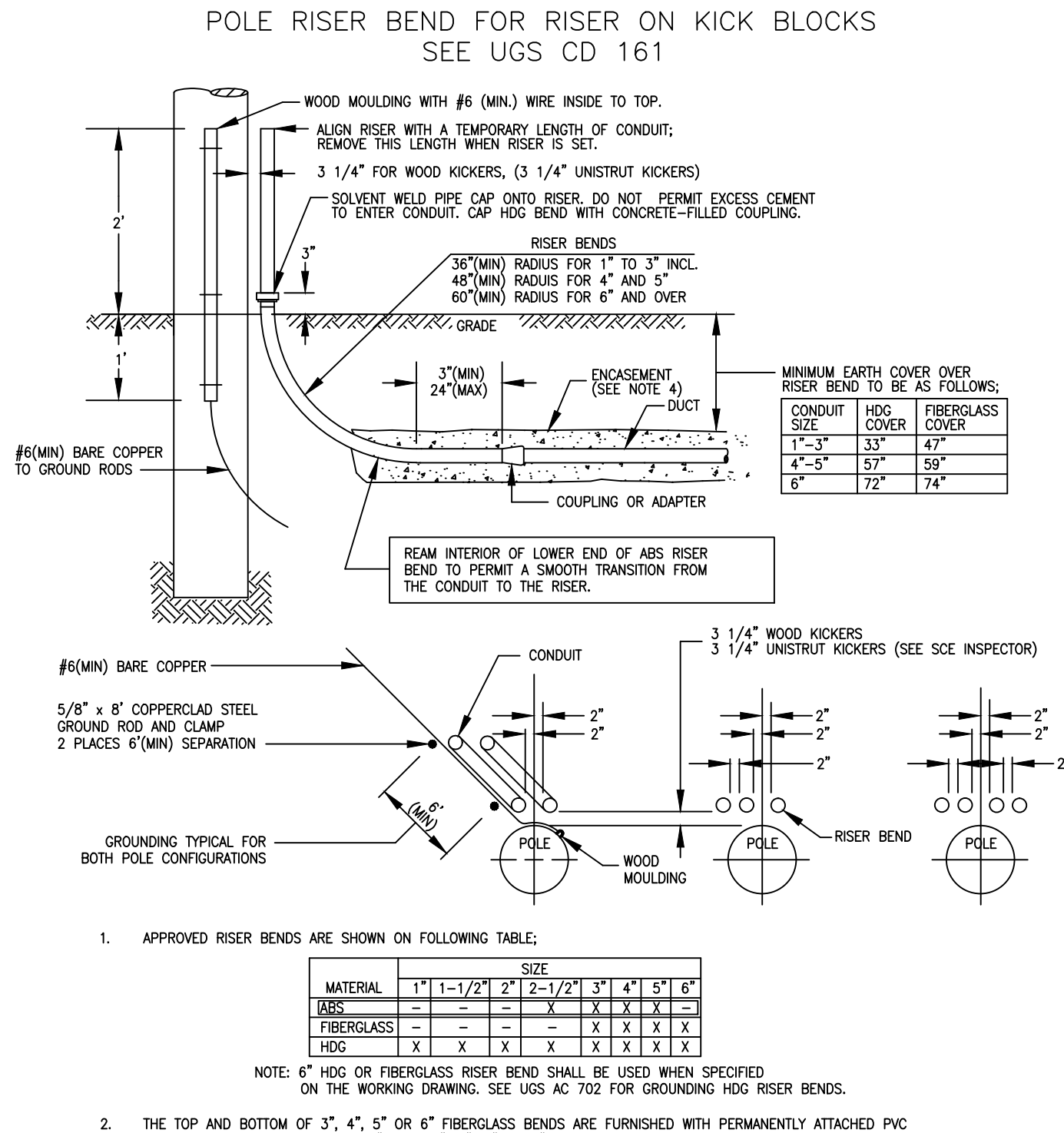
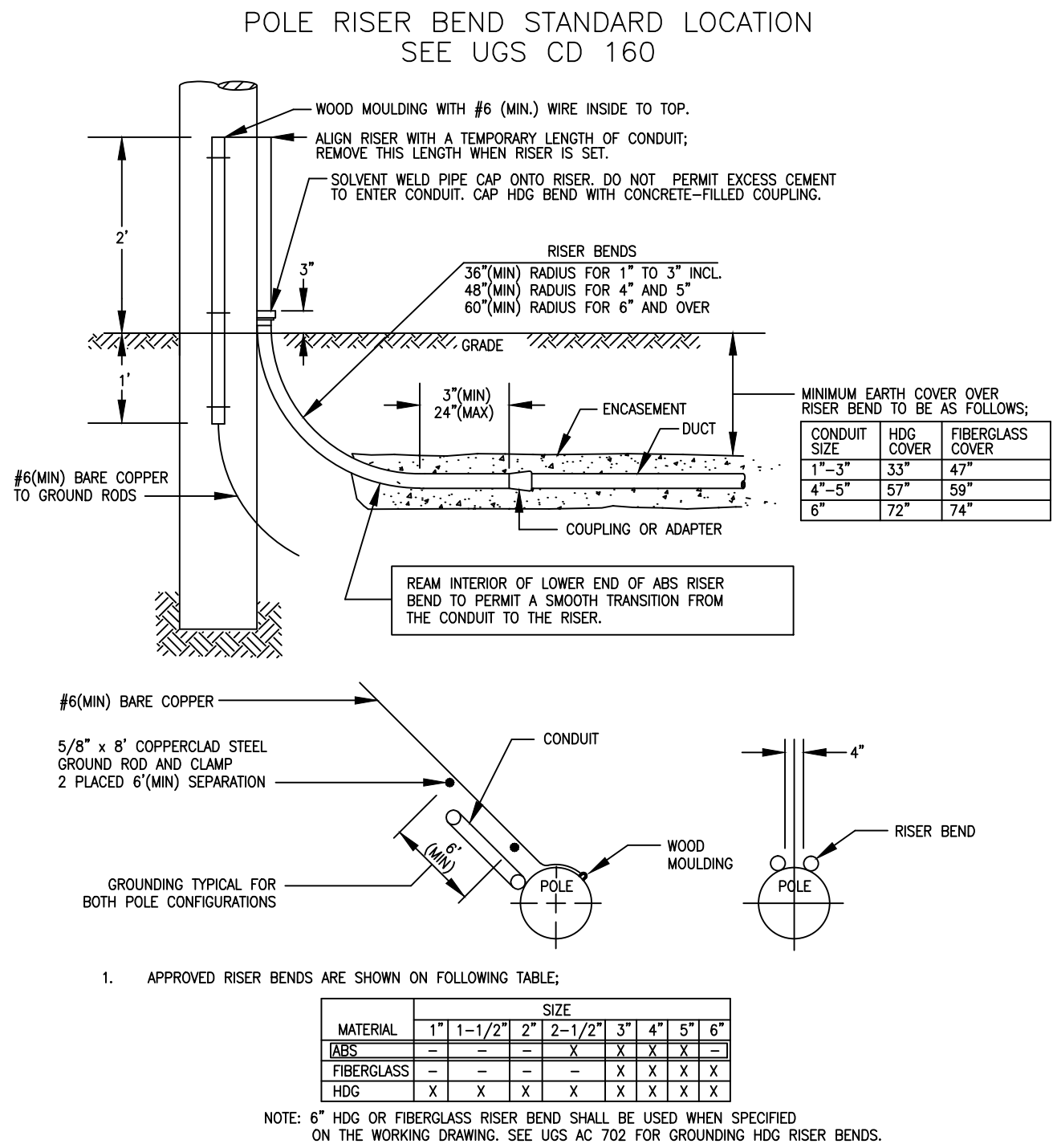
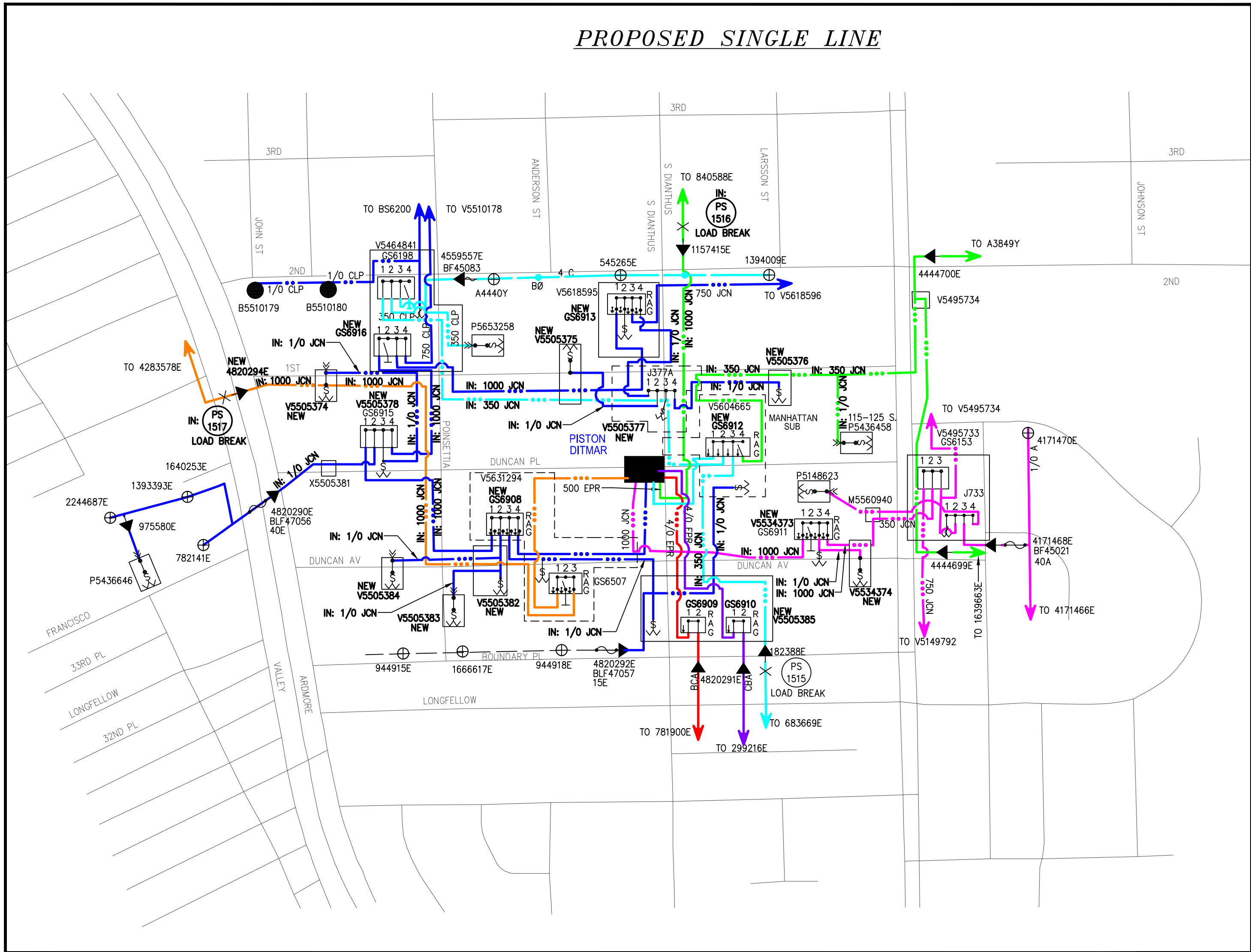
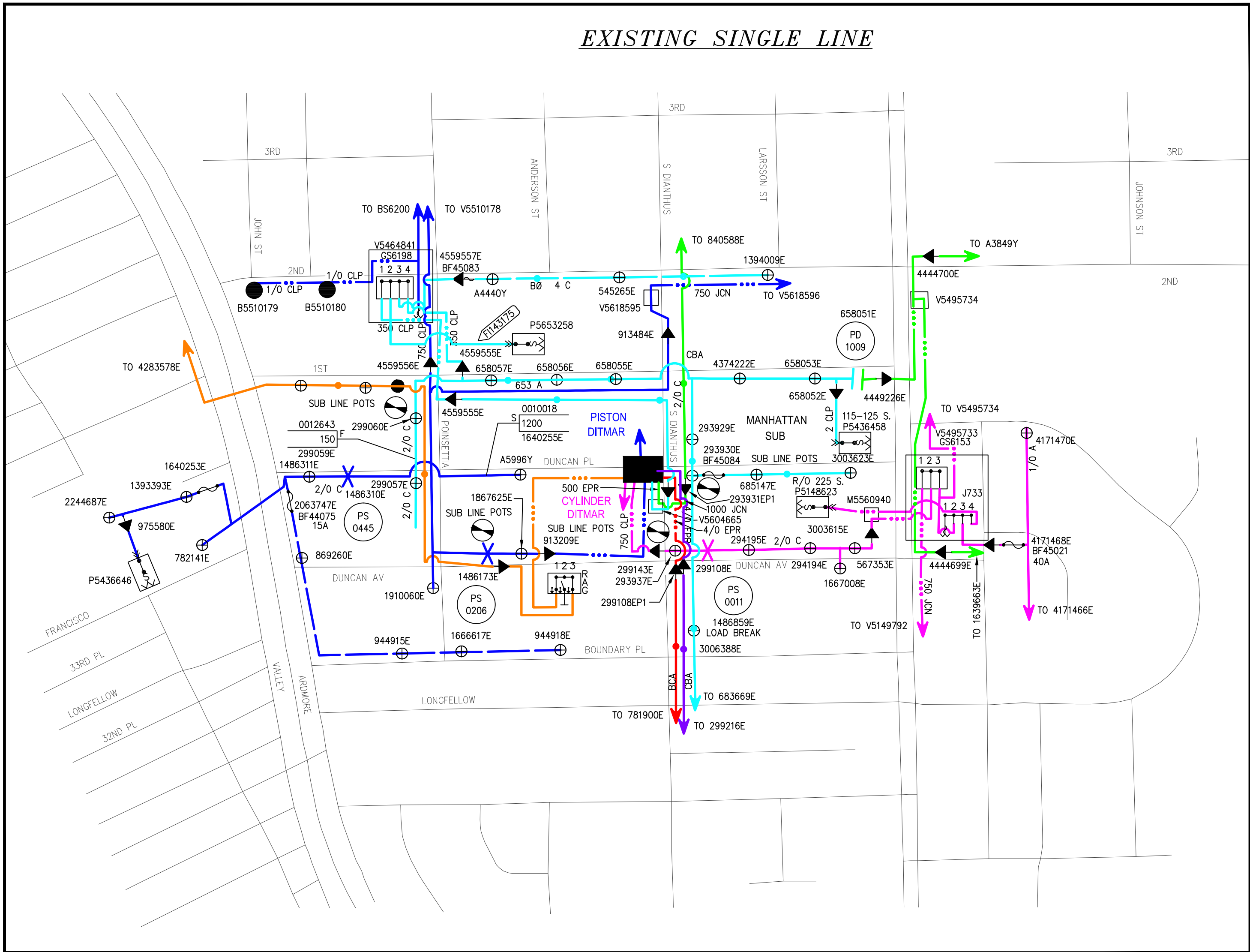
PROPOSED CONSTRUCTION (LOCATION)
PISTON 16KV % MANHATTAN SUB--R20B
VARIOUS LOCATIONS -- UUAD #4
MANHATTAN BEACH, CA

SHEET 1 OF 10

JOB NO. 0995026

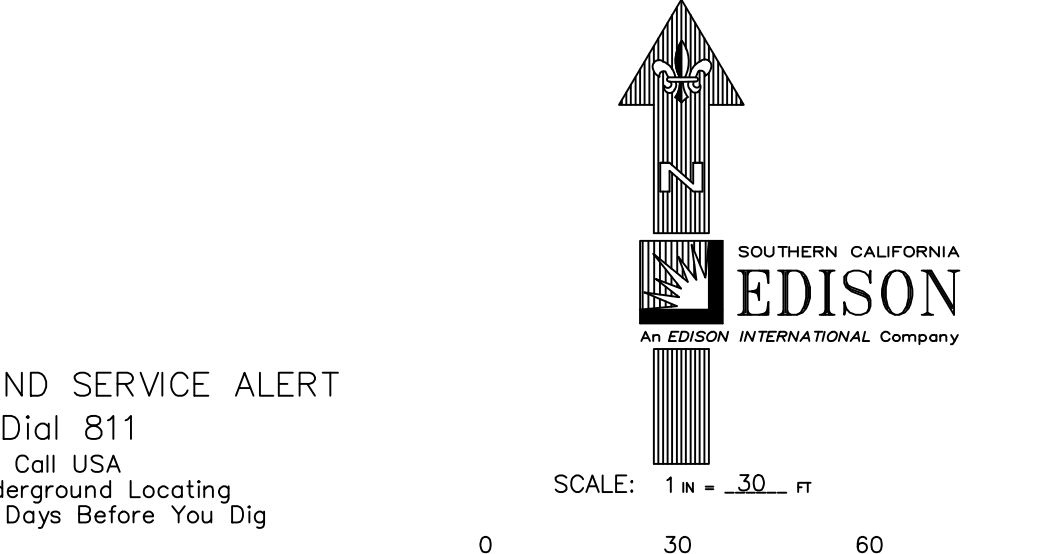
D18: Rev. 5/08/2006

D41: Rev. 01/21/09



SINGLE LINE LEGEND

- CIRCUIT 1 = PISTON 16KV O/O DITMAR SUB
- CIRCUIT 2 = CYLINDER 16KV O/O DITMAR SUB
- CIRCUIT 3 = HILL 4KV O/O MANHATTAN SUB
- CIRCUIT 4 = OZONE 4KV O/O MANHATTAN SUB
- CIRCUIT 5 = KEATS 4KV O/O MANHATTAN SUB
- CIRCUIT 6 = SOUTH STRAND 4KV O/O MANHATTAN SUB
- CIRCUIT 7 = NORTH BEACH 4KV O/O MANHATTAN SUB

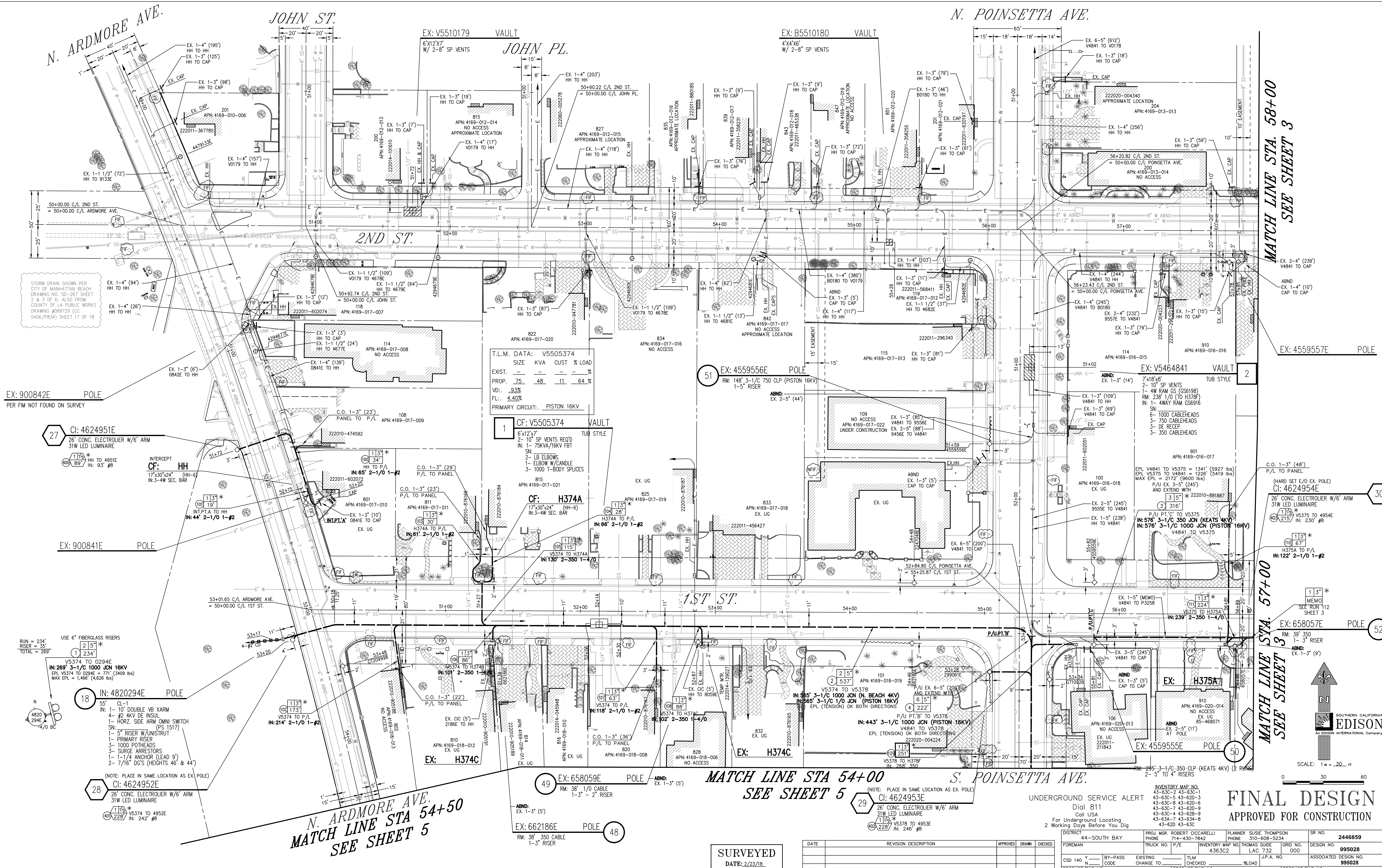


FINAL DESIGN
APPROVED FOR CONSTRUCTION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT	44--SOUTH BAY	PROJ. MGR.	ROBERT CICCARELLI	PLANNER	SUSIE THOMPSON	SR NO.	2446859
FOREMAN		TRUCK NO.	P/E	INVENTORY MAP NO.	THOMAS GUIDE	GRID NO.	000
DESIGN NO.	995028	ASSOCIATED DESIGN NO.	995028				
PRODUCT/SAP NO.	TD 1351127	PRODUCT/SAP NO.	TD 1351129				
F	S. THOMPSON	8/15/19	D. ESTRADA	TT	52828		
P		10/23/18	D. ESTRADA	TT	52828		
B		05/01/18	QUES/ES/JT/SL	QUES/SV/ES	52813		
TYPE	APPROVED BY	DATE	CHECKED BY	DRAWN BY	PAX #		

PROPOSED CONSTRUCTION (LOCATION)
PISTON 16KV % MANHATTAN SUB--R20B
VARIOUS LOCATIONS - UUAD #4
MANHATTAN BEACH, CA
SHEET 1A OF 10
JOB NO. 0995026



N. ARDMORE AVE.
MATCH LINE STA 54+50
SEE SHEET 5

MATCH LINE STA 54+00
SEE SHEET 5

FINAL DESIGN
APPROVED FOR CONSTRUCTION

WARNING:
- WATER, CATV AND TELEPHONE LOCATIONS ARE APPROXIMATE POT HOLE FOR EXACT LOCATION

SURVEYED
DATE: 2/23/18

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT	44-SOUTH BAY	PROJ. MGR.	ROBERT CICCARELLI	PLANNER	SUSIE THOMPSON	SR NO.	2446859
FOREMAN		PHONE	714-430-7842	PHONE	310-608-5234	DESIGN NO.	995028
BY-PASS	EXISTING	TRUCK NO.	P/E	INVENTORY MAP NO.	THOMAS GUIDE	GRID NO.	000
CODE	CHANGE TO	TLM	CHECKED	J.P.A. NO.	LAC	732	
PRODUCT/SAP NO.	TD 1351127	PRODUCT/SAP NO.	TD 1351129	PRODUCT/SAP NO.			
F	S. THOMPSON	8/15/19	D. ESTRADA	TT	52828	PROPOSED CONSTRUCTION (LOCATION)	PISTON 16KV % MANHATTAN SUB-R20B
P		10/23/18	D. ESTRADA	TT	52828	VARIOUS LOCATIONS - UUAU #4	
B		05/01/18	QUES/ES/JT/SL	QUES/SV/ES	52813	MANHATTAN BEACH, CA	
TYPE APPROVED BY	DATE	CHECKED BY	DRAWN BY	PAX #	SHEET	JOB NO.	
					2	0995026	

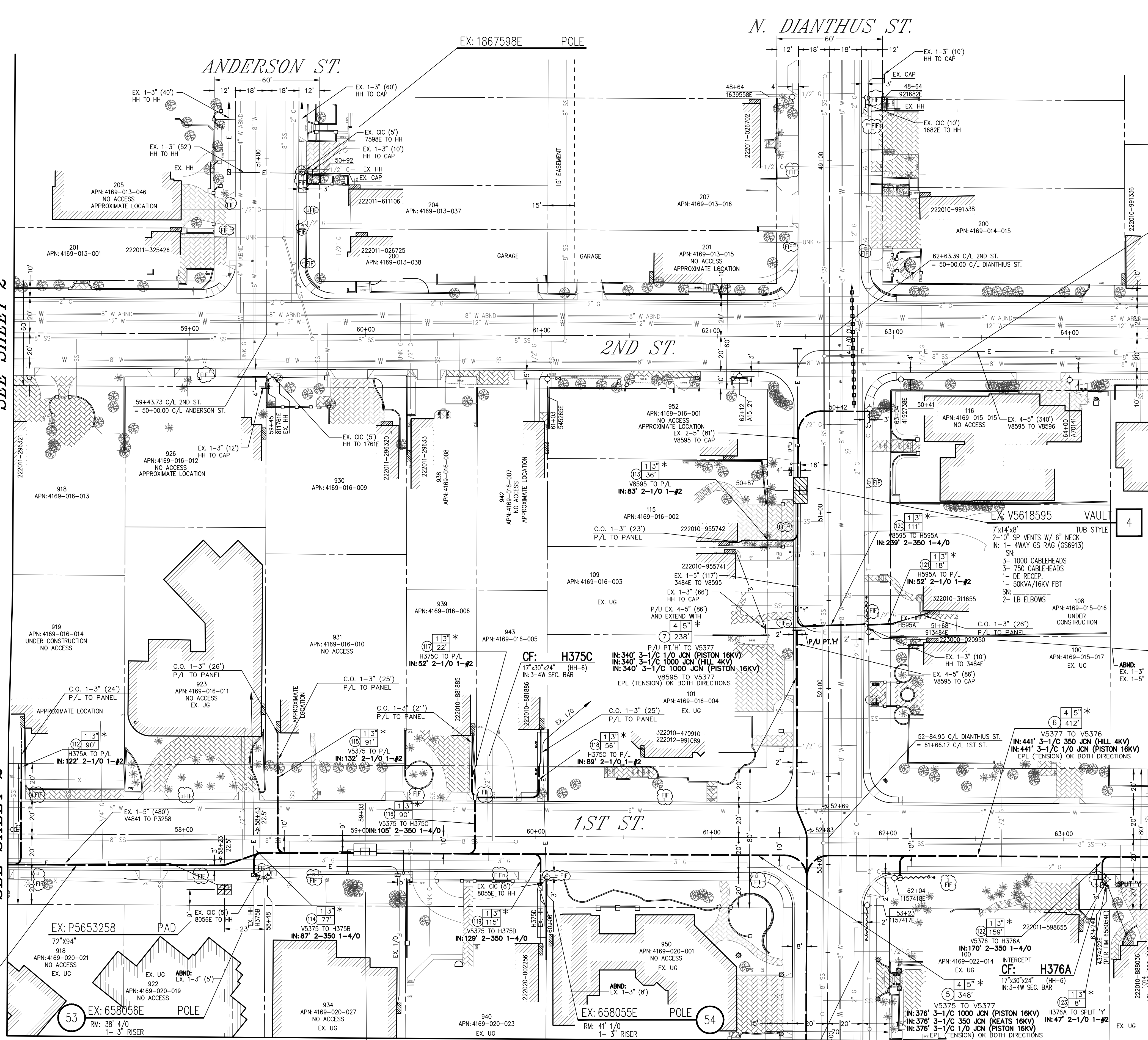
1 1/2" MEMO
SEE RUN 403
SHEET 2

1 3" MEMO
SEE RUN 111
SHEET 2

3 5" MEMO
SEE RUN 3
SHEET 2

MATCH LINE STA. 57+00
SEE SHEET 2

MATCH LINE STA. 58+00
SEE SHEET 2



(NOTE: PLACE VENTS BEHIND SIDEWALK)
CF: V5505375 VAULT

T.L.M. DATA: V5505375

SIZE	KVA	CUST	% LOAD
EXIST.	—	—	—
PROP.	100	84	11.84 %
VD:	2.11 %		
FL:	4.1 %		
PRIMARY CIRCUIT:	PISTON 16KV		

(HARD SET E/O EX. POLE)
31
Cl: 4624955E
26' CONC. ELECTROUR W/6' ARM
31W LED LUMINAIRE
1 1/2" V5376 TO 4955E
RM: 286' W

SURVEYED
DATE: 2/23/18

WARNING:
WATER, CATV AND TELEPHONE LOCATIONS ARE
APPROXIMATE POTHOLE FOR EXACT LOCATION

MATCH LINE STA. 63+50
SEE SHEET 4

MATCH LINE STA. 64+50
SEE SHEET 4

RM: 1157415E POLE 19
50' CL-4
RM: 2-10' SINGLE VB XARM
1-10' SINGLE SEC XARM
5-4KV PINS
1-4KV COUTOUT
1-25KVA/4KV TFR
SN:

IN: 1157415E POLE 20
55' CL-H5
IN: 1-10' DOUBLE DA XARM
5-4KV DE INSUL
1-HORIZ. SIDE ARM OMNI SWITCH (P51616)
SN: 1-3 SPOOL RACK
1-5" RISER W/UNISTRUT
1-5" TO 4" RISER W/UNISTRUT
1-PRIMARY RISER
1-1000 POTHEADS
3-SURGE ARRESTORS
1-1-1/4 ANCHOR (10' LEAD)
2-7/16" DG W/QUEEN POST (L=10', H=12')
(HEIGHT OF DG = 46' & 45')

RUN = 78'
RISER = 35'
TOTAL = 113'

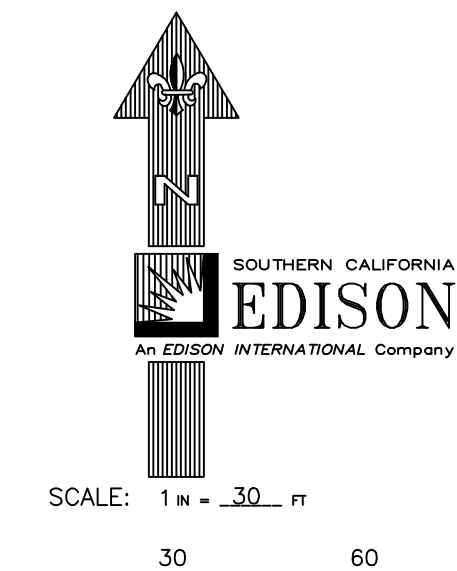
4/0 BC
V8595 TO 7415E
IN: 113' 3-1/C 1000 JCN 16KV
IN: 103' 2-350 1-4/0 CLP
EPL V8595 TO 7415E = 339' (3409 lbs)
MAX EPL = 591' (2377 lbs)

T.L.M. DATA: V5618595

SIZE	KVA	CUST	% LOAD
EXIST.	—	—	—
PROP.	50	31	6.62 %
VD:	.87 %		
FL:	3.2 %		
PRIMARY CIRCUIT:	PISTON 16KV		

EX: 913484E POLE 55
RM: 43' 4/0 (TO EX. HH)
1-5" RISER
1-3" TO 2" RISER
EX: 1-5" (44')
162' 3-1/C 750 CLP (TO V8595)

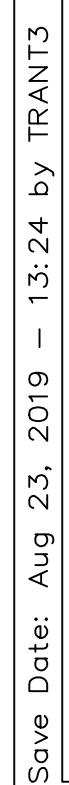
UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig



FINAL DESIGN
APPROVED FOR CONSTRUCTION

DATE	REVISION	DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR	ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT	44--SOUTH BAY	PROJ. MGR.	ROBERT CICCARELLI	PLANNER	SUSIE THOMPSON	SR NO.	2446859
FOREMAN		PHONE	714-430-7842	PHONE	310-608-5234	DESIGN NO.	995028
PRODUCT/SAP NO.	TD 1351127	TRUCK NO.	P/E	INVENTORY MAP NO.	THOMAS GUIDE	GRID NO.	000
CSD 140 Y.	BY-PASS	EXISTING	CHANGE TO	TLM	CHECKED	J.P.A. NO.	
PRODUCT/SAP NO.	TD 1351127	PRODUCT/SAP NO.	TD 1351129	PRODUCT/SAP NO.	TD 1351129	ASSOCIATED DESIGN NO.	995028
F	S. THOMPSON	8/15/19	D. ESTRADA	TT	52828	PROPOSED CONSTRUCTION (LOCATION)	PISTON 16KV % MANHATTAN SUB-R20B
P		10/23/18	D. ESTRADA	TT	52828	VARIOUS LOCATIONS - UUAD #4	
B		05/01/18	QUES/ES/JT/SL	QUES/SV/ES	52813	MANHATTAN BEACH, CA	
TYPE	APPROVED BY	DATE	CHECKED BY	DRAWN BY	PAX #	SHEET	3 OF 10
						JOB NO.	0995026



MATCH LINE STA. 54+50
SEE SHEET 2

64 EX: 299060E
RM: 38' 4/0
1-3" RISER

POLE

MATCH LINE STA. 54+00
SEE SHEET 2

NOTE:
ONE 100KVA SERVES:
H378A, H378B, H378C, H378H & H378J
OTHER 100KVA SERVES:
H378D, H378E, H378F, H378G & X538I

CF: V5505378 VAULT 8

7x18x8"
2-10" SP VENTS REQ'D
IN: 1-4WAY (558915)
SN: 1-100KVA/16KV FBT
SN: 1-100KVA/16KV FBT
SN: 6-1000 CABLEHEADS
SN: 3-1000 T-BODY SPLICES

T.L.M. DATA: V5505378				
EXIST.	SIZE	KVA	CUST	% LOAD
PROF.	200	155	27	78 %
VD:	1.68%			
FL:	4.5%			
PRIMARY CIRCUIT: PISTON 16KV				

MATCH LINE STA. 56+50
SEE SHEET 6

(PLACE IN SAME HOLE AS POLE)
CI: 4624962E

26" CONC. ELECTROLIER W/6" ARM
31W LED LUMINAIRE
IN: 17' #8

(PLACE IN SAME HOLE AS POLE)
CI: 4624963E

26" CONC. ELECTROLIER W/6" ARM
31W LED LUMINAIRE
IN: 17' #8

T.L.M. DATA: V5505382				
EXIST.	SIZE	KVA	CUST	% LOAD
PROF.	50	17	5	35 %
VD:	4.3%			
FL:	3.6%			
PRIMARY CIRCUIT: PISTON 16KV				

CF: V5505382 VAULT 11

6'x12'x7"
2-10" SP VENTS REQ'D
IN: 1-50KVA/16KV FBT
SN: 6-1000 2WAY T-BODY SPLICES
SN: 3-3WAY T-BODY SPLICES
SN: 2-LB ELBOWS

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2

IN: 105' 2-1/0 1-#2



SCALE: 1" = 30' FT

FINAL DESIGN
APPROVED FOR CONSTRUCTION

T.L.M. DATA: V5505383				
EXIST.	SIZE	KVA	CUST	% LOAD
PROF.	75	63	8	84 %
VD:	1.09%			
FL:	3.3%			
PRIMARY CIRCUIT: PISTON 16KV				

CF: V5505383 VAULT 10

6'x12'x7"
2-10" SP VENTS REQ'D
IN: 1-75KVA/16KV FBT
SN: 2-LB ELBOWS
SN: 1-ELBOW W/CANDLE

IN: 83' 2-1/0 1-#2

IN: 83' 2-1/0 1-#2

IN: 83' 2-1/0 1-#2

IN: 83' 2-1/0 1-#2

IN: 83' 2-1/0 1-#2

MATCH LINE STA. 59+50
SEE SHEET 8

60 EX: 1910060E
RM: 48' 4/0
1-4" TO 3" RISER

POLE

ABND: EX: 1-4" (15')

SURVEYED
DATE: 2/23/18

WARNING:
-WATER, CATV AND TELEPHONE LOCATIONS ARE
APPROXIMATE POTHOLE FOR EXACT LOCATION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT 44--SOUTH BAY		PROJ. MGR. ROBERT CICCARELLI PHONE 714-430-7842		PLANNER SUSIE THOMPSON PHONE 310-608-5234		SR NO. 2446859					
FOREMAN		TRUCK NO. P/E		INVENTORY MAP NO. 4363C2		THOMAS GUIDE LAC 732		GRID NO. 000		DESIGN NO. 995028	
CSD 140 Y N CODE		BY-PASS EXISTING CHANGE TO		TLM CHECKED		J.P.A. NO.		ASSOCIATED DESIGN NO. 995028			
PRODUCT/SAP NO. TD 1351127				PRODUCT/SAP NO. TD 1351129							
F S. THOMPSON		8/15/19		D. ESTRADA		TT		52828		PROPOSED CONSTRUCTION (LOCATION)	
P		10/23/18		D. ESTRADA		TT		52828		PISTON 16KV % MANHATTAN SUB-R20B	
B		05/01/18		QUES/ES/JT/SL		QUES/SV/ES		52813		VARIOUS LOCATIONS - UUAUD #4	
TYPE APPROVED BY		DATE		CHECKED BY		DRAWN BY		PAX #		MANHATTAN BEACH, CA	
Southern California Edison Company										SHEET 5 OF 10	
										JOB NO. 0995026	

UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

T.L.M. DATA: V5505384				
EXIST.	SIZE	KVA	CUST	% LOAD
PROF.	50	38	13	77 %
VD:	4.4%			
FL:	4.3%			
PRIMARY CIRCUIT: PISTON 16KV				

CF: V5505384 VAULT 9

6'x12'x7"
2-10" SP VENTS REQ'D
IN: 1-50KVA/16KV FBT
SN: 2-LB ELBOWS
SN: 1-ELBOW W/CANDLE

IN: 97' 2-1/0 1-#2

IN: 97' 2-1/0 1-#2

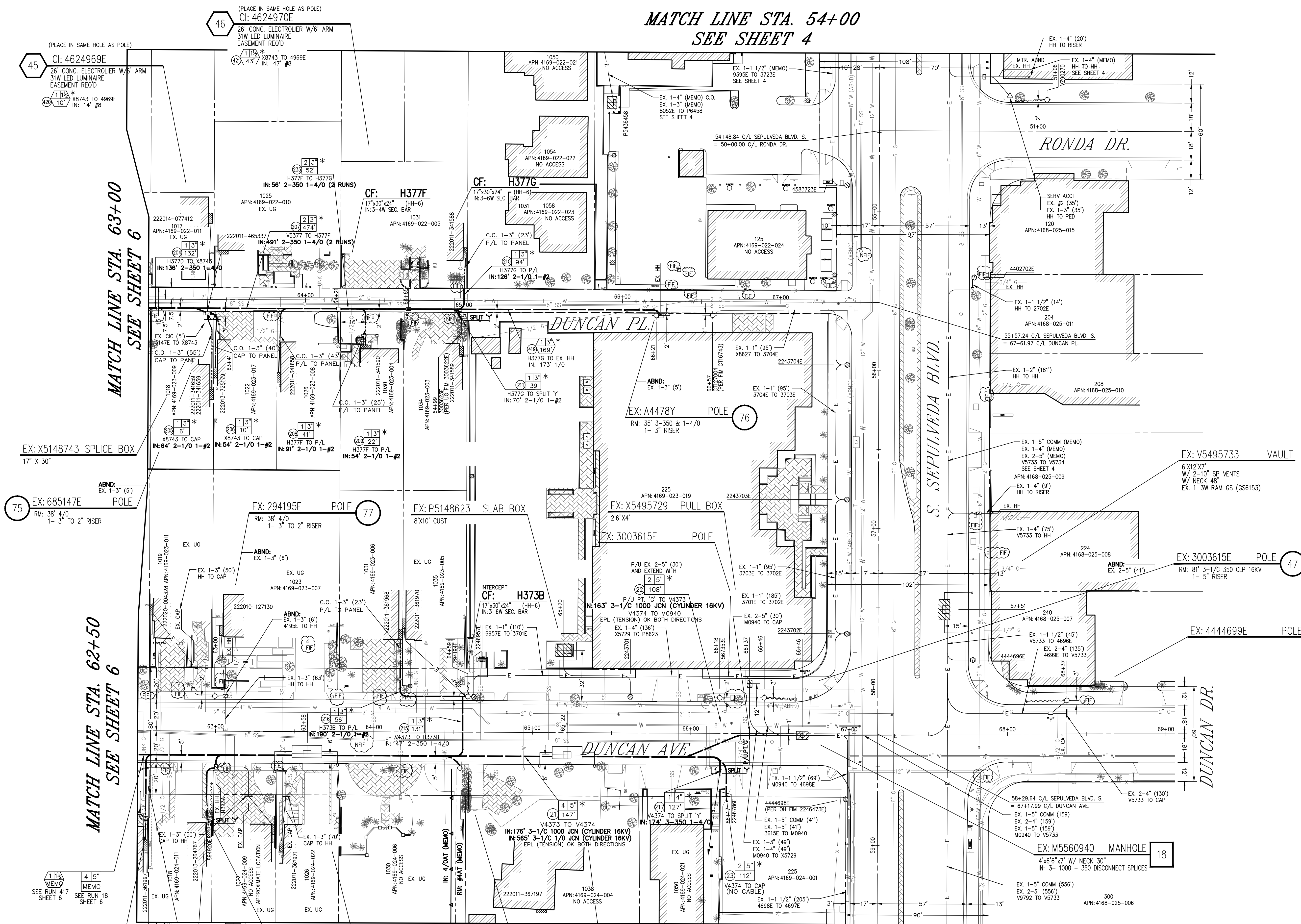
IN: 97' 2-1/0 1-#2

IN: 97' 2-1/0 1-#2

IN: 97' 2-1/0 1-#2

Save Date: Aug 23, 2019 - 13:24 by TRAN13

MATCH LINE STA. 54+00
SEE SHEET 4



MATCH LINE STA. 59+50
SEE SHEET 10

NOTE:
50KVA SERVES 4802093E
75KVA SERVES ALL OTHERS LOAD.

T.L.M. DATA: V5534373
SIZE KVA CUST % LOAD
EXIST. — — — —
PROP. 125 86 12 69 %
VD: 2.11%
FL: 4.2%
PRIMARY CIRCUIT: CYLINDER 16KV

TUB STYLE

16

NOTE:
SERVES 1050 DUNCAN
CF: V5534374

7"x18"x8"
2-10" SP VENTS REQ'D
IN: 3- 25KVA/16KV FBT 120/208
SN: —
SN: —
SN: —
6- LB ELBOWS
3- 1000 2WAY T-BODY SPLICES

TUB STYLE

17

T.L.M. DATA: V5534374
SIZE KVA CUST % LOAD
EXIST. — — — —
PROP. 75 35.8 7 48 %
VD: —
FL: —
PRIMARY CIRCUIT: CYLINDER 16KV

SURVEYED
DATE: 2/23/18

WARNING:
— WATER, CATV AND TELEPHONE LOCATIONS ARE APPROXIMATE POTHOLE FOR EXACT LOCATION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

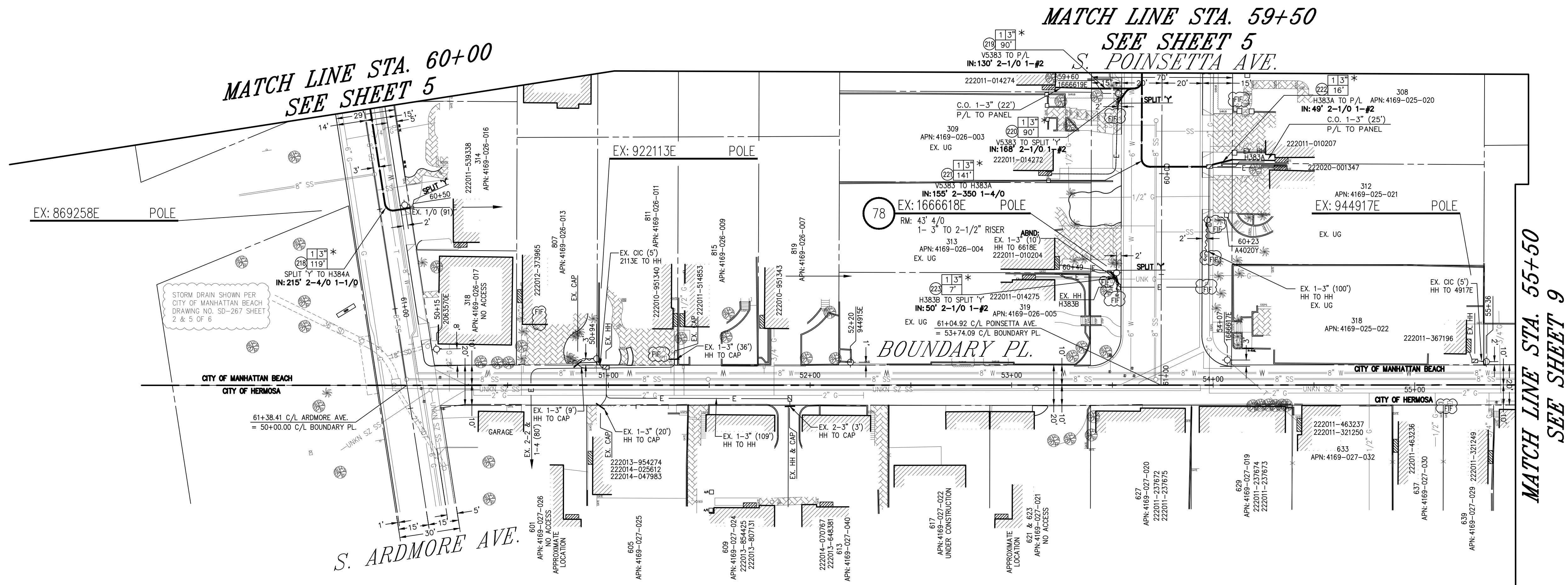
DISTRICT	44--SOUTH BAY	PROJ. MGR. ROBERT CICCARELLI	PLANNER SUSIE THOMPSON	SR NO.	2446859
FOREMAN		TRUCK NO. P/E	PHONE 714-430-7842	DESIGN NO.	995028
CSD 140 Y. CODE	BY-PASS EXISTING CHANGE TO	TLM CHECKED	INVENTORY MAP NO. THOMAS GUIDE 4363C2	GRID NO. 000	ASSOCIATED DESIGN NO. 995028
PRODUCT/SAP NO.	TD 1351127	PRODUCT/SAP NO.	TD 1351129	PRODUCT/SAP NO.	
F	S. THOMPSON	8/15/19	D. ESTRADA	TT	52828
P		10/23/18	D. ESTRADA	TT	52828
B		05/01/18	QUES/ES/JT/SL	QUES/SV/ES	52813
TYPE APPROVED BY	DATE	CHECKED BY	DRAWN BY	PAX #	SHEET
Southern California Edison Company					7 OF 10
PROPOSED CONSTRUCTION (LOCATION) PISTON 16KV % MANHATTAN SUB-R20B VARIOUS LOCATIONS - UUAU #4 MANHATTAN BEACH, CA					JOB NO. 0995026



UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

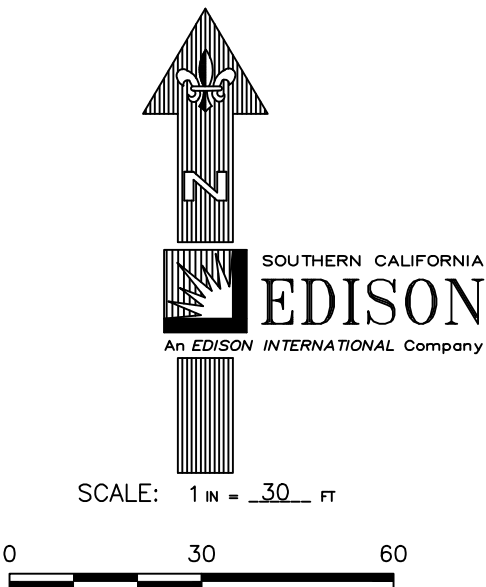
SCALE: 1" = 30' ft
0 30 60

FINAL DESIGN
APPROVED FOR CONSTRUCTION



MATCH LINE STA. 55+50
SEE SHEET 9

UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig



FINAL DESIGN
APPROVED FOR CONSTRUCTION

SURVEYED
DATE: 2/23/18

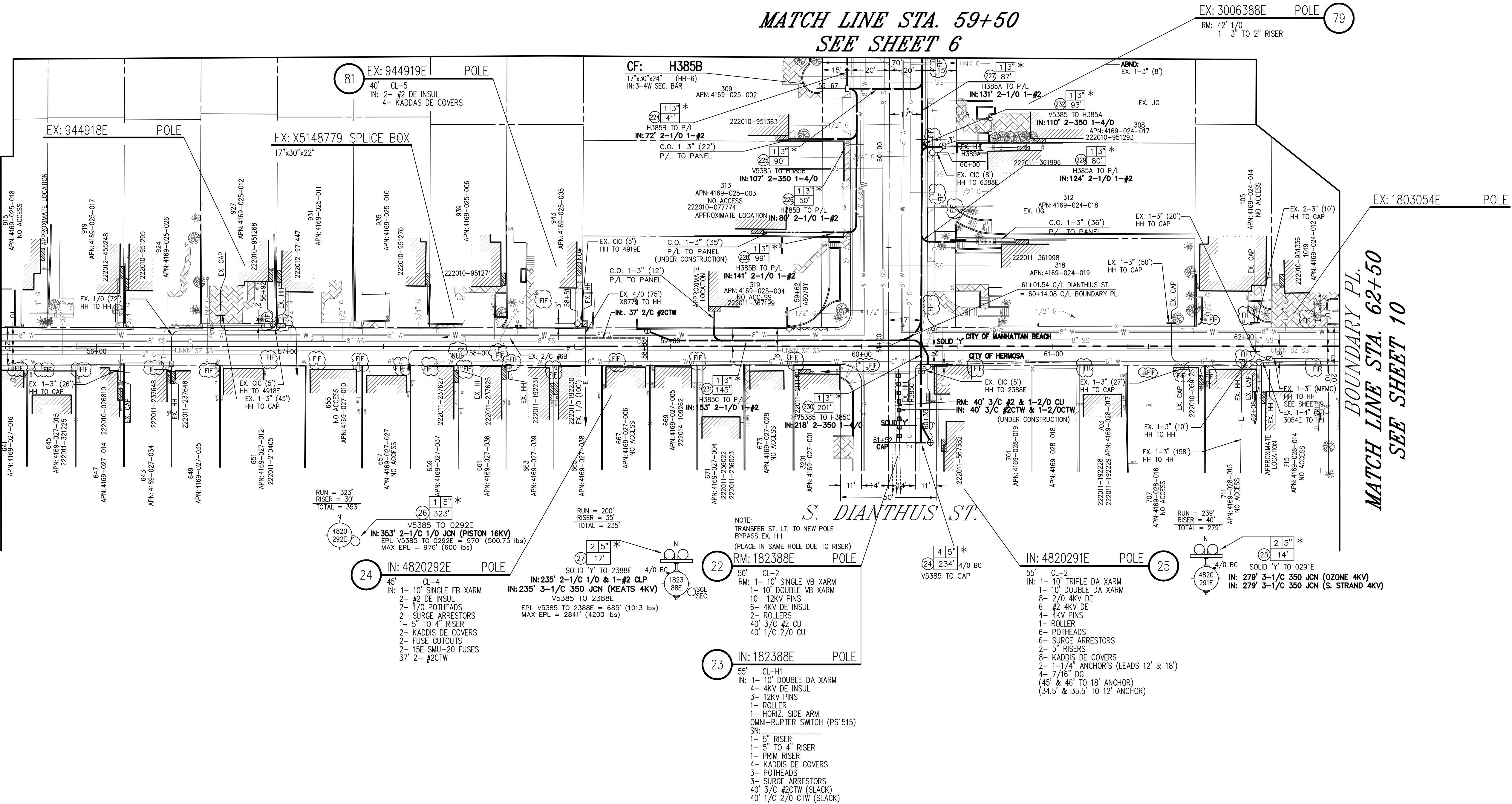
WARNING:
- WATER, CATV AND TELEPHONE LOCATIONS ARE
APPROXIMATE POTHOLE FOR EXACT LOCATION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT	44--SOUTH BAY	PROJ. MGR.	ROBERT CICCARELLI	PLANNER	SUSIE THOMPSON	SR NO.	2446859
FOREMAN		PHONE	714-430-7842	PHONE	310-608-5234	DESIGN NO.	995028
		TRUCK NO.	P/E	INVENTORY MAP NO.	THOMAS GUIDE	GRID NO.	000
				4363C2	LAC 732	J.P.A. NO.	995028
CSD 140 Y	BY--PASS	EXISTING	TLM	CHECKED	TLAD	PRODUCT/SAP NO.	
N	CODE	CHANGE TO					
PRODUCT/SAP NO.	TD 1351127	PRODUCT/SAP NO.	TD 1351129	PRODUCT/SAP NO.			
F	S. THOMPSON	8/15/19	D. ESTRADA	TT	52828	PROPOSED CONSTRUCTION (LOCATION)	
P		10/23/18	D. ESTRADA	TT	52828	PISTON 16KV % MANHATTAN SUB--R20B	
B		05/01/18	QUES/ES/JT/SL	QUES/SV/ES	52813	VARIOUS LOCATIONS - UUAD #4	
TYPE	APPROVED BY	DATE	CHECKED BY	DRAWN BY	PAX #	SHEET	JOB NO.
						8 OF 10	0995026

Southern California Edison Company

MATCH LINE STA. 55+50
SEE SHEET 8
BOUNDARY PL.



SURVEYED
DATE: 2/23/18

WARNING:
- WATER, CATV AND TELEPHONE LOCATIONS ARE
APPROXIMATE POT HOLE FOR EXACT LOCATION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT 44--SOUTH BAY	PROJ. MGR. ROBERT CICCARELLI	PLANNER SUSIE THOMPSON	SR NO. 2446859
FOREMAN	TRUCK NO. 714-430-7842	PHONE 310-608-5234	DESIGN NO. 995028
BY-PASS EXISTING TO TLCD	INVENTORY MAP NO. 4363C2	LAC 732	ASSOCIATED DESIGN NO. 995028
PRODUCT/SAP NO. TD 1351127	PRODUCT/SAP NO. TD 1351129	PRODUCT/SAP NO.	
F S. THOMPSON	8/15/19	D. ESTRADA	TT
P	10/23/18	D. ESTRADA	TT
B	05/01/18	QUES/ES/JT/SL	TT
TYPE APPROVED BY	DATE	CHECKED BY	DRAWN BY
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT

PROPOSED CONSTRUCTION (LOCATION)
PISTON 16KV % MANHATTAN SUB-R20B
VARIOUS LOCATIONS - UUAU #4
MANHATTAN BEACH, CA

9 OF 10

0995026



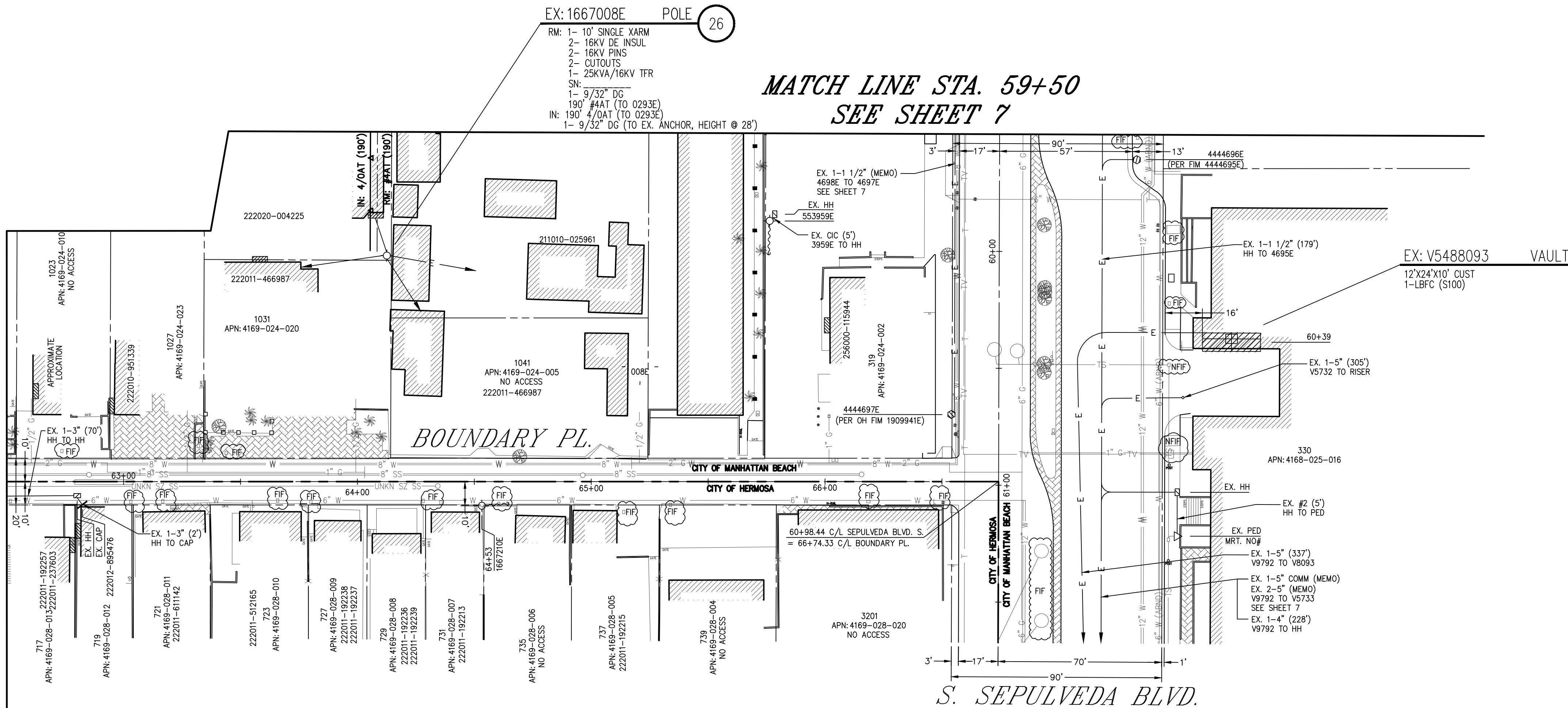
UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

SCALE: 1" = 30'
0 30 60

FINAL DESIGN
APPROVED FOR CONSTRUCTION

INVENTORY MAP NO.
43-63C-2 43-63C-1
43-63C-5 43-62D-3
43-63C-8 43-62D-6
43-63C-7 43-62D-9
43-63C-4 43-62D-9
43-63A-7 43-63A-8
43-62D 43-63C

MATCH LINE STA. 62+50
SEE SHEET 9



SURVEYED
DATE: 2/23/18

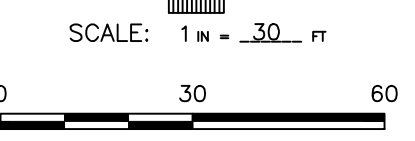
WARNING:
-WATER, CATV AND TELEPHONE LOCATIONS ARE
APPROXIMATE POT HOLE FOR EXACT LOCATION

DATE	REVISION DESCRIPTION	APPROVED	DRAWN	CHECKED
8/23/19	MINOR ADDITION MATERIALS AND TEXT CHANGES	ST	TT	TT

DISTRICT 44-SOUTH BAY	PROJ. MGR. ROBERT CICCARELLI PHONE 714-430-7842	PLANNER SUSIE THOMPSON PHONE 310-608-5234	SR NO. 2446859
FOREMAN	TRUCK NO. P/E	INVENTORY MAP NO. THOMAS GUIDE 4363C2 LAC 732	DESIGN NO. 995028
CSD 140 Y N CODE	BY-PASS EXISTING CHANGE TO	TLM CHECKED	J.P.A. NO. ASSOCIATED DESIGN NO. 995028
PRODUCT/SAP NO. TD 1351127	PRODUCT/SAP NO. TD 1351129	PRODUCT/SAP NO.	
F S. THOMPSON P 10/23/18 B 05/01/18	D. ESTRADA TT QUES/ES/JT/SL	TT 52828 52828 52813	PROPOSED CONSTRUCTION (LOCATION) PISTON 16KV % MANHATTAN SUB-R20B VARIOUS LOCATIONS - UUAD #4 MANHATTAN BEACH, CA
TYPE APPROVED BY 8/23/19	DATE 8/23/19	CHECKED BY D. ESTRADA	PAX # 52813
Southern California Edison Company			SHEET 10 OF 10



UNDERGROUND SERVICE ALERT
Dial 811
Call USA
For Underground Locating
2 Working Days Before You Dig

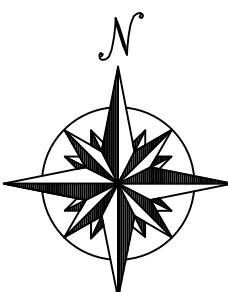
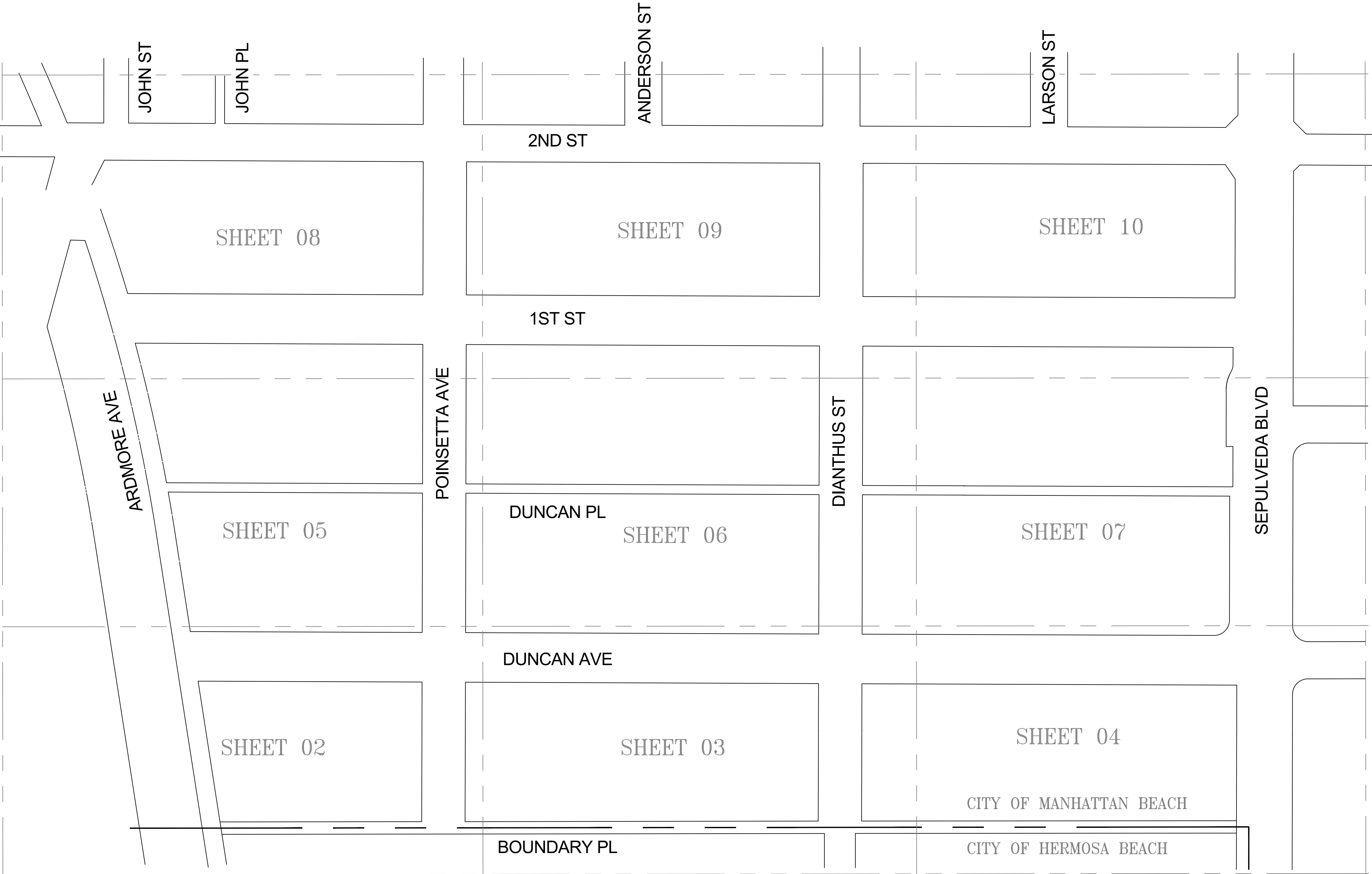


FINAL DESIGN
APPROVED FOR CONSTRUCTION

DISTRICT #4 - RULE 20, MANHATTAN BEACH, CA

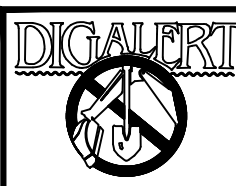
SHEET INDEX:

- 1. SHEET 01 OF 10 – TITLE PAGE
- 2. SHEET 02 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA, & VAULT DETAIL
- 3. SHEET 03 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 4. SHEET 04 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 5. SHEET 05 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 6. SHEET 06 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 7. SHEET 07 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 8. SHEET 08 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 9. SHEET 09 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL
- 10. SHEET 10 OF 10 – CONDUIT ROUTE, CALLOUTS, CURVE DATA & VAULT DETAIL



NTS

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	8123'
CONDUIT OUT OF JOINT TRENCH	4907'
TOTAL FOOTAGE THIS PROJECT	13053'
PB 2'X3' (A6001640APCX18)	29 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	5 E.A.



1-800-227-2600
AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
TICKET# A

CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS



1529 VALLEY RD
HERMOSA BEACH, CA 90254
UTILITY NUMBER: 6874



4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: 1ST ST TO BOUNDARY PL BTWN S. ARDMORE AVE & SEPULVEDA BLVD	

S. ARDMORE AVE

MATCHLINE "A" SEE SHEET 05

S. POINSETTA AVE

DUNCAN AVE

MATCHLINE "B" SEE SHEET 03

BOUNDARY PL

ITEM # DESCRIPTION

104. 57' (6)-4" SCH PVC CONDUITS
105. 19' (4)-4" SCH PVC CONDUITS
106. 131' (2)-4" SCH PVC CONDUITS
TL = PB "H" TO PB "I" = 372' V
107. 27' (1)-2" SCH PVC CONDUIT
TL = PB "I" TO ADDRESS #
305 S. POINSETTA AVE = 72' V
108. 19' (2)-4" SCH PVC CONDUITS
19' (1)-2" SCH PVC CONDUIT
109. 24' (2)-2" SCH PVC CONDUITS
110. 24' (1)-2" SCH PVC CONDUIT
TL = PB "I" TO ADDRESS #
308 S. POINSETTA AVE = 74' V
111. 23' (1)-2" SCH PVC CONDUIT
TL = PB "H" TO ADDRESS #
312 S. POINSETTA AVE = 73' V
112. 4' (2)-4" SCH PVC CONDUITS
4' (3)-2" SCH PVC CONDUITS
113. 27' (1)-2" SCH PVC CONDUIT
TL = PB "I" TO ADDRESS #
309 S. POINSETTA AVE = 49' V
114. 13' (2)-4" SCH PVC CONDUITS
13' (4)-2" SCH PVC CONDUITS
115. 9' (6)-4" SCH PVC CONDUITS
9' (7)-2" SCH PVC CONDUITS
116. PL PB "I" _____
TWC (A6001640APCX18)
2'X3'
117. 32' (4)-4" SCH PVC CONDUITS
118. 9' (2)-4" SCH PVC CONDUITS
TL = PB "I" TO EX. CATV PB = 50' V
TIE INTO EXISTING CATV PB
119. 10' (2)-4" SCH PVC CONDUITS
TL = PB "I" TO EX. CATV PB = 51' V
120. TIE INTO EXISTING CATV PB
121. 50' (2)-2" SCH PVC CONDUITS
122. 7' (1)-2" SCH PVC CONDUIT
TL = PB "I" TO ADDRESS #
313 S. POINSETTA AVE = 66' V
123. 9' (1)-2" SCH PVC CONDUIT
TL = PB "I" TO ADDRESS #
319 S. POINSETTA AVE = 66' V
124. 55' (2)-4" SCH PVC CONDUITS
TL = PB "H" TO PB "J" = 278' V
125. 28' (1)-2" SCH PVC CONDUIT
TL = PB "J" TO ADDRESS #
301 S. POINSETTA AVE = 65' V
126. 33' (2)-4" SCH PVC CONDUITS
33' (1)-2" SCH PVC CONDUIT
127. 4' (4)-4" SCH PVC CONDUITS
4' (3)-2" SCH PVC CONDUITS
128. PL PB "J" _____
TWC (A6001640APCX18)
2'X3'
129. 79' (2)-4" SCH PVC CONDUITS
79' (2)-2" SCH PVC CONDUITS
130. 28' (1)-2" SCH PVC CONDUIT
TL = PB "J" TO ADDRESS #
820 DUNCAN AVE = 112' V
131. 56' (1)-2" SCH PVC CONDUIT
TL = PB "J" TO ADDRESS #
821 DUNCAN AVE = XX' V
132. 45' (2)-4" SCH PVC CONDUITS
TL = PB "J" TO PB "K" = XXX' V
133. 28' (1)-2" SCH PVC CONDUIT
TL = PB "K" TO ADDRESS #
816 DUNCAN AVE XX' V

ITEM # DESCRIPTION

134. 32' (2)-4" SCH PVC CONDUITS
32' (1)-2" SCH PVC CONDUIT
135. 4' (4)-4" SCH PVC CONDUITS
4' (4)-2" SCH PVC CONDUITS
136. PL PB "K" _____
TWC (A6001640APCX18)
2'X3'
137. 6' (2)-4" SCH PVC CONDUITS
6' (4)-2" SCH PVC CONDUITS
138. 34' (2)-2" SCH PVC CONDUITS
139. 33' (1)-2" SCH PVC CONDUIT
TL = PB "K" TO ADDRESS #
817 DUNCAN AVE = 73' V
140. 26' (1)-2" SCH PVC CONDUIT
TL = PB "K" TO ADDRESS #
813 DUNCAN AVE = 66' V
141. 30' (2)-4" SCH PVC CONDUITS
30' (2)-2" SCH PVC CONDUITS
142. 29' (1)-2" SCH PVC CONDUIT
TL = PB "K" TO ADDRESS #
812 DUNCAN AVE = 69' V
143. 11' (2)-4" SCH PVC CONDUITS
11' (1)-2" SCH PVC CONDUIT
144. 28' (1)-2" SCH PVC CONDUIT
TL = PB "K" TO ADDRESS #
808 DUNCAN AVE = 79' V
145. 34' (2)-4" SCH PVC CONDUIT
TL = PB "K" TO PB "L" = XX' V
146. 65' (1)-2" SCH PVC CONDUIT
TL = PB "L" TO ADDRESS #
809 DUNCAN AVE = XXX' V
147. 45' (2)-4" SCH PVC CONDUITS
45' (1)-2" SCH PVC CONDUIT
148. 7' (4)-4" SCH PVC CONDUITS
7' (3)-2" SCH PVC CONDUITS
149. PL PB "L" _____
TWC (A6001640APCX18)
2'X3'
150. 62' (2)-4" SCH PVC CONDUITS
62' (2)-2" SCH PVC CONDUITS
151. 74' (2)-4" SCH PVC CONDUITS
TL = PB "L" TO PB "M" = 172' V
152. 14' (1)-2" SCH PVC CONDUIT
TL = PB "M" TO ADDRESS #
804 DUNCAN AVE = 43' V
153. 24' (2)-4" SCH PVC CONDUITS
24' (1)-2" SCH PVC CONDUIT
154. 5' (4)-4" SCH PVC CONDUITS
5' (3)-2" SCH PVC CONDUITS
155. PL PB "M" _____
TWC (A6001640APCX18)
2'X3'
156. 29' (2)-4" SCH PVC CONDUITS
29' (2)-2" SCH PVC CONDUITS
157. 14' (1)-2" SCH PVC CONDUIT
TL = PB "M" TO ADDRESS #
304 S. ARDMORE AVE = 48' V
158. 58' (2)-4" SCH PVC CONDUITS
58' (1)-2" SCH PVC CONDUIT
159. 10' (2)-4" SCH PVC CONDUITS
TL = PB "M" TO POLE # N/T = 102' V
160. 14' (1)-2" SCH PVC CONDUIT
TL = PB "M" TO ADDRESS #
314 S. ARDMORE AVE = 106' V
161. 93' (2)-2" SCH PVC CONDUITS
236. 140' (2)-4" SCH PVC CONDUITS
TL = PB "H" TO PB "I" = 399' V

ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA

DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA

CURVE	DELTA	RADIUS	TANGENT	LENGTH
2	90°	12.5'	17.69'	19.65'
4	45°	4'	3.06'	3.15'
6	90°	2'	2.83'	3.14'
9	45°	2'	1.53'	1.57'
10	14°	4'	0.97'	0.97'
11	43°	4'	2.93'	3.00'
12	97°	4'	6.03'	6.83'
13	30°	4'	2.07'	2.08'
14	11°	15'	2.88'	2.89'
15	34°	4'	2.32'	2.35'
16	99°	4'	6.09'	6.92'
17	81°	4'	5.19'	5.65'

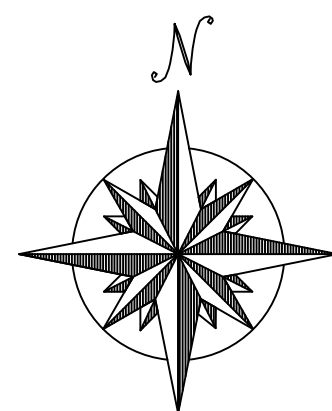
LEGEND

- PRO. TRENCH
--- PRO. CATV VAULT
--- SCE JOINT TRENCH
--- EX. POLE
--- EX. SEWER MANHOLE
--- EX. SEWER
--- EX. GAS
--- EX. WATER
--- EX. STORM DRAIN
--- EX. TELEPHONE
--- EX. TRAFFIC SIGNAL
--- CL CENTER LINE
--- RW RIGHT OF WAY
--- C&G CURB & GUTTER
--- CONCRETE STREET PAVING

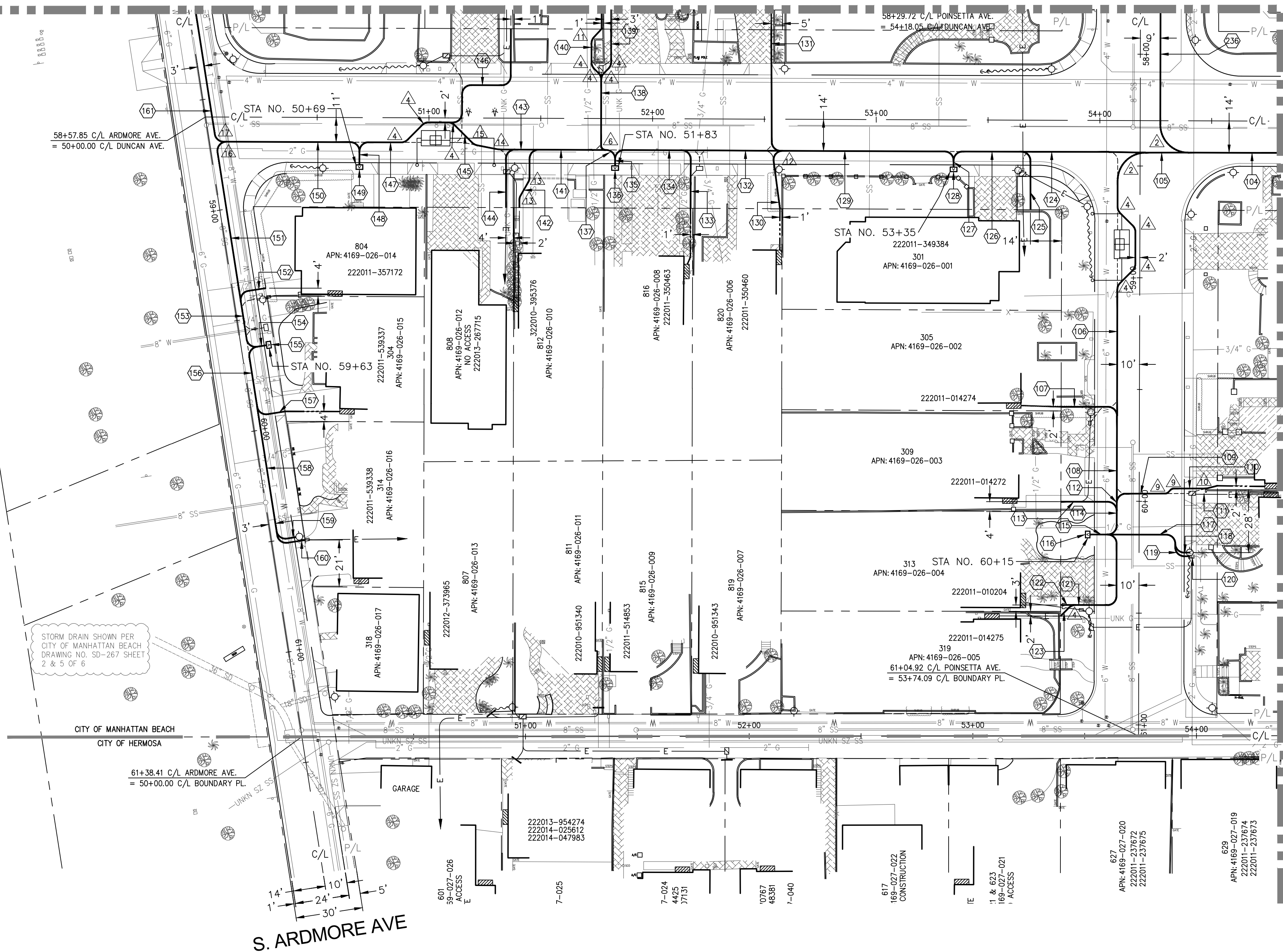
CITY PERMIT INFORMATION

EXCAVATION DATA

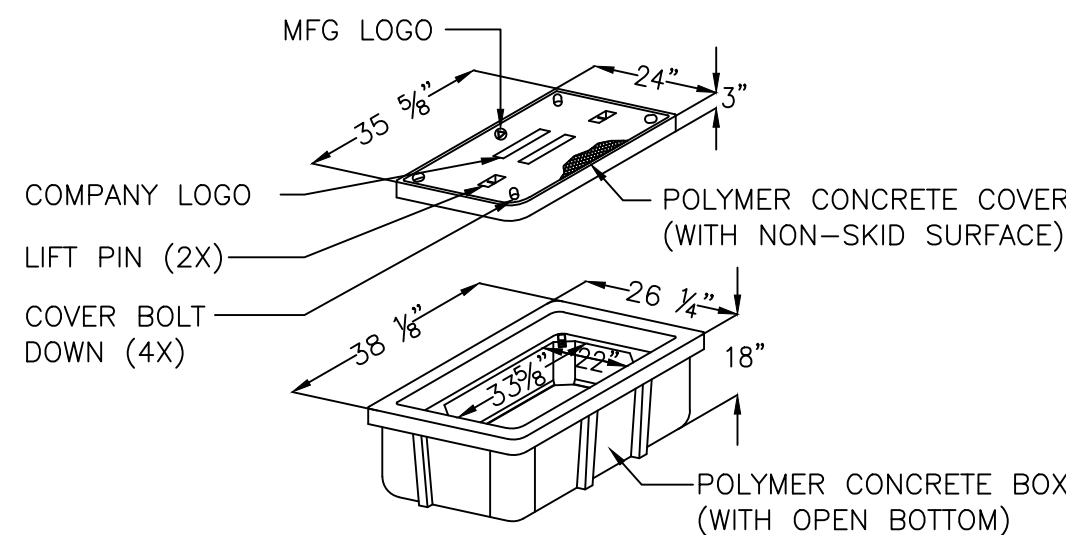
CONDUIT IN JOINT TRENCH	1649'
CONDUIT OUT OF JOINT TRENCH	636'
TOTAL FOOTAGE THIS SHEET	1649'
PB 2'X3' (A6001640APCX18)	5 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.



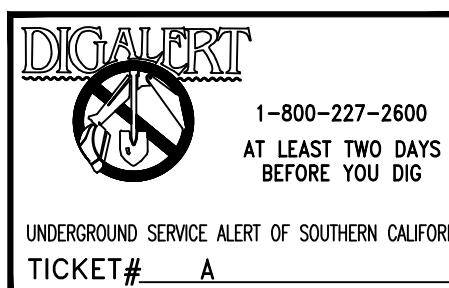
SCALE = 1"=30'



ARMORCAST VAULT
24"x36" POLYMER SPLICE BOX
MODEL # A6001640APCX18
(LID TO BE MARKED WITH COMPANY LOGO)



SHEET 02 OF 10



CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS

Charter
Spectrum
1529 VALLEY RD
HERMOSA BEACH, CA 90254
UTILITY NUMBER: 6874



4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

CITY OF MANHATTAN BEACH PROJECT: PID# 1218784

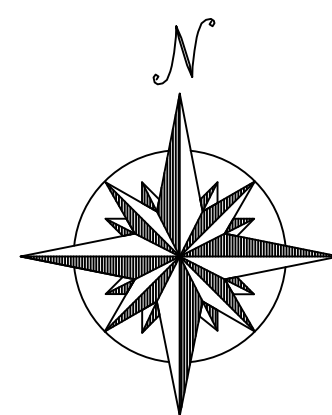
WORK LOCATION:
S. POINSETTA AVE TO DUNCAN AVE
DUNCAN AVE TO S. ARDMORE AVE



S. DIANTHUS ST

ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
①	23°	15'	5.86'	5.90'
②	90°	12.5'	17.69'	19.65'
④	45°	4'	3.06'	3.15'
⑥	90°	2'	2.83'	3.14'
⑦	31°	4'	2.14'	2.16'
⑧	25°	4'	1.71'	1.72'



SCALE = 1"=30'

ITEM #	DESCRIPTION
96.	3' (6)-4" SCH PVC CONDUITS 3' (4)-2" SCH PVC CONDUITS
97.	46' (2)-2" SCH PVC CONDUITS
98.	19' (1)-2" SCH PVC CONDUIT TL = PB "H" TO ADDRESS # 915 DUNCAN AVE = 83' V
99.	18' (1)-2" SCH PVC CONDUIT TL = PB "H" TO ADDRESS # 911 DUNCAN AVE = 82' V
100.	39' (6)-4" SCH PVC CONDUITS 39' (2)-2" SCH PVC CONDUITS
101.	25' (1)-2" SCH PVC CONDUIT TL = PB "H" TO ADDRESS # 300' S. POINSETTA AVE = 128' V
102.	53' (6)-4" SCH PVC CONDUITS 53' (1)-2" SCH PVC CONDUIT
103.	57' (1)-2" SCH PVC CONDUIT TL = PB "H" TO ADDRESS # 214 S. POINSETTA AVE = 177' V
164.	87' (2)-4" SCH PVC CONDUITS TL = PB "B" TO PVB "N" = 301' V

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

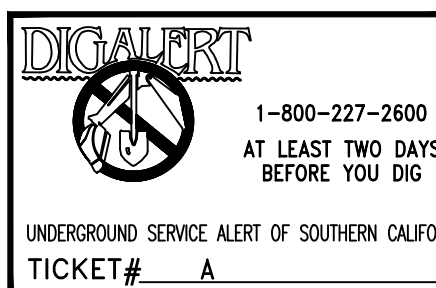
CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
①	23°	15'	5.86'	5.90'
②	90°	12.5'	17.69'	19.65'
④	45°	4'	3.06'	3.15'
⑥	90°	2'	2.83'	3.14'
⑦	31°	4'	2.14'	2.16'
⑧	25°	4'	1.71'	1.72'

ITEM #	DESCRIPTION
55.	153' (2)-4" SCH PVC CONDUITS TL = PB "B" TO PB "E" = 346' V
56.	4' (4)-4" SCH PVC CONDUITS 4' (2)-2" SCH PVC CONDUITS
57.	PL PB "E" ----- TWC (A6001640APCX18) 2'X3'
58.	29' (2)-4" SCH PVC CONDUITS 29' (2)-2" SCH PVC CONDUITS
59.	28' (1)-2" SCH PVC CONDUIT TL = PB "E" TO ADDRESS # 942 DUNCAN AVE = 61' V
60.	62' (2)-4" SCH PVC CONDUITS 62' (1)-2" SCH PVC CONDUIT
61.	28' (1)-2" SCH PVC CONDUIT TL = PB "E" TO ADDRESS # 938 DUNCAN AVE = 113' V
62.	53' (2)-4" SCH PVC CONDUITS TL = PB "E" TO PB "F" = 190' V
63.	23' (2)-2" SCH PVC CONDUITS
64.	5' (1)-2" SCH PVC CONDUIT TL = PB "F" TO ADDRESS # 934 DUNCAN AVE = 56' V
65.	4' (1)-2" SCH PVC CONDUIT TL = PB "F" TO ADDRESS # 930 DUNCAN AVE 55' V
66.	28' (2)-4" SCH PVC CONDUITS 28' (2)-2" SCH PVC CONDUITS
67.	4' (6)-4" SCH PVC CONDUITS 4' (4)-2" SCH PVC CONDUITS
68.	PL PB "F" ----- TWC (A6001640APCX18) 2'X3'
69.	34' (2)-4" SCH PVC CONDUITS TL = PB "F" TO PB "G" = 91' V
70.	69' (3)-2" SCH PVC CONDUITS
71.	28' (1)-2" SCH PVC CONDUIT TL = PB "G" TO ADDRESS # 935 DUNCAN AVE = 150' V
72.	10' (2)-2" SCH PVC CONDUITS
73.	28' (1)-2" SCH PVC CONDUIT TL = PB "G" TO ADDRESS # 939 DUNCAN AVE = 160' V
74.	62' (1)-2" SCH PVC CONDUIT TL = PB "G" TO ADDRESS # 943 DUNCAN AVE = 194' V
75.	10' (3)-2" SCH PVC CONDUITS 10' (3)-2" SCH PVC CONDUITS
76.	12' (2)-2" SCH PVC CONDUITS
77.	18' (1)-2" SCH PVC CONDUIT TL = PB "G" TO ADDRESS # 931 DUNCAN AVE = 73' V
78.	22' (1)-2" SCH PVC CONDUIT TL = PB "G" TO ADDRESS # 927 DUNCAN AVE = 77' V
79.	37' (2)-4" SCH PVC CONDUITS 37' (5)-2" SCH PVC CONDUITS

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	1711'
CONDUIT OUT OF JOINT TRENCH	677'
TOTAL FOOTAGE THIS SHEET	2388'
PB 2'X3' (A6001640APCX18)	6 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.

LEGEND

	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING



CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-67

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL_STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS

Charter
Spectrum ▶

1529 VALLEY RD
HERMOSA BEACH, CA 90254

UTILITY NUMBER: 6874



4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: DUNCAN AVE, BOUNDARY PL & S. DIANTHUS ST	

MATCHLINE "E" SEE SHEET 07

S. SEPULVEDA BLVD

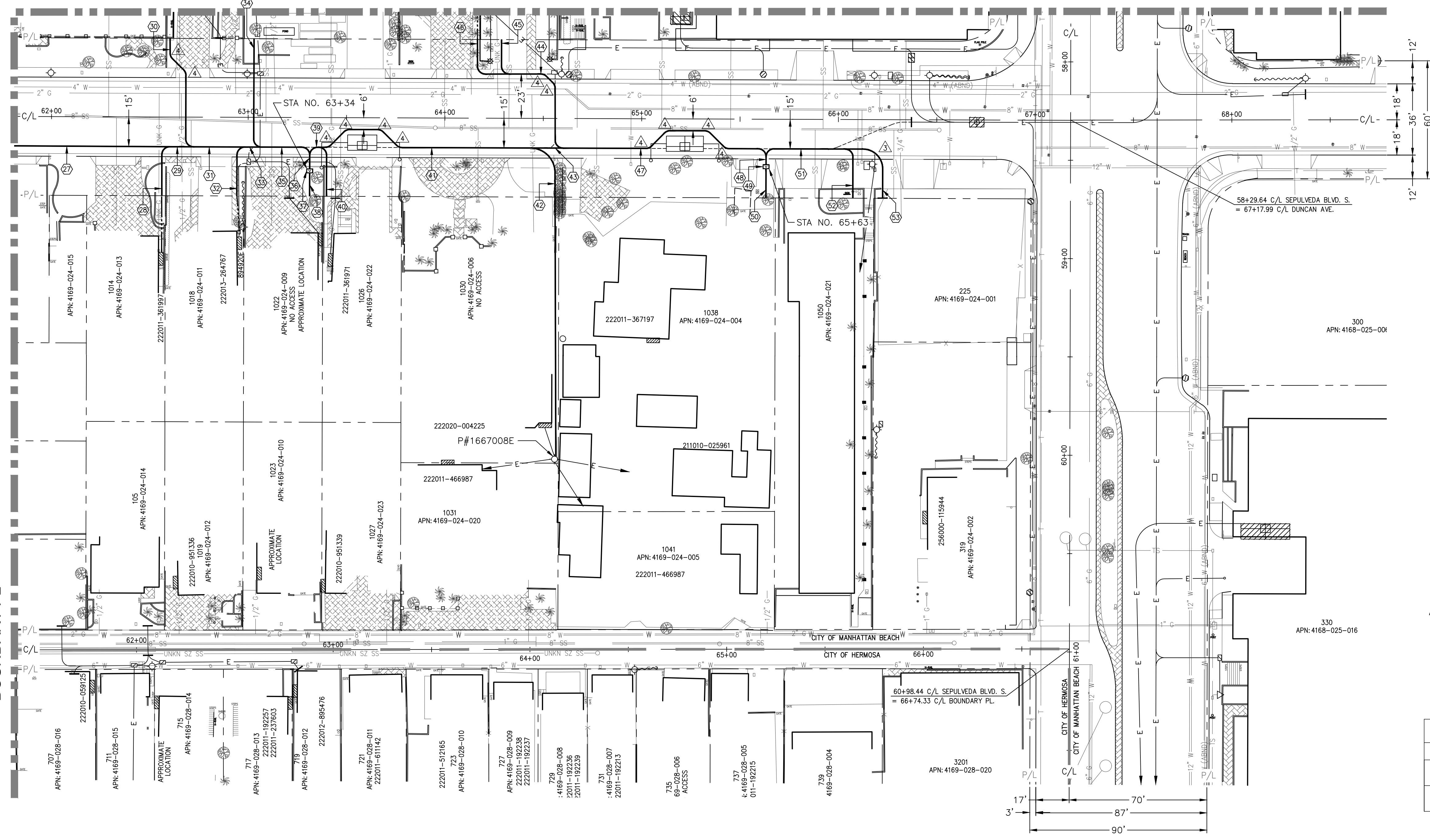
DUNCAN AVE

MATCHLINE "D" SEE SHEET 03

BOUNDARY PL

DUNCAN AVE

S. SEPULVEDA BLVD



ALL ANGLE INFORMATION FOR THE CONDUIT IS AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

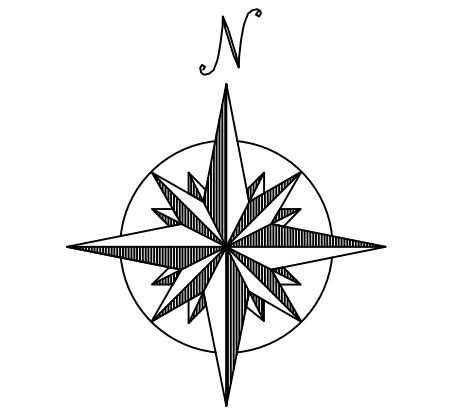
CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
3	90°	10'	14.15'	15.73'
4	45°	4'	3.06'	3.15'

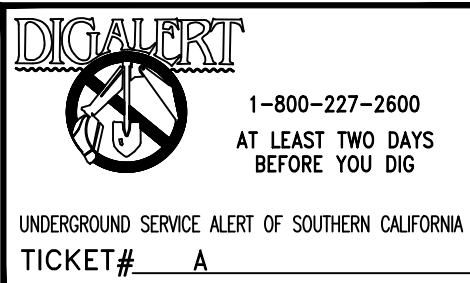
ITEM #	DESCRIPTION
27.	196' (2)-4" SCH PVC CONDUITS TL PB "B" TO PB "C" = 443' V
28.	27' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1014 DUNCAN AVE = 100' V
29.	12' (2)-4" SCH PVC CONDUITS 12' (1)-2" SCH PVC CONDUIT
30.	99' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1019 DUNCAN AVE = 160' V
31.	26' (2)-4" SCH PVC CONDUITS 26' (2)-2" SCH PVC CONDUITS
32.	27' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1018 DUNCAN AVE = 62' V
33.	8' (2)-4" SCH PVC CONDUITS 8' (3)-2" SCH PVC CONDUITS
34.	57' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1023 DUNCAN AVE = 92' V
35.	27' (2)-4" SCH PVC CONDUITS 27' (4)-2" SCH PVC CONDUITS
36.	8' (4)-4" SCH PVC CONDUITS 8' (6)-2" SCH PVC CONDUITS
37.	PL PB "C" TWC (A6001640APCX18) 2'X3'
38.	13' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1022 DUNCAN AVE = 13' V
39.	7' (2)-4" SCH PVC CONDUITS 7' (2)-2" SCH PVC CONDUITS
40.	27' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1026 DUNCAN AVE = 42' V
41.	114' (2)-4" SCH PVC CONDUITS 114' (1)-2" SCH PVC CONDUIT
42.	164' (1)-2" SCH PVC CONDUIT TL = PB "C" TO ADDRESS # 1030 DUNCAN AVE = 293' V (ATTACH TO POLE# 1667008E)
43.	17' (2)-4" SCH PVC CONDUITS TL = PB "C" TO PB "D" = 263' V
44.	60' (2)-2" SCH PVC CONDUITS
45.	20' (1)-2" SCH PVC CONDUITS TL = PB "D" TO ADDRESS # 1035 DUNCAN AVE = 193' V
46.	32' (1)-2" SCH PVC CONDUITS TL = PB "D" TO ADDRESS # 1031 DUNCAN AVE = 205' V
47.	112' (2)-4" SCH PVC CONDUITS 112' (2)-2" SCH PVC CONDUITS
48.	5' (2)-4" SCH PVC CONDUITS 5' (4)-2" SCH PVC CONDUITS
49.	PL PB "D" TWC (A6001640APCX18) 2'X3'
50.	16' (1)-2" SCH PVC CONDUIT TL = PB "D" TO ADDRESS # 1038 DUNCAN AVE = 16' V
51.	42' (3)-2" SCH PVC CONDUITS
52.	27' (1)-2" SCH PVC CONDUIT TL = PB "D" TO ADDRESS # 1050 DUNCAN AVE = 69' V
53.	40' (2)-2" SCH PVC CONDUIT TL = PB "D" TO ADDRESSES # 225 & 319 SEPULVEDA BLVD = 82' V

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	643'
CONDUIT OUT OF JOINT TRENCH	386'
TOTAL FOOTAGE THIS SHEET	1029'
PB 2'X3' (A6001640APCX18)	2 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.

LEGEND	
	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING



SCALE = 1"=30'



CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS	
	1529 VALLEY RD HERMOSA BEACH, CA 90254 UTILITY NUMBER: 6874



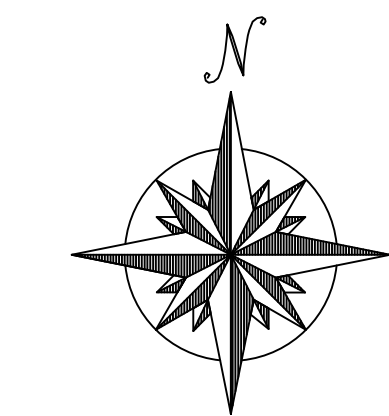
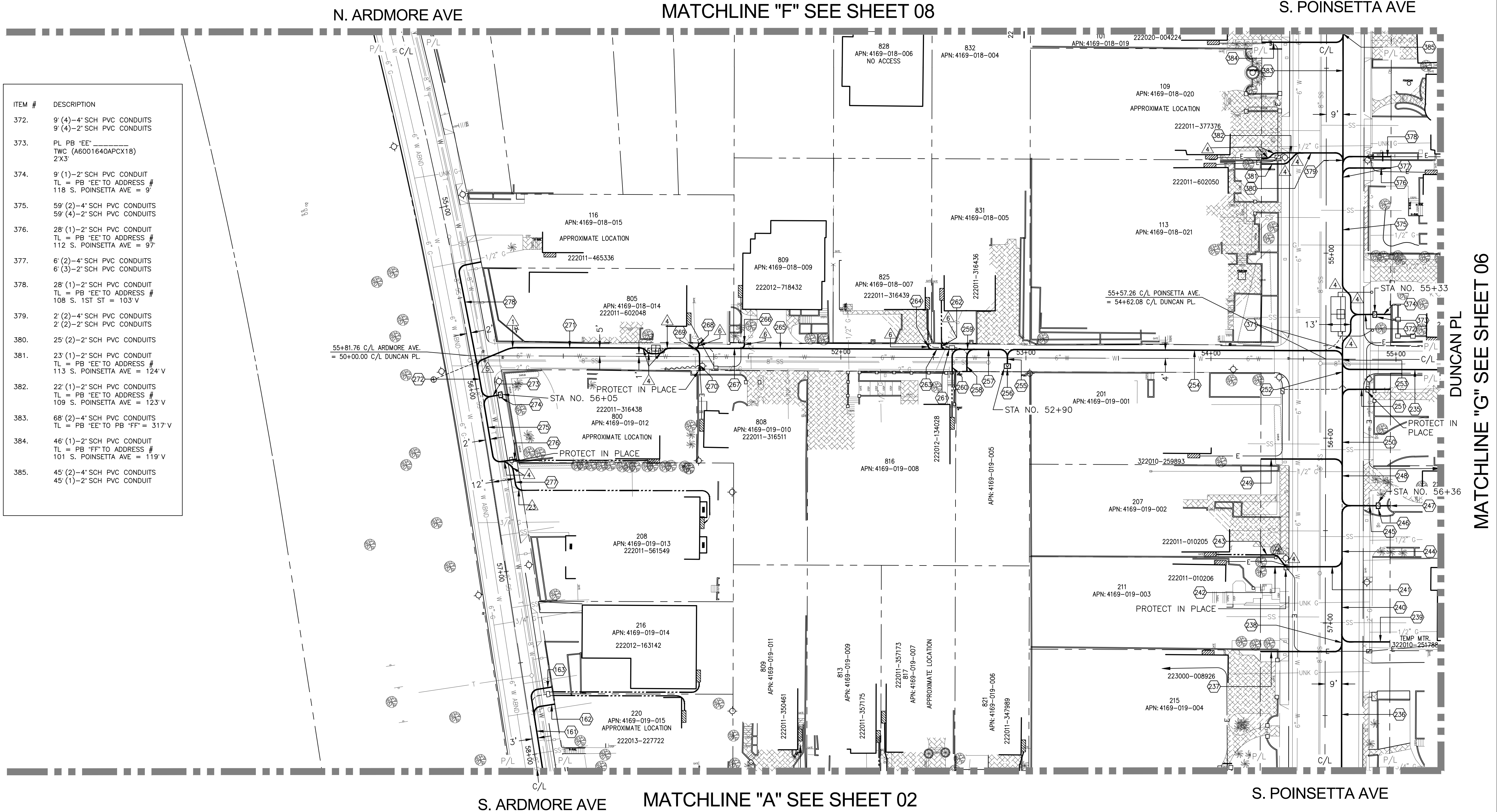
CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: DUNCAN AVE TO SEPULVEDA BLVD	

SHEET 04 OF 10

ITEM #	DESCRIPTION
161.	93' (2)-2" SCH PVC CONDUITS
162.	14' (1)-2" SCH PVC CONDUIT TL = PB "M" TO ADDRESS # 220 S. ARDMORE AVE = 176' V
163.	23' (1)-2" SCH PVC CONDUIT TL = PB "M" TO ADDRESS # 216 S. ARDMORE AVE = 185' V
235.	228' (4)-4" SCH PVC CONDUITS
236.	140' (2)-4" SCH PVC CONDUITS TL = PB "H" TO PB "T" = 399' V
237.	46' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 215 S. POINSETTA AVE = 138' V
238.	5' (2)-4" SCH PVC CONDUITS 5' (1)-2" SCH PVC CONDUIT
239.	28' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 210 S. POINSETTA AVE = 115' V
240.	41' (2)-4" SCH PVC CONDUITS 41' (2)-2" SCH PVC CONDUITS
241.	31' (2)-2" SCH PVC CONDUITS
242.	16' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 211 S. POINSETTA AVE = 93' V
243.	18' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 207 S. POINSETTA AVE = 95' V
244.	31' (2)-4" SCH PVC CONDUITS 31' (4)-2" SCH PVC CONDUITS
245.	15' (4)-4" SCH PVC CONDUITS 15' (6)-2" SCH PVC CONDUITS
246.	PL PB "T" TWC (A6001640APCX18) 2'X3'
247.	7' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 206 S. POINSETTA AVE = 7' V
248.	23' (2)-4" SCH PVC CONDUITS 23' (2)-2" SCH PVC CONDUITS
249.	46' (1)-2" SCH PVC CONDUIT TL = PB "T" ADDRESS # 201 S. POINSETTA DR = 84' V
250.	38' (2)-4" SCH PVC CONDUITS 38' (1)-2" SCH PVC CONDUIT
251.	28' (1)-2" SCH PVC CONDUIT TL = PB "T" TO ADDRESS # 200 S. POINSETTA AVE = 104' V
252.	19' (2)-4" SCH PVC CONDUITS TL = PB "T" TO PB "U" = 288' V
253.	2' (4)-4" SCH PVC CONDUITS
254.	186' (4)-4" SCH PVC CONDUITS
255.	5' (6)-4" SCH PVC CONDUITS 5' (4)-2" SCH PVC CONDUITS
256.	PL PB "U" TWC (HT2436) 2'X3'

ITEM #	DESCRIPTION
257.	20' (2)-4" SCH PVC CONDUITS 20' (4)-4" SCH PVC CONDUITS
258.	14' (1)-2" SCH PVC CONDUIT TL = PB "U" TO ADDRESS # N/T DUNCAN PL = 39' V
259.	8' (2)-4" SCH PVC CONDUITS 8' (3)-2" SCH PVC CONDUITS
260.	14' (1)-2" SCH PVC CONDUIT TL = PB "U" TO ADDRESS # 816 DUNCAN PL = 47' V
261.	8' (2)-4" SCH PVC CONDUITS 8' (2)-2" SCH PVC CONDUITS
262.	4' (1)-2" SCH PVC CONDUIT TL = PB "U" TO ADDRESS # 831 DUNCAN PL = 45' V
263.	7' (2)-4" SCH PVC CONDUITS 7' (1)-2" SCH PVC CONDUIT
264.	4' (1)-2" SCH PVC CONDUIT TL = PB "U" TO ADDRESS # 825 DUNCAN PL = 52' V
265.	103' (2)-4" SCH PVC CONDUITS TL = PB "U" TO PB "V" = 323' V
266.	4' (1)-2" SCH PVC CONDUIT TL = PB "V" TO PB ADDRESS # 809 DUNCAN PL = 176' V
267.	25' (2)-4" SCH PVC CONDUITS 25' (1)-2" SCH PVC CONDUIT
268.	4' (1)-2" SCH PVC CONDUIT TL = PB "V" TO ADDRESS # 805 DUNCAN PL = 151' V
269.	2' (2)-4" SCH PVC CONDUITS 2' (2)-2" SCH PVC CONDUITS
270.	14' (1)-2" SCH PVC CONDUIT TL = PB "V" TO ADDRESS # 808 DUNCAN PL = 159' V
271.	121' (2)-4" SCH PVC CONDUITS 121' (3)-2" SCH PVC CONDUITS
272.	18' (2)-4" SCH PVC CONDUITS 18' (1)-2" SCH PVC CONDUIT
273.	6' (2)-4" SCH PVC CONDUITS 6' (6)-2" SCH PVC CONDUITS
274.	PL PB "V" TWC (A6001640APCX18) 2'X3'
275.	34' (2)-2" SCH PVC CONDUITS
276.	8' (1)-2" SCH PVC CONDUIT TL = PB "V" TO ADDRESS # 800 DUNCAN PL = 48' V
277.	21' (1)-2" SCH PVC CONDUIT TL = PB "V" TO ADDRESS # 208 S. ARDMORE AVE = 61' V
278.	67' (1)-2" SCH PVC CONDUIT TL = PB "V" TO ADDRESS # 116 S. ARDMORE AVE = 91' V
371.	27' (2)-4" SCH PVC CONDUITS TL = PB "S" TO PB "EE" = 318' V

ITEM #	DESCRIPTION
372.	9' (4)-4" SCH PVC CONDUITS 9' (4)-2" SCH PVC CONDUITS
373.	PL PB "EE" TWC (A6001640APCX18) 2'X3'
374.	9' (1)-2" SCH PVC CONDUIT TL = PB "EE" TO ADDRESS # 118 S. POINSETTA AVE = 9' V
375.	59' (2)-4" SCH PVC CONDUITS 59' (4)-2" SCH PVC CONDUITS
376.	28' (1)-2" SCH PVC CONDUIT TL = PB "EE" TO ADDRESS # 112 S. POINSETTA AVE = 97' V
377.	6' (2)-4" SCH PVC CONDUITS 6' (3)-2" SCH PVC CONDUITS
378.	28' (1)-2" SCH PVC CONDUIT TL = PB "EE" TO ADDRESS # 108 S. 1ST ST = 103' V
379.	2' (2)-4" SCH PVC CONDUITS 2' (2)-2" SCH PVC CONDUITS
380.	25' (2)-2" SCH PVC CONDUITS
381.	23' (1)-2" SCH PVC CONDUIT TL = PB "EE" TO ADDRESS # 113 S. POINSETTA AVE = 124' V
382.	22' (1)-2" SCH PVC CONDUITS TL = PB "EE" TO ADDRESS # 109 S. POINSETTA AVE = 123' V
383.	68' (2)-4" SCH PVC CONDUITS TL = PB "EE" TO PB "FF" = 317' V
384.	46' (1)-2" SCH PVC CONDUIT TL = PB "FF" TO ADDRESS # 101 S. POINSETTA AVE = 119' V
385.	45' (2)-4" SCH PVC CONDUITS 45' (1)-2" SCH PVC CONDUIT

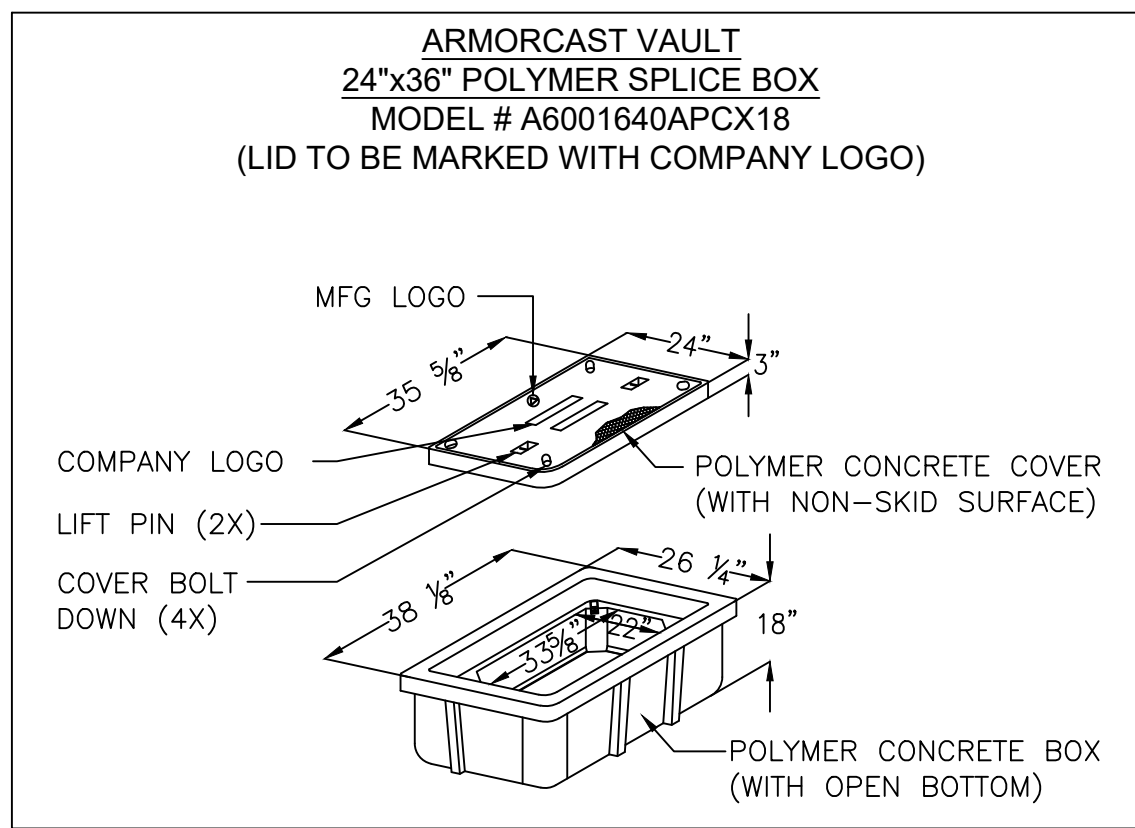
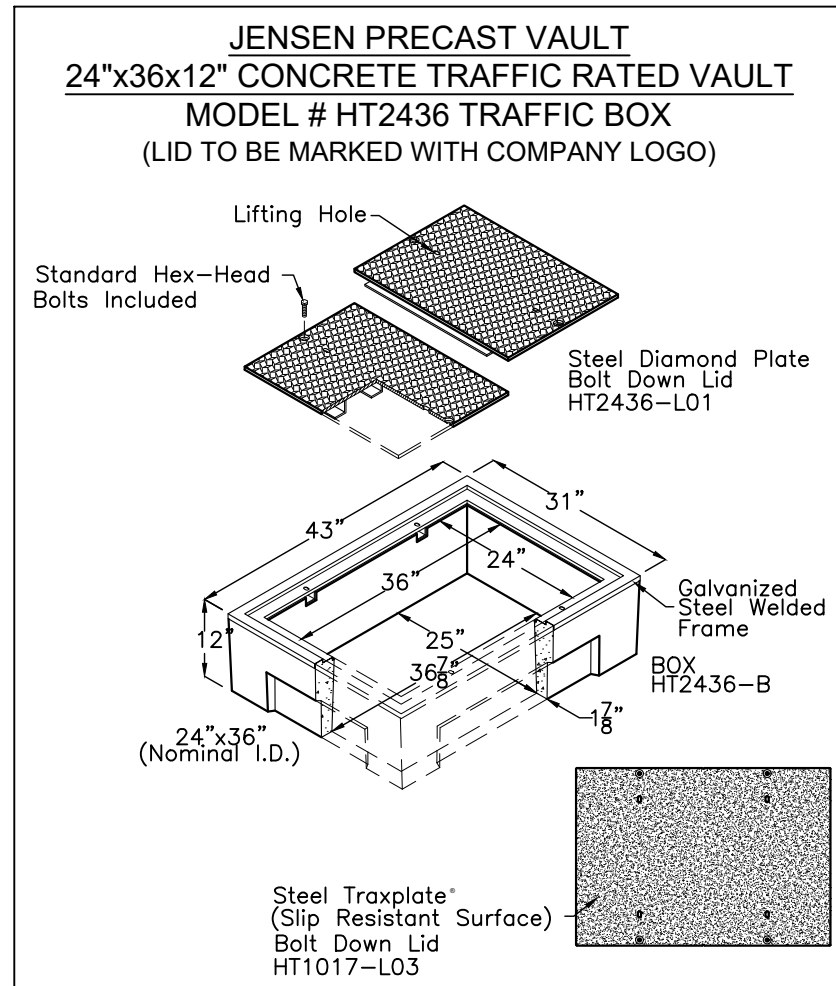


SCALE = 1"=30'

LEGEND

	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING

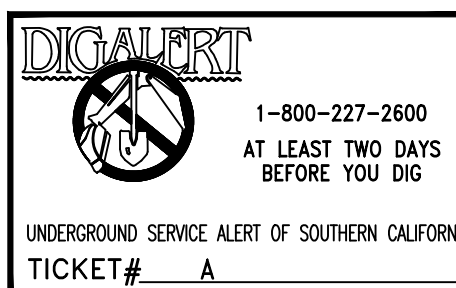
CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	1080'
CONDUIT OUT OF JOINT TRENCH	586'
TOTAL FOOTAGE THIS SHEET	1666'
PB 2'X3' (A6001640APCX18)	3 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	1 E.A.



ALL ANGLE INFORMATION FOR THE CONDUIT IS AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
1	23°	15'	5.86'	5.90'
4	45°	4'	3.06'	3.15'
5	78°	4'	5.02'	5.42'
6	90°	2'	2.83'	3.14'
23	72°	4'	4.69'	5.02'



CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS	
	1529 VALLEY RD HERMOSA BEACH, CA 90254 UTILITY NUMBER: 6874



CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: S. POINSETTA AVE DUNCAN PL TO S. ARDMORE	

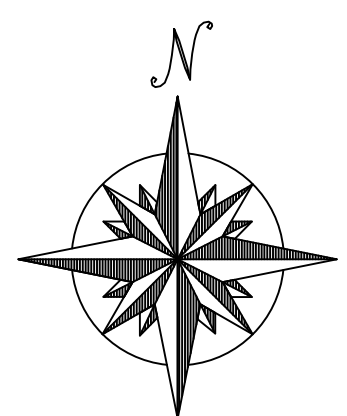
SHEET 05 OF 10

MATCHLINE "G" SEE SHEET 06

S. DIANTHUS ST

MATCHLINE "G" SEE SHEET 05

MATCHLINE "I" SEE SHEET 07

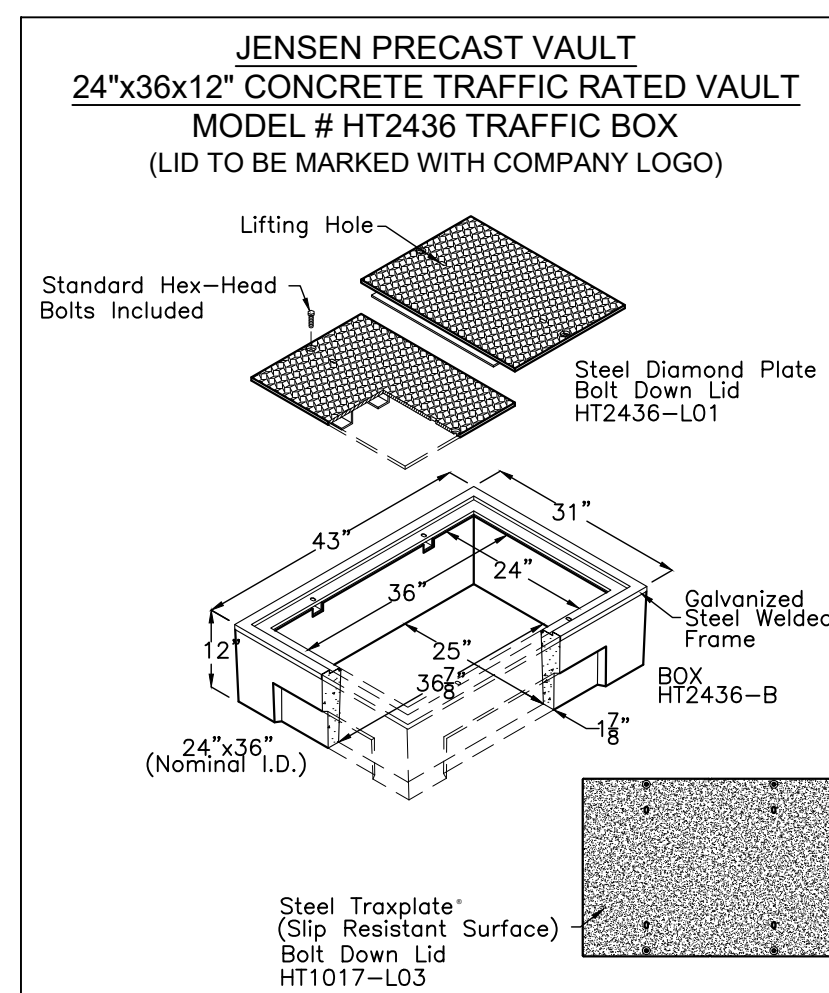


SCALE = 1"=30'

LEGEND

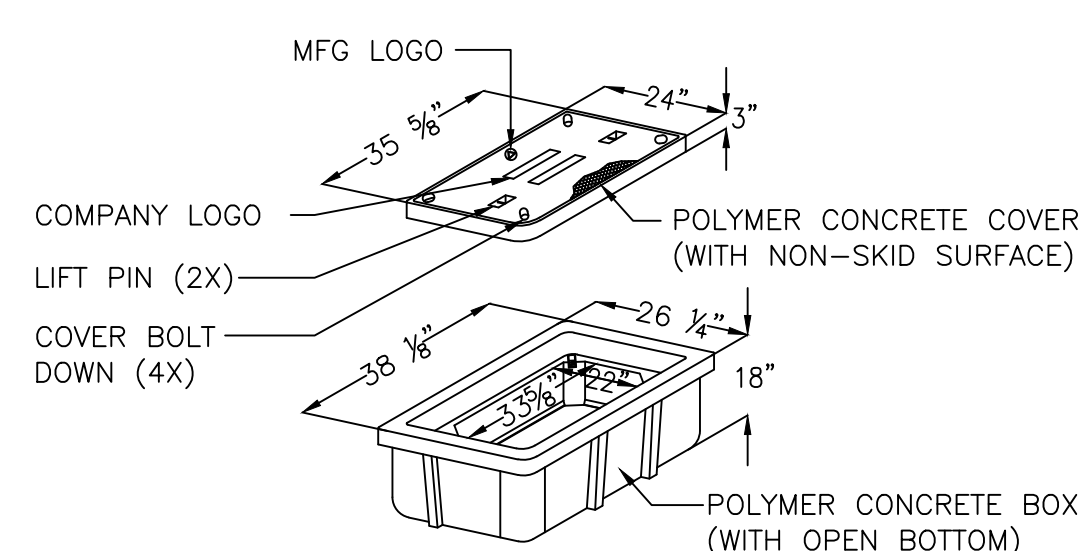
	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	995'
CONDUIT OUT OF JOINT TRENCH	742'
TOTAL FOOTAGE THIS SHEET	1737'
PB 2'X3' (A6001640APC1X8)	3 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	2 E.A.



MATCHLINE "C" SEE SHEET 03

ARMORCAST VAULT
24"x36" POLYMER SPLICE BOX
MODEL # A6001640APCX18
(LID TO BE MARKED WITH COMPANY LOGO)



ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
	45°	4'	3.06'	3.15'
	90°	2'	2.83'	3.14'
	33°	4'	2.25'	2.28'
	60°	4'	4.00'	4.19'

ITEM #	DESCRIPTION
164.	87 (2)-4" SCH PVC CONDUITS TL = PB "B" TO PB "N" = 301' V
165.	25 (4)-4" SCH PVC CONDUITS 25 (4)-2" SCH PVC CONDUITS PL PB "N" TWC (A6001640APCX18) 2'X3
167.	45 (2)-4" SCH PVC CONDUITS 45 (4)-2" SCH PVC CONDUITS
168.	40 (1)-2" SCH PVC CONDUIT TL = PB "N" TO ADDRESS # 219 S. DIANTHUS ST = 110' V
169.	6 (2)-4" SCH PVC CONDUITS 6 (3)-2" SCH PVC CONDUITS
170.	36 (1)-2" SCH PVC CONDUITS TL = PB "N" TO ADDRESS # 250 S. DIANTHUS ST = 112' V
171.	27 (2)-4" SCH PVC CONDUITS 27 (2)-2" SCH PVC CONDUITS
172.	49 (1)-2" SCH PVC CONDUIT TL = PB "N" TO ADDRESS # 210 S. DIANTHUS ST = 152' V
173.	28 (2)-4" SCH PVC CONDUITS 28 (1)-2" SCH PVC CONDUIT
174.	25 (1)-2" SCH PVC CONDUIT TL = PB "N" TO ADDRESS # 211 S. DIANTHUS ST = 156' V
175.	10 (2)-4" SCH PVC CONDUITS TL = PB "N" TO PB "O" = 241' V
176.	52 (1)-2" SCH PVC CONDUIT TL = PB "O" TO ADDRESS # 206 S. DIANTHUS ST = 152' V
177.	44 (2)-4" SCH PVC CONDUITS 44 (1)-2" SCH PVC CONDUIT
178.	27 (1)-2" SCH PVC CONDUIT TL = PB "O" TO ADDRESS # 207 S. DIANTHUS ST = 83' V
179.	10 (2)-4" SCH PVC CONDUITS 10 (2)-2" SCH PVC CONDUITS
180.	25 (1)-2" SCH PVC CONDUIT TL = PB "O" TO ADDRESS # 201 S. DIANTHUS ST = 71' V
181.	12 (2)-4" SCH PVC CONDUITS 12 (3)-2" SCH PVC CONDUITS
182.	34 (8)-4" SCH PVC CONDUITS 34 (4)-2" SCH PVC CONDUITS
183.	PL PB "O" TWC (A6001640APCX18) 2'X3
184.	24 (6)-4" SCH PVC CONDUITS 24 (1)-2" SCH PVC CONDUIT
185.	49 (1)-2" SCH PVC CONDUIT TL = PB "O" TO ADDRESS # 200 S. DIANTHUS ST = 107' V
186.	5 (6)-4" SCH PVC CONDUITS
187.	94 (2)-4" SCH PVC CONDUITS TL = PB "O" TO PB "P" = 221' V
188.	15 (1)-2" SCH PVC CONDUIT TL = PB "P" TO ADDRESS # 118 S. DIANTHUS ST = 79' V
189.	58 (2)-4" SCH PVC CONDUITS 58 (1)-2" SCH PVC CONDUIT
209.	113 (2)-4" SCH PVC CONDUITS TL = PB "O" TO PB "R" = 289' V
210.	15 (1)-2" SCH PVC CONDUIT TL = PB "R" TO ADDRESS # 119 S. DIANTHUS ST = 119' V
211.	98 (2)-4" SCH PVC CONDUITS 98 (1)-2" SCH PVC CONDUIT
212.	6 (4)-4" SCH PVC CONDUITS 6 (4)-2" SCH PVC CONDUITS
213.	PL PB "R" TWC (H12436) 2'X3
214.	3 (1)-2" SCH PVC CONDUIT TL = PB "R" TO ADDRESS # 941 DUNCAN PL = 3' V

ITEM #	DESCRIPTION
215.	18 (2)-4" SCH PVC CONDUITS 18 (3)-2" SCH PVC CONDUITS
216.	5 (1)-2" SCH PVC CONDUIT TL = PB 'R' TO ADDRESS # 940 DUNCAN PL = 29' V
217.	9 (2)-4" SCH PVC CONDUITS 9 (2)-2" SCH PVC CONDUITS
218.	11 (1)-2" SCH PVC CONDUIT TL = PB 'R' TO ADDRESS # 931 DUNCAN PL = 44' V
219.	34 (2)-4" SCH PVC CONDUITS 34 (1)-2" SCH PVC CONDUIT
220.	8 (1)-2" SCH PVC CONDUIT TL = PB 'R' TO ADDRESS # 934 DUNCAN PL = 75' V
221.	47 (2)-4" SCH PVC CONDUITS TL = PB 'R' TO PB 'S' = 114' V
222.	PL PB 'S' _____ TWC (HT2436) 2X3
223.	3 (4)-4" SCH PVC CONDUITS 3 (6)-2" SCH PVC CONDUITS
224.	6 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS# 930 DUNCAN PL = 9' V
225.	35 (4)-4" SCH PVC CONDUITS 35 (5)-2" SCH PVC CONDUITS
226.	4 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS # 926 DUNCAN PL = 42' V
227.	42 (4)-4" SCH PVC CONDUITS 42 (4)-2" SCH PVC CONDUITS
228.	15 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS # 921 DUNCAN PL = 95' V
229.	3 (4)-4" SCH PVC CONDUITS 3 (3)-2" SCH PVC CONDUITS
230.	4 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS # 922 DUNCAN PL = 87' V
231.	2 (4)-4" SCH PVC CONDUITS 2 (2)-2" SCH PVC CONDUITS
232.	16 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS # 919 DUNCAN PL = 101' V
233.	9 (4)-4" SCH PVC CONDUITS 9 (1)-2" SCH PVC CONDUIT
234.	4 (1)-2" SCH PVC CONDUIT TL = PB 'S' TO ADDRESS # 914 DUNCAN PL = 98' V
235.	228 (4)-4" SCH PVC CONDUITS
279.	119 (2)-4" SCH PVC CONDUITS TL = PB 'O' TO PB 'W' = 201' V
280.	25 (1)-2" SCH PVC CONDUIT TL = PB 'W' TO ADDRESS # 113 S. DANIHUS ST = 44' V
281.	4 (2)-4" SCH PVC CONDUITS 4 (1)-2" SCH PVC CONDUIT
282.	26 (2)-2" SCH PVC CONDUITS
283.	25 (1)-2" SCH PVC CONDUIT TL = PB 'O' TO ADDRESS # 112 S. DANIHUS ST = 66' V
284.	23 (1)-2" SCH PVC CONDUIT TL = PB 'O' TO ADDRESS # 108 S. DANIHUS ST = 64' V
285.	9 (2)-4" SCH PVC CONDUITS 9 (3)-2" SCH PVC CONDUITS
286.	6 (8)-4" SCH PVC CONDUITS 6 (3)-2" SCH PVC CONDUITS
287.	PL PB 'W' _____ TWC (A6001640APCX18) 2X3
288.	140 (6)-4" SCH PVC CONDUITS

SHEET 06 OF 10

DIGALERT

 1-800-227-2600
 AT LEAST TWO DAYS
 BEFORE YOU DIG
 UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
 TICKET# A

CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-67

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL_STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS

Charter Spectrum
1529 VALLEY RD
HERMOSA BEACH, CA 90254
UTILITY NUMBER: 687



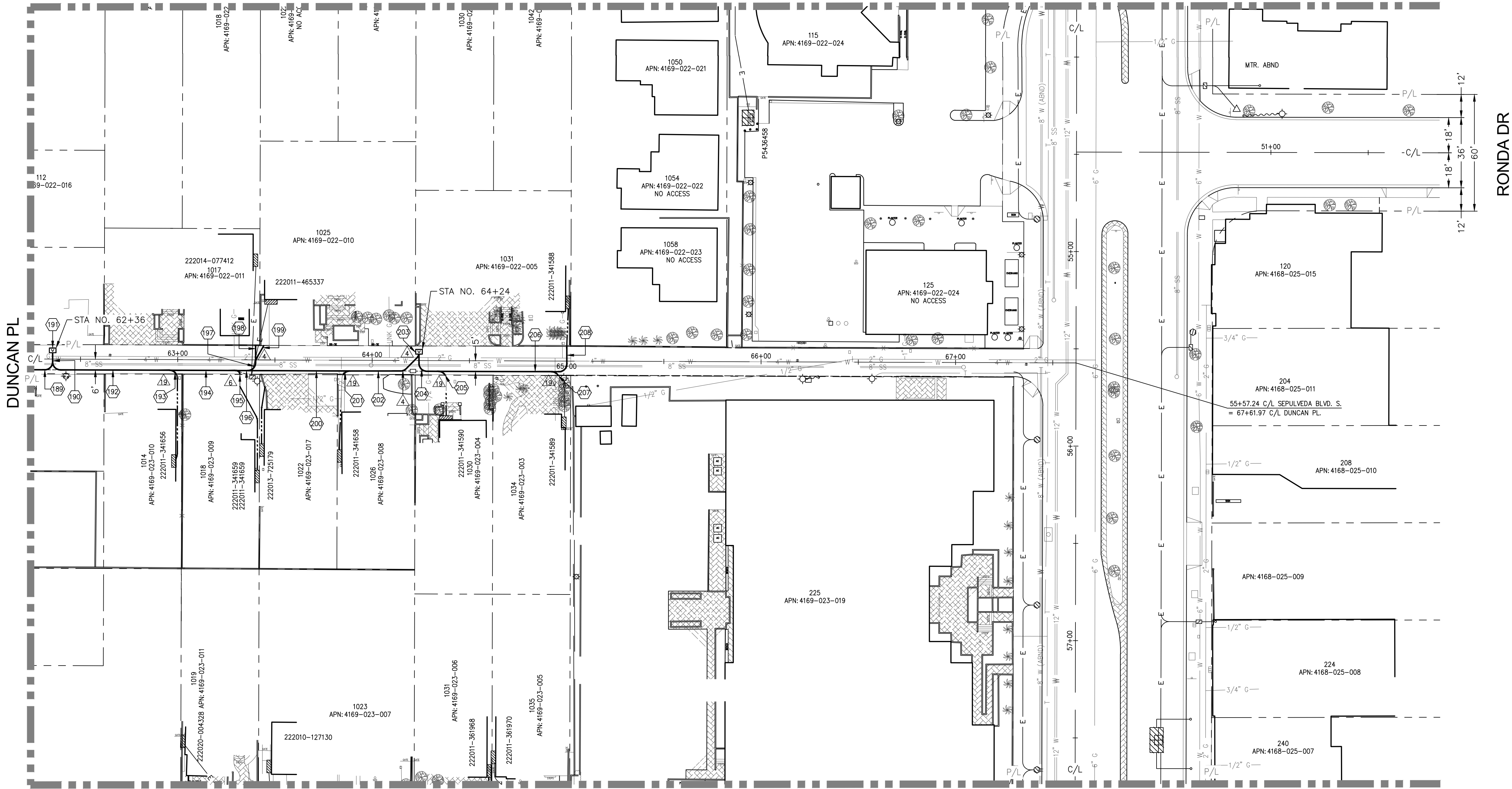
4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: DUNCAN PL & S. DIANTHUS ST	

MATCHLINE "J" SEE SHEET 10

S. SEPULVEDA BLVD

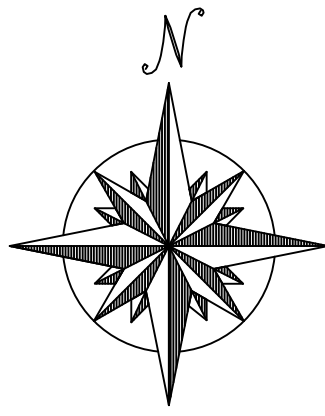
MATCHLINE "I" SEE SHEET 06



RONDA DR

MATCHLINE "E" SEE SHEET 04

S. SEPULVEDA BLVD

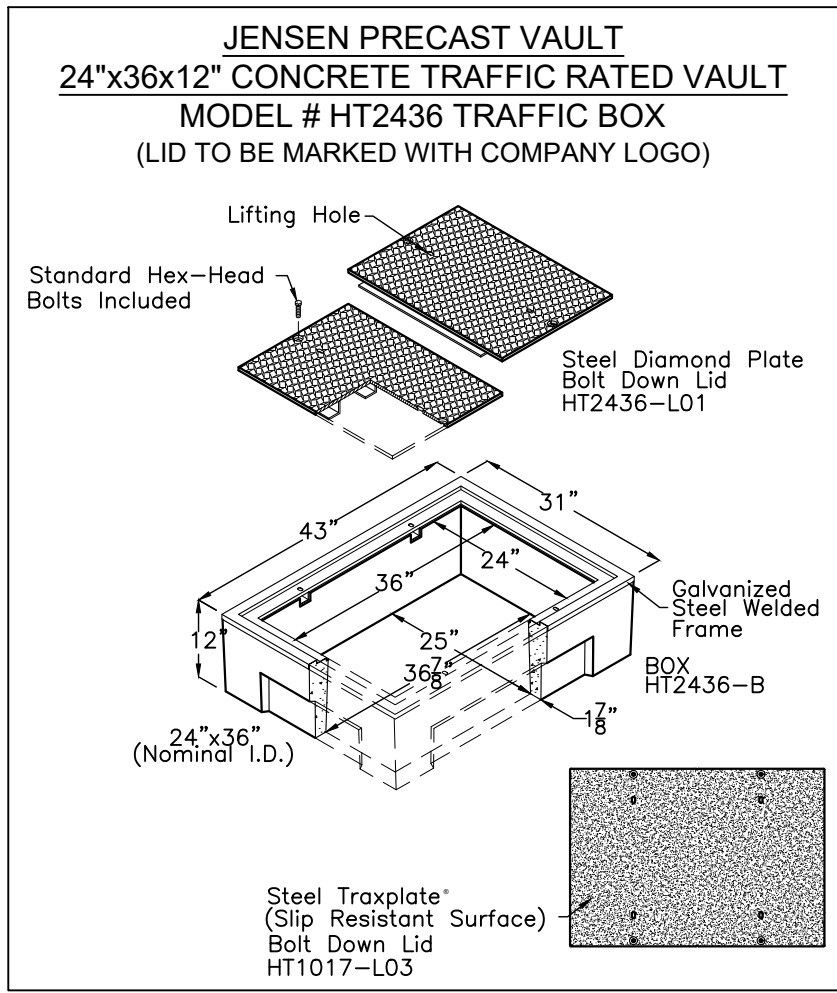


SCALE = 1"=30'

LEGEND

	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	283'
CONDUIT OUT OF JOINT TRENCH	72'
TOTAL FOOTAGE THIS SHEET	355'
PB 2'X3' (A6001640APCX18)	0 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	2 E.A.



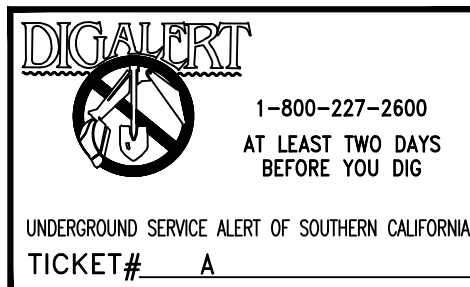
ITEM #	DESCRIPTION
189.	58 (2)-4' SCH PVC CONDUITS 58 (1)-2' SCH PVC CONDUIT
190.	6' (4)-4' SCH PVC CONDUITS 6' (5)-2' SCH PVC CONDUITS
191.	PL PB "P"----- TWC (HT2436) 2'X3'
192.	63 (2)-4' SCH PVC CONDUITS 63 (4)-4' SCH PVC CONDUITS
193.	4' (1)-2' SCH PVC CONDUIT TL = PB "P" TO ADDRESS # 1014 DUNCAN PL = 73' V
194.	34' (2)-4' SCH PVC CONDUITS 34' (3)-2' SCH PVC CONDUITS
195.	3' (1)-2' SCH PVC CONDUIT TL = PB "P" TO ADDRESS # 1018 DUNCAN PL = 106' V
196.	6' (2)-4' SCH PVC CONDUITS 6' (2)-2' SCH PVC CONDUITS
197.	6' (2)-2' SCH PVC CONDUITS
198.	9' (1)-2' SCH PVC CONDUIT TL = PB "P" TO ADDRESS # 1017 DUNCAN PL = 124' V
199.	10' (1)-2' SCH PVC CONDUIT TL = PB "P" TO ADDRESS # 1025 DUNCAN PL = 125' V
200.	52' (2)-4' SCH PVC CONDUITS TL = PB "P" TO PB "Q" = 174' V
201.	4' (1)-2' SCH PVC CONDUIT TL = PB "Q" TO ADDRESS # 1026 DUNCAN PL = 44' V
202.	40' (2)-4' SCH PVC CONDUITS 40' (1)-2' SCH PVC CONDUIT
203.	PL PB "Q"----- TWC (HT2436) 2'X3'
204.	18' (3)-2' SCH PVC CONDUITS
205.	4' (1)-2' SCH PVC CONDUIT TL = PB "Q" TO ADDRESS # 1030 DUNCAN PL = 22' V
206.	58' (2)-2' SCH PVC CONDUITS
207.	4' (1)-2' SCH PVC CONDUIT TL = PB "Q" TO ADDRESS # 1034 DUNCAN PL = 80' V
208.	19' (1)-2' SCH PVC CONDUIT TL = PB "Q" TO ADDRESS # 1031 DUNCAN PL = 95' V

ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
4	45°	4'	3.06'	3.15'
6	90°	2'	2.83'	3.14'
19	60°	4'	4.00'	4.19'

SHEET 07 OF 10



CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS

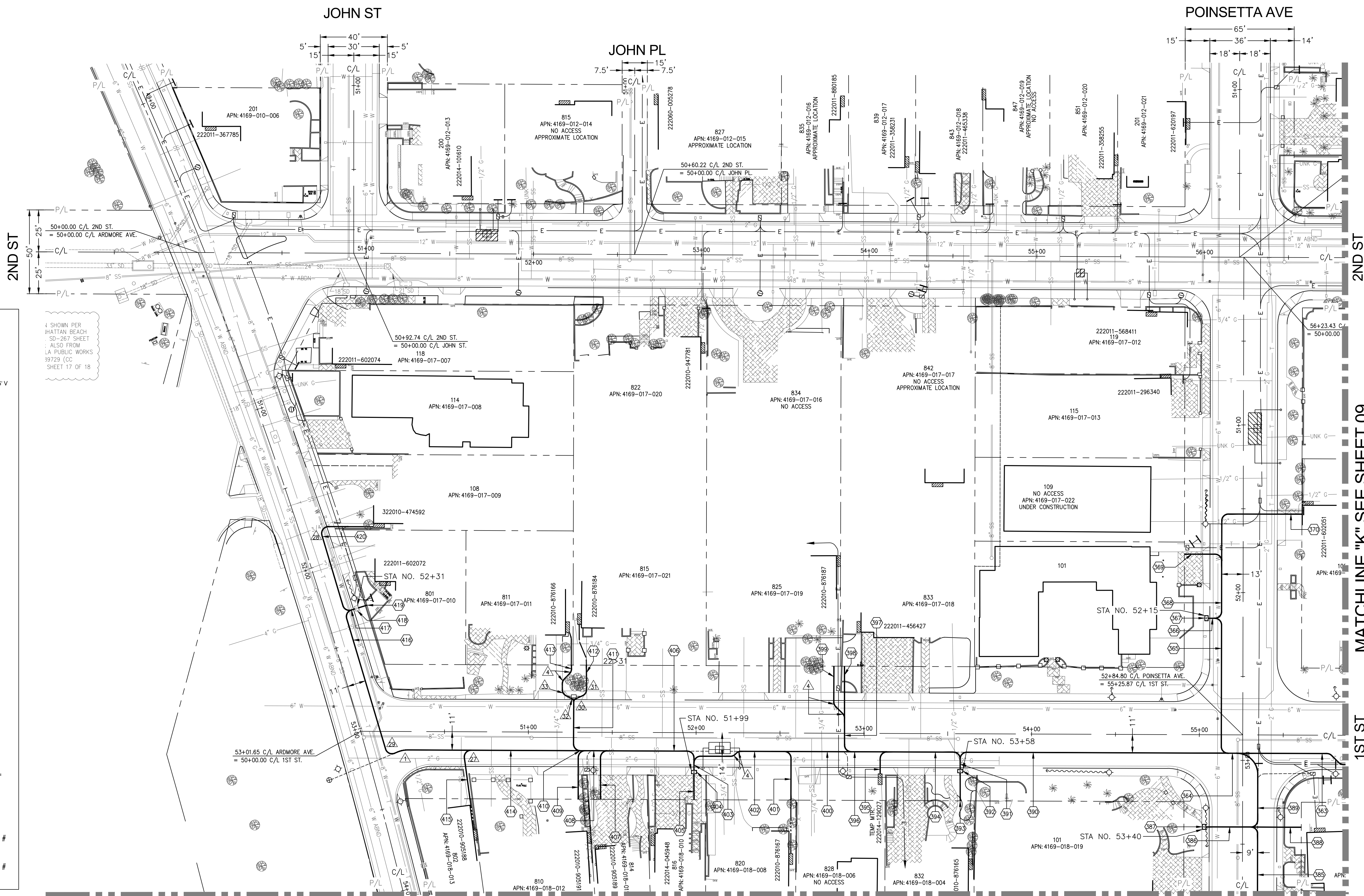
Charter
Spectrum
1529 VALLEY RD
HERMOSA BEACH, CA 90254
UTILITY NUMBER: 6874



4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

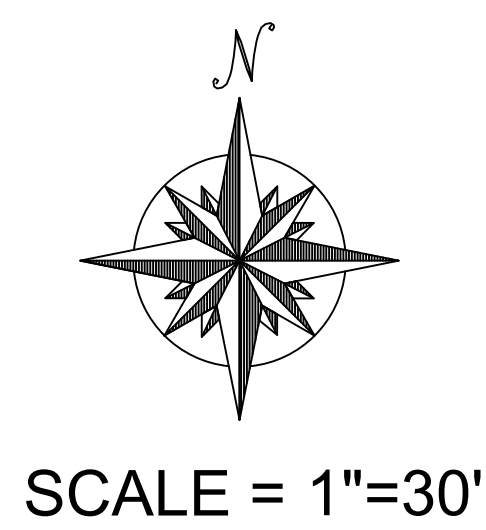
CITY OF MANHATTAN BEACH PROJECT: PID# 1218784

WORK LOCATION:
DUNCAN PL TO SEPULVEDA BLVD



ITEM #	DESCRIPTION
399.	33' (1)-2" SCH PVC CONDUIT TL = PB "GG" TO ADDRESS # 825 1ST ST = 132 V
400.	40 (2)-4" SCH PVC CONDUITS TL = PB "GG" TO PB "HH" = 176 V
401.	31' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 820 1ST ST = 93 V
402.	57 (2)-4" SCH PVC CONDUITS 57 (1)-2" SCH PVC CONDUIT
403.	5' (4)-4" SCH PVC CONDUITS 5' (6)-4" SCH PVC CONDUITS
404.	PL PB "HH" ----- TWC (A6001640APCX18) 2'X3'
405.	16' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 816 1ST ST = 16 V
406.	57 (2)-4" SCH PVC CONDUITS 57 (5)-2" SCH PVC CONDUITS
407.	31' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 814 1ST ST = 93 V
408.	13 (4)-4" SCH PVC CONDUITS 13 (2)-4" SCH PVC CONDUITS
409.	31' (1)-2" SCH PVC CONDUITS TL = PB "HH" TO ADDRESS # 810 1ST ST = 106 V
410.	3' (2)-4" SCH PVC CONDUITS 3' (3)-2" SCH PVC CONDUITS
411.	31' (2)-2" SCH PVC CONDUITS
412.	26' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 811 1ST ST = 135 V
413.	27' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 815 1ST ST = 136 V
414.	65 (2)-4" SCH PVC CONDUITS 65 (1)-2" SCH PVC CONDUIT
415.	32' (1)-2" SCH PVC CONDUIT TL = PB "HH" TO ADDRESS # 802 1ST ST = 175 V
416.	140' (2)-4" SCH PVC CONDUITS TL = PB "HH" TO EX CATV PB = 245 V
417.	2' (2)-4" SCH PVC CONDUITS 2' (1)-2" SCH PVC CONDUIT
418.	TIE INTO EX CATV PB
419.	6' (1)-2" SCH PVC CONDUIT TL = EX CATV PB TO ADDRESS # 801 1ST ST = 6 V
420.	69' (1)-2" SCH PVC CONDUIT TL = EX CATV PB TO ADDRESS # 108 N. ARMORE AVE = 71 V

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	682'
CONDUIT OUT OF JOINT TRENCH	812'
TOTAL FOOTAGE THIS SHEET	1493'
PB 2'X3' (A6001640APC18)	4 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.



CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
4	45°	4'	3.06'	3.15'
3	30°	4'	2.07'	2.08'
27	98°	4'	6.04'	6.84'
28	107°	4'	6.41'	7.44'
29	96°	4'	5.95'	6.70'

SHEET 08 OF 10

CITY OF MANHATTAN BEACH | PROJECT: PID# 1218784

WORK LOCATION:
1ST ST TO BOUNDARY PL
BTWN S. ARDMORE AVE & SEPULVEDA BLVD



4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

DIGALERT

 1-800-227-2600
 AT LEAST TWO DAYS
 BEFORE YOU DIG
 UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
 TICKET# _____ A _____

CADAstral MAP #	XXX-XX	DRAWN BY:	IES
DRAINAGE MAP #	XXX-XX	FIELD BY:	IES
PLANS & PROFILES #	XXX-XX	JOB SQ. FT.	----
SEWER INDEX #	XXX-XX	STREET TYPE	LOCAL STREET
SUBSTRUCTURES MAP #	XXX-XX	TEL. NO:	(951) 277-0800
THOMAS GUIDE PG-GRID #	732-G7	E-MAIL:	jrios@inland-engineerring.com

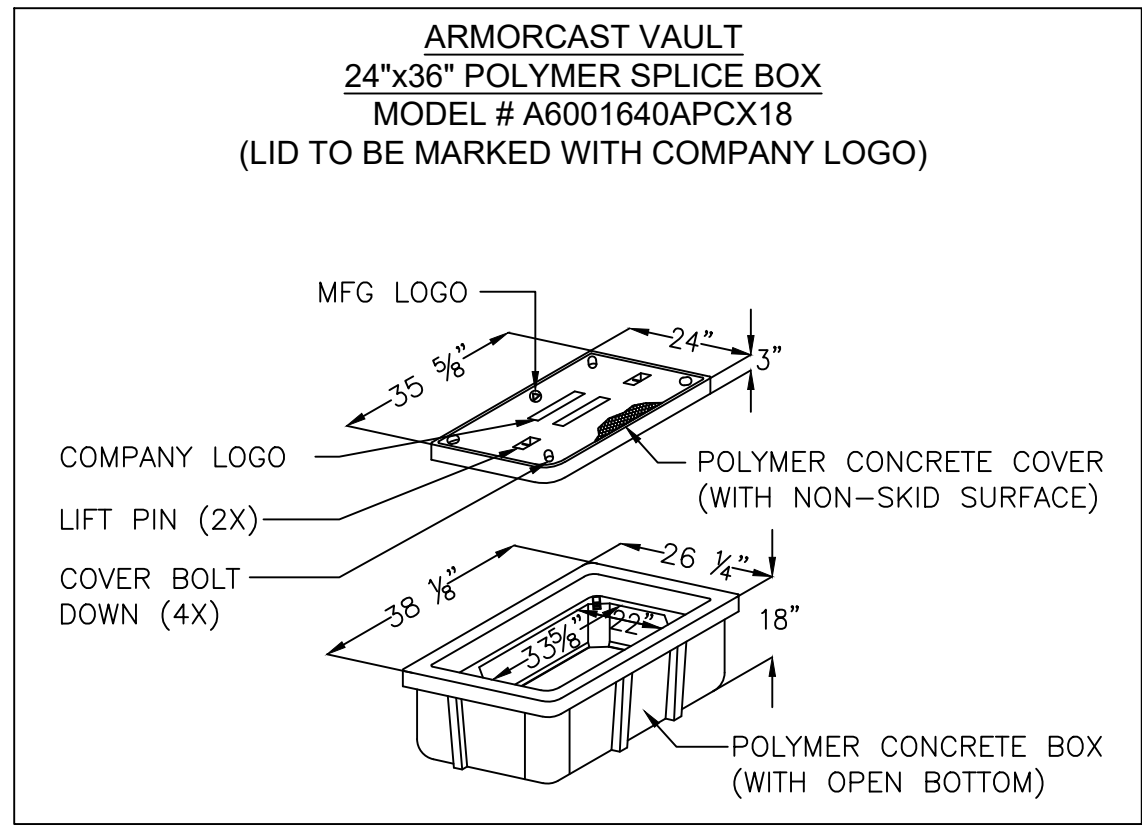
REVISIONS

Charter
Spectrum ▶

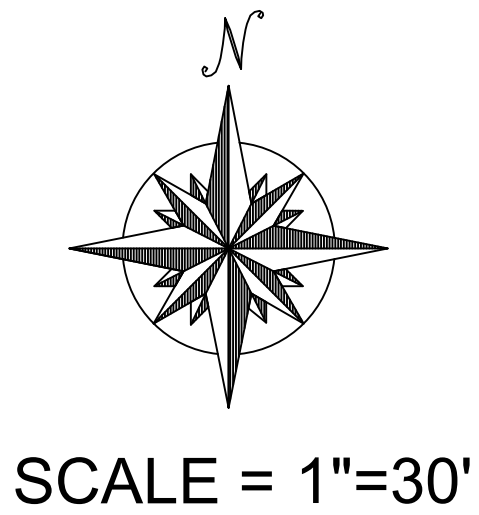
1529 VALLEY RD
HERMOSA BEACH, CA 90254

UTILITY NUMBER: 6874

ITEM #	DESCRIPTION	ITEM #	DESCRIPTION
288.	140' (6)-4" SCH PVC CONDUITS	341.	26' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 939 1ST ST = 71' V
289.	160' (2)-4" SCH PVC CONDUITS TL = PB "W" TO PB "X" = 422' V	342.	10' (2)-4" SCH PVC CONDUITS 10' (5)-2" SCH PVC CONDUITS
319.	149' (2)-4" SCH PVC CONDUITS TL = PB "W" TO PB "AA" = 445' V	343.	8' (4)-4" SCH PVC CONDUITS 8' (7)-2" SCH PVC CONDUITS
320.	29' (2)-2" SCH PVC CONDUITS	344.	PL PB "BB" TWC (A6001640APCX18) 2'X3'
321.	27' (1)-2" SCH PVC CONDUIT TL = PB "AA" TO ADDRESS # 100 N. DIANTHUS ST = 206' V	345.	47' (2)-4" SCH PVC CONDUITS 47' (2)-2" SCH PVC CONDUITS
322.	24' (1)-2" SCH PVC CONDUIT TL = PB "AA" TO ADDRESS # 108 N. DIANTHUS ST = 203' V	346.	26' SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 934 1ST ST = 81' V
323.	37' (2)-4" SCH PVC CONDUITS 37' (2)-2" SCH PVC CONDUITS	347.	56' (2)-4" SCH PVC CONDUITS 56' (1)-2" SCH PVC CONDUIT
324.	19' (1)-2" SCH PVC CONDUIT TL = PB "AA" TO ADDRESS # 109 N. DIANTHUS ST = 132' V	348.	52' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 931 1ST ST = 163' V
325.	14' (2)-4" SCH PVC CONDUITS 14' (3)-2" SCH PVC CONDUITS	349.	20' (2)-4" SCH PVC CONDUITS TL = PB "BB" TO PB "CC" = 223' V
326.	19' (1)-2" SCH PVC CONDUIT TL = PB "AA" TO ADDRESS # 115 N. DIANTHUS ST = 118' V	350.	53' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 923 1ST ST = 145' V
327.	91' (2)-4" SCH PVC CONDUITS 91' (4)-2" SCH PVC CONDUITS	351.	48' (2)-4" SCH PVC CONDUITS 48' (1)-2" SCH PVC CONDUIT
328.	8' (4)-4" SCH PVC CONDUITS 8' (4)-2" SCH PVC CONDUITS	352.	25' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 922 1ST ST = 69' V
329.	PL PB "AA" TWC (A6001640APCX18) 2'X3'	353.	42' (2)-4" SCH PVC CONDUITS 42' (2)-2" SCH PVC CONDUITS
330.	18' (2)-4" SCH PVC CONDUITS TL = PB "AA" TO POLE # 11575415E = 26' V	354.	2' (6)-4" SCH PVC CONDUITS 2' (6)-2" SCH PVC CONDUITS
331.	TIE INTO EXISTING POLE# 11575415E	355.	PL PB "CC" TWC (A6001640APCX18) 2'X3'
332.	116' (2)-4" SCH PVC CONDUITS TL = PB "W" TO PB "BB" = 363' V	356.	38' (4)-4" SCH PVC CONDUITS 38' (4)-2" SCH PVC CONDUITS
333.	52' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 101 N. DIANTHUS ST = 153' V	357.	8' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 918 1ST ST = 48' V
334.	34' (2)-4" SCH PVC CONDUITS 34' (1)-2" SCH PVC CONDUIT	358.	60' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 919 1ST ST = 100' V
335.	32' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 950 1ST ST = 99' V	359.	26' (4)-4" SCH PVC CONDUITS 26' (2)-2" SCH PVC CONDUITS
336.	12' (2)-4" SCH PVC CONDUITS 12' (2)-2" SCH PVC CONDUITS	360.	60' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 901 1ST ST = 126' V
337.	32' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 940 1ST ST = 87' V	361.	5' (4)-4" SCH PVC CONDUITS 5' (1)-2" SCH PVC CONDUIT
338.	37' (2)-4" SCH PVC CONDUITS 37' (3)-2" SCH PVC CONDUITS	362.	25' (1)-2" SCH PVC CONDUIT TL = PB "CC" TO ADDRESS # 910 1ST ST = 96' V
339.	27' (2)-2" SCH PVC CONDUITS	363.	160' (4)-4" SCH PVC CONDUITS
340.	56' (1)-2" SCH PVC CONDUIT TL = PB "BB" TO ADDRESS # 943 1ST ST = 101' V		



LEGEND	
	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING



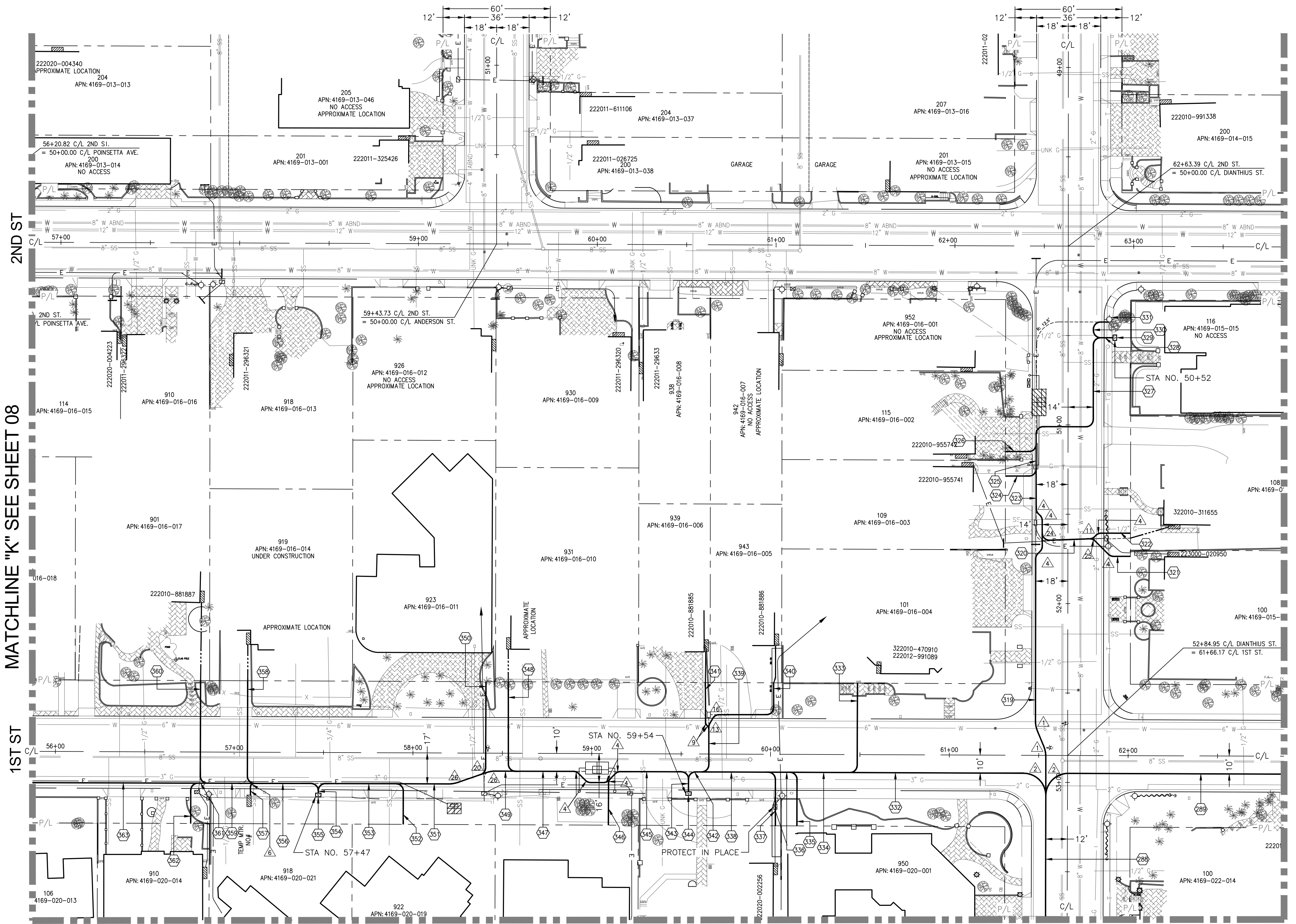
CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	1212'
CONDUIT OUT OF JOINT TRENCH	567'
TOTAL FOOTAGE THIS SHEET	1779'
PB 2'X3' (A6001640APCX18)	3 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.

ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

ANDERSON ST

DIANTHUS ST



MATCHLINE "H" SEE SHEET 06

DIANTHUS ST

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
1	23°	15'	5.86'	5.90'
2	90°	12.5'	17.69'	19.65'
4	45°	4'	3.06'	3.15'
6	90°	2'	2.83'	3.14'
9	45°	2'	1.53'	1.57'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
11	43°	4'	2.93'	3.00'
13	30°	4'	2.07'	2.08'
16	99°	4'	6.09'	6.92'
24	92°	4'	5.75'	6.42'
25	47°	4'	3.19'	3.28'

SHEET 09 OF 10



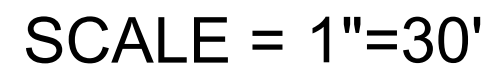
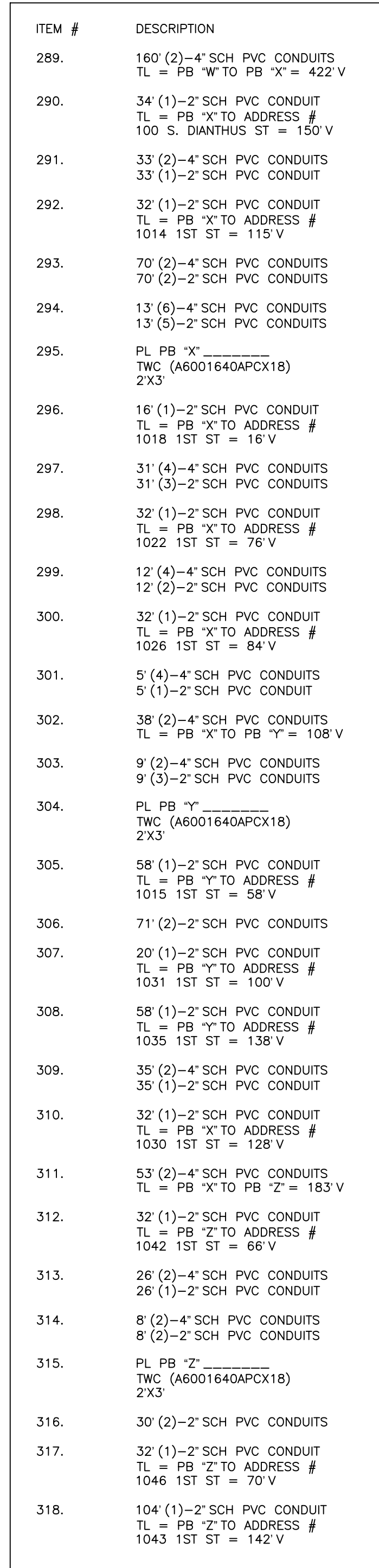
CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-G7

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	---
STREET TYPE	LOCAL STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS
1529 VALLEY RD HERMOSA BEACH, CA 90254 UTILITY NUMBER: 6874



CITY OF MANHATTAN BEACH	PROJECT: PID# 1218784
WORK LOCATION: 1ST ST & S. DIANTHUS ST	



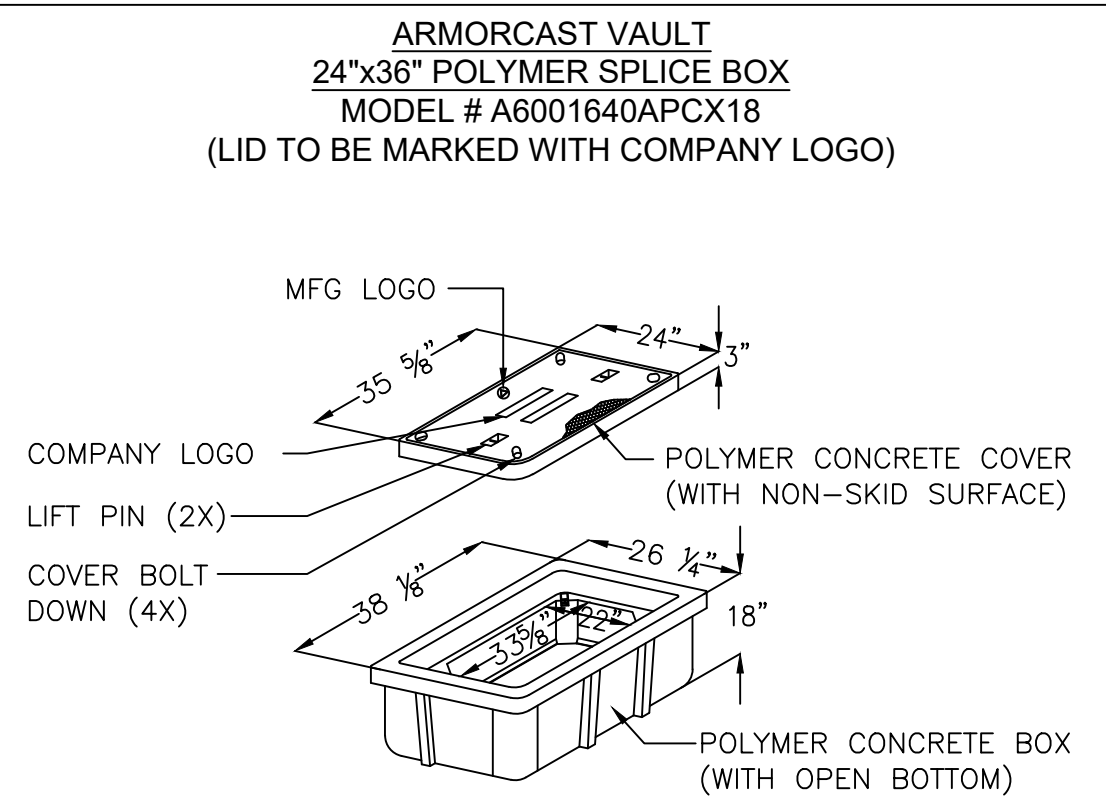
	PROP. TRENCH
	PROP. CATV VAULT
	SCE JOINT TRENCH
	EX. POLE
	EX. SEWER MANHOLE
	EX. SEWER
	EX. GAS
	EX. WATER
	EX. STORM DRAIN
	EX. TELEPHONE
	EX. TRAFFIC SIGNAL
	CL CENTER LINE
	RW RIGHT OF WAY
	C&G CURB & GUTTER
	CONCRETE STREET PAVING

CITY PERMIT INFORMATION	
EXCAVATION DATA	
CONDUIT IN JOINT TRENCH	1212'
CONDUIT OUT OF JOINT TRENCH	567'
TOTAL FOOTAGE THIS SHEET	1779'
PB 2'X3' (A6001640APCX18)	3 E.A.
PB TRAFFIC RATED 2'X3' (TR2436)	0 E.A.

ALL ANGLE INFORMATION FOR THE CONDUIT IS
AS FOLLOWS UNLESS OTHERWISE NOTED BELOW

CURVE DATA			
DELTA	RADIUS	TANGENT	LENGTH
90°	4'	5.65'	6.28'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	LENGTH
	45°	4'	3.06'	3.15'
	90°	2'	2.83'	3.14'



SHEET 10 OF 10



DIALERT

1-800-227-2600

AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

TICKET# _____ A _____

CADASTRAL MAP #	XXX-XX
DRAINAGE MAP #	XXX-XX
PLANS & PROFILES #	XXX-XX
SEWER INDEX #	XXX-XX
SUBSTRUCTURES MAP #	XXX-XX
THOMAS GUIDE PG-GRID #	732-67

DRAWN BY:	IES
FIELD BY:	IES
JOB SQ. FT.	----
STREET TYPE	LOCAL_STREET
TEL. NO:	(951) 277-0800
E-MAIL:	jrios@inland-engineering.com

REVISIONS

Charter
Spectrum ▶

1529 VALLEY RD
HERMOSA BEACH, CA 90254

UTILITY NUMBER: 6874

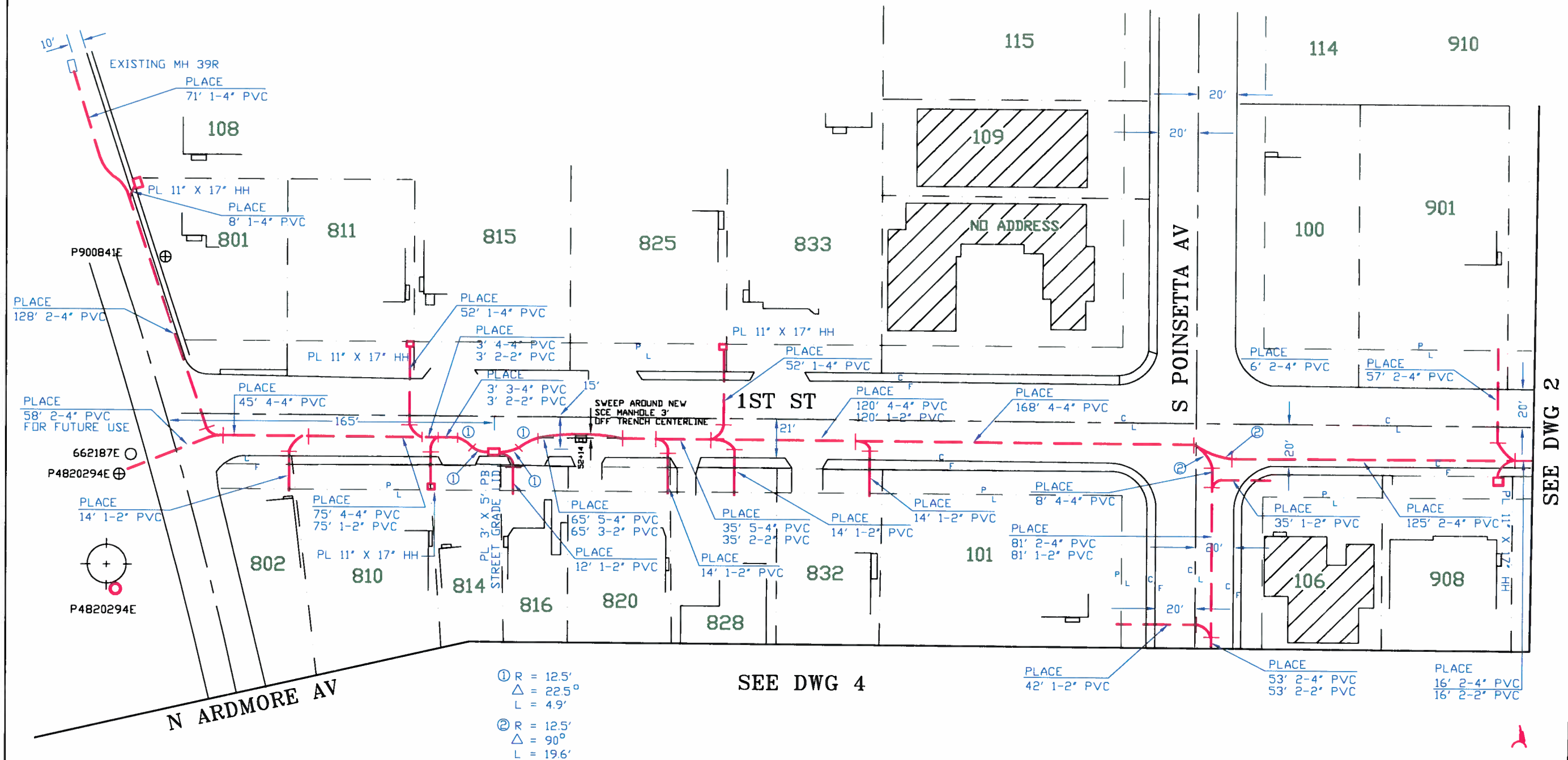


4160 TEMESCAL CANYON RD. SUITE 205, CORONA, CA. 92883
TEL: 951.277.0800 FAX: 951.277.5300

CITY OF MANHATTAN BEACH | PROJECT: PID# 1218784

WORK LOCATION:
1ST ST TO SEPULVEDA BLVD

IT IS OUR DESIRE TO PLACE:
PULL BOXES ALL TYPES OUT OF THE STREET AND NEAR THE CURBS
TO CUTDOWN ON NOISE + HAVING TO REPLACE LIDS DUE TO TRAFFIC.
IT CAN BE ADJUSTED AS CLOSE TO THE CURB TO AVOID TRAFFIC.



REMARKS

NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER HAYES

WORK ORDER	70076 5239269
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DRAWING 1 OF 12



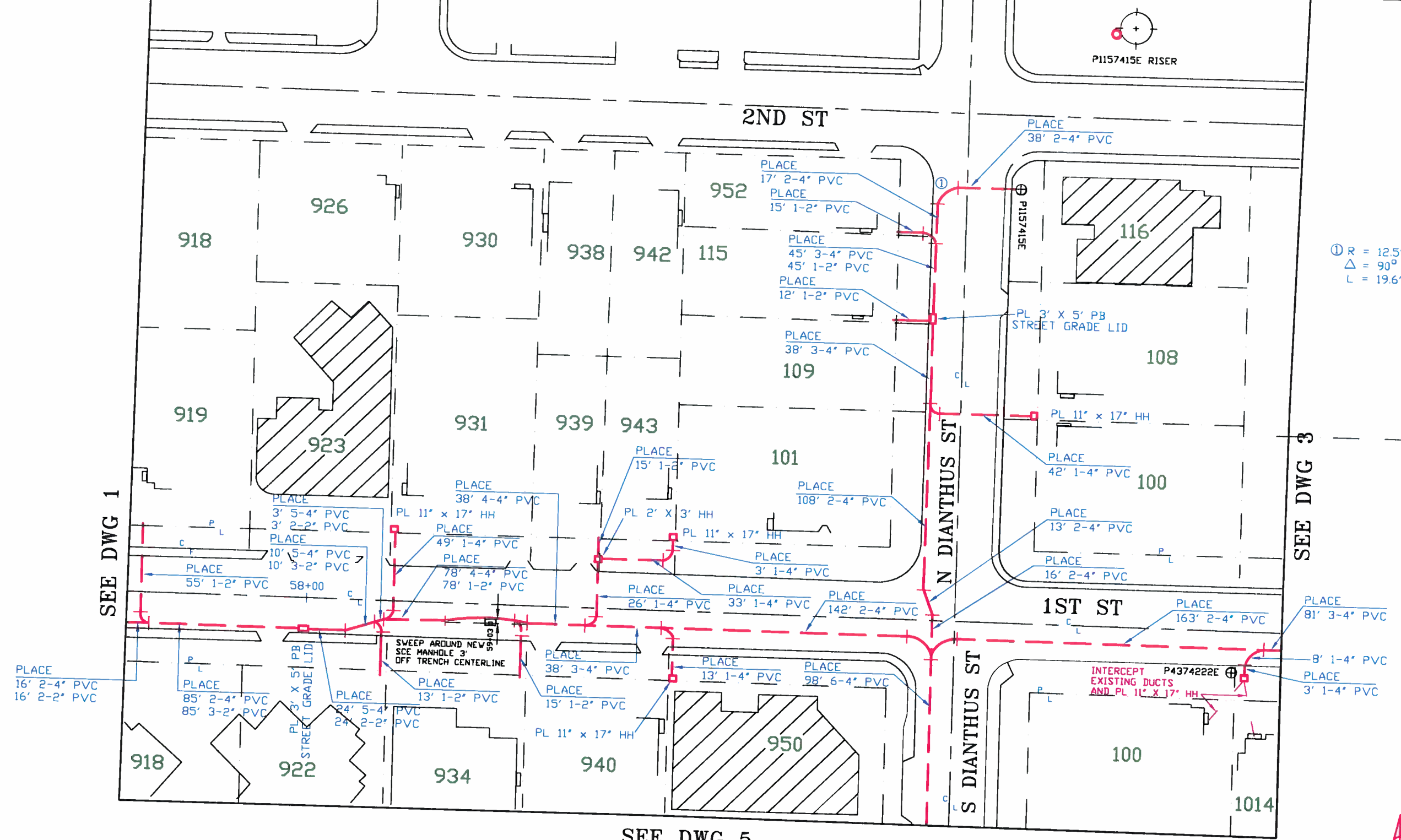
SEE DWG 1

SEE DWG 3

SEE DWG 5

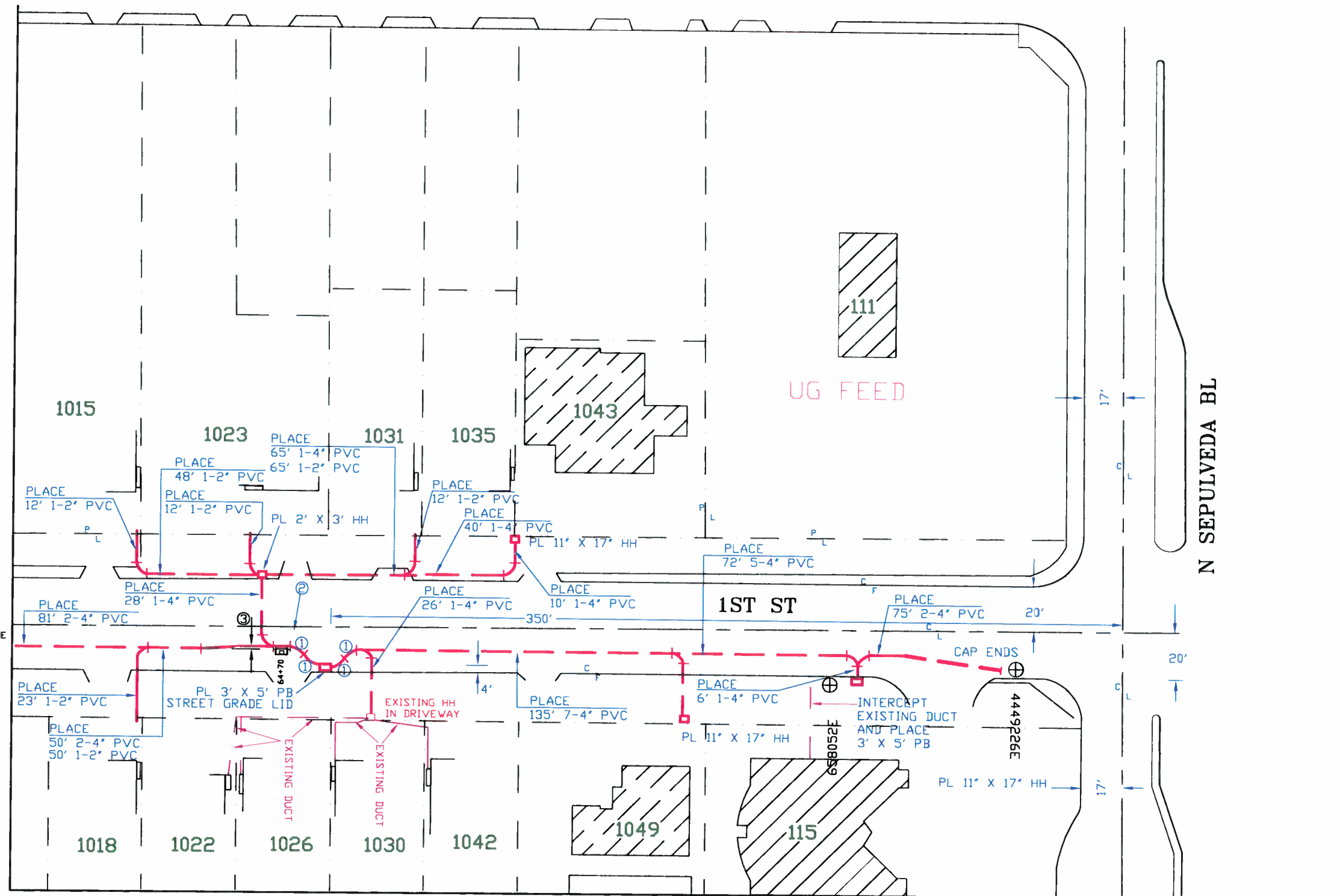
REMARKS
NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER	HAYES	WORK ORDER	70076 5239269
		DRAWING	2 OF 12



① R = 12.5'
Δ = 90°
L = 19.6'

SEE DWG 2



SEE DWG 6

REMARKS

NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

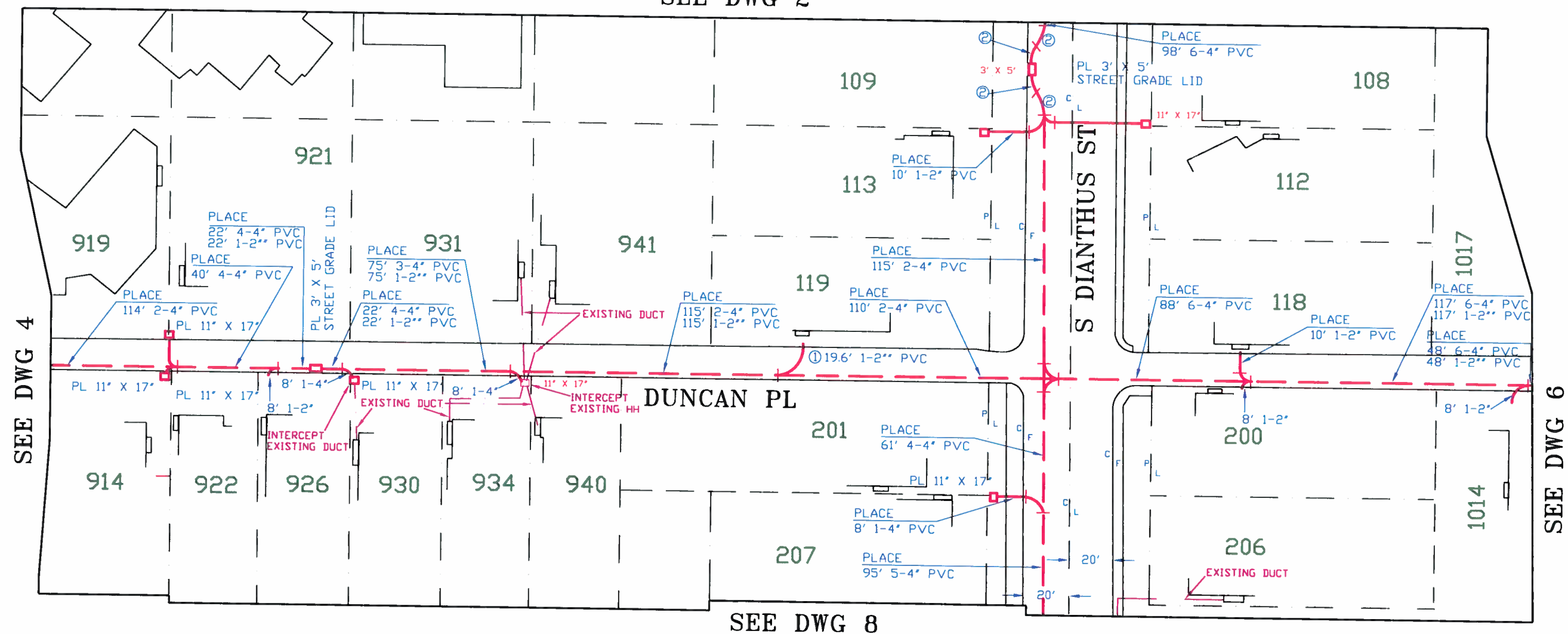
ENGINEER HAYES

WORK ORDER 70076 5239269

DRAWING 3 OF 12

frontier
100% US-Based Workforce

SEE DWG 2



REMARKS

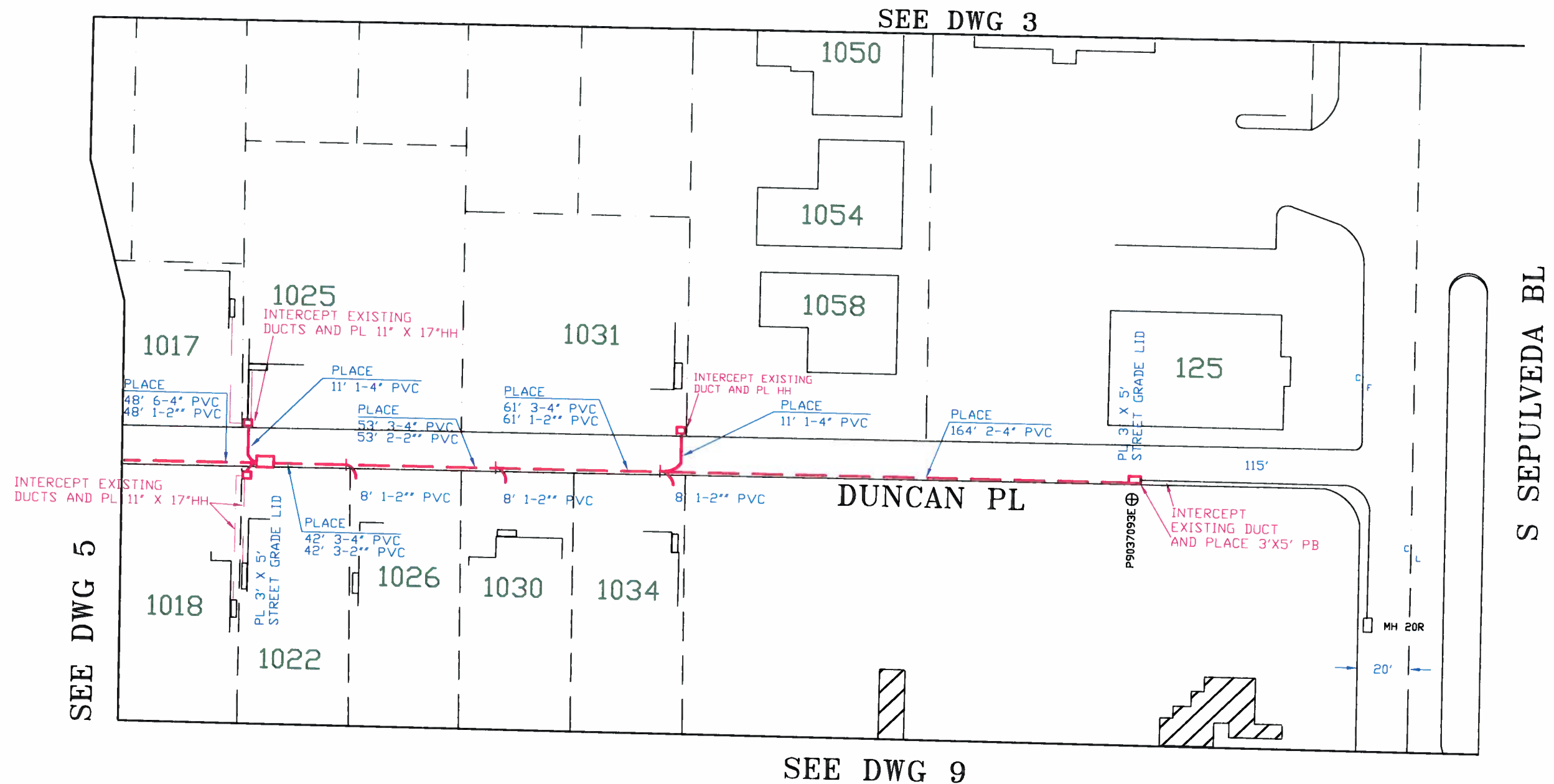
NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER HAYES

WORK ORDER	70076 5239269
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DRAWING 5 OF 12





REMARKS

NOTE ALL SWEEPS 5' UNLESS NOTED

ENGINEER HAYES

WORK ORDER 70076 5239269

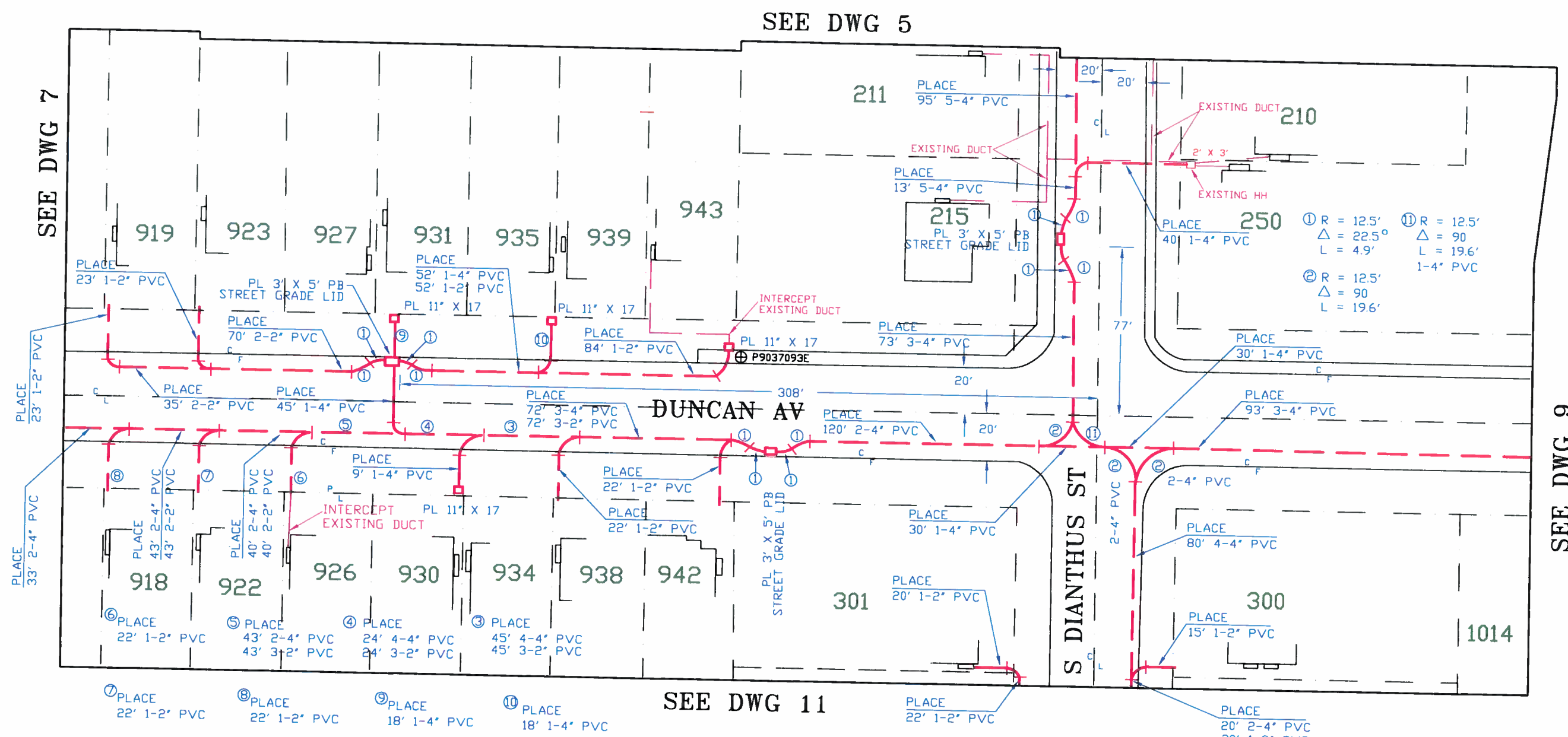
DRAWING 6 OF 12



① $R = 12.5'$
 $\Delta = 22.5^\circ$
 $L = 4.9'$

② $R = 12.5'$
 $\Delta = 90^\circ$
 $L = 19.6'$



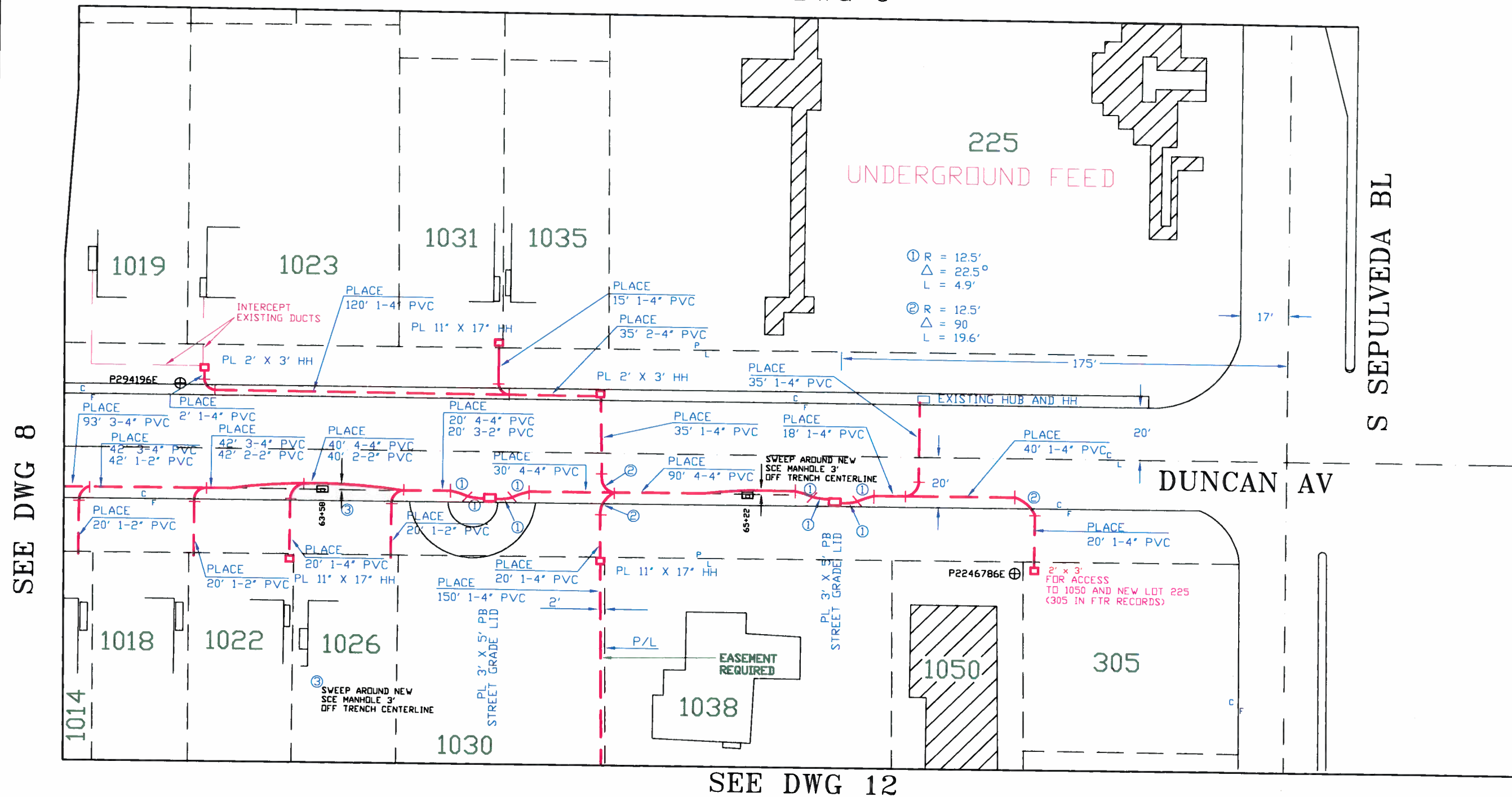


REMARKS
NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER	HAYES	WORK ORDER	70076 5239269
		DRAWING	8 OF 12



SEE DWG 6



REMARKS

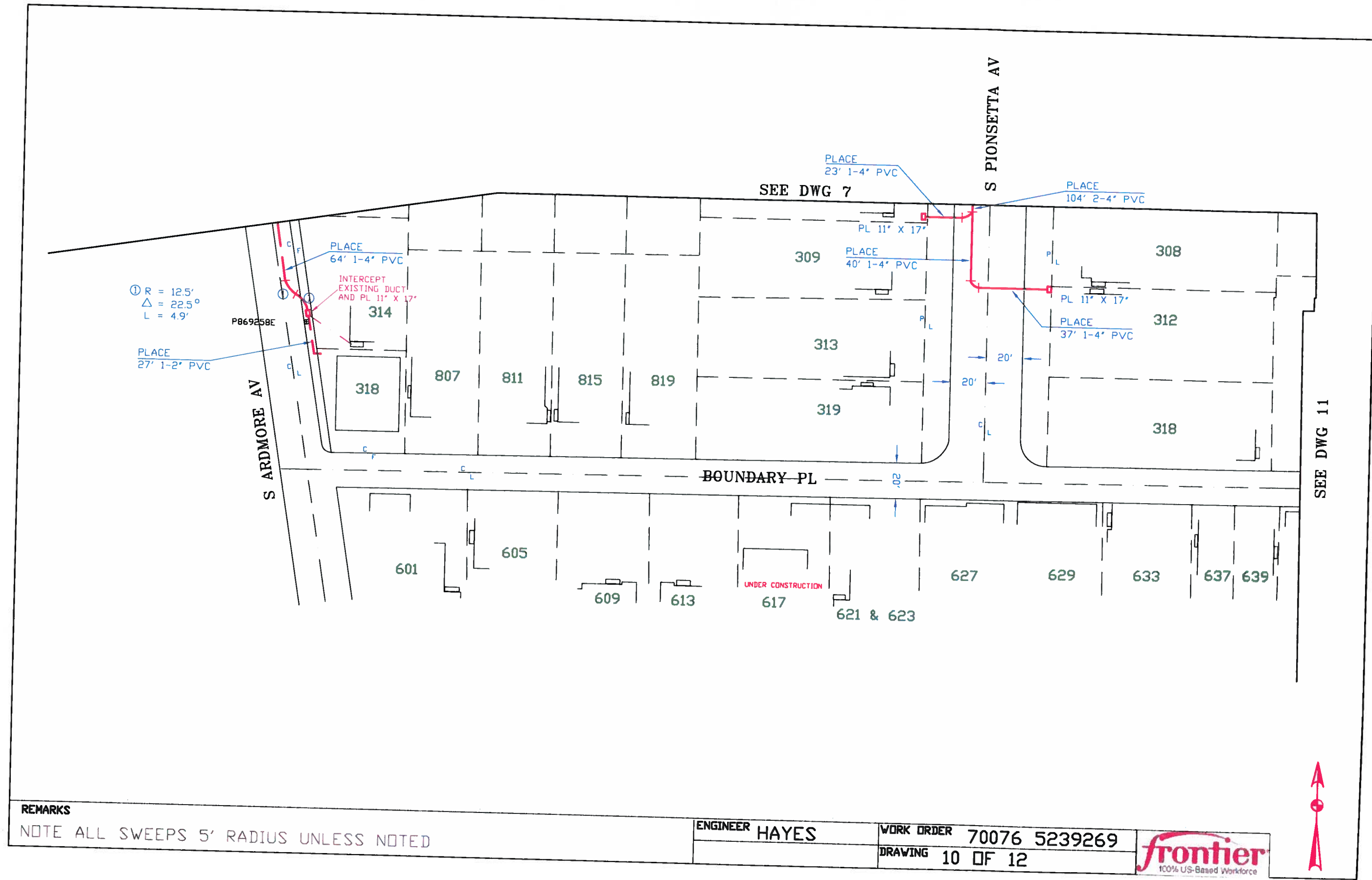
NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER HAYES

WORK ORDER	70076 5239269
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DRAWING 9 OF 12





REMARKS

NOTE ALL SWEEPS 5' RADIUS UNLESS NOTED

ENGINEER HAYES

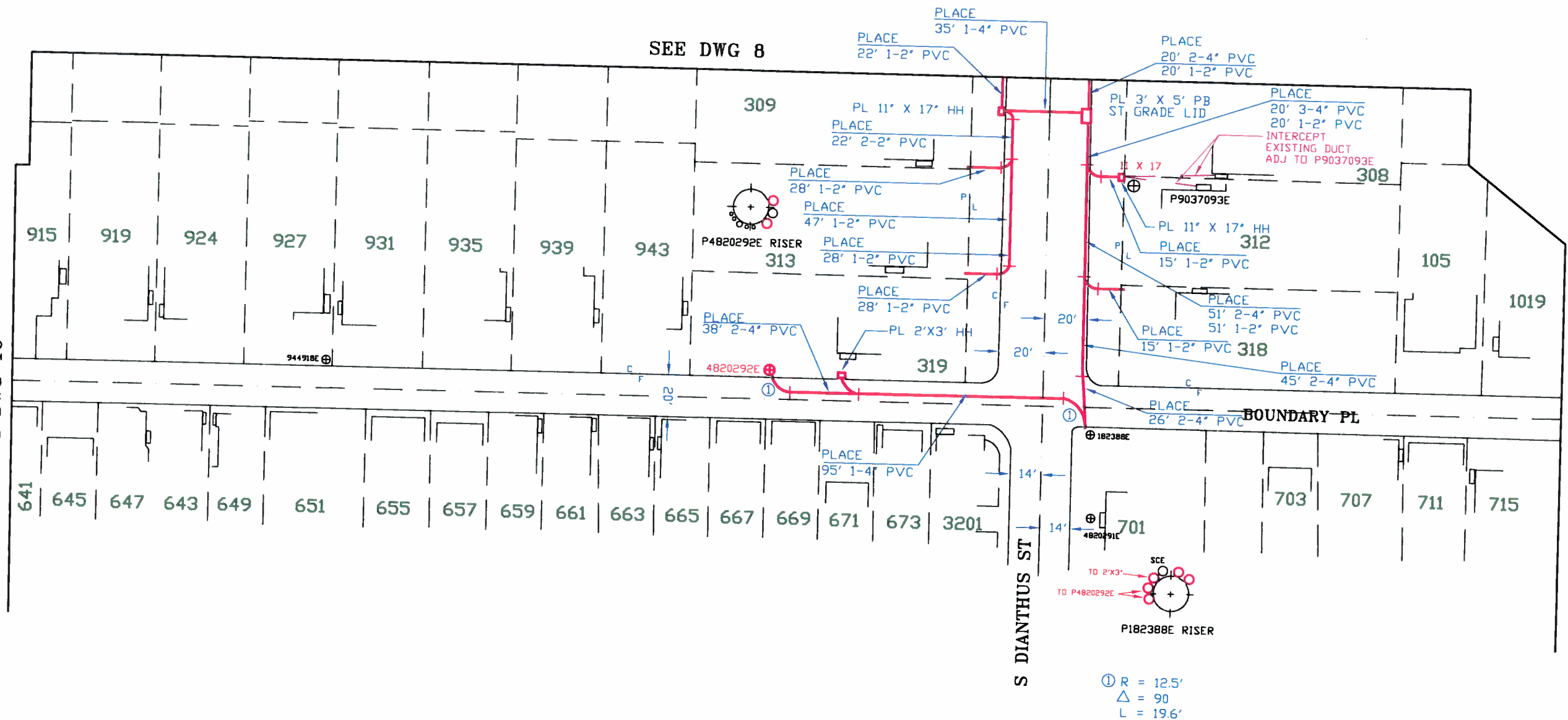
WORK ORDER 70076 5239269

DRAWING 10 OF 12



SEE DWG 10

SEE DWG 12



REMARKS

NOTE ALL SWEEPS 5' UNLESS NOTED

ENGINEER HAYES

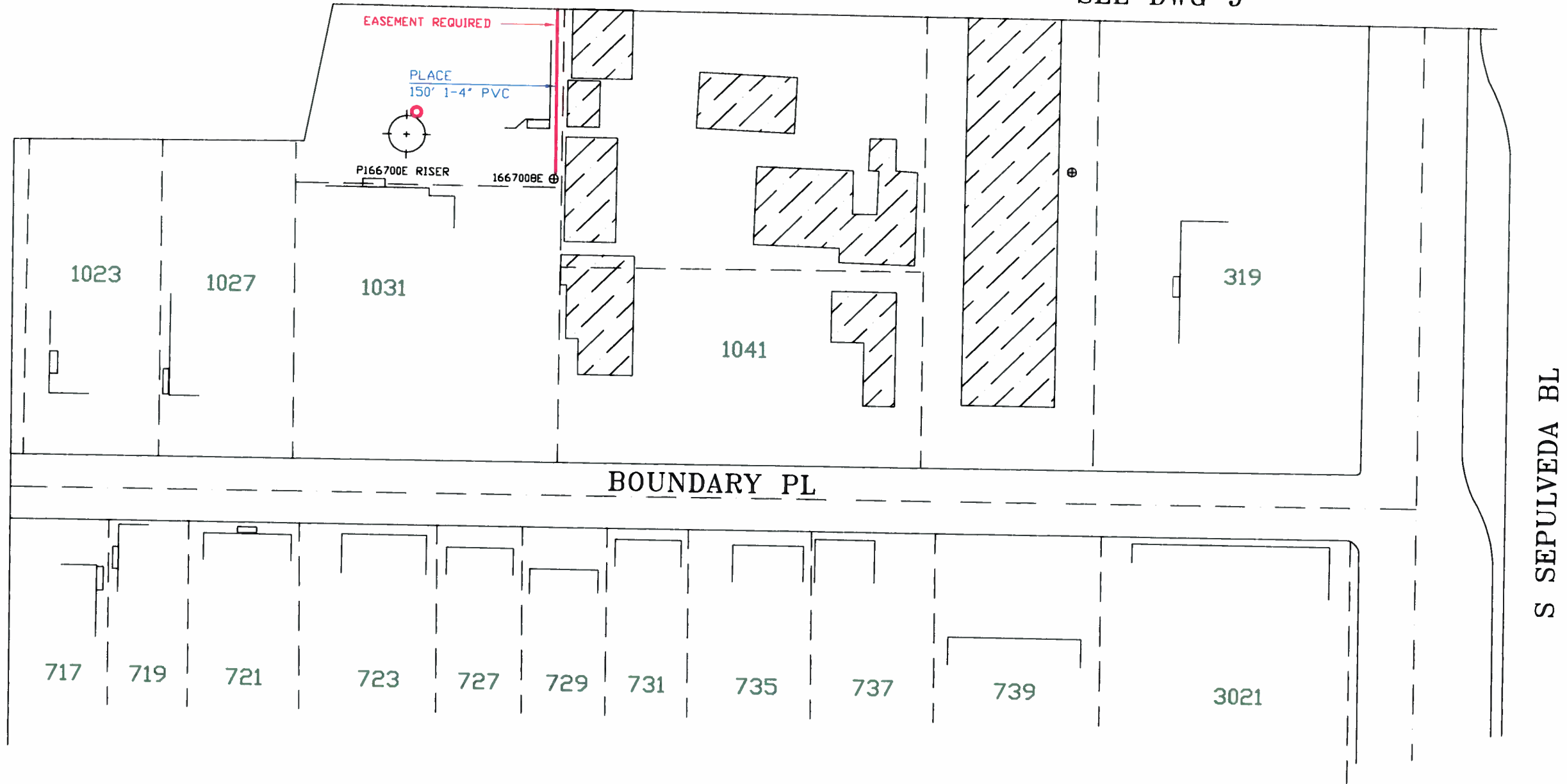
WORK ORDER 70076 5239269

DRAWING 11 OF 12



SEE DWG 11

SEE DWG 9



S SEPULVEDA BL

REMARKS

NOTE ALL SWEEPS 5' UNLESS NOTED

ENGINEER HAYES

WORK ORDER 70076 5239269

DRAWING 12 OF 12

