

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

GREEN VALLEY SPECIAL UTILITY DISTRICT (WATER)	830-914-2330
GBRA (SEWER)	830-379-5822
GVEC (ELECTRIC)	830-857-1200
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 CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

BRAND AND TYPE MATERIAL

PIPE- JM EAGLE 8" C909 DR18 AND 16" C905 DR18
MJ FITTINGS- SIP INDUSTRIES
FIRE HYDRANTS AND VALVES- CLOW
MEGALUGS & JOINT RESTRAINTS-FORD
BRASS & SADDLES- FORD
MUNICIPAL POLY PIPE- REHAU
METER BOXES- DFW
VALVE BOXES- SIP INDUSTRIES

RESTRAINED LENGTH NOTES:

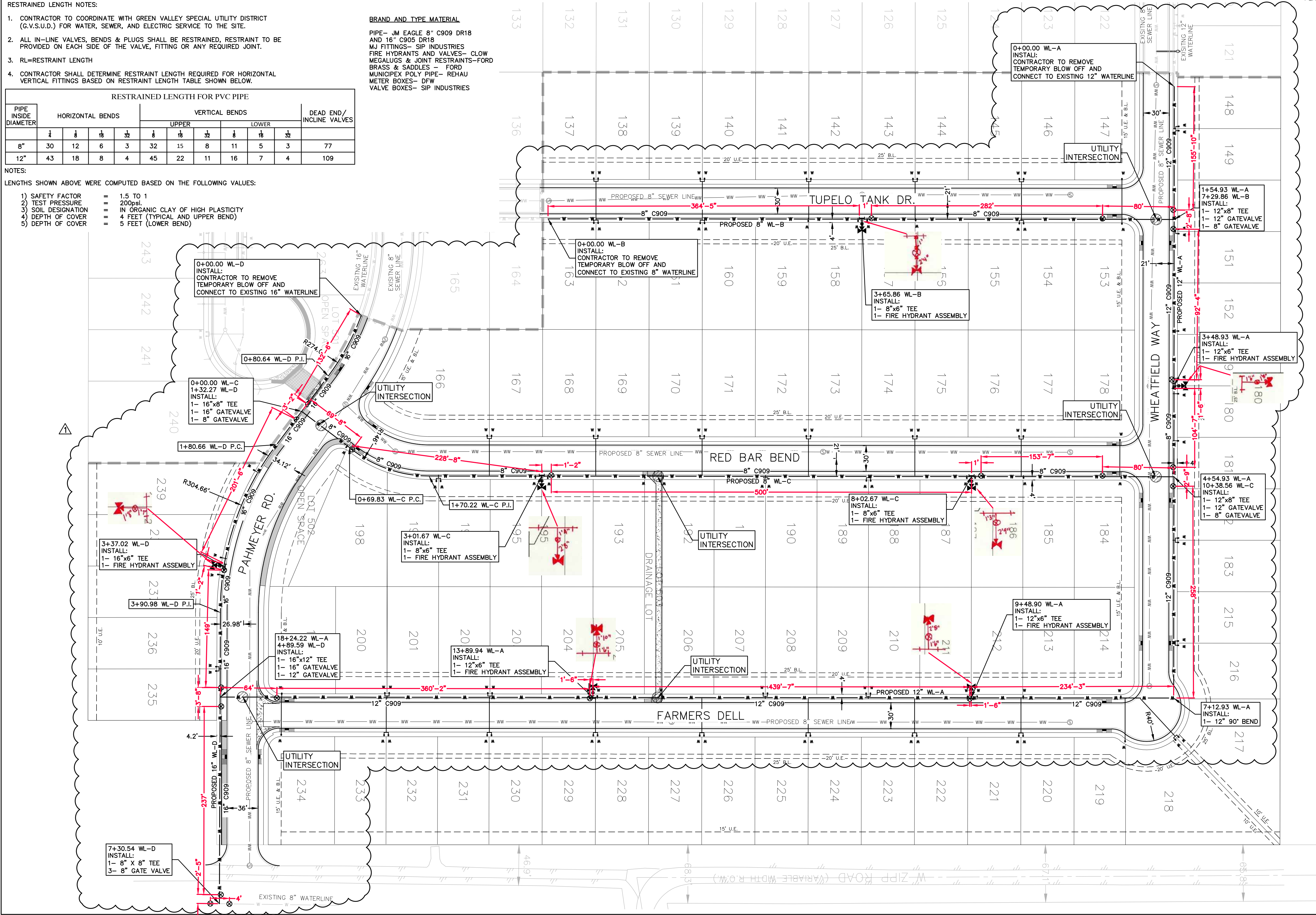
- CONTRACTOR TO COORDINATE WITH GREEN VALLEY SPECIAL UTILITY DISTRICT (G.V.S.U.D.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PVC PIPE												
PIPE INSIDE DIAMETER	HORIZONTAL BENDS				VERTICAL BENDS							DEAD END/ INCLINE VALVES
					UPPER			LOWER				
	1/4"	1/2"	3/4"	1"	1/4"	1/2"	3/4"	1"	1 1/2"	2"		
8"	30	12	6	3	32	15	8	11	5	3		77
12"	43	18	8	4	45	22	11	16	7	4		109

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psi
- SOIL DESIGNATION = IN ORGANIC CLAY OF HIGH PLASTICITY
- DEPTH OF COVER = 4 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)



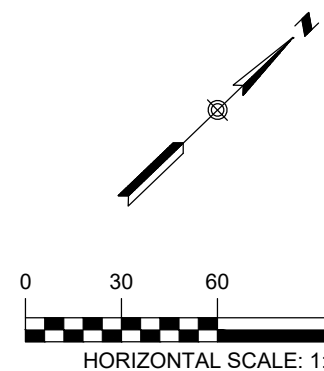
RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE ENGINEER IS NOT RESPONSIBLE FOR ITS ACCURACY OR FOR ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DATE: APRIL 2020

BY: *Chris Van Heerde, P.E.*

HMT ENGINEERING AND SURVEYING



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER LINE
- UTILITY CROSSING

NOTE:

- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- 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 PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

- All workmanship and Materials for the Water System shall conform to the Construction Standards of Green Valley S.U.D.
- Six inch, 8", 12" and 16" water pipe shall be PVC AWWA approved C-909/C-905, pressure class 235. Services shall be Type "K" soft copper. All fittings shall be domestic Ductile Iron Mechanical Joint. Foster Adapter, Anchor nipple or Ford Uni-Flange retainer glands and thrust blocks shall be used on all fittings and valves. Water Mains shall have an absolute minimum 36" depth under street and 42" in all other areas. ALL WATERLINES MUST BE BEDDED; ALL BEDDING MATERIAL SHALL BE A "PIT RUN OR SCREEN FIELD SAND. Submittal approval by Green Valley. A tracer wire shall be installed on the pipe line and brought up into valve boxes for locate purposes and 12" wide tracer tape 1ft. above the pipe.
- Streets will be excavated down to sub-grade and the street contractor prior to construction of the sewer and water mains will cut down the parkways to the top of curb.
- All sewer pipes crossing the water distribution system will be held in strict accordance with TNCRCC Rules and Regulations. Proposed subgrade limits and dimensions must be shown on the plans and construction procedures will be inspected to verify that TNCRCC section 290.44(c)(5)(B) are met.
- Contractor shall provide "as-built" water line plans before final inspection. The plans shall list material manufacturers, line length from fitting to fitting and tap locations.
- The existence and location of underground utilities indicated are taken from records available and are not guaranteed, but shall be investigated and verified by the contractor before starting work. The contractor will be held responsible for any damage to and for maintenance protection of the existing utilities whether they are shown on the plans or not.
- A preconstruction meeting shall be held before construction begins. The Green Valley inspector shall be notified at least forty-eight hours prior to backfilling or testing.
- No valves in the Green Valley SUD water distribution system shall be operated by the contractor without prior permission of the District. The contractor shall notify Green Valley SUD when a valve is to be operated and shall only operate the valve in the presence of the Green Valley SUD representative.
- All water pipe, fittings, and valves shall be laid in sand embankment. The sand shall fully encase all pipes including fittings and valves a minimum of twelve (12) inches. All fittings and valves are to receive thrust blocking and Foster Adapter, anchor nipple, Ford Uni-Flan retainer gland joint restraints. Bell joint restraints specified by Green Valley staff or the Districts engineer.
- New water mains shall pass the pressure testing and the Minimum Public Health Standards for Bacteriological Quality prior to any tie in to existing water mains and service line transfers. The contractor shall make all ties to existing mains required by the plans as soon as pipelaying reaches the designated location except where the plans provide for a tie in to be made after new mains have been approved and accepted for service by the owner.
- No other utility closer than 3 feet to water main. All services to be 1" Copper.

- Tapping machines utilized for the purpose of installing tapping valves up to 2", corporations stop, and air release valves will be of the purge type, which at the time of tapping shall expel all chips and residue to atmosphere through an appropriate outlet.
- Pressure testing shall be every 200 LF (Max) of 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.
- 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.
- Service taps to be made with single brass strap tapping saddle with iron pipe threads.
- Standard fire hydrant shall include hydrant, 6" resilient gate valve and box, anchor fittings, pipe and all appurtenances. Hydrants shall be limited to those manufactured by Mueller. And the barrel to be silver. With a Storz connection on steamer nozzle. Fittings for plug to be tied to valve.
- Valves shall be AWWA approved resilient seated gate valve open left and limited to those manufactured by Mueller. Contractor shall install valves as to not interfere with curb or wheelchair ramps. No water meter services may be set in wheel chair ramps.
- Contractor shall chlorinate new mains with HTH; the Contractor shall coordinate with the District inspector to witness chlorinating of new mains and pressure test. Acceptable test results must be provided to the District.
- All service crossings to be encased with no less than 3" PVC glued type pipe.
- No trees may be planted in the areas designated as water or utility easements, or areas where water mains and water service crossings exist or planned to be constructed.
- The contractor shall furnish the Engineer with all the as-built drawings with final measurements.
- The locations and depths of any existing utilities, including service laterals, and drainage structures shown on the plans are approximate only. The Contractor shall verify the exact location and depths of underground utilities at least 48 hours prior to construction whether shown on the plans or not, and to protect the same during construction.
- All garbage or spoil material from this work shall be removed from the site by the contractor, at his expense.
- Meter box single- DFW36C 16X11" plastic meter box with rebar, ARM and knock out. Meter box Double-DFW38C 17X15" dual plastic meter box with rebar, ARM and knock out.
- The Ford U branch to be used on all dual services (U48-43Q) with the 5/8x3/4 female thread angle head. All other angle heads will be the Ford Q nut. All corp. stops will be IPS x Q nut. NO CC threaded corps will be accepted.

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.

410 N. SEGUN AVENUE
NEW BRAUNFELS, TX 78130
HMT@HMT.COM
P:361.923.8555 F:361.923.8556
T:361.923.8556
T:361.923.8556

HMT
ENGINEERING & SURVEYING



Chris Van Heerde, P.E.

OVERALL WATER PLAN

THE SILOS
UNIT 3

NO.	REVISION	DATE	DESCRIPTION
1	AS-BUILTS	04/2020	

DATE: SEPTEMBER 2018

DRAWN BY: MM

DESIGNED BY: AM/MM

REVIEWED BY: SMH/SCH

HMT PROJECT NO.:
056.013

SHEET
C6.0