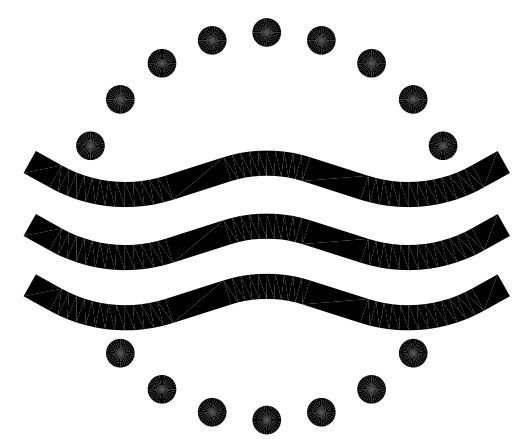


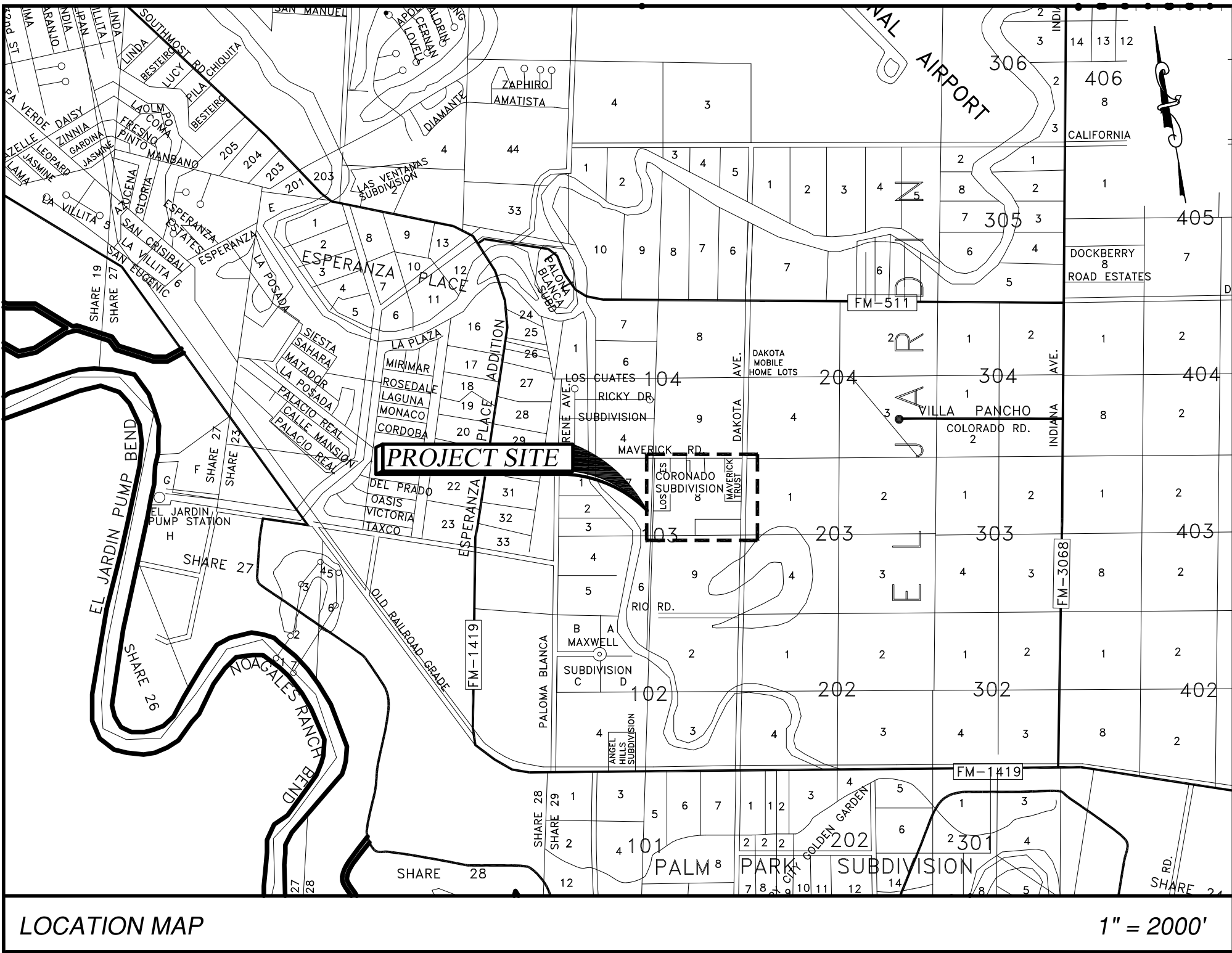
CONSTRUCTION PLANS  
FOR  
CAMERON COUNTY  
COLONIA CORONADO  
WASTEWATER IMPROVEMENTS PROJECT



B R O W N S V I L L E  
P U B L I C U T I L I T I E S B O A R D

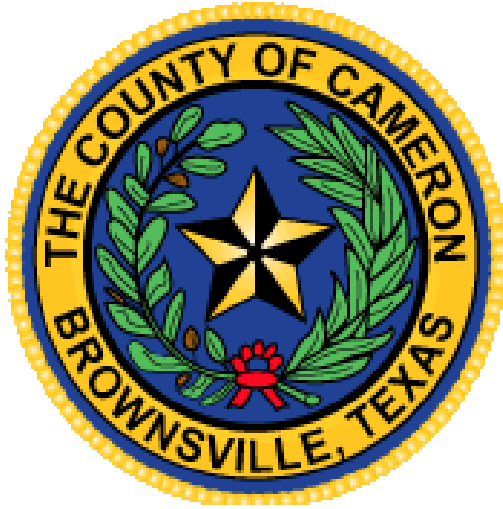
BOARD OF DIRECTORS

MARTIN C. ARAMBULA.....CHAIR  
CELESTINO "TINO" VILLARREAL.....VICE-CHAIR  
ANA E. OQUIN.....SECRETARY/TREASURER  
NURITH GALONSKY.....MEMBER  
RAFAEL S. CHACON.....MEMBER  
ARMANDO MAGALLANES.....MEMBER  
MAYOR ANTONIO "TONY" MARTINEZ.....EX-OFFICIO MEMBER



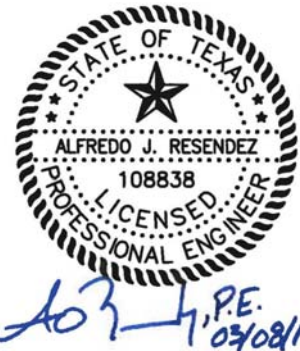
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CAMERON COUNTY COMMISSIONS COURT

HONORABLE EDDIE TREVIÑO, JR. ....COUNTY JUDGE  
SOFIA C. BENAVIDES.....COUNTY COMMISSIONER, Pct. 1  
JOEY LOPEZ.....COUNTY COMMISSIONER, Pct. 2  
DAVID A. GARZA.....COUNTY COMMISSIONER, Pct. 3  
GUSTAVO C. RUIZ.....COUNTY COMMISSIONER, Pct. 4  
DAVID A. GARCIA.....COUNTY ADMINISTRATOR



ALFREDO J. RESENDEZ, P.E.



GENERAL NOTES

- CONTRACTOR TO SUBMIT WORKPLAN DETAILING SEQUENCE OF CONSTRUCTION FOR REVIEW AND APPROVAL BY THE BROWNSVILLE PUBLIC UTILITY BOARD PRIOR TO BEGINNING OF CONSTRUCTION. WATER AND WASTEWATER SERVICES SHALL NOT BE INTERRUPTED BETWEEN THE HOURS OF 5:30 PM AND 6:00 A.M.
- CONTRACTOR TO GIVE A MINIMUM OF 48 HOURS NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
- NO SEPARATE PAY FOR ITEMS REQUIRED BY NOTES ON THIS SHEET.
- BLASTING IS NOT PERMITTED ON THIS PROJECT.
- ALL CONSTRUCTION OPERATIONS TO BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE.
- ELECTRICAL LINES ARE LOCATED IN THE PROJECT AREA. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 (C)) CONCERNING CONSTRUCTION OPERATIONS IN THE VICINITY OF ELECTRICAL LINES AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES.
- THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THE WORK. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS.
- ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE BROWNSVILLE PUBLIC UTILITY BOARD FOR REVIEW AND WRITTEN APPROVAL.
- EXISTING PAVING, BUILDING, AND OTHER ITEMS SHOWN ON PLANS NOT SPECIFICALLY RELATED TO THE WORK OF THE CONTRACTOR ARE FOR INFORMATION ONLY.
- CONTRACTOR TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL, INCLUDING METHODS OF HANDLING AND DISPOSAL. EXCESS SOIL, ROCK, AND SPOIL MATERIAL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
- CONTRACTOR TO MAINTAIN ACCESS TO PUBLIC AND PRIVATE FACILITIES, RESIDENCES, AND BUSINESSES DURING CONSTRUCTION. CONTRACTOR SHALL MAKE ALL EFFORTS TO KEEP DRIVEWAYS OPEN AND ACCESSIBLE DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES TO BE COORDINATED WITH OWNER'S REPRESENTATIVE AND THE BROWNSVILLE PUBLIC UTILITY BOARD. THE CONTRACTOR SHALL COORDINATE ALL DRIVEWAY CLOSURES WITH THE PROPERTY OWNER.
- THE CONTRACTOR SHALL COORDINATE TEMPORARY RELOCATION OF MAILBOXES WITH THE BROWNSVILLE POSTMASTER. FINAL LOCATION SHALL BE IN ACCORDANCE WITH THE LOCAL POST OFFICE REQUIREMENTS AT CONTRACTOR'S EXPENSE.
- CONTRACTOR TO TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS ARE TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR TO THE PRE-EXISTING CONDITION OR BETTER AT NO ADDITIONAL COST TO OWNER.
- LOCATION OF EXISTING UTILITIES SHOWN ON PLANS WAS COMPILED FROM RECORD INFORMATION. NO WARRANTY IS IMPLIED AS TO THE ACTUAL LOCATION OF EXISTING UTILITIES. CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE FOLLOWING:

DIG TESS:

TEXAS ONE CALL SYSTEM (TOCS)

BROWNSVILLE (BPUB)

BROWNSVILLE ENGINEERING DEPT.:

TEXAS GAS:

AT&T:

BROWNSVILLE IRRIGATION DISTRICT:

TXDOT:

1-800-DIG-TESS (811)

1-800-545-6005

956 983-6572

956-541-1012

1-800-700-2443

1-800-828-5127

956-831-8462

956-542-2260
- LOCATIONS AND DEPTHS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATIONS AND DEPTHS OF ALL APPLICABLE LINES, AND TO REPAIR ANY DAMAGES MADE AS A RESULT OF PROJECT CONSTRUCTION, INCLUDING UTILITIES NOT SHOWN ON THESE DRAWINGS.
- CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES WITH APPLICABLE UTILITY COMPANY OR COMPANIES. ALL WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED. (NO SEPARATE PAY).
- WHEN NOT LOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING OR A BREAK IN A LINE OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, CONTRACTOR TO NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN DIRECTION. CONTRACTOR TO COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
- CONTRACTOR TO ASSURE THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. PERMITS ARE TO BE OBTAINED AT THE CONTRACTOR'S EXPENSE.
- OWNER, ENGINEER, CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, AND A REPRESENTATIVE FROM THE TESTING LAB TO ATTEND PRE-CONSTRUCTION CONFERENCE PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, AND CONTROL POINTS. CONTRACTOR TO RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY A REGISTERED PUBLIC SURVEYOR IN THE STATE OF TEXAS AT THE CONTRACTOR'S EXPENSE.
- MATERIAL STORAGE, LAYDOWN, AND STAGING AREAS TO BE ON SAME SIDE OF ROADWAY AS ADJACENT WORK ZONE. STAGING AREAS ARE NOT TO BE USED FOR STOCKPILING SPOIL.
- SPOIL MATERIAL SHALL NOT BE MOUNDED MORE THAN 18" HIGH ADJACENT TO DRIVEWAYS.
- ANY DAMAGE CAUSED TO EXISTING PAVEMENT, CURBS, SIDEWALKS, ETC., SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF BROWNSVILLE/COUNTY ENGINEERING DEPARTMENT PRIOR TO ACCEPTANCE OF THE PROJECT.
- ALL JOINTS TO MATCH EXISTING PAVEMENT SHALL BE SAW CUT. PAVEMENT PATCHING SHALL BE IN ACCORDANCE WITH BROWNSVILLE PUBLIC UTILITY BOARD STANDARDS.
- ALL SIDEWALKS TO BE CUT OR PATCHED TO COMPLY WITH AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
- CONTRACTOR SHALL NOTIFY THE BROWNSVILLE PUBLIC UTILITY BOARD ENGINEERING DEPARTMENT AT LEAST 48 HOURS BEFORE DEMOLITION OF, OR CONNECTION WITH, ANY CITY UTILITY OR STREET.
- THE CONTRACTOR SHALL GIVE THE BROWNSVILLE PUBLIC UTILITY BOARD 24 HOUR ADVANCE NOTICE PRIOR TO PLACEMENT OF ANY CONCRETE, TO PERMIT THE REVIEW OF FORMS, REINFORCING STEEL PLACEMENT, AND OTHER PREPARATIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF BROWNSVILLE PUBLIC UTILITY BOARD STANDARD SPECIFICATIONS.
- BURNING OF TREES, BRUSH OR OTHER VEGETATIVE MATTER ON THE PROJECT SITE IS NOT PERMITTED.
- NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER OR ENGINEER, UNLESS OTHERWISE NOTED.
- FUEL STORAGE IS NOT ALLOWED ON THIS PROJECT.

- CONTRACTOR TO ADVISE OWNER IMMEDIATELY, VERBALLY AND IN WRITING, OF ANY FUEL OR TOXIC MATERIAL SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TO BE TAKEN TO REMEDY THE PROBLEM.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF THEIR FUELS, MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING & MAINTAINING SANITARY FACILITIES ON THIS PROJECT FOR EMPLOYEES.
- UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, ALL CONCRETE IS TO BE CLASS "K" (4000 PSI-28 DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60.
- PROJECT MANHOLE CASTINGS OF ALL TYPES SHALL BE BROUGHT TO FINISHED GRADE BY THE CONTRACTOR.
- PRIOR TO ACCEPTANCE OF THE PROJECT, ALL GRADED AND DISTURBED AREAS ARE TO BE RE-VEGETATED IN A CASE BY CASE BASIS.
- APPROPRIATE SHORING AND BRACING EQUIPMENT SHALL BE USED WHERE TRENCHES ARE DEEPER THAN FIVE (5') FEET OR WHERE CONDITIONS WARRANT, AND SHALL COMPLY WITH OSHA REGULATIONS.
- MAXIMUM LENGTH OF OPEN TRENCH TO BE 60', OR AS DIRECTED BY THE OWNER.
- NO CONSTRUCTION OPERATIONS RELATIVE TO INSTALLATION OF UTILITIES, INCLUDING STOCKPILING OF EXCAVATED MATERIALS, SHALL BE PERMITTED WITHIN THE LIMITS OF EXISTING PAVEMENTS CARRYING TRAFFIC ON STATE HIGHWAYS, OR SHOULDERS ADJACENT THERETO, UNLESS SPECIFICALLY AUTHORIZED BY THE TEXAS DEPARTMENT OF TRANSPORTATION.
- WHEN WORK IS PERFORMED ON PRIVATE PROPERTY OR EASEMENTS; ALL LAWN GRASS, SHRUBBERY, FLOWERS, AND FENCES IN THE WAY OF THE WORK SHALL BE REMOVED, PROTECTED AND REPLACED TO THEIR ORIGINAL POSITION AND CONDITION, OR BETTER, UPON COMPLETION OF THE WORK AT THE CONTRACTORS EXPENSE.
- ALL DIMENSIONS GIVEN ARE TO THE CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED. DO NOT ATTEMPT TO SCALE DIMENSIONS FROM THESE DRAWINGS. ALTHOUGH DRAWINGS ARE TO SCALE, THE ENGINEER SHOULD BE CONSULTED IF DIMENSIONING IS UNCLEAR OR INSUFFICIENT.
- PRE-CONSTRUCTION PHOTOGRAPHS SHALL BE TAKEN THAT SHOW EXISTING CONDITIONS OF THE SITE AND ADJOINING STRUCTURES TO REMAIN. PHOTOS SHALL INCLUDE DAMAGE TO FINISH SURFACES THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY DEMOLITION OPERATIONS .
- THE CONTRACTOR IS REQUIRED TO DISPOSE OF ALL MATERIALS AND PAY FOR ALL FEES RELATING TO DISPOSAL OF ALL MATERIAL IN COMPLIANCE WITH TCEQ AND EPA RULES AND REGULATIONS.
- EXISTING BUILDINGS, PAVEMENTS, SIDEWALKS, CURBS, DRIVEWAYS, ELECTRICAL TRANSFORMERS, DITCHES, DRAINAGE PIPES AND STRUCTURES, FENCES, FAINS, BUSHES, SIGNS, POWER POLES, ETC. TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. ANY DAMAGE, DURING CONSTRUCTION SHALL BE RESTORED, RECONSTRUCTED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE. ALL DAMAGES SHALL BE RESTORED OR REPLACED TO AT LEAST THEIR ORIGINAL CONDITION OR BETTER OR AS REQUIRED OR DICTATED BY FEDERAL, STATE, COUNTY, CITY OR LOCAL GOVERNING AGENCIES.

ABANDONMENT OF EXISTING SANITARY SEWER SYSTEM NOTES

- ALL SANITARY SEWER MANHOLES AND PIPING TO BE ABANDONED IN PLACE SHALL BE JETTED AND PUMPED CLEAN OF SEWAGE AND SLUDGE BY A TCEQ CERTIFIED HAULER. ALL SEWAGE SHALL BE DISPOSED OF ACCORDING TO TCEQ RULES.
  - DECOMMISSIONING OF SANITARY SEWER MANHOLES INCLUDES THE CRUSHING OF THE MANHOLE IN-PLACE AND BACKFILLING WITH NATURAL SOIL CLEAN OF CONSTRUCTION DEBRIS. THE MANHOLE SHALL BE CRUSHED TO A MINIMUM OF 4 FEET BELOW NATURAL GROUND. ALL BACKFILL SHALL BE COMPACTED TO 80- PERCENT STD. PROCTOR, REFERENCE ABANDONMENT OF SEWERS SPECIFICATION.
  - THE INSPECTOR SHALL INSPECT THE MANHOLE PRIOR TO THE CONTRACTOR DECOMMISSIONING STRUCTURE(S).
  - FLOWABLE FILL (ABANDONMENT GROUT) SHALL BE USED TO FILL ALL ABANDONED IN PLACE PIPES, REFERENCE ABANDONMENT OF SEWERS SPECIFICATION.
- ON-SITE SEWAGE FACILITY DECOMMISSIONING/REMOVAL NOTES
- ALL OSSF SHALL BE PUMPED CLEAN OF SEWAGE AND SLUDGE BY A TCEQ CERTIFIED HAULER. ALL SEWAGE SHALL BE DISPOSED OF ACCORDING TO TCEQ RULES.
  - DECOMMISSIONING OF OSSF BID ITEM INCLUDES THE CRUSHING OF THE OSSF IN PLACE AND BACKFILLING WITH NATURAL SOIL CLEAN OF CONSTRUCTION DEBRIS. THE OSSFS SHALL BE CRUSHED TO A MINIMUM OF 3 FEET BELOW NATURAL GROUND. ALL BACKFILL SHALL BE COMPACTED TO 80-PERCENT STD. PROCTOR.
  - REMOVAL OF OSSF BID ITEM INCLUDES THE COMPLETE REMOVAL OF TANKS AND PIPING ASSOCIATED WITH THE SEPTIC SYSTEM. THIS DOES NOT INCLUDE THE REMOVAL OF ABSORPTION FIELD DRAIN LINES. ABSORPTION FIELD DRAIN LINES SHALL BE CAPPED AND ABANDONED IN-PLACE.
  - FOR BOTH DECOMMISSIONING AND REMOVAL OF THE OSSFS SYSTEM. THE CONTRACTOR SHALL NOTE THAT A OSSF SYSTEM MAY INCLUDE MORE THAN ONE TANK. THE UNIT PRICE INCLUDES THE DECOMMISSIONING OR REMOVAL OF ALL OSSFS IN THE OSSF SYSTEM.
  - INSPECTOR SHALL INSPECT TANK PRIOR TO THE CONTRACTOR CRUSHING OR REMOVING THE STRUCTURE.

WATER AND WASTEWATER NOTES

- ALL PIPE BEDDING MATERIAL SHALL CONFORM TO DETAILS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING AND RECONNECTING ANY BROWNSVILLE PUBLIC UTILITY BOARD WATER AND WASTEWATER LINES, SERVICE TAPS, AND STORM SEWER WHERE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ANY REQUIRED RELOCATION OF GAS, CABLE, TELEPHONE OR ELECTRIC LINES WITH THE APPROPRIATE UTILITY OWNER.
- PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (ASTM D2241 CLASS 200 SDR 21), OR DUCTILE IRON (AWWA C-100, MIN. CLASS 50). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. SDR 35). GASKETED PVC SEWER MAIN FITTINGS SHALL BE USED TO CONNECT SDR-35 PVC TO SDR-26 PVC PRESSURE PIPE OR AWWA C-900 PVC PIPE, UNLESS SPECIFIED OTHERWISE
- WATER AND WASTEWATER LINES TO BE LAID WITH A MINIMUM COVER OF 48-INCHES BELOW FINISH GRADE UNLESS OTHERWISE NOTED.
- ANY POTABLE WATERLINE WHICH MUST BE RELOCATED SHALL BE COORDINATED WITH BROWNSVILLE PUBLIC UTILITIES BOARD.
- ALL MANHOLE COVERS SHALL BE 32" DIAMETER AND READ "BROWNSVILLE PUBLIC UTILITIES BOARD".
- THE DISTANCE FROM TOP OF SANITARY SEWER MANHOLE CONE TO FINISHED GRADE TO BE 12" OR LESS UNLESS NOTED OTHERWISE ON PLANS.
- EXISTING WASTEWATER LINES SHALL BE KEPT IN SERVICE UNTIL PROPOSED WASTEWATER SYSTEM IMPROVEMENTS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER.
- CONTRACTOR TO CONSTRUCT WASTEWATER GRAVITY MAIN FROM DOWNSTREAM END TO TO UPSTREAM END WITH BELLS FACING UPSTREAM.
- ALL MANHOLES TO BE BENCHED IN THE DIRECTION OF FLOW TO MINIMIZE TURBULENCE.
- ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH TCEQ REQUIREMENTS.
- THE CONTRACTOR SHALL PERFORM QUALITY TESTING FOR THE WATER AND WASTEWATER SYSTEM INSTALLED AND AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS AT HIS EXPENSE. BROWNSVILLE P.U.B. TO BE GIVEN 48 HRS NOTICE PRIOR TO ALL TESTING AND SHALL BE MONITORED BY BROWNSVILLE PUB PERSONNEL. TESTING IS TO BE DONE IN ACCORDANCE WITH B.P.U.B. STANDARDS.
- ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
- PROPOSED WATER AND SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD WITH AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE SINGLE SERVICES UNLESS DECIDED OTHERWISE BY FIELD TECHNICIAN DURING CONSTRUCTION.
- CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICE CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2' FEET MINIMUM COVER AT THE EXISTING HOME. THE CONTRACTOR SHALL VERIFY THAT SERVICE LINE HAS ADEQUATE DEPTH TO REACH THE RESIDENCE'S EXISTING SEWER CONNECTION(S).
- CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.

- WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE TO FINISH GRADE AS PER DETAIL. REFERENCE WASTEWATER DETAILS TYPICAL PIPE BEDDING AND TRENCH BACKFILL.
- ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS, NO SEPARATE PAY.
- CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER L.F.(LINEAR FOOT) OF SEWER LINE. NO SEPARATE PAY.

YARDLINE INSTALLATION NOTES

- ALL YARDLINE MATERIAL AND INSTALLATION METHODS SHALL MEET ALL STATE AND LOCAL PLUMBING CODES.
- ALL INSTALLATION WORK SHALL BE CONDUCTED BY A LICENSED PLUMBER.
- ALL YARDLINES SHALL BE CONSTRUCTED OF 4-INCH DIAMETER SCH 40 PVC UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL YARDLINE TRENCHES SHALL BE COMPACTED TO 80-PERCENT STD. PROCTOR.
- ALL YARDLINES SHALL BE CONSTRUCTED WITH A CLEANOUT AT EACH BEND AND AT EVERY 100- FEET. CLEANOUTS SHALL BE INSTALLED 6" BELOW THE FINISH NATURAL GROUND.
- THE CONTRACTOR IS RESPONSIBLE FOR CONNECTING ALL SERVICE TAPS FROM THE HOME.
- PRIOR TO THE BEGINNING OF WORK EACH SITE, THE CONTRACTOR SHALL COORDINATE WITH BPUB AND THE INSPECTOR TO VERIFY THE BEST LOCATION FOR THE PROPOSED YARDLINE. ONCE THE BEST ROUTE IS DETERMINED BY THE PARTIES, THE CONTRACTOR SHALL MARK THE LOCATION WITH PAINT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL FOR THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE BEGINNING OF ANY WORK IN A PARTICULAR AREA.
- SANITARY SEWER HOUSE SERVICE TAPS MAY REQUIRE AIR VENTS AND OTHER PLUMBING CODE REQUIREMENTS. THE COST ASSOCIATED WITH ADDING THESE ITEMS IS CONSIDERED SUBSIDIARY TO THE UNIT COST OF THE YARDLINE HOOK UP.

TESTING NOTES

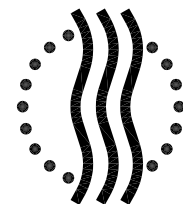
- BROWNSVILLE PUBLIC UTILITY BOARD TO BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING OF WATER LINES, WASTEWATER LINES, AND DENSITY TESTING. REFER TO SPECIFICATION 02537 AND TCEQ NOTES FOR TESTING REQUIREMENTS. ALL TESTING TO BE CONDUCTED IN PRESENCE OF B.P.U.B. FIELD TECHNICIAN.
- THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY BROWNSVILLE PUB PERSONNEL. TESTING IS TO BE DONE IN ACCORDANCE WITH BPUB STANDARDS.
- ALL SANITARY SEWERS, EXCLUDING SERVICE LINES, SHALL BE MANDREL TESTED PER TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CRITERIA. MANDREL TEST SHALL NOT BE PERFORMED UNTIL BACKFILL HAS BEEN IN PLACE FOR A MINIMUM OF 30 DAYS.
- SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS TESTS TO BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY UNDER CONTRACT WITH THE OWNER. TESTS WHICH SHOW UNSATISFACTORY RESULTS ARE TO BE REPEATED AT THE EXPENSE OF THE CONTRACTOR SUBSEQUENT TO CONTRACTOR'S REMEDIAL ACTIVITIES.
- DENSITY TESTING OF COMPACTED SUBGRADE MATERIAL FOR FIRST COURSE, AND SECOND COURSE OF COMPACTED BASE SHALL BE MADE AT ALL DRIVEWAYS AND INTERSECTING STREETS. IN ADDITION, ONE (1) DENSITY TEST PER LIFT PER FIVE HUNDRED (500) FEET OF INSTALLED PIPELINE SHALL BE CONDUCTED.

SITE GRADING NOTES

- EROSION CONTROL MEASURES MUST BE INSTALLED PRIOR TO DISTURBING EXISTING GRADE WITHIN ANY WORK AREA. SUCH MEASURES SHALL REMAIN IN PLACE UNTIL WORK IS COMPLETE AND/OR GRASS IS ESTABLISHED, AS DIRECTED BY OWNER.
- CONTRACTOR TO CONTROL DUST CAUSED BY THE WORK AND COMPLY WITH POLLUTION CONTROL REGULATIONS OF GOVERNING AUTHORITIES. (NO SEPARATE PAY.)
- CONTRACTOR IS RESPONSIBLE FOR CLEANING MUD AND/OR DIRT TRACKED ONTO EXISTING STREETS BY HIS WORKMEN'S, SUPPLIER'S, OR SUBCONTRACTOR'S VEHICLES. STREETS MUST BE CLEANED WITHIN 2 HOURS OF WHEN THE TRACKING OCCURS. (NO SEPARATE PAY.)
- REINFORCED FILTER FABRIC FENCE TO BE INSTALLED AROUND STOCKPILE ON DOWNSTREAM SIDE AND BOTH SIDES ADJACENT TO THE DOWNSTREAM SIDE. STOCKPILES ARE NOT TO TRAP OR POND WATER. TOPSOIL TO BE STOCKPILED SEPARATELY. ALL EXCESS EXCAVATED MATERIAL IS TO BE REMOVED FROM THE SITE, CONTRACTOR TO NOTIFY TCEQ AND THE OWNER'S REPRESENTATIVE OF LOCATION OF DISPOSAL BEFORE MATERIAL IS REMOVED.

TRAFFIC CONTROL NOTES

- CONTRACTOR SHALL DEVELOP AND SUBMIT A TRAFFIC CONTROL PLAN WHICH WILL SHOW BOTH DAY AND NIGHT TIME OPERATIONS FOR THE INSTALLATION OF THE UTILITY IMPROVEMENTS IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND TXDOT STANDARDS. CONTRACTOR IS TO SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT AND BROWNSVILLE PUBLIC UTILITIES BOARD PRIOR TO START OF CONSTRUCTION. ANY WORK PERFORMED WITHIN A TXDOT RIGHT OF WAY SHALL REQUIRE A TXDOT PERMIT FOR WORK. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO TXDOT FOR APPROVAL.
- THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN BARRICADES, WARNING SIGNS AND OTHER TRAFFIC HANDLING DEVICES OF THE SIZE AND TYPE SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR AS DIRECTED BY THE ENGINEER OR HIGHWAY DEPARTMENT OFFICIAL.
- THE CONTRACTOR SHALL INSPECT AND PROPERLY MAINTAIN TRAFFIC CONTROLS EACH EVENING AND DURING THE WEEKEND IN ADDITION TO NORMAL DAYTIME WORKING HOURS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH INSTALLATION AND MAINTENANCE OF TRAFFIC CONTROLS.
- THE CONTRACTOR SHALL DESIGNATE ONE PERSON WHO WILL BE ACCESSIBLE TO THE OWNER ON A 24-HOUR BASIS AND WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE BARRICADES AND THE WORK SITE.
- TRAFFIC INTERRUPTION SHALL BE COORDINATED WITH THE TEXAS DEPARTMENT OF TRANSPORTATION, THE BROWNSVILLE PUBLIC UTILITY BOARD, FIRE AND POLICE DEPARTMENTS, AND THE ENGINEER AT LEAST 24 HOURS IN ADVANCE OF SUCH INTERRUPTIONS.
- STREET BARRICADES TO BE INSTALLED ON ALL DEAD END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY.



BROWNSVILLE  
PUBLIC UTILITIES BOARD

Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-869-2922  
Water and Wastewater  
Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
GENERAL NOTES

|                          |                  |
|--------------------------|------------------|
| Scale: N.T.S.            | Date: MARCH 2019 |
| Designed by: D. ABRIGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABRIGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

SHEET

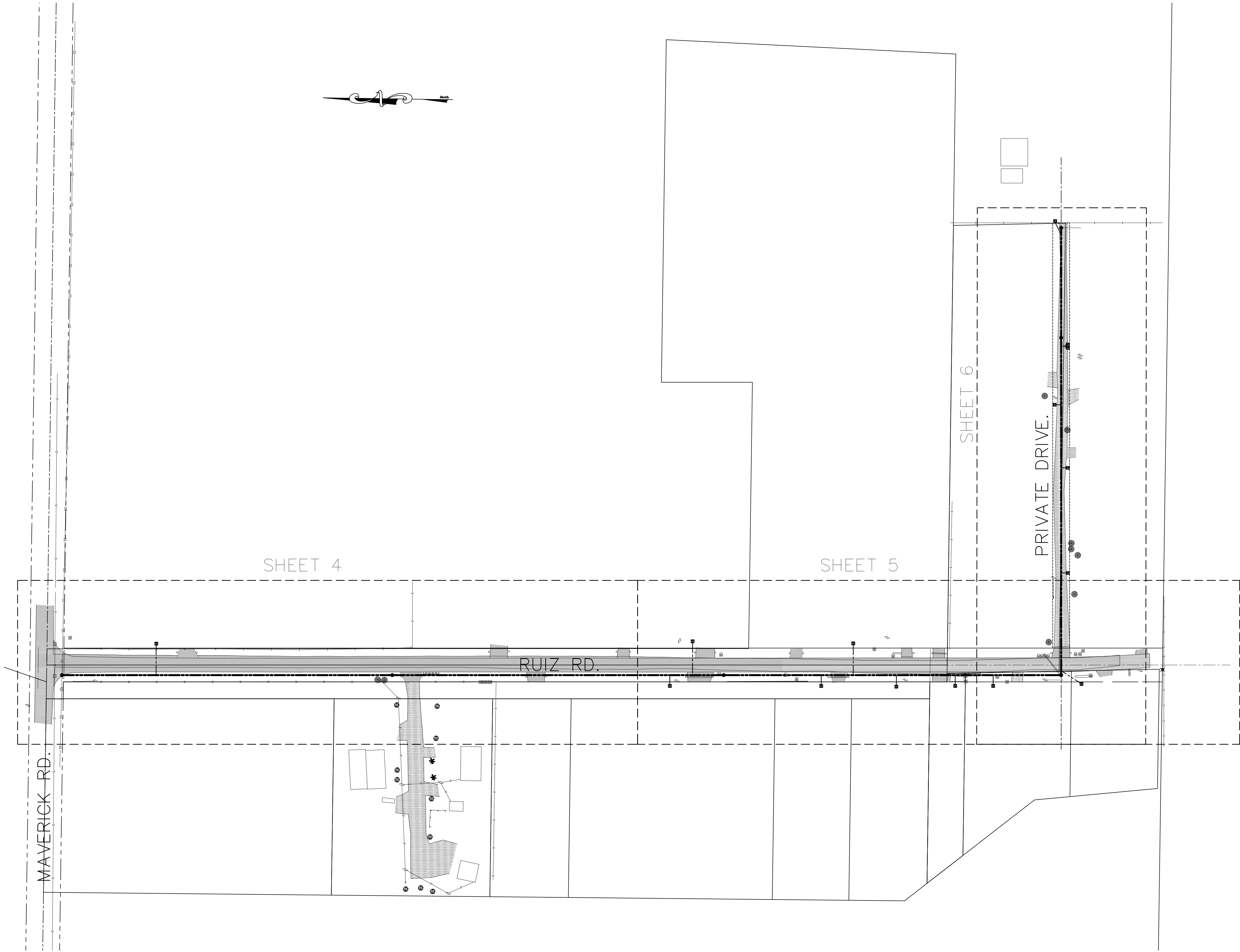
2  
OF 14





T.B.M.

FOUND RAILROAD SPIKE ON POWER POLE AT THE NORTH RIGHT-OF-WAY OF MAVERICK AVE. AND APPROXIMATELY 50 FEET, MORE OR LESS, WEST OF RUIZ ROAD.  
EL=25.52



|                          |                  |
|--------------------------|------------------|
| Scale: 1"=60'            | Date: MARCH 2019 |
| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

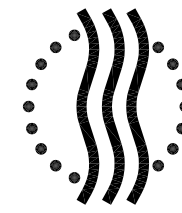
SHEET  
3  
OF 14

COLONIA CORONADO  
OVERALL - RUIZ RD

COLONIA CORONADO  
WASTEWATER IMPROVEMENTS



Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-869-2922  
Water and Wastewater  
Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220

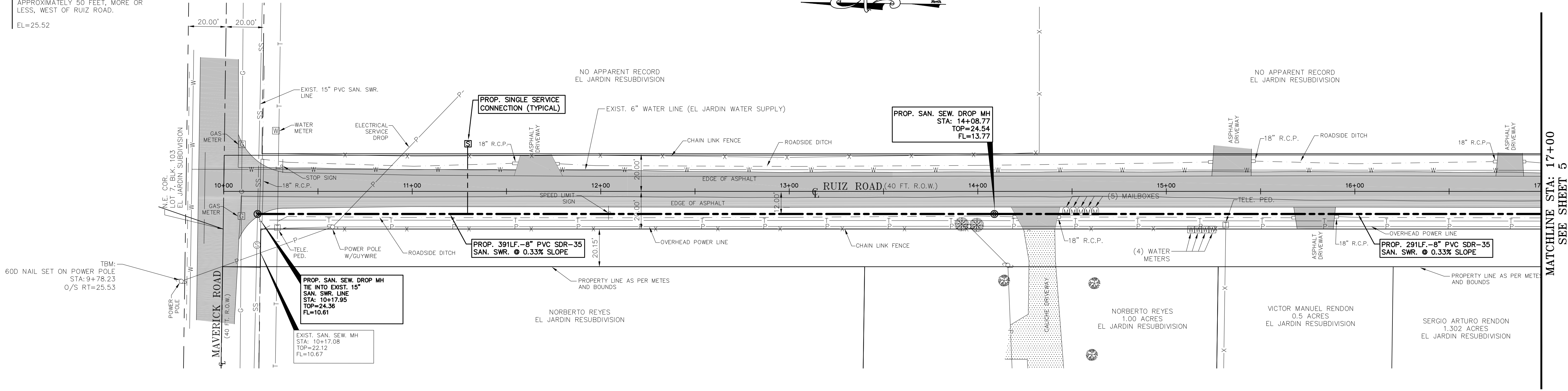


BROWNSVILLE  
PUBLIC UTILITIES BOARD



T.B.M.

FOUND RAILROAD SPIKE ON POWER  
POLE AT THE NORTH RIGHT-OF-WAY  
OF MAVERICK AVE. AND  
APPROXIMATELY 50 FEET, MORE OR  
LESS, WEST OF RUIZ ROAD.  
EL=25.52

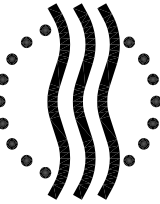
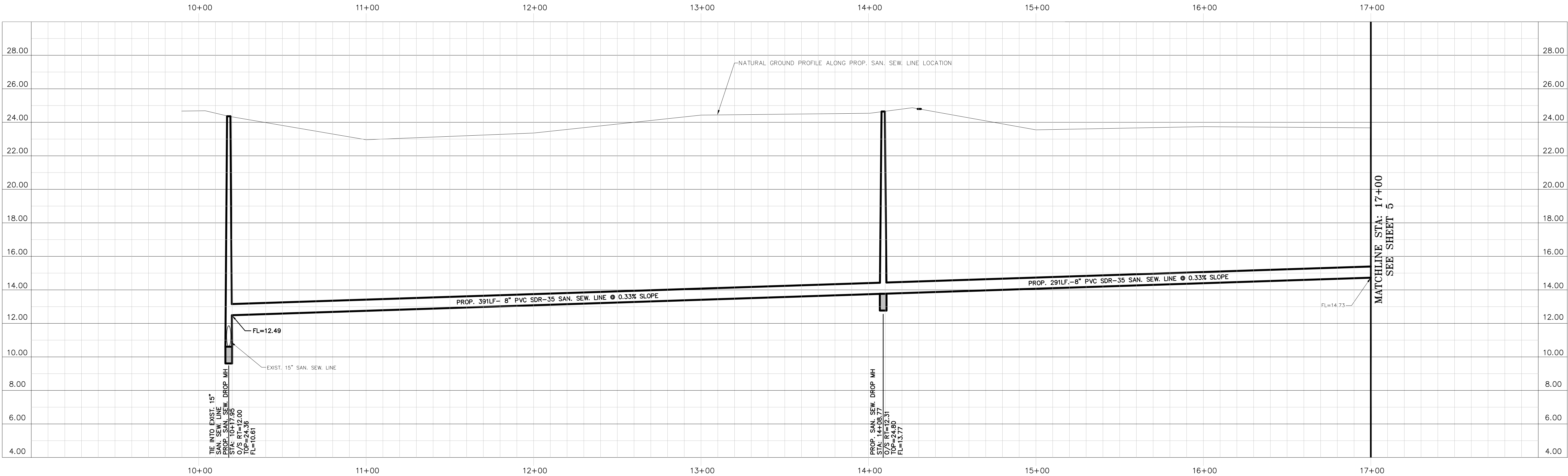


NOTES:

- CONTRACTOR SHALL CENTER ONE 20 FT. JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
- ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
- PROPOSED SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD WITH AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE SINGLE SERVICES UNLESS DECIDED OTHERWISE BY FIELD INSPECTOR DURING CONSTRUCTION.

- CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"=INCH PER FOOT PLUS 2" MINIMUM COVER AT THE EXISTING HOME.
- CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.
- WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 10.

- ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS. NO SEPARATE PAY.
- CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.
- WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER L.F.(LINEAR FOOT) OF SEWER LINE. NO SEPARATE PAY.



BROWNSVILLE  
PUBLIC UTILITIES BOARD

Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-849-2922  
Water and Wastewater  
Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
RUIZ RD.  
PLAN AND PROFILE  
STA. 10+00 TO 17+00

|                          |                  |
|--------------------------|------------------|
| Scale: 1:30              | Date: MARCH 2019 |
| Designed by: D. ABRIGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABRIGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

SHEET

4

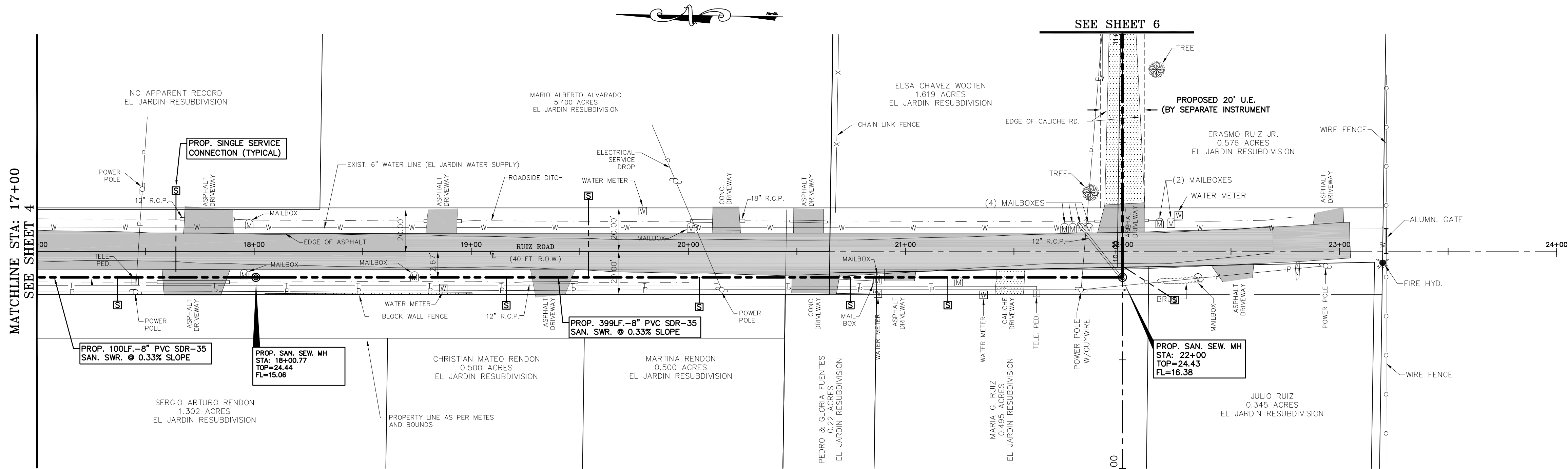
OF 14





T.B.M.

FOUND RAILROAD SPIKE ON POWER  
POLE AT THE NORTH RIGHT-OF-WAY  
OF MAVERICK AVE. AND  
APPROXIMATELY 50 FEET, MORE OR  
LESS, WEST OF RUIZ ROAD.  
EL=25.52

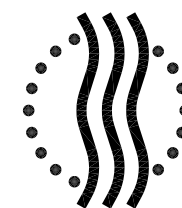
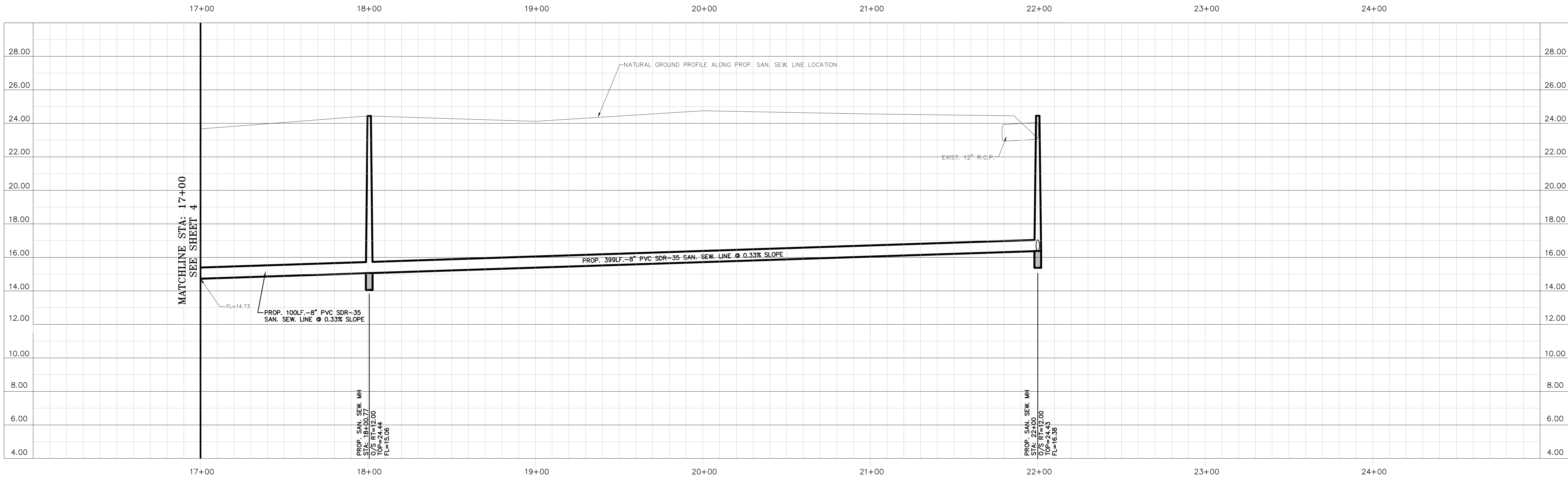


NOTES:

1. CONTRACTOR SHALL CENTER ONE 20 FT JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
2. ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY, COST SUBSIDIARY TO OTHER ITEMS.
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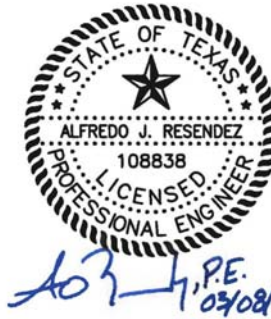
4. CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2" MINIMUM COVER AT THE EXISTING HOME.
5. CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES, 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.
6. WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 10.

7. ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS, NO SEPARATE PAY.
8. CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.
9. WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER L.F.(LINEAR FOOT) OF SEWER LINE, NO SEPARATE PAY.



PUBLIC UTILITIES BOARD

Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
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Water and Wastewater  
Engineering Department  
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FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
PLAN & PROFILE  
RUIZ RD  
STA. 17+00 TO END

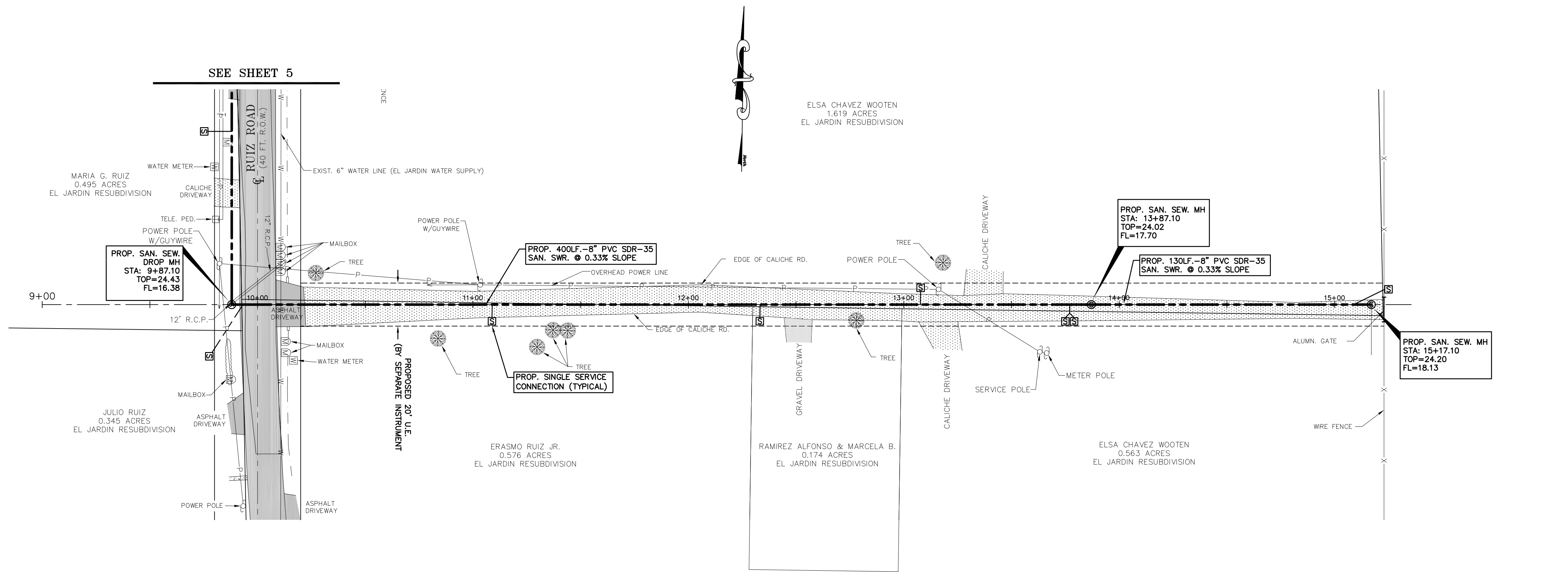
|                          |                  |
|--------------------------|------------------|
| Scale: 1:30              | Date: MARCH 2019 |
| Designed by: D. ABRIGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABRIGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

SHEET

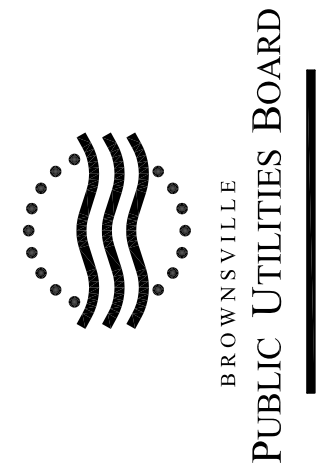
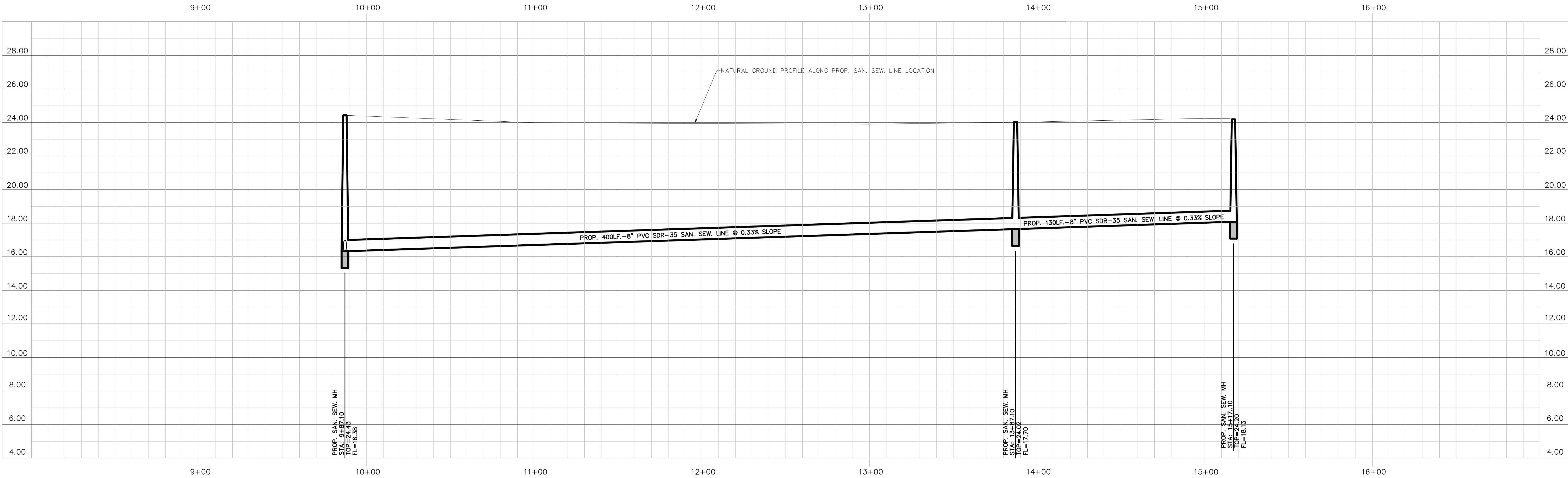
5

OF 14

T.B.M.  
FOUND RAILROAD SPIKE ON POWER  
POLE AT THE NORTH RIGHT-OF-WAY  
OF MAVERICK AVE. AND  
APPROXIMATELY 50 FEET, MORE OR  
LESS, WEST OF RUIZ ROAD.  
EL=25.52



- NOTES:
- CONTRACTOR SHALL CENTER ONE 20 FT JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
  - ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY, COST SUBSIDIARY TO OTHER ITEMS.
  - PROPOSED SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD WITH AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE SINGLE SERVICES UNLESS DECIDED OTHERWISE BY FIELD INSPECTOR DURING CONSTRUCTION.
  - TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2" MINIMUM COVER AT THE EXISTING HOME.
  - CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE.
  - CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES, 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.
  - WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 10.
  - ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS. NO SEPARATE PAY.
  - CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.
  - WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER L.F.(LINEAR FOOT) OF SEWER LINE. NO SEPARATE PAY.



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Engineering Department  
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FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
PRIVATE DRIVE  
PLAN AND PROFILE  
STA. 10+00 TO END

|                          |                  |
|--------------------------|------------------|
| Scale: 1:30              | Date: MARCH 2019 |
| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |



RAILROAD SPIKE 1 FOOT SOUTH OF THE  
NORTH EDGE OF PAVEMENT ALONG THE  
INTERSECTION OF MAVERICK ROAD AND  
CORONADO ROAD  
STA: 9+87.49  
O/S LT=0.68

**JOSE M. & PATRICIA CORONADO**  
0.596 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 5757, PG. 157, C.C.O.R.)

**PEDRO SORIANO**  
0.270 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 5548, PG. 150, C.C.O.R.)

**MICHAELA L. CORONADO**  
0.414 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 16676, PG. 199, C.C.O.R.)

**ALMA SENA MENDOZA**  
0.307 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 5548, PG. 146, C.C.O.R.)

**BERTHA ALICIA BARBA**  
0.359 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 5548, PG. 142, C.C.O.R.)

**NORBERTO & EUSTACIA REYES**  
0.575 AC.  
LOT 8, BLK. 103  
EL JARDIN RESUBDIVISION  
(VOL. 5778, PG. 264, C.C.O.R.)

**DROP MH EXIST. 15" SWR. LINE STA: 10+21.47 O/S RT=7.0' TOP=-22.76 FL=9.89**

**EXIST. SAN. SWR. MH STA: 10+21.10 TOP=-20.28 FL=9.93**

**PROF. 379LF--8" SAN. SEW. LINE SDR-35 @ 0.33% SLOPE**

**PROF. 379LF--8" SAN. SEW. LINE SDR-35 @ 0.33% SLOPE**

**PROF. SAN. SEW. MH STA: 14+00.16 O/S RT=7.0' TOP=-22.85 FL=16.75**

**PROF. 279LF--8" SAN. SEW. LINE SDR-35 @ 0.33% SLOPE**

**4. CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2" MINIMUM COVER AT THE EXISTING HOME.**

**5. CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.**

**6. WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 10.**

**8. CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.**

**9. WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER LF (LINEAR FOOT) OF SEWER LINE. NO SEPARATE PAY.**

**7. ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS. NO SEPARATE PAY.**

**10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00**

1. CONTRACTOR SHALL CENTER ONE 20 FT JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
2. ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT CASTERS AND RINGS. ALL MANHOLES MARKED WITH \_\_\_\_\_ MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
3. PROPOSED SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD BY AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE VERIFIED BY SERVICES UNLESS DECIDED OTHERWISE BY FIELD INSPECTOR DURING CONSTRUCTION.

4. CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2' MINIMUM COVER AT THE EXISTING HOME.

5. CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.

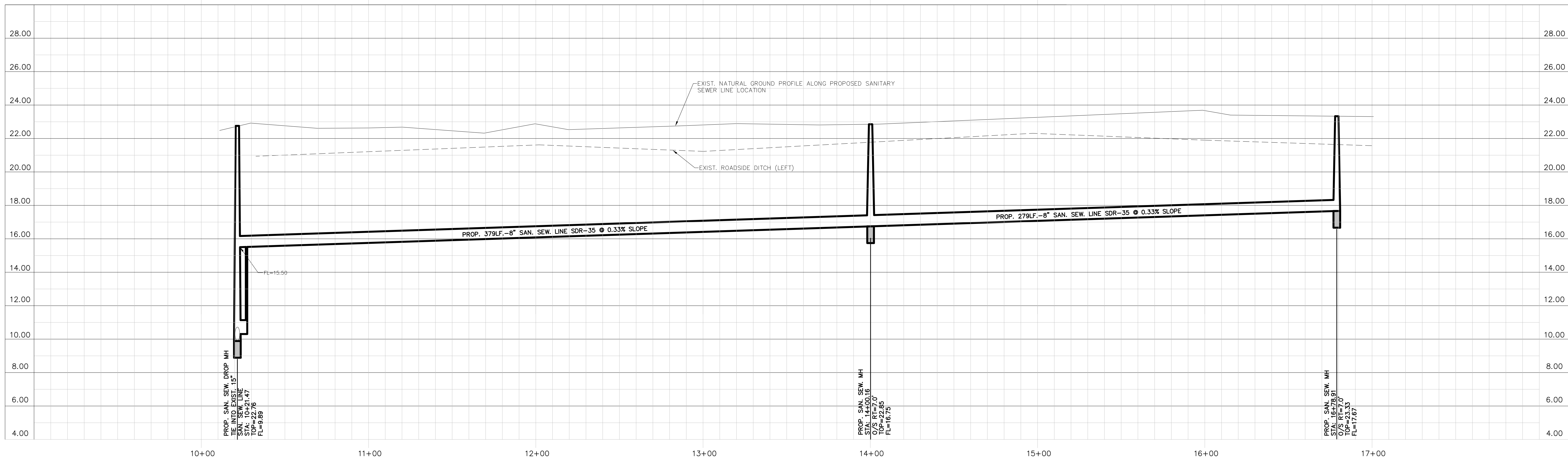
5. CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.

6. WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 10.

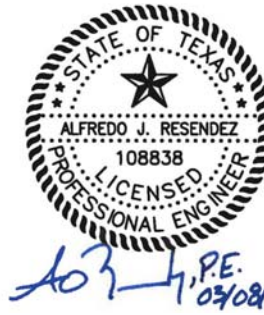
8. CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.

9. WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE  
ITEM'S PRICE PER L.F.(LINEAR FOOT)  
OF SEWER LINE. NO SEPARATE PAY.

7. ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS, NO SEPARATE PAY.



Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-869-2922  
Water and Wastewater  
Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220



# COLONIA CORONADO WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
CORONADO RD.  
PLAN AND PROFILE  
COLONIA CORONADA

|                          |                  |
|--------------------------|------------------|
| Scale: 1:30              | Date: MARCH 2019 |
| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

SHEET

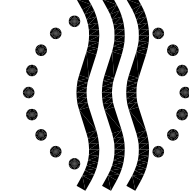
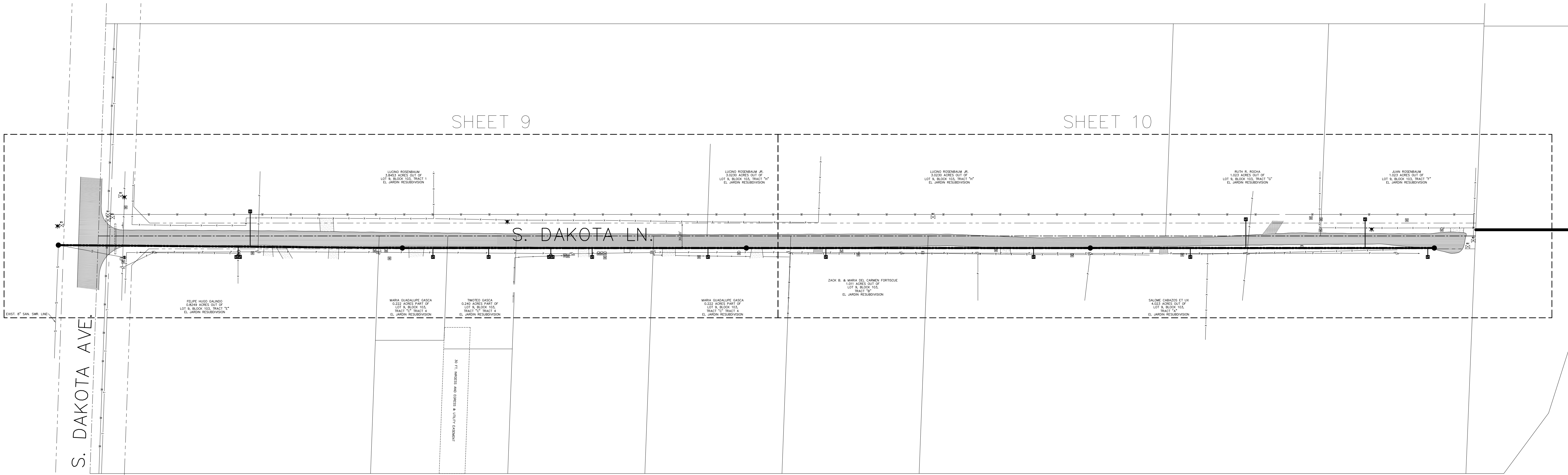
7

OF 14



T.B.M.

FIRE HYDRANT LOCATED AT STATION  
24+90.30 ALONG THE SOUTH  
RIGHT-OF-WAY OF SOUTH DAKOTA LANE  
EL=28.57



BROWNSVILLE  
PUBLIC UTILITIES BOARD

Public Utilities Board  
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Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
OVERALL - S. DAKOTA LN.

|                          |                  |
|--------------------------|------------------|
| Scale: 1"=60'            | Date: MARCH 2019 |
| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

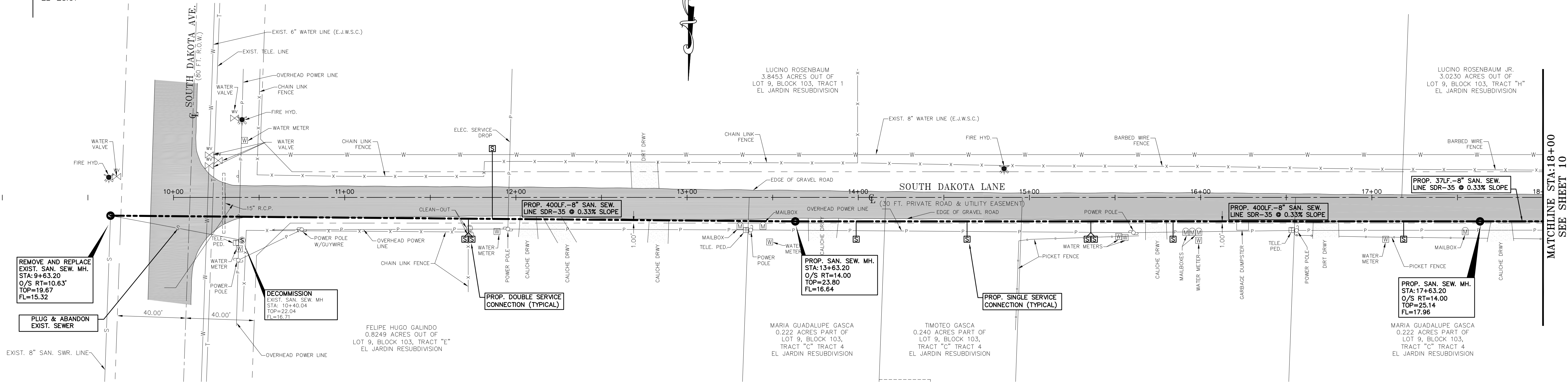




T.B.M.

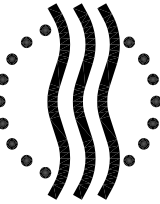
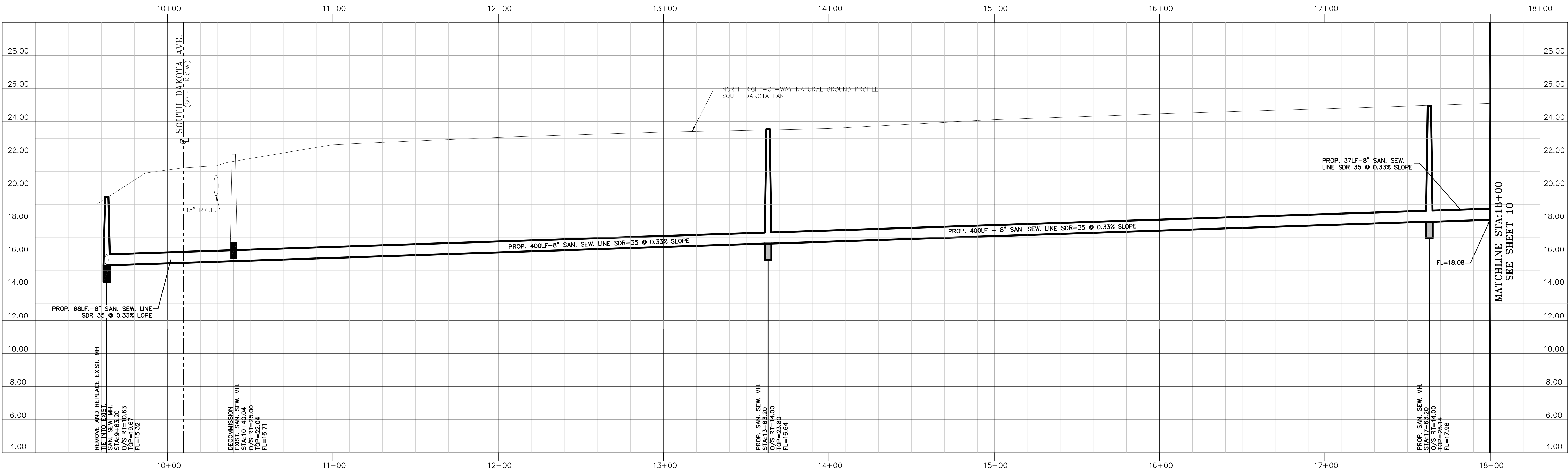
FIRE HYDRANT LOCATED AT STATION  
24+90.30 ALONG THE SOUTH  
RIGHT-OF-WAY OF SOUTH DAKOTA LANE

EL=28.57



NOTES:

1. CONTRACTOR SHALL CENTER ONE 20 FT JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
2. ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
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5. CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.
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BROWNSVILLE  
PUBLIC UTILITIES BOARD

Public Utilities Board  
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COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

COLONIA CORONADO  
PLAN & PROFILE  
PLAN AND PROFILE  
STA. 10+00 TO 18+00

Scale: 1:30 Date: MARCH 2019  
Designed by: D. ABRIGO  
Drawn by: A. HERNANDEZ  
Checked by: D. ABRIGO  
Approved by: A. RESENDEZ  
Project #:

SHEET  
9  
OF 14

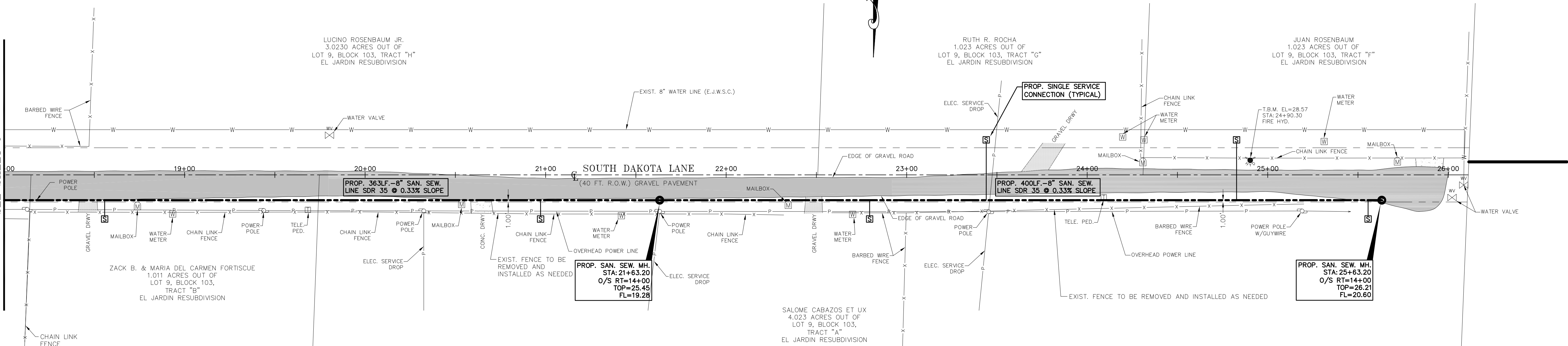




T.B.M.

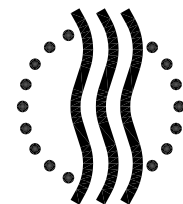
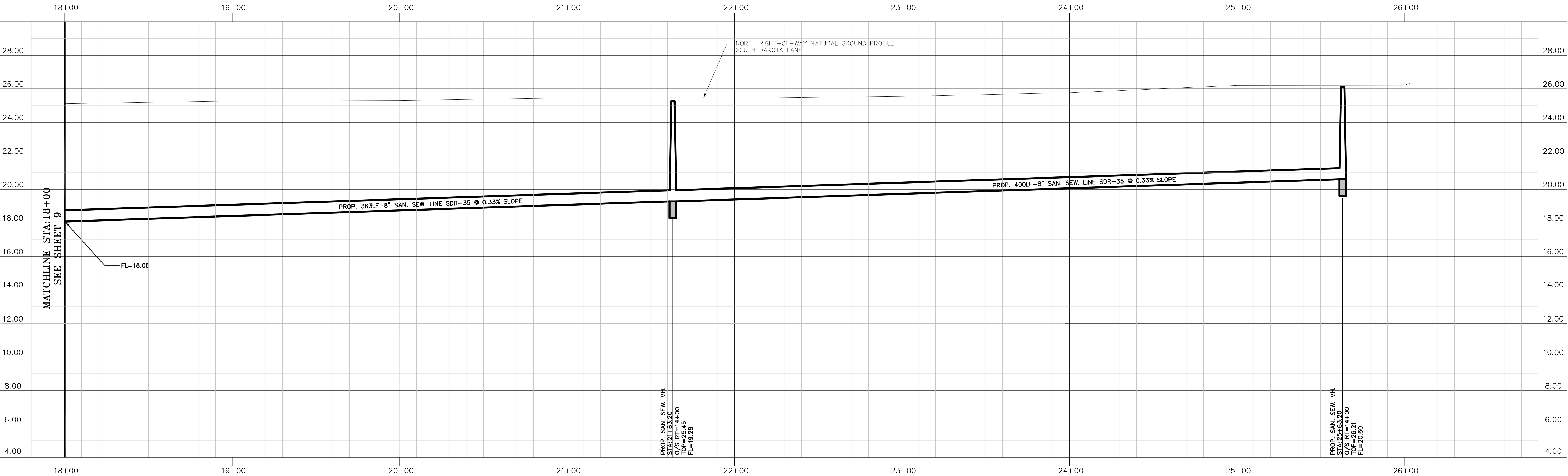
FIRE HYDRANT LOCATED AT STATION  
24+90.30 ALONG THE SOUTH  
RIGHT-OF-WAY OF SOUTH DAKOTA LANE  
EL=28.57

MATCHLINE STA:18+00  
SEE SHEET 9



NOTES:

- CONTRACTOR SHALL CENTER ONE 20 FT JOINT OF STEEL CASING AT ALL WATER LINE CROSSINGS.
- ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18", AND HAVE WATER TIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (SEE DETAIL) LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
- PROPOSED SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD WITH AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE SINGLE SERVICES UNLESS DECIDED OTHERWISE BY FIELD INSPECTOR DURING CONSTRUCTION.
- CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICES CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4"-INCH PER FOOT PLUS 2" MINIMUM COVER AT THE EXISTING HOME.
- CONTRACTOR SHALL KEEP 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATERLINES. 9 FT. MIN. SEPARATION BETWEEN SANITARY SEWER LINES AND WATER METERS.
- WHERE THE PROPOSED SANITARY SEWER LINE IS PLACED WITHIN THE ROADWAY, CONTRACTOR SHALL BACKFILL PIPE & OVERLAY THE ENTIRE WIDTH OF THE ROAD UPON COMPLETION OF THE PIPE WORK AS PER DETAILS ON SHEET 9
- ALL EXISTING DRIVEWAYS SHALL BE OPEN CUT IN A NEAT STRAIGHT LINE, AND REPAIRED ON A LIKE FOR LIKE BASIS. ALL CONFLICTING RCP CULVERTS SHALL BE REMOVED AND REINSTALLED AS NEEDED. BOTH ITEMS ARE SUBSIDIARY TO OTHER ITEMS. NO SEPARATE PAY.
- CONTRACTOR SHALL RESTORE ALL DRAINAGE SWALES TO ORIGINAL CONDITIONS.
- WATER SERVICE REPLACEMENT OR REPAIR SUBSIDIARY TO OTHER LINE ITEM'S PRICE PER L.F.(LINEAR FOOT) OF SEWER LINE. NO SEPARATE PAY.



BROWNSVILLE  
PUBLIC UTILITIES BOARD

Public Utilities Board  
1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-869-2922  
Water and Wastewater  
Engineering Department  
(956) 983-6215  
FAX: (956) 983-6220



COLONIA CORONADO  
WASTEWATER IMPROVEMENTS

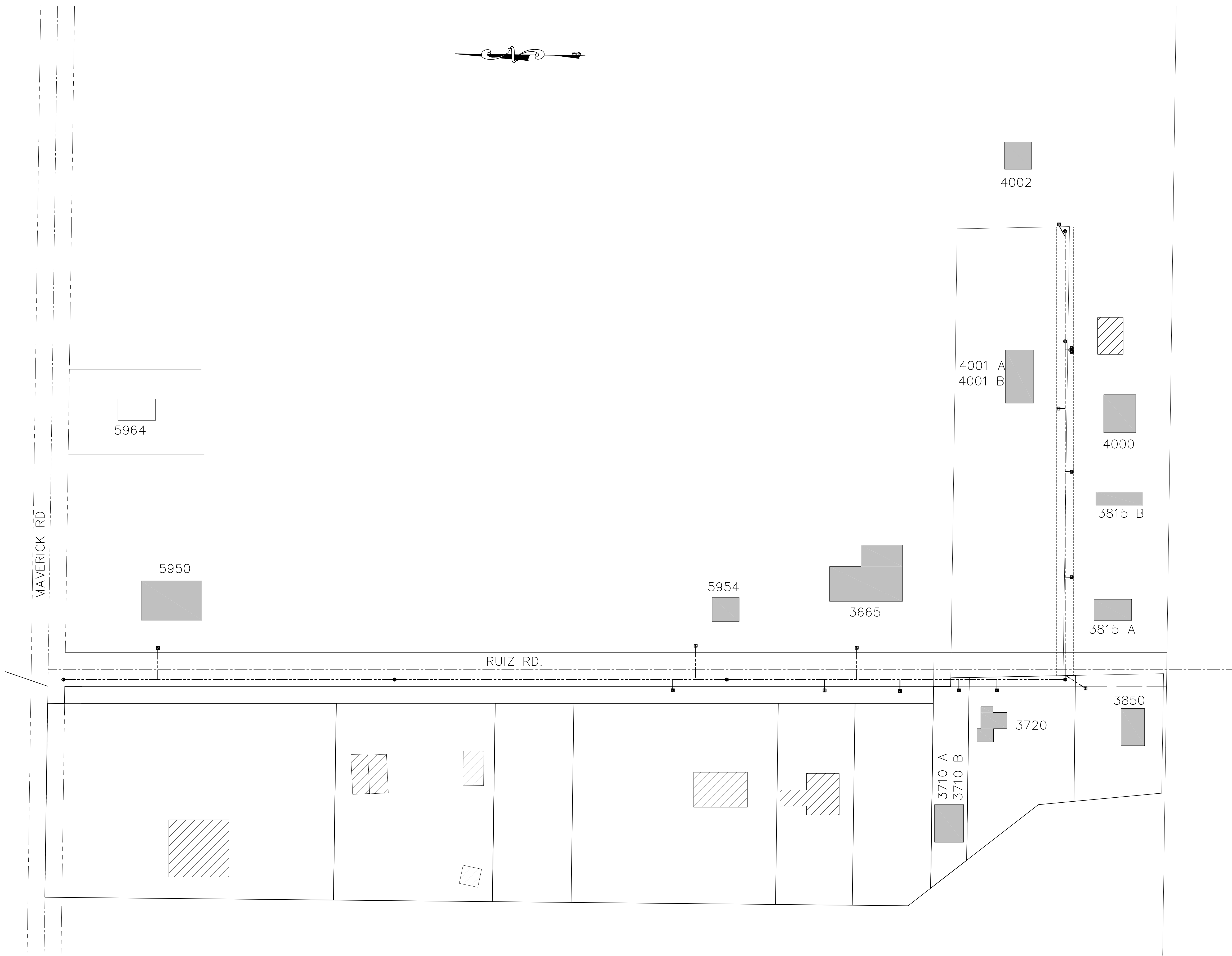
COLONIA CORONADO  
S. DAKOTA LN.  
PLAN AND PROFILE  
STA. 18+00 TO END

Scale: 1:30 Date: MARCH 2019  
Designed by: D. ABRIGO  
Drawn by: A. HERNANDEZ  
Checked by: D. ABRIGO  
Approved by: A. RESENDEZ  
Project #: PLAN AND PROFILE

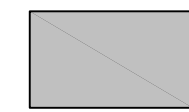
SHEET

10  
OF 14

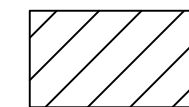




LEGEND



TO BE CONNECTED

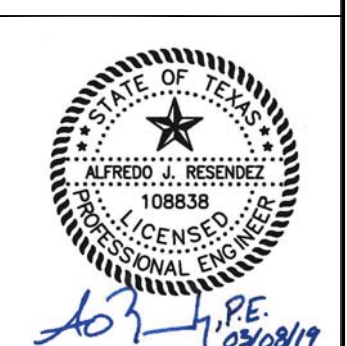


NOT TO BE CONNECTED

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| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

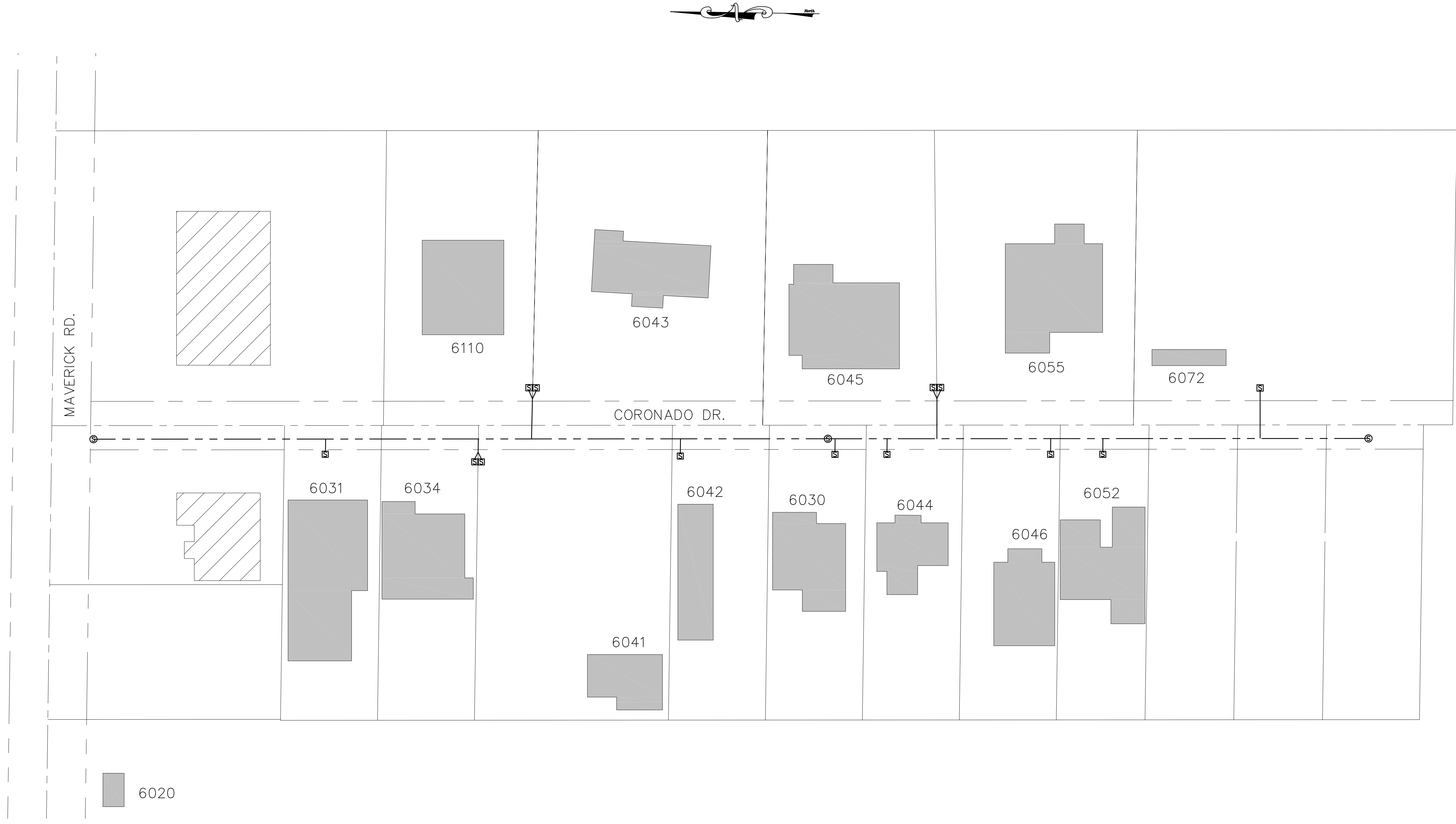
COLONIA CORONADO  
RESIDENTIAL CONNECTIONS  
RUIZ RD.

COLONIA CORONADO  
WASTEWATER IMPROVEMENTS



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1425 Robinhood Drive  
Brownsville, Texas 78521  
1-800-809-2922  
Water and Wastewater  
Engineering Department  
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LEGEND

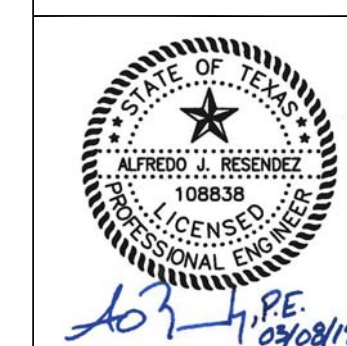
TO BE CONNECTED

NOT TO BE CONNECTED

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| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

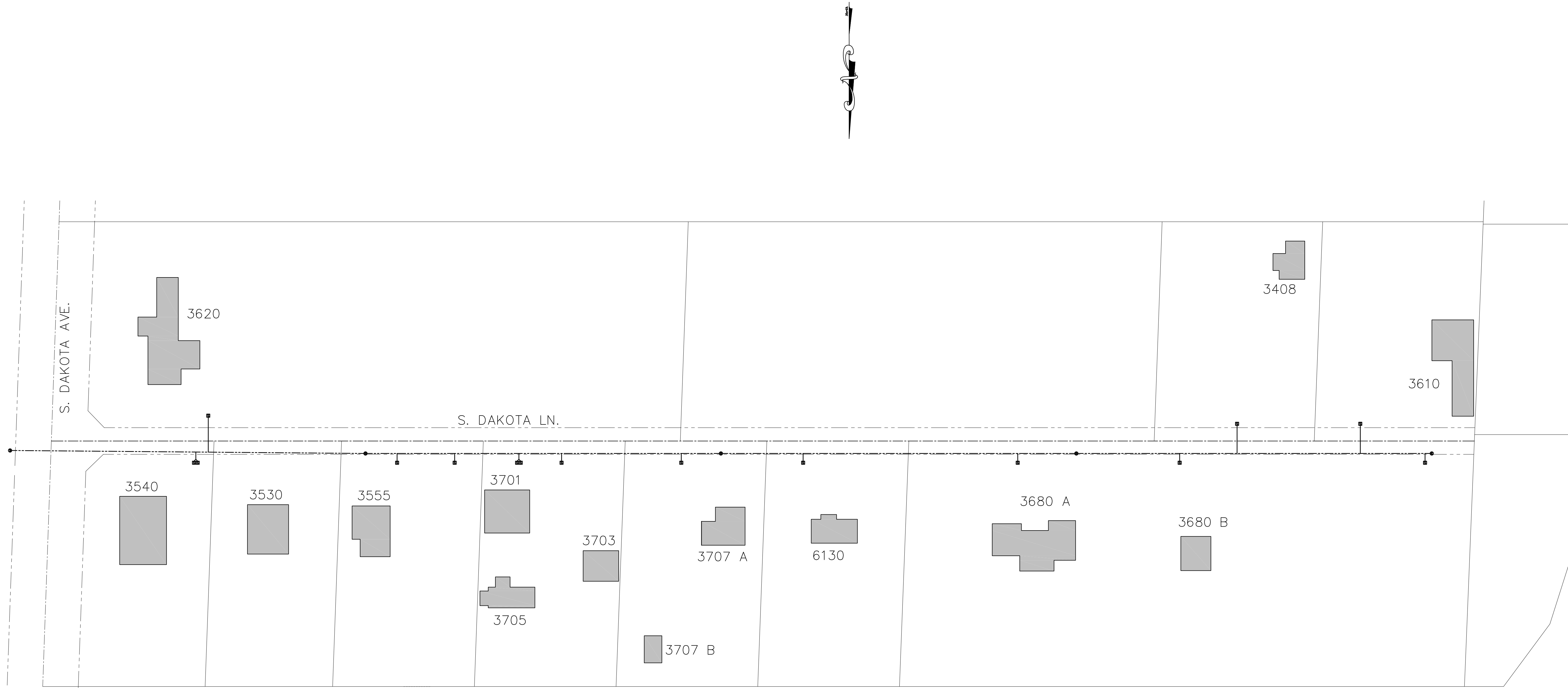
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RESIDENTIAL CONNECTIONS  
CORONADO RD.

COLONIA CORONADA  
WASTEWATER IMPROVEMENTS

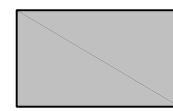


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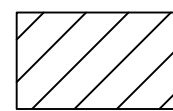




LEGEND



TO BE CONNECTED



NOT TO BE CONNECTED

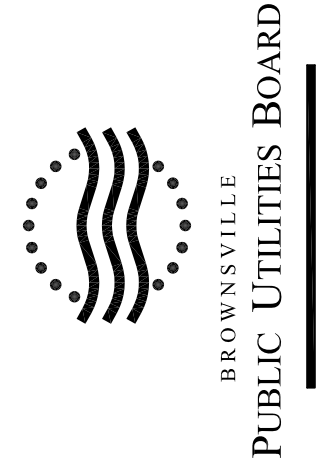
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| Designed by: D. ABREGO   |                  |
| Drawn by: A. HERNANDEZ   |                  |
| Checked by: D. ABREGO    |                  |
| Approved by: A. RESENDEZ |                  |
| Project #:               |                  |

COLONIA CORONADA  
RESIDENTIAL CONNECTIONS  
S. DAKOTA LN.

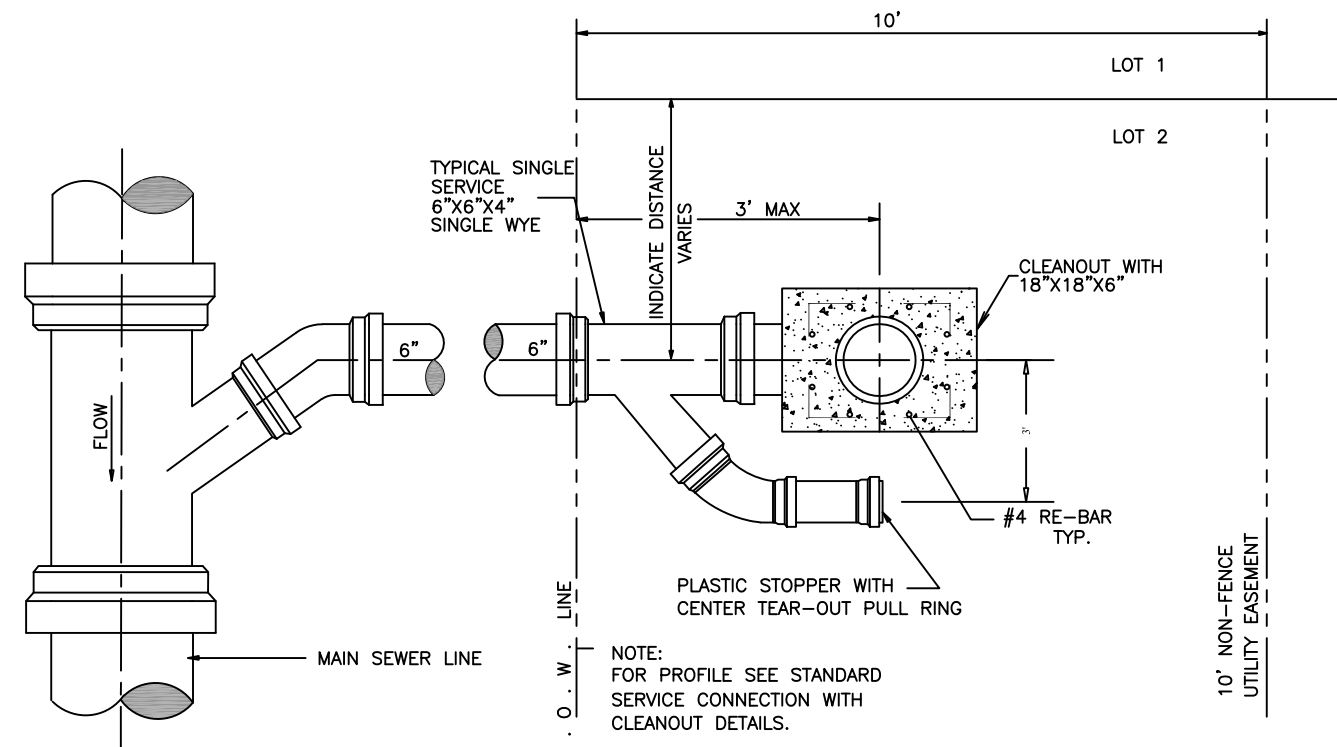
COLONIA CORONAD  
WASTEWATER IMPROVEMENTS



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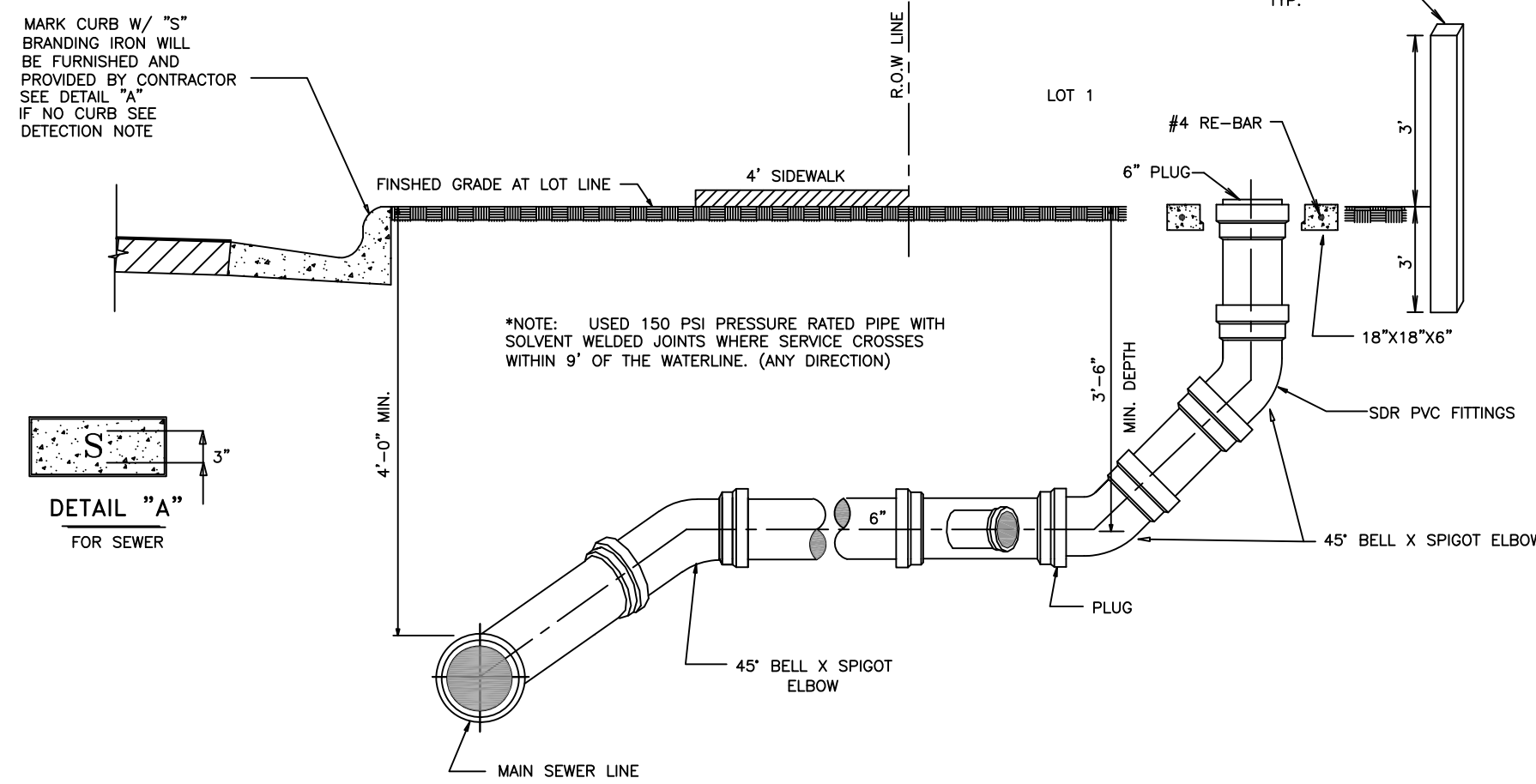




PLAN - SINGLE SERVICE NEW DEVELOPMENT

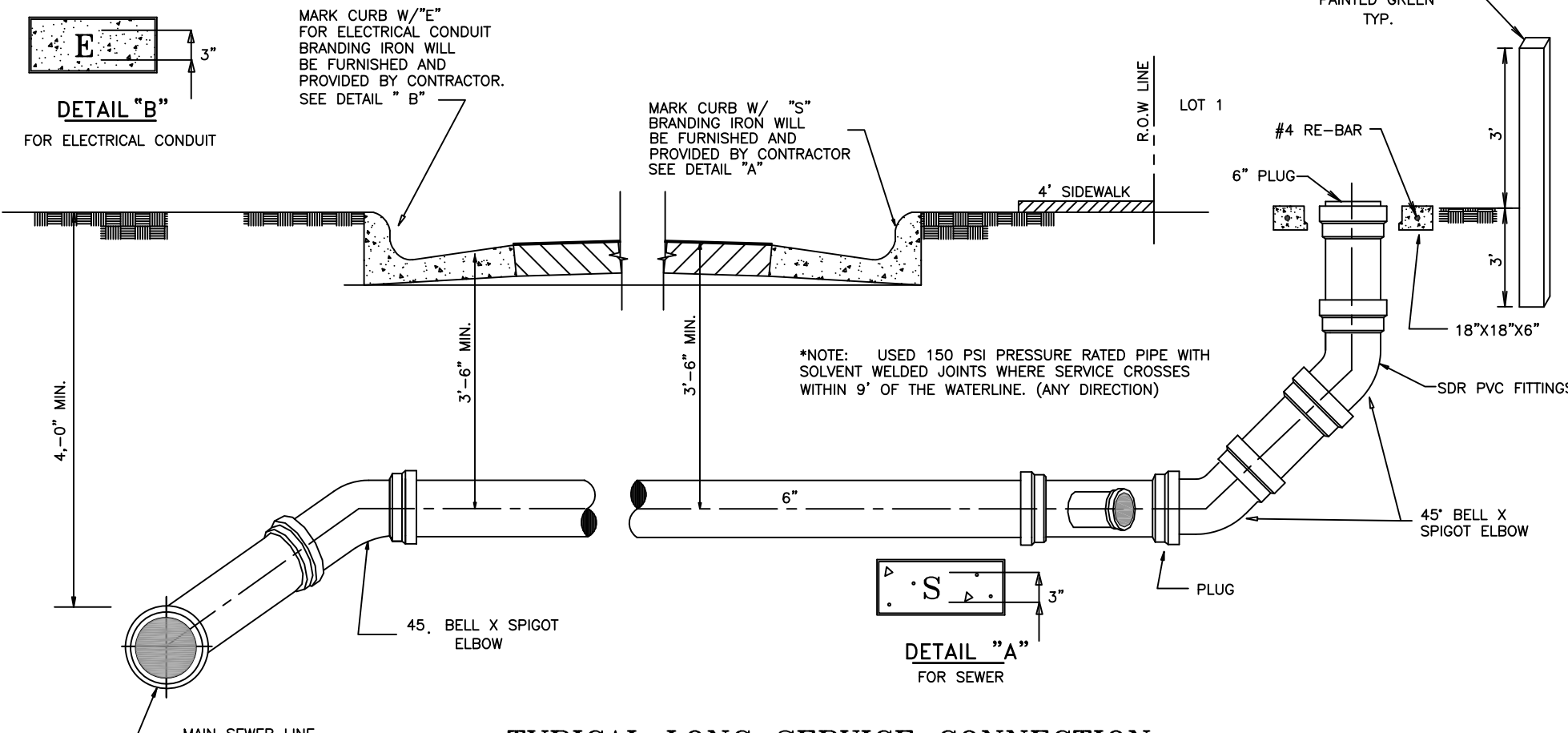
\*NOTE: CONTRACTOR SHALL COORDINATE WITH INSPECTOR ON THE LOCATION OF ALL SERVICE LATERALS.

DETECTION NOTE: A SOUND DETECTION REFLECTOR "STU-DEC-TA-CAL" BY FRIFOLYN, INC. OR AN APPROVED SUBSTITUTE, WILL BE FASTENED TO THE END OF EACH SERVICE CONNECTION AND EXTENDED TO BE VISIBLE ABOVE FINAL GRADE TO FACILITATE LOCATING SERVICE STUDS.



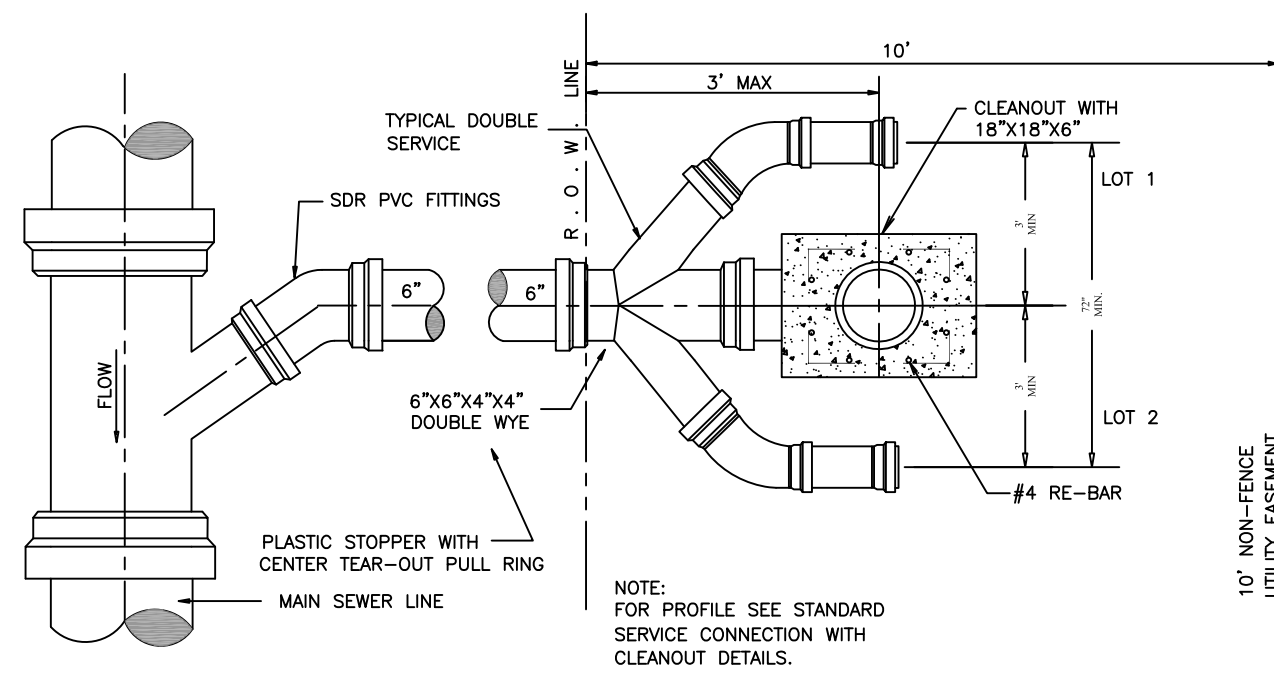
TYPICAL SHORT SERVICE CONNECTION WITH STANDARD CLEANOUT

\*NOTE: CONTRACTOR SHALL COORDINATE WITH INSPECTOR ON THE LOCATION OF ALL SERVICE LATERALS.



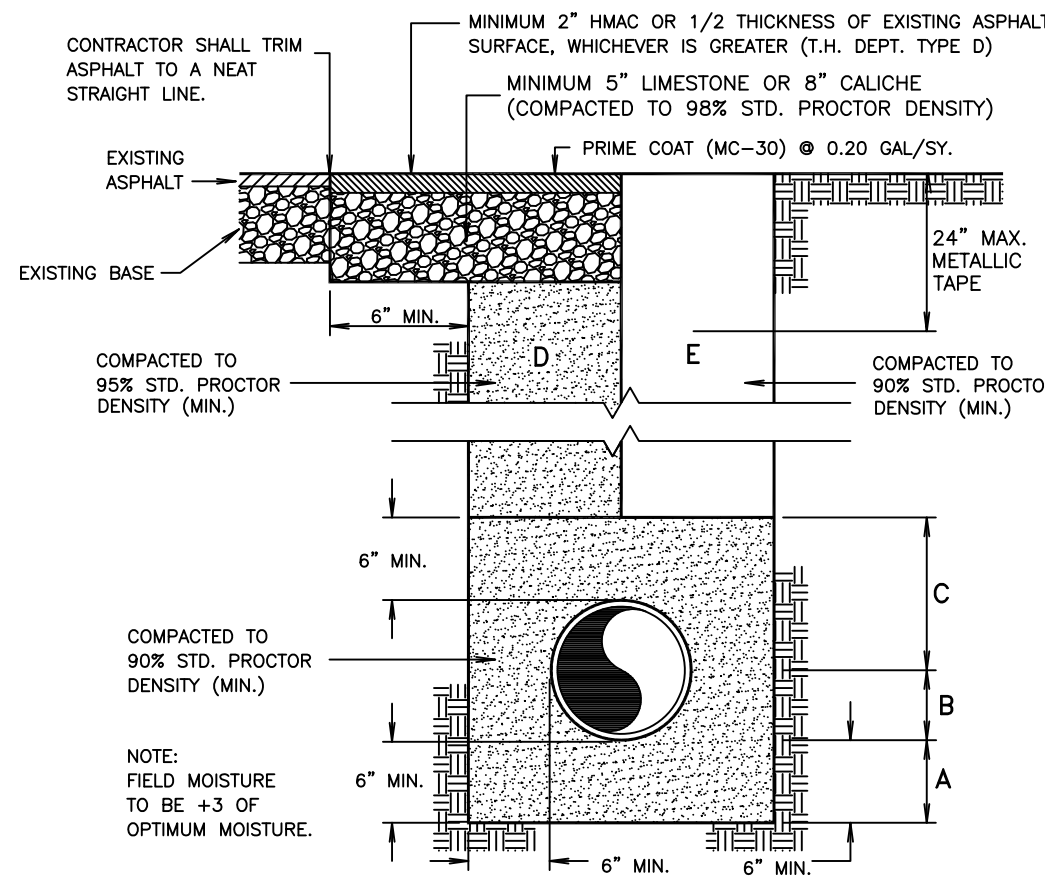
TYPICAL LONG SERVICE CONNECTION WITH STANDARD CLEANOUT

NOTE: CONTRACTOR SHALL COORDINATE WITH INSPECTOR ON THE LOCATION OF ALL SERVICE LATERALS.



PLAN - DOUBLE SERVICE NEW DEVELOPMENT

NOT TO SCALE

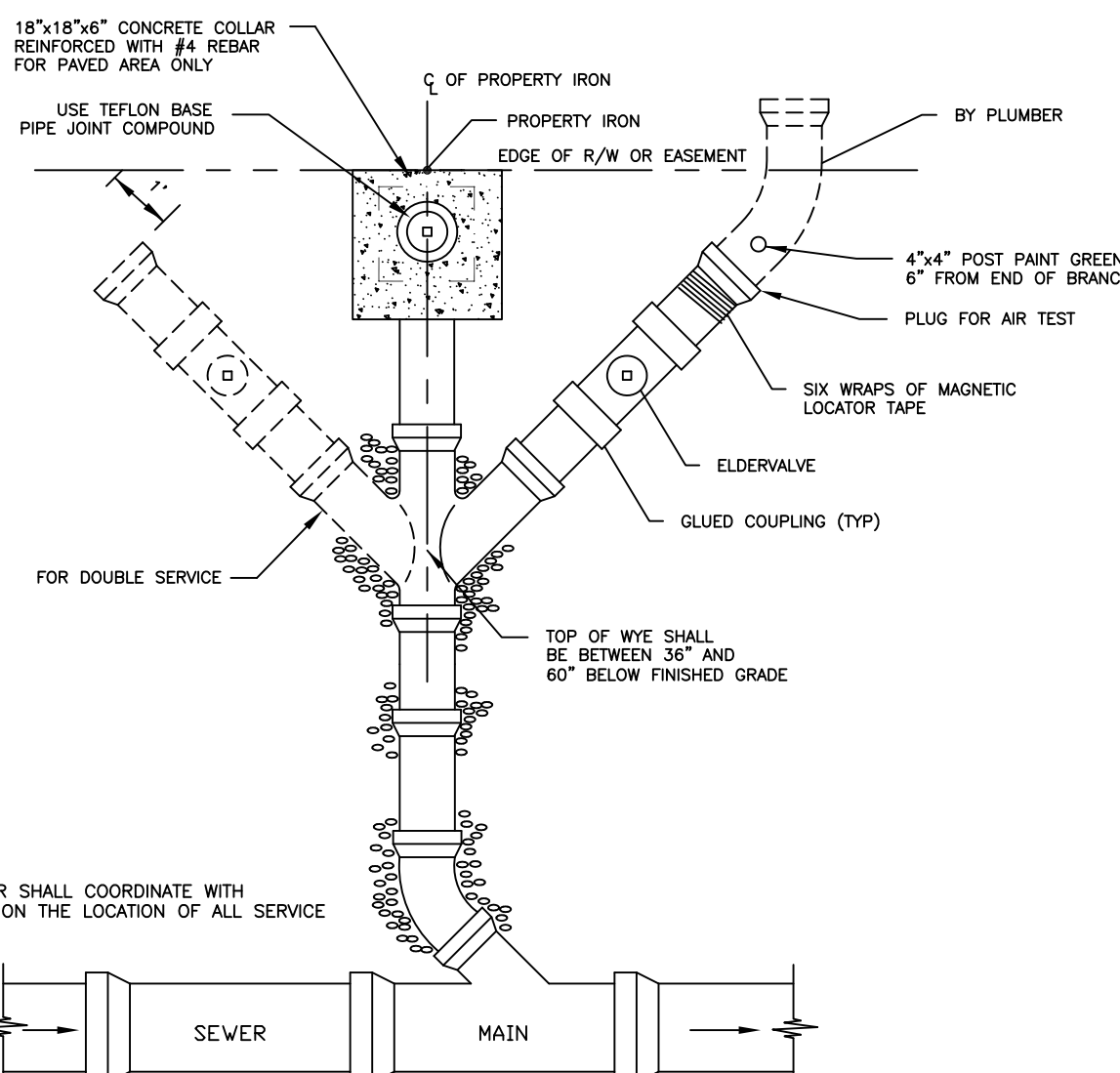


TYPICAL PIPE BEDDING AND TRENCH BACKFILL DETAIL

NOT TO SCALE

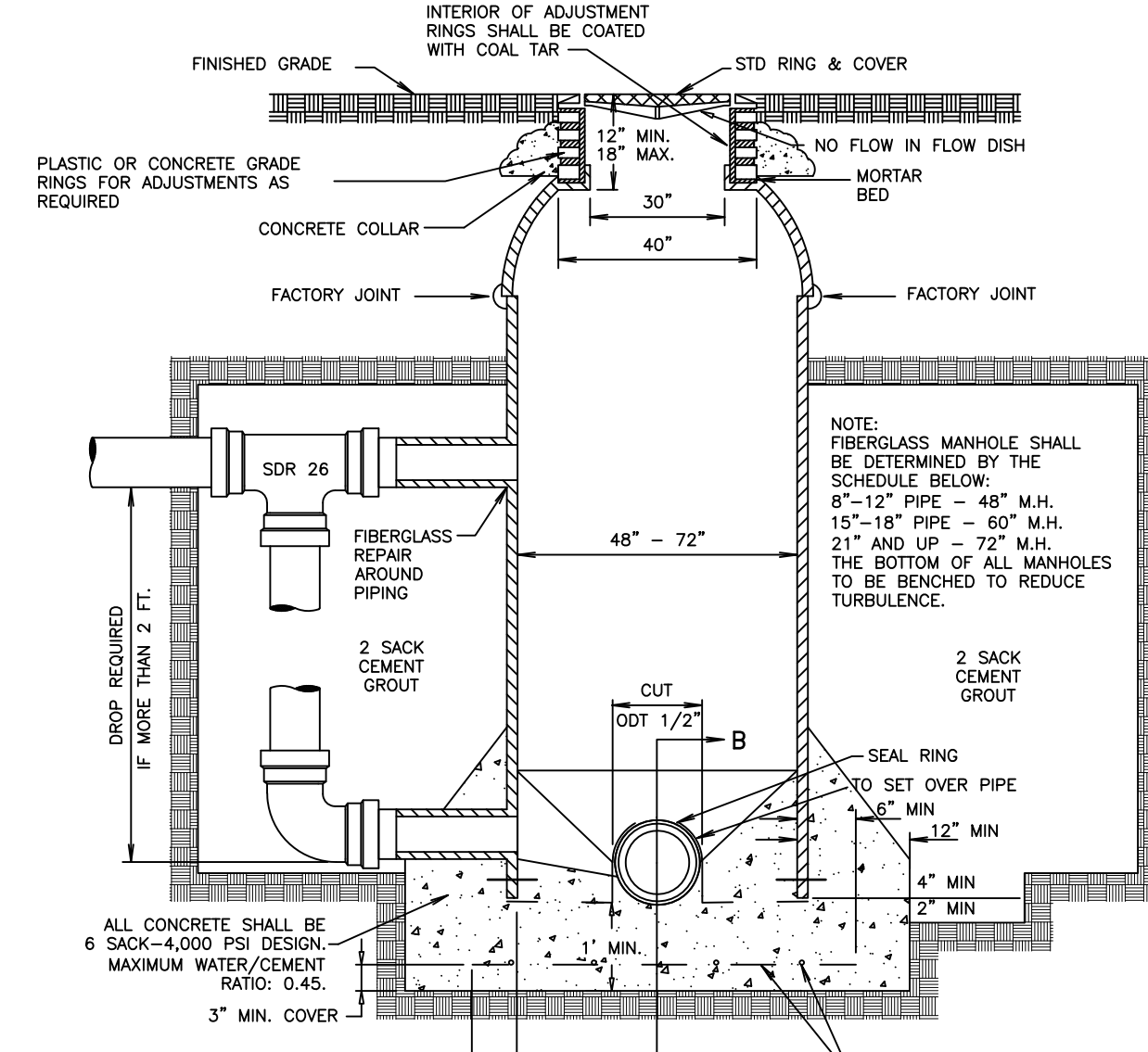
- A SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS = 6").
- B SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE (4" LIFTS, HAND TAMPED).
- C SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED).
- D SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION).
- E EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION).
- FOUNDATION PREPARATION (WELLPONTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE SAND, APPROVED SITE SOIL, OR OTHER APPROVED SUBSTITUTE.



SEWER SERVICE WITH ELDERVALVE

(SEE ONLY FOR SEWER SERVICE WHERE BRUB DOES NOT PROVIDE THE WATER SERVICE)



TYPICAL FIBERGLASS MANHOLE WITH DROP STRUCTURE SECTION A-A

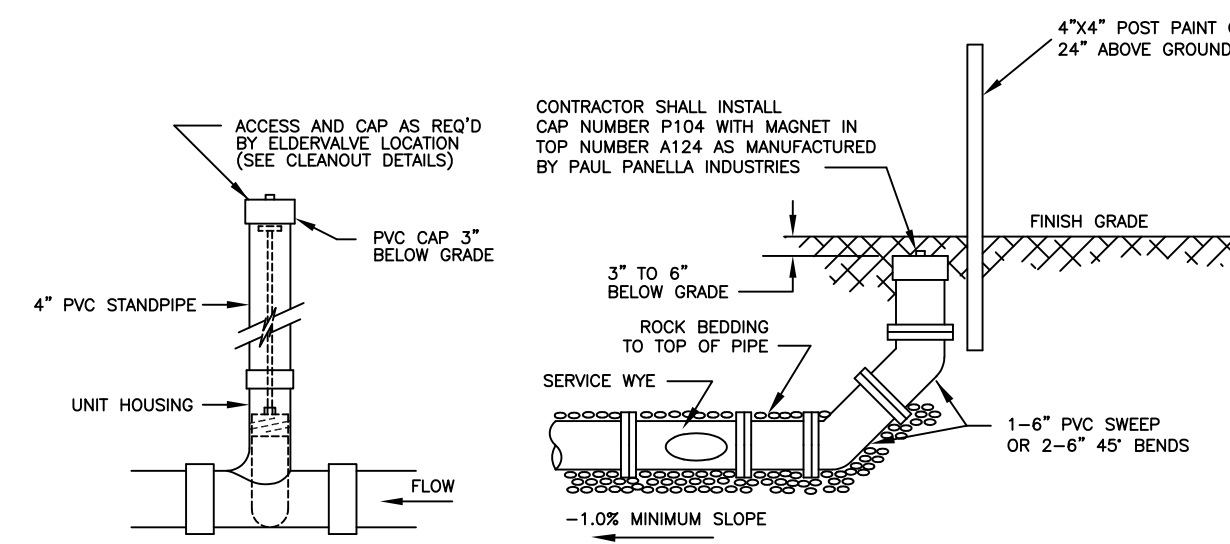
NOT TO SCALE

### WATER MAIN - SANITARY SEWER CROSSINGS

| PRIMARY CONDITION       | PROPOSED WATER EXISTING SANITARY SEWER |                                  | PROPOSED WATER EXISTING SANITARY SEWER OR PROPOSED SANITARY SEWER |                                  |
|-------------------------|--|----------------------------------|---|----------------------------------|
|                         | WATER OVER SANITARY SEWER              | WATER UNDER SANITARY SEWER       | WATER OVER SANITARY SEWER   | WATER UNDER SANITARY SEWER       |
| IF THE CLEARANCE IS     | LESS THAN 2'                           | GREATER THAN 2' BUT LESS THAN 9' | LESS THAN 2'  | GREATER THAN 2' BUT LESS THAN 9' |
| *PROTECTION REQUIREMENT | 1                                      | 2                                | 3   | 4                                |

\*PROTECTION REQUIREMENTS FOR SANITARY SEWER CROSSINGS (UNLESS VARIANCE IS GRANTED BY THE TCEQ)

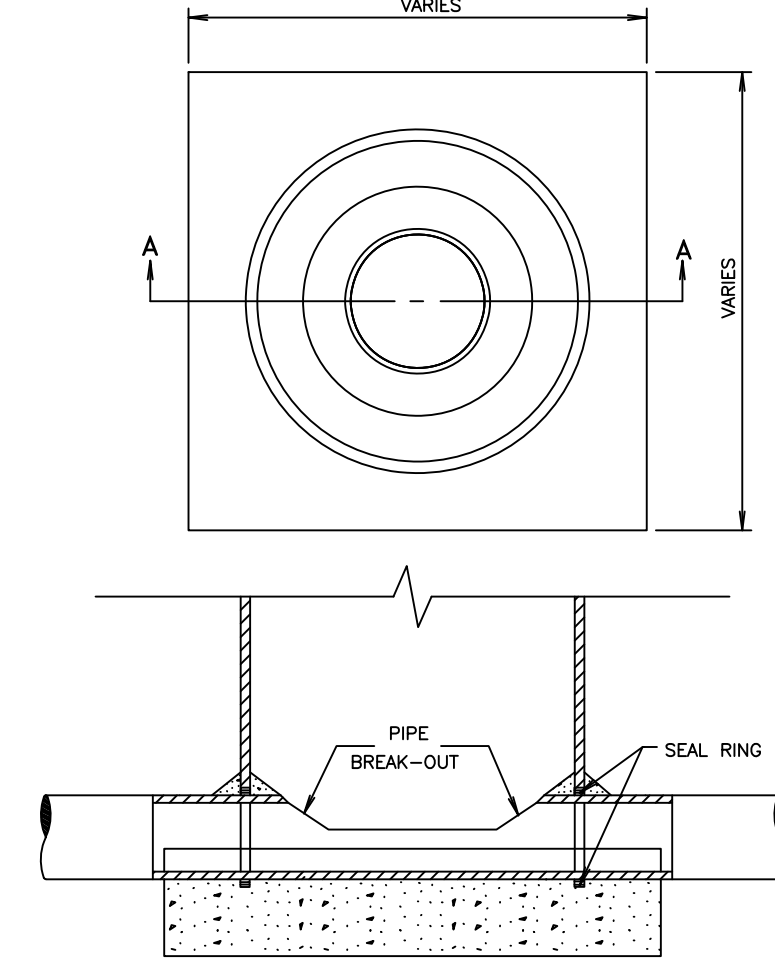
- CENTER ONE (1) 20-FOOT JOINT OF C-900 PVC DR18, CLASS 150, WATERLINE PIPE OVER SANITARY SEWER; 6-INCH ABSOLUTE MINIMUM CLEARANCE.
- IF NO EVIDENCE OF SANITARY SEWER LEAKAGE, CENTER ONE JOINT OF WATER LINE OVER SANITARY SEWER; 24-INCH ABSOLUTE MINIMUM CLEARANCE. IF THE SEWER LINE IS LEAKING, THE SEWER LINE SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE-RATED PIPE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.
- SEWER LINE SHALL BE ENCASED. THE CASING PIPE SHALL BE CONSTRUCTED OF AT LEAST 150 PSI PRESSURE PIPE CLASS PIPE, AT LEAST 18 FEET LONG, SEALED IN BOTH ENDS WITH CEMENT GROUT OR A MANUFACTURED SEAL, AT LEAST 2 NOMINAL SIZES LARGER THAN THE WASTEWATER COLLECTION PIPE, AN ABSOLUTE MINIMUM SEPARATION OF ONE FOOT BETWEEN WATER LINE AND ENCASEMENT PIPE, OR WATER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATER LINE AND WASTEWATER MAIN OR LATERAL SHALL BE PROVIDED.
- AUGER 9-FOOT MINIMUM EACH SIDE OF SANITARY SEWER. PLACE ONE 20-FOOT JOINT OF C900 PVC, 150 PSI, CENTERED UNDER SANITARY SEWER. FILL BORED HOLE WITH BENTONITE/CLAY MIXTURE; 2-FOOT ABSOLUTE MINIMUM CLEARANCE OR REPLACE THE EXISTING SANITARY SEWER WITH 150 PSI LINED DUCTILE IRON OR PVC PIPE WITH APPROPRIATE ADAPTERS ON ALL PORTIONS OF THE SANITARY WITHIN 9-FOOT OF THE WATER MAIN.
- WHERE A NEW POTABLE WATER LINE CROSSES A NEW, PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATER LINE PIPE SHALL BE CENTERED OVER AND SHALL BE PERPENDICULAR TO THE WASTE WATER LINE SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE ENDSTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTER LINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATER LINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL, WHENEVER POSSIBLE. THE CROSSING SHALL BE CENTERED BETWEEN JOINTS OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF AT LEAST 150 PSI. THE WASTEWATER MAIN OR LATERAL SHALL EMBED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.
- IF CLEARANCE IS BETWEEN 2 TO 9-FOOT
  - CENTER A MINIMUM 18-FOOT JOINT OF 150 PSI LINED DUCTILE IRON OR PVC PIPE AT WATER LINE.
  - CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE. BASED ON LOOSE DRY WEIGHT VOLUME SAT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE. THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.



ELDERVALVE

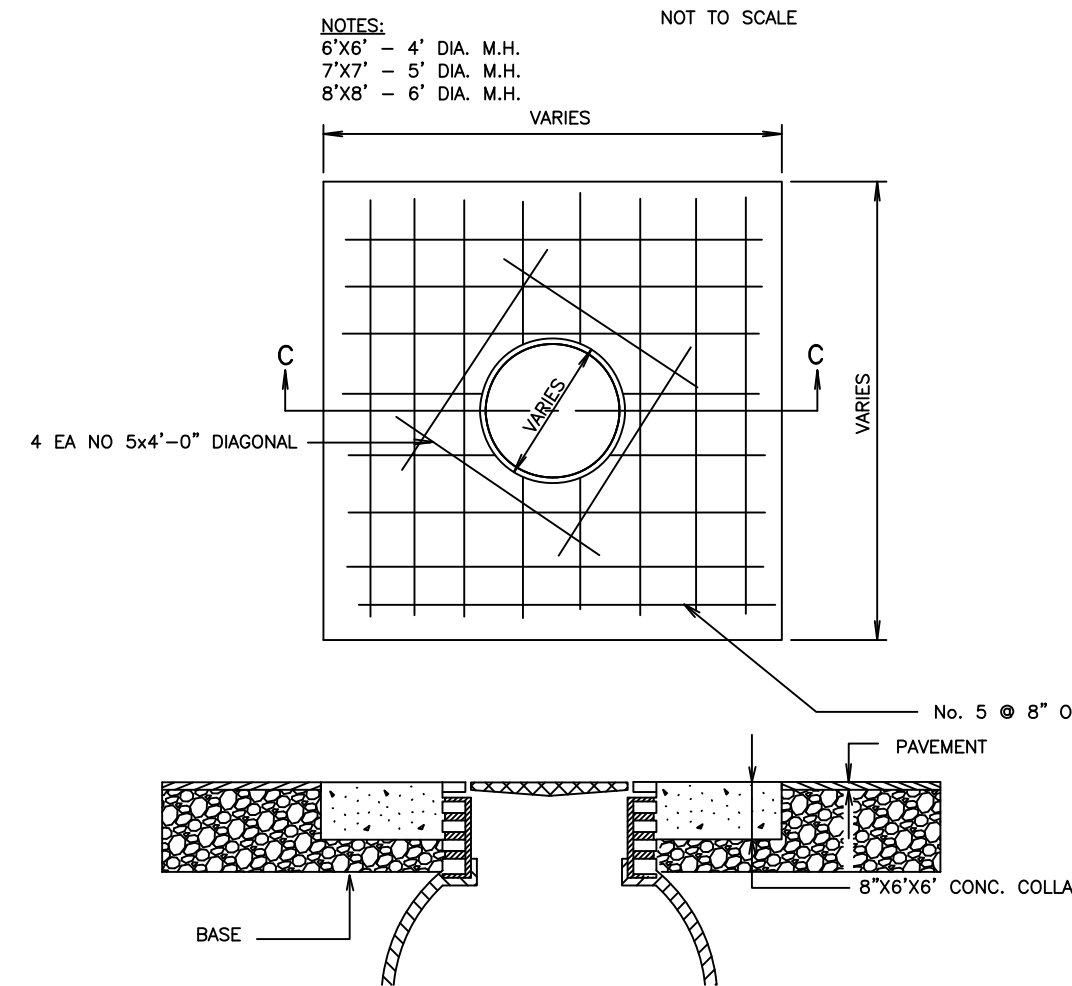
CLEANOUT IN LANDSCAPED AREA

NOTE: THE ENGINEER/CONTRACTOR SHALL PROVIDE BRUB WITH "CUT-SHEETS" PRIOR TO APPROVAL FOR BEGINNING CONSTRUCTION PROJECTS. THE "CUT-SHEETS" WILL BE USED TO VERIFY PIPE ELEVATIONS.



SECTION B-B

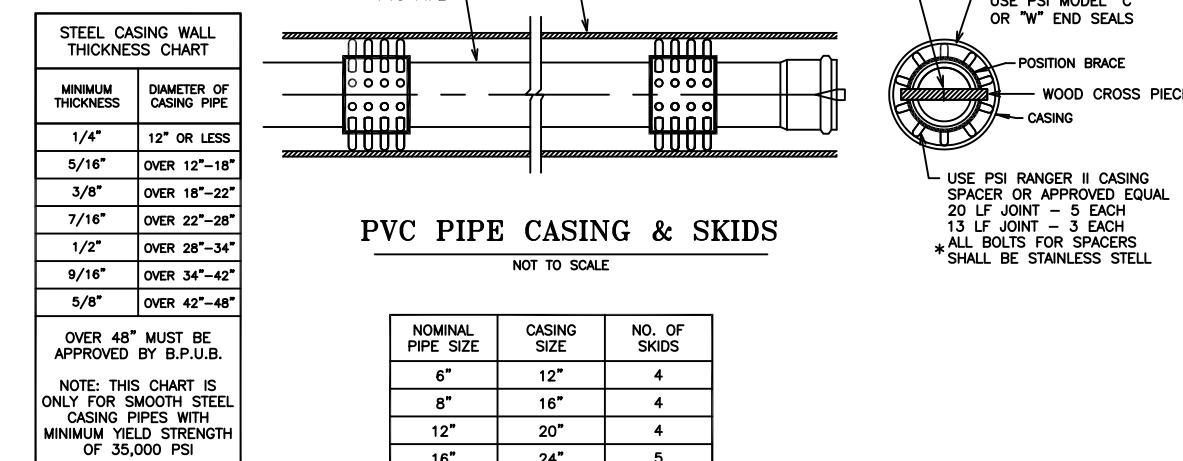
NOT TO SCALE



TYPICAL FIBERGLASS MANHOLE IN PAVEMENT

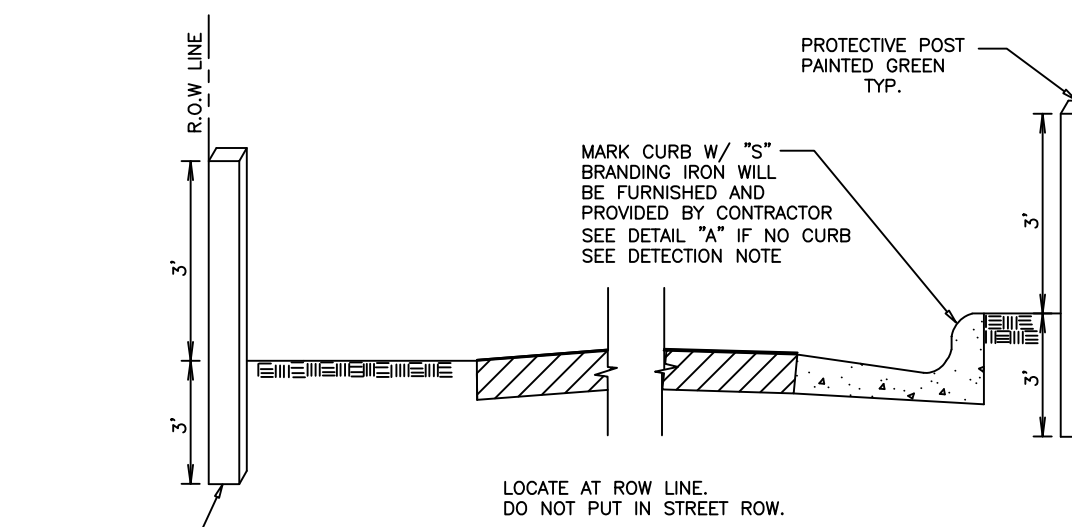
SECTION C-C

NOT TO SCALE



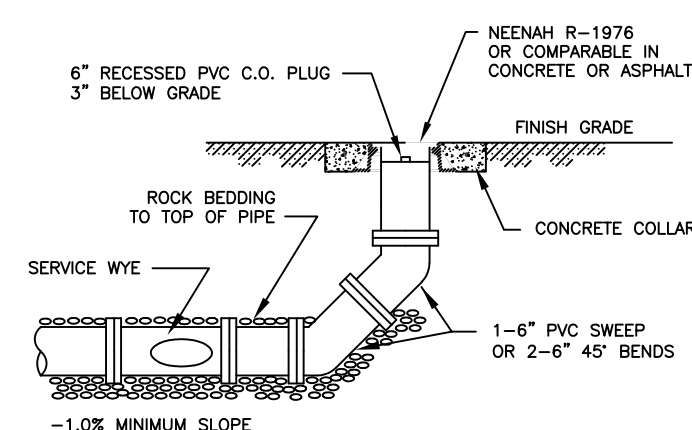
PVC PIPE CASING & SKIDS

NOT TO SCALE



SERVICE MARKING FOR EXISTING CURB OR NO CURB

NOT TO SCALE



CLEANOUT IN PAVEMENT