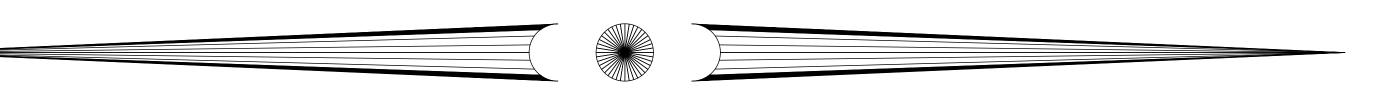
CONSTRUCTION PLANS FOR



KATZER RANCH SUBDIVISION, UNIT 3

SUBMITTED BY:

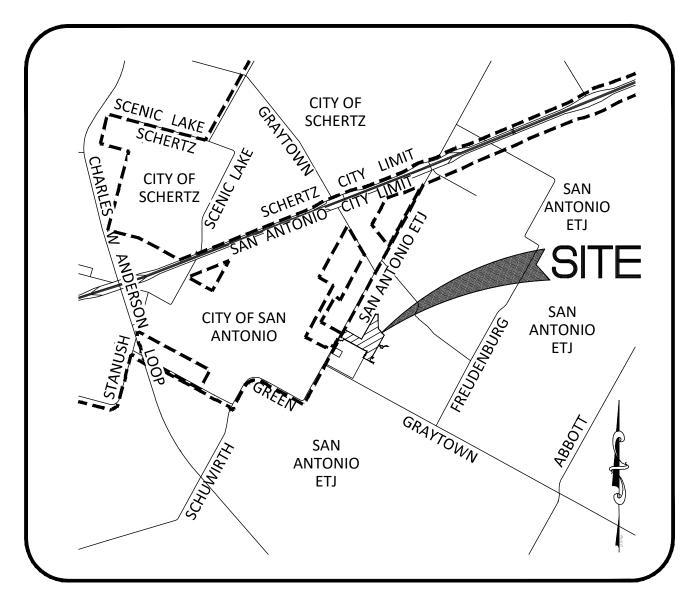
MOY TARIN RAMIREZ ENGINEERS, LLC.

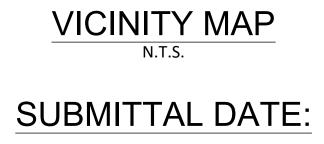
12770 CIMARRON PATH, SUITE 100

SAN ANTONIO, TEYAS 78240

OWNER/DEVELOPER

SA KATZER RANCH, LTD. 13141 NORTHWEST FWY HOUSTON, TX 77040 210-402-0642





PAUL LANDA, JR

LEGAL DESCRIPTION:

BEING 26.566 ACRES OUT OF THE FRANCISCO CARDENAS SURVEY NO. 28, ABSTRACT 128, COUNTY BLOCK 5087, BEXAR COUNTY, TEXAS AND BEING COMPRISED OF A 72.927 ACRE TRACT DESCRIBED IN VOLUME 12164, PAGE 1111 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 4.000 ACRE TRACT DESCRIBED IN VOLUME 18322, PAGE 586 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 1.00 ACRE TRACT DESCRIBED IN VOLUME 9006, PAGE 2309 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; AND A 0.640 ACRE TRACT DESCRIBED IN VOLUME 4823, PAGE 1484 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS AND BEING KNOWN AS 3354 N. GRAYTOWN ROAD.

SHEET INDEX

SHEET NO. TITLE

C0.0 OVERALL COVER

C1.0 UTILITY COVER

C1.1 UTILITY OVERALL PLAN

C1.2 UTILITY OVERALL PLAN

C2.0 SEWER COVER

C2.1 SEWER DETAILS

C2.2 SEWER DETAILS

C2.3 SEWER DETAILS

C2.3 SEWER DETAILS
C2.4 SEWER OVERALL
C2.5 SEWER OVERALL

C2.6 SANITARY SEWER LINE "C" PLAN AND PROFILE
 C2.7 SANITARY SEWER LINE "K" PLAN AND PROFILE
 C2.8 SANITARY SEWER LINE "L" PLAN AND PROFILE
 C2.9 SANITARY SEWER LINE "N" PLAN AND PROFILE

C3.0 WATER COVER
C3.1 OVERALL WATER PLAN
C3.2 OVERALL WATER PLAN
C3.3 WATER DETAILS

C4.0 STREET COVER

C4.1 OVERALL TRAFFIC PLAN

C4.2 OVERALL TRAFFIC PLAN

C4.3 TRAFFIC PLAN DETAILS

C4.4 TRAFFIC PLAN DETAILS

C4.5 LUCKENBACH LOOP PLAN AND PROFILE
C4.6 LUCKENBACH LOOP PLAN AND PROFILE
C4.7 HOLLINGER CIRCLE PLAN AND PROFILE
C4.8 KATZER LN PLAN AND PROFILE
C4.9 FRANK CROSSING PLAN AND PROFILE

C4.10 SCHWEITZER WAY PLAN AND PROFILE
C4.11 WHEELCHAIR RAMP DETAILS
C4.12 STANDARD STREET DETAILS

C4.13 STREET SECTION DETAILS
C4.14 DRAIN "D" PLAN AND PROFILE
C4.15 DRAIN "E" PLAN AND PROFILE
C4.16 DRAIN "E" DETAILS

C4.17 DRAIN "F" PLAN AND PROFILE
C4.18 DRAINAGE DETAILS

SW3P DETAILS

C5.0 GRADING PLAN
C5.1 GRADING PLAN
C6.0 SW3P
C6.1 SW3P

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

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 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 working in and around trench excavation.

UTILITY GENERAL NOTES

- LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES.
- 2. ALL EXCAVATION IS UNCLASSIFIED. THERE IS NO ADDITIONAL PAYMENT
- ALL SPOIL AND UNUSABLE MATERIAL FROM THIS PROJECT SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT NO ADDITIONAL
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THE PROJECT.
- 5. CONSTRUCTION STAKING TO BE PROVIDED BY CONSULTANT IS AS
- A. STREET CENTERLINE STAKING FOR CLEARING. B. STREET STAKING (ONE SIDE) FOR STREET EXCAVATION AND WATER
- SEWER STAKING AT 100-FT INTERVALS.
- STAKING FOR WATER SERVICES. STAKING FOR DRAINAGE CHANNELS.
- FINAL STREET STAKING.
- G. METER BOX STAKING. H. CPS STAKING. I. SETTING OF LOT CORNERS.

CPS NOTES:

1. CPS TO SUPPLY ALL ELECTRIC CONDUITS FOR TRENCH AS FOLLOW: PRIMARY - 2 1/2" HDPE SCHEDULE 40

SECONDARY - 3" PVC SCHEDULE 40 SERVICE STUBS - 2 1/2" PVC SCHEDULE 40

TELEPHONE AND CABLE T.V. IF ABOVE APPLIES.

- CROSSINGS WHEN DRAIN OR STREET CONSTRUCTION PRECEDES UTILITY INSTALLATION. 3. 4" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND
- 4. P.V.C. CONDUIT WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.

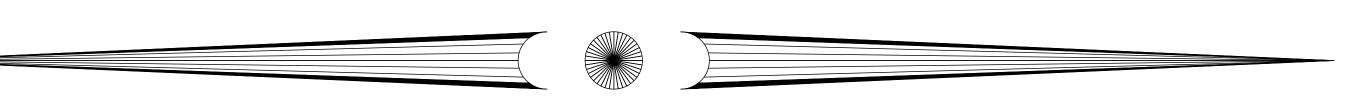
6" P.V.C. SCHEDULE 80 WILL BE REQUIRED FOR C.P.S. UTILITIES

NOTE:

> 16" MAIN, 5' MIN. DEPTH

TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH CITY

CONSTRUCTION PLANS FOR



KATZER RANCH SUBDIVISION, UNIT 3

ANTONIO

ETJ

ANTONIO

UTILITY IMPROVEMENTS

D.P.R.B.C.T. OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS PROPOSED STREET LIGHT UG, 100W AND SINGLE ARM PROPOSED STREET LIGHT UG, 250W AND SINGLE ARM PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT

EXISTING WATER METER 4' CONC. SIDEWALK SOIL/PARKWAY MAX SLOPE 1"/FT. 8"-12" MAIN, 4' MIN. DEPTH > 16" MAIN, 5' MIN. DEPTH H.M.A.C. TYPE "D" PROP. SAN. SWR. TREATED SUBGRADE

TYPICAL STREET CROSS-SECTION (28' PAVEMENT)

LEGEND

EXISTING WATER MAIN

PROPOSED WATER MAIN

PROPOSED FIRE HYDRANT

EXISTING FIRE HYDRANT

PROPOSED GATE VALVE

PROPOSED SANITARY SEWER MAIN

EXISTING UNDERGROUND ELECTRIC

EXISTING UNDERGROUND TELEPHONE

OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS

EXISTING SANITARY SEWER MAIN

EXISTING OVERHEAD ELECTRIC

EXISTING GATE VALVE

EXISTING STREET LIGHT

EXISTING POWER POLE

PROPOSED POWER POLE PROPOSED TRANSFORMER PROPOSED WATER SERVICE

EXISTING TRANSFORMER

90% COMPACTED DENSITY

COMPACTED BASE

TREATED SUBGRADE

EXISTING SECONDARY ENCLOSURE

PROPOSED SECONDARY ENCLOSURE

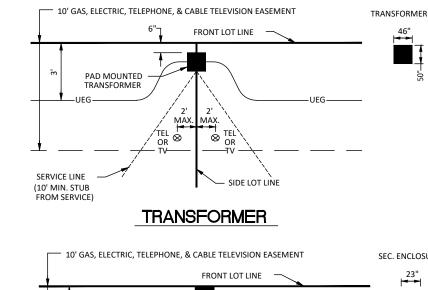
EXISTING IRRIGATION CONTROL VALVE

SOIL/PARKWAY MAX SLOPE 1"/FT. MIN. SLOPE 1/4"/FT. 8"-12" MAIN, 4' MIN. DEPTH

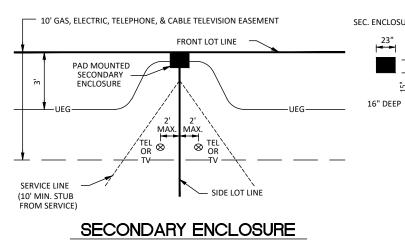
+) ← PROP. WATER MAIN

H.M.A.C. TYPE "D"

TYPICAL STREET CROSS-SECTION (40' PAVEMENT)



----- E8"W -----



FRONT LOADED

SUBMITTAL DATE: MARCH 2021

LEGAL DESCRIPTION:

BEING 26.566 ACRES OUT OF THE FRANCISCO CARDENAS SURVEY NO. 28, ABSTRACT 128, COUNTY BLOCK 5087, BEXAR COUNTY, TEXAS AND BEING COMPRISED OF A 72.927 ACRE TRACT DESCRIBED IN VOLUME 12164, PAGE 1111 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 4.000 ACRE TRACT DESCRIBED I VOLUME 18322, PAGE 586 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY TEXAS; A 1.00 ACRE TRACT DESCRIBED IN VOLUME 9006, PAGE 2309 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; AND A 0.640 ACRE TRACT DESCRIBED IN VOLUME 4823, PAGE 1484 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS AND BEING KNOWN AS 3354 N. GRAYTOWN ROAD.

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ÁSSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.



Moy Tarin Ramirez Engineers, LLC

FIRM TBPELS ENG F-5297 SVY F-10131500 12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

Engineers

Surveyors

Planners

LAND-PLAT-21-11800537

SUBMITTED BY:

MOY TARIN RAMIREZ ENGINEERS, LLC. 12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249 TEL: (210) 698-5051 FAX: (210) 698-5085

OWNER/DEVELOPER

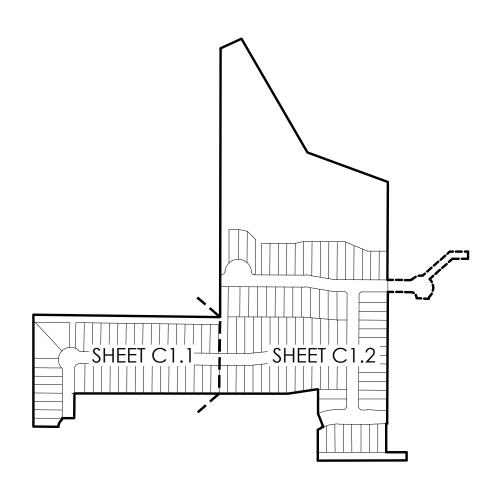
SA KATZER RANCH, LTD. 13141 NORTHWEST FWY HOUSTON, TX 77040 210-402-0642

Sheet List Table

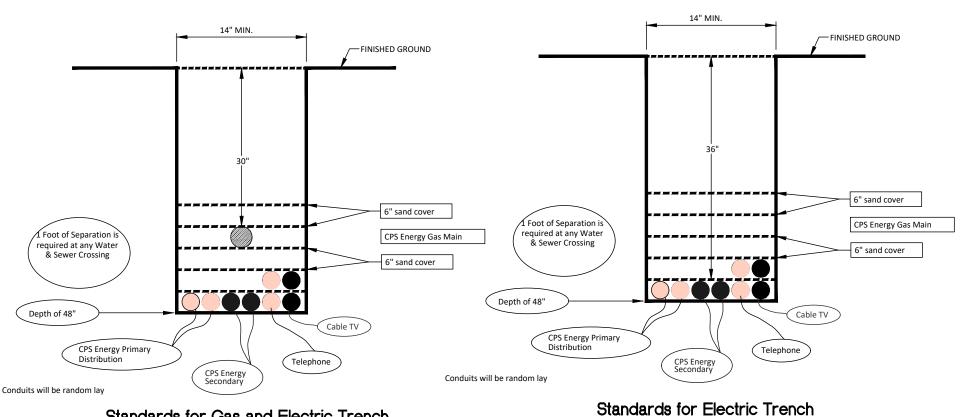
Sheet Number Sheet Title

UTILITY COVER C1.1 UTILITY OVERALL PLAN

C1.2 UTILITY OVERALL PLAN



INDEX MAP NOT TO SCALE



Standards for Gas and Electric Trench or Electric Trench with Joint Utilities

or Electric Trench with Joint Utilities

TRENCH DETAILS

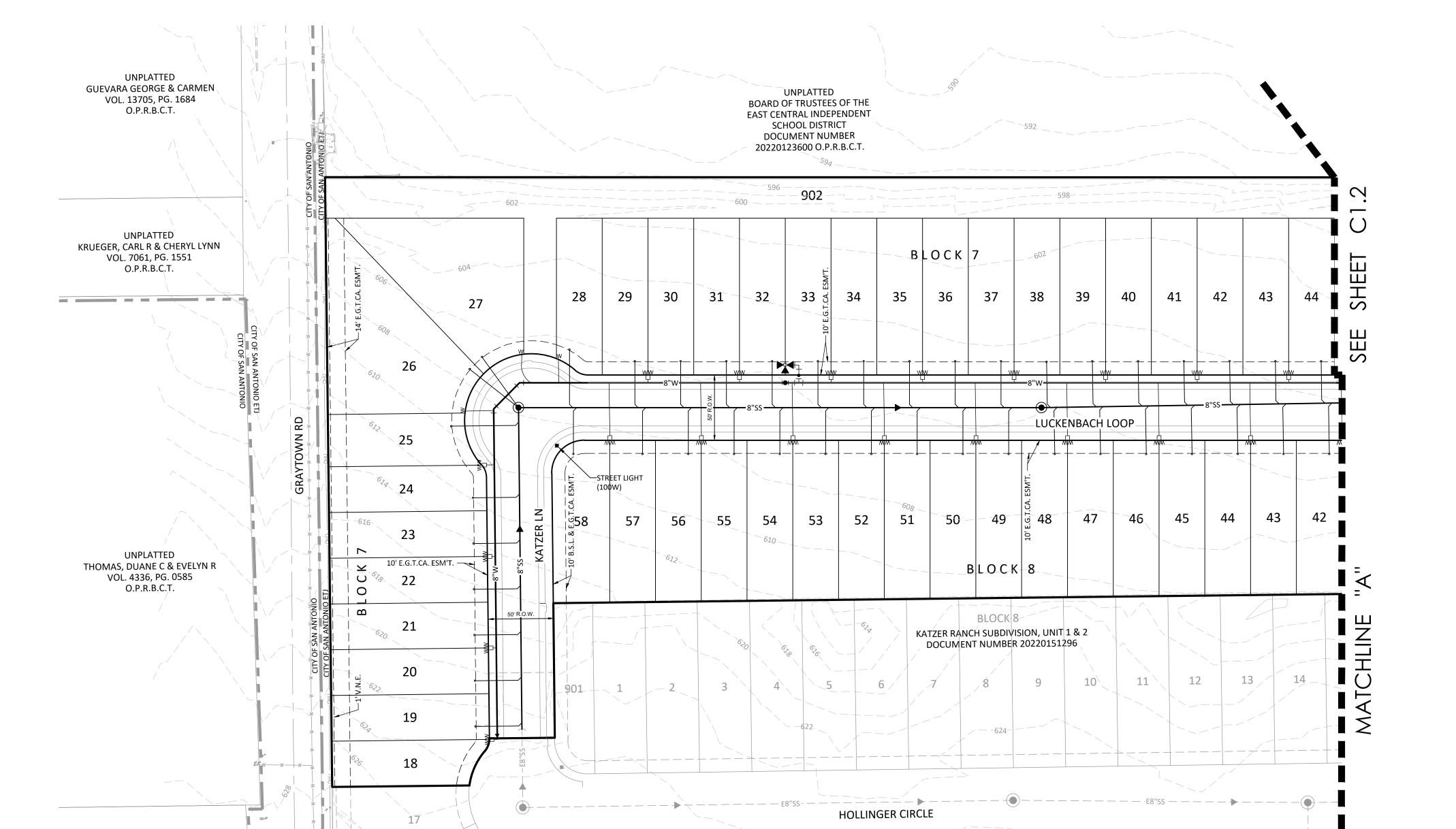
TEXAS C1.0

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

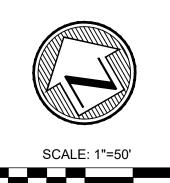
THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

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 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 working in and around trench excavation.



LAND-PLAT-21-11800537



EXISTING WATER MAIN — — — E8"W — — — — PROPOSED WATER MAIN PROPOSED FIRE HYDRANT EXISTING FIRE HYDRANT PROPOSED GATE VALVE EXISTING GATE VALVE PROPOSED SANITARY SEWER MAIN EXISTING SANITARY SEWER MAIN --- E8"SS ----EXISTING OVERHEAD ELECTRIC ----- OHE -----EXISTING UNDERGROUND ELECTRIC -----UE-----EXISTING UNDERGROUND TELEPHONE

LEGEND

-----UGT-----EXISTING STREET LIGHT \Rightarrow OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS D.P.R.B.C.T. OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS O.P.R.M.C.T. PROPOSED STREET LIGHT UG, 100W AND SINGLE ARM PROPOSED STREET LIGHT UG, 250W AND SINGLE ARM **EXISTING POWER POLE EXISTING SECONDARY ENCLOSURE** PROPOSED SECONDARY ENCLOSURE PROPOSED POWER POLE PROPOSED TRANSFORMER PROPOSED WATER SERVICE

PROPOSED IRRIGATION SERVICE PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT EXISTING TRANSFORMER

EXISTING IRRIGATION CONTROL VALVE EXISTING WATER METER

UTILITY GENERAL NOTES

- 1. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT. CONTRACTOR SHALL
 - PROTECT ALL EXISTING UTILITIES. ALL EXCAVATION IS UNCLASSIFIED. THERE IS NO ADDITIONAL PAYMENT FOR ROCK EXCAVATION.
- 3. ALL SPOIL AND UNUSABLE MATERIAL FROM THIS PROJECT SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THE
- 5. CONSTRUCTION STAKING TO BE PROVIDED BY CONSULTANT IS AS FOLLOWS:
- A. STREET CENTERLINE STAKING FOR CLEARING. B. STREET STAKING (ONE SIDE) FOR STREET EXCAVATION AND WATER
- MAIN INSTALLATION. SEWER STAKING AT 100-FT INTERVALS.
- STAKING FOR WATER SERVICES. STAKING FOR DRAINAGE CHANNELS.
- FINAL STREET STAKING.
- G. METER BOX STAKING. H. CPS STAKING.
- SETTING OF LOT CORNERS.

CPS NOTES:

1. CPS TO SUPPLY ALL ELECTRIC CONDUITS FOR TRENCH AS FOLLOW:

PRIMARY - 2 1/2" HDPE SCHEDULE 40 SECONDARY - 3" PVC SCHEDULE 40 SERVICE STUBS - 2 1/2" PVC SCHEDULE 40

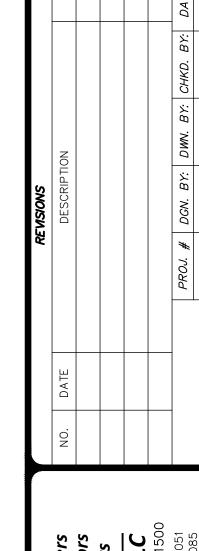
- 2. 6" P.V.C. SCHEDULE 80 WILL BE REQUIRED FOR C.P.S. UTILITIES CROSSINGS WHEN DRAIN OR STREET CONSTRUCTION PRECEDES UTILITY INSTALLATION.
- 3. 4" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. IF ABOVE APPLIES.
- 4. P.V.C. CONDUIT WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.

NOTE:

TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH CITY PUBLIC SERVICE.

CAUTION: EXISTING UNDERGROUND UTILITIES, CONTRACTOR

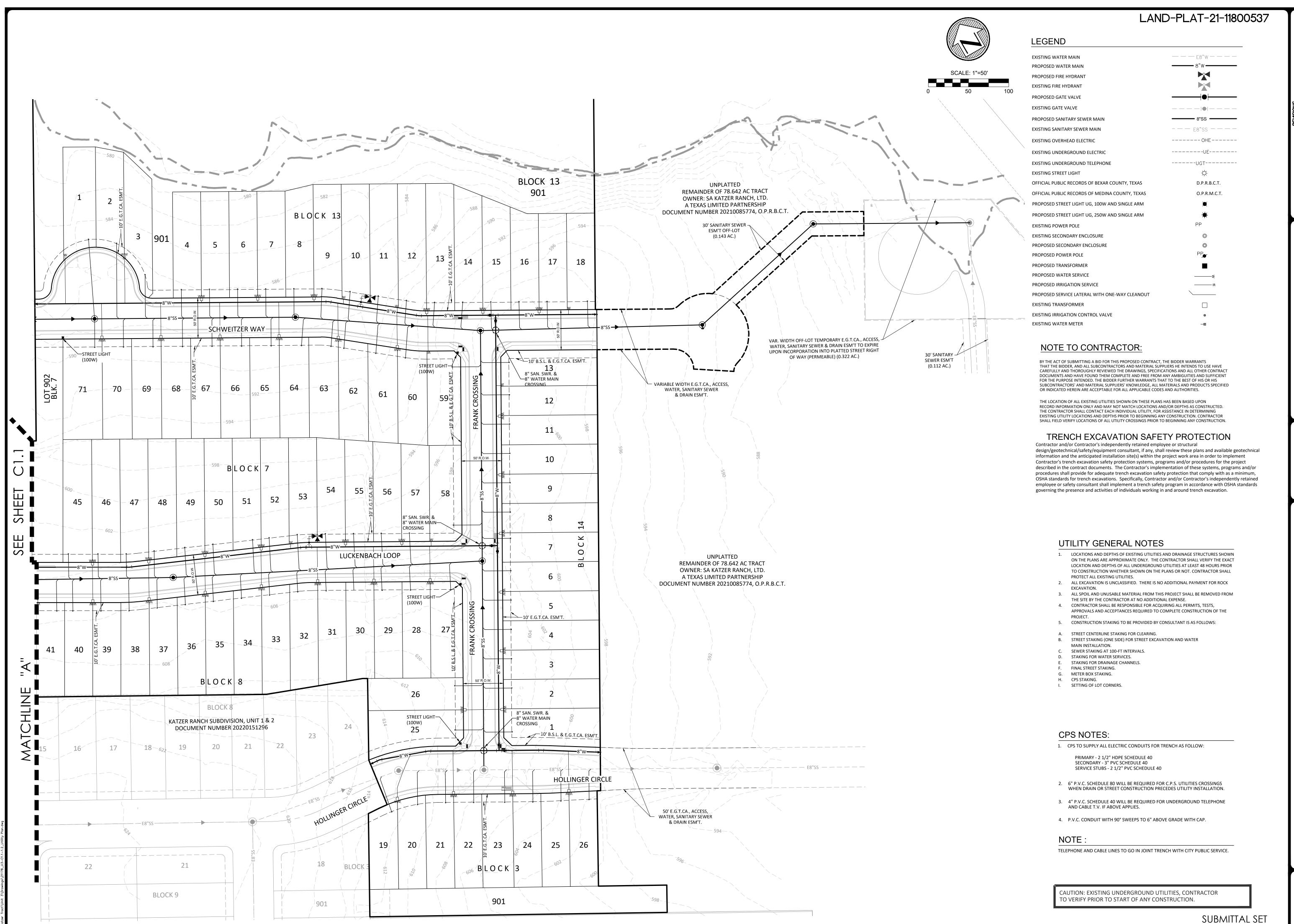
TO VERIFY PRIOR TO START OF ANY CONSTRUCTION.



PAUL LANDA, JR. 100182

ENT EM IMPROV OVERALL

SHEET



DATE DESCRIPTION BY CHKD. BY DATE

• Engineers
• Surveyors
• Surveyors
• Planners

irez Engineers, LLC
•5297/SURVEYING: F-10131500

Moy Tarin Ramirez Er TBPELS: ENGINEERING F-5297/SUR 12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249

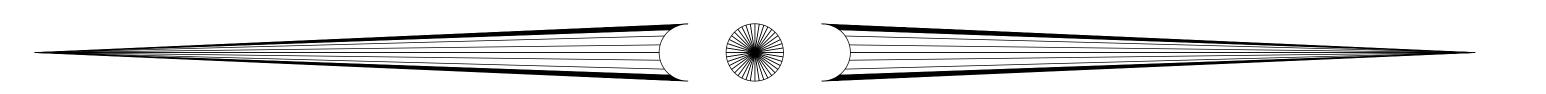


ALL UTILITY IMPROVEMENTS PLAN

SHEET

OVE

C1.2

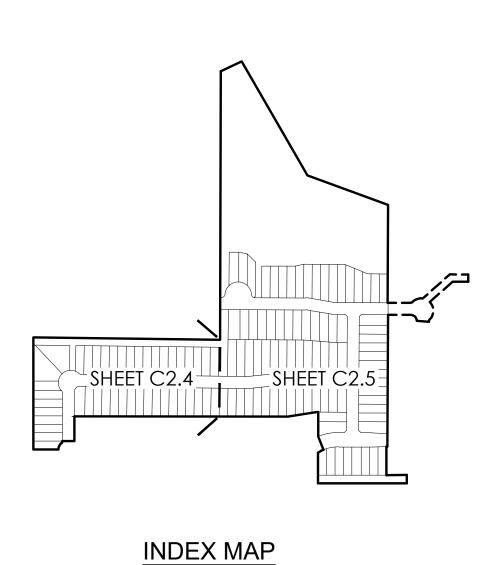


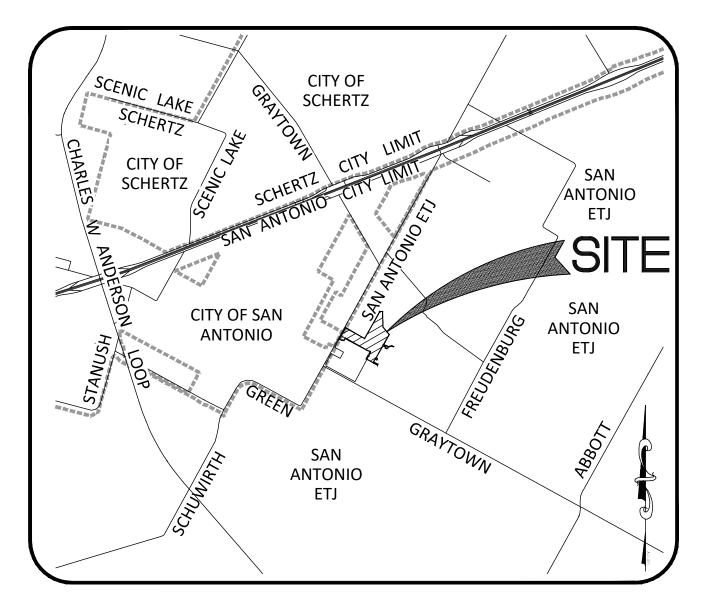
KATZER RANCH SUBDIVISION, UNIT 3 SANITARY SEWER IMPROVEMENTS

SUBMITTED BY: MOY TARIN RAMIREZ ENGINEERS, LL SAN ANTONIO, TEXAS 78249 TEL: (210) 698-5051

OWNER/DEVELOPER

SA KATZER RANCH, LTD. 13141 NORTHWEST FWY HOUSTON, TX 77040 210-402-0642

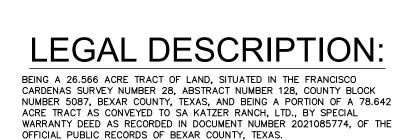




VICINITY MAP

SUBMITTAL DATE:





SHEET INDEX

SHEET NO. TITLE

SEWER PLANS

SEWER COVER

SARA GENERAL NOTES SARA GENERAL NOTES

OVERALL SEWER PLAN

OVERALL SEWER PLAN

SANITARY SEWER LINE "C" PLAN & PROFILE

SANITARY SEWER LINE "K" PLAN & PROFILE

SANITARY SEWER LINE "L" PLAN & PROFILE

SANITARY SEWER LINE "N" PLAN & PROFILE

SARA DETAILS

ESTIMATED SEWER QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY
1	Tie to Existing Manhole	EA.	2
2	Trench Excavation Protection	L.F.	7,837
3	8" Dia. PVC Pipe, SDR-26 (Depth 6'-10')	L.F.	1,935
4	8" Dia. PVC Pipe, SDR-26 (Depth 10'-14')	L.F.	784
5	8" Dia. PVC Pipe, SDR-26 (Depth 14'-18')	L.F.	350
6	8" Dia. PVC Pipe, SDR-26 (Depth >18')	L.F.	117
7	Standard Sanitary Sewer Manhole	EA.	7
8	Drop Manhole (Incl. New Drop @ Wet Well)	EA.	3
9	Extra Depth Manhole	V.F.	48.6
10	Reconstruct Existing Manhole	EA.	2
11	Reconstruct Existing Wet Well	EA.	1
12	Sanitary Sewer Laterals	L.F.	4,651
13	Wyes/Tees on Existing Sewer Main	EA.	9
14	Vertical Stacks	V.F.	120
15	Sanitary Sewer Cleanout	EA.	127
16	Sewer Main Television Inspection	L.F.	3,186

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE

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 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 working in and around trench excavation.

PAUL LANDA, JR 100182

FIRM TBPELS ENG F-5297 SVY F-10131500 12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

GENERAL SEWER NOTES

- 1. ALL SEWER CONSTRUCTION IS WITHIN THE JURISDICTION OF THE SAN ANTONIO RIVER AUTHORITY (SARA).
- 2. A PRECONSTRUCTION CONFERENCE WILL BE HELD WITH THE CONTRACTOR, CONSULTANT AND SARA STAFF
- 3. THE CONTRACTOR SHALL OBTAIN A COPY OF THE TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION, DATED APRIL, 2012, AS PUBLISHED BY THE SAN ANTONIO RIVER AUTHORITY. THESE SPECIFICATIONS AND THE GENERAL NOTES SHOWN ON THE PLANS WILL GOVERN ALL SEWER CONSTRUCTION IN THIS PROJECT.
- 4. DENSITY TESTING OF SECONDARY BACKFILL MATERIAL IN SEWER TRENCHES WILL BE REQUIRED. SEE SECTION 400.4 OF THE SPECIFICATIONS FOR MORE INFORMATION.
- 5. SEEPAGE RETAINERS WILL BE REQUIRED AT CERTAIN LOCATIONS. SEE SECTION 400.4(C) OF THE SPECIFICATIONS FOR MORE INFORMATION.

BEXAR COUNTY

6. COORDINATE ALL WORK WITH THE SARA INSPECTOR.

NOTE TO CONTRACTOR:

- BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER. AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.
- THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL LITHLITY FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

SUBMITTAL SET TEXAS C2.0

SAN ANTONIO RIVER AUTHORITY SANITARY SEWER SYSTEM GENERAL NOTES

The standard specifications and drawing (DD) are provided as a technical resource for engineering professionals for use in design and construction of sewer collection systems projects managed and contracted by the San Antonio River Authority.

At any time these specifications and drawing may be altered or superseded by the general conditions, specific conditions, or drawing within the bid documents issued for each project.

December 9, 2010 - Revise Interceptors Testing November 2, 2010 - Revise Sewer Pipe SDR 35 to SDR-26 ASTM 115 PSI September 8, 2010 - Infiltration I/I Coating July 30, 2009 - Revise Items 10, 11, 13, 14,14B January 28, 2010 - Revise Sewer Service Laterals (Item 21A, Item 1, 2, 3) January 22, 2010 - Revise Sewer Line Location (Item 23A, Item 1, 2, 3, 4, 5, 6, 7, 8) June 11, 2010 -Update Note 11A -Gator Wrap

GENERAL: THE OWNER, DEVELOPER, ENGINEERING FIRM SHALL SUBMIT TO THE SAN ANTONIO RIVER AUTHORITY (SARA) ENGINEER, FOR APPROVAL, TWO (2) COPIES OF ALL PLATS, PLANS AND PROFILES, PLUMBING LAYOUT, WHICH HAVE BEEN DESIGNED AND THE DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER. WHEN APPROVED, ONE (1) COPY WILL BE RETURNED TO THE OWNER DEVELOPER, ENGINEERING FIRM, SO MARKED. THE OWNER WILL BE REQUIRED TO MAKE ALL CHANGES INDICATED BY THE SARA ENGINEER, AND RETURN WITH ALL CHANGES, CORRECTIONS, BACK TO SARA FOR APPROVAL.

- 1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SARA AND COMPLY WITH:
 - CURRENT SARA TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION.
 - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), FORMERLY TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC), DESIGN CRITERIA FOR SEWAGE SYSTEMS 31 TAC 317.1, 31 TAC 317.2 AND 31 TAC 317.3., 30 TAC & 213, 30
- 2. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE SARA INSPECTIONS DIVISION AT (210) 302-4210 OR (210) 663-8561 -- 48 HOURS PRIOR TO ANY EXCAVATION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE ANY EXCAVATION, OR START OF PROJECT.
- 3. WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS OR HOLIDAYS BEFORE 7:30 A.M., OR AFTER 4:30 P.M., UNLESS PRIOR APPROVAL IS GRANTED BY THE SARA ENGINEER. A LETTER WILL NEED TO BE FAXED TO (210) 661-9324 FOR ENGINEER APPROVAL (48) HOURS IN ADVANCE.
- A. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES TO INCLUDE SURFACE LATERALS, SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE. (POT. HOLE, VERIFY LOCATION, ELEVATIONS OF ALL) UTILITY SERVICE LINES 48 HOURS PRIOR TO EXCAVATION AND TO PROTECT THE SAME DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES OF EXISTING UTILITIES AND REPAIRS WILL BE AT CONTRACTORS EXPENSE.

SAN ANTONIO WATER SYSTEM (WATER) -- (210) 704-7927 CITY OF SAN ANTONIO (STORM WATER/DRAINAGE) -- (210) 207-8022 CPS ENERGY (PREV. CITY PUBLIC SERVICE) -- (210) 353-4357

CHARTER SPECTRUM (PREV. TIME WARNER) -- (866) 519-1263 AT&T TEXAS -- (210) 580-8901

SARA (UTILITIES) -- (210) 302-4200 SARA - COMPLETE REQUEST FORM AT URL BELOW:

HTTPS://WWW.SARIVERAUTHORITY.ORG/SERVICES/UTILITIES/UTILITIES-DEVELOPMENT-RESOURCES

EXISTING MANHOLES /SEWER

- CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL MARK, CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION. CONTRACTOR WILL UNPLUG STOPPAGE AT CONTRACTOR'S EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING OR NEW RINGS, COVERS, OR CONES FROM EQUIPMENT AND MATERIALS USED OR TAKEN THROUGH THE WORK AREA. IF AN EXISTING OR NEW MANHOLE COVER, RING, OR CONE IS DAMAGED BY THE CONTRACTOR IT SHALL BE REPLACED AS DIRECTED BY THE SARA INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH THE SARA APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTOR EXPENSE.
- CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES, WHILE TESTING THE PROJECT (SUCH AS AIR PLUGS, SCREW TYPE PLUGS, ETC.) ARE LABELED, MARKED OR TAGGED. PROJECT INSPECTOR WILL RECORD HOW MANY PLUGS ARE BEING USED, LOCATION AND I.D., WITHIN COLLECTION SYSTEM. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS INTO SEWER COLLECTION SYSTEM.
- CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGES TO SEWER COLLECTION SYSTEM STOPPAGES, OVER-FLOWS, BACKUP INTO HOMES CAUSED BY LOST RUN AWAY SEWER PLUGS THAT WERE USED ON THAT PROJECT OR OUTFALL LINE WASTEWATER TREATMENT PLANTS.
- CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO WASTEWATER TREATMENT APPARATUS. SUCH AS SCREW PUMPS, ETC, CAUSED BY LOST OR RUN AWAY SEWER PLUGS. CONTRACTOR WILL BE HELD LIABLE FOR DAMAGES. AS WELL AS COST OF REPAIRS.
- 5. ALL WORK IN THE TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY
- RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- 6. ALL WORK ON PUBLIC STREETS SHALL BE COORDINATED WITH AND APPROVED BY THE BEXAR COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC DIVISION AND STREET ENGINEER
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROJECTED AREAS.
- 8. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM THE COMPLETE INSTALLATION OF THE SANITARY SEWER LINES.
 - THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
 - PULL MANDREL- AFTER 30 DAYS OF INSTALLATION
- PERFORM AIR TEST PULL WIPER (AFTER STREET HAS BEEN ASPHALTED IN NEW SUBDIVISIONS)
- D. VACUUM TEST ALL MANHOLES WITHIN THE PROJECT CCTV- ALL NEW LINE - PAN /TILL ALL SERVICE LATERALS TO 6"X6" CLEAN OUT .FLOOD ALL LINES BEFOR CCTV, SUMMIT DVD
- 9. CONTRACTOR SHALL SUBMIT FILED COPY PLANS AND PROFILES SHOWING AS-BUILT WORK AT END OF PROJECT, CCTV DVD AND COMPACTION DENSITY REPORTS FOR MAIN SEWER LINE AND ALL SERVICE LATERALS TRENCHS. WARRANTY LETTERS ON MATERIALS, WORKMANSHIP FOR 24 MONTHS AFTER FINAL ACCEPTANCE.

MANHOLES

- 10. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST FOUR (4) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS THE MANHOLE RING SHALL BE FLUSH WITH THE PAVEMENT. ALL NEW INSTALLED MANHOLES WILL BE WITH A 30" INCH OPENING, MINIMUM, WITH THE SARA LOGO ON THE COVER. EVERY THIRD MANHOLE COVER WILL HAVE A 1" HOLE FOR A VENT.
- ALL MANHOLES SHALL BE WITH A 30" OPENING, HAVE WATERTIGHT RING AND COVERS, WITH THE SARA LOGO, I/I BARRIER, IN ACCORDANCE WITH THE SARA TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION. ON PRIVATE PROPERTY, MANHOLE RING AND COVER SHALL BE TYPICAL MANHOLE COVER WATER TIGHT.
 - A. BEFORE BACK FILLING/COMPACTION/CONCRETE ENCASTMENT
 - ALL MANHOLE JOINT SECTION RISERS, CONE SECTIONS AND GRADE RING SHALL BE WRAPPED WITH GATOR WRAP SEALING SYSTEMS, BUTYL ADHESIVE SEALANT WITH A MINIMUM THICKNESS OF 30 MILS, INFI-SHIELD WRAPPED WITH RISER-WRAP SEALING SYSTEM, GATOR WRAP
 - OUTSIDE FOR I/I, GROUND WATER TABLE.
- 12. IF CONCRETE THROAT RINGS ARE TO BE INSTALLED THEY MUST BE USED IN CONJUNCTION WITH A UV STABILIZED POLYETHYLENE LINER AND I/I BARRIER. I/I BARRIER MUST MEET THE FOLLOWING ASTM STANDARDS: ASTM D-790/1505 DENSITY OF POLYETHLENE MATERIALS, ASTM D-1238 MELT FLOW INDEX, ASTM 638 TENSILE STRENGTH@ YIELD (50 mm/mm), ASTM 790 FLEXURAL MODULUS, ASTM 648 HEAT DEFLECTION TEMPERATURE @IGEPAL, ASTM 1693 EsCR,100% IGEPAL /10% IGEPAL. A MINIMUM OF TWO AND A MAXIMUM OF FOUR THROAT RINGS WILL BE USED AT EACH MANHOLE FOR ADJUSTMENT.
- 13. INFILTRATION DISHES WILL BE REQUIRED IN MANHOLES WHERE APPLICABLE (I.E, SUCH AS LOW DRAINAGE AREAS) AND EVERY THIRD MANHOLE SHALL BE VENTED. 30" MANHOLE COVER WITH 1" INCH HOLE CENTER OF COVER WHERE APPLICABLE/OR WATER TIGHT /BOLT DOWN.

Note: Manhole cover inserts shall be FRW industries, Inc., "Inflow Protector-Cover" "Preco Industries. Ltd.", "Sewer Guard", or approved equal, and shall be installed in strict accordance with the manufacturer's recommendations. The contractor shall be responsible for making the necessary field measurements for the manufacturer prior to production.

- A. ALL MANHOLES MUST HAVE 350-400 FEET SPACING BETWEEN MANHOLES TO PROVIDE ACCESS TO SEWER LINES FOR CLEANING, ON THE SARA PUBLIC SEWER EASEMENT. A 16 FOOT GATE WITH LOCK WILL BE PROVIDE BY CONTRACTOR FOR ACCESS TO CLEANING AND MAINTAIN SEWER LINES.
- B. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN TWENTY-FOUR (24) INCHES ABOVE THE OUTFLOW ELEVATION. DROP SHALL BE LOCATED OUTSIDE THE MANHOLE WITH ITS FLOWLINE ELEVATION LOCATED BETEEN THE CENTER LINE AND TOP OF SEWER LINE.
- 14. ALL MANHOLES WILL BE CONCRETE ENCASTMENT 1 FOOT AROUND RING, 28-INCH DEEP AFTER GATOR WRAP SEALING SYSTEM HAS BEEN APPLIED.
- 15. NEW MANHOLE PROTECTIVE COATING, LINER IS FOR THE PURPOSE OF I/I INFILTRATION BECAUSE OF HIGH WATER TABLE. APPLICATION PROCEDURES ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND PER THE FOLLOWING SPECIFICATIONS:

A. MANHOLE PROTECTIVE COATING: CONTRACTOR WILL BE RESPONSIBLE FOR MANHOLES ON PROJECT SAFETY ASSESSMENT; CONFINED SPACE ENTRY SET BY OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 29 CFR 1910.146 APP. E.

B. THE CONTRACTOR, SHALL NOTIFY THE SARA, UTILITIES INSPECTIONS DEPARTMENT WITH A MINIMUM OF 2 DAYS ADVANCE NOTICE OF THE START OF ANY FIELD SURFACE PREPARATION WORK OF COATING APPLICATION WORK OF MANHOLES.

C. ALL NEW MANHOLES IN NEW DEVELOPMENTS SHALL BE 30" OPENING

WATERTIGHT AND THE INTERIOR WALL COATED WITH A SARA APPROVED SEWER STRUCTURE FOR ALL MANHOLES. APPLY A COMBINATION OF BOTH PRODUCTS WITH THE CEMENTITIOUS COATING FIRST, FOLLOWED BY THE EPOXY COATING LAFARGE SEWPERCOAT 2000 HR REGULAR, WITH THE REQUIRED ONE-INCH THICK APPLICATION. THIS IS THE ONLY PRODUCT YET APPROVED WHICH SATISFIES THE REQUIREMENT OF APPLYING THE COMBINATION OF BOTH THE CEMENTITIOUS COATING AND EPOXY COATING

APPROVED MATERIALS ARE AS FOLLOWS:

CEMENTITIOUS COATING WITH REQUIRED ONE-INCH THICK APPLICATION

- PERMACAST CR 5000
- STRONG-SEAL MS-2C
- STANDARD CEMENT MATERIAL INC PELINER
- QUADEX ALUMINALINER

EPOXY COATING: WITH SPECIFIED THICKNESS APPLICATION.

- * RAVEN 405 SERIES HIGH BUILD EPOXY LINER REQUIRED THICKNESS 125 MILS
- * SPRAY WALL POLURETHANE SYSTEM REQUIRED THICKNESS 150 MILS
- D. WARRANTY LETTER ON MANHOLE PROTECTIVE COATING FOR 10 YEARS AFTER FINAL ACCEPTANCE OF PROTECTIVE COATINGS CONTRACTOR IS NOT RELIEVED OF ITS RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.
- i. ANY CONNECTIONS TO EXISTING MANHOLES WILL REQUIRE A 36-INCH CRADLE TO SUPPORT INCOMING PIPE. A RUBBER GASKET WILL ALSO BE REQUIRED (CENTERED AT MANHOLE WALL) WITH GROUTING AT INTERIOR AND EXTERIOR PENETRATIONS.

PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE EXITING MANHOLE WILL BE REPLACED AT CONTRACTOR'S

EXPENSE. IF COATING SEAL IS BROKEN, THE MANHOLE WILL BE RECOATED WITH THE SAME MATERIALS. IF EXISTING SEWER MANHOLE SEAL COATING IS BROKEN, ALL OF MANHOLE WILL BE RESEALED WITH SAME MATERIALS.

- ii. ANY AND ALL EXISTING MANHOLES WITHIN CONSTRUCTION PROJECT THAT TIE IN, ARE DONE BY CONTRACTOR TO STUB-OUT ADJUSTMENT, RECONSTRUCTION, OR LEAKING. MANHOLE WILL BE COAT SEALED AT CONTRACTOR'S EXPENSE.
- iii. MANHOLES WITH STUB-OUTS (8") INCH OR LARGER MUST BE LOCATED AT THE END OF ALL SEWER LINES THAT MAY BE EXTENDED IN THE FUTURE. MANHOLES PLACED AT THE END OF THE WASTEWATER COLLECTION SYSTEM PIPES THAT MAY BE EXTENDED IN THE FUTURE MUST INCLUDE PIPE STUB-OUTS WITH PLUGS.

***** NEW NOTE ******

- THE KIND AND DESCRIPTION OF THE PIPE CONDUIT IS SHOWN ON THE PLANS (IF PVC, SDR AND ASTM/ANSI DESIGNATION CLASS). AS SDR 26 PVC, ASTM D-3034 WITH A MINIMUM STIFFNESS OF 115 PSI TEXAS ADMINISTRATIVE CODE (TAC) RILES TO INCLUDE 30 TAC & 213, OR ANY REVISIONS THERE TO APPLICABLE TECQ, 30 TAC 7 217, FOR ALL NEW DEVELOPMENT.
- 17. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED UNDER THIS CONTRACT. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE CORROSION PROTECTED ON BOTH THE INTERIOR AND EXTERIOR SURFACES. ALL CORROSION PROTECTION SHALL BE APPLIED AND INSTALLED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUSLY PROTECTED SURFACE AFTER FINAL PIPE
- 18. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH; MINIMUM PIPE STIFFNESS OF 150 PSI.
- ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS.
- MATERIAL: RUBBER MEETS ASTM C923/MASTIC MEETS ASTM C 990 OR APPROVE BY THE SARA ENGINEER SUBSTITUTION ON 20. SEWER PIPE CONNECTIONS TO PRECAST MANHOLES SHALL BE APPROVED BY THE SARA. THIS CONNECTION SHALL USE A FLEXIBLE "BOOT" TYPE CONNECTOR SUCH AS THE PSX POSITIVE SEAL SYSTEM OR ENGINEER APPROVED EQUAL AND COMPLY WITH ASTM C-923. SEWER PIPE CONNECTIONS TO MONOLITHIC MANHOLES WILL BE AS SHOWN ON THE STANDARD DETAIL SHEET. ANY CHANGES IN THESE METHODS MUST BE APPROVED BY SARA ENGINEER.
 - ALL PIPE TRENCHING, BEDDING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE ASTM/ANSI SPECIFICATIONS [REFERENCE 31 TAC 317.2(A)(5)(A); ASTM C-12 (ANSI A106.2) OR ASTM D-2321 (ANSI K65.171)]. All compaction @ 98% density tests across the board, 1 random density test per lift for every 400 feet.
 - A. SAND MIGRATION PREVENTION COLLAR WHEN CHANGING THE INITIAL BACKFILL FROM SELECT INITIAL BACKFILL TO OPTIONAL SELECT INITIAL

BACKFILL. A TWO (2) FOOT LONG CLASS D CONCRETE ENCASEMENT OR FIRMLY COMPACTED, CONSOLIDATED CLAY ENCASEMENT BACKFILL, EVERY 180 FEET ALONG PIPE BETWEEN THE TWO SHALL BE PROVIDED FOR THE ENTIRE HEIGHT OF THE INITIAL AND 20 FEET FROM WALL OF MANHOLE IN EACH DIRECTION.

B. SEWER LINE LOCATION:

- i. SEWER LINES SHALL BE SIZED AND EXTENDED THROUGH THE LIMITS OF A DEVELOPMENT TO SERVE ADJACENT PROPERTY. WITH MANHOLE AND STUB-OUT AT END OF SEWER LINE.
- a. IN PHASED CONSTRUCTION OF THOROUGHFARES, THE SEWER LINE SHALL BE EXTENDED THE ENTIRE LENGTH OF THOROUGHFARE BEING CONSTRUCTED.
- NO PUBLIC SEWER LINE SHALL BE LOCATED NEARER THAN FIVE (5) FEET FROM ANY TREE.
- iii. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE SARA ENGINEER AND CONSIDERATION SHALL BE GIVEN AS TO POSSIBLE EXTENSIONS FOR FUTURE DEVELOPMENT. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.
- 22. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER PROVIDED, THE CONNECTION MUST BE MADE WITH AN APPROVED SERVICE SADDLE AS PER 31 TAC 313.5(C) (7). NEW INVERT TO BE BUILT, SMOOTH CHANNEL FOR NEW PIPE/SLOPE AT 2 % FLOW.
- 23. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 PVC WITH RATING OF 115 PSI, BE EXTENDED TO THE PROPERTY LINE AT (6 x 6) CAPPED AND SEALED. ATTACH SEWER BURIAL TAPE TO THE END OF ALL SEWER LATERALS AND BRING UP TO THE GROUND LEVEL FOR MARKER (GREEN). (SEE HOUSE LATERALS DETAILS).
- SEWER SERVICE LATERALS. THE SIZES AND LOCATIONS OF LATERALS SHALL BE DESIGNATED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE SARA ENGINEER:
 - i. IN GENERAL FOR SINGLE FAMILY DWELLING, THE LATERAL SIZE SHALL BE A FOUR (4) INCH MINIMUM. HOUSE LATERALS SHALL BE INSTALLED CENTER OF THE LOT AND SHALL HAVE A TEN (10) FOOT SEPARATION FROM THE WATER SERVICE. THE SERVICE SHALL THEN BE EXTENDED AT A FORTY-FIVE (45) DEGREE ANGLE TO FOUR (4) FEET ABOVE THE FINISHED GRADE AND CAPPED. USE SEWER BURIAL TAPE TO MARK ALL SEWER SERVICE LATERALS.
 - ii. MULTIPLE UNITS, APARTMENTS, LOCAL RETAIL AND COMMERCIAL SIX (6) INCH MINIMUM, MANUFACTURING AND INDUSTRIAL

TRAPS AND INTERCEPTORS (FOG - TECQ)

UNIFORM PLUMBING CODE, CITY OF SAN ANTONIO BUILDING

INSPECTIONS DEPARTMENT. ALL COMMERCIAL BUILINGS WILL HAVE TRAPS (FOG -TECQ).

OIL SEPARATORS

WHICH INCLUDE OIL SEPARATOR- GASOLINE SERVICE STATIONS, CAR WASHES, GARAGES, DRY CLEANERS, CHEMICAL PLANTS, GAS PLANTS, HIDE PROCESSORS, TESTING LABORATORIES, OR ANY PLACE WHERE OIL OR SOLVENTS MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM.THE SIZING CRITERIA FOR OIL SEPARATORS SHALL BE BASED ON THE G.P.M. RATE OF ALL FIXTURES, APPLIANCE OR APPURTENANCE, DRAINING INTO SEWER SYSTEM.

SAND INTERCEPTORS

SAND INTERCEPTORS SHALL BE INSTALLED IN THE SEWER SYSTEM OF THE FOLLOWING ESTABLISHMENTS, GARAGES, CAR WASHES. SERVICE STATIONS, OR ANY PLACE OF BUSINESS WHERE HEAVY SOLIDS MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR A SAND INTERCEPTOR SHALL BE BASED ON THE REQUIRED G.P.M. x 12 MINUTE RETENTION TIMES TO OBTAIN THE TANK SIZE IN GALLONS CAPACITY.

AUTOMATIC CAR WASHES

WITH HIGH PRESSURE SPRAYS AND /OR BRUSHES INSTALL A 50

G.P.M. INTERCEPTOR.MINIMUM, FOR A 4-BAY VEHICLE WASH, THE SIZE OF THE INTERCEPTOR SHALL INCREASE 10 G.P.M. FOR EACH ADDITIONAL WASH BAY OVER 4. SINGLE BAY OR PORTABLE WASHER TYPE VEHICLE WASHES SHALL INSTALL A 20 GPM INTERCEPTOR

NEUTRALIZING DEVICES

IN NO CASE SHALL CORROSIVE LIQUIDS, SPENT ACIDS, OR OTHER HARMFUL CHEMICALS WHICH MIGHT DESTROY OR INJURE A

DRAIN, SEWER, SOIL, OR WASTE PIPE, OR WHICH MIGHT CREATE NOXIOUS OR TOXIC FUMES, DISCHARGE INTO THE SANITARY SEWER SYSTEM WITHOUT BEING THOROUGHLY NEUTRALIZED BY PASSING THROUGH A PROPERLY CONSTRUCTED AND ACCEPTABLE NEUTRALIZING DEVICE. SUCH DEVICE SHALL BE PROVIDED WITH A SUFFICIENT INTAKE OF NEUTRALIZING MEDIUM, CONSISTING OF LIMESTONE OR MARBLE CHIPS, SO AS TO MAKE ITS CONTENTS NON-INJURIOUS BEFORE BEING DISCHARGED INTO THE SANITARY SEWER SYSTEM.

> SANANTONIO RIVER AUTHORITY Water Brings Us Together

SAN ANTONIO RIVER AUTHORITY

100 E. GUENTHER STREET P.O. BOX 839980 SAN ANTONIO, TEXAS 78283-9980

SHEET

SUBMITTAL SET

Ŋ

SHEET

LINT TRAPS

PUBLIC AND PRIVATE WASHATERIAS AND COMMERCIAL LAUNDRIES SHALL INSTALL A LINT TRAP EQUIPPED WITH A CONVENIENTLY LOCATED AND EASILY REMOVABLE WIRE BASKET OR OTHER SIMILAR DEVICE THAT WILL PREVENT THE STRINGS, RAGS, BUTTONS, OR OTHER PROHIBITED MATERIAL FROM ENTERING THE SANITARY SEWER SYSTEM. THE BASKET OR OTHER SIMILAR DEVICE SHALL PREVENT PASSAGE TO THE SANITARY SEWER SYSTEM OF SOLIDS GREATER THAN 1/2" INCH IN DIAMETER. THE LINT TRAP SIZE SHALL BE BASED ON THE TOTAL G.P.M. OF ALL FIXTURES, APPLIANCES AND APPURTENANCES DRAINING TO IT IN LIEU OF A LINT TRAP,A LINT INTERCEPTOR MAY BE INSTALLED.THE INTERCEPTOR SHALL BE SIZED AND DESIGNED BY A TEXAS REGISTERED ENGINEER WITH HIS SEAL AND SIGNATURE ON THE DRAWINGS.

SILVER RECOVERY UNITS

SILVER RECOVERY UNITS SHALL BE INSTALLED IN WASTE LINE(S) LEADING FROM X- RAY PROCESSING, PHOTOGRAPHIC PROCESSING, AND /OR ANY PROCEDURES IN ESTABLISHMENT SUCH AS MEDICAL LABS, DENTAL LABS, PHOTO FINISHERS, PRINTERS, GRAPHIC ARTS PRODUCTION FACILITIES, HOSPITAL, FACILITIES, VETERINARY HOSPITALS, OR OTHER ESTABLISHMENTS WHERE SILVER MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM.

SOLIDS INTERCEPTORS

SOLIDS INTERCEPTORS SHALL BE INSTALLED WHEN PRE-TREATMENT OF WASTE STREAMS IS NECESSARY TO PREVENT SOLIDS GREATER THAN 1/2" IN DIAMTER, WHICH MAY CAUSE LINE STOPPAGE FROM ENTERING THE SANITARY SEWER SYSTEM.

INTERCEPTORS

- a. INTERCEPTORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN APPROVED BY THE SAN ANTONIO RIVER AUTHORITY CONSISTING OF A MINIMUM OF TWO COMPARTMENTS WITH FITTINGS DESIGNED FOR GREASE RETENTION AND PROVIDE FOR A MINIMUM OF TWELVE (12) MINUTES RETENTION.
- b. THERE SHALL BE AN ADEQUATE NUMBER OF MANHOLES TO PROVIDE ACCESS FOR CLEANING ALL AREAS OF AN INTERCEPTOR, ONE MANHOLE PER TRAP COMPARTMENT. MANHOLE COVERS SHALL BE GAS TIGHT IN CONSTRUCTION HAVING A MINIMUM OPENING DIMENSION OF 20 INCH INCHES (0.5 M).
- c. IN AREAS WHERE TRAFFIC MAY EXIST THE INTERCEPTOR SHALL BE DESIGNED TO HAVE ADEQUATE REINFORCMENT AND COVER.
- d. ALL INTERCEPTORS SHALL HAVE THE SIZE OF THE INTERCEPTOR (IN GALLON PER MINUTE OR GALLON CAPACITY) PERMANENTLY AFFIXED TO THE DEVICE.
- e. ALL CONCRETE UTILIZED IN THE CONSTRUCTION OF INTERCEPTOR SHALL HAVE A MINIMUM STRENGTH OF
- f. AN EFFLUENT SAMPLING WELL ON ALL INTERCEPTORS SHALL BE REQUIRED. THE SAMPLE WELL SHALL HAVE A RISER A MINIMUM OF 6" INCHES IN DIAMETER AND SHALL BE INSTALLED AFTER THE CONFLUENCE OF ALL WASTE STREAMS FROM THE FACILITY AND PRIOR TO DISCHARGING INTO SANITARY SEWER COLLECTION SYSTEM. THE WELL SHALL BE PERPENDICULAR TO THE EFFLUENT LATERAL TO ALLOW VISUAL OBSERVATION OF THE FLOW STREAM AND PROVIDE FOR SAMPLING OF WASTE WATER.

WATER TIGHT TESTING (24 HOURS)

- g. ALL INTERCEPTORS SHALL BE WATER TESTED OUT AT JOB SITE AFTER BEING INSTALLED (PLUG BOTH ENDS AND FILL TO TOP OF INTERCEPTOR). INTERCEPTOR SHALL SHOW NO LEAKAGE FROM SECTION SEAMS, PINHOLES, OR OTHER IMPERFECTIONS. ANY LEAKAGE IS CAUSE FOR REJECTION. WHEN LEAKAGE OCCURS, ADDITIONAL WATER TESTING SHALL BE MADE. AFTER CORRECTING MEASURE TEST, REPORTS SHALL SHOW TOTAL NUMBER OF INTERCEPTERS TESTED. WHEN LEAKAGE OCCURS MEASURES TAKEN SHALL BE REPORTED BY THE SARA INSPECTORS. SARA INSPECTORS SHALL RECORD IN DAILY LOG WITH PROJECT NAME, DATE IT WAS TESTED AND COMPLETED.
- B. MANHOLES WILL BE REQUIRED ON SIX (6) INCH AND LARGER LATERALS WHERE THEY CONNECT TO THE MAIN.
- A. LATERALS WILL NOT BE ATTACHED TO SEWER MAINS THAT ARE
- DEEPER THAN TWELVE (12) FEET. B. FITTINGS ARE NOT PERMITTED ON LATERALS BETWEEN THE WYE AND
- THE PROPERTY LINE.
- C. DEEP CUT OR DROP CONNECTIONS SHALL NOT BE PERMITTED.
- F. A MINIMUM OF ONE (1) LATERAL PER BUILDING SHALL BE REQUIRED.
- ALSO, A MINIMUM OF ONE (1) LATERAL PER RESIDENTIAL LOT SHALL BE REQUIRED. DUPLEXES SHALL HAVE TWO (2) LATERALS THAT SHALL BE INDEPENDENTLY ATTACHED TO THE
- G. ALL SEWER LATERAL CROSSING WATER MAINS SHALL CONFORM TO THE REQUIREMENTS OF THE TCEQ CHAPTER 317 (DESIGN CRITERIA FOR SEWERAGE SYSTEMS) LATEST REVISION, SDR 26 150 PSI, OR DUCT IRON PIPE, CONCRETE ENCASMENT.
- 24. WHERE REQUIRED CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLAIN SIX (6) INCHES ABOVE THE TOP OF THE PIPE WITH PAY UNITS AS SHOWN ON THE STANDARD DETAIL SHEET.
- 25. A MINIMUM OF FOUR (4) FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT GRADE, OTHERWISE CONCRETE ENCASEMENT IS REQUIRED.
- 26. WHERE POROUS MATERIAL INCLUDING "SUBGRADE FILLER" IS USED FOR BACKFLL IN THE BEDDING AND INITIAL BACKFILL ZONES, SEEPAGE RETAINERS ARE REQUIRED AT AN APPROXIMATE OF 180 FEET. RETAINERS SHALL CONSIST OF CLASS "D" CONCRETE ENCASEMENT OR FIRMLY COMPACTED. CONSOLIDATED CLAY ENCASEMENT, THE RETAINERS SHALL EXTEND FROM THE BOTTOM OF THE TRENCH TO THE TOP OF THE GRANULAR MATERIAL FOR THE ENTIRE TRENCH WIDTH. ENCASEMENT SHALL BE 24 INCHES LONG. NO EXTRA PAY ITEM.

BLASTING

27. WHEN ALLOWABLE, BLASTING SHALL BE PERFORMED IN ACCORDANCE WITH THE ABOVE CRITERIA ESTABLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION 312 TAC 313.5(C) (6).

- 28. BLASTING SEWER LINE EXCAVATION MUST BE DONE IN SUCH A MANNER AS TO MINIMIZE THE FRACTURING OF ROCK BEYOND THE REQUIRED EXCAVATION. THE CONTRACTOR SHALL CONSIDER THE ELEVATION OF THE EXISTING SANITARY SEWER MAIN IN RELATION TO THE BLASTING CHARGE AND RELATIVE DIRECTION OF EXISTING AND PROPOSED TRENCHES. BLASTING WITHIN SUCH AREAS SHALL BE ACCOMPLISHED ONLY BY QUALIFIED BLASTING CONTRACTORS WHO HOLD BLASTING LICENSES FROM A QUALIFIED AGENCY SUCH AS THE SAN ANTONIO FIRE DEPARTMENT IN BEXAR COUNTY. ANY DAMAGE TO EXISTING SANITARY SEWERS RESULTING FROM BLASTING SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 29. NO BLASTING SHALL BE PERFORMED WITHIN 75 FEET OF EXISTING UTILITIES.

- 30. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE FOLLOWING:
- 317.2(A)(5)(B); DEFLECTION TEST FOR FLEXIBLE AND SEMI-RIGID PIPE CONDUCTED AFTER FINAL BACKFILL HAS BEEN IN PLACED AT LEAST 30 DAYS.
- B. 317.2(A)(4)(A) & (B) OR SARA SPECIFICATIONS INFILTRATION AND OR EXFILTRATION AND OR LOW-PRESSURE
- C. 313.5(C)(10)(C) OR SARA SPECIFICATIONS: ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
- D. IN THE EVENT THAT TESTING REQUIREMENTS CONFLICT, THE LATEST TCEQ DESIGN CRITERIA SHALL BE USED.
- 31. SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
- 32. SANITARY SEWER CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WHICH REQUIRE PENETRATION INTO THE MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPLACED AT CONTRACTOR'S EXPENSE AND WILL REQUIRE SUCCESSFUL TESTING OF THE EXISTING MANHOLE IN ACCORDANCE WITH THE SARA SPECIFICATIONS. THEY MUST HAVE A PROTECTIVE COATING WITH SEWPERCOAT, RAVEN 405, SAUEREISEN 210, SPRAY WALL, OR APPROVED EQUIVALENT BY THE ENGINEER, COATING WILL BE MINIMUM OF 200 MILS THICKNESS DEPENDING ON EXISTING CONDITIONS, TO PREVENT INFRASTRUCTURE INFILTRATION, FOLLOW MANUFACTURER'S RECOMMENDATION ON PROTECTIVE COATING.
- 33. AFTER CONSTRUCTION, TESTING WILL BE DONE BY PAN/TILT TV CAMERA BY THE CONTRACTOR AND OBSERVED BY THE INSPECTOR, WASTEWATER ENGINEERING PERSONNEL AND CONTRACTOR AS CAMERA IS RUN THROUGH THE LINES. PAN/TILT ALL 6" SERVICE LATERALS TO 6"X6" STUB-OUT. VIDEOS MUST INCLUDE SUBDIVISION NAME, MANHOLE NUMBER, SERVICE LATERAL STATION NUMBER, FLOW DIRECTION, LOCATION ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED, JOINT, GRAVEL, DIRT, MUST BE CLEANED OUT, REPLACE AT CONTRACTOR'S EXPENSE. NEW SEWER SYSTEM WILL BE FLOODED WITH H2O BEFORE BEING TV. ALL SEWER LINES MUST BE PRESSURE CLEANED TO INCLUDE SERVICE LATERALS 6" INCH TO STUB-OUT. ALL VIDEOS SHALL BE SUBMITTED IN DVD FORMAT WITH WRITTEN
- 34. A COPY OF ALL TESTING REPORTS INCLUDING BACKFILL COMPACTION TESTS SHALL BE FORWARDED TO THE SARA.
- A. DENSITY TEST WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. SERVICE LATERALS TO BE CHOSEN RANDOMLY BY FIELD INSPECTOR. DENSITIES ON SERVICE LATERAL SHALL NOT EXCEED 25% OF TOTAL NUMBER OF SERVICE.

EXCAVATION

- 35. 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 CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS 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. SPECIALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 36. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100 YEAR FLOODPLAIN WITHOUT AN APPROVED FLOODPLAIN PERMIT.
- 37. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO SARA SPECIFICATIONS

WATERLINE CROSSING

38. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATERLINES, MAINS CANNOT BE MAINTAINED. THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH THE TCEQ RULES (31 TAC 317.3 APPENDIX E), SDR 26 ASTM 150 PSI OR CONCRETE ENCASTMENT DUCT IRON.

EROSION AND SEDIMENTATION

- 39. THE TCEQ AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECTS PLAN AND PROFILE SHEETS.
- 40. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE SARA.

<u>SUPPLEMENTING</u>

- 41. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER PAY ITEM 10 WHICH IT RELATES TO.
- 42. UNLESS THE DEVELOPMENT IS PRIVATELY OWNED, THE DEVELOPER DEDICATES THE SANITARY SEWER MAIN AND MANHOLES TO THE SARA, UPON COMPLETION BY THE DEVELOPER AND FINAL ACCEPTANCE BY THE SARA. SARA WILL OWN AND MAINTAIN SAID SANITARY SEWER MAINS AND MANHOLES WHICH ARE LOCATED WITHIN THIS PARTICULAR
- 43. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF THE SARA CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF

- 44. SARA IS NOT TO BE RESPONSIBLE FOR ANY ABNORMALITIES ON STUB OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE IN OR SERVICE LATERAL TIE IN.
- 45. ENGINEER, DEVELOPER AND BUILDER, WILL HAVE PLUMBER AND CONTRACTOR WITH BID PRICE ON NEW INSTALLATION OF ALL 4" INCH SEWER SERVICE LATERALS TO COMPLY WITH TRENCH SAFETY (OSHA) SHORING PROTECTION ON ALL NEW INSTALLATION OF 4" INCH. SEWER SERVICE LATERALS. SARA WILL NOT BE HELD RESPONSIBLE FOR ANY INJURIES OR DEATH CAUSED BY TRENCH FAILURE, OR A WRONG OR DAMAGE DONE TO A PERSON OR TO HIS PROPERTY. OSHA GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 46. ALL 4" INCH SEWER SERVICE LATERALS WILL BE HYDRAULIC TESTED AND OR LOW AIR PRESSURE TESTED. ALL 4" INCH SEWER SERVICE LATERALS WILL BE TELEVISED (TV) FROM 4" INCH CLEAN OUT AT OUTSIDE EACH RESIDENCE TO 6" X 6" CLEAN OUT. CONTRACTOR AND PLUMBER WILL SUBMIT REPORTS AND/OR VIDEOS TO SARA, WITH THE FOLLOWING INFORMATION: SUBDIVISION NAME, LOT NUMBER, BLOCK NUMBER, STATION NUMBER, STREET NAME AND ADDRESS OF EACH SEWER SERVICE LATERAL.

PLUMBER WILL BE PROVIDED PLAN/PROFILE BY ENGINEER/BUILDER. PLUMBER WILL WORK CLOSELY WITH THE SARA PROJECT INSPECTOR ON DAILY TESTING AND TELEVISION BY MAKING ARRANGEMENTS 48 HOURS IN ADVANCE. SEWER SERVICE LATERALS THAT HAVE NOT BEEN INSPECTED OR APPROVED AND/OR COVERED UP, WILL HAVE TO BE RE-DUG AT CONTRACTOR/PLUMBER EXPENSE AND RE-INSPECTED.

- A. A PROPERTY LINE CLEANOUT (6"x 6") SHALL BE INSTALLED FOR RESIDENTIAL SERVICES. CLEANOUTS IN THE SIDEWALK OR DRIVEWAY SHALL HAVE A CAST IRON BOOT. CLEANOUT NOT LOCATED IN A SIDEWALK OR DRIVEWAY SHALL BE LOCATED ON A REINFORCED CONCRETE PAD A MINIMUM OF TWELVE (12") INCHES BY TWELVE (12"). INCHES BY SIX (6") INCHES THICK. ALL PROPERTY LINE CLEANOUTS SHALL INCLUDE A LID WITH SEWER IN GREEN COLOR.
- 47. N1 FENCING: ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOT IDENTIFIED ON THE PLANS, MUST BE MAINTAINED AT ALL TIMES. ANY AND ALL DAMAGES DIRECTLY ATTRIBUTED TO THE CONTRACTOR MUST BE REPLACED TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTORS EXPENSE AND AS APPROVED BY THE PROJECT MANAGER. GAPS IN THE FENCING MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL
- 48. N2 DAMAGE TO ADJACENT LAND: THE CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS. ANY AND ALL CLAIMS DIRECTLY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM HIS STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE APPROPRIATE LANDOWNER
- 49. N3 PROPERTY OWNER ACCESS: THE CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTORS EXPENSE, AS APPROVED BY THE ENGINEER.
- 50. N4 CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. SHOULD THE CONTRACTOR DAMAGE ANY UTILITIES THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION. CONTRACTOR IS SOLELY RESPONSIBLE FOR LOST REVENUE, LOSSES ETC. CLAMED BY UTILITY COMPANIES DUE TO CONTRACTORS WORK. CONTRACTOR SHALL NOTIFY SARA AND IMPACTED UTILITY COMPANIES 48 HRS. PRIOR TO BEGINNING WORK. CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
- 51. N5 CLEARING PERMANENT EASEMENTS: THE LIMITS OF BOTH THE EXISTING AND PARALLEL SEWER LINES PERMANENT EASEMENTS, AS DELINEATED IN THESE PLANS, MUST BE CLEARED IN ACCORDANCE WITH THE SPECIFICATION. THE CONTRACTOR MAY BE DIRECTED BY THE ENGINEER TO PROTECT AND AVOID CERTAIN TREES WITHIN THE LIMITS OF THE PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS. ALL BRUSH MUST BE REMOVED FROM SITE, NO BRUSH PILES TO REMAIN AFTER CONSTRUCTION. BURNING OF BRUSH OR TRASH WILL NOT BE ACCEPTABLE.
- 52. N7 CONTRACTOR SHALL PROVIDE APPROPRIATE SAFE ACCESS AND BARRICADE WORK AT ALL TIMES TO PROTECT THE PUBLIC. THIS INCLUDES SUBSTANTIAL BARRICADES AROUND ALL TRENCHES, BORE PITS, OPEN EXCAVATIONS, EQUIPMENT ETC. THE SITE MUST BE LEFT IN A SECURE SAFE CONDITION AT NIGHT. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC THROUGHOUT THE DURATION OF THE PROJECT.
- 53. N14 SHOULD CONTRACTOR SELECT A TRENCH EXCAVATION PROCEDURE THAT EXTENDS THE LIMITS OF SEEDING OR PAVING AND FINAL SITE PREPARATION (I.E. SLOPE BACK PROTECTION SYSTEM) HE WILL BE RESPONSIBLE FOR MEETING PLAN AND SPECIFICATION REQUIREMENTS TO THE NEW LIMITS AT NO ADDITIONAL COST TO SARA.
- 54. N16 WARNING: NOTE THAT CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND /OR CROSS EXISTING UTILITIES. THE CONTRACTORS WILL BE REQUIRED TO PROTECT EXISTING UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS SPECIFICALLY THE CONTRACTORS RESPONSIBILITY TO PROTECT HIS WORKERS, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE JOB.
- 55. N 17 OVERHEAD ELECTRIC, CITY PUBLIC SERVICE (CPS) AN APPROPRIATELY SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC SERVICE AT 353-2700 AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE CPS OVERHEAD ELECTRIC LINE CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
- 56. N 23 BYPASS PUMPING: THE CONTRACTOR IS RESPONSIBLE FOR ALL BYPASS PUMPING REQUIRED TO COMPLETE THE WORK. BYPASS PUMPS SHALL BE ADEQUATE TO HANDLE PEAK FLOW EVENTS DURING STORM EVENTS. CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL COSTS FOR CLEANUP OF AN UNAUTHORIZED DISCHARGE
- 57. N26 CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AT THE END OF THE DAY. CONTRACTOR SHALL NOT INSTALL MORE PIPE THAN CAN BE COVERED. NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT ALL END OF OPEN PIPE WILL BE PLUGGED OVER NIGHT.

AND ANY ASSOCIATED FINES.

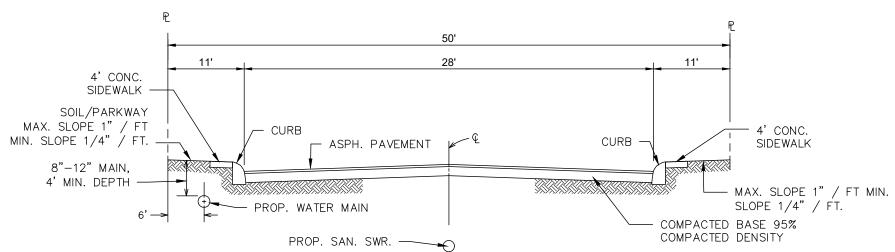
- 58. N33 THE PROJECT AREA MAY BE SUBJECT TO ARCHEOLOGICAL MONITORING. SHOULD THE CONTRACTOR ENCOUNTER ANY ARCHEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL STOP ALL WORK IN THE AREA OF THE DEPOSITS AND IMMEDIATELY CALL THE PROJECT MANAGER.
- 59. N37 CONTRACTOR TO NOTE THAT PORTIONS OF THE CONSTRUCTION ARE WITHIN THE LIMITS OF THE 100 YEAR FLOODPLAIN. THE CONTRACTOR IS REQUIRED TO KEEP THE CHANNEL CLEAR OF POTENTIAL OBSTRUCTIONS TO FLOOD FLOWS. POTENTIAL OBSTRUCTIONS INCLUDE HEAVY CONSTRUCTION EQUIPMENT, TEMPORARY ROADS ACROSS CHANNEL, EXCAVATED MATERIAL, STOCKPILED DEBRIS, ETC. UNDER THREATENING WEATHER CONDITIONS WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO SARA. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK.

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

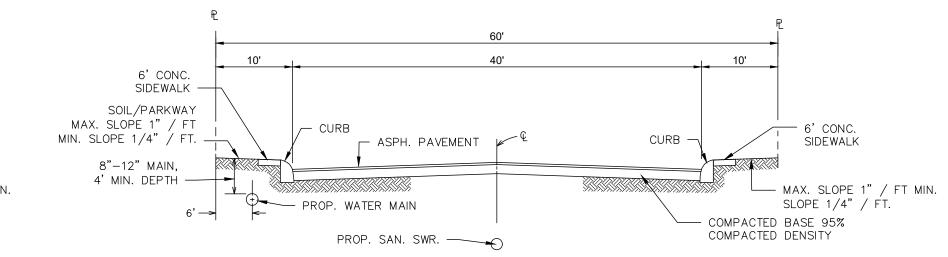
THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

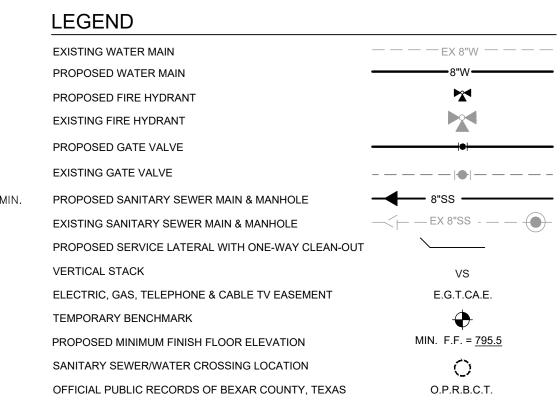
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures 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 working in and around trench excavation.



TYPICAL STREET CROSS-SECTION (28' PAVEMENT)

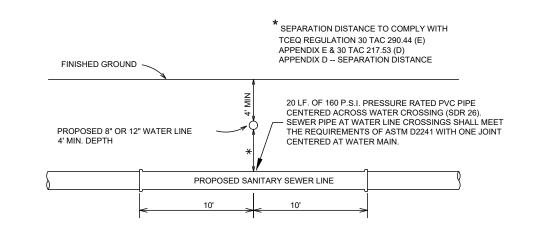


TYPICAL STREET CROSS-SECTION (40' PAVEMENT)

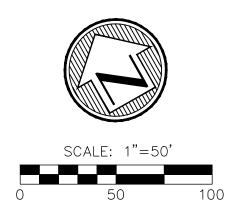


LAND-PLAT-21-11800537

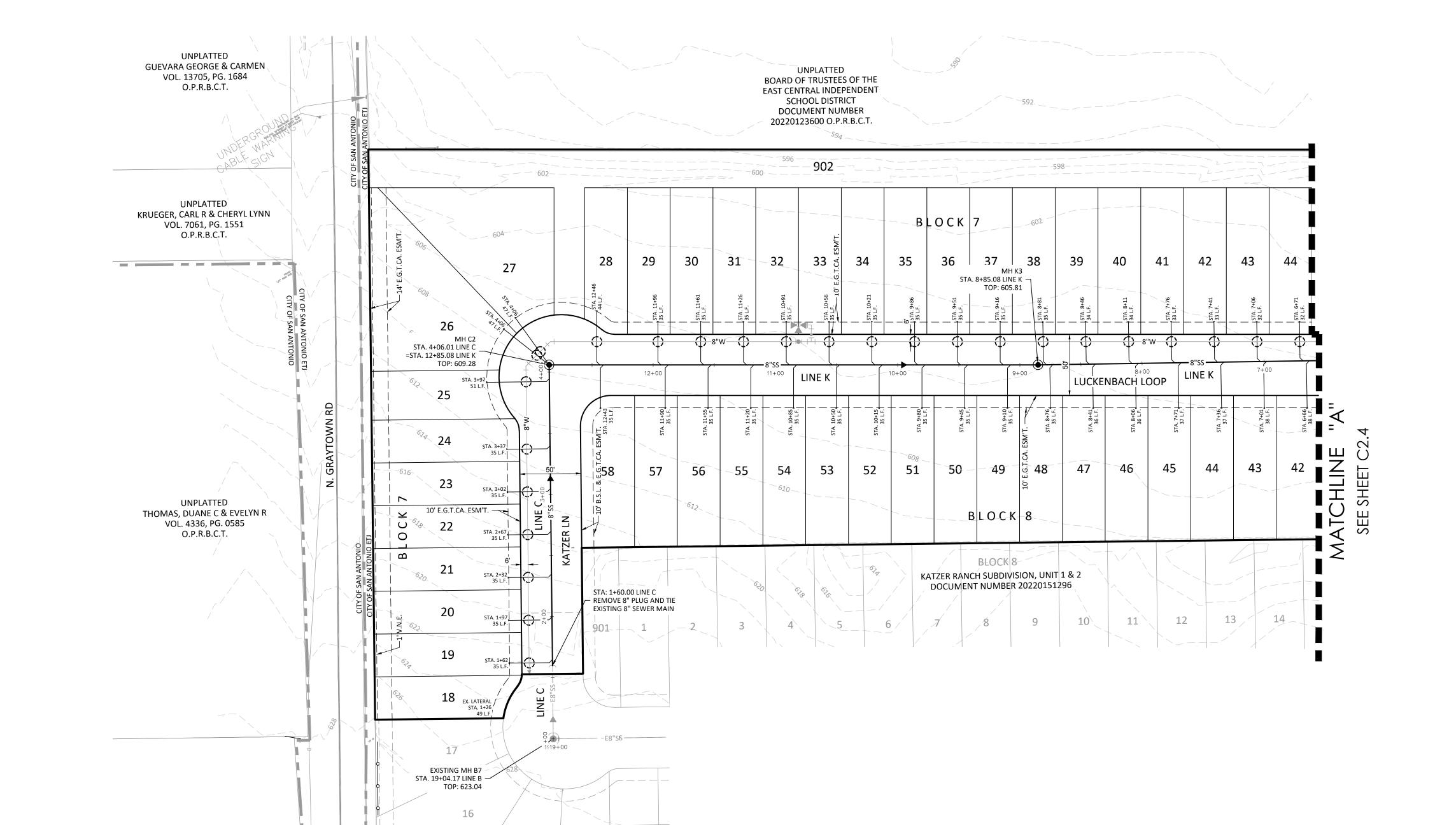
NOTE: CLEANOUTS CANNOT BE LOCATED IN DRIVEWAYS OR SIDEWALKS.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL







SEWER SANITARY

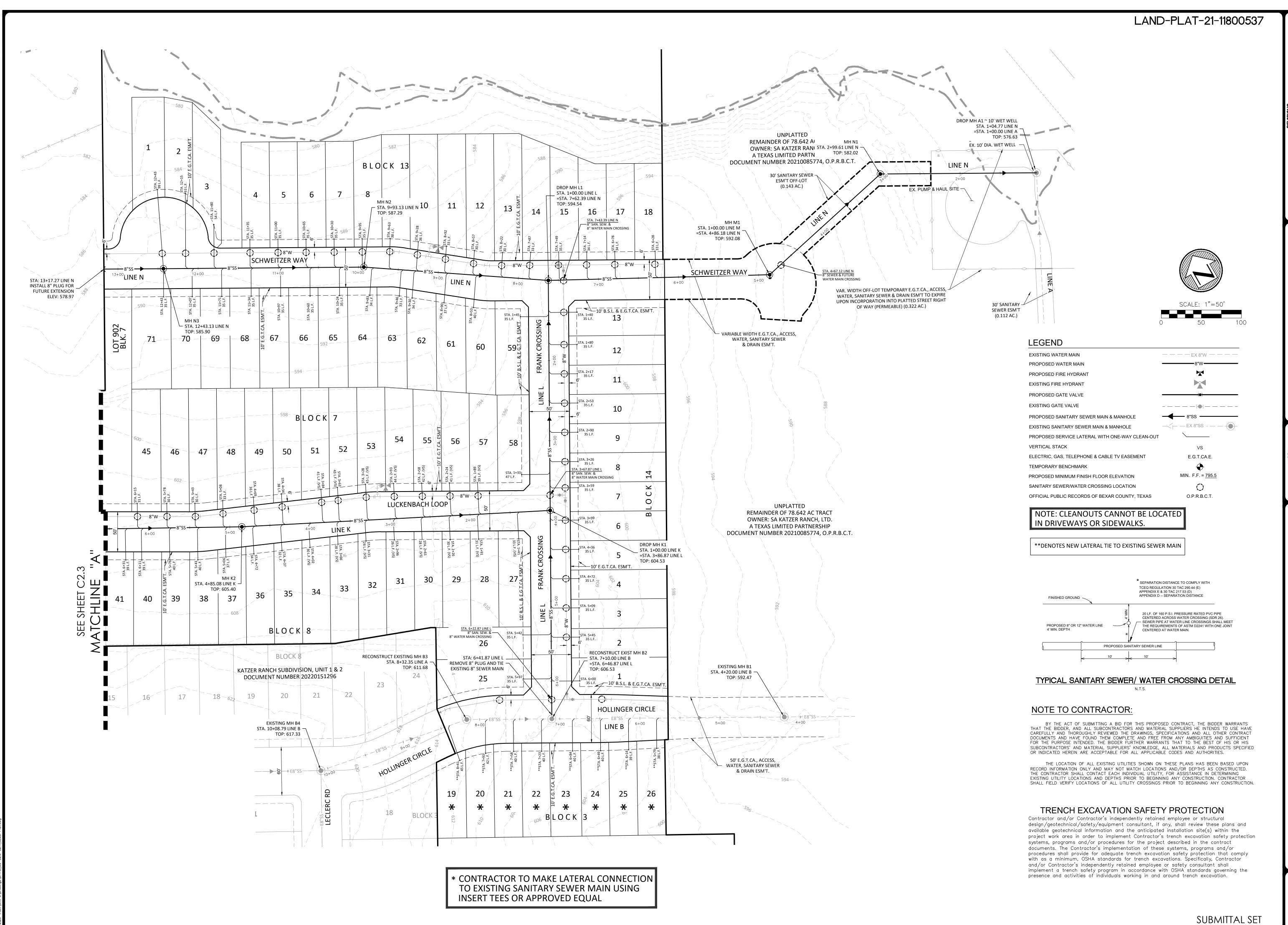
(F)

٦

OVERALL

5/28/202

SHEET



NO. DATE
DESCRIPTION

PROJ. # DGN. BY: CHKD. BY:

• Engineers
• Surveyors
• Planners
ez Engineers, LLC

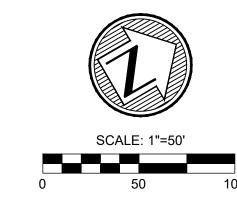
Moy Tarin Ramirez Engi BPELS: ENGINEERING F-5297/SURVE 12770 CIMARRON PATH, SUITE 100 TEL SAN ANTONIO, TEXAS 78249 FAX.



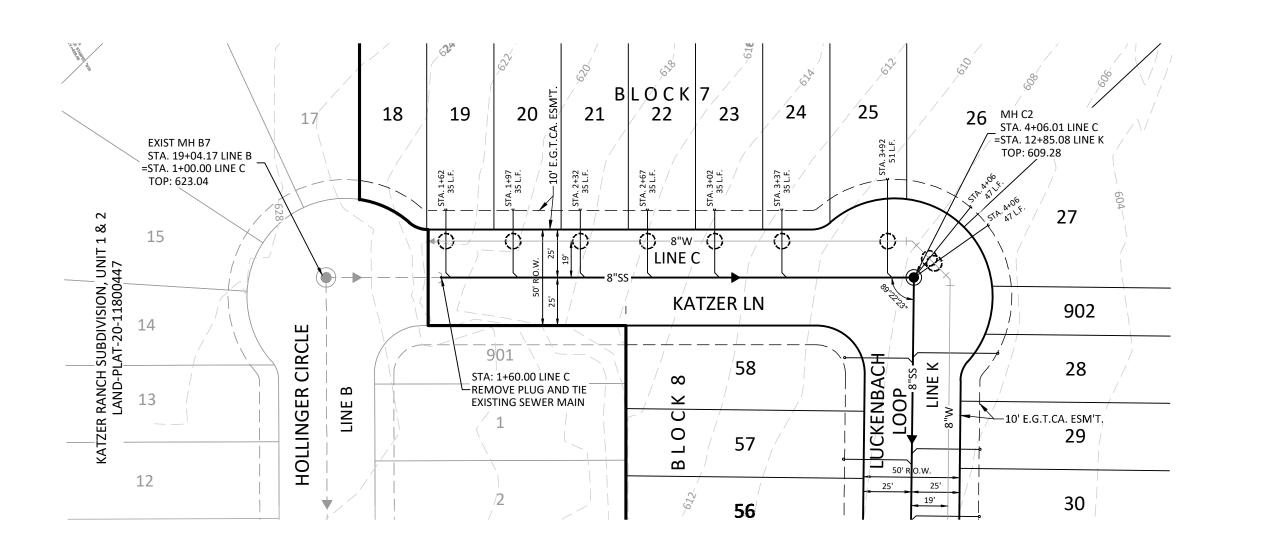
MATZER RANCH SUBDIVISION UNIT 3
SANITARY SEWER OVERALL PLAN

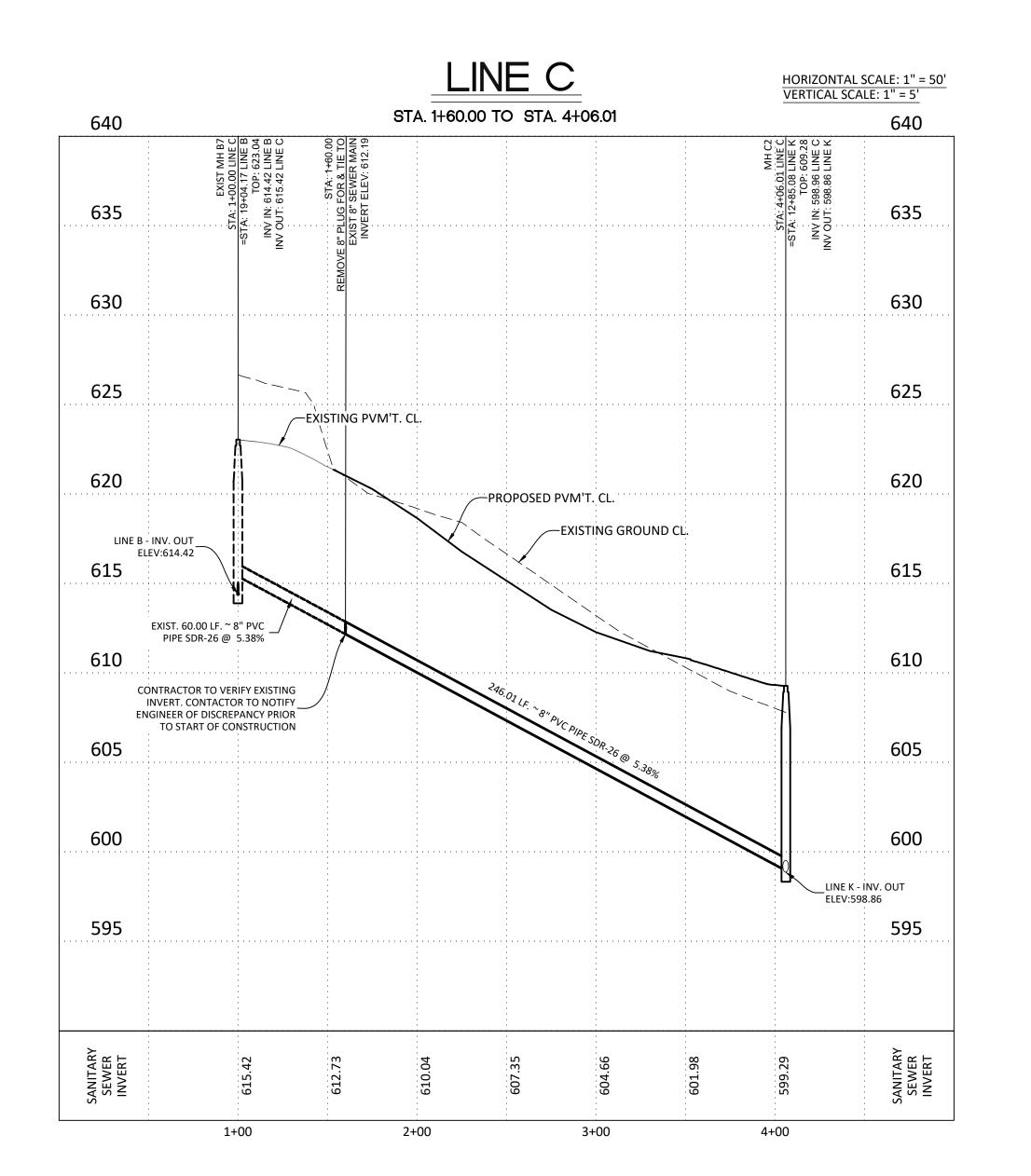
SHEET

C2.4



TYPICAL STREET CROSS-SECTION (28' PAVEMENT)





LAND-PLAT-21-11800537

LEGEND EXISTING WATER MAIN — — — EX 8"W — — -PROPOSED WATER MAIN PROPOSED FIRE HYDRANT EXISTING FIRE HYDRANT PROPOSED GATE VALVE EXISTING GATE VALVE ----PROPOSED SANITARY SEWER MAIN & MANHOLE EXISTING SANITARY SEWER MAIN & MANHOLE PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT VERTICAL STACK

ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT TEMPORARY BENCHMARK

PROPOSED MINIMUM FINISH FLOOR ELEVATION SANITARY SEWER/WATER CROSSING LOCATION OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS

E.G.T.CA.E. MIN. F.F. = <u>795.5</u> \bigcirc O.P.R.B.C.T.



Ш

PRO

L

 $\overline{\mathsf{S}}$

Y

SANIT

EWER I

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 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 working in and around trench excavation.

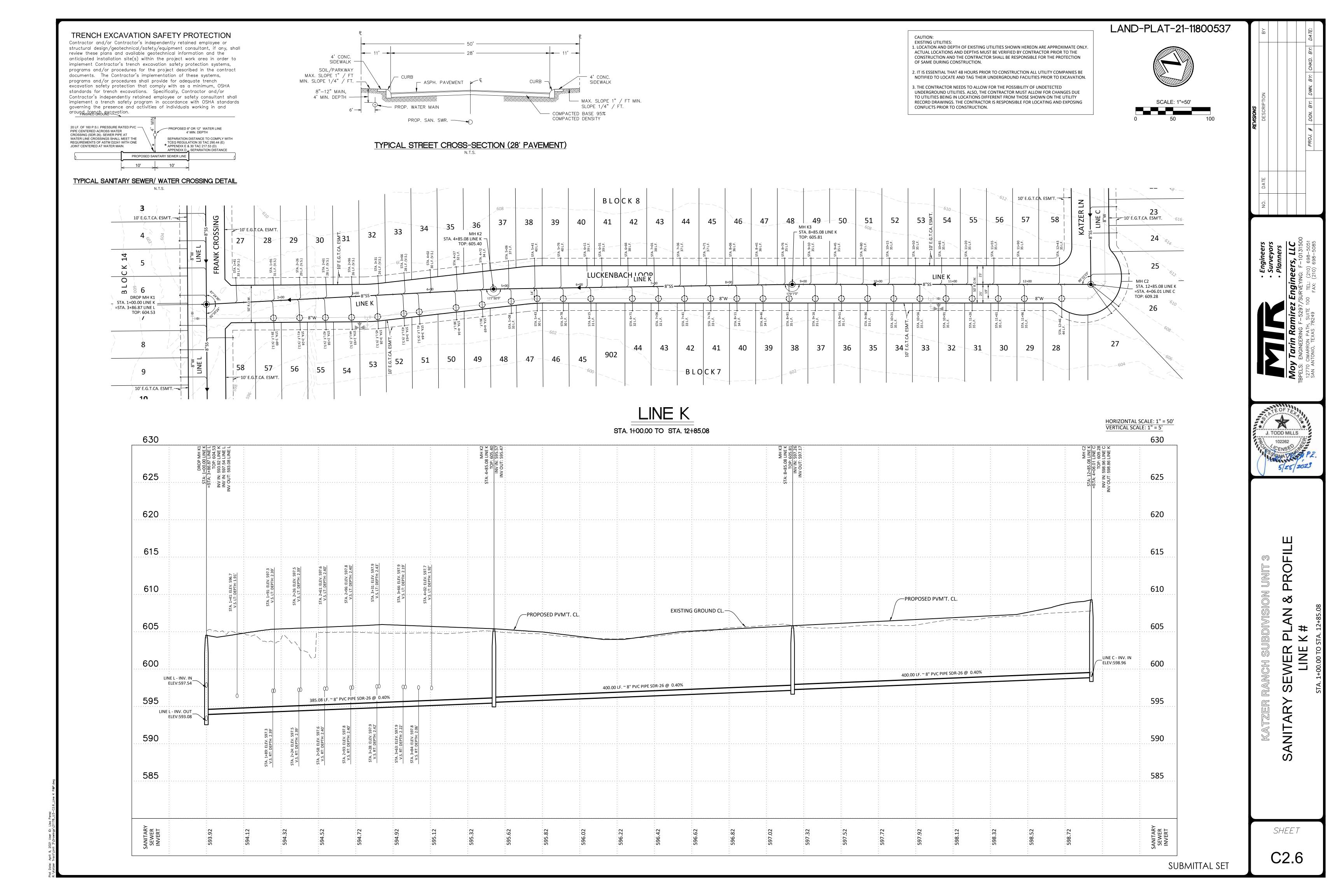
CAUTION:

EXISTING UTILITIES: 1. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY CONTRACTOR PRIOR TO THE CONSTRUCTION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING CONSTRUCTION.

2. IT IS ESSENTIAL THAT 48 HOURS PRIOR TO CONSTRUCTION ALL UTILITY COMPANIES BE NOTIFIED TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.

3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.

SHEET



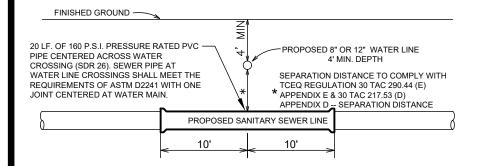
2. IT IS ESSENTIAL THAT 48 HOURS PRIOR TO CONSTRUCTION ALL UTILITY COMPANIES BE NOTIFIED TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.

OF SAME DURING CONSTRUCTION.

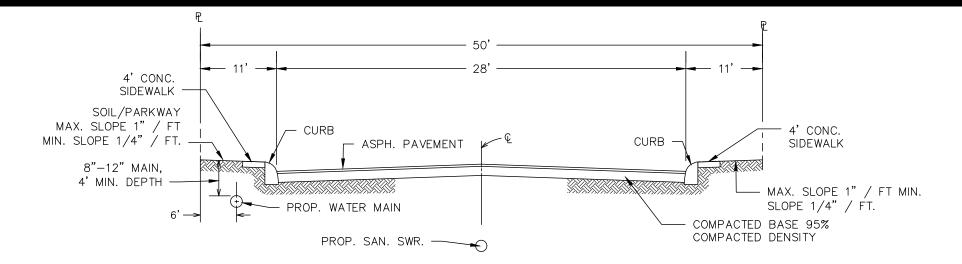
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

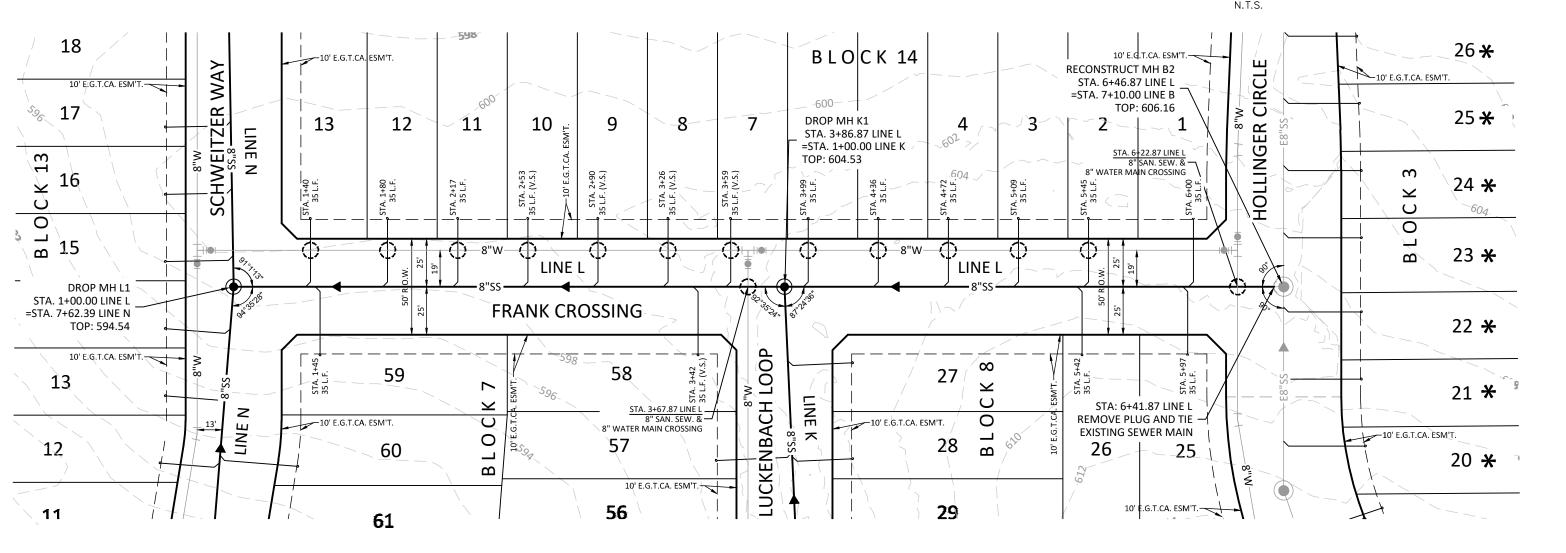
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures 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 working in and around trench excavation.

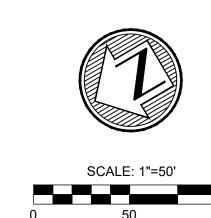


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL N.T.S.



TYPICAL STREET CROSS-SECTION (28' PAVEMENT)





LAND-PLAT-21-11800537

* CONTRACTOR TO MAKE LATERAL CONNECTION TO EXISTING SANITARY SEWER MAIN USING **INSERT TEES OR APPROVED EQUAL**

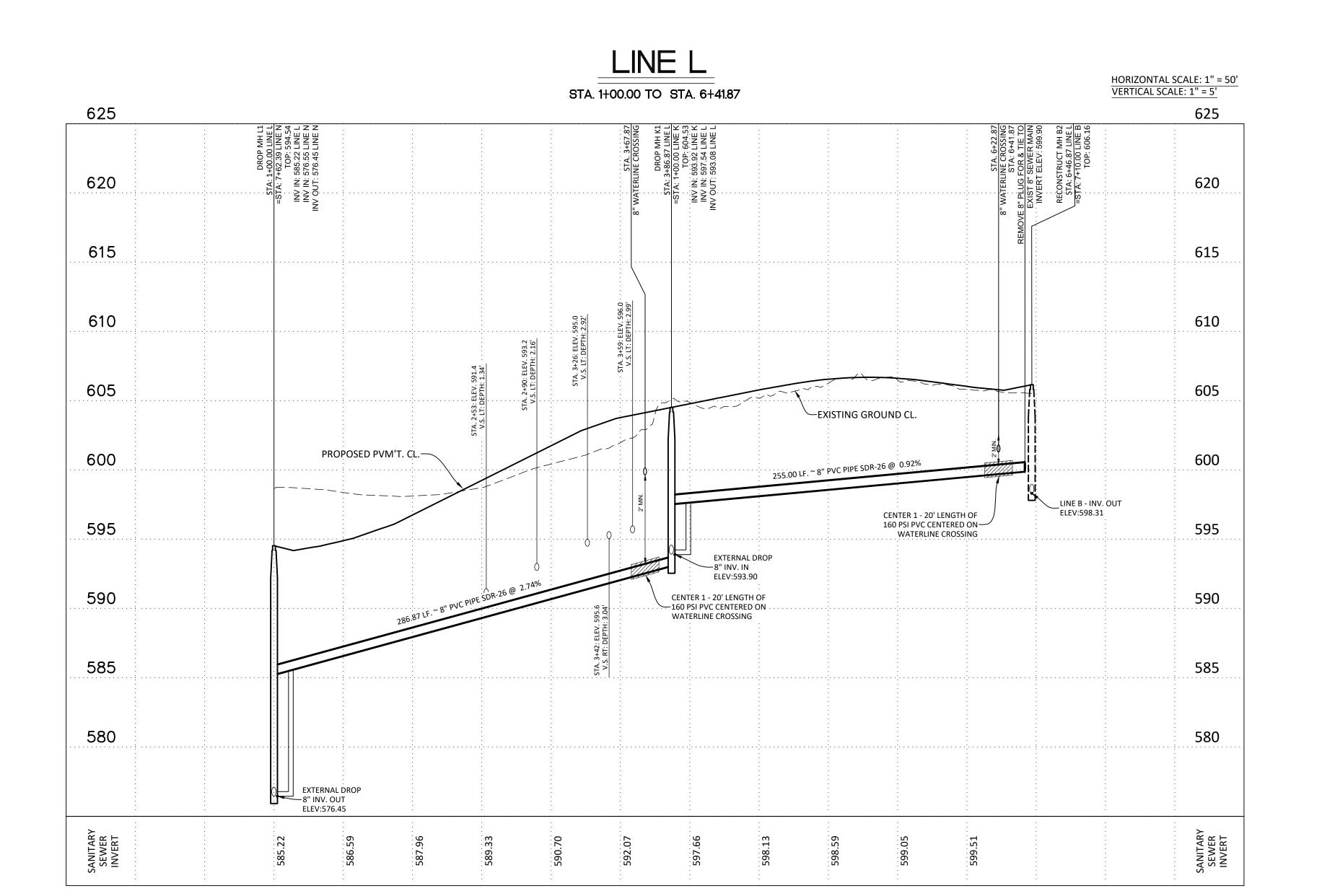
J. TODD MILLS 5/28/202

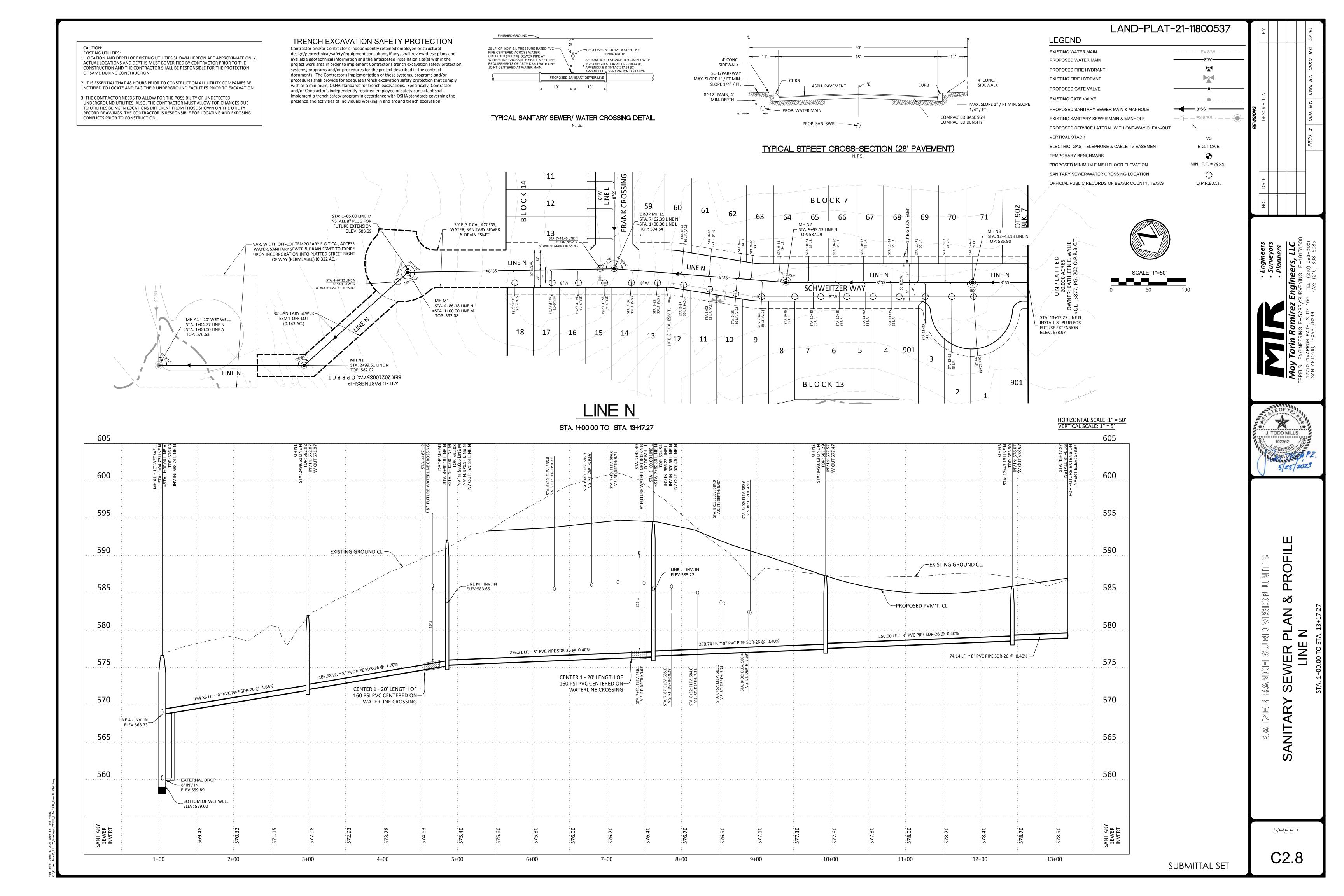
> PROFILE (F) ∞ PLAN

SEWER FLINE SANITARY

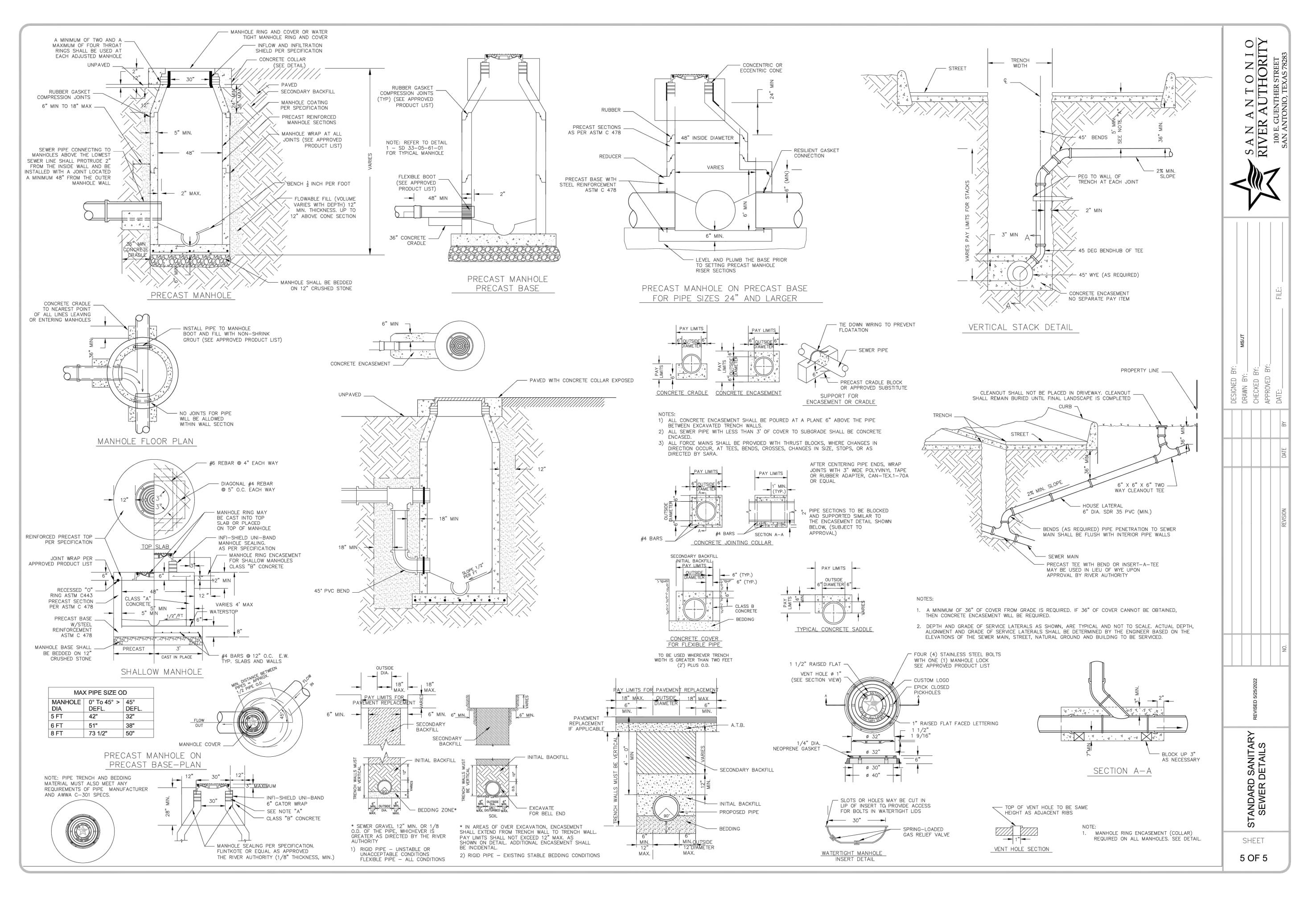
SHEET

C2.7





J. TODD MILLS



SANANTONIO RIVER AUTHORITY

Water Brings Us Together

SAN ANTONIO RIVER AUTHORITY

100 E. GUENTHER STREET P.O. BOX 839980 SAN ANTONIO, TEXAS 78283-9980 SHEET

C2.9

PROPOSED FIRE HYDRANT

PROPOSED GATE VALVE

EXISTING WATER METER

RESTRAINT/RESTRAINT LENGTH (FT.

ELEC, GAS, TELE, CABLE TV ESM'T.

EXISTING IRRIGATION CONTROL VALVE

DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS

EXISTING GATE VALVE

E.G.T.TV.E.

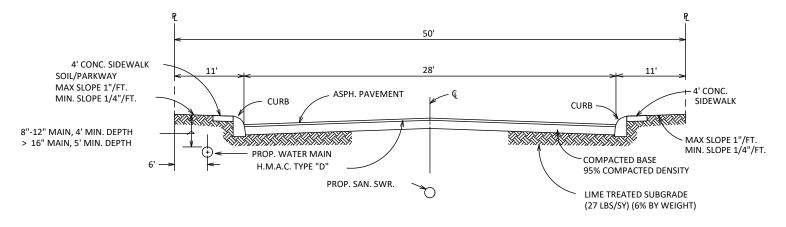
MOY TARIN RAMIREZ ENGINEERS, LLC 12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249 TEL: (210) 698-5051 FAX: (210) 698-5085

OWNER/DEVELOPER

SA KATZER RANCH, LTD. 13141 NORTHWEST FWY HOUSTON, TX 77040 210-402-0642

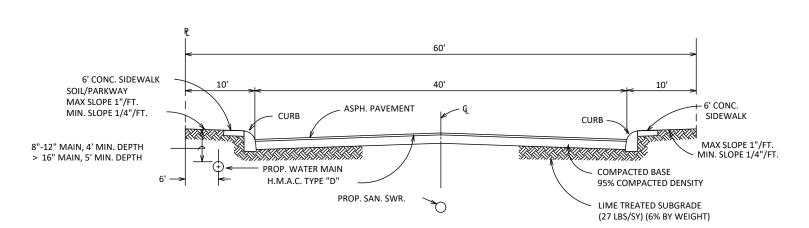
KATZER RANCH SUBDIVISION, UNIT 3

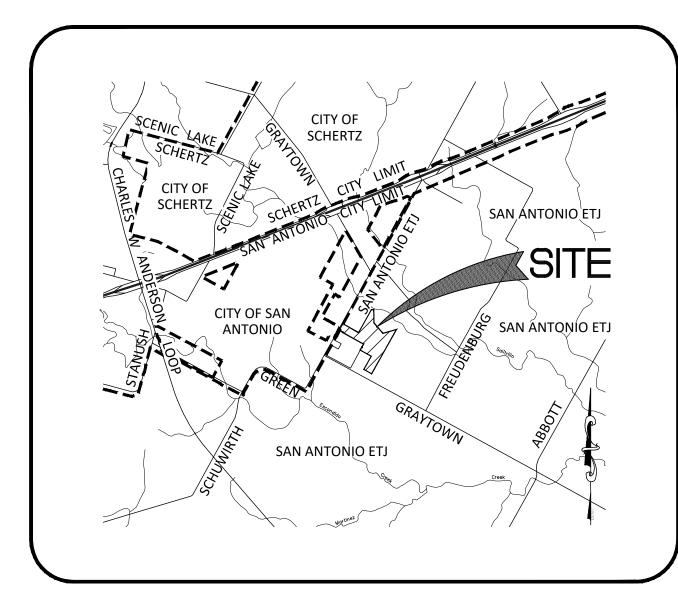




D.P.R.B.C.T.

TYPICAL STREET CROSS-SECTION (28' PAVEMENT)





VICINITY MAP

SUBMITTAL DATE:



LEGAL DESCRIPTION:

BEING 26.566 ACRES OUT OF THE FRANCISCO CARDENAS SURVEY NO. 28, ABSTRACT 128, COUNTY BLOCK 5087, BEXAR COUNTY, TEXAS AND BEING COMPRISED OF A 72.927 ACRE TRACT DESCRIBED IN VOLUME 12164, PAGE 1111 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 4.000 ACRE TRACT DESCRIBED IN VOLUME 18322, PAGE 586 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 1.00 ACRE TRACT DESCRIBED IN VOLUME 9006, PAGE 2309 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; AND A 0.640 ACRE TRACT DESCRIBED IN VOLUME 4823, PAGE 1484 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS AND BEING KNOWN AS 3354 N. GRAYTOWN ROAD.

NOTE TO CONTRACTOR:

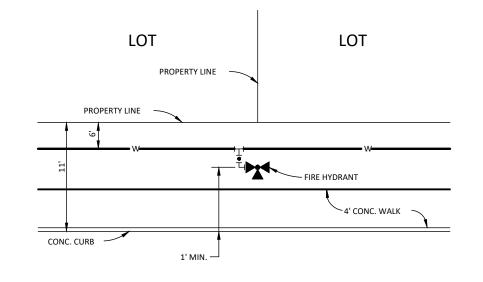
BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE. ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

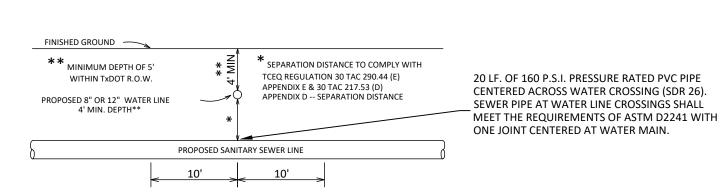
TRENCH EXCAVATION SAFETY PROTECTION

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 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 working in and around trench excavation.

CAUTION: EXISTING UNDERGROUND UTILITIES, CONTRACTOR TO VERIFY PRIOR TO START OF ANY CONSTRUCTION.



TYPICAL FIRE HYDRANT DETAIL (4' CONC. WALK)



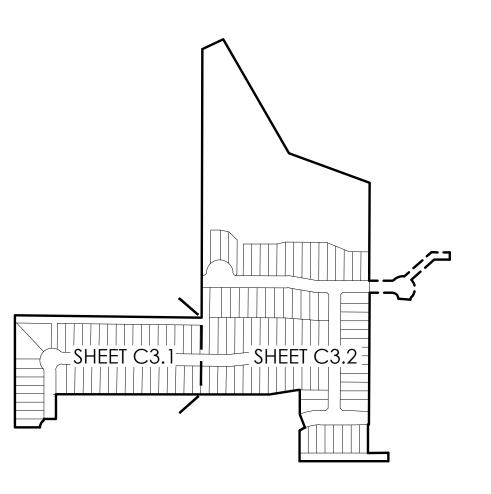
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL



 Engineers Surveyors Planners

Moy Tarin Ramirez Engineers, LLC

FIRM TBPELS ENG F-5297 SVY F-10131500 12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085



INDEX MAP NOT TO SCALE

SHEET INDEX

SHEET NO. TITLE

C3.0 WATER COVER

OVERALL WATER PLAN OVERALL WATER PLAN

WATER DETAILS C3.3

ESTIMATED WATER QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
1	WATER MAIN TIE-IN	EA	2
2	8" PVC PIPE, C-900, CLASS 150, DR 18	LF	2996
3	8" GATE VALVE, M.J. W/BOX (COMPLETE WITH RESTRAINTS)	EA	7
4	STANDARD FIRE HYDRANT (COMPLETE WITH TEE, VALVE, BENDS AND RESTRAINTS)	EA	3
5	2" PERMANENT BLOW OFF	EA	3
6	2" TEMPORARY BLOW OFF	EA	2
7	1" DUAL SERVICE, LONG	EA	28
8	1" DUAL SERVICE, SHORT	EA	30
9	3/4" SINGLE SERVICE, LONG	EA	5
10	3/4" SINGLE SERVICE, SHORT	EA	6
11	DUCTILE IRON FITTINGS (RESTRAINED)	TON	1.5
12	TRENCH PROTECTION	LF	2996
13	HYDROSTATIC TEST	EA	1
14	CHLORINATION OF WATER LINES & BACTERIALOGICAL TESTS	LS	1
15	METER BOX	EA	127

SUBMITTAL SET TEXAS C3.0

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT. THE BIDDER WARRANTS THAT THE BIDDER. AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

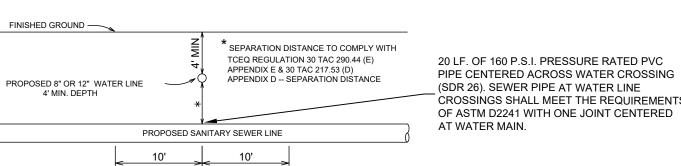
THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

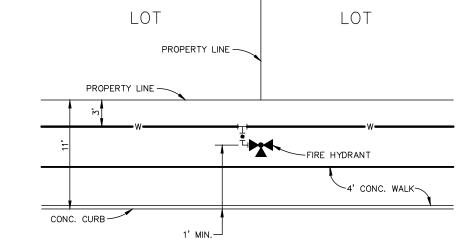
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures 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 working in and around trench excavation.

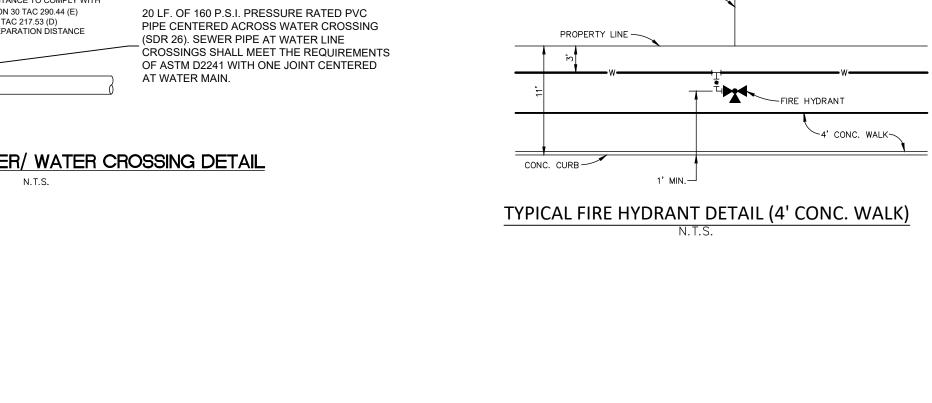
EAST CENTRAL SPECIAL UTILITY DISTRICT NOTES:

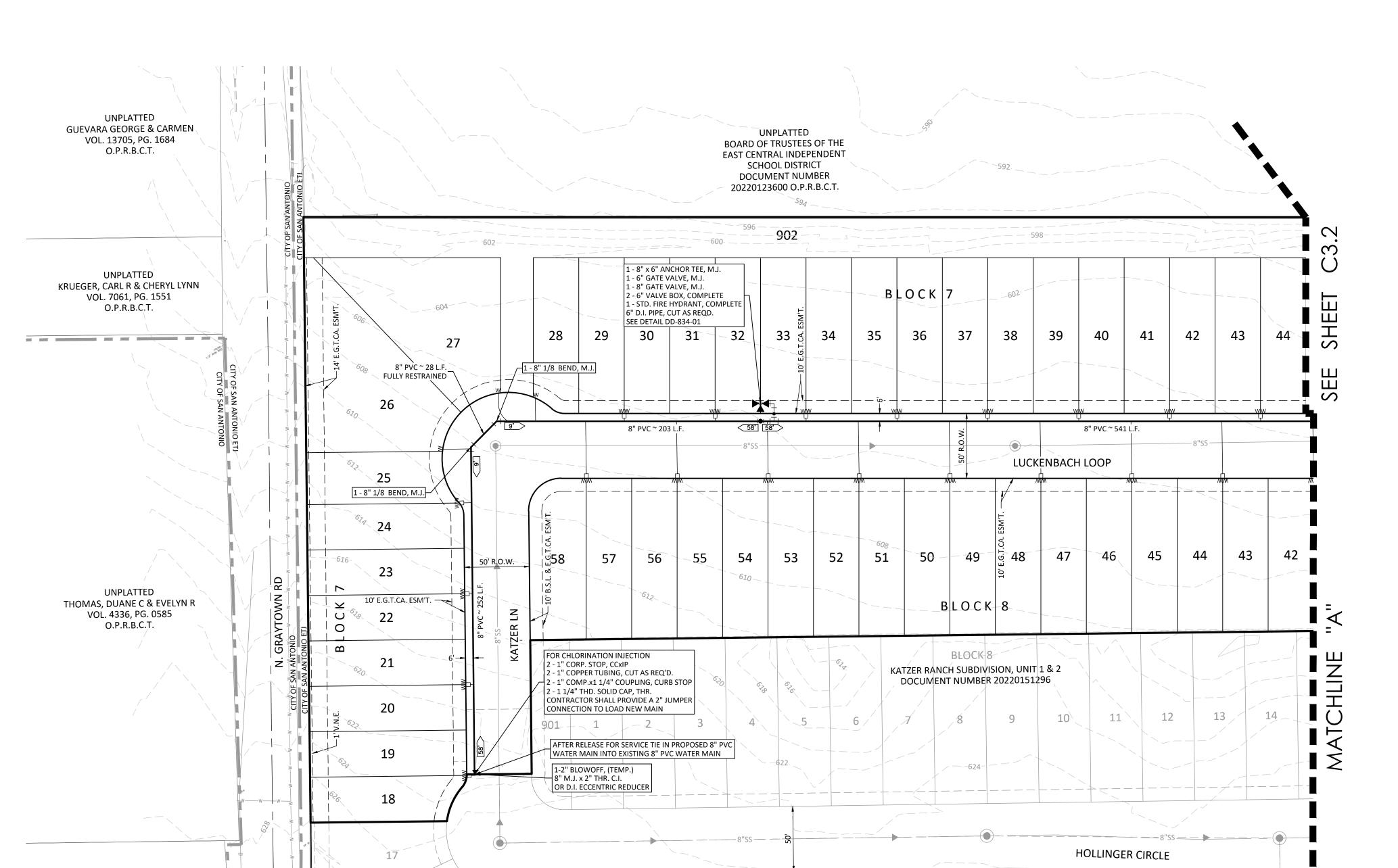
ALL LONG SERVICE SHALL BE SLEEVED WITH 2" PVC, SCHEDULE 40.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

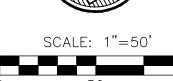






LAND-PLAT-21-11800537





LEGEND ---- E8"W ----EXISTING WATER MAIN PROPOSED WATER MAIN EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT EXISTING GATE VALVE PROPOSED GATE VALVE 3/4" SINGLE SERVICE RESTRAINT/RESTRAINT LENGTH (FT.) ELEC, GAS, TELE, CABLE TV ESM'T. E.G.T.TV.E. EXISTING IRRIGATION CONTROL VALVE EXISTING WATER METER

CAUTION: EXISTING UNDERGROUND UTILITIES, CONTRACTOR TO VERIFY PRIOR TO START OF ANY CONSTRUCTION.

DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS

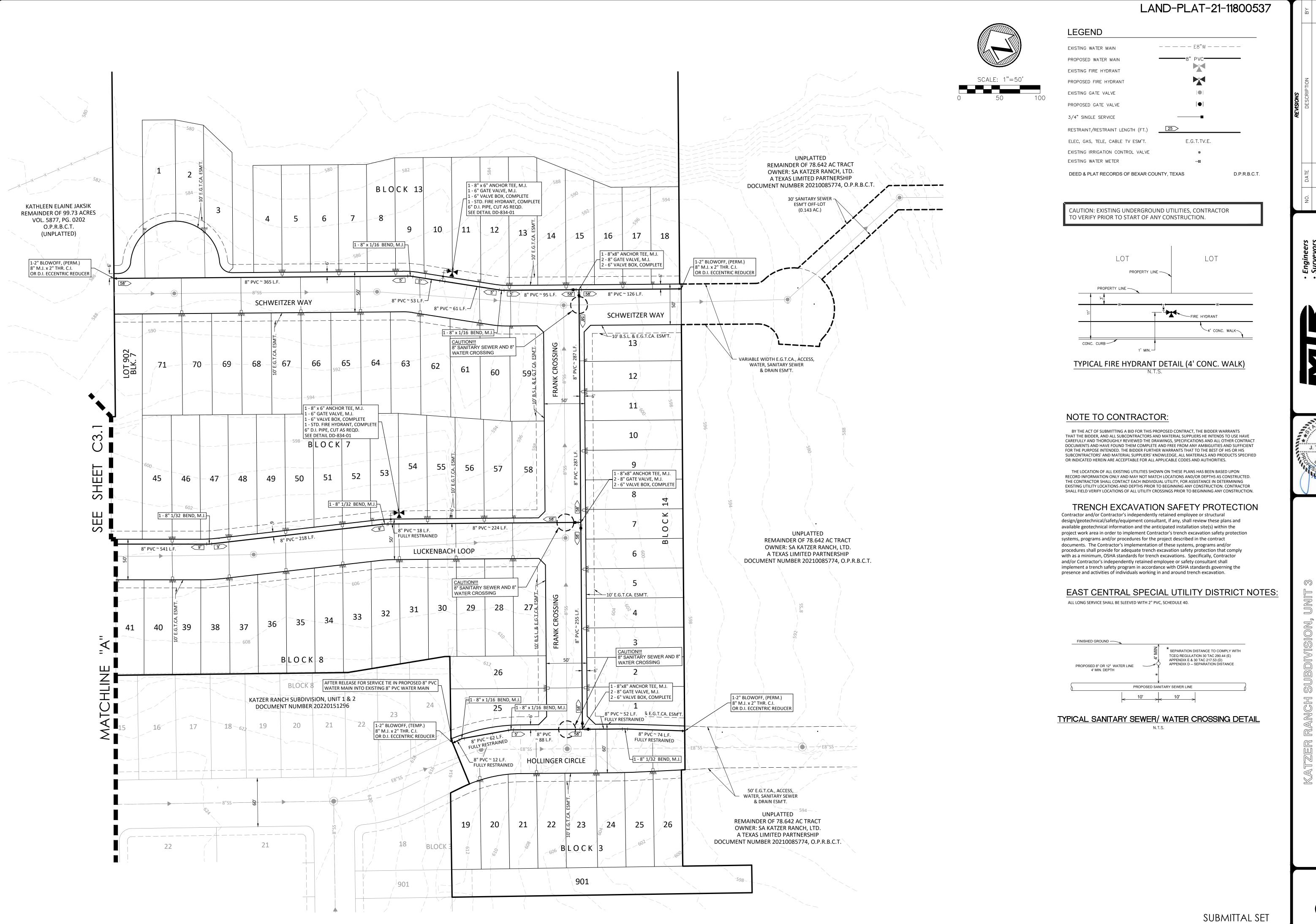
D.P.R.B.C.T.



NOIL TRIBU 'ERAL 0 WATER

SHEET

C3.1



J. TODD MILLS 102262

NOIL

TRIBU

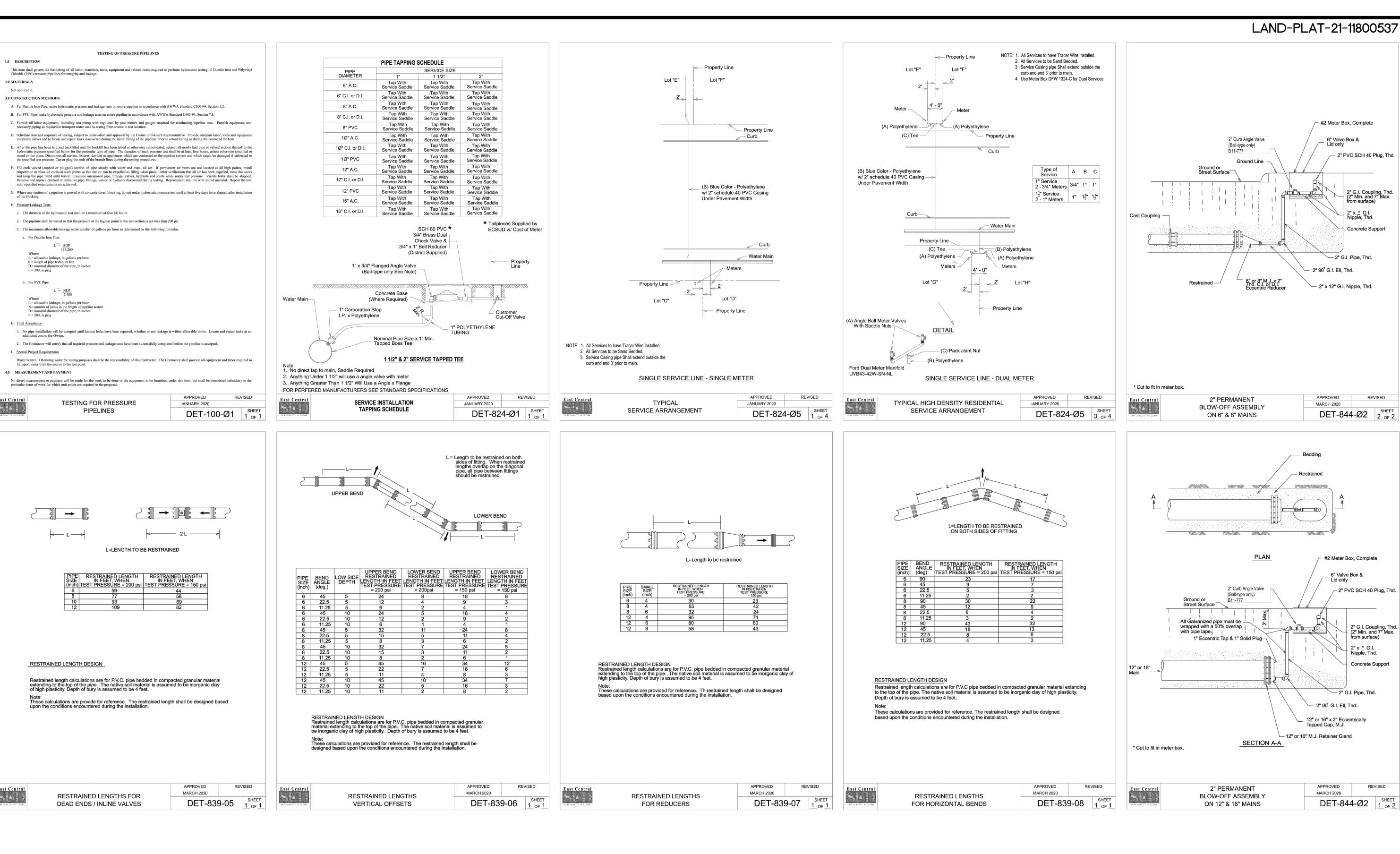
ERAL

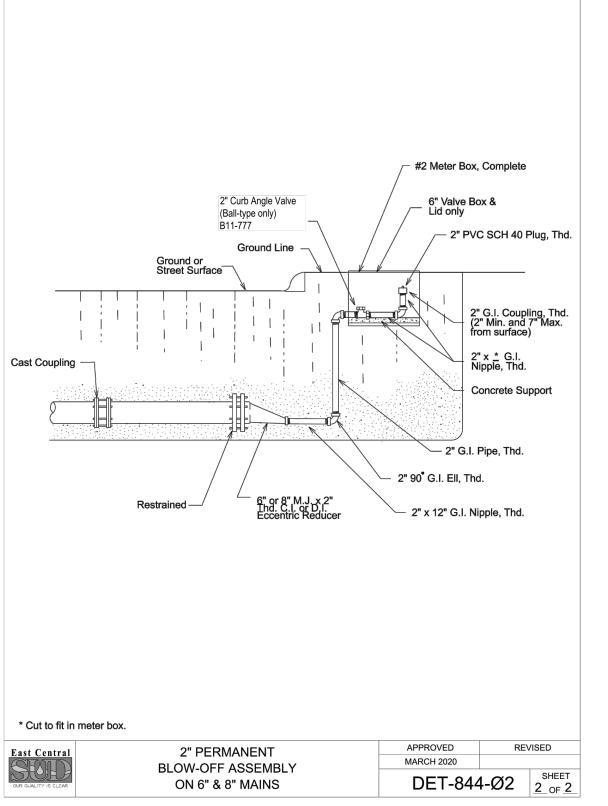
0

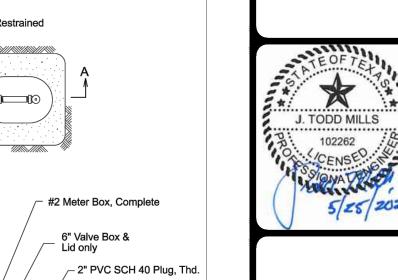
WATER

SHEET

C3.2







2" G.I. Coupling, Thd (2" Min. and 7" Max.

Concrete Support

REVISED

— 2" G.I. Pipe, Thd.

from surface)

(F) UBDIVISION, (

ANCH

SHEET

SUBMITTED BY:

SAN ANTONIO, TEXAS 78249

TEL: (210) 698-5051 FAX: (210) 698-5085

SA KATZER RANCH, LTD. 13141 NORTHWEST FWY

HOUSTON, TX 77040

210-402-0642

MOY TARIN RAMIREZ ENGINEERS, LLC. 12770 CIMARRON PATH, SUITE 100

OWNER/DEVELOPER

CONSTRUCTION PLANS FOR



- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF SAN ANTONIO SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF SAN ANTONIO.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING CONSTRUCTION. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION:

SAN ANTONIO WATER SYSTEM TELE. NO.: 210-704-7109 TEXAS STATE WIDE ONE CALL LOCATOR TELE. NO.: 800-545-6005 CITY PUBLIC SERVICE

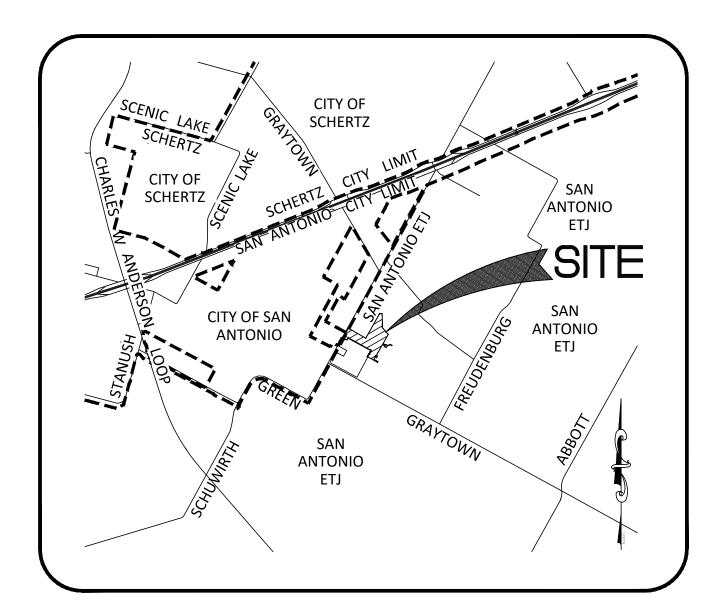
TIME WARNER CABLE

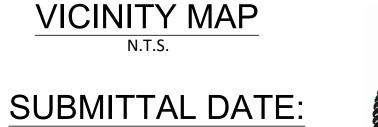
- 4. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- 5. THE CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT THE TELEPHONE COMPANY DURING CONSTRUCTION.
- 6. THE CONTRACTOR HAS THE RESPONSIBILITY OF RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGE DONE TO THE EXISTING PAVEMENT, STRUCTURES OR FENCES (NO SEPARATE PAY ITEM).
- 7. MATERIAL SPECIFICATIONS:
 - CONCRETE/CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS REINFORCING STEEL: CONFORM TO A.S.T.M. A-615, GRADE 60 (2" COVER UNLESS OTHERWISE NOTED ON PLANS) PIPE RAILING: CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501 STRUCTURAL STEEL: CONFORM TO A.S.T.M. A-36
- 8. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER (NO SEPARATE PAY ITEM).
- 9. TRANSITION TO/FROM WASHOUT CROWNS IN TWENTY-FIVE FEET (25').
- 10. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CHANNEL IS ACCEPTED FOR MAINTENANCE. REFER TO APPENDIX H, CHAPTER 16, SECTION 2.1 - GRASSES OF THE CITY OF SAN ANTONIO

FLOW ARROW

LEGEND	
CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	OR ①
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE) (DEVELOPER INSTALLED)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL) (DEVELOPER INSTALLED)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	©
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	0
SIDEWALK PASSING SPACE	E
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED SIDEWALK	
DEVELOPER INSTALLED SIDEWALK	
EXISTING SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP	10000000000000000000000000000000000000
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	

KATZER RANCH SUBDIVISION, UNIT 3 STREET AND DRAINAGE IMPROVEMENTS



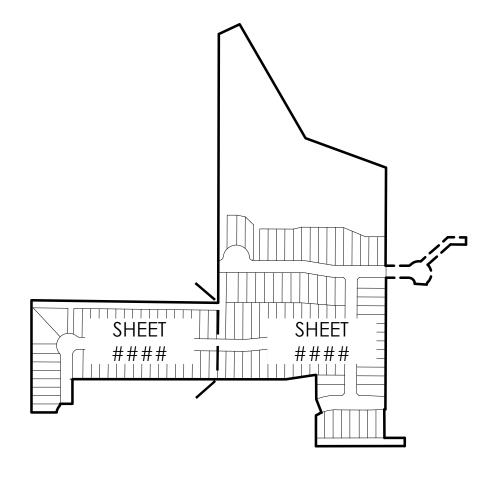


PAUL LANDA, JR

LEGAL DESCRIPTION:

APRIL 2023

BEING 26.566 ACRES OUT OF THE FRANCISCO CARDENAS SURVEY NO. 28, ABSTRACT 128, COUNTY BLOCK 5087, BEXAR COUNTY, TEXAS AND BEING COMPRISED OF A 72.927 ACRE TRACT DESCRIBED IN VOLUME 12164, PAGE 1111 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; A 4.000 ACRE TRACT DESCRIBED IN VOLUME 18322, PAGE 586 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY TEXAS; A 1.00 ACRE TRACT DESCRIBED IN VOLUME 9006, PAGE 2309 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS; AND A 0.640 ACRE TRACT DESCRIBE IN VOLUME 4823, PAGE 1484 OF THE REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS AND BEING KNOWN AS 3354 N. GRAYTOWN ROAD.



INDEX MAP

Sheet List Table

Sheet Number	Sheet Title
C4.0	STREET COVER
C4.1	OVERALL TRAFFIC PLAN
C4.2	OVERALL TRAFFIC PLAN
C4.3	TRAFFIC PLAN DETAILS
C4.4	TRAFFIC PLAN DETAILS
C4.5	LUCKENBACH LOOP PLAN AND PROFIL
C4.6	LUCKENBACH LOOP PLAN AND PROFIL
C4.7	HOLLINGER CIRCLE PLAN AND PROFILE
C4.8	KATZER LN PLAN AND PROFILE
C4.9	FRANK CROSSING PLAN AND PROFILE
C4.10	SCHWEITZER WAY PLAN AND PROFILE
C4.11	WHEELCHAIR RAMP DETAILS
C4.12	STANDARD STREET DETAILS
C4.13	STREET SECTION DETAILS
C4.14	DRAIN "D" PLAN AND PROFILE
C4.15	DRAIN "E" PLAN AND PROFILE
C4.16	DRAIN "E" DETAILS
C4.17	DRAIN "F" PLAN AND PROFILE
C4.18	DRAINAGE DETAILS

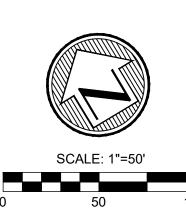


FIRM TBPELS ENG F-5297 SVY F-10131500 12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051 SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

LAND-PLAT-21-11800537

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.



LEGEND

R1-1 STOP SIGN (30" X 30")

STREET NAME D-3 STREET NAME SPEED LIMIT XX

R2-1 SPEED LIMIT SIGN

DOUBLE LINE PROPOSED SIGN LOCATION PROPERTY LINE

Street Name

STOP

TYPE II BLUE RAISED PAVEMENT MARKERS

EXISTING SIGN LOCATION

EXISTING STREET NAME SIGN

EXISTING STOP SIGN

EXISTING SIDEWALK

HOME BUILDER INSTALLED SIDEWALK

DEVELOPER INSTALLED SIDEWALK

ADA RAMP- DEVELOPER INSTALLED

POSSIBLE DRIVEWAY LOCATION

NOTE:

ALL PERMANENT REGULATORY, WARNING, AND STREET NAME SIGNS ARE TO BE PROVIDED AND INSTALLED BY THE DEVELOPER TO COUNTY SPECIFICATIONS.

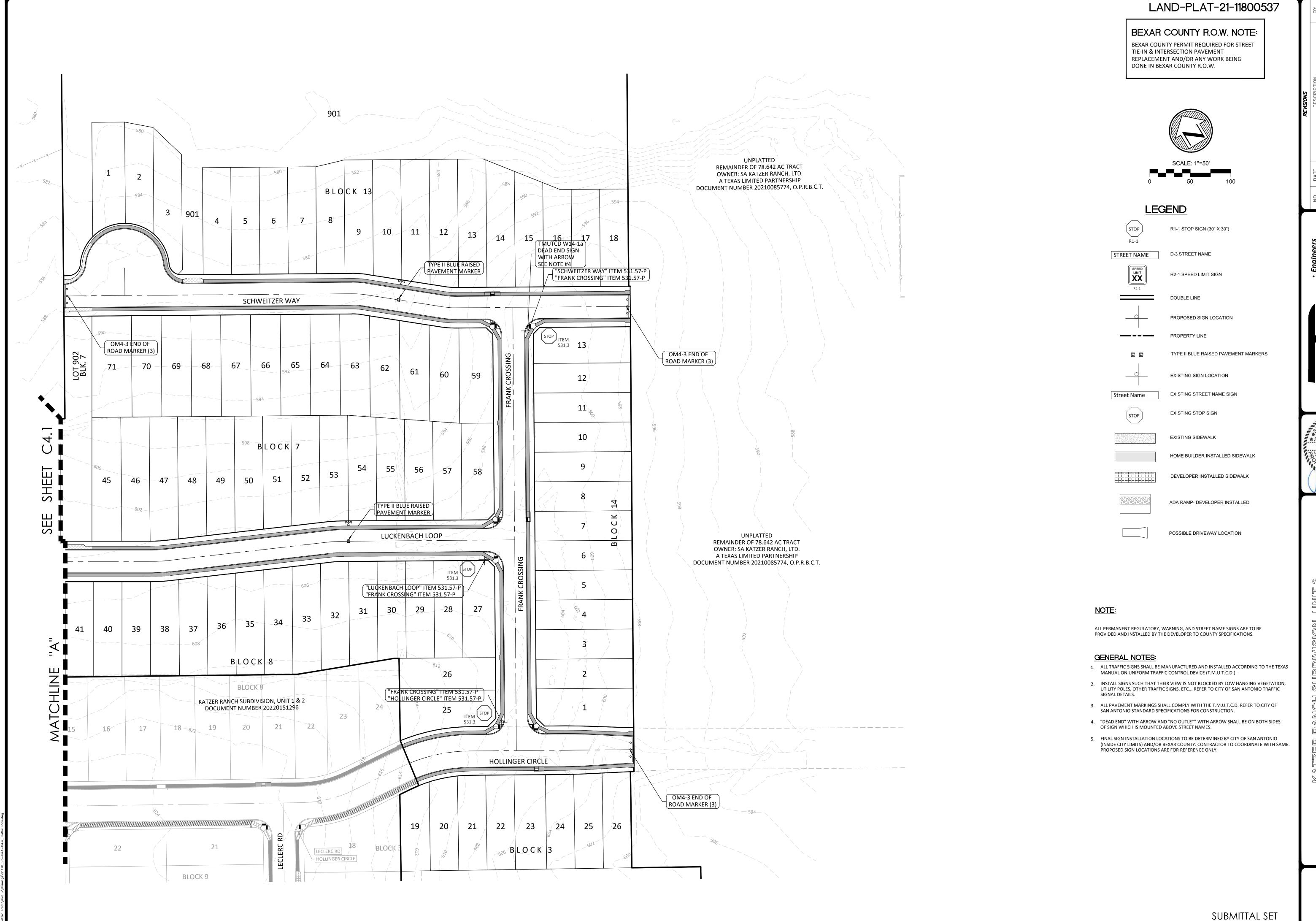
GENERAL NOTES:

- 1. ALL TRAFFIC SIGNS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE (T.M.U.T.C.D.).
- 2. INSTALL SIGNS SUCH THAT THEIR VIEW IS NOT BLOCKED BY LOW HANGING VEGETATION, UTILITY POLES, OTHER TRAFFIC SIGNS, ETC... REFER TO CITY OF SAN ANTONIO TRAFFIC SIGNAL DETAILS.
- 3. ALL PAVEMENT MARKINGS SHALL COMPLY WITH THE T.M.U.T.C.D. REFER TO CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- 4. "DEAD END" WITH ARROW AND "NO OUTLET" WITH ARROW SHALL BE ON BOTH SIDES OF SIGN WHICH IS MOUNTED ABOVE STREET NAMES.
- 5. FINAL SIGN INSTALLATION LOCATIONS TO BE DETERMINED BY CITY OF SAN ANTONIO (INSIDE CITY LIMITS) AND/OR BEXAR COUNTY. CONTRACTOR TO COORDINATE WITH SAME. PROPOSED SIGN LOCATIONS ARE FOR REFERENCE ONLY.



A П FIC TRAF OVERALL

SHEET



NO. DATE
DESCRIPTION

PROJ. # DGN. BY: DWN. BY: CHKD. BY: D

Engineers Surveyors Planners

n Ramirez Engine
ERING F-5297/SURVEYING
N PATH, SUITE 100 TEL: (2)

TEOF TE TODD MILLS

102262

CENSE

J. TODD MILLS

102262

CENSE

SONA VILLE

5/28/2023

FIC

TRAFI

OVERALL

SHEET

10BWG(1)XX(P-BM) Y 10BWG(1)XX(T)

10BWG (1) XX (P-BM)

TY 10BWG(1)XX(T)

TY S80(1)XX(T)

TY 10BWG(1)XX(T)

TY S80(1)XX(T)

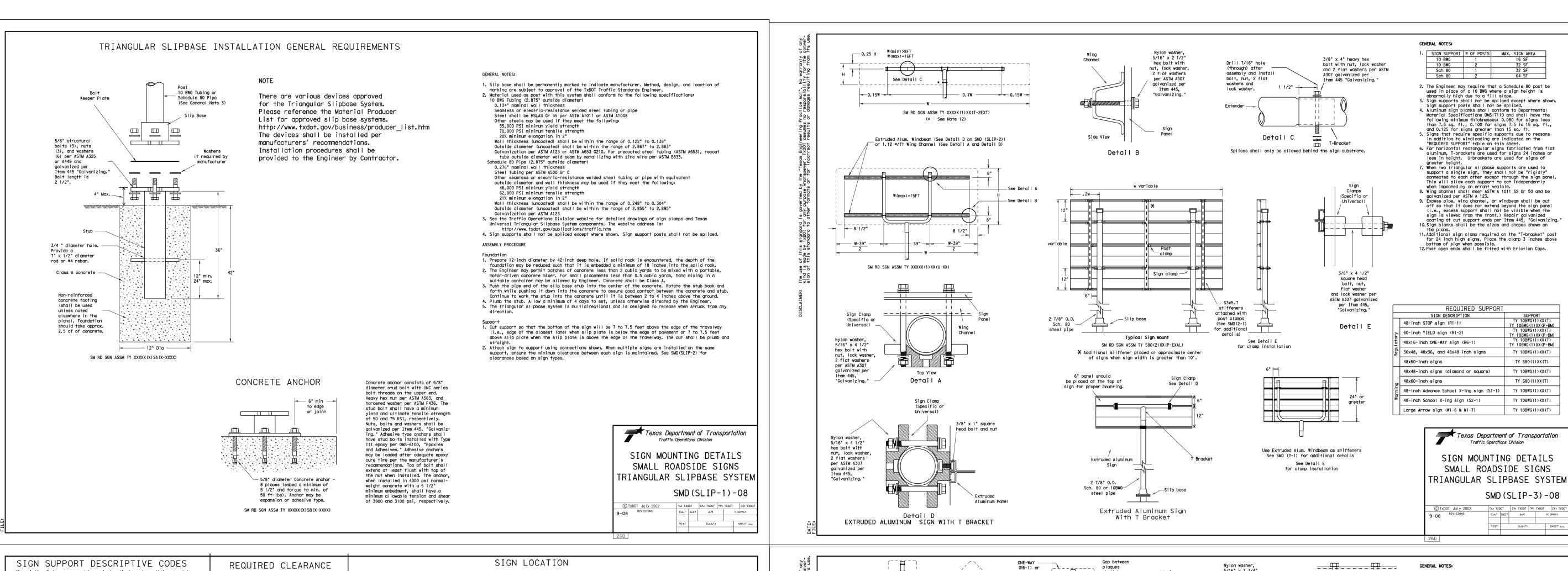
TY 10BWG(1)XX(T)

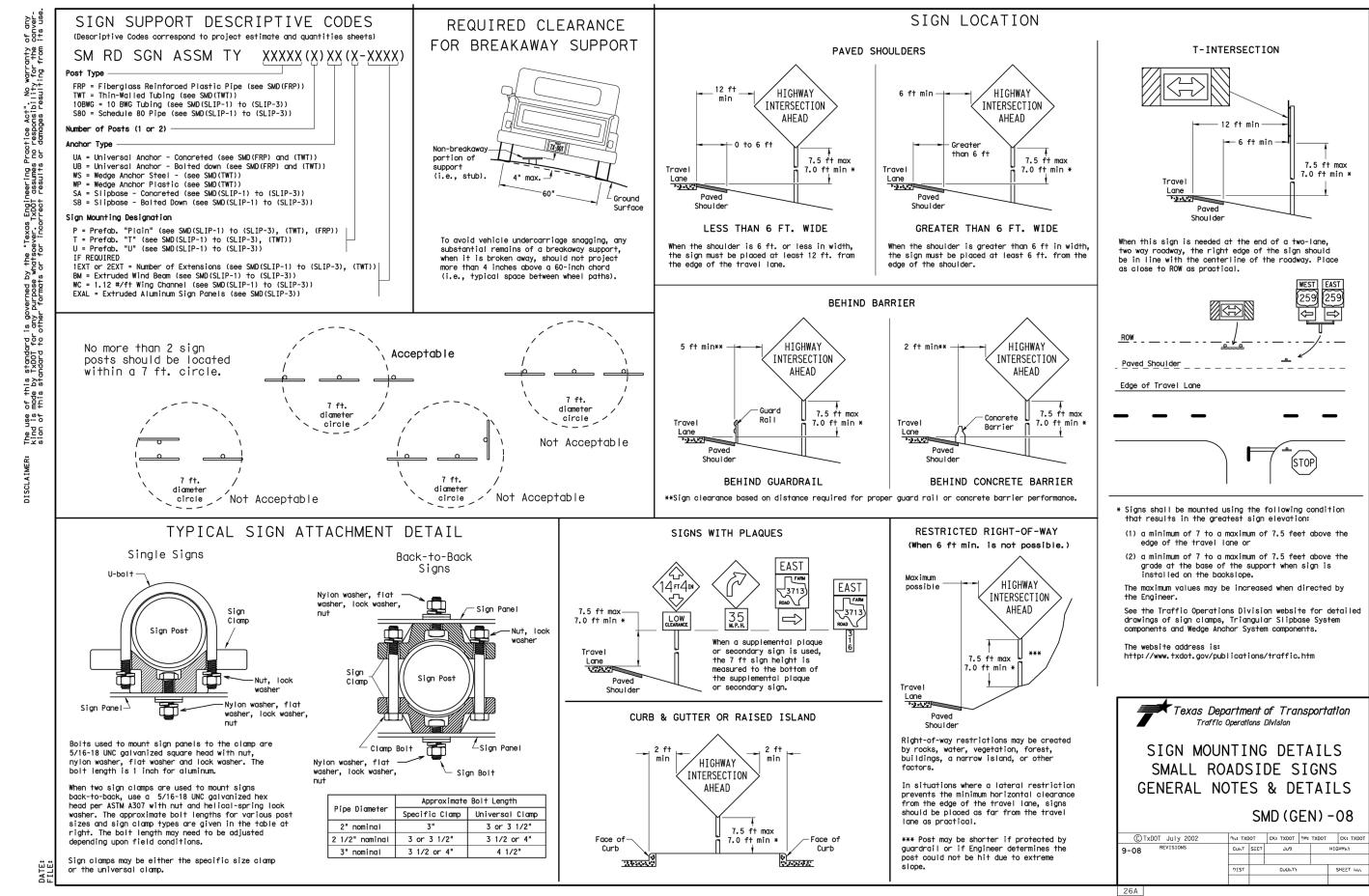
TY 10BWG(1)XX(T)

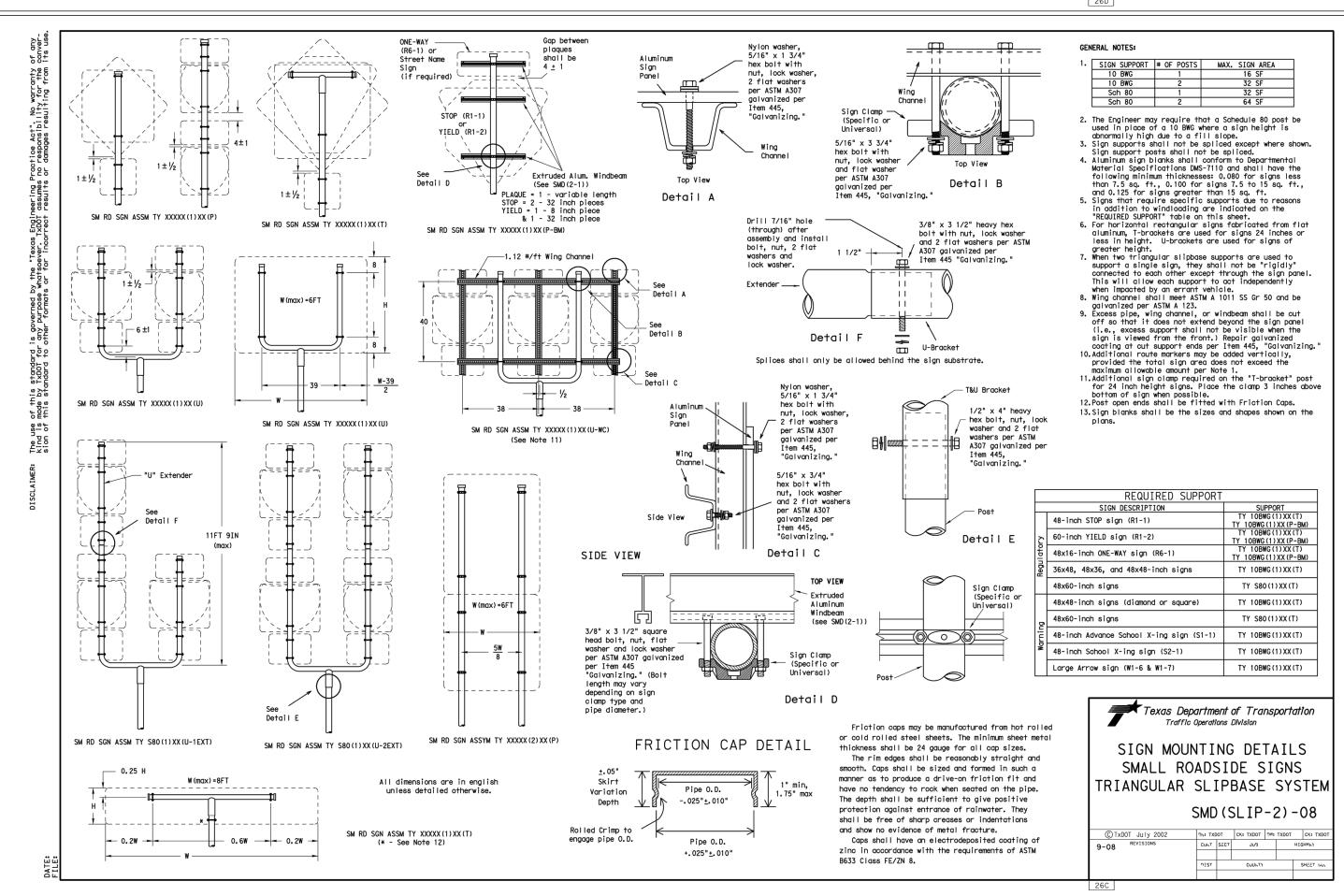
TY 10BWG(1)XX(T

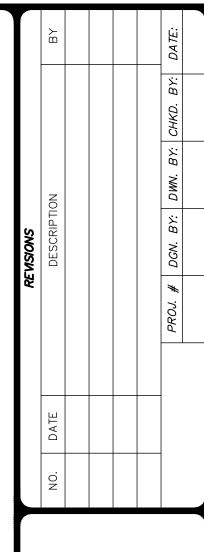
SMD(SLIP-3)-08

Traffic Operations Division









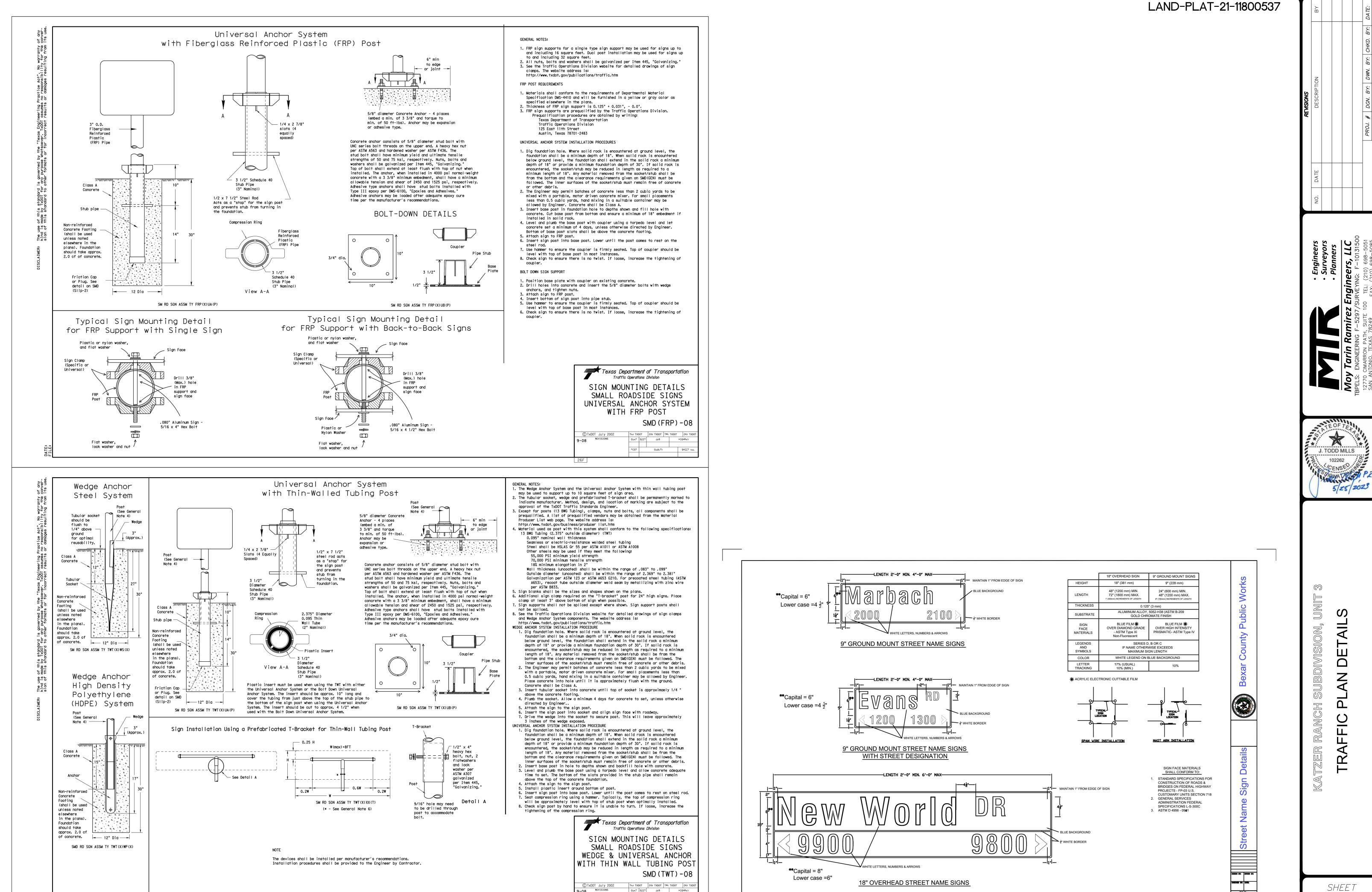
ngi.



TAIL Z 1 \Box <u>O</u> Ш Ш 1 H R

(F)

SHEET

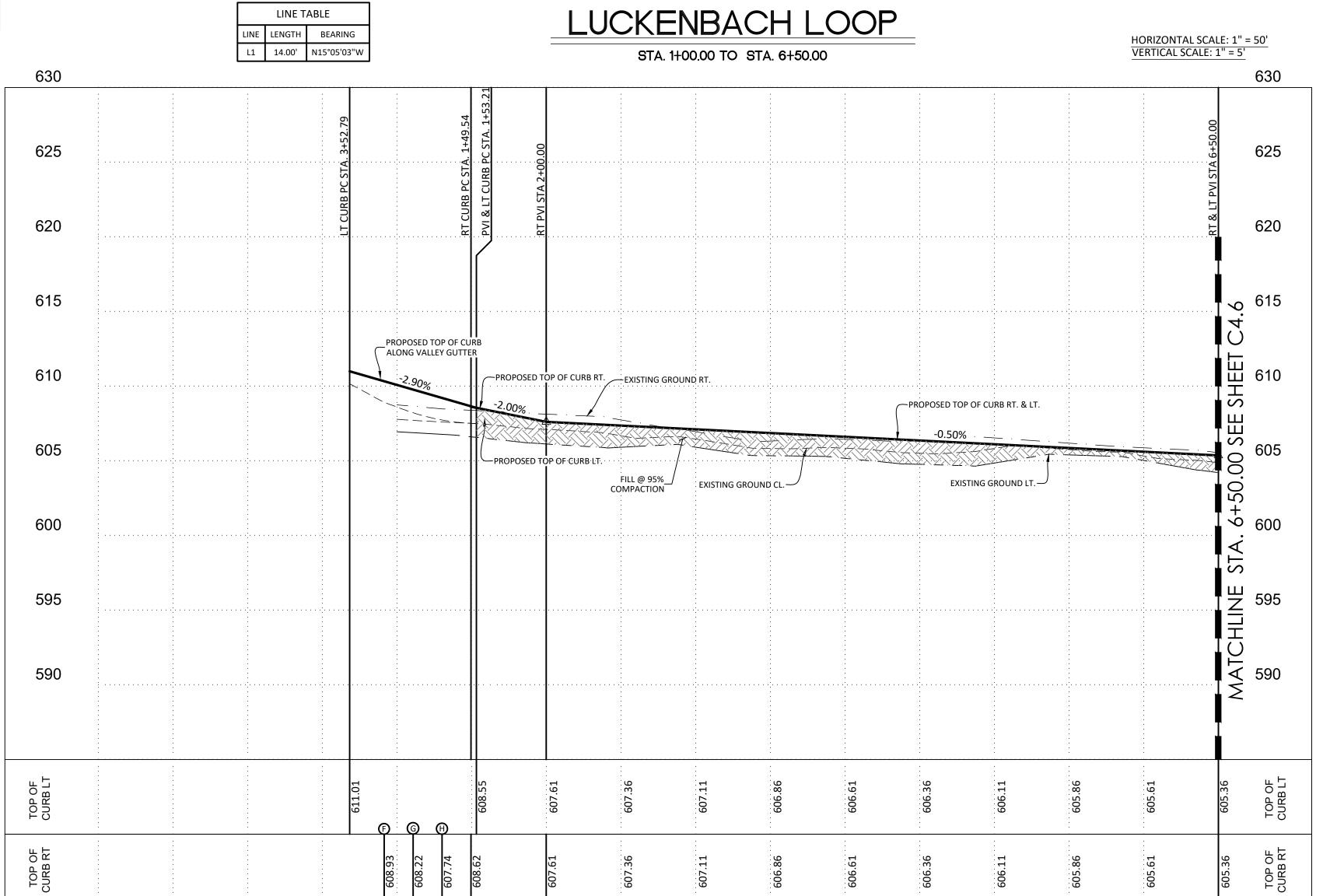


SUBMITTAL SET

CAUTION!!! BEXAR COUNTY R.O.W. NOTE: CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. BEXAR COUNTY PERMIT REQUIRED FOR IF ANY DISCREPANCIES NOTIFY STREET TIE-IN & INTERSECTION ENGINEER PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W. KNUCKLE SAC TABLE TOP OF POINT GUTTER T PC STA.3+52.79 611.08 610.50 610.73 610.15 610.50 609.92 610.12 609.54 609.62 609.04 Ε 609.02 608.44 608.35 G 607.64 607.16 Н LT PT STA. 1+53.21 607.85 607.27

LUCKENBACH

29 30 33 35 STA. 1+00.00 LUCKENBACH LOOP-LT PT STA. 1+53.21 =STA. 4+06.01 KATZER LN FEND WASHOUT CROWN 14.00' O.S. _ LUCKENBACH LOOP ⁶~ 25 RT PT STA. 1+49.54 RT PC STA. 3+56.47 24 14.00' O.S. LT PC STA. 3+52.79 BEGIN WASHOUT CROWN— 46 45 48 47 51 50 49 57 56 55 54 14.00' O.S. BLOCK 8



3+00

4+00

5+00

6+00

6+50

1+00

2+00

LAND-PLAT-21-11800537

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED 1 CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS. SIDEWALK WHEELCHAIR RAMP - TYPE 10 \bigcirc DIRECTIONAL RAMPS (SINGLE) (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE 10 lacksquareDIRECTIONAL RAMPS (DUAL) (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED) SIDEWALK PASSING SPACE 805.81TC EXISTING TOP OF CURB ELEVATION 805.81 PROPOSED TOP OF CURB ELEVATION HOME BUILDER INSTALLED SIDEWALK

DEVELOPER INSTALLED SIDEWALK

SIDEWALK WHEEL CHAIR RAMP

WASH-OUT CROWN

EXISTING SIDEWALK

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE **EXISTING CONTOUR**

> PROPOSED CONTOUR PROPOSED CONCRETE CURB

FLOW ARROW

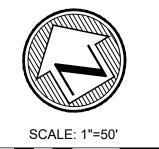
1120



SHEET

BEXAR COUNTY R.O.W. NOTE: BEXAR COUNTY PERMIT REQUIRED FOR

STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.



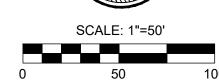
CURVE TABLE

CURVE LENGTH RADIUS DELTA TANGENT CHORD

21.28' | 200.00' | 6°05'47" |

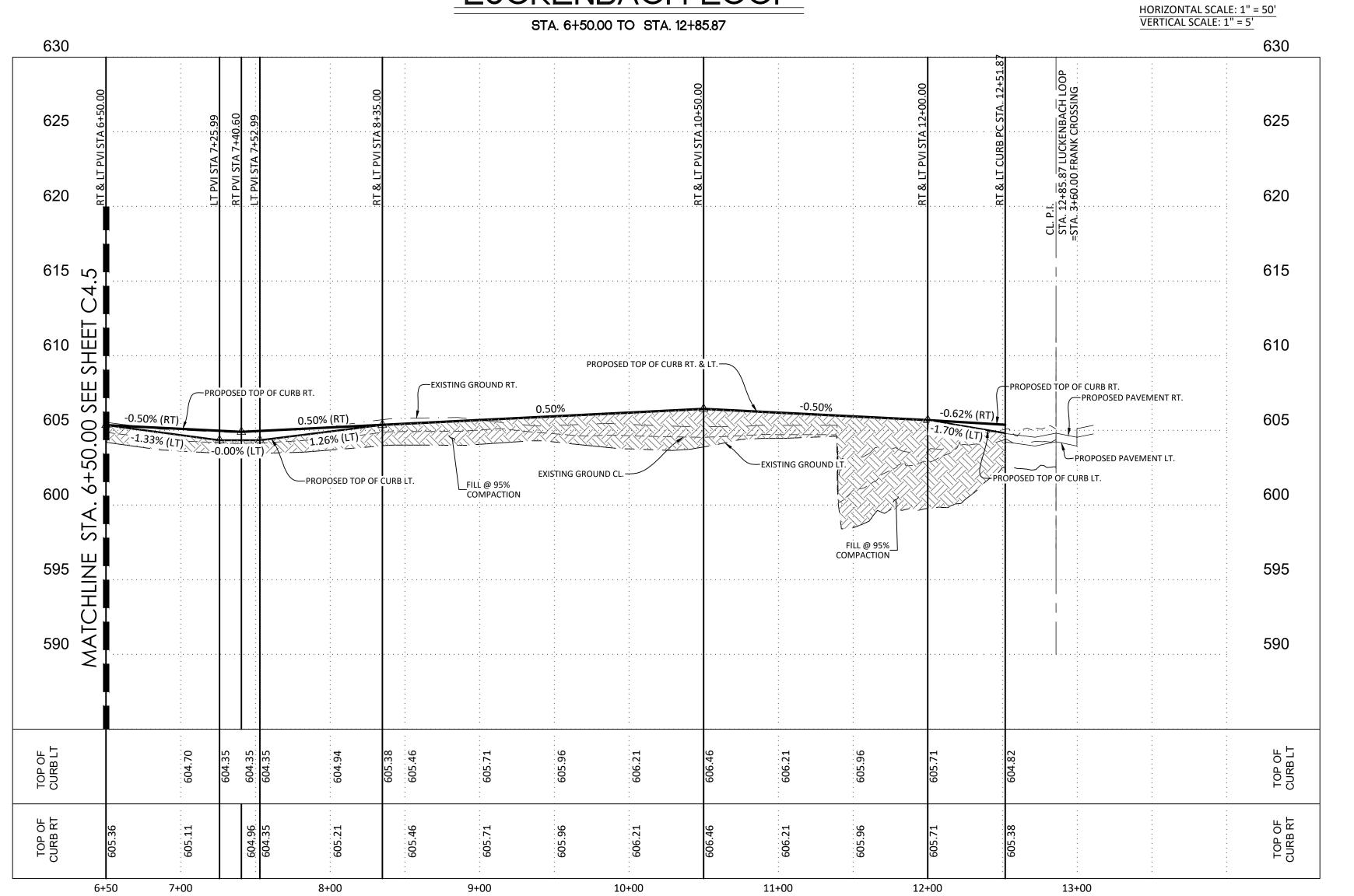
11.45'

10.65' 21.27'



6+50.00 6+50.00 EDRAIN "E" SEE SHEET C4.15-C4.16	45 46 47 48 870.50 STA. 8+35.00 STA. 8+35.00	49 50 51 52 S	STA. 12+71.87 END WASHOUT CROWN RT & LT PC STA. 12+51.87 14.00' O.S. B CL PI STA. 12+85.87 LUCKENBACH LOO 14.00' O.S. =STA. 3+60.00 FRANK CROSSING
SE SHEET C4.5 A SIDEWALK 7+00 90° 90° 90° 90° 90° 90° 90° 90° 90°	END WASHOUT CROWN	CONC. 10+00	C2
BEGIN WASHOUT CROWN	CL PI - STA. 7+39.49 LUCKENBACH LOOP =STA. 1+00.00 DRAIN E 40 39 38 37	36 35 34 33 BLOCK 8	31 30 29 28 27 11 28 11 30 4 86

LUCKENBACH LOOP



LAND-PLAT-21-11800537

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE) (DEVELOPER INSTALLED)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL) (DEVELOPER INSTALLED)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	©
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK PASSING SPACE	E
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED SIDEWALK	

DEVELOPER INSTALLED SIDEWALK

SIDEWALK WHEEL CHAIR RAMP

WASH-OUT CROWN

EXISTING SIDEWALK

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE **EXISTING CONTOUR**

PROPOSED CONTOUR PROPOSED CONCRETE CURB

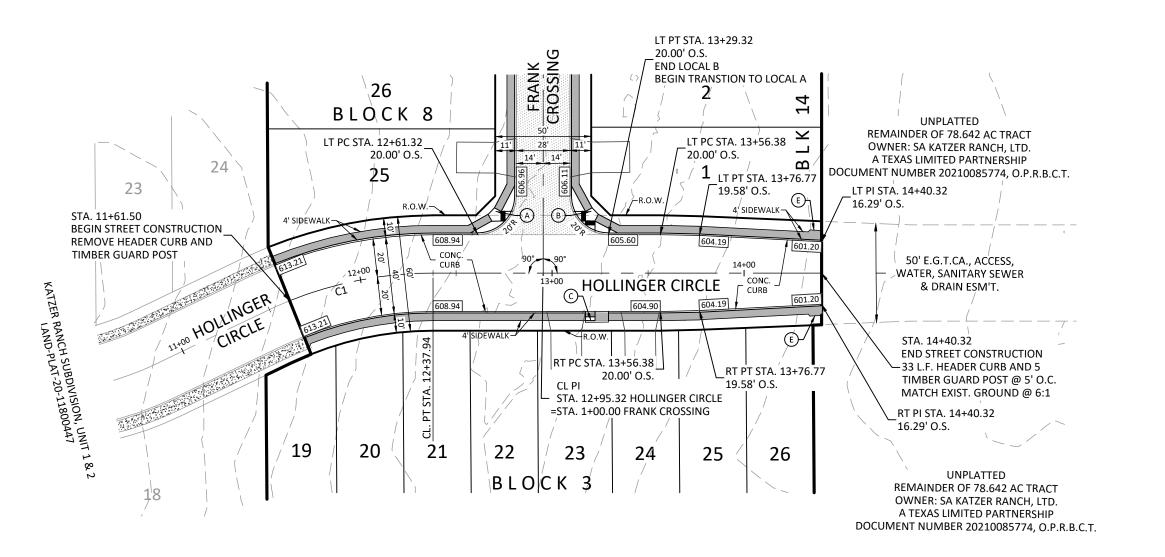
FLOW ARROW

SHEET

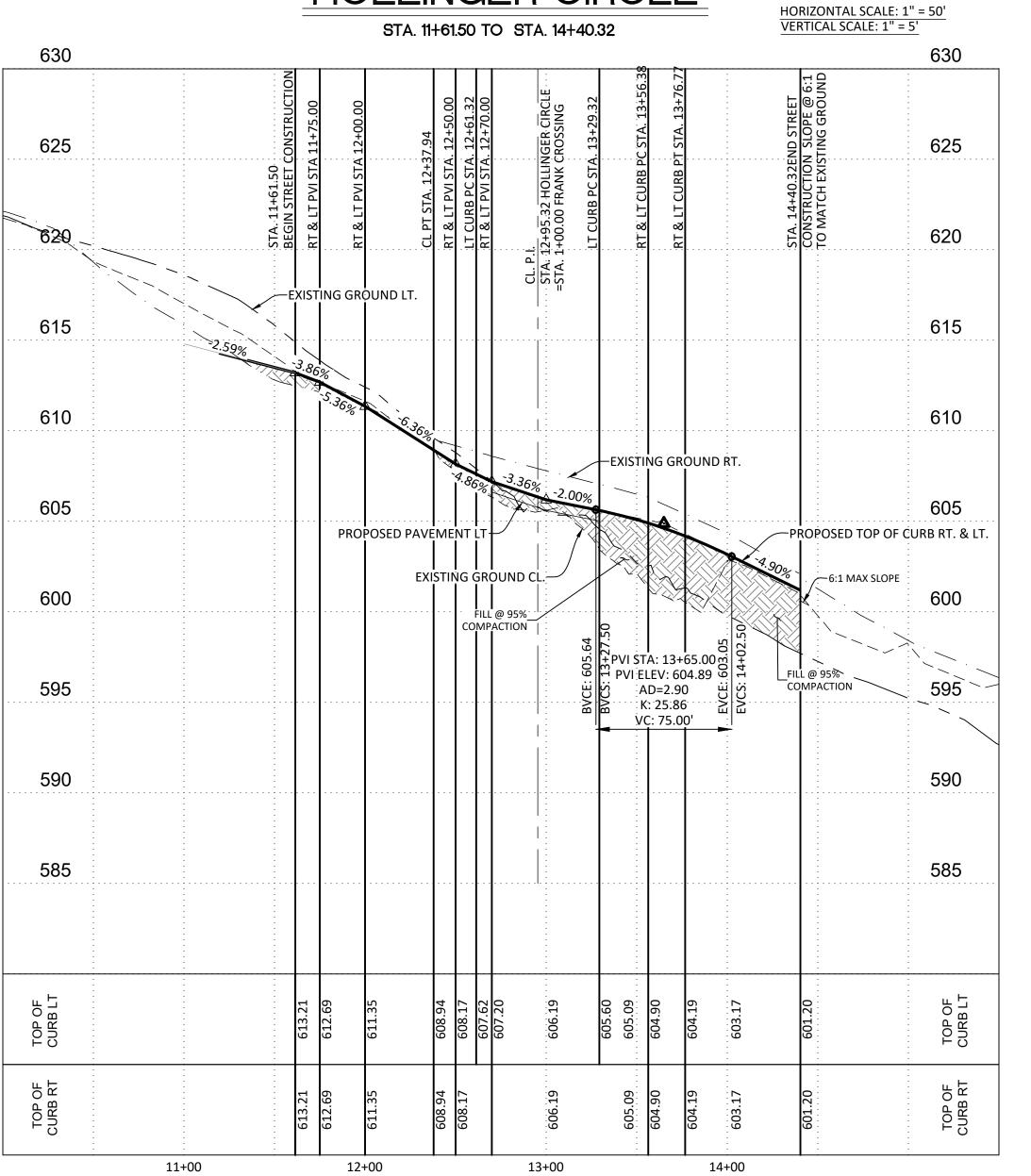
BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.

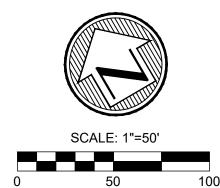
CURVE TABLE									
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD				
C1	76.45'	200.00'	21°54'03"	38.70'	75.98'				



HOLLINGER CIRCLE



LAND-PLAT-21-11800537



LEC	GEND	
CURB/SIDI	CTOR TO TIE EXISTING AND PROPOSED EWALK. PRIOR TO CONSTRUCTION CONTRACTOR RIFY ELEVATIONS.	1
DIRECTIO	K WHEELCHAIR RAMP - TYPE 10 NAL RAMPS (SINGLE) PER INSTALLED)	A
DIRECTIO	K WHEELCHAIR RAMP - TYPE 10 NAL RAMPS (DUAL) PER INSTALLED)	B
0.5 =	K WHEELCHAIR RAMP - TYPE II PER INSTALLED)	©
0.5 = 1=	K WHEELCHAIR RAMP - TYPE I PER INSTALLED)	D
SIDEWAL	K PASSING SPACE	E
EXISTING	S TOP OF CURB ELEVATION	805.81T

805.81 PROPOSED TOP OF CURB ELEVATION HOME BUILDER INSTALLED SIDEWALK DEVELOPER INSTALLED SIDEWALK EXISTING SIDEWALK SIDEWALK WHEEL CHAIR RAMP

POSSIBLE DRIVEWAY LOCATION PROPERTY LINE

WASH-OUT CROWN

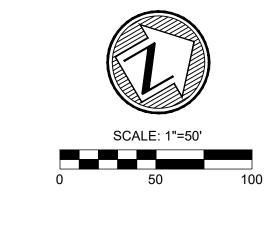
EXISTING CONTOUR 1120 PROPOSED CONTOUR PROPOSED CONCRETE CURB FLOW ARROW

5/28/2020

SHEET

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.



KNUCKLE SAC TABLE						
POINT	TOP OF CURB	GUTTER				
LT PC STA.3+52.79	611.08	610.50				
А	610.73	610.15				
В	610.50	609.92				
С	610.12	609.54				
D	609.62	609.04				
E	609.02	608.44				
LT PT STA. 1+53.21	608.55	607.97				

LAND-PLAT-21-11800537

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS. SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE) (DEVELOPER INSTALLED) \bigcirc SIDEWALK WHEELCHAIR RAMP - TYPE 10 lacksquare

DIRECTIONAL RAMPS (DUAL) (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)

SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED) SIDEWALK PASSING SPACE 805.81TC EXISTING TOP OF CURB ELEVATION 805.81

HOME BUILDER INSTALLED SIDEWALK DEVELOPER INSTALLED SIDEWALK

SIDEWALK WHEEL CHAIR RAMP

PROPOSED TOP OF CURB ELEVATION

POSSIBLE DRIVEWAY LOCATION

PROPERTY LINE EXISTING CONTOUR PROPOSED CONTOUR

EXISTING SIDEWALK

WASH-OUT CROWN

PROPOSED CONCRETE CURB FLOW ARROW

PAUL LANDA, JR

SHEET

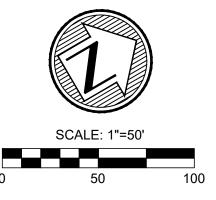
HOLLINGER CIRCLE
--

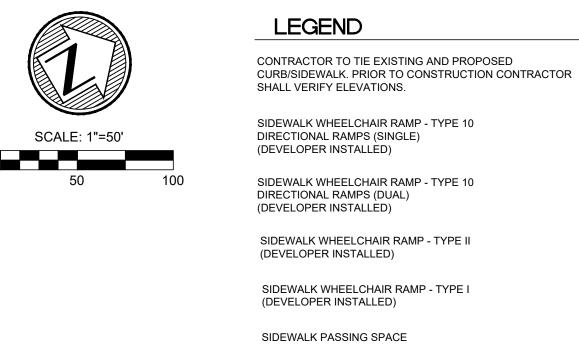
	L1 14.00'	S15°05'03"E	S	TA. 1+5	3.14 TC	STA.	4+06	5.01		HORIZONTAL SO VERTICAL SCAL	E: 1" = 5'
640	······ <u>·</u>	······:	· · · ·	1	T	·····I			<u> </u>	:	640
635		STA. 1+53.14 BEGIN STREET. CONSTRUCTION	LT PVI STA 1+75.00	KI & LI PVISIA 2+00.00		LT PVI STA 2+75.00	LT PVI STA 3+00.00	8 IT PVI STA 3+30 00	LT CURB PT STA. 3+52,79	RT CURB PT STA. 3+56.47	635
630		STA.		χ - ⊢ ⊗		RT &	RT&	 % %	D 17	RTC	630
625				EXISTII	NG GROU	JND RT.					625
620 pro	OPOSED TOP OF C	TTER—	00%	000		FYI	STING	GROUND	C		620
615	COM :	LL @ 95%IPACTION ENTERPROPOSED TOP	OF CURB R	T. & LT		500	35.00%	—EXISTII		UND LT. SEE SHEET C4.5 FOR SAC PROFILE	615
610								-3.50% FILL @ 95 OMPACTIO		TON SAC PROPILE	610
605											605
600											600
TOP OF CURB LT		621.68	620.59	618.96	617.09	615.46	613.84	612.59	611.54	611.08	TOP OF CURB LT
TOP OF CURB RT		621.68	620.59	618.96	617.09	615.46	613.84	612.59	611.54	611.01	TOP OF CURB RT

ENGINEER

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.





EXISTING SIDEWALK

WASH-OUT CROWN

PROPERTY LINE

FLOW ARROW

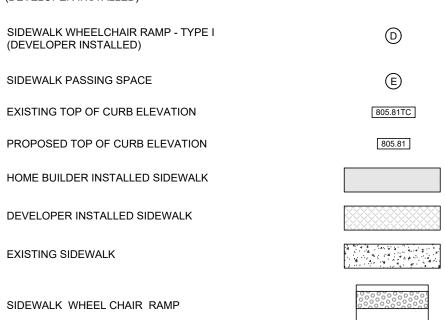
EXISTING CONTOUR

PROPOSED CONTOUR

PROPOSED CONCRETE CURB

SIDEWALK WHEEL CHAIR RAMP

POSSIBLE DRIVEWAY LOCATION



1

 \bigcirc

B

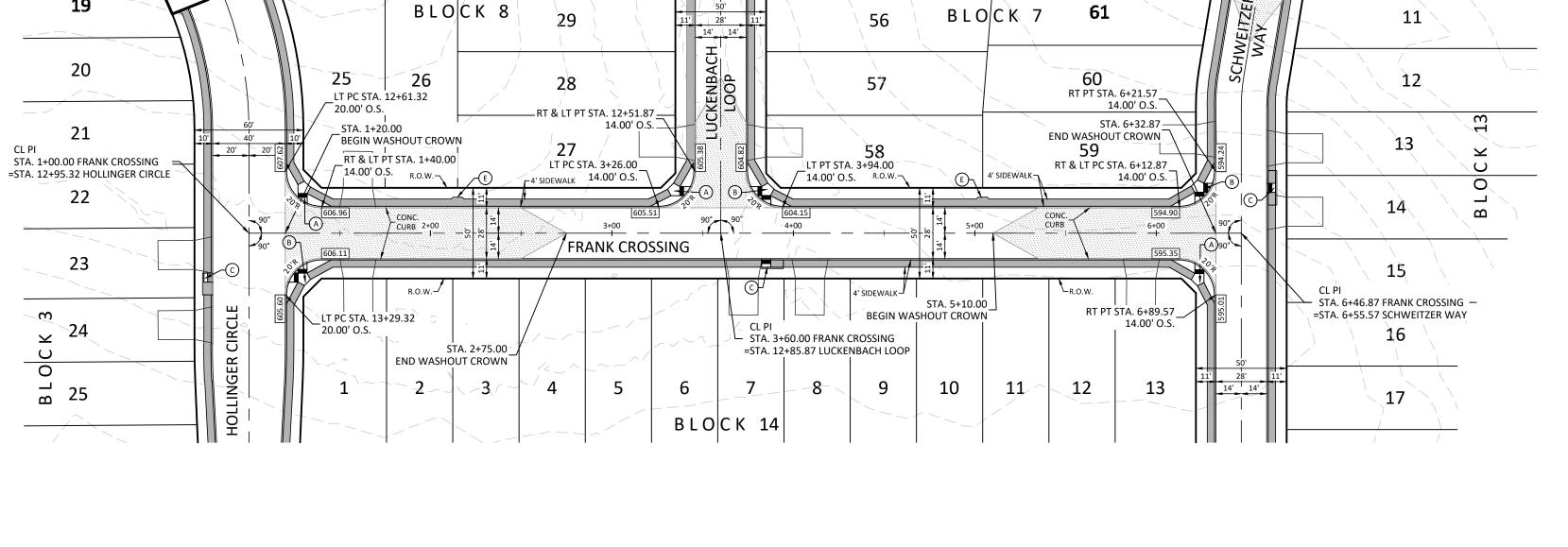
LAND-PLAT-21-11800537

1120

J. TODD MILLS

SHEET

C4.9



FRANK CROSSING HORIZONTAL SCALE: 1" = 50' VERTICAL SCALE: 1" = 5' STA. 1+00.00 TO STA. 6+46.87 625 CL. P.I. STA. 6+46.87 FRANK CROS =STA. 6+55.57 SCHWEITZER 620 620 LT CURVE DATA PVI STA: 2+25.00 PVI ELEV: 607.38 AD=2.30 K: 43.48 VC: 100.00' 615 615 RT CURVE DATA HIGH PT. STA: 1+96.74 8 8 9 9 PVI STA: 5+60.00 PVI ELEV: 596.41 AD=3.00 K: 33.33 VC: 100.00' 610 610 PROPOSED TOP OF CURB LT. — PROPOSED PAVEMENT LT. 605 605 PROPOSED PAVEMENT RT. -PROPOSED TOP OF CURB RT. & LT. EXISTING GROUND CL. FILL @ 95%_ COMPACTION PROPOSED PAVEMENT RT. EXISTING GROUND RT.-PROPOSED PAVEMENT LT. 600 600 RT CURVE DATA PVI STA: 2+25.00 PVI ELEV: 607.38 —PROPOSED TOP OF CURB RT. FILL @ 95% -PROPOSED PAVEMENT RT. COMPACTION AD=3.30 595 K: 30.30 VC: 100.00' PROPOSED TOP OF CURB LT. HIGH PT. STA: 2+20.45 -3.50% (LT) → HIGH PT ELEV: 606.98 PROPOSED PAVEMENT LT. 590 590 585 585 2+00 1+00 3+00 4+00 5+00 6+00

. 1+00.00

REET CONSTRUCTION

ASHOUT CROWN ADER CURB AND **IMBER GUARD POST**

(IST. GROUND @ 6:1

620

615

610

605

600

595

590

TOP OF CURB LT

6:1 SLOPE

FILL @ 95%_

PROPOSED TOP OF CURB RT.—

DRAIN E __2~24" RCP

INV ELEV. 583.66 SEE SHEET C4.15

PROPOSED TOP OF CURB LT.—

EXISTING GROUND LT.

LT CURVE DATA

PVI STA: 3+20.00

PVI ELEV: 584.09 AD=4.68

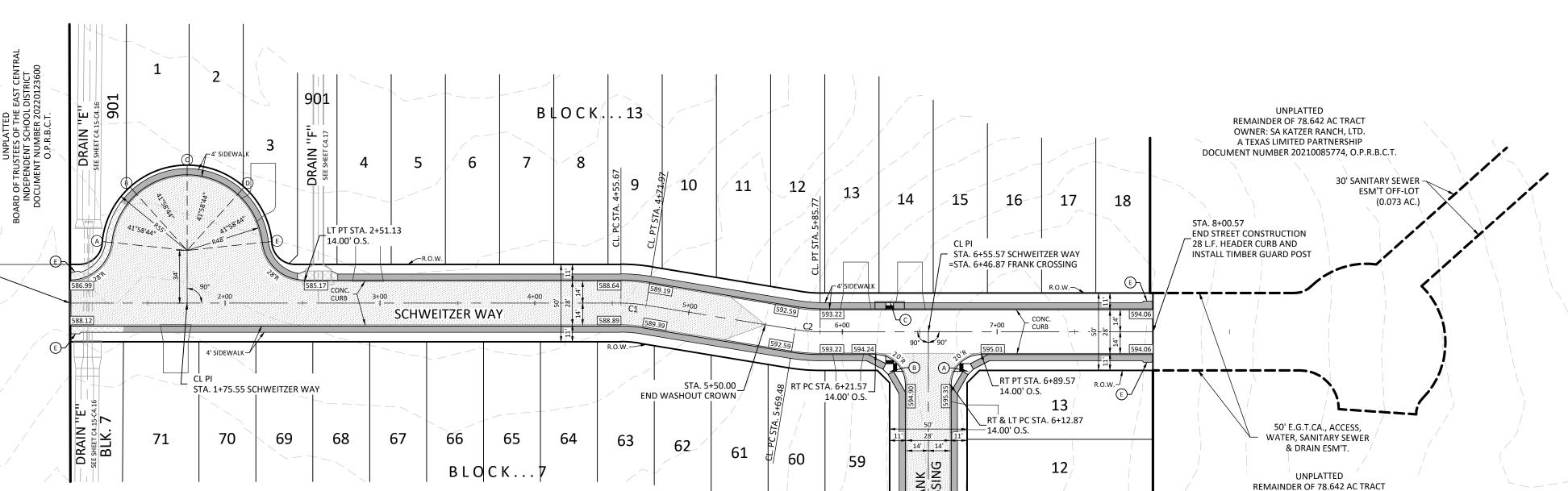
K: 47.01 VC: 220.00'

LOW PT. STA: 2+72.05 LOW PT ELEV: 585.13

BEXAR COUNTY R.O.W. NOTE:
BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION
PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY
R.O.W.

KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
LT PC STA.1+00.00	0.00	-0.58
Α	586.66	586.08
В	586.37	585.79
С	586.08	585.50
D	585.80	585.22
Е	585.51	584.93
LT PT STA. 2+51.13	585.17	584.59





SCHWEITZER WAY

EXISTING GROUND CL

PVI ELEV: 593.81 AD=2.00

K: 25.00

VC: 50.00'

SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE) (DEVELOPER INSTALLED) \bigcirc SIDEWALK WHEELCHAIR RAMP - TYPE 10 lacksquareDIRECTIONAL RAMPS (DUAL) (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED) SIDEWALK WHEELCHAIR RAMP - TYPE I (D) (DEVELOPER INSTALLED) E SIDEWALK PASSING SPACE 805.81TC EXISTING TOP OF CURB ELEVATION 805.81 PROPOSED TOP OF CURB ELEVATION HOME BUILDER INSTALLED SIDEWALK DEVELOPER INSTALLED SIDEWALK EXISTING SIDEWALK SIDEWALK WHEEL CHAIR RAMP WASH-OUT CROWN POSSIBLE DRIVEWAY LOCATION PROPERTY LINE **EXISTING CONTOUR** 1120 PROPOSED CONTOUR PROPOSED CONCRETE CURB

LEGEND

FLOW ARROW

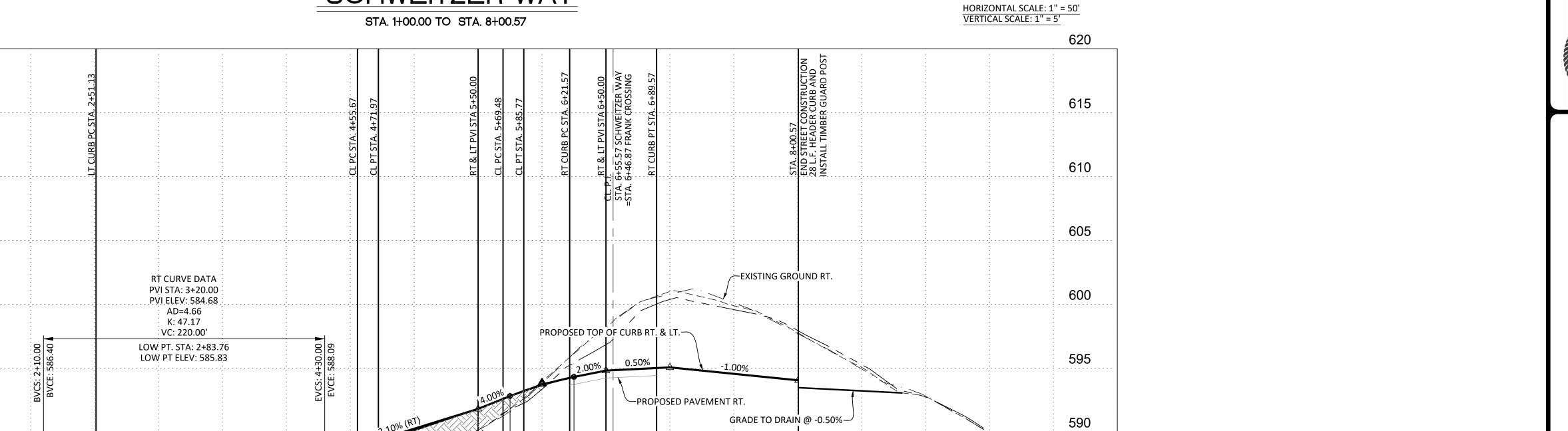
SHALL VERIFY ELEVATIONS.

CONTRACTOR TO TIE EXISTING AND PROPOSED

CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR

LAND-PLAT-21-11800537

1



B L O C K . . . 14

OWNER: SA KATZER RANCH, LTD. A TEXAS LIMITED PARTNERSHIP

DOCUMENT NUMBER 20210085774, O.P.R.B.C.T.

585

580

PAUL LANDA, JR. 100182

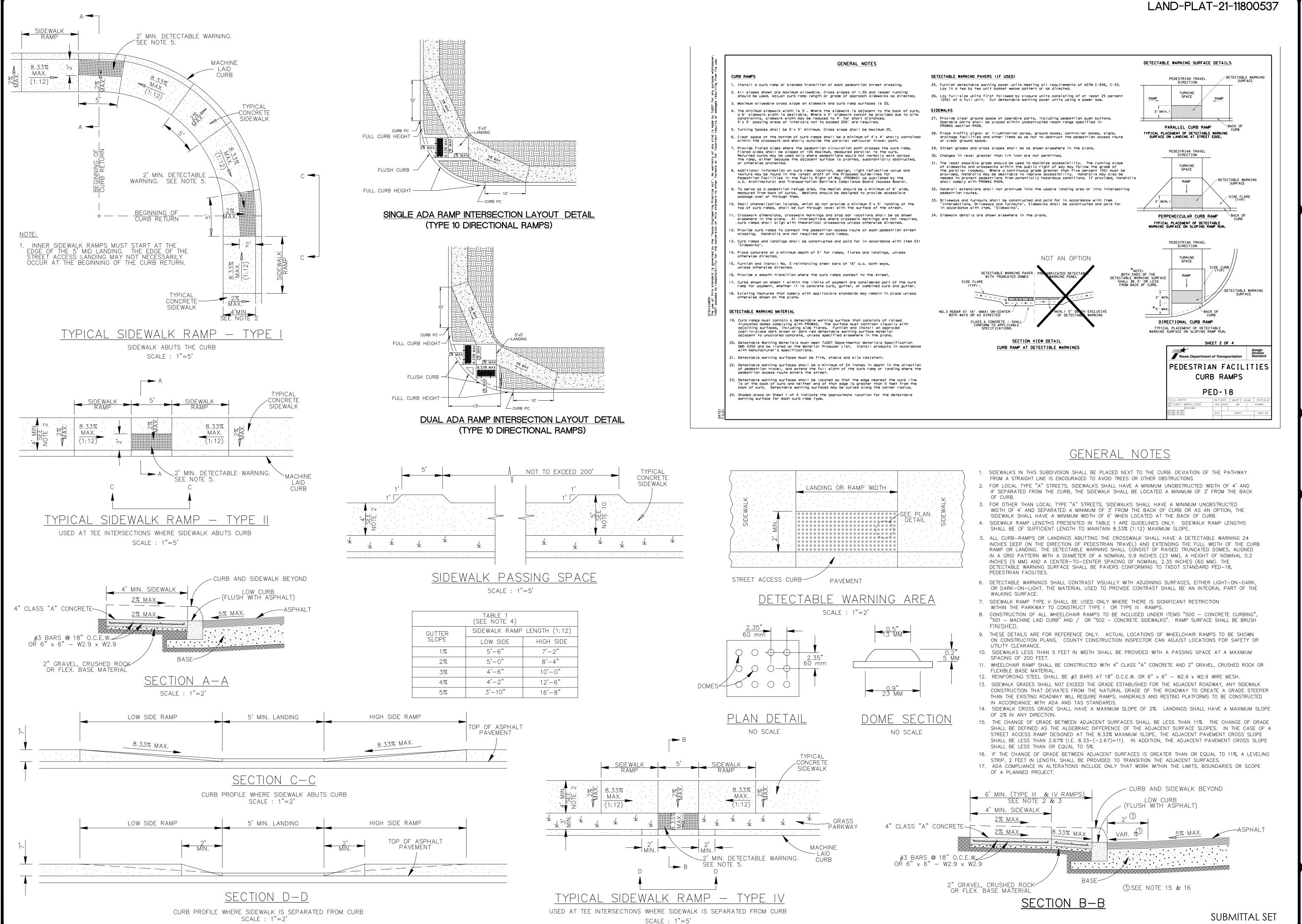
SHEET

C4.10

SUBMITTAL SET

TOP OF CURB RT TOP OF CURB RT 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

FILL @ 95%
COMPACTION





5/25/202

TAIL **RAMP** HAIR

Ш WHE

 \overline{O}

SHEET

SHEET C4.12



TAIL

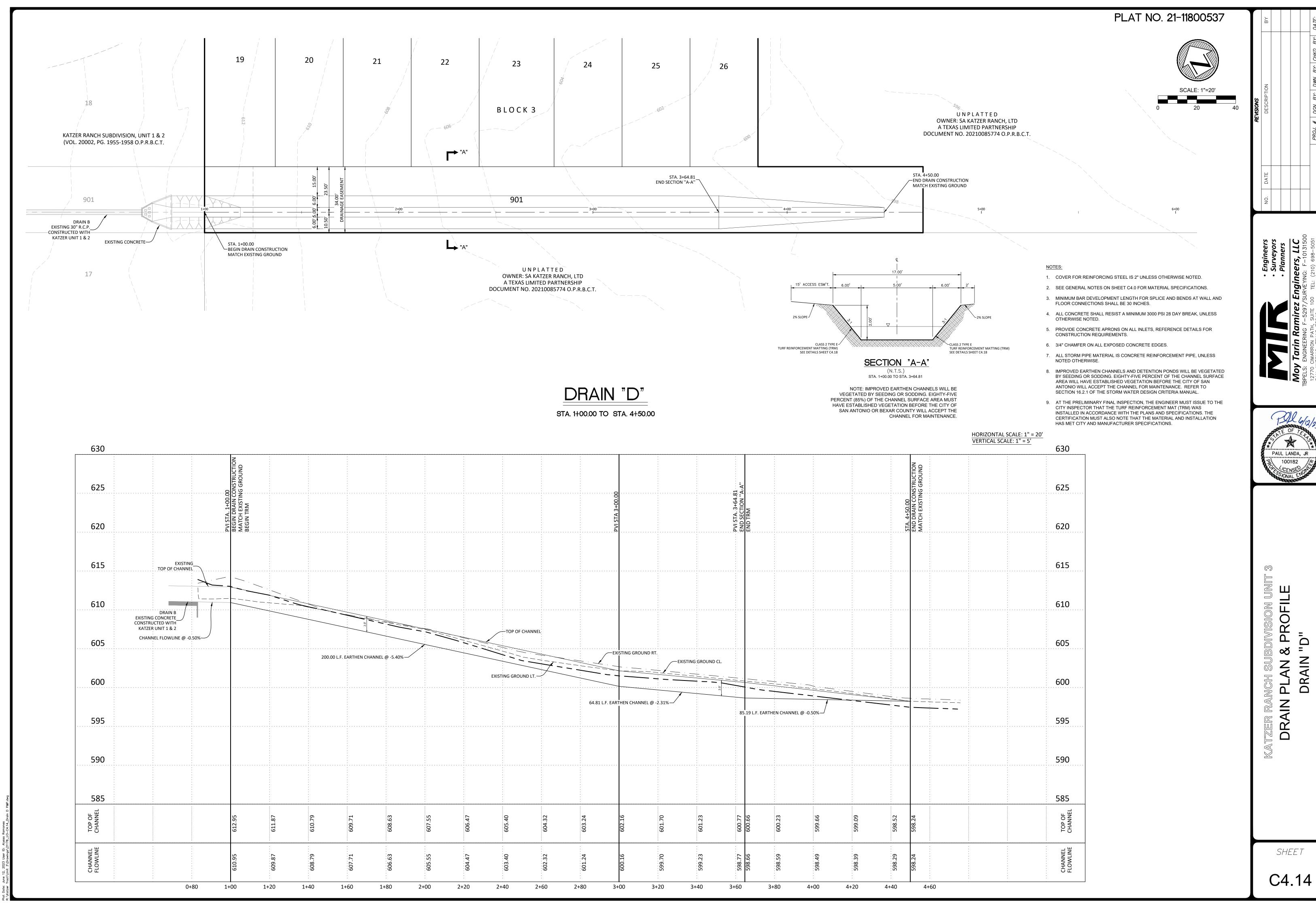
TRE

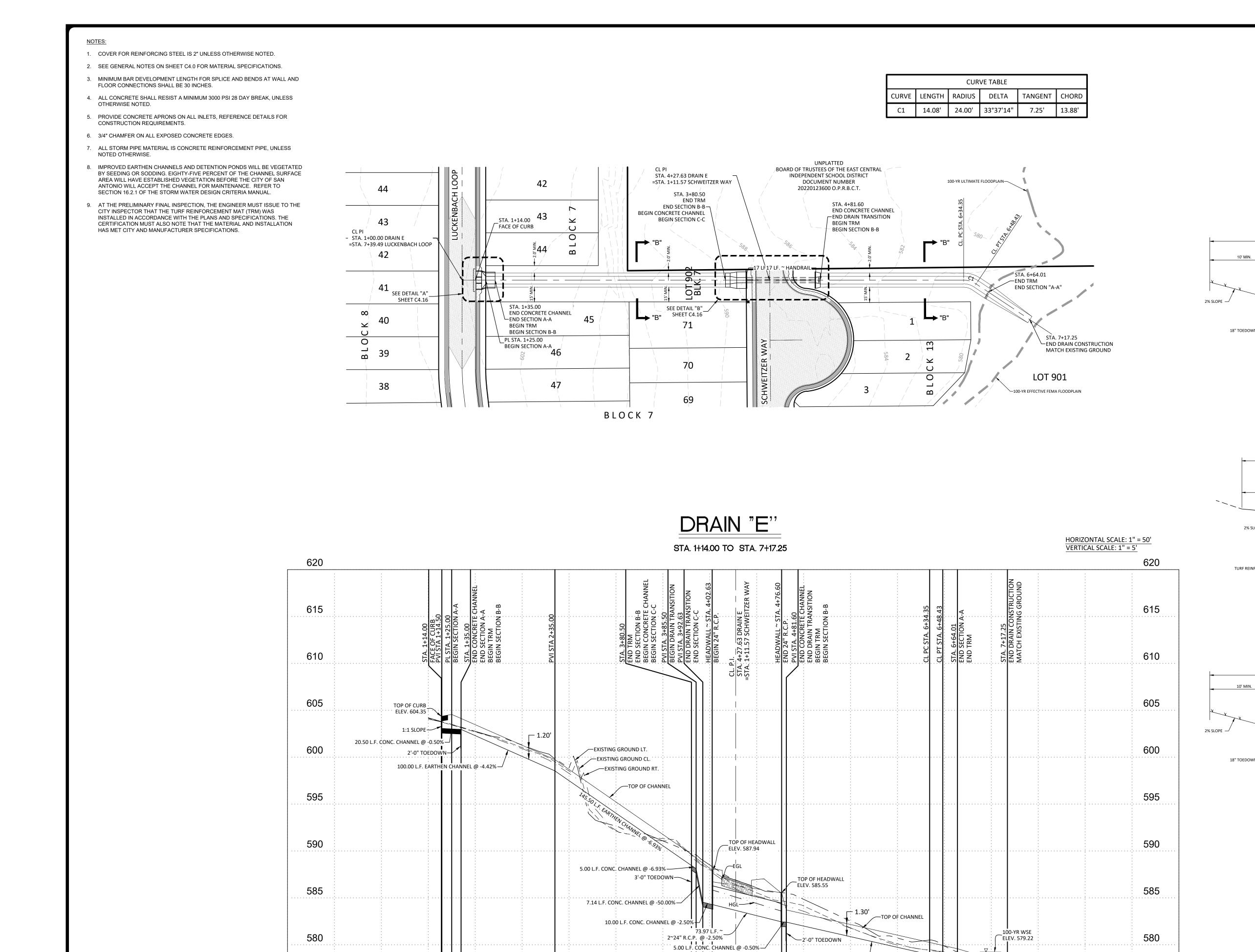
S

STANDARD

MCH

Plot Date: April 9, 2021 User ID: Alyssa Ramones R: \Katzer Tract\Unit 3\Drawings\21178_U3-C4.13_Street Section.dwg





182.41 L.F. EARTHEN CHANNEL @ -2.27%—

5+00

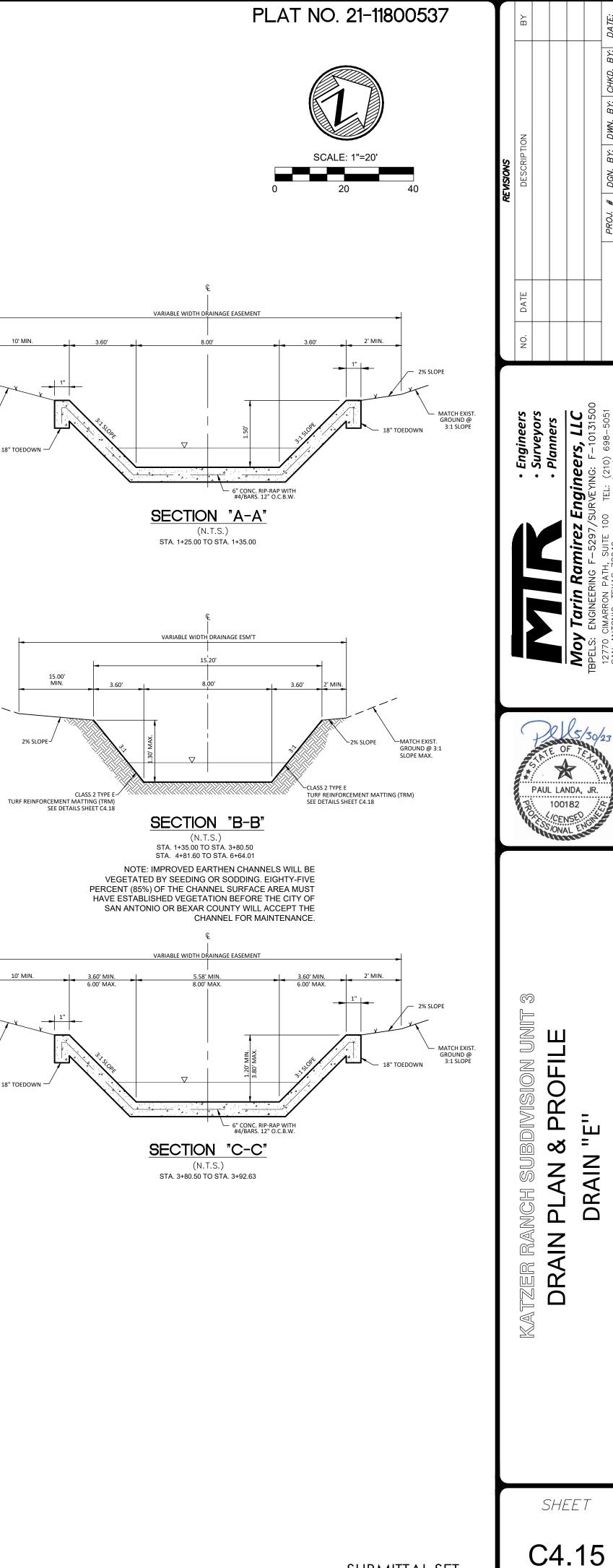
53.24 L.F. EARTHEN CHANNEL @ -0.50% —

6+00

7+00

575

8+00



575

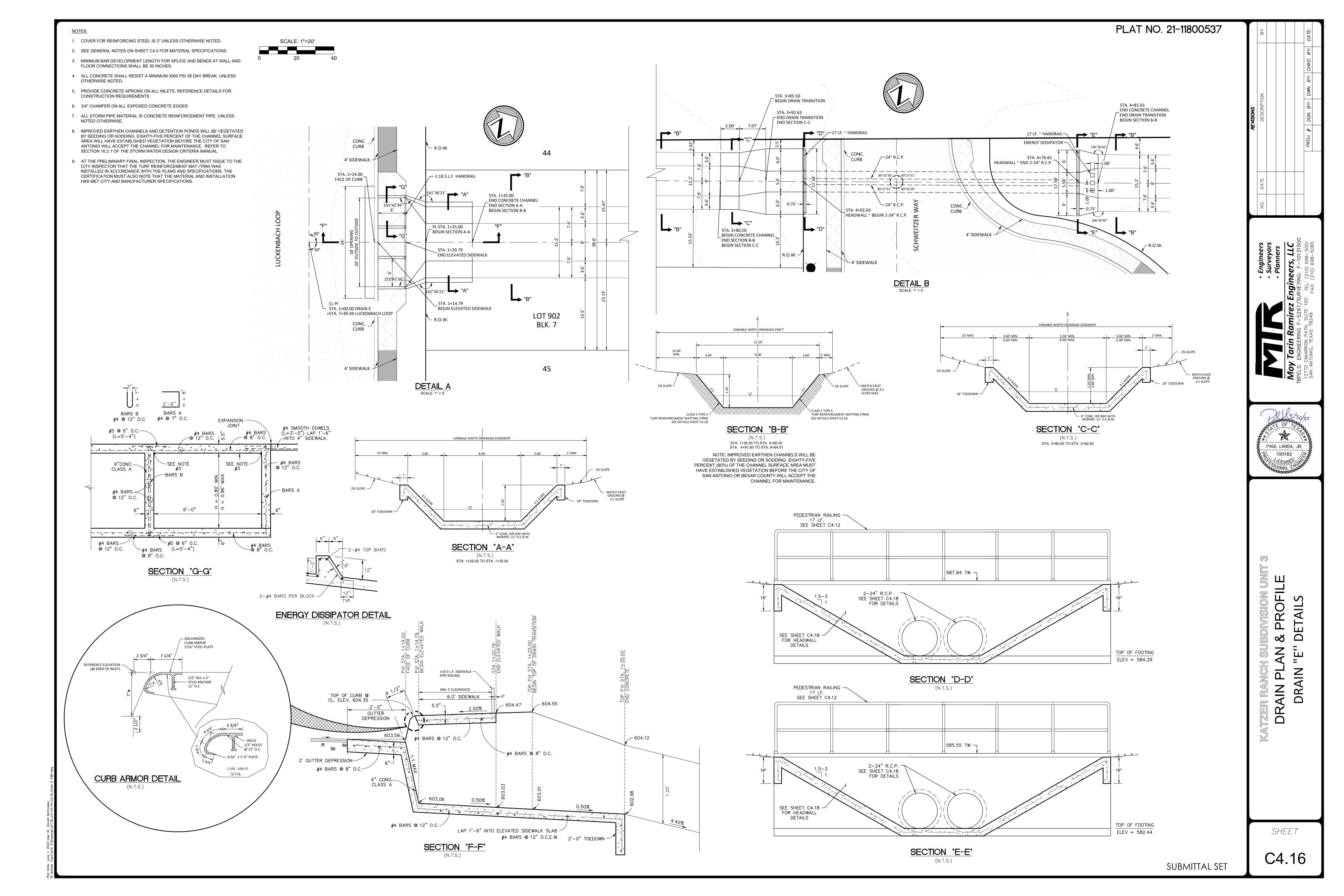
1+00

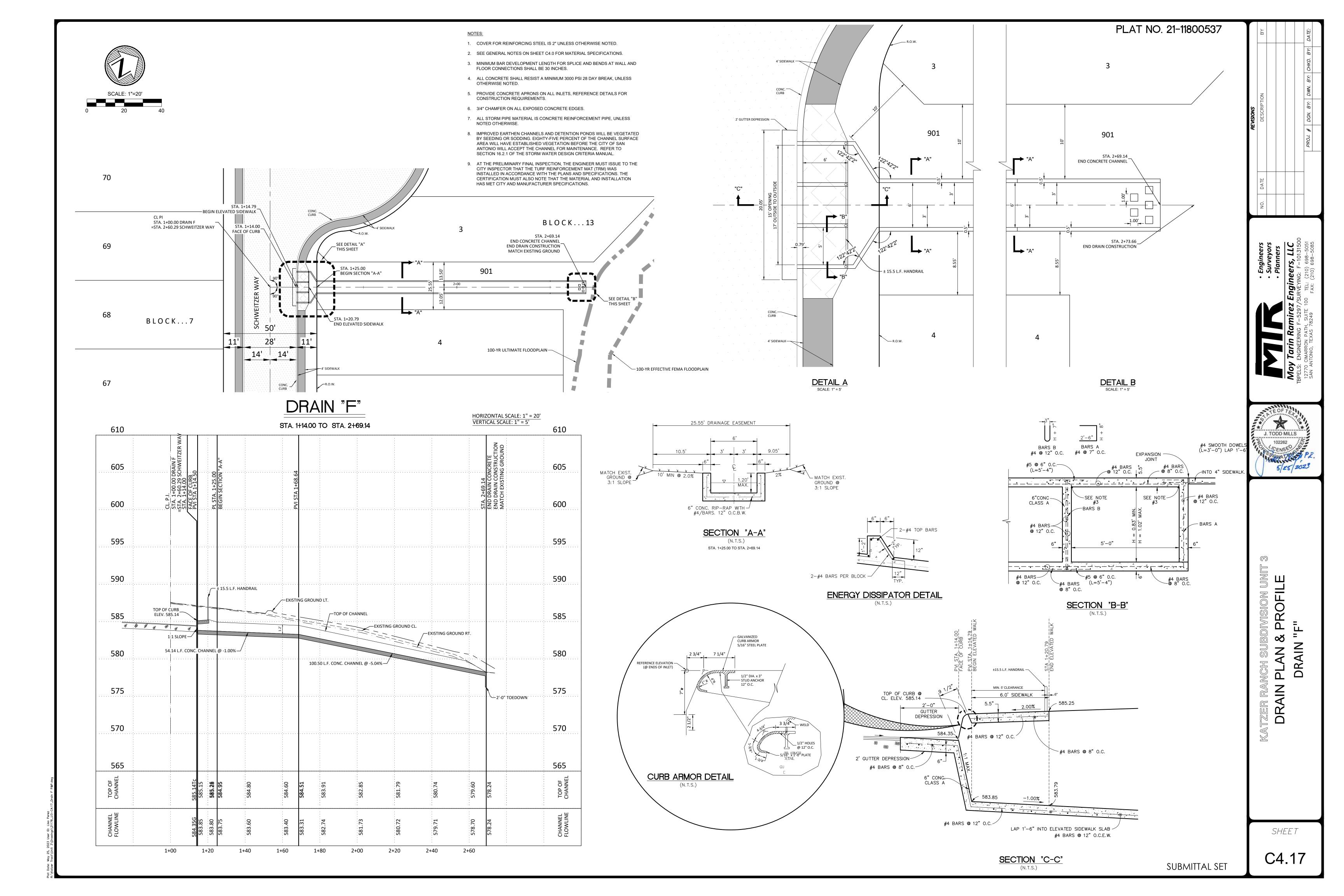
2+00

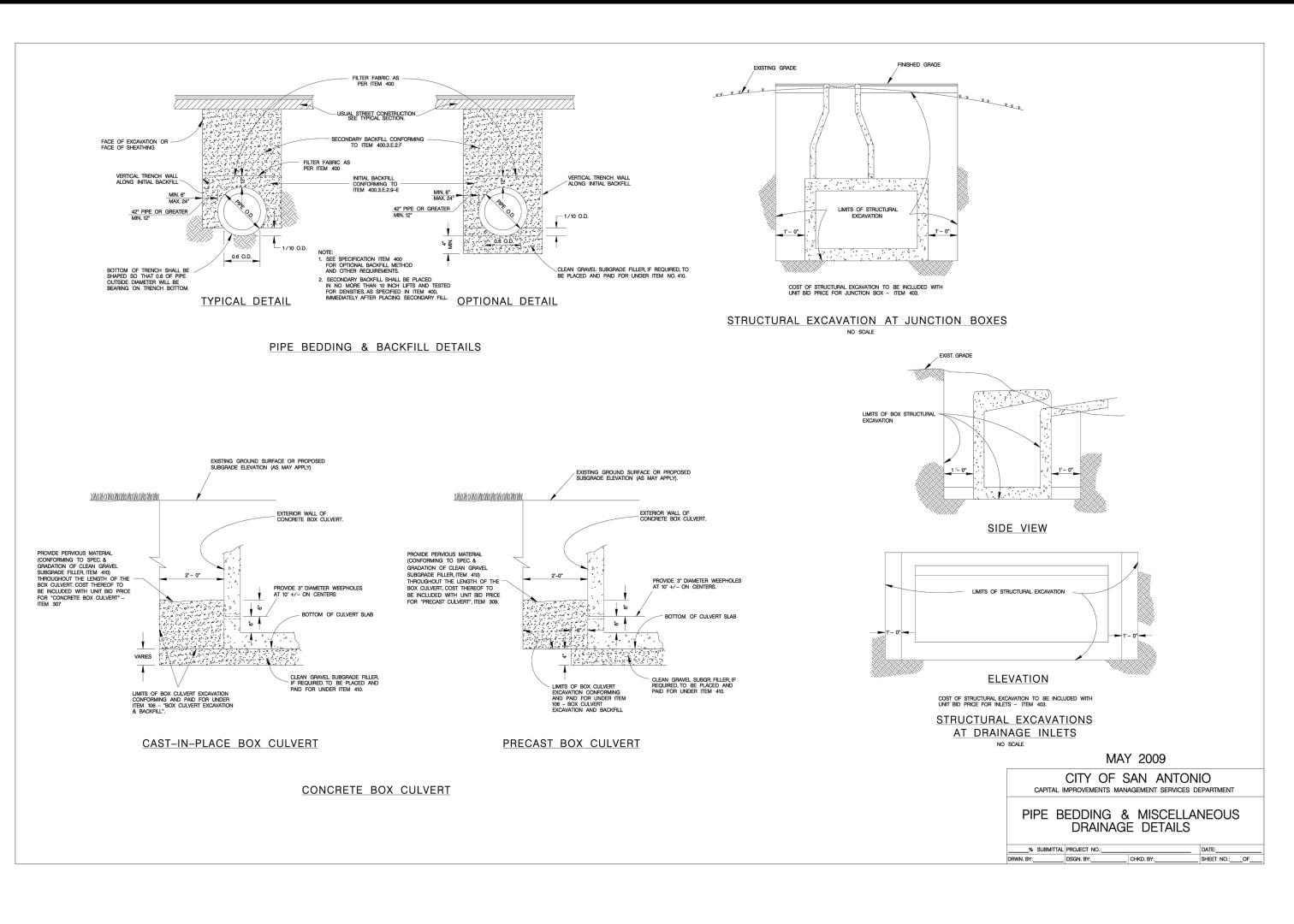
3+00

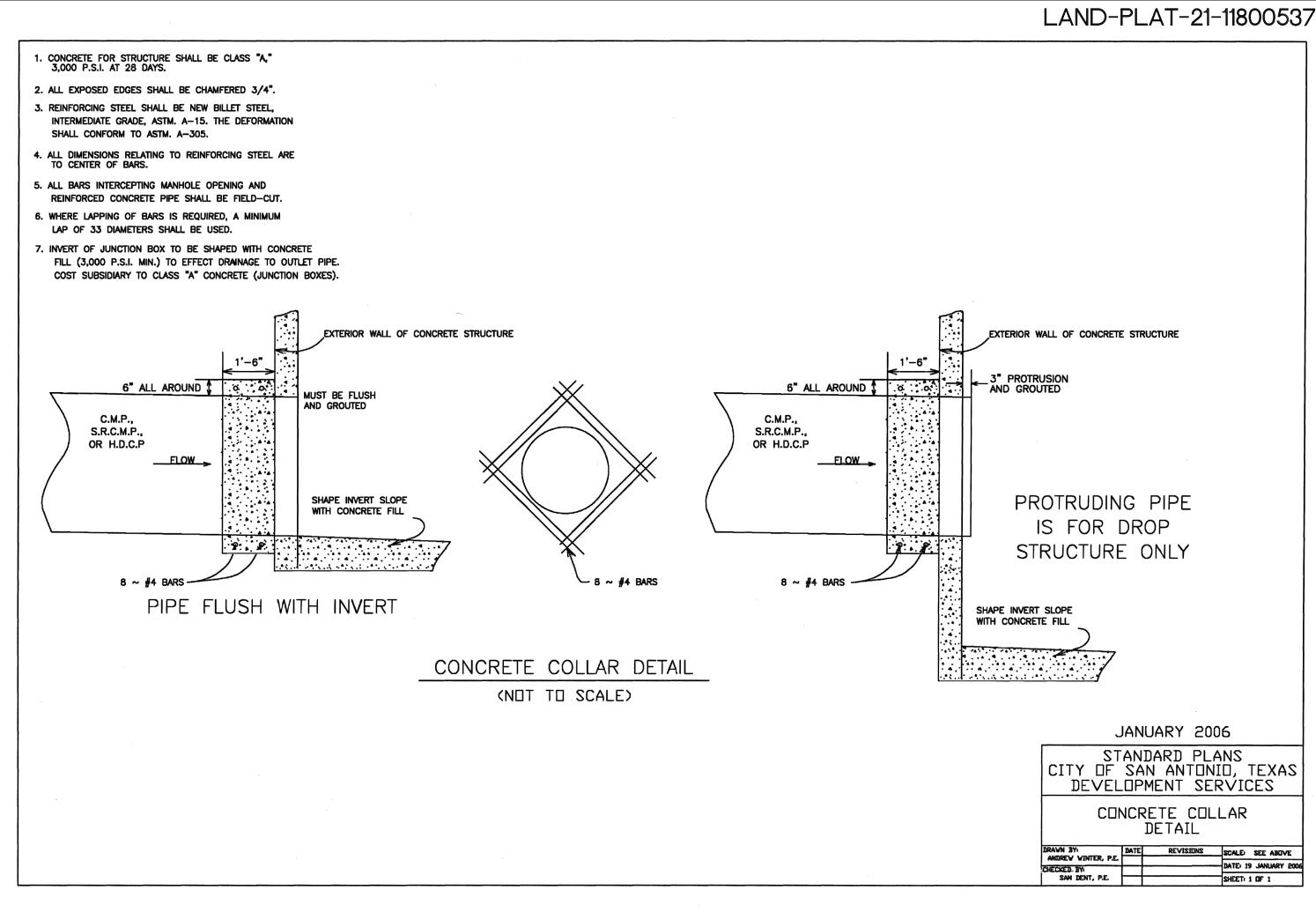
4+00

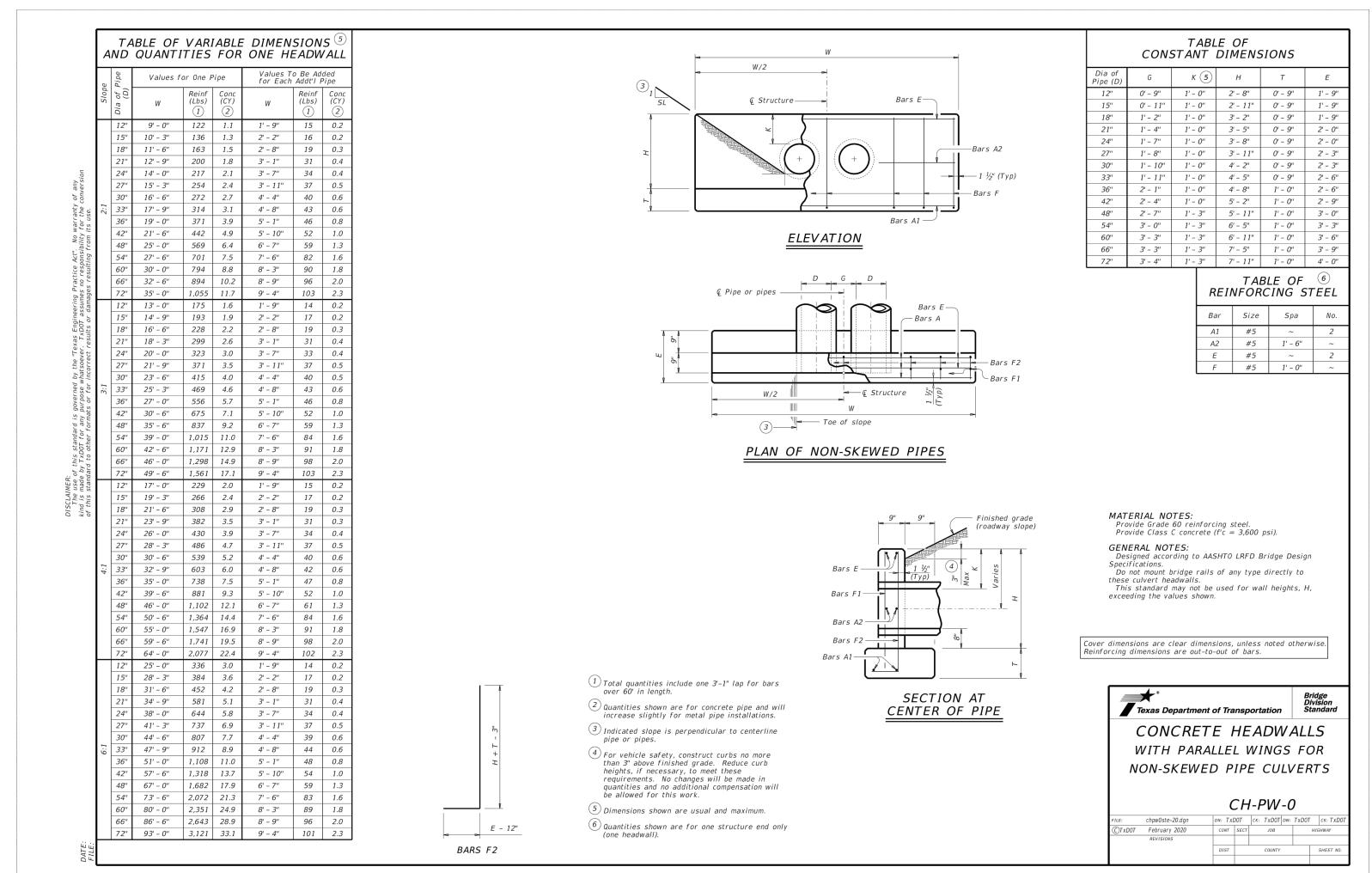
SUBMITTAL SET











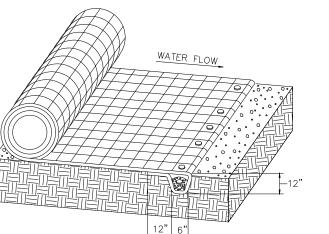
TURF REINFORCEMENT MAT NOTES:

installation assistance.

- A. Grade and compact areas to be treated with TRM / HPTRM and compact. The top $8^{\prime\prime}$ of subgrade must be free of rock, debris and consist of a cohesive live top soil. If the import of acceptable material.
- Remove large rocks, soil clods, vegetation, and other sharp objects (larger than 2" in diameter) that could keep the TRM / HPTRM from intimate contact with subgrade. Prepare the 8" compacted seedbed by loosening the top ½" of soil above final
- Construct, as a minimum, 12 in x 12 in anchor trenches at upstream and downstream ends of the installation to inhibit undermining from stray surface water. (Anchor trenches should be excavated to a depth that matches design scour depth.) Excavate 6 in x 6 in check slots at 25 to 30 feet intervals along length of channel. Cut longitudinal anchor slots 6 in x 6 in at top of each side slope. The aforementioned dimensions are minimums and the dimensions detailed on the drawings will control.
- INSTALLATION TRMs and HPTRM A mandatory pre-construction conference with an Engineer representing the TRM / HPTRM manufacturer, contractor, and inspector must be completed. The conference is to be scheduled by the contractor with at least one week's notice to

all parties involved. Representatives may be required to be on site for

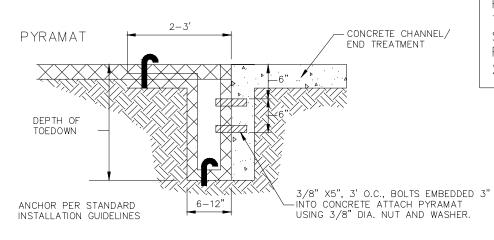
- . Install the TRM / HPTRM at elevation and alignment indicated.
- Seeding is required by broadcasting or hydro mulching prior to the placement of the TRM / HPTRM. In addition the seeding is also required over the top of the TRM /HPTRM, soiled filled with $\frac{1}{2}$ " of top soil and protected by a biodegradable erosion Mat, such as LandLok S1 or by spraying Flexterra.
- The TRM / HPTRM, is to be soiled filled with $\frac{1}{2}$ " of top soil. Place sod directly on top and secure sod with 8" staples.
- Beginning at downstream end in center of channel, place initial end of first roll of TRM / HPTRM in anchor trench and secure with ground anchor devices at 12 in
- Position adjacent rolls in anchor trench in same manner, overlapping proceeding roll minimum Š in. Secure the TRM / HPTRM at 12 in intervals along the trench, backfill and compact with specified soil or as directed by City of San Antonio.
- Unroll center strip of TRM / HPTRM upstream over compacted trench. Stop at next check slot or terminal anchor trench. Unroll adjacent rolls of TRM / HPTRM upstream in similar fashion, maintaining 3 in overlap.
- Fold and secure the TRM / HPTRM snugly into transverse check slots. Lay material in bottom of slot, and then fold it back against itself as indicated. Anchor through both layers of TRM / HPTRM at 12 in intervals. Backfill with soil and compact. Continue unrolling the TRM / HPTRM widths upstream over compacted slot to next check slot or terminal anchor trench.
- Secure TRM / HPTRM to channel bottom with ground anchoring devices at a frequency of 2 ½ anchors per square yard. Anchors should be a minimum of 8 gauge and 8 in in length or so that they have sufficient ground penetration to resist pullout in a saturated condition. Increased anchoring frequency may be required if site conditions are such that the Engineer determines it necessary.
- At the Engineers discretion a manufacturer's designated representative shall be on site for installation assistance.
- Any installation of angular placement, overlapping around curves, or modified placement methods must be detailed on the construction drawings.
- City of San Antonio and/or Bear County must approve alternate installation methods prior to execution. Irrigation, Mowing and Project Acceptance IRRIGATION, MOWING & PROJECT ACCEPTANCE
- All areas that erode prior to project acceptance shall be repaired at the expense of the contractor including necessary reseeding , watering, and repair of the RECP.
- Seeded/Sodded areas shall not be mowed prior to establishment of 70% vegetative density and a minimum grass growth of 3 inches. Mower height shall not be set lower than 3 inches. Throughout the duration of the project, the contractor shall be responsible for mowing to facilitate growth and shall not let the vegetation in the seeded areas exceed 18". In addition, the Contractor shall water all grassed areas as often as necessary to establish satisfactory growth and to maintain its growth throughout the duration of the project.



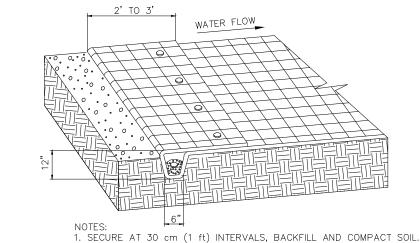
1. SECURE AT 30 cm (1 ft) INTERVALS, BACKFILL AND COMPACT SOIL.

INITIAL ANCHOR

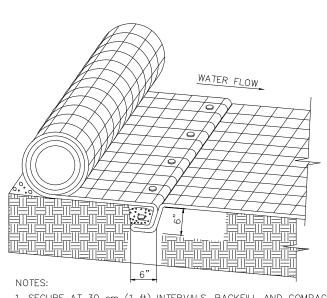
AREA UNDER MAT TO BE FREE OF ROCKS AND OTHER DEBRIS. MAT MUST MAINTAIN INTIMATE CONTACT WITH SOIL.



CONCRETE/PYRAMAT CONNECTION DETAIL NOT TO SCALE



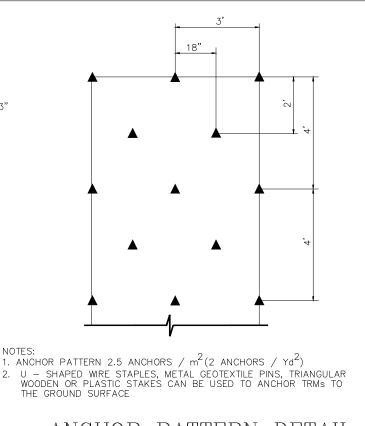
TERMINAL CHANNEL ANCHOR TRENCH DETAIL NOT TO SCALE



1. SECURE AT 30 cm (1 ft) INTERVALS, BACKFILL AND COMPACT SOIL 2. SLOT @ EVERY 30 FEET

INTERMITTENT CHECK SLOT DETAIL NOT TO SCALE

MAXIMUM VELOCITY AND SHEAR STRESS PER MANUFACTURER SPECIFICATION FOR LANDLOC TURF REINFORCEMENT MATTING (TRM) INCLUDED IN SWMP, SECTION VI - APPENDIX THE MAXIMUM PERMISSIBLE VELOCITY AND SHEAR STRESS ARE 20 FT/SEC AND 12LB/FT²



ANCHOR PATTERN DETAIL NOT TO SCALE

SHEET

PAUL LANDA, JR

100182

(L)

RAINA

(F)

X (1024.00)

= DRAINAGE TO REAR OF LOT

= PROPOSED ELEVATION

= DRAINAGE TO BOTH FRONT AND

= CLEARING AND/OR GRADING OF UTILITY EASEMENTS

= EXISTING ELEVATION X 1024.00E ---1024--- = EXISTING CONTOUR

= EXISTING RETAINING WALL

= PROPOSED CONTOUR = PROPERTY LINE

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3, SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79g. HUD 79g REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79g COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79g.

GENERAL SPECIFICATIONS FOR SITE PREPARATION

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING. WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

6. DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER. ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR FOR GEOTECHNICAL ENGINEER TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER. 2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12-IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE. 3. FILLS SHALL BE TESTED A MAXIMUM OF EACH TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER, OF FILL 4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6-IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSÉ OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

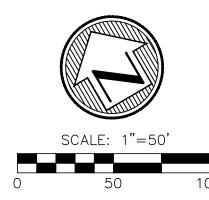
NOTES:

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.18' ABOVE CURB ELEVATION.

CONTRACTOR TO VERIFY 1.5% MINIMUM SLOPE ON LOTS AND REGRADE TO MEET MINIMUM PROPOSED ELEVATIONS IF NECESSARY.

CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10" AND LARGER OUTSIDE OF THESE AREAS.



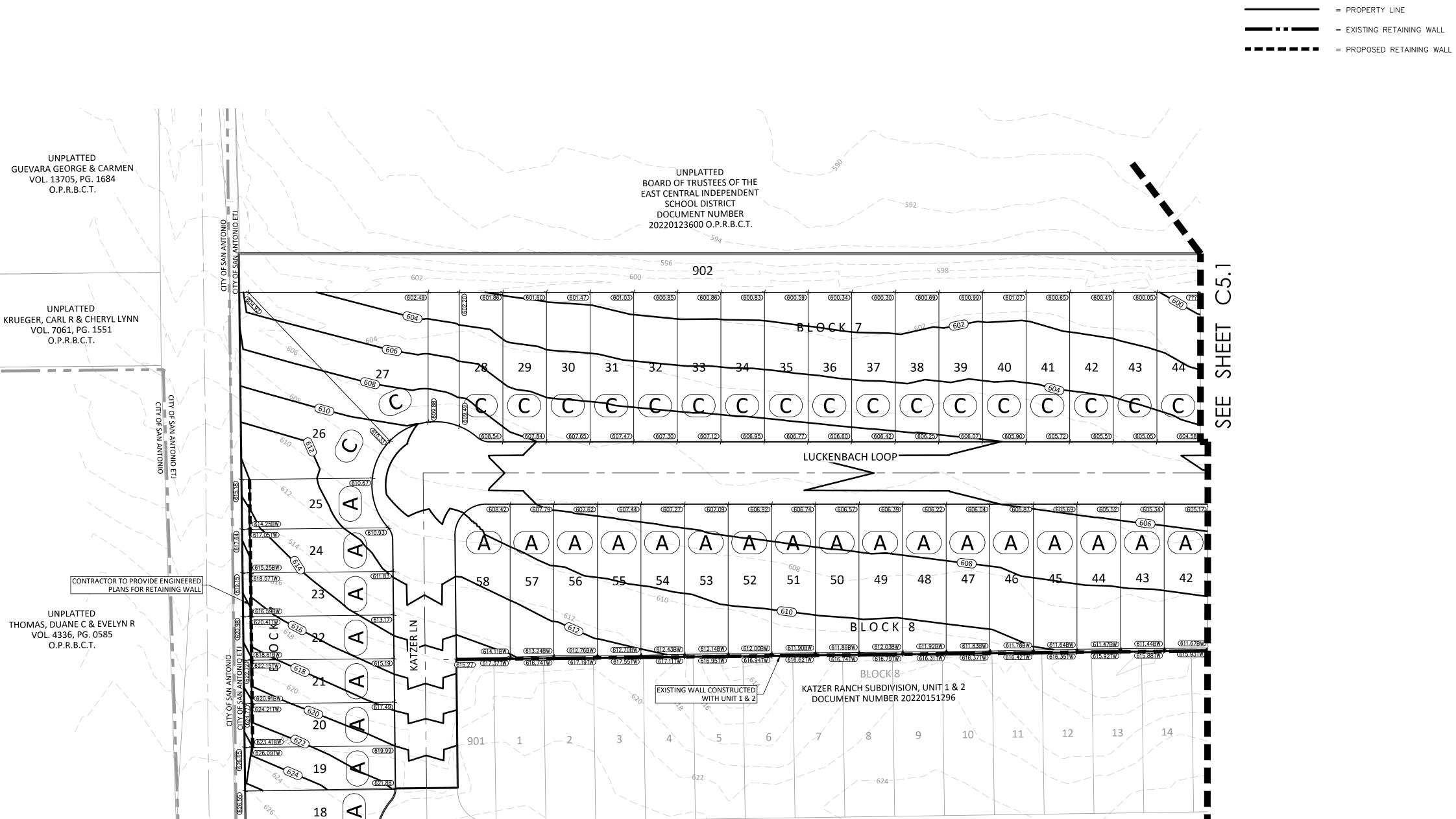
i**ngineers,** JRVEYING: F—10

X PAUL LANDA, JR 100182

Z

(1)

SHEET



HOLLINGER CIRCLE

TO BE FIELD LOCATED

FOR EACH INDIVIDUAL

TYPICAL "C" LOT GRADING

N.T.S.

SETBACK | ELEV.

TYPICAL "A" LOT GRADING

N.T.S.

UNPLATTED

VOL. 13705, PG. 1684

O.P.R.B.C.T.

UNPLATTED

VOL. 7061, PG. 1551

O.P.R.B.C.T.

UNPLATTED

VOL. 4336, PG. 0585

O.P.R.B.C.T.

NOTE: HIGHPOINT LOCATION

TO BE FIELD LOCATED

FOR EACH INDIVIDUAL

TO BE FIELD LOCATED

FOR EACH INDIVIDUAL

TYPICAL 'B' LOT GRADING

PLAT NO. 21-11800537

GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3,

SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79g. HUD 79g REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79g COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79g.

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING. WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD—TEX—113—E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT

6. DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED ABOVE EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER. ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR FOR GEOTECHNICAL ENGINEER TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12-IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE. 3. FILLS SHALL BE TESTED A MAXIMUM OF EACH TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER, OF FILL 4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6-IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSÉ OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

NOTES:

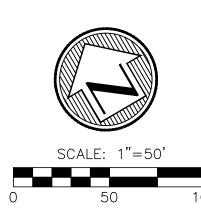
= PROPOSED RETAINING WALL

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.18' ABOVE CURB ELEVATION.

CONTRACTOR TO VERIFY 1.5% MINIMUM SLOPE ON LOTS AND REGRADE TO MEET MINIMUM PROPOSED ELEVATIONS IF NECESSARY.

CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10" AND LARGER OUTSIDE OF THESE AREAS.



i**ngineers,** JRVEYING: F—10



Z (1)

SHEET

SUBMITTAL SET



PREVENTION (F) **POLLUTION** STORM WATE

SHEET

C6.0



0

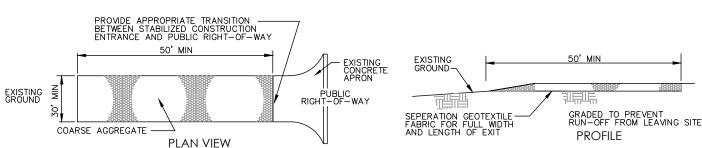
SHEET

- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1 FOOT DEEP AND SPACED NOT MORE THAN 5 FEET ON CENTER. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.
- THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND
- BACKFILLED WITH COMPACTED MATERIAL. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

CONSTRUCTION STAGING AREA

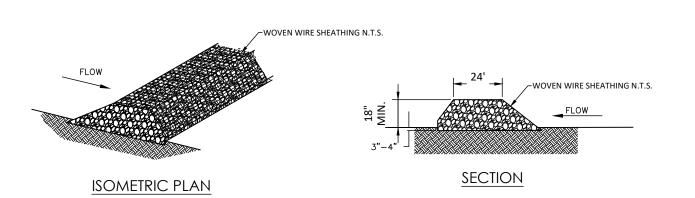
SCALE: NONE

REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.



TEMPORARY CONSTRUCTION ENTRANCE/EXIT NOTES

- 1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
- 2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
- 3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2 , AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
- 4. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
- 5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER. 6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
- 7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
- 8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN, LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE. 9. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC
- RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- 11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. 12. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED
- 13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

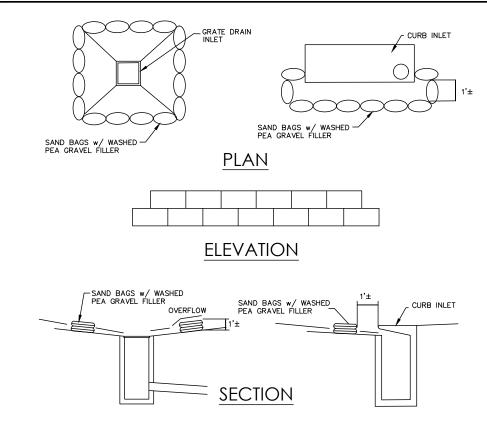


ROCK BERM NOTES

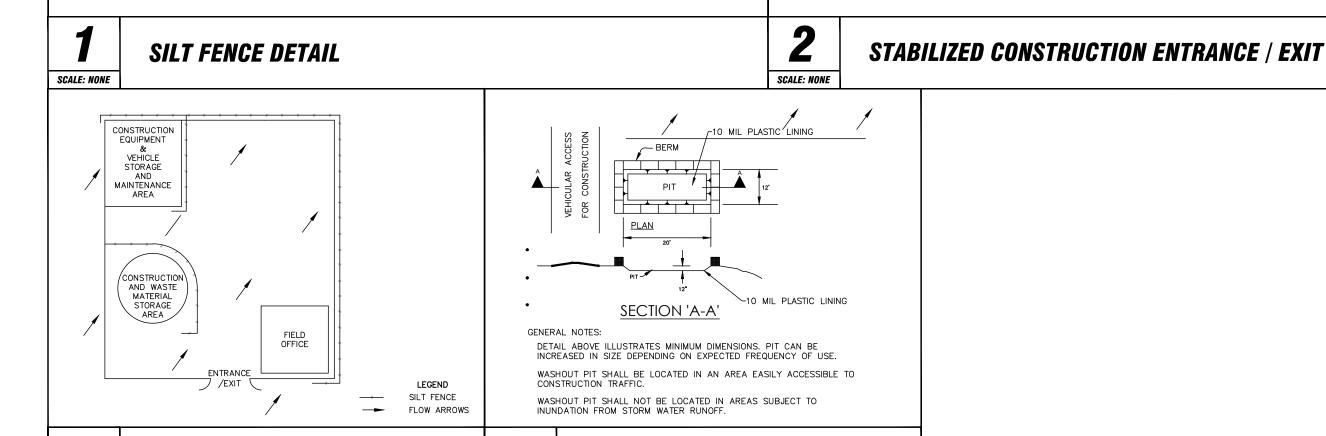
ROCK BERM

- 1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER
- 2. CLEAN, OPEN GRADED 3-TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
- 3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
- 4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
- 5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
- 6. WRAP THE WRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
- 7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
- 8. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- 9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- 10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER
- 11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.



- THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
- THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES. THE GRAVEL BAGS SHOULD BE FILLED WITH 34" GRAVEL .
- WHEN A GRAVEL BAG IS FILLED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CORD.
- THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
- REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



SCALE: NONE

CONCRETE TRUCK WASHOUT PIT

SCALE: NONE

BAGGED GRAVEL INLET FILTER



STORM WATER POLLUTION PREVENTION STANDARD DETAILS

SHEET

C6.2