PLAT NO. 22-11800313

CONSTRUCTION PLANS FOR

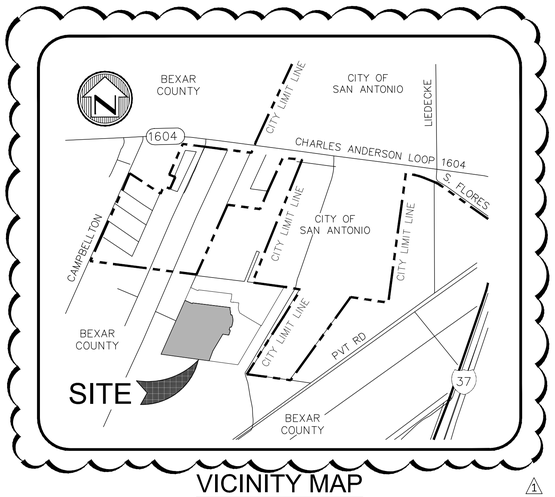
LONESOME DOVE HILLS, UNIT 3

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

SAN ANTONIO LD, LLC
4058 N COLLEGE ST SUITE 300, BOX 9
FAYETTEVILLE, AR 72703
(479) 455-9090



VICINITY MAP
N.T.S.

1 1/27/25 UPDATED LEGAL DESCRIPTION & SITE BOUNDARY

SUBMITTAL DATE:
October 2022

1

LEGAL DESCRIPTION:

BEING A TOTAL OF 28.863 ACRES OF LAND BEING PREVIOUSLY PLATTED AS A PORTION OF LOT 6, AND A PORTION OF LOT 7, BLOCK 1, COUNTY BLOCK 4167, BEXAR COUNTY, TEXAS, AS SHOWN ON PLAT OF IVY SUBDIVISION, AS RECORDED IN VOLUME 9524, PAGES 14-22; AS CONVEYED TO SAN ANTONIO LD, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20220011322; AS CONVEYED TO THOMAS CRAIG GLENDENNING, A SINGLE MAN, BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20220251559; AS CONVEYED TO TOWNHOUSES OF LONESOME DOVE, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20240045796; AND AS CONVEYED TO LONG FAMILY LIVING TRUST BY TRUSTEE'S DEED, AS RECORDED IN DOCUMENT NUMBER 20240101114, ALL OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

Sheet List Table

Sheet Number	Sheet Title
COVER SHEET	
C0.0	OVERALL COVER
UTILITY PLANS	
C1.0	UTILITY COVER
C1.1	OVERALL UTILITY
C1.2	OVERALL UTILITY
C1.3	OVERALL UTILITY
SEWER PLANS	
C2.0	SEWER COVER
C2.1	SEWER OVERALL
C2.2	SEWER OVERALL
C2.3	SEWER OVERALL
C2.4	SEWER LINE A
C2.5	SEWER LINE A
C2.6	SEWER LNE F
C2.7	SEWER LINE K
C2.8	SANITARY SEWER DETAILS
WATER PLANS	
C3.0	WATER COVER
C3.1	WATER OVERALL
C3.2	WATER OVERALL
C3.3	WATER OVERALL
C3.4	WATER DETAILS
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STREET & DRAIN PLANS	
C4.0	STREET COVER
C4.1	TRAFFIC PLAN
C4.2	TRAFFIC PLAN
C4.3	TRAFFIC PLAN
C4.4	TRAFFIC DETAILS
C4.5	TRAFFIC DETAILS
C4.6	MAPLE GROVE STREET P&P
C4.7	PHLOX PRARIE STREET P&P
C4.8	LIVE OAK GROVE P&P
C4.9	DEWBERRY GROVE P&P
C4.10	WHEEL CHAIR RAMP DETAILS
C4.11	STANDARD STREET DEATILS
C4.12	TYPICAL STREET SECTIONS
C4.13	DRAIN "A" PLAN AND PROFILE
C4.14	DRAIN "B" PLAN AND PROFILE
C4.15	DRAIN "C" PLAN AND PROFILE
C4.16	DRAIN "D" PLAN AND PROFILE
C4.17	STANDARD DRAINAGE DETAILS
GRADING	
C5.0	GRADING PLAN
C5.1	GRADING PLAN
C5.2	GRADING PLAN
SWPPP	
C6.0	SW3P PLAN
C6.1	SW3P DETAILS

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

MTR
• 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

R:\Lonesome Dove\Unit 3\Drawings\22045_U3_C0.0-Overall-Cover.dwg
Plot Date: April 9, 2021 User ID: Dallas Gardea

PLAT NO. 22-11800313

CONSTRUCTION PLANS FOR

LONESOME DOVE HILLS, UNIT 3

UTILITY IMPROVEMENTS

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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

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E. STAKING FOR DRAINAGE CHANNELS.
F. FINAL STREET STAKING.
G. METER BOX STAKING.
H. CPS STAKING.
I. SETTING OF LOT CORNERS.

CPS NOTES:

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NOTE :

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

LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN	8"SS
EXISTING SANITARY SEWER MAIN	E8"SS
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EXISTING POWER POLE	PP
EXISTING SECONDARY ENCLOSURE	
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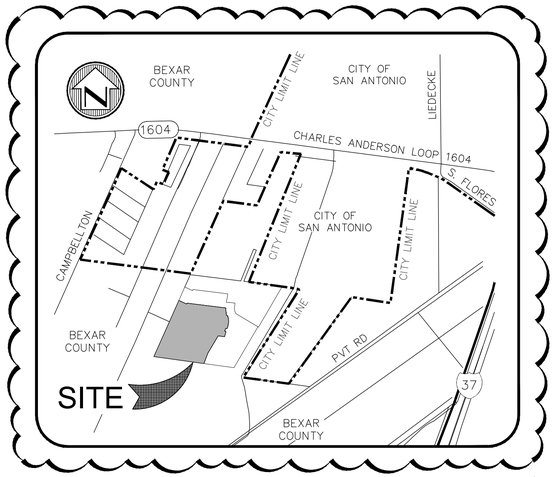
PROPOSED TRANSFORMER	
PROPOSED WATER SERVICE	
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT	
EXISTING TRANSFORMER	
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	

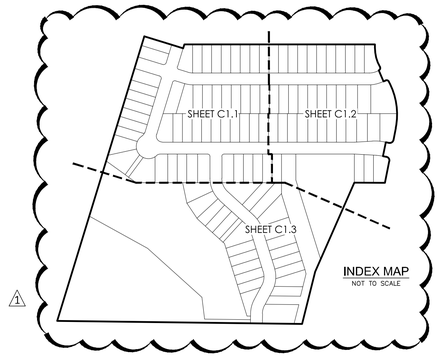


1

TABLE OF CONTENTS

SHEET No.	TITLE
C1.0	UTILITY COVER
C1.1	OVERALL UTILITY
C1.2	OVERALL UTILITY
C1.3	OVERALL UTILITY

1 1/27/25 UPDATED LEGAL DESCRIPTION & SITE BOUNDARY



INDEX MAP
NOT TO SCALE

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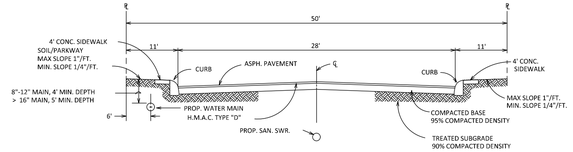
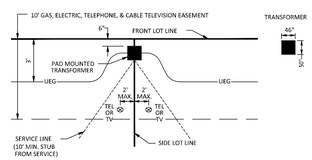
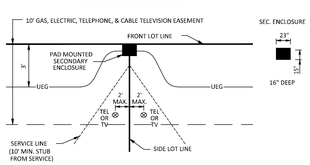


TYPICAL STREET CROSS-SECTION (28' PAVEMENT)
N.T.S.



TRANSFORMER



SECONDARY ENCLOSURE
FRONT LOADED

SUBMITTAL DATE:

October 2022

1

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BEING A TOTAL OF 28.863 ACRES OF LAND BEING PREVIOUSLY PLATTED AS A PORTION OF LOT 6, AND A PORTION OF LOT 7, BLOCK 1, COUNTY BLOCK 4167, BEXAR COUNTY, TEXAS, AS SHOWN ON PLAT OF IVY SUBDIVISION, AS RECORDED IN VOLUME 9524, PAGES 14-22; AS CONVEYED TO SAN ANTONIO LD, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20220011322; AS CONVEYED TO THOMAS CRAIG GLENDENNING, A SINGLE MAN, BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20220251559; AS CONVEYED TO TOWNHOUSES OF LONESOME DOVE, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20240045796; AND AS CONVEYED TO LONG FAMILY LIVING TRUST BY TRUSTEE'S DEED, AS RECORDED IN DOCUMENT NUMBER 20240101114, ALL OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

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.

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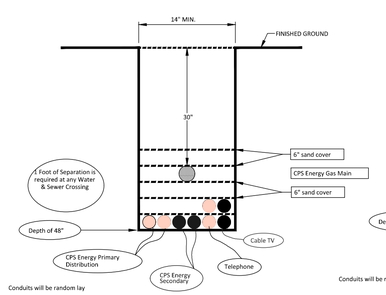
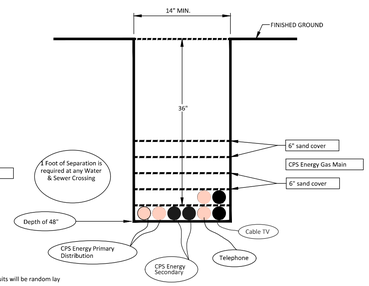


Standards for Gas and Electric Trench or Electric Trench with Joint Utilities
NOT TO SCALE
Trench Diagram



Standards for Electric Trench or Electric Trench with Joint Utilities
NOT TO SCALE
Trench Diagram

TRENCH DETAILS

BEXAR COUNTY

SUBMITTAL SET TEXAS C1.0

R:\Lonesome Dove\Unit 3\Drawings\32045_U3_C1.0-Utility-Cover.dwg
Plot Date: October 5, 2023 User ID: Dallas Gardea

PLAT NO. 22-11800313

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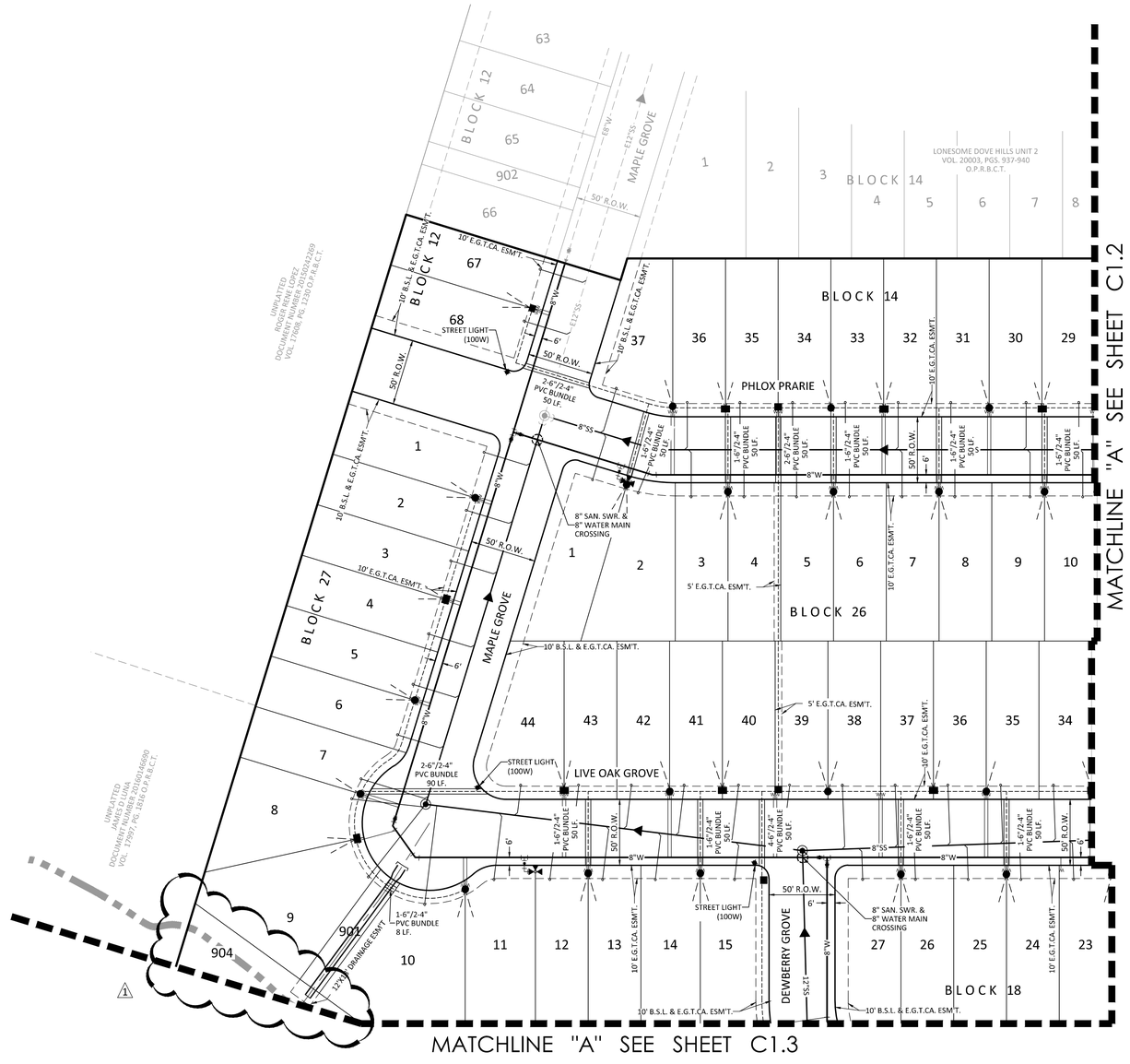

SCALE: 1"=50'

0 50 100

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SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS						

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

1/27/25

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

OVERALL UTILITY IMPROVEMENTS PLAN

SHEET

C1.1

Plot Date: April 9, 2021 User ID: Dallas Grokes
S:\Lonesome Dove Unit 3\Sheets\LDH3AS-BUILT C1-C1.3-UTIL-Overall.dwg

PLAT NO. 22-11800313

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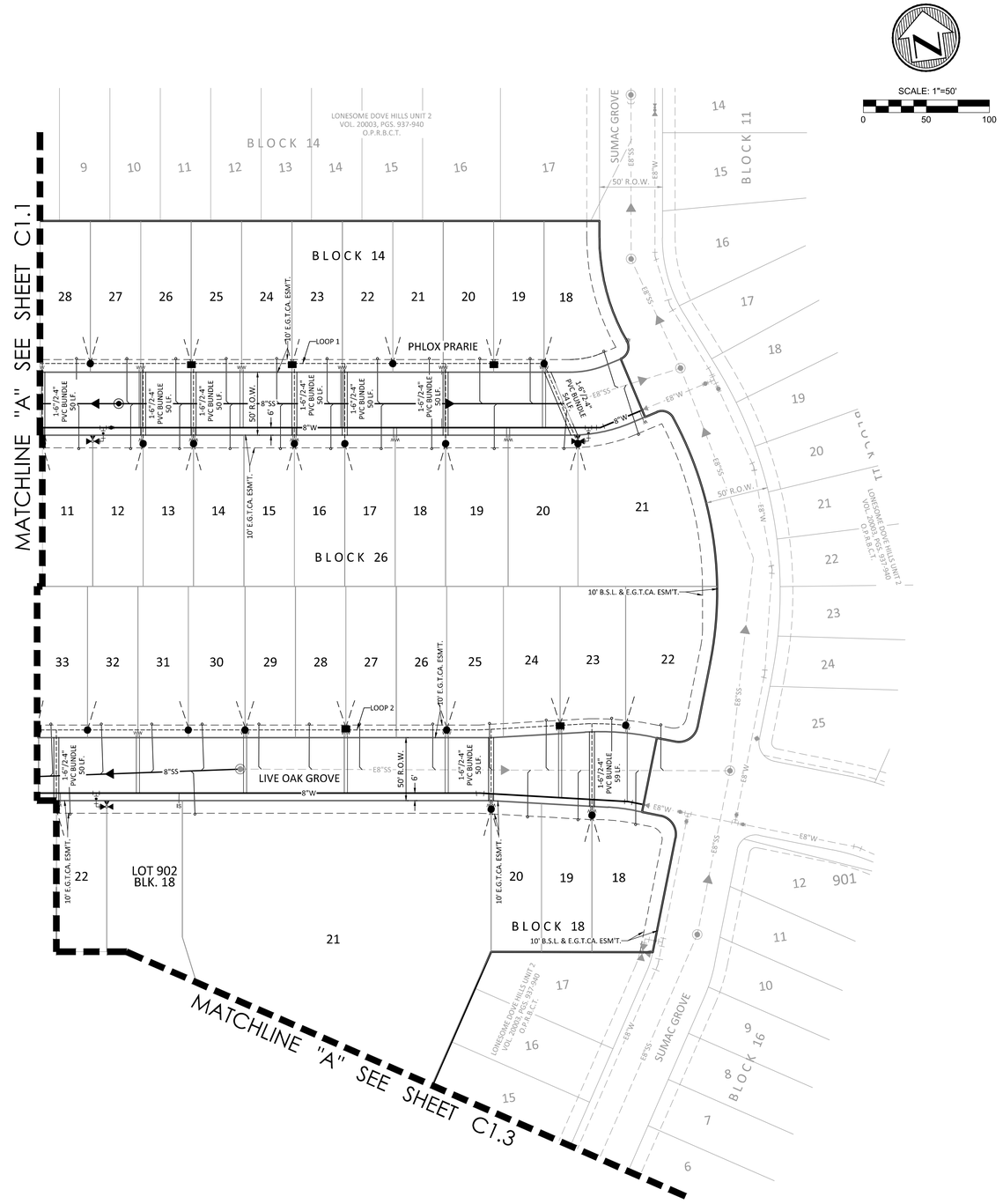
TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH CITY PUBLIC SERVICE.

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



LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN	8"SS
EXISTING SANITARY SEWER MAIN	E8"SS
EXISTING OVERHEAD ELECTRIC	OHE
EXISTING UNDERGROUND ELECTRIC	UE
EXISTING UNDERGROUND TELEPHONE	UGT
EXISTING STREET LIGHT	
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	PP
EXISTING SECONDARY ENCLOSURE	
PROPOSED SECONDARY ENCLOSURE	
PROPOSED POWER POLE	PP
PROPOSED TRANSFORMER	
PROPOSED WATER SERVICE	
PROPOSED IRRIGATION SERVICE	IR
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT	
EXISTING TRANSFORMER	
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	

REVISIONS

NO.	DESCRIPTION	DATE	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	BY:	DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

LONESOME DOVE HILLS, UNIT 3

OVERALL UTILITY IMPROVEMENTS PLAN

SHEET
C1.2

SUBMITTAL SET

Plot Date: April 9, 2021 User ID: Dalia Cerdas
P:\Lonesome Dove\Unit 3\Overall Util Plan.dwg

PLAT NO. 22-11800313

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.

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.
2. 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 PROJECT.
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.
C. SEWER STAKING AT 100-FT INTERVALS.
D. STAKING FOR WATER SERVICES.
E. STAKING FOR DRAINAGE CHANNELS.
F. 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

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.

SCALE: 1"=50'

0 50 100

LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
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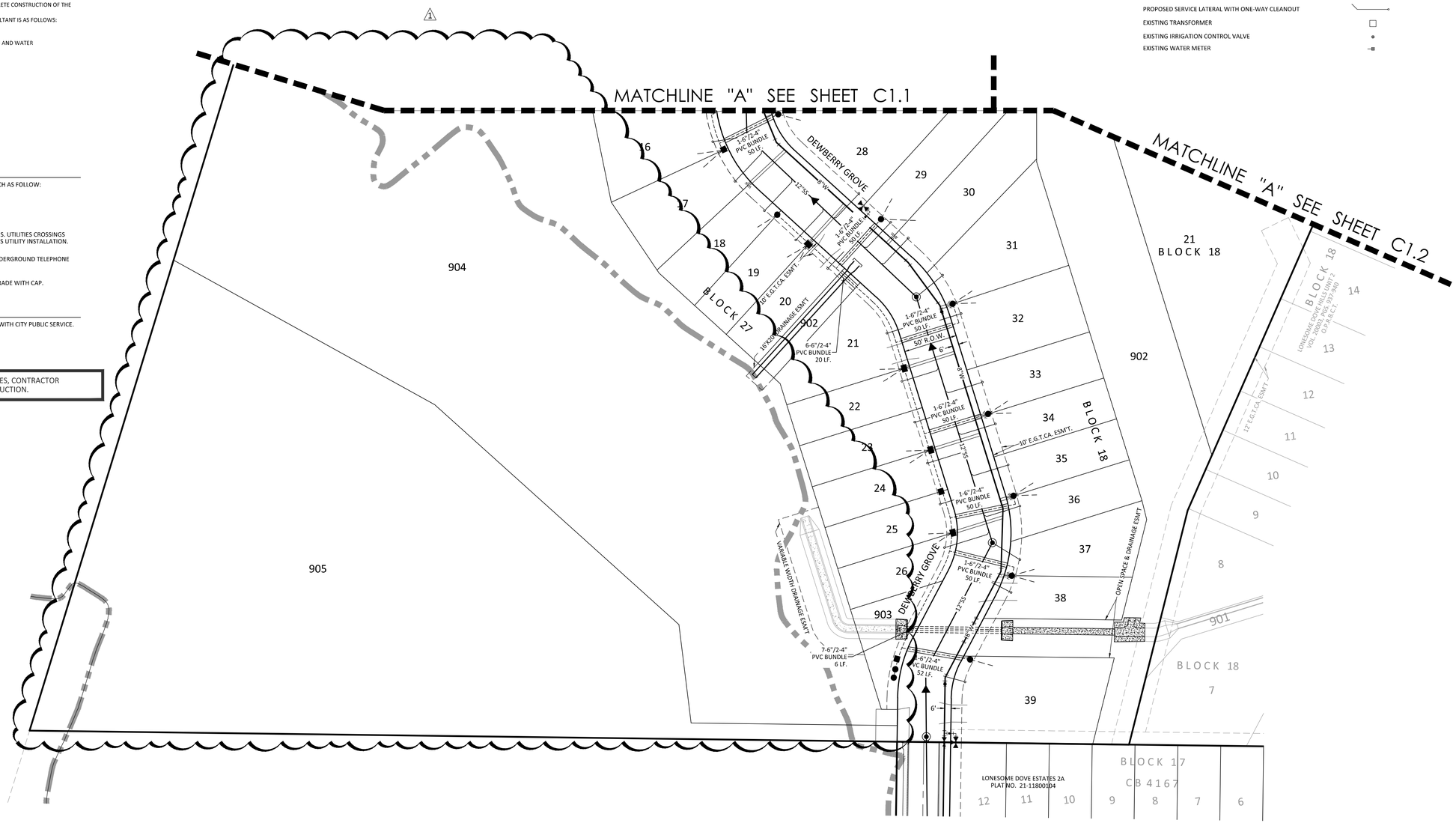
EXISTING TRANSFORMER	
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	



REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS						

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

OVERALL UTILITY IMPROVEMENTS PLAN

SHEET

C1.3

SUBMITTAL SET

Plot Date: April 9, 2025 User ID: Dorian Gordon
P:\Lonesome Dove\Unit 3\Drawings\Civil\C1.3 - C1.5 Utility Overall.dwg

PLAT NO. 22-11800313

CONSTRUCTION PLANS FOR

LONESOME DOVE HILLS, UNIT 3

SANITARY SEWER IMPROVEMENTS

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
SAN ANTONIO LD, LLC
4058 N COLLEGE ST SUITE 300, BOX 9
FAYETTEVILLE, AR 72703
(479) 455-9090

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
JANUARY 2022

General Section

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
   A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
   B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
   C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
   D. Current City of San Antonio "Standard Specifications for Public Works Construction".
   E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
   - SAWS Utility Locates: http://www.saws.org/Service/Locates
   - COSA Drainage (210) 207-0724 or (210) 207-6026
   - COSA Traffic Signal Operations (210) 206-8480
   - COSA Traffic Signal Damages (210) 207-3951
   - Texas State Wide One Call Locator 1-800-545-6005 or 811
7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org.
    Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org.
    Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Sewer Notes

1. The Contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
   A. Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and an estimated volume or flow.
   B. Attempt to eliminate the source of the SSO.
   C. Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
   D. Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
   E. Clean the affected sewer mains and remove any debris.
   F. Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.

Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies.

No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.

2. If bypass pumping is required, the Contractor shall perform such work in accordance with SAWS Standard Specification for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".
3. Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
4. Sewer pipe where water line crosses shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20' joint of 160 psi pressure rated PVC at the proposed water crossing.
5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (NSPI)
6. Spills, Overflows, or Discharges of Wastewater: All spills, overflows, or discharges of wastewater, recycled water, petroleum products, or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow, or discharge regardless of size.

ADDITIONAL SEWER NOTES

1. 98% COMPACTION NOTE:
   THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR/TEST ADMINISTRATOR, PER EACH 12--INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

NOTES:

1. SANITARY SEWER LATERALS TO BE LOCATED AS SHOWN ON THE SANITARY SEWER PLANS.
2. PAY CUTS FOR SANITARY SEWERS LOCATED IN STREETS ARE ESTIMATED TO THE FINISHED SUBGRADE ELEVATION. PAY CUTS ARE TO EXISTING GROUND IN UNPAVED AREAS.
3. EXTEND ALL SANITARY SEWER LATERALS TO THE PROPERTY LINE OR TO THE EASEMENT LINE AS INDICATED. ALL LATERALS ARE 35' LONG UNLESS OTHERWISE NOTED.
4. SANITARY SEWER LINES AND LATERALS WILL BE PVC SDR 26 ASTM D 3034 UNLESS OTHERWISE NOTED ON PLAN AND PROFILE SHEETS.
5. SDR FITTINGS WILL MATCH SDR SEWER MAIN, NO SEPARATE PAY ITEM.
6. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPGRADIENT SIDE OF THE SEWER TRENCH THUS ALLOWING THE TRENCH TO INTERCEPT ANY SILT CONTAMINATED RUNOFF.
7. QUANTITIES ARE BASED ON CURRENT SAWS SPECIFICATIONS.
8. ALL MANHOLES TO HAVE WATERTIGHT RING AND COVERS.
9. ALL MANHOLES TO BE CONCRETE RING ENCASED.
10. MANHOLES TO BE VENTED AS SHOWN ON THE SANITARY SEWER PLANS.
11. AN "*" DENOTES AN EXISTING TEE.
12. ALL SANITARY SEWER LATERALS SHALL HAVE A MIN. 2.0% SLOPE TO THE PROPERTY LINE.
13. MINIMUM COVER FROM TOP OF SANITARY SEWER LATERALS TO TOP OF CURB WILL BE:
    A. IF LATERALS DO NOT CROSS WATER MAINS, 5' COVER
    B. IF LATERALS CROSS WATER MAIN,

WATER MAIN	COVER
6"	5.5'
8"	5.7'
12"	6.0'
16"	7.4'

14. ALL MANHOLE OPENINGS SHALL BE 30".

SAN ANTONIO WATER SYSTEM
CRITERIA FOR SEWER MAIN CONSTRUCTION
IN THE VICINITY OF WATER MAINS

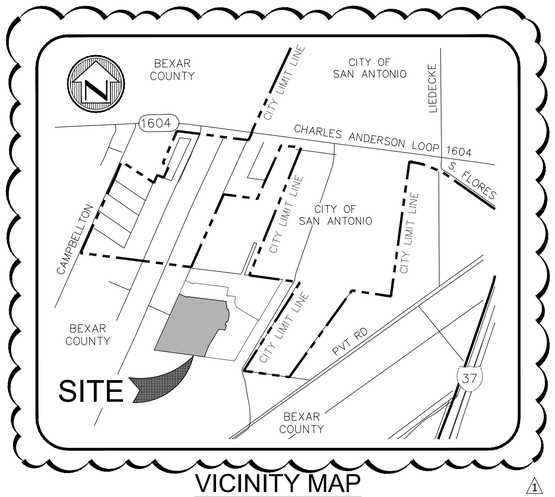
I. WHERE A SEWER MAIN CROSSES OVER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE (9) FEET, ALL PORTIONS OF THE SEWER MAIN WITHIN NINE FEET (9) OF THE WATER LINE SHALL BE CONSTRUCTED USING 150 PSI PRESSURE RATED DUCTILE IRON, CAST IRON OR PVC PIPE AND JOINED WITH EQUALLY PRESSURE RATED PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 PSI PRESSURE RATED PIPE AT LEAST EIGHTEEN (18) FEET IN LENGTH MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM)

II. WHERE A SEMI-RIGID OR RIGID SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET BUT GREATER THAN TWO FEET, THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF THE SEWER WITHIN NINE FEET OF THE WATER MAIN.

III. WHERE A SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN TWO FEET, THE SEWER MAIN SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI WITHIN NINE FEET OF THE WATER MAIN, SHALL HAVE A SEGMENT OF SEWER PIPE CENTERED ON THE WATER MAIN, SHALL BE PLACED NO CLOSER THAN SIX INCHES BETWEEN OUTER DIAMETERS, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 PSI PRESSURE RATED PIPE OF A LENGTH GREATER THAN EIGHTEEN (18) FEET MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM)

IV. WHERE A SEWER MAIN PARALLELS A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET, THE SEWER MAIN SHALL BE BELOW THE WATER MAIN, SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI FOR BOTH PIPE AND JOINTS FOR A DISTANCE OF NINE FEET BEYOND THE POINT OF CONFLICT, SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE BETWEEN OUTER DIAMETERS OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL.

SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE FEET TO WATER MAINS.



VICINITY MAP
N.T.S.

SUBMITTAL DATE:
OCTOBER 2022

REVISION DATE:
FEBRUARY 2024

1 1/27/25 UPDATED LEGAL DESCRIPTION & SITE BOUNDARY

LEGAL DESCRIPTION:

BEING A TOTAL OF 28.863 ACRES OF LAND BEING PREVIOUSLY PLATTED AS A PORTION OF LOT 6, AND A PORTION OF LOT 7, BLOCK 1, COUNTY BLOCK 4167, BEXAR COUNTY, TEXAS, AS SHOWN ON PLAT OF IVY SUBDIVISION, AS RECORDED IN VOLUME 9524, PAGES 14-22; AS CONVEYED TO SAN ANTONIO LD, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20220011322; AS CONVEYED TO THOMAS CRAIG GLENDENNING, A SINGLE MAN, BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20220251559; AS CONVEYED TO TOWNHOUSES OF LONESOME DOVE, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20240045796; AND AS CONVEYED TO LONG FAMILY LIVING TRUST BY TRUSTEE'S DEED, AS RECORDED IN DOCUMENT NUMBER 20240101114, ALL OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

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.

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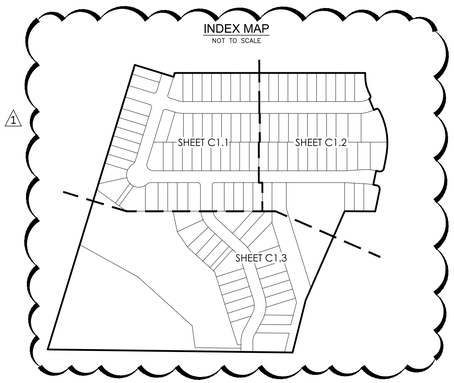
MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

INDEX MAP
NOT TO SCALE



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SHEET No.	TITLE
C2.0	SEWER COVER
C2.1	SEWER OVERALL
C2.2	SEWER OVERALL
C2.3	SEWER OVERALL
C2.4	SEWER LINE A
C2.5	SEWER LINE A
C2.6	SEWER LNE F
C2.7	SEWERLINE K
C2.8	SANITARY SEWER DETAILS

ESTIMATED SEWER QUANTITIES

ITEM	DESCRIPTION	UNIT	EST/QTY
1	TIE INTO EXISTING SANITARY SEWER MAIN	E.A.	4
2	TRENCH EXCAVATION SAFETY PROTECTION	L.F.	2,560
3	8" SANITARY SEWER PIPE, SDR-26 (6'-10')	L.F.	1,213
4	12" SANITARY SEWER PIPE, SDR-26 (6'-10')	L.F.	634
5	12" SANITARY SEWER PIPE, SDR-26 (10'-14')	L.F.	713
6	STANDARD SANITARY SEWER MANHOLE	EA.	9
7	EXTRA DEPTH MANHOLE	V.F.	28.6
8	VERTICAL STACK	V.F.	98.0
9	6" SANITARY SEWER LATERALS, SDR-26	L.F.	4,151
10	ONE-WAY CLEANOUTS	EA.	114
11	SEWER MAIN TELEVISION INSPECTION	L.F.	2,560

CAUTION:
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 PLANS OR NOT.

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.

SEWER: LOWER COLLECTION & TREATMENT AREA
PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

Developer's Name	SAN ANTONIO LD, LLC		
Developer's Address	4058 N COLLEGE ST SUITE 300, BOX 9		
City	FAYETTEVILLE	State AR	Zip 72703
Phone #	(479) 455-9090	Fax #	
SAWS Block Map #	182-502	Total EDU's	Total Acreage 28.863
Total Linear Footage of Pipe	8" - 1,213 L.F. ; 12" 1,347 L.F.		Plat No. 22-11800313
Number of Lots	114	SAWS Job No.	23-1584

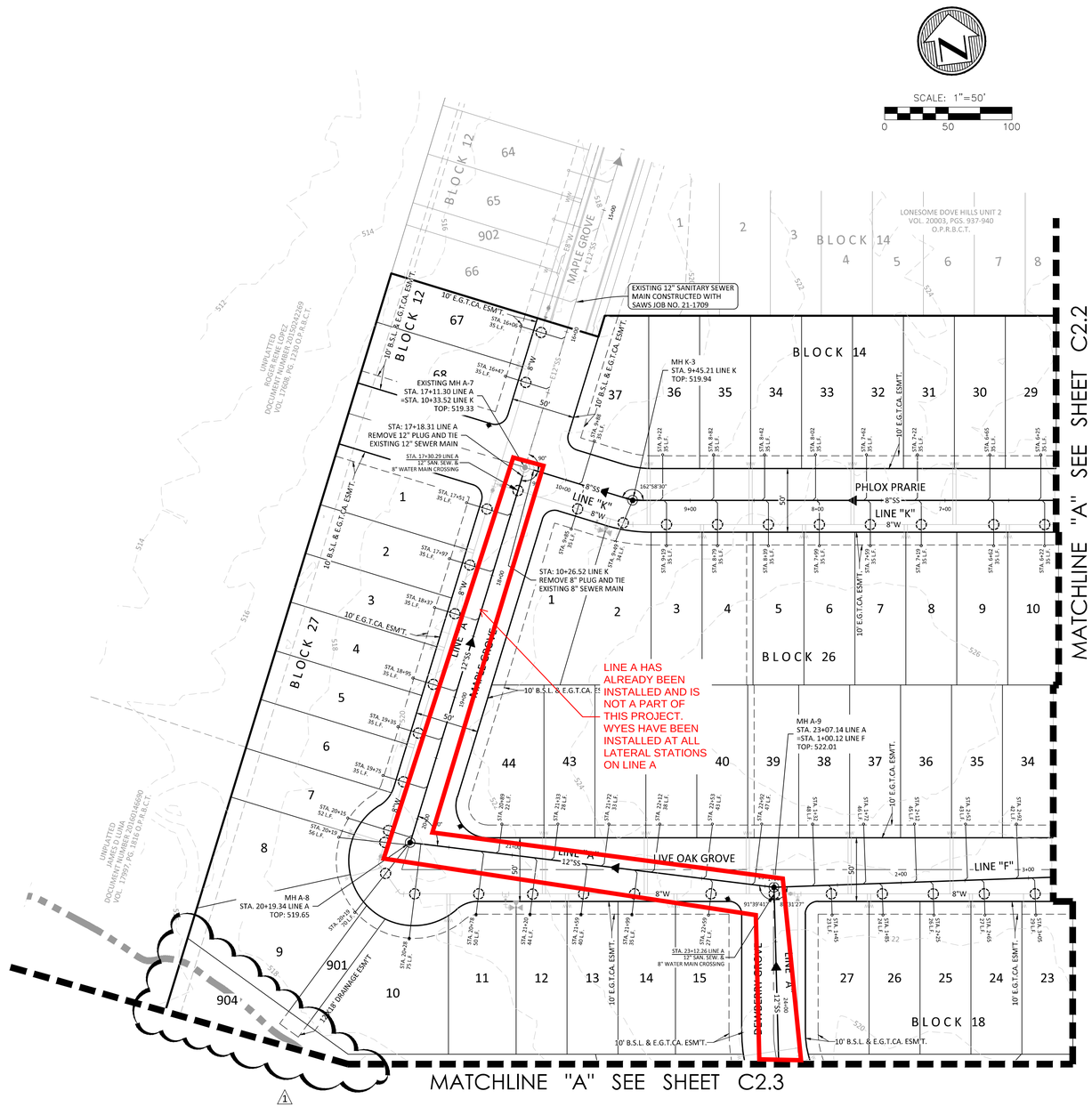
BEXAR COUNTY

SUBMITTAL SET

TEXAS C2.0

R:\Lonesome Dove\Unit 3\Drawings\22045_U3_C2.0-Sewer-Cover.dwg
Plot Date: January 28, 2025 User ID: Dallas Gardea

PLAT NO. 22-11800313



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
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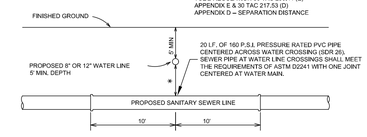

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

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Number of Lots	114	SAWS Job No.	23-1584

SUBMITTAL SET

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NO.	DATE	DESCRIPTION	BY:
4	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

REVISIONS

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER
1/27/25

LONESOME DOVE HILLS UNIT 3

SANITARY SEWER OVERALL PLAN

SHEET
C2.1

Plot Date: January 28, 2025 User ID: Debbie Gordon
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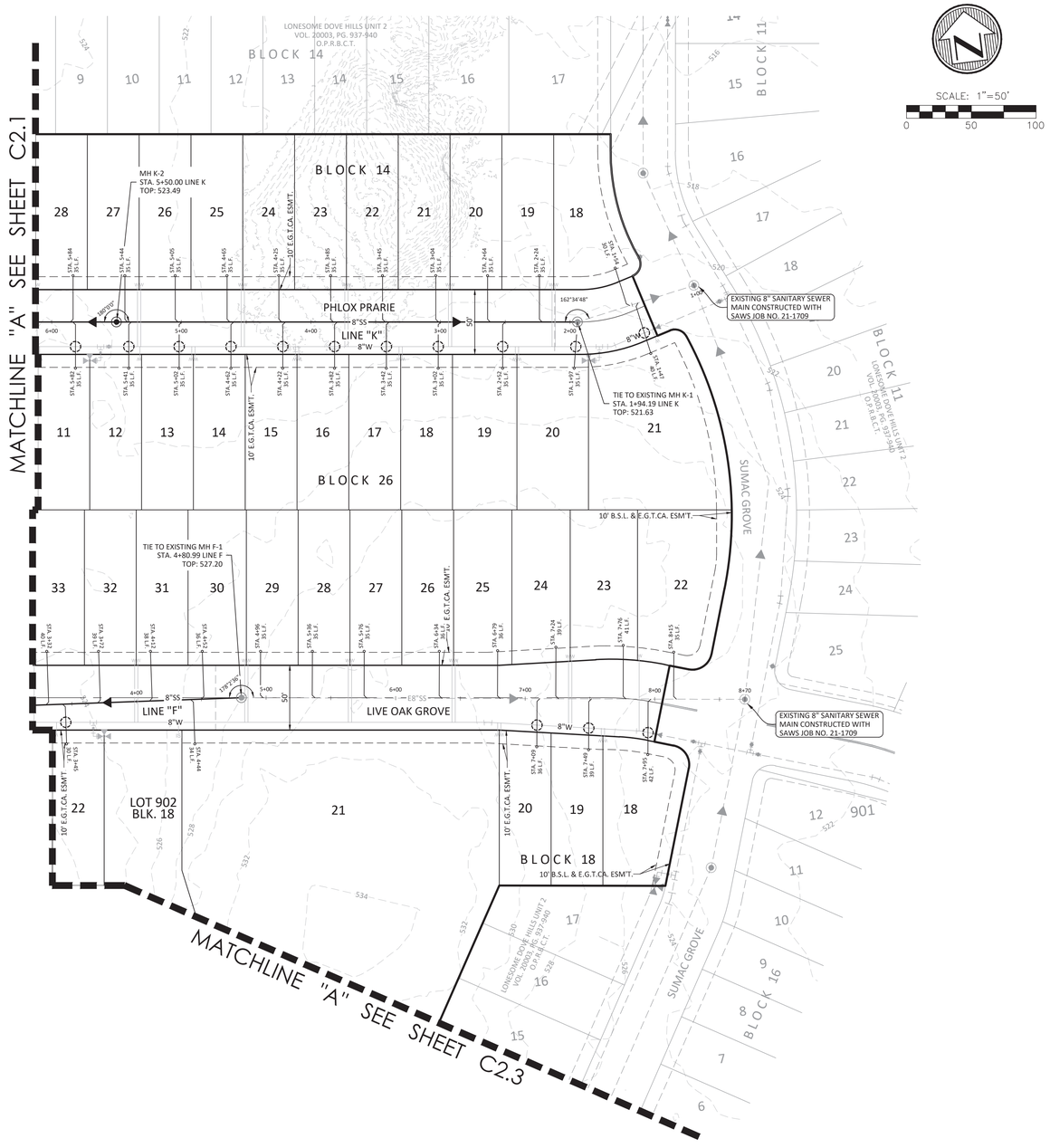
PLAT NO. 22-11800313



LEGEND

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PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
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EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
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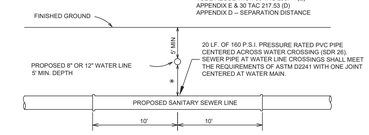

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

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PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

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SUBMITTAL SET

NO.	DATE	REVISIONS DESCRIPTION	BY:

PROJ. # | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA JR. 2/14/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

SANITARY SEWER OVERALL PLAN

SHEET
C2.2

Plot Date: February 15, 2024 User ID: Donald McCroskey
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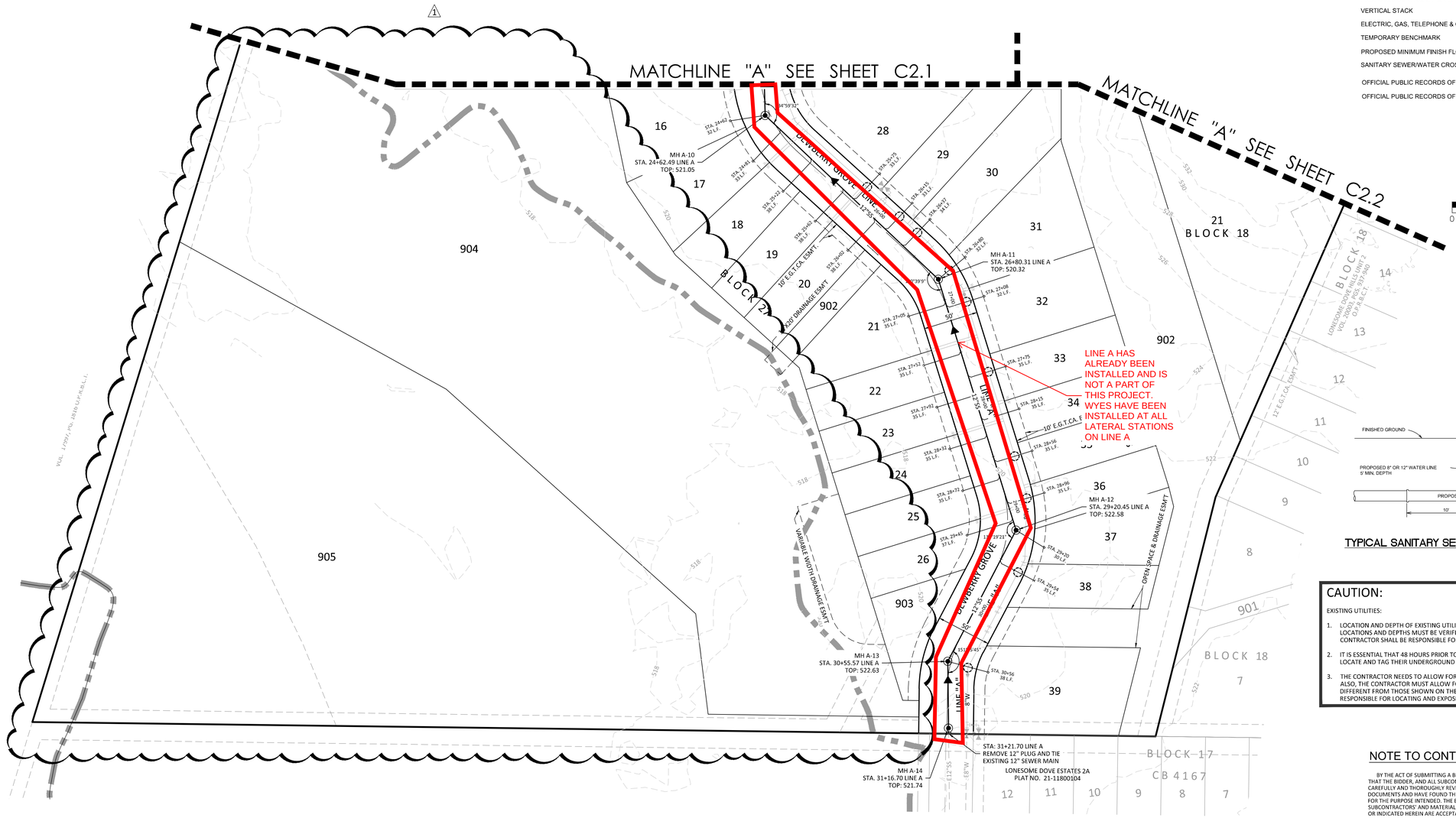
PLAT NO. 22-11800313



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
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PROPOSED GATE VALVE	
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PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

SCALE: 1"=50'
0 50 100

* SEPARATION DISTANCE TO COMPLY WITH TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D – SEPARATION DISTANCE

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

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NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

REVISIONS

PROJ. # | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

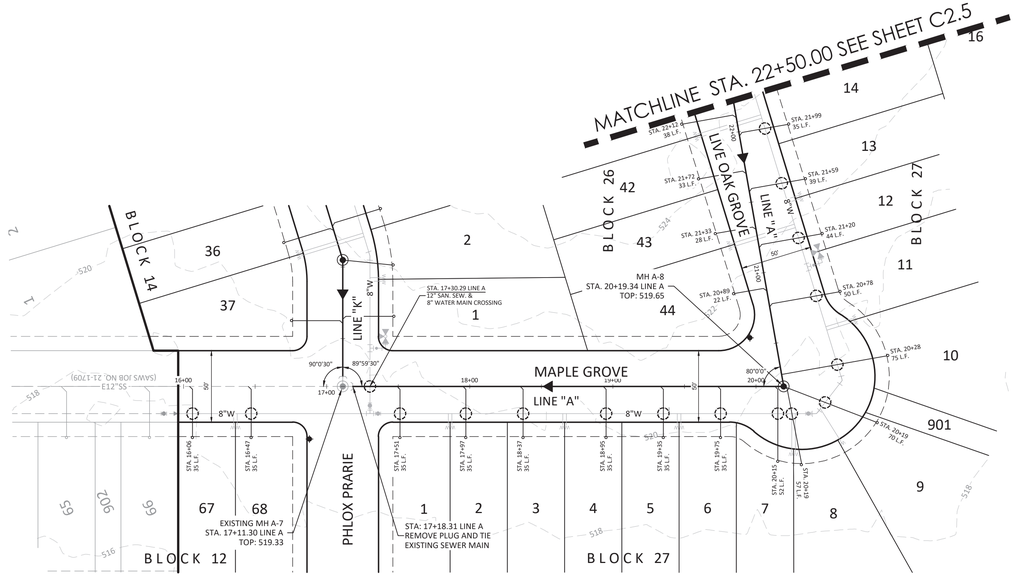
LONESOME DOVE HILLS UNIT 3

SANITARY SEWER OVERALL PLAN

SHEET
C2.3

Plot Date: January 28, 2025 User ID: Dakota Gordon
P:\Customers & Civil\SAN ANTONIO\LD\23-1237---LD\3-Sewer Overall.dwg

PLAT NO. 22-11800313



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OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
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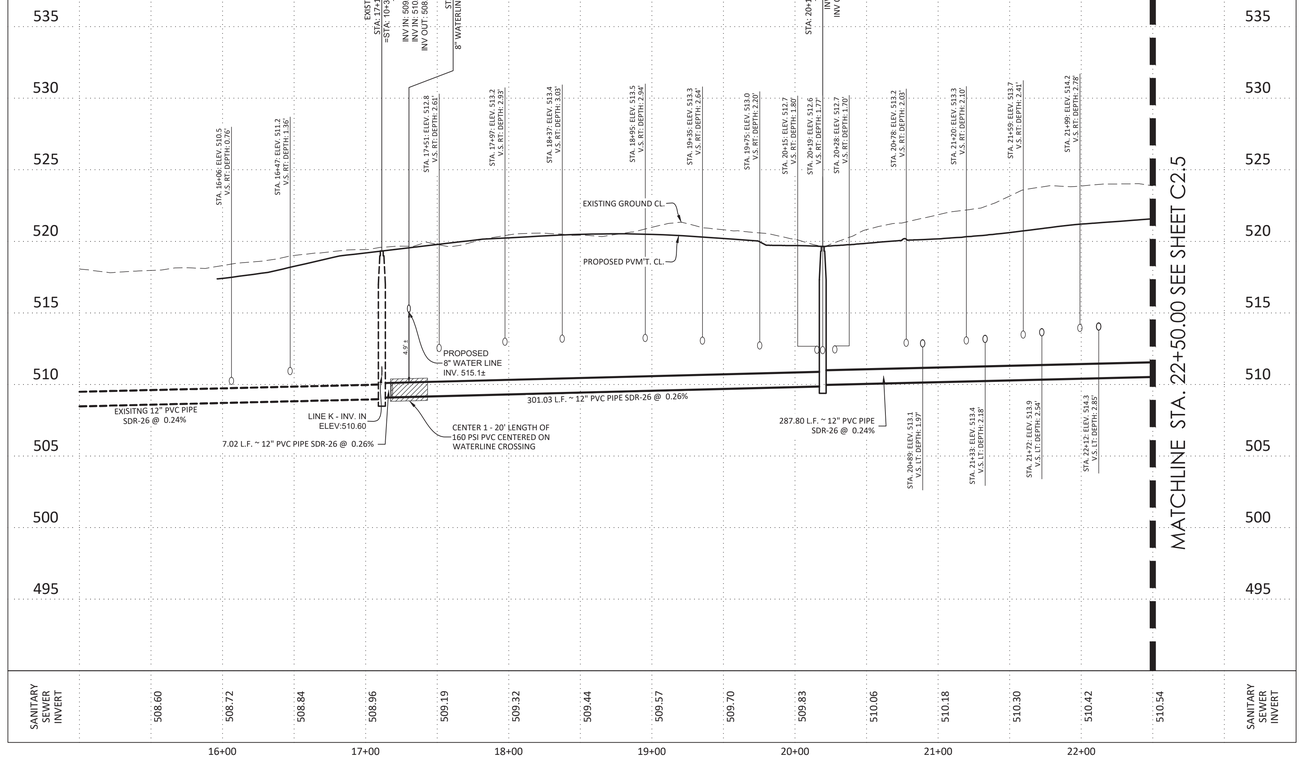
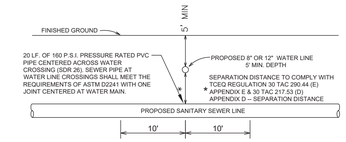
LINE A

STA. 17+11.30 TO STA. 22+50.00

LINE A HAS ALREADY BEEN INSTALLED AND IS NOT A PART OF THIS PROJECT. WYES HAVE BEEN INSTALLED AT ALL LATERAL STATIONS ON LINE A

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'





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LONESOME DOVE HILLS UNIT 3

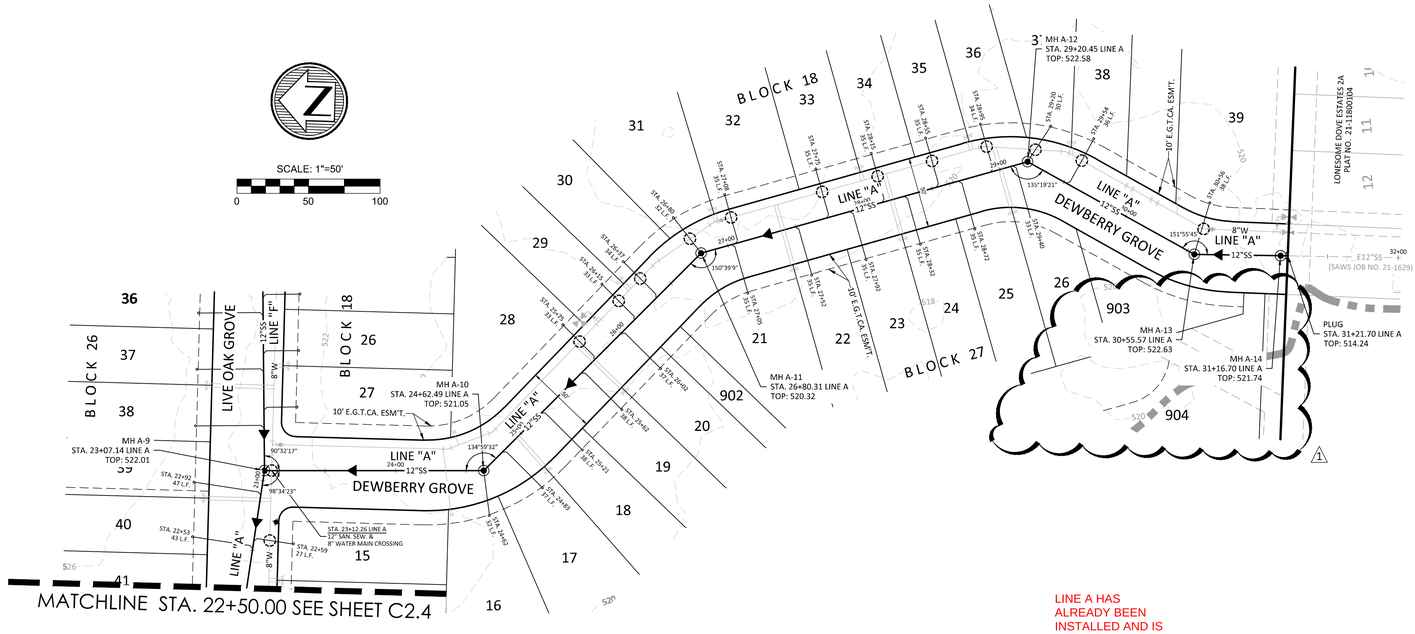
SANITARY SEWER PLAN & PROFILE
LINE A

STA. 17+11.30 TO STA. 22+50.00

SHEET
C2.4

Plot Date: February 15, 2024 User: D. David McCroskey
G:\Lennar\Lone Oak 1\Drawings\10563_SS_C24.dgn

PLAT NO. 22-11800313

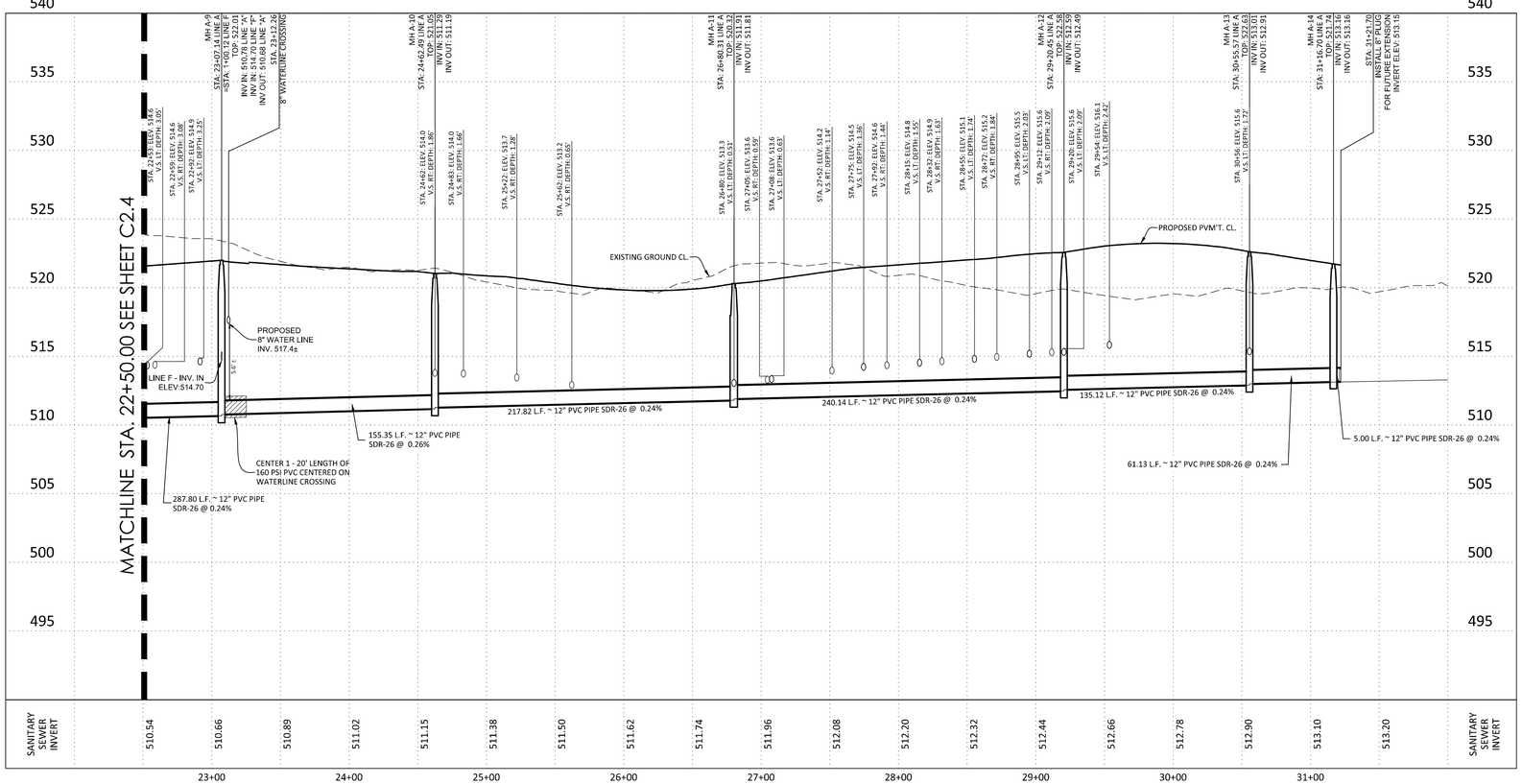


LINE A

STA. 22+50.00 TO STA. 31+61.86

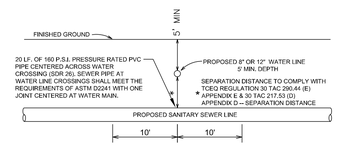
LINE A HAS ALREADY BEEN INSTALLED AND IS NOT A PART OF THIS PROJECT. WYES HAVE BEEN INSTALLED AT ALL LATERAL STATIONS ON LINE A

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

N.T.S.

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.
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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.

SEWER: LOWER COLLECTION & TREATMENT AREA
PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

Developer's Name	SAN ANTONIO LD, LLC		
Developer's Address	4058 N COLLEGE ST SUITE 300, BOX 9		
City	FAYETTEVILLE	State AR	Zip 72703
Phone #	(479) 455-9090	Fax #	
SAWS Block Map #	182-502	Total EDU's ----	Total Acreage 28.863
Total Linear Footage of Pipe	8" - 1,213 L.F. ; 12" 1,347 L.F.		Plat No. 22-11800313
Number of Lots	114	SAWS Job No.	23-1584

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

REVISIONS

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
1/27/25

LONESOME DOVE HILLS UNIT 3

SANITARY SEWER PLAN & PROFILE LINE A

STA. 17+11.30 TO STA. 22+50.00

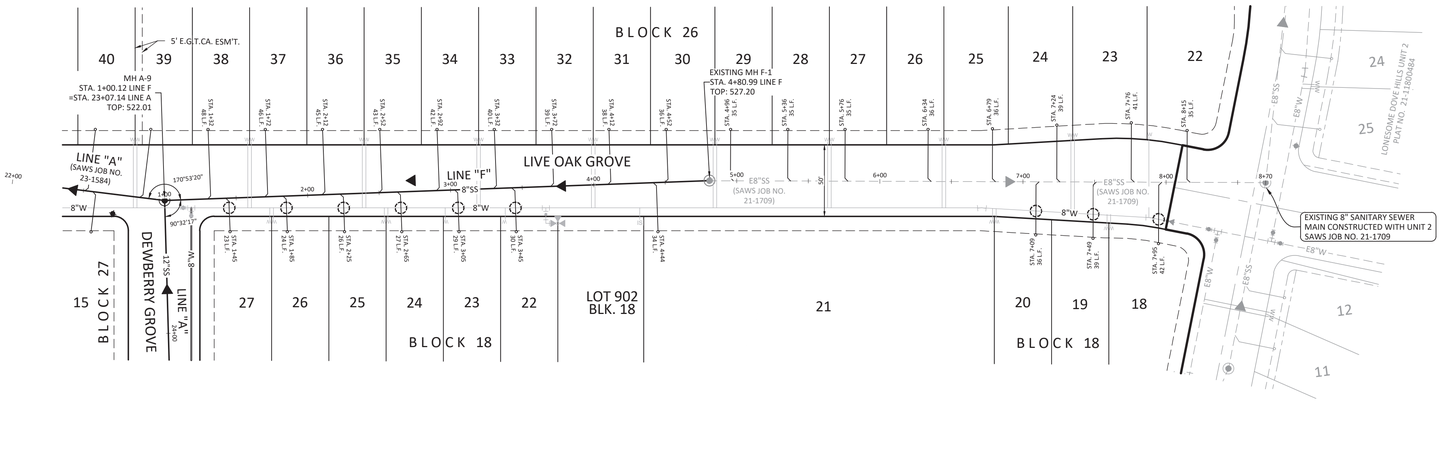
SHEET
C2.5

Plot Date: January 28, 2025 User: D. Dalia Gerdes
S:\Lennar Texas\Lone Tr\Survey\100182_C2.5 L-A.dwg

PLAT NO. 22-11800313

LEGEND

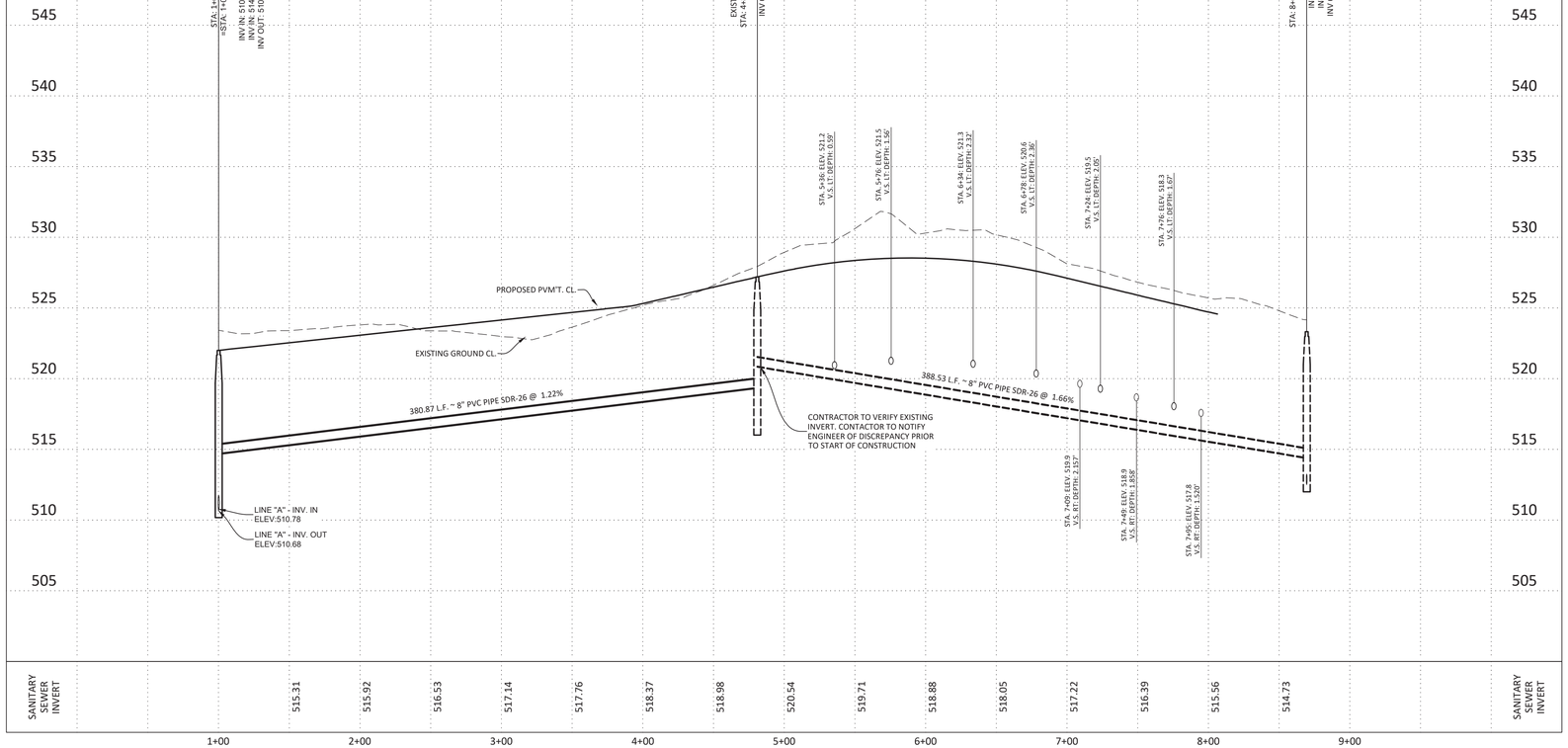
EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

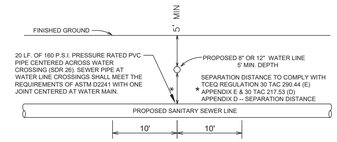


LINE F

STA. 1+00.00 TO STA. 8+69.53

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'





TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

N.T.S.

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SEWER: LOWER COLLECTION & TREATMENT AREA
PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

Developer's Name	SAN ANTONIO LD, LLC				
Developer's Address	4058 N COLLEGE ST SUITE 300, BOX 9				
City	FAYETTEVILLE	State	AR	Zip	72703
Phone #	(479) 455-9090	Fax #			
SAWS Block Map #	182-502	Total EDU's	114	Total Acreage	20.767
Total Linear Footage of Pipe	8" - 1,213 L.F. ; 12" 1,347 L.F.	Plat No.	22-11800313		
Number of Lots	114	SAWS Job No.	23-1584		

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:

REVISIONS

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

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA 2/14/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

SANITARY SEWER PLAN & PROFILE
LINE F
STA. 1+00.00 TO STA. 8+69.53

SHEET
C2.6

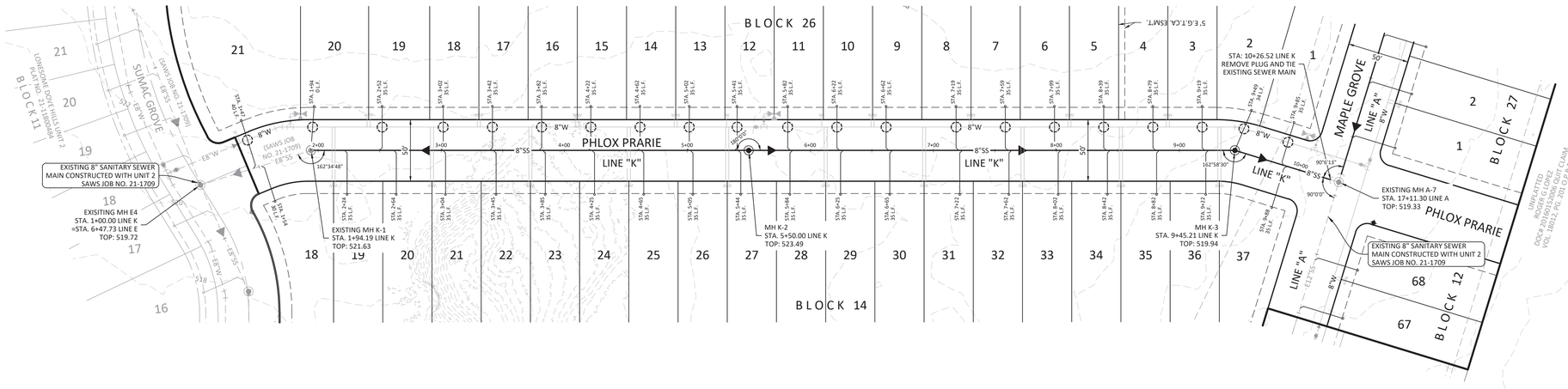
Plot Date: February 15, 2024 User ID: Donald McCroskey
R:\Lonesome Dove\Unit 3\Sanitary\104SLS3_C2.6_Sewer Line F.dwg

PLAT NO. 22-11800313

LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

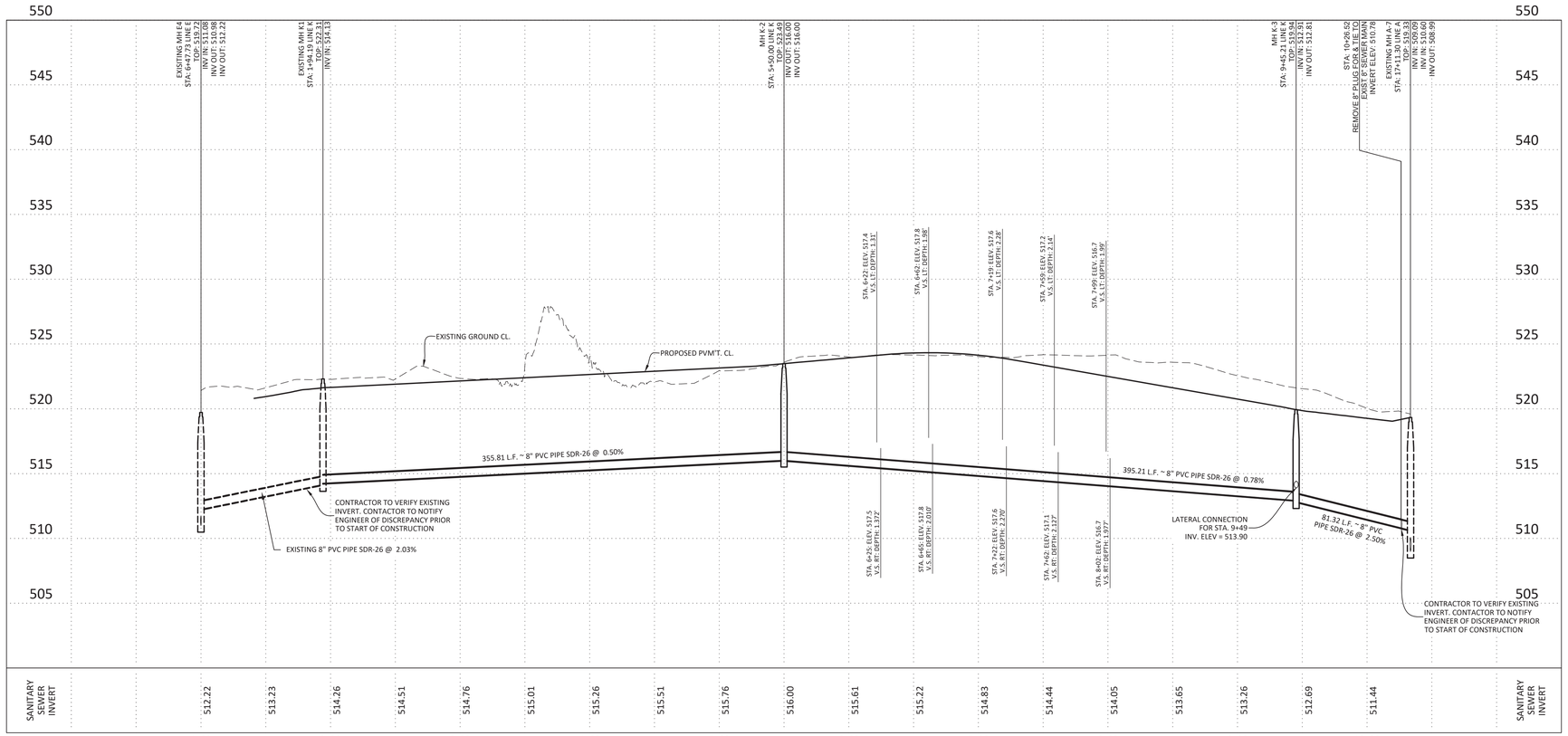
SCALE: 1"=50'
0 50 100

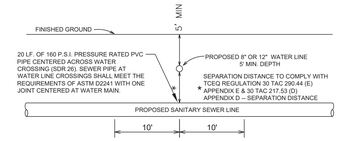


LINE K

STA. 1+00.00 TO STA. 10+26.52

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'





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

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SEWER: LOWER COLLECTION & TREATMENT AREA
PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

Developer's Name	SAN ANTONIO LD, LLC		
Developer's Address	4058 N COLLEGE ST SUITE 300, BOX 9		
City	FAYETTEVILLE	State AR	Zip 72703
Phone #	(479) 455-9090	Fax #	
SAWS Block Map #	182-502	Total EDU's 114	Total Acreage 20.767
Total Linear Footage of Pipe	8" - 1,213 L.F. ; 12" 1,347 L.F.		Plat No. 22-11800313
Number of Lots	114	SAWS Job No.	23-1584

SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

LONESOME DOVE HILLS UNIT 3

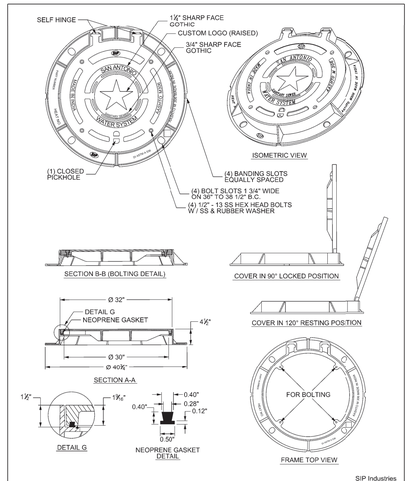
SANITARY SEWER PLAN & PROFILE
LINE K

STA. 1+00.00 TO STA. 10+26.52

SHEET
C2.7

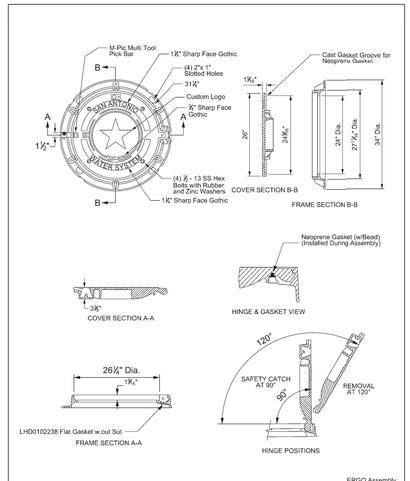
Plot Date: February 19, 2024 User ID: Donald McCroskey
G:\Lonesome Dove Unit 3\Sanitary\2024\C2.7 - Sewer Line K.dwg

PLAT NO. 22-11800313



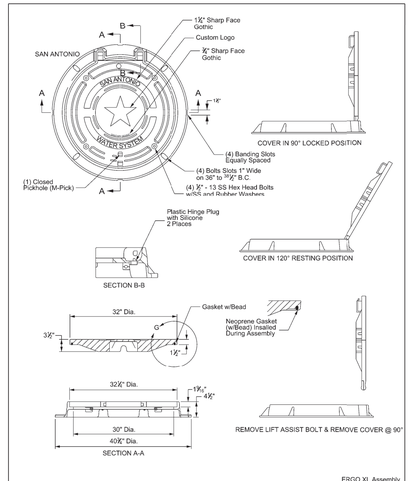
SIP Industries

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	30" MANHOLE RING AND COVER DETAIL		AUG 2019
SAN ANTONIO, TEXAS		DD 852-07	SHEET 1 OF 5



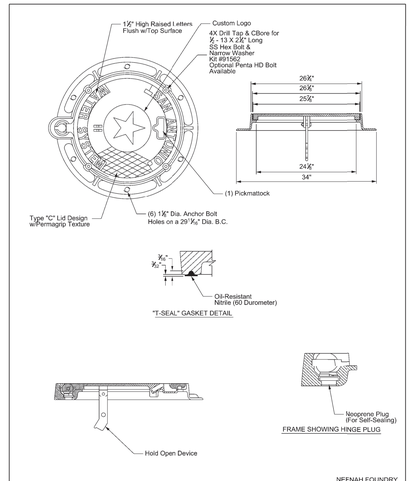
ERGO Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MANHOLE RING AND COVER DETAIL		MARCH 2019
SAN ANTONIO, TEXAS		DD 852-07	SHEET 2 OF 5



ERGO XL Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MANHOLE RING AND COVER DETAIL		MARCH 2019
SAN ANTONIO, TEXAS		DD 852-07	SHEET 3 OF 5



NEENAH FOUNDRY

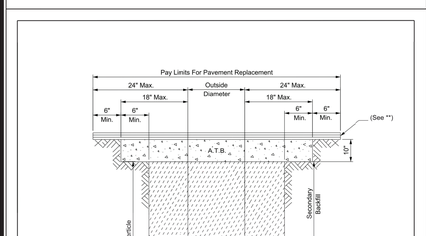
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MANHOLE RING AND COVER DETAIL		MARCH 2008
SAN ANTONIO, TEXAS		DD 852-07	SHEET 4 OF 5

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.

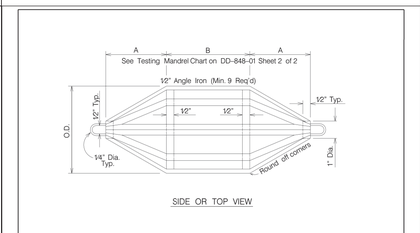
SEWER: LOWER COLLECTION & TREATMENT AREA
PALO BLANCO CREEK - MEDINA RIVER WATERSHED - DIOS RIOS W.R.C.

Developer's Name	SAN ANTONIO LD, LLC				
Developer's Address	4058 N COLLEGE ST SUITE 300, BOX 9				
City	FAYETTEVILLE	State	AR	Zip	72703
Phone #	(479) 455-9090			Fax #	
SAWS Block Map #	182-502	Total EDU's	114	Total Acreage	20.767
Total Linear Footage of Pipe	8" - 1,213 L.F. ; 12" 1,347 L.F.			Plat No.	22-11800313
Number of Lots	114	SAWS Job No.		23-1584	

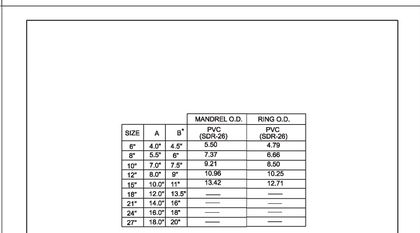


NEENAH FOUNDRY

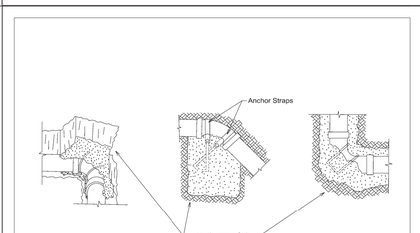
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MANHOLE RING AND COVER DETAIL	MAY 2008	AUG 2019
SAN ANTONIO, TEXAS		DD 852-07	SHEET 5 OF 5



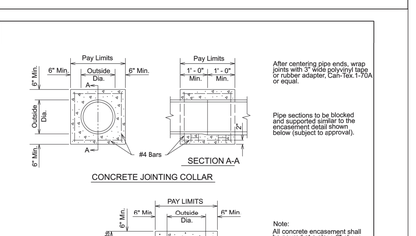
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	STANDARD PRECAST MANHOLE	MAY 2013	AUG 2019
SAN ANTONIO, TEXAS		DD-852-01	SHEET 1 OF 2



PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	MANHOLE RING ENCASEMENT DETAIL	AUGUST 2009	AUG 2019
SAN ANTONIO, TEXAS		DD 852-03	SHEET 1 OF 2

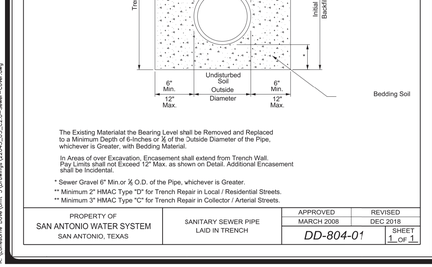


PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	PRECAST MANHOLE BASE 45° ANGLE	March 2008	AUG 2019
SAN ANTONIO, TEXAS		DD-852-06	SHEET 1 OF 1

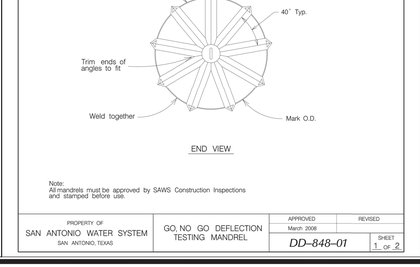


Note: All details apply to both water or sewer pipe.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	TYPICAL CONCRETE DETAILS	MARCH 2008	APRIL 2014
SAN ANTONIO, TEXAS		DD-858-02	SHEET 1 OF 1



PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SANITARY SEWER PIPE LAID IN TRENCH	MARCH 2008	DEC 2018
SAN ANTONIO, TEXAS		DD-804-01	SHEET 1 OF 1



Note:
All mandrels must be approved by SAWS Construction Inspections and stamped before use.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	GO, NO GO DEFLECTION TESTING MANDREL	March 2008	
SAN ANTONIO, TEXAS		DD-848-01	SHEET 1 OF 2

SIZE	A	B*	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	——	——
21"	14.0"	16"	——	——
24"	16.0"	18"	——	——
27"	18.0"	20"	——	——

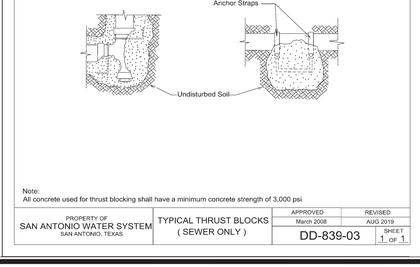
* Minimum Length

CHART

Notes:
PVC pipes and fittings 6" to 15" in diameter shall conform to ASTM D-3034-08.
PVC pipes and fittings 18" to 27" in diameter shall conform to ASTM F-679-08.

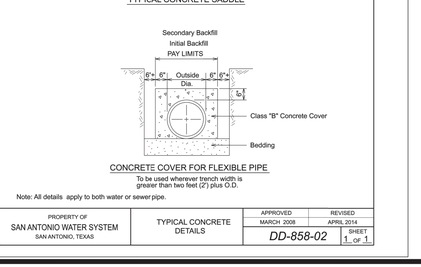
This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 217.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	GO, NO GO DEFLECTION TESTING MANDREL CHART	MARCH 2008	APRIL 2014
SAN ANTONIO, TEXAS		DD-848-01	SHEET 2 OF 2



Note:
All concrete used for thrust blocking shall have a minimum concrete strength of 3,000 psi

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	TYPICAL THRUST BLOCKS (SEWER ONLY)	March 2008	AUG 2019
SAN ANTONIO, TEXAS		DD-839-03	SHEET 1 OF 1



Note: All details apply to both water or sewer pipe.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	TYPICAL CONCRETE DETAILS	MARCH 2008	APRIL 2014
SAN ANTONIO, TEXAS		DD-858-02	SHEET 1 OF 1

NO.	DATE	REVISIONS DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS

LONESOME DOVE HILLS UNIT 3

SANITARY SEWER DETAILS

SUBMITTAL SET

SHEET C2.8

Plot Date: February 19, 2024 User ID: Donald McCroskey
N:\Licensed Sued Unit 3\Drawings\ACAD\LS3-C2.8-Sewer Details.dwg

PLAT NO. 22-11800313

CONSTRUCTION PLANS FOR

LONESOME DOVE HILLS, UNIT 3

WATER IMPROVEMENTS

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
SAN ANTONIO LD, LLC
4058 N COLLEGE ST SUITE 300, BOX 9
FAYETTEVILLE, AR 72703
(479) 455-9090

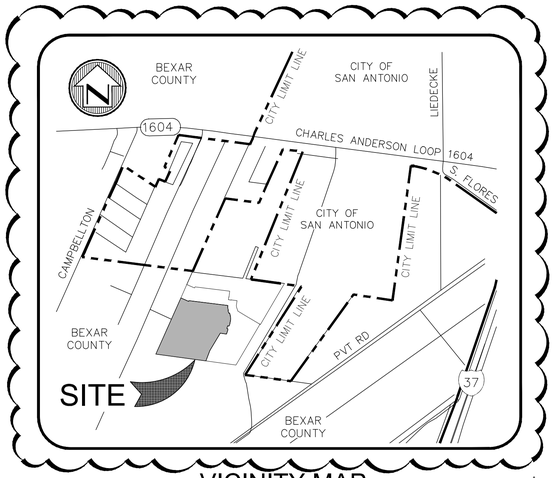
SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT
JANUARY 2022

General Section

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
   A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
   B. Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage".
   C. Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
   D. Current City of San Antonio "Standard Specifications for Public Works Construction".
   E. Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
2. The contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractors and/or the developer.
3. The Contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
4. The Contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
5. Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
6. The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
   - SAWS Utility Locates: http://www.saws.org/Service/Locates
   - COSA Drainage (210) 207-0724 or (210) 207-6026
   - COSA Traffic Signal Operations (210) 206-8480
   - COSA Traffic Signal Damages (210) 207-3951
   - Texas State Wide One Call Locator 1-800-545-6005 or 811
7. The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
8. All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
9. The Contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
10. The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
11. Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org.
    Weekend Work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org.
    Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
12. Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and for paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
13. A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

Water Section

1. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division at least one week in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
   - For water mains 12" or higher: SAWS Emergency Operations Center (210) 233-2014
2. Asbestos Cement (AC) pipe, also known as transite pipe which is known to contain asbestos- containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".
3. Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSP)
4. Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves, and bends, in accordance with the Standard Drawings DD-839 Series and Item No. 839, in the SAWS Standard Specifications for Construction.
5. All valves shall read "open right".
6. PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of 645 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 645 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if
   *PRV is/are required for such lot(s), only single service connections shall be allowed.
   *Note: A pressure regulator is also known as a pressure reducing valve (PRV).
7. Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item No. 847.3): Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.
8. Backflow Prevention Devices:
   - All irrigation services within residential areas are required to have backflow prevention devices.
   - All commercial backflow prevention devices must be approved by SAWS prior to installation.
9. Final connection to the existing water main shall not be made until the water main has been pressure tested, chlorinated, and SAWS has released the main for tie-in and use.
10. Division Valves: Division Valves shown on plans or not shown on plans but found in the field shall only be operated by SAWS Distribution and Collection staff and only with prior written approval of the SAWS Director of Production and Operations and proper coordination with all SAWS departments. Contractor shall provide written notification to the inspector a minimum of two weeks in advance to start the coordination process and will be informed by the Inspector when the division valve will be operated by the SAWS Distribution and Collection staff. The Division Valve can only be operated by SAWS Distribution and Collection staff member not the inspector or the contractor. Operation of a Division Valve without the express prior written approval of the SAWS Distribution and Collection staff will constitute a material breach of any written SAWS contract or permit in addition to subjecting the Contractor to liability for any and all fines, fees, or other damages, direct or consequential, that may arise from or be caused by the operation of the valve without prior written permission. Please be informed that the approval of the operation or opening or closing of a division valve can take several weeks for approval. Division Valves will also have a valve lid labeled Division Valve and a locking mechanism installed with a key. The lock and key mechanism will be paid for by the contractor but will be installed by SAWS Distribution and Collection staff.



VICINITY MAP
N.T.S.

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.

TRAFFIC CONTROL NOTE:

NECESSARY TRAFFIC CONTROL, FLAGMEN, DETOUR ROUTING AROUND WORK ACTIVITIES AND MAINTENANCE OF DETOUR SIGNS ARE THE CONTRACTOR'S RESPONSIBILITY. UNLESS DIRECTED OTHERWISE BY THE PLANS, IN ALL AREAS WHERE WORK IS ADJACENT TO OR CROSSING ROADWAYS, THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE OPEN TRAFFIC LANE (12 FT.), CONTROLLED WITH FLAGMEN, DURING WORKING HOURS. DURING ALL NON-WORKING HOURS A MINIMUM OF TWO TRAFFIC LANES (24 FT.) SHALL BE OPEN TO TRAFFIC. CONTRACTOR WILL FURNISH AND MAINTAIN ALL REQUIRED TRAFFIC CONTROL DEVICES PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), TO PROPERLY WARN, GUIDE AND CONTROL TRAFFIC AT ALL TIMES DURING CONSTRUCTION.

MISCELLANEOUS GENERAL NOTES

1. MACHINE CHLORINATION BY THE SAN ANTONIO WATER SYSTEM FOR NEW WATER MAINS GREATER THAN 800 FEET. CONTRACTOR SHALL CHLORINATE NEW MAINS WITH HTH FOR NEW WATER MAINS 750 FEET AND LESS.
2. JUMPER CONNECTIONS TO EXISTING WATER SERVICE TO BE PROVIDED AS REQUIRED OR DIRECTED BY THE SAWS INSPECTOR.
3. ALL MAINS ARE ON-SITE.
4. FITTINGS WEIGHT IS BASED ON M.J. DUCTILE IRON FITTINGS (COMPACT).
5. CONTRACTOR TO OBTAIN STREET CUT PERMITS AS NECESSARY FOR WATER MAIN INSTALLATION. REPLACEMENT OF CURB, SIDEWALKS, BASE AND PAVEMENT WILL BE SUBSIDIARY TO THE ITEMS THAT THE STREET CUT WAS NEEDED FOR.

*6. MINIMUM COVER OVER WATER MAIN BASED ON FINISHED GROUND.

WATER LINE DIA.	MIN. DEPTH
8"-12"	4'
≥16"	5'

SUBMITTAL DATE:

October 2022

LEGAL DESCRIPTION:

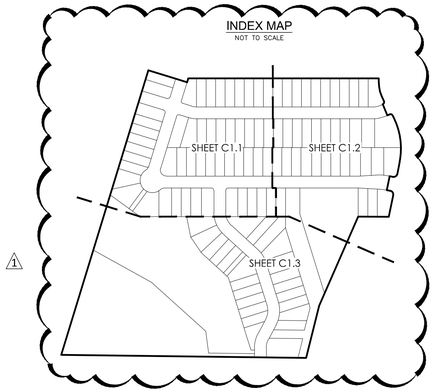
BEING A TOTAL OF 28.863 ACRES OF LAND BEING PREVIOUSLY PLATTED AS A PORTION OF LOT 6, AND A PORTION OF LOT 7, BLOCK 1, COUNTY BLOCK 4167, BEXAR COUNTY, TEXAS, AS SHOWN ON PLAT OF IVY SUBDIVISION, AS RECORDED IN VOLUME 9524, PAGES 14–22; AS CONVEYED TO SAN ANTONIO LD, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20220011322; AS CONVEYED TO THOMAS CRAIG GLENDENNING, A SINGLE MAN, BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20220251559; AS CONVEYED TO TOWNHOUSES OF LONESOME DOVE, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20240045796; AND AS CONVEYED TO LONG FAMILY LIVING TRUST BY TRUSTEE'S DEED, AS RECORDED IN DOCUMENT NUMBER 20240101114, ALL OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

1 1/27/25 UPDATED LEGAL DESCRIPTION & SITE BOUNDARY

TABLE OF CONTENTS

SHEET No.	TITLE
C3.0	WATER COVER
C3.1	WATER OVERALL
C3.2	WATER OVERALL
C3.3	WATER OVERALL
C3.4	WATER DETAILS
C3.5	WATER DETAILS

INDEX MAP
NOT TO SCALE



1

ESTIMATED WATER QUANTITIES

ITEM	DESCRIPTION	UNIT	EST/QTY
1	Trench Excavation Protection	L.F.	**3,204**
2	8" Pipe, C900 DR 18 PVC Class 235 (Incl. Joint Restraints)	L.F.	**3,179**
3	8" Pipe, D.I.	L.F.	**25**
4	24" Steel Casing	L.F.	**10**
5	8" Gate Valve, M.J.	EA.	**5**
6	Standard Fire Hydrant (Complete)	EA.	**7**
7	2" Permanent Blow-off	EA.	**1**
8	2" Temporary Blow-off	EA.	**3**
9	3/4" Single Service with 5/8" Meter: Short	EA.	**55**
10	3/4" Single Service with 5/8" Meter: Long	EA.	**59**
11	3/4" Irrigation Service with 5/8" Meter: Short	EA.	**1**
12	D.I. Fittings	TON	**2.0**
13	Hydrostatic Testing	EA.	**1**
14	Meter Box	EA.	**115**

CAUTION!
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 PLANS OR NOT.

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.

THIS DEVELOPMENT IS IN PRESSURE ZONE 830, ALL PIPE TO BE CLASS 235

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

• 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

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
6/23/25

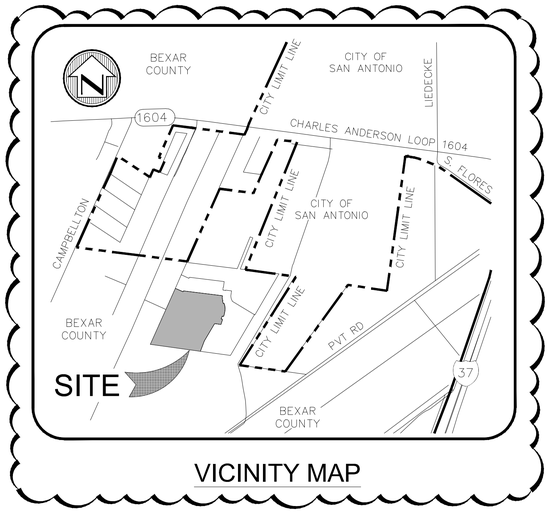
BEXAR COUNTY

TEXAS

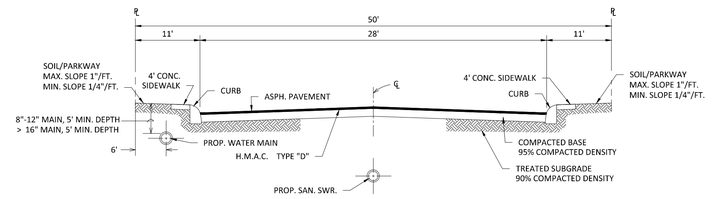
SUBMITTAL SET C3.0

R:\Lonesome Dove\Unit 3\Drawing\12545_U3_C3.0 Water-Cover.dwg
Plot Date: January 28, 2025 User ID: Maricella Pastrano

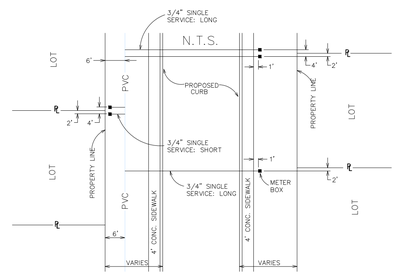
PLAT NO. 22-11800313



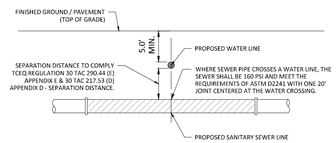
VICINITY MAP



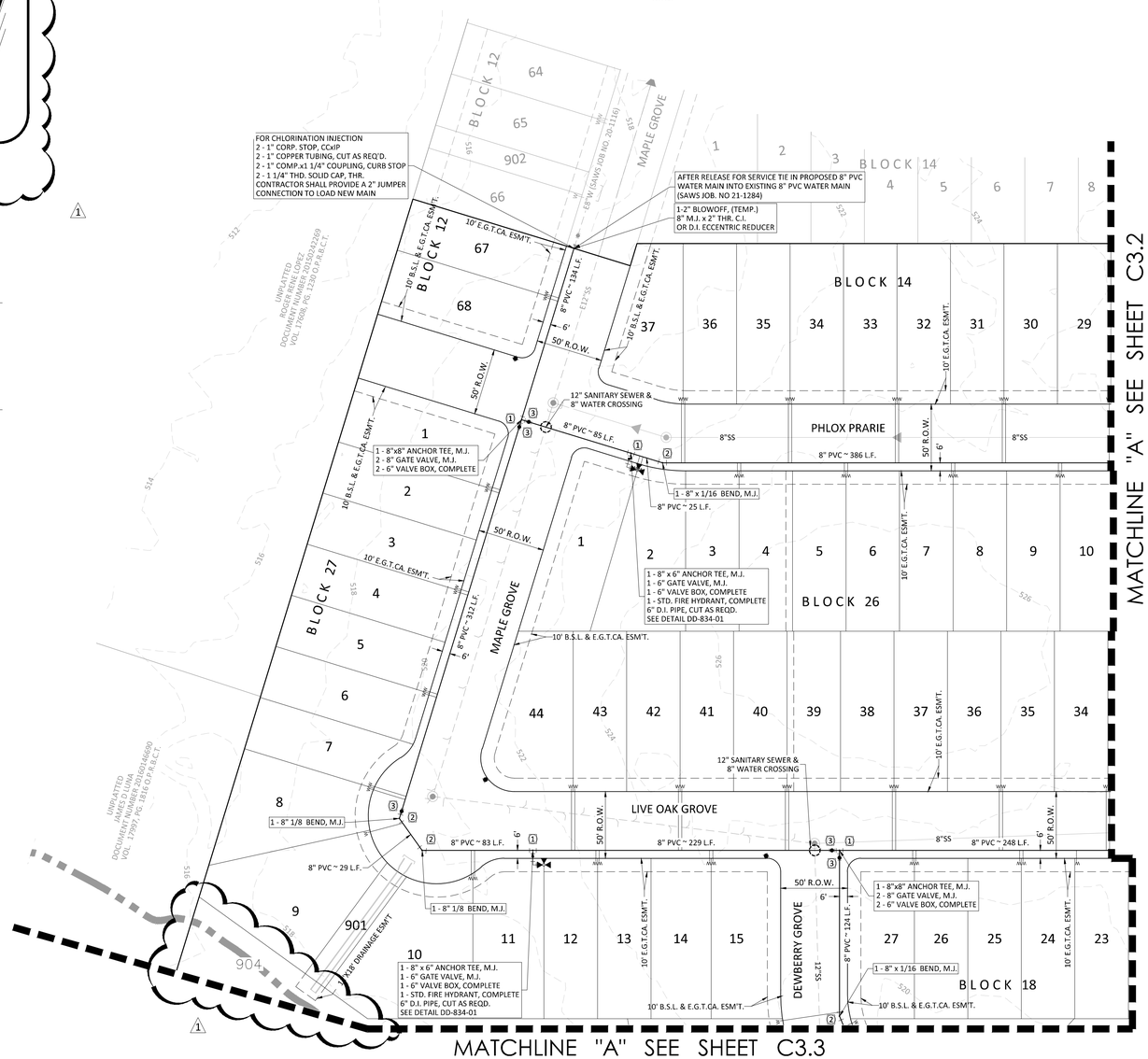
TYPICAL STREET CROSS-SECTION (28' PAVEMENT)
N.T.S.



TYPICAL METER BOX DETAIL
N.T.S.



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



RESTRAINT JOINTS

(1)	ALL TEES RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-04
(2)	ALL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-08
(3)	ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD839-05
(4)	ALL VERTICAL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-06

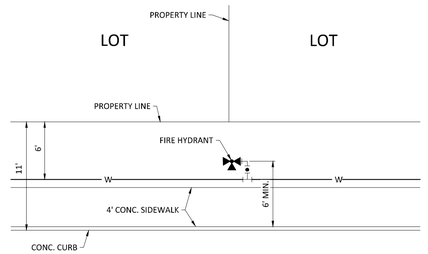
LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESM'T.	E.G.T.TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.

CAUTION!
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 DUCTBANKS, 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 PLANS OR NOT.

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 FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
A	1/27/25	UPDATED BOUNDARY & ADDED LOTS						

REVISIONS

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPE FIRM NO. F-5297 / SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER
11/03/25

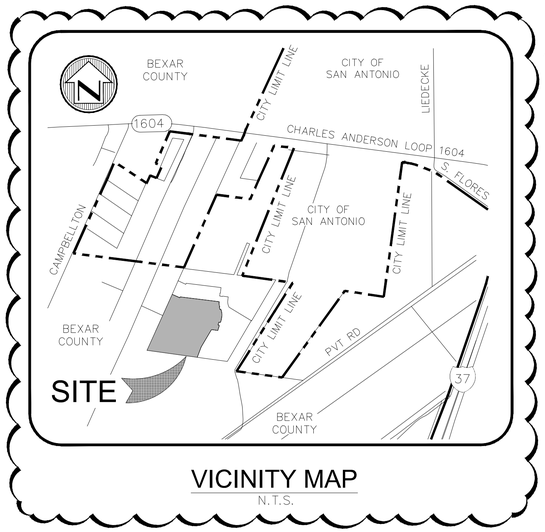
LONESOME DOVE HILLS, UNIT 3

WATER OVERALL DISTRIBUTION PLAN

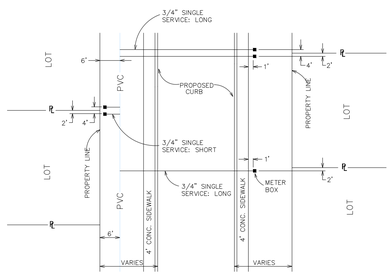
SHEET
C3.1

Plot Date: April 9, 2021 User ID: Marcelle Pastrana
N:\Documents and Settings\mpastrana\Desktop\LD\23-1105 - C3.1 Water Overall.dwg

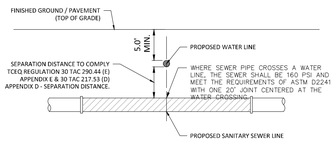
PLAT NO. 22-11800313



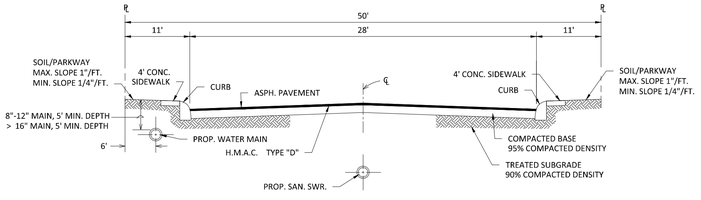
VICINITY MAP
N.T.S.



TYPICAL METER BOX DETAIL
N.T.S.



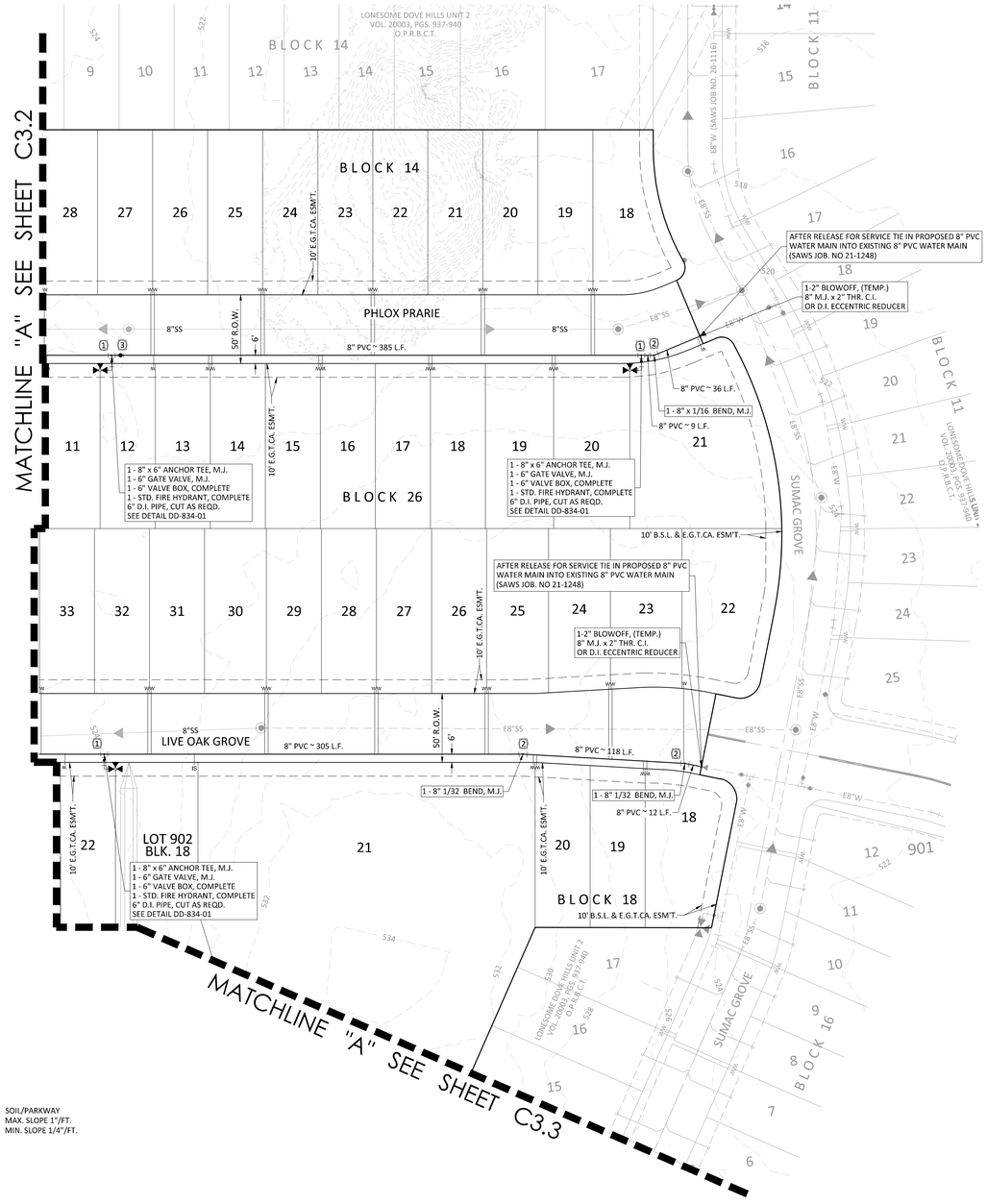
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.



TYPICAL STREET CROSS-SECTION (28' PAVEMENT)
N.T.S.

RESTRAINT JOINTS

1. ALL TEES RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-04
2. ALL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-08
3. ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD839-05
4. ALL VERTICAL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-06



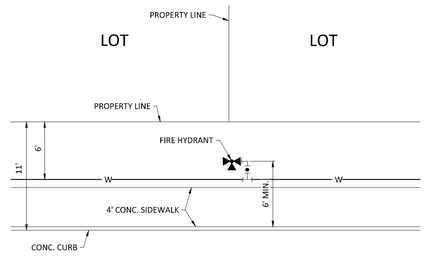
LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESM'T.	E.G.T.TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.

CAUTION!
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 DUCTBANKS, 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 PLANS OR NOT.

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 FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPE FIRM NO. F-5297 / SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER
11/03/25

LONESOME DOVE HILLS, UNIT 3
WATER OVERALL DISTRIBUTION PLAN

SHEET
C3.2

Plot Date: April 9, 2021 User ID: Marcelo Pastrana
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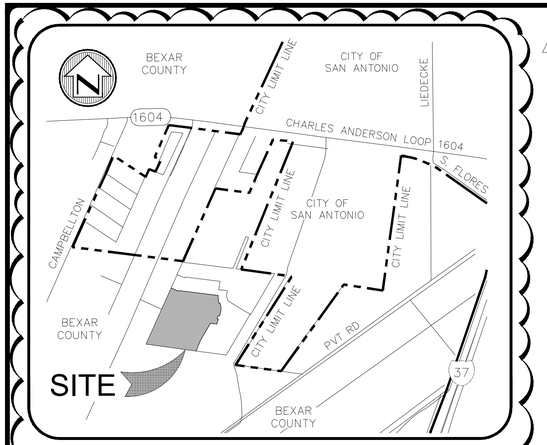
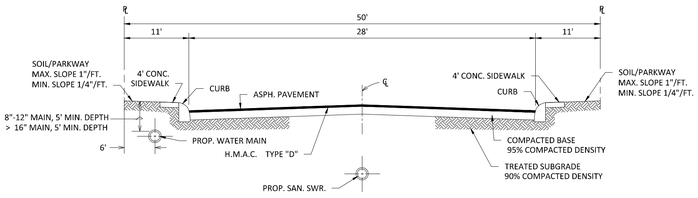
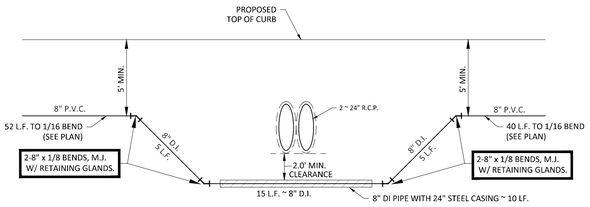
PLAT NO. 22-11800313



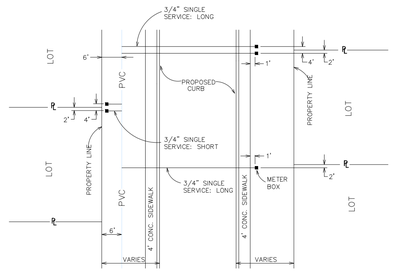
VICINITY MAP
N.T.S.



TYPICAL STREET CROSS-SECTION (28' PAVEMENT)
N.T.S.



DETAIL "A" - DRAIN AND WATER CROSSING
N.T.S.



TYPICAL METER BOX DETAIL
N.T.S.

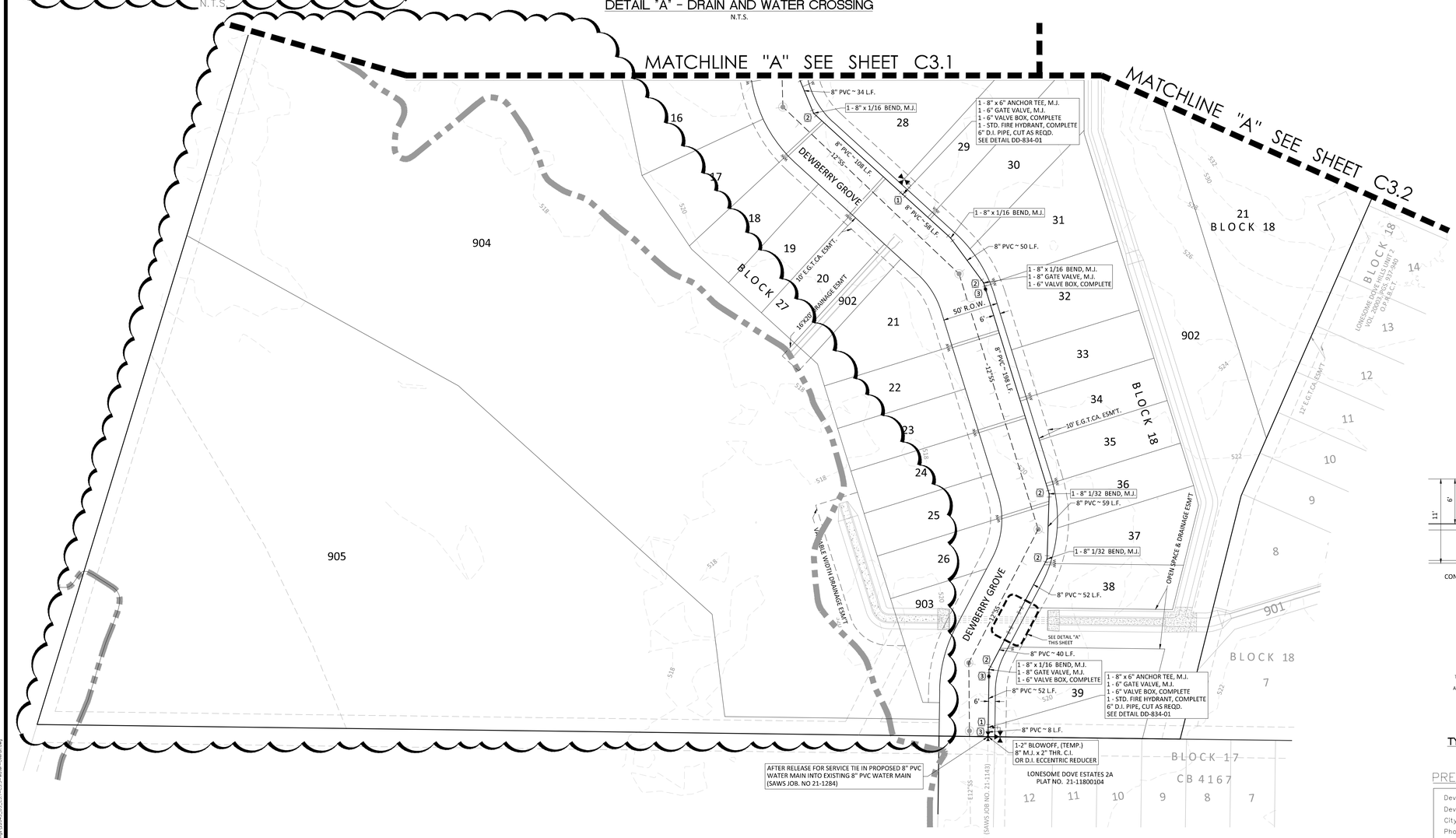
LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESM'T.	E,G,T,TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.

SCALE: 1"=50'
0 50 100

RESTRAINT JOINTS

1. ALL TEES RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-04
2. ALL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-08
3. ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD839-05
4. ALL VERTICAL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-06



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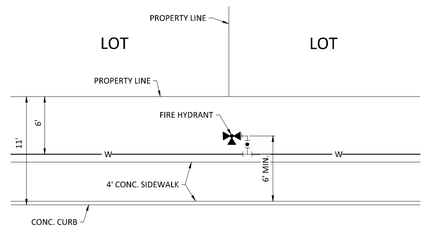
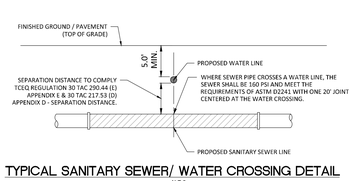


TYPICAL FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.



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

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

REVISIONS

PROJ. # | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 / SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

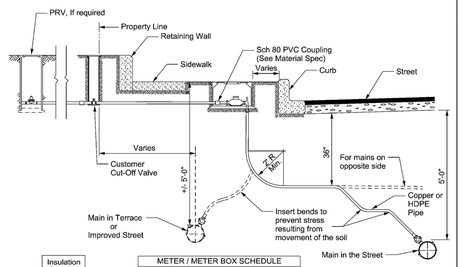
LONESOME DOVE HILLS, UNIT 3

WATER OVERALL DISTRIBUTION PLAN

SHEET
C3.3

Plot Date: April 9, 2025 User ID: Marcella Pastrana
S:\Customer Accounts\Lonesome Dove\Lonesome Dove Unit 3\Drawings\Water\Lonesome Dove Unit 3 Water Overall.dwg

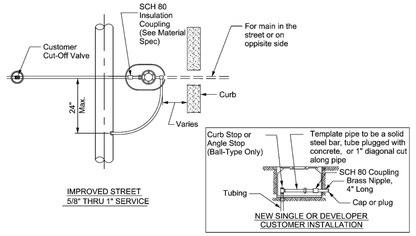
PLAT NO. 22-11800313



Insulation Coupling Component
579 - 3/4" thru 1"
1580 - 1"

METER / METER BOX SCHEDULE	
Meter Size	Meter Box
⅝", ¾" & 1"	Plastic Oval, SAWS Material Specification 10-30
1½" & 2"	#2 Cast Iron, SAWS Material Specification 10-30

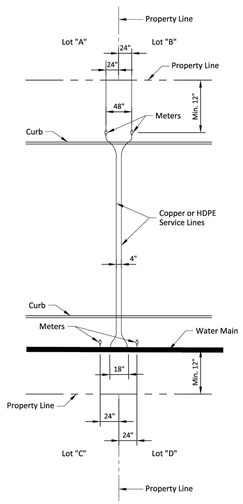
Note:
See Tapping Schedule DD 833-02 Sheet 1 of 1



IMPROVED STREET
5/8" THRU 1" SERVICE

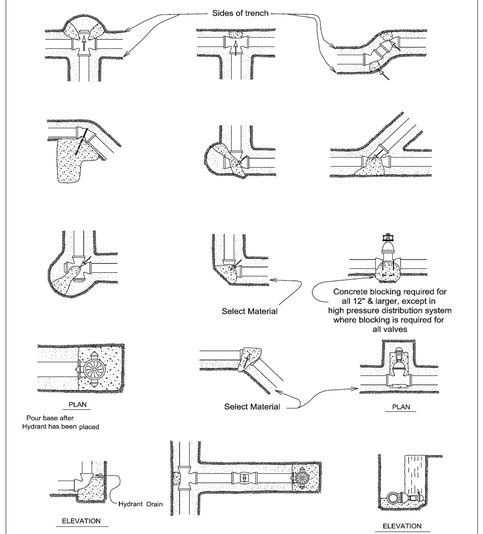
NEW SINGLE OR DEVELOPER CUSTOMER INSTALLATION

PROPERTY OF	COPPER or HDPE SERVICE INSTALLATION MAIN in TERRACE or IMPROVED STREET	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		MARCH 2008	AUG 2019
		DD-824-01	SHEET 1 OF 3

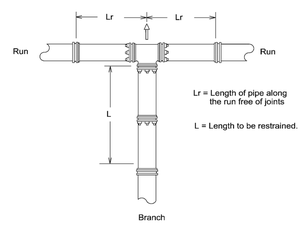


SINGLE SERVICE LINE - SINGLE METER

PROPERTY OF	TYPICAL NEW DEVELOPMENT SERVICE ARRANGEMENT	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		March 2008	December 2018
		DD-824-05	SHEET 1 OF 3



PROPERTY OF	THRUST BLOCKS FOR FITTINGS (WATER ONLY)	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		March 2008	AUG 2019
		DD-839-01	SHEET 1 OF 2



RESTRAINED LENGTH FOR TEES

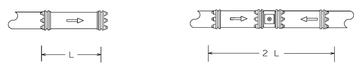
PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	4	0	42	31
6	4	5	7	1
6	4	10	1	1
6	6	0	59	44
6	6	5	35	20
6	6	10	11	1
8	4	0	42	31
8	4	5	1	1
8	6	0	59	44
8	6	5	28	13
8	6	10	1	1
8	8	0	77	58
8	8	5	53	34
8	8	10	30	11
8	8	15	6	1

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF	RESTRAINED LENGTHS FOR TEES	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		March 2008	AUG 2019
		DD-839-04	SHEET 1 OF 2



L=LENGTH TO BE RESTRAINED

PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	59	44
8	77	58
10	93	69
12	109	82

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF	RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		MARCH 2008	AUG 2019
		DD-839-05	SHEET 1 OF 1

L=LENGTH TO BE RESTRAINED
ON BOTH SIDES OF FITTING

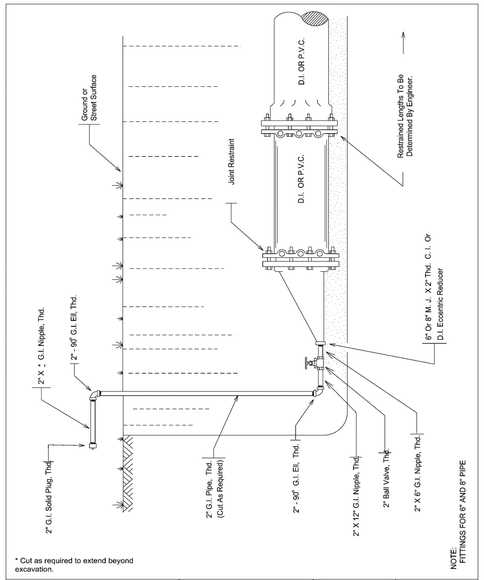
PIPE SIZE (inch)	BEND ANGLE (deg)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	90	23	17
6	45	9	7
6	22.5	5	3
6	11.25	2	2
8	90	30	22
8	45	12	9
8	22.5	6	4
8	11.25	3	2
12	90	43	32
12	45	18	13
12	22.5	8	6
12	11.25	4	3

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

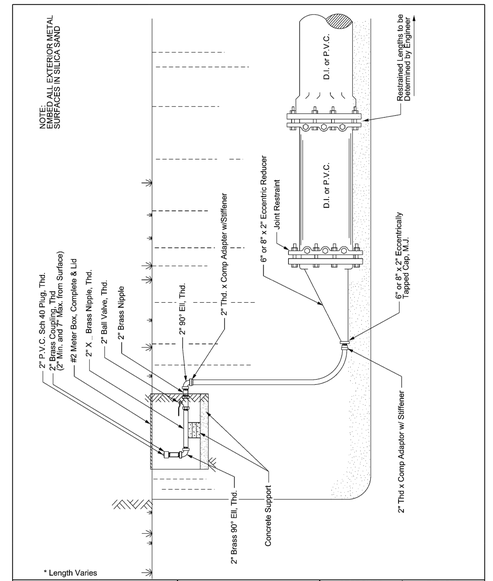
Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF	RESTRAINED LENGTHS FOR HORIZONTAL BENDS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		MARCH 2008	AUG 2019
		DD-839-08	SHEET 1 OF 1



* Cut as required to extend beyond excavation.

PROPERTY OF	2" (TEMPORARY) BLOW-OFF ASSEMBLY ON 6" & 8" MAINS (JOINT RESTRAINT)	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		March 2008	AUG 2019
		DD-844-01	SHEET 3 OF 4



* Length Varies

PROPERTY OF	2" PERMANENT BLOW-OFF ASSEMBLY ON 6" & 8" D.I./ PVC MAINS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS		MARCH 2008	AUG 2019
		DD-844-02	SHEET 5 OF 5

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

SUBMITTAL SET

NO.	DATE	REVISIONS DESCRIPTION	BY:

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

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
4/23/25

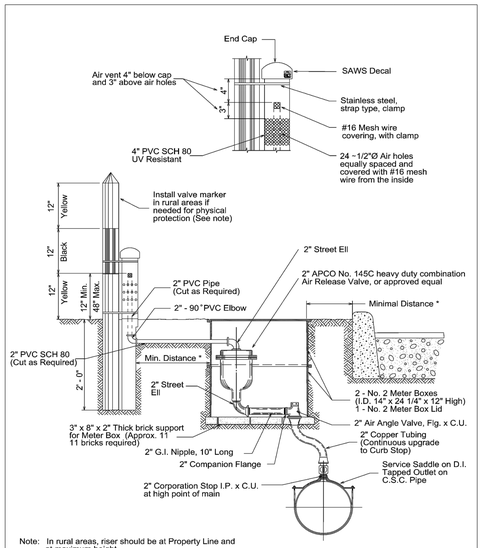
LONESOME DOVE HILLS, UNIT 3

WATER DETAILS

SHEET
C3.4

Plot Date: April 9, 2021 User ID: Marcelle Pacheco
S:\Customer Work\Unit 3\Drawings\Civil_Title Sheet.dwg

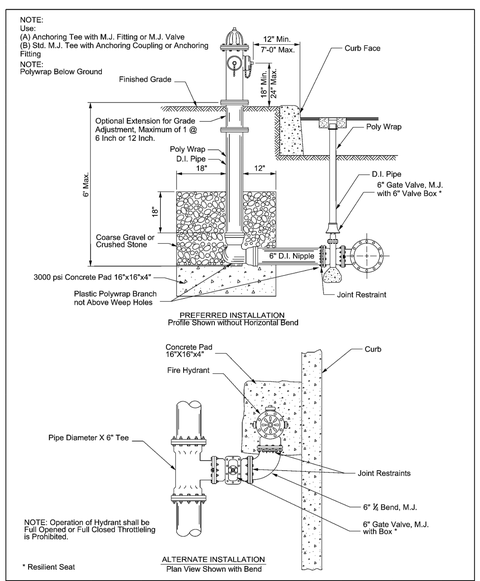
PLAT NO. 22-11800313



Note: In rural areas, riser should be at Property Line and at maximum height.

* Per direction from inspector.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	INSTALLATION OF 2" AIR RELEASE VALVE	APPROVED March 2008	REVISED AUG 2019	SHEET 1 OF 1
		DD-846-02		



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)	APPROVED MAY 2013	REVISED AUG 2019	SHEET 1 OF 3
		DD-834-01		

SIZE	A	B*	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	——	——
21"	14.0"	16"	——	——
24"	16.0"	18"	——	——
27"	18.0"	20"	——	——

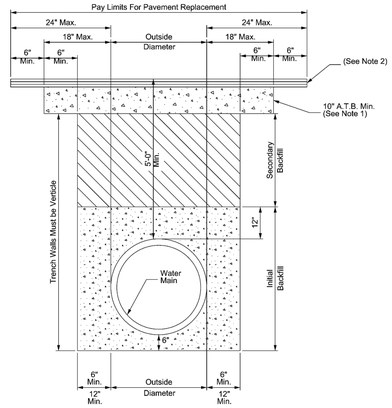
* Minimum Length

CHART

Notes:
PVC pipes and fittings 6" to 15" in diameter shall conform to ASTM D-3034-08.
PVC pipes and fittings 18" to 27" in diameter shall conform to ASTM F-679-08.

This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 217.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL CHART	APPROVED MARCH 2008	REVISED APRIL 2014	SHEET 2 OF 2
		DD-848-01		

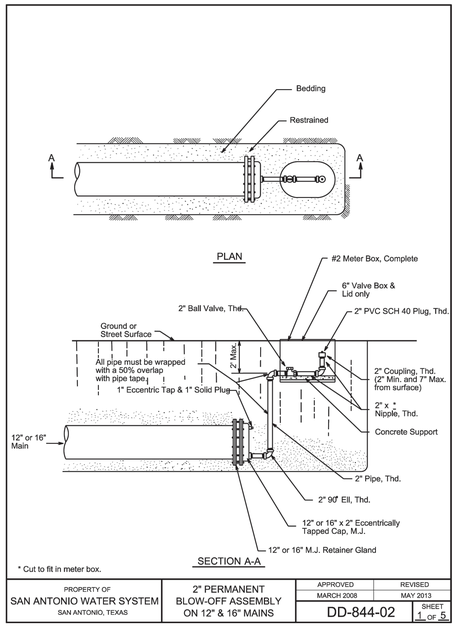


1. Asphalt Treated Base - As Specified COSA ROW - 10" Min. or Greater.

2. Replacement of Surface Layer Shall be of the Type and Thickness Base On Functional Classification:
   a. Min 2" HMAC Type "D" for Trench Repair in Local / Residential Streets.
   b. Min. 3" HMAC Type "C" for Trench Repair in Collector / Arterial Streets.

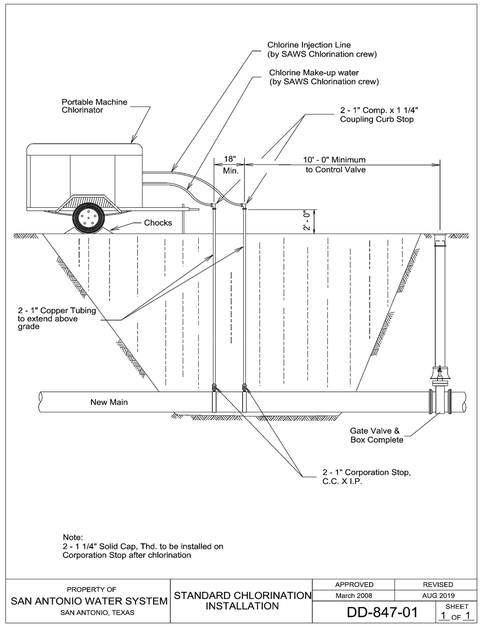
- Asphalt Treated Base (ATB)
- Hot Mix Asphalt Concrete (HMAC)

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	POTABLE AND RECYCLED WATER MAIN DETAIL	APPROVED MARCH 2008	REVISED AUG 2019	SHEET 2 OF 9
		DD-812-01		



* Cut to fit in meter box.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" PERMANENT BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED MARCH 2008	REVISED MAY 2013	SHEET 1 OF 5
		DD-844-02		



Note:
2 - 1 1/4" Solid Cap, Thd. to be installed on Corporation Stop after chlorination

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD CHLORINATION INSTALLATION	APPROVED March 2008	REVISED AUG 2019	SHEET 1 OF 1
		DD-847-01		

PRESSURE ZONE 720

Developer's Name SAN ANTONIO LD, LLC
Developer's Address 4058 N COLLEGE ST SUITE 300, BOX 9
City FAYETTEVILLE State AR Zip 72703
Phone # (479) 455-9090 Fax #
SAWS Block Map # 182-502 Total EDU's 115 Total Acreage 28.863
Total Linear Footage of Pipe 8" - 3,204 L.F. Plat No. 22-11800313
Number of Lots 114 SAWS Job No. 23-1105

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

WATER DETAILS

SHEET
C3.5

Plot Date: April 9, 2021 User ID: Mercedes Pantoja
P:\Engineering Documents\Projects\2020\LSH 2.5\3-Water\Cover.dwg

LAND-PLAT-22-11800313

CONSTRUCTION PLANS FOR

LONESOME DOVE HILLS, UNIT 3

STREET AND DRAINAGE IMPROVEMENTS

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
SAN ANTONIO LD, LLC
4058 N COLLEGE ST SUITE 300, BOX 9
FAYETTEVILLE, AR 72703
(479) 455-9090

NOTES:

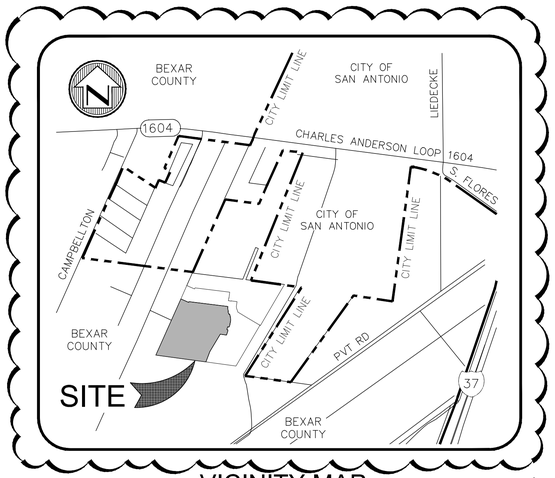
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF SAN ANTONIO SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF SAN ANTONIO.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING CONSTRUCTION. THE LOCATION 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	
AT&T	
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 OTHERWISE NOTED ON PLANS
   - 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 35-504 OF THE CITY OF SAN ANTONIO UDC. NO EXTRA PAY ITEM.

LEGEND

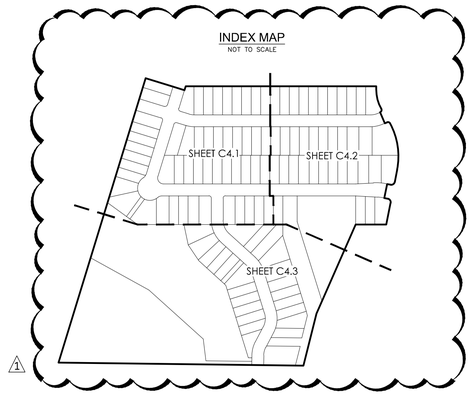
CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	(1)
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	(A)
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	(B)
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	(C)
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	(D)
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	(E)
5'X5' PASSING SPACE TO BE INSTALLED EVERY 200' MIN. AND WHEN SIDEWALK ENDS	(F)
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	
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	



VICINITY MAP
N.T.S.

1 1/27/25 UPDATED LEGAL DESCRIPTION & SITE BOUNDARY

INDEX MAP
NOT TO SCALE



SUBMITTAL DATE:

October 2022

LEGAL DESCRIPTION:

BEING A TOTAL OF 28.863 ACRES OF LAND BEING PREVIOUSLY PLATTED AS A PORTION OF LOT 6, AND A PORTION OF LOT 7, BLOCK 1, COUNTY BLOCK 4167, BEXAR COUNTY, TEXAS, AS SHOWN ON PLAT OF IVY SUBDIVISION, AS RECORDED IN VOLUME 9524, PAGES 14-22; AS CONVEYED TO SAN ANTONIO LD, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20220011322; AS CONVEYED TO THOMAS CRAIG GLENDENNING, A SINGLE MAN, BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN DOCUMENT NUMBER 20220251559; AS CONVEYED TO TOWNHOUSES OF LONESOME DOVE, LLC, BY WARRANTY DEED WITH VENDOR'S LIEN, AS RECORDED IN DOCUMENT NUMBER 20240045796; AND AS CONVEYED TO LONG FAMILY LIVING TRUST BY TRUSTEE'S DEED, AS RECORDED IN DOCUMENT NUMBER 20240101114, ALL OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

Sheet List Table

Sheet Number	Sheet Title
C4.0	STREET COVER
C4.1	TRAFFIC PLAN
C4.2	TRAFFIC PLAN
C4.3	TRAFFIC PLAN
C4.4	TRAFFIC DETAILS
C4.5	TRAFFIC DETAILS
C4.6	MAPLE GROVE STREET P&P
C4.7	PHLOX PRARIE STREET P&P
C4.8	LIVE OAK GROVE P&P
C4.9	DEWBERRY GROVE P&P
C4.10	WHEEL CHAIR RAMP DETAILS
C4.11	STANDARD STREET DEATILS
C4.12	TYPICAL STREET SECTIONS
C4.13	DRAIN "A" PLAN AND PROFILE
C4.14	DRAIN "B" PLAN AND PROFILE
C4.15	DRAIN "C" PLAN AND PROFILE
C4.16	DRAIN "D" PLAN AND PROFILE
C4.17	STANDARD DRAINAGE DETAILS

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

MTR • Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051 FAX: (210) 698-5085

BEXAR COUNTY

TEXAS

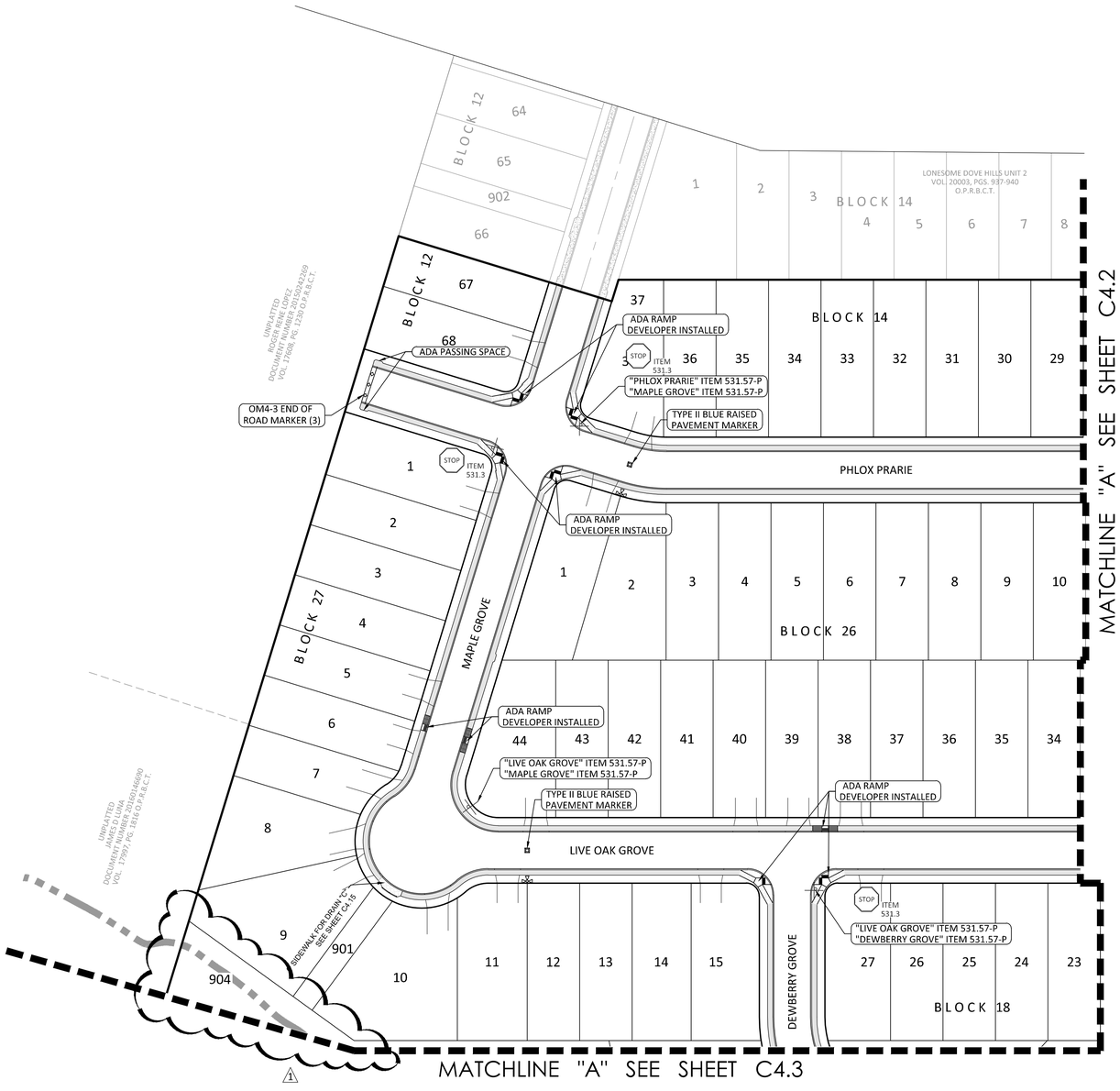
SUBMITTAL SET C4.0

R:\Lonesome Dove\Unit 3\Drawings\220405_U3_C4.0-Street-Cover.dwg

PLAT NO. 22-11800313

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.



SCALE: 1"=50'

0 50 100

LEGEND

- R1-1 STOP SIGN (30" X 30")
- D-3 STREET NAME
- R2-1 SPEED LIMIT SIGN
- DOUBLE LINE
- PROPOSED SIGN LOCATION
- PROPERTY LINE
- 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.
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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.

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC

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

1/27/25

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

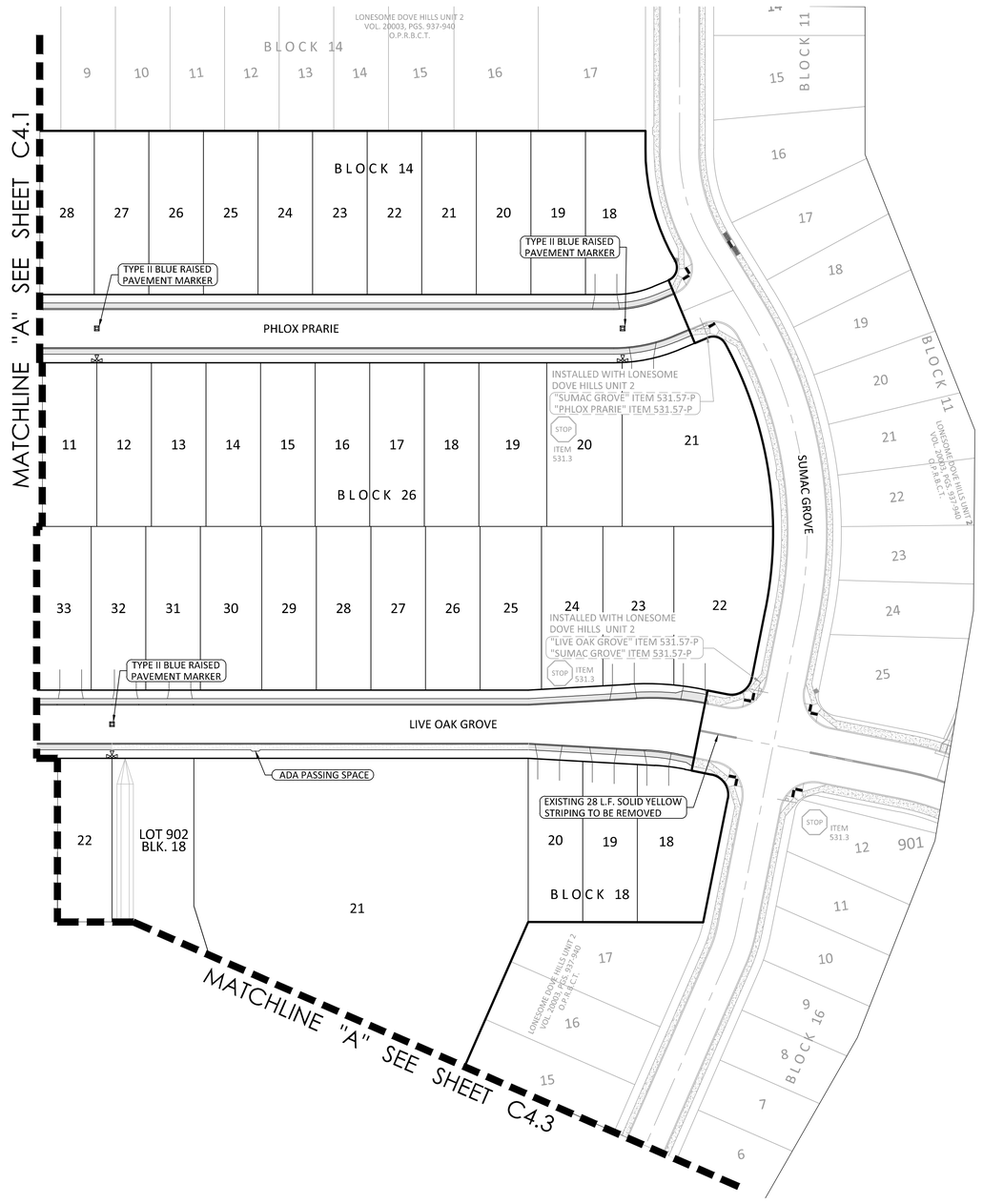
OVERALL TRAFFIC PLAN

SHEET

C4.1

Plot Date: January 28, 2025 User ID: Dalia Gomez
S:\Lonesome Dove\Unit 3\Sheets\22MTR_03_C4.1_c4.5_Overall Traffic.dwg

PLAT NO. 22-11800313



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.

SCALE: 1"=50'

0 50 100

LEGEND

- R1-1 STOP SIGN (30" X 30")
- D-3 STREET NAME
- R2-1 SPEED LIMIT SIGN
- DOUBLE LINE
- PROPOSED SIGN LOCATION
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- TYPE II BLUE RAISED PAVEMENT MARKERS
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SUBMITTAL SET

REVISIONS							
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
							BY:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL.: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
4/4/24

LONESOME DOVE HILLS, UNIT 3

OVERALL TRAFFIC PLAN

SHEET

C4.2

Plot Date: September 4, 2024 User ID: Dalia Gordea
G:\Drawing Sheets\2022\22-11800313\C4\22-11800313-Overall Traffic.dwg

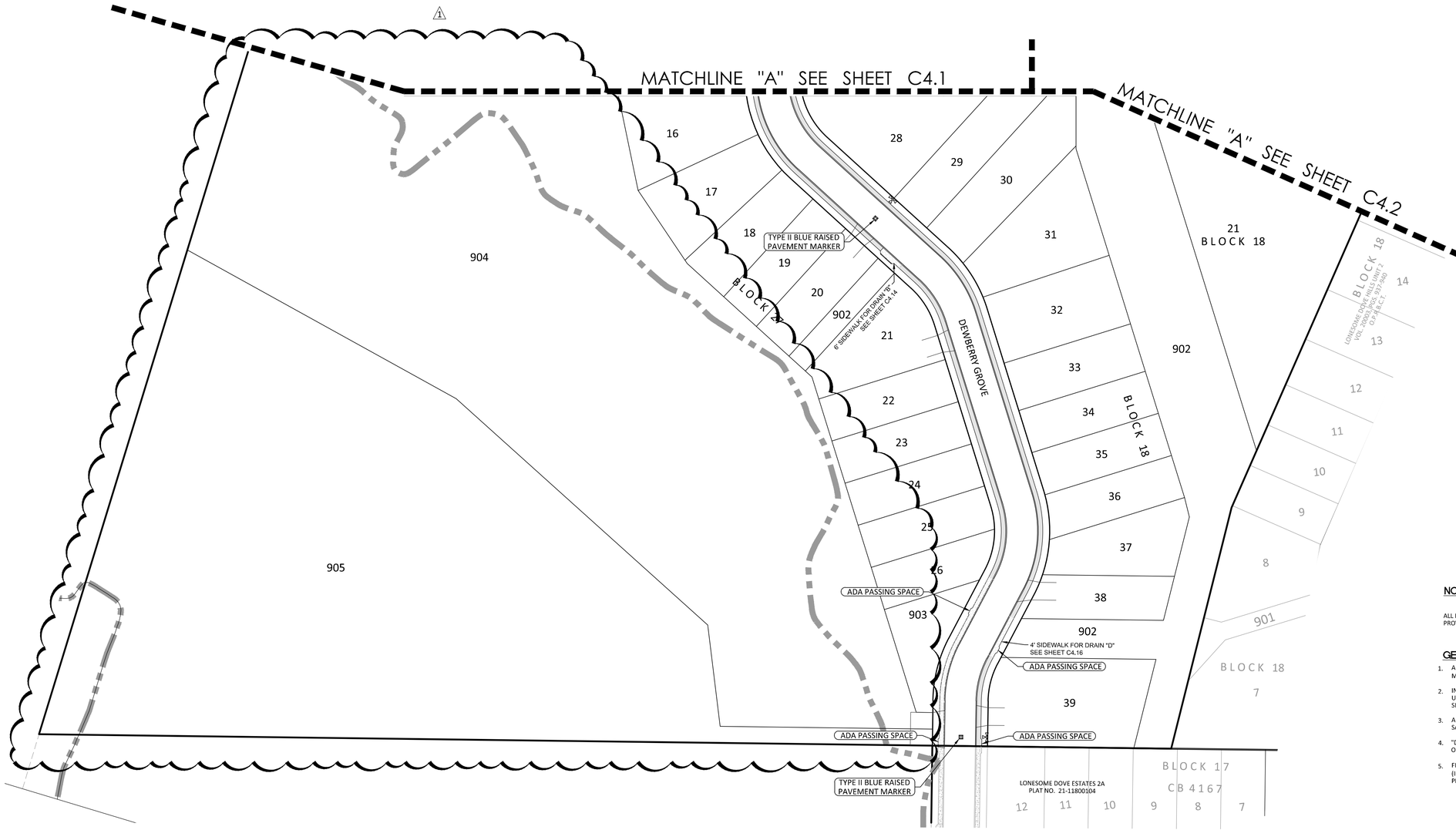
PLAT NO. 22-11800313

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.

SCALE: 1"=50'

0 50 100



LEGEND

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

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

• Engineers
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• Planners

MTR

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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

LONESOME DOVE HILLS, UNIT 3

OVERALL TRAFFIC PLAN

SHEET

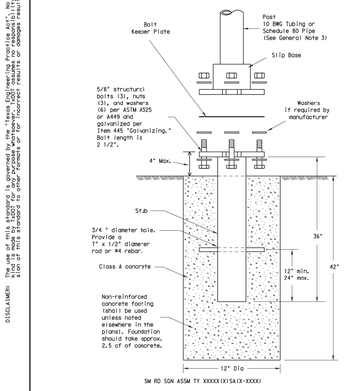
C4.3

Plot Date: January 28, 2025 User ID: Dallas Gordon
G:\Drawings Develop\2024\24-11-043-Lonesome Dove Hills Unit 3\Drawings\Civil\24-11-043-C4.3-Overall Traffic.dwg

PLAT NO. 22-11800313

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the compilation of this standard into any plan, specification, compilation, program, or design.

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

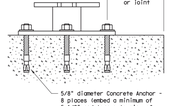
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTh A1008
   Other steels may be used if they meet the followings
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.861" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the followings
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, mixer-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe and of the slip base stub into the center of the concrete. Rotate the stub some and form while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the sub same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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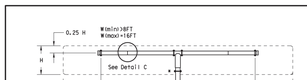
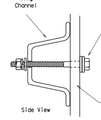
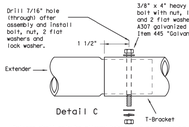


SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(+ - See Note 12)



Detail B

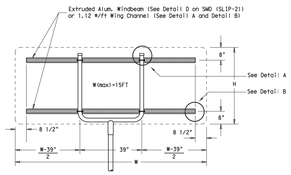


Detail C

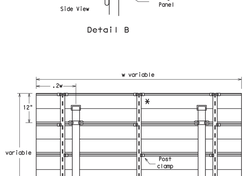
Splices shall only be allowed behind the sign substrate.

GENERAL NOTES:

1. | SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
   |---|---|---|
   | 10 BWG | 1 | 16 SF |
   | 10 BWG | 2 | 32 SF |
   | Sch 80 | 1 | 32 SF |
   | Sch 80 | 2 | 64 SF |
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamps required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.

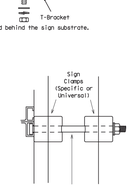


SM RD SGN ASSM TY XXXXX(1)XX(U-XX)

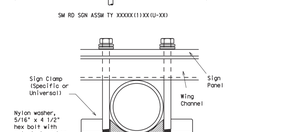


Typical Sign Mount
SM RD SGN ASSM TY SM0(2)XX(P-EXAL)
* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

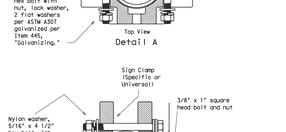
See Detail E
for clamp installation



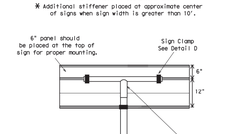
Detail E



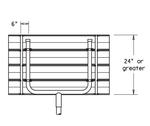
Detail A



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET



Extruded Aluminum Sign
With T Bracket



Use Extruded Alum. Windbeam as stiffeners
See SMD (2-11 for additional details
See Detail E
for clamp installation

REQUIRED SUPPORT

	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
Warning	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

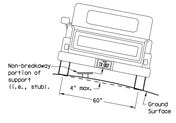
Post Type
- FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
- TWT = Thin-Walled Tubing (see SMD(TWT))
- 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
- SCH = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

Anchor Type
- UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
- UB = Universal Anchor - Bolted to Stub (see SMD(FRP) and (TWT))
- WS = Wedge Anchor Steel - (see SMD(TWT))
- WP = Wedge Anchor Plastic (see SMD(TWT))
- SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
- SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation
- P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
- T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
- U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
- IF REQUIRED
- IEXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
- BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- WC = 1.12 w/Ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

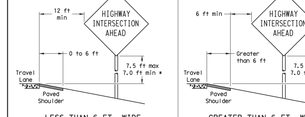
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel pathsl.

SIGN LOCATION

PAVED SHOULDERS



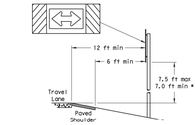
LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

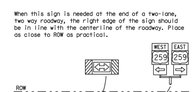
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

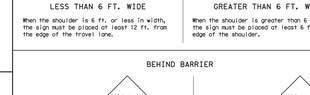
T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



BEHIND GUARDRAIL

BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

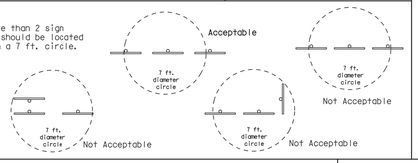
- Signs shall be mounted using the following condition that results in the greatest sign elevation:
  (1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
  (2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

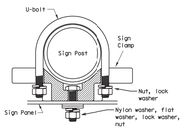
The website address is: http://www.txdot.gov/publications/traffic.htm

No more than 2 sign posts should be located within a 7 ft. circle.

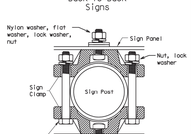


TYPICAL SIGN ATTACHMENT DETAIL

Single Signs



Back-to-Back Signs



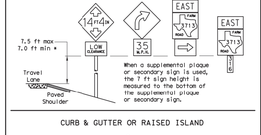
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

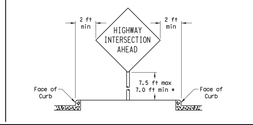
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



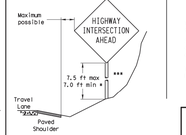
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS

SMD(GEN)-08

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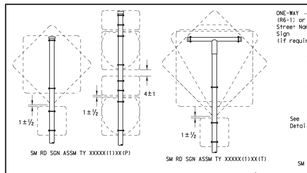
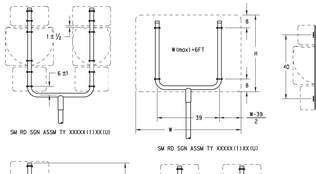
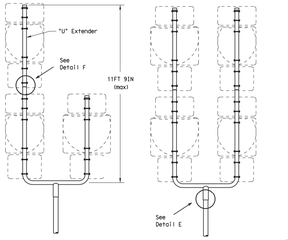
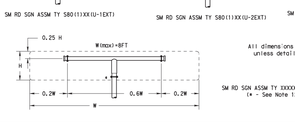


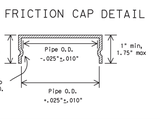






All dimensions are in english unless detailed otherwise.

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

REQUIRED SUPPORT

	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-SM)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
Warning	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

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Traffic Operations Division

SIGN MOUNTING DETAILS
SMD TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297/SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER
7/25/24

REVISIONS

NO.	DATE	DESCRIPTION	BY:	DATE:

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

LONESOME DOVE HILLS, UNIT 3

TRAFFIC PLAN DETAILS

SHEET
C4.4

Plot Date: July 25, 2024 User ID: Dallas Gaskey
G:\Lonesome Dove\Unit 3\Drawings\TRAFFIC\C4.4 - C4.5 - Sheet Traffic.dwg

PLAT NO. 22-11800313

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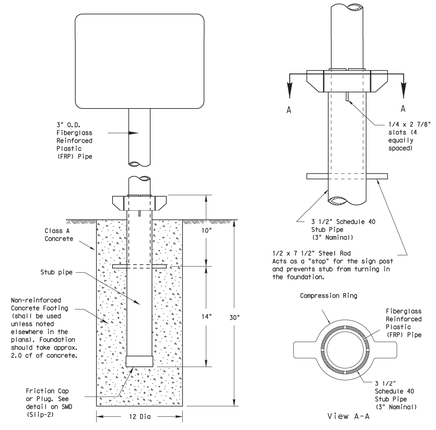
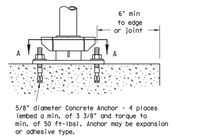
Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post



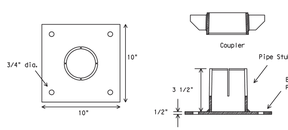
SM RD SGN ASSM TY FRP(X)U(P)



5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper ends. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

BOLT-DOWN DETAILS



SM RD SGN ASSM TY FRP(X)UB(P)

GENERAL NOTES:

1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is:
   http://www.txdot.gov/publications/traffic.htm

FRP POST REQUIREMENTS

1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:
   Texas Department of Transportation
   Traffic Operations Division
   125 East 11th Street
   Austin, Texas 78701-2483

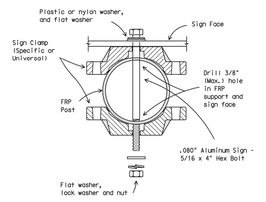
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

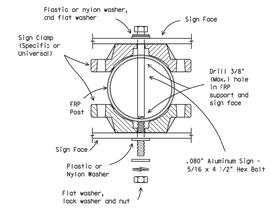
BOLT DOWN SIGN SUPPORT

1. Position base plate with coupler on existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

Typical Sign Mounting Detail for FRP Support with Single Sign



Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS UNIVERSAL ANCHOR SYSTEM WITH FRP POST

SMD(FRP)-08

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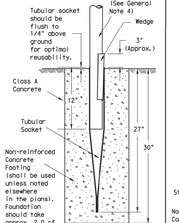
9-08 REVISIONS	DATE	JOB	HIGHWAY	
	DIST	COUNTY	SHEET No.	

26F

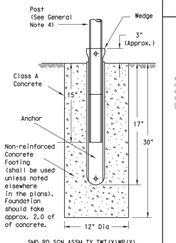
DATE:
FILE:

Wedge Anchor Steel System



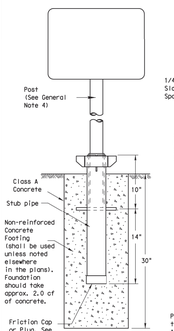
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System

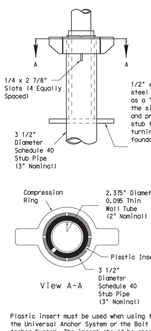


SMD RD SGN ASSM TY TWT(X)WP(X)

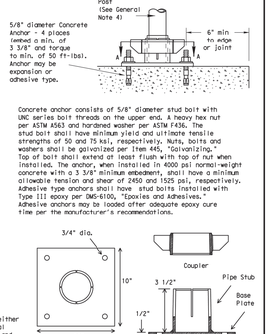
Universal Anchor System with Thin-Walled Tubing Post



SM RD SGN ASSM TY TWT(X)UA(P)

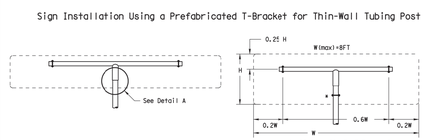


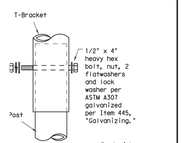
Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.



SM RD SGN ASSM TY TWT(X)UB(P)

Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post





NOTE

The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is:
   http://www.txdot.gov/business/producer list.htm
4. Material used as post with this system shall conform to the following specifications:
   13 BWG Tubing (2.375" outside diameter) (TWT)
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the followings:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   18% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of .083" to .099"
   Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
   Galvanization per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), precoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer..
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

SMD(TWT)-08

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9-08 REVISIONS	DATE	JOB	HIGHWAY	
	DIST	COUNTY	SHEET No.	

26E

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DATE:
FILE:

Plot Date: July 25, 2024 User ID: Dalina Gaviria
R:\Standards Sheets\SMD\SMD(SLIP-2)-(-24-)-Guyed Traffic.dgn

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297/SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
7/25/24

REVISIONS

NO.	DATE	DESCRIPTION	BY:

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

Bexar County Public Works

LONESOME DOVE HILLS, UNIT 3

TRAFFIC PLAN DETAILS

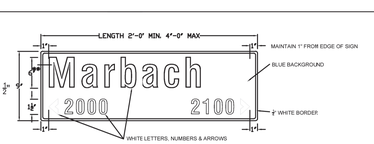
Street Name Sign Details

SHEET 1

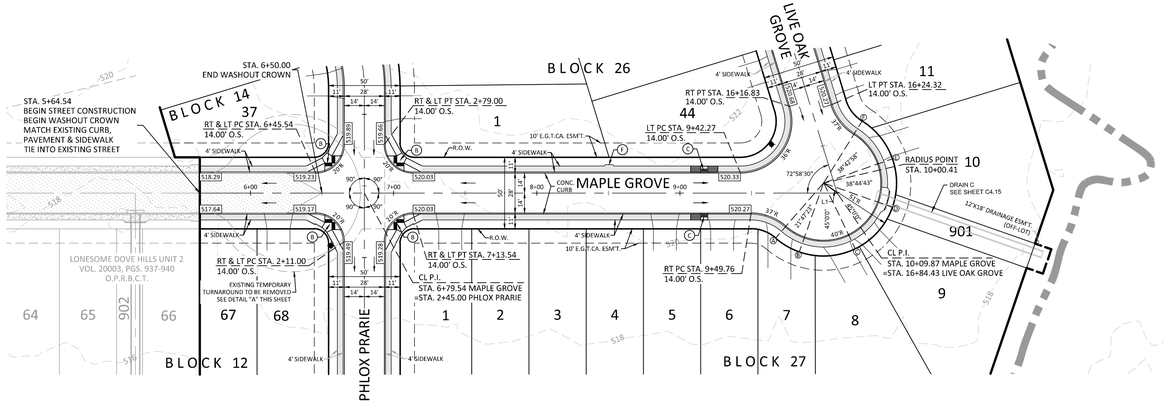
SHEET
C4.5

SUBMITTAL SET

9" GROUND MOUNT STREET NAME SIGNS


LENGTH 2'-0" MIN. 4'-0" MAX
1"
MAINTAIN 1" FROM EDGE OF SIGN
Marbach
2000
2100
BLUE BACKGROUND
1"
4"
1"
4"
1"
1"
4"
1"
1"
4"
1

PLAT NO. 22-11800313



SCALE: 1"=50'

0 50 100

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)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
5'X5' PASSING SPACE TO BE INSTALLED EVERY 200' MIN. AND WHEN SIDEWALK ENDS	F
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	
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT PC STA. 9+49.76	520.27	519.69
A	520.14	519.56
B	520.06	519.48
C	519.90	519.32
D	519.80	519.22
E	519.91	594.23
F	520.09	594.23
RT PT STA. 11+35.02	520.27	519.69

LINE TABLE		
LINE	LENGTH	BEARING
L1	11.77'	S60°33'54"W

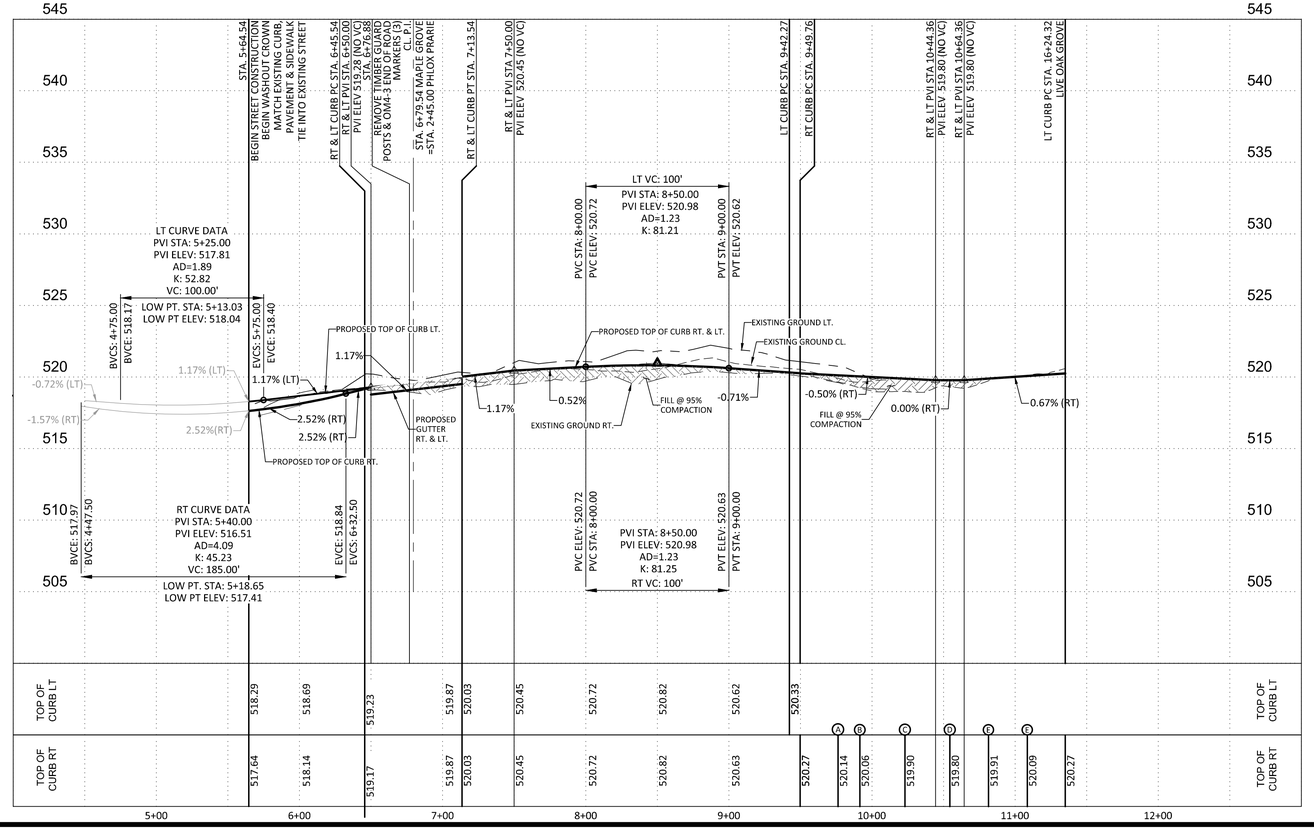
CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

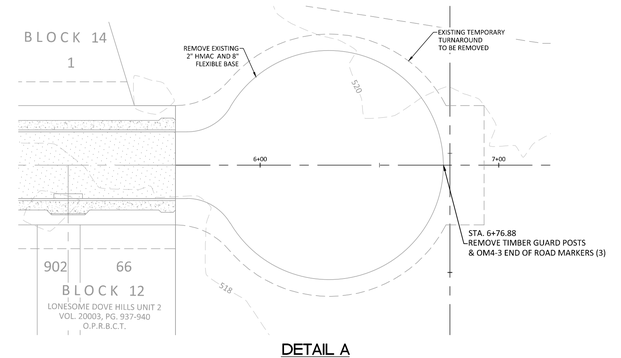
BEXAR COUNTY R.O.W. NOTE:
BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORK BEING DONE IN BEXAR COUNTY R.O.W.

MAPLE GROVE

STA. 5+64.54 TO 10+09.87

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'





DETAIL A
TEMPORARY TURNAROUND REMOVAL
SCALE: 1" = 30'

SUBMITTAL SET

REVISIONS							
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

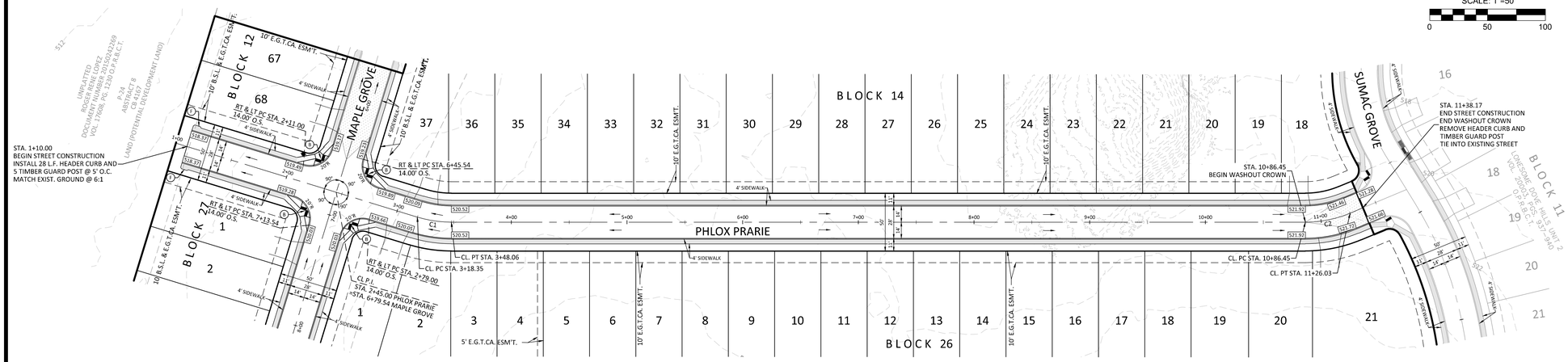
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/4/24

LONESOME DOVE HILLS UNIT 3
STREET PLAN & PROFILE
MAPLE GROVE
STA. 5+64.54 TO STA. 10+09.87

SHEET
C4.6

Plot Date: September 4, 2024 User ID: Dalina Gordea
G:\Subdivisions Data\City of Liberty\2024\LD_5-64 Maple Grove P&P.dwg

PLAT NO. 22-11800313



SCALE: 1"=50'

0 50 100

LEGEND

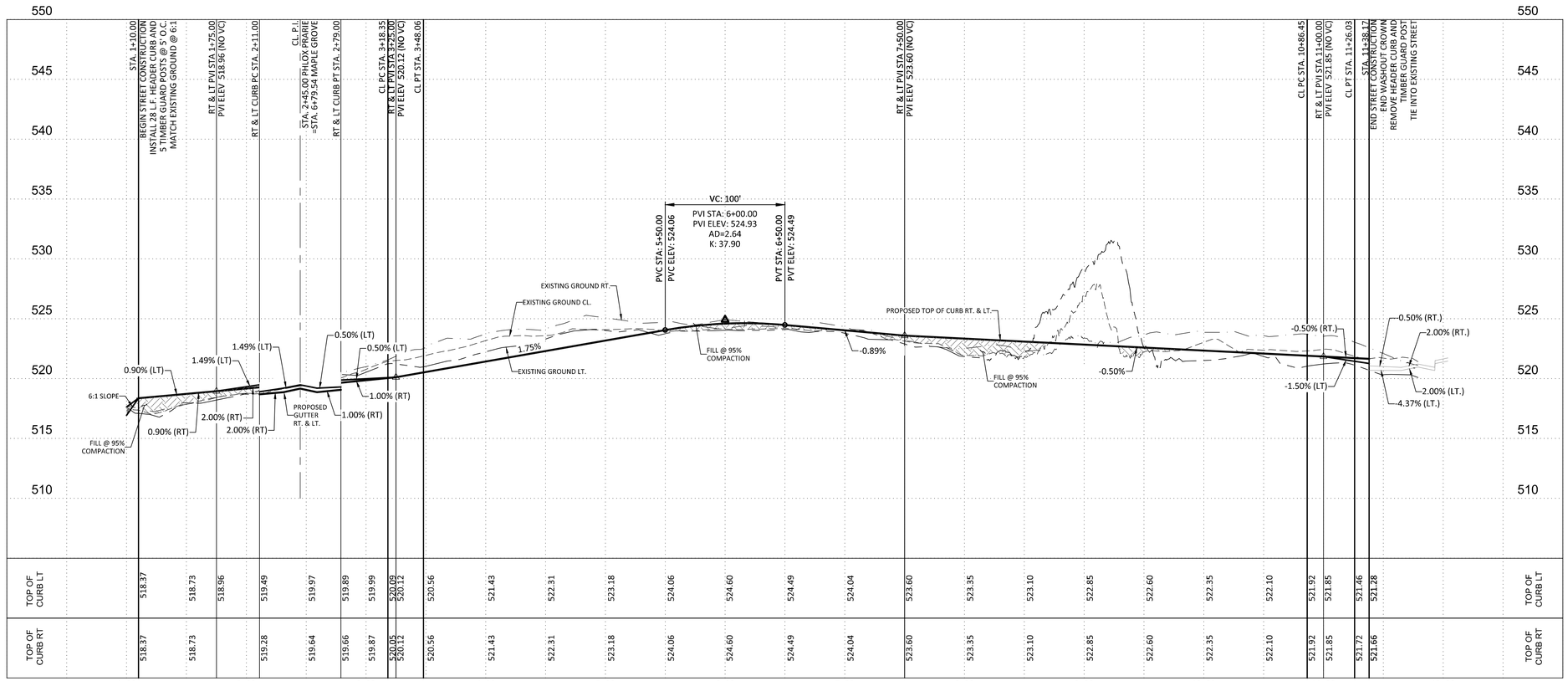
CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	(1)
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	(A)
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	(B)
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	(C)
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	(D)
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	(E)
5'X5' PASSING SPACE TO BE INSTALLED EVERY 200' MIN. AND WHEN SIDEWALK ENDS	(F)
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	
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	29.71'	100.00'	17°01'30"	14.97'	29.61'
C2	39.59'	100.00'	22°40'52"	20.06'	39.33'

PHLOX PRARIE

STA. 1+00.00 TO STA. 11+38.17

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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SUBMITTAL SET

REVISIONS							
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
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SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
4/4/24

LONESOME DOVE HILLS UNIT 3
STREET PLAN & PROFILE
PHLOX PRARIE
STA. 1+00.00 TO STA. 11+38.17

SHEET
C4.7

Plot Date: April 9, 2021 User ID: Dallas Grokes
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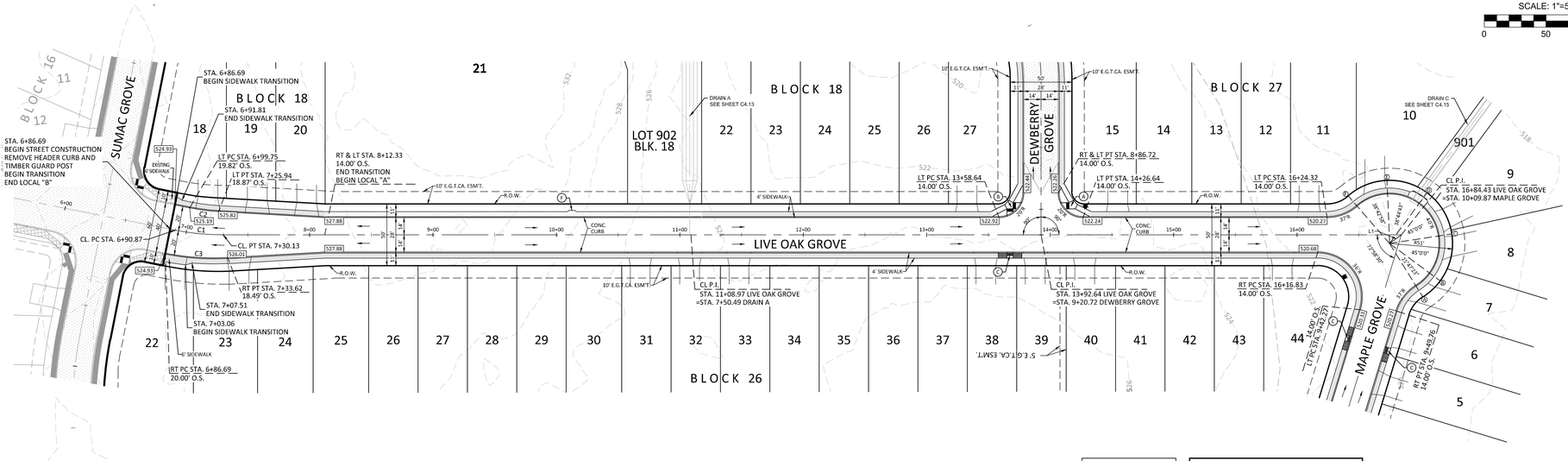
PLAT NO. 22-11800313



SCALE: 1"=50'

0 50 100

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)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
5'X5' PASSING SPACE TO BE INSTALLED EVERY 200' MIN. AND WHEN SIDEWALK ENDS	F
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	
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	39.26'	200.00'	11°14'49"	19.69'	39.20'
C2	23.68'	170.00'	7°58'47"	11.86'	23.66'
C3	50.75'	200.00'	14°32'20"	25.51'	50.61'

LINE TABLE		
LINE	LENGTH	BEARING
L1	11.77'	S60°33'54"W

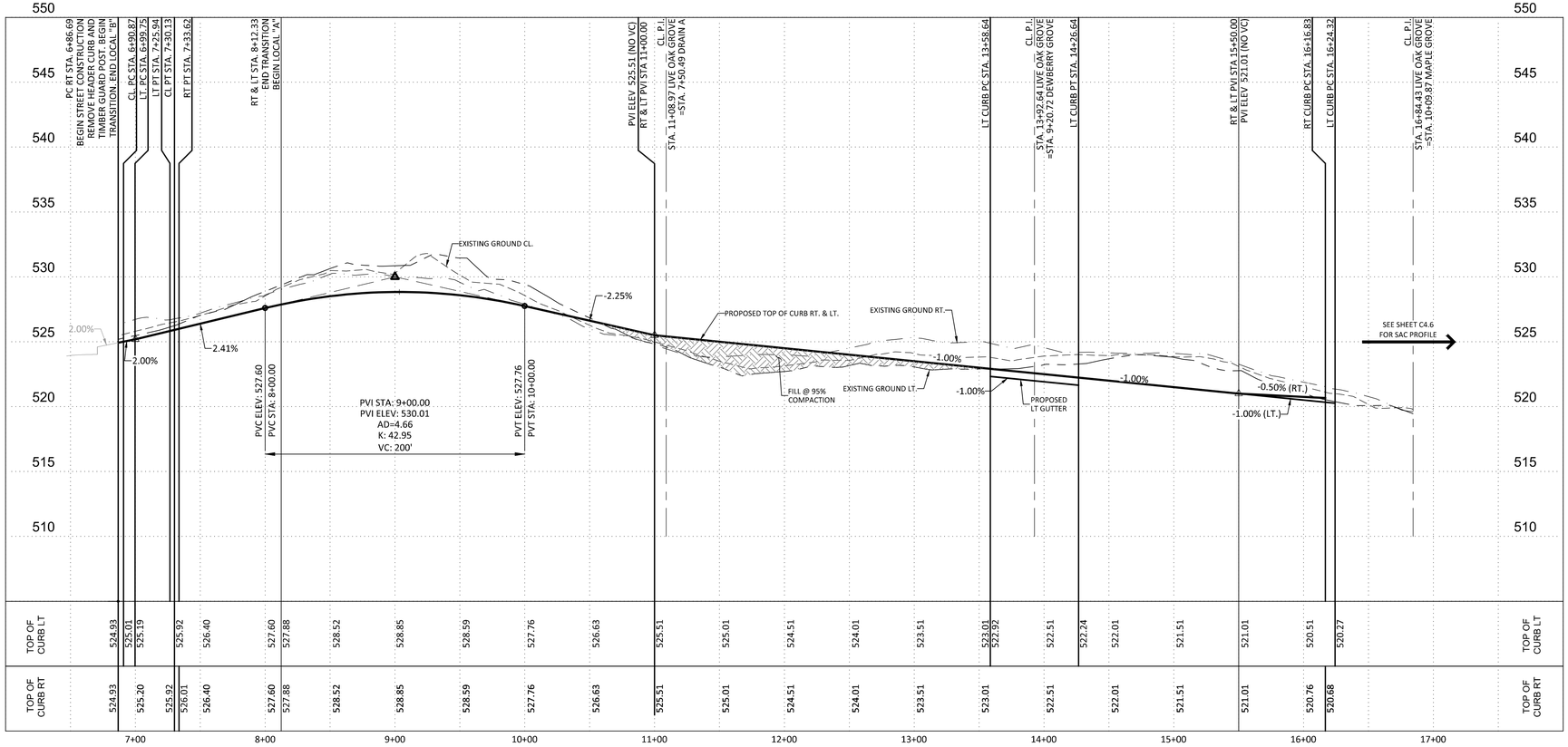
LINE TABLE		
LINE	LENGTH	BEARING
L1	11.77'	S60°33'54"W

KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT PC STA. 9+49.76	520.27	519.69
A	520.14	519.56
B	520.06	519.48
C	519.90	519.32
D	519.80	519.22
E	519.91	594.23
F	520.09	594.23
RT PT STA. 11+35.02	520.27	519.69

LIVE OAK GROVE

STA. 6+86.69 TO 16+84.43

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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.

CAUTION!!!

CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 / SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL.: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/4/24

LONESOME DOVE HILLS UNIT 3

STREET PLAN & PROFILE

LIVE OAK GROVE

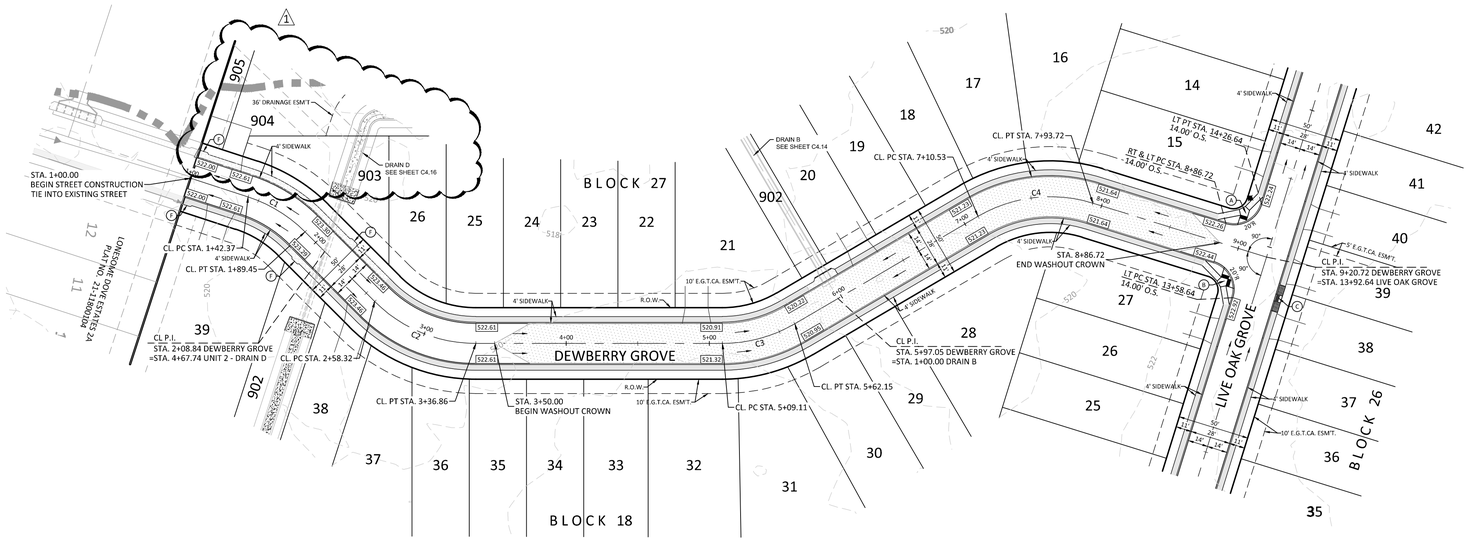
STA. 6+86.69 TO STA. 16+84.43

SHEET

C4.8

Plot Date: September 4, 2024 User ID: Dorian Gomez
P:\Lonesome Dove\Unit 3\Drawings\Plats\C3D\C4.8 Live Oak Grove PROF.dwg

PLAT NO. 22-11800313



SCALE: 1"=50'

0 50 100

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)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
5'X5' PASSING SPACE TO BE INSTALLED EVERY 200' MIN. AND WHEN SIDEWALK ENDS	F
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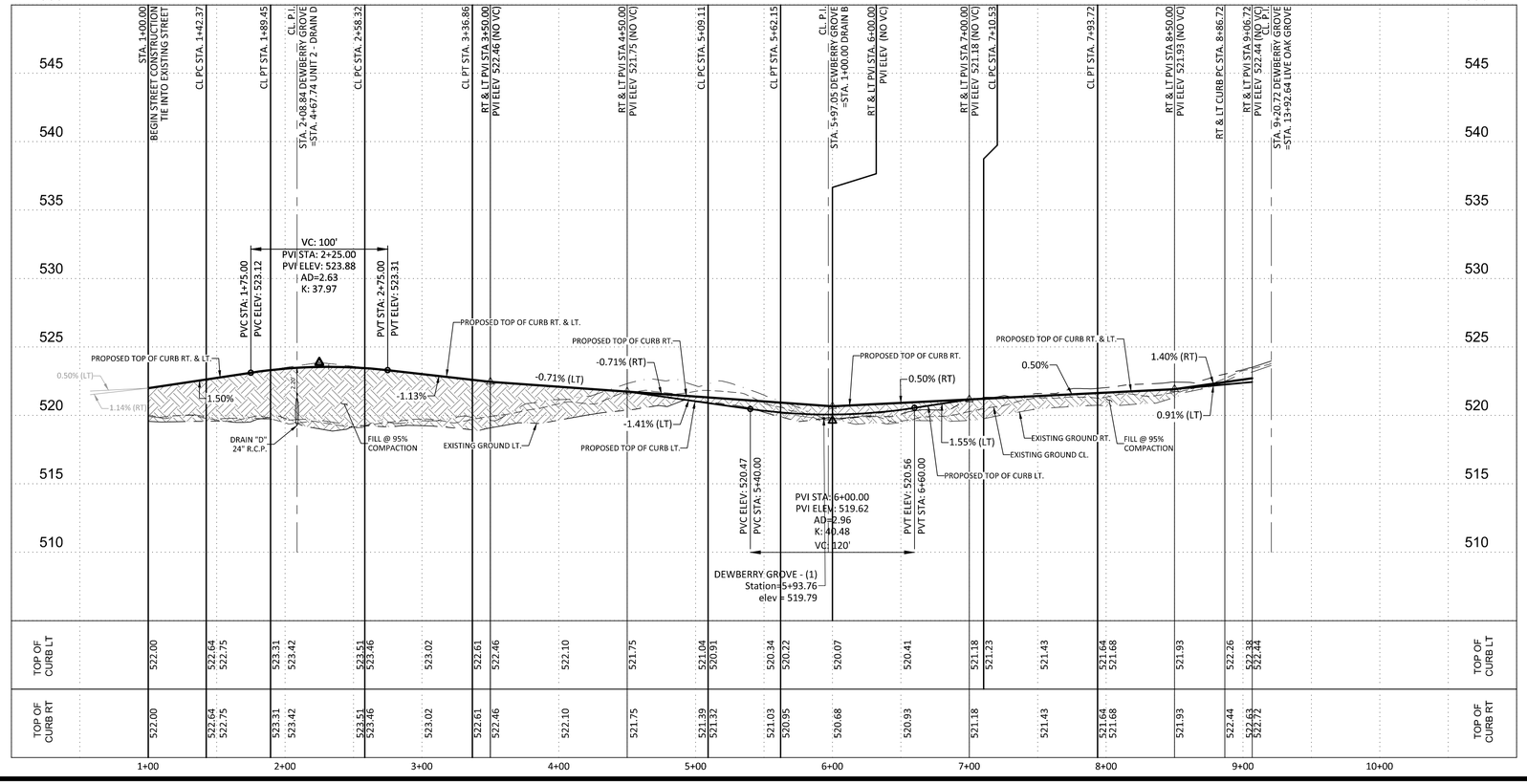
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	47.08'	100.00'	26°58'32"	23.99'	46.65'
C2	78.54'	100.00'	45°00'00"	41.42'	76.54'
C3	53.03'	100.00'	30°23'04"	27.15'	52.41'
C4	83.19'	100.00'	47°39'50"	44.17'	80.81'

DEWBERRY GROVE

STA. 1+00.00 TO STA. 9+20.72

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY 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.

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
A	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

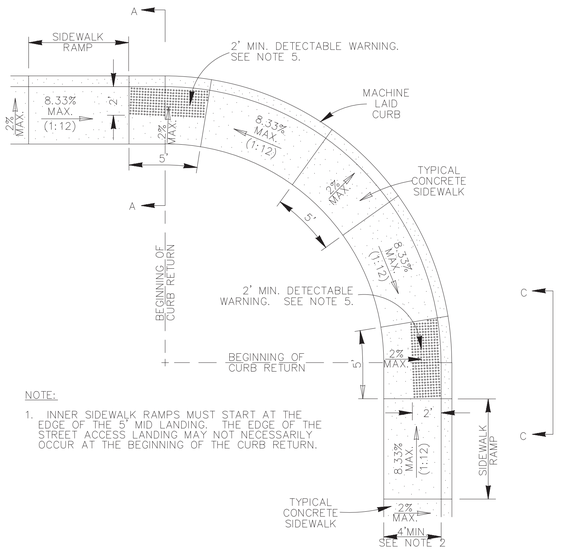
• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
1/27/25

LONESOME DOVE HILLS UNIT 3
STREET PLAN & PROFILE
DEWBERRY GROVE
STA. 1+00.00 TO STA. 9+20.72

SHEET
C4.9

Bird, Dale - January 28, 2025 User ID: Dalton Gordes
N:\Lonesome Dove\Unit 3\Streets\LDH3_U3_C4.9_Dewberry Grove P&P.dwg



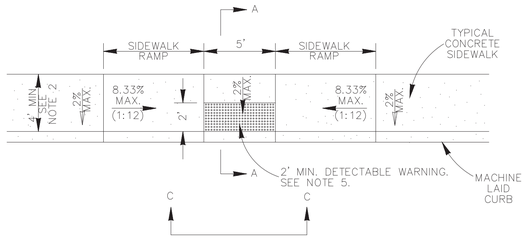
NOTE:

1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB

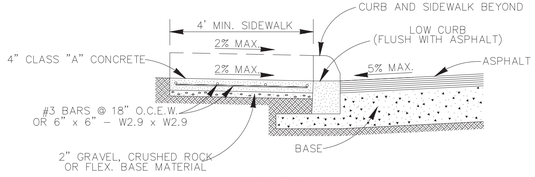
SCALE : 1"=5'



TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

SCALE : 1"=5'



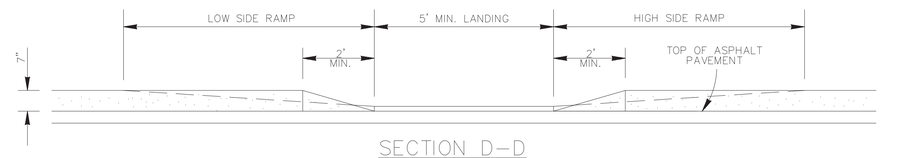
SECTION A–A

SCALE : 1"=2'

SECTION C–C

CURB PROFILE WHERE SIDEWALK ABUTS CURB

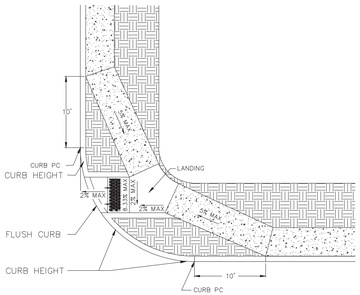
SCALE : 1"=2'



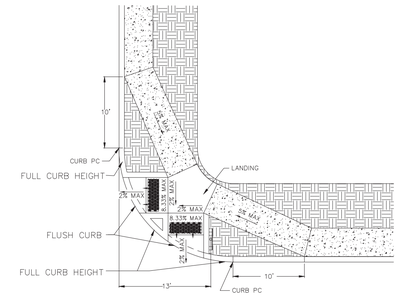
SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

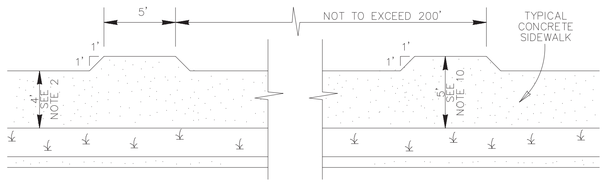
SCALE : 1"=2'



SINGLE ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS)



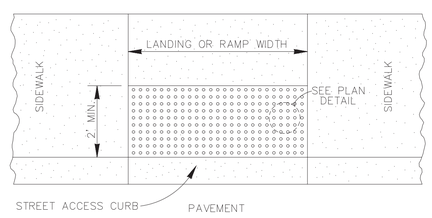
DUAL ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS)



SIDEWALK PASSING SPACE

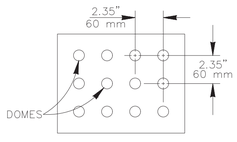
SCALE : 1"=5'

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'–6"	7'–2"
2%	5'–0"	8'–4"
3%	4'–6"	10'–0"
4%	4'–2"	12'–6"
5%	3'–10"	16'–8"



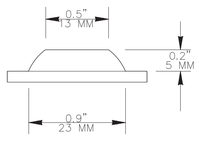
DETECTABLE WARNING AREA

SCALE : 1"=2'



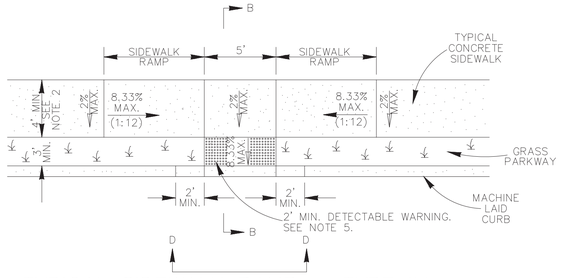
PLAN DETAIL

NO SCALE



DOME SECTION

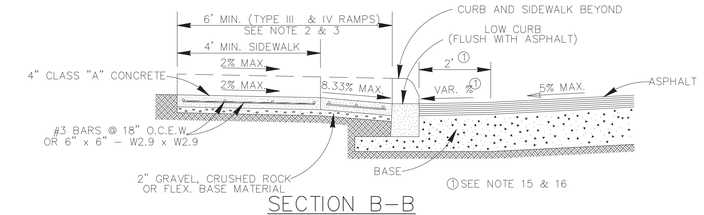
NO SCALE



TYPICAL SIDEWALK RAMP – TYPE IV

USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1"=5'



SECTION B–B

GENERAL NOTES

1. SIDEWALKS IN THIS SUBDIVISION SHALL BE PLACED NEXT TO THE CURB. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB–RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER–TO–CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE PAVERS CONFORMING TO TXDOT STANDARD PED–18, PEDESTRIAN FACILITIES.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 – CONCRETE CURBING", "501 – MACHINE LAID CURB" AND / OR "502 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. COUNTY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33–(–2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the use of this standard other than for highway purposes on TxDOT projects.

DATED: 2/14/21

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast–in–place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

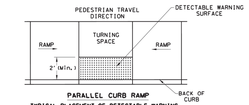
DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C–936, C–33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full–size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

SIDEWALKS

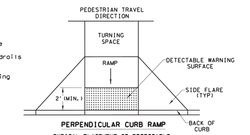
27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP

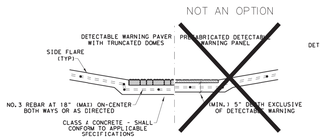
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP

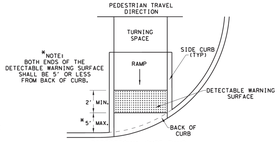
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

NOT AN OPTION



SECTION VIEW DETAIL

CURB RAMP AT DETECTIBLE WARNINGS



*NOTE: BOTH ENDS OF THE DETECTABLE WARNING SURFACE SHALL BE 5' OR LESS FROM BACK OF CURB.

DIRECTIONAL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

SHEET 2 OF 4

Texas Department of Transportation — Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED–18

FILE: ped18	DN:TxDOT	CK:VP	CK:KM	CK:PK & JG
©TxDOT: MARCH 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 08.18 11/22/06				
REVISIONS 08.20 2018	DIST	COUNTY		SHEET NO.

NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

REVISIONS

Engineers • Surveyors • Planners
MIR
Moy Tarin Ramirez Engineers, LLC
TBPELS ENGINEERING F–529 / SURVEYING F–10753500
TEL: (210) 698–5051
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SAN ANTONIO, TEXAS 78249

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER — 7/23/24

LONESOME DOVE HILLS UNIT 3

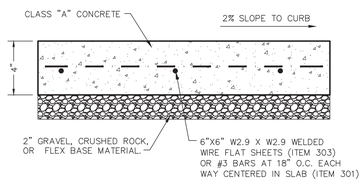
STREET PLAN & PROFILE

WHEEL CHAIR RAMP DETAILS

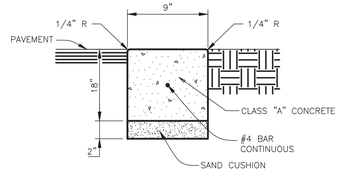
SHEET

C4.10

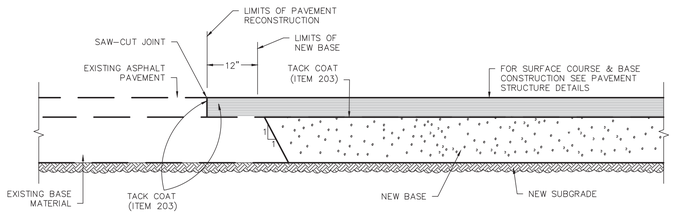
Plot Date: April 9, 2021 User ID: Dalia Gaytes
N:\Lonesome Dove\Unit 3\Drawings\220425_C3_04.10_Wheel Chair Ramp Details.dwg



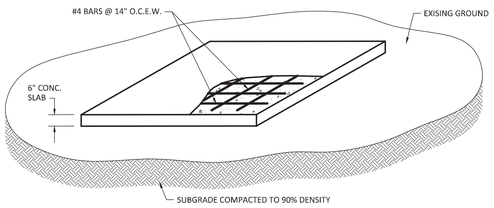
CONCRETE SIDEWALK DETAIL
N.T.S.

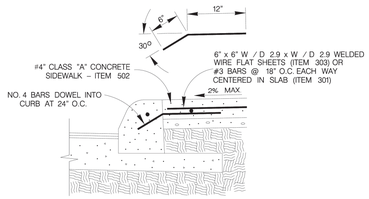


HEADER CURB
N.T.S.

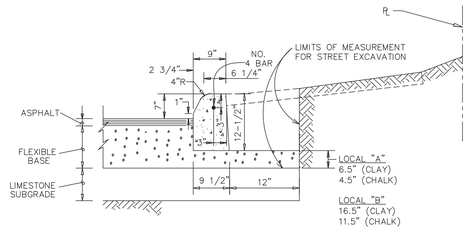


PAVEMENT JUNCTION DETAILS
N.T.S.



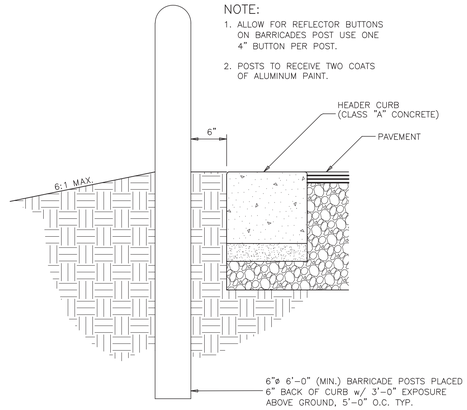


CONCRETE SIDEWALK ABUTTING CURB SECTION
ITEM 502



CURB NOTE: THE COST OF BASE MATERIAL UNDER & BEHIND THE CURB SHALL BE INCLUDED IN THE COST OF THE CURB.

MACHINE LAID CURB
N.T.S. ITEM 500



GUARD POST
N.T.S.

NOTES:

1) THE CONTRACTOR WILL CONSTRUCT CONCRETE SLABS FOR "TEMPORARY MAIL BOX COLLECTION PAD" FOR THE UNITED STATES POSTAL SERVICE AT THE LOCATIONS AND SIZES SPECIFIED BY THE CITY ENGINEER DURING CONSTRUCTION.
2) THE CONSTRUCTION OF SLABS SHALL CONFORM TO ITEM NO. 502 "CONCRETE SIDEWALKS AND DRIVEWAYS"
3) PAYMENT WILL BE MADE UNDER ITEM NO. 502–2 DRIVEWAYS – PER SQUARE YARD.
4) UNIT PRICE WILL INCLUDE REMOVAL OF "TEMPORARY MAIL BOX COLLECTION PAD" SLABS AT THE END OF THE PROJECT. NO SEPARATE PAY ITEM.

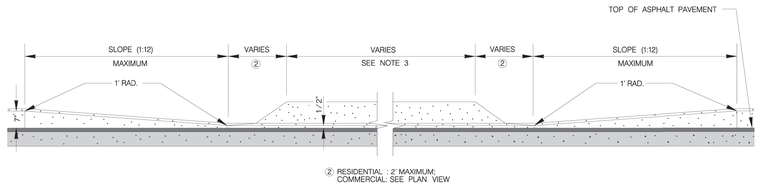
TEMPORARY MAIL BOX COLLECTION PAD

CONCRETE DRIVEWAY NOTES:

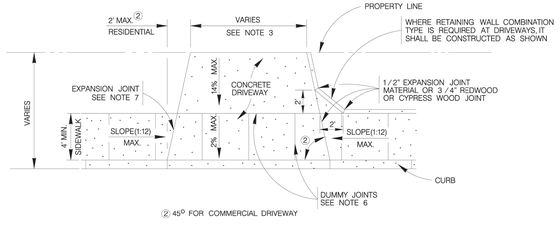
1. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL – ONE WAY	12'	20'
COMMERCIAL – TWO WAY	24'	30'

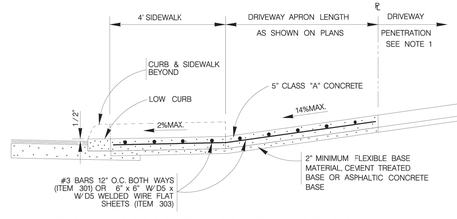
2. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
5. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
6. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%..
7. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



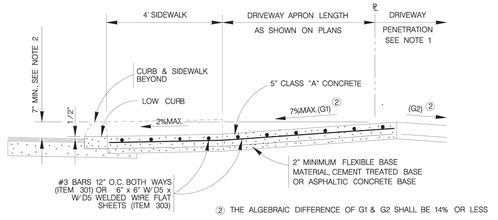
CURB PROFILE AT DRIVEWAY
WITH SIDEWALK ABUTTING CURB



TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK ABUTTING CURB



TYPICAL RESIDENTIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1

REVISIONS

NO.	DESCRIPTION	DATE	PROJ. #	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY:

MTR
• Engineers
• Surveyors
• Planners
Moy Torin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F–5297/SURVEYING: F–10131500
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7/23/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

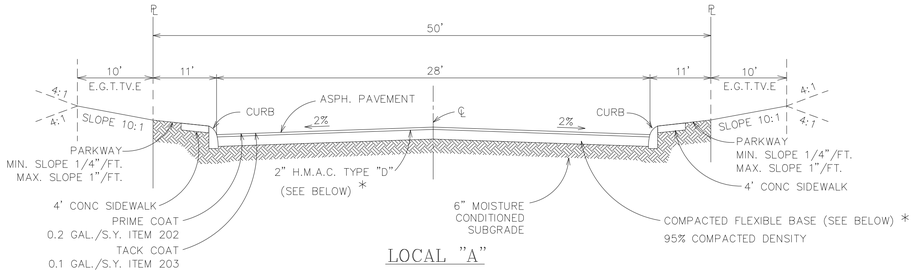
STREET PLAN & PROFILE

STANDARD DETAILS

SHEET
C4.11

Plot Date: April 9, 2021 User ID: Dalisa Gordes
R:\Lonesome Dove\Unit 3\Drawings\22045_U3_CA11_Street Details.dwg

PLAT NO. 22-11800313



LOCAL "A"

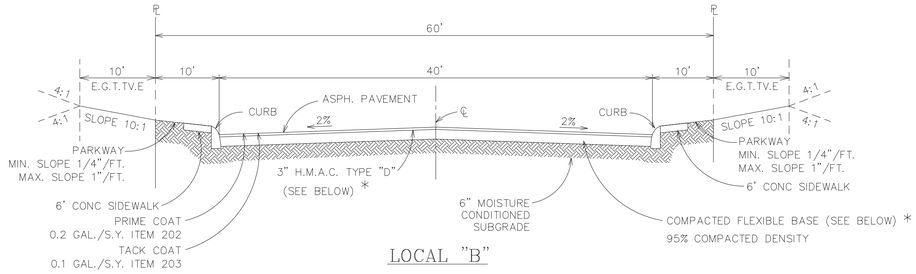
TYPICAL STREET CROSS-SECTION (28' PAVEMENT)

N.T.S.

MAPLE GROVE – STA. 5+64.54 TO 10+09.87
PHLOX PRARIE – STA. 1+10.00 TO STA. 11+38.17
LIVE OAK GROVE – STA. 8+12.33 TO 16+84.43
DEWBERRY GROVE – STA. 1+00.00 TO STA. 9+20.72

* PAVEMENT SECTIONS

PAVEMENT MATERIAL	CLAY SUBGRADE (CBR 4.0) LOCAL A
TYPE D ASPHALTIC CONCRETE	2.0 IN.
FLEXIBLE BASE TXDOT ITEM 247 TYPE A GRADE 2	10.0 IN.
LIME TREATED SUBGRADE ⚠1	6.0 IN. (27 LB./SY.)



LOCAL "B"

TYPICAL STREET CROSS-SECTION (40' PAVEMENT)

N.T.S.

LIVE OAK GROVE – STA. 6+86.69 TO 8+12.33

* PAVEMENT SECTIONS

PAVEMENT MATERIAL	CLAY SUBGRADE (CBR 4.0) LOCAL B
TYPE D ASPHALTIC CONCRETE	3.0 IN.
FLEXIBLE BASE TXDOT ITEM 247 TYPE A GRADE 2	19.0 IN.
LIME TREATED SUBGRADE ⚠1	6.0 IN. (27 LB./SY.)

* PAVEMENT SECTION TO BE DETERMINED BY ENGINEER AFTER INSPECTION OF SUBGRADE DURING CONSTRUCTION.

NOTES:

1. APPLICABLE SPECIFICATIONS FROM "CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION"– JUNE 2008
   200 – FLEXIBLE BASE
   202 – PRIME COAT
   203 – TACK COAT
   205 – HOT MIX ASPHALT CONCRETE PAVEMENT
2. REFER TO INTEC GEOTECHNICAL REPORT FOR ADDITIONAL PAVEMENT CONSTRUCTION INFORMATION A. "SUBSURFACE EXPLORATION & PAVEMENT ANALYSIS FOR PROPOSED NEW STREETS – LONESOME DOVE TRACT, SAN ANTONIO, TEXAS, DATED AUGUST 23, 2019, PROJECT #S191348–P.
3. CONTRACTOR TO COORDINATE ALL MATERIAL TESTING

NOTE:
FILL MATERIAL SHALL HAVE A PLASTICITY INDEX OF LESS THAN 20 AND A CALIFORNIA BEARING RATIO (CBR) OF AT LEAST 4.0

NOTE:
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.

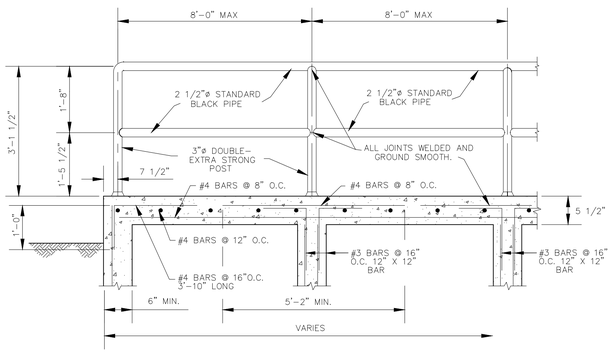
NOTE:
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

Subgrade Notes (*):

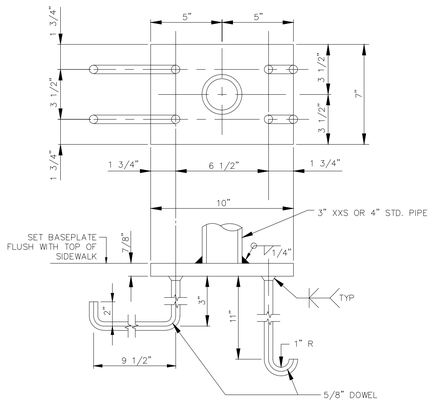
- Cut and fill data are not available at this time.
- Based on the soils encountered in the borings, we anticipate the final pavement subgrade Plasticity Index value to be less than 20. As per Bexar County / City of San Antnio requirements, subgrade stabilization / treatment is not needed when the Plasticity Index values are greater than 20.
- However, if the final pavement subgrade Plasticity Index values are greater than 20, then:
  - The subgrade should be treated to a depth of 6 inches using 5 percent lime content.
  - The subgrade soils should be tested for soil sulfate content prior to treatment. If the soil sulfate content is over 3000 ppm, an alternate procedure will be needed.
    - Lime application rate of 27 lbs per sq yard for 6-inch depth of treatment may be used for planning purposes. The application rate should be determined at the time of construction.
    - Cement may also be used to treat the subgrade in lieu of lime. Please call InTEC to determine the cement application rate.
- If the clays are removed to expose stratum II soils at the pavement subgrade elevation and the Plasticity Index values are 20 or less, then the treatment of the subgrade is not needed.

General Notes (**):

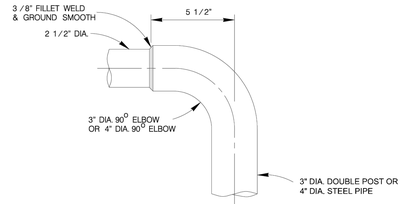
- Input parameters used in pavement section calculations are shown in Table No. 6. Please call us to provide pavement recommendations, if needed, for different input values.
- If repetitive truck or heavy truck traffic is anticipated, please contact us for revised pavement recommendations.
- Pavement section recommendations are based on a subgrade CBR value of 4.0. The pavement recommendations are not based on the shrink / swell characteristics of the underlying soils. The pavement can experience cracking and deformation due to shrinkage and swelling characteristics of the soils as described in the Vertical Movements section of this report.
- If water is allowed to get underneath the asphalt or if moisture content of the base or subgrade changes significantly, then pavement distress will occur. Moisture penetration underneath the asphalt pavement surface may be reduced by installing a vertical moisture barrier, such as deeper curbs; curbs extending a minimum of 6 inches into subgrade.



TYPICAL SIDEWALK BRIDGE SECTION AND SIDEWALK PIPE RAILING
(N.T.S.)



PIPE ANCHOR DETAILS
(N.T.S.)



DETAIL OF 90° WELDING ELBOWS

* A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.

SCALE : 1" = 8"

NO.	DATE	REVISIONS DESCRIPTION	BY:	DATE:
1	9/04/24	UPDATED STREET SECTION		

PROJ. # | DGN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS ENGINEERING F-5297/SURVEYING F-10075500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5055

4/4/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3
STANDARD STREET DETAILS
TYPICAL STREET SECTIONS

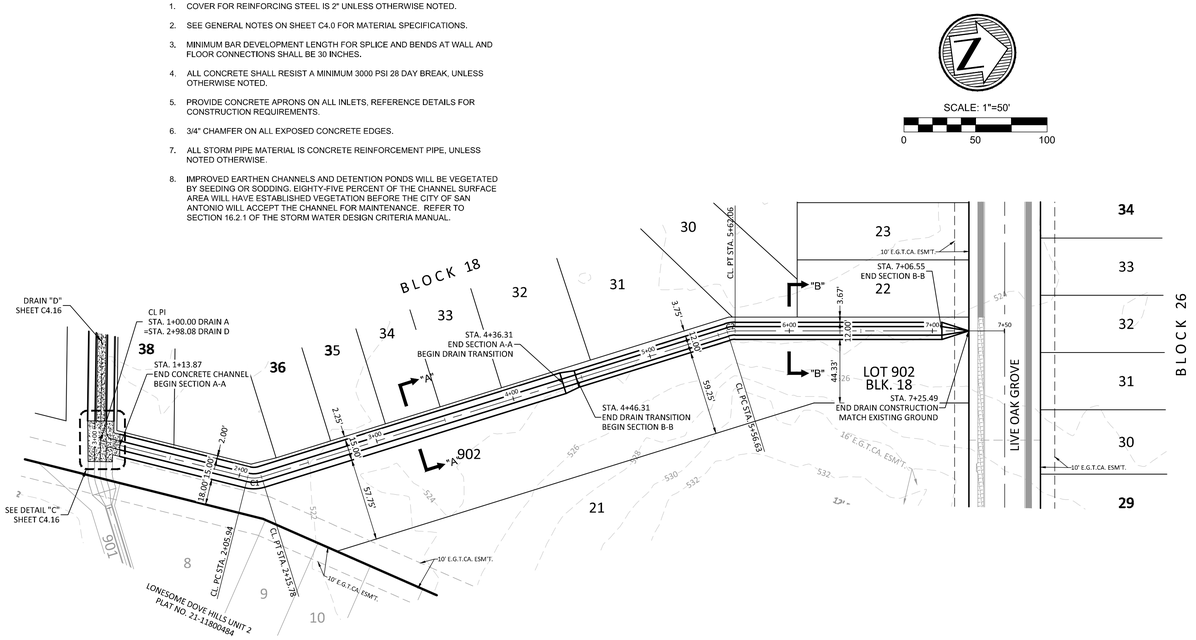
SHEET
C4.12

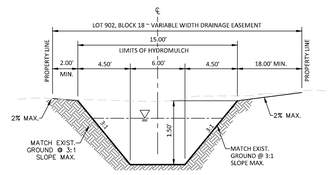
Plot Date: April 9, 2021 User ID: Dalia Cortes
P:\Lonesome Dove\Unit 3\Drawings\Civil_Sbs-Streets.dwg

PLAT NO. 22-11800313

NOTES:

1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.



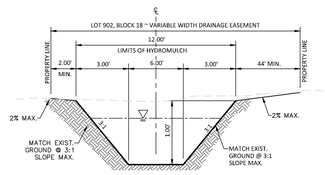


SECTION "A-A"

(N.T.S.)

STA. 1+13.87 TO STA. 4+36.31

NOTE: IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO OR BEXAR COUNTY WILL ACCEPT THE CHANNEL FOR MAINTENANCE.



SECTION "B-B"

(N.T.S.)

STA. 4+46.31 TO STA. 7+06.55

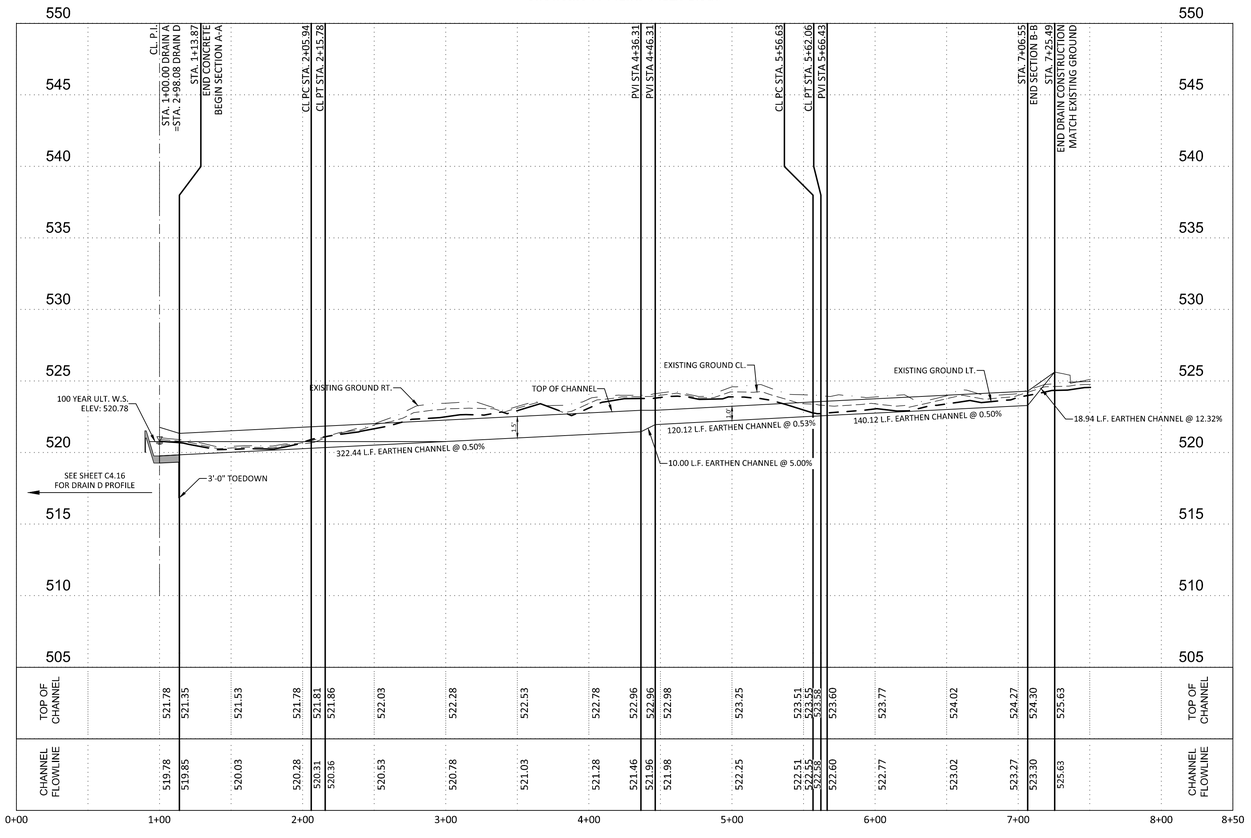
NOTE: IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO OR BEXAR COUNTY WILL ACCEPT THE CHANNEL FOR MAINTENANCE.

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	9.84'	18.00'	31°19'03"	5.04'	9.72'
C2	5.43'	18.00'	17°16'28"	2.73'	5.41'

DRAIN "A"

STA. 1+00.00 TO 7+25.49 (PUBLIC DRAIN)

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



MTR
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Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL.: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

REVISIONS

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

4/23/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

DRAIN PLAN & PROFILE

DRAIN "A"

STA. 1+00.00 TO STA. 7+25.49

SHEET

C4.13

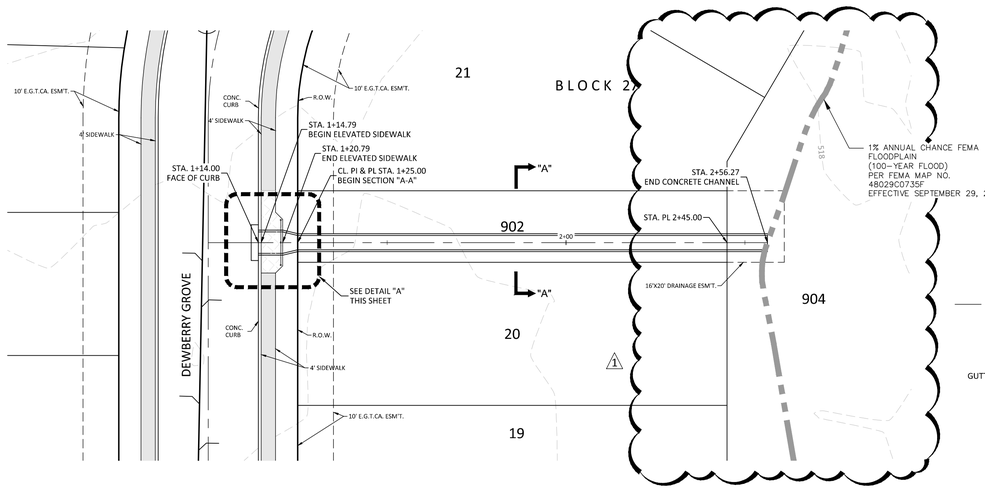
SUBMITTAL SET

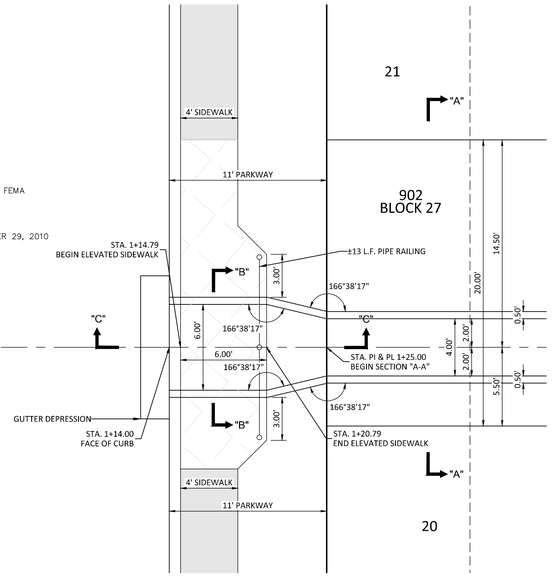
Plot Date: April 9, 2021 User ID: Dalina Cordes
P:\Lonesome Dove\Unit 3\Drawings\Civil\C_Title Drawings.dwg

PLAT NO. 22-11800313

SCALE: 1"=20'

0 20 40





DETAIL A

SCALE: 1" = 5'

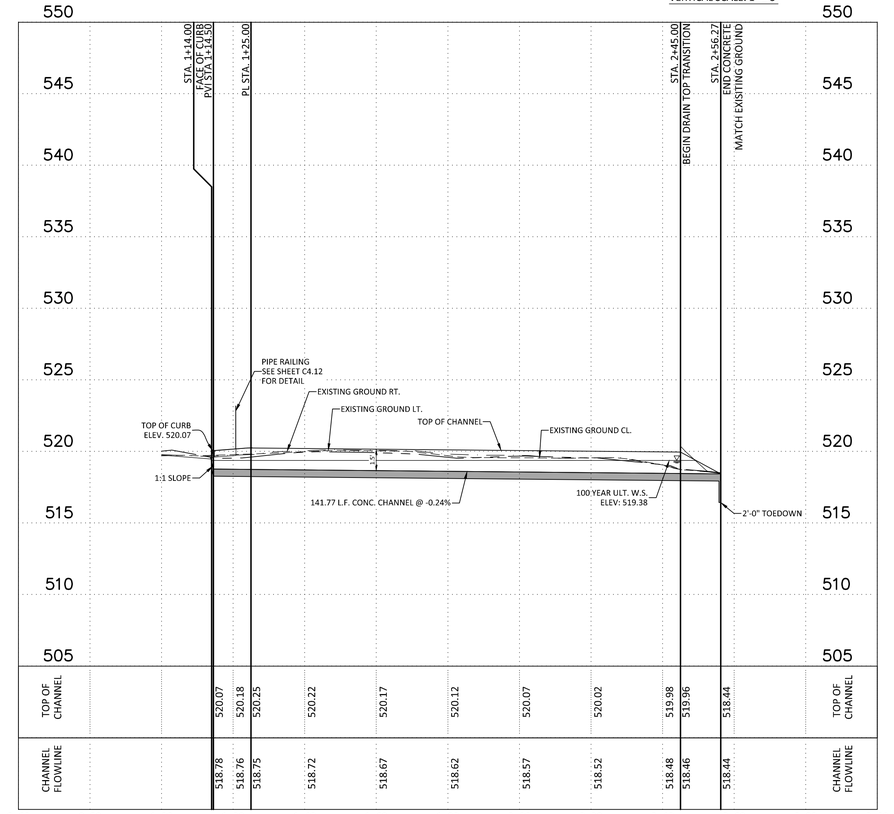
NOTES:

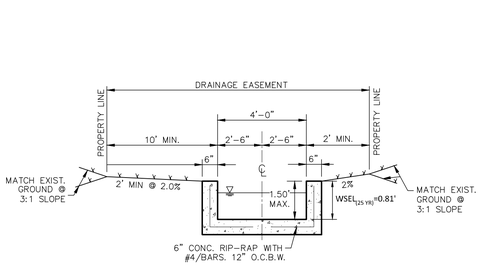
1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.

DRAIN "B"

STA. 1+14.00 TO 2+56.27 (PUBLIC DRAIN)

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

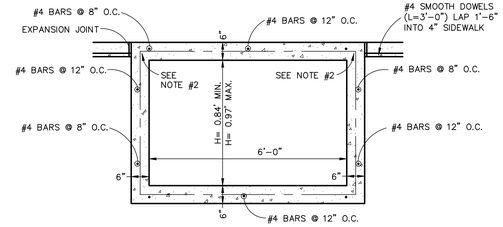




SECTION "A-A"

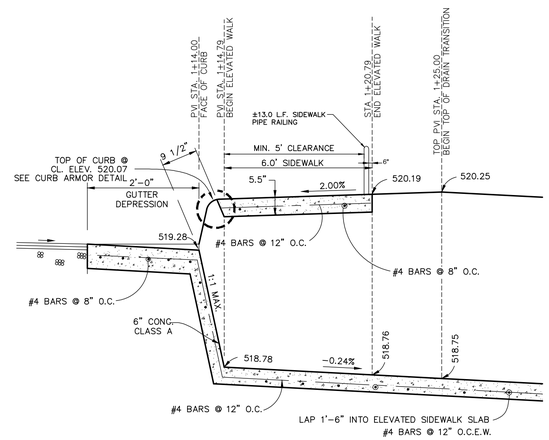
(N.T.S.)

STA. 1+25.00 TO STA. 2+56.27



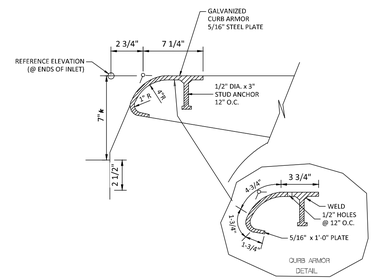
SECTION "B-B"

(N.T.S.)



SECTION "C-C"

(N.T.S.)



CURB ARMOR DETAIL

(N.T.S.)

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

1/27/25

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

DRAIN PLAN & PROFILE

DRAIN "B"

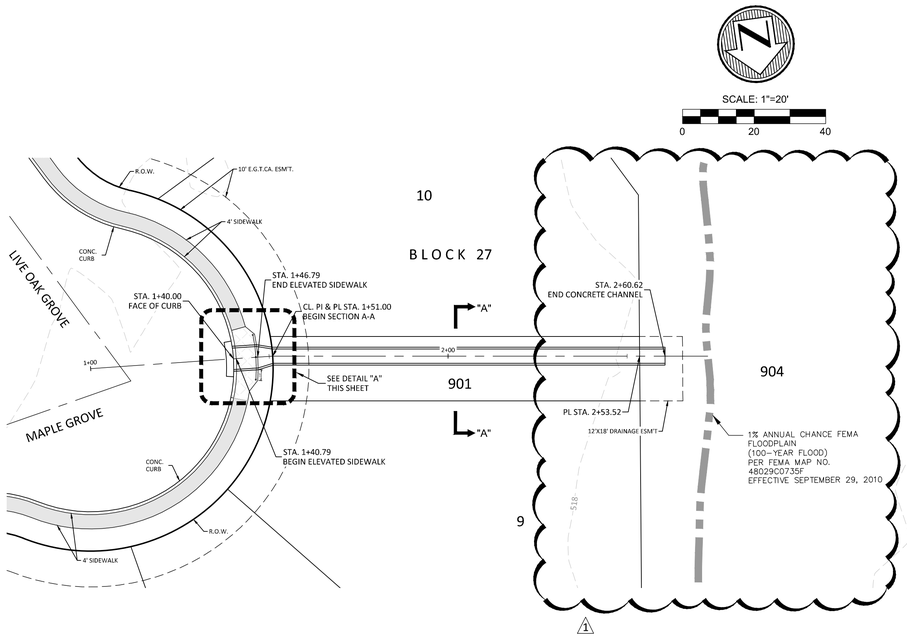
STA. 1+14.00 TO STA. 2+56.27

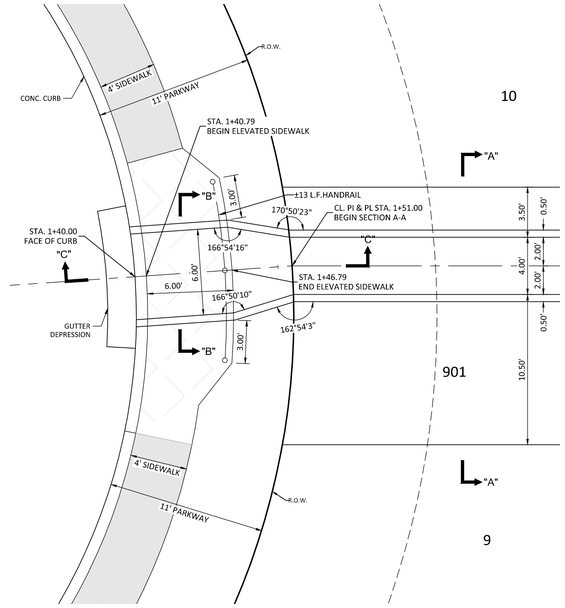
SHEET

C4.14

Plot Date: April 9, 2021 User ID: Dalia Gerdes
S:\Lonesome Dove Unit 3\Drawings\CDs\C3.14 Drain B P&P.dwg

PLAT NO. 22-11800313





DETAIL A
SCALE: 1" = 5'

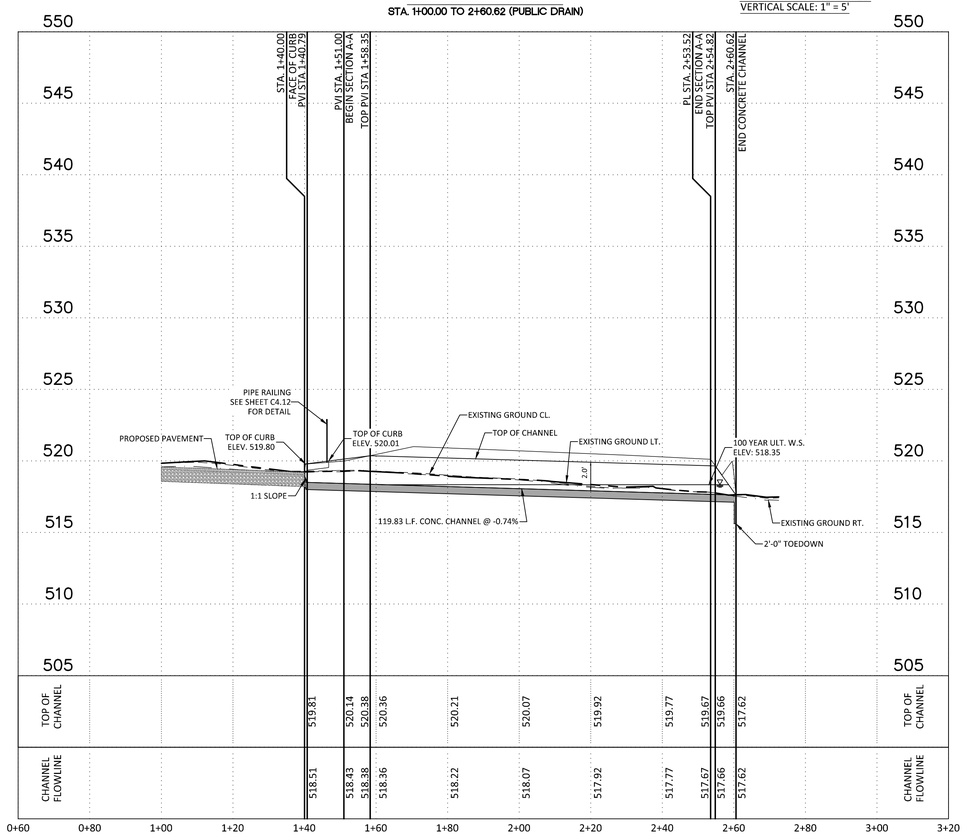
NOTES:

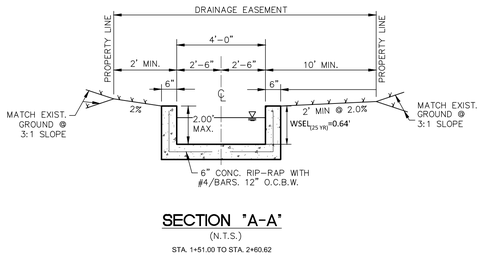
1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.

DRAIN "C"

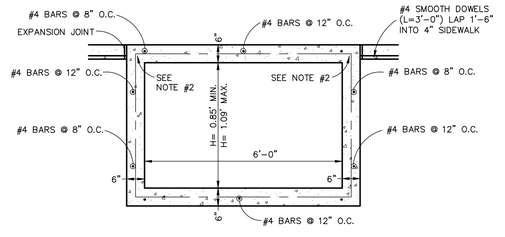
STA. 1+00.00 TO 2+60.62 (PUBLIC DRAIN)

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

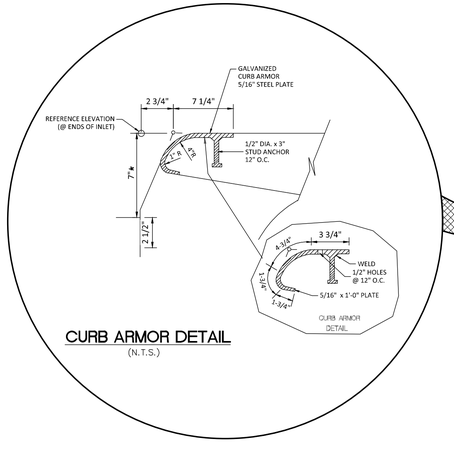




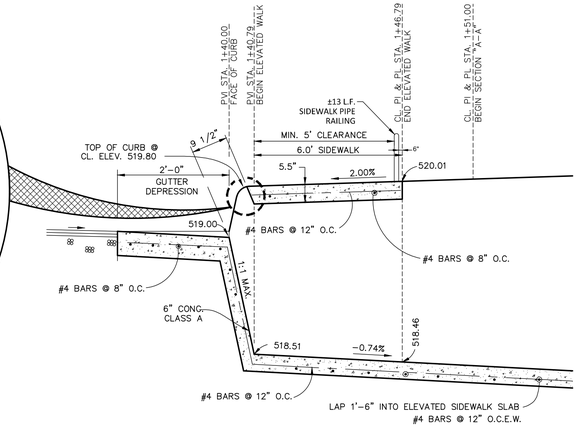
SECTION "A-A"
(N.T.S.)
STA. 1+51.00 TO STA. 2+60.62



SECTION "B-B"
(N.T.S.)



CURB ARMOR DETAIL
(N.T.S.)



SECTION "C-C"
(N.T.S.)

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER
1/27/25

LONESOME DOVE HILLS UNIT 3

DRAIN PLAN & PROFILE
DRAIN "C"
STA. 1+00.00 TO STA. 2+60.62

SHEET
C4.15

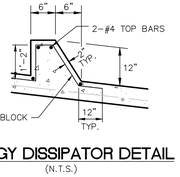
Plot Date: April 9, 2021 User ID: Dorina Gordon
P:\Lennar\Lonesome Dove\Unit 3\Drawings\Plat\C4.15_Drain C PNP.dwg

PLAT NO. 22-11800313

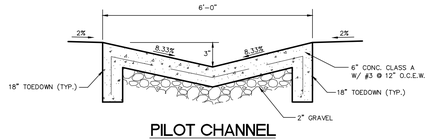
NOTES:

1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.

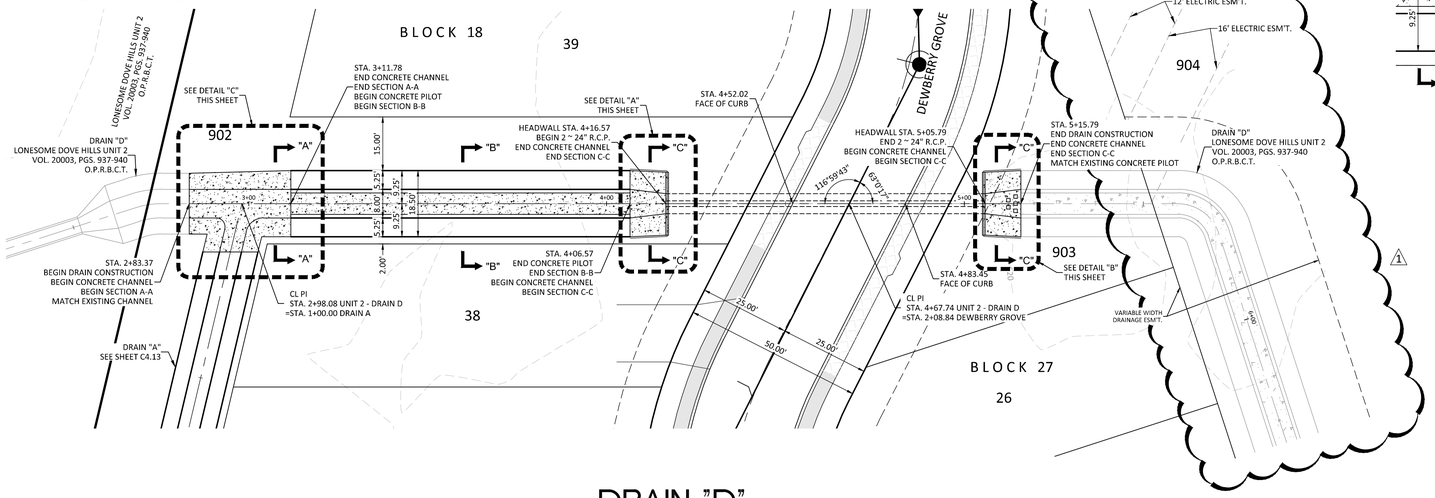
SCALE: 1"=20'
0 20 40



ENERGY DISSIPATOR DETAIL
(N.T.S.)

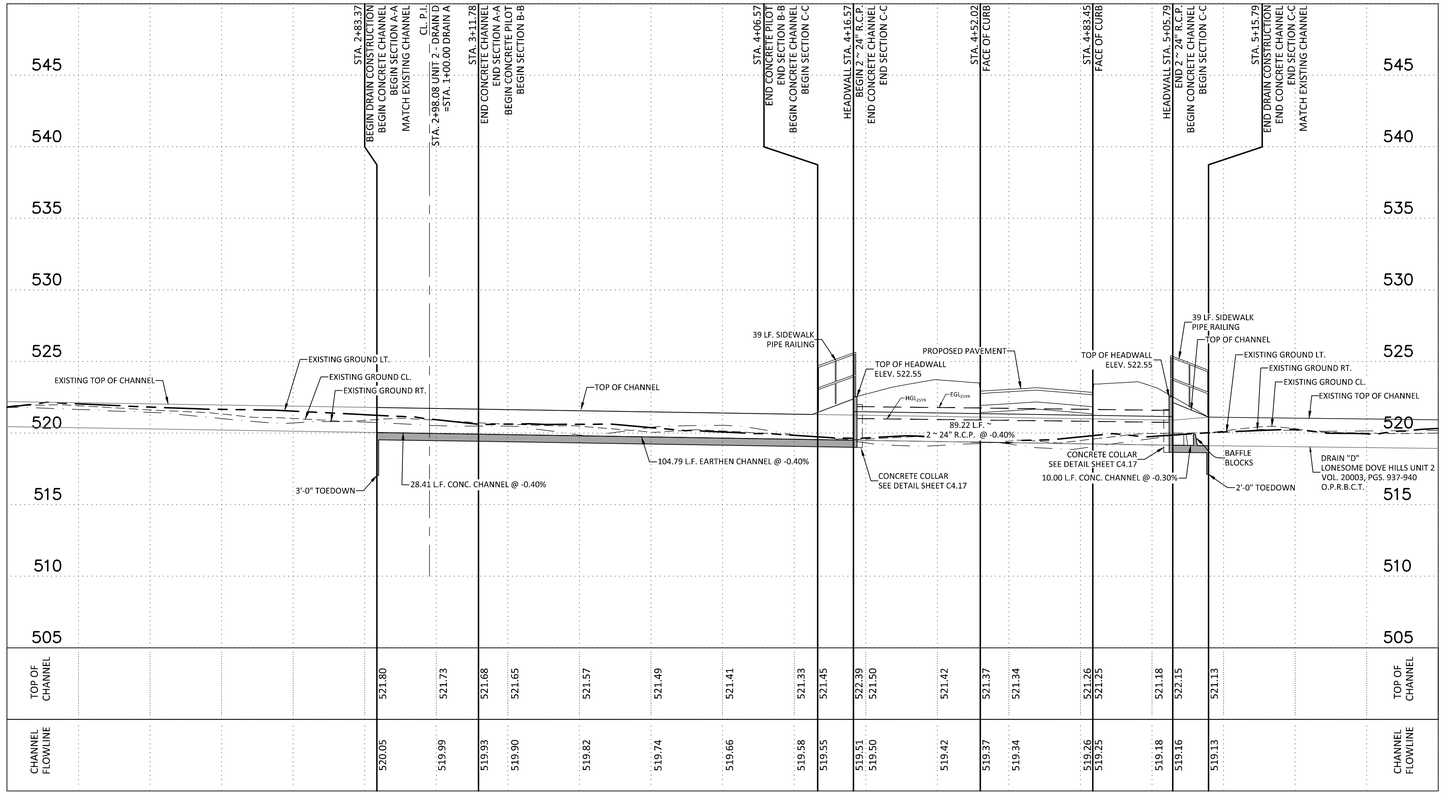


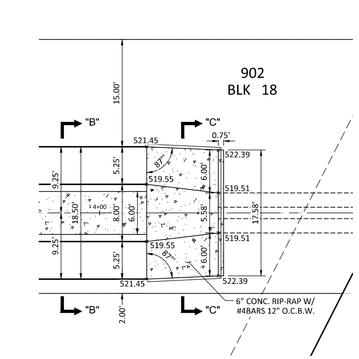
PILOT CHANNEL
(N.T.S.)



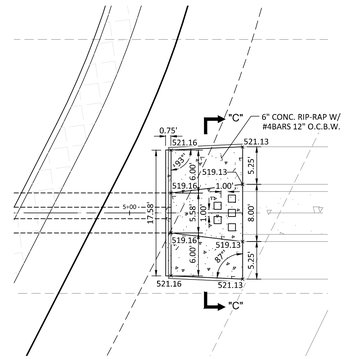
DRAIN "D"
STA. 2+83.37 TO 5+15.79 (PUBLIC DRAIN)

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

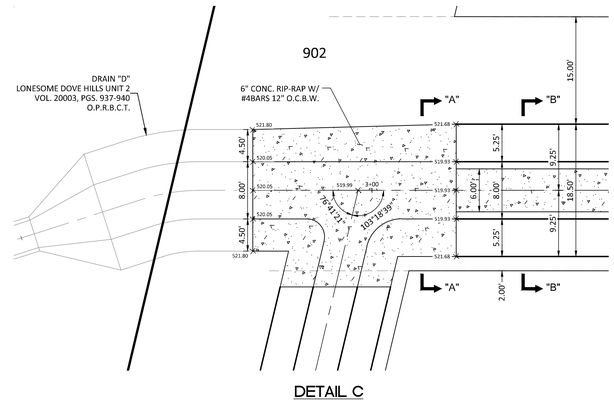




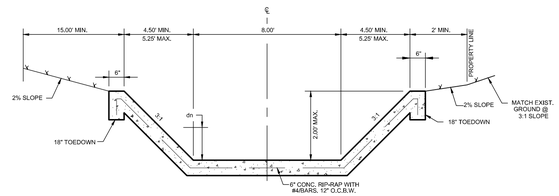
DETAIL A
SCALE: 1" = 5'



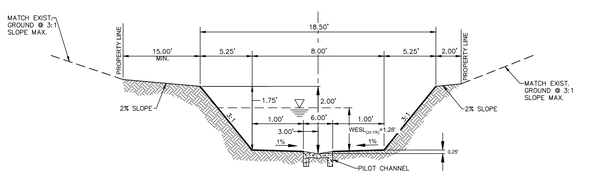
DETAIL B
SCALE: 1" = 5'



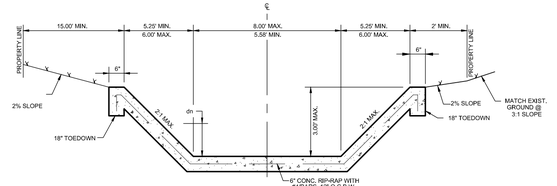
DETAIL C
SCALE: 1" = 5'



SECTION "A-A"
(N.T.S.)
STA. 2+83.87 TO STA. 3+11.78



SECTION "B-B"
(N.T.S.)
STA. 3+11.78 TO STA. 4+06.57



SECTION "C-C"
(N.T.S.)
STA. 4+06.57 TO STA. 4+16.57
STA. 5+05.79 TO STA. 5+15.79

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
A	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
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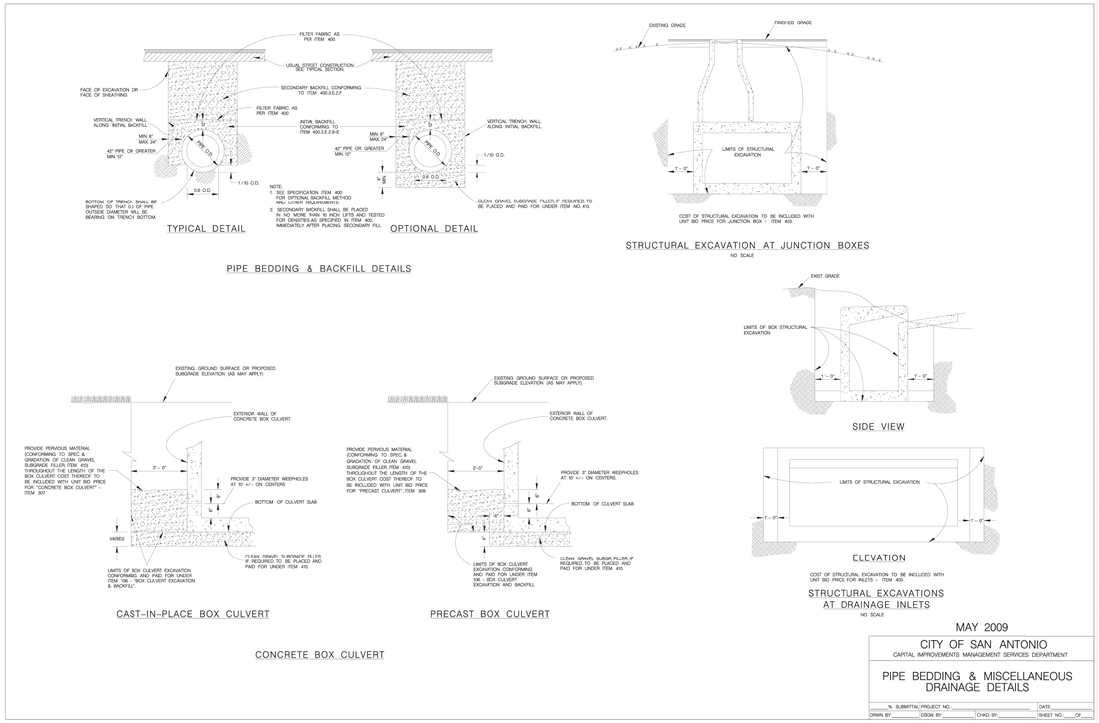
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER
1/27/25

LONESOME DOVE HILLS UNIT 3
DRAIN PLAN & PROFILE
DRAIN "D"
STA. 2+83.37 TO STA. 5+15.79

SHEET
C4.16

Plot Date: April 9, 2025 User ID: Dallas Gordon
P:\Documents and Data\2019\Projects\2019-033_LDH3_Civil_Civil_Drawings_Dwg\Plat Dwg

PLAT NO. 22-11800313



PIPE BEDDING & BACKFILL DETAILS

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR JUNCTION BOX - ITEM 400.

STRUCTURAL EXCAVATION AT JUNCTION BOXES

NO SCALE

CONCRETE BOX CULVERT

SIDE VIEW

ELEVATION

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR INLETS - ITEM 400.

STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS

NO SCALE

MAY 2009

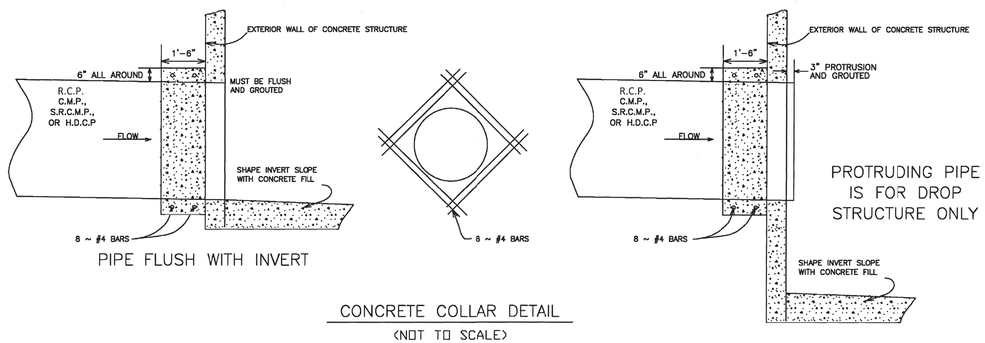
CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

PIPE BEDDING & MISCELLANEOUS DRAINAGE DETAILS

% SUBMITTAL	PROJECT NO.	DATE
DRWN. BY:	DSGN. BY:	CHKD. BY:	SHEET NO. ____OF____

1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A-15. THE DEFORMATION SHALL CONFORM TO ASTM. A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).



CONCRETE COLLAR DETAIL

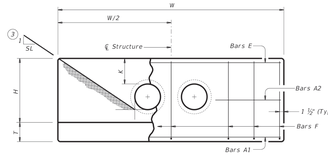
(NOT TO SCALE)

TABLE OF VARIABLE DIMENSIONS ⑤ AND QUANTITIES FOR ONE HEADWALL

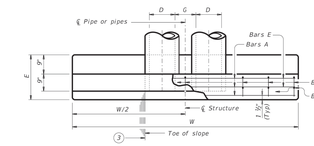
Slope	Dia of Pipe (D)	Values for One Pipe: W	Reinf (Lbs) ①	Conc (CY) ②	Values To Be Added For Each Addt'l Pipe: W	Reinf (Lbs) ①	Conc (CY) ②
2:1	12"	9'-0"	122	1.1	1'-9"	15	0.2
	15"	10'-3"	136	1.3	2'-2"	16	0.2
	18"	11'-6"	163	1.5	2'-8"	19	0.3
	21"	12'-9"	200	1.8	3'-1"	31	0.4
	24"	14'-0"	217	2.1	3'-7"	34	0.4
	27"	15'-3"	254	2.4	3'-11"	37	0.5
	30"	16'-6"	272	2.7	4'-4"	40	0.6
	33"	17'-9"	314	3.1	4'-8"	43	0.6
	36"	19'-0"	371	3.9	5'-1"	46	0.8
	42"	21'-6"	442	4.9	5'-10"	52	1.0
	48"	25'-0"	569	6.4	6'-7"	59	1.3
	54"	27'-6"	701	7.5	7'-6"	82	1.6
	60"	30'-0"	794	8.8	8'-3"	90	1.8
	66"	32'-6"	894	10.2	8'-9"	96	2.0
	72"	35'-0"	1,055	11.7	9'-4"	103	2.3
3:1	12"	13'-0"	175	1.6	1'-9"	14	0.2
	15"	14'-9"	193	1.9	2'-2"	17	0.2
	18"	16'-6"	228	2.2	2'-8"	19	0.3
	21"	18'-3"	299	2.6	3'-1"	31	0.4
	24"	20'-0"	323	3.0	3'-7"	33	0.4
	27"	21'-9"	371	3.5	3'-11"	37	0.5
	30"	23'-6"	415	4.0	4'-4"	40	0.5
	33"	25'-3"	469	4.6	4'-8"	43	0.6
	36"	27'-0"	556	5.7	5'-1"	46	0.8
	42"	30'-6"	675	7.1	5'-10"	52	1.0
	48"	35'-6"	837	9.2	6'-7"	59	1.3
	54"	39'-0"	1,015	11.0	7'-6"	84	1.6
	60"	42'-6"	1,171	12.9	8'-3"	91	1.8
	66"	46'-0"	1,298	14.9	8'-9"	98	2.0
	72"	49'-6"	1,561	17.1	9'-4"	103	2.3
4:1	12"	17'-0"	229	2.0	1'-9"	15	0.2
	15"	19'-3"	266	2.4	2'-2"	17	0.2
	18"	21'-6"	308	2.9	2'-8"	19	0.3
	21"	23'-9"	382	3.5	3'-1"	31	0.3
	24"	26'-0"	430	3.9	3'-7"	34	0.4
	27"	28'-3"	486	4.7	3'-11"	37	0.5
	30"	30'-6"	539	5.2	4'-4"	40	0.6
	33"	32'-9"	603	6.0	4'-8"	42	0.6
	36"	35'-0"	738	7.5	5'-1"	47	0.8
	42"	39'-6"	881	9.3	5'-10"	52	1.0
	48"	46'-0"	1,102	12.1	6'-7"	61	1.3
	54"	50'-6"	1,364	14.4	7'-6"	84	1.6
	60"	55'-0"	1,547	16.9	8'-3"	91	1.8
	66"	59'-6"	1,741	19.5	8'-9"	98	2.0
	72"	64'-0"	2,077	22.4	9'-4"	102	2.3
6:1	12"	25'-0"	336	3.0	1'-9"	14	0.2
	15"	28'-3"	384	3.6	2'-2"	17	0.2
	18"	31'-6"	452	4.2	2'-8"	19	0.3
	21"	34'-9"	581	5.1	3'-1"	31	0.4
	24"	38'-0"	644	5.8	3'-7"	34	0.4
	27"	41'-3"	737	6.9	3'-11"	37	0.5
	30"	44'-6"	807	7.7	4'-4"	39	0.6
	33"	47'-9"	912	8.9	4'-8"	44	0.6
	36"	51'-0"	1,108	11.0	5'-1"	48	0.8
	42"	57'-6"	1,318	13.7	5'-10"	54	1.0
	48"	67'-0"	1,682	17.9	6'-7"	59	1.3
	54"	73'-6"	2,072	21.3	7'-6"	83	1.6
	60"	80'-0"	2,351	24.9	8'-3"	89	1.8
	66"	86'-6"	2,643	28.9	8'-9"	96	2.0
	72"	93'-0"	3,121	33.1	9'-4"	101	2.3

DATE

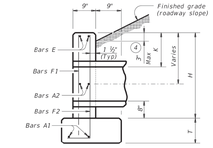
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the Texas Department of Transportation for any purpose whatsoever. The Texas Department of Transportation shall not be responsible for the incorrect results or damages resulting from its use.



ELEVATION



PLAN OF NON-SKEWED PIPES



SECTION AT CENTER OF PIPE

BARS F2

(1) Total quantities include one 3'-1" lap for bars over 60' in length.

(2) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(3) Indicated slope is perpendicular to centerline pipe or pipes.

(4) For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(5) Dimensions shown are usual and maximum.

(6) Quantities shown are for one structure end only (one headwall).

TABLE OF CONSTANT DIMENSIONS

Dia of Pipe (D)	G	K ⑤	H	T	E
12"	0'-9"	1'-0"	2'-8"	0'-9"	1'-9"
15"	0'-11"	1'-0"	2'-11"	0'-9"	1'-9"
18"	1'-2"	1'-0"	3'-2"	0'-9"	1'-9"
21"	1'-4"	1'-0"	3'-5"	0'-9"	2'-0"
24"	1'-7"	1'-0"	3'-8"	0'-9"	2'-0"
27"	1'-8"	1'-0"	3'-11"	0'-9"	2'-3"
30"	1'-10"	1'-0"	4'-2"	0'-9"	2'-3"
33"	1'-11"	1'-0"	4'-5"	0'-9"	2'-6"
36"	2'-1"	1'-0"	4'-8"	1'-0"	2'-6"
42"	2'-4"	1'-0"	5'-2"	1'-0"	2'-9"
48"	2'-7"	1'-3"	5'-11"	1'-0"	3'-0"
54"	3'-0"	1'-3"	6'-5"	1'-0"	3'-3"
60"	3'-3"	1'-3"	6'-11"	1'-0"	3'-6"
66"	3'-3"	1'-3"	7'-5"	1'-0"	3'-9"
72"	3'-4"	1'-3"	7'-11"	1'-0"	4'-0"

TABLE OF REINFORCING STEEL ⑥

Bar	Size	Spa	No.
A1	#5	~	2
A2	#5	1'-6"	~
E	#5	~	2
F	#5	1'-0"	~

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not round bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation — Bridge Division Standard

CONCRETE HEADWALLS WITH PARALLEL WINGS FOR NON-SKEWED PIPE CULVERTS

CH-PW-0

FILE:	chpw0dx-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

REVISIONS

NO.	DATE	DESCRIPTION	BY:

DATE: | CHKD. BY: | DWN. BY: | DSN. BY: | PROJ. #

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

7/25/24
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS UNIT 3

DRAIN PLAN & PROFILE
STANDARD DETAILS

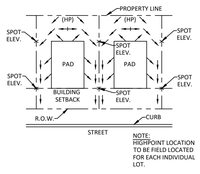
SHEET

C4.17

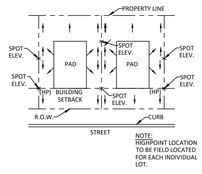
SUBMITTAL SET

Plot Date: July 25, 2024 User ID: Dalila Gordo
M:\Engineering Data\Land Development\Projects\2024\LDS\LDS-C4.17.dgn, Dalila Key

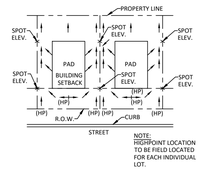
PLAT NO. 22-11800313



TYPICAL "A" LOT GRADING
N.T.S.



TYPICAL "B" LOT GRADING
N.T.S.



TYPICAL "C" LOT GRADING
N.T.S.

LEGEND

A	= DRAINAGE TO FRONT OF LOT
B	= DRAINAGE TO BOTH FRONT AND REAR LOT
C	= DRAINAGE TO REAR OF LOT
	= CLEARING AND/OR GRADING OF UTILITY EASEMENTS
× 1024.00	= PROPOSED ELEVATION
⊠ 1024.00E	= EXISTING ELEVATION
1024	= EXISTING CONTOUR
1024	= PROPOSED CONTOUR
	= PROPERTY LINE
	= GRADE BREAK

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 THE SITE.

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 ENGINEER.

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.

7. ROCK

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 STRUCTURES).

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 PURPOSE 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.

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

REVISIONS

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL.: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

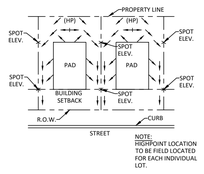
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

GRADING PLAN

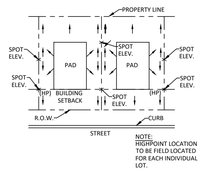
SHEET
C5.0

Plot Date: June 26, 2025 User ID: Ana-Maria Morales
S:\Lonesome Dove Unit 3\Drawings\2025-06-25\C5.0-Grading.dwg



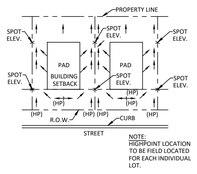
TYPICAL 'A' LOT GRADING

N.T.S.



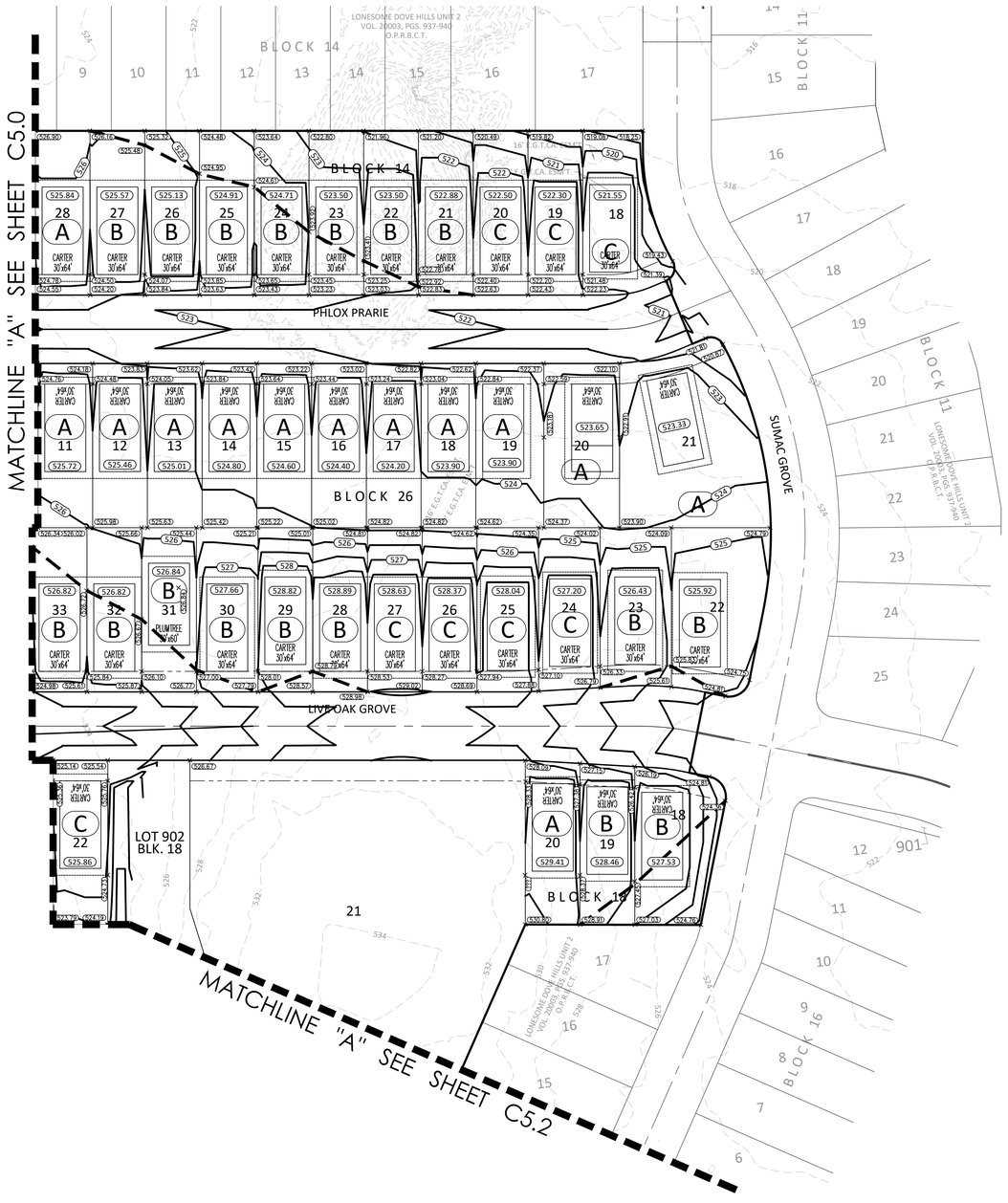
TYPICAL 'B' LOT GRADING

N.T.S.



TYPICAL 'C' LOT GRADING

N.T.S.



LEGEND

A	= DRAINAGE TO FRONT OF LOT
B	= DRAINAGE TO BOTH FRONT AND REAR LOT
C	= DRAINAGE TO REAR OF LOT
	= CLEARING AND/OR GRADING OF UTILITY EASEMENTS
× 1024.00	= PROPOSED ELEVATION
⊠ 1024.00E	= EXISTING ELEVATION
1024	= EXISTING CONTOUR
1024	= PROPOSED CONTOUR
	= PROPERTY LINE
	= GRADE BREAK

PLAT NO. 22-11800313

GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

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3. SCARIFYING THE AREA TO BE FILLED

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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 ENGINEER.

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7. ROCK

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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 STRUCTURES).

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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.
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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.

SCALE: 1"=50'

0 50 100

SUBMITTAL SET

REVISIONS								
NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F--10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698--5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698--5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

GRADING PLAN

SHEET

C5.1

Plot Date: June 26, 2025 User ID: Ana-Maria Morales
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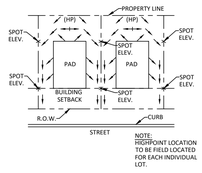
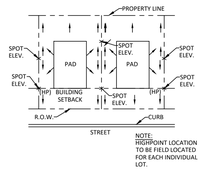
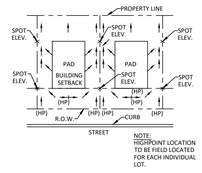
PLAT NO. 22-11800313



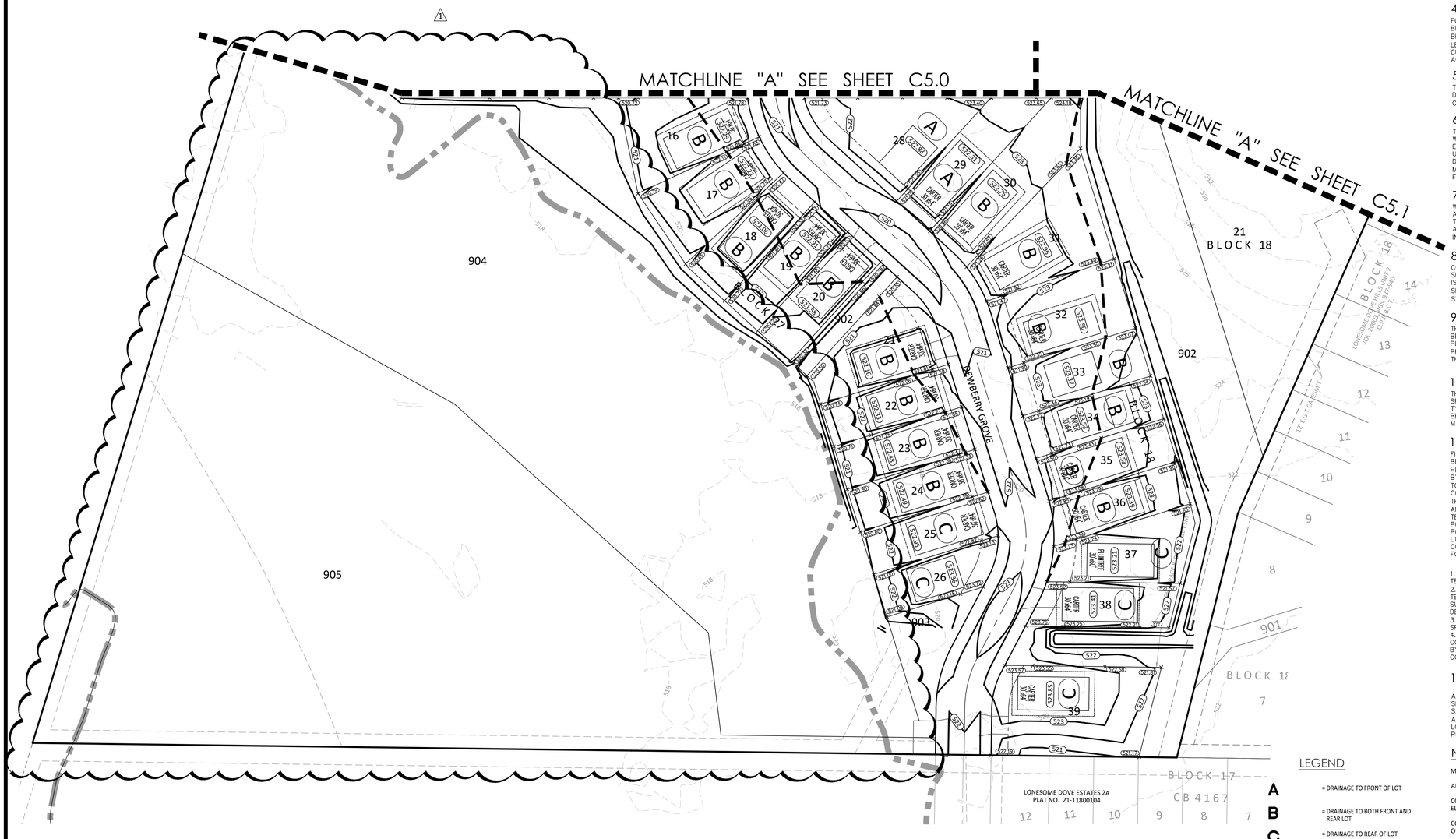
TYPICAL 'A' LOT GRADING
N.T.S.



TYPICAL 'B' LOT GRADING
N.T.S.



TYPICAL 'C' LOT GRADING
N.T.S.



LEGEND

A	= DRAINAGE TO FRONT OF LOT
B	= DRAINAGE TO BOTH FRONT AND REAR LOT
C	= DRAINAGE TO REAR OF LOT
	= CLEARING AND/OR GRADING OF UTILITY EASEMENTS
× 1024.00	= PROPOSED ELEVATION
⊠ 1024.00E	= EXISTING ELEVATION
1024	= EXISTING CONTOUR
1024	= PROPOSED CONTOUR
	= PROPERTY LINE
	= GRADE BREAK

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 THE SITE.

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 ENGINEER.

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.

7. ROCK

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 STRUCTURES).

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 PURPOSE 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.

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS	

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers • Surveyors • Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F--10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698--5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698--5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

GRADING PLAN

SHEET
C5.2

Plot Date: June 26, 2025 User ID: Ana-Maria Morales
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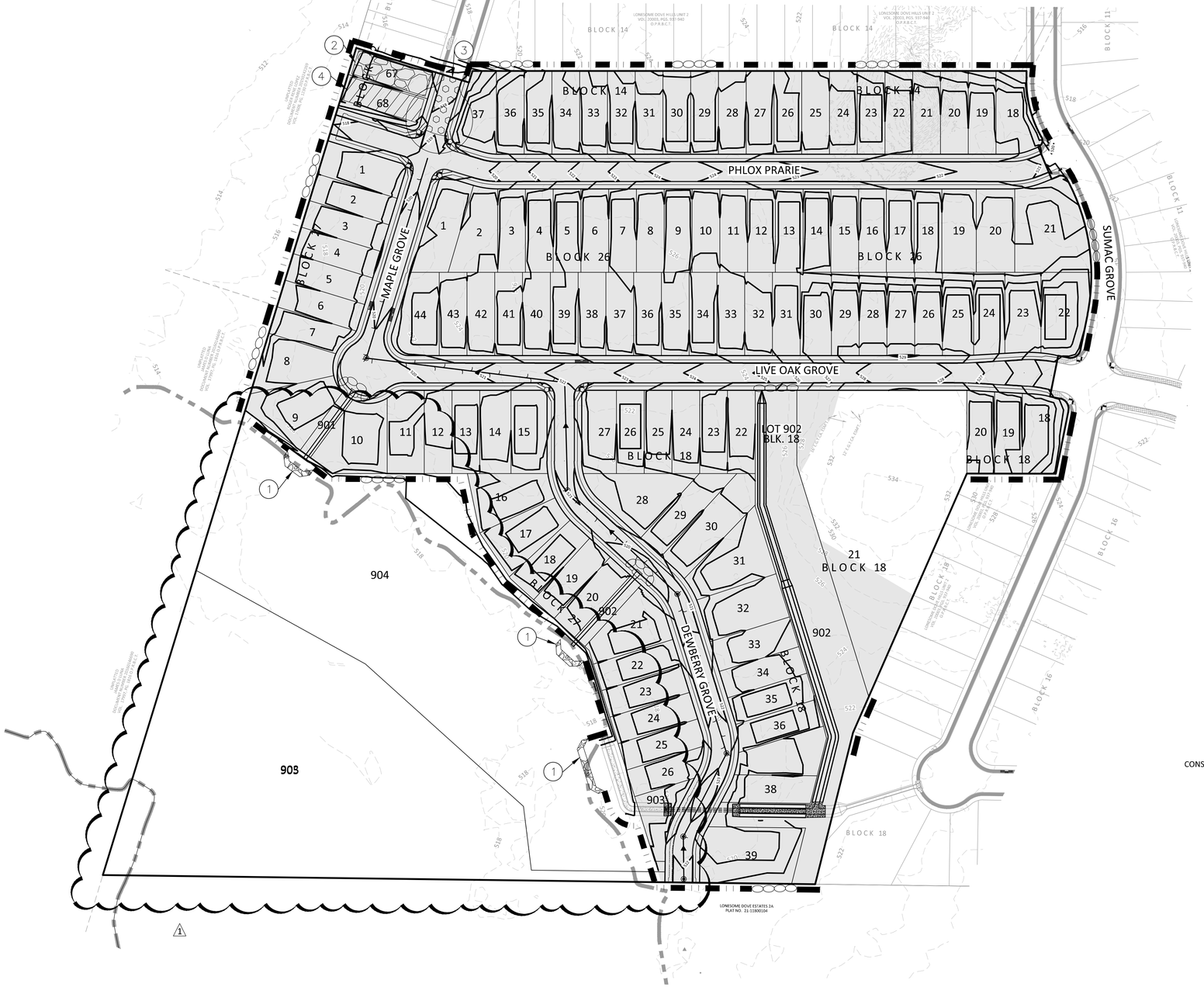
PLAT NO. 22-11800313

SCALE: 1"=80'
0 80 160



LEGEND

- PROPERTY BOUNDARY
- AREA OF SOIL DISTURBANCE
- EXISTING CONTOUR (100)
- PROPOSED CONTOUR (100)
- SILT FENCE
- ROCK BERM (1)
- CONSTRUCTION STAGING AREA (2)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (3)
- CONCRETE WASHOUT PIT (4)
- BAGGED GRAVEL INLET FILTER
- 100-YEAR FLOODPLAIN

GENERAL NOTES:

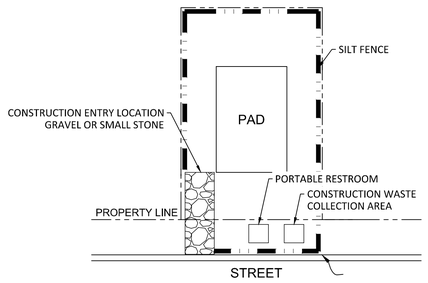
1. CONTRACTOR WILL INSPECT BMP'S AT LEAST TWICE A WEEK (EVERY 14 DAYS) AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAINFALL. CONTROLS WILL BE REPAIRED, REPLACED, AND/OR REVISED AS NECESSARY.
2. CONTRACTOR TO PLACE TRENCH EXCAVATION MATERIAL ON THE UPGRADIENT (HIGH) SIDE OF THE TRENCH.
3. ALL SOIL, SAND, GRAVEL, AND EXCAVATED MATERIALS STOCKPILED ON-SITE WILL HAVE APPROPRIATELY SIZED SILT FENCE PLACED UPGRADIENT AND DOWN GRADIENT.

GENERAL NOTES:

1. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
2. MAINTENANCE - THE ENTRANCE/EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC 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 ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
3. DRAINAGE - ENTRANCE/EXIT MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

NOTE:

1. ALL CITY PUBLIC SERVICE WORK IS INCLUDED AS PART OF THE CONSTRUCTION OF THE SUBDIVISION AND HAS BEEN CONSIDERED IN THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. CONTRACTOR TO INSTALL AND MAINTAIN THE EROSION AND SEDIMENTATION CONTROLS AS DESIGNED AND SHALL INSPECT THE CONTROLS BI-WEEKLY (14 DAYS) AND AFTER EVERY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO ENSURE SIGNIFICANT DISTURBANCE HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A SIGNIFICANT RAINFALL SHALL BE REMOVED AND PLACED IN A DESIGNATED SOIL DISPOSAL AREA. CONTRACTOR TO ENGAGE A THIRD PARTY FIRM TO PROVIDE A DETAILED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WHICH INCLUDES INSPECTION AND REPORTING PROCEDURES.
3. FLOODPLAIN NEEDS TO BE STAKED



TYPICAL PHASE II LOT BMP CONFIGURATION
N.T.S.

PHASE II BMP LEGEND

- BAGGED GRAVEL INLET FILTER (A)

SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
1	1/27/25	UPDATED BOUNDARY & ADDED LOTS						

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

1/27/25
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

OVERALL STORM WATER POLLUTION PREVENTION PLAN

SHEET
C6.0

Plot Date: January 28, 2025 User ID: Dallas Gaskey
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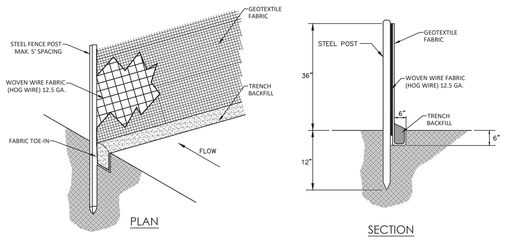
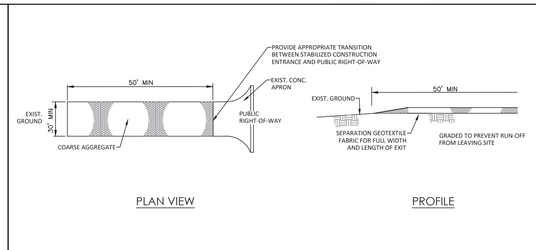
PLAT NO. 22-11800313



SILT FENCE NOTES

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD. MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. 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.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
4. 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.
5. 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 ¼ ACRE/100 FEET OF FENCE.
6. 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.
7. 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.
8. 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.
9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
12. 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.

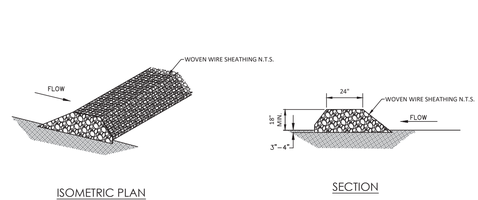
1 SCALE: NONE — ***SILT FENCE DETAIL***



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.
10. 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 SEDIMENT TRAP OR SEDIMENT BASIN.
13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

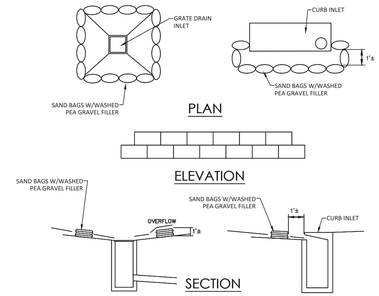
2 SCALE: NONE — ***STABILIZED CONSTRUCTION ENTRANCE / EXIT***



ROCK BERM NOTES

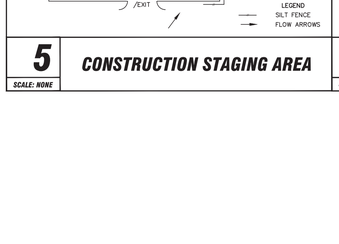
1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3-TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE 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 WIRE 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 AND REPAIR ANY LOOSE WIRE SHEATHING.
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.

3 SCALE: NONE — ***ROCK BERM***

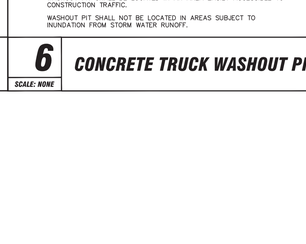


1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES.
3. THE GRAVEL BAGS SHOULD BE FILLED WITH ¾" GRAVEL .
4. 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.
5. 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.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
8. 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.
9. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

4 SCALE: NONE — ***BAGGED GRAVEL INLET FILTER***



5 SCALE: NONE — ***CONSTRUCTION STAGING AREA***



GENERAL NOTES:

DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

6 SCALE: NONE — ***CONCRETE TRUCK WASHOUT PIT***

REVISIONS						
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	BY:	DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC

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

4/26/24

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LONESOME DOVE HILLS, UNIT 3

STORM WATER POLLUTION PREVENTION PLAN

DETAILS

SHEET

C6.1

SUBMITTAL SET

Plot Date: April 26, 2024 | User ID: Dalila Gordea
N:\Lonesome Dove\Unit 3\Drawings\LDH3_C3.0_GWPP.dwg