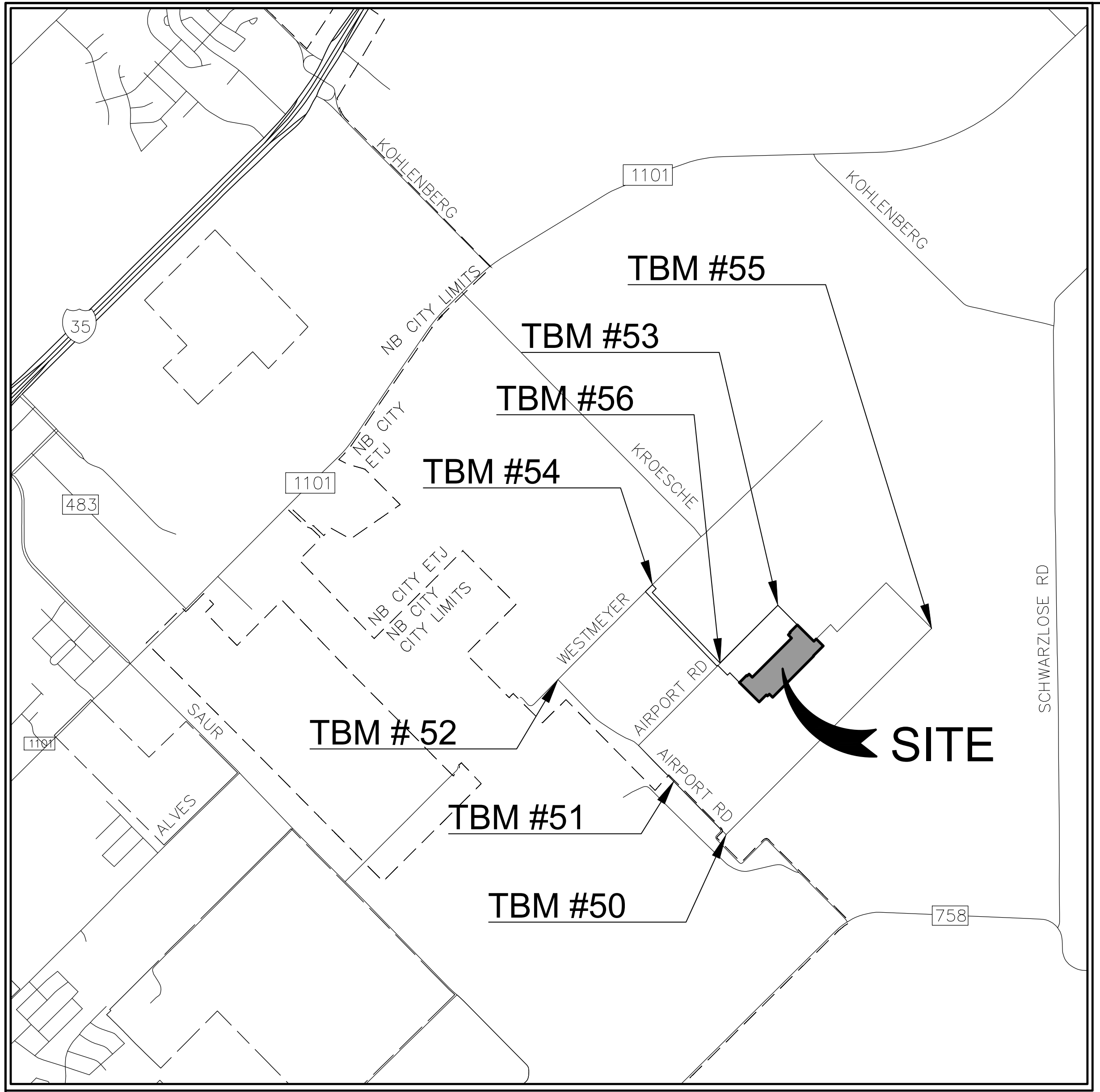


PROJECT LOCATION MAP

SCALE: N.T.S.

SKY RANCH MUNICIPAL UTILITY DISTRICT

SKY RANCH UNIT 1B

NEW BRAUNFELS, TX

CIVIL SITE CONSTRUCTION PLANS

LENNAR HOMES OF TEXAS
LAND AND CONSTRUCTION, LTD.
100 NE LOOP 410 SUITE 1155
SAN ANTONIO, TX 78216

PROJECT BENCHMARK

TBM #50
MAG SPIKE W/
WASHER IN ASPH
N: 13813912.2845
E: 2272454.9930
ELEV: 650.79

TBM #52
12 HMT CNTRL
N: 13812927.9148
E: 2273470.6417
ELEV: 670.23

TBM #54
MAG IN ASPH
N: 138109.31.9789
E: 2273354.5748
ELEV: 667.76

TBM #56
MAG SPIKE W/
WASHER IN ASPH
N: 13808795.9930
E: 2271180.2390
ELEV: 647.71

TBM #51
15 IN CDS SE
N: 13813429.6043
E: 2272926.8699
ELEV: 661.19

TBM #53
MAG SPIKE W/
WASHER IN ASPH
N: 13811975.1138
E: 2274347.2106
ELEV: 700.78

TBM #55
MAG SPIKE W/
WASHER IN ASPH
N: 13809739.0983
E: 2272157.2068
ELEV: 638.31

REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

____
DISTRICT ENGINEER

REQUIRED PERMITS	NUMBER
1. CITY OF NEW BRAUNFELS	PI2024–0040
2. NEW BRAUNFELS UTILITIES	W–247871 WW–247872

LEGAL DESCRIPTION

18.10 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY NO. 1, ABSTRACT NO. 98, COMAL COUNTY, TEXAS, AND THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO. 20, GUADALUPE COUNTY, TEXAS, BEING OUT OF A CALLED 107.66 ACRE TRACT, RECORDED IN DOCUMENT NO. 202106064468, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF 135 PROPOSED RESIDENTIAL LOTS WITH ASSOCIATED GRADING, DRAINAGE STREETS, AND UTILITY IMPROVEMENTS.

JULY 2025

PLEASE NOTE: NBU REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION.

GPS POINTS SHALL BE REQUIRED FROM THE DEVELOPER'S CONTRACTOR OR ENGINEER. A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE. THE ELECTRIC GPS POINTS SHALL BE TO MAP GRADE.

WATER
VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE) PRIOR TO BACKFILL
HORIZONTAL BENDS PRIOR TO BACKFILL
TEES PRIOR TO BACKFILL
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL
FIRE HYDRANTS (TOP OF FLANGE)
VALVES
METERS (TOP CENTER OF BOX)
BLOW OFF ASSEMBLY
CORNER SLAB OF WATER TANK & GATE VALVE ON WATER TANK

WASTEWATER
MANHOLES
CLEANOUTS
CORNER SLAB OF LIFT STATION

ELECTRIC
POLES
TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)
PULL BOXES
STREET LIGHTS

COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR

07/24/2025

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

Matthew T. Abrahamsen
____
Matthew T. Abrahamsen
P.E. License No. 154638

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C0.1	GENERAL NOTES (1 OF 2)
C0.2	GENERAL NOTES (2 OF 2)
C0.3	PLAT (1 OF 2)
C0.4	PLAT (2 OF 2)
C1.0	EXISTING DRAINAGE AREA MAP
C1.1	PROPOSED DRAINAGE AREA MAP
C1.2	ULTIMATE DRAINAGE AREA MAP
C1.3	OVERALL SUB–DRAINAGE MAP
C2.0	EROSION CONTROL PLAN
C2.1	EROSION DETAILS
C3.0	GRADING PLAN
C3.1	GRADING DETAILS
C4.0	SKY LEDGE PLAN & PROFILE
C4.1	SKY RIDGE PLAN & PROFILE
C4.2	SKY TRAILS PLAN & PROFILE
C4.3	AILERON PLACE PLAN & PROFILE
C4.4	SIGNAGE PLAN
C4.5	STREET DETAILS (1 OF 3)
C4.6	STREET DETAILS (2 OF 3)
C4.7	STREET DETAILS (3 OF 3)
C5.0	OVERALL STORM
C5.1	CHANNEL E PLAN & PROFILE
C5.2	CHANNEL M PLAN & PROFILE
C5.3	STORM DETAILS
C6.0	OVERALL WATER
C6.1	WATER TAP SHEET
C6.2	WATER LINE H PLAN & PROFILE
C6.3	WATER DETAILS
C7.0	WASTEWATER OVERALL
C7.1	WASTEWATER LINE A PLAN & PROFILE
C7.2	WASTEWATER LINE B PLAN & PROFILE
C7.3	WASTEWATER LINE G PLAN & PROFILE
C7.4	WASTEWATER LINE H PLAN & PROFILE
C7.5	WASTEWATER DETAILS

SKY RANCH UNIT 1B
CIVIL SITE CONSTRUCTION PLANS

HMT # 337.050

PREPARED BY:

HMT
ENGINEERING & SURVEYING

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
HMTNB.COM
P(830)625-8555*F(830)625-8556
TBPELS FIRM F-10961
TBPELS FIRM 10153600

GENERAL NOTES:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE–YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
4. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRE–CONSTRUCTION MEETING. A 48–HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.
    - 4.1 ALL INSPECTIONS ARE TO BE CALLED IN AT 830–221–4068 OR,
    - 4.2 FAXED IN AT 830–608–2117 OR,
    - 4.3 E–MAILED AT INSPECTIONS@NBTEXAS.ORG.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
7. THIS DEVELOPMENT IS A TYPE **III** DEVELOPMENT.
8. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE ADOPTED FLOOD MAPS OF THE CITY OF NEW BRAUNFELS, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C11OF, EFFECTIVE DATE NOVEMBER 2, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9. THIS PROJECT **IS NOT** LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONE.
10. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT–OF–WAY, IF APPLICABLE.
11. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER AND WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, CITY OF NEW BRAUNFELS, NBU WATER CONNECTION POLICY, SOUND ENGINEERING JUDGEMENT AND ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES.

WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.

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 OF THE INDIVIDUAL UTILITIES 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.

ADDITIONAL NOTE TO CONTRACTOR:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH CRITERIA FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THE CITY OF NEW BRAUNFELS, NBU W&WW DESIGN CRITERIA, ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES, AND SOUND ENGINEERING JUDGEMENT.
3. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMER'S METER, BACK FLOW PREVENTER, OR EASEMENT EDGE. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, PERMITTING, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE INSTALLATION.
4. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
5. WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED, THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.

CITY OF NEW BRAUNFELS GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

A. CURRENT CITY OF NEW BRAUNFELS CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT

B. THE MOST CURRENT EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES." ALONG WITH CURRENT CITY OF NEW BRAUNFELS AND **GUADALUPE** COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AREA AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100YR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 4, ACCORDING TO TXDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TXDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TXDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TXDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TXDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING,

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICES, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "N" VALUE OF 0.024., UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF NEW BRAUNFELS REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3 FEET BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE-CONSTRUCTION CONFERENCE IS REQUIRED, ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF NEW BRAUNFELS STREET INSPECTOR & NEW BRAUNFELS UTILITIES INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

CONTRACTOR SHALL COORDINATE WITH DRY UTILITY INSTALLERS AND SHARED TRENCHING SHALL BE UTILIZED. CUTTING THE STREETS AFTER COMPLETION BY DRY UTILITIES SHALL NOT BE ACCEPTABLE.

AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWINGS" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

EROSION / SEDIMENTATION CONTROL

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED {31 TAC 313.5 (C)(12)}. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT NO EROSION CONTROL MEASURES BLOCK THE DRAINAGE SYSTEM FROM WORKING AS DESIGNED.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.

ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

NEW BRAUNFELS UTILITIES (WATER AND SEWER)	(830) 608-8971
NEW BRAUNFELS UTILITIES (ELECTRIC)	(830) 608-8951
SPECTRUM CABLE	(800) 245-4545
CENTERPOINT ENERGY (GAS)	(830) 643-6434
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545
ENERGY TRANSFER (PETROLEUM PIPELINE)	(210) 262-2486

CONTRACTOR SHALL REFERENCE NEW BRAUNFELS UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

WASTEWATER NOTES

REVISED 1/01/24

1. THE POINT OF DELIVERY FOR AN NBU OWNED AND MAINTAINED WASTEWATER LINE IS TYPICALLY THE CLEANOUT, PROPERTY LINE, OR EDGE OF EASEMENT OR AS DETERMINED BY NBU.
2. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WASTEWATER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
3. ALL NEW WASTEWATER MAINS AND FITTINGS SHALL BE MINIMUM 8-INCH DIAMETER (ASTM D-3034 SDR-26 PVC)
4. ALL RESIDENTIAL WASTEWATER SERVICE LATERALS SHALL BE EXTENDED FOUR (4) FEET INTO THE PUBLIC UTILITY EASEMENT AND A CLEANOUT INSTALLED AT ROW LINE PER NBU STANDARD DETAILS. SERVICES TO LOTS WILL EXTEND FOUR (4) FEET PAST THE UNDERGROUND ELECTRIC CONDUIT IF ELECTRIC IS INSTALLED IN THE FRONT EASEMENT.
5. ALL SEWER CLEANOUTS THAT LEAD TO NBU MAINS SHALL BE INSTALLED WITH A PROTECTIVE UTILITY SHROUD AND PIVOTING MARKER POLE DURING TIME OF CONSTRUCTION.
6. PIPE BEDDING OF WASTEWATER LINES SHALL BE COMPLIANT WITH NBU SPECIFICATION NO. 120, "UTILITY TRENCHING AND BACKFILL"
7. WASTEWATER MAINS SHALL HAVE A MINIMUM OF 48 INCHES OF COVER TO FINISHED GRADE AND WASTEWATER LATERALS MUST HAVE A MINIMUM OF 36 INCHES OF COVER TO FINISHED GRADE. CONCRETE EASEMENT WILL BE REQUIRED IF MINIMUM COVER CANNOT BE MET.
8. ALL GRAVITY WASTEWATER PIPES SHALL HAVE GASKETED, COMPRESSION OR FUSED JOINTS PER 30 TAC §217.53 (C)(2).
9. FOR WASTEWATER LINES LESS THAN 24 INCHES IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.
   - A. THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID-POINT OR SPRING LINE OF THE PIPE.
   - B. THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL. FOR PIPES LARGER THAN 24-INCH, 12-INCH MAXIMUM LIFTS SHALL BE USED.
10. ALL MANHOLES SHALL BE WATER-TIGHT, EITHER MONOLITHIC, CAST-IN-PLACE CONCRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY NBU. POLYMER CONCRETE IS REQUIRED FOR MANHOLES ON MAINS 18-INCH DIAMETER AND LARGER, AT FORCE MAIN DISCHARGE POINTS, OR AT DROPS MANHOLES WITH HIGH CORROSION POTENTIAL.
11. MANHOLES SHALL HAVE BOLTED WATER-TIGHT RINGS AND COVERS. IN NON-PAVED AREAS, A MANHOLE MARKER ASSEMBLY SHALL BE INSTALLED ON THE MANHOLE COVER.
12. MANHOLE VENTS SHALL BE INSTALLED AT INTERVALS NO GREATER THAN 1500 FEET.
13. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS SIX INCHES (6") ABOVE SURROUNDING GROUND IN NON-PAVED. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
14. ALL NEW MANHOLES, UNLESS APPROVED BY NBU, SHALL HAVE COVERS WITH 32-INCH OPENINGS.
15. WASTEWATER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OR MECHANICAL "BOOT TYPE" JOINT AS APPROVED BY NBU.
16. EXISTING MANHOLES SHALL BE LINED, COATED, OR REPLACED WITH A CORROSION RESISTANT MATERIAL IF A NEW CONNECTION IS MADE BY A MAIN OR LATERAL.
17. WASTEWATER MAINS SHALL BE TESTED FROM MANHOLE TO MANHOLE
18. IN AREAS WHERE A NEW WASTEWATER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING WASTEWATER SYSTEM, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. AFTER THE PROPOSED MANHOLE(S) HAS BEEN BUILT, THE CONTRACTOR SHALL RE-TEST THE EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR, NO SEPARATE PAY.
19. NBU INSPECTOR TO BE PRESENT FOR ALL WASTEWATER LINES TO BE INSTALLED AT DEPTHS OF 15 FEET OR GREATER FROM FINAL GRADE.
20. WHERE THE MINIMUM 9-FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ REQUIREMENTS. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF ASTM D2241 PVC OR AWWA C900 PVC WITH PRESSURE RATING OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC §217.53 (D)(3)(A)(I).
21. CONTRACTOR SHALL COORDINATE WITH THE ASSIGNED WATER/WASTEWATER INSPECTOR FOR COMPLETION OF THE FIELD ACCEPTANCE CHECKLIST. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION. ALL TESTING AND ACCEPTANCE SHALL CONFORM TO NBU SPECIFICATIONS BE COMPLETED IN THE FOLLOWING ORDER:
   - A. PIPE DEFLECTION TEST (MANDREL TEST)
   - B. PIPE LOW PRESSURE AIR TEST
   - C. MANHOLE VACUUM TEST
   - D. MANHOLE PROTECTIVE COATING TEST
   - E. CCTV INSPECTION (WITHIN 72 HOURS OF CLEANING AND FLUSHING)
22. TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF WASTEWATER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTES ON THE PROJECT'S PLAN AND PROFILE SHEETS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY NBU WATER SYSTEMS.

WATER NOTES

REVISED 1/01/24

1. THE POINT OF DELIVERY FOR AN OWNED AND MAINTAINED WATER LINE IS TYPICALLY THE DOMESTIC OR IRRIGATION WATER METER, FIRE LINE UP TO THE CONTAINMENT BACKFLOW DEVICE, OR HYDRANT METER OR AS DETERMINED BY NBU.
2. WATER INFRASTRUCTURE MUST BE CONSTRUCTED IN ACCORDANCE WITH THE NBU WATER CONNECTION POLICY.
3. ALL WATER MAINS SHALL BE CONSTRUCTED OF AWWA C900 DR 14 PVC, AWWA C900 DR 18 PVC OR MINIMUM CL 250 DUCTILE IRON PIPE.
4. ALL RESIDENTIAL WATER SERVICES SHALL BE SINGLE SERVICES CONSTRUCTED OF 1-INCH ASTM B88 TYPE K COPPER TUBING. 1-INCH AWWA C901 SDR9 CTS POLYETHYLENE TUBING MAY BE PERMITTED WITH SPECIAL APPROVAL FROM NBU ONLY.
5. ALL 2-INCH SERVICE LINES SHALL BE CONSTRUCTED OF AWWA C901 SDR9 CTS POLYETHYLENE TUBING.
6. WATER MAINS SHALL HAVE A MINIMUM OF 48 INCHES OF COVER TO FINISHED GRADE. CONCRETE ENCASEMENT WILL BE REQUIRED IF MINIMUM COVER CANNOT BE MET.
7. PIPE BEDDING OF WATER LINES SHALL BE COMPLIANT WITH NBU SPECIFICATION NO. 120, "UTILITY TRENCHING AND BACKFILL"
8. CONTRACTOR SHALL INSTALL LINE STOPPERS AT THEIR COST FOR AN OUTAGE DURING CONSTRUCTION IF SYSTEM VALVES ARE NOT AVAILABLE OR THE EXISTING VALVES DO NOT FUNCTION. LINE STOPPERS WILL BE REQUIRED BASED ON THE FOLLOWING CRITERIA:
   - A. IF THE NUMBER OF RESIDENTIAL CUSTOMERS AFFECTED IS GREATER THAN 20 AND EXPECTED TO LAST MORE THAN 4 HOURS.
   - B. IF ANY COMMERCIAL CUSTOMERS ARE AFFECTED BY THE OUTAGE THEN THE USE OF LINE STOPPERS WILL BE DETERMINED ON A CASE BY CASE BASIS.
   - C. IF ANY CRITICAL CARE CUSTOMERS ARE AFFECTED BY THE OUTAGE THEN THE USE OF LINE STOPPERS WILL BE DETERMINED ON A CASE BY CASE BASIS.
   - D. SYSTEM CONDITIONS MAY REQUIRE A LINE STOPPER AND MAY NOT BE KNOWN UNTIL CONSTRUCTION COMMENCES.
9. CONTRACTOR WILL KEEP THE AREA ON TOP OF, AROUND, AND WITHIN THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
10. PLACEMENT OF METER BOXES OR VAULTS IN SIDEWALKS, DRIVEWAYS, DRIVE AISLES, PARKING AREAS, OF OTHER AREAS EXPOSED TO VEHICULAR TRAFFIC IS NOT PERMITTED. ANY METER BOXES OR VAULTS SET IN THESE AREAS WILL BE RELOCATED AT THE CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
11. METER BOXES OR VAULTS MUST BE SET AT PROPOSED GRADE. ANY METER BOXES THAT ARE NOT SET AT FINAL GRADE WILL BE ADJUSTED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
12. METER BOXES FOR 5/8 - INCH AND 1-INCH METERS MUST BE DFW PLASTICS DFW38C-14-AF1MP.
13. METER BOXES FOR 1.5" METERS MUST BE DFW PLASTICS DFW65C-14-AF1MP.
14. METER BOXES FOR 2" METERS MUST BE DFW PLASTICS DFW1730F-12-AF1MP.
15. THRUST BLOCKS ARE NOT PERMITTED WITHOUT SPECIAL APPROVAL. JOINTS MUST BE RESTRAINED WITH RESTRAINING SYSTEMS APPROVED BY NBU AND RESTRAINED LENGTH SHALL BE SUBMITTED TO NBU AT THE TIME OF PLAN SUBMITTAL.
16. CONTRACTOR SHALL INSTALL TRACER WIRE ON TOP OF NON-FERROUS WATER MAINS IN ACCORDANCE WITH NBU SPECIFICATIONS. TRACER WIRE SHOULD RUN FROM VALVE TO VALVE AND EXIT AT A TRACER WIRE ACCESS POINT. THE TRACER WIRE SHOULD BE ATTACHED TO THE TOP OF THE PIPE USING TAPE. EXCESS WIRE SHOULD BE COILED WITHIN THE TRACER WIRE ACCESS POINT RISER.
17. CONTRACTOR SHALL COORDINATE WITH THE ASSIGNED WATER/WASTEWATER INSPECTOR FOR COMPLETION OF THE FIELD ACCEPTANCE CHECKLIST. ALL TESTING AND ACCEPTANCE SHALL CONFORM TO NBU SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
   - A. BACTERIOLOGICAL TESTING
   - B. HYDROSTATIC TESTING (PERFORMED VALVE TO VALVE)
18. THE NBU WATER SYSTEM SHALL BE PROTECTED FROM HAZARDS WITH APPROPRIATE BACKFLOW PREVENTION ASSEMBLIES INSTALLED ON ALL IRRIGATION SYSTEMS, FIRE SUPPRESSION SYSTEMS AND MULTI-UNIT COMPLEXES ALONG WITH MULTI-LEVEL PROPERTIES ON THE DOMESTIC METER CONTAINMENT. NBU CAN ASSIST WITH THE DECISION ON APPROPRIATE BACKFLOW ASSEMBLIES ON A CASE-BY-CASE BASIS. EMAIL QUESTIONS TO CROSSCONNECTION@NBUTEXAS.COM
19. ALL BLACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED UPON INSTALLATION AND REPORTS SENT TO NBU VIA THE ONLINE TRACKING SYSTEM. CONTACT AN NBU BACKFLOW PREVENTION SPECIALIST FOR MORE DETAILS. EMAIL QUESTIONS TO CROSSCONNECTION@NBUTEXAS.COM
20. ALL RESIDENTIAL AND COMMERCIAL PROPERTIES SHALL HAVE A CUSTOMER SERVICE INSPECTION CERTIFICATE COMPLETED UPON COMPLETION OF THE BUILDING OR HOME STRUCTURE. CONTACT AN NBU BACKFLOW PREVENTION SPECIALIST FOR MORE DETAILS. EMAIL QUESTIONS TO CROSSCONNECTIONS@NBUTEXAS.COM

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
10. TPDES REQUIREMENTS - DISTURBED AREAS ON WITCH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY WILL BEGIN AGAIN WITHIN 21 DAYS

GENERAL NBU NOTES

REVISED 1/01/24

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL BE APPROVED BY NEW BRAUNFELS UTILITIES AND COMPLY WITH THE CURRENT "NEW BRAUNFELS UTILITIES WATER SYSTEMS CONNECTION/CONSTRUCTION POLICY".
2. CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE PLANS FROM THE CONSULTANT OR ENGINEER AND NOTIFY NBU WATER SYSTEMS ENGINEERING AT 830-608-8971 WITH AT LEAST TWO (2) WORKING DAYS (48 HOURS) NOTICE. **WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.**
3. THE DEVELOPER DEDICATES THE WATER / WASTEWATER MAINS UPON COMPLETION BY THE CONTRACTOR AND ACCEPTANCE BY THE NEW BRAUNFELS UTILITIES WATER SYSTEM. NBU WILL OWN AND MAINTAIN SAID WATER / WASTEWATER MAINS WHICH ARE LOCATED WITHIN PLATTED UTILITY EASEMENTS OR PUBLIC ROW OF PROPOSED DEVELOPMENTS. (AS APPLICABLE).
4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
5. CONTRACTOR TO CONTACT THE ENGINEER-OF-RECORD (EOR) FOR ANY FIELD CHANGES. ANY REVISIONS OR CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL REQUIRE ADDITIONAL APPROVAL BY NBU IN WRITING.
6. 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.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGES DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES, AND EXISTING UTILITIES (NOT ADJUSTED ON PLANS). COST OF RESTORATIONS, IF ANY, SHALL BE THE CONTRACTOR'S ENTIRE EXPENSE.
8. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN VICINITY OF TREES SHALL PROCEED WITH CAUTION.
9. CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
10. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.
11. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
12. THE CONTRACTOR SHALL NOT PLACE ANY MATERIALS ON THE RECHARGE ZONE OF THE EDWARDS AQUIFER WITHOUT AN APPROVED WATER POLLUTION ABATEMENT PLAN FROM THE TCEQ 31 TAC 313.4 AND 31 TAC 313.9.
13. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.
14. CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING"SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
15. THE LOCATION OF UTILITIES, EITHER UNDERGROUND OR OVERHEAD, SHOWN WITHIN THE RIGHT OF WAY ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE BEGINNING CONSTRUCTION OPERATIONS.
16. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT HAVE TO WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.
17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION. CONTRACTORS SHALL CALL THE ONE CALL SYSTEM FOR WATER/WASTEWATER LOCATION.
18. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 (8), GAS COMPANIES 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.
19. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR FURNISHING ALL TRAFFIC CONTROL DEVICES, AND FLAGGERS. THE CONSTRUCTION METHODS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC SO AS TO PERMIT THE CONTINUOUS MOVEMENT OF THE TRAFFIC IN ONE DIRECTION AT ALL TIMES. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE WORK AREA ANY LOOSE MATERIAL RESULTING FROM CONTRACT OPERATIONS AT THE END OF EACH WORKDAY.
20. PRIOR TO ORDERING MATERIALS TO BE USED IN CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FOUR (4) COPIES OF THE SOURCE, TYPE, GRADATION, MATERIAL SPECIFICATION DATA AND / OR SHOP DRAWINGS, AS APPLICABLE, TO SATISFY THE REQUIREMENTS OF THE FOLLOWING ITEMS AND ALL MATERIAL ITEMS REFERRED TO IN THESE LISTED ITEMS:
    - A. WATER MAINS AND SERVICES
    - B. WASTEWATER MAINS AND SERVICES
21. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. WASTEWATER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO NBU CONNECTION AND CONSTRUCTION POLICY MANUAL.
22. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE 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.
23. UTILITY TRENCH COMPACTION WITH STREET R.O.W.

A. ALL UTILITY TRENCH COMPACTION TEST WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER.
B. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE.
C. EACH LAYER OF MATERIAL SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEXT METHODS TEX-113-E, TEX-114-E, TEX-115-E.
D. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR.
E. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

07/24/25

GENERAL NOTES (1 OF 2)
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: 337.050

SHEET
C0.1

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_1B_COVER.dwg User: williaml Jul 24, 2025 - 8:31am

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES REVISED 03/2020

IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE—YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.

THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.

FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS:
☐ FOR INSPECTIONS, YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.
☐ EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.
☐ ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.

FOR COMMERCIAL PERMIT (CP) PROJECTS:
☐ ALL INSPECTIONS ARE TO BE CALLED IN AT 830—221—4068 OR,
☐ FAXED IN AT 830—608—2117 OR,
☐ E—MAILED AT INSPECTIONS@NBTEXAS.ORG.
☐

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

A TXDOT TYPE II B—B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL, EPOXY AND ADHESIVE SPECIFICATIONS.

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO—TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS

AS PER PLATTING ORDINANCE SECTION 118—38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING"PLANS, AND A DIGITAL COPY OF ALL PLANS (PDF COPY) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE

ENGINEER OF RECORD IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE

DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100—YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

SOILS TESTING

PROCTORS SHALL BE SAMPLED FROM ON—SITE MATERIAL (ON—SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS

—PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") LOOSE. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 132. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 247. EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX—113—E, TEX—114—E, TEX—115—E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT. UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

ITEM 340
ASPHALTIC CONCRETE PAVEMENT SHALL BE THE TYPE OF HOT MIX ASPHALT AS DEFINED IN TXDOT'S STANDARD SPECIFICATIONS FOR CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.

THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.

THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D"MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB—SURFACE COURSES SHALL BE PLANT MIXED, HOT LAID TYPE "B"MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TXDOT ITEM 340 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX—227—F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60°F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160°F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES REVISED 03/2020

UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX—113—E, TEX—114—E, TEX—115—E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT—OF—WAY CONSTRUCTION

(INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).
1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE.
STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"X5"ROCK TO BE PLACED A MINIMUM LENGTH OF 25—FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT—OF—WAY. RIGHTOF—WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)
ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY—FOUR (24 HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEEDING AND ESTABLISHMENT OF VEGETATION WITHIN EARTHEN CHANNELS, STORMWATER BASINS AND DISTURBED AREAS
SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15 IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1—NOV 30, CEREAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.

IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/ FERTILIZER INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.

AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TXDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL. TESTING PER TEX—128—E WILL BE REQUIRED AT THE CITY'S REQUEST.

WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.

IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/ DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

SKY RANCH MUNICIPAL UTILITY DISTRICT NOTES

THE DISTRICT ENGINEER, JONES—HEROY AND ASSOCIATES, INC. (KEN HEROY, P.E. PHONE 512—989—2200) SHALL BE CONTACTED 48 HOURS PRIOR TO

I) PRE—CONSTRUCTION MEETINGS
II) BEGINNING EACH STAGE OF CONSTRUCTION
III) TESTING OF WATER AND/OR WASTEWATER LINES; AND
IV) FINAL WALK—THROUGH OF FACILITIES

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

GENERAL NOTES (2 OF 2)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

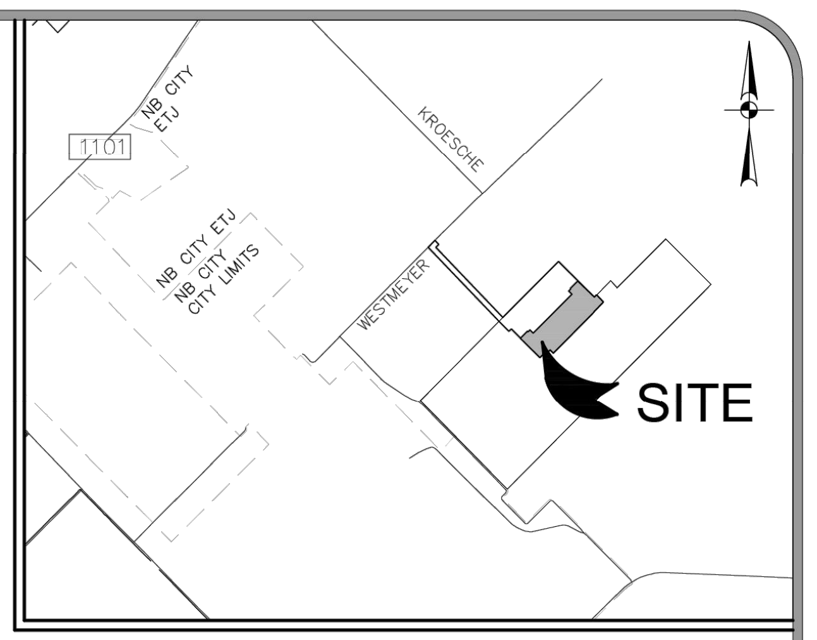
SHEET
C0.2

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_1B_COVER.dwg User: williaml Jul 24, 2025 - 8:31am

FINAL PLAT ESTABLISHING

SKY RANCH, UNIT 1B

18.10 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY NO. 1, ABSTRACT NO. 98, COMAL COUNTY, TEXAS, AND THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO. 20, GUADALUPE COUNTY, TEXAS, BEING OUT OF A CALLED 107.66 ACRE TRACT, RECORDED IN DOCUMENT NO. 202106064468, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.



LOCATION MAP
NOT TO SCALE

PLAT NOTES:

1. ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER, SEWER AND ELECTRIC SERVICE BY NEW BRAUNFELS UTILITIES. TELEPHONE AND CABLE SERVICES FOR THE SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR SPECTRUM.
2. ALL BEARINGS AND COORDINATES SHOWN HEREON ARE BASED UPON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM 1983, GRID. DISTANCES SHOWN HEREON ARE BASED UPON SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.00015.
3. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP STAMPED "HMT" IMMEDIATELY AFTER COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
4. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
5. THIS SUBDIVISION IS NOT WITHIN THE CITY LIMITS OF NEW BRAUNFELS, TEXAS.
6. THIS SUBDIVISION IS WITHIN THE NAVARRO INDEPENDENT SCHOOL DISTRICT.
7. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE ADOPTED FLOOD MAPS OF THE CITY OF NEW BRAUNFELS, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C0110F, EFFECTIVE DATE NOVEMBER 2, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
8. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
9. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
10. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION ALONG:
    A. SKY LEDGE – LOT 905, BLOCK 8.
11. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ADJACENT TO THE CURB BY THE HOME BUILDER AT THE TIME OF BUILDING CONSTRUCTION ALONG: SKY LEDGE, SKY TRAILS, SKY RIDGE, AND AILERON PLACE.
12. THE ELEVATION OF THE LOWEST FLOOR OF A STRUCTURE SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100–YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
11. THIS SUBDIVISION IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS PLAT IS APPROVED FOR ONE DWELLING UNIT(S) PER BUILDABLE LOT WITH A MAXIMUM OF 165 BUILDABLE LOTS. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT(S) SHALL NOTIFY THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
12. NON–RESIDENTIAL USE SUBDIVISIONS ARE NOT SUBJECT TO THE PARK LAND DEDICATION AND DEVELOPMENT REQUIREMENTS. HOWEVER, AT SUCH TIME ANY DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
13. THIS UNIT CONTAINS 135 BUILDABLE RESIDENTIAL LOTS. ALL LOTS MEET THE MINIMUM SQUARE FOOTAGE REQUIREMENT ACCORDING TO THE ZONING ORDINANCE.
14. ALL DRAINAGE EASEMENTS WITHIN THE LOTS WILL BE OWNED AND MAINTAINED BY PROPERTY OWNER.
15. PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION PLAT IN ACCORDANCE WITH THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
16. LOT 905, BLOCK 8 (DRAINAGE), AND LOT 906, BLOCK 3 (DRAINAGE), WILL BE OWNED AND MAINTAINED BY THE SKY RANCH HOME OWNER ASSOCIATION, ITS SUCCESSORS AND/OR ASSIGNS.
17. THIS SUBDIVISION IS SUBJECT TO AIRPORT HAZARD ZONING DISTRICT STANDARDS AND REGULATIONS OF THE CITY OF NEW BRAUNFELS ZONING ORDINANCE.

NEW BRAUNFELS UTILITIES NOTES:

1. MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
2. UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE DWELLING ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
3. UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
4. EACH LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER'S/DEVELOPER'S EXPENSE.
5. DO NOT COMBINE ANY NEW UTILITY EASEMENTS (U.E.) WITH DRAINAGE EASEMENTS (D.E.) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (U.E.) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.
6. NBU IS NOT RESPONSIBLE FOR DAMAGES TO PROPERTY IMPROVEMENTS (I.E. LANDSCAPING, TREES, PAVEMENT, SIGNS, DRAINAGE STRUCTURES, PRIVATE UTILITIES, ETC.) THAT ARE PLACED IN ANY TYPE OF UTILITY EASEMENT. TO ENSURE NO CONFLICTS EXIST WITH UTILITY INFRASTRUCTURE IN THE EASEMENT, ALL SUCH IMPROVEMENTS PLACED IN ANY TYPE OF UTILITY EASEMENT MUST BE REVIEWED AND APPROVED THROUGH THE NBU EASEMENT ENCROACHMENT PROCESS. NBU DEVELOPMENT SERVICES FACILITATES THE EASEMENT ENCROACHMENT APPLICATION PROCESS.

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED DOROTHY J. TAYLOR, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE.

____
DOROTHY J. TAYLOR
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6295
290 S. CASTELL AVE., SUITE 100, NEW BRAUNFELS, TEXAS 78130

PLAT PREPARED AUGUST 13, 2024

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F–10961
TBPELS FIRM 10153600

STATE OF TEXAS
COUNTY OF GUADALUPE

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE LANDING A SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL/GUADALUPE, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

____
LENNAR HOMES OF TEXAS LAND
AND CONSTRUCTION, LTD.,
A TEXAS LIMITED PARTNERSHIP

BY: U.S. HOME LLC, A DELAWARE LIMITED
LIABILITY COMPANY (AS SUCCESSOR–IN–INTEREST
BY CONVERSION TO U.S. HOME CORPORATION,
A DELAWARE CORPORATION), ITS GENERAL PARTNER

BY: LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD
100 NE LOOP 410, SUITE 1155
SAN ANTONIO, TX 78216
NAME: RICHARD MOTT
TITLE: VICE PRESIDENT OF LAND DEVELOPMENT

STATE OF TEXAS
COUNTY OF ______________.

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS
_________ DAY OF __________________, 20___,
BY ________________________

____
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: ______________

APPROVED THIS THE ________ DAY OF _____________, 20___,
BY THE PLANNING COMMISSION OF THE CITY OF NEW
BRAUNFELS, TEXAS.

______________________________,
CHAIRMAN

APPROVED FOR ACCEPTANCE

____________ DATE ____________ PLANNING DIRECTOR

____________ DATE ____________ CITY ENGINEER

____________ DATE ____________ NEW BRAUNFELS UTILITIES

STATE OF TEXAS
COUNTY OF GUADALUPE

____
COUNTY CLERK, GUADALUPE COUNTY, TEXAS

____
DEPUTY

SHEET 1 OF 2

Drawing Name: K:\337 – Lennar Homes\050 – Sky Ranch Unit 1B\Plat\337.050 Sky Ranch Unit 1B Plat.dwg User: corbinc Aug 13, 2024 – 11:24am

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

07/24/25

PLAT (1 OF 2)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C0.3

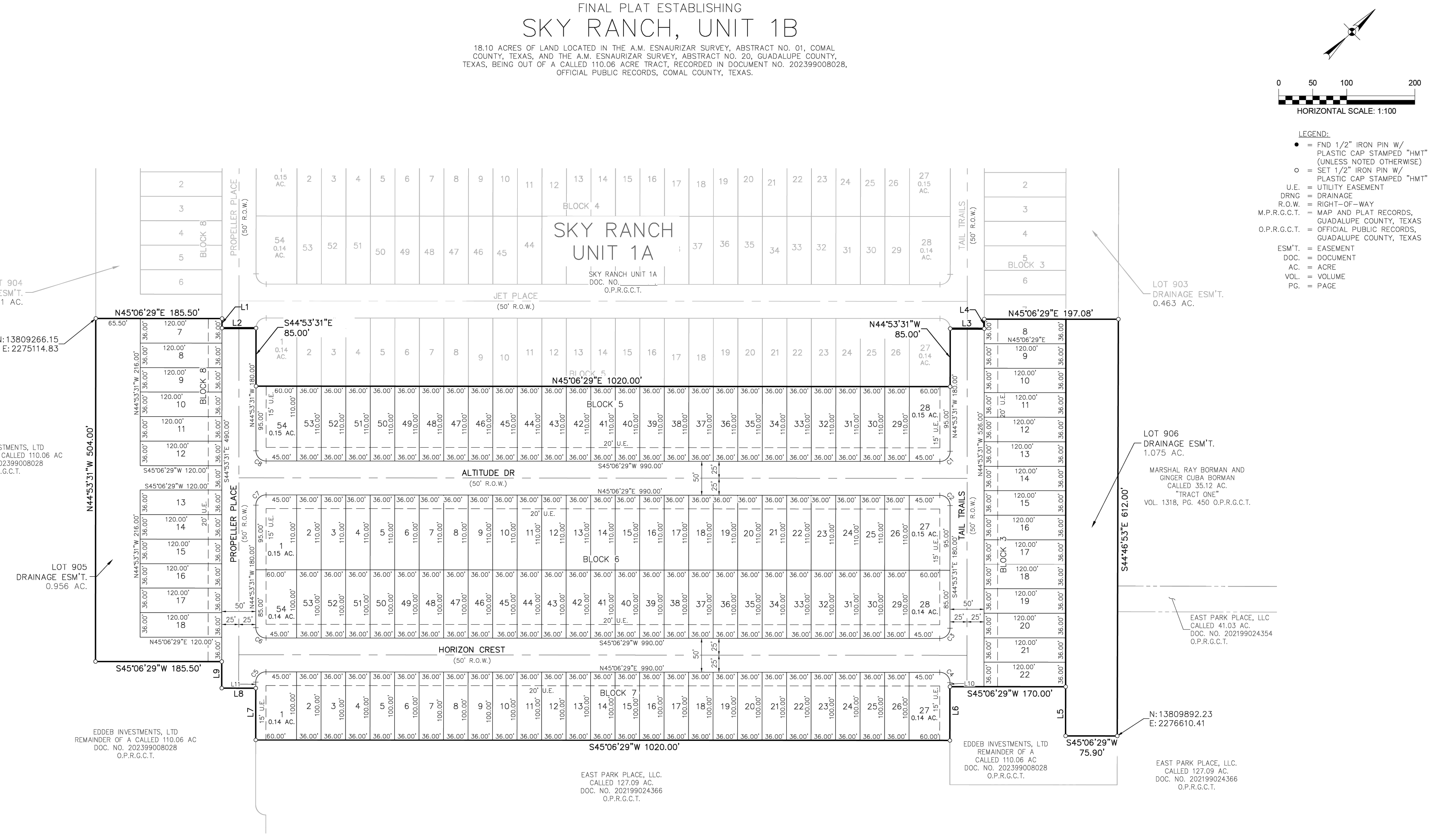
PLAT STATUS - IN REVIEW
FOR REFERENCE ONLY

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_1B_PLAT.dwg User: williaml Jul 24, 2025 – 8:32am

FINAL PLAT ESTABLISHING

SKY RANCH, UNIT 1B

18.10 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO. 01, COMAL COUNTY, TEXAS, AND THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO. 20, GUADALUPE COUNTY, TEXAS, BEING OUT OF A CALLED 110.06 ACRE TRACT, RECORDED IN DOCUMENT NO. 202399008028, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.


0 50 100 200
HORIZONTAL SCALE: 1:100
SKY RANCH UNIT 1A
SKY RANCH UNIT 1A DOC. NO. ______ O.P.R.G.C.T.
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 3
JET PLACE (50' R.O.W.)
ALTITUDE DR (50' R.O.W.)
HORIZON CREST (50' R.O.W.)
PROPELLER PLACE (50' R.O.W.)
TAIL TRAILS (50' R.O.W.)
LOT 904 DRNG ESM'T. 0.491 AC.
LOT 903 DRAINAGE ESM'T. 0.463 AC.
LOT 905 DRAINAGE ESM'T. 0.956 AC.
LOT 906 DRAINAGE ESM'T. 1.075 AC.
N45°06'29"E 185.50'
N:13809266.15 E:2275114.83
N44°53'31"W 504.00'
S45°06'29"W 185.50'
S44°53'31"E 85.00'
N44°53'31"W 85.00'
N45°06'29"E 1020.00'
S45°06'29"W 990.00'
N45°06'29"E 990.00'
S45°06'29"W 1020.00'
N45°06'29"E 197.08'
S44°46'53"E 612.00'
S45°06'29"W 170.00'
S45°06'29"W 75.90'
N:13809892.23 E:2276610.41
N44°53'31"W 216.00'
S44°53'31"E 490.00'
N44°53'31"W 526.00'
S45°06'29"W 120.00'
N45°06'29"E 120.00'
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11
C1 C2 C3 C4 C5 C6 C7 C8
EDDEB INVESTMENTS, LTD REMAINDER OF A CALLED 110.06 AC DOC. NO. 202399008028 O.P.R.G.C.T.
MARSHAL RAY BORMAN AND GINGER CUBA BORMAN CALLED 35.12 AC. "TRACT ONE" VOL. 1318, PG. 450 O.P.R.G.C.T.
EAST PARK PLACE, LLC CALLED 41.03 AC. DOC. NO. 202199024354 O.P.R.G.C.T.
EAST PARK PLACE, LLC. CALLED 127.09 AC. DOC. NO. 202199024366 O.P.R.G.C.T.

LEGEND:

● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
U.E. = UTILITY EASEMENT
DRNG = DRAINAGE
R.O.W. = RIGHT-OF-WAY
M.P.R.G.C.T. = MAP AND PLAT RECORDS, GUADALUPE COUNTY, TEXAS
O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
ESM'T. = EASEMENT
DOC. = DOCUMENT
AC. = ACRE
VOL. = VOLUME
PG. = PAGE

LINE TABLE

LINE	LENGTH	DIRECTION
L1	14.00'	S44°53'31"E
L2	50.00'	N45°06'29"E
L3	50.00'	N45°06'29"E
L4	14.00'	N44°53'31"W
L5	72.00'	N44°53'31"W
L6	79.00'	S44°53'31"E
L7	76.10'	N44°53'31"W
L8	50.00'	S45°06'29"W
L9	38.90'	N44°53'31"W
L10	6.00'	S44°53'31"E
L11	8.90'	N44°53'31"W

CURVE TABLE

CURVE	LENGTH	RADIUS	CHORD DIRECTION	CHORD LENGTH
C1	23.56'	15.00'	S0°06'29"W	21.21'
C2	23.56'	15.00'	S89°53'31"E	21.21'
C3	23.56'	15.00'	S0°06'29"W	21.21'
C4	23.56'	15.00'	S89°53'31"E	21.21'
C5	23.56'	15.00'	N0°06'29"E	21.21'
C6	23.56'	15.00'	N89°53'31"W	21.21'
C7	23.56'	15.00'	N0°06'29"E	21.21'
C8	23.56'	15.00'	N89°53'31"W	21.21'
C24	23.56'	15.00'	N0°06'29"E	21.21'

PLAT PREPARED April 15, 2025

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

Drawing Name: K:\337 – Lennar Homes\050 – Sky Ranch Unit 1B\Plat\337.050 Sky Ranch Unit 1B Plat.dwg User: william-l Apr 17, 2025 – 8:36am

SHEET 2 OF 2

PLAT STATUS - IN REVIEW
FOR REFERENCE ONLY

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

PLAT (2 OF 2)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

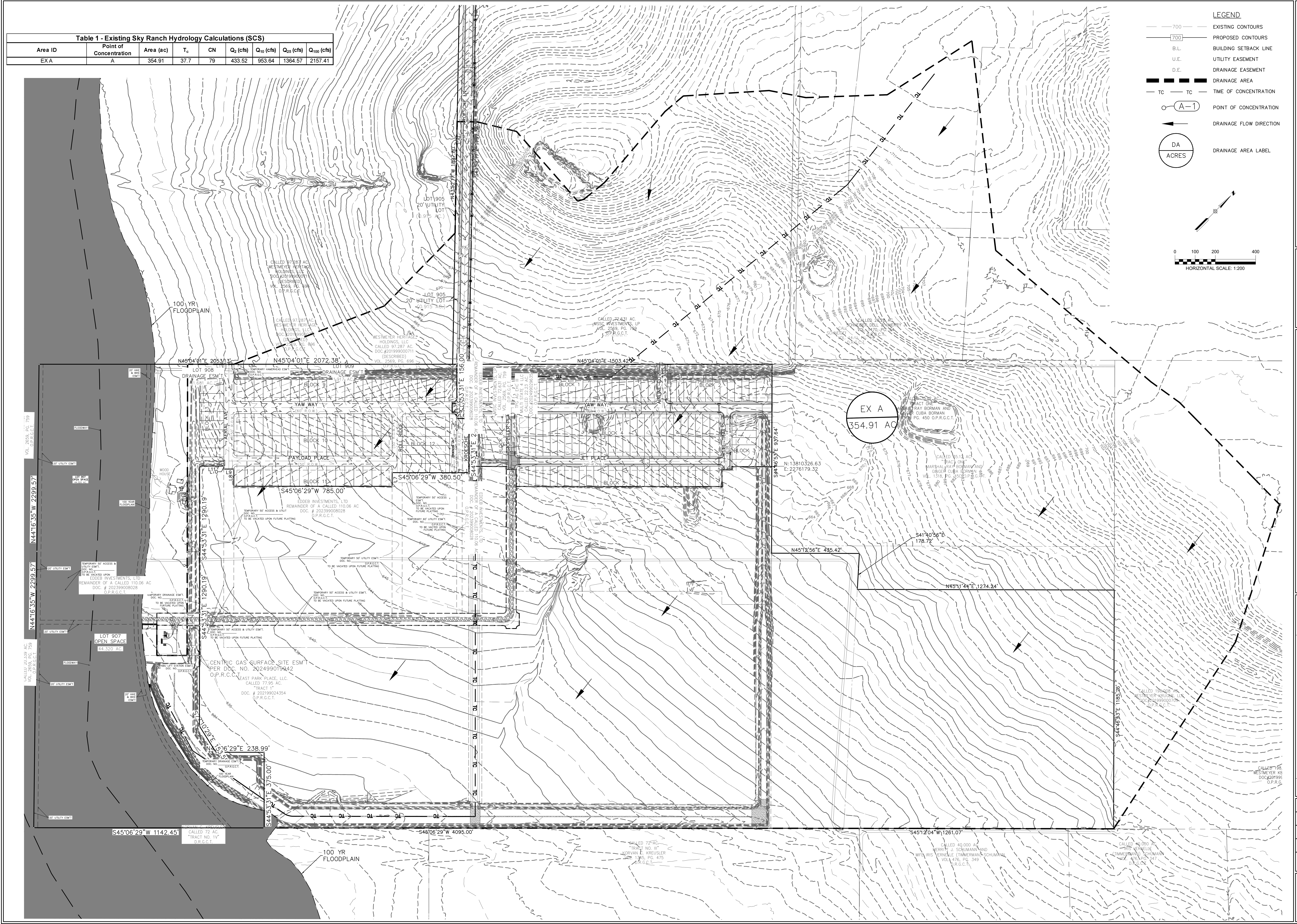
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C0.4

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_1B_PLAT.dwg User: williaml Jul 24, 2025 – 8:32am

Table 1 - Existing Sky Ranch Hydrology Calculations (SCS)								
Area ID	Point of Concentration	Area (ac)	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
EX A	A	354.91	37.7	79	433.52	953.64	1364.57	2157.41


LEGEND
700 EXISTING CONTOURS
700 PROPOSED CONTOURS
B.L. BUILDING SETBACK LINE
U.E. UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
DRAINAGE AREA
TC TC TIME OF CONCENTRATION
A-1 POINT OF CONCENTRATION
DRAINAGE FLOW DIRECTION
DA ACRES DRAINAGE AREA LABEL
0 100 200 400
HORIZONTAL SCALE: 1:200
EX A
354.91 AC
100 YR FLOODPLAIN
LOT 907 OPEN SPACE 44.320 AC
LOT 908 DRAINAGE ESM'T
LOT 909 DRAINAGE ESM'T
LOT 905 20' UTILITY LOT
YAW WAY
PAYLOAD PLACE
JET PLACE
ROLL RIDGE
AERIAL AVE
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
BLOCK 5
BLOCK 9
BLOCK 10
BLOCK 11
BLOCK 12
N45°04'01"E 2053.13'
N45°04'01"E 2072.38'
N45°04'01"E 1503.42'
S45°06'29"W 785.00'
S45°06'29"W 380.50'
S45°06'29"W 4095.00'
S45°06'29"W 1142.45'
S45°12'04"W 1261.07'
N45°12'56"E 435.42'
N45°11'44"E 1274.24'
S41°40'56"E 178.72'
S44°46'53"E 1185.26'
S44°53'31"E 1290.19'
S44°53'31"E 375.00'
S44°53'31"E 156.00'
N44°16'35"W 2299.57'
N44°16'35"W 1892.81'
N:13810326.63
E:2276179.32
CENTRIC GAS SURFACE SITE ESM'T PER DOC. NO. 202499019942 O.P.R.C.C.T.
EDDEB INVESTMENTS, LTD REMAINDER OF A CALLED 110.06 AC DOC. # 202399008028 O.P.R.G.C.T.
EAST PARK PLACE, LLC. CALLED 77.95 AC. "TRACT 1" DOC. # 202199024354 O.P.R.G.C.T.
CALLED 97.287 AC. WESTMEYER HERITAGE HOLDINGS, LLC DOC. #201999007711 (DESCRIBED) VOL. 2569, PG. 696 O.P.R.G.C.T.
CALLED 72.631 AC. MSSC INVESTMENTS, LP VOL. 2569, PG. 759 O.P.R.G.C.T.
TRACT ONE RAY BORMAN AND CUBA BORMAN PG. 450 O.P.R.G.C.T.
CALLED 72 AC. "TRACT NO. II" KORVAN C. KREUSLER VOL. 1165, PG. 475 O.R.G.C.T.
CALLED 40.000 AC. HERRY J. SCHUMANN AND WIFE IRIS VERNELLE (TIMMERMAN) SCHUMANN VOL. 476, PG. 349 O.R.G.C.T.
CALLED 72 AC. "TRACT NO. 1V" O.R.G.C.T.
CALLED 20.339 AC. VOL. 2659, PG. 759
WOOD HOUSE
FLOODWAY
20' UTILITY ESM'T
20' HIKE & BIKE ESM'T
TEMPORARY 50' ACCESS & UTILITY ESM'T TO BE VACATED UPON FUTURE PLATTING
TEMPORARY DRAINAGE ESM'T
LIFT STATION ESM'T
TC

EXISTING DRAINAGE AREA MAP

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen
07/24/25

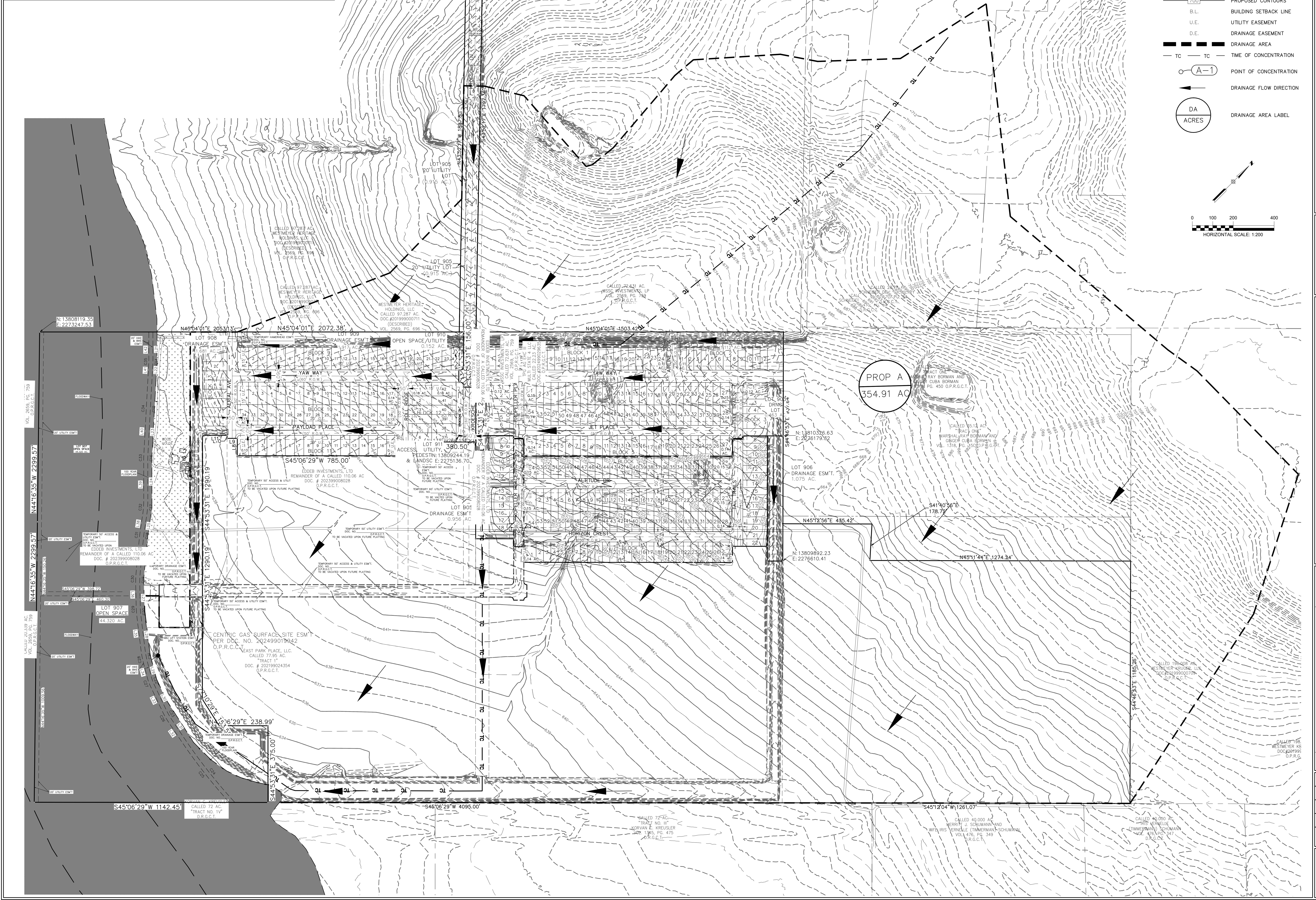
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C1.0

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_OVERALL EXISTING DA MAP.dwg User: wiliaml Jul 24, 2025 – 9:13am

Table 2 - Proposed Sky Ranch Hydrology Calculations (SCS)								
Area ID	Point of Concentration	Area (ac)	T_c Lag	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
PROP A	A	354.91	37.7	79	433.52	953.64	1364.57	2157.41


LEGEND
700 EXISTING CONTOURS
700 PROPOSED CONTOURS
B.L. BUILDING SETBACK LINE
U.E. UTILITY EASEMENT
D.E. DRAINAGE EASEMENT
DRAINAGE AREA
TC TC TIME OF CONCENTRATION
A-1 POINT OF CONCENTRATION
DRAINAGE FLOW DIRECTION
DA ACRES DRAINAGE AREA LABEL
0 100 200 400
HORIZONTAL SCALE: 1:200
PROP A
354.91 AC
LOT 905 20' UTILITY LOT (0.915 AC.)
LOT 908 DRAINAGE ESM'T
LOT 909 DRAINAGE ESM'T
LOT 910 OPEN SPACE/UTILITY 0.152 AC.
LOT 911 ACCESS, UTILITY, PEDESTRIAN & LANDSCAPE
LOT 906 DRAINAGE ESM'T 1.075 AC.
LOT 905 DRAINAGE ESM'T 0.956 AC.
LOT 907 OPEN SPACE 44.320 AC.
YAW WAY
PAYLOAD PLACE
AERIAL AVE
ROLL RIDGE
JET PLACE
ALTITUDE DR
HORIZON CREST
AIRLINE
BLOCK 9
BLOCK 10
BLOCK 11
N45°04'01"E 2053.13'
N45°04'01"E 2072.38'
N45°04'01"E 1503.42'
S45°06'29"W 785.00'
S44°53'31"E 1290.19'
N44°16'35"W 2299.57'
S45°06'29"W 1142.45'
S45°06'29"W 4095.00'
S45°12'04"W 1261.07'
N45°12'56"E 435.42'
N45°11'44"E 1274.24'
S41°40'56"E 178.72'
S44°46'53"E 1185.26'
S44°53'31"E 375.00'
N45°06'29"E 238.99'
S44°53'31"E 156.00'
380.50'
N:13808119.35 E:2273247.53
N:13810326.63 E:2276179.32
N:13809892.23 E:2276610.41
N:13809244.19 E:2275136.70
CALLED 97.287 AC. WESTMEYER HERITAGE HOLDINGS, LLC DOC.#201999000711 (DESCRIBED) VOL. 2569, PG. 696 O.P.R.G.C.T.
CALLED 72.631 AC. MSSC INVESTMENTS, LP VOL. 2569, PG. 759 O.P.R.G.C.T.
EDDEB INVESTMENTS, LTD REMAINDER OF A CALLED 110.06 AC DOC. # 202399008028 O.P.R.G.C.T.
CENTRIC GAS SURFACE SITE ESM'T PER DOC. NO. 202499019942 O.P.R.C.T.
EAST PARK PLACE, LLC. CALLED 77.95 AC. "TRACT 1" DOC. # 202199024354 O.P.R.G.C.T.
TRACT ONE RAY BORMAN AND CUBA BORMAN PG. 450 O.P.R.G.C.T.
CALLED 72 AC. "TRACT NO. 1V"
CALLED 72 AC. "TRACT NO. II" KORVAN C. KREUSLER VOL. 1765, PG. 475 O.P.R.G.C.T.
CALLED 40.000 AC. MERRITT J. SCHUMANN AND WIFE IRIS VERNELLE (TIMMERMAN) SCHUMANN VOL. 476, PG. 349 O.P.R.G.C.T.
CALLED 198.208 AC. WESTMEYER KREUSLER, LLC DOC#201999000709 O.P.R.G.C.T.
FLOODWAY
100 YEAR FLOODPLAIN
20' UTILITY ESM'T
TEMPORARY 50' ACCESS & UTILITY ESM'T TO BE VACATED UPON FUTURE PLATTING
TC

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_OVERALL PROPOSED DA MAP.dwg User: williaml Jul 24, 2025 – 8:35am

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

07/24/25

PROPOSED DRAINAGE AREA MAP

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C1.1

Table 1 - Existing Sky Ranch Hydrology Calculations (SCS)

Area ID	Point of Concentration	Area (ac)	T_c	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
EX A	A	354.91	37.7	79	433.52	953.64	1364.57	2157.41

Table 2 - Proposed Sky Ranch Hydrology Calculations (SCS)

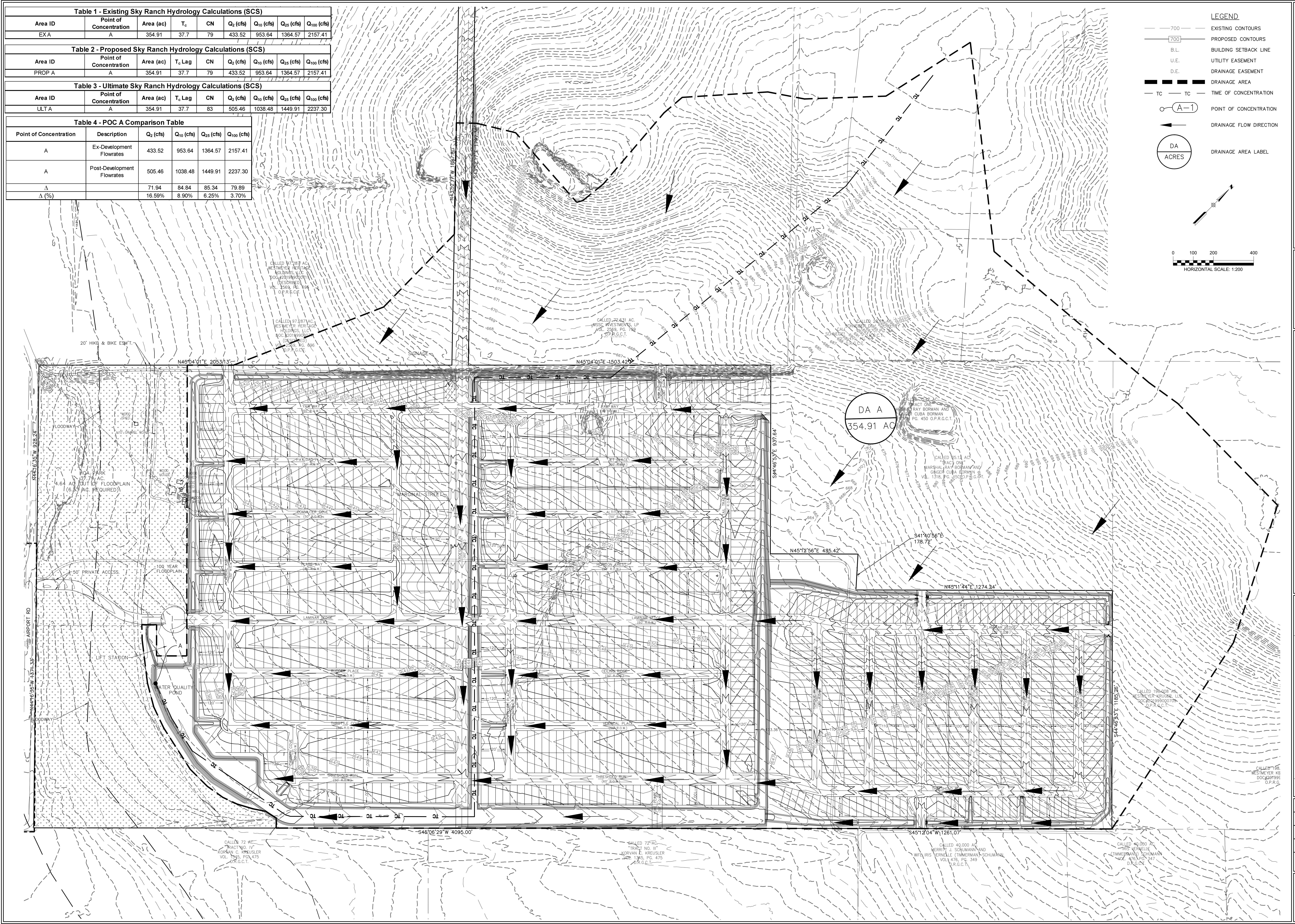
Area ID	Point of Concentration	Area (ac)	T_c Lag	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
PROP A	A	354.91	37.7	79	433.52	953.64	1364.57	2157.41

Table 3 - Ultimate Sky Ranch Hydrology Calculations (SCS)

Area ID	Point of Concentration	Area (ac)	T_c Lag	CN	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
ULT A	A	354.91	37.7	83	505.46	1038.48	1449.91	2237.30

Table 4 - POC A Comparison Table

Point of Concentration	Description	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
A	Ex-Development Flowrates	433.52	953.64	1364.57	2157.41
A	Post-Development Flowrates	505.46	1038.48	1449.91	2237.30
Δ		71.94	84.84	85.34	79.89
Δ (%)		16.59%	8.90%	6.25%	3.70%



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
▬ ▬ ▬	DRAINAGE AREA
TC TC	TIME OF CONCENTRATION
A–1	POINT OF CONCENTRATION
←	DRAINAGE FLOW DIRECTION
DA ACRES	DRAINAGE AREA LABEL

0 100 200 400
HORIZONTAL SCALE: 1:200

HMT
ENGINEERING & SURVEYING

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

ULTIMATE DRAINAGE AREA MAP

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

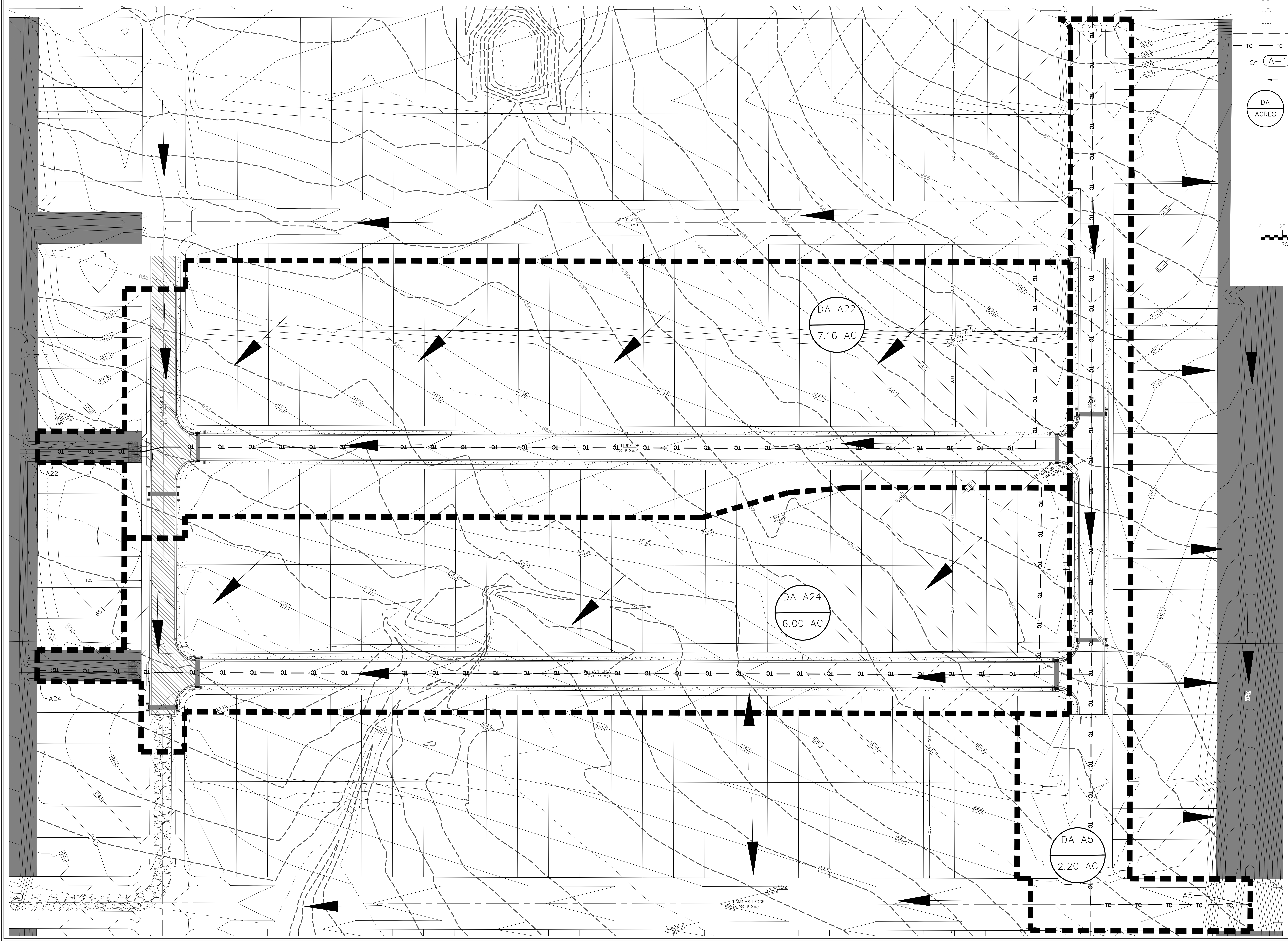
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C1.2

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_OVERALL ULTIMATE DA MAP.dwg User: williaml Jul 24, 2025 – 8:38am

Table 5: Sub-Drainage Areas Conditions										
Area ID	Area (ac)	T_c (min)	C_2	C_{10}	C_{25}	C_{100}	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
SUB DA-5	2.2	10.00	0.62	0.70	0.74	0.83	6.93	11.47	14.89	21.26
SUB DA-A22	7.16	18.00	0.62	0.70	0.74	0.83	17.25	28.17	36.18	51.51
SUB DA-A24	6.00	18.00	0.62	0.70	0.74	0.83	14.45	23.60	30.32	43.17



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	DRAINAGE AREA
TC — TC	TIME OF CONCENTRATION
A-1	POINT OF CONCENTRATION
←	DRAINAGE FLOW DIRECTION
DA / ACRES	DRAINAGE AREA LABEL

0 25 50 100
SCALE: 1" = 50'

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen

07/24/25

OVERALL SUB-DRAINAGE MAP

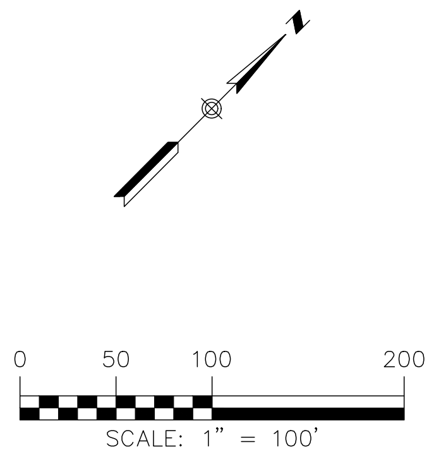
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C1.3

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\Reports\Drainage\DA Maps and Calcs\337.050_SUB-DRAINAGE.dwg User: williaml Jul 24, 2025 - 8:39am

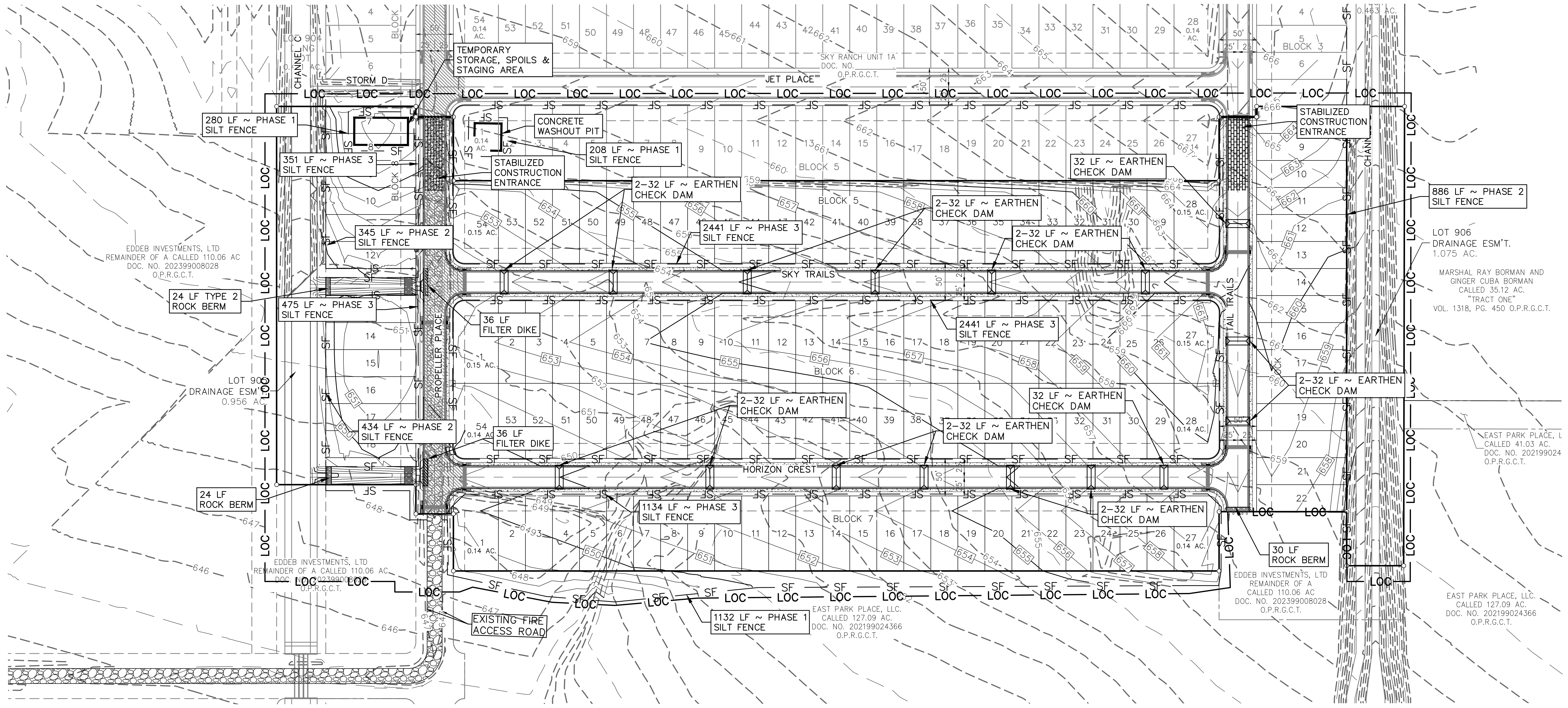


LEGEND

—700—	EXISTING CONTOURS
—[700]—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
→	DRAINAGE FLOW DIRECTION
— SF — SF —	SILT FENCE • PHASE 1 (DONE BY GC AT START OF PROJECT) • PHASE 2 (DONE BY GC AT COMPLETION OF LOT AND CHANNEL GRADING • PHASE 3 (DONE BY HOME BUILDER (NOT IN BID TO GC)
— LOC — LOC —	LIMIT OF CONSTRUCTION
▦	STABILIZED CONSTRUCTION ENTRANCE
▨	FILTER DIKE CURB INLET PROTECTION
▤	TYPE 2 ROCK BERM
⊠	EARTHEN BERM CHECK DAM

NOTE:

1. PER TPDES REQUIREMENTS, STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD OF EXCEEDING FOURTEEN (14) CALENDAR DAYS.
2. SILT FENCE AT PROPERTY LINE MAY BE SHOWN GRAPHICALLY OFFSET FROM PROPERTY LINE TO AVOID OVERLAP OF LINEWORK. CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES BEYOND LIMITS OF CONSTRUCTION REGARDLESS OF GRAPHIC REPRESENTATION
3. REVEGATE LOTS AND DRAINAGE AREAS
4. CONTRACTOR TO PROVIDE BLANKETS/ STABILIZATION OF CHANNELS ON SIDE SLOPES
5. INSPECTION OF EROSION CONTROL MEASURES TO TAKE PLACE WEEKLY


TEMPORARY STORAGE, SPOILS & STAGING AREA
280 LF ~ PHASE 1 SILT FENCE
351 LF ~ PHASE 3 SILT FENCE
CONCRETE WASHOUT PIT
208 LF ~ PHASE 1 SILT FENCE
STABILIZED CONSTRUCTION ENTRANCE
2-32 LF ~ EARTHEN CHECK DAM
345 LF ~ PHASE 2 SILT FENCE
2441 LF ~ PHASE 3 SILT FENCE
24 LF TYPE 2 ROCK BERM
475 LF ~ PHASE 3 SILT FENCE
36 LF FILTER DIKE
434 LF ~ PHASE 2 SILT FENCE
24 LF ROCK BERM
1134 LF ~ PHASE 3 SILT FENCE
1132 LF ~ PHASE 1 SILT FENCE
EXISTING FIRE ACCESS ROAD
32 LF ~ EARTHEN CHECK DAM
886 LF ~ PHASE 2 SILT FENCE
30 LF ROCK BERM
STORM D
JET PLACE
SKY TRAILS
HORIZON CREST
PROPELLER PLACE
TAIL TRAILS
BLOCK 3
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
SKY RANCH UNIT 1A DOC. NO. O.P.R.G.C.T.
EDDEB INVESTMENTS, LTD REMAINDER OF A CALLED 110.06 AC DOC. NO. 202399008028 O.P.R.G.C.T.
LOT 905 DRAINAGE ESM'T. 0.956 AC.
LOT 906 DRAINAGE ESM'T. 1.075 AC.
MARSHAL RAY BORMAN AND GINGER CUBA BORMAN CALLED 35.12 AC. "TRACT ONE" VOL. 1318, PG. 450 O.P.R.G.C.T.
EAST PARK PLACE, LLC. CALLED 41.03 AC. DOC. NO. 202199024 O.P.R.G.C.T.
EAST PARK PLACE, LLC. CALLED 127.09 AC. DOC. NO. 202199024366 O.P.R.G.C.T.
LOC
SF

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen

07/24/25

EROSION CONTROL PLAN

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: 337.050

SHEET
C2.0

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_EROSION 1B.dwg User: williaml Jul 24, 2025 - 8:41am

CONCRETE WASHOUT AREAS

THE PURPOSE OF CONCRETE WASHOUT AREAS IS TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:

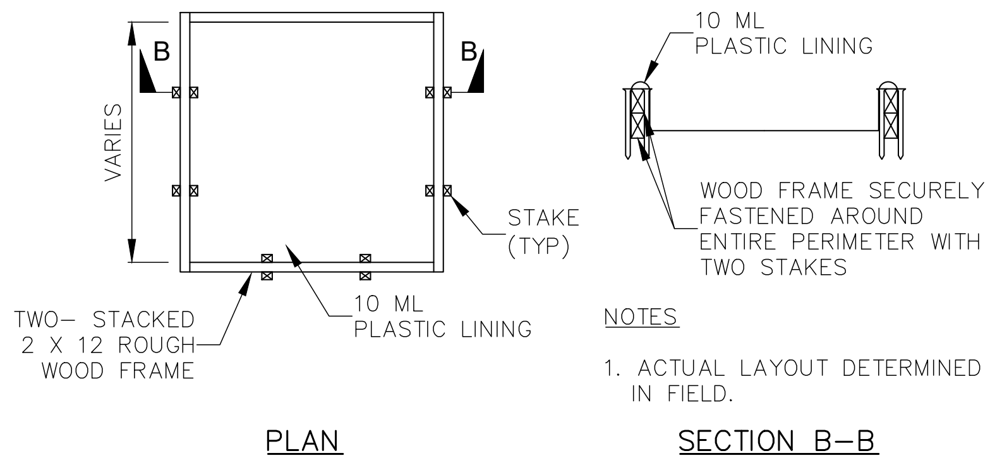
- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

FOR ONSITE WASHOUT:

- LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
- WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

BELOW GRADE CONCRETE WASHOUT FACILITIES ARE TYPICAL. THESE CONSIST OF A LINED EXCAVATION SUFFICIENTLY LARGE TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL. ABOVE GRADE FACILITIES ARE USED IF EXCAVATION IS NOT PRACTICAL. TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS SECTION, WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

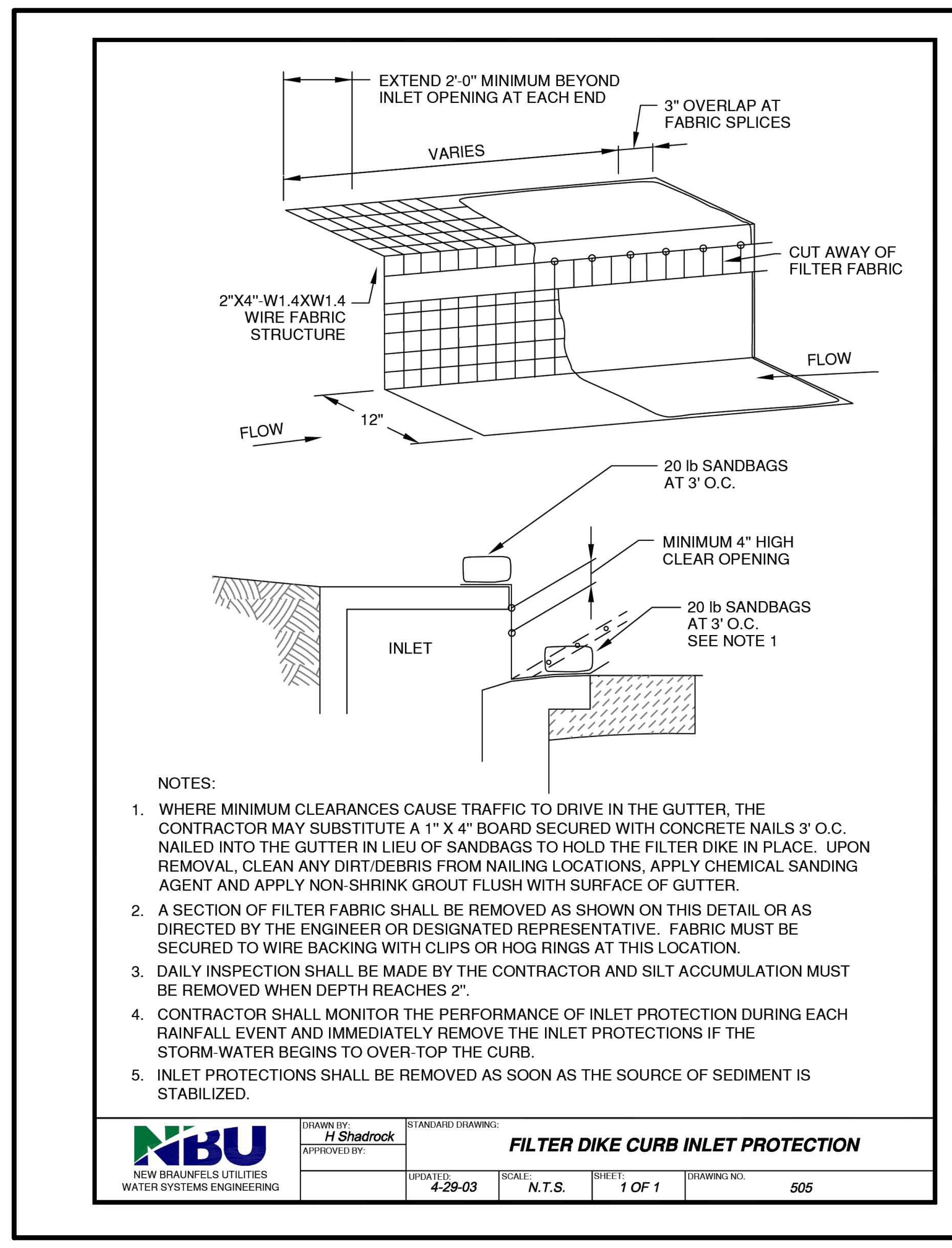

B
B
VARIES
STAKE (TYP)
TWO– STACKED 2 X 12 ROUGH WOOD FRAME
10 ML PLASTIC LINING
10 ML PLASTIC LINING
WOOD FRAME SECURELY FASTENED AROUND ENTIRE PERIMETER WITH TWO STAKES
PLAN
SECTION B–B

NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.

CONCRETE WASHOUT PIT DETAIL

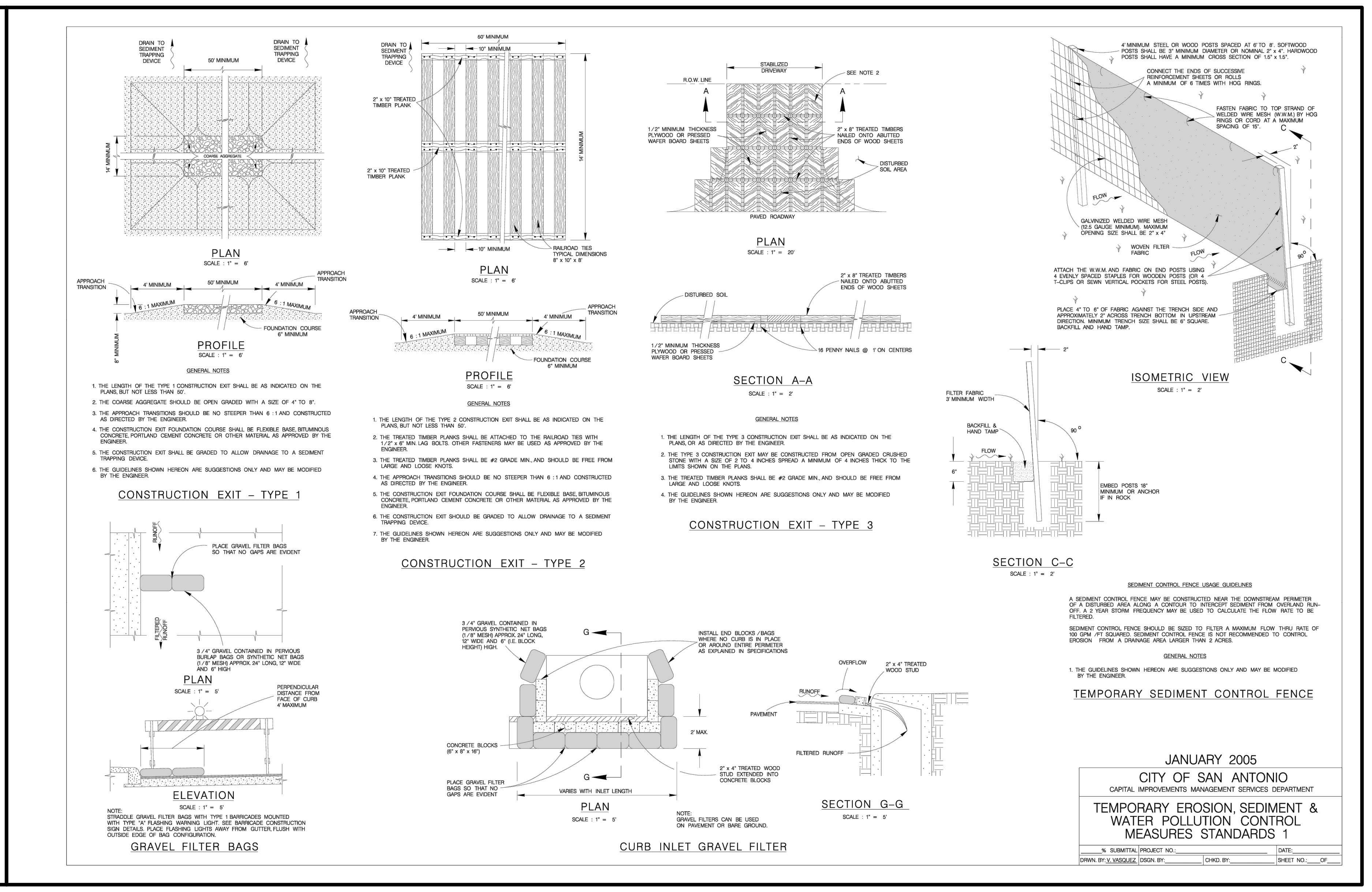
TYPE "ABOVE GRADE"
NOT TO SCALE


EXTEND 2'-0" MINIMUM BEYOND INLET OPENING AT EACH END
3" OVERLAP AT FABRIC SPLICES
VARIES
CUT AWAY OF FILTER FABRIC
2"X4"-W1.4XW1.4 WIRE FABRIC STRUCTURE
FLOW
12"
FLOW
20 lb SANDBAGS AT 3' O.C.
MINIMUM 4" HIGH CLEAR OPENING
INLET
20 lb SANDBAGS AT 3' O.C. SEE NOTE 1
NBU
NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

NOTES:

1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVER-TOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

DRAWN BY:	STANDARD DRAWING:		
H Shadrock	FILTER DIKE CURB INLET PROTECTION		
APPROVED BY:			
UPDATED: 4-29-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 505


DRAIN TO SEDIMENT TRAPPING DEVICE
50' MINIMUM
14' MINIMUM
COARSE AGGREGATE
PLAN
SCALE : 1" = 6'
APPROACH TRANSITION
4' MINIMUM
6 : 1 MAXIMUM
FOUNDATION COURSE 6" MINIMUM
8" MINIMUM
PROFILE
SCALE : 1" = 6'
60' MINIMUM
10" MINIMUM
2" x 10" TREATED TIMBER PLANK
RAILROAD TIES TYPICAL DIMENSIONS 8" x 10" x 8'
PLAN
PROFILE
STABILIZED DRIVEWAY
R.O.W. LINE
SEE NOTE 2
1/2" MINIMUM THICKNESS PLYWOOD OR PRESSED WAFER BOARD SHEETS
2" x 8" TREATED TIMBERS NAILED ONTO ABUTTED ENDS OF WOOD SHEETS
DISTURBED SOIL AREA
PAVED ROADWAY
PLAN
SCALE : 1" = 20'
DISTURBED SOIL
16 PENNY NAILS @ 1' ON CENTERS
SECTION A–A
SCALE : 1" = 2'
4' MINIMUM STEEL OR WOOD POSTS SPACED AT 6' TO 8'. SOFTWOOD POSTS SHALL BE 3" MINIMUM DIAMETER OR NOMINAL 2" x 4". HARDWOOD POSTS SHALL HAVE A MINIMUM CROSS SECTION OF 1.5" x 1.5".
CONNECT THE ENDS OF SUCCESSIVE REINFORCEMENT SHEETS OR ROLLS A MINIMUM OF 6 TIMES WITH HOG RINGS.
FASTEN FABRIC TO TOP STRAND OF WELDED WIRE MESH (W.W.M.) BY HOG RINGS OR CORD AT A MAXIMUM SPACING OF 15".
GALVANIZED WELDED WIRE MESH (12.5 GAUGE MINIMUM). MAXIMUM OPENING SIZE SHALL BE 2" x 4"
WOVEN FILTER FABRIC
FLOW
ATTACH THE W.W.M. AND FABRIC ON END POSTS USING 4 EVENLY SPACED STAPLES FOR WOODEN POSTS (OR 4 T-CLIPS OR SEWN VERTICAL POCKETS FOR STEEL POSTS).
PLACE 4" TO 6" OF FABRIC AGAINST THE TRENCH SIDE AND APPROXIMATELY 2" ACROSS TRENCH BOTTOM IN UPSTREAM DIRECTION. MINIMUM TRENCH SIZE SHALL BE 6" SQUARE. BACKFILL AND HAND TAMP.
ISOMETRIC VIEW
SCALE : 1" = 2'
FILTER FABRIC 3' MINIMUM WIDTH
BACKFILL & HAND TAMP
EMBED POSTS 18" MINIMUM OR ANCHOR IF IN ROCK
SECTION C–C
SCALE : 1" = 2'
RUNOFF
PLACE GRAVEL FILTER BAGS SO THAT NO GAPS ARE EVIDENT
FILTERED RUNOFF
3/4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS (1/8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH
PLAN
SCALE : 1" = 5'
PERPENDICULAR DISTANCE FROM FACE OF CURB 4' MAXIMUM
ELEVATION
SCALE : 1" = 5'
3/4" GRAVEL CONTAINED IN PERVIOUS SYNTHETIC NET BAGS (1/8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" (I.E. BLOCK HEIGHT) HIGH.
INSTALL END BLOCKS / BAGS WHERE NO CURB IS IN PLACE OR AROUND ENTIRE PERIMETER AS EXPLAINED IN SPECIFICATIONS
CONCRETE BLOCKS (6" x 8" x 16")
PLACE GRAVEL FILTER BAGS SO THAT NO GAPS ARE EVIDENT
2' MAX.
2" x 4" TREATED WOOD STUD EXTENDED INTO CONCRETE BLOCKS
VARIES WITH INLET LENGTH
PLAN
SCALE : 1" = 5'
OVERFLOW
2" x 4" TREATED WOOD STUD
RUNOFF
PAVEMENT
FILTERED RUNOFF
SECTION G–G
SCALE : 1" = 5'

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 :1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 1

GENERAL NOTES

1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 :1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 2

GENERAL NOTES

1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 3

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM /FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE

NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS

NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

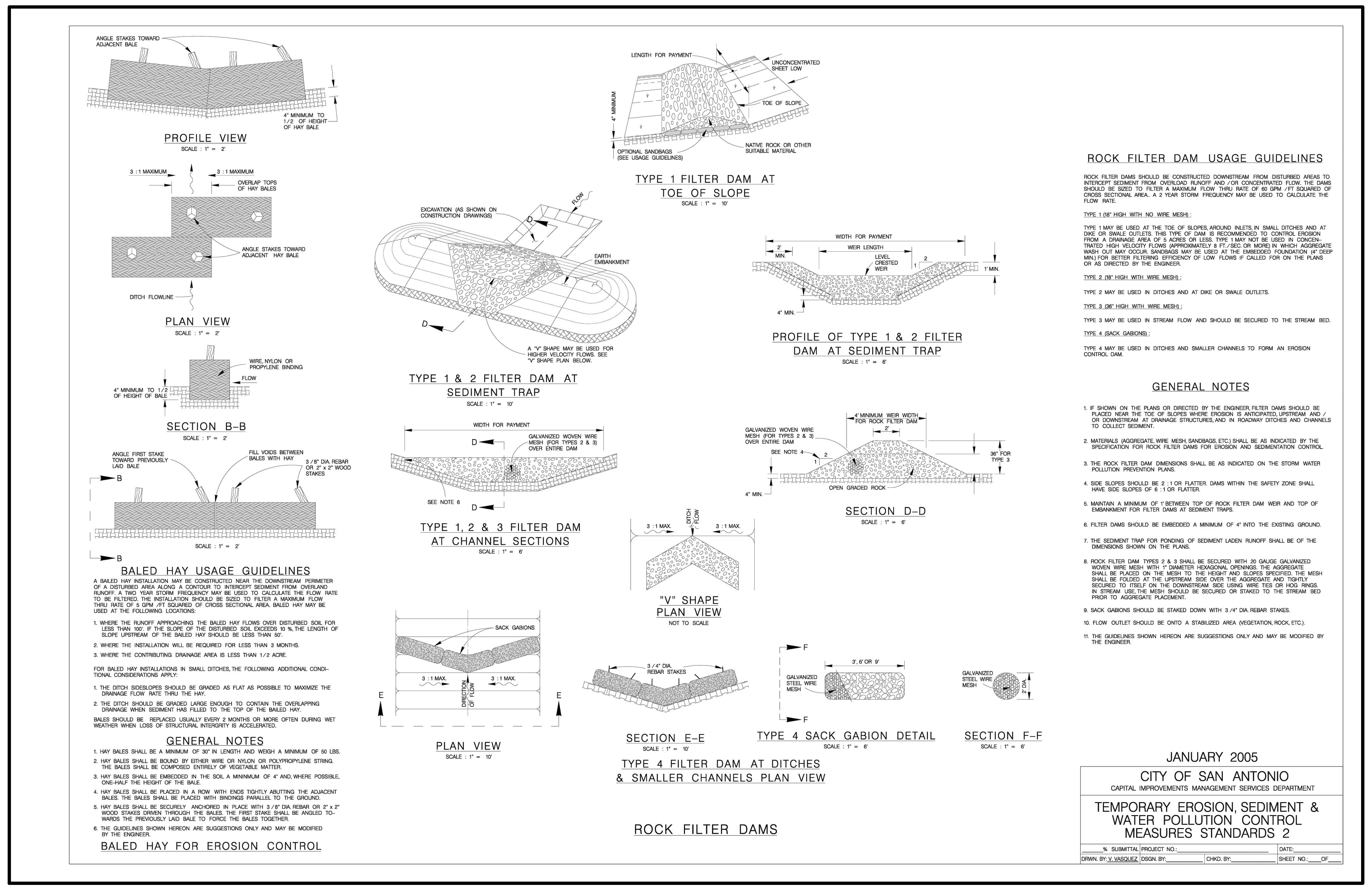
CURB INLET GRAVEL FILTER

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

___% SUBMITTAL PROJECT NO.:________ DATE:________
DRWN. BY: V. VASQUEZ DSGN. BY:________ CHKD. BY:________ SHEET NO.:____OF____


ANGLE STAKES TOWARD ADJACENT BALE
4" MINIMUM TO 1/2 OF HEIGHT OF HAY BALE
PROFILE VIEW
SCALE : 1" = 2'
3 : 1 MAXIMUM
OVERLAP TOPS OF HAY BALES
ANGLE STAKES TOWARD ADJACENT HAY BALE
DITCH FLOWLINE
PLAN VIEW
SCALE : 1" = 2'
WIRE, NYLON OR PROPYLENE BINDING
FLOW
4" MINIMUM TO 1/2 OF HEIGHT OF BALE
SECTION B–B
SCALE : 1" = 2'
ANGLE FIRST STAKE TOWARD PREVIOUSLY LAID BALE
FILL VOIDS BETWEEN BALES WITH HAY
3/8" DIA. REBAR OR 2" x 2" WOOD STAKES
SCALE : 1" = 2'
LENGTH FOR PAYMENT
UNCONCENTRATED SHEET LOW
TOE OF SLOPE
4" MINIMUM
OPTIONAL SANDBAGS (SEE USAGE GUIDELINES)
NATIVE ROCK OR OTHER SUITABLE MATERIAL
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 10'
EXCAVATION (AS SHOWN ON CONSTRUCTION DRAWINGS)
FLOW
EARTH EMBANKMENT
A "V" SHAPE MAY BE USED FOR HIGHER VELOCITY FLOWS. SEE "V" SHAPE PLAN BELOW.
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 10'
WIDTH FOR PAYMENT
WEIR LENGTH
LEVEL CRESTED WEIR
2' MIN.
1' MIN.
4" MIN.
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 6'
WIDTH FOR PAYMENT
GALVANIZED WOVEN WIRE MESH (FOR TYPES 2 & 3) OVER ENTIRE DAM
SEE NOTE 6
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 6'
4' MINIMUM WEIR WIDTH FOR ROCK FILTER DAM
GALVANIZED WOVEN WIRE MESH (FOR TYPES 2 & 3) OVER ENTIRE DAM
SEE NOTE 4
36" FOR TYPE 3
OPEN GRADED ROCK
4" MIN.
SECTION D–D
SCALE : 1" = 6'
3 : 1 MAX.
DITCH FLOW
"V" SHAPE PLAN VIEW
NOT TO SCALE
SACK GABIONS
DIRECTION OF FLOW
PLAN VIEW
SCALE : 1" = 10'
3/4" DIA. REBAR STAKES
SECTION E–E
SCALE : 1" = 10'
3', 6' OR 9'
GALVANIZED STEEL WIRE MESH
TYPE 4 SACK GABION DETAIL
SCALE : 1" = 6'
2' DIA.
SECTION F–F
SCALE : 1" = 6'

BALED HAY USAGE GUIDELINES

A BAILED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM /FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BAILED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONDITIONAL CONSIDERATIONS APPLY:

1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

GENERAL NOTES

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MININMUM OF 4" AND, WHERE POSSIBLE, ONE-HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3/8" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

BALED HAY FOR EROSION CONTROL

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAMS

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND /OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM /FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH) :

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT./SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH) :

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH) :

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS) :

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

GENERAL NOTES

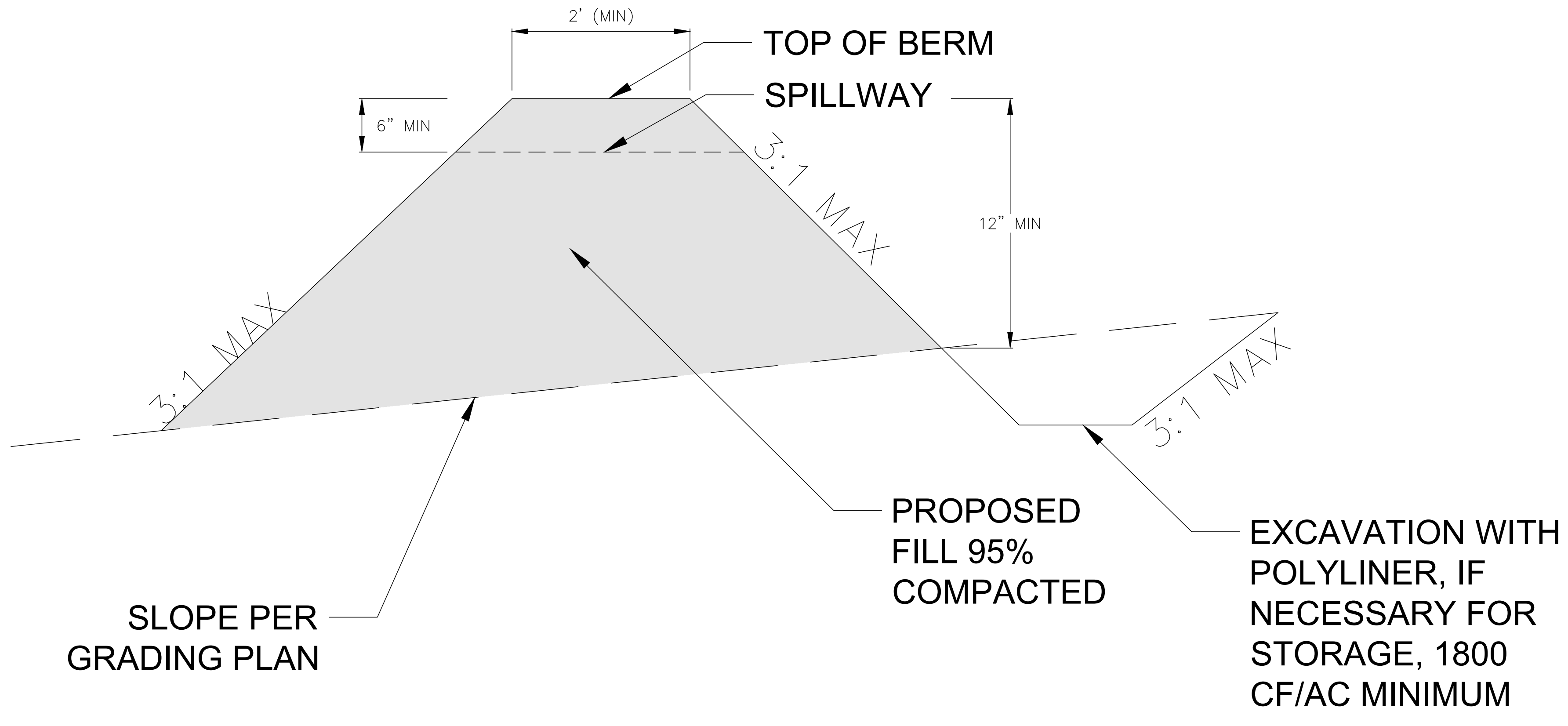
1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 :1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 :1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

___% SUBMITTAL PROJECT NO.:________ DATE:________
DRWN. BY: V. VASQUEZ DSGN. BY:________ CHKD. BY:________ SHEET NO.:____OF____


2' (MIN)
TOP OF BERM
SPILLWAY
6" MIN
3:1 MAX
12" MIN
3:1 MAX
3:1 MAX
PROPOSED FILL 95% COMPACTED
EXCAVATION WITH POLYLINER, IF NECESSARY FOR STORAGE, 1800 CF/AC MINIMUM
SLOPE PER GRADING PLAN

EARTHEN BERM W/POLYLINER AND SPILLWAY

NOT TO SCALE

NOTE: EARTHEN BERMS ARE TO SPAN ACROSS PROPOSED STREET SECTION (APPROX. 30 FEET WIDE) FROM CURB TO CURB

LEGEND

—— ——700—— ——	EXISTING CONTOURS
——[700]——	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
→	DRAINAGE FLOW DIRECTION
—— SF —— SF ——	SILT FENCE
—— LOC —— LOC ——	LIMIT OF CONSTRUCTION
▦	STABILIZED CONSTRUCTION ENTRANCE
▨	FILTER DIKE CURB INLET PROTECTION
▬	ROCK BERM

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD OF EXCEEDING FOURTEEN (14) CALENDAR DAYS.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT).

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

EROSION DETAILS

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

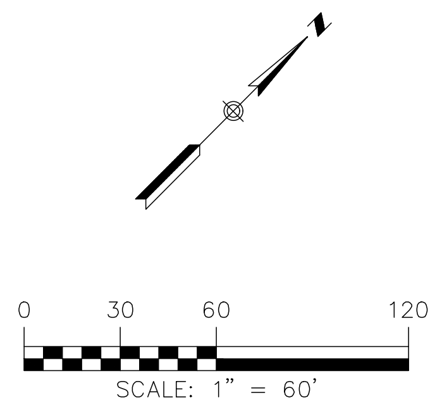
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	JULY 2025
DRAWN BY:	RR
DESIGNED BY:	MTA
REVIEWED BY:	MTA
HMT PROJECT NO.:	337.050

SHEET
C2.1

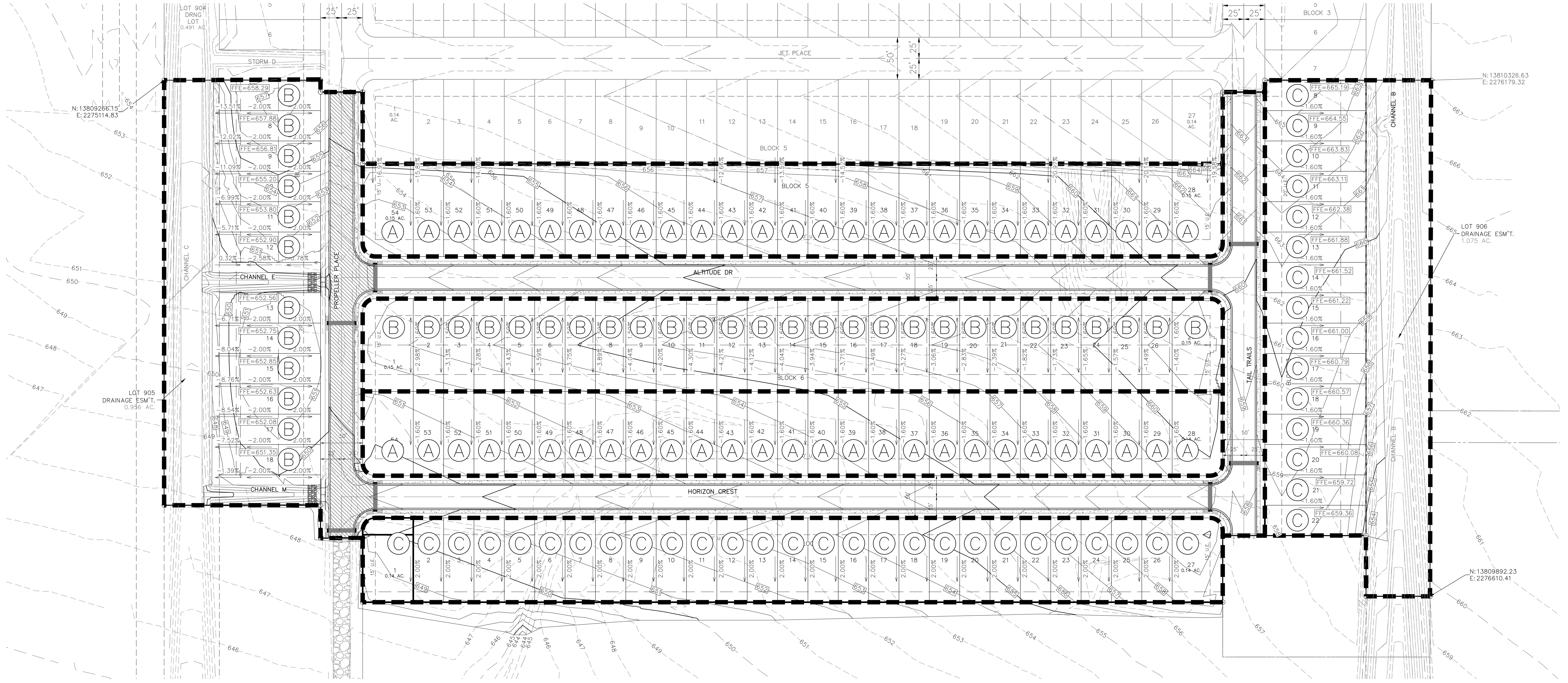
NOTES:

1. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
2. ALL FINISHED FLOOR ELEVATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:
   - 2.A. PER NOTE 10 ON PLAT SHEET C.03.
3. HUD DETAILS SHOWN ON SHEET C.03 WHEN POSSIBLE, CONTRACTOR SHALL PHASE GRADING SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME.
4. FOR ANY LOTS ADJACENT TO A DRAINAGE STRUCTURE, HOME BUILDER TO ENSURE FINISHED FLOOR HAS A MINIMUM ELEVATION AS LABELED OR AS PER NOTE 2 ABOVE, WHICHEVER IS GREATER.
5. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2(N).



LEGEND

— 700 —	EXISTING CONTOURS
—▭700▭—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
Ⓐ	LOT GRADING SEE DETAILS SHEET **C3.1**
→	DRAINAGE FLOW DIRECTION
FF=XXX.X'	MINIMUM FINISHED FLOOR ELEVATION



REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

07/24/25

GRADING PLAN

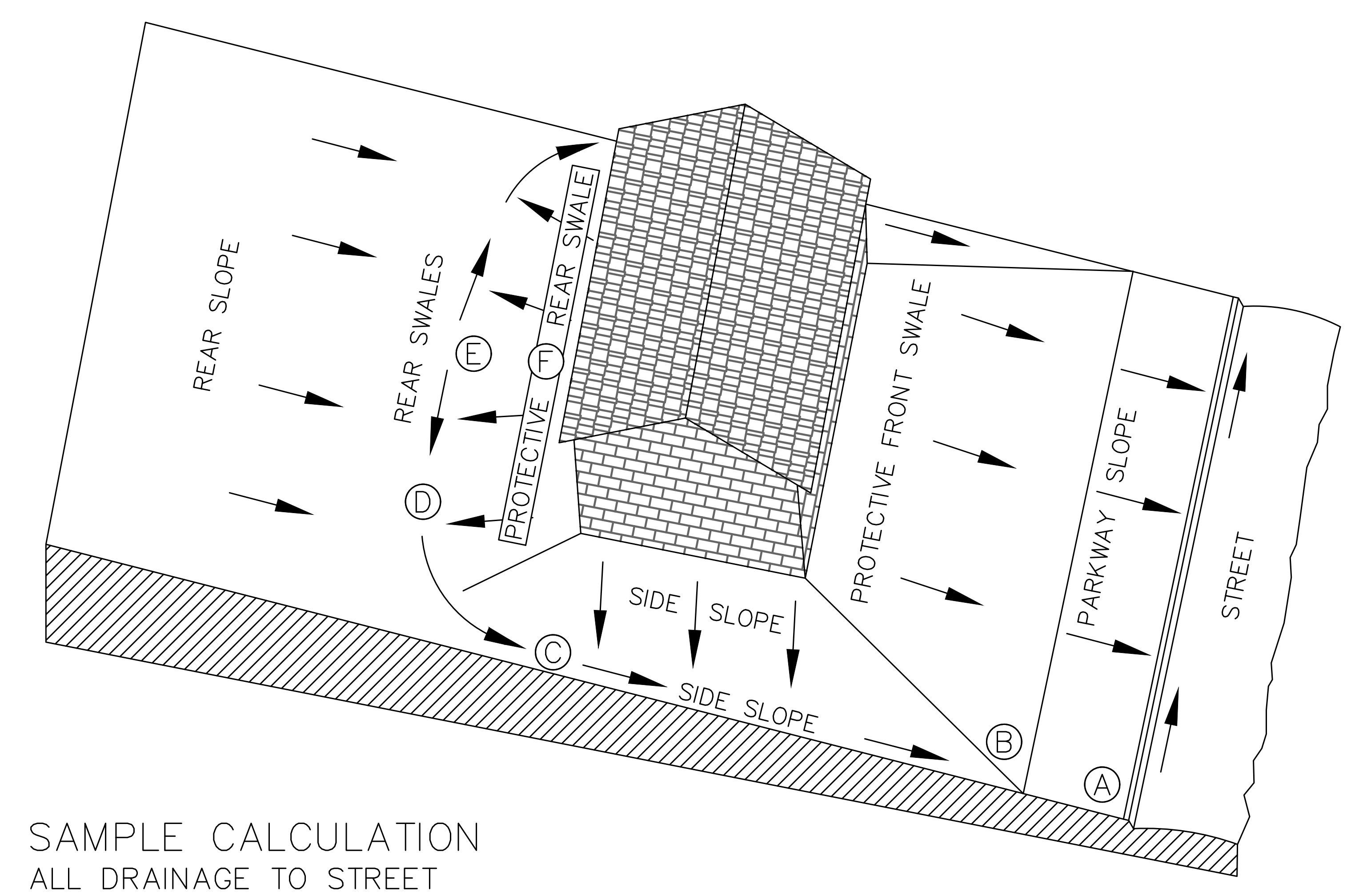
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C3.0

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_GRADING 1B.dwg User: anthonyr Jul 24, 2025 - 2:50pm



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$	SWALE TURN WITH 10' RADIUS:16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{DE}$**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		35"	(3.0')	20"	(1.7')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"		43"	(3.6')	28"	(2.3')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		54"	(4.5')	39"	(3.3')

CALCULATIONS FOR 2% SWALES

15 x 0.25' = $3\frac{3}{4}$"

85 x 0.25' = $21\frac{3}{4}$"

16 x 0.25' = 4"

13 x 0.25' = $3\frac{3}{4}$"

10 x 0.25' = $2\frac{1}{2}$"

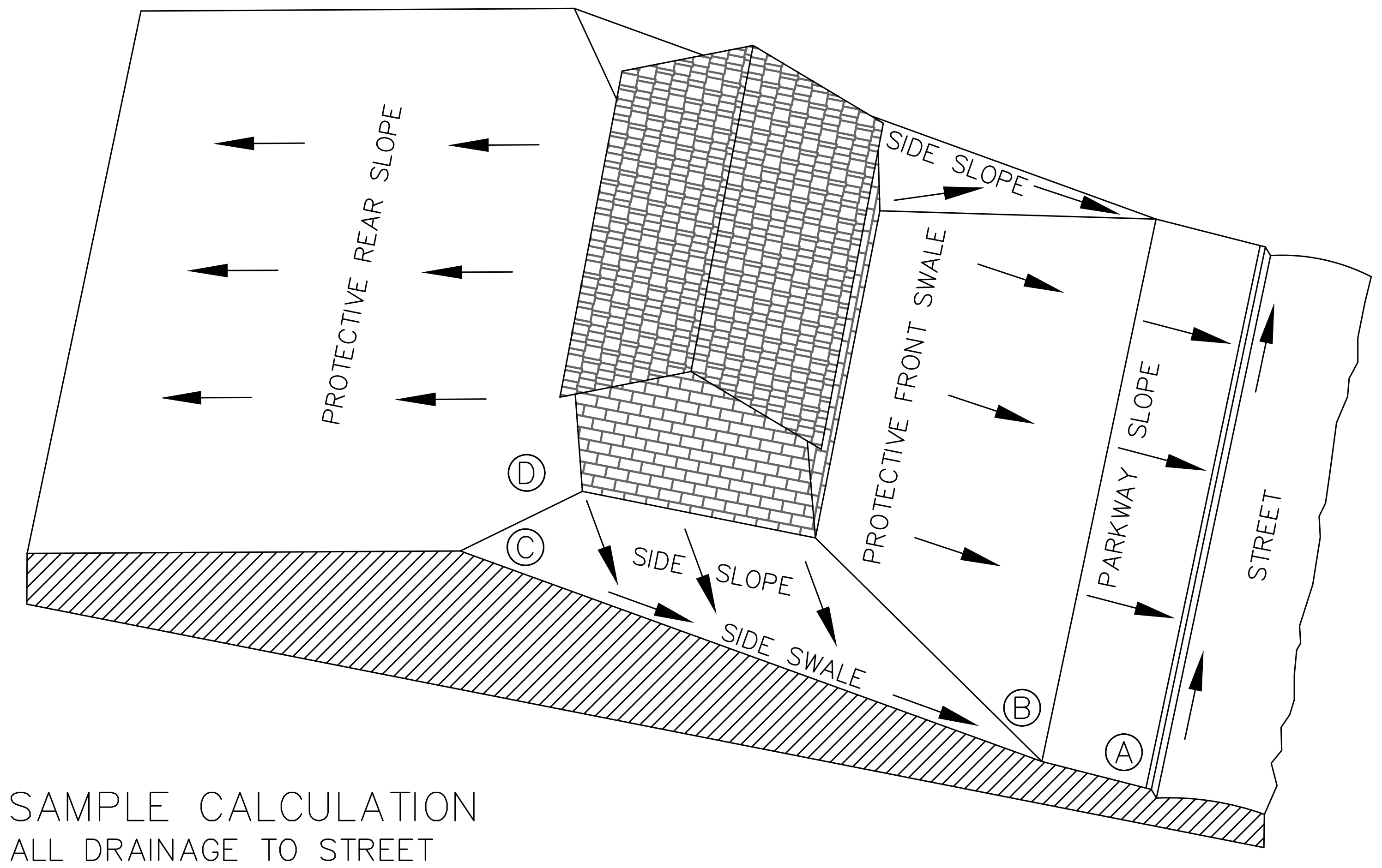
$34\frac{3}{4}$"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

** LENGTH $\overline{DE}$ = [1/2(LOT WIDTH – (2x SWALE TURN RADIUS))] – [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]

LOT TYPE Ⓐ



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$*	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AD}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		27"	(2.4')	16"	(1.4')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8"		35"	(2.9')	24"	(2.0')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		46"	(3.8')	35"	(2.9')

CALCULATIONS FOR 2% SWALES

15 x 0.25' = $3\frac{3}{4}$"

85 x 0.25' = $21\frac{3}{4}$"

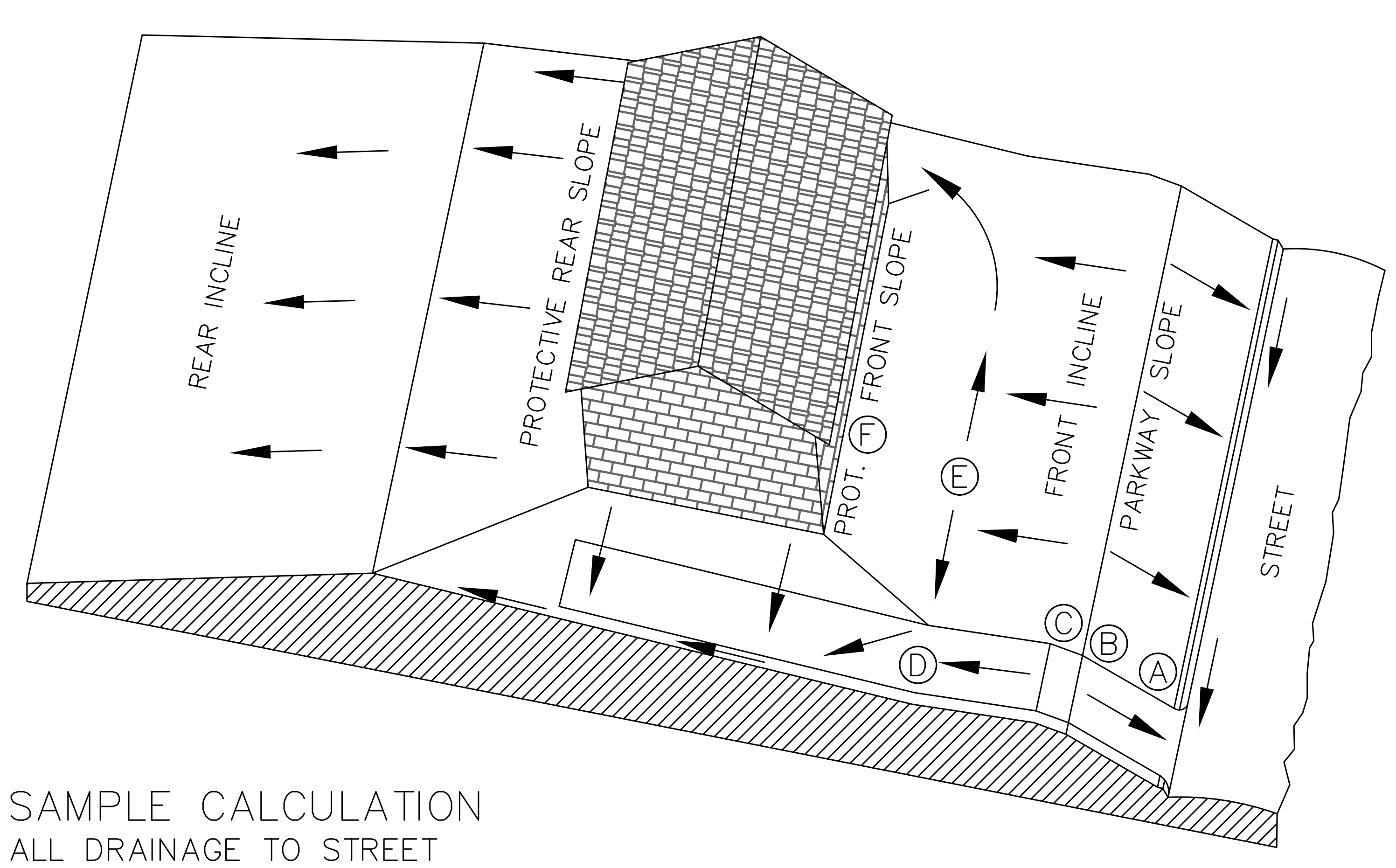
6 x 0.25' = $1\frac{1}{2}$"

$26\frac{1}{2}$"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

LOT TYPE Ⓑ



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE $\overline{AF}$ FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE $\overline{DE}$ AT 2.0%.				RESULTS OF 1% SWALES	
A	CURB–TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP–GRADE DRIVE IN STREET TO DOWN–GRADE DRIVE ON LOT	0"	(0.0')	0"	(0.0')
$\overline{CD}$	DRIVEWAY DOWN–GRADE TO POINT 10 FEET OUT FROM FRONT OF BUILDING: –11' AT $1\frac{5}{8}$"/FT (13.5%)	–18"	(–1.5')	–18"	(–1.5')
$\overline{DE}$	FRONT SWALE: 16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT FRONT BLDG WALL		–7"	(–1.0')	–11"	(1.3')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: –7" + 8"		1"	(–0.3')	–3"	(0.7')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: –7" + 19"		12"	(–0.6')	8"	(0.3')

CALCULATIONS FOR SWALES

15 x 0.25'	=	$3\frac{3}{4}$"
0 x 0.25'	=	0"
–11 x 1.625'	=	$-17\frac{3}{4}$"
16 x 0.25'	=	4"
10 x 0.25'	=	$2\frac{1}{2}$"
		$-7\frac{1}{2}$"

CALCULATION:

USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

USE 1.625" PER FOOT GRADIENT FOR A 13.5% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

LOT TYPE Ⓒ

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION
THIS ITEM SHALL CONSIST OF ALL CLEARING AND 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.

SCARIFYING THE AREA TO BE FILLED
ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL 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.

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 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 THD–TEX–113–E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

FILL MATERIALS
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

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 THE 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 COMAPCTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

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.

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).

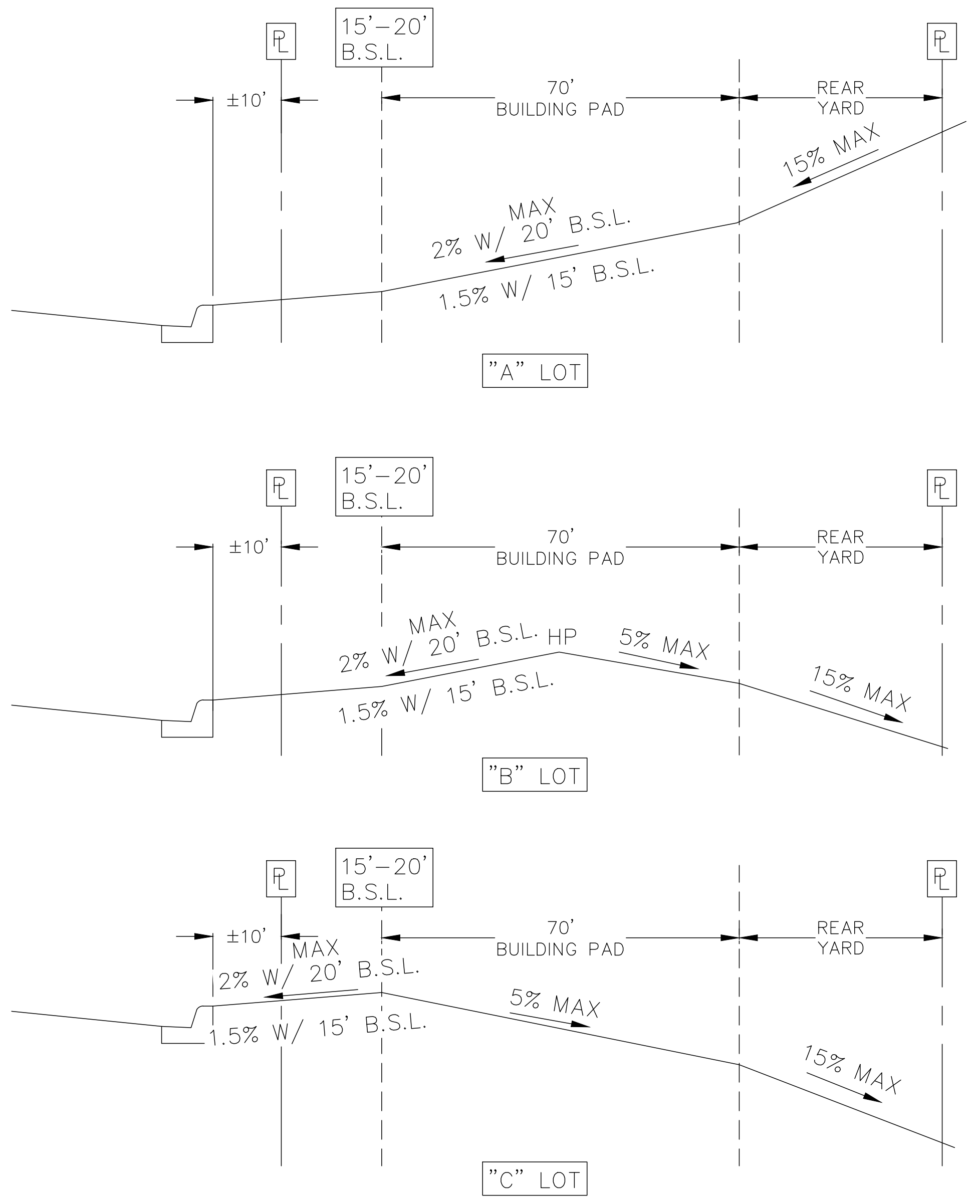
COMPACTION OF SLOPES
THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT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

DENSITY TEST
FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL 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"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR 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 APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST 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 A GEO–TECHNICAL ENGINEER OR STAFF.

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 8–12 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 AT A MAXIMUM OF EACH TWELVE INCHES (12") 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.

CUT/FILL LOTS
AREAS INVOLVING CUT ON THE 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. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.
HUD 79–G
HUD 79–G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79–G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79–G. AFTER SITE GRADING IS COMPLETED, GEO–TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79–G LETTER.

DRAINAGE NOTE
FINISHED FLOOR ELEVATIONS
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100–YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.



LENNAR LOT GRADING STANDARDS

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_GRADDETAILS 1B.dwg User: williaml Jul 24, 2025 – 8:42am

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

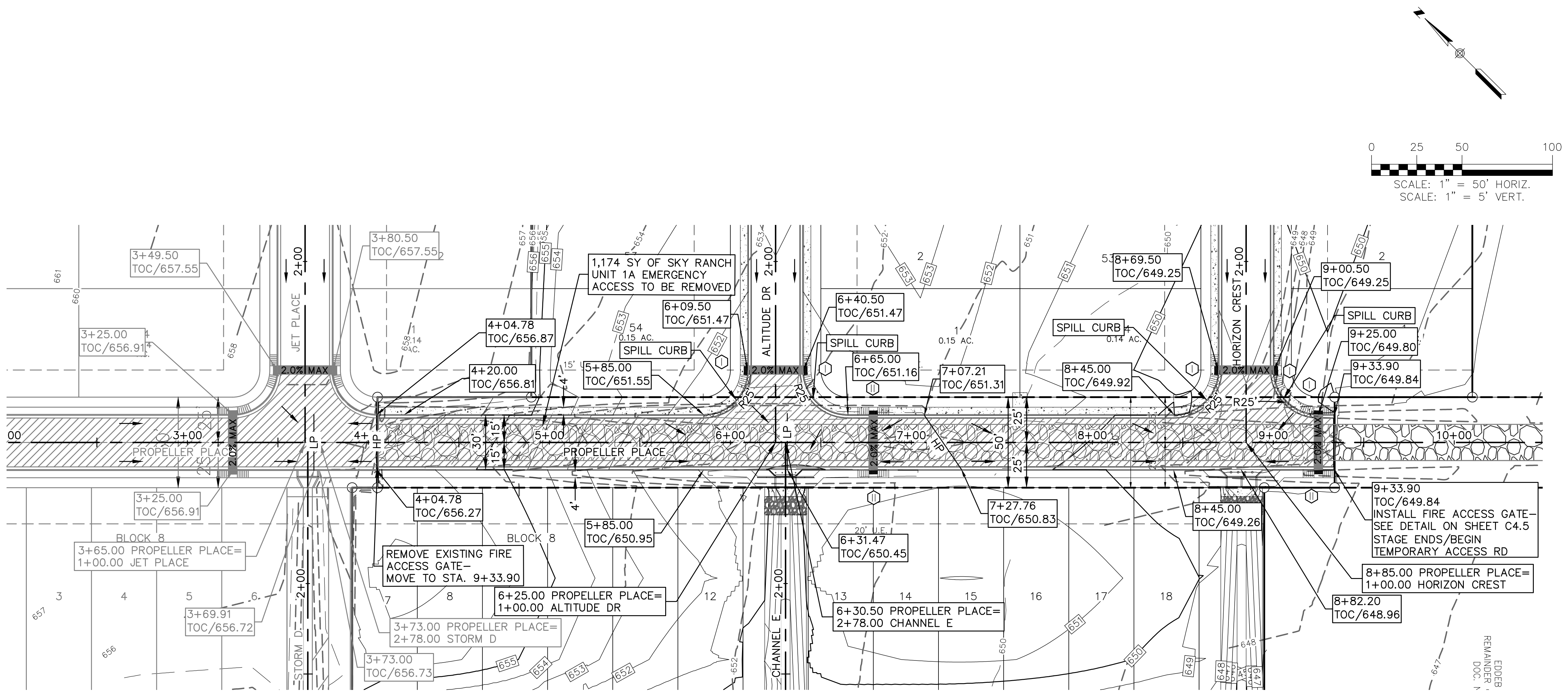
GRADING DETAILS

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: 337.050

SHEET
C3.1



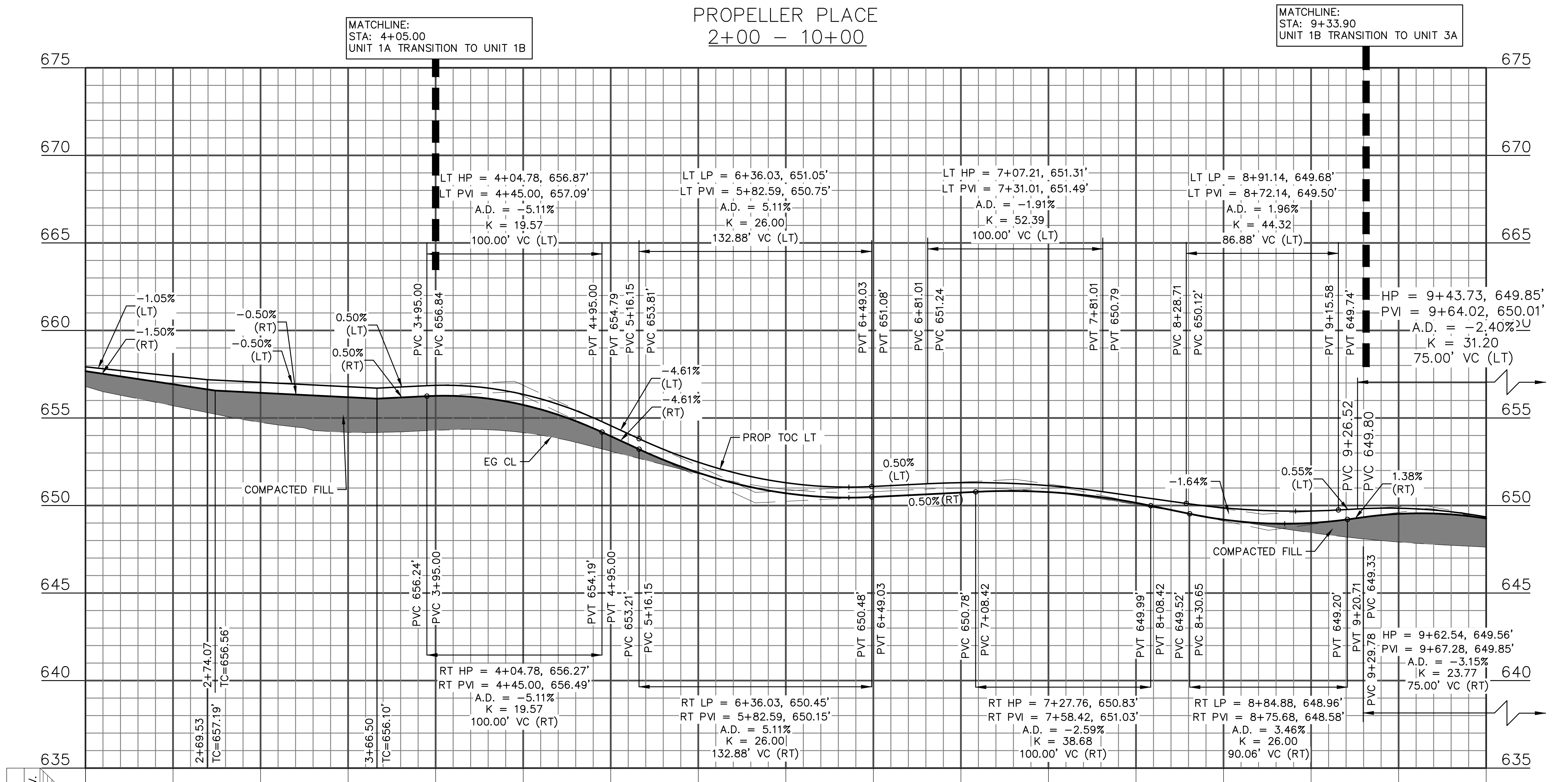
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
→	FLOW ARROW
▨	WASHOUT CROWN AREAS
	SPILL CURB
	EXISTING GROUND LEFT (EG LT)
	EXISTING GROUND RIGHT (EG RT)
	EXISTING GROUND CENTER (EG CTR)
	PROPOSED TOP OF CURB (PR TC)
2.0% MAX	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
⬡	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.11**)
	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **25** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114–98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

PROPELLER PLACE
2+00 – 10+00



	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50
EXIST. C.L.	655.7	654.7	654.2	654.3	654.2	653.1	651.8	650.9	650.8	651.0	650.8	650.0	649.2	648.4	647.9
LT T.C. ELEV.	657.39	657.03	656.78	656.86	656.35	654.56	652.47	651.30	651.09	651.30	651.13	650.52	649.87	649.69	649.85
EXIST. C.L.	655.7	654.7	654.2	654.3	654.2	653.1	651.8	650.9	650.8	651.0	650.8	650.0	649.2	648.4	647.9
RT T.C. ELEV.	656.93	656.43	656.18	656.26	655.75	653.96	651.87	650.70	650.49	650.74	650.76	650.15	649.19	649.00	649.52

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

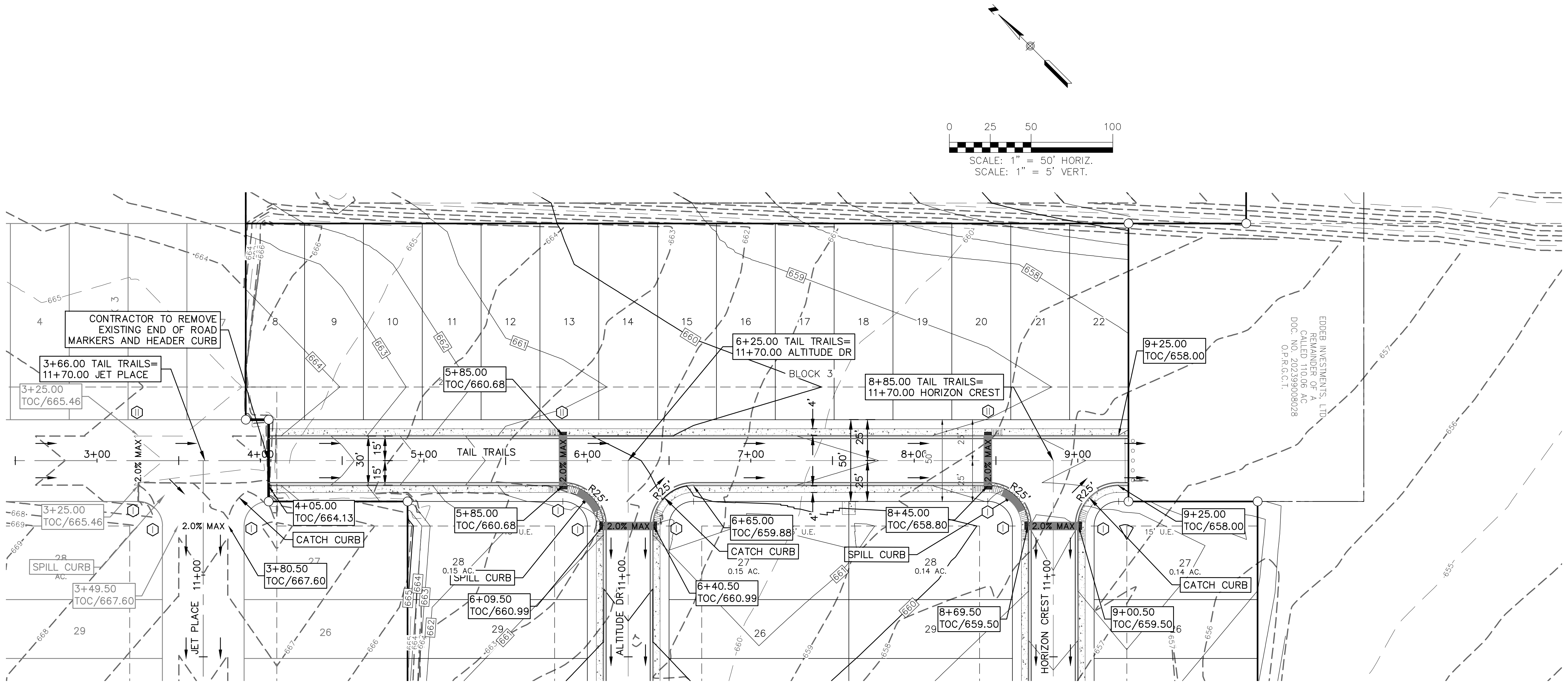
PROPELLER PLACE PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: JTS
HMT PROJECT NO.: 337.050

SHEET
C4.0



LEGEND

—700—	EXISTING CONTOURS
—[700]—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
→	FLOW ARROW
▨	WASHOUT CROWN AREAS
〰	SPILL CURB
— — — —	EXISTING GROUND LEFT (EG LT)
- - - - - -	EXISTING GROUND RIGHT (EG RT)
—— - ——	EXISTING GROUND CENTER (EG CTR)
——	PROPOSED TOP OF CURB (PR TC)
↓ 2.0% MAX ↓	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
⬡ I	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.05**)
▬	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

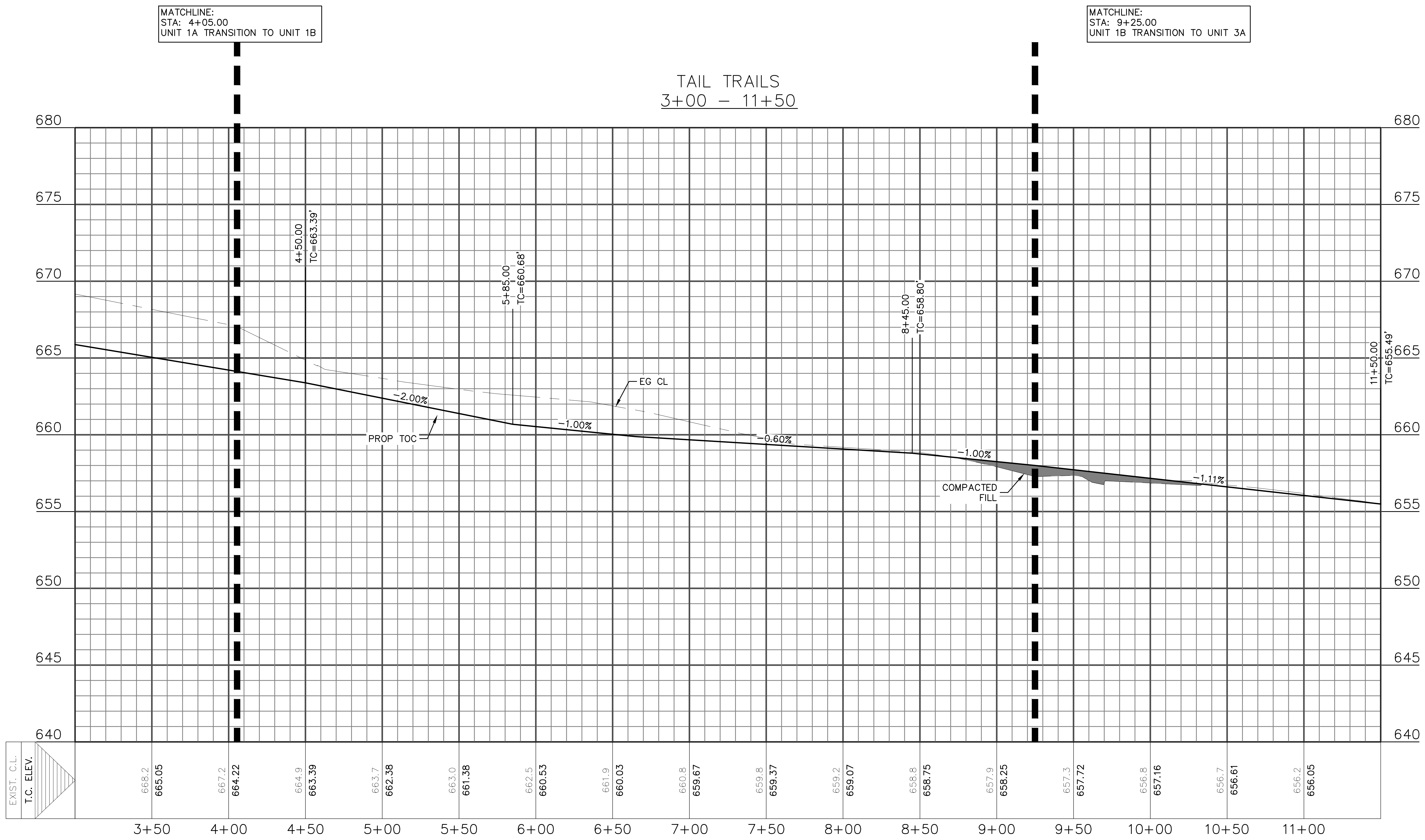
NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **25** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114-98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

MATCHLINE:
STA: 4+05.00
UNIT 1A TRANSITION TO UNIT 1B

MATCHLINE:
STA: 9+25.00
UNIT 1B TRANSITION TO UNIT 3A

TAIL TRAILS
3+00 – 11+50



	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00
EXIST. C.L.	668.2	667.2	664.9	663.7	663.0	662.5	661.9	660.8	659.8	659.2	658.8	657.9	657.3	656.8	656.7	656.2
T.C. ELEV.	665.05	664.22	663.39	662.38	661.38	660.53	660.03	659.67	659.37	659.07	658.75	658.25	657.72	657.16	656.61	656.05

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Ab

07/24/25

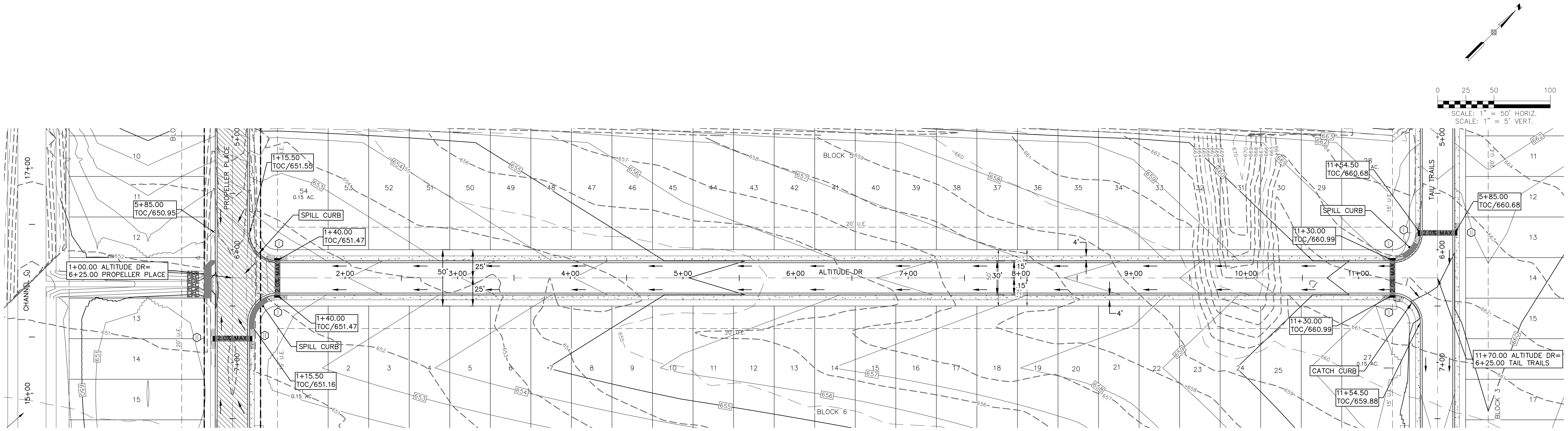
TAILS TRAILS PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C4.1



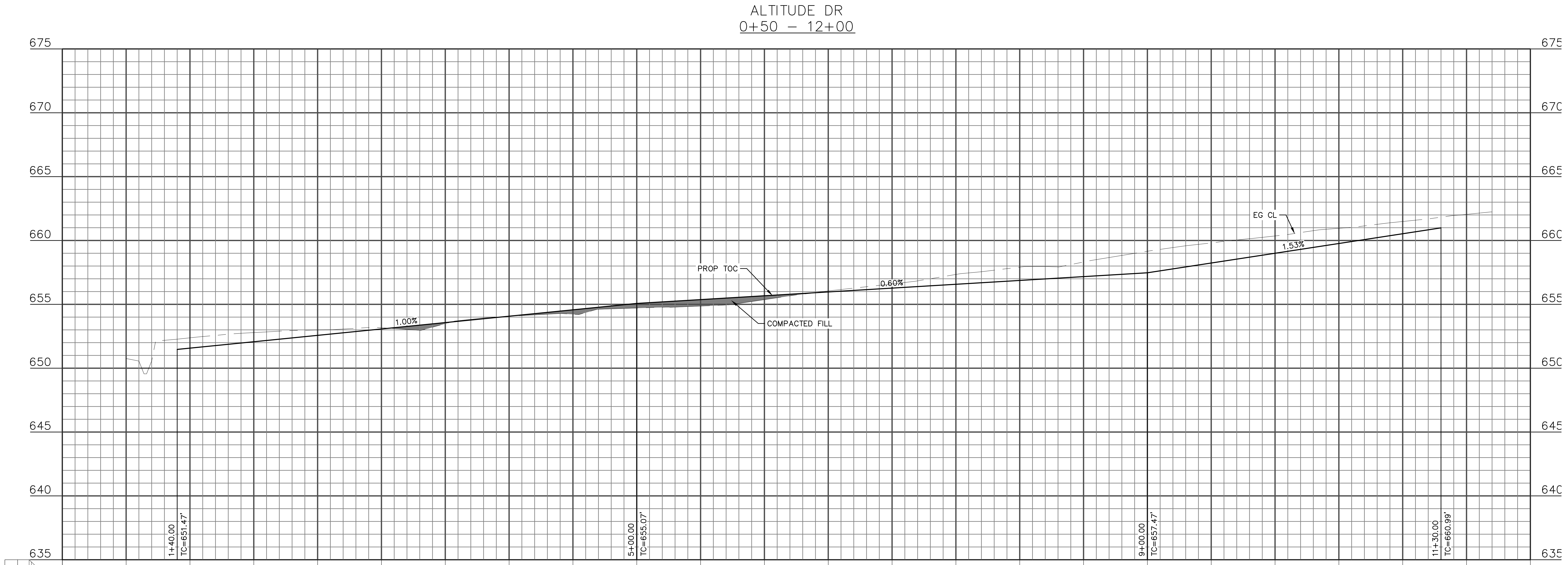
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
→	FLOW ARROW
▨	WASHOUT CROWN AREAS
﹏	SPILL CURB
	EXISTING GROUND LEFT (EG LT)
	EXISTING GROUND RIGHT (EG RT)
	EXISTING GROUND CENTER (EG CTR)
	PROPOSED TOP OF CURB (PR TC)
2.0% MAX	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
⬡	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.05**)
▬	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **25** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114–98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

ALTITUDE DR
0+50 – 12+00



	1+00	1+50	2+00	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50
EXIST. C.L.	650.8	652.4	652.8	653.0	653.2	653.5	654.1	654.2	654.7	654.9	655.4	656.1	656.6	657.3	657.9	658.3	659.2	659.8	660.4	661.0	661.5	662.0
T.C. ELEV.		651.57	652.07	652.57	653.07	653.57	654.07	654.57	655.07	655.37	655.67	655.97	656.27	656.57	656.87	657.17	657.47	658.24	659.00	659.76	660.53	

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

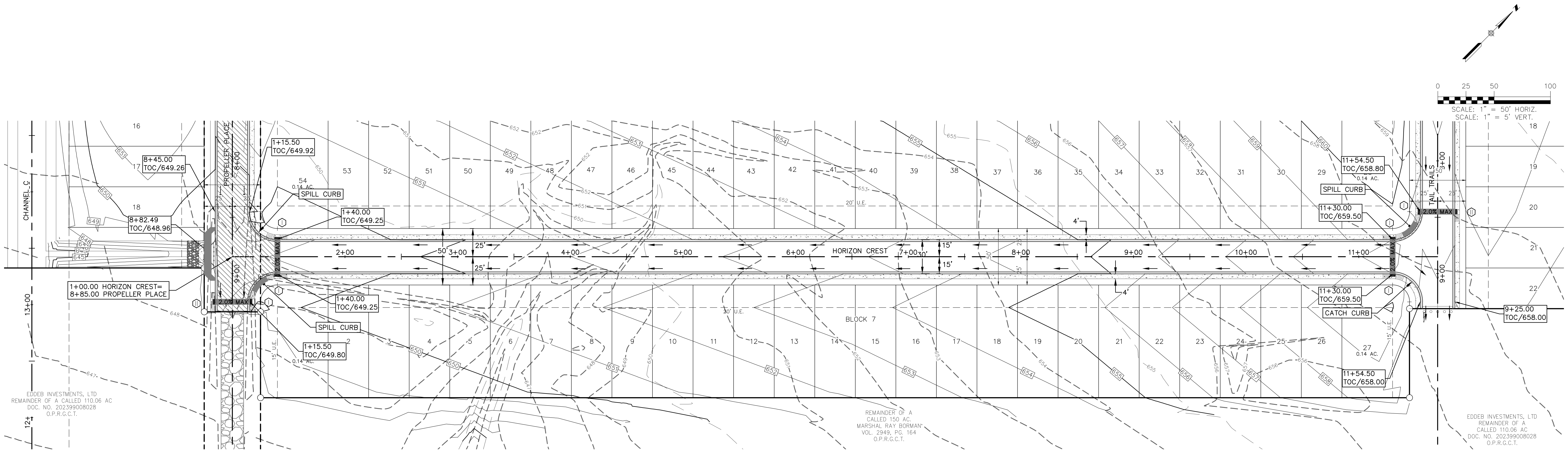
ALTITUDE DR PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C4.2



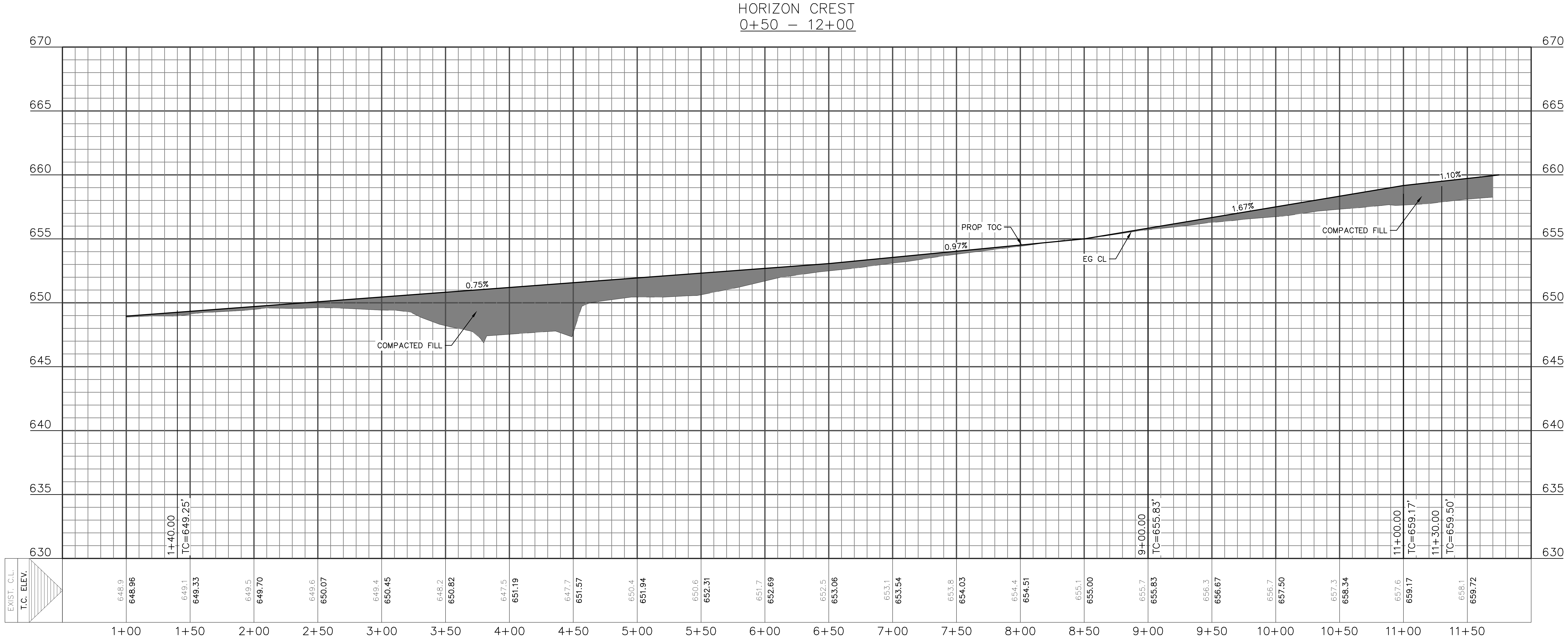
LEGEND

700	EXISTING CONTOURS
[700]	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
→	FLOW ARROW
▨	WASHOUT CROWN AREAS
〰	SPILL CURB
— — —	EXISTING GROUND LEFT (EG LT)
- - - -	EXISTING GROUND RIGHT (EG RT)
— - —	EXISTING GROUND CENTER (EG CTR)
▬	PROPOSED TOP OF CURB (PR TC)
↓ 2.0% MAX ↓	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
⬡ I	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.05**)
▬	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **25** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114–98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

HORIZON CREST
0+50 – 12+00



	1+00	1+50	2+00	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50
EXIST. C.L.	648.9	649.1	649.5	649.6	649.4	648.2	647.5	647.7	650.4	650.6	651.7	652.5	653.1	653.8	654.4	655.1	655.7	656.3	656.7	657.3	657.6	658.1
T.C. ELEV.	648.96	649.33	649.70	650.07	650.45	650.82	651.19	651.57	651.94	652.31	652.69	653.06	653.54	654.03	654.51	655.00	655.83	656.67	657.50	658.34	659.17	659.72

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

HORIZON CREST PLAN & PROFILE

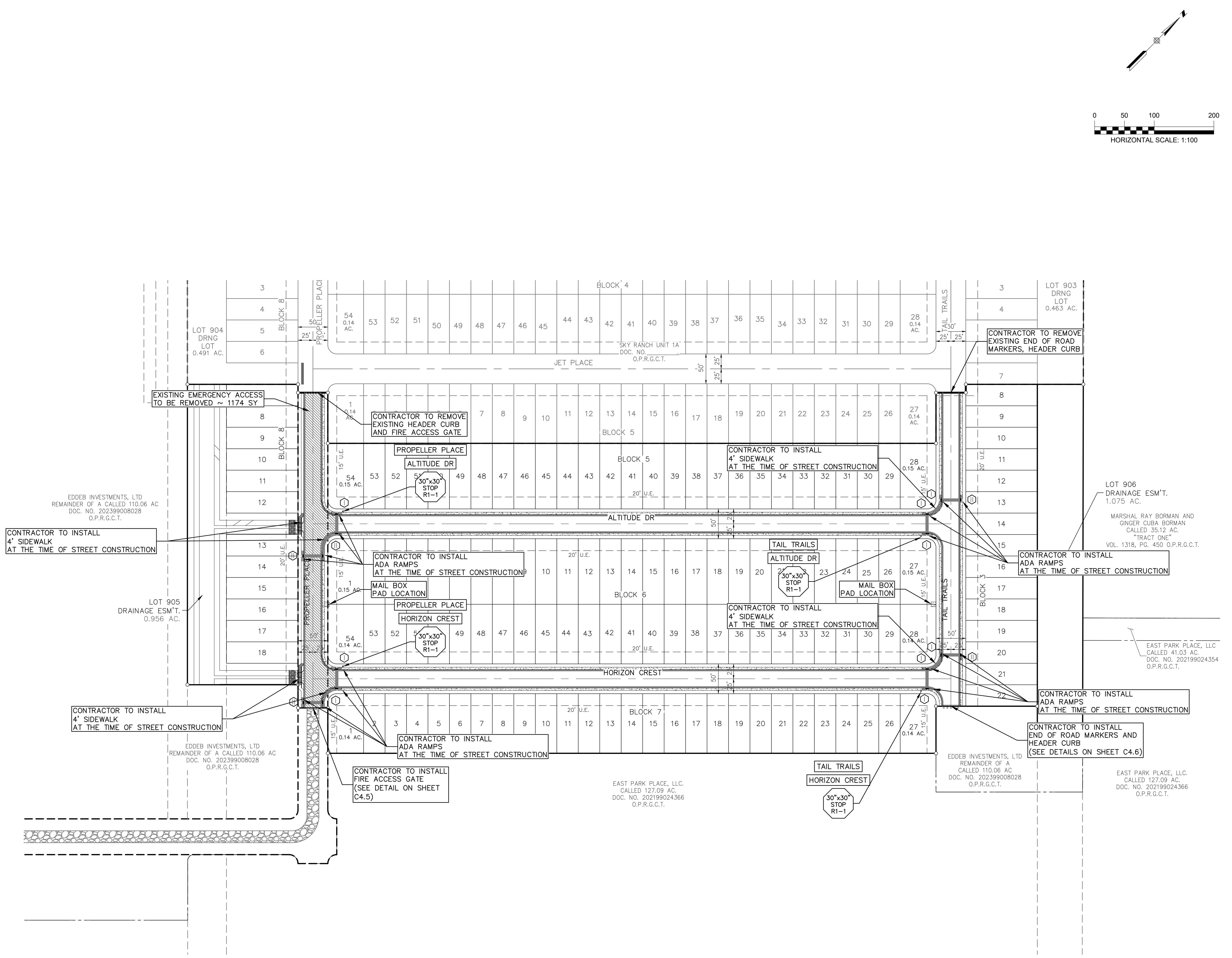
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C4.3

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_AILERON PLACE 1B P&P.dwg User: williaml Jul 24, 2025 – 9:20am



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
→	FLOW ARROW
▨	WASHOUT CROWN AREAS
	SPILL CURB
	EXISTING GROUND LEFT (EG LT)
	EXISTING GROUND RIGHT (EG RT)
	EXISTING GROUND CENTER (EG CTR)
	PROPOSED TOP OF CURB (PR TC)
2.0% MAX	ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
⬡	SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.05**)
▬	SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **25** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114–98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) – 08 AND SMD (TWT) – 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) – 08 AND SMD (SLIP-1-3)– 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 – 5) – 10.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

SIGNAGE PLAN

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

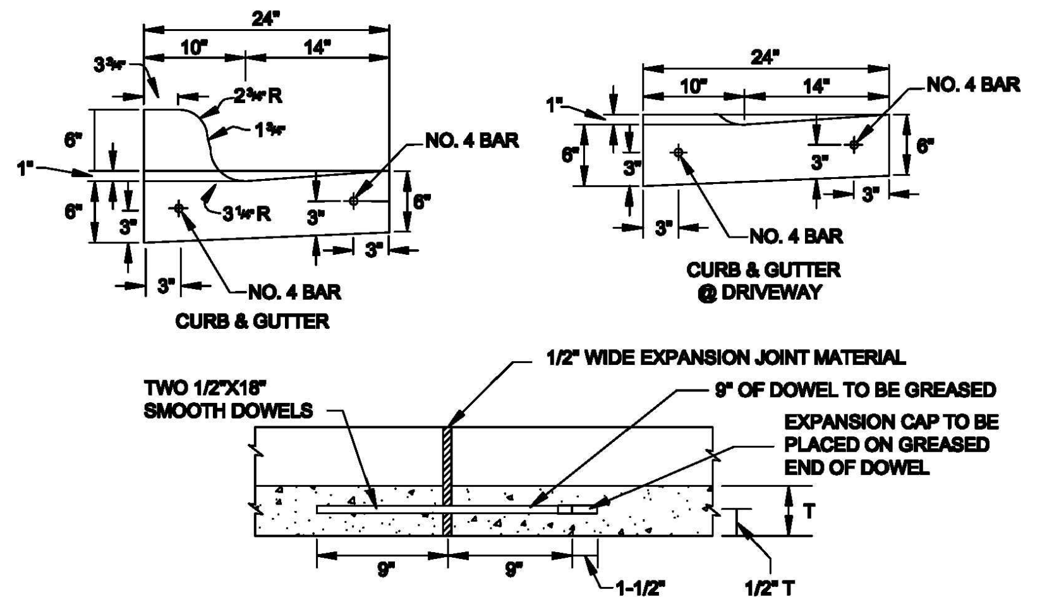
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C4.4

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_SIGNAGE 1B.dwg User: williaml Jul 24, 2025 – 8:48am

CURB AND GUTTER


24"
10"
14"
3½"
2½"R
1½"
6"
1"
3"
3½"R
NO. 4 BAR
3"
NO. 4 BAR
CURB & GUTTER
24"
10"
14"
NO. 4 BAR
6"
3"
NO. 4 BAR
CURB & GUTTER @ DRIVEWAY
TWO 1/2"X18" SMOOTH DOWELS
1/2" WIDE EXPANSION JOINT MATERIAL
9" OF DOWEL TO BE GREASED
EXPANSION CAP TO BE PLACED ON GREASED END OF DOWEL
T
9"
9"
1-1/2"
1/2" T

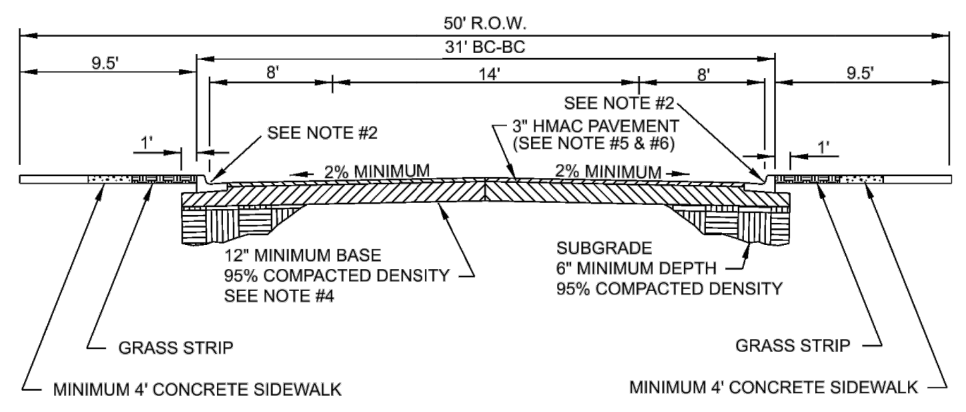
LONGITUDINAL SECTION THRU CURB AND GUTTER SHOWING TYPICAL EXPANSION JOINT DETAILS. REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS. STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT ± 10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

DATE APPROVED: 7/08	DWG. NO: ST-013	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: Curb & Gutter			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

ONE & TWO FAMILY RESIDENTIAL LOCAL PARKING BOTH SIDES

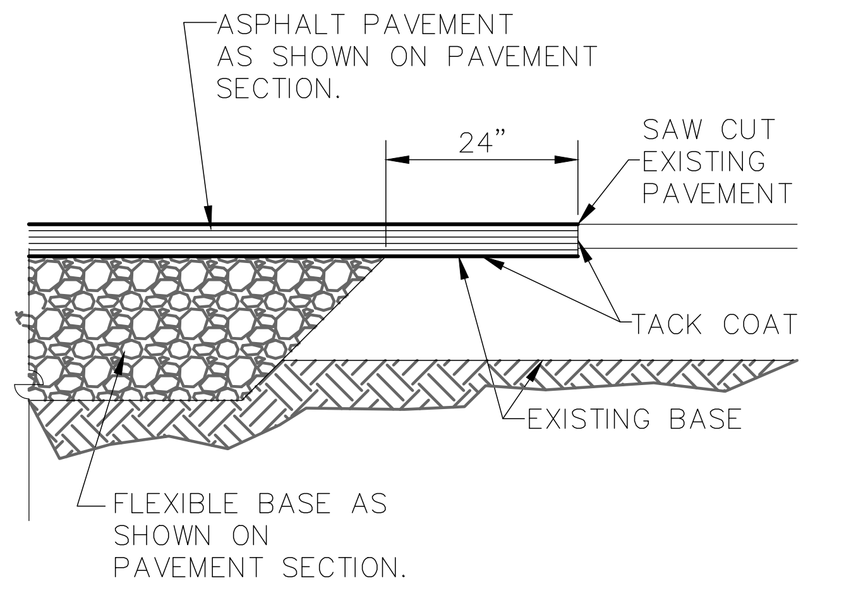

50' R.O.W.
31' BC-BC
9.5'
8'
14'
8'
9.5'
1'
1'
SEE NOTE #2
SEE NOTE #2
3" HMAC PAVEMENT (SEE NOTE #5 & #6)
2% MINIMUM
2% MINIMUM
12" MINIMUM BASE 95% COMPACTED DENSITY SEE NOTE #4
SUBGRADE 6" MINIMUM DEPTH 95% COMPACTED DENSITY
GRASS STRIP
GRASS STRIP
MINIMUM 4' CONCRETE SIDEWALK
MINIMUM 4' CONCRETE SIDEWALK

NOTES:

1. STRUCTURAL SECTION REQUIRES DETAILED ENGINEERING DESIGN, SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. CITY WILL ACCEPT DESIGNS THAT INCORPORATE BIAXIAL GEOGRID.
2. CITY WILL ACCEPT CURB AND GUTTER OR STAND-ALONE CURB. SEE CURB DETAIL ST-013 (CURB & GUTTER) & ST-013a (STAND-ALONE CURB).
3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC).
4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TXDOT ITEM 340 (2004).
6. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN.
7. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 9" MINIMUM THICKNESS

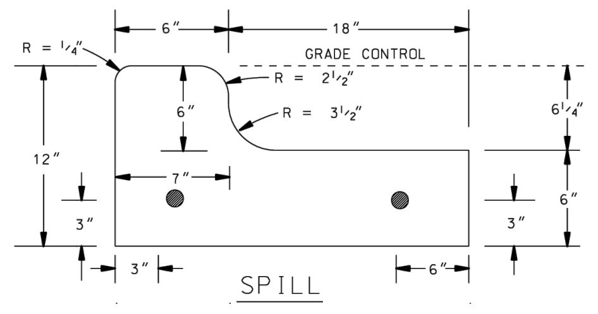
11/9/2023 10:29:05 AM
**file-02*files*Departments*Common*Public Works*Street Typical Sections*ST-011.dgn

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL	
		SCALE: N.T.S.
		APPROVED DATE:
		STANDARD NO: ST-011


ASPHALT PAVEMENT AS SHOWN ON PAVEMENT SECTION.
24"
SAW CUT EXISTING PAVEMENT
TACK COAT
EXISTING BASE
FLEXIBLE BASE AS SHOWN ON PAVEMENT SECTION.

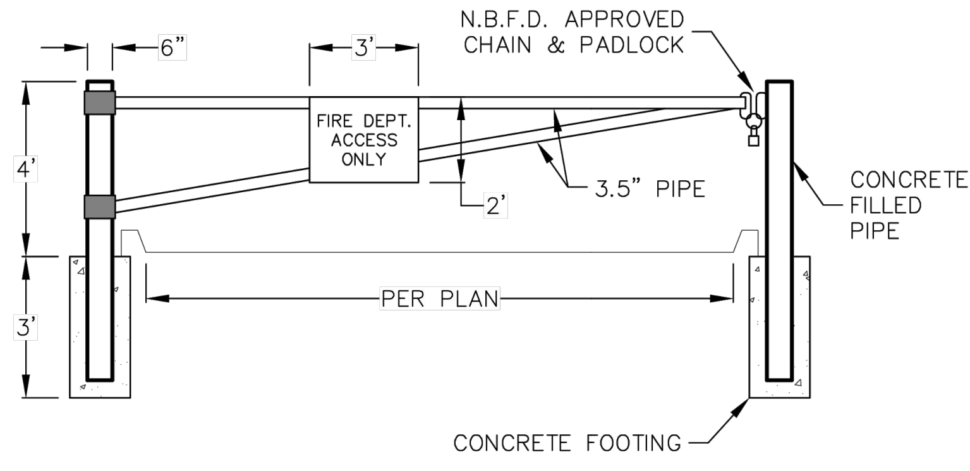
NEW PAVEMENT TO EXISTING

NOT TO SCALE



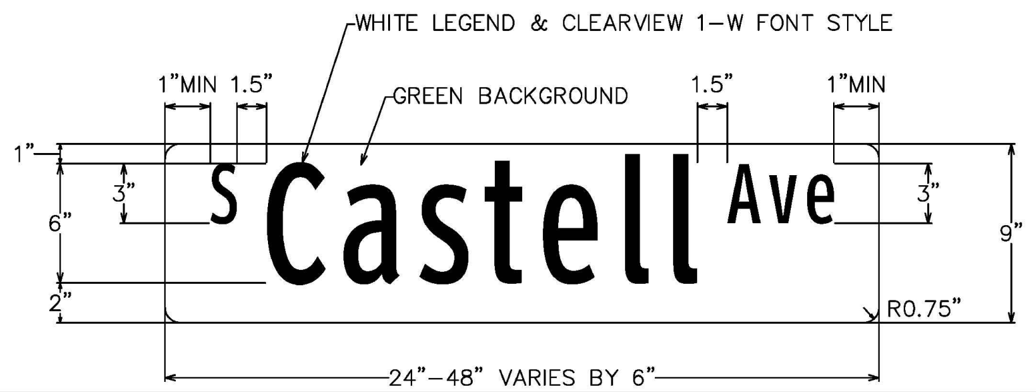
SPILL CURB DETAIL

NOT TO SCALE



SCALE: N.T.S. FIRE DEPT. ACCESS GATE

STREET SIGN DETAIL - GROUND MOUNT



Height	9"
Length	24" min 48" max 6" increments in length
Thickness	0.080"
Substrate	Flat aluminum sheeting with ¾" radius circular fillets at corners conforming to the requirements of ASTM B 209, Alloys 6061–T–6, or 5052–H38.
Sign Face Materials	Green film over High Intensity Prismatic sheeting
Legend	Legends shall be Clearview 1–W font style. Reduced spacing between the letters or words should not be used as a means of reducing the overall size of a street name sign unless approved by the City Traffic Engineer.
Color	White legend on green background

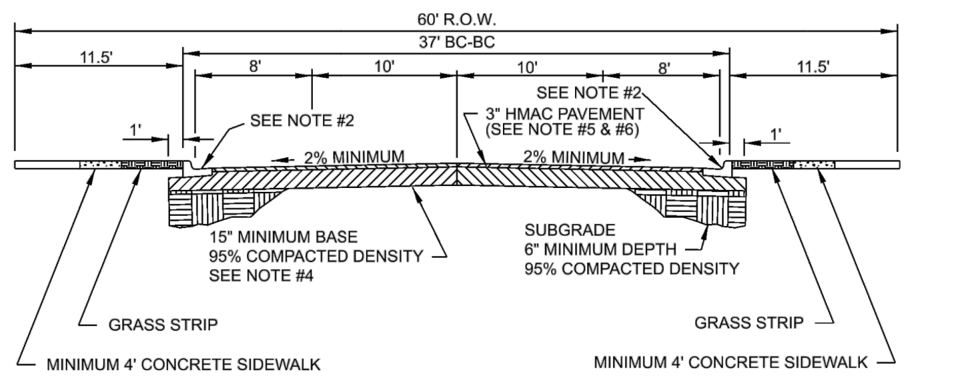
Notes:

1. Street name signs shall be double sided when center mounted on top of sign post. Only one street name sign should be installed on top of sign post with STOP or YIELD sign.
2. When two sets of street name signs are required (e.g. at "T" intersections), one double-sided street name sign shall be mounted on sign post. The sign assembly shall meet minimum height requirements as required in the Texas Manual on Uniform Traffic Control Devices (TMUTCD). When required, DEAD END (W14-1a) or NO OUTLET (W14-2a) signs shall also be mounted on the sign post.
3. Street name signs greater than 36" long and center mounted on top of sign post shall be mounted on post top bracket with 12" slot. All other street name signs center mounted on top of sign post shall be mounted on post top bracket with 5 ¼" slot.
4. Street name signs mounted on sign post shall be mounted with double-sided round pole brackets. Two holes should be punched in the center of the 9" street name sign blank 1" from edge of the blank with 7"spacing between holes.
5. The lettering for names of streets shall be composed of a combination of lower-case letters with initial upper-case letters. Acceptable abbreviations per TMUTCD may be used except for the street name itself.
6. Red background (red film over High Intensity Prismatic) should be used for private street name signs.

Street Sign Detail - Ground Mount			ENGINEERING DIVISION
ISSUE DATE: February 2013	DWG. NO: ST-024	SCALE: N.T.S.	City of New Braunfels 424 S. CASTELL AVE. NEW BRAUNFELS, TEXAS 78130 PHONE: 830 221 4020 FAX: 830 626 3600
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1	

P:\2010 ENGINEERING-AUTOCAD\DETAILS\NB-PUBLIC WORKS DETAILS\NB-UNAPPROVED DETAILS-2013\ST-2013.024 STREET SIGN DETAIL - GROUND MOUNT.DWG

RESIDENTIAL COLLECTOR PARKING BOTH SIDES

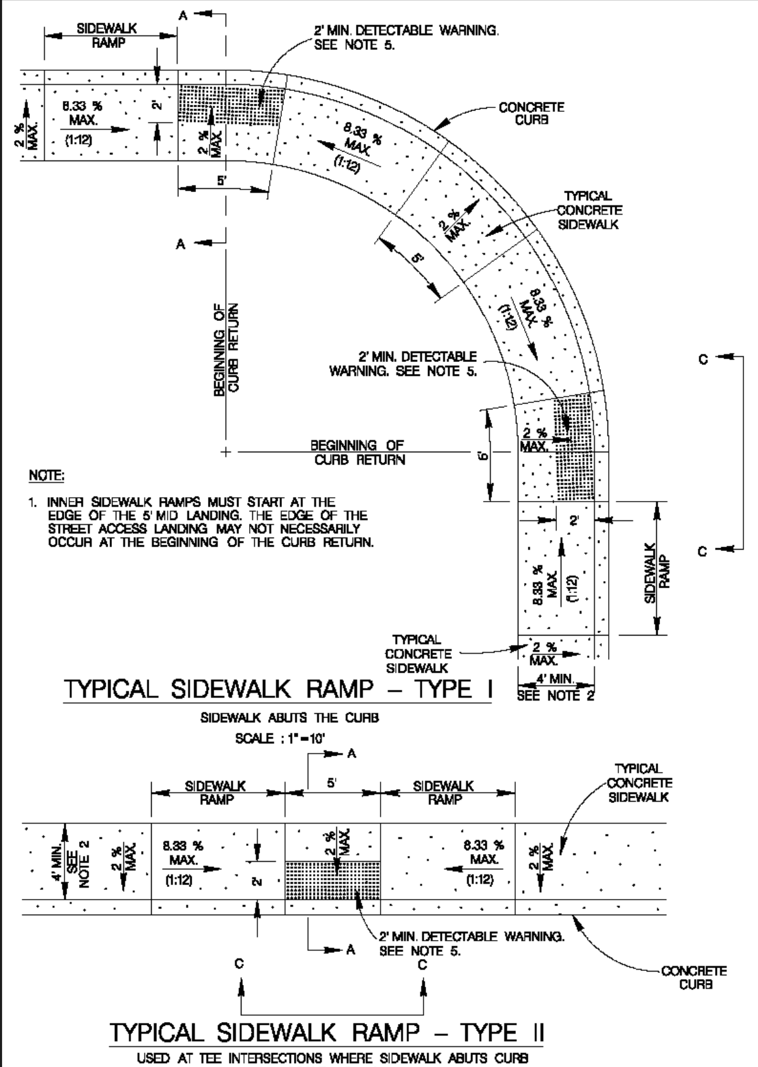

60' R.O.W.
37' BC-BC
11.5'
8'
10'
10'
8'
11.5'
1'
1'
SEE NOTE #2
SEE NOTE #2
3" HMAC PAVEMENT (SEE NOTE #5 & #6)
2% MINIMUM
2% MINIMUM
15" MINIMUM BASE 95% COMPACTED DENSITY SEE NOTE #4
SUBGRADE 6" MINIMUM DEPTH 95% COMPACTED DENSITY
GRASS STRIP
GRASS STRIP
MINIMUM 4' CONCRETE SIDEWALK
MINIMUM 4' CONCRETE SIDEWALK

NOTES:

1. STRUCTURAL SECTION REQUIRES DETAILED ENGINEERING DESIGN, SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. CITY WILL ACCEPT DESIGNS THAT INCORPORATE BIAXIAL GEOGRID.
2. CITY WILL ACCEPT CURB AND GUTTER OR STAND-ALONE GUTTER. SEE CURB DETAIL ST-013 (CURB & GUTTER) & ST-013a (STAND-ALONE GUTTER).
3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC).
4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TXDOT STD.
5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TxDOT ITEM 340 (2004).
6. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN.
7. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 12" MINIMUM THICKNESS.

11/9/2023 10:28:39 AM
**file-02*files*Departments*Common*Public Works*Street Typical Sections*ST-007.dgn

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL	
		SCALE: N.T.S.
		APPROVED DATE:
		STANDARD NO: ST-007


SIDEWALK RAMP
2' MIN. DETECTABLE WARNING. SEE NOTE 5.
8.33 % MAX. (1:12)
CONCRETE CURB
TYPICAL CONCRETE SIDEWALK
BEGINNING OF CURB RETURN
2' MIN. DETECTABLE WARNING. SEE NOTE 5.
TYPICAL CONCRETE SIDEWALK
4' MIN.
NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5'x5' 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"=10'
SIDEWALK RAMP
SIDEWALK RAMP
8.33 % MAX. (1:12)
2' MIN. DETECTABLE WARNING. SEE NOTE 5.
CONCRETE CURB
TYPICAL SIDEWALK RAMP – TYPE II
USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE : 1"=10'

GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MININMUM OF 1 FOOT BUFFER. 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 2' 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 2' 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 A CAST-IN-PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS OR PAVERS CONFORMING TO TXDOT STANDARD PED-05, 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 CURB, GUTTER, AND CONCRETE CURB AND GUTTER" 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. CITY 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" MINIMUM 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.

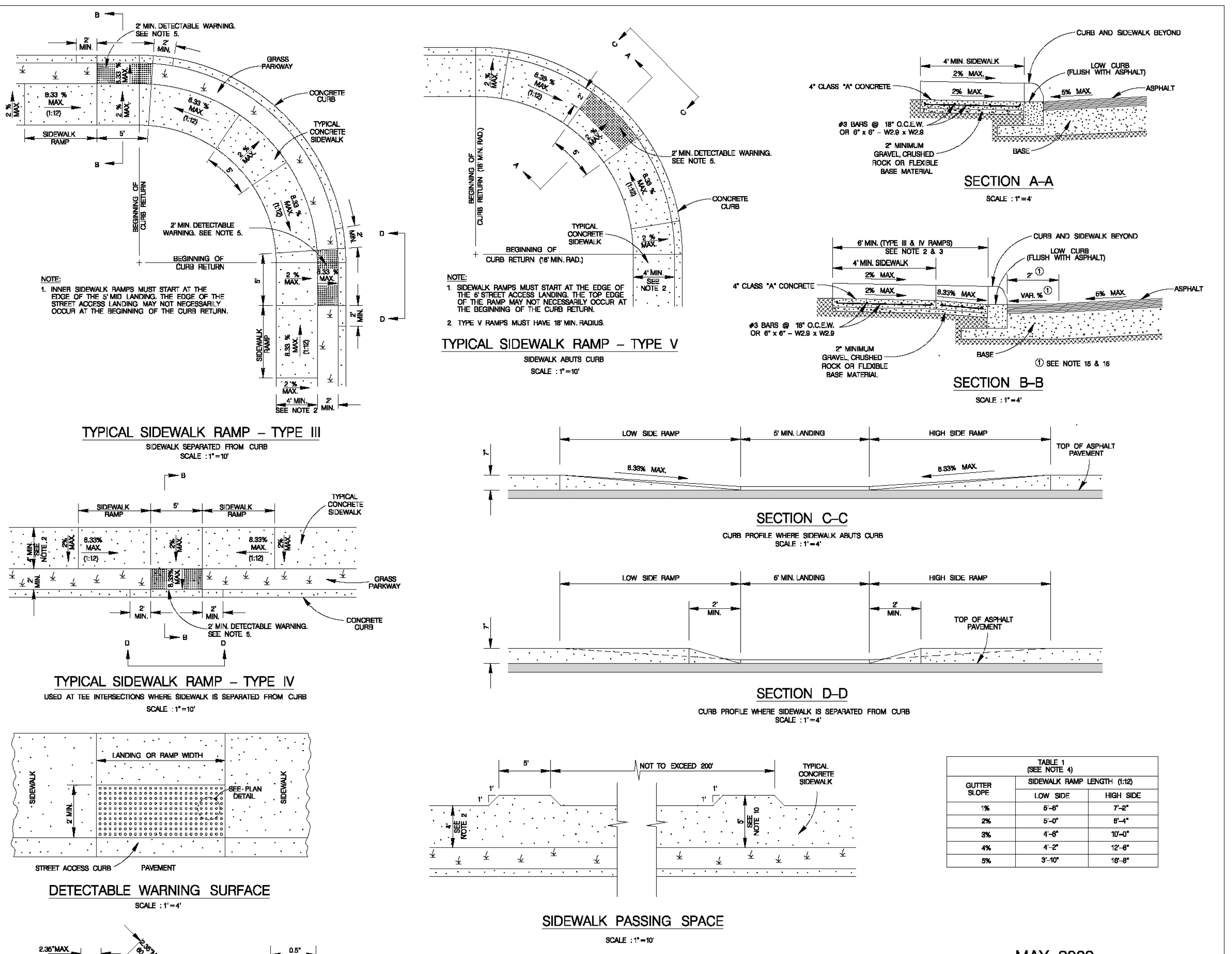
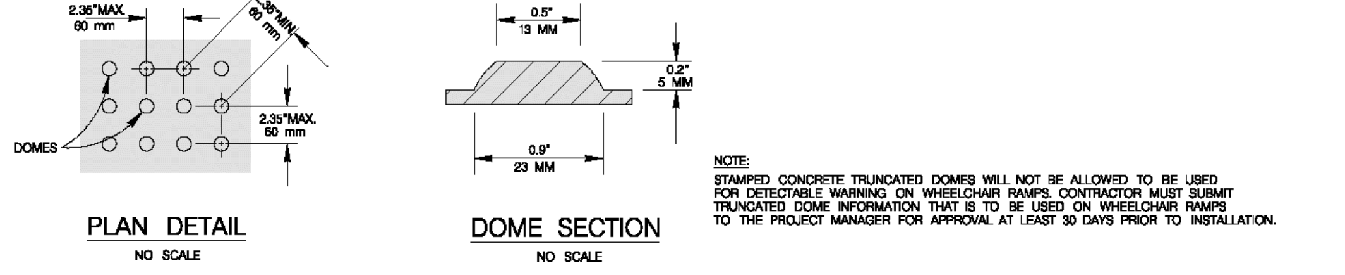


TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"



NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.

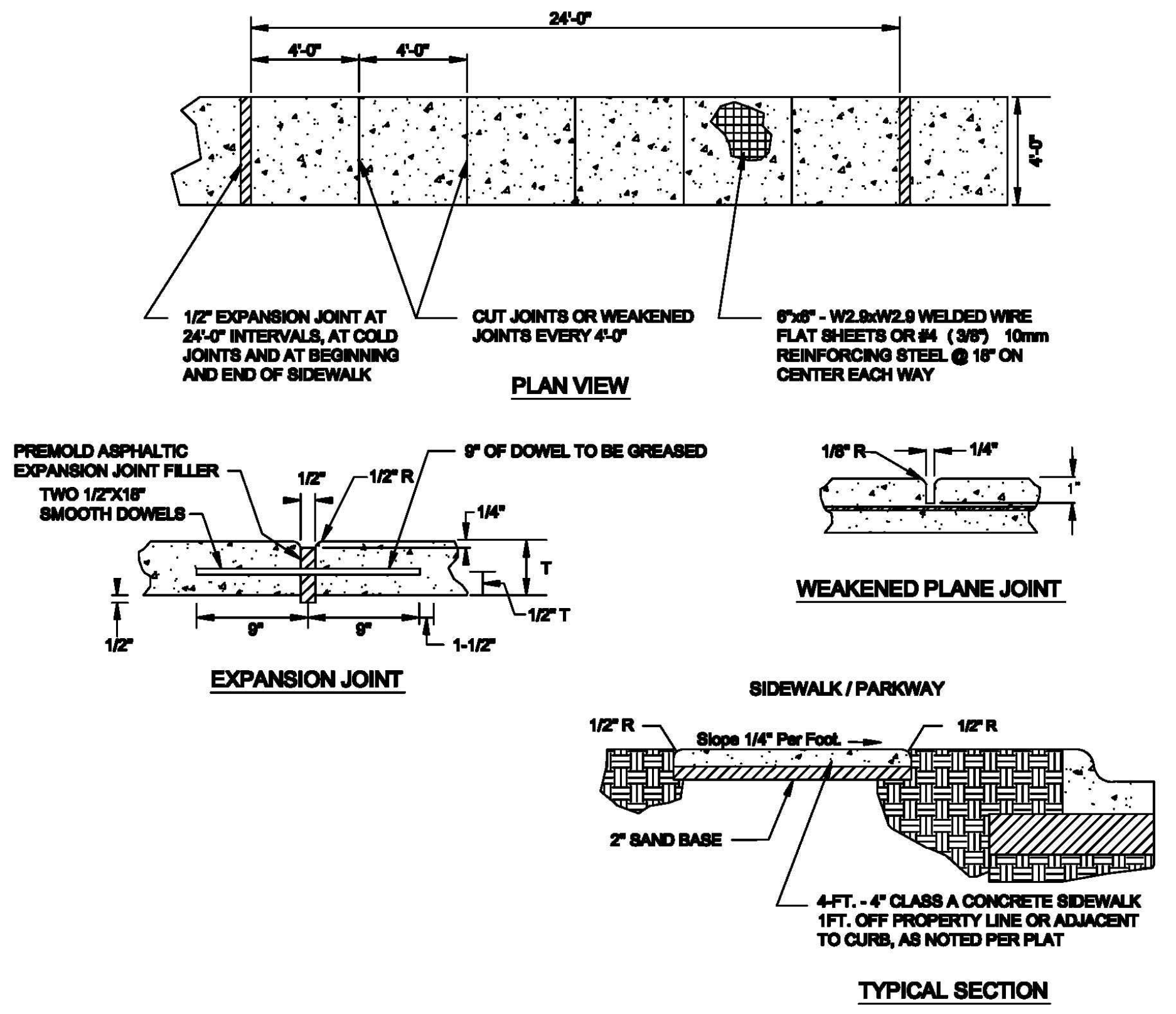
MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

____% SUBMITTAL	PROJECT NO.:____		DATE:____
DRWN. BY: V. VASQUEZ	DSGN. BY:____	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____

SIDEWALK (RESIDENTIAL)

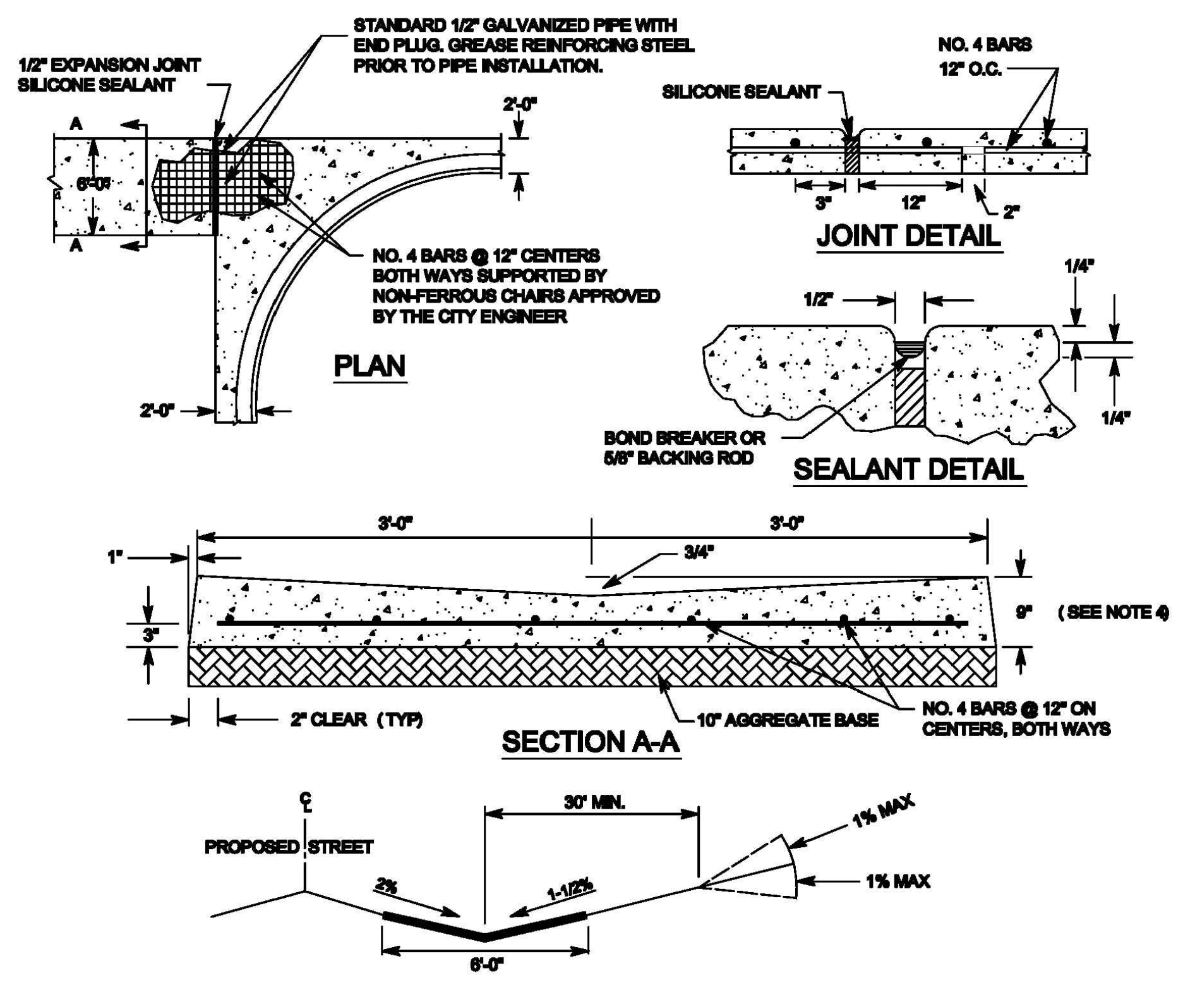

4'-0"
4'-0"
24'-0"
4'-0"
1/2" EXPANSION JOINT AT 24'-0" INTERVALS, AT COLD JOINTS AND AT BEGINNING AND END OF SIDEWALK
CUT JOINTS OR WEAKENED JOINTS EVERY 4'-0"
6"x6" - W2.9xW2.9 WELDED WIRE FLAT SHEETS OR #4 (3/8") 10mm REINFORCING STEEL @ 18" ON CENTER EACH WAY
PLAN VIEW
PREMOLD ASPHALTIC EXPANSION JOINT FILLER
TWO 1/2"X18" SMOOTH DOWELS
9" OF DOWEL TO BE GREASED
EXPANSION JOINT
WEAKENED PLANE JOINT
SIDEWALK / PARKWAY
Slope 1/4" Per Foot
1/2" R
2" SAND BASE
4-FT. - 4" CLASS A CONCRETE SIDEWALK 1FT. OFF PROPERTY LINE OR ADJACENT TO CURB, AS NOTED PER PLAT
TYPICAL SECTION

NOTES:

1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-016	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: SIDEWALK (Residential)			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

CROSS GUTTER


1/2" EXPANSION JOINT SILICONE SEALANT
STANDARD 1/2" GALVANIZED PIPE WITH END PLUG. GREASE REINFORCING STEEL PRIOR TO PIPE INSTALLATION.
NO. 4 BARS 12" O.C.
SILICONE SEALANT
JOINT DETAIL
NO. 4 BARS @ 12" CENTERS BOTH WAYS SUPPORTED BY NON-FERROUS CHAIRS APPROVED BY THE CITY ENGINEER
PLAN
BOND BREAKER OR 5/8" BACKING ROD
SEALANT DETAIL
3'-0"
3'-0"
2" CLEAR (TYP)
10" AGGREGATE BASE
NO. 4 BARS @ 12" ON CENTERS, BOTH WAYS
(SEE NOTE 4)
SECTION A-A
PROPOSED STREET
30' MIN.
2%
1-1/2%
1% MAX
1% MAX
6'-0"

TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI.
2. FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.
3. CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.
4. ADJACENT SPANDREL SHALL BE 9" THICK CLASS "A" 3,000 PSI CONCRETE.

DATE APPROVED: 7/08	DWG. NO: ST-020	SCALE: N.T.S.	City of New Braunfels ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1		
FILENAME: CROSS GUTTER			
P:\CURRENT NEW BRAUNFELS DETAILS\2008\			

---

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

07/24/25

STREET DETAILS (1 OF 3)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

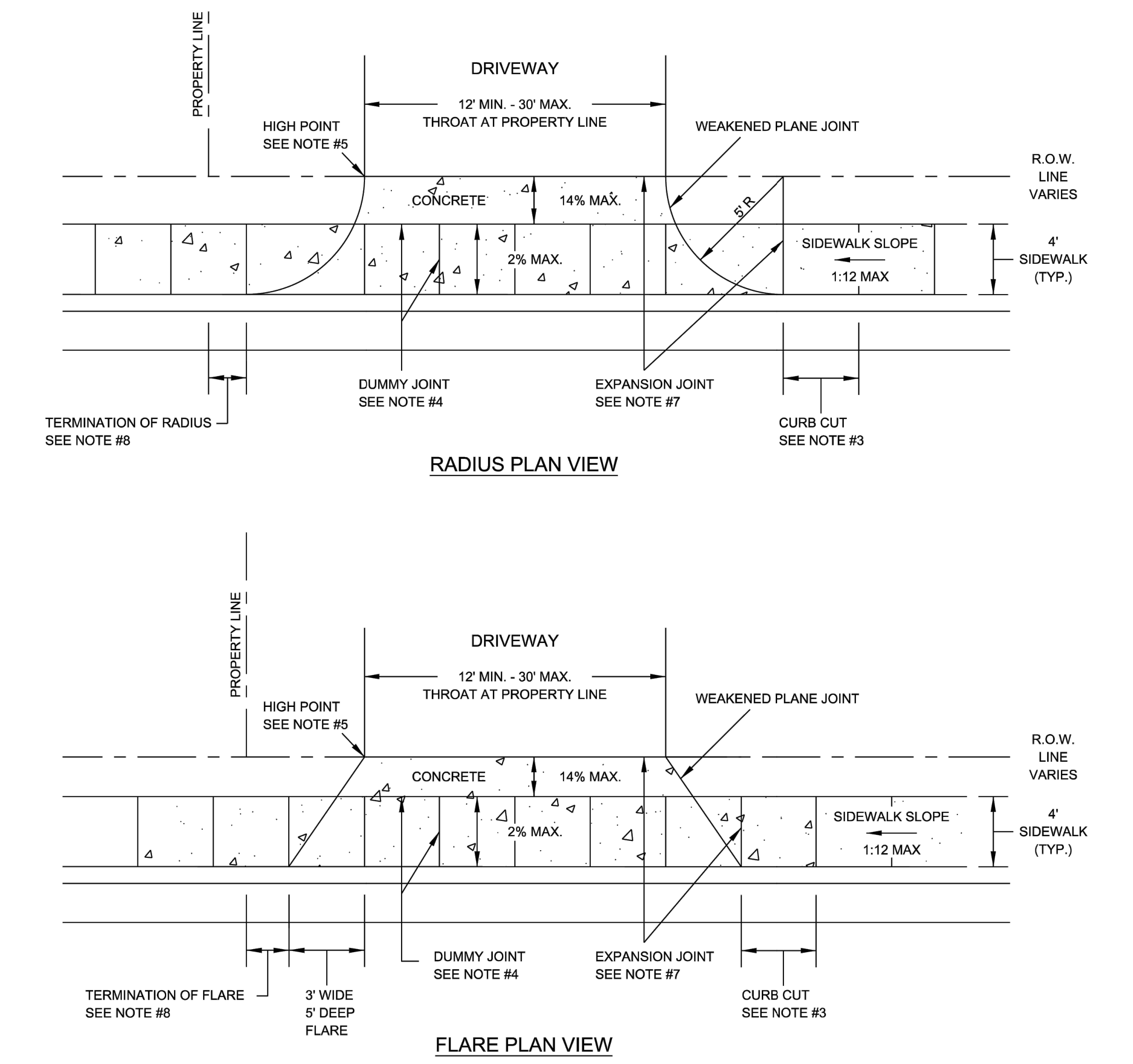
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C4.5

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_STREETDETAILS 1B.dwg User: williaml Jul 24, 2025 – 8:48am

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)

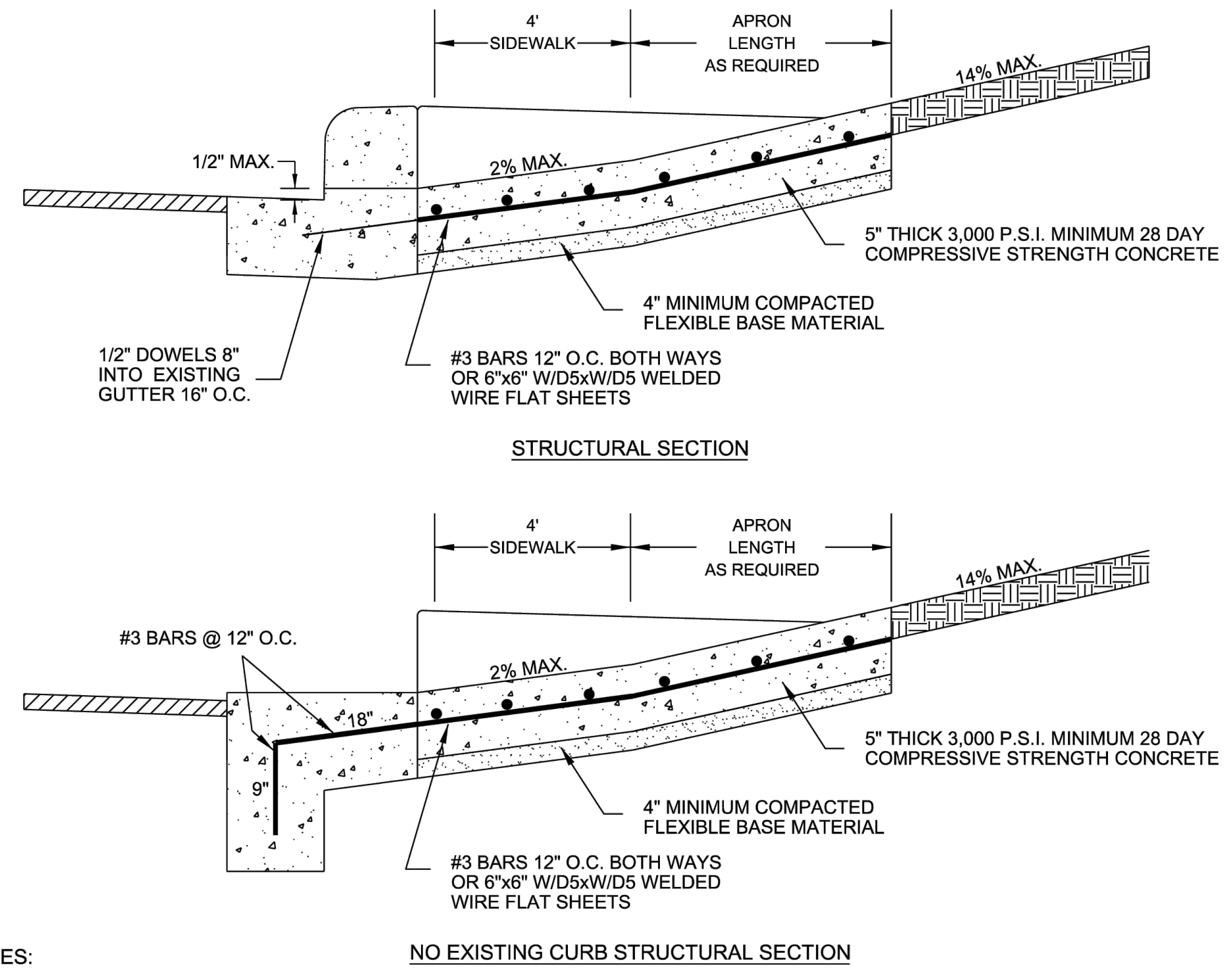


RADIUS PLAN VIEW

FLARE PLAN VIEW

DATE APPROVED: 04/2016	DWG. NO: ST-014.1	SCALE: N.T.S.	City of New Braunfels	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 2			
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)				

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)


4' SIDEWALK
APRON LENGTH AS REQUIRED
14% MAX.
1/2" MAX.
2% MAX.
5" THICK 3,000 P.S.I. MINIMUM 28 DAY COMPRESSIVE STRENGTH CONCRETE
4" MINIMUM COMPACTED FLEXIBLE BASE MATERIAL
1/2" DOWELS 8" INTO EXISTING GUTTER 16" O.C.
#3 BARS 12" O.C. BOTH WAYS OR 6"x6" W/D5xW/D5 WELDED WIRE FLAT SHEETS
#3 BARS @ 12" O.C.
18"
9"

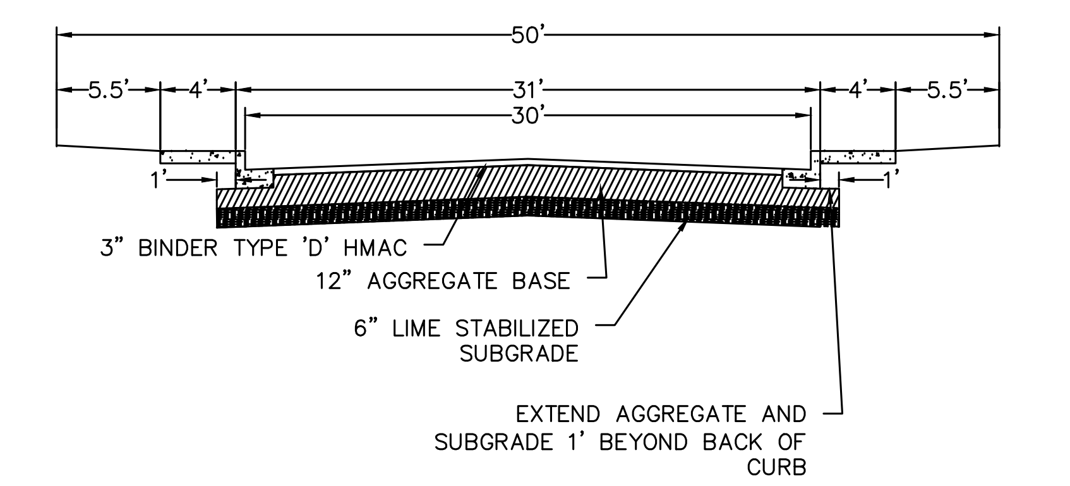
STRUCTURAL SECTION

NO EXISTING CURB STRUCTURAL SECTION

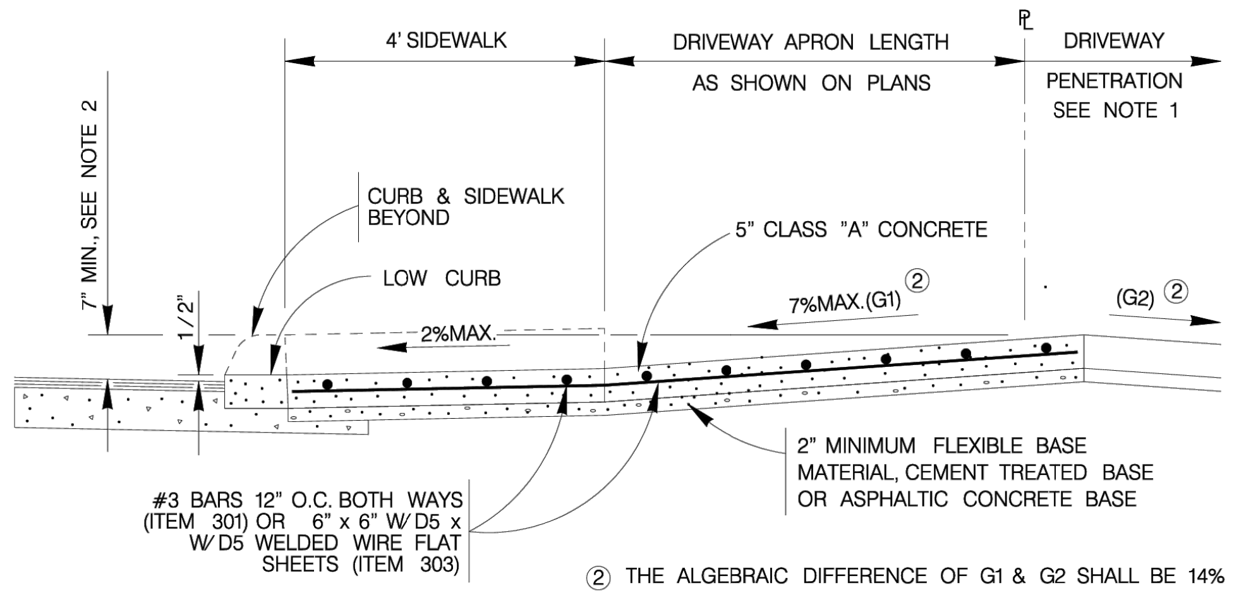
NOTES:

1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
4. DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 16" O.C.
8. THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE, EXCEPT SINGLE FAMILY OR ZERO LOT LINE LOTS. ON SINGLE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.

DATE APPROVED: 04/2016	DWG. NO: ST-014.2	SCALE: N.T.S.	City of New Braunfels	ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 2 OF 2			
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)				


50'
5.5'
4'
31'
30'
1'
3" BINDER TYPE "D" HMAC
12" AGGREGATE BASE
6" LIME STABILIZED SUBGRADE
EXTEND AGGREGATE AND SUBGRADE 1' BEYOND BACK OF CURB

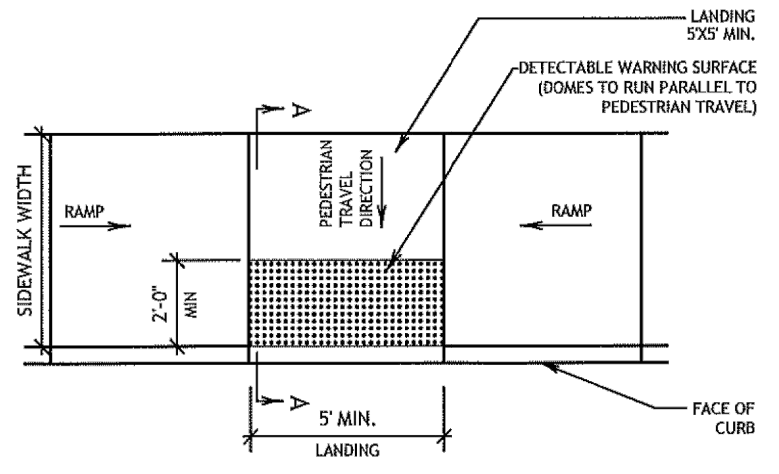
RESIDENTIAL LOCAL PAVEMENT SECTION


4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
7" MIN. SEE NOTE 2
1/2"
CURB & SIDEWALK BEYOND
LOW CURB
5" CLASS "A" CONCRETE
7%MAX.(G1) ②
(G2) ②
2%MAX
#3 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D5 x W/D5 WELDED WIRE FLAT SHEETS (ITEM 303)
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

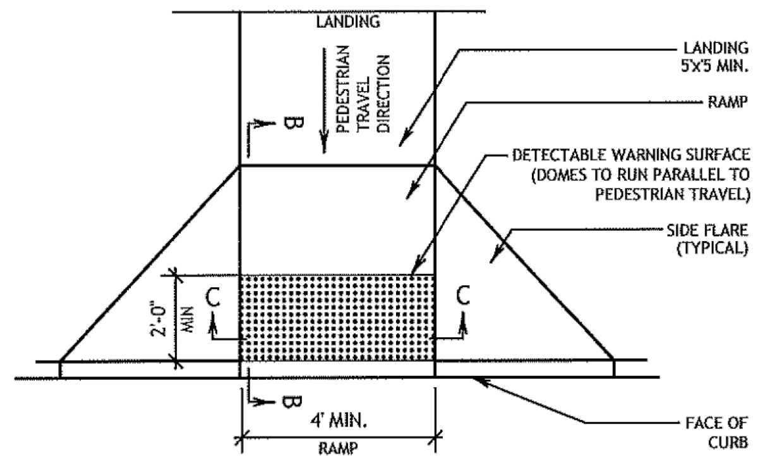
TYPE 'C' LOT DRIVEWAY DETAIL

Lime Treatment - The subgrade shall be treated with hydrated lime in accordance with TxDOT Item 260. We anticipate that approximately six (6) percent hydrated lime will be required (approximately 35 pounds per square yard). The optimum hydrated lime content should result in a soil-lime mixture with a pH of at least 12.4 when tested in accordance with ASTM C 977, Appendix XI. **Please note that our Lime Series testing achieved maximum pH values of 12.3.**

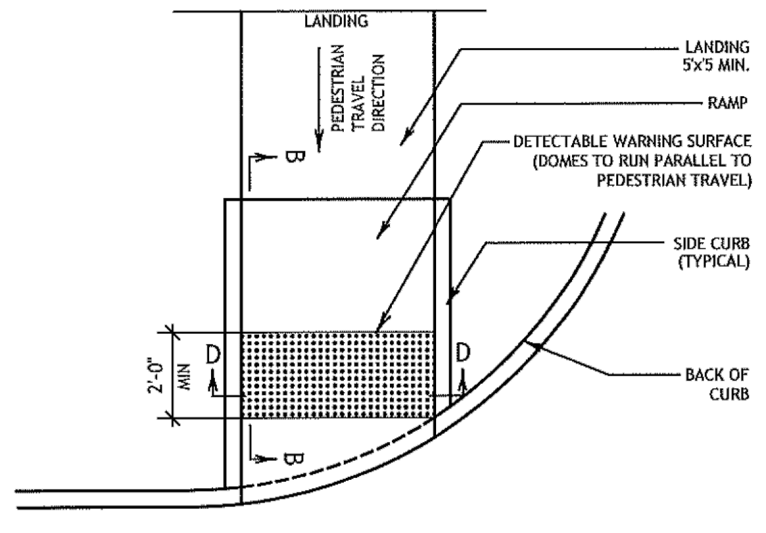
The hydrated lime should initially be blended with a mixing device such as a pulverimixer. After sufficient moisture conditioning, the treated soil mixture shall be compacted to at least 95 percent of the maximum dry density as determined in accordance with the Standard effort (ASTM D 698) at moisture contents from optimum to +4 percentage points of the optimum moisture content. If the in-place gradation requirements can be achieved during initial mixing, the remixing after the curing period can be eliminated.


LANDING 5'X5' MIN.
DETECTABLE WARNING SURFACE (DOMES TO RUN PARALLEL TO PEDESTRIAN TRAVEL)
SIDEWALK WIDTH
RAMP
PEDESTRIAN TRAVEL DIRECTION
2'-0" MIN
5' MIN. LANDING
FACE OF CURB

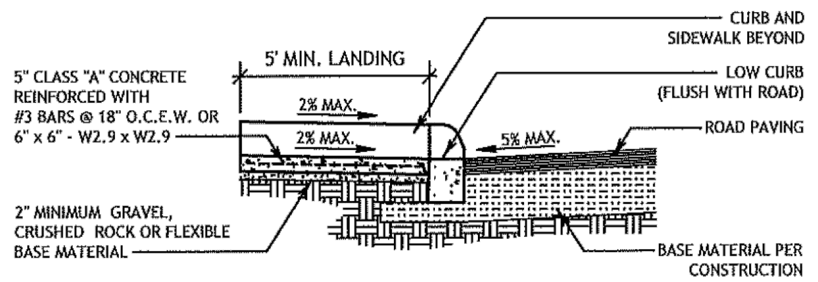
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.


LANDING
LANDING 5'x5' MIN.
RAMP
PEDESTRIAN TRAVEL DIRECTION
DETECTABLE WARNING SURFACE (DOMES TO RUN PARALLEL TO PEDESTRIAN TRAVEL)
SIDE FLARE (TYPICAL)
2'-0" MIN
4' MIN. RAMP
FACE OF CURB

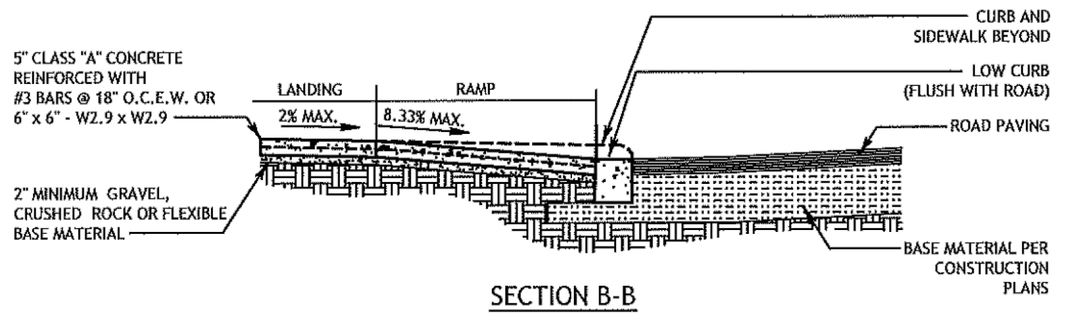
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.


LANDING
LANDING 5'x5' MIN.
RAMP
PEDESTRIAN TRAVEL DIRECTION
DETECTABLE WARNING SURFACE (DOMES TO RUN PARALLEL TO PEDESTRIAN TRAVEL)
SIDE CURB (TYPICAL)
BACK OF CURB
2'-0" MIN

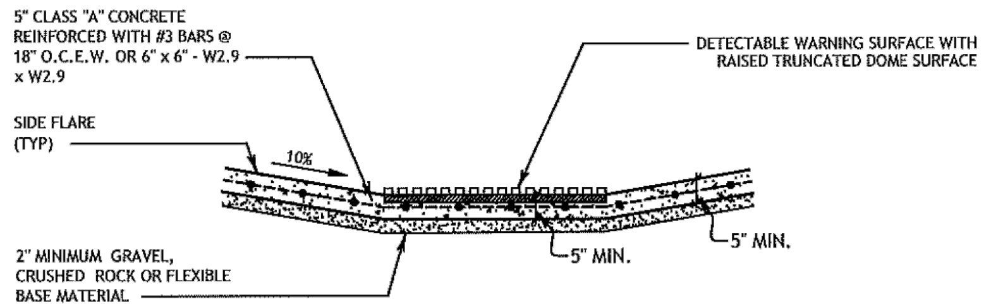
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.


5" CLASS "A" CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9
5' MIN. LANDING
2% MAX.
5% MAX.
CURB AND SIDEWALK BEYOND
LOW CURB (FLUSH WITH ROAD)
ROAD PAVING
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL
BASE MATERIAL PER CONSTRUCTION PLANS

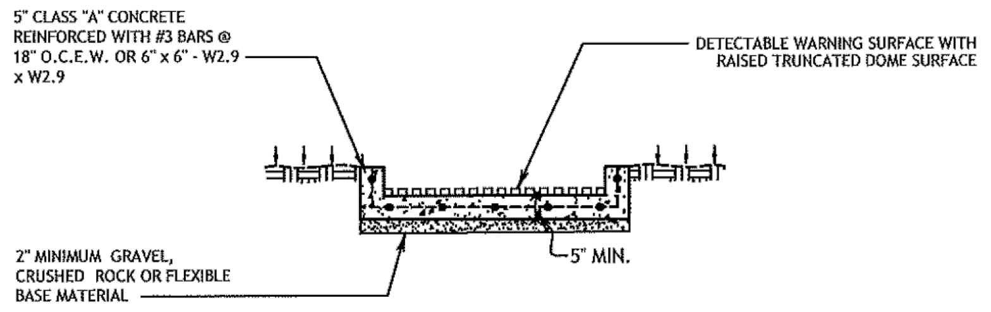
SECTION A-A


5" CLASS "A" CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9
LANDING
RAMP
2% MAX.
8.33% MAX.
CURB AND SIDEWALK BEYOND
LOW CURB (FLUSH WITH ROAD)
ROAD PAVING
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL
BASE MATERIAL PER CONSTRUCTION PLANS

SECTION B-B


5" CLASS "A" CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9
SIDE FLARE (TYP)
10%
DETECTABLE WARNING SURFACE WITH RAISED TRUNCATED DOME SURFACE
5" MIN.
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL

SECTION C-C


5" CLASS "A" CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9
DETECTABLE WARNING SURFACE WITH RAISED TRUNCATED DOME SURFACE
5" MIN.
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL

SECTION D-D

CURB RAMP NOTES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
2. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALK WAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICAN'S WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
3. THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 118-49 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
4. ALL LANDINGS WHERE REQUIRED SHALL BE 5'X 5' (60"X60") MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
5. RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1V:12H). MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1V:50H).
6. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
7. PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1V:10H) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED IN-LIEU OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
8. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X 4' (48"X48") WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
9. 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 BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
10. EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
11. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
12. SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH PRE-MOLD OR BOARD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
13. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
14. 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%.
15. 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.
16. ADA RAMP SHALL BE CONSTRUCTED WITH 5" CLASS "A" CONCRETE WITH 2" MINIMUM GRAVEL,CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" - W2.9 X W2.9 WIRE MESH.
17. THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

1. CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 705 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" 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.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. 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.
7. DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.

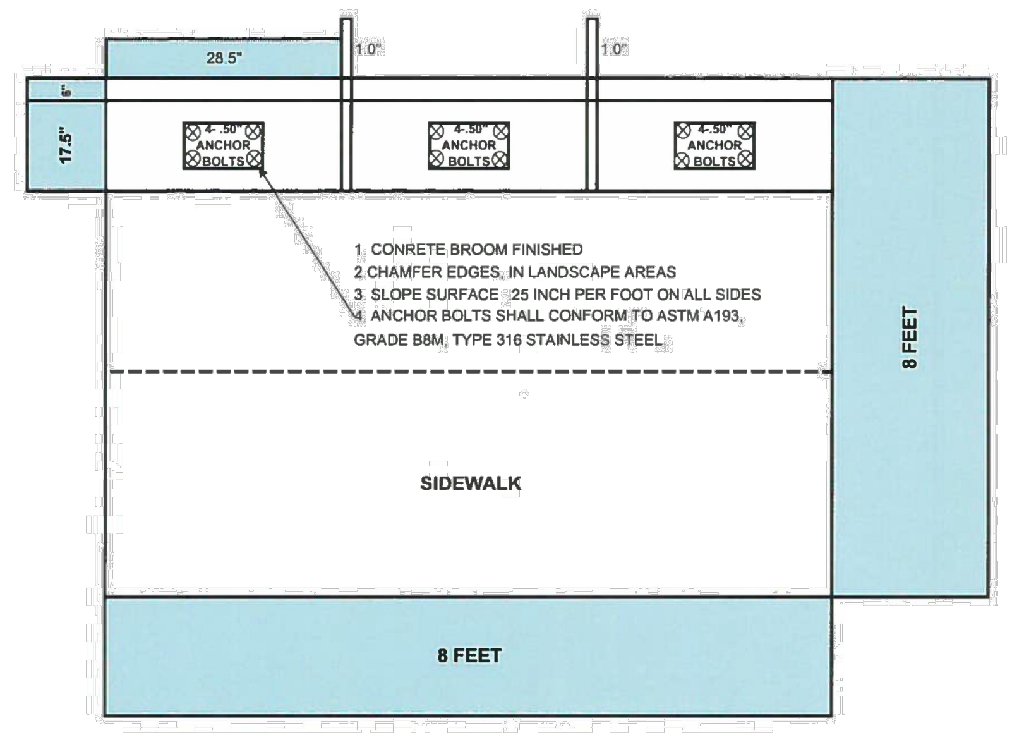
City of New Braunfels

ENGINEERING DIVISION
550 LANDA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 626 3600

CURB RAMP STANDARDS		
APPROVED DATE: 05/18/2017	DWG. NO.: ST-019	SCALE: AS NOTED
DRAWN BY: RC	CONTACT: GF	SHEET: 1 OF 1

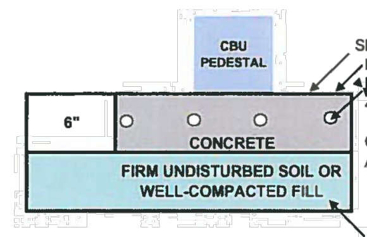
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the City of New Braunfels for any purpose whatsoever.

UNITED STATES POSTAL SERVICE



1 CONRETE BROOM FINISHED
2 CHAMFER EDGES, IN LANDSCAPE AREAS
3 SLOPE SURFACE .25 INCH PER FOOT ON ALL SIDES
4 ANCHOR BOLTS SHALL CONFORM TO ASTM A193, GRADE B8M, TYPE 316 STAINLESS STEEL

1 CBU 8' DEEP X 4' WIDE TO INCLUDE SIDEWALK
2 CBU'S 8' DEEP X 6' WIDE TO INCLUDE SIDEWALK
3 CBU'S 8' DEEP X 8' WIDE TO INCLUDE SIDEWALK
4 CBU'S 8' DEEP X 11' WIDE TO INCLUDE SIDEWALK

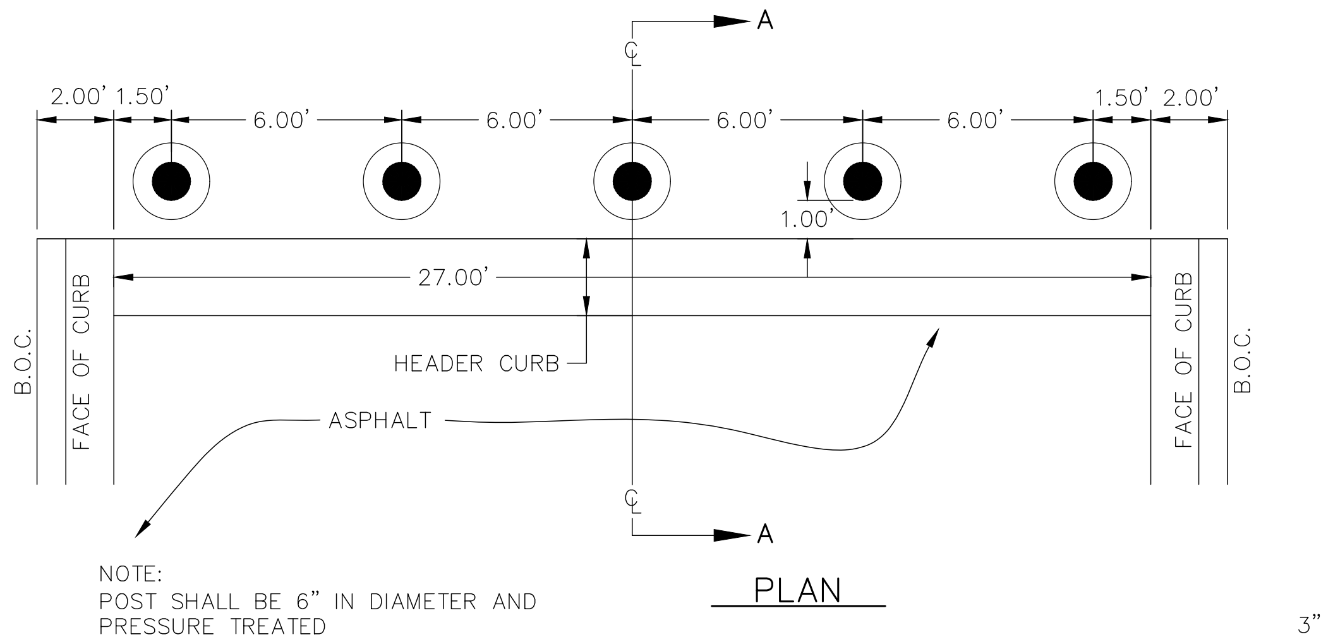


SLOPE SURFACE .25" PER FOOT ON ALL SIDES FOR DRAINAGE
MATCH EXISTING GRADE IN PAVED AREAS
REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60
4 RODS ON 14.00" CENTERS MAXIMUM

CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, CONTAIN 4% - 6% MAX AIR ENTRAINMENT AND BE PLACED WITH A 3.50 - 4.50 SLUMP IN ACCORDANCE WITH ACI 301.

optional compact gravel or crushed stone (omit where solid rock occurs)

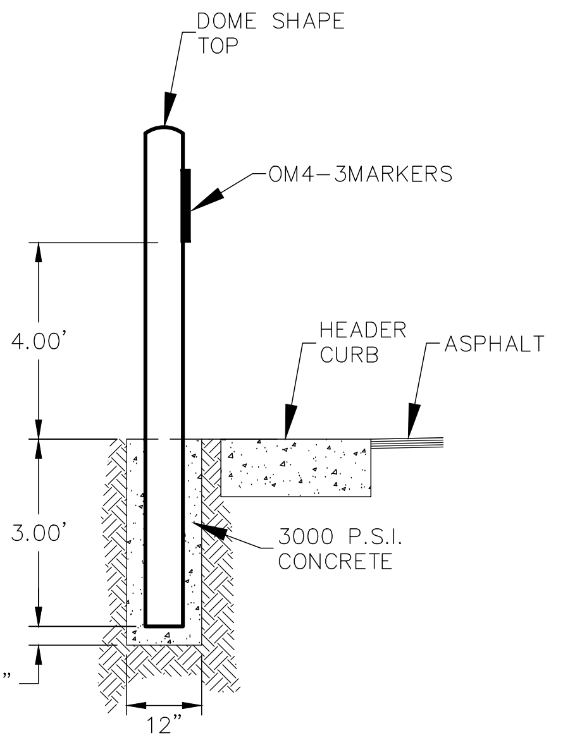
MAILBOX PAD DETAIL
NOT TO SCALE



NOTE:
POST SHALL BE 6" IN DIAMETER AND PRESSURE TREATED

POST SHALL BE CENTERED AND EQUALLY SPACED AT 6' ON CENTER (MIN.)

PLAN



SECTION A-A

BOLLARD DETAIL
NOT TO SCALE

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

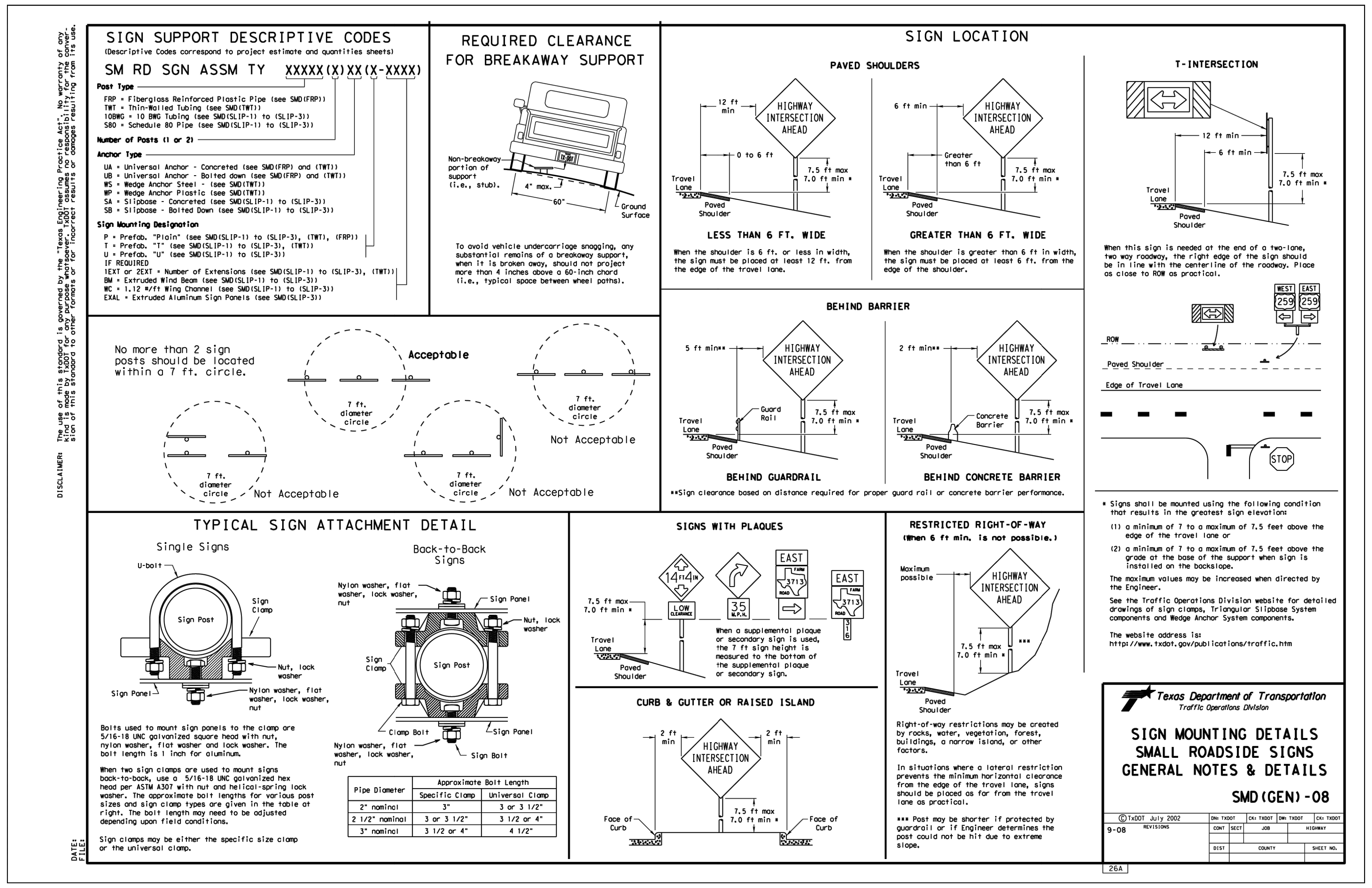
STREET DETAILS (2 OF 3)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C4.6



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))
S80 = 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 down (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
1EXT 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 #/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 paths).

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

SIGN LOCATION

TYPICAL SIGN ATTACHMENT DETAIL

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"

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.

* 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.

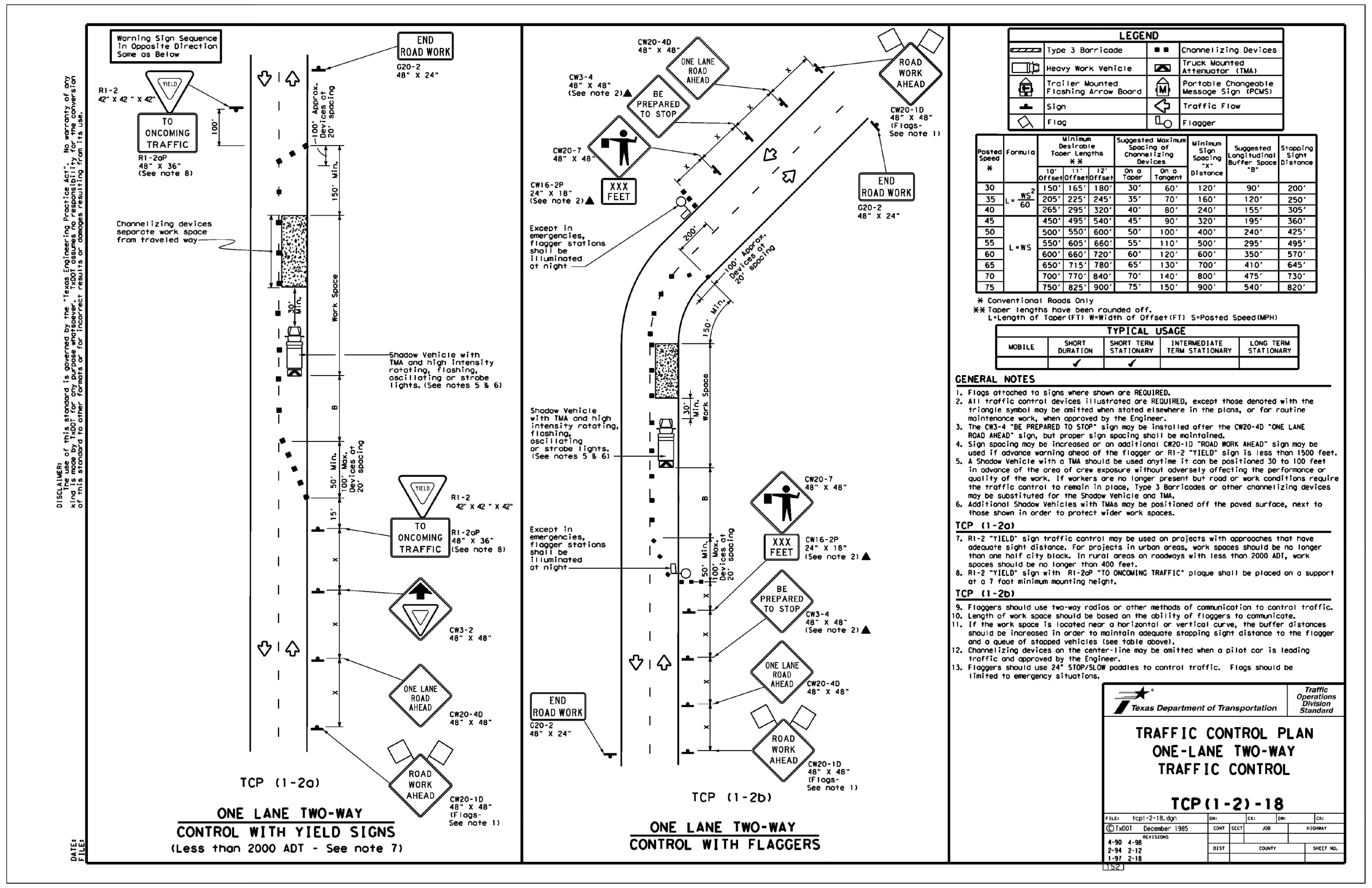
See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

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

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS
SMD(GEN)-08

©TxDOT July 2002
9-08 REVISIONS
26A



TCP (1-2a)
ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)

TCP (1-2b)
ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND			
▨	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

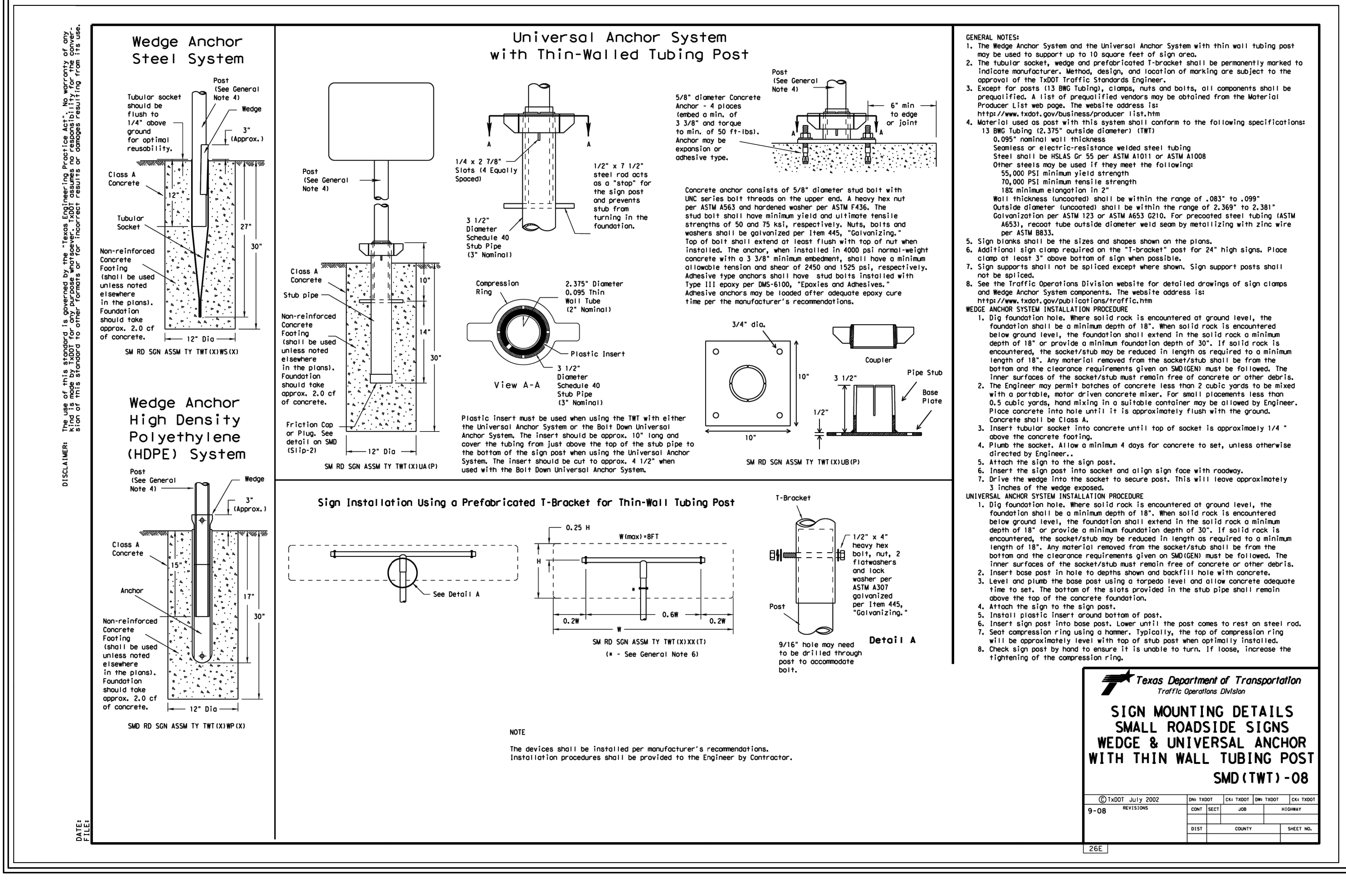
7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL
TCP(1-2)-18



Wedge Anchor Steel System

Wedge Anchor High Density Polyethylene (HDPE) System

Universal Anchor System with Thin-Walled Tubing Post

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

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. 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.

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 following:
   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), recoat 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

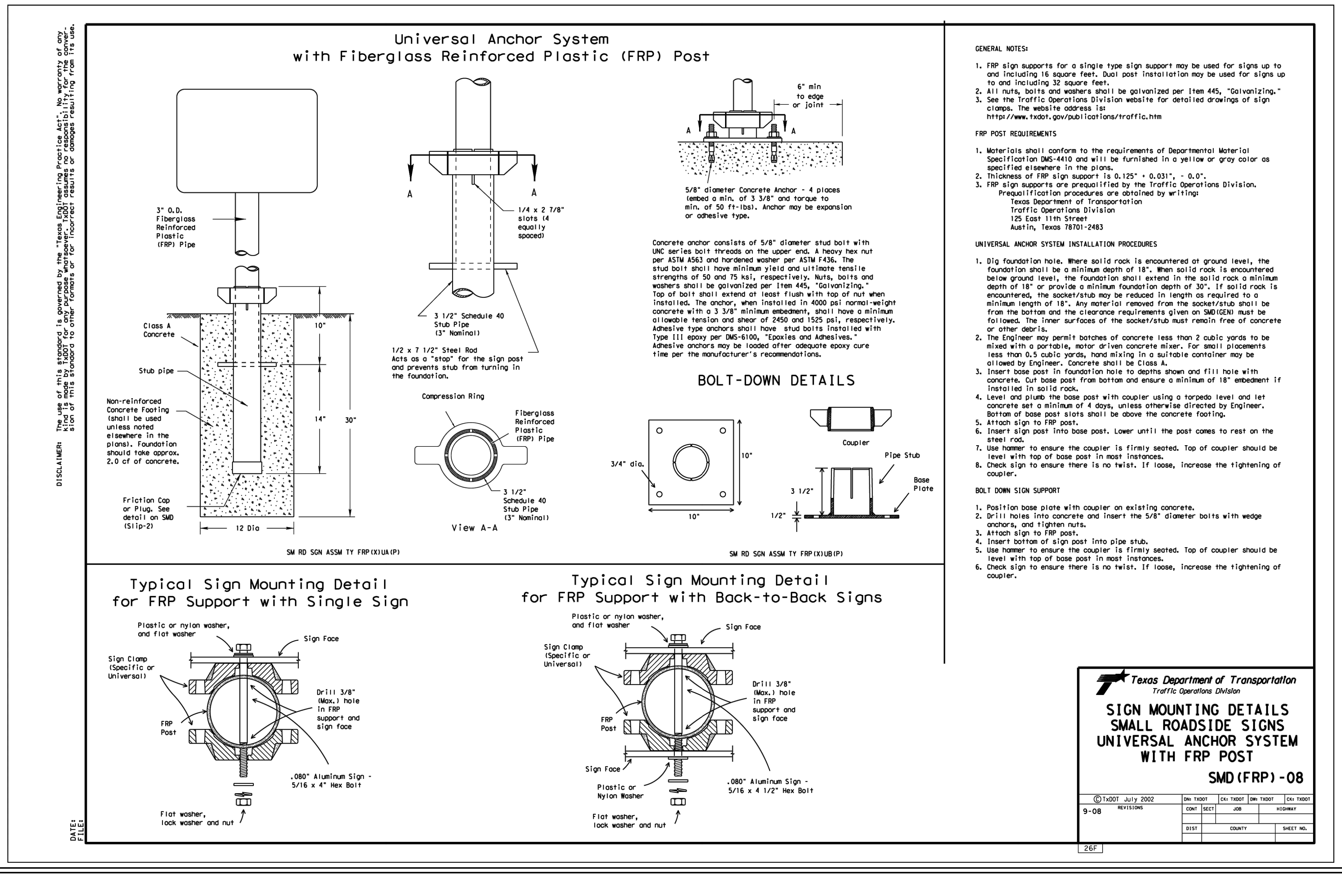
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock 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 approximaely 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



Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. 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

Typical Sign Mounting Detail for FRP Support with Single Sign

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

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. 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.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
UNIVERSAL ANCHOR SYSTEM
WITH FRP POST
SMD(FRP)-08

HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

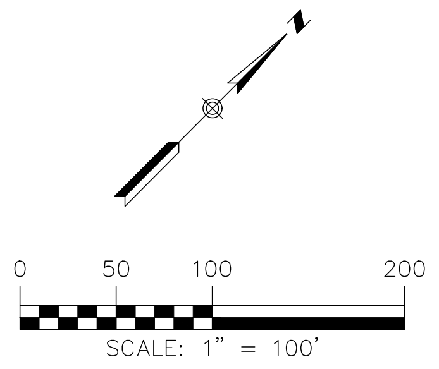
STREET DETAILS (3 OF 3)

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C4.7

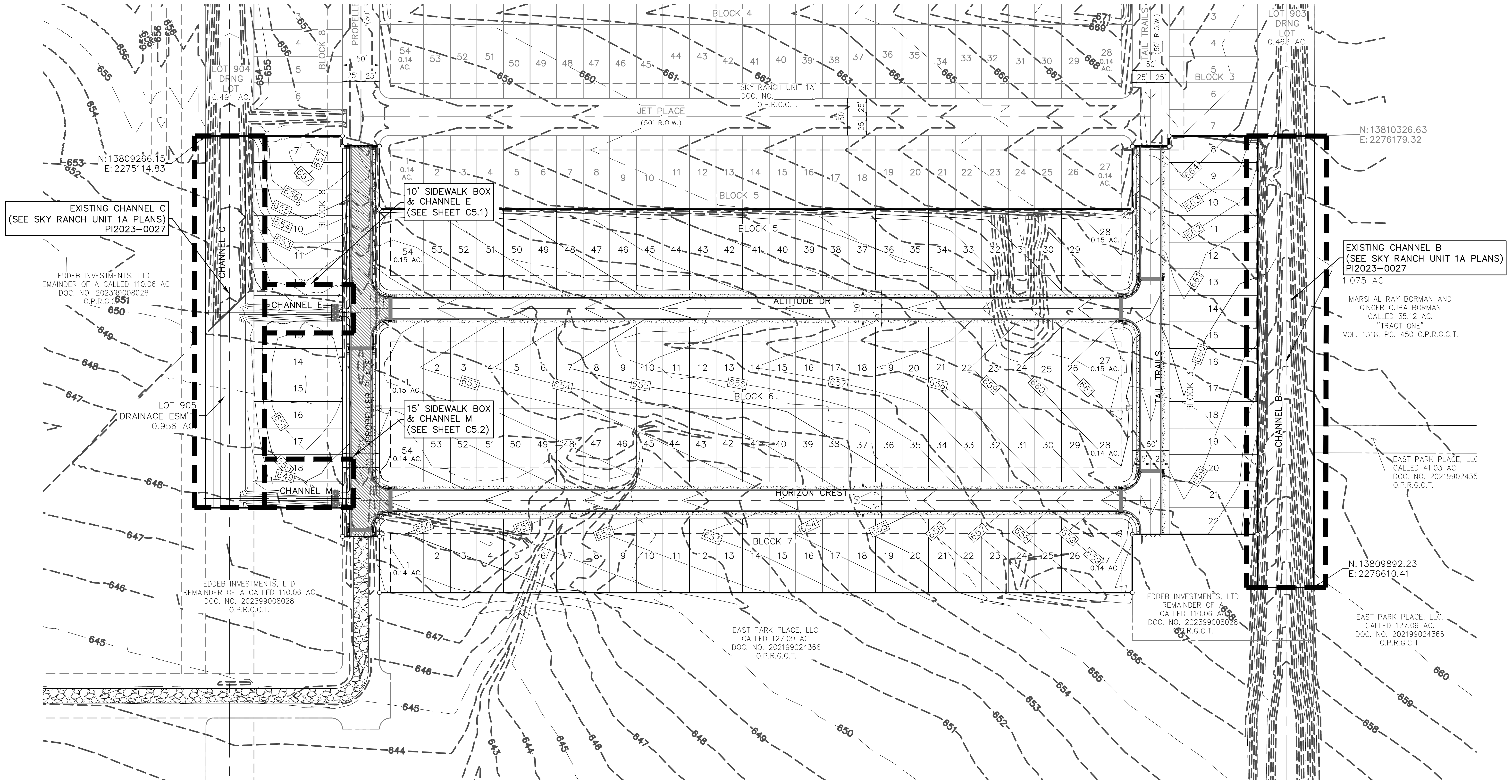


LEGEND

— —700— —	EXISTING CONTOURS
—700—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
═ ─ ═	PROPOSED STORM DRAIN LINE
▨	UTILITY CROSSING

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.



DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS AND CHANNELS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

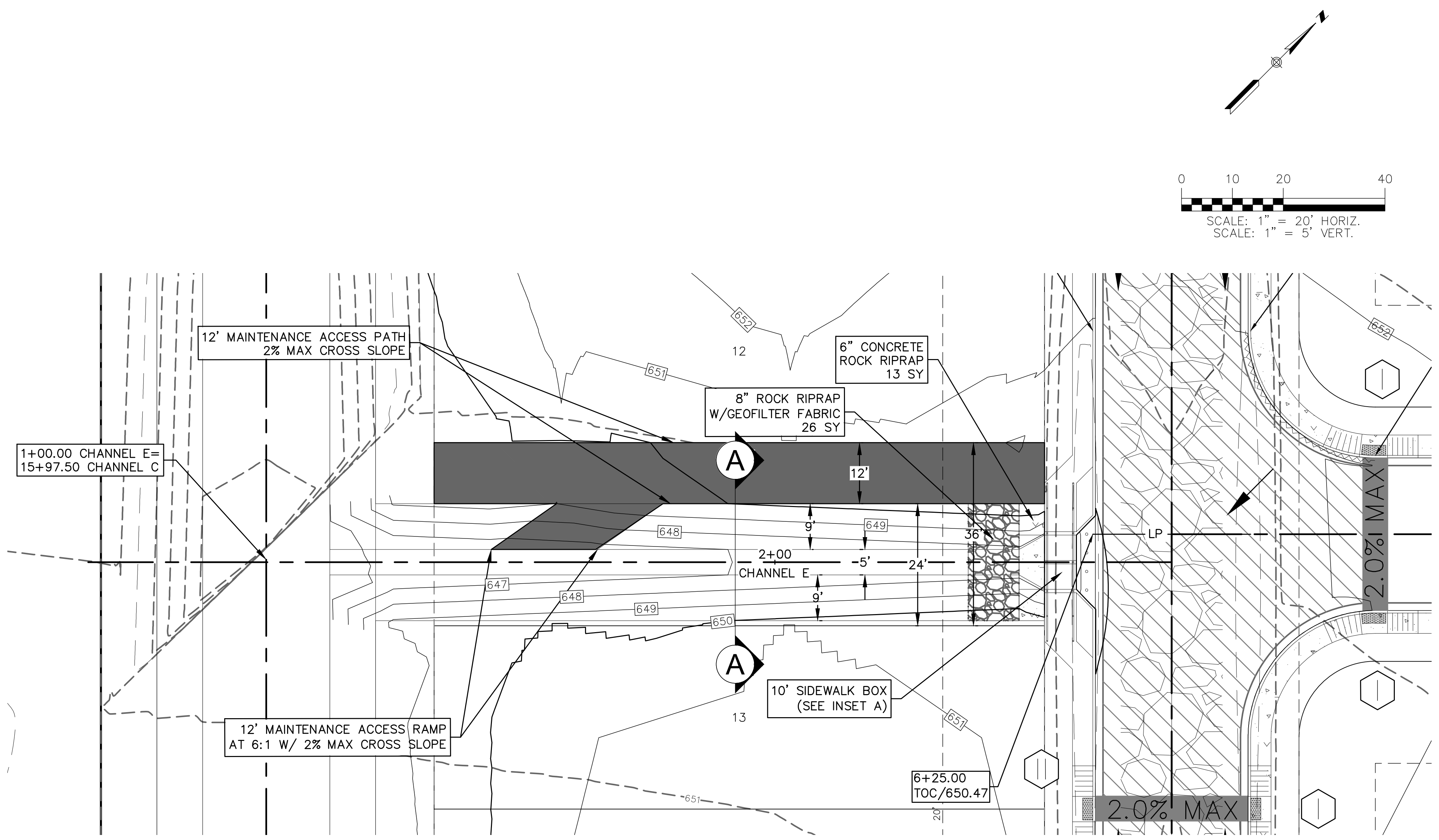
OVERALL STORM

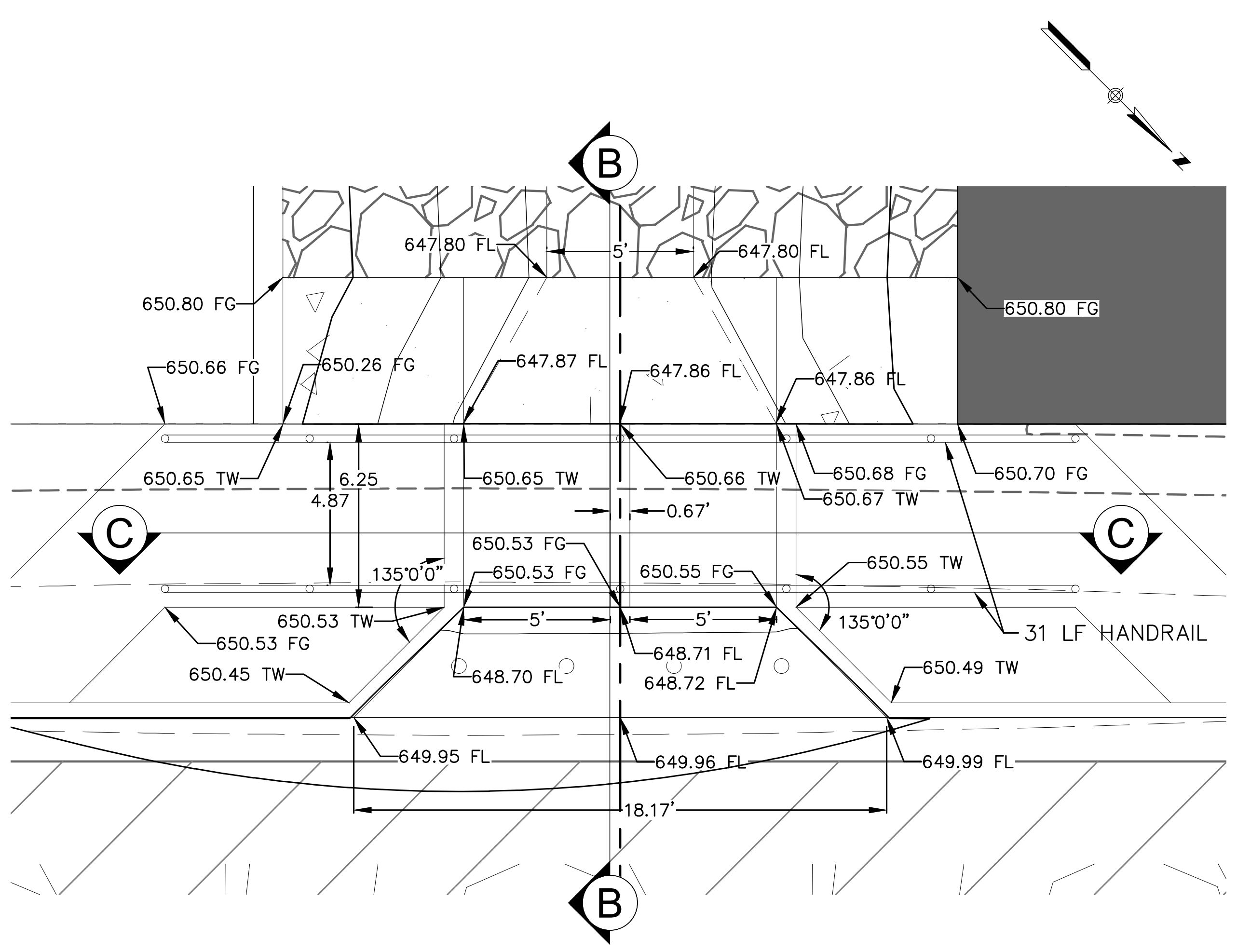
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

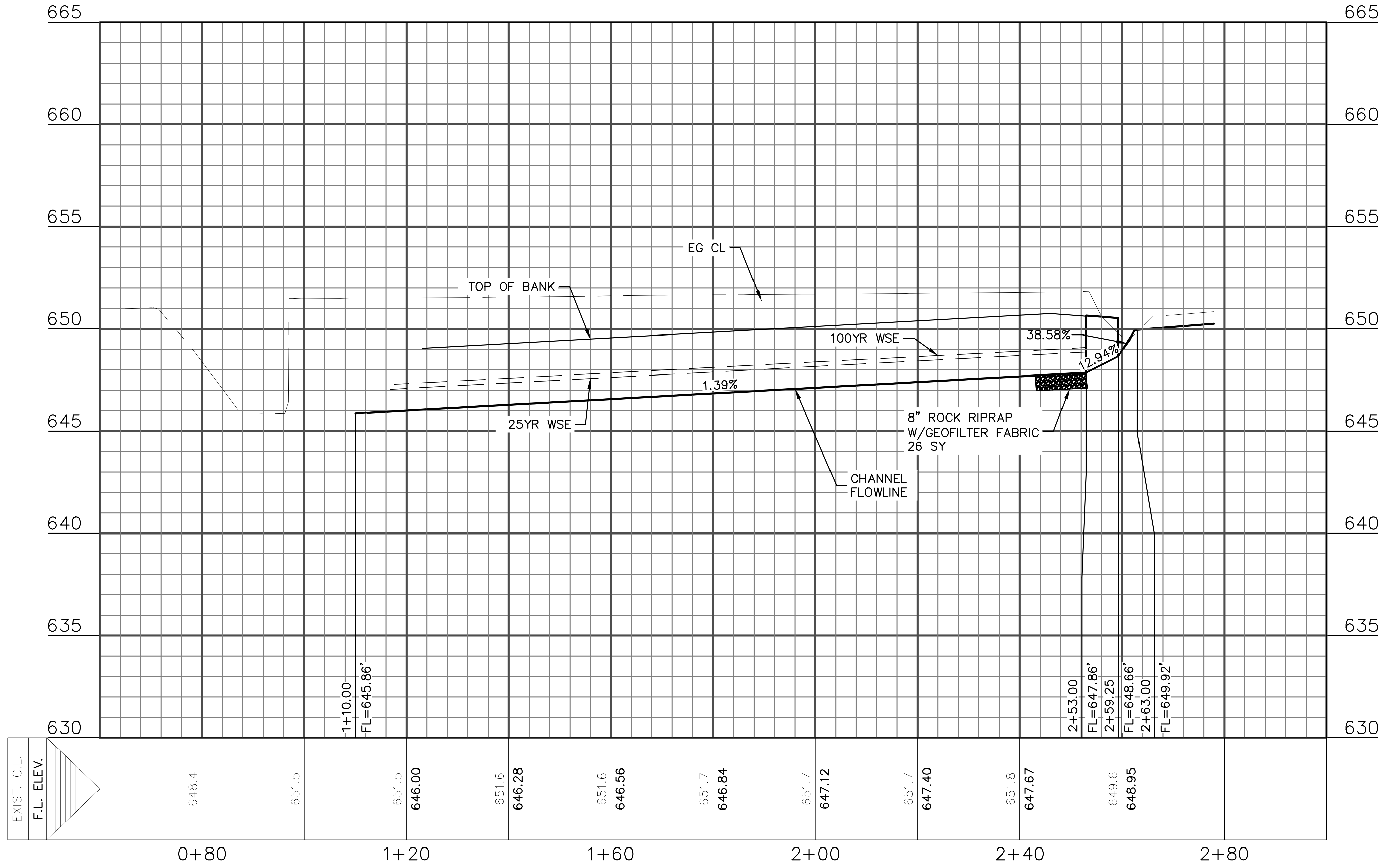
SHEET
C5.0

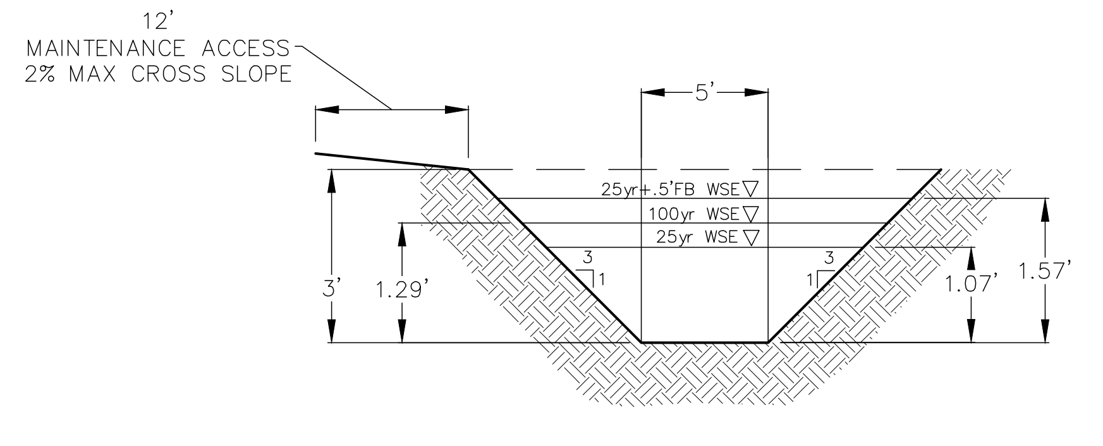

0 10 20 40
SCALE: 1" = 20' HORIZ.
SCALE: 1" = 5' VERT.
12' MAINTENANCE ACCESS PATH 2% MAX CROSS SLOPE
6" CONCRETE ROCK RIPRAP 13 SY
8" ROCK RIPRAP W/GEOFILTER FABRIC 26 SY
1+00.00 CHANNEL E= 15+97.50 CHANNEL C
A
12'
9'
2+00
CHANNEL E
-5'
24'
9'
LP
36
2.0% MAX
12
13
12' MAINTENANCE ACCESS RAMP AT 6:1 W/ 2% MAX CROSS SLOPE
10' SIDEWALK BOX (SEE INSET A)
6+25.00 TOC/650.47
647
648
649
650
651
653



Ⓐ INSET A DETAIL 1"=5'

CHANNEL E
0+60 – 3+00



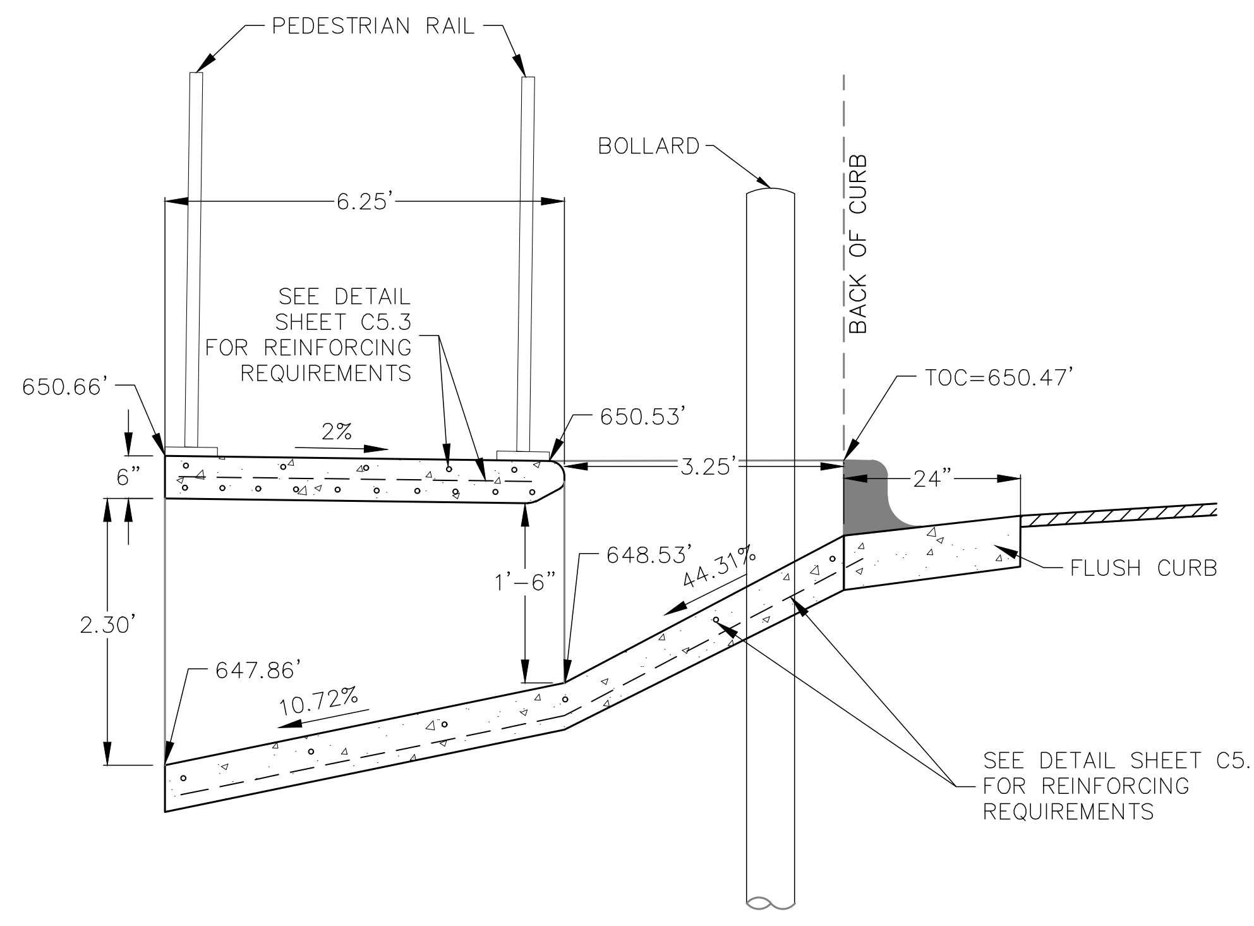


Ⓑ CHANNEL E SECTION A:A N.T.S.

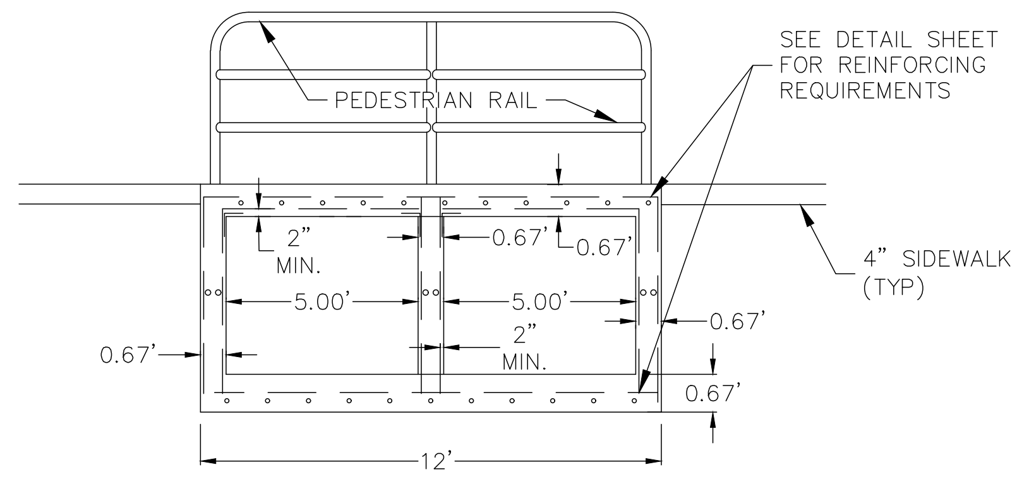
Q_{100} = 51.51 CFS
V_{100} = 4.50 FPS
D_{100} = 1.29'
S = 1.39%

Q_{25} = 36.18 CFS
V_{25} = 4.12 FPS
D_{25} = 1.07'
S = 1.39%

Q_2 = 17.25 CFS
V_2 = 3.29 FPS
D_2 = 0.73'
S = 1.39%



Ⓒ SIDEWALK BOX SECTION B:B N.T.S.



Ⓓ SIDEWALK BOX SECTION C:C N.T.S.

LEGEND

—700—	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
═	PROPOSED STORM DRAIN LINE
▨	UTILITY CROSSING

DRAINAGE FEATURES, CHANNELS, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS AND CHANNELS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

CHANNEL E PLAN & PROFILE

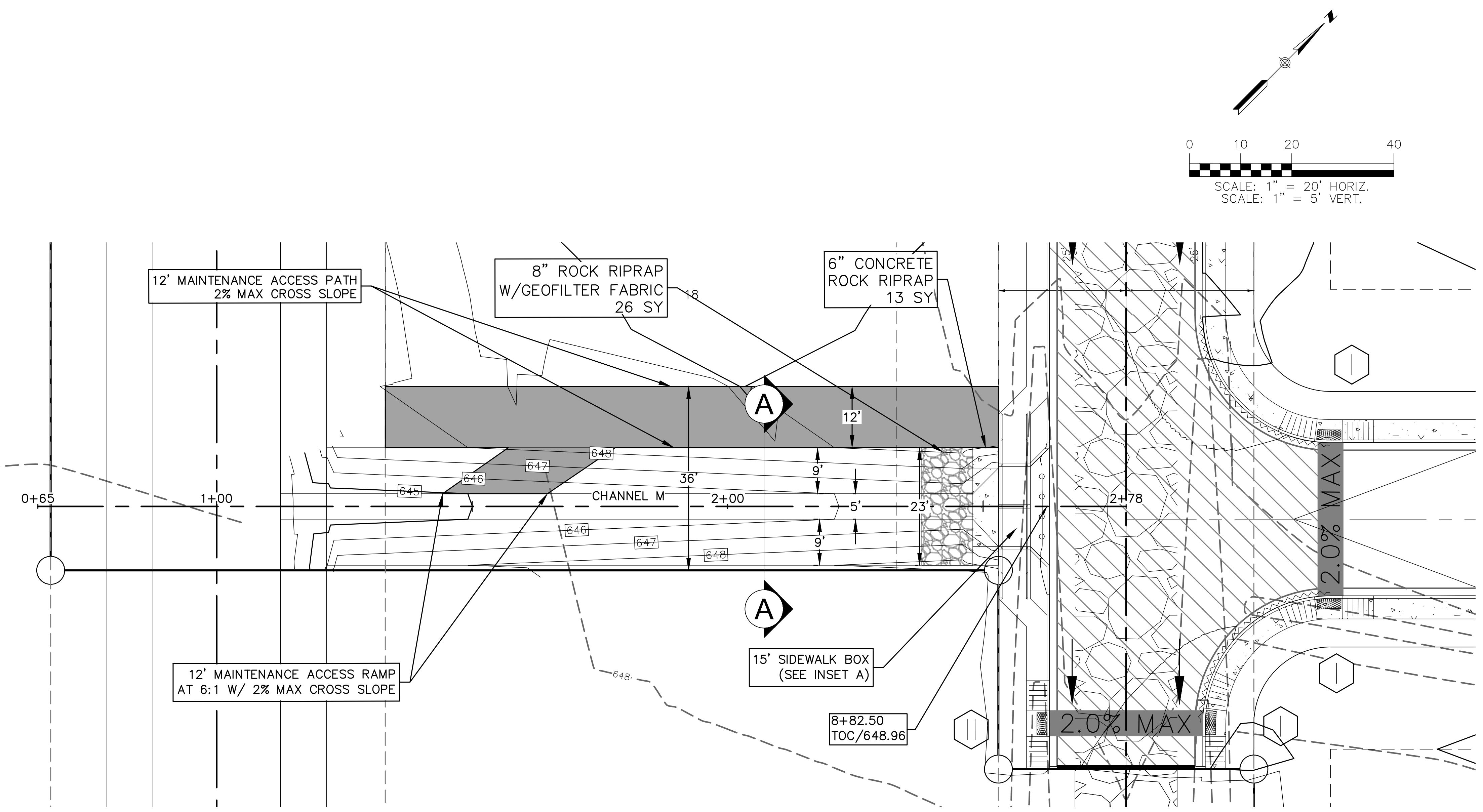
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

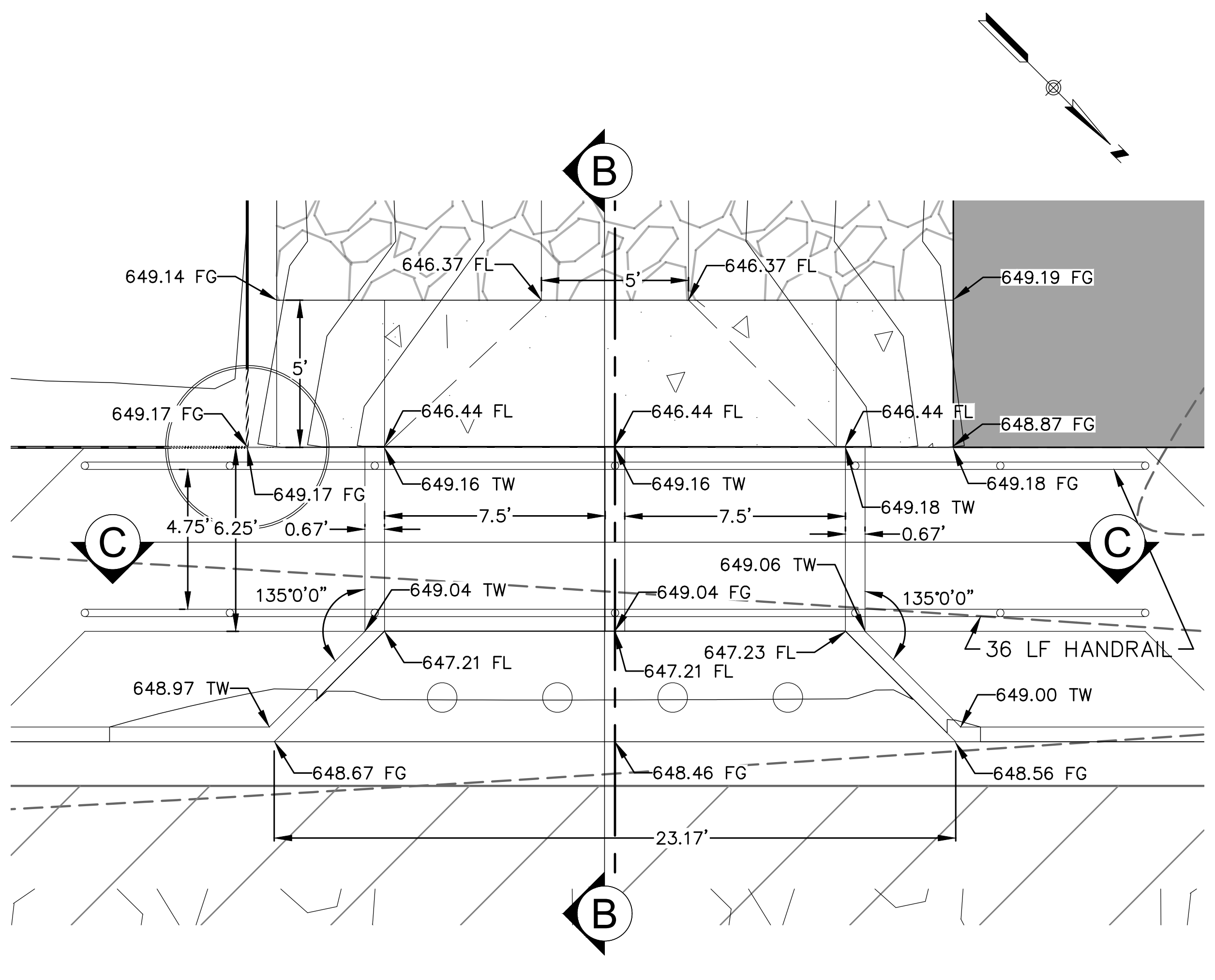
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C5.1

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_CHANNEL E 1B P&P.dwg User: williaml Jul 24, 2025 - 9:38am





A INSET A DETAIL

1"=5'

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
═	PROPOSED STORM DRAIN LINE
▨	UTILITY CROSSING

DRAINAGE FEATURES, CHANNELS, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

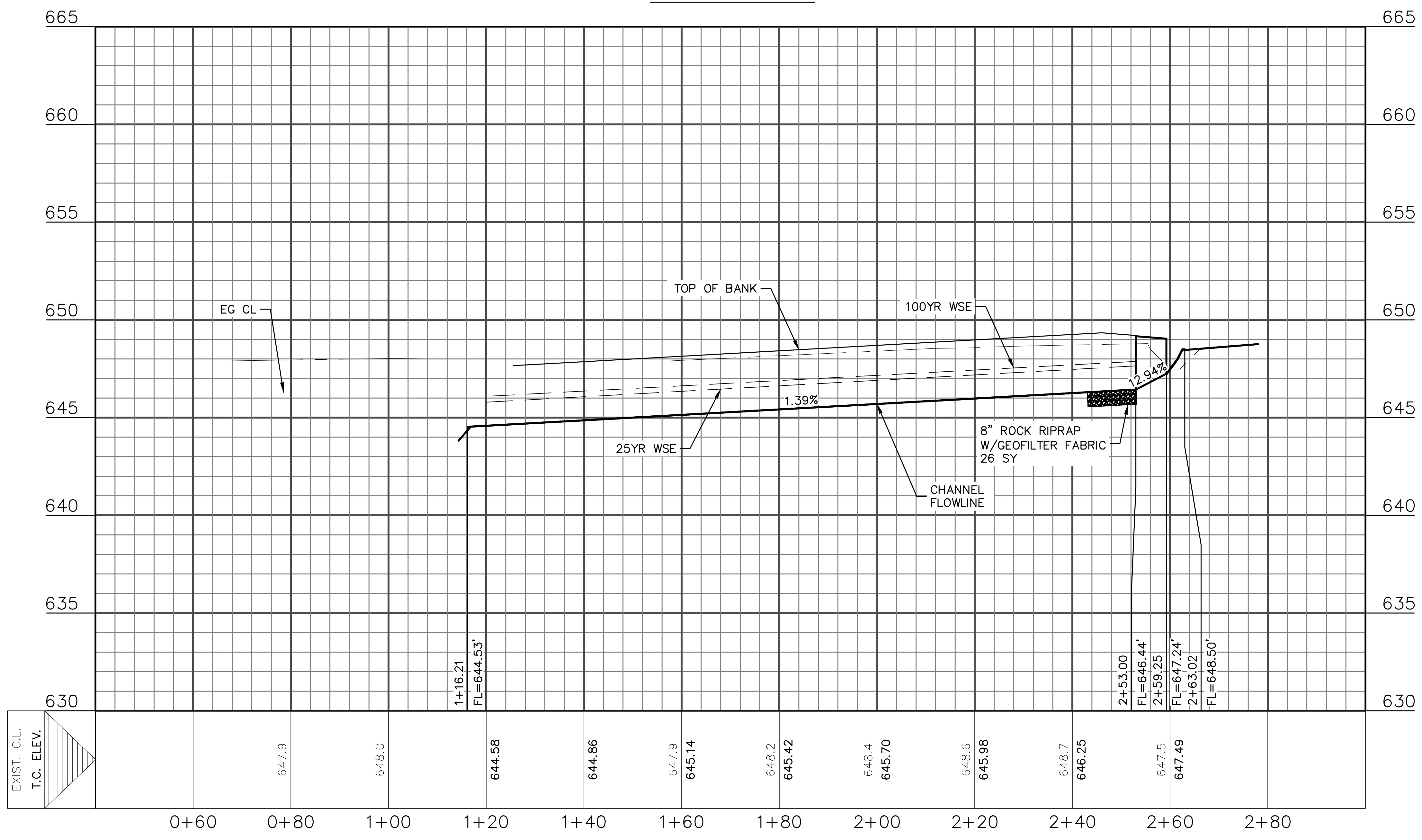
C. BASINS AND CHANNELS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

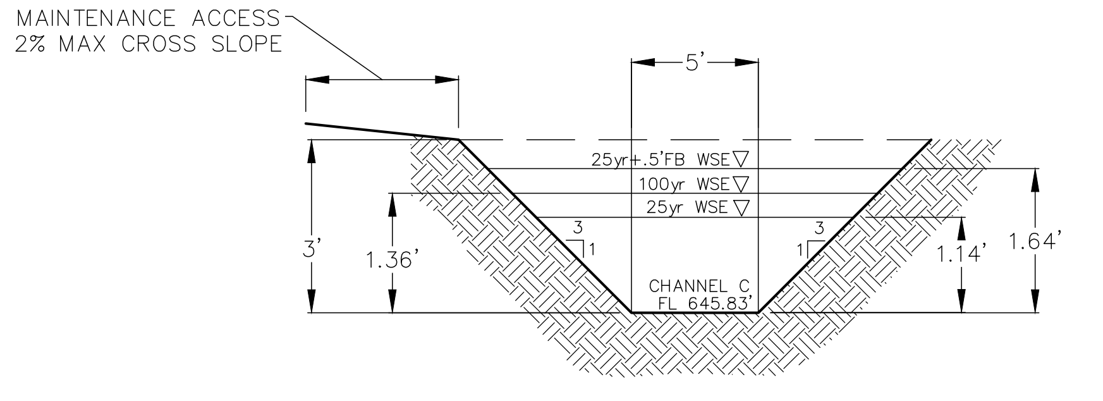
D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

CHANNEL M
0+40 – 3+00





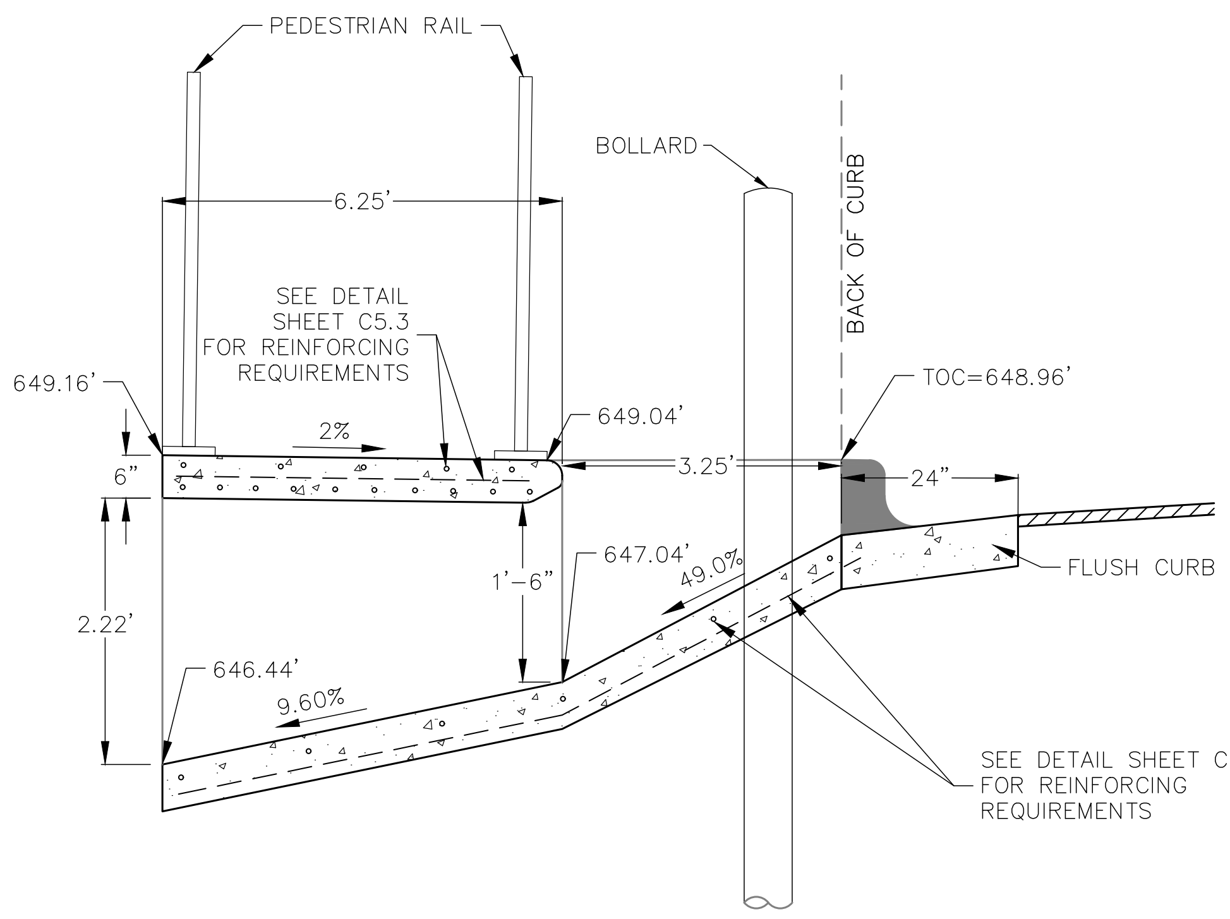
A CHANNEL M SECTION A: A

N.T.S.

Q_{100} = 57.7 CFS
V_{100} = 4.67 FPS
D_{100} = 1.36'
S = 1.39%

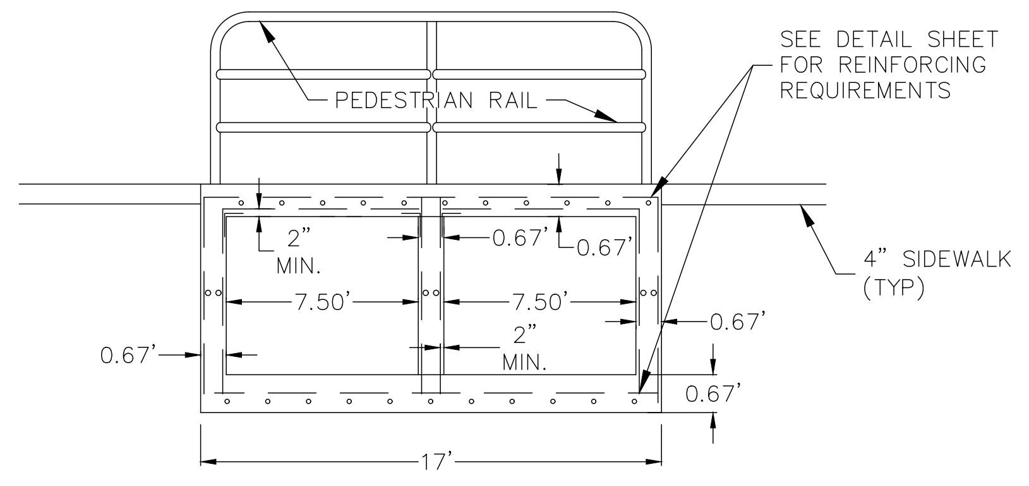
Q_{25} = 40.53 CFS
V_{25} = 4.22 FPS
D_{25} = 1.14'
S = 1.39%

Q_2 = 19.32 CFS
V_2 = 3.43 FPS
D_2 = 0.77'
S = 1.39%



C SIDEWALK BOX SECTION B: B

N.T.S.



D SIDEWALK BOX SECTION C: C

N.T.S.

REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_CHANNEL E 1B P&P.dwg User: williaml Jul 24, 2025 – 8:53am

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

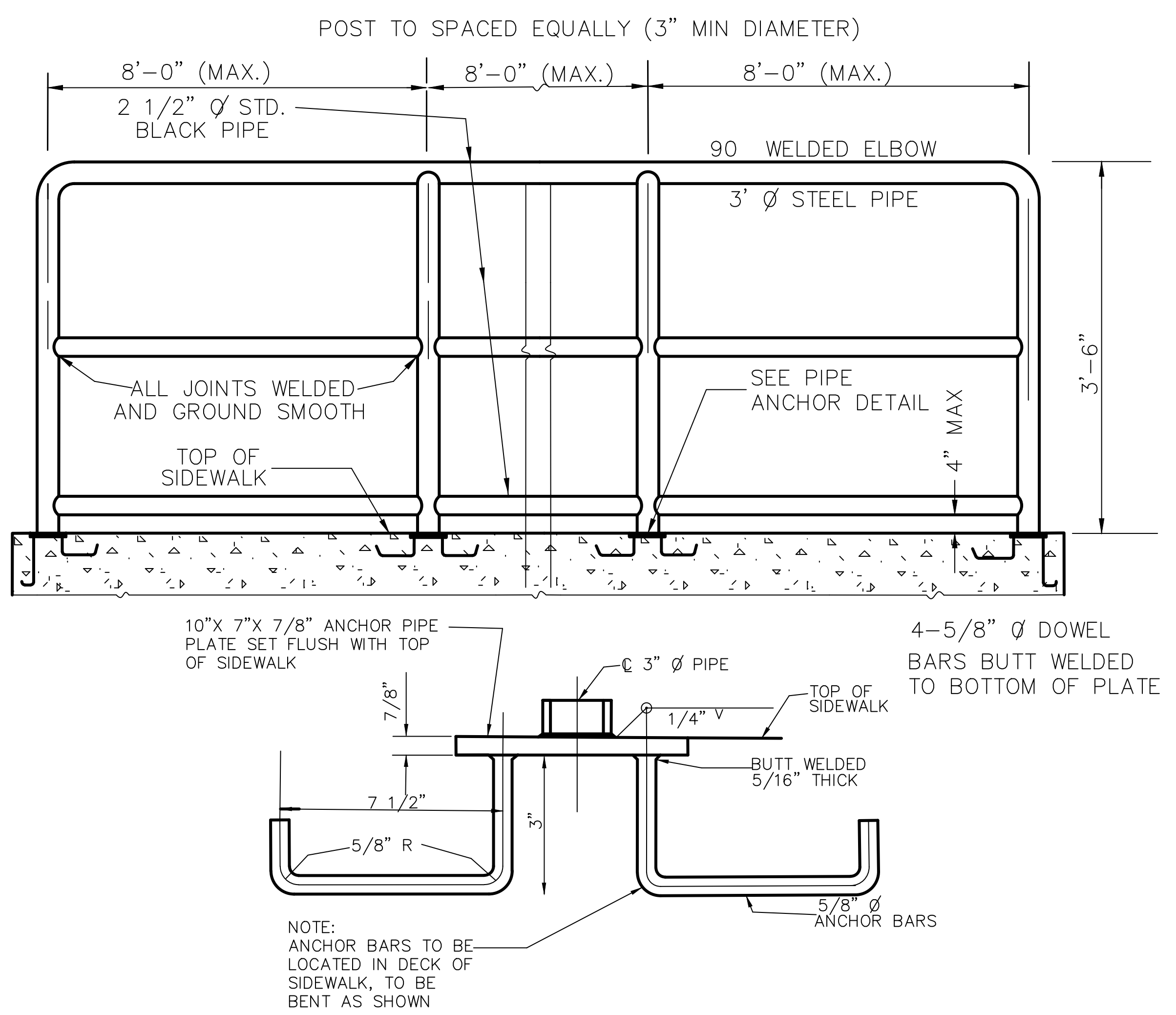
CHANNEL M PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

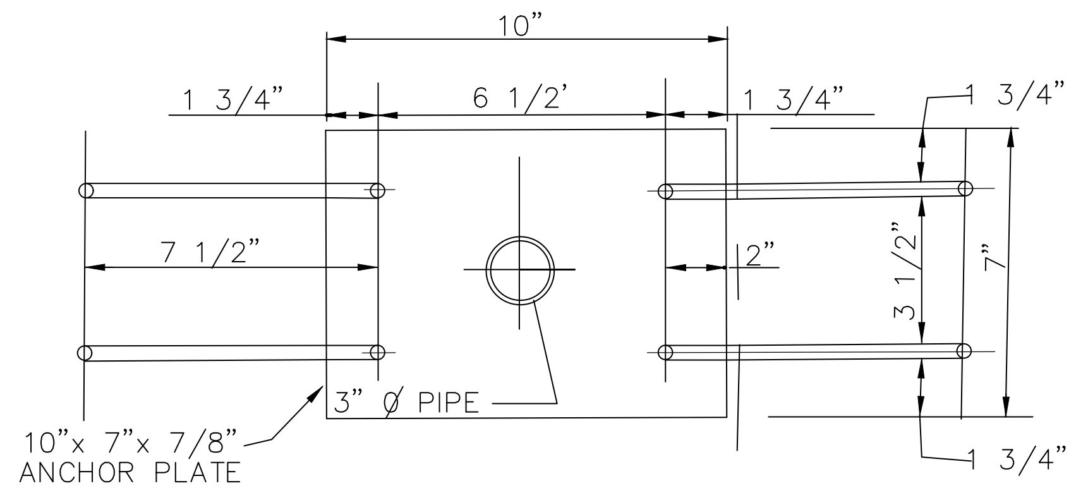
SHEET
C5.2


POST TO SPACED EQUALLY (3" MIN DIAMETER)
8'–0" (MAX.)
8'–0" (MAX.)
8'–0" (MAX.)
2 1/2" Ø STD. BLACK PIPE
90 WELDED ELBOW
3' Ø STEEL PIPE
3'–6"
ALL JOINTS WELDED AND GROUND SMOOTH
SEE PIPE ANCHOR DETAIL
4" MAX
TOP OF SIDEWALK
10"X 7"X 7/8" ANCHOR PIPE PLATE SET FLUSH WITH TOP OF SIDEWALK
℄ 3" Ø PIPE
4–5/8" Ø DOWEL BARS BUTT WELDED TO BOTTOM OF PLATE
7/8"
TOP OF SIDEWALK
1/4"
BUTT WELDED 5/16" THICK
7 1/2"
3"
5/8" R
5/8" Ø ANCHOR BARS
NOTE: ANCHOR BARS TO BE LOCATED IN DECK OF SIDEWALK, TO BE BENT AS SHOWN

PIPE ANCHOR

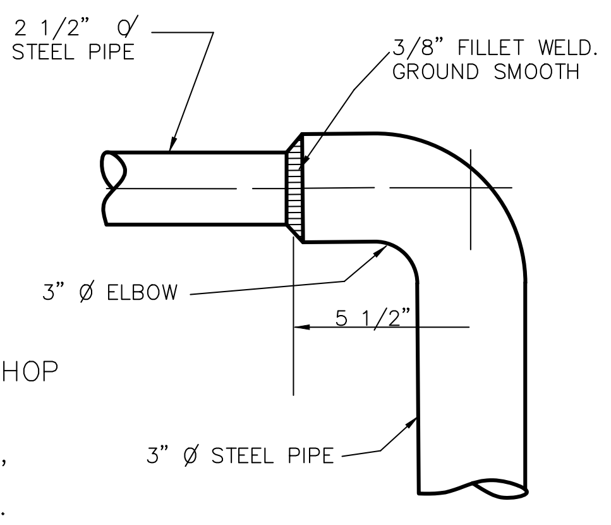
SIDEWALK PIPE RAILING DETAILS

N.T.S.

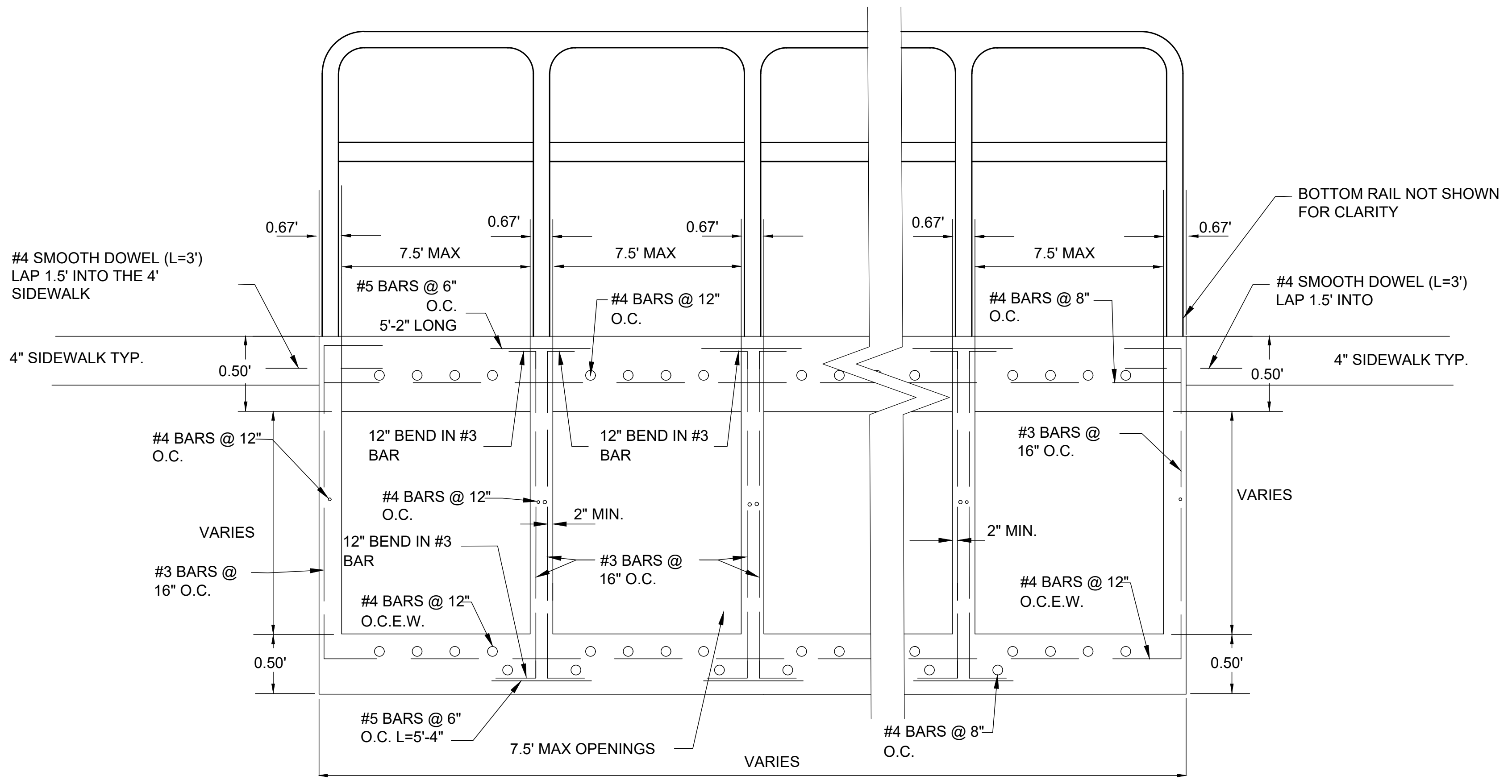


PLAN OF PIPE ANCHOR

NOTE: RAILING TO BE PAINTED: SHOP COAT: "RUST–OLEUM" NO. 678 QUICK DRYING RED PRIMER.
FIRST FIELD COAT: "RUST–OLEUM" NO. 7773 ZINC CHROMATE PRIMER.
SECONDFIELD COAT: "RUST–OLEUM" NO. 7715 "ALUMINUM" OR APPROVED EQUAL.



90° WELDED ELBOW



SIDEWALK BOX SECTION "A-A"

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_STORM DETAILS 1B.dwg User: williaml Jul 24, 2025 – 8:53am

HMT
ENGINEERING & SURVEYING

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

STORM DETAILS

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C5.3

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830–629–8400
Time Warner Cable	830–625–3408
Centerpoint Gas	830–643–6434
Robert Sanders	830–643–6903
Damaged Lines	888–876–5786
AT&T Telephone	830–303–1333
Eric White PM	210–283–1706
Scott McBrearty (Construction)	210–658–4886
Texas One Call	830–545–6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING 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 CONTRACTORS 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 EXCAVATIONS.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

RESTRAINED LENGTH NOTES:

1. CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
2. ALL IN–LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
3. RL=RESTRAINT LENGTH
4. CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PIPE

PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS						DEAD END/ INCLINE VALVES
						UPPER			LOWER			
		90°	45°	22.5°	11.25°	45°	22.5°	11.25°	45°	22.5°	11.25°	
8"	PVC	29	13	6	3	34	16	8	8	4	2	80
8"	DUCTILE IRON	25	10	5	3	22	11	6	8	4	2	52
12"	PVC	41	17	9	4	47	23	12	13	6	3	114

TEE

PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	70
8"	8"	DUCTILE IRON	45
12"	8"	PVC	64

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

1) SAFETY FACTOR = 1.5 TO 1
2) TEST PRESSURE = 200psi.
3) SOIL DESIGNATION = MANUFACTURED SAND
4) DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
5) DEPTH OF COVER = 5 FEET (LOWER BEND)
6) LENGTH ALONG RUN = 2 FEET

WATER STRUCTURE TOTALS

PIPE SIZE	PIPE LENGTH	DOMESTIC METER SIZE	1" SERVICE LINES	DOMESTIC METERS	FIRE HYDRANTS	FIRE LINES	IRRIGATION METER 5/8"	GATE VALVES
8"	2713	5/8"	121	121	6	0	0	9
12"	527	5/8"	14	14	0	0	0	3

UTILITY TRENCH COMPACTION

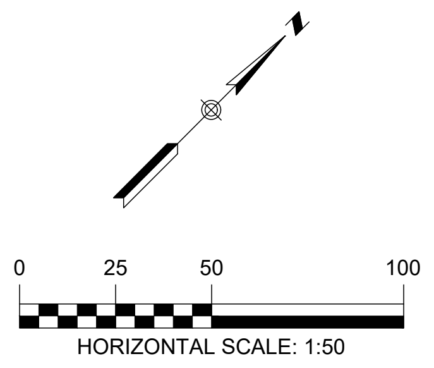
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
9. 1–INCH SERVICE LINES SHALL BE CONSTRUCTED OF TYPE K ANNEALED SEAMLESS COPPER TUBING MEETING THE REQUIREMENTS OF ASTM B88. AWWA C901 SDR9 COPPER TUBING SIZE HDPE MAY BE USED FOR 1–INCH SERVICE LINES WITH SPECIAL APPROVAL FROM NBU ONLY.
10. 2–INCH SERVICE LINES SHALL BE AWWA C901 SDR9 CTS HDPE. ALL COPPER AND HDPE TUBING MUST BE NSF 61 CERTIFIED.

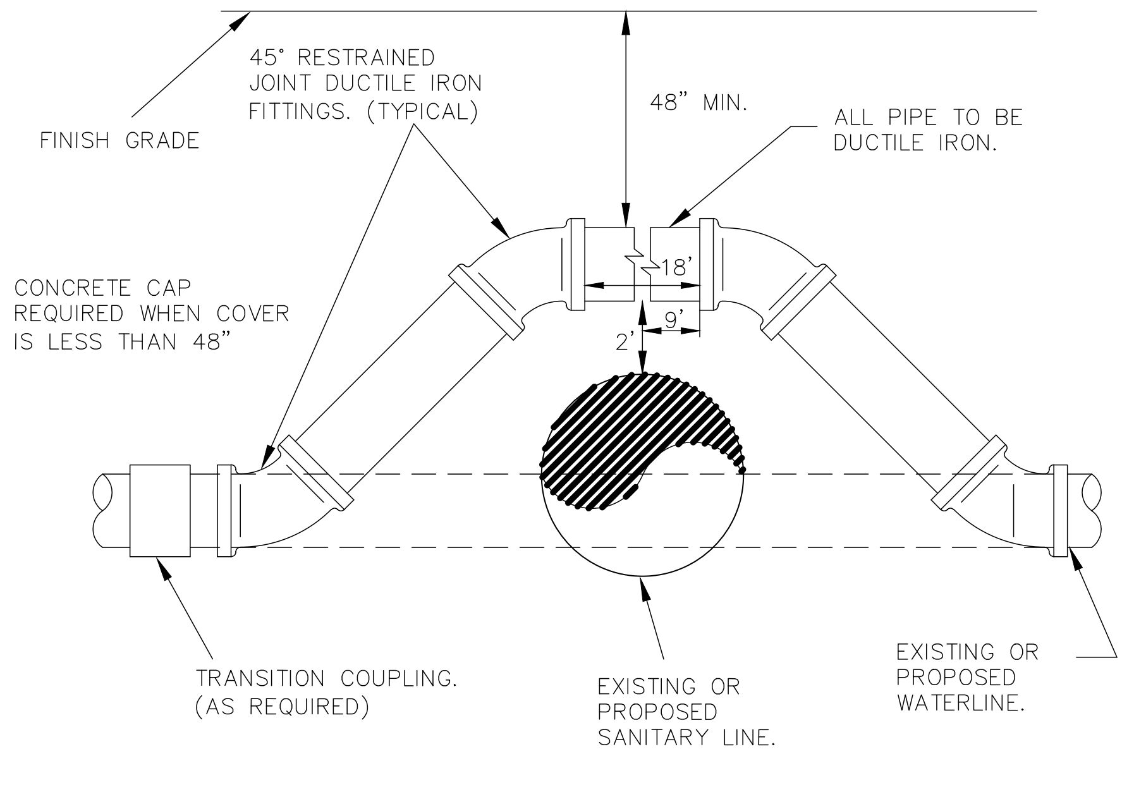
DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

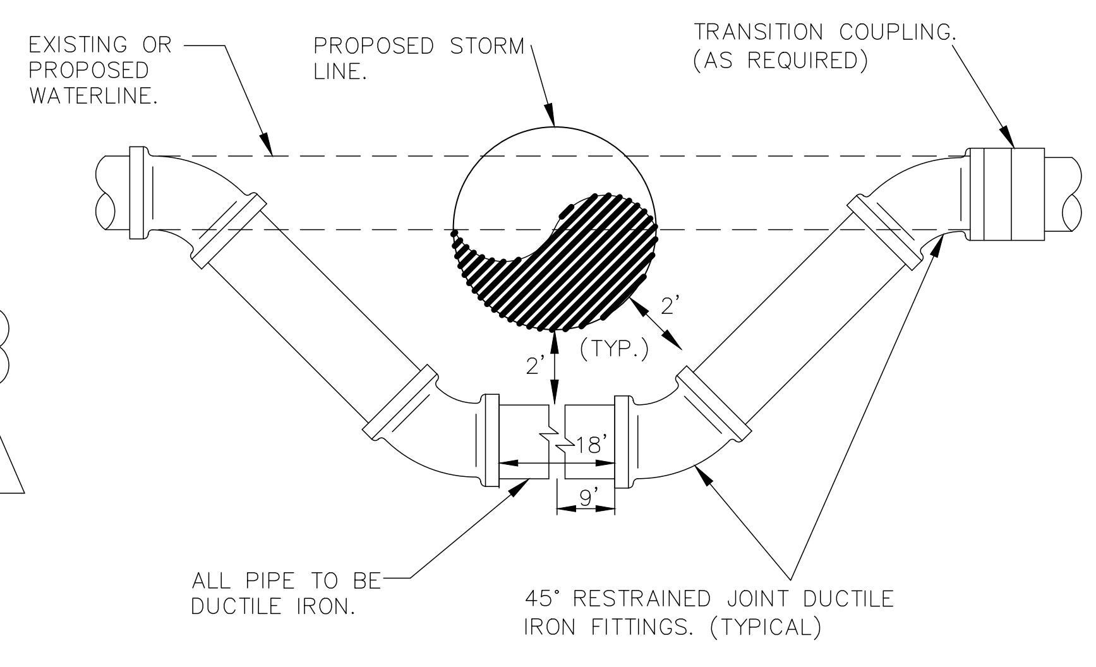


LEGEND

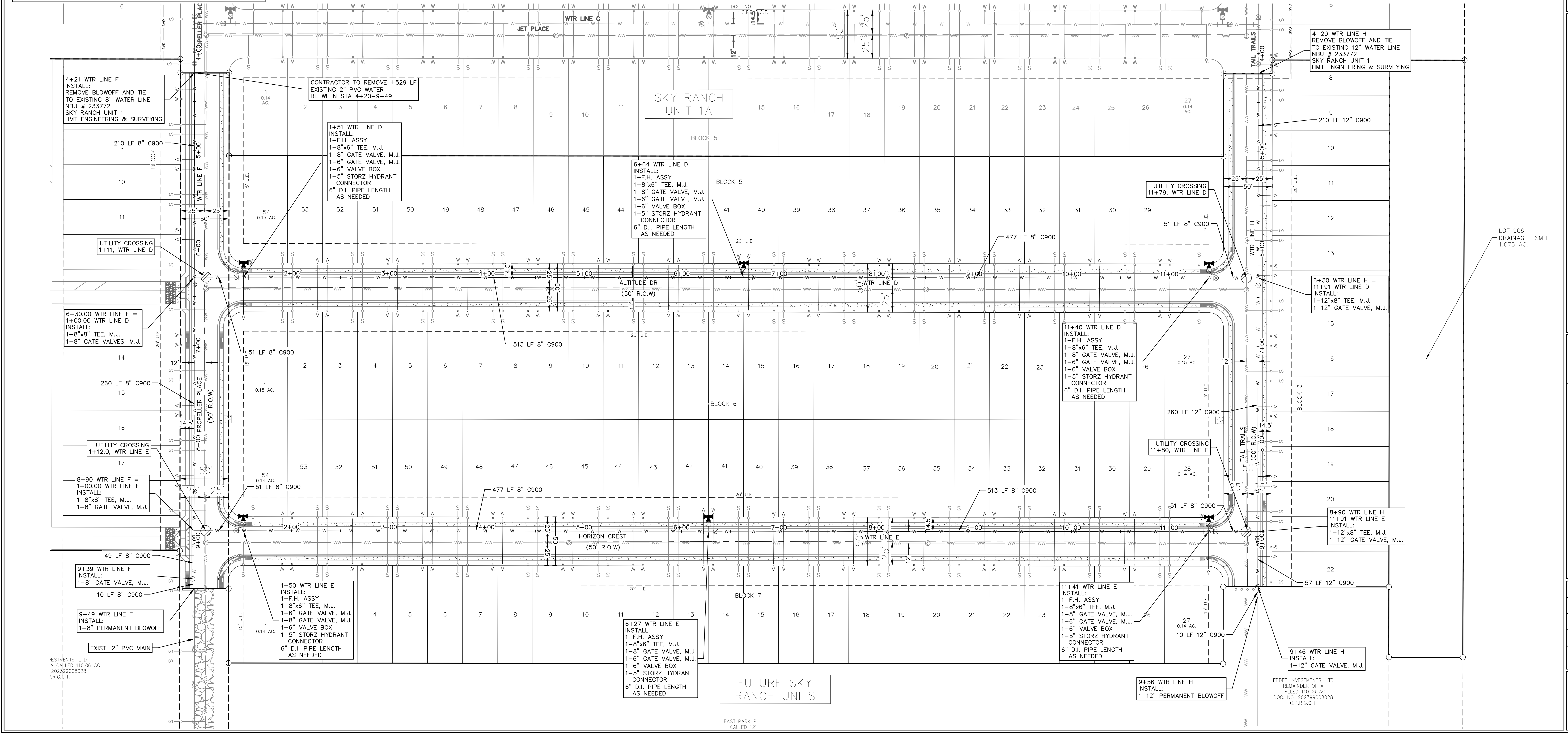
— 700 —	EXISTING CONTOURS
—[700]—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— W — W —	EXISTING WATER LINE
— W — W —	PROPOSED WATER LINE
W○—	PROPOSED WATER SERVICE
▨	UTILITY CROSSING
⊗	GATE VALVE
▼	FIRE HYDRANT


FINISH GRADE
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)
48" MIN.
ALL PIPE TO BE DUCTILE IRON.
CONCRETE CAP REQUIRED WHEN COVER IS LESS THAN 48"
18'
2"
9'
TRANSITION COUPLING. (AS REQUIRED)
EXISTING OR PROPOSED SANITARY LINE.
EXISTING OR PROPOSED WATERLINE.

Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S


EXISTING OR PROPOSED WATERLINE.
PROPOSED STORM LINE.
TRANSITION COUPLING. (AS REQUIRED)
2"
(TYP.)
18'
9'
ALL PIPE TO BE DUCTILE IRON.
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)

Ⓑ WATERLINE ADJUSTMENT DETAIL
N.T.S



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen

07/24/25

OVERALL WATER

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C6.0

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CD\337.050_WATER 1B.dwg User: williaml Jul 24, 2025 - 8:55am

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830–629–8400
Time Warner Cable	830–625–3408
Centerpoint Gas	830–643–6434
Robert Sanders	830–643–6903
Damaged Lines	888–876–5786
AT&T Telephone	830–303–1333
Eric White PM	210–283–1706
Scott McBrearty (Construction)	210–658–4886
Texas One Call	830–545–6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING 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 CONTRACTORS 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 EXCAVATIONS.

REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

RESTRAINED LENGTH NOTES:

1. CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
2. ALL IN–LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
3. RL=RESTRAINT LENGTH
4. CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PIPE

PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS						DEAD END/ INCLINE VALVES
						UPPER			LOWER			
		90°	45°	22.5°	11.25°	45°	22.5°	11.25°	45°	22.5°	11.25°	
8"	PVC	29	13	6	3	34	16	8	8	4	2	80
8"	DUCTILE IRON	25	10	5	3	22	11	6	8	4	2	52
12"	PVC	41	17	9	4	47	23	12	13	6	3	114

TEE

PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	70
8"	8"	DUCTILE IRON	45
12"	8"	PVC	64

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

1) SAFETY FACTOR = 1.5 TO 1
2) TEST PRESSURE = 200psi.
3) SOIL DESIGNATION = MANUFACTURED SAND
4) DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
5) DEPTH OF COVER = 5 FEET (LOWER BEND)
6) LENGTH ALONG RUN = 2 FEET

WATER STRUCTURE TOTALS

PIPE SIZE	PIPE LENGTH	DOMESTIC METER SIZE	1" SERVICE LINES	DOMESTIC METERS	FIRE HYDRANTS	FIRE LINES	IRRIGATION METER 5/8"	GATE VALVES
8	2713	5/8"	121	121	6	0	0	9
12	527	5/8"	14	14	0	0	0	3

UTILITY TRENCH COMPACTION

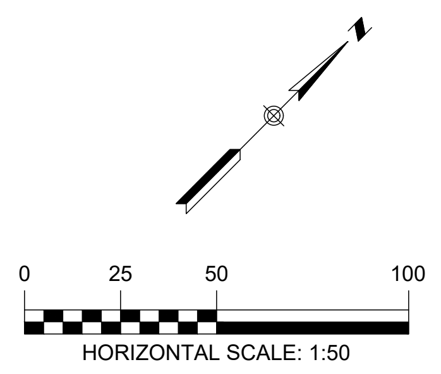
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
9. 1–INCH SERVICE LINES SHALL BE CONSTRUCTED OF TYPE K ANNEALED SEAMLESS COPPER TUBING MEETING THE REQUIREMENTS OF ASTM B88. AWWA C901 SDR9 COPPER TUBING SIZE HDPE MAY BE USED FOR 1–INCH SERVICE LINES WITH SPECIAL APPROVAL FROM NBU ONLY.
10. 2–INCH SERVICE LINES SHALL BE AWWA C901 SDR9 CTS HDPE. ALL COPPER AND HDPE TUBING MUST BE NSF 61 CERTIFIED.

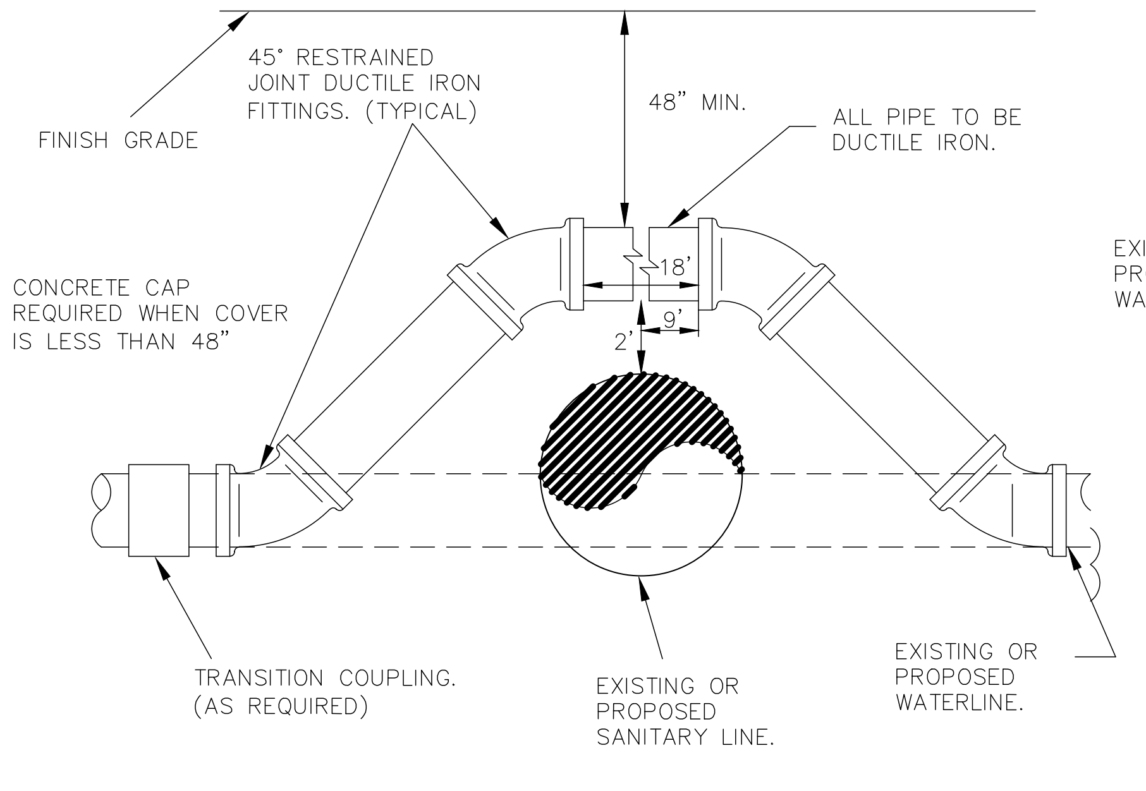
DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

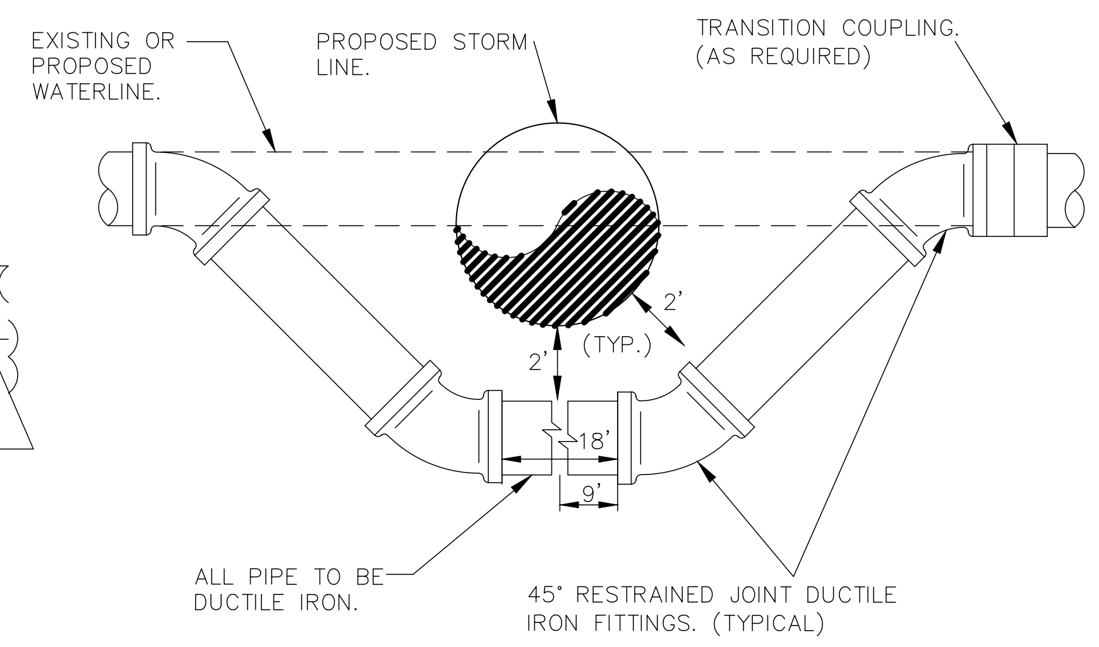


LEGEND

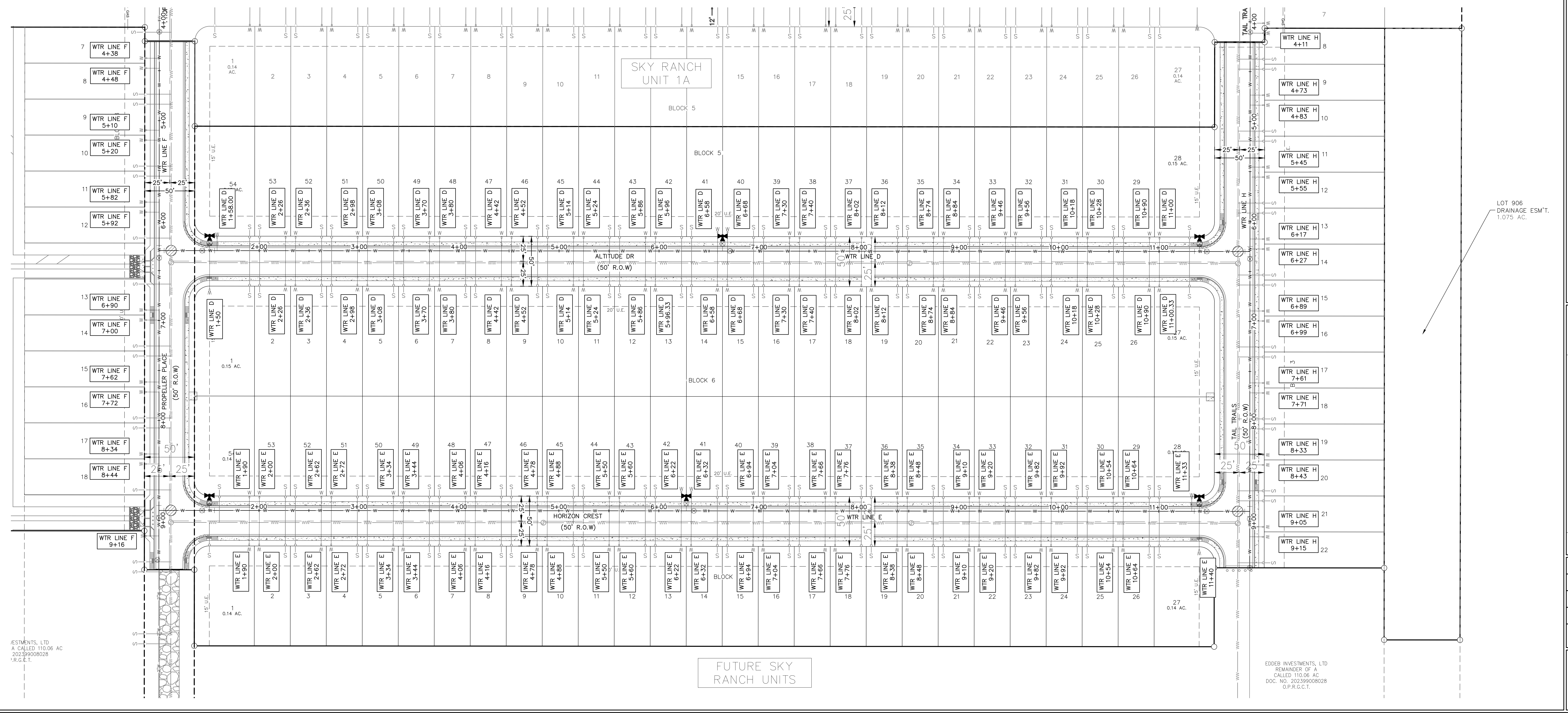
— 700 —	EXISTING CONTOURS
—▭700▭—	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— W — W —	EXISTING WATER LINE
— W — W —	PROPOSED WATER LINE
≽▫—	PROPOSED WATER SERVICE
▨	UTILITY CROSSING
⊗	GATE VALVE
⧗	FIRE HYDRANT


FINISH GRADE
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)
48" MIN.
ALL PIPE TO BE DUCTILE IRON.
CONCRETE CAP REQUIRED WHEN COVER IS LESS THAN 48"
18'
9'
2'
TRANSITION COUPLING. (AS REQUIRED)
EXISTING OR PROPOSED SANITARY LINE.
EXISTING OR PROPOSED WATERLINE.

Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S


EXISTING OR PROPOSED WATERLINE.
PROPOSED STORM LINE.
TRANSITION COUPLING. (AS REQUIRED)
2'
(TYP.)
2'
18'
9'
ALL PIPE TO BE DUCTILE IRON.
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)

Ⓑ WATERLINE ADJUSTMENT DETAIL
N.T.S



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen

07/24/25

WATER TAP SHEET

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C6.1

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_WATER 1B.dwg User: williaml Jul 24, 2025 – 8:55am

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830–629–8400
Time Warner Cable	830–625–3408
Centerpoint Gas	830–643–6434
Robert Sanders	830–643–6903
Damaged Lines	888–876–5786
AT&T Telephone	830–303–1333
Eric White PM	210–283–1706
Scott McBrearty (Construction)	210–658–4886
Texas One Call	830–545–6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1–800–545–6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1–800–545–6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING 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 CONTRACTORS 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 EXCAVATIONS.

RESTRAINED LENGTH NOTES:

1. CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
2. ALL IN–LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
3. RL=RESTRAINT LENGTH
4. CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PIPE

PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS						DEAD END/ INCLINE VALVES
						UPPER			LOWER			
		90°	45°	22.5°	11.25°	45°	22.5°	11.25°	45°	22.5°	11.25°	
8"	PVC	29	13	6	3	34	16	8	8	4	2	80
8"	DUCTILE IRON	25	10	5	3	22	11	6	8	4	2	52
12"	PVC	41	17	9	4	47	23	12	13	6	3	114

TEE

PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	70
8"	8"	DUCTILE IRON	45
12"	8"	PVC	64

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

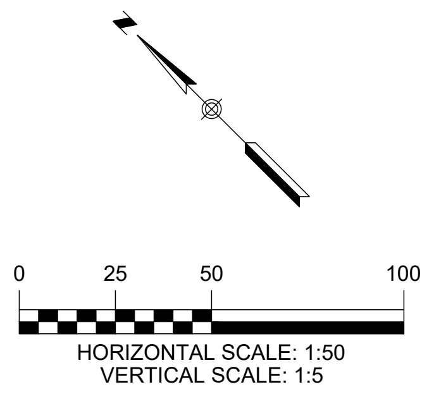
1) SAFETY FACTOR = 1.5 TO 1
2) TEST PRESSURE = 200psi.
3) SOIL DESIGNATION = MANUFACTURED SAND
4) DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
5) DEPTH OF COVER = 5 FEET (LOWER BEND)
6) LENGTH ALONG RUN = 2 FEET

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
9. 1–INCH SERVICE LINES SHALL BE CONSTRUCTED OF TYPE K ANNEALED SEAMLESS COPPER TUBING MEETING THE REQUIREMENTS OF ASTM B88. AWWA C901 SDR9 COPPER TUBING SIZE HDPE MAY BE USED FOR 1–INCH SERVICE LINES WITH SPECIAL APPROVAL FROM NBU ONLY.
10. 2–INCH SERVICE LINES SHALL BE AWWA C901 SDR9 CTS HDPE. ALL COPPER AND HDPE TUBING MUST BE NSF 61 CERTIFIED.



DEEP UTILITY TRENCH NOTE

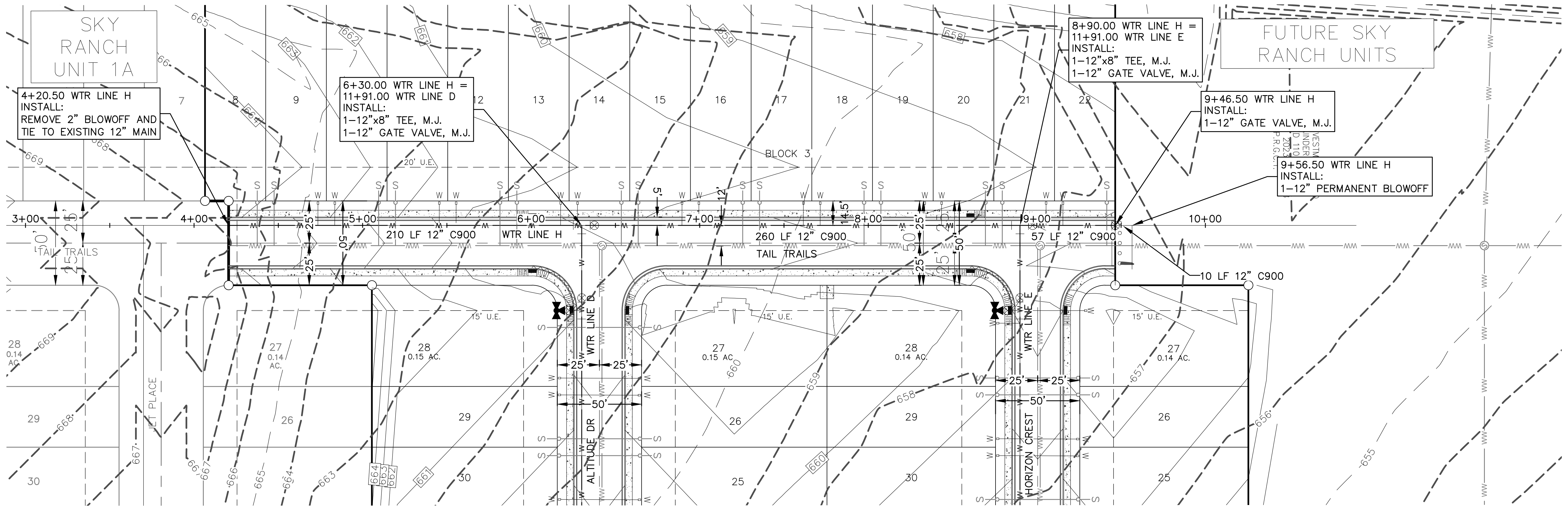
THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

LEGEND

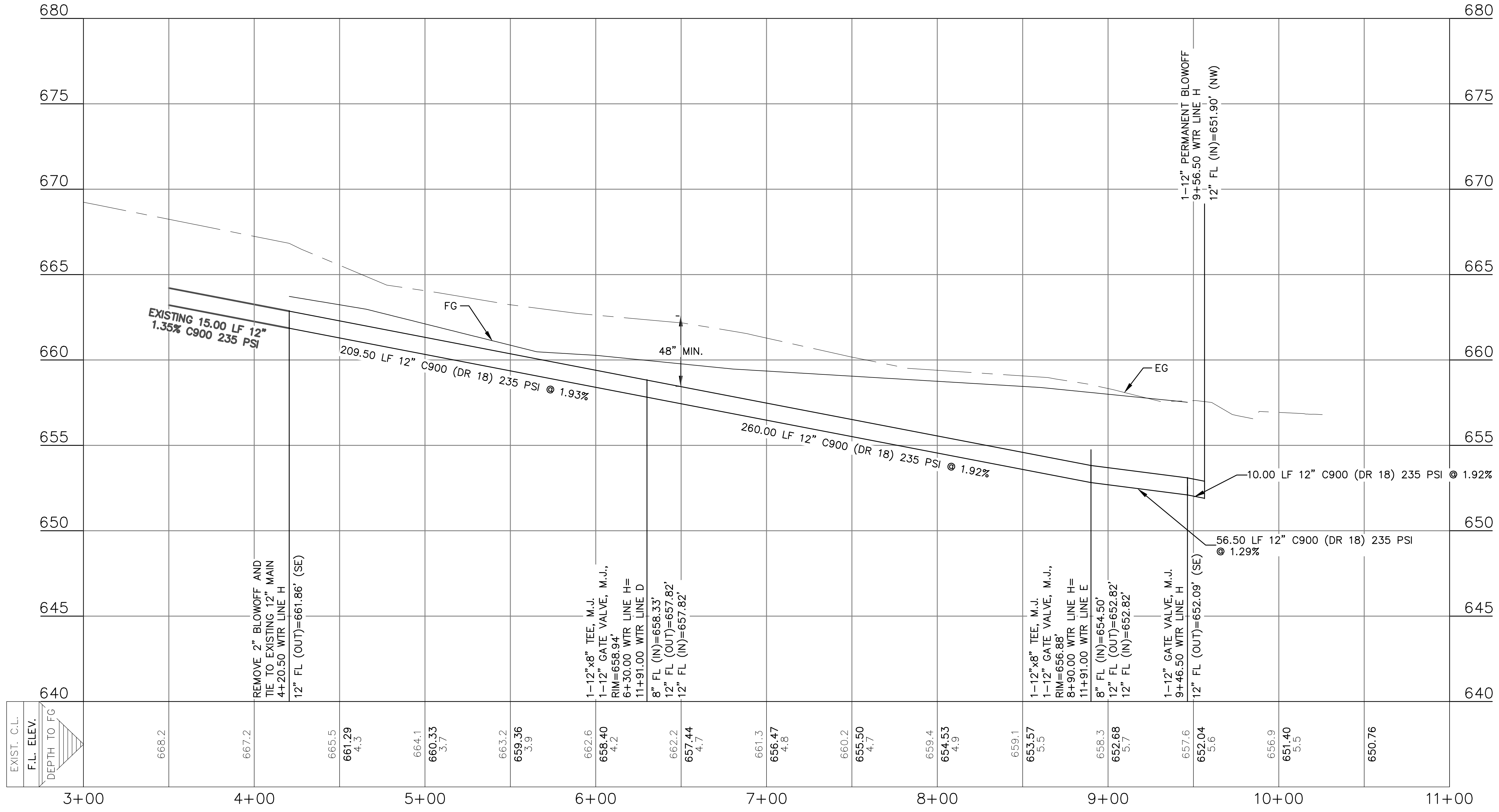
— —700— —	EXISTING CONTOURS
——700——	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
—W—W—	EXISTING WATER LINE
—w—w—	PROPOSED WATER LINE
≽▫——	PROPOSED WATER SERVICE
▨	UTILITY CROSSING
⊗	GATE VALVE
⧗	FIRE HYDRANT

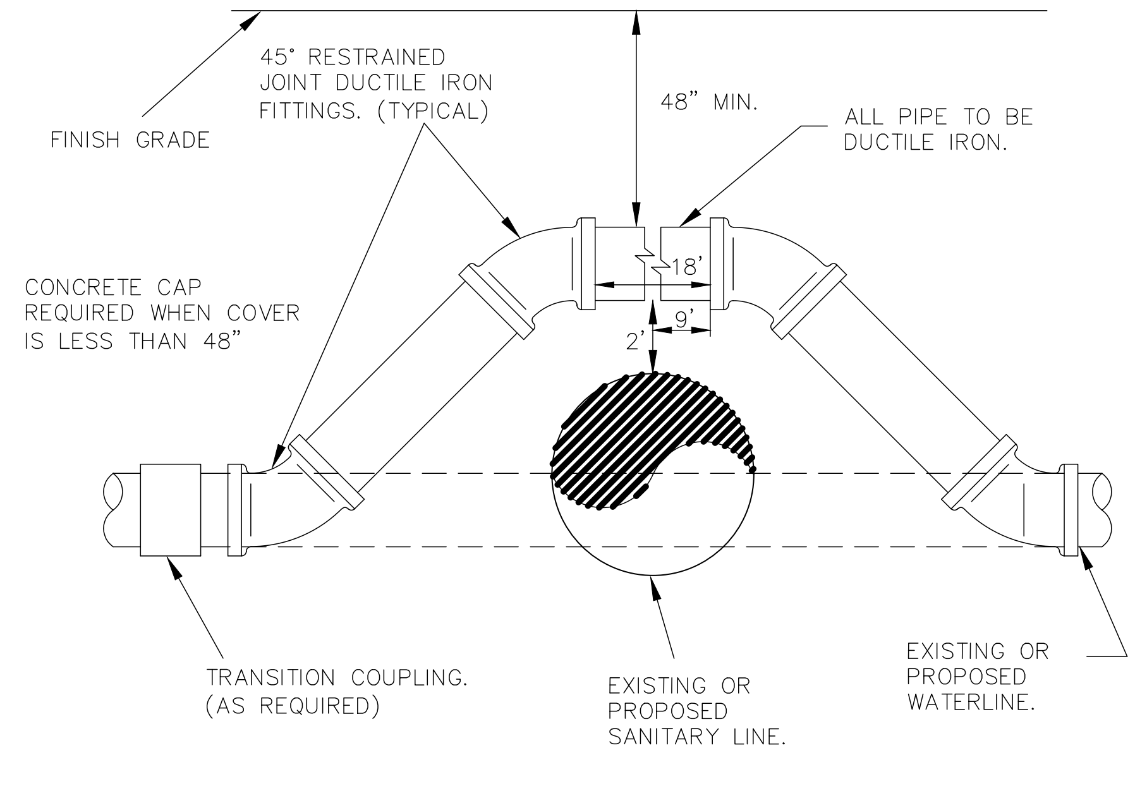
REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

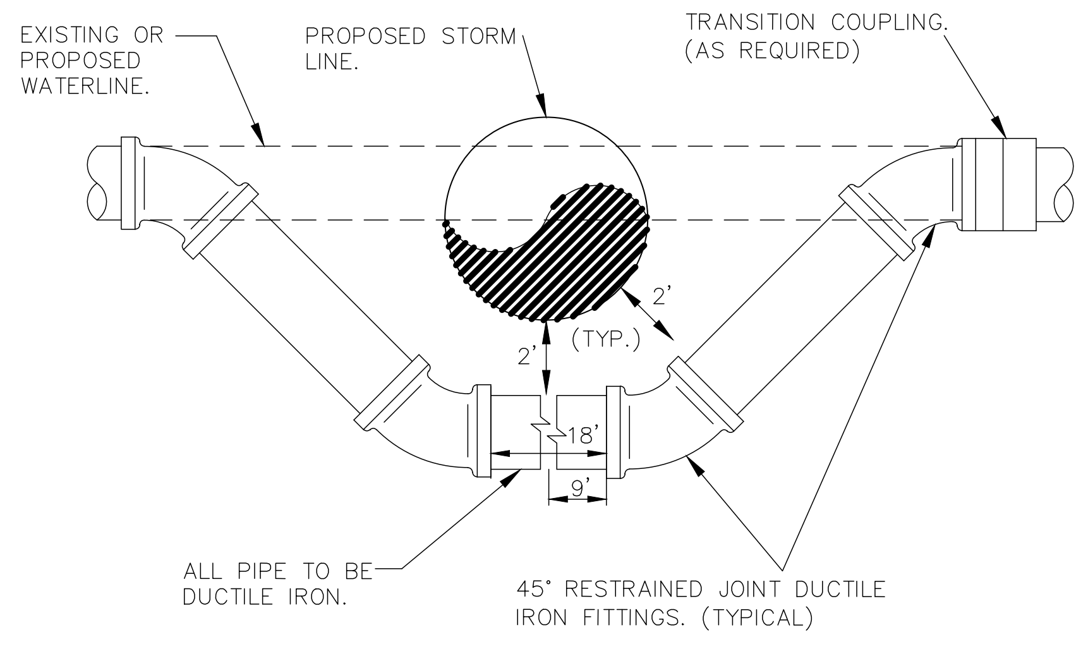

SKY RANCH UNIT 1A
FUTURE SKY RANCH UNITS
4+20.50 WTR LINE H INSTALL: REMOVE 2" BLOWOFF AND TIE TO EXISTING 12" MAIN
6+30.00 WTR LINE H = 11+91.00 WTR LINE D INSTALL: 1–12"x8" TEE, M.J. 1–12" GATE VALVE, M.J.
8+90.00 WTR LINE H = 11+91.00 WTR LINE E INSTALL: 1–12"x8" TEE, M.J. 1–12" GATE VALVE, M.J.
9+46.50 WTR LINE H INSTALL: 1–12" GATE VALVE, M.J.
9+56.50 WTR LINE H INSTALL: 1–12" PERMANENT BLOWOFF
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
210 LF 12" C900
WTR LINE H
260 LF 12" C900
57 LF 12" C900
10 LF 12" C900
TAIL TRAILS
BLOCK 3
WTR LINE D
WTR LINE E
ALTITUDE DR
HORIZON CREST
20' U.E.
15' U.E.
25'
50'
28 0.14 AC.
27 0.14 AC.
28 0.15 AC.
27 0.15 AC.
28 0.14 AC.
27 0.14 AC.
29
26
30
25

WTR LINE H
3+00 – 11+00


680
675
670
665
660
655
650
645
640
EXISTING 15.00 LF 12" 1.35% C900 235 PSI
209.50 LF 12" C900 (DR 18) 235 PSI @ 1.93%
260.00 LF 12" C900 (DR 18) 235 PSI @ 1.92%
10.00 LF 12" C900 (DR 18) 235 PSI @ 1.92%
56.50 LF 12" C900 (DR 18) 235 PSI @ 1.29%
FG
EG
48" MIN.
1–12" PERMANENT BLOWOFF 9+56.50 WTR LINE H 12" FL (IN)=651.90' (NW)
REMOVE 2" BLOWOFF AND TIE TO EXISTING 12" MAIN 4+20.50 WTR LINE H 12" FL (OUT)=661.86' (SE)
1–12"x8" TEE, M.J. 1–12" GATE VALVE, M.J., RIM=658.94' 6+30.00 WTR LINE H= 11+91.00 WTR LINE D 8" FL (IN)=658.33' 12" FL (OUT)=657.82' 12" FL (IN)=657.82'
1–12"x8" TEE, M.J. 1–12" GATE VALVE, M.J., RIM=656.88' 8+90.00 WTR LINE H= 11+91.00 WTR LINE E 8" FL (IN)=654.50' 12" FL (OUT)=652.82' 12" FL (IN)=652.82'
1–12" GATE VALVE, M.J. 9+46.50 WTR LINE H 12" FL (OUT)=652.09' (SE)
EXIST. C.L.
F.L. ELEV.
DEPTH TO FG
668.2
667.2
665.5 661.29 4.3
664.1 660.33 3.7
663.2 659.36 3.9
662.6 658.40 4.2
662.2 657.44 4.7
661.3 656.47 4.8
660.2 655.50 4.7
659.4 654.53 4.9
659.1 653.57 5.5
658.3 652.68 5.7
657.6 652.04 5.6
656.9 651.40 5.5
650.76
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00


FINISH GRADE
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)
48" MIN.
ALL PIPE TO BE DUCTILE IRON.
CONCRETE CAP REQUIRED WHEN COVER IS LESS THAN 48"
18'
9'
2'
TRANSITION COUPLING. (AS REQUIRED)
EXISTING OR PROPOSED SANITARY LINE.
EXISTING OR PROPOSED WATERLINE.

Ⓐ WATERLINE ADJUSTMENT DETAIL
N.T.S


EXISTING OR PROPOSED WATERLINE.
PROPOSED STORM LINE.
TRANSITION COUPLING. (AS REQUIRED)
2'
(TYP.)
2'
18'
9'
ALL PIPE TO BE DUCTILE IRON.
45° RESTRAINED JOINT DUCTILE IRON FITTINGS. (TYPICAL)

Ⓑ WATERLINE ADJUSTMENT DETAIL
N.T.S

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

WATER LINE H PLAN & PROFILE

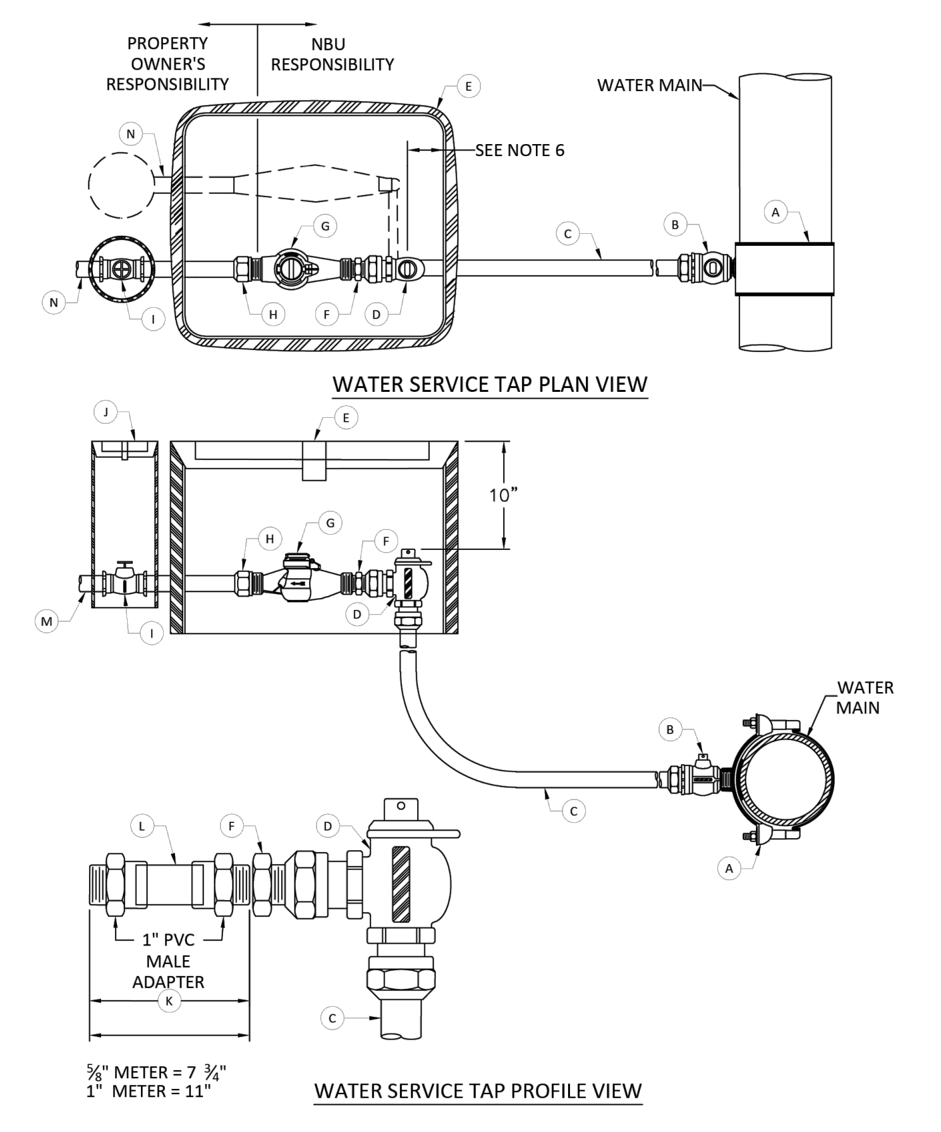
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C6.2

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_WATER LINE H 1B P&P.dwg User: williaml Jul 24, 2025 – 8:57am



WATER SERVICE TAP PLAN VIEW

⅝" METER = 7 ¾"
1" METER = 11"

WATER SERVICE TAP PROFILE VIEW

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: STANDARD INSTALLATION DETAIL FOR 5/8" & 1" METER			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 2	DRAWING NO. 202

MATERIALS LIST:

A. 1" SERVICE CLAMP

B. 1" CORPORATION STOP

C. 1" TYPE "K" COPPER WATER SERVICE PIPE

D. 1" X 1" ANGLE METER

E. METER BOX AND LID - PER SPL W-11.0

MATERIALS TO BE INSTALLED BY PLUMBER:

F. BRASS METER BUSHING - SIZE AS REQUIRED TO CONNECT ANGLE METER STOP TO METER. A 1" X 3/4" METER BUSHING IS REQUIRED AT THE ANGLE STOP FOR ALL 5/8" METERS.

G. WATER METER PURCHASED FROM NBU

H. BRASS WATER METER COUPLING MAKE IPT x SWIVEL COUPLING NUT

I. PROPERTY OWNER'S CUT OFF VALVE - 1" BRASS GATE VALVE

J. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID - NDS #D109-G

K. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)

L. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

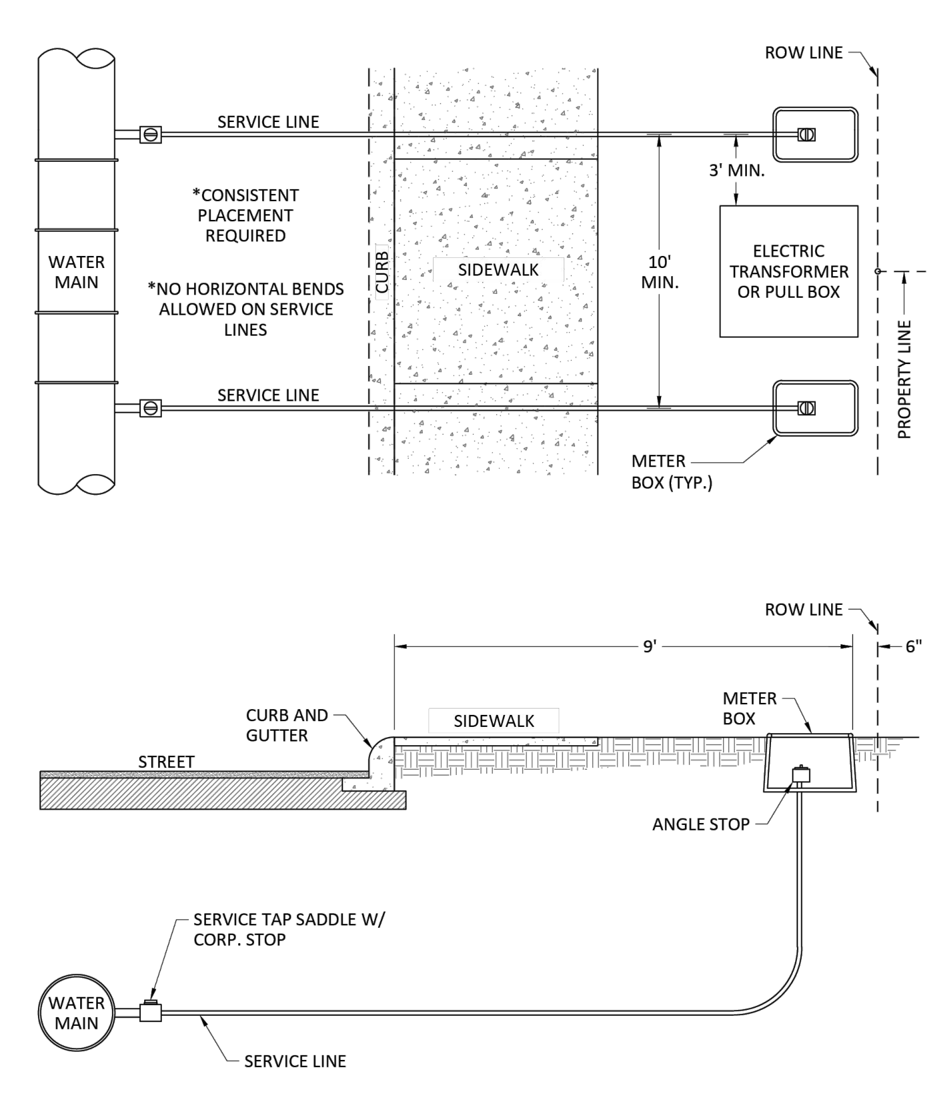
M. 1" PIPE MEETING CITY OF NEW BRAUNFELS PLUMBING CODE REQUIREMENTS

N. FUTURE IRRIGATION CONNECTION (SEE NOTE 8)

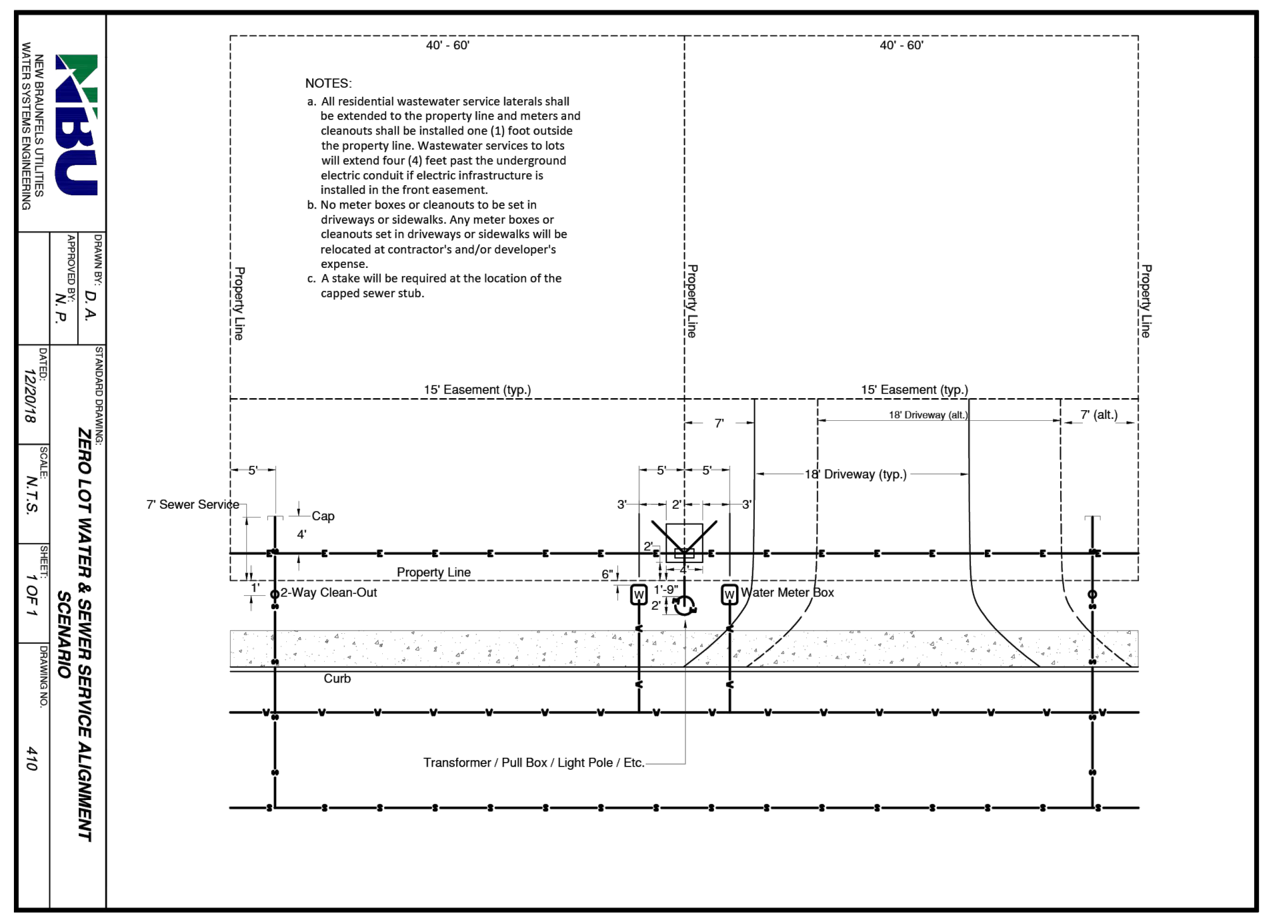
NOTES:

1. SERVICE PIPE SHALL BE ANNEALED SEAMLESS TYPE "K" COPPER TUBING MEETING THE CURRENT ASTM B88 STANDARD WITH NO SWEAT OR SOLDERED JOINTS. PIPE SHALL BE PLACED IN A STRAIGHT HORIZONTAL ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH.
2. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
3. TOP OF BOXES MUST BE 2" ABOVE GROUND OR FLUSH WITH PAVEMENT SURFACE.
4. BEDDING AND BACKFILL FOR ALL PIPING, TUBING, AND APPURTENANCES SHALL BE PER NBU SPECIFICATIONS.
5. METER BOX LOCATIONS SHALL BE AS PER DETAILS 402 THROUGH 409, UTILITY LAYOUTS. METER BOXES SHALL NOT BE PLACED IN SIDEWALKS, DRIVEWAYS, OR VEHICULAR TRAFFIC AREAS.
6. ANGLE STOP TO BE PLACED A MAXIMUM OF 4" FROM BACK OF BOX THAT FACES CURB. TOP OF ANGLE STOP SHOULD BE A MINIMUM OF 10" FROM THE TOP OF METER BOX.
7. METER SIZES TO BE SHOWN ON PLANS.
8. APPROPRIATE BACKFLOW PREVENTION ASSEMBLY REQUIRED AS DETERMINED BY NBU WATER PROTECTION SPECIALIST. BACKFLOW PREVENTION ASSEMBLY SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE NBU IRRIGATION WATER METER WITH NO TEES OR CONNECTION BETWEEN THE TWO. CONTACT A WATER PROTECTION SPECIALIST AT BACKFLOW@NBUTEXAS.COM.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: STANDARD INSTALLATION DETAIL FOR 5/8" & 1" METER			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 2 OF 2	DRAWING NO. 202



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: SERVICE TAP: METER BOX PLACEMENT BETWEEN: SIDEWALK AND PROPERTY LINE			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 244



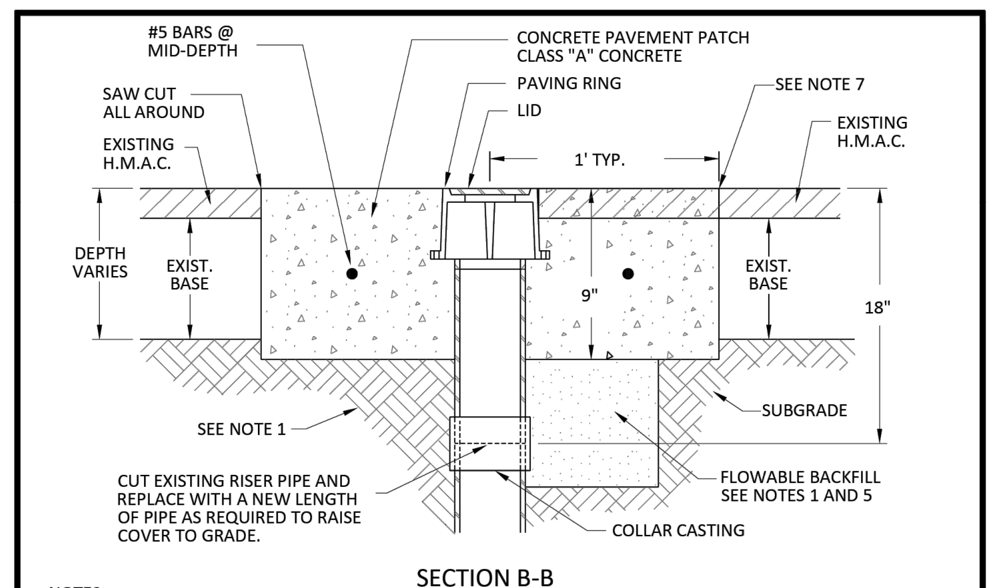
NOTES:

a. All residential wastewater service laterals shall be extended to the property line and meters and cleanouts shall be installed one (1) foot outside the property line. Wastewater services to lots will extend four (4) feet past the underground electric conduit if electric infrastructure is installed in the front easement.
b. No meter boxes or cleanouts to be set in driveways or sidewalks. Any meter boxes or cleanouts set in driveways or sidewalks will be relocated at contractor's and/or developer's expense.
c. A stake will be required at the location of the capped sewer stub.

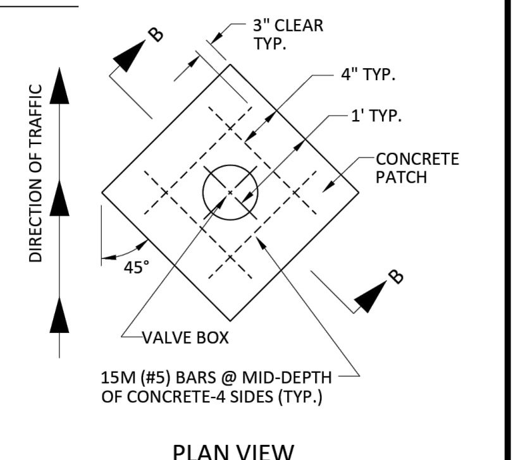
NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING
DRAWN BY: D. A.
APPROVED BY: N. P.
STANDARD DRAWING: ZERO LOT WATER & SEWER SERVICE ALIGNMENT SCENARIO
DATED: 12/20/18
SCALE: N.T.S.
SHEET: 1 OF 1
DRAWING NO. 410

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
9. 1–INCH SERVICE LINES SHALL BE CONSTRUCTED OF TYPE K ANNEALED SEAMLESS COPPER TUBING MEETING THE REQUIREMENTS OF ASTM B88. AWWA C901 SDR9 COPPER TUBING SIZE HDPE MAY BE USED FOR 1–INCH SERVICE LINES WITH SPECIAL APPROVAL FROM NBU ONLY.
10. 2–INCH SERVICE LINES SHALL BE AWWA C901 SDR9 CTS HDPE. ALL COPPER AND HDPE TUBING MUST BE NSF 61 CERTIFIED.


#5 BARS @ MID-DEPTH
CONCRETE PAVEMENT PATCH CLASS "A" CONCRETE
PAVING RING
LID
SAW CUT ALL AROUND
SEE NOTE 7
EXISTING H.M.A.C.
EXISTING H.M.A.C.
1' TYP.
DEPTH VARIES
EXIST. BASE
9"
EXIST. BASE
18"
SUBGRADE
SEE NOTE 1
CUT EXISTING RISER PIPE AND REPLACE WITH A NEW LENGTH OF PIPE AS REQUIRED TO RAISE COVER TO GRADE.
FLOWABLE BACKFILL SEE NOTES 1 AND 5
COLLAR CASTING

SECTION B-B

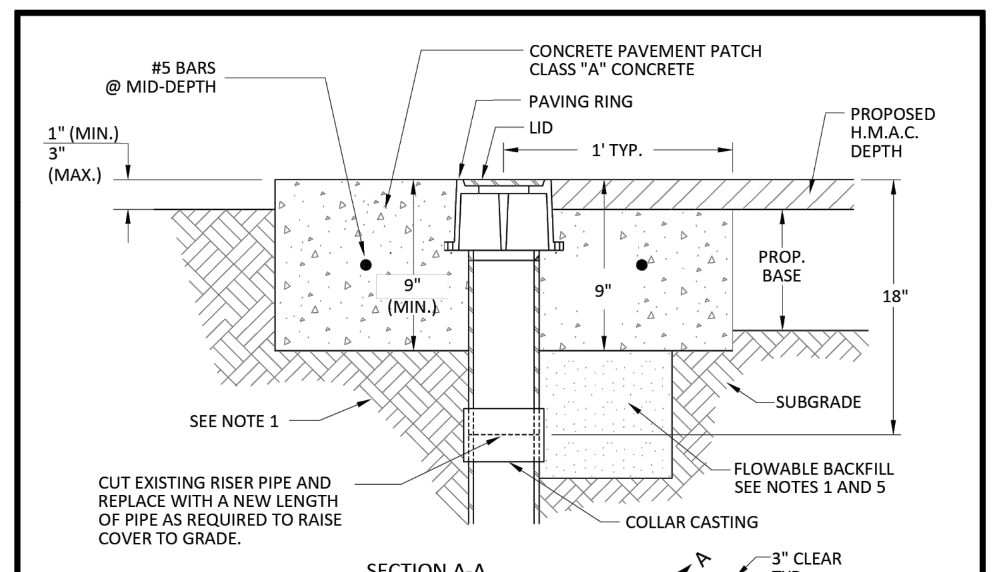


PLAN VIEW

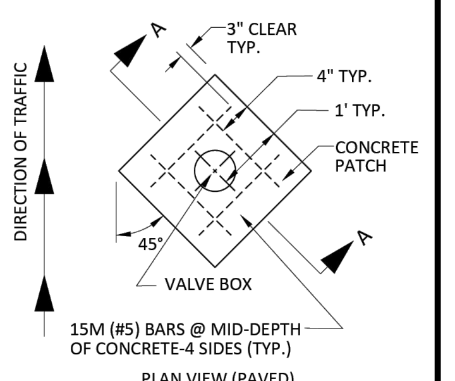
NOTES:

1. SUBGRADE SHALL BE COMPACTED AS PER SPECIFICATIONS.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
4. REMOVE EXISTING RISER PIPE DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A COLLAR CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS.
7. CONCRETE DIAMOND SHALL BE INSTALLED BELOW HMAC IN CITY OF NEW BRAUNFELS ROW.

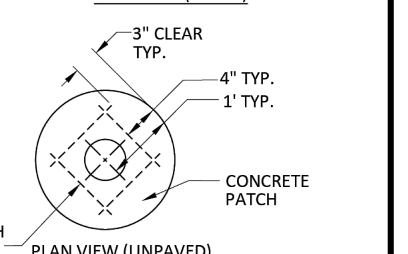
NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: WATER VALVE BOX ADJUSTMENT TO GRADE W/FULL DEPTH CONCRETE FOR EXISTING STREETS			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 232


#5 BARS @ MID-DEPTH
CONCRETE PAVEMENT PATCH CLASS "A" CONCRETE
PAVING RING
LID
PROPOSED H.M.A.C. DEPTH
1" (MIN.)
3" (MAX.)
1' TYP.
9" (MIN.)
9"
PROP. BASE
18"
SUBGRADE
SEE NOTE 1
CUT EXISTING RISER PIPE AND REPLACE WITH A NEW LENGTH OF PIPE AS REQUIRED TO RAISE COVER TO GRADE.
FLOWABLE BACKFILL SEE NOTES 1 AND 5
COLLAR CASTING

SECTION A-A



PLAN VIEW (PAVED)

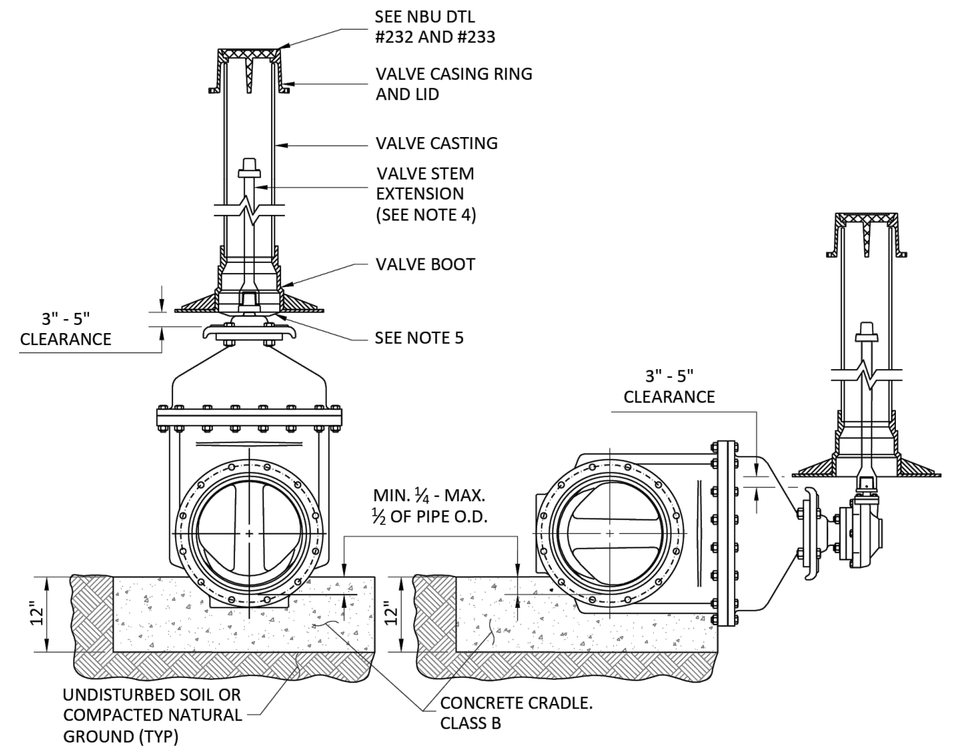


PLAN VIEW (UNPAVED)

NOTES:

1. SUBGRADE SHALL BE COMPACTED AS PER SPECIFICATIONS.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
4. REMOVE EXISTING RISER PIPE DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A COLLAR CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS.
7. WHERE VALVE IS INSTALLED IN UNPAVED AREA, CONTRACTOR MAY USE CIRCULAR FORM WITH REINFORCING STEEL.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: WATER VALVE BOX ADJUSTMENT TO GRADE FOR NEW STREETS AND UNPAVED AREAS			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 233


SEE NBU DTL #232 AND #233
VALVE CASING RING AND LID
VALVE CASTING
VALVE STEM EXTENSION (SEE NOTE 4)
VALVE BOOT
3" - 5" CLEARANCE
SEE NOTE 5
3" - 5" CLEARANCE
MIN. ¼ - MAX. ½ OF PIPE O.D.
12"
12"
UNDISTURBED SOIL OR COMPACTED NATURAL GROUND (TYP)
CONCRETE CRADLE. CLASS B

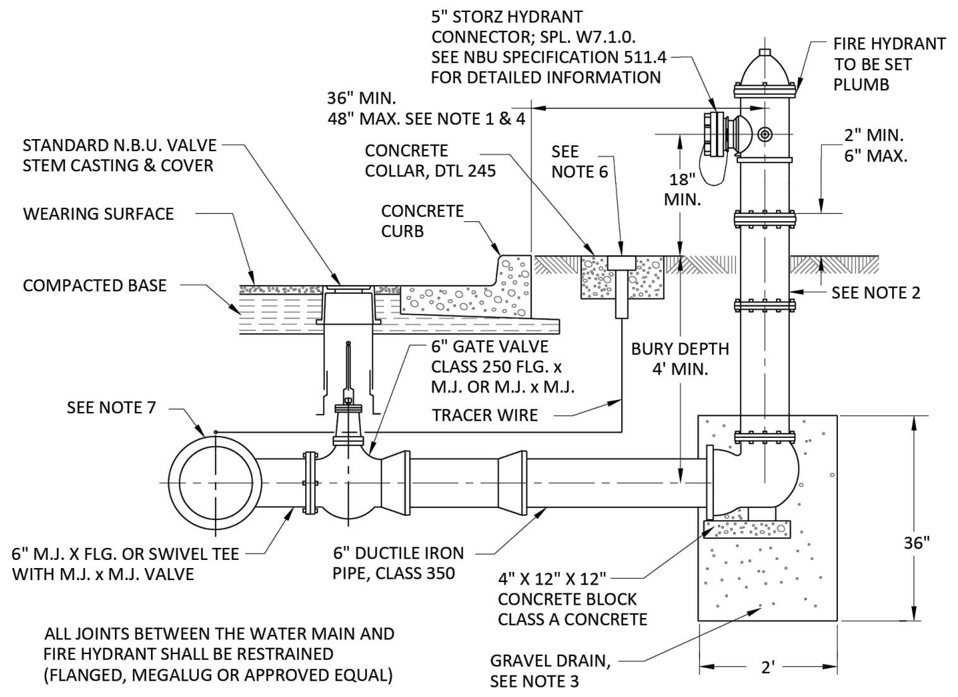
VERTICAL VALVE

HORIZONTAL VALVE
USE ONLY WHEN SPECIFIED IN DRAWINGS AND WITH NBU STAFF APPROVAL

NOTES:

1. WELD SOCKET 2 ½" X 2" DEEP TO 1" SCH, 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT. [SCH.80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.
5. TRUMBULL VALVE BOX ALIGNMENT DEVICE OR APPROVED EQUAL.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: TYPICAL GATE VALVE			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 230

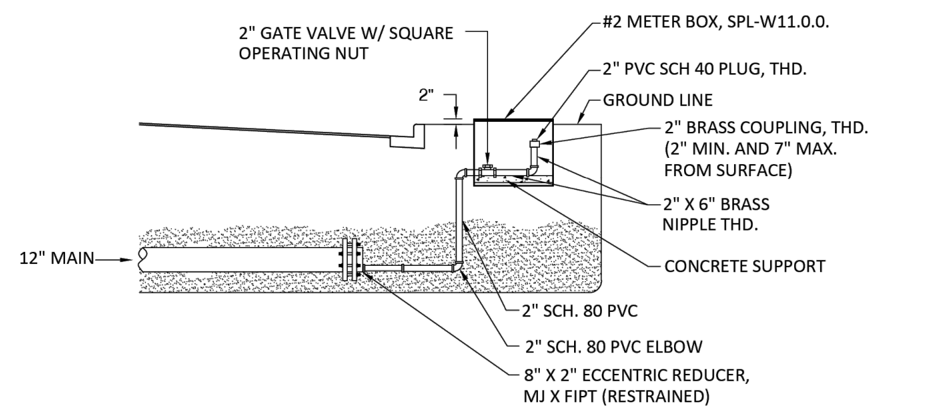

5" STORZ HYDRANT CONNECTOR; SPL. W7.1.0. SEE NBU SPECIFICATION 511.4 FOR DETAILED INFORMATION
FIRE HYDRANT TO BE SET PLUMB
36" MIN. 48" MAX. SEE NOTE 1 & 4
STANDARD N.B.U. VALVE STEM CASTING & COVER
CONCRETE COLLAR, DTL 245
SEE NOTE 6
18" MIN.
2" MIN. 6" MAX.
WEARING SURFACE
CONCRETE CURB
COMPACTED BASE
SEE NOTE 2
6" GATE VALVE CLASS 250 FLG. x M.J. OR M.J. x M.J.
BURY DEPTH 4' MIN.
SEE NOTE 7
TRACER WIRE
36"
6" M.J. X FLG. OR SWIVEL TEE WITH M.J. x M.J. VALVE
6" DUCTILE IRON PIPE, CLASS 350
4" X 12" X 12" CONCRETE BLOCK CLASS A CONCRETE
GRAVEL DRAIN, SEE NOTE 3
2'

ALL JOINTS BETWEEN THE WATER MAIN AND FIRE HYDRANT SHALL BE RESTRAINED (FLANGED, MEGALUG OR APPROVED EQUAL)

NOTES:

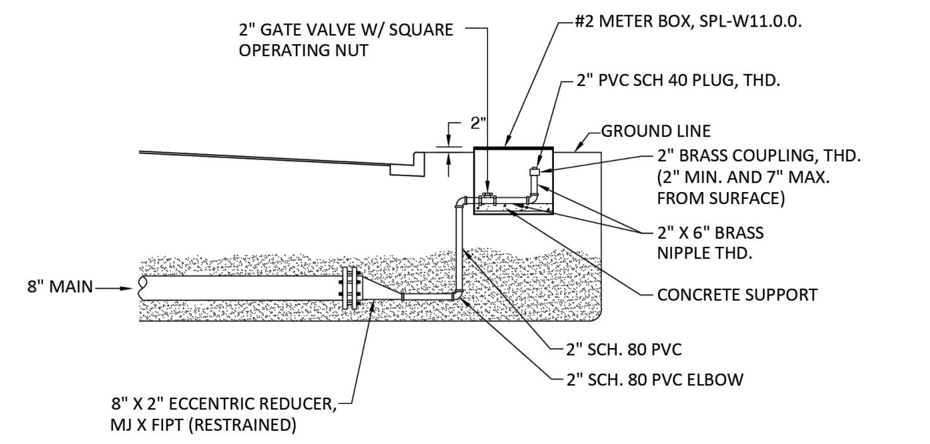
1. DIMENSIONS SHOWN ARE APPLICABLE FOR HYDRANTS INSTALLED BETWEEN CURB AND SIDEWALK. WHERE SIDEWALK ABUTS CURB, IN PUBLIC OR COMMERCIAL AREAS, THE OFFSET FROM BACK OF CURB SHALL BE 6' TO 9'. HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK AREAS. SEE NEW BRAUNFELS UTILITIES STANDARD SPECIFICATIONS FOR LOCATION OF HYDRANT.
2. FOR BURY DEPTHS GREATER THAN 5', ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT. NO MORE THAN ONE EXTENSION IS PERMITTED.
3. CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12" AND EXTEND AT LEAST 12" ABOVE THE OUTLET. DO NOT BLOCK DRAIN HOLES.
4. PROVIDE MINIMUM CLEARANCE TO OBSTRUCTIONS AROUND FIRE HYDRANT PER NBU STANDARD DETAIL 242.
5. FIRE HYDRANTS SHALL MEET THE REQUIREMENTS OF NBU SPL W7.0.0.
6. TEST STATION SHALL MEET THE REQUIREMENTS OF NBU SPL W18.1.0. MAX DISTANCE BETWEEN TEST KITS SHALL BE 600 LF. CONCRETE COLLAR SHALL HAVE 1' MINIMUM CLEARANCE TO FIRE HYDRANT ASSEMBLY.
7. PROVIDE THRUST RESTRAINT ON WATER MAIN IN BOTH DIRECTIONS FROM TEE. RESTRAINT LENGTH SHALL BE PER THRUST RESTRAINT CALCULATIONS WITH SAFETY FACTOR NOT LESS THAN 1.5.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: STANDARD FIRE HYDRANT INSTALLATION WITH 5" STORZ CONNECTOR			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 240


2" GATE VALVE W/ SQUARE OPERATING NUT
#2 METER BOX, SPL-W11.0.0.
2" PVC SCH 40 PLUG, THD.
2"
GROUND LINE
2" BRASS COUPLING, THD. (2" MIN. AND 7" MAX. FROM SURFACE)
2" X 6" BRASS NIPPLE THD.
12" MAIN
CONCRETE SUPPORT
2" SCH. 80 PVC
2" SCH. 80 PVC ELBOW
8" X 2" ECCENTRIC REDUCER, MJ X FIPT (RESTRAINED)

ELEVATION

2" BLOW OFF ASSEMBLY
ON 12" P.V.C. OR D.I. MAINS


2" GATE VALVE W/ SQUARE OPERATING NUT
#2 METER BOX, SPL-W11.0.0.
2" PVC SCH 40 PLUG, THD.
2"
GROUND LINE
2" BRASS COUPLING, THD. (2" MIN. AND 7" MAX. FROM SURFACE)
2" X 6" BRASS NIPPLE THD.
8" MAIN
CONCRETE SUPPORT
2" SCH. 80 PVC
2" SCH. 80 PVC ELBOW
8" X 2" ECCENTRIC REDUCER, MJ X FIPT (RESTRAINED)

ELEVATION

2" BLOW OFF ASSEMBLY
ON 8" P.V.C. OR D.I. MAINS

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: EWL APPROVED BY: A. WILLARD	STANDARD DRAWING: 2" BLOW OFF ASSEMBLY ON 8" & 12" P.V.C. OR D.I. MAINS			
	DRAWING DATE: 2/1/24	UPDATED:	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 251

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
MATTHEW T. ABRAHAMSEN
154638
LICENSED PROFESSIONAL ENGINEER
Matthew T. Abrahamsen
07/24/25

WATER DETAILS

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C6.3

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_WATER DETAILS 1B.dwg User: williaml Jul 24, 2025 – 8:57am

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830-629-8400
Time Warner Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
Eric White PM	210-283-1706
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR
CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005,, CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING 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 CONTRACTORS 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 EXCAVATIONS.

UTILITY TRENCH COMPACTION

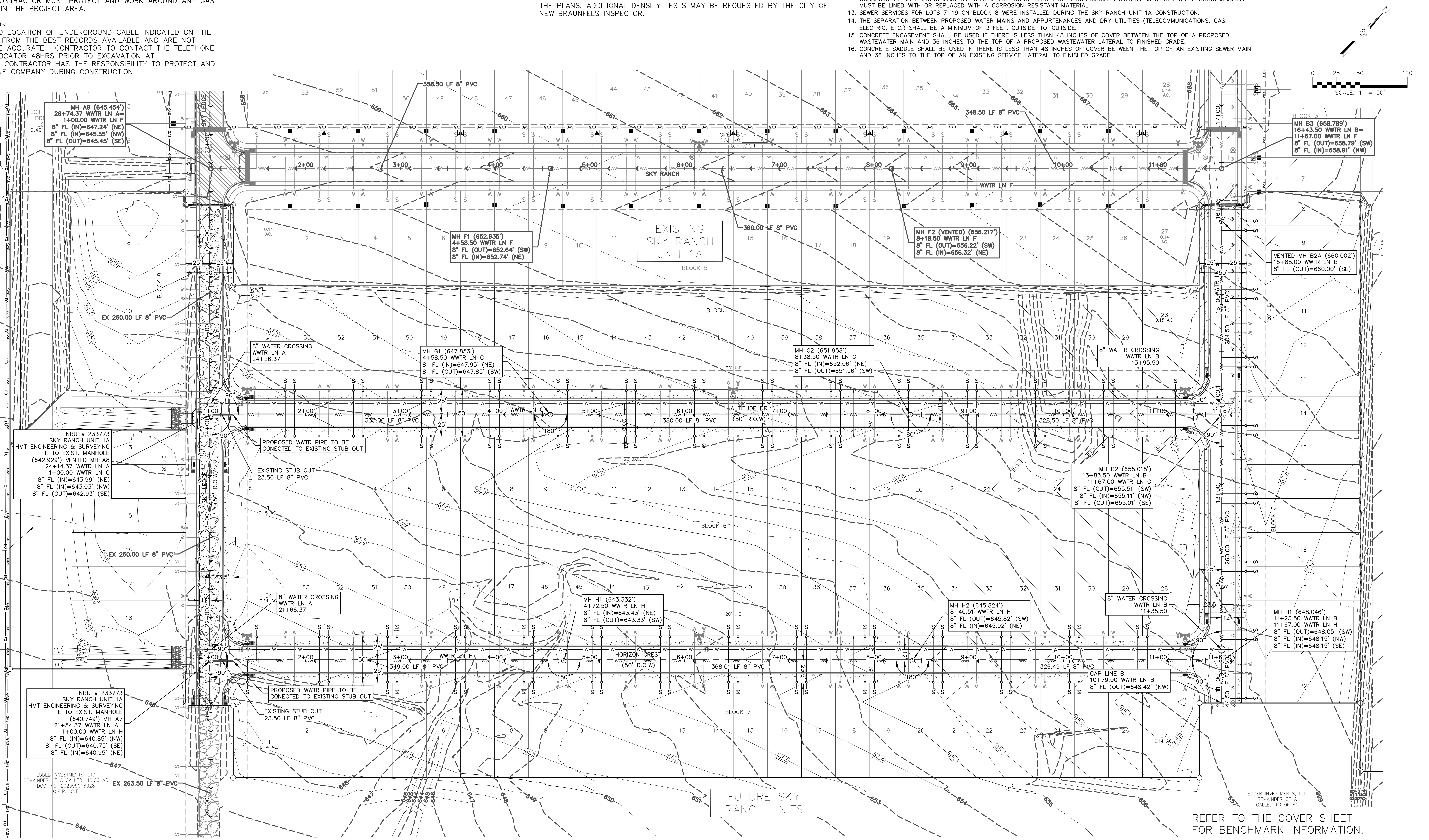
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER-MOST PROJECTION OF THE MAIN SHALL BE 48 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7-19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE-TO-OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.

LEGEND

— 700 —	EXISTING CONTOURS
—[700]—	EXISTING CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— WW — WW —	EXISTING WASTEWATER LINE
Ⓢ	PROPOSED WASTEWATER MANHOLE
— WW — WW —	PROPOSED WASTEWATER LINE
—o S	PROPOSED WASTEWATER SERVICE
▨	UTILITY CROSSING



REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

WASTEWATER STRUCTURE TABLE

PIPE SIZE	PIPE LENGTH	48" MANHOLE	6" LATERAL	ADJUSTED MANHOLES	VENTED MANHOLES
8"	2,596 LF	6	135	2	1

DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

WASTEWATER OVERALL

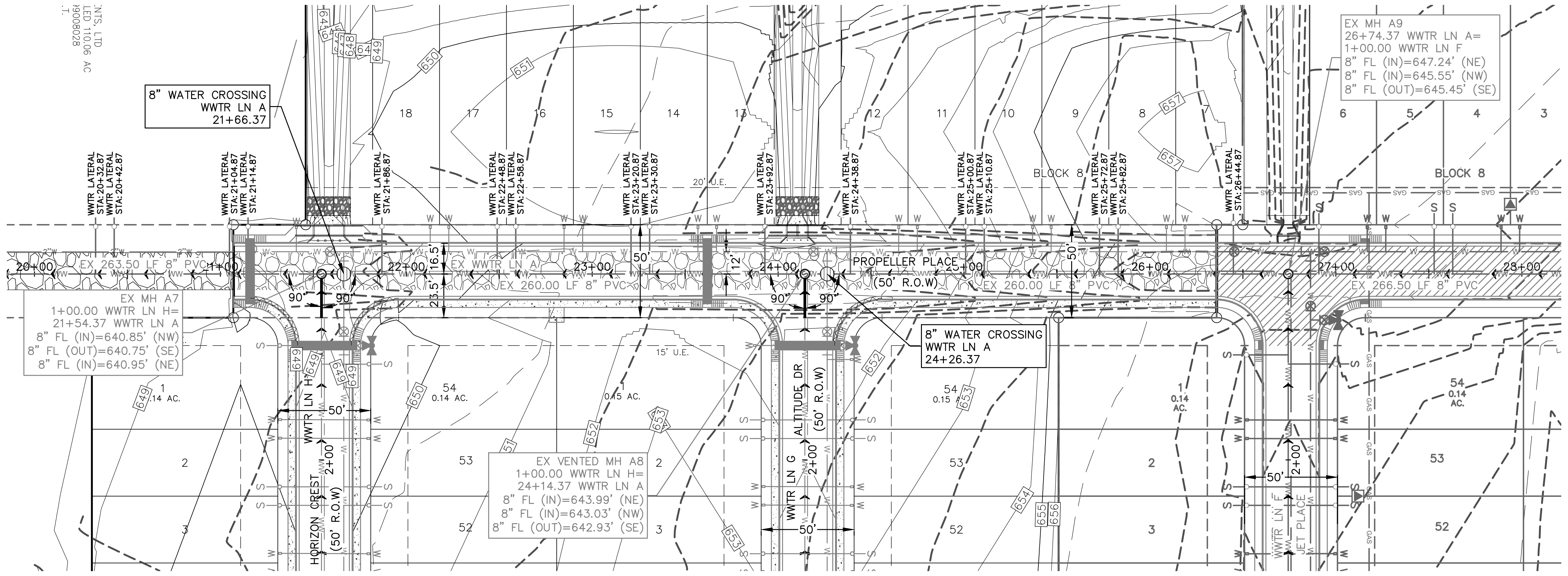
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

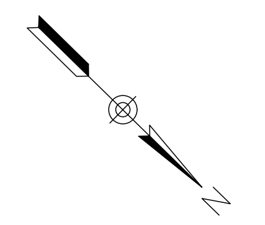
NO.	REVISION DESCRIPTION	REVISION DATE

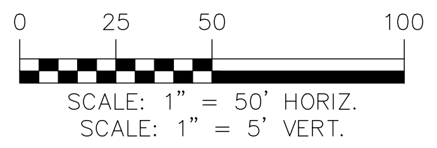
DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C7.0

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\Cd\337.050_WWTR 1B.dwg User: williamsl Jul 24, 2025 - 8:59am







LEGEND

700	EXISTING CONTOURS
700	EXISTING CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
WW WW	EXISTING WASTEWATER LINE
⊚	PROPOSED WASTEWATER MANHOLE
WW WW	PROPOSED WASTEWATER LINE
S	PROPOSED WASTEWATER SERVICE
▨	UTILITY CROSSING

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 CONTRACTORS 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 EXCAVATIONS.

DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

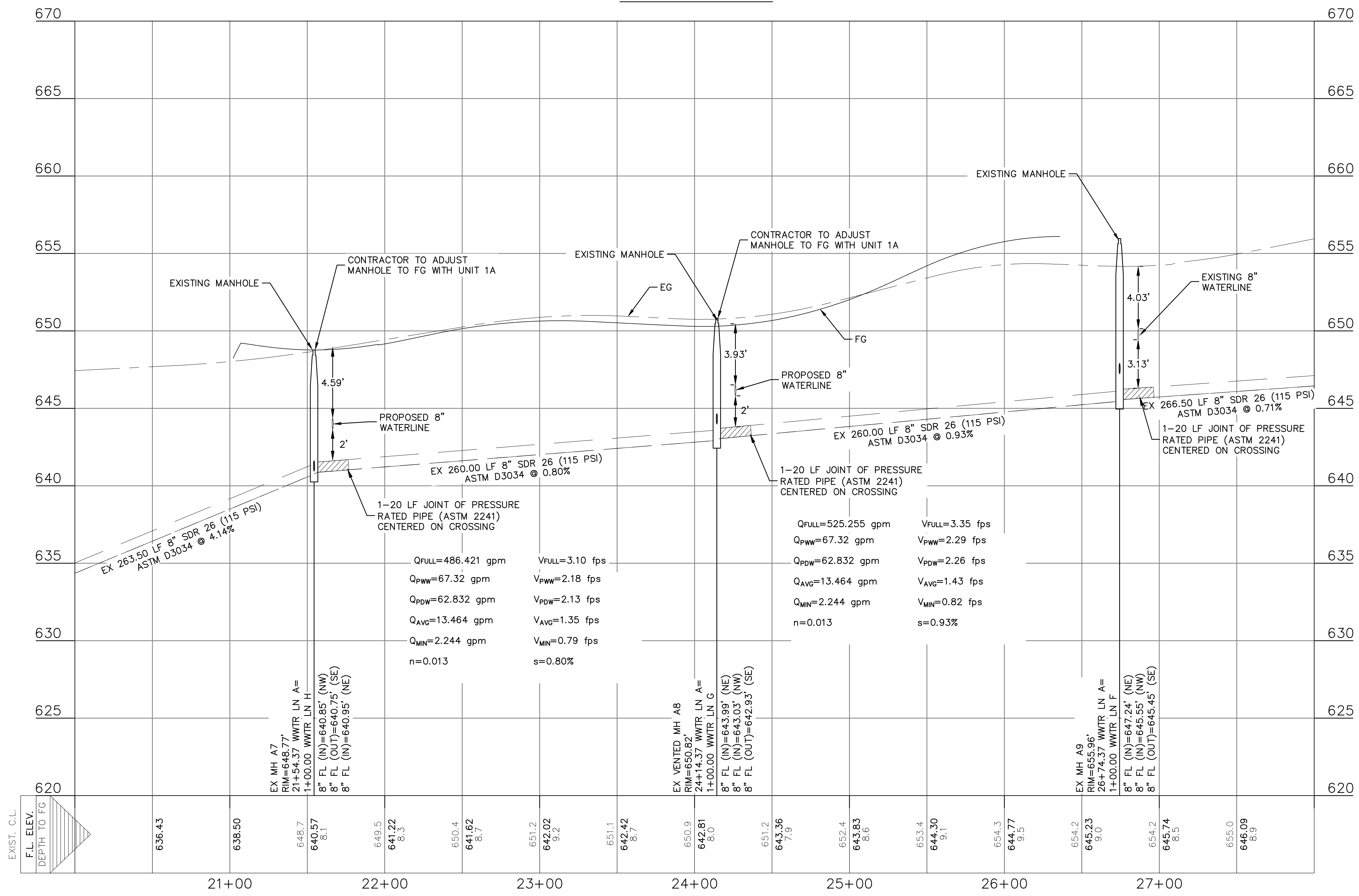
UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER-MOST PROJECTION OF THE MAIN SHALL BE 48 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7-19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE-TO-OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.

EX WWTR LN A
20+00 – 28+00



REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

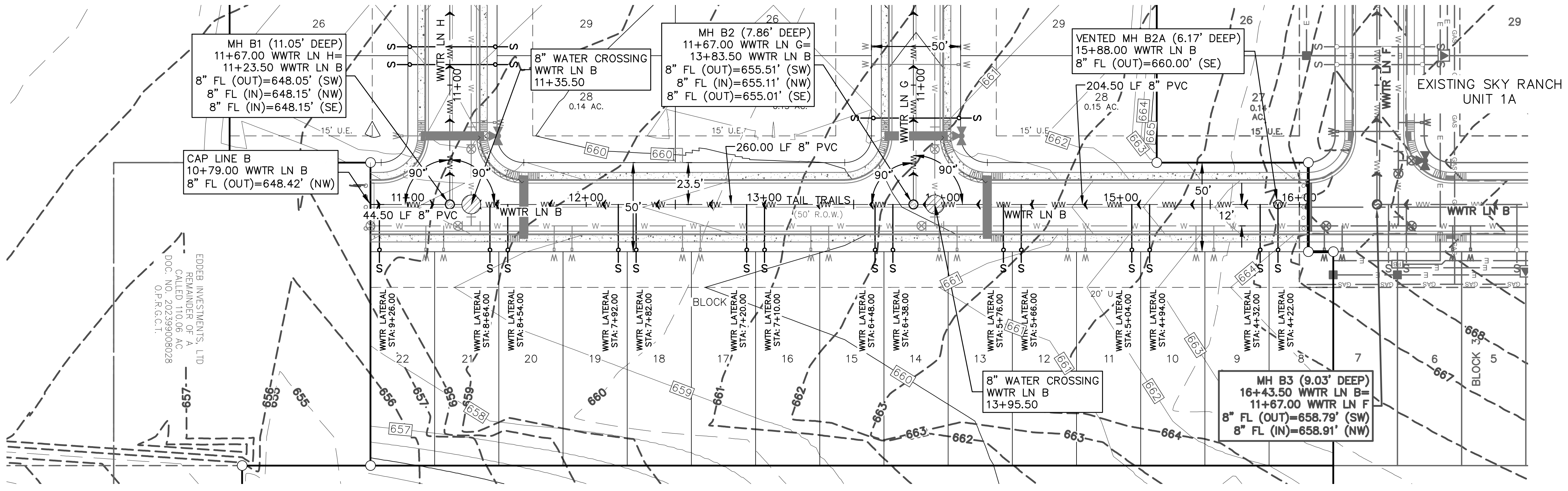
EXISTING WASTEWATER LINE A PLAN & PROFILE

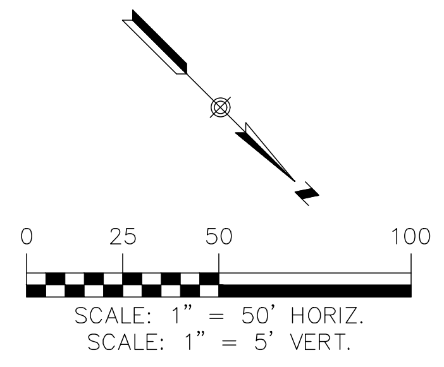
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JULY 2025**
DRAWN BY: **RR**
DESIGNED BY: **MTA**
REVIEWED BY: **MTA**
HMT PROJECT NO.: **337.050**

SHEET
C7.1





LEGEND

— — 700 — —	EXISTING CONTOURS
——700——	EXISTING CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
—— WW —— WW ——	EXISTING WASTEWATER LINE
Ⓢ	PROPOSED WASTEWATER MANHOLE
—— WW —— WW ——	PROPOSED WASTEWATER LINE
——○	PROPOSED WASTEWATER SERVICE
▨	UTILITY CROSSING

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 CONTRACTORS 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 EXCAVATIONS.

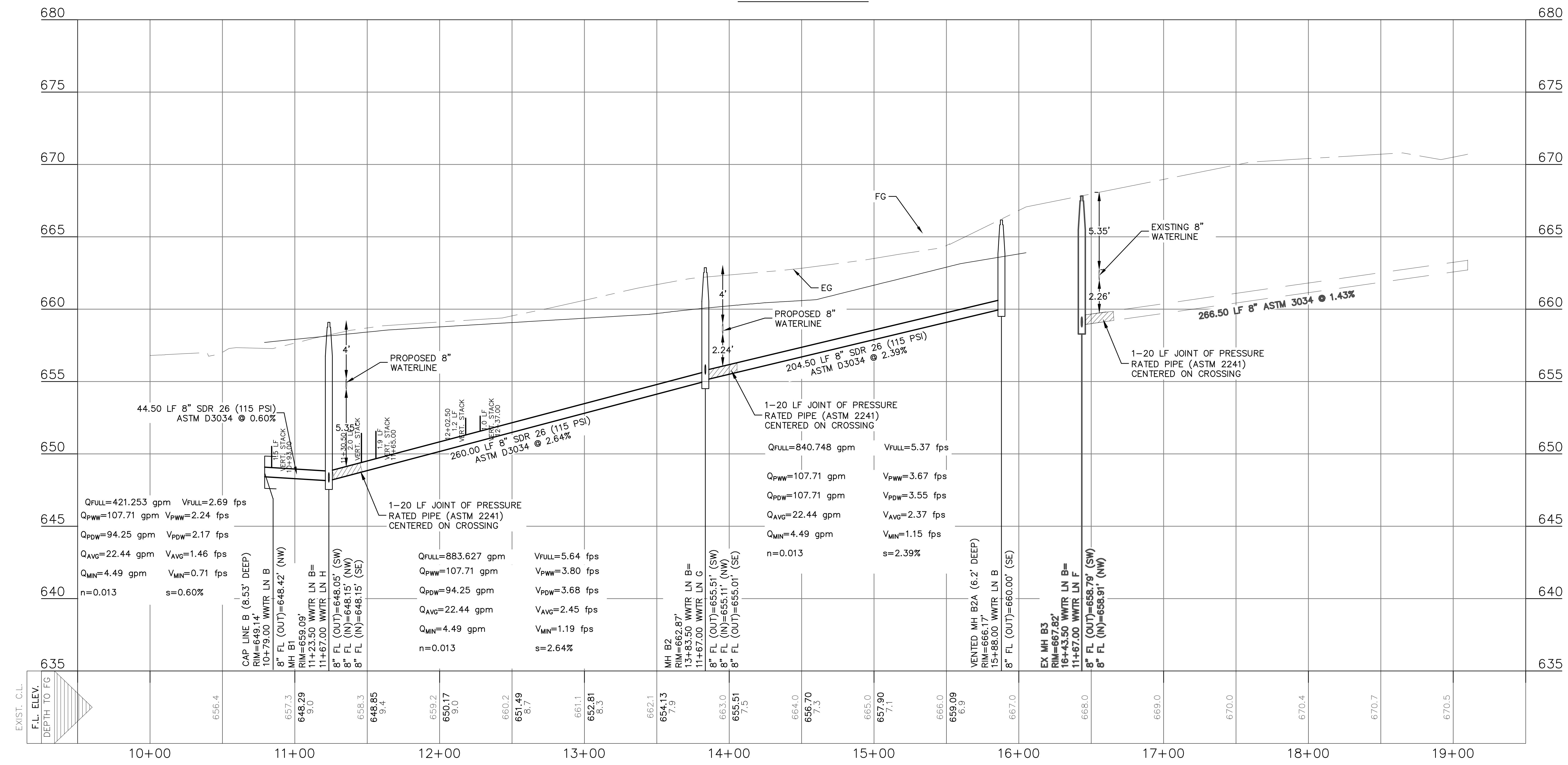
DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER-MOST PROJECTION OF THE MAIN SHALL BE 48 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7-19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE-TO-OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.

WWTR LN B
9+50 – 19+50



Q_{FULL}=421.253 gpm V_{FULL}=2.69 fps
Q_{PWW}=107.71 gpm V_{PWW}=2.24 fps
Q_{PDW}=94.25 gpm V_{PDW}=2.17 fps
Q_{AVG}=22.44 gpm V_{AVG}=1.46 fps
Q_{MIN}=4.49 gpm V_{MIN}=0.71 fps
n=0.013 s=0.60%

Q_{FULL}=883.627 gpm V_{FULL}=5.64 fps
Q_{PWW}=107.71 gpm V_{PWW}=3.80 fps
Q_{PDW}=94.25 gpm V_{PDW}=3.68 fps
Q_{AVG}=22.44 gpm V_{AVG}=2.45 fps
Q_{MIN}=4.49 gpm V_{MIN}=1.19 fps
n=0.013 s=2.64%

Q_{FULL}=840.748 gpm V_{FULL}=5.37 fps
Q_{PWW}=107.71 gpm V_{PWW}=3.67 fps
Q_{PDW}=107.71 gpm V_{PDW}=3.55 fps
Q_{AVG}=22.44 gpm V_{AVG}=2.37 fps
Q_{MIN}=4.49 gpm V_{MIN}=1.15 fps
n=0.013 s=2.39%

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen

07/24/25

WASTEWATER LINE B
PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	DATE	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C7.2

Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_WWTR_LN B.dwg User: williaml Jul 24, 2025 - 9:28am

TRENCH EXCAVATION SAFETY PROTECTION

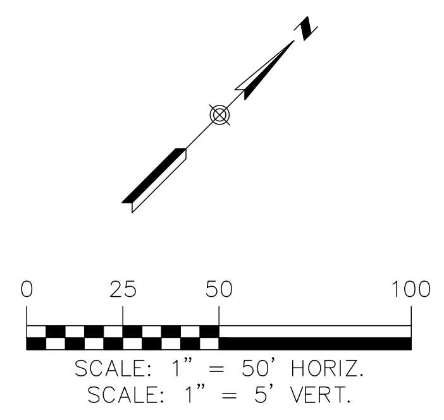
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS 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 EXCAVATIONS.

DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY TRENCH COMPACTION

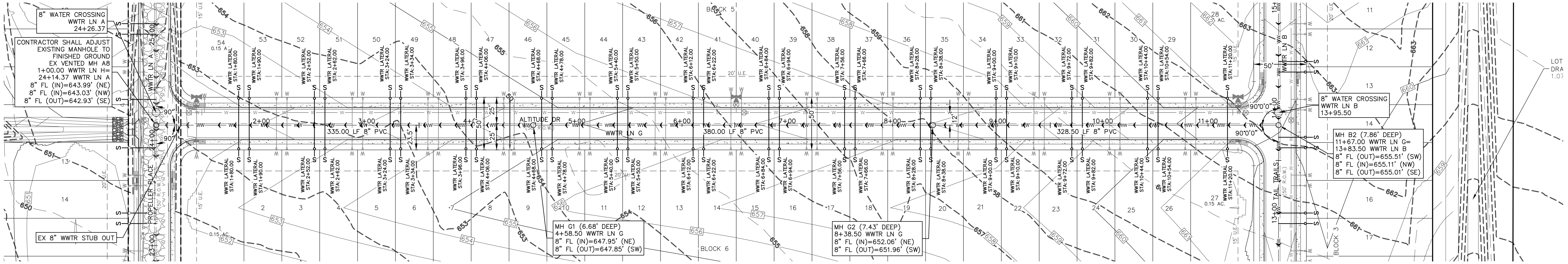
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.



SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

LEGEND

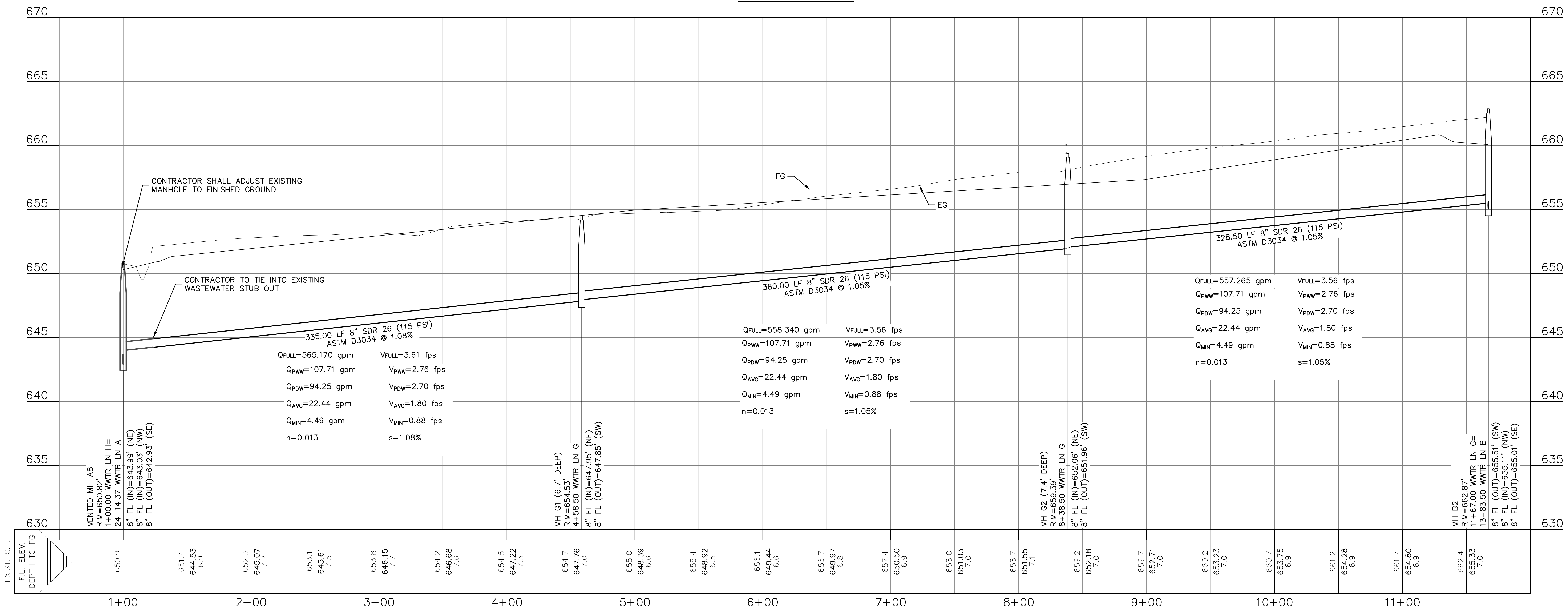
— 700 —	EXISTING CONTOURS
—▭700▭—	EXISTING CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— WW — WW —	EXISTING WASTEWATER LINE
ⓢ	PROPOSED WASTEWATER MANHOLE
— WW — WW —	PROPOSED WASTEWATER LINE
—○	PROPOSED WASTEWATER SERVICE
⊘	UTILITY CROSSING



UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER–MOST PROJECTION OF THE MAIN SHALL BE 48 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7–19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.

WWTR LN G
0+50 – 12+00



Q_{FULL}=565.170 gpm V_{FULL}=3.61 fps
Q_{PWW}=107.71 gpm V_{PWW}=2.76 fps
Q_{PDW}=94.25 gpm V_{PDW}=2.70 fps
Q_{AVG}=22.44 gpm V_{AVG}=1.80 fps
Q_{MIN}=4.49 gpm V_{MIN}=0.88 fps
n=0.013 s=1.08%

Q_{FULL}=558.340 gpm V_{FULL}=3.56 fps
Q_{PWW}=107.71 gpm V_{PWW}=2.76 fps
Q_{PDW}=94.25 gpm V_{PDW}=2.70 fps
Q_{AVG}=22.44 gpm V_{AVG}=1.80 fps
Q_{MIN}=4.49 gpm V_{MIN}=0.88 fps
n=0.013 s=1.05%

Q_{FULL}=557.265 gpm V_{FULL}=3.56 fps
Q_{PWW}=107.71 gpm V_{PWW}=2.76 fps
Q_{PDW}=94.25 gpm V_{PDW}=2.70 fps
Q_{AVG}=22.44 gpm V_{AVG}=1.80 fps
Q_{MIN}=4.49 gpm V_{MIN}=0.88 fps
n=0.013 s=1.05%

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638
Matthew T. Abrahamsen
07/24/25

WASTEWATER LINE G
PLAN & PROFILE

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C7.3

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_WWTR_LN G.dwg User: williaml Jul 24, 2025 – 9:07am

TRENCH EXCAVATION SAFETY PROTECTION

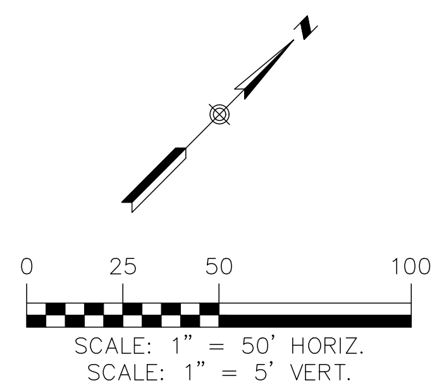
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS 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 EXCAVATIONS.

DEEP UTILITY TRENCH NOTE

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

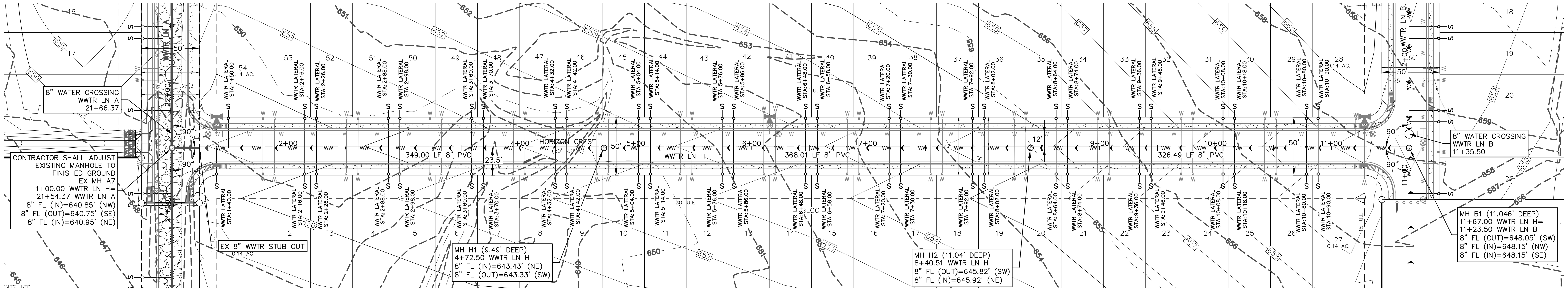
UTILITY TRENCH COMPACTION

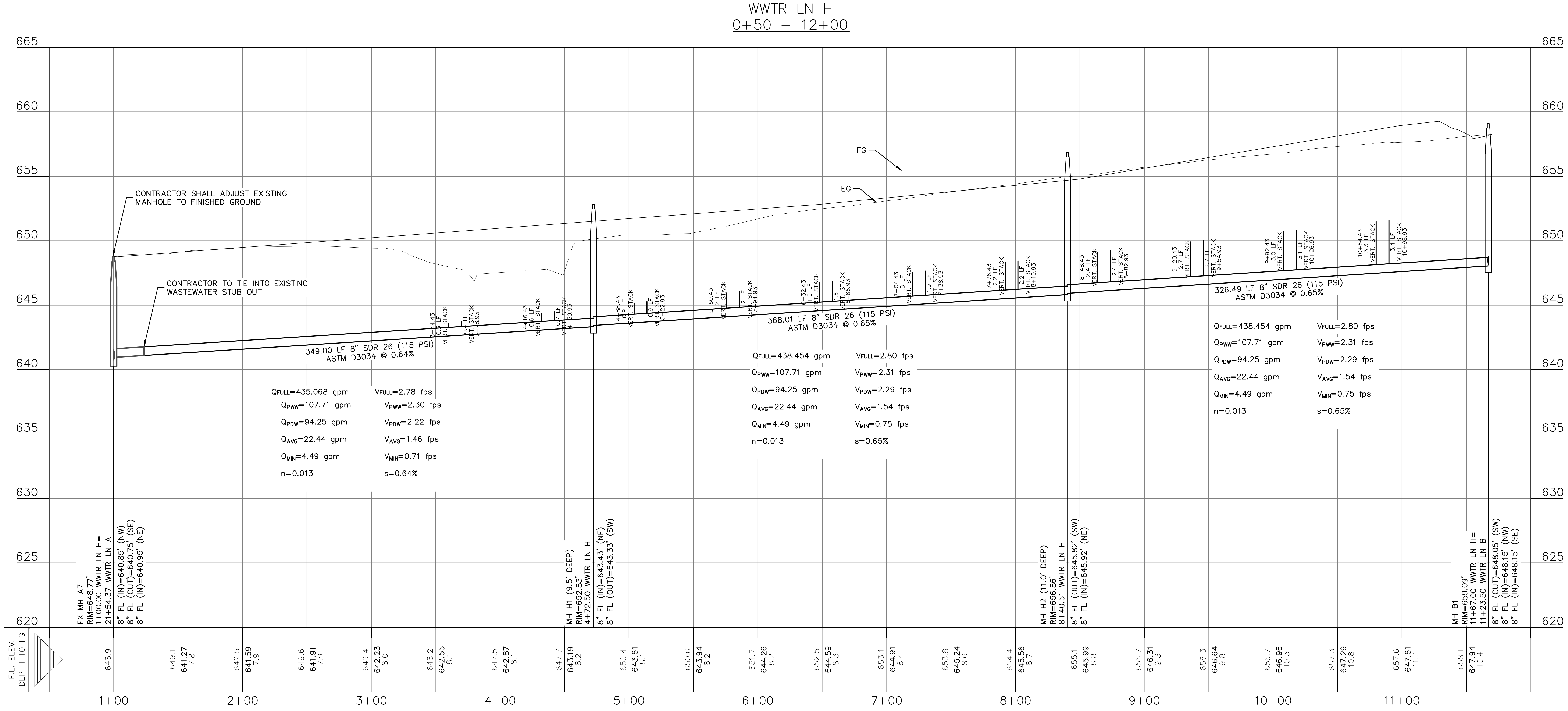
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.



LEGEND

— 700 —	EXISTING CONTOURS
—[700]—	EXISTING CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
— WW — WW —	EXISTING WASTEWATER LINE
ⓢ	PROPOSED WASTEWATER MANHOLE
— WW — WW —	PROPOSED WASTEWATER LINE
—o	PROPOSED WASTEWATER SERVICE
▨	UTILITY CROSSING


8" WATER CROSSING
WWTR LN A
21+66.37
CONTRACTOR SHALL ADJUST EXISTING MANHOLE TO FINISHED GROUND
EX MH A7
1+00.00 WWTR LN H=
21+54.37 WWTR LN A
8" FL (IN)=640.85' (NW)
8" FL (OUT)=640.75' (SE)
8" FL (IN)=640.95' (NE)
EX 8" WWTR STUB OUT
WWTR LN A
50'
90°
2+00
4+00
HORIZON CREST
(50' R.O.W.)
349.00 LF 8" PVC
23.5'
5+00
WWTR LN H
6+00
368.01 LF 8" PVC
7+00
12'
9+00
10+00
326.49 LF 8" PVC
50'
11+00
MH H1 (9.49' DEEP)
4+72.50 WWTR LN H
8" FL (IN)=643.43' (NE)
8" FL (OUT)=643.33' (SW)
MH H2 (11.04' DEEP)
8+40.51 WWTR LN H
8" FL (OUT)=645.82' (SW)
8" FL (IN)=645.92' (NE)
8" WATER CROSSING
WWTR LN B
11+35.50
MH B1 (11.046' DEEP)
11+67.00 WWTR LN H=
11+23.50 WWTR LN B
8" FL (OUT)=648.05' (SW)
8" FL (IN)=648.15' (NW)
8" FL (IN)=648.15' (SE)
WWTR LATERAL STA: 1+50.00
WWTR LATERAL STA: 1+40.00
WWTR LATERAL STA: 2+16.00
WWTR LATERAL STA: 2+26.00
WWTR LATERAL STA: 2+88.00
WWTR LATERAL STA: 2+98.00
WWTR LATERAL STA: 3+60.00
WWTR LATERAL STA: 3+70.00
WWTR LATERAL STA: 4+32.00
WWTR LATERAL STA: 4+42.00
WWTR LATERAL STA: 5+04.00
WWTR LATERAL STA: 5+14.00
WWTR LATERAL STA: 5+76.00
WWTR LATERAL STA: 5+86.00
WWTR LATERAL STA: 6+48.00
WWTR LATERAL STA: 6+58.00
WWTR LATERAL STA: 7+20.00
WWTR LATERAL STA: 7+30.00
WWTR LATERAL STA: 7+92.00
WWTR LATERAL STA: 8+02.00
WWTR LATERAL STA: 8+64.00
WWTR LATERAL STA: 8+74.00
WWTR LATERAL STA: 9+36.00
WWTR LATERAL STA: 9+46.00
WWTR LATERAL STA: 10+08.00
WWTR LATERAL STA: 10+18.00
WWTR LATERAL STA: 10+80.00
WWTR LATERAL STA: 10+90.00
54
0.14 AC.
27
0.14 AC.
28
0.14 AC.
15' U.E.



UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER-MOST PROJECTION OF THE MAIN SHALL BE 48 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7-19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE-TO-OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

WASTEWATER LINE H PLAN & PROFILE

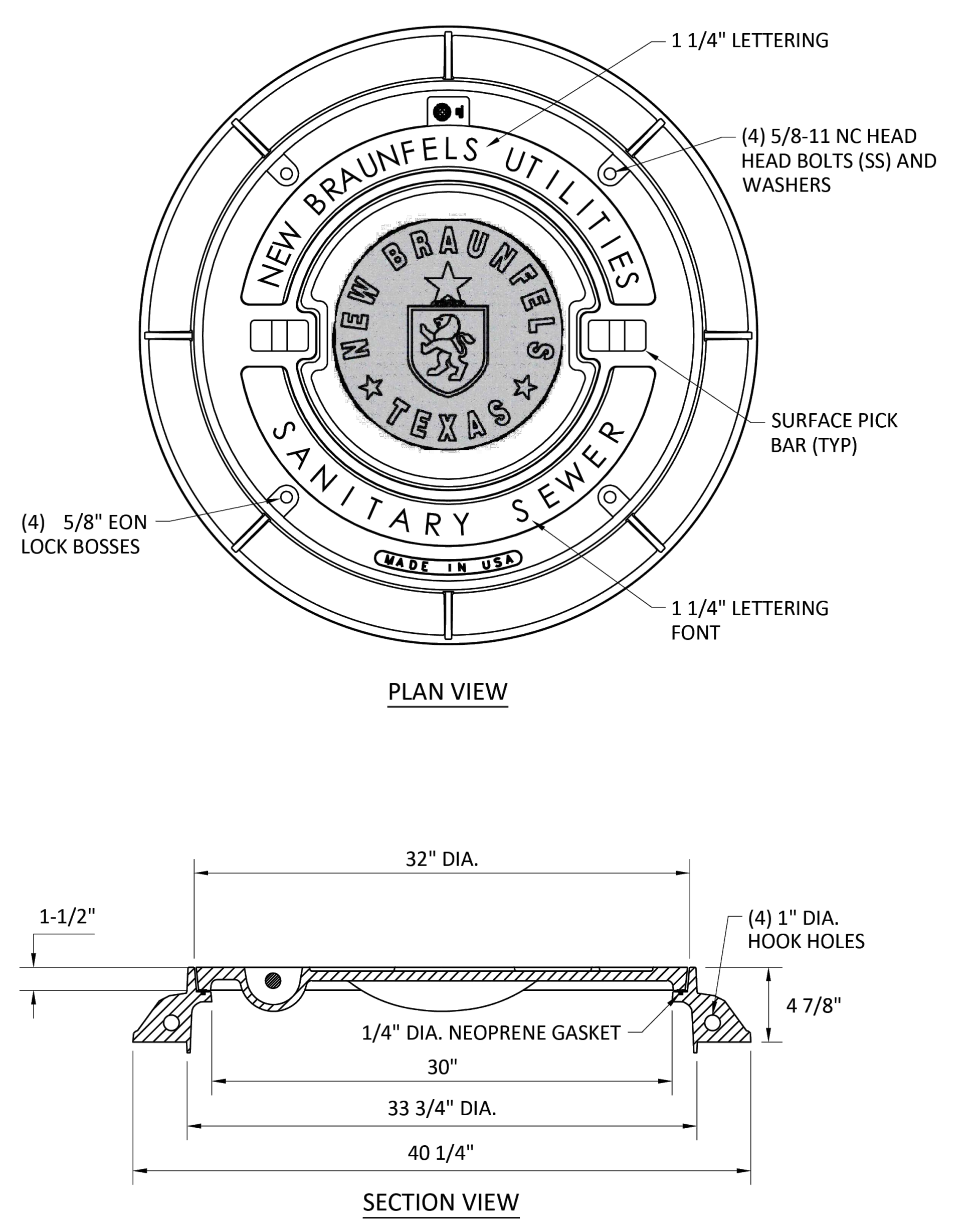
SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C7.4

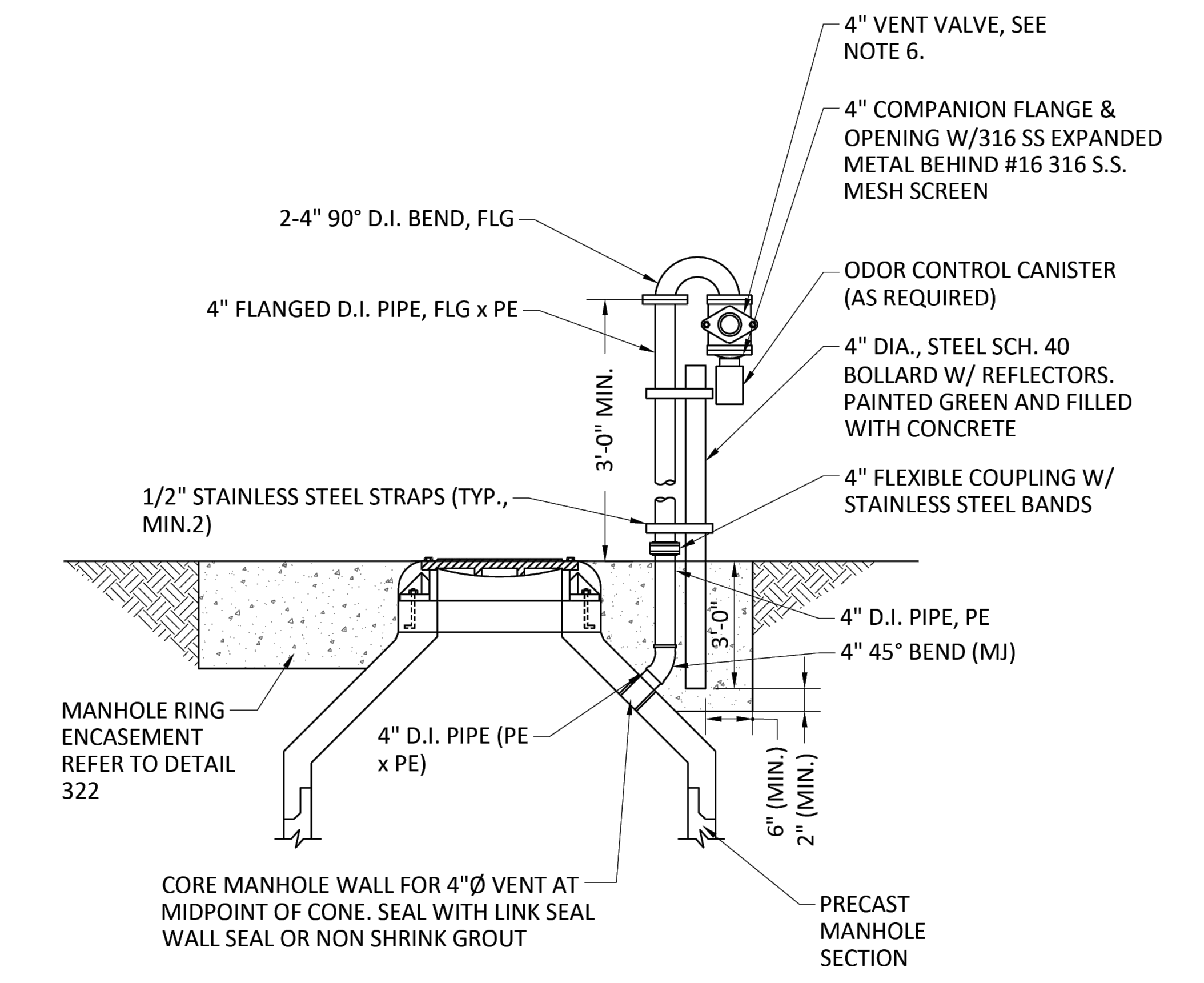
Drawing Name: N:_Projects\337 - Lennar\050 - Sky Ranch Unit 1B\CDs\337.050_WWTR_LN H.dwg User: williaml Jul 24, 2025 - 9:10am



MATERIAL: DUCTILE IRON ASTM A536 GRADE 70-50-05

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	8/17/21	2023-12-20	N.T.S.	1 OF 1	SANITARY SEWER MANHOLE COVER	331

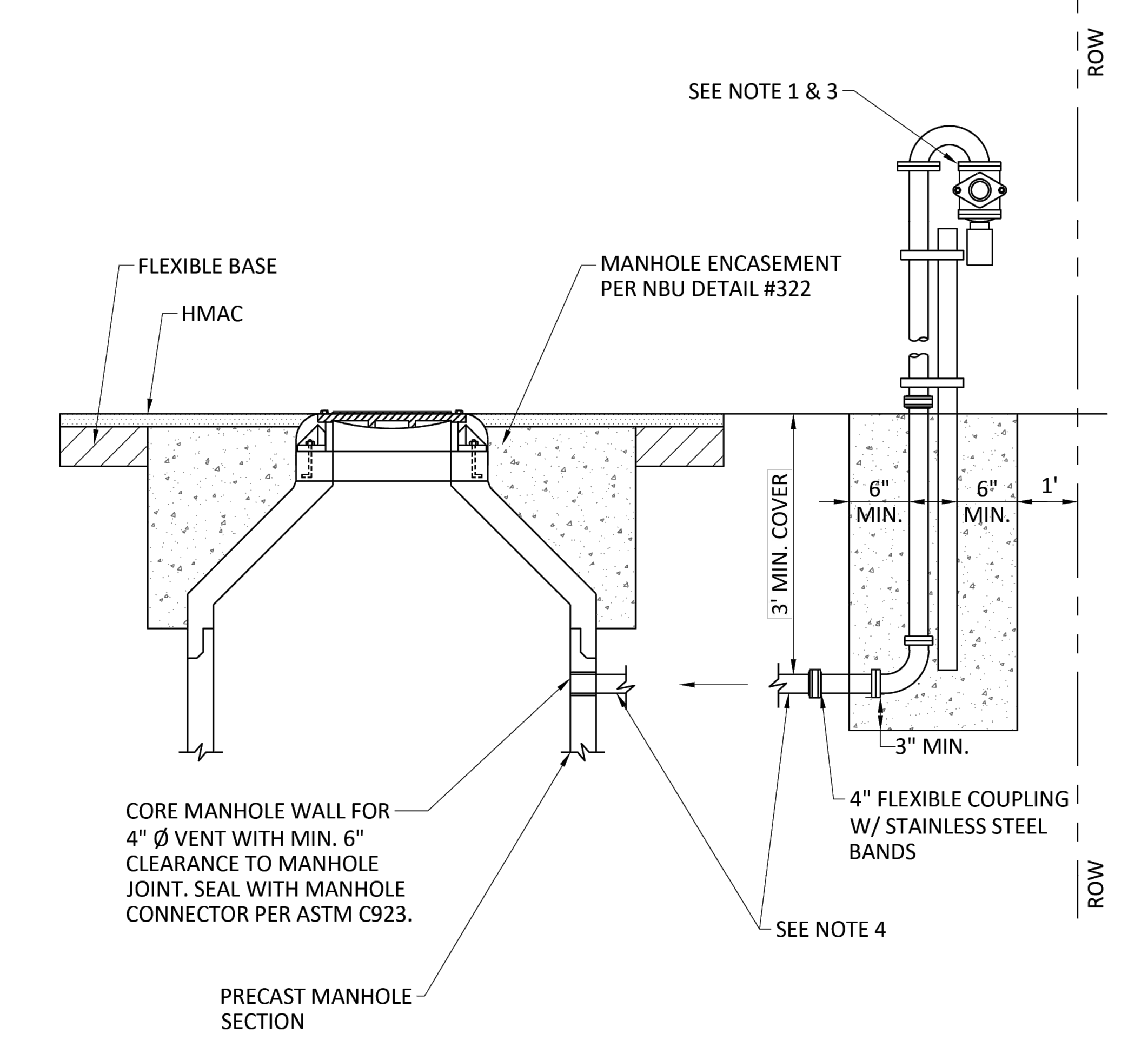

4" VENT VALVE, SEE NOTE 6.
4" COMPANION FLANGE & OPENING W/316 SS EXPANDED METAL BEHIND #16 316 S.S. MESH SCREEN
2-4" 90° D.I. BEND, FLG
4" FLANGED D.I. PIPE, FLG x PE
ODOR CONTROL CANISTER (AS REQUIRED)
4" DIA., STEEL SCH. 40 BOLLARD W/ REFLECTORS. PAINTED GREEN AND FILLED WITH CONCRETE
3'-0" MIN.
1/2" STAINLESS STEEL STRAPS (TYP., MIN.2)
4" FLEXIBLE COUPLING W/ STAINLESS STEEL BANDS
3'-0"
4" D.I. PIPE, PE
4" 45° BEND (MJ)
MANHOLE RING ENCASEMENT REFER TO DETAIL 322
4" D.I. PIPE (PE x PE)
6" (MIN.)
2" (MIN.)
CORE MANHOLE WALL FOR 4"Ø VENT AT MIDPOINT OF CONE. SEAL WITH LINK SEAL WALL SEAL OR NON SHRINK GROUT
PRECAST MANHOLE SECTION

NOTES:

1. ALL BOLTS AND HARDWARE TO BE 316 STAINLESS STEEL.
2. DUCTILE IRON PIPE AND FITTINGS TO HAVE FACTORY APPLIED PROTECTO 401 EPOXY INTERIOR COATING.
3. EXTERIOR OF DUCTILE IRON PIPES AND FITTINGS TO BE FACTORY COATED WITH FACTORY APPLIED PRIME COAT AND SURFACE COAT OF GREEN FUSION BONDED EPOXY.
4. CONTRACTOR TO FIELD COAT WITH PENETRATING EPOXY PRE-PRIMER AND HIGH SOLIDS EPOXY SILOXANE PER NBU SPECIFICATION 530.
5. PROVIDE ODOR CONTROL CANISTERS ON VENTS WHERE INDICATED ON THE PLANS.
6. BOTTOM OF COMPANION FLANGE MUST BE 1' ABOVE THE FEMA BASE FLOOD ELEVATION (BFE), MAXIMUM HEIGHT ABOVE GRADE OF 6'. INSTALL WAGER 1700 VENT VALVE, OR APPROVED EQUAL, WHERE BFE IS MORE THAN 18" ABOVE PROPOSED GRADE.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	2/1/24		N.T.S.	1 OF 1	MANHOLE VENT NON-PAVED AREAS	334


ROW
SEE NOTE 1 & 3
FLEXIBLE BASE
HMAC
MANHOLE ENCASEMENT PER NBU DETAIL #322
3' MIN. COVER
6" MIN.
6" MIN.
1'
3" MIN.
CORE MANHOLE WALL FOR 4" Ø VENT WITH MIN. 6" CLEARANCE TO MANHOLE JOINT. SEAL WITH MANHOLE CONNECTOR PER ASTM C923.
4" FLEXIBLE COUPLING W/ STAINLESS STEEL BANDS
ROW
SEE NOTE 4
PRECAST MANHOLE SECTION

NOTES:

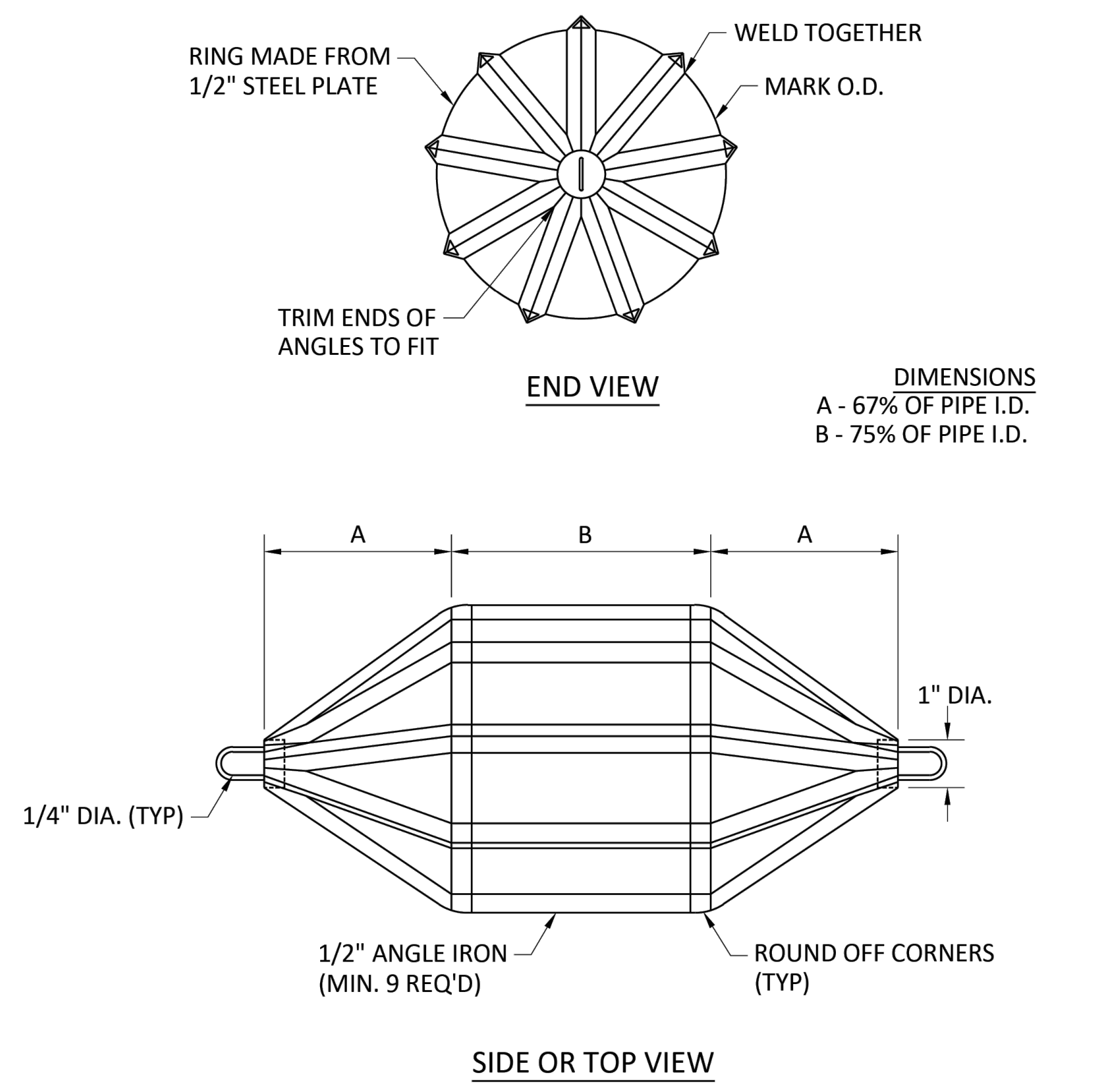
1. VENT PIPING AND COATINGS PER NBU DETAIL 334.
2. MANHOLE VENT AND SUPPORT PIPING SHALL NOT BE INSTALLED IN SIDEWALK, PARKING AREAS, OR DRIVE AISLES.
3. BOTTOM OF FLANGE SHALL BE MIN. 2'-6" ABOVE GRADE, 3'-6" MAX.
4. VENT PIPING FROM MANHOLE TO 90 DEG. VERTICAL BEND MUST BE LAID TO DRAIN TO THE MANHOLE AT MIN. 2% SLOPE.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	2/1/24		N.T.S.	1 OF 1	MANHOLE VENT PAVED AREAS	333

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. ALL SEWER PIPE ASTM 3034 (115 PSI)
4. ALL MANHOLES SHALL BE 48" DIAMETER.
5. ALL RING AND COVER SHALL BE 32" DIAMETER.
6. POINT OF DELIVERY IS DETERMINED BY NBU AND MAY NOT BE CLEANOUT, IT MAY BE A PROPERTY LINE OR EASEMENT BOUNDARY, NBU IS RESPONSIBLE FROM MAIN TO CLEANOUT OR PROPERTY LINE. CUSTOMER IS RESPONSIBLE FOR PIPE FROM THE CLEANOUT/PROPERTY LINE TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
7. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
8. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER–MOST PROJECTION OF THE MAIN SHALL BE 36 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 48 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. PROPOSED MANHOLES SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH INTERIOR LINING OF A CORROSION RESISTANT MATERIAL OR POLYMER CONCRETE PER MANUFACTURERS APPROVED ON THE NBU SPL.
12. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL. THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
13. SEWER SERVICES FOR LOTS 7–19 ON BLOCK 8 WERE INSTALLED DURING THE SKY RANCH UNIT 1A CONSTRUCTION.
14. THE SEPARATION BETWEEN PROPOSED WATER MAINS AND APPURTENANCES AND DRY UTILITIES (TELECOMMUNICATIONS, GAS, ELECTRIC, ETC.) SHALL BE A MINIMUM OF 3 FEET, OUTSIDE–TO–OUTSIDE.
15. CONCRETE ENCASEMENT SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF A PROPOSED WASTEWATER MAIN AND 36 INCHES TO THE TOP OF A PROPOSED WASTEWATER LATERAL TO FINISHED GRADE.
16. CONCRETE SADDLE SHALL BE USED IF THERE IS LESS THAN 48 INCHES OF COVER BETWEEN THE TOP OF AN EXISTING SEWER MAIN AND 36 INCHES TO THE TOP OF AN EXISTING SERVICE LATERAL TO FINISHED GRADE.



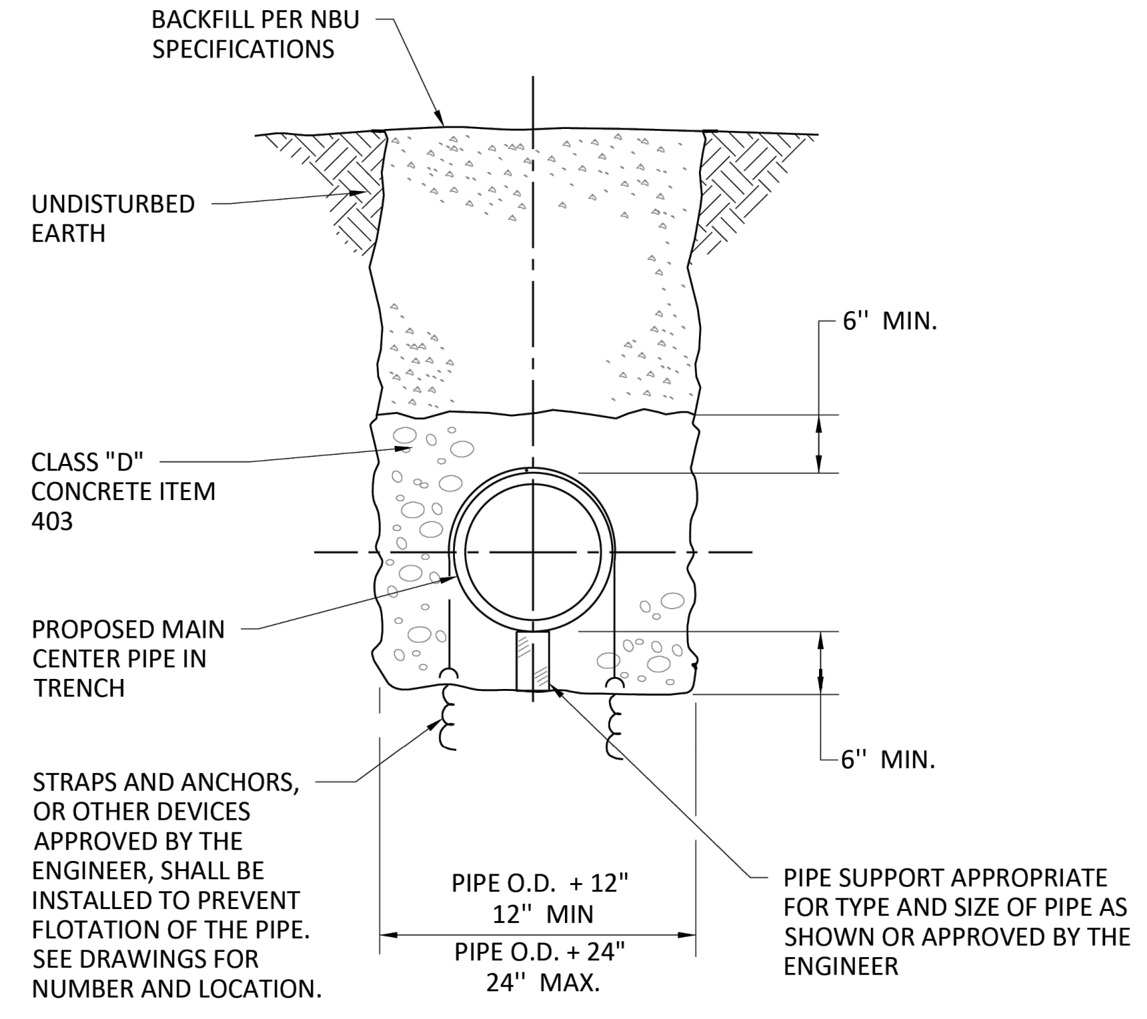
MANDREL REQUIREMENTS:

1. O.D. NOT LESS THAN 95% OF THE I.D. OF THE PIPE, AS SPECIFIED BY THE APPLICABLE ASTM, AWWA, UNI-BELL OR ANSI STANDARD.
2. ABLE TO WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
3. ODD NUMBER OF RUNNERS OR LEGS.

*THIS INFORMATION IS PROVIDED AS A REFERENCE. ALL DEFLECTION TESTING SHALL BE DONE IN ACCORDANCE WITH TCEQ CHAPTER 217.

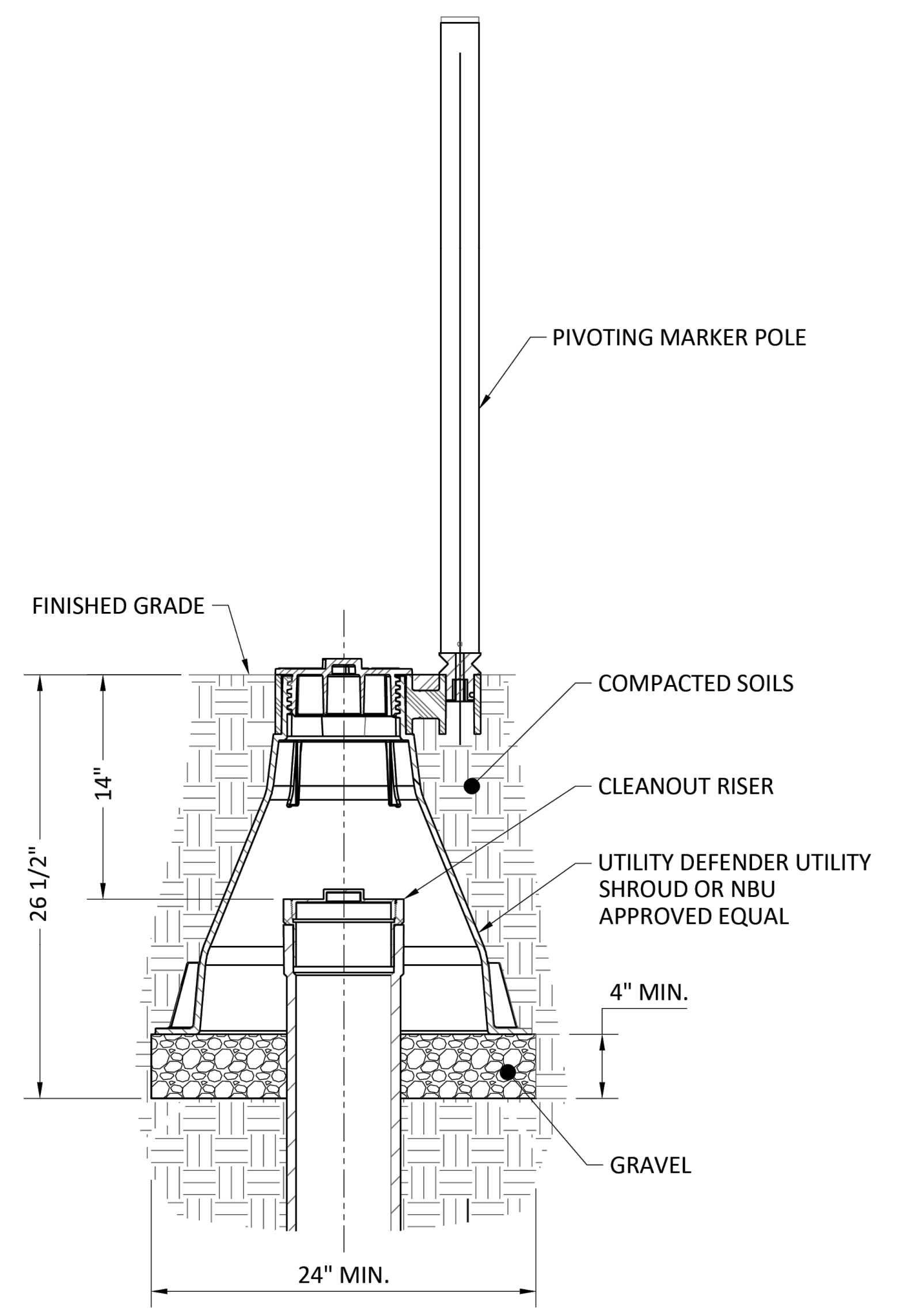
NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	2/1/24		N.T.S.	1 OF 1	GO, NO GO DEFLECTION TESTING MANDREL	350


BACKFILL PER NBU SPECIFICATIONS
UNDISTURBED EARTH
6" MIN.
CLASS "D" CONCRETE ITEM 403
PROPOSED MAIN CENTER PIPE IN TRENCH
6" MIN.
STRAPS AND ANCHORS, OR OTHER DEVICES APPROVED BY THE ENGINEER, SHALL BE INSTALLED TO PREVENT FLOTATION OF THE PIPE. SEE DRAWINGS FOR NUMBER AND LOCATION.
PIPE O.D. + 12" 12" MIN
PIPE O.D. + 24" 24" MAX.
PIPE SUPPORT APPROPRIATE FOR TYPE AND SIZE OF PIPE AS SHOWN OR APPROVED BY THE ENGINEER

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	2/1/24		N.T.S.	1 OF 1	CONCRETE ENCASEMENT	310

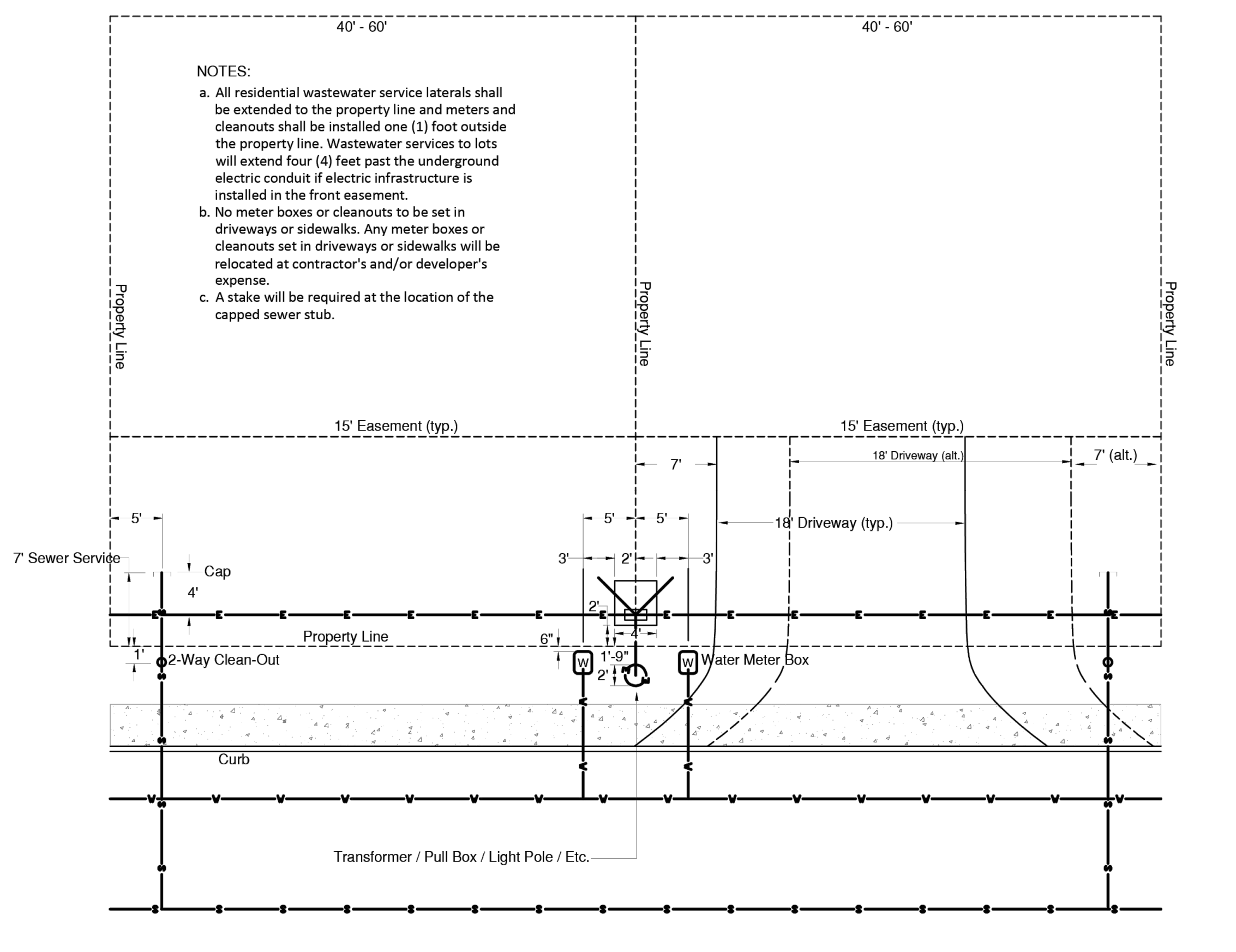


NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DRAWING DATE:	UPDATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
EWL	A. WILLARD	2/1/24		N.T.S.	1 OF 1	UTILITY SHROUD FOR SEWER CLEANOUT ASSEMBLY	360

NOTES:

a. All residential wastewater service laterals shall be extended to the property line and meters and cleanouts shall be installed one (1) foot outside the property line. Wastewater services to lots will extend four (4) feet past the underground electric conduit if electric infrastructure is installed in the front easement.
b. No meter boxes or cleanouts to be set in driveways or sidewalks. Any meter boxes or cleanouts set in driveways or sidewalks will be relocated at contractor's and/or developer's expense.
c. A stake will be required at the location of the capped sewer stub.



NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY:	APPROVED BY:	DATED:	SCALE:	SHEET:	STANDARD DRAWING:	DRAWING NO.
D. A.	N. P.	12/20/18	N.T.S.	1 OF 1	ZERO LOT WATER & SEWER SERVICE ALIGNMENT SCENARIO	410

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

MATTHEW T. ABRAHAMSEN
154638

Matthew T. Abrahamsen

07/24/25

WASTEWATER DETAILS

SKY RANCH UNIT 1B
NEW BRAUNFELS, TX

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JULY 2025
DRAWN BY: RR
DESIGNED BY: MTA
REVIEWED BY: MTA
HMT PROJECT NO.: 337.050

SHEET
C7.5

Drawing Name: N:_Projects\337 – Lennar\050 – Sky Ranch Unit 1B\CDs\337.050_WWDETAILS 1B.dwg User: williaml Jul 24, 2025 – 9:10am