

CITY OF LEON VALLEY, TEXAS



FY 2013 WATER AND SEWER PROJECTS

BID # 2013-01

MAYOR
CHRIS RILEY

CITY MANAGER
MANNY LONGORIA

CITY COUNCIL
IRENE BALDRIDGE
ART REYNA
PAUL BIEVER
JACK DEAN
KATHY HILL

DIRECTOR OF PUBLIC WORKS
BYRON VICK

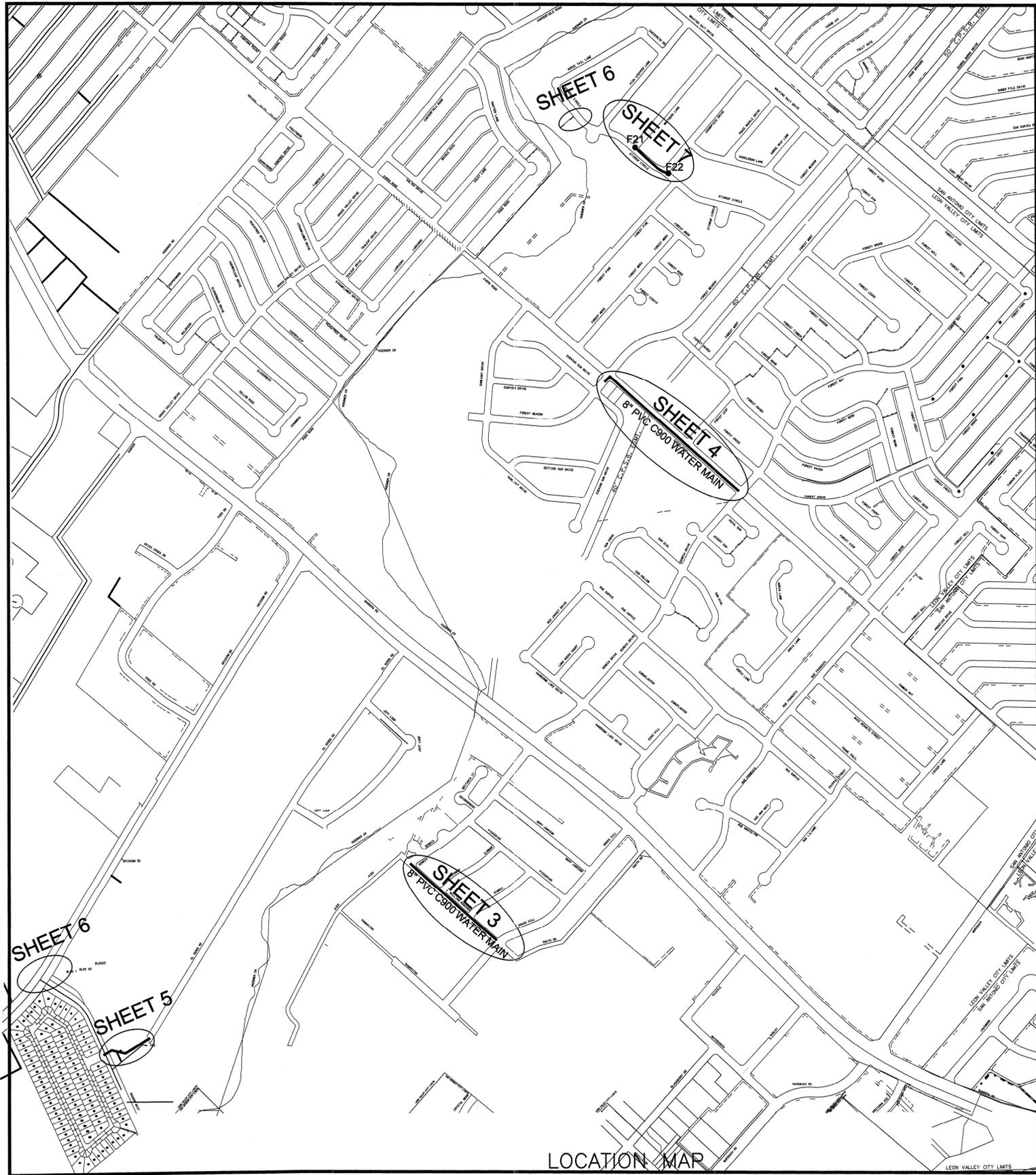
MARCH 2013

SA San Antonio
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GENERAL NOTES

1. TEN (10) DAYS PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL ARRANGE WITH THE CITY FOR A PRECONSTRUCTION CONFERENCE TO BE HELD AT THE CITY AND SHALL THEREAFTER SECURE A CITY PERMIT.
2. THIS WORK WILL BE INSPECTED BY THE CITY AND ALL CHANGE ORDER COMMUNICATIONS CONCERNING THE WORK SHALL BE DIRECTED TO THE CITY.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES FOR PLACEMENT WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE SIGNS AND BARRICADES DO NOT CONFORM TO THE ESTABLISHED STANDARDS OR ARE IMPROPERLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS CONDITIONS ARE CORRECTED.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENTIAL DRIVEWAYS DURING CONSTRUCTION. HOMEOWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 24 HOURS IN ADVANCE OF BLOCKING DRIVEWAYS. ALL DRIVEWAYS SHALL REMAIN OPEN ON WEEKNIGHTS AND WEEKENDS.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS TO GAS VALVES MUST BE MAINTAINED AT ALL TIMES. CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATING OPERATIONS.

TEXAS STATE WIDE ONE CALL LOCATOR:	1-800-344-8377
- CITY PUBLIC SERVICE	
- TIME WARNER CABLE	
- SOUTHWESTERN BELL TELEPHONE	
SAN ANTONIO WATER SYSTEM	704-7107/7109
LEON VALLEY WATER SYSTEM LOCATOR	210-681-1232
GREY FOREST GAS	800-545-6005
7. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS COMMISSION ON COMMERCIAL QUALITY "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO). (NO SEPARATE PAY ITEM).
8. THE CONTRACTOR SHALL PROTECT EXISTING SANITARY SEWERS UNTIL ABANDONED.
9. THE CONTRACTOR SHALL PLACE THE PROPOSED LINE IN THE SAME TRENCH AS EXISTING LINE WHERE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOWS AND RECONNECTING EXISTING SERVICES, INCLUDING VERTICAL STACKS, AS THE PIPE IS BEING LAID.
10. THE RINGS AND COVERS SHALL BE SALVAGED ON ALL MANHOLES TO BE ABANDONED OR REMOVED.
11. PASSAGE OF AN APPROVED GO-NO-GO DEFLECTION TESTING MANHOLE SHALL BE REQUIRED FOR FINAL ACCEPTANCE OF FLEXIBLE CONDUIT OVER 50 FEET IN LENGTH. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION FIVE PERCENT (5%), IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANHOLE, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
12. ALL MANHOLES, RINGS, AND COVERS SHALL BE WATERTIGHT IN ACCORDANCE WITH ITEM "SANITARY SEWER MANHOLES", IN THE TECHNICAL PROVISIONS.
13. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWAGE OCCURS DURING CONSTRUCTION. THIS INCLUDES RAW SEWAGE IN THE TRENCHES. SHOULD THIS OCCUR, THE CONTRACTOR SHALL:
 - A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE. NOTIFY THE INSPECTOR.
 - B. CONTAIN THE SPILL IN PLACE AND AVOID CONTAMINATION OF STREAMS.
 - C. CLEAN UP THE SPILL AND DISPOSE OF CONTAMINATED MATERIALS.
 - D. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER.
 - E. IDENTIFY AND TRAIN PERSONNEL RESPONSIBLE FOR SPILL PREVENTION AND CONTROL.
14. LOCATION AND DEPTH OF EXISTING UNDERGROUND UTILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING GRASS AREAS, FENCES, CURBS, SIDEWALKS, OR CONCRETE DRIVEWAYS. TRENCHES AND DAMAGED AREAS IN GRASS AREAS SHALL BE SOODED.
16. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
17. WHENEVER POWER POLES ARE ADJACENT TO THE PROPOSED TRENCH, THE CONTRACTOR SHALL PROVIDE PROPER SHIELDING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION OF THE UTILITY. THE METHOD MUST BE APPROVED BY THE UTILITY COMPANY.
18. CONTRACTOR SHALL NOT TUNNEL UNDER EXISTING CURBS. THE CURBS SHALL BE REMOVED AND REPLACED.
19. CONTRACTOR TO WARRANT ALL WORK FOR ONE YEAR.
20. CONTRACTOR TO REMOVE AND RELOCATE TRAFFIC SIGNS AS NEEDED.
21. ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
22. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, IDENTIFY AND HOLD THE OWNERS AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
23. PVC POLYVINYL CHLORIDE SANITARY SEWER PIPE SHALL CONFORM TO ASTM D-3034 FOR SDR 26. JOINTS SHALL BE ELASTOMETRIC GASKET MATERIALS CONFORMING TO ASTM D-312. INSTALLATION SHALL CONFORM TO ASTM D-2321.
24. BEDDING MATERIAL AND INITIAL BACKFILL SHALL BE CLEAN, WELL-GRADED GRAVEL, CRUSHED SCREENINGS OR SAND, WITH 100% PASSING A 1-1/2" SIEVE, 95% TO 100% PASSING A 1" SIEVE, 25% TO 50% PASSING A .75" SIEVE, 0 TO 10% PASSING A NO. 4 SIEVE, AND 0 TO 5% PASSING A

- NO. 8 SIEVE. THE PLASTICITY INDEX SHALL BE NOT MORE THAN 12 WHEN TESTED IN ACCORDANCE WITH THE TEXAS HIGHWAY DEPARTMENT OF TRANSPORTATION TEST METHOD TEX-106-E.
25. SEE TECHNICAL SPECIFICATION 804 AND TRENCH DETAILS ON THE SANITARY SEWER DETAIL SHEET FOR THE BEDDING AND BACKFILL REQUIREMENTS.
26. THE CONTRACTOR SHALL NOTIFY THE LEON VALLEY PUBLIC WORKS OFFICE AT 681-1232 TWENTY FOUR (24) HOURS PRIOR TO:
 - A. BEGINNING THE CONSTRUCTION - ARRANGE A PRECONSTRUCTION CONFERENCE WITH STAFF AND FOREMAN
 - B. PLACEMENT OF BACKFILL OR CONCRETE.
 - C. STREET OF LANE CLOSURES.
 - D. UPON COMPLETION OF WORK.
- NO INSPECTIONS ARE AVAILABLE ON WEEKENDS OR HOLIDAYS OR AFTER 3:00 PM WEEKDAYS. NOTIFY THE LEON VALLEY DISPATCHER (684-3215) TWENTY FOUR HOURS PRIOR TO ANY STREET OR LANE CLOSURES.
27. BACKFILL UNDER SIDEWALKS OR WITHIN STREET PAVEMENT AREAS OR ALLEYS SUBJECT TO VEHICULAR TRAFFIC OR WITHIN 3' OF THE EDGE OF PAVEMENTS OR SIDEWALKS SHALL BE WITH FLEXIBLE BASE COMPACTED IN 8" LIFTS COMPACTED TO 95% MAX. DENSITY. SEE DETAIL SHEET.
28. COMPACT ALL EARTH BACKFILL WITH A MECHANICAL TAMP IN 8" LIFTS TO 90% PROCTOR DENSITY. PROVIDE SUITABLE MOISTURE CONTROL.
29. PROVIDE STEEL PLATE TRENCH COVERS FOR TRAFFIC AS NEEDED. (NO SEPARATE PAY ITEM).
30. PROVIDE DETOUR AND TRAFFIC CONTROL PLAN FOR CITY APPROVAL PRIOR TO CONSTRUCTION.
31. PROVIDE CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION.
32. MAINTAIN ALL STREETS AND SIDEWALK AREAS IN CLEAN CONDITION DURING CONSTRUCTION. PROVIDE DUST CONTROL DURING CONSTRUCTION.
33. MANHOLES SHALL HAVE NOT MORE THAN FOUR (4) THROAT RINGS FOR ADJUSTMENT. MANHOLE COVERS TO BE SET FLUSH WITH THE TOP OF ADJACENT PAVEMENT.
34. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC., IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. OWNER WILL NOT PROVIDE CONSTRUCTION STAKING FOR POINT REPAIRS.
35. NO BLASTING IS ALLOWED.
36. PRECAST MANHOLES: PROVIDE SUBMITTAL ON PRODUCT TO THE CITY. GROUT ALL CONNECTION BOOT CAVITIES INSIDE MANHOLE TO PREVENT EXPOSED GASKETS. USE SILICONE OR OTHER FLEXIBLE SEALANT.
37. THE CONTRACTOR SHALL PAY FOR FIRE HYDRANT METER DEPOSIT (REFUNDABLE UPON RETURN). (SEE CITY UTILITY ADMINISTRATION - 684-1391 EXT. 226).
38. ALL TESTING WILL BE PROVIDED BY THE CONTRACTOR AT HIS COST.
39. ALL SEWER MAINS SHALL BE LAID TO GRADE AND SHALL NOT SAG OR OTHERWISE STAND WATER IN THE MAIN OR IN THE MANHOLE INVERT SECTION.
40. UTILITY TRENCH COMPACTION TO BE 90% PROCTOR AND PROOF ROLLED PRIOR TO APPROVAL OF THE CITY.
41. SEWER SERVICE LATERALS SHALL BE SIX-INCH (6") PVC, SDR 26, AND BE INSTALLED PER EXISTING GUIDELINES. CONTRACTOR TO FURNISH ENGINEER WITH AN AS-BUILT PLAN INDICATING THE LOCATION AND LENGTH OF EACH LATERAL. TWO-WAY CLEANOUTS SHALL BE PROVIDED AT CONNECTION TO THE EXISTING LATERAL.
42. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH AN AS-BUILT PLAN INDICATING THE LOCATION AND LENGTH OF ALL SEWER MAINS AND PORTIONS OF MAINS WHERE REPAIRS WERE MADE AND SEWER LATERALS (BY STATION AND ELEVATION).
43. THE CONTRACTOR SHALL COMPLY WITH OSHA STANDARDS INCLUDING CONFINED SPACE ENTRY. PROVIDE ALL DEVICES AND MANPOWER.
44. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS IN AND AROUND TRENCH EXCAVATION.
45. PRIOR TO PRELIMINARY AND FINAL ACCEPTANCE OF THE PUBLIC IMPROVEMENTS BY THE CITY, THE CONTRACTOR SHALL ARRANGE FOR A FIELD INSPECTION TO BE CONDUCTED WITH CITY FORCES. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND MANPOWER SUFFICIENT TO OPEN ALL MANHOLES, (WHICH SHALL PROFTLY CLOSED). THESE INSPECTIONS WILL BE ARRANGED BY GIVING SEVEN (7) DAYS PRIOR NOTICE TO THE CITY OF THIS NEED.
46. THE CONTRACTOR SHALL FURNISH THE CITY WITH THREE (3) COPIES OF SUBMITTAL DATA ON ALL SEWER MATERIALS TO BE INCORPORATED INTO THE WORK FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
47. VIDEO TAPES OF ALL LINES TO BE WORKED ON ARE AVAILABLE AT THE PUBLIC WORKS OFFICE FOR VIEWING.
48. NEW MANHOLES SHALL BE TESTED.
49. LABORATORY REPORTS OF TRENCH DENSITIES PERFORMED BY THE CONTRACTOR NEED NOT BE SUBMITTED TO THE CITY. THE CITY MAY DO TESTING IN THESE AREAS.
50. TREE LIMBS THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR USING APPROVED NURSERY TECHNIQUES.
51. ALL CONNECTIONS AT MANHOLES ARE TO BE MADE TO THE MANHOLE AND NOT TO THE EXISTING PIPE. SEE DETAIL SHEET.
52. BACKFILL REQUIREMENTS ARE AS SHOWN ON SHEET 8. ASPHALT TREATED BASE OR FLOWABLE BACKFILL MAY BE SUBSTITUTED FOR FLEXIBLE BASE AT CONTRACTOR'S COST.
53. POINT REPAIRS AND LINE REPLACEMENTS WILL NOT BE STAKED FOR CONSTRUCTION BY THE OWNER. POINT REPAIRS AND LINE STAKING SHALL BE THE CONTRACTOR'S RESPONSIBILITY BASED ON PLAN INFORMATION. THE TOPS OF MANHOLES ARE USED AS BENCHMARKS.
54. STATIONING OF REQUIRED REPAIRS IS BASED ON DISTANCES RECORDED DURING TELEVISIONING OF THE LINES AND MAY VARY SLIGHTLY FROM ACTUAL.
55. THE BID PRICE OF ALL POINT REPAIRS THAT ARE LOCATED IN PAVED AREAS INCLUDES SAW-CUTTING & REPLACEMENT.
56. PVC SDR 26 SANITARY SEWER PIPE SHALL BE USED FOR ALL POINT REPAIRS. FERROD ADAPTORS SHALL BE USED TO CONNECT THE NEW PVC PIPE TO THE EXISTING PIPE, INCLUDING LATERALS.
57. THE CONTRACTOR SHALL CALL FOR AN INSPECTION BEFORE BACKFILLING POINT REPAIRS.



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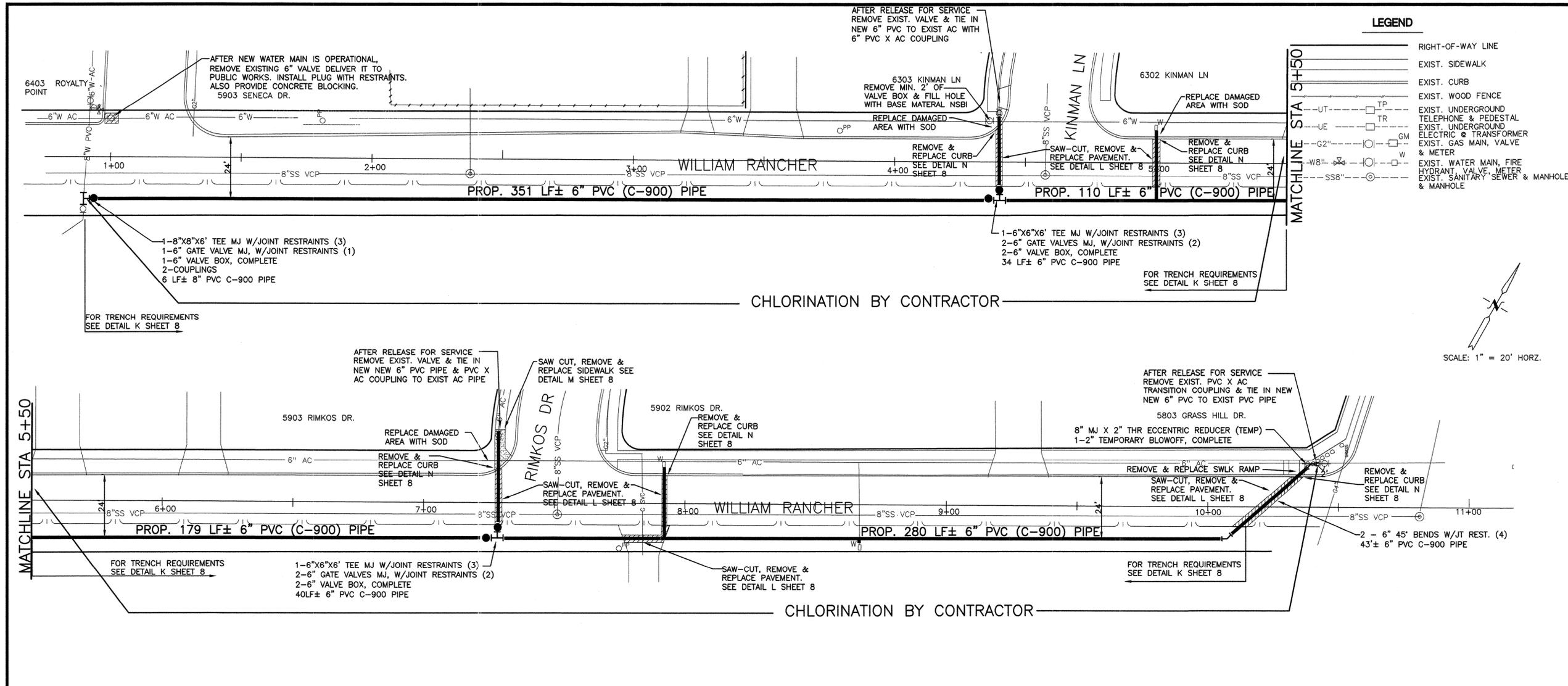
CITY OF LEON VALLEY WATER AND SANITARY SEWER PROJECTS
LOCATION MAP & GENERAL NOTES

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 S.A.C.
 CHECKED BY:
 S.A.C.
 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

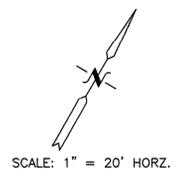
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SHEET: **2**
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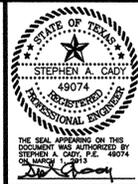
LEGEND

---	RIGHT-OF-WAY LINE
---	EXIST. SIDEWALK
---	EXIST. CURB
---	EXIST. WOOD FENCE
---	EXIST. UNDERGROUND TELEPHONE & PEDESTAL
---	EXIST. UNDERGROUND ELECTRIC @ TRANSFORMER
---	EXIST. GAS MAIN, VALVE & METER
---	EXIST. WATER MAIN, FIRE HYDRANT, VALVE, METER
---	EXIST. SANITARY SEWER & MANHOLE



WATER NOTES

- Locations of existing water lines shown on the working prints are approximate only. The contractor prior to construction must verify actual locations and depths and the contractor shall be responsible for protection of all water lines during construction. Locations for utilities other than water lines shall be taken from public works construction documents or other utility plans available.
- The contractor shall protect all open excavations and equipment from the children, pedestrians, and vehicles in the area by providing, installing and maintaining fencing, barricades, or other protective systems as required by the City. No separate payment will be made.
- Asphalt pavement removed for water main construction shall be replaced with MK-1 flowable backfill or base material from initial backfill to 2" from existing pavement and Type "D" asphalt up to match existing pvm't. See detail L on Sheet 8.
- The contractor shall disinfect all mains with Machine chlorination. Required 2" taps and fittings shall be the responsibility of the contractor.
- Water mains shall be installed with a minimum of 5-ft. cover.
- Machine chlorination shall be by the Contractor.
- The Contractor shall disinfect and hydrostatically the mains in accordance with the specifications and conduct all bacteriological sampling and testing. Furnish test results to the City before connecting to existing main. The city is to be present during testing and interconnections.
- Contractor shall provide all temporary flush valves and jumper connections needed.
- All service saddles shall be brass and all corporation and meter stops shall be ball valve type.
- The contractor will note that all work shall be scheduled to take place on Monday through Friday between the hours of 8 am and 5 pm. Bexarlet Water District will not provide inspectors on Saturday, Sunday or holidays unless special compensation arrangements are made with the City.
- Upon completion of construction, the contractor shall furnish the engineer with a signed set of plans with all the final measurements and as built information for preparation of as built plans. Contractor shall coordinate his as built plans with the City's inspectors prior to submittal to engineer.
- Contractor must install proper joint restraints as shown on the detail plans, in conjunction with proper thrust blocking. Contractor must install joint restraints per manufacturer's specifications. Double nut all restraining bolts. Any type of joint restraint must be bi-directional. With fire hydrant installation, cut to fit nipples must be restrained. Restraint rings of pipe bells shall be made of ductile iron components. All ductile iron shall conform to ASTM A536. The restraint mechanism shall consist of a plurality of individually activated gripping surfaces to maximize restraint capability.
- Fire Hydrants shall be 5 ft. bury unless otherwise specified and limited to those manufactured by the Mueller Company (Centurion), mechanical joint. Fire Hydrants shall be painted red. Gate valve shall open left. (No separate pay item)
- Brass fittings shall be compression type, ball valve with full port design and limited to products manufactured by the Ford Meter Box, Inc., and/or Mueller Company.
- Valves through 12 inch shall be limited to Mueller. Valves larger than 12 inch shall be hand operated, butterfly valves meeting A.W.W.A. standards manufactured by the previously mentioned company. All water valves are to be "Open Left" with valve covers so indicating.
- All service lines shall be type K copper and are to be installed in continuous runs. Service lines should have a minimum of 36 inches of cover and have a maximum trench width of 5'.
- Ductile iron pipe shall be Class 50 with polyethylene. PVC pipe for 6" and 8" diameter shall be C-900 Class 200 and 12" PVC pipe shall be Class 150.
- When cut pipe nipples are used with ductile iron fittings or valves, the length shall be at least three times the diameter of the pipe.
- Fitting weight is based on MJ, Ductile Iron Fittings (Compact). All iron fittings shall be of domestic manufacture and design.
- Gravel bedding shall be placed 12 inches over and 6" under and around all water mains and service lines. The gravel shall be clean, well-graded and crushed screenings with 100% passing a 1/2" sieve, and 95% passing a 3/4" sieve. The plasticity index shall not be more than 12 when tested I.A.W. Texas Department of Transportation Test Method Tex-106-E.
- Water mains and services shall be hydrostatically field tested according to AWWA C600-99 or latest revision thereof, and at a minimum pressure of 150 psi.
- Jumper connections to existing water source shall be provided by contractor as required or directed by the City inspector.
- All valves shall remain closed until mains have been disinfected, flushed and released by contractor for public use by the City. After release contractor shall tie in existing main to the new main.
- Thrust blocks shall be installed on all fittings as shown in the drawing on sheet 9, in addition to joint restraints.
- After the new mains have been released for service and service lines have been transferred to the new mains, abandon existing mains where shown on the plans.
- Install joint restraints on all joint with 50' of a fitting.



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**CITY OF LEON VALLEY
2013 WATER AND SANITARY SEWER PROJECTS
WATER MAIN REPLACEMENT - WILLIAM RANCHER**

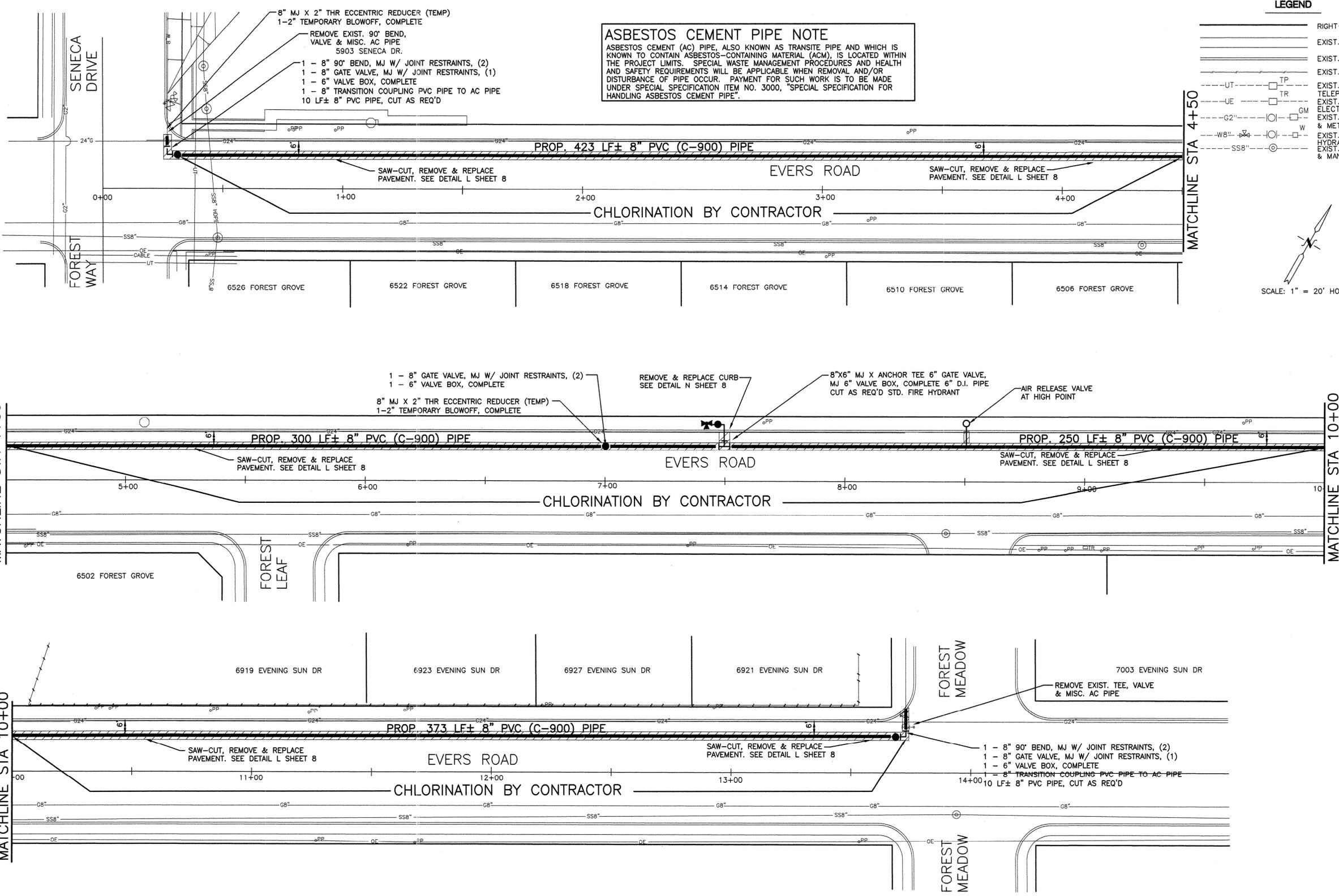
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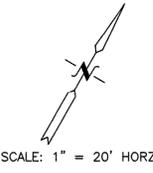
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SHEET: **3**
OF: **9**



ASBESTOS CEMENT PIPE NOTE
 ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

- LEGEND**
- RIGHT-OF-WAY LINE
 - EXIST. SIDEWALK
 - EXIST. CURB
 - EXIST. WOOD FENCE
 - UT--- TP
 - UE--- TR
 - G2"--- GM
 - W8"--- W
 - SS8"--- SSB
 - EXIST. UNDERGROUND TELEPHONE & PEDESTAL
 - EXIST. UNDERGROUND ELECTRIC @ TRANSFORMER
 - EXIST. GAS MAIN, VALVE & METER
 - EXIST. WATER MAIN, FIRE HYDRANT, VALVE, METER
 - EXIST. SANITARY SEWER & MANHOLE



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CITY OF LEON VALLEY WATER AND SANITARY SEWER PROJECTS
EVERS ROAD WATER MAIN

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SHEET: **4**
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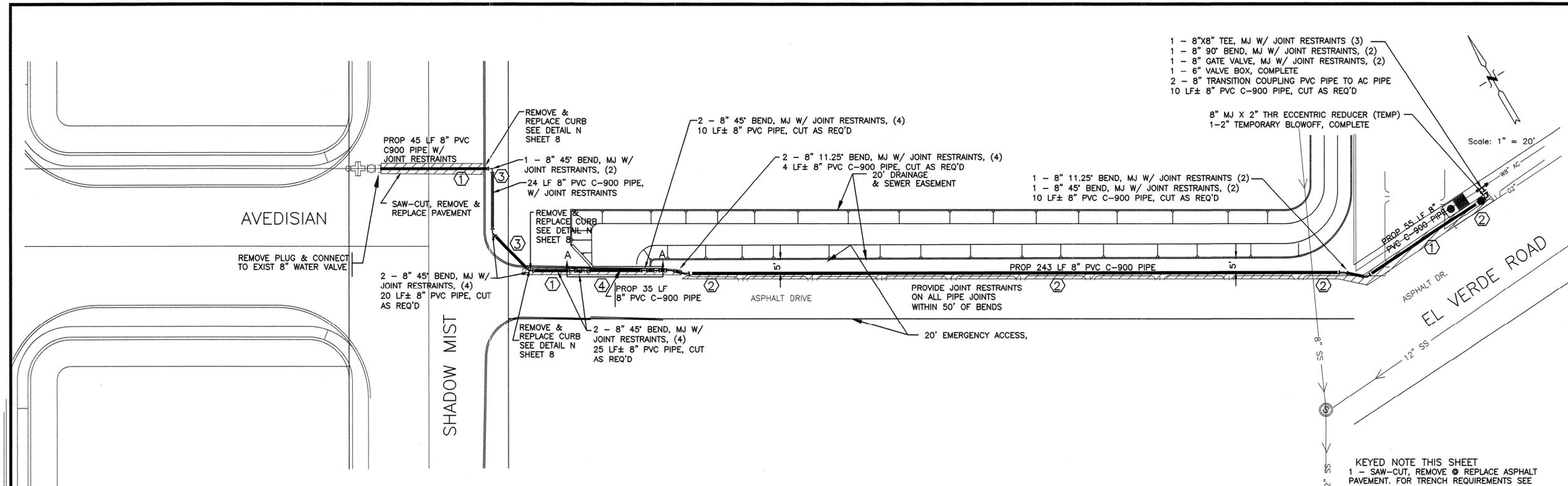
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 1205 S. GULFVIEW DRIVE, SUITE 100
 SAN ANTONIO, TEXAS 78249
 PH: (210) 342-6700 FAX: (210) 342-6701
 SA
 SDG
 INC
 F-5226

CITY OF LEON VALLEY
2013 WATER AND SANITARY SEWER PROJECTS
SHADOW MIST WATER MAIN

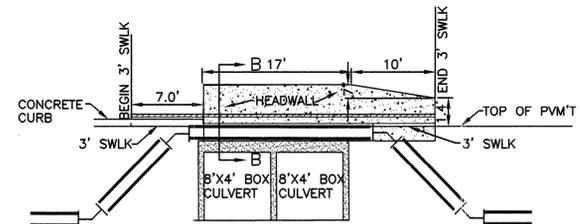
J.A.S.
 DRAWN BY:
 S.A.C.
 CHECKED BY:
 S.A.C.
 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

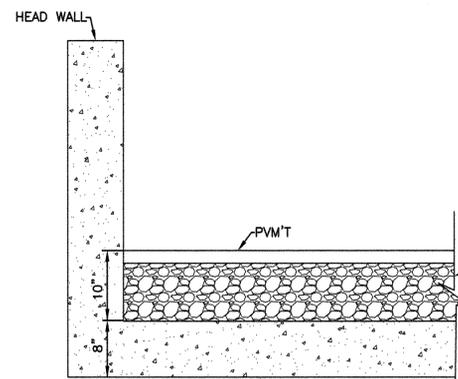
SHEET: **5**
 OF: **9**



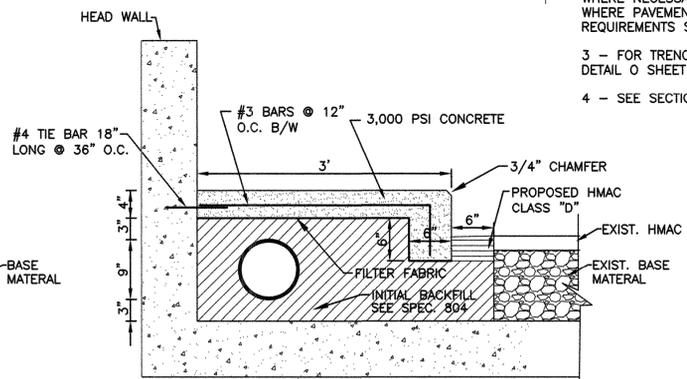
KEYED NOTE THIS SHEET
 1 - SAW-CUT, REMOVE & REPLACE ASPHALT PAVEMENT. FOR TRENCH REQUIREMENTS SEE DETAIL L, SHEET 8.
 2 - SAW-CUT & REMOVE ASPHALT PAVEMENT WHERE NECESSARY. REPLACE PAVEMENT ONLY WHERE PAVEMENT WAS REMOVED. FOR TENCH REQUIREMENTS SEE DETAIL L, SHEET 8.
 3 - FOR TRENCH REQUIREMENTS SEE DETAIL O SHEET 8.
 4 - SEE SECTION B-B, THIS SHEET



SECTION A-A



EXISTING



PROPOSED

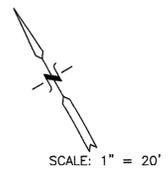
SECTION B-B

ASBESTOS CEMENT PIPE NOTE
 ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

TRENCH EXCAVATION SAFETY PROTECTION
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CPS NOTE
 CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-344-8377, 48 HOURS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192-181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND FACILITIES IF ADJACENT TO WORK AREAS.

SHBT NOTE
 NOTE: "THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-344-8377, 48 HOURS PRIOR TO EXCAVATION. CONTRACTOR IS TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION."



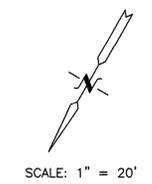
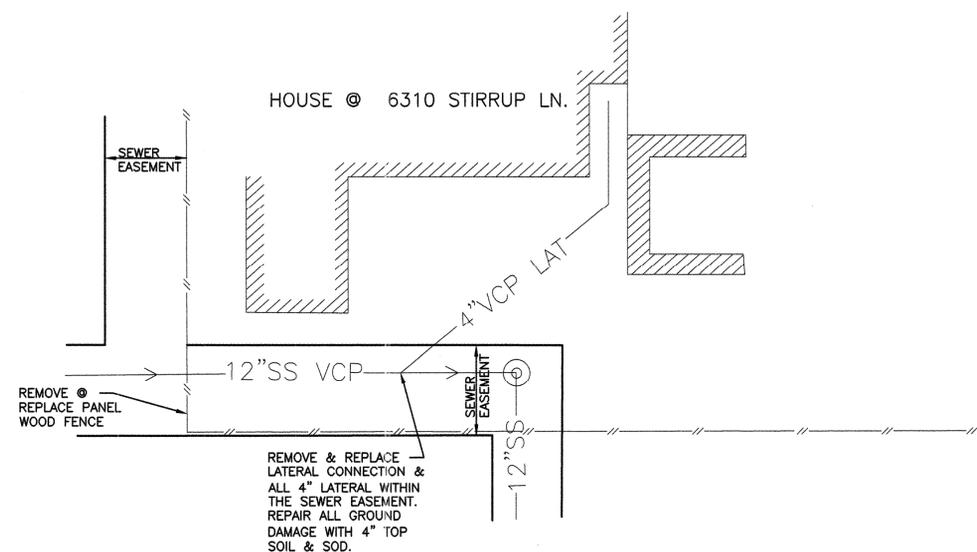
LEGEND

———	RIGHT-OF-WAY LINE
———	EXIST. SIDEWALK
———	EXIST. CURB
———	EXIST. WOOD FENCE
———	EXIST. CHAIN LINK FENCE
---UT---	EXIST. UNDERGROUND TELEPHONE & PEDESTAL
---UE---	EXIST. UNDERGROUND ELECTRIC @ TRANSFORMER
---G2---	EXIST. GAS MAIN, VALVE & METER
---W8---	EXIST. WATER MAIN, FIRE HYDRANT, VALVE, METER
---SS8---	EXIST. SANITARY SEWER & MANHOLE
———	EDGE OF ASPHALT PAVEMENT

NOTE: SEE SHEET 9 FOR BACKFILL REQUIREMENTS

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 ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF PIPE OCCURS. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

- REPAIR DAMAGED AREA WITH 4" TOP SOIL & SOD
- REMOVE SECTION OF PVC PIPE
- 1 - 8" GATE VALVE, MJ W/ JOINT RESTRAINTS, (4)
 - 1 - 6" VALVE BOX, COMPLETE
 - 2 - 8" TRANSITION COUPLINGS PVC X AC
 - 6 LF± 8" PVC PIPE, CUT AS REQ'D



NOTE: THE LEON VALLEY INSPECTOR WILL HELP GAINING ACCESS TO THE SITE AND WILL PROVIDE THE GENERAL LOCATION THE THE LATERAL CONNECTION.

SANITARY SEWER POINT REPAIR #1

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CPS NOTE

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DUE TO FEDERAL REGULATIONS TITLE 49, PART 192-181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

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SWBT NOTE

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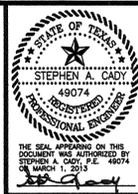
San Antonio Design Group Inc.
 CONSULTING ENGINEERS
 1205 S. BRIDGES BLVD. SUITE 100
 SAN ANTONIO, TEXAS 78249
 PH: (210) 342-6700 FAX: (210) 342-6701
 SA
 SDG
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 F-5226

CITY OF LEON VALLEY
2013 WATER AND SANITARY SEWER PROJECTS
WATER VALVE ADDITION & SEWER POINT REPAIR

J.A.S.
 DRAWN BY:
 S.A.C.
 CHECKED BY:
 S.A.C.
 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

SHEET: **6**
 OF: **9**



San Antonio Design Group Inc.
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SDG INC
 F-5226

CITY OF LEON VALLEY
 2013 WATER AND SANITARY SEWER PROJECTS
 STIRRUP LANE SANITARY SEWER REPLACEMENT

J.A.S.
 DRAWN BY:
 S.A.C.
 CHECKED BY:
 S.A.C.
 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

SHEET: **7**
 OF: **9**

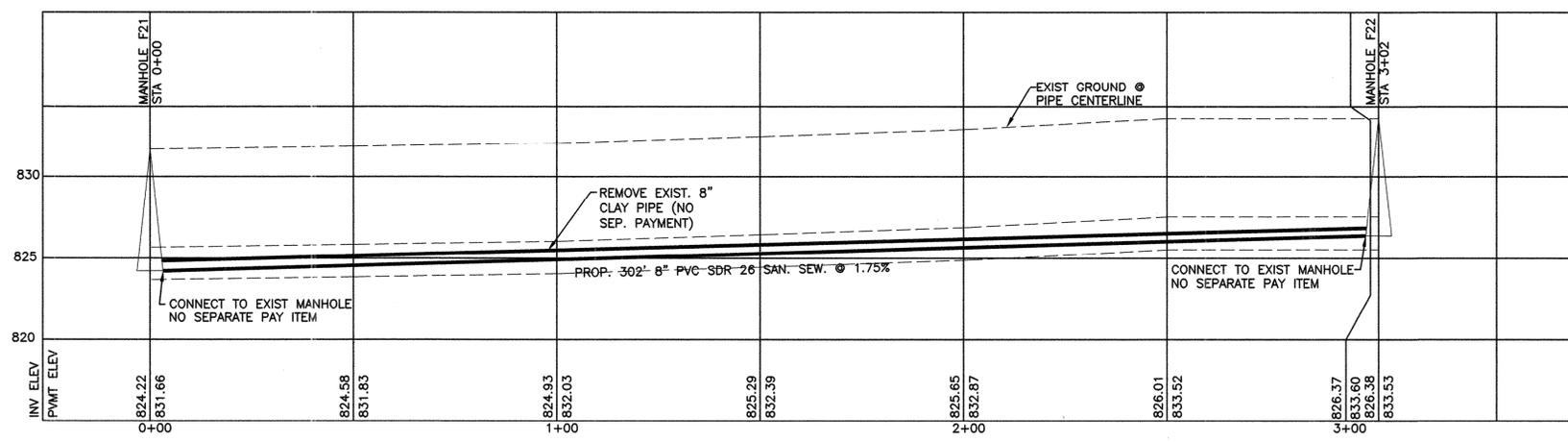
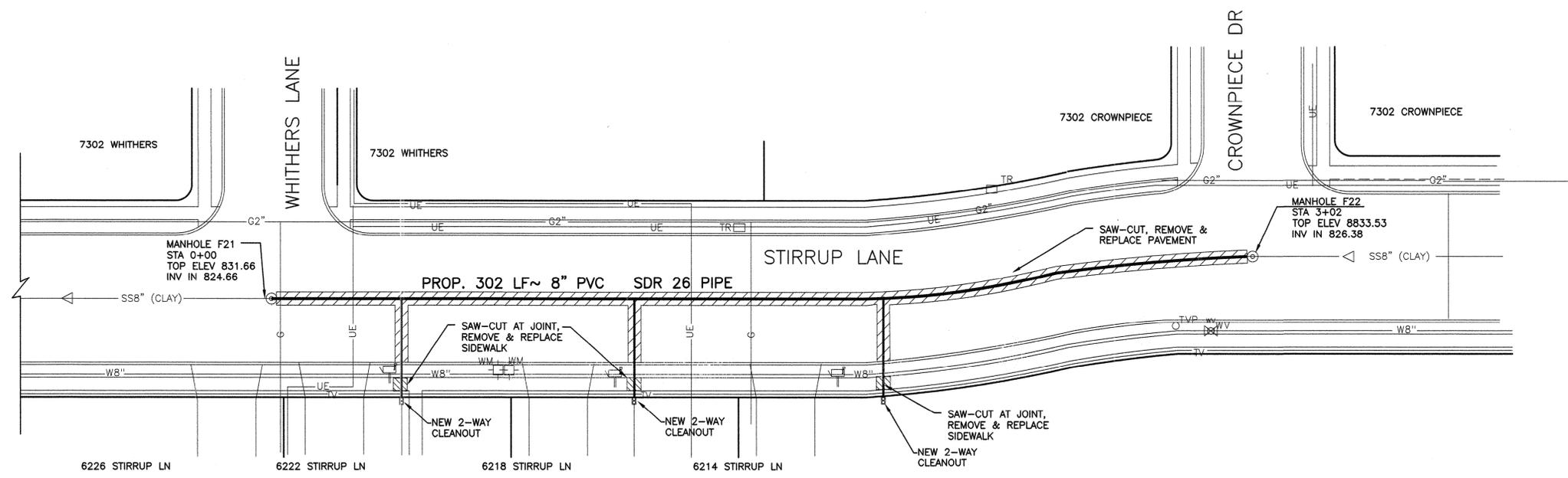
TRENCH EXCAVATION SAFETY PROTECTION
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SCALE: 1" = 20' HORIZ.
 1" = 5' VERT.

- LEGEND**
- RIGHT-OF-WAY LINE
 - ===== EXIST. SIDEWALK
 - ===== EXIST. CURB
 - ===== EXIST. WOOD FENCE
 - ===== EXIST. CHAIN LINK FENCE
 - UT--- TP EXIST. UNDERGROUND TELEPHONE & PEDESTAL
 - UE--- TR EXIST. UNDERGROUND ELECTRIC & TRANSFORMER
 - G2"--- GM EXIST. GAS MAIN, VALVE & METER
 - W8"--- W EXIST. WATER MAIN, FIRE HYDRANT, VALVE, METER
 - SS8"--- MH EXIST. SANITARY SEWER & MANHOLE
 - NEW SANITARY SEWER & MANHOLE
 - SEWER LATERAL W/ TWO-WAY CLEANOUT





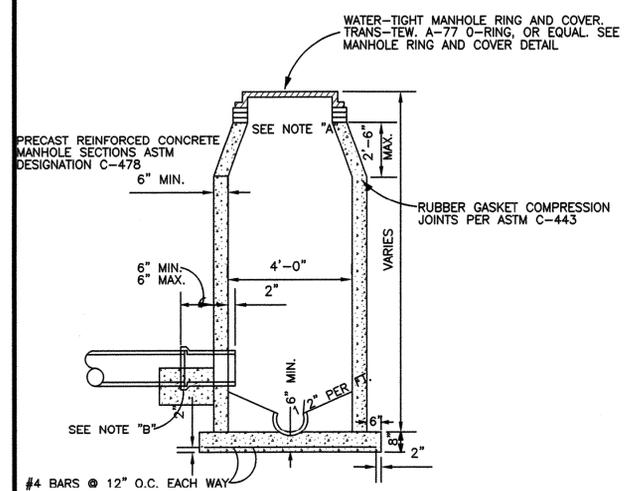
San Antonio Design Group Inc.
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 12719 SPECTRUM DRIVE, SUITE 100
 SAN ANTONIO, TEXAS 78249
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CITY OF LEON VALLEY WATER AND SANITARY SEWER PROJECTS DETAILS

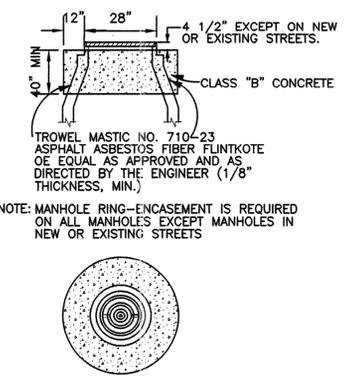
J.A.S.
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 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

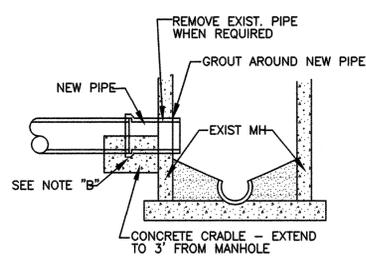
SHEET: **8**
 OF: **9**



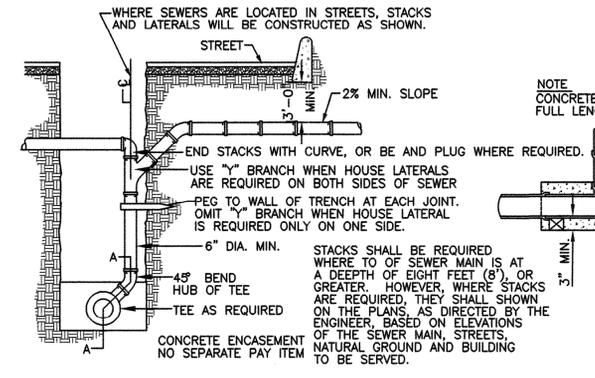
A PRECAST SANITARY SEWER MANHOLE
 SCALE: N.T.S.



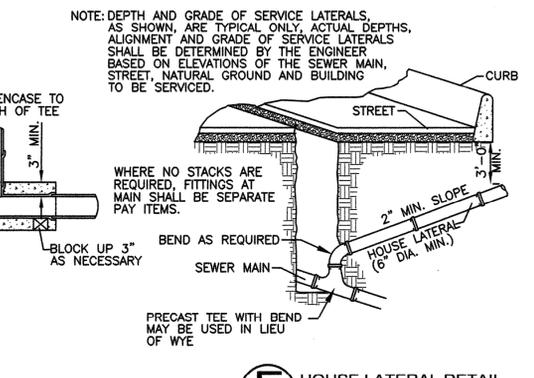
B MANHOLE RING ENCASEMENT DETAIL
 (ALL MANHOLES)
 SCALE: N.T.S.



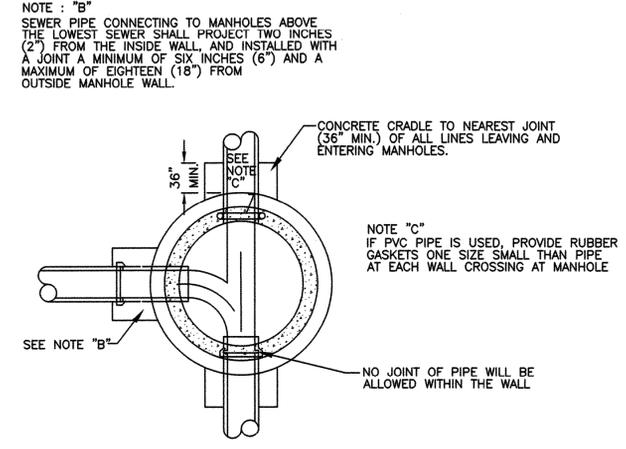
C CONNECT NEW PIPE TO EXIST. MANHOLE
 SCALE: N.T.S.



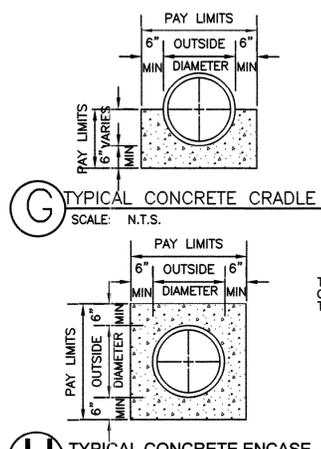
D TYPICAL STACK DETAIL
 SCALE: N.T.S.



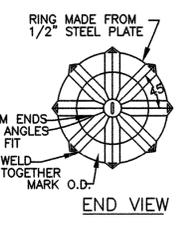
E HOUSE LATERAL DETAIL
 SCALE: N.T.S.



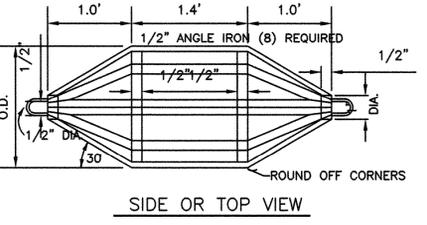
F MANHOLE FLOOR PLAN
 SCALE: N.T.S.



G TYPICAL CONCRETE CRADLE
 SCALE: N.T.S.



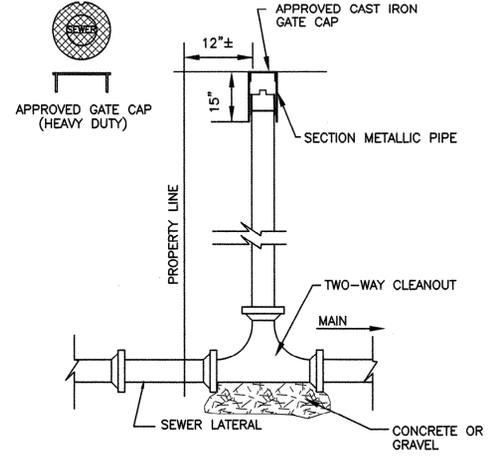
H TYPICAL CONCRETE ENCASE
 SCALE: N.T.S.



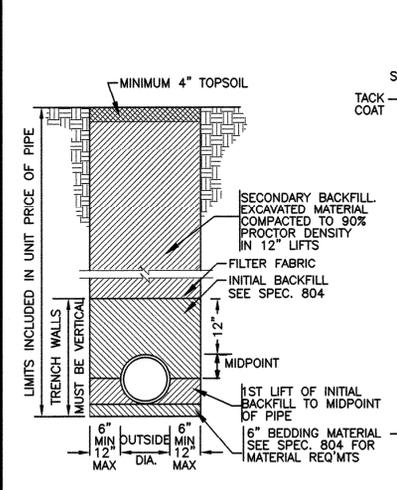
I GO/NO GO DEFLECTION TESTING MANDREL
 SCALE: N.T.S.

SIZE	A	B	MANDREL O. D.	PSM (SDR-26)
6"	4.0"	4"		5.43
8"	5.3"	6"		7.28
10"	6.7"	6"		9.10
12"	8.0"	8"		10.83
15"	10.0"	9"		13.26

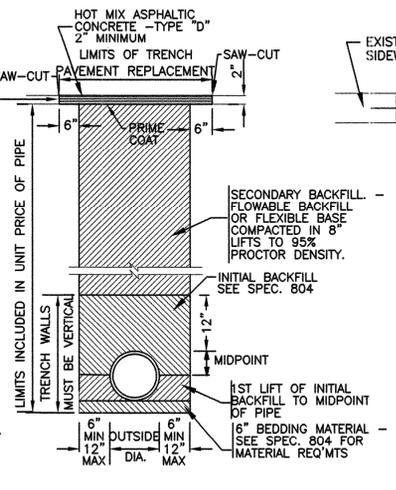
CHART



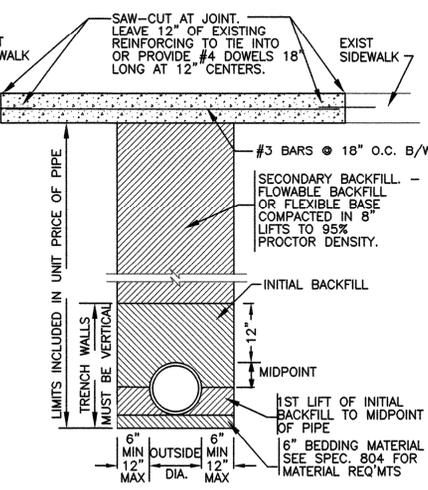
J TWO-WAY CLEANOUT



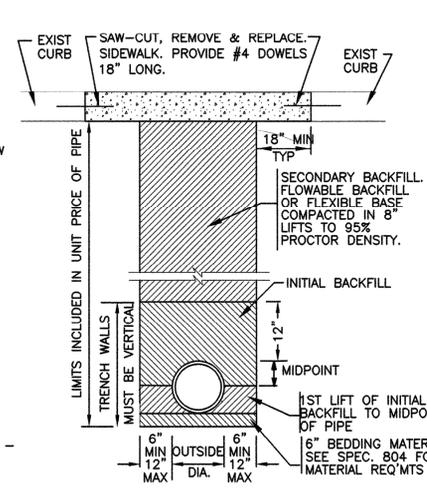
K TYPICAL PIPE BEDDING AND BACKFILL FOR AREAS WITHOUT TRAFFIC
 SCALE: N.T.S.



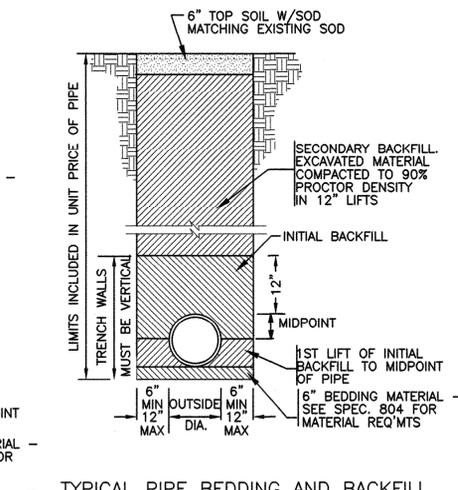
L TYPICAL PIPE BEDDING AND BACKFILL UNDER ASPHALT PAVEMENTS
 SCALE: N.T.S.



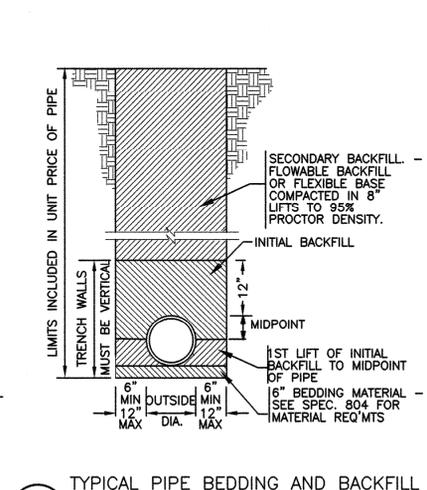
M SIDEWALK REPLACEMENT
 SCALE: N.T.S.



N CURB REPLACEMENT
 SCALE: N.T.S.



O TYPICAL PIPE BEDDING AND BACKFILL FOR GRASS AREAS
 SCALE: N.T.S.



P TYPICAL PIPE BEDDING AND BACKFILL ALLEYS & ROAD SHOULDERS
 SCALE: N.T.S.



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CITY OF LEON VALLEY WATER AND SANITARY SEWER PROJECTS
 DETAILS

J.A.S.
 DRAWN BY:
 S.A.C.
 CHECKED BY:
 S.A.C.
 APPROVED BY:
 MARCH 2013
 DATE:

REVISIONS

SHEET: **9**
 OF: **9**

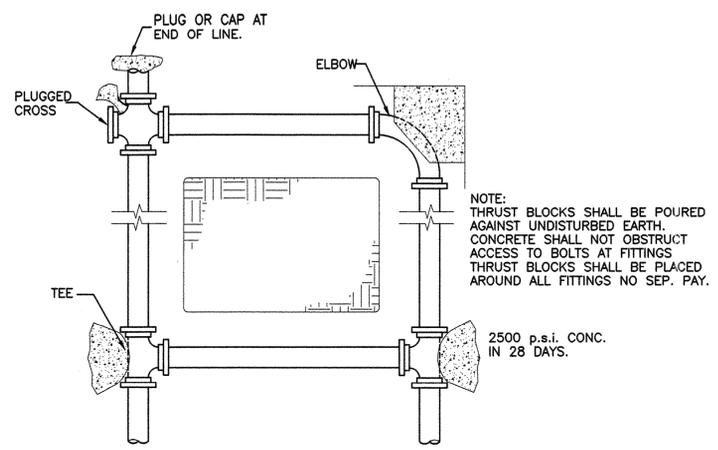
WATER SYSTEM GENERAL NOTES

1. MACHINE CHLORINATION WILL BE BY THE CONTRACTOR UNLESS OTHERWISE STATED.
2. CONTRACTOR TO DISINFECT AND HYDROSTATIC TEST MAINS IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM STANDARDS. CONTRACTOR TO CONDUCT ALL SAMPLING AND TESTING. FURNISH TEST RESULTS TO CITY BEFORE CONNECTING TO EXISTING MAIN.
3. ALL WATER LINES SHALL BE GRAVEL ENCASED, SIX-INCH (6") CUSHION AND TWELVE INCHES (12") ABOVE TOP OF PIPE.
4. ALL GATE VALVES SHALL BE RESILIENT SEAT LEFT OPEN, MUELLER A-2370 20 VALVES.
5. 8 MIL POLYETHYLENE WRAPPING WILL BE REQUIRED ON ALL DUCTILE IRON, CAST IRON AND FITTINGS.
6. ALL FITTINGS TO BE MECHANICAL JOINT WITH CONCRETE BLOCKING UNLESS OTHERWISE NOTED.
7. DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL BE PRESENT DURING ALL SAMPLING, TESTING OR TIE-INS BY THE CONTRACTOR (NO EXCEPTIONS).
8. TRENCH SAFETY REQUIREMENTS PERTAIN TO ALL WORK.
9. ALL FITTINGS SHALL BE MECHANICAL JOINT.
10. THE CONTRACTOR SHALL PROVIDE JOINT RESTRAINTS AND THRUST BLOCKING ON ALL FITTINGS.
11. COMPLY WITH SAN ANTONIO WATER SYSTEMS ITEM NO. SPECIFICATION 3000 "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE" WHERE THE SPECIFICATION INDICATES "SAN ANTONIO WATER SYSTEM" REPLACE WITH "CITY OF LEON VALLEY".

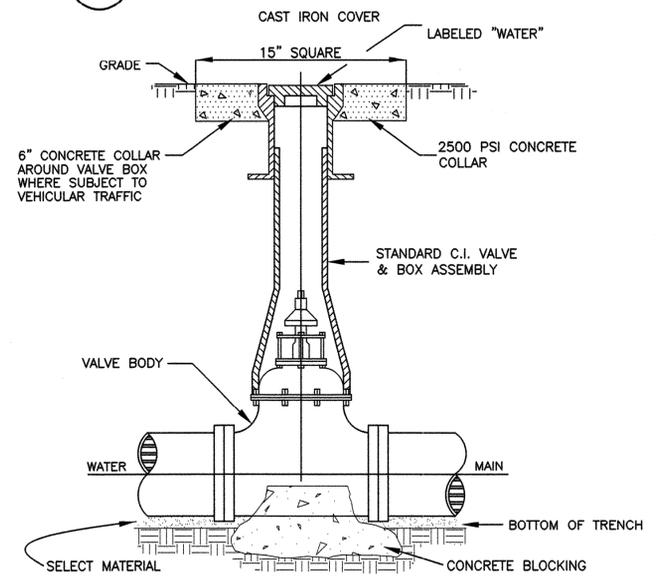
PIPE INSIDE DIA.	RESTRAINED LENGTH FOR PVC PIPE										
	HORIZONTAL BENDS				VERTICAL BENDS		DEAD END/ INLINE VALVES	TEES			REDUCERS
	1/4	1/8	1/16	1/32	UPPER	LOWER		8"X8"	8"X6"	6"X6"	
8"	17.9	7.4	3.6	1.8	10.2	2.6	50.0	31.2	11.6		10.4
6"	15.6	6.4	3.1	1.5	7.1	1.3	38.3			7.7	10.4

NOTES:
 LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:
 A. PIPE MATERIAL - PVC B. SAFETY FACTOR - 1.5 TO 1
 C. TEST PRESSURE - 150 PSI
 D. SOIL DESIGNATION - CL, INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY. LITTLE OR NO CHANCE SOIL WILL BECOME SATURATED.
 E. DEPTH OF COVER - 4 FEET (TYPICAL AND UPPER BEND)
 8 FEET (LOWER BEND)

(B) JOINT RESTRAINTS
 SCALE: N.T.S.



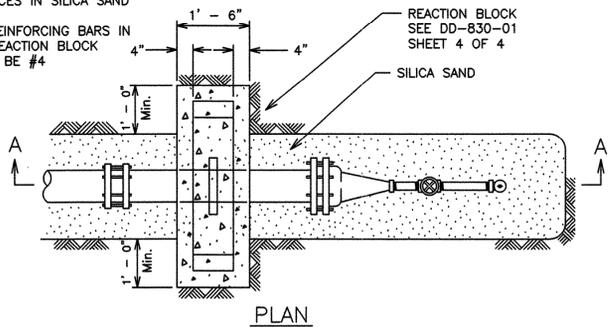
(A) TYPICAL THRUST BLOCKING
 SCALE: N.T.S.



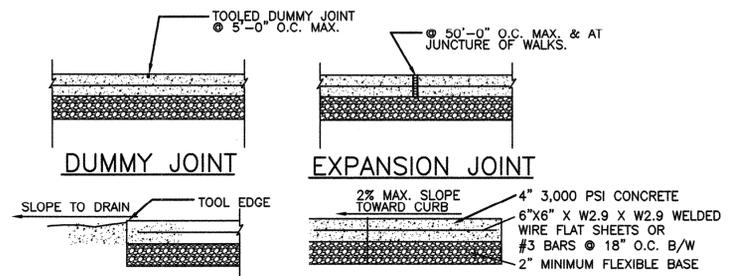
(C) TYPICAL VALVE BOX DETAIL
 SCALE: N.T.S.

NOTES:

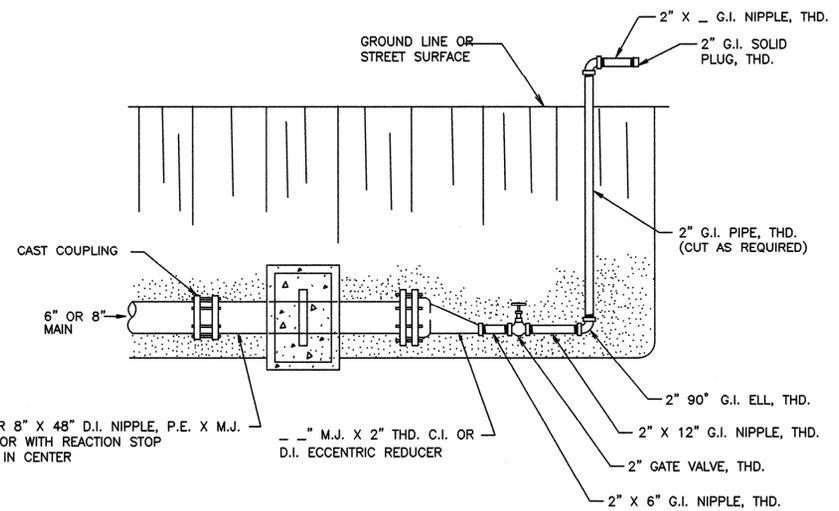
1. EMBED ALL EXTERIOR METAL SURFACES IN SILICA SAND
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE #4



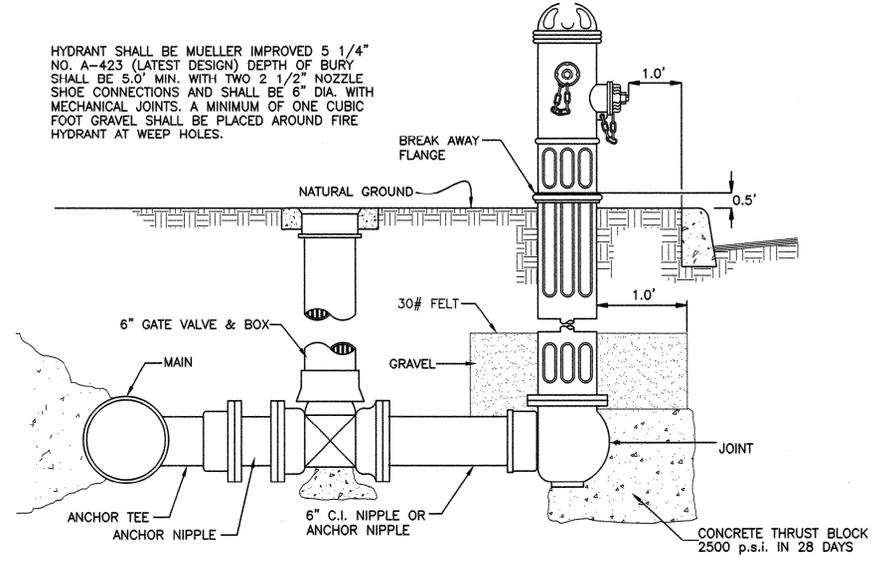
(E) 2" TEMPORARY BLOW OFF
 SCALE: N.T.S.



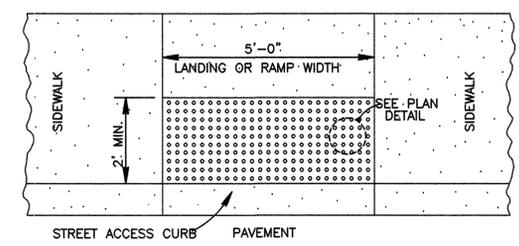
(D) SIDEWALK
 SCALE: N.T.S.



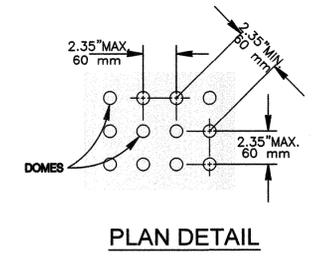
SECTION A-A



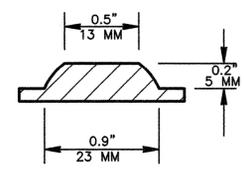
TYPICAL FIRE HYDRANT - PROFILE
 N.T.S.



DETECTABLE WARNING SURFACE
 SCALE: 1"=4"



PLAN DETAIL



DOMES SECTION