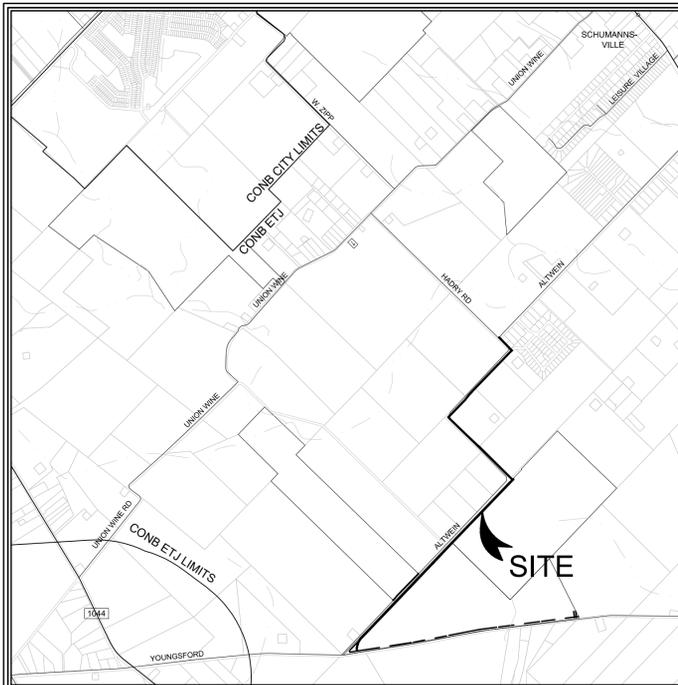


# COLINA RANCH EAST OFFSITE WATER IMPROVEMENTS NEW BRAUNFELS, TEXAS CIVIL SITE CONSTRUCTION PLANS

LENNAR HOMES OF TEXAS & CONSTRUCTION, LTD  
100 NE LOOP 410, SUITE 1155  
SAN ANTONIO, TEXAS 78216



PROJECT LOCATION MAP

SCALE: N.T.S.

### PROJECT BENCHMARK

SITE TBM #1  
SET 12 HMT CONTROL  
N: 13768409.770  
E: 2254864.234  
ELEV: 623.93'

SITE TBM #2  
SET MAG HMT TBM 55  
N: 13774509.317  
E: 2257774.826  
ELEV: 610.29'

REQUIRED PERMITS	NUMBER
1. GVSUD	#
2. GUADALUPE COUNTY	#

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C2.12	WATER DETAILS

## FEBRUARY 2026



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.

*Robert Drew Burnett*  
Robert Drew Burnett P.E.  
License No. 154995

### PREPARED BY:



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

#### 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.

ANY QUANTITIES PROVIDED BY HMT OR OWNER ON THE PLANS, OPINION OF PROBABLE COST, BID SUMMARIES, ETC. ARE FOR CURSORY USE ONLY. CONTRACTOR IS RESPONSIBLE FOR BIDDING SIGNED AND SEALED CONSTRUCTION PLANS. IF A DISCREPANCY EXISTS, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY.

CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION AND ELEVATION OF ALL DOWNSTREAM CONNECTION POINTS PRIOR TO CONSTRUCTION. IF A DISCREPANCY EXISTS, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY.

CONTRACTOR SHALL INSTALL ALL GRAVITY SEWER, GRAVITY STORM SEWER, CURBS AND PAVEMENT FROM THE MOST DOWNSTREAM POINT OF CONNECTION. IF IMPROVEMENTS ARE CONSTRUCTED FROM UPSTREAM TO DOWNSTREAM, THEN THE CONTRACTOR WILL TAKE FULL RISK AND LIABILITY OF ANY ISSUES THAT MIGHT ARISE FROM FLOWLINE ELEVATION DISCREPANCIES, UTILITY CONFLICTS, ETC.

CONTRACTOR IS RESPONSIBLE FOR THE STOCKPILING OF ANY EXCESS DIRT. ALL BIDS FROM CONTRACTOR SHOULD ACCOUNT FOR THE REMOVAL AND PLACEMENT OF ALL EARTHWORK TO INCLUDE STOCKPILING, EXPORT, IMPORT, ETC. IF A LOCATION OF PLACEMENT OF EXCESS DIRT IS NOT SHOWN ON THE PLANS, THEN CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY TO DETERMINE THE MOST SUITABLE STOCKPILE LOCATION.

#### GENERAL NOTES:

- 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 SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.
  - ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
  - FAXED IN AT 830-608-2117 OR,
  - E-MAILED AT INSPECTIONS@NEWBRAUNFELS.GOV.
- 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.
- DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
- NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FIRM PANEL NUMBER 48187C0255F EFFECTIVE DATE NOVEMBER, 02, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THIS PROJECT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE, TRANSPORT OR CONTRIBUTING ZONE.
- 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.
- 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.

COLINA RANCH EAST OFFSITE WATER IMPROVEMENTS  
CIVIL SITE CONSTRUCTION PLANS

HMT # 337.115





GVSUD WATER NOTES

General:

1. PVC mains 12-inches and below shall conform to AWWA C-909 pressure class 235 or above. PVC main greater than 12-inches shall conform to AWWA C-900 DR 18 or above. Water mains shall have an absolute minimum depth of 48-inches in all areas.
2. All water pipe shall be installed minimum 4-feet beyond back of curb.
3. All water mains to be installed 4-feet minimum behind back of curb.
4. No pressurized fittings under roadways, pavement, or sidewalks.
5. All water main ductile iron fittings shall be mechanical joint and conform to ANSI/AWWA C-153 or C-110. All bolts shall have copper anti-seize corrosion resistant coating. Valves shall be attached to tees by foster adaptor or anchor nipple. Foster adaptor, anchor nipple, or Ford Uni-Flange retainer glands and thrust blocks shall be used on all fittings and valves.
6. Tracer wire shall be installed on all pipelines including service lines and brought into valve and meter boxes for locating purposes. Insulated water proof connectors shall be used to splice wires together. A 6-inch or 12-inch-wide detectable metal tape shall be placed above bedding initial backfill.
7. Over inserting bell joints and passing the insertion reference mark is prohibited and will require removal and reinstallation.
8. Standard fire hydrant shall include hydrant, 6-inch resilient wedge gate valve and box, anchor fittings, ductile iron pipe, and all appurtenances. Hydrants shall be limited to those manufactured by Mueller, AVK, American Flow, Clow, or East Jordan. Only Mueller hydrants and EJ shall be used in City of Cibola's jurisdiction. Hydrant upper barrel shall be factory painted red. Hydrants shall have a Stortz connection on steamer nozzle. Fittings for plug shall be fully restrained and tied to valve.
9. All fire hydrant assemblies shall have an in-line upstream and downstream valve.
10. All tees shall include three (3) valves.
11. Valves shall be AWWA approved resilient wedge seated gate valve, open left, and limited to those manufactured by Mueller, AVK, American Flow, Clow, or East Jordan. Valves are prohibited in ADA ramps, curbs, and roadways. Valves are prohibited in sidewalks in City of New Braunfels.
12. Meter boxes are prohibited in any sidewalks, driveways, or roadways.
13. Small service taps shall be 1-inch Rehau Munipex with CTS 200 PSI plastic insert or 2-inch Yelomine PVC ASTM D1784 with Harco fittings or approved equivalent. Small service taps to be made with single brass strap tapping saddle or dual banded stainless-steel flat-strap epoxy saddle with iron pipe threads.
15. Casing required for all long small services. 1-inch service requires 3-inch casing and 2-inch service requires 4-inch casing. Casing shall be white color PVC schedule 40 or approved equal.
16. 5/8" & 3/4" meter boxes shall be DFW36C 16" x 11". All meter boxes shall be plastic with lids and knockout.
17. Dual services are not permitted.
18. Tapping machines must retain coupon.
19. Contractor to curb cut v's for valves and x's for meters and paint blue.
20. Water lines crossing cul-de-sacs shall be fully restrained under pavement and cased.
21. All street crossings are to be cased from edge of impermeable cover to edge of impermeable cover.
22. All bends, fittings, and valves shall have one (1) restraint upstream and downstream regardless of length.



GVSUD WATER NOTES

6. Contractor shall perform spike test at 200 PSI for 15 minutes then reduce pressure to 150 PSI for 2 hours.
7. Contractor shall perform pre-testing to verify passing results prior to requesting GVSUD inspection. Provide connection point for GVSUD digital test gauge (quick connect).
8. Perform trench backfill density testing at intervals specified by the design engineer, exact locations to be designated by inspector. Schedule with GVSUD to witness 48 hours prior to test. Provide copies of reports to GVSUD.
9. Hydrostatic pressure testing shall be every 1200 LF (max) of water line or as approved by the engineer. All errors of workmanship shall be corrected immediately. All parts of the pipeline shall be backfilled and braced sufficiently to prevent movement under pressure.

Construction Notes:

1. All work shall be in accordance with GVSUD standards as published at the following website: <http://www.gvsud.org>
2. Material submittals shall be provided for GVSUD review and approval. Allow 21 calendar days for review.
3. All water installations must be inspected and approved by GVSUD prior to backfilling or otherwise covering the work. GVSUD will reject anything backfilled prior to GVSUD approval. This includes crossings of water and wastewater by other utilities. GVSUD will perform a maximum of one (1) inspection daily for one (1) hour duration between 7:30am and 4:00pm excluding weekends and holidays. Call to schedule inspections (48-hours advance notice is required for all inspections).
4. Trench excavation and pipe installation will not be permitted until subgrade has been established. Survey staking must be installed prior to and maintained during trench excavation and pipe installation. Survey staking shall include horizontal and vertical control at a minimum of 50-foot station intervals. Survey staking shall be performed by the contractor.
5. Proper shoring and/or benching must be present at all times for anything 4-feet in depth or deeper. GVSUD will stop work until proper safety protocols have been established.
6. Backflow prevention in the form of a reduced pressure zone backflow prevention assembly must be provided for temporary connections to existing water lines. Backflow prevention assemblies shall be tested by a licensed backflow prevention assembly tester.
7. All piping shall be installed in straight alignment. Pipe deflection is not allowed.
8. Install concrete thrust blocking and mechanical restraints for pressurized piping systems.
9. Water pipe shall be installed above wastewater and all pipe joints shall be centered at crossings with all other utilities. Both pipe joints shall be centered where water crosses wastewater mains and laterals 10-feet in either direction.
10. Maintain a minimum of 10-feet horizontal and 24-inch vertical clearance between water and wastewater and other utilities. Shared trenches are not allowed.
11. Water piping shall be sleeved if located under box culverts, single barrel, or multiple barrel storm sewer crossings regardless of size.
12. Valve boxes and appurtenances shall be painted. Provide painted curb cut markings at valves and services.
13. All exposed vertical and horizontal concrete edges shall be formed with 3/4" chamfer strips. Concrete in unpaved areas shall be 2" above finish grade.



GVSUD WATER NOTES

23. Contractor shall chlorinate new mains per TCEQ and ANSI/AWWA C651 and dechlorinate during flushing per ANSI/AWWA C655; the contractor shall coordinate with the GVSUD inspector to witness chlorinating and pressure testing of new mains. All test results must be provided to GVSUD.
24. Operation of existing valves in the GVSUD water distribution system shall be operated by GVSUD personnel only, unless approved by GVSUD inspector.
25. New water mains and appurtenances shall pass pressure testing and pass the minimum public health standards for bacteriological quality testing prior to any tie in to the existing GVSUD water system as required by TCEQ and ANSI/AWWA.
26. Hydrostatic pressure testing shall be every 1200 LF (max) of water line or as approved by the engineer. All errors of workmanship shall be corrected immediately. All parts of the pipeline shall be backfilled and braced sufficiently to prevent movement under pressure.
27. The contractor shall provide the engineer with all the information as required so that the engineer can supply GVSUD the GIS package for approval.
28. A final walk through for field acceptance will be scheduled with the contractor after the preliminary walk-through punch list items have been completed.
29. Provide restraint lengths at all bends, valves, tees, and all other fittings.
30. All master metered distribution lines shall be protected by an RPZ backflow preventer.
31. All non-chemical fire lines shall be protected by a DCD backflow preventer.
32. All chemically injected fire lines shall be protected by an RPZ backflow preventer.

Materials:

1. PVC mains 12 inches and below shall conform to AWWA C-909 pressure class 235 or above. PVC main greater than 12 inches shall conform to AWWA C-900 DR 18 or above. Water mains shall have an absolute minimum depth of 48 inches in all areas.
2. 2-inch service crossings shall be Yelomine ASTM D2241 or approved equivalent.
3. Tapping saddles shall be single brass strap or dual banded stainless-steel flat-strap epoxy saddle with iron pipe threads.
4. All fasteners shall be 304 stainless-steel (e.g. hardware, screws, anchor bolts, rods, flange bolts and nuts, etc.). All bolts and nuts shall be heavy hex. Field-apply nickel anti-seize compound prior to assembly. Bolts and nuts shall not be painted.
5. All buried metal pipe, fittings, and valves shall be wrapped with 5mil poly.
6. Paint shall be high-build epoxy with topcoat of polyurethane.
7. All fire hydrant leads shall be ductile iron C151 or approved equivalent.

Testing:

1. All testing shall be arranged and paid for by the contractor and witnessed by GVSUD.
2. All testing must be complete prior to paving streets.
3. The contractor shall provide GVSUD copies of all test results prior to acceptance of the project.
4. All testing must be complete prior to performing tie-ins to existing water systems.
5. All other utilities must be complete and offset prior to performing hydrostatic pressure testing.



GVSUD WATER NOTES

14. The contractor shall provide a competent and qualified superintendent to supervise all work. The superintendent shall be present during all construction activities, including inspections.
15. No separate pay will be given to de-water trenches or other excavated areas.



TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS."
2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)].
3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)].
4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY [§290.44(A)(3)].
5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)].
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS; HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].
7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)].
8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)].
9. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].
10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].
11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR DUCTILE IRON PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.
  - o THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q = \frac{L \cdot P}{148,000}$$

WHERE:

- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
- o THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

$$Q = \frac{SD \cdot P}{148,000}$$

WHERE:

- L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION, SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).
13. THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET, WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT [§290.44(E)(5)].
14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WATERLINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].
15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].
16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)].
17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C-651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].
18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.

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NEW BRAUNFELS, TX 78130  
TBPELS FIRM F-10961  
TBPELS FIRM 10153600



*Drew Burnett*

02/26/2026

GENERAL NOTES  
(2 OF 2)

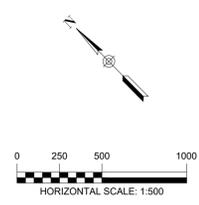
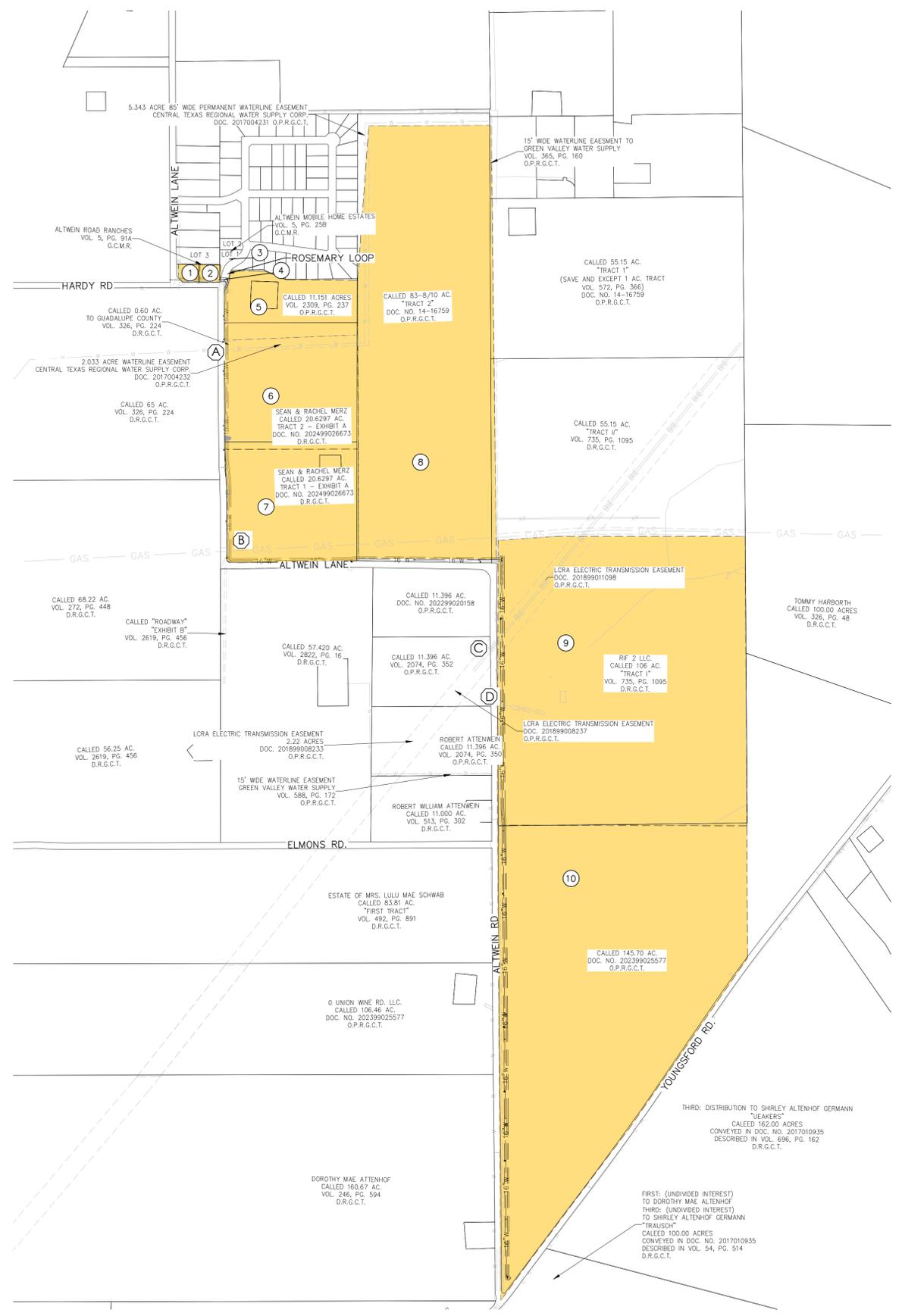
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CVH**  
HMT PROJECT NO.:  
**337.115**

**SHEET**  
**C0.02**

Drawing Name: N:\Projects\337 - Lenses\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\337-115\_IMPACT MAP ALTWEIN.dwg User: dle-d Feb 26, 2026 - 10:07pm



UTILITY CROSSING SUMMARY

XING	UTILITY	COMPANY	CONTACT	SHEET NO.	DATA SOURCE	PERMISSION
(A)	WATER	CTRWSC	NAME: JOSE RENDON, TEL: 737-888-4057 EMAIL: jrendon@epcor.com	SHEET C2.10	ASBUILTS	ENCROACHMENT AGREEMENT
(B)	GAS	ENTERPRISE PRODUCTS COMPANY	NAME: LESTER RAINER TEL: 512-460-4672 EMAIL: LRainer@eprod.com	SHEET C2.09	POTHOLE	INSPECTION COORDINATION
(C)	ELECTRIC	LCRA	NAME: JEFF MAYRONNE TEL: 512-578-2515 EMAIL: jeff.mayronne@lcra.org	SHEET C2.06	SURVEY	LONO
(D)	ELECTRIC	GVEC	NAME: CASIE BOOS TEL: 830-857-5127 EMAIL: cboos@gvec.org	SHEET C2.05	SURVEY	LONO

PROPERTY OWNER INFORMATION						
PROPERTY OWNER #	PROPERTY ID	OWNER NAME	LEGAL DESCRIPTION	ACRES	EASEMENT/PERMIT STATUS	EASEMENT NAME/DOCUMENT #
1	13968	ARREGUIN ARTURO PATINO & SANJUANA	LOT: 2 ALTWEIN ROAD RANCHES	0.50	EASEMENT PENDING	20' GVSUD EASEMENT DOC. NO. _____
2	13967	LEOS DAN	ALTWEIN ROAD RANCHES LOT: 1	0.50	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599016428
3	13908	PALM HARBOR VILLAGES INC	LOT: 1 BLK: ALTWEIN MOBILE HOME EST	0.37	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599015417
4	N/A	RIGHT OF WAY	PLATTED AS ROSEMARY LOOP	N/A	COUNTY R.O.W. PERMIT PENDING	N/A
5	68607	RIGGS KIMBERLY & CHRISTIN R	ABS: 260 SUR: G PATE	10.13	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599015026
6	68606	MERZ SEAN W & RACHEL T MERZ	ABS: 260 SUR: G PATE	20.63	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599025377
7	108479	MERZ SEAN W & RACHEL T MERZ	ABS: 260 SUR: G PATE	20.00	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599025377
8	68616	DUELM RORY & ROXANE	ABS: 260 SUR: G PATE	83.80	EASEMENT RECORDED	20' GVSUD EASEMENT DOC. NO.202599020727
9	60278	RIF 2 LLC	ABS: 52 SUR: WILLIAM BRACKEN	161.15	EASEMENT WILL BE DEDICATED BY OWNER PRIOR TO ACCEPTANCE	20' GVSUD EASEMENT DOC. NO. _____
10	60226	O UNION WINE RD LLC	ABS: 52 SUR: WILLIAM BRACKEN	145.00	EASEMENT WILL BE DEDICATED BY OWNER PRIOR TO ACCEPTANCE	20' GVSUD EASEMENT DOC. NO. _____

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



02/26/2026

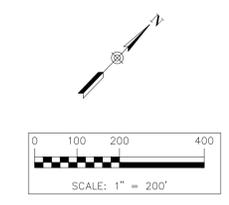
IMPACTED PROPERTIES  
MAP  
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2026  
DRAWN BY: LB  
DESIGNED BY: RDB  
REVIEWED BY: CVH  
HMT PROJECT NO.: 337.115

SHEET  
C0.03

Drawing Name: N:\Projects\337 - Lennet\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-115\_EROS.dwg User: efl-d Feb 26, 2026 - 1:08pm



**LEGEND**

	700	EXISTING CONTOURS
		DRAINAGE FLOW DIRECTION
	SF	SILT FENCE
	LOC/SF	LIMIT OF CONSTRUCTION
		100 YR FLOODPLAIN

**SEQUENCE OF CONSTRUCTION**

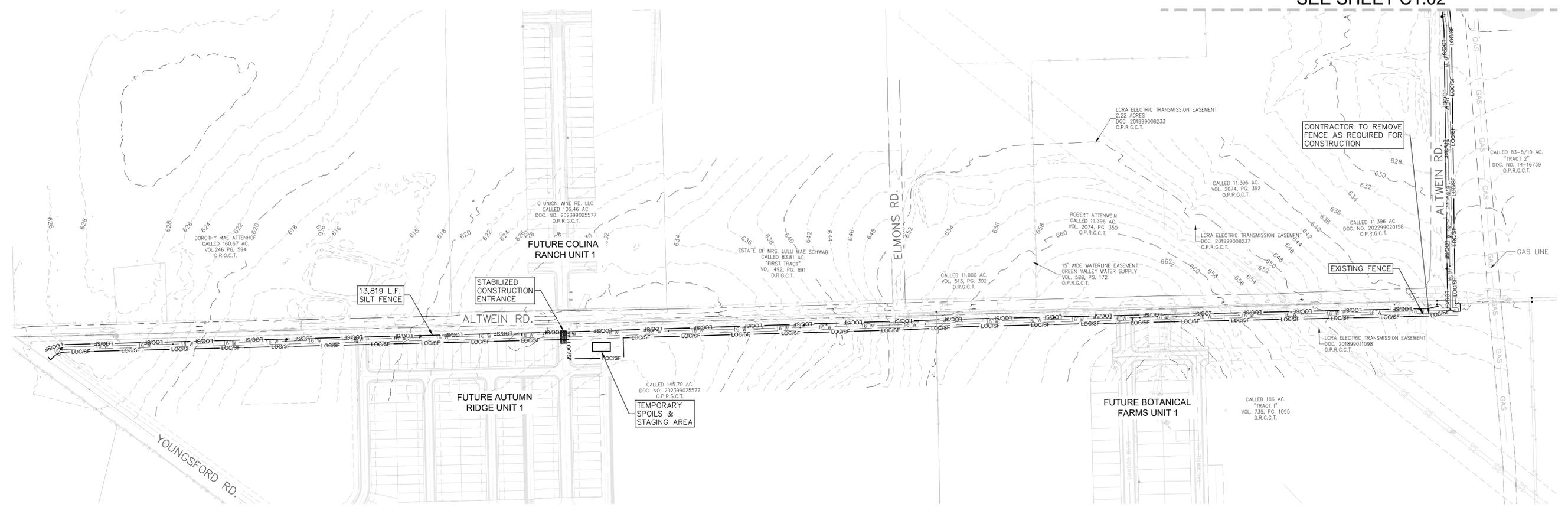
1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
5. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MINIMUM OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
6. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

**NOTE:**

PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

SILT FENCE AT PROPERTY LINE MAY BE SHOWN GRAPHICALLY OFFSET FROM PROPERTY LINE TO AVOID OVERLAP OF LINWORK. CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES BEYOND LIMITS OF CONSTRUCTION REGARDLESS OF GRAPHIC REPRESENTATION.

**MATCHLINE  
SEE SHEET C1.02**



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



02/26/2026

**EROSION CONTROL PLAN  
(1 OF 2)**

COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

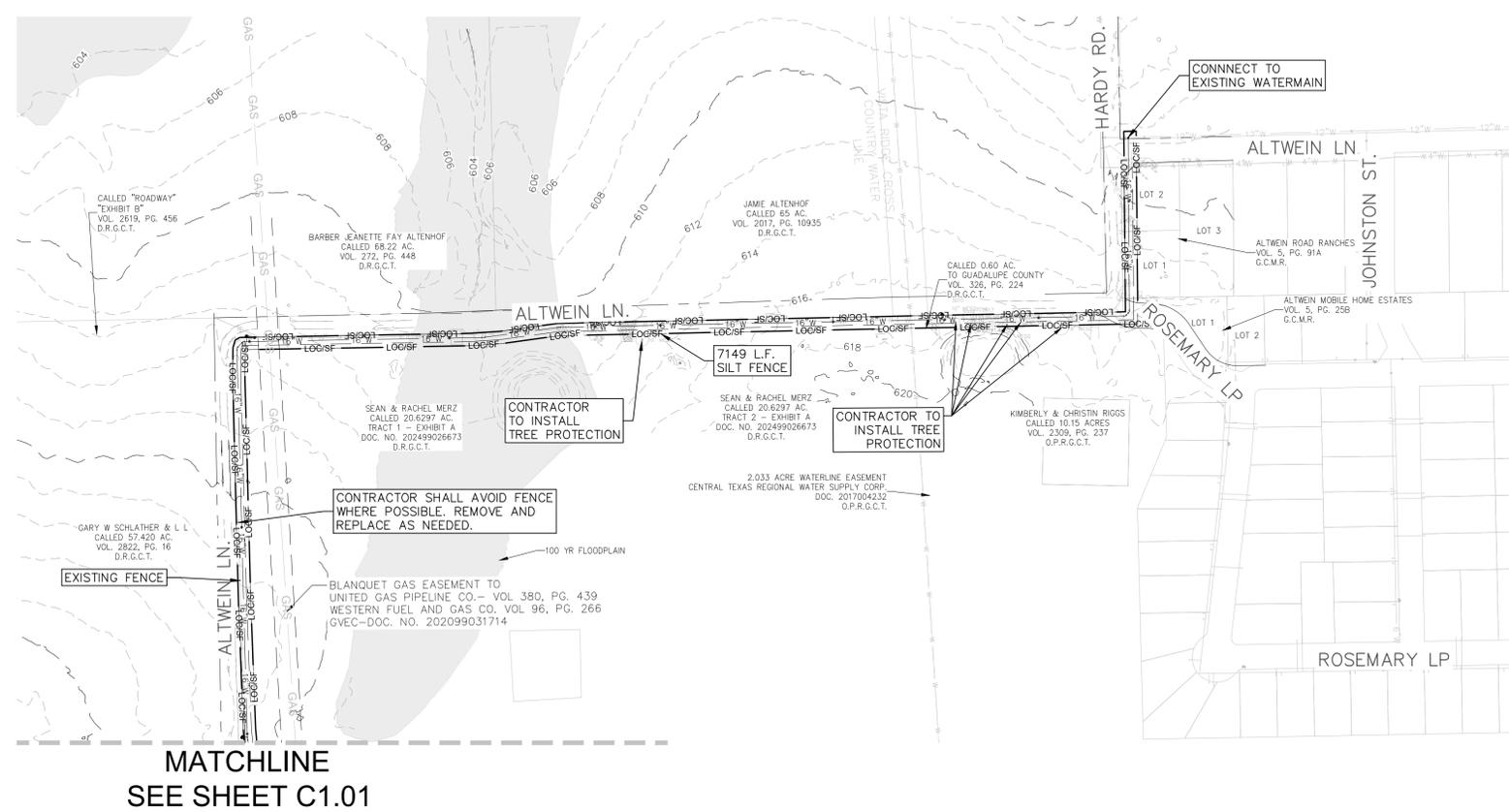
DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CVH**

HMT PROJECT NO.: **337.115**

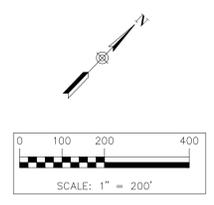
**SHEET  
C1.01**

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 MAY 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 - Lenses\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\3D-Water\337-115-EM05.dwg User: ell-d Feb 26, 2026 - 1:08pm



MATCHLINE  
SEE SHEET C1.01



- LEGEND**
- 700 — EXISTING CONTOURS
  - ➔ DRAINAGE FLOW DIRECTION
  - SF — SF — SILT FENCE
  - LOC/SF — LIMIT OF CONSTRUCTION
  - 100 YR FLOODPLAIN

**NOTE:**  
PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

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.

- 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. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
  9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

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 10153600



02/26/2026

**EROSION CONTROL PLAN  
(2 OF 2)**

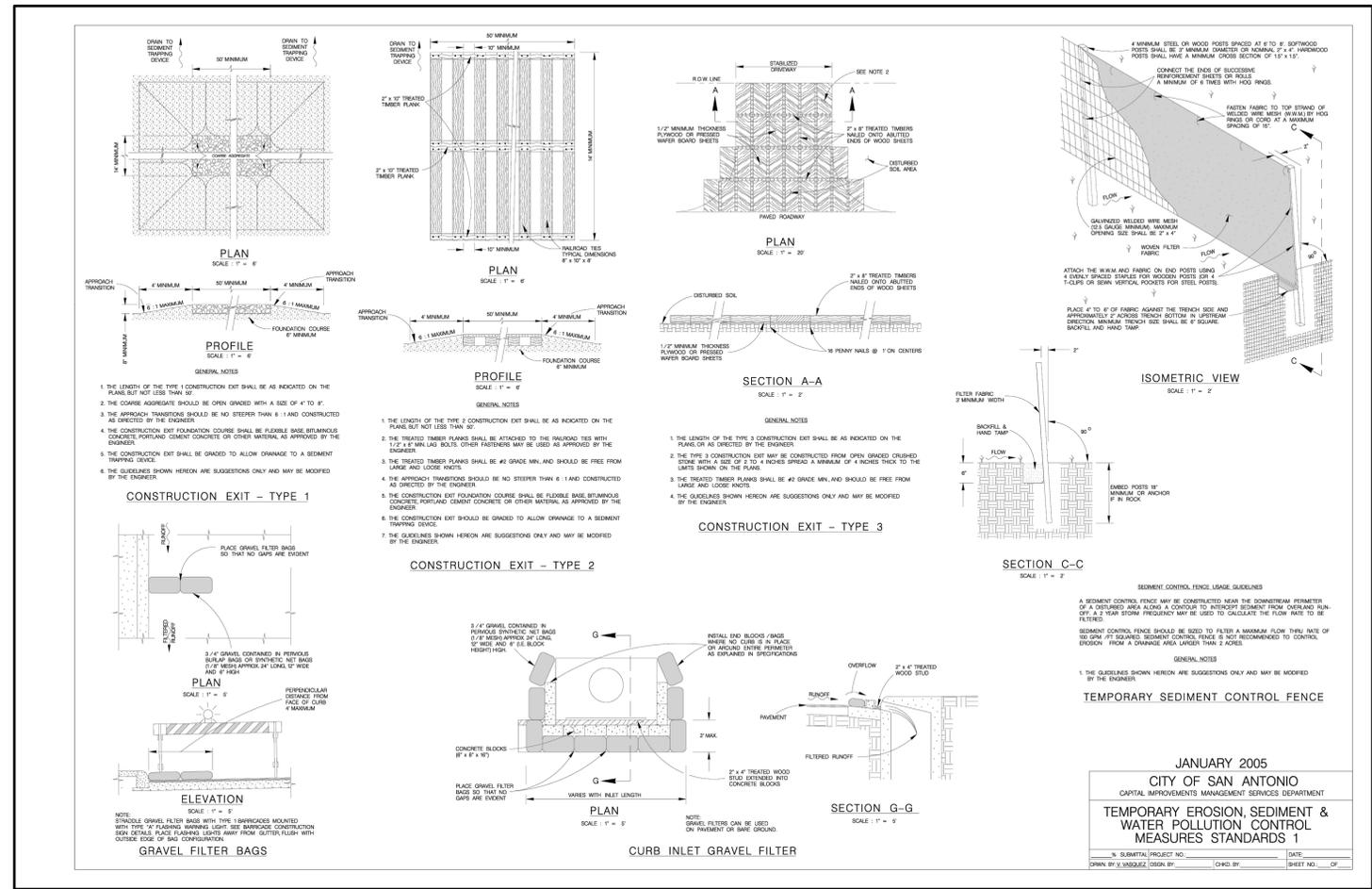
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CWH**

HMT PROJECT NO.:  
**337.115**

**SHEET  
C1.02**



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



02/26/2026

**EROSION CONTROL DETAILS**  
 COLINA RANCH EAST WATER IMPROVEMENTS  
 NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

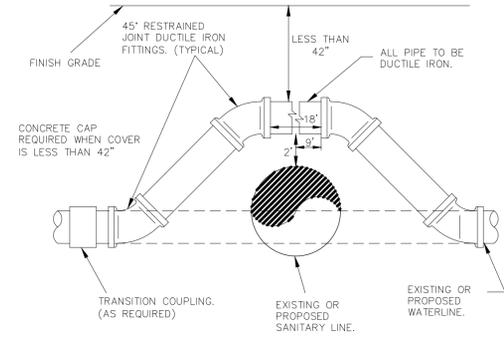
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 DRAWN BY: **LB**  
 DESIGNED BY: **ROB**  
 REVIEWED BY: **CWH**

HMT PROJECT NO.: **337.115**

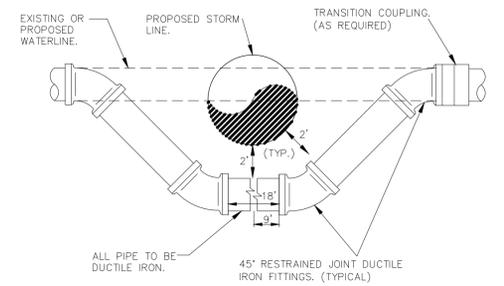
**SHEET**  
**C1.03**

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.

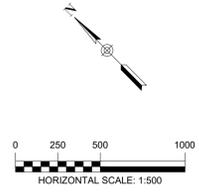
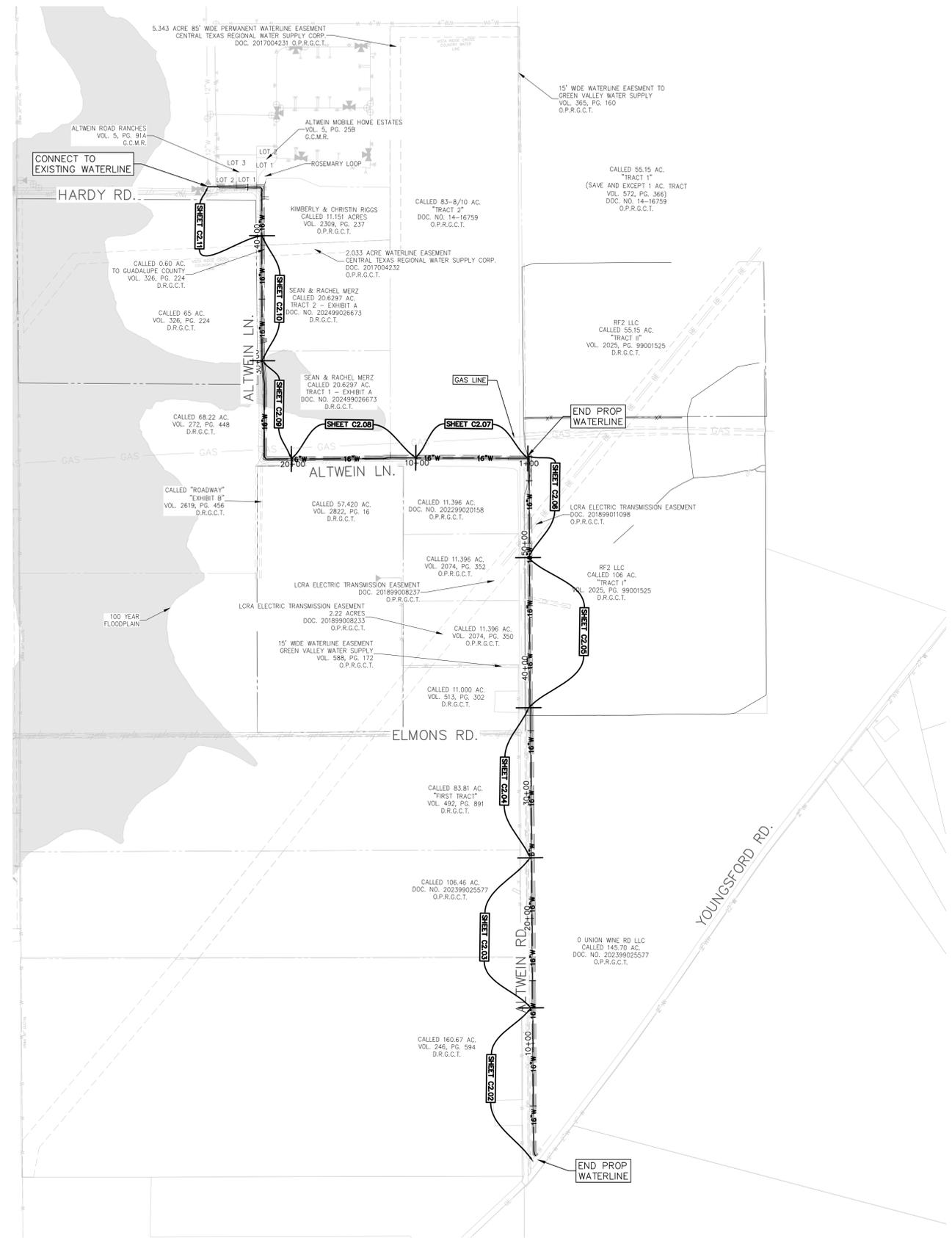
Drawing Name: N:\\_Projects\337 - Lennor\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\337-Water\337-115\_WATR.dwg User: ehe-d Feb 26, 2026 - 10:50am



**A WATERLINE ADJUSTMENT DETAIL**  
N.T.S.



**B WATERLINE ADJUSTMENT DETAIL**  
N.T.S.



- LEGEND**
- 700 — EXISTING CONTOURS
  - 700 — PROPOSED CONTOURS
  - B.L. BUILDING SETBACK LINE
  - U.E. UTILITY EASEMENT
  - D.E. DRAINAGE EASEMENT
  - W — EXISTING WATER LINE
  - W — PROPOSED WATER LINE
  - W — PROPOSED WATER SERVICE
  - UTILITY CROSSING
- UTILITY NOTES:**
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
  - REFER TO COVER SHEET FOR BENCHMARK INFORMATION.
  - FIRE HYDRANTS ARE TO BE INSTALLED 5 FOOT OFFSET, TOWARDS THE PAVEMENT SIDE OF THE FULL OFFSITE WATER MAIN ALIGNMENT. CONTRACTOR TO INSTALL FIRE HYDRANTS AT MAXIMUM SPACING OF 1000 FEET.
  - CONTRACTOR TO COORDINATE WITH GVSUD ON TIMING OF TIE-INS AND ABANDONMENT.
  - CONTRACTOR TO VERIFY LOCATION OF EXISTING WATER MAIN A MINIMUM OF 300 LF AHEAD OF NEW MAIN INSTALLATION AT ALL TIE-IN LOCATIONS OR CROSSINGS, AND NOTIFY GVSUD INSPECTOR.
  - CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING OR OTHER APPROVED MEANS.
  - CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
  - DISINFECTION SHALL BE BY MACHINE CHLORINATION.
  - MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPLETED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
  - ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
  - ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ANSI C-151.

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 TO 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 COMPACTION 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.

**TCEQ WATER MAIN/ WASTEWATER CROSSING NOTES:**  
WHERE A POTABLE WATERLINE CROSSES A WASTEWATER MAIN OR LATERAL ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER MAIN OR LATERAL AT THE CROSSING SHALL BE PRESSURE RATED PIPE (ASTM 224) WITH A MINIMUM RATING OF 160 PSI. WHENEVER POSSIBLE THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL.  
THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOIN ON EACH END. THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.

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  
TBPBLS FIRM F-10961  
TBPBLS FIRM 10153600

STATE OF TEXAS  
ROBERT DREW BURNETT  
154995  
LICENSED PROFESSIONAL ENGINEER  
Drew Burnett

02/26/2026

ALTWEIN OVERALL WATER PLAN

COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2026**

DRAWN BY: **LB**

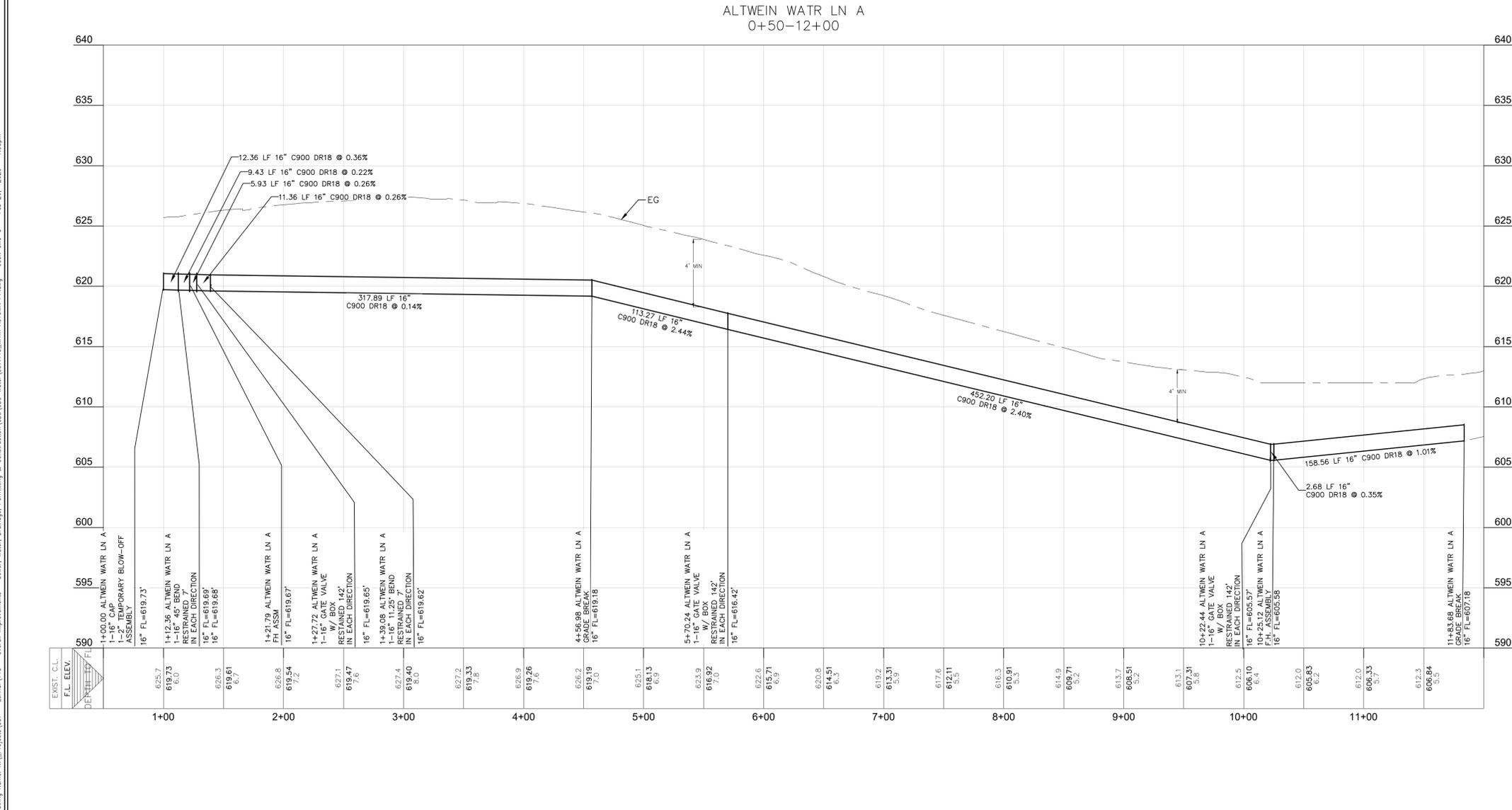
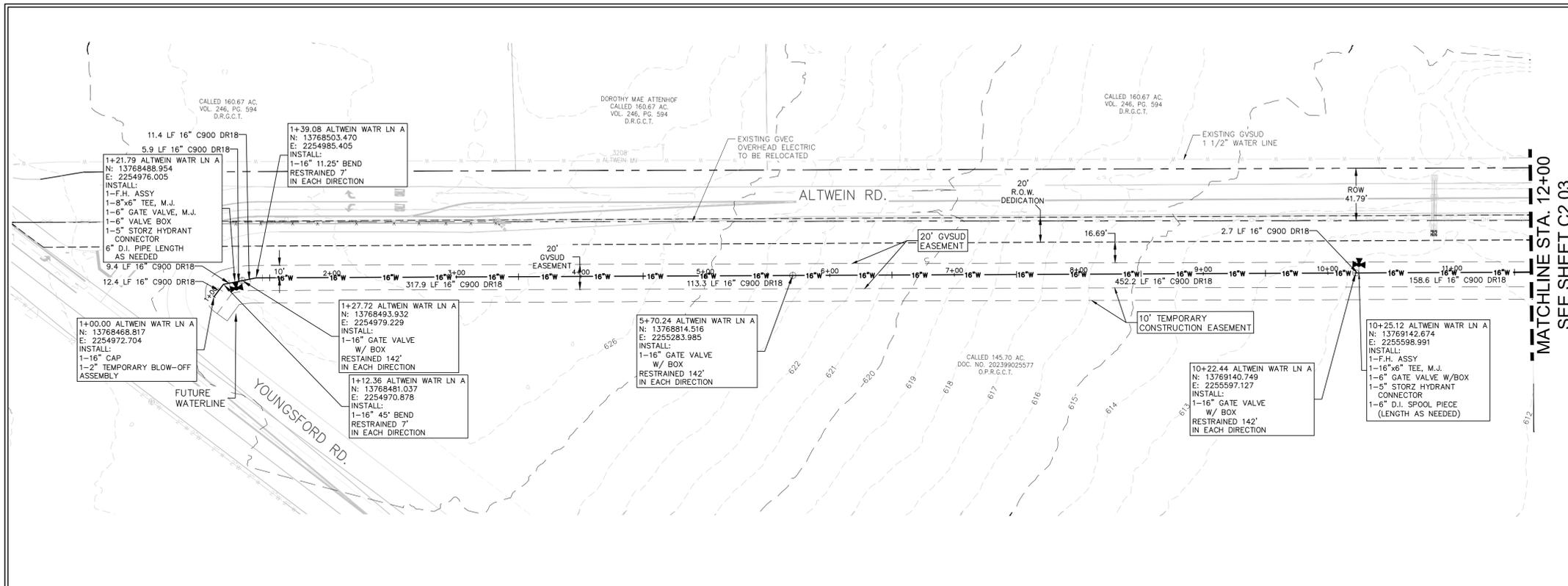
DESIGNED BY: **ROB**

REVIEWED BY: **CVH**

HMT PROJECT NO.: **337.115**

**SHEET**  
**C2.01**

Drawing Name: N:\Projects\337 - Lenses\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\115-Water\337-115-Water\_AUTUMN\_PP.dwg User: allie-d Feb 26, 2026 - 1:08pm



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 TO 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 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 NEW BRAUNFELS 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 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.

**DEEP TRENCH COMPACTION TESTING**

CITY REQUIREMENTS FOR TESTING SHALL BE ADHERED TO, IN CASES WHERE TRENCH DEPTHS DO NOT ALLOW TECHNICIANS ACCESS, METHODS FOR TESTING SHALL BE PROPOSED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.

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 TO 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  
TBPBLS FIRM F-10961  
TBPBLS FIRM 10153600

**HMT**  
ENGINEERING & SURVEYING

STATE OF TEXAS  
ROBERT DREW BURNETT  
154995  
LICENSED PROFESSIONAL ENGINEER  
*Robert Burnett*

02/26/2026

**WATER LINE A PLAN & PROFILE (1 OF 5)**

COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2026**

DRAWN BY: **LB**

DESIGNED BY: **ROB**

REVIEWED BY: **CVH**

HMT PROJECT NO.: **337.115**

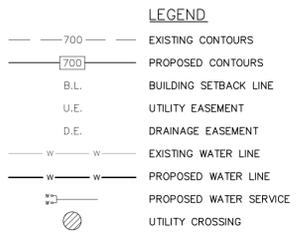
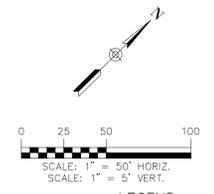
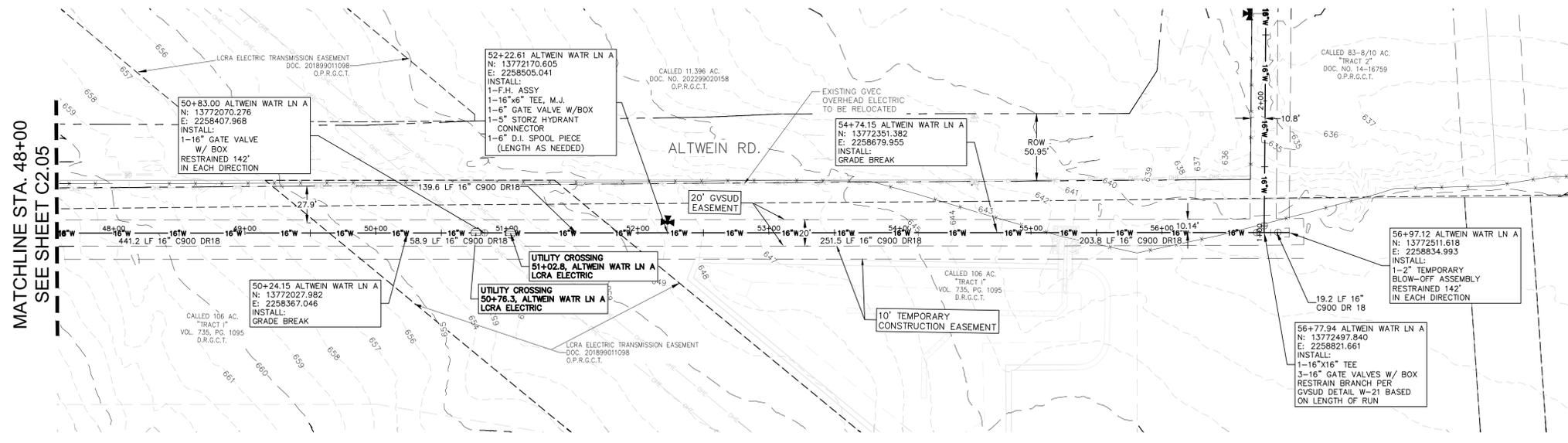
**SHEET C2.02**



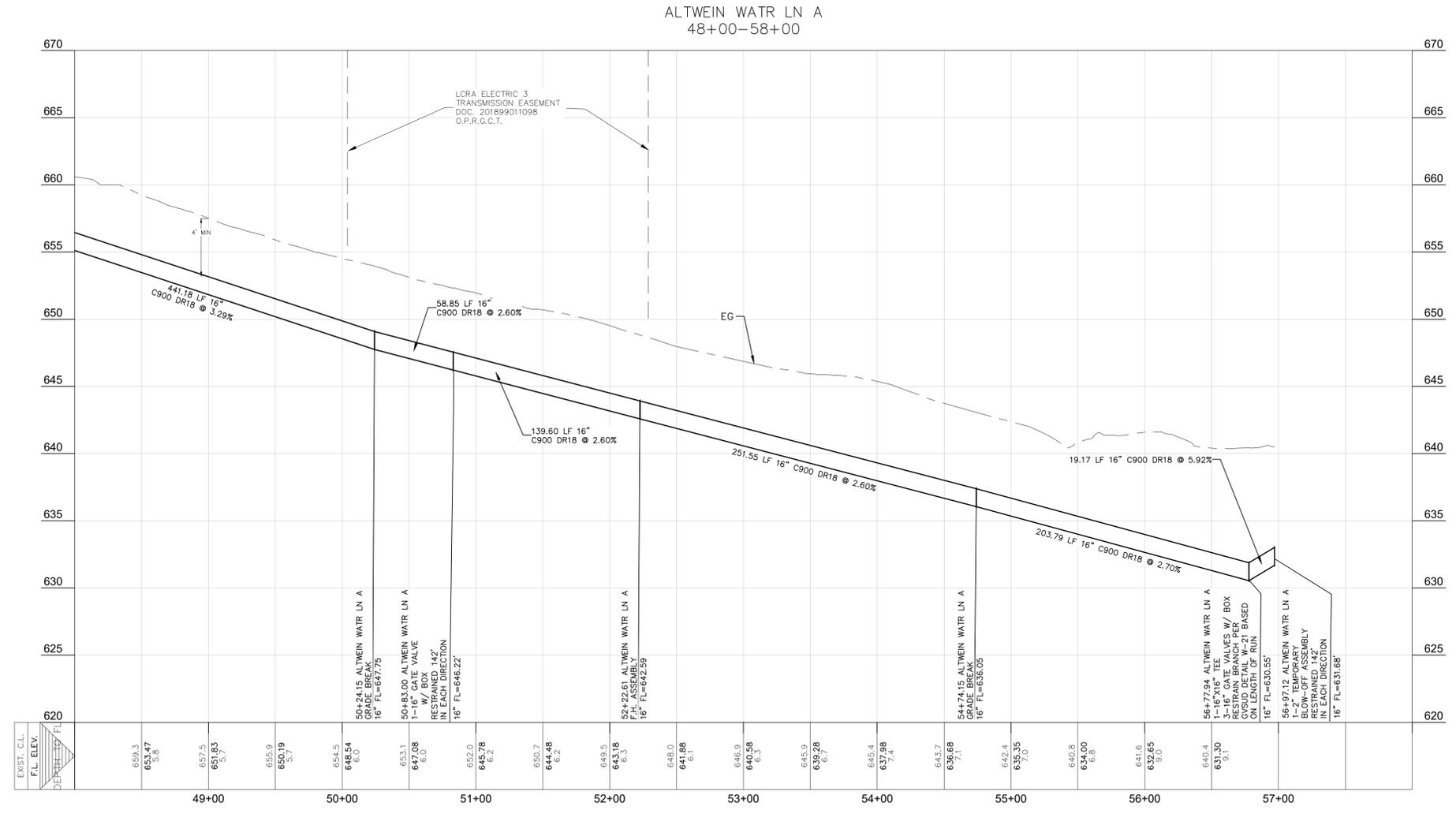




Drawing Name: N:\Projects\337 - Lennet\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-Water\337-115\_WAIR\_AUTUMN\_PP.dwg User: alle-d Feb 26, 2026 - 1:08pm



- UTILITY NOTES:
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
  - NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
  - CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
  - MOISTURE DENSITY COMPACTION TESTING FREQUENCY-WATER MAIN TRENCHES REQUIRED 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
  - ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ANSI C-151.
  - CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
  - FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
  - DISINFECTANT SHALL BE BY MACHINE CHLORINATION.
  - ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
  - PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12-INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES.
  - WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM OF 5-FOOT BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.



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**UTILITY TRENCH COMPACTION**

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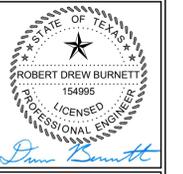
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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPBELS FIRM F-10961  
TBPBELS FIRM 10153600



02/26/2026

**WATER LINE A PLAN & PROFILE (5 OF 5)**

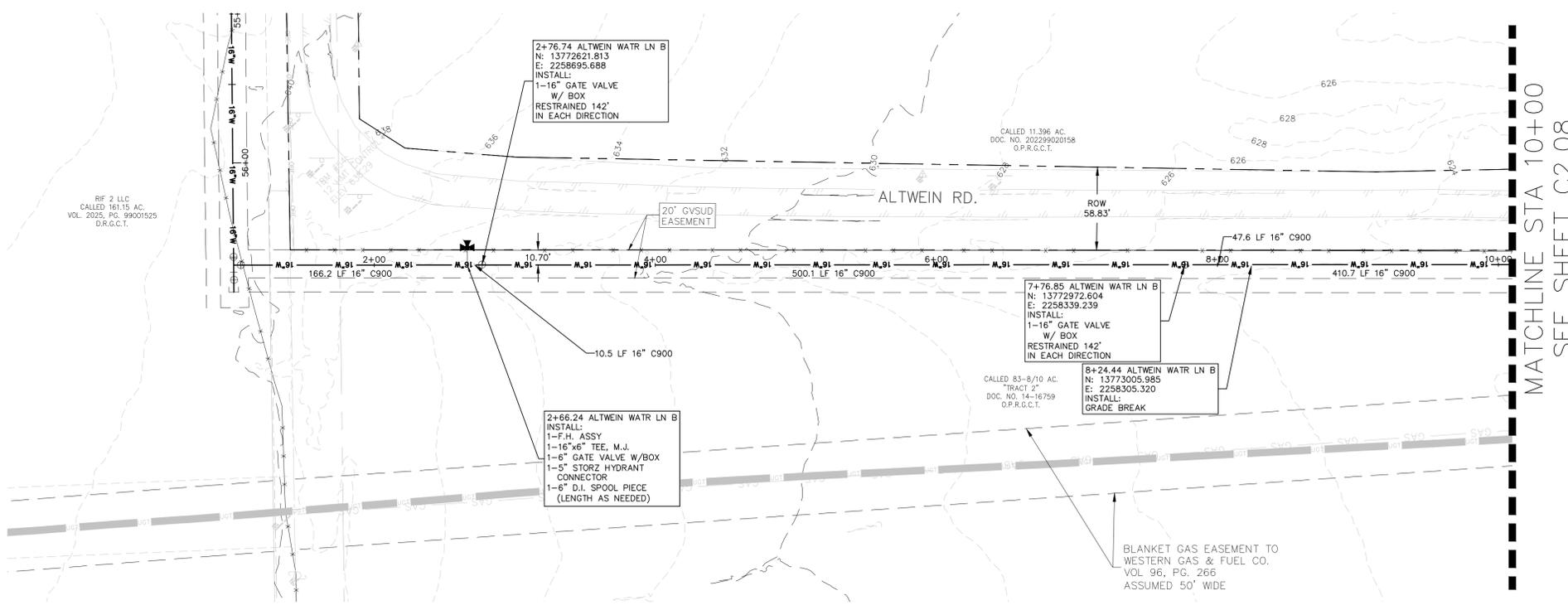
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2026  
DRAWN BY: LB  
DESIGNED BY: RDB  
REVIEWED BY: CVH  
HMT PROJECT NO.: 337.115

**SHEET C2.06**

Drawing Name: N:\\_Projects\337 - Lennet\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-Water\337-115\_WAIR\_PP.dwg User: ellie-d Feb 26, 2026 - 1:08pm



**LEGEND**

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- W — EXISTING WATER LINE
- W — PROPOSED WATER LINE
- W — PROPOSED WATER SERVICE
- X — UTILITY CROSSING

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

- UTILITY NOTES:**
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  - NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
  - CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
  - MOISTURE DENSITY COMPACTION TESTING FREQUENCY—WATER MAIN TRENCHES REQUIRED, 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
  - ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ANSI C-151.
  - CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
  - FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM BACK OF CURB.
  - DISINFECTION SHALL BE BY MACHINE CHLORINATION.
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  - WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM OF 5-FOOT BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.

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

**HMT**  
ENGINEERING & SURVEYING

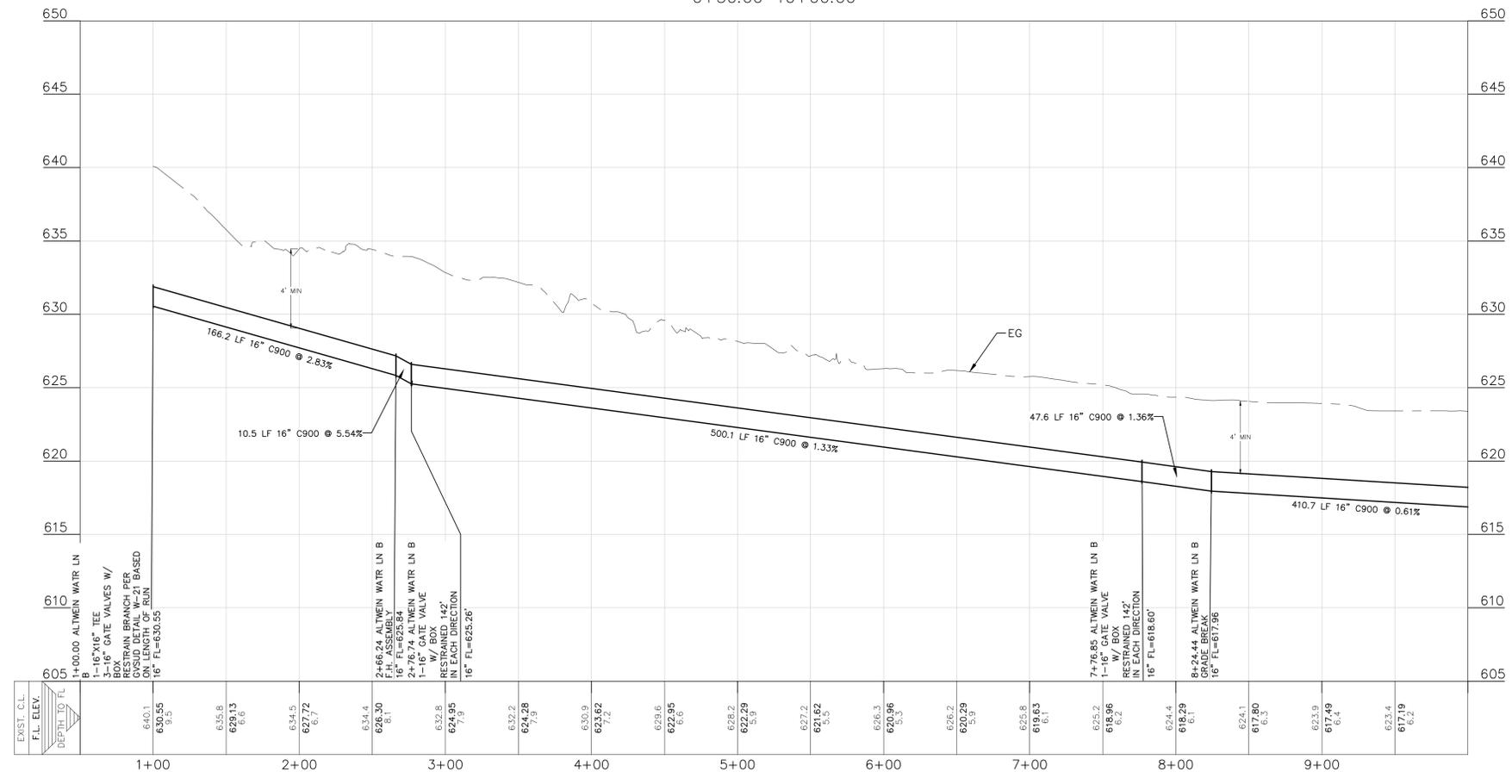


02/26/2026

**WATER LINE B PLAN & PROFILE (1 OF 5)**

COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

ALTWEIN WATR LN B  
0+50.00-10+00.00



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NO.	REVISION DESCRIPTION	REVISION DATE

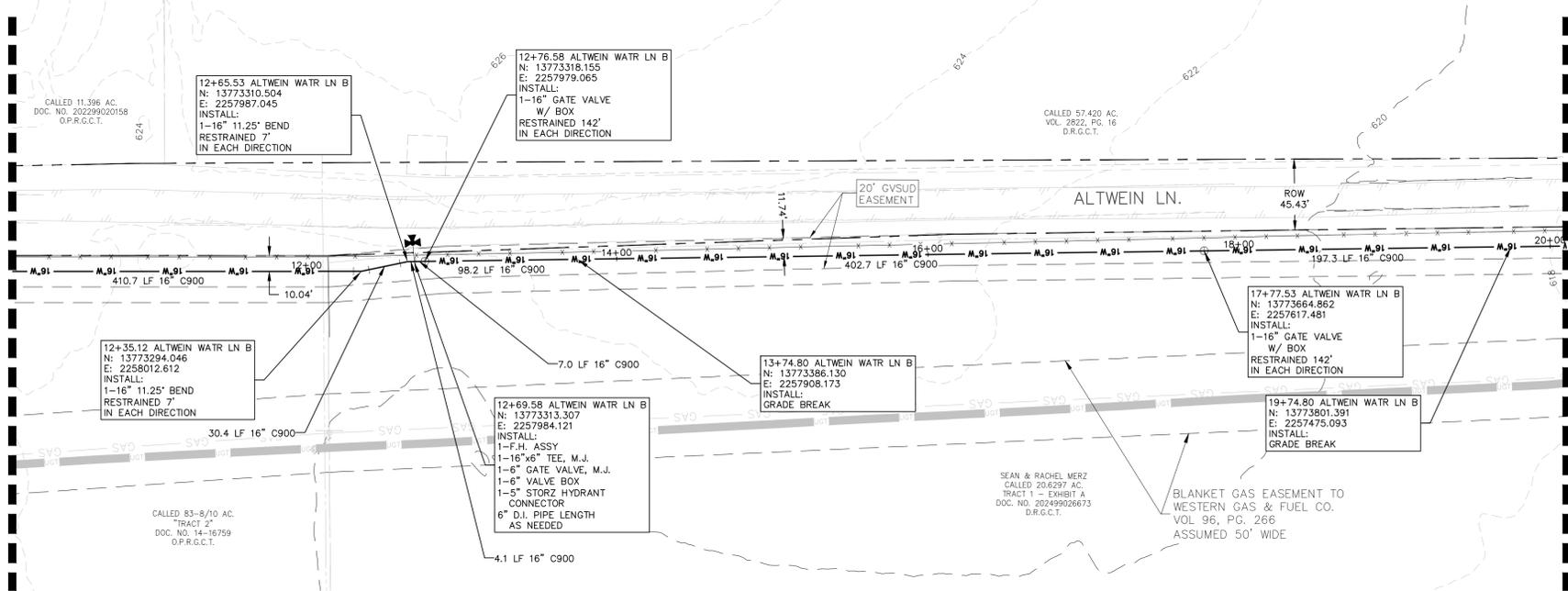
DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CVH**

HMT PROJECT NO.: **337-115**

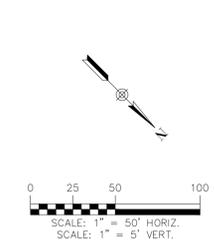
**SHEET C2.07**

Drawing Name: N:\Projects\337 - Lennex\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-Water\337-115\_WAIR\_PP.dwg User: ell-d Feb 26, 2026 - 1:08pm

MATCHLINE STA 10+00  
SEE SHEET C2.07



MATCHLINE STA 20+00  
SEE SHEET C2.09



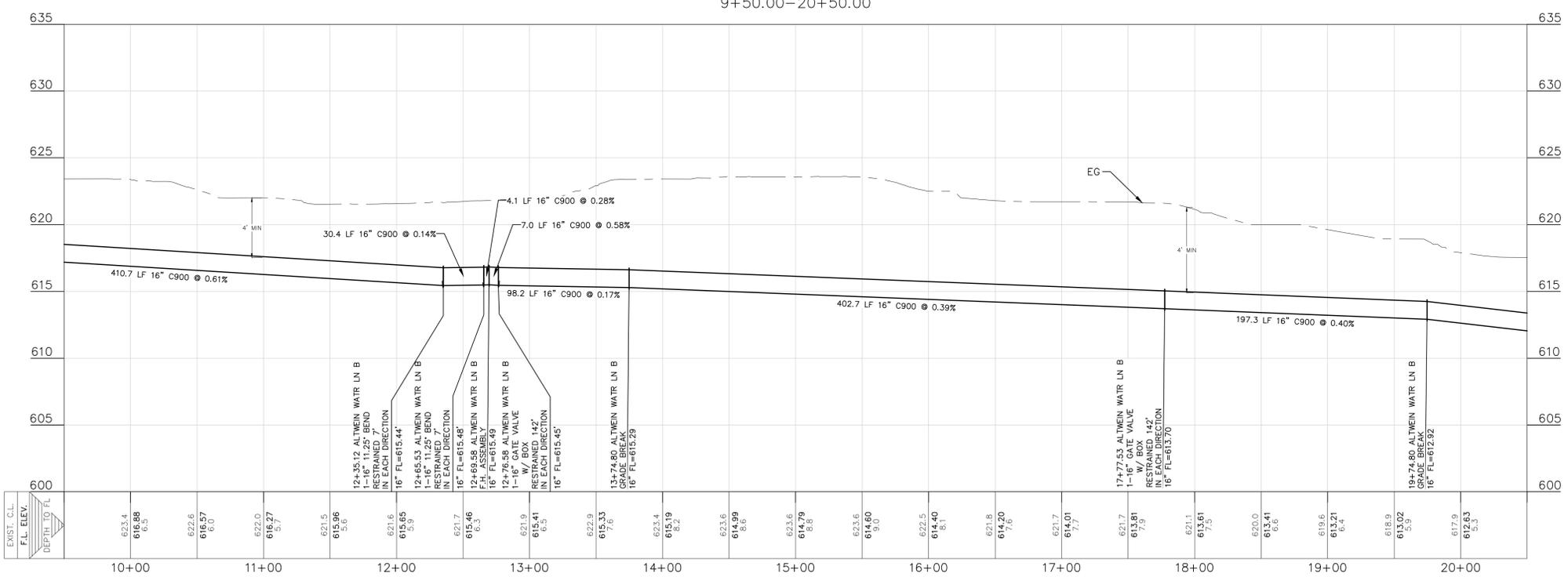
**LEGEND**

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- D.E. — DRAINAGE EASEMENT
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- — UTILITY CROSSING

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**ALTWEIN WATR LN B  
9+50.00-20+50.00**



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



02/26/2026

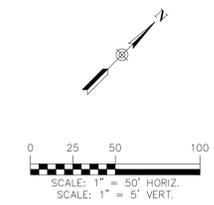
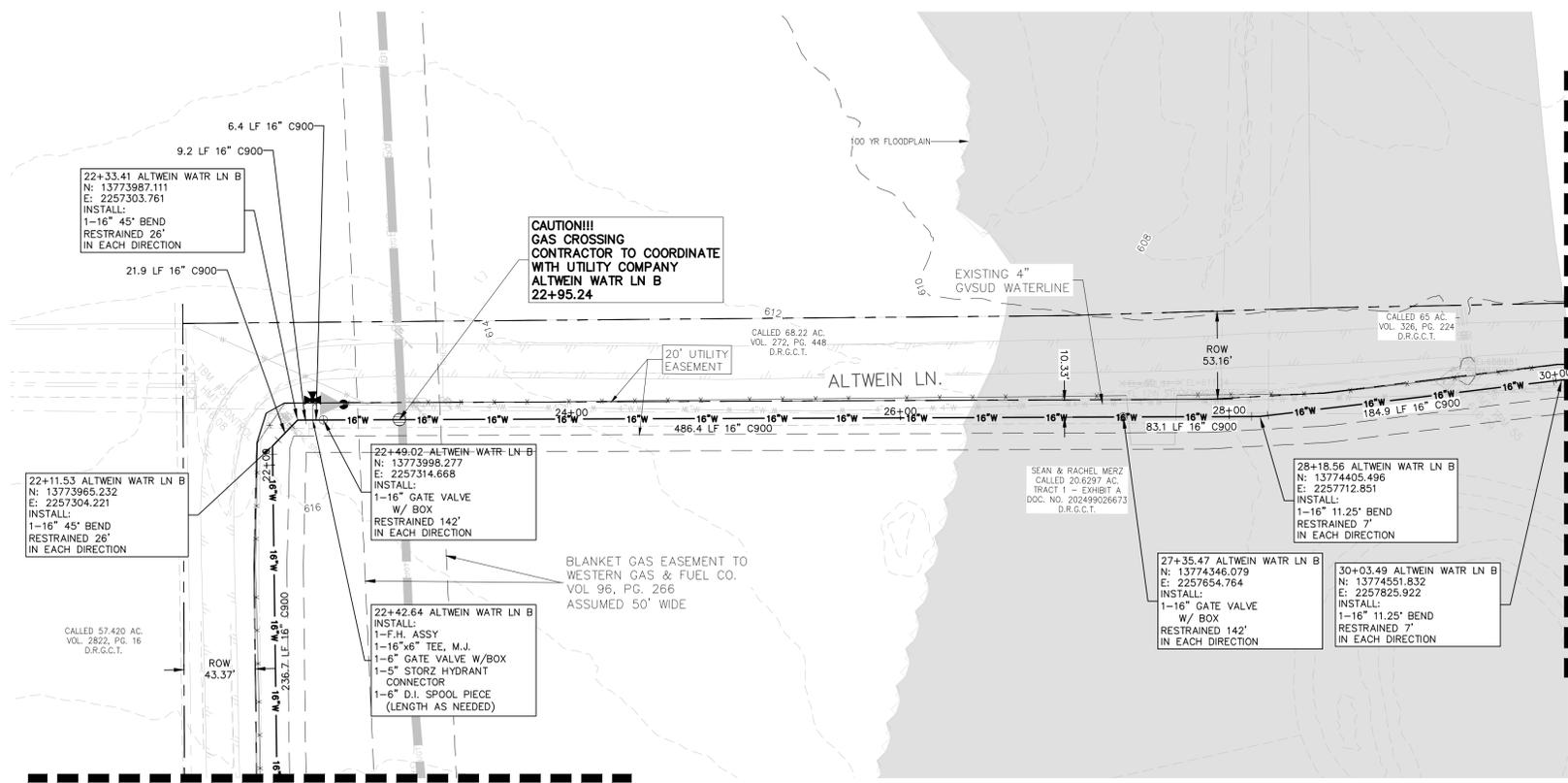
**WATER LINE B PLAN & PROFILE (2 OF 5)**  
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DATE	REVISION DESCRIPTION

DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CVH**

HMT PROJECT NO.: **337.115**  
**SHEET C2.08**

Drawing Name: N:\\_Projects\337 - Lennex\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-Water\337-115\_WATR\_PP.dwg User: ell-d Feb 26, 2026 - 1:08pm



**LEGEND**

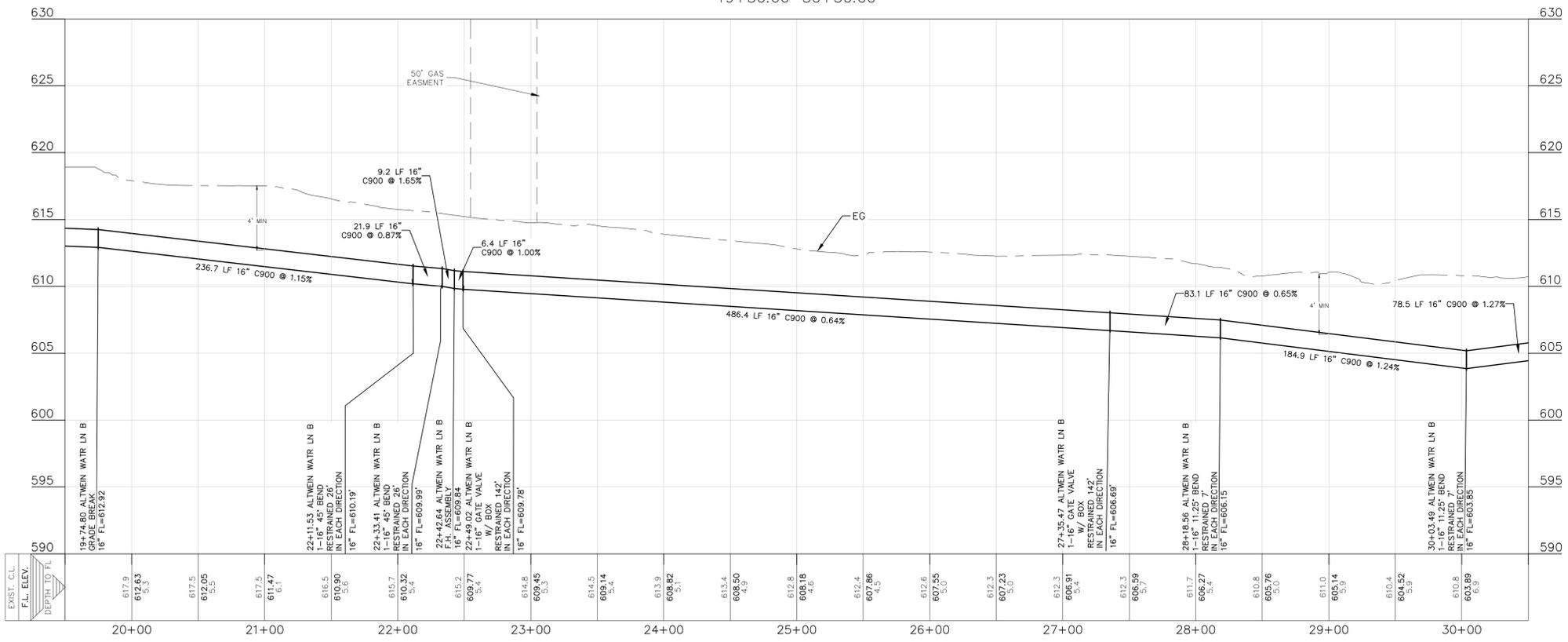
--- 700 ---	EXISTING CONTOURS
--- 700 ---	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
--- W ---	EXISTING WATER LINE
--- W ---	PROPOSED WATER LINE
--- W ---	PROPOSED WATER SERVICE
--- X ---	UTILITY CROSSING

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  - WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM OF 5- FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.

MATCHLINE STA 20+00  
SEE SHEET C2.08

MATCHLINE STA 30+00  
SEE SHEET C2.10

ALTWEIN WATR LN B  
19+50.00-30+50.00



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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
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TBPELS FIRM 10153600



02/26/2026

**WATER LINE B PLAN & PROFILE (3 OF 5)**  
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE

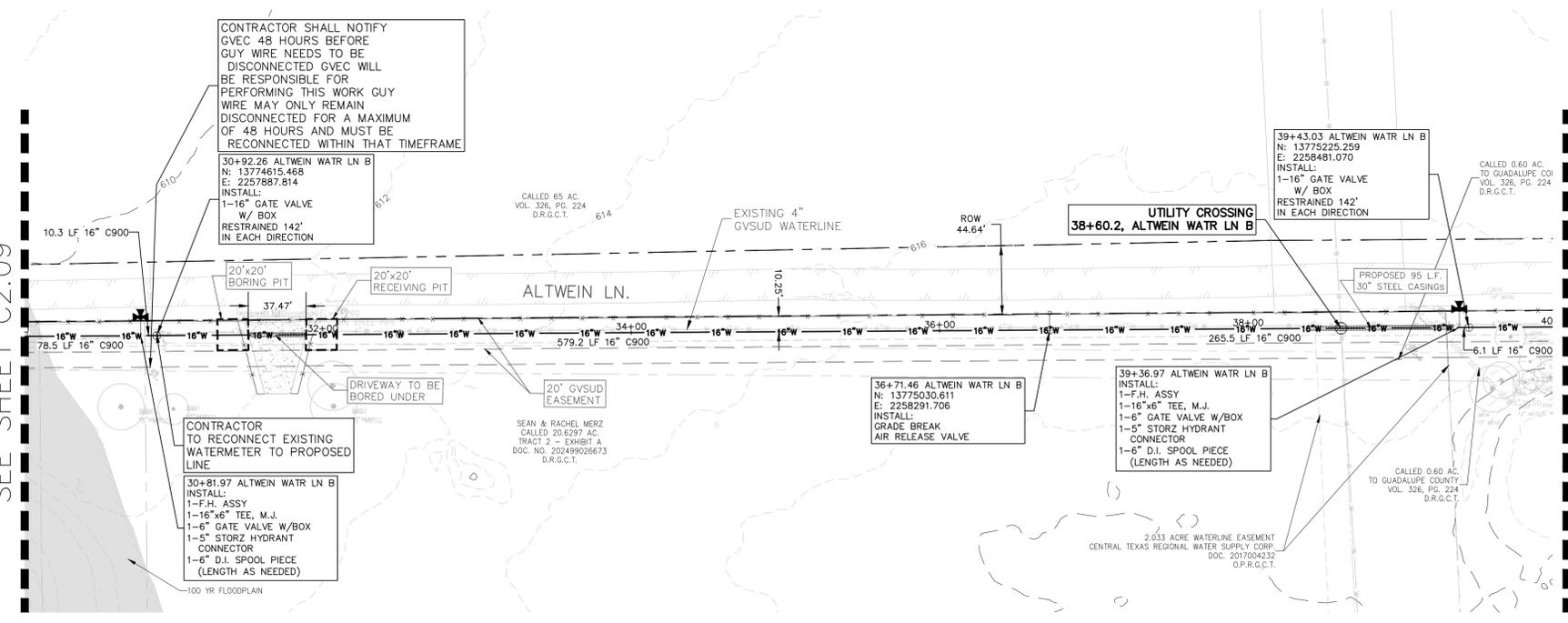
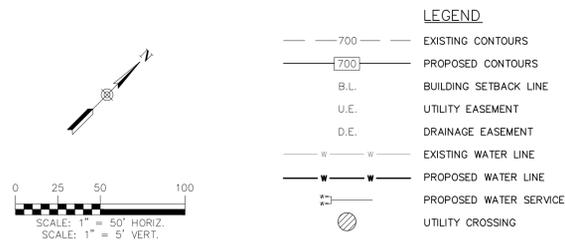
DATE: **JANUARY 2026**  
DRAWN BY: **LB**  
DESIGNED BY: **ROB**  
REVIEWED BY: **CVH**

HMT PROJECT NO.:  
**337-115**  
**SHEET**  
**C2.09**

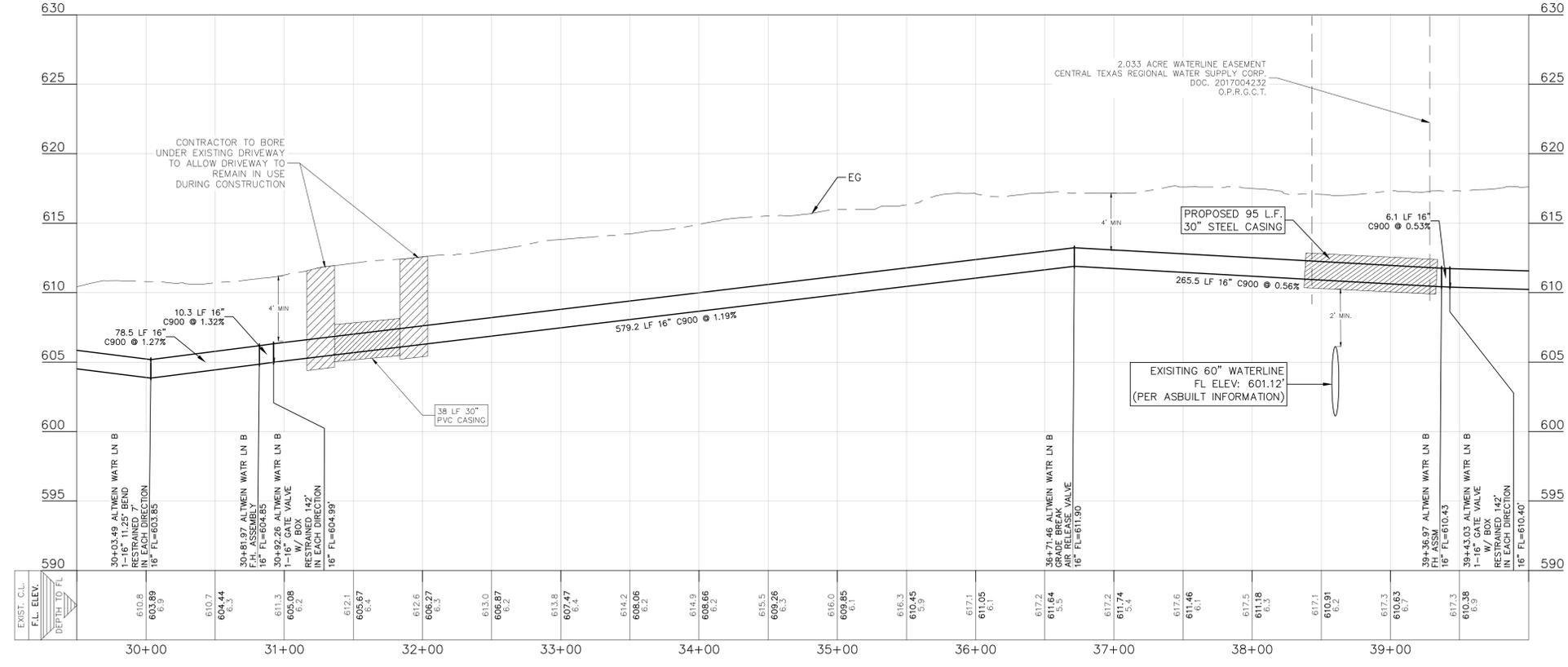
Drawing Name: N:\\_Projects\337 - Lennex\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\337-115\_WAIR\_PP.dwg User: ell-d Feb 26, 2026 - 1:08pm

MATCHLINE STA 30+00  
SEE SHEET C2.09

MATCHLINE STA 40+00  
SEE SHEET C2.11



ALTWEIN WATR LN B  
29+50.00-40+00.00



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CITY REQUIREMENTS FOR TESTING SHALL BE ADHERED TO, IN CASES WHERE TRENCH DEPTHS DO NOT ALLOW TECHNICIANS ACCESS, METHODS FOR TESTING SHALL BE PROPOSED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.

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 TO 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  
TBPBLS FIRM F-10961  
TBPBLS FIRM 10153600

STATE OF TEXAS  
ROBERT DREW BURNETT  
154995  
LICENSED PROFESSIONAL ENGINEER

02/26/2026

**WATER LINE B PLAN & PROFILE (4 OF 5)**

COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS

NO.	REVISION DATE	REVISION DESCRIPTION

DATE: **JANUARY 2026**

DRAWN BY: **LB**

DESIGNED BY: **ROB**

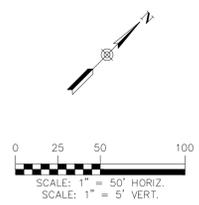
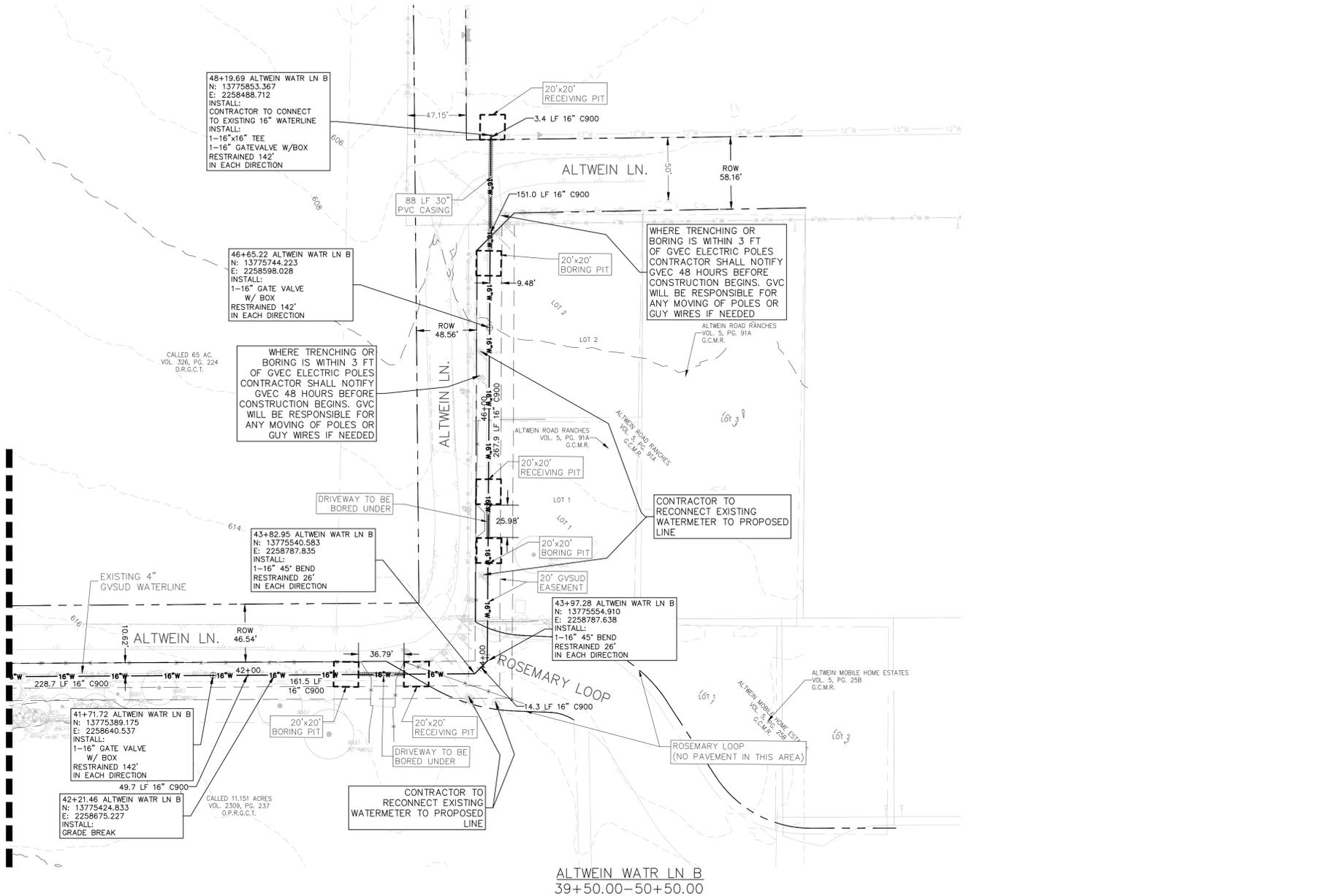
REVIEWED BY: **CVH**

HMT PROJECT NO.: **337.115**

**SHEET C2.10**

Drawing Name: N:\\_Projects\337 - Lennex\115 - Overall Improvements - Sewer, Water, Drainage, Permitting & Construction\CD\337-Water\337-115\_WAIR\_PP.dwg User: ellie-d Feb 26, 2026 - 1:09pm

MATCHLINE STA 40+00  
SEE SHEET C2.10

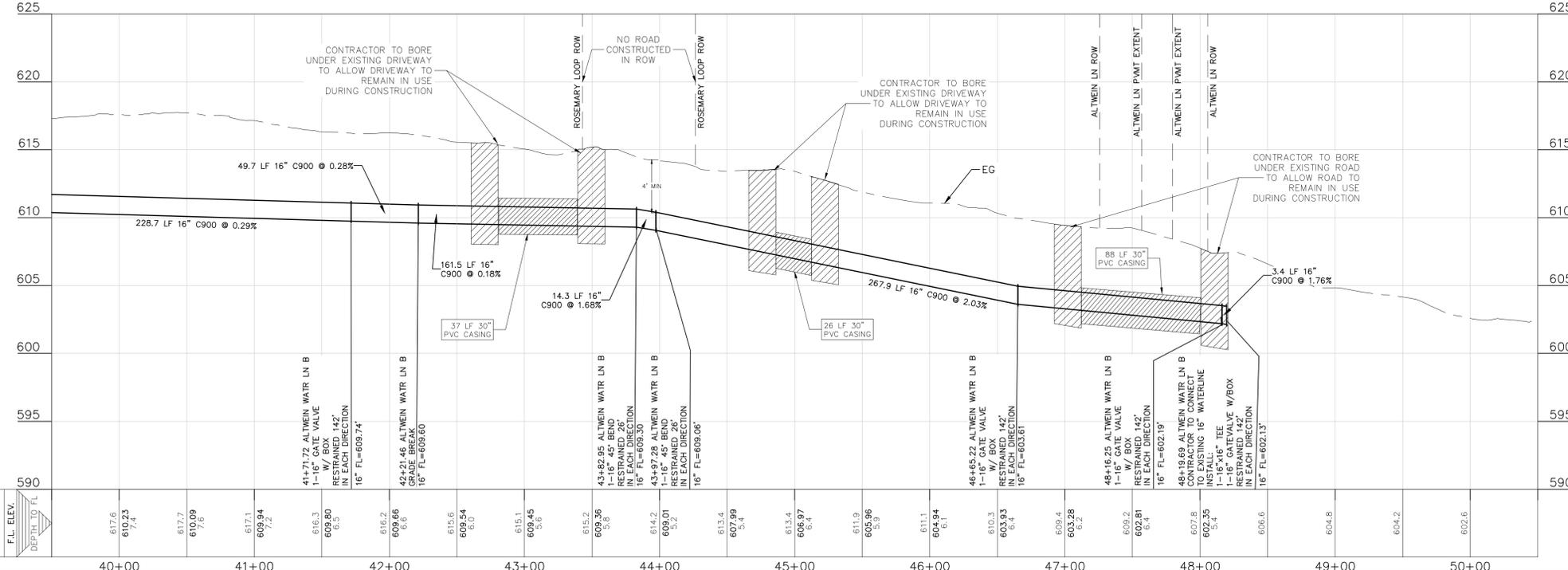


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02/26/2026

WATER LINE B PLAN &  
PROFILE (5 OF 5)  
COLINA RANCH EAST WATER IMPROVEMENTS  
NEW BRAUNFELS, TEXAS



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DATE: JANUARY 2026  
DRAWN BY: LB  
DESIGNED BY: RDB  
REVIEWED BY: CVH  
HMT PROJECT NO.: 337.115

**SHEET**  
**C2.11**

