

CITY OF ROCKWALL, TEXAS

CONSTRUCTION PLANS FOR:

TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION

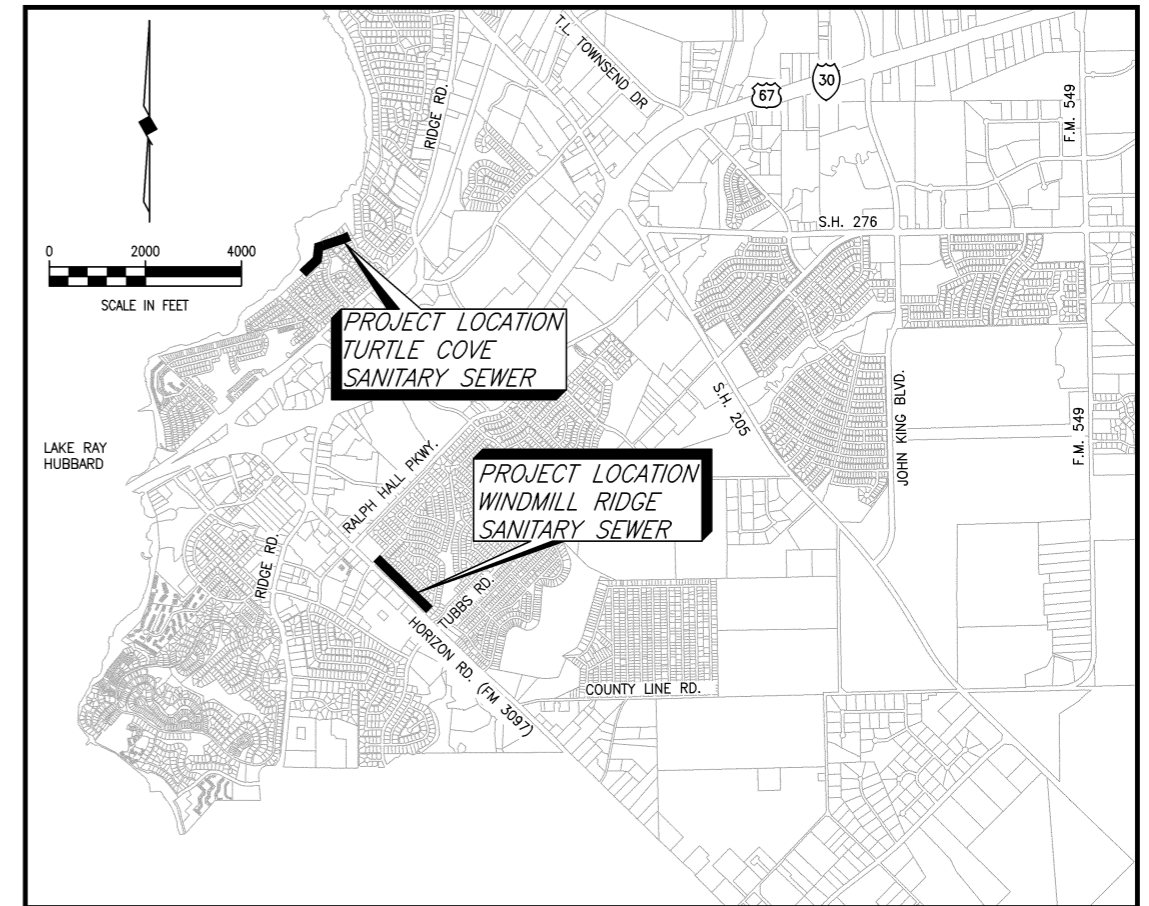
ROCKWALL PROJECT NO. CIP - SS2019-002

CONTRACTOR: NO-DIGTEC, LLC.
ADDRESS/PHONE NO.: 415 EWING BOULEVARD
FERRIS, TX 75125
972-488-9910

CONTRACT COMPLETION DATE: DECEMBER 3, 2021

ORIGINAL CONTRACT AMOUNT: \$757,933.00
FINAL CONTRACT AMOUNT: \$770,053.00

CITY INSPECTOR: AARON CLARK



LOCATION MAP

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET, LOCATION MAP & SHEET INDEX
2-3	CITY OF ROCKWALL GENERAL CONSTRUCTION NOTES
4	WINDMILL RIDGE SANITARY SEWER COORDINATE CONTROL PLAN & SEWAGE BYPASS PUMPING
5	WINDMILL RIDGE SITE ACCESS AND EROSION CONTROL PLAN
6	WINDMILL RIDGE SAN. SEW. PLAN & PROFILE STA. 0+00 TO STA. 4+00
7	WINDMILL RIDGE SAN. SEW. PLAN & PROFILE STA. 4+00 TO STA. 8+00
8	WINDMILL RIDGE SAN. SEW. PLAN & PROFILE STA. 8+00 TO STA. 12+00
9	WINDMILL RIDGE SAN. SEW. PLAN & PROFILE STA. 12+00 TO STA. 15+36.53
10	TURTLE COVE SANITARY SEWER COORDINATE CONTROL & SEWAGE BYPASS PUMPING
11	TURTLE COVE EROSION CONTROL AND ACCESS PLANS
12	TURTLE COVE SAN. SEW. PLAN & PROFILE STA. 0+00 TO STA. 4+00
13	TURTLE COVE SAN. SEW. PLAN & PROFILE STA. 4+00 TO STA. 7+00
14	TURTLE COVE SAN. SEW. PLAN & PROFILE STA. 7+00 TO STA. 11+00
15	TURTLE COVE SAN. SEW. PLAN & PROFILE STA. 11+00 TO STA. 12+23.86
16-20	CITY OF ROCKWALL CONSTRUCTION DETAILS
21-22	EROSION CONTROL DETAILS
23	MISCELLANEOUS CONSTRUCTION DETAILS

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PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
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JUNE 2020



[Handwritten Signature]
06/19/20

This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Carter, L.L.P.
BY D.B.C. DATE 11/22/21

GENERAL ITEMS

- All construction shall conform to the requirements set forth in the City of Rockwall's Engineering Department's "Standards of Design and Construction" and the "Standard Specifications for Public Works Construction" by the North Texas Central Council of Governments, 5th edition amended by the City of Rockwall. The CONTRACTOR shall reference the latest City of Rockwall standard details provided in the Rockwall Engineering Departments "Standards of Design and Construction" manual for details not provided in these plans. The CONTRACTOR shall possess one set of the NCTCOG Standard Specifications and Details and the City of Rockwall's "Standards of Design and Construction" manual on the project site at all times
- Where any conflicting notes, details or specifications occur in the plans the City of Rockwall General Construction Notes, Standards, Details and Specifications shall govern unless detail or specification is more strict.
- The City of Rockwall Engineering Departments "Standards of Design and Construction" can be found online at: <http://www.rockwall.com/engr.asp>
- All communication between the City and the CONTRACTOR shall be through the Engineering Construction Inspector and City Engineer or designated representative only. It is the responsibility of the CONTRACTOR to contact the appropriate department for inspections that do not fall under this approved engineering plan set.
- Prior to construction, CONTRACTOR shall have in their possession all necessary permits, plans, licenses, etc.
- The CONTRACTOR shall have at least one original stamped and signed set of approved engineering plans and specifications on-site and in their possession at all times. A stop work order will be issued if items are not on-site. Copies of the approved plans will not be substituted for the required original "approved plans to be on-site".
- All material submittals, concrete batch designs and shop drawings required for City review and approval shall be submitted by the CONTRACTOR to the City sufficiently in advance of scheduled construction to allow no less than 10 business days for review and response by the City.
- All site dimensions are referenced to the face of curb or edge of pavement unless otherwise noted.
- The City requires ten (10%) percent-two (2) year maintenance bond for paving, paving improvements, water systems, wastewater systems, storm sewer systems including detention systems, and associated fixtures and structures which are located within the right-of-ways or defined easements. The two (2) year maintenance bond is to state "from date of City acceptance" as the starting time.
- A review of the site shall be conducted at twenty (20) months into the two (2) year maintenance period. The design engineer or their designated representative and the CONTRACTOR shall be present to walk the site with the City of Rockwall Engineering Inspection personnel.

EROSION CONTROL & VEGETATION

- The CONTRACTOR or developer shall be responsible, as the entity exercising operational control, for all permitting as required by the Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ). This includes, but is not limited to, preparation of the Storm Water Pollution Prevention Plan (SWPPP), the Construction Site Notice (CSN), the Notice of Intent (NOI), the Notice of Termination (NOT) and any Notice of Change (NOC) and is required to pay all associated fees
- Erosion control devices as shown on the erosion control plan for the project shall be installed prior to the start of land disturbing activities.
- All erosion control devices are to be installed in accordance with the approved plans, specifications and Storm Water Pollution Prevention Plan (SWPPP) for the project. Erosion control devices shall be placed and in working order prior to start of construction. Changes are to be reviewed and approved by the design engineer and the City of Rockwall prior to implementation.
- If the Erosion Control Plans and Storm Water Pollution Prevention Plan (SWPPP) as approved cannot appropriately control erosion and off-site sedimentation from the project, the erosion control plan and/or the SWPPP is required to be revised and any changes reported to the Texas Commission on Environmental Quality (TCEQ), when applicable.
- All erosion control devices shall be inspected weekly by the CONTRACTOR and after all major rain events, or more frequently as dictated in the project Storm Water Pollution Prevention Plan (SWPPP). CONTRACTOR shall provide copies of inspection's reports to the engineering inspection after each inspection.
- The CONTRACTOR shall not dispose of waste and any materials into streams, waterways or floodplains. The CONTRACTOR shall secure all excavation at the end of each day and dispose of all excess materials.
- CONTRACTOR shall take all available precautions to control dust. CONTRACTOR shall control dust by sprinkling water or other means as approved by the City Engineer.
- CONTRACTOR shall establish grass and maintain the seeded area, including watering, until a "Permanent Stand of Grass" is obtained at which time the project will be accepted by the City. A "Stand of Grass" (not winter rye or weeds) shall consist of 75% to 80% coverage of all disturbed areas and a minimum of one-inch (1") in height as determined by the City. No bare spots will be allowed. Re-seeding will be required in all washed areas and areas that don't grow.
- All City right-of-ways shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.
- All adjacent streets/alleys shall be kept clean at all times
- CONTRACTOR shall keep construction site clean at all times, immediately contain all debris and trash, all debris and trash shall be removed at the end of each work day, and all vegetation on the construction site 10-inches or taller in height must be cut immediately.
- Suspension of all construction activities for the project will be enforced by the City if any erosion control requirements are not met. Work may commence after deficiency has been rectified.
- During construction of the project, all soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The CONTRACTOR is responsible for the temporary protection and permanent stabilization of all soil stockpiles on-site as well as borrow areas and soil intentionally transported from the project site.
- Where construction vehicles access routes intersect paved or public roads/alleys, construction entrances shall be installed to minimize the transport of sediment by vehicular tracking onto paved surfaces. Where sediment is transferred onto paved or public surfaces, the surface shall be immediately cleaned. Sediment shall be

removed from the surface by shoveling or sweeping and transported to a sediment disposal area. Pavement washing shall be allowed only after sediment is removed in this manner.

- All drainage inlets shall be protected from siltation, ineffective or unmaintained protection devices shall be immediately replaced and the inlet and storm system cleaned. Flushing is not an acceptable method of cleaning.
- During all dewatering operations, water shall be pumped into an approved filtering device prior to discharge into a receiving outlet.

TRAFFIC CONTROL

- All new Detouring or Traffic Control Plans are required to be submitted to the City for review and approval a minimum of 21 calendar days prior to planned day of implementation.
- When the normal function of the roadway is suspended through closure of any portion of the right-of-way, temporary construction work zone traffic control devices shall be installed to effectively guide the motoring public through the area. Consideration for road user safety, worker safety, and the efficiency of road user flow is an integral element of every traffic control zone.
- All traffic control plans shall be prepared and submitted to the Engineering Department in accordance with the standards identified in Part VI of the most recent edition of the TMUTCD. Lane closures will not occur on roadways without an approval from the Rockwall Engineering Department and an approved traffic control plan. Traffic control plans shall be required on all roadways as determined by the City Engineer or the designated representative.
- All traffic control plans must be prepared, signed, and sealed by an individual that is licensed as a professional engineer in the State of Texas. All traffic control plans and copies of work zone certification must be submitted for review and approval a minimum of three (3) weeks prior to the anticipated temporary traffic control.
- The CONTRACTOR executing the traffic control plan shall notify all affected property owners two (2) weeks prior to any the closures in writing and verbally.
- Any deviation from an approved traffic control plan must be reviewed by the City Engineer or the designated representative. If an approved traffic control plan is not adhered to, the CONTRACTOR will first receive a verbal warning and be required to correct the problem immediately. If the deviation is not corrected, all construction work will be suspended, the lane closure will be removed, and the roadway opened to traffic.
- All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time at the end of the workday, all temporary traffic control devices that are no longer appropriate shall be removed or covered. The first violation of this provision will result in a verbal warning to the construction foreman. Subsequent violations will result in suspension of all work at the job site for a minimum of 48 hours. All contractors working on City funded projects will be charged one working day for each 24 hour closure.
- Lane closures on any major or minor arterial will not be permitted between the hours of 6:00 am to 9:00 am and 3:30 pm to 7:00 pm. Where lane closures are needed in a school area, they will not be permitted during peak hours of 7:00 am – 9:00 am and 3:00 pm to 5:00 pm. Closures may be adjusted according to the actual start-finish times of the actual school with approval by the City Engineer. The first violation of this provision will result in a verbal warning to the construction foreman. Subsequent violations will result in suspension of all work at the job site for a minimum of 48 hours. All contractors working on City funded projects will be charged one working day for each 24 hour closure of a roadway whether they are working or not.
- No traffic signs shall be taken down without permission from the City.
- No street/roadway will be allowed to be fully closed.

UTILITY LINE LOCATES

- It is the CONTRACTOR's responsibility to notify utility companies to arrange for utility locates at least 48 hours prior to beginning construction. The completeness and accuracy of the utility data shown on the plans is not guaranteed by the design engineer or the City. The CONTRACTOR is responsible for verifying the depth and location of existing underground utilities proper to excavating, trenching, or drilling and shall be required to take any precautionary measures to protect all lines shown and .or any other underground utilities not on record or not shown on the plans.
- The CONTRACTOR shall be responsible for damages to utilities
- CONTRACTOR shall adjust all City of Rockwall utilities to the final grades.
- All utilities shall be placed underground.
- CONTRACTOR shall be responsible for the protection of all existing main lines and service lines crossed or exposed by construction operations. Where existing mains or service lines are cut, broken or damaged, the CONTRACTOR shall immediately make repairs to or replace the entire service line with same type of original construction or better. The City of Rockwall can and will intervene to restore service if deemed necessary and charge the CONTRACTOR for labor, equipment, material and loss of water if repairs aren't made in a timely manner by the CONTRACTOR.
- The City of Rockwall (City utilities) is not part of the Dig Tess or Texas one Call – 811 – line locate system. All City of Rockwall utility line locates are to be scheduled with the City of Rockwall Service Center. 972-771-7730. A 48-hour advance notice is required for all non-emergency line locates.
- Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
 - No more than 500 linear feet of trench may be opened at one time.
 - Material used for backfilling trenches shall be properly compacted to 95% standard density in order to minimize erosion, settlement, and promote stabilization that the geotechnical engineer recommends.
 - Applicable safety regulations shall be complied with.
- This plan details pipes up to 5 feet from the building. Refer to the building plans for building connections. CONTRACTOR shall supply and install pipe adapters as necessary.
- All underground lines shall be installed, inspected, and approved prior to backfilling.
- All concrete encasement shall have a minimum of 28 days compressive strength at 3,000 psi (min. 5.5 sack mix).

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 BY D.B.C. DATE 11/22/21

WATER LINE NOTES

- The CONTRACTOR shall maintain existing water service at all times during construction.
- Proposed water lines shall be AWWA C900-16 PVC Pipe (blue in color) for all sizes, DR 14 (PC 305) for pipeline sizes 12-inch and smaller, and DR 18 (PC 235) for 14-inch and larger water pipelines unless otherwise shown on water plan and profiles sheets. Proposed water lines shall be constructed with minimum cover of 4 feet for 6-inch through 8-inch, 5 feet for 12-inch through 18-inch and 6 feet for 20-inch and larger.
- Proposed water line embedment shall be NCTCOG Class 'B-3' as amended by the City of Rockwall's engineering standards of design and construction manual.
- CONTRACTOR shall coordinate the shutting down of all water lines with the City of Rockwall Engineering Inspector and Water Department. The City shall operate all water valves. Allow 5 business days from the date of notice to allow City personnel time to schedule a shut down. Two additional days are required for the CONTRACTOR to notify residents in writing of the shut down after the impacted area has been identified. Water shut downs impacting businesses during their normal operation hours is not allowed. CONTRACTOR is required to coordinate with the Rockwall Fire Department regarding any fire watch requirements as well as any costs incurred when the loss of fire protection to a structure occurs.
- CONTRACTOR shall furnish and install gaskets on water lines between all dissimilar metals and at valves (both existing and proposed).
- All fire hydrants and valves removed and salvaged shall be returned to the City of Rockwall Municipal Service Center.
- Blue EMS pads shall be installed at every change in direction, valve, curb stop and service tap on the proposed water line and every 250'.
- All water valve hardware and valve extensions, bolts, nuts and washers shall be 316 stainless steel.
- All fire hydrants bolts, nuts and washers that are buried shall be 316 stainless steel.
- Abandoned water lines to remain in place shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product. Valves to be abandoned in place shall have any extensions and the valve box removed and shall be capped in concrete.
- All fire hydrants will have a minimum of 5 feet of clearance around the appurtenance including but not limited to parking spaces and landscaping.
- All joints are to be megalug joints with thrust blocking.
- Water and sewer mains shall be kept 10 feet apart (parallel) or when crossing 2 feet vertical clearance.
- CONTRACTOR shall maintain a minimum of 4 feet of cover on all water lines.
- All domestic and irrigation services are required to have a testable backflow device with a double check valve installed per the City of Rockwall regulations at the property line and shown on plans.

WASTEWATER LINE NOTES

- The CONTRACTOR shall maintain existing wastewater service at all times during construction.
- Wastewater line for 4-inch through 15-inch shall be Green PVC – SDR 35 (ASTM D3034) [less 10 ft cover] and SDR 26 (ASTM D3034) [10 ft or more cover]. For 18-inch and larger wastewater line shall be Green PVC – PS 46 (ASTM F679) [less 10 ft cover] and PS 115 (ASTM F679) [10 ft or more cover]. No services will be allowed on a sanitary sewer line deeper than 10 feet.
- Proposed wastewater line embedment shall be NCTCOG Class 'H' as amended by the City of Rockwall's public works standard design and construction manual.
- Green EMS pads shall be installed at every 250', manhole, clean out and service lateral on proposed wastewater lines.
- CONTRACTOR shall CCTV all existing wastewater lines that are to be abandoned to ensure that all laterals are accounted for and transferred to proposed wastewater lines prior to abandonment.
- All abandoned wastewater and force main lines shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product.
- Existing manholes and cleanouts not specifically called to be relocated shall be adjusted to match final grades.
- All wastewater pipes and public services shall be inspected by photographic means (television and DVD) prior to final acceptance and after franchise utilities are installed. The CONTRACTOR shall furnish a DVD to the Engineering Construction Inspector for review. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the CONTRACTOR at the CONTRACTOR's expense. A television survey will be performed as part of the final testing in the twentieth (20th) month of the maintenance period.
- All manholes (public or private) shall be fitted with inflow prevention. The inflow prevention shall conform to the measures called out in standard detail R-5031.
- All new or existing manholes being modified shall have corrosion protection being Raven Liner 405 epoxy coating, ConShield, or approved equal.. Conshield must have terracotta color dye mixed in the precast and cast-in-place concrete. Where connections to existing manholes are made the CONTRACTOR shall rehab manhole as necessary and install a 125 mil thick coating of Raven Liner 405 or approved equal.
- If an existing wastewater main or trunk line is called out to be replaced in place a wastewater bypassing pump plan shall be required and submitted to the Engineering Construction Inspector and City Engineer for approval prior to implementation. Bypass pump shall be fitted with an auto dialer and conform to the City's Noise Ordinance. Plan shall be to the City sufficiently in advance of scheduled construction to allow no less than 10 business days for review and response by the City.
- CONTRACTOR shall maintain a minimum of 4 feet of cover on all wastewater lines.

SHEET NO.
2



GENERAL CONSTRUCTION NOTES
 Sheet 1 of 2
 June 2020
CITY OF ROCKWALL
ENGINEERING DEPARTMENT
 385 S. Goliad P (972) 771-7746
 Rockwall, Texas 75087 F (972) 771-7748

DEMOLITION, REMOVAL, DISPOSAL AND EXCAVATION NOTES

- All pavements to be removed and replaced shall be saw cut to full depth along neat squared lines shown in the plans.
- Proposed concrete pavement shall be constructed with longitudinal butt construction joints at all connections to existing concrete pavement.
- All public concrete pavement to be removed and replaced shall be full panel replacement, 1-inch thicker and on top of 6-inch thick compacted flexbase.
- No excess excavated material shall be deposited in low areas or along natural drainage ways without written permission from the affected property owner and the City of Rockwall. No excess excavation shall be deposited in the City Limits without a permit from the City of Rockwall. If the CONTRACTOR places excess materials in these areas without written permission, the CONTRACTOR will be responsible for all damages resulting from such fill and shall remove the material at their own cost.

PAVING AND GRADING

- All detention systems are to be installed and verified for design compliance along with the associated storm sewer and outflow structures, prior to the start of any paving operations (including building foundations). Erosion protection shall be placed at the pond outflow structures, silt fence along the perimeter of the pond along with any of the associated erosion BMPs noted on the erosion control plan, and the sides and bottom of the detention system shall have either sod or anchored seeded curlex installed prior to any concrete placement.
- All paving roadway, driveways, fire lanes, drive-isles, parking, dumpster pads, etc. sections shall have a minimum thickness, strength, reinforcement, joint type, joint spacing and subgrade treatment shall at a minimum conform to the City standards of Design and Construction and table below.

Street/Pavement Type	Minimum Thickness (inches)	Strength 28-Day (psi)	Minimum Cement (sacks / CY)		Steel Reinforcement	
			Machine placed	Hand Placed	Bar #	Spacing (O.C.E.W.)
Arterial	10"	3,600	6.0	6.5	#4 bars	18"
Collector	8"	3,600	6.0	6.5	#4 bars	18"
Residential	6"	3,600	6.0	6.5	#3 bars	24"
Alley	7"-5"-7"	3,600	6.0	6.5	#3 bars	24"
Fire Lane	6"	3,600	6.0	6.5	#3 bars	24"
Driveways	6"	3,600	6.0	6.5	#3 bars	24"
Barrier Free Ramps	6"	3,600	N/A	6.5	#3 bars	24"
Sidewalks	4"	3,000	N/A	5.5	#3 bars	24"
Parking Lot/Drive Aisles	5"	3,000	5.0	5.5	#3 bars	24"
Dumpster Pads	7"	3,600	6.0	6.5	#3 bars	24"

- Reinforcing steel shall be tied (100%). Reinforcing steel shall be set on plastic chairs. Bar laps shall be minimum 30 diameters. Sawed transverse dummy joints shall be spaced every 15 feet or 1.25 time longitudinal butt joint spacing whichever is less. Sawing shall occur within 5 to 12 hours after the pour, including sealing. Otherwise, the section shall be removed and longitudinal butt joint constructed.
- No sand shall be allowed under any paving.
- All concrete mix design shall be submitted to the City for review and approval prior to placement.
- Fly ash may be used in concrete pavement locations provided that the maximum cement reduction does not exceed 20% by weight per C.Y. of concrete. The fly ash replacement shall be 1.25 lbs. per 1.0 lb. cement reduction.
- All curb and gutter shall be integral (monolithic) with the pavement.
- All fill shall be compacted by sheep's foot roller to a minimum 95% standard proctor. Maximum loose lift for compaction shall be 8 inches. All lifts shall be tested for density by an independent laboratory. All laboratory compaction reports shall be submitted to the City Engineering Construction Inspector once results are received. All reports will be required prior to final acceptance.
- All concrete compression tests and soil compaction/density tests are required to be submitted to the City's Engineering Inspector immediately upon results.
- All proposed sidewalks shall include barrier free ramps at intersecting streets, alleys, etc. Barrier free ramps (truncated dome plate in Colonial or brick red color) shall meet current City and ADA requirements and be approved by the Texas Department of Licensing and Regulation (TDLR).
- All public sidewalks shall be doweled into pavement where it abuts curbs and driveways. Expansion joint material shall be used at these locations.
- All connection of proposed concrete pavement to existing concrete pavement shall include a longitudinal butt joint as the load transfer device. All longitudinal butt joints shall be clean, straight and smooth (not jagged in appearance)
- Cracks formed in concrete pavement shall be repaired or removed by the CONTRACTOR at the City's discretion. CONTRACTOR shall replace existing concrete curbs, sidewalk, paving, a gutters as indicated on the plans and as necessary to connect to the existing infrastructure, including any damage caused by the CONTRACTOR.
- All residential lots will require individual grading plans submitted during the building permit process that correspond with the engineered grading and drainage area plans.
- Approval of this plan is not an authorization to grade adjacent properties when the plans or field conditions warrant off-site grading. Written permission must be obtained and signed from the affected property owner(s) and temporary construction easements may be required. The written permission shall be provided to the City as verification of approval by the adjacent property owner(s). Violation of this requirement will result in suspension of all work at the job site until issue has been rectified.
- All cut or fill slopes of non-paved areas shall be a maximum of 4:1 and minimum of 1%.
- CONTRACTOR agrees to repair any damage to property and the public right-of-way in accordance with the City Standards of Design and Construction.
- CONTRACTOR shall protect all monuments, iron pins/rods, and property corners during construction.
- CONTRACTOR shall ensure positive drainage so that runoff will drain by gravity flow to new or existing drainage inlets or sheet flow per these approved plans.

DRAINAGE / STORM SEWER NOTES

- The CONTRACTOR shall maintain drainage at all times during construction. Ponding of water in streets, drives, trenches, etc. will not be allowed. Existing drainage ways shall not be blocked or removed unless explicitly stated in the plans or written approval is given by the City.
- All structural concrete shall be 4200 psi compressive strength at 28 days minimum 7.0 sack mix, air entrained, unless noted otherwise. Fly ash shall not be allowed in any structural concrete.
- Proposed storm sewer embedment shall be NCTCOG Class 'B' as amended by the City of Rockwall's Engineering Department Standards of Design and Construction Manual.
- All public storm pipe shall be a minimum of 18-inch reinforced concrete pipe (RCP), Class III, unless otherwise noted.
- All storm pipe entering structures shall be grouted to assure connection at the structure is watertight.
- All storm structures shall have a smooth uniform poured mortar invert from invert in to invert out.
- All storm sewer manholes in paved areas shall be flush with the paving grade, and shall have traffic bearing ring and covers.

RETAINING WALLS

- All retaining walls, regardless of height, will be reviewed and approved by the City Engineering Department
- All retaining walls (including foundation stem walls), regardless of height, will be constructed of rock/stone/brick or rock/stone/brick faced. No smooth concrete walls are allowed. Wall materials shall be the same for all walls on the project.
- All portions, including footings, tie-backs, and drainage backfill, of the wall shall be on-site and not encroach into any public easements or right-of-way. The entire wall shall be in one lot and shall not be installed along a lot line.
- All walls 3 feet and taller will be designed and signed/sealed by a registered professional engineer in the State of Texas. The wall design engineer is required to inspect the wall construction and supply a signed/sealed letter of wall construction compliance to the City of Rockwall along with wall as-builts prior to City Engineering acceptance.
- No walls are allowed in detention easements. A variance to allow retaining walls in a detention easement will require approval by the Planning and Zoning Commission with appeals being heard by the City Council.

FINAL ACCEPTANCE AND RECORD DRAWINGS/AS-BUILTS

- Final Acceptance shall occur when all the items on the Checklist for Final Acceptance have been completed and signed-off by the City. An example of the checklist for final acceptance has been included in the Appendix of the Standards of Design and Construction. Items on the checklist for final acceptance will vary per project and additional items not shown on the check list may be required.
- After improvements have been constructed, the developer shall be responsible for providing to the City "As Built" or "Record Drawings". The Design Engineer shall furnish all digital files of the project formatted in Auto Cad 14, or 2000 format or newer and Adobe Acrobat (.pdf) format with a CD-ROM disk or flash drive. The disk or drive shall include a full set of plans along with any landscaping, wall plans, and details sheets.
- Submit 1-set of printed drawings of the "Record Drawings" containing copies of all sheets to the Engineering Construction Inspector for the project. The printed sheets will be reviewed by the inspector PRIOR to producing the "Record Drawing" digital files on disk or flash drive. This will allow any revisions to be addressed prior to producing the digital files.
- Record Drawing Disk drawings shall have the Design Engineers seal, signature and must be stamped and dated as "Record Drawings" or "As Built Drawings" on all sheets.
- The City of Rockwall will not accept any Record Drawing disk drawings which include a disclaimer. A disclaimer shall not directly or indirectly state or indicate that the design engineer or the design engineer's surveyor/surveyors did not verify grades after construction, or that the Record Drawings were based solely on information provided by the construction contractor/contractors. Any Record Drawings which include like or similar disclaimer verbiage will not be accepted by the City of Rockwall.
- Example of Acceptable Disclaimer: "To the best of our knowledge ABC Engineering, Inc., hereby states that this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor."

SHEET NO.
3



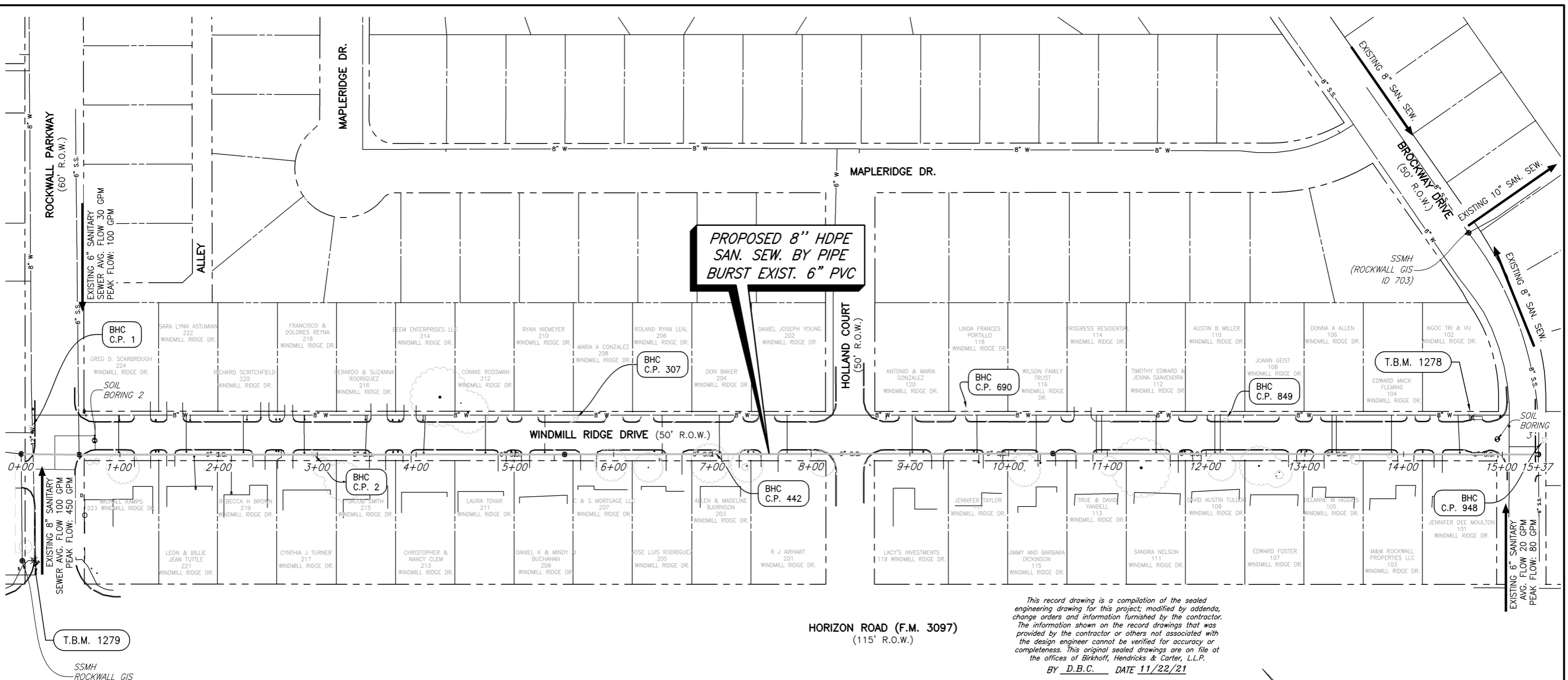
GENERAL CONSTRUCTION NOTES
Sheet 2 of 2
June 2020

**CITY OF ROCKWALL
ENGINEERING DEPARTMENT**

385 S. Goliad
Rockwall, Texas 75087

P (972) 771-7746
F (972) 771-7748

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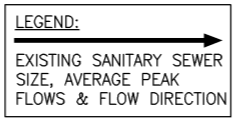
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NOTES:

- CONTRACTOR SHALL PROVIDE, TEMPORARY SEWAGE BYPASS SYSTEM CAPABLE OF HANDLING FLOWS IN THE SEWER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
- A CONSTRUCTION SEQUENCING PLAN, INCLUDING A SEWAGE BYPASS PLAN SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- AVERAGE AND PEAK WASTEWATER FLOWS SHOWN ARE ESTIMATED.
- DRIVEWAY ACCESS FOR RESIDENTS AND LOCAL TRAFFIC MUST BE MAINTAINED AT ALL TIMES. THE COST OF PROVIDING RAMPS OR OTHER ACCESS DEVICES NECESSARY SHALL BE SUBSIDIARY TO THE UNIT COST OF PROPOSED PIPE.

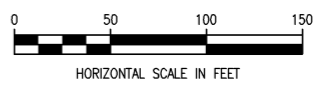
BASIS OF COORDINATE CONTROL:

COORDINATES CITED IN THESE PLANS ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202.



BHC CONTROL POINTS

C.P.	Description	Northing	Easting	Elevation
1	60D NAIL SET	7012260.38	2592583.79	546.29
2	60D NAIL SET	7012041.91	2592770.41	541.33
307	60D NAIL SET	7011882.39	2592985.16	536.63
442	60D NAIL SET	7011760.59	2593062.80	533.48
690	60D NAIL SET	7011610.83	2593274.29	528.56
849	60D NAIL SET	7011422.21	2593456.48	525.06
948	60D NAIL SET	7011183.21	2593673.84	522.13



BHC TEMPORARY BENCHMARKS

T.B.M.	Description	Northing	Easting	Elevation
1278	"X" CUT IN CONC. INLET	7011250.79	2593636.74	522.29
1279	"X" CUT IN CONC. INLET	7012161.93	2592492.01	546.18

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 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



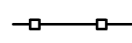
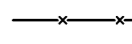


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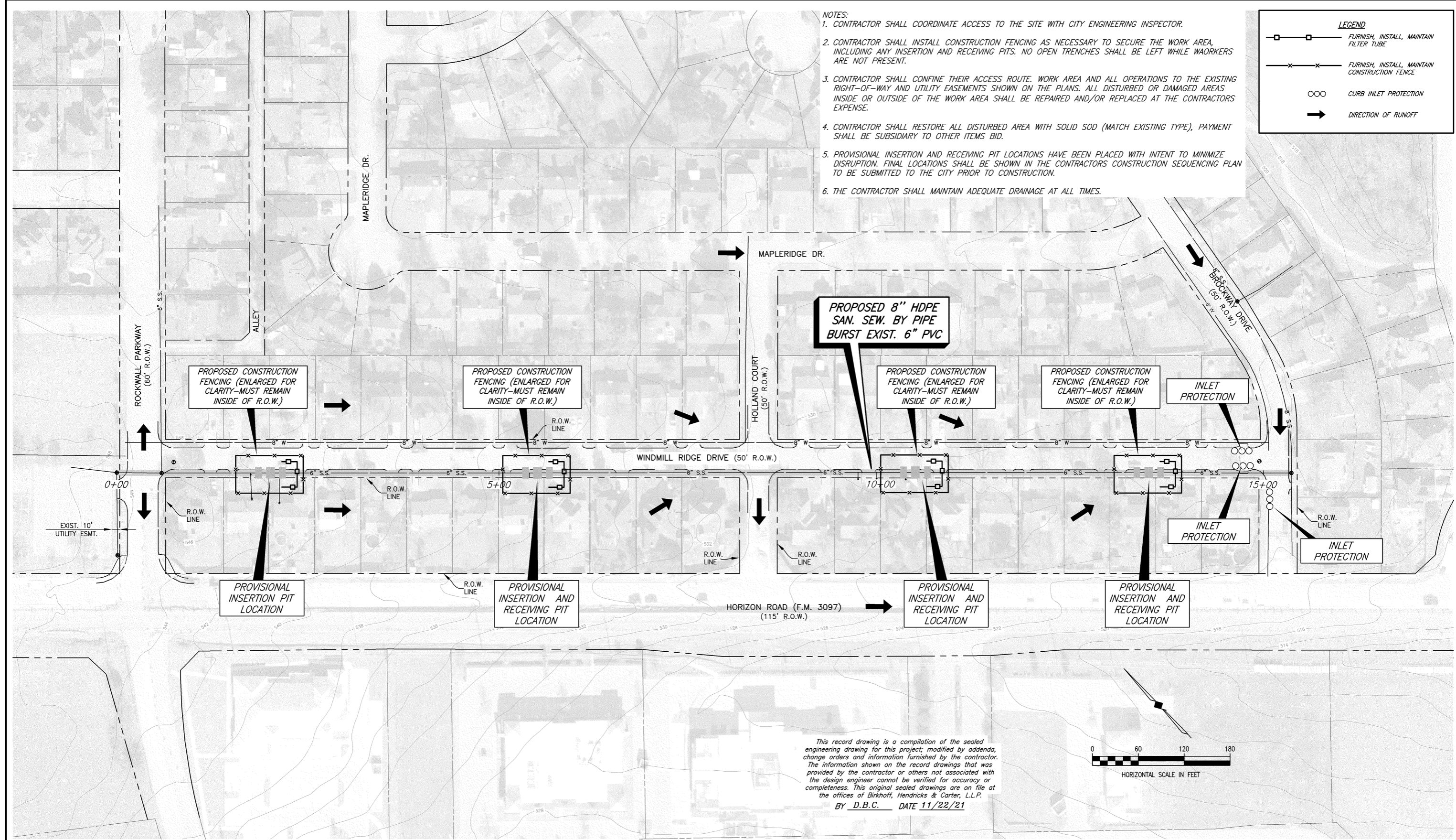
CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
WINDMILL RIDGE SANITARY SEWER
COORDINATE CONTROL & SEWAGE BYPASS PUMPING

BHC PROJECT NO. 2019-122
 June, 2020
 SHEET NO. **4**

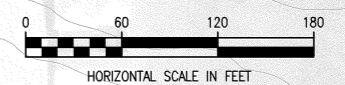
- NOTES:
1. CONTRACTOR SHALL COORDINATE ACCESS TO THE SITE WITH CITY ENGINEERING INSPECTOR.
 2. CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AS NECESSARY TO SECURE THE WORK AREA, INCLUDING ANY INSERTION AND RECEIVING PITS. NO OPEN TRENCHES SHALL BE LEFT WHILE WORKERS ARE NOT PRESENT.
 3. CONTRACTOR SHALL CONFINE THEIR ACCESS ROUTE, WORK AREA AND ALL OPERATIONS TO THE EXISTING RIGHT-OF-WAY AND UTILITY EASEMENTS SHOWN ON THE PLANS. ALL DISTURBED OR DAMAGED AREAS INSIDE OR OUTSIDE OF THE WORK AREA SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTORS EXPENSE.
 4. CONTRACTOR SHALL RESTORE ALL DISTURBED AREA WITH SOLID SOD (MATCH EXISTING TYPE), PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS BID.
 5. PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS HAVE BEEN PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SHOWN IN THE CONTRACTORS CONSTRUCTION SEQUENCING PLAN TO BE SUBMITTED TO THE CITY PRIOR TO CONSTRUCTION.
 6. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES.


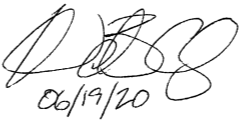
LEGEND

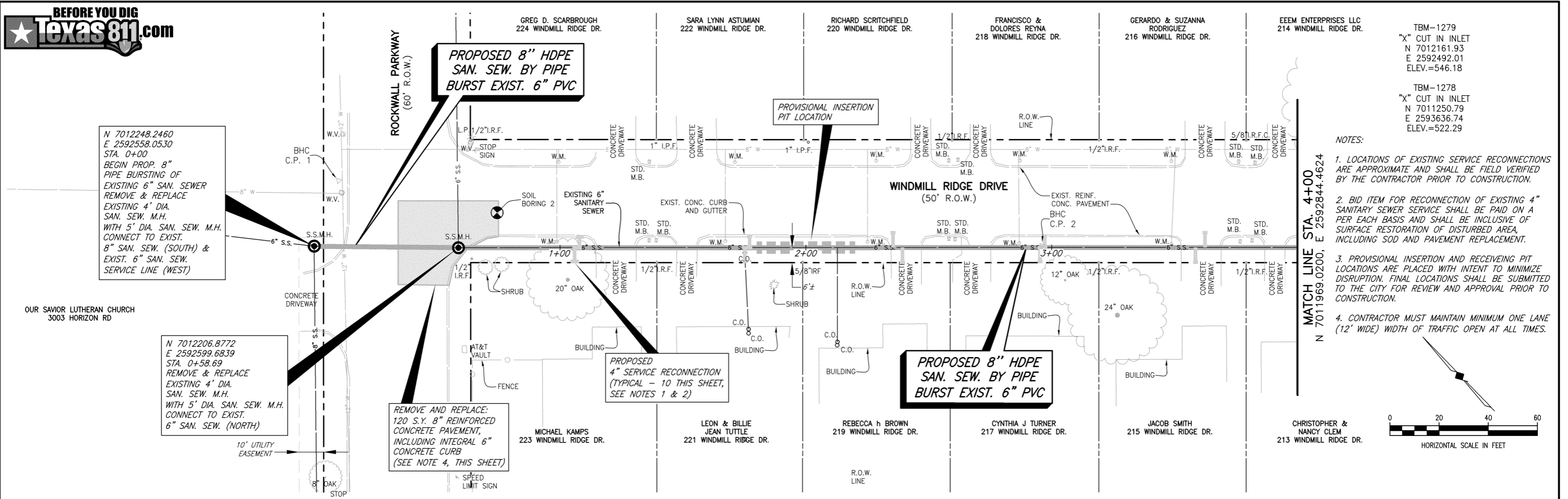
-  FURNISH, INSTALL, MAINTAIN FILTER TUBE
-  FURNISH, INSTALL, MAINTAIN CONSTRUCTION FENCE
-  CURB INLET PROTECTION
-  DIRECTION OF RUNOFF



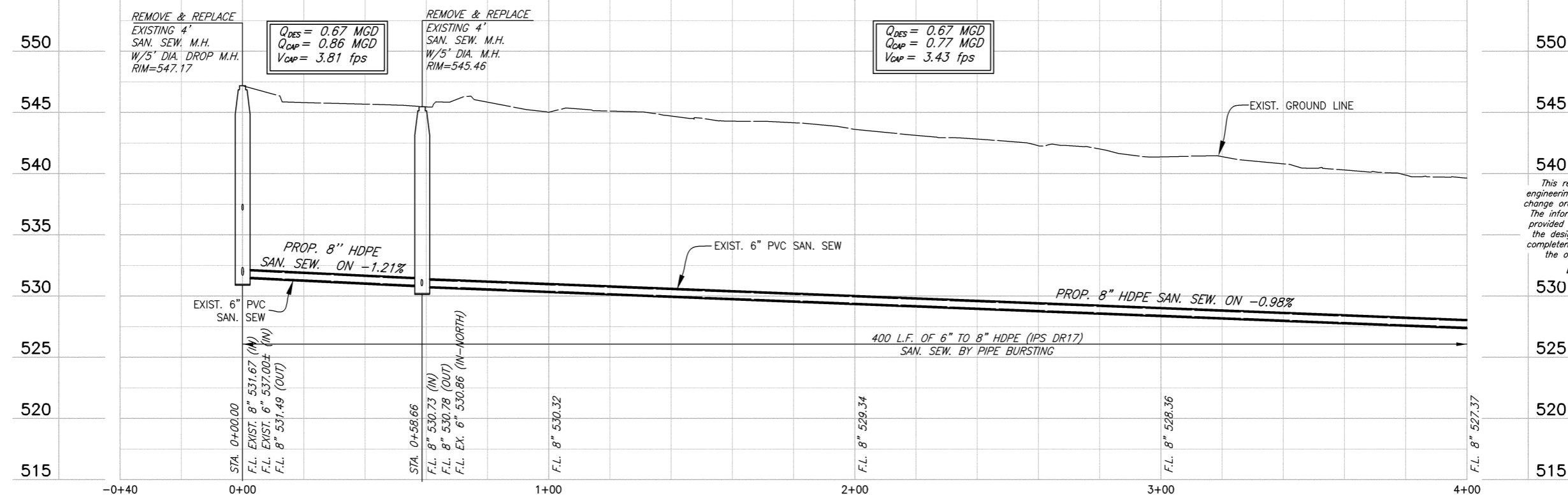
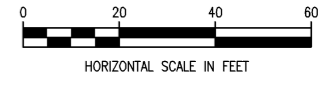
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 BY D.B.C. DATE 11/22/21



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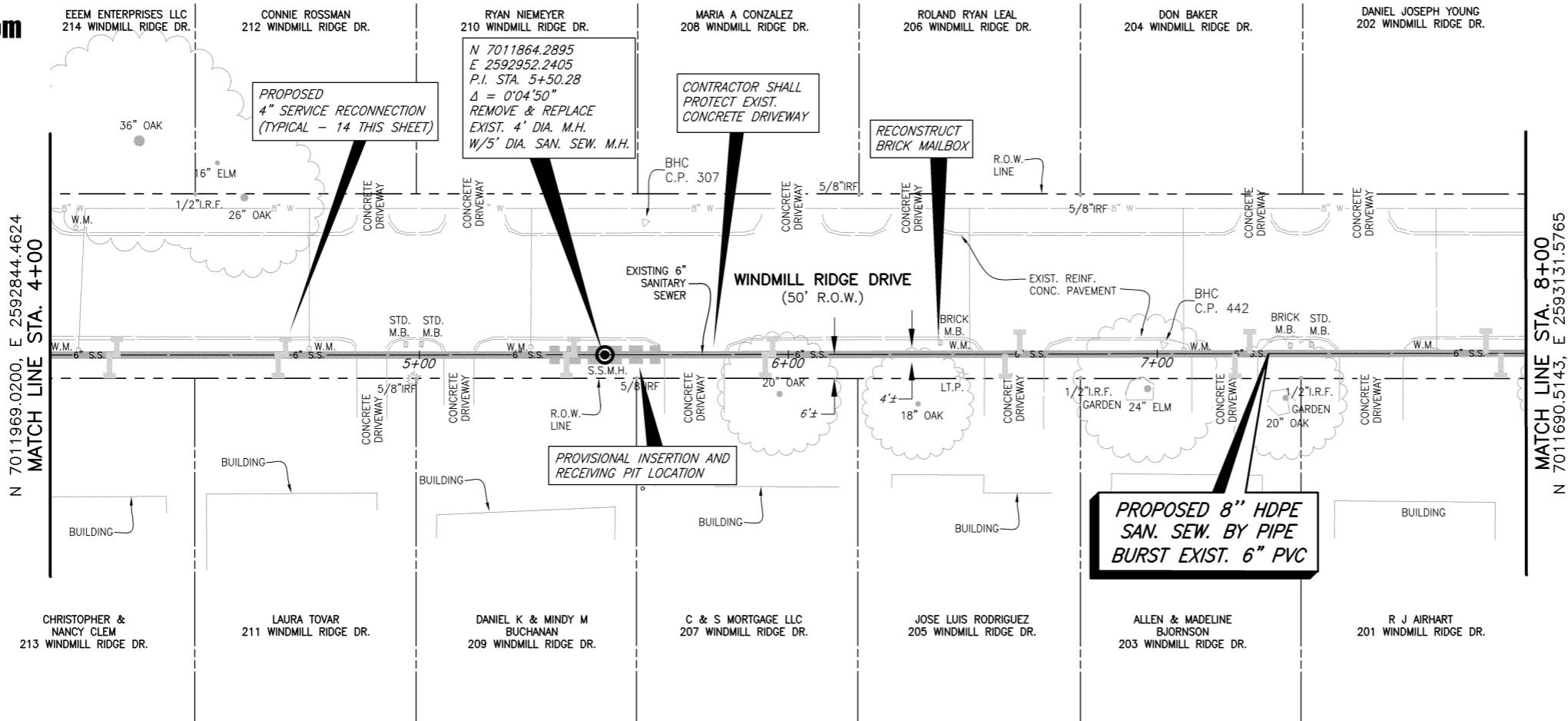


- NOTES:**
- LOCATIONS OF EXISTING SERVICE RECONNECTIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
 - BID ITEM FOR RECONNECTION OF EXISTING 4" SANITARY SEWER SERVICE SHALL BE PAID ON A PER EACH BASIS AND SHALL BE INCLUSIVE OF SURFACE RESTORATION OF DISTURBED AREA, INCLUDING SOD AND PAVEMENT REPLACEMENT.
 - PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS ARE PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - CONTRACTOR MUST MAINTAIN MINIMUM ONE LANE (12' WIDE) WIDTH OF TRAFFIC OPEN AT ALL TIMES.



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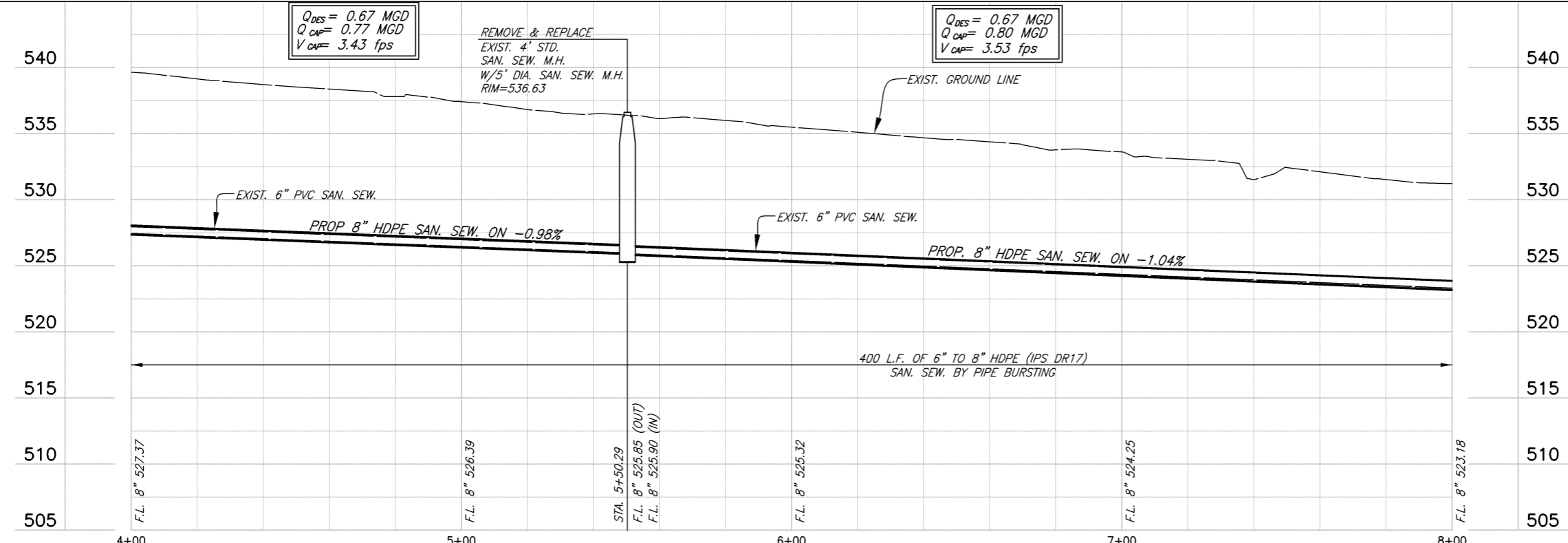
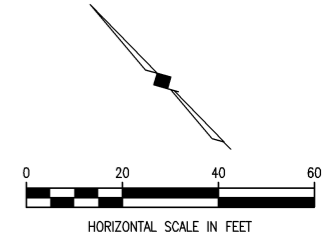
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TBM-1279
 "X" CUT IN INLET
 N 7012161.93
 E 2592492.01
 ELEV.=546.18

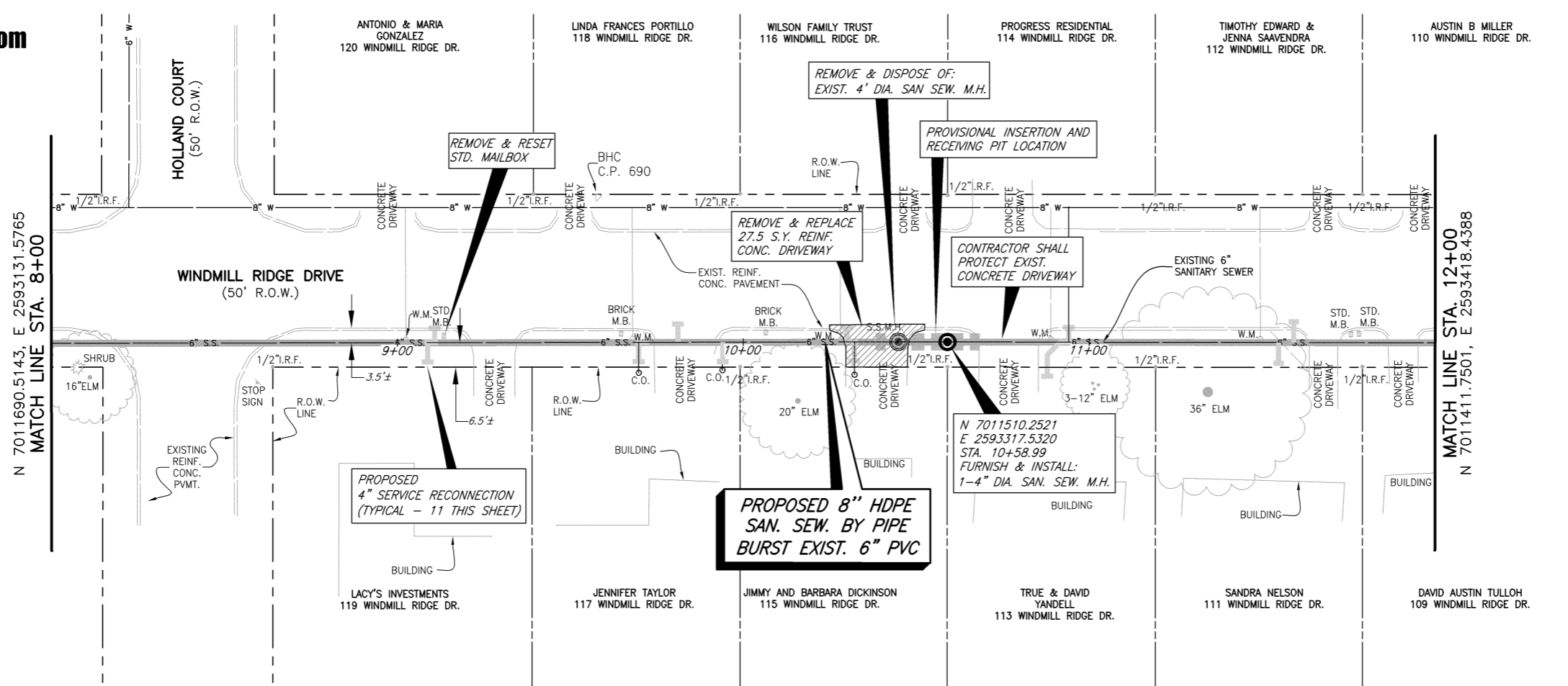
TBM-1278
 "X" CUT IN INLET
 N 7011250.79
 E 2593636.74
 ELEV.=522.29

- NOTES:**
- LOCATIONS OF EXISTING SERVICE RECONNECTIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 - BID ITEM FOR RECONNECTION OF EXISTING 4" SERVICE SHALL BE PAID ON A PER EACH BASIS. SEPARATE BID ITEMS ARE PROVIDED FOR SURFACE RESTORATION IF REQUIRED AS DIRECTED IN THE FIELD BY THE CITY'S INSPECTOR.
 - PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS ARE PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.



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 BY D.B.C. DATE 11/22/21

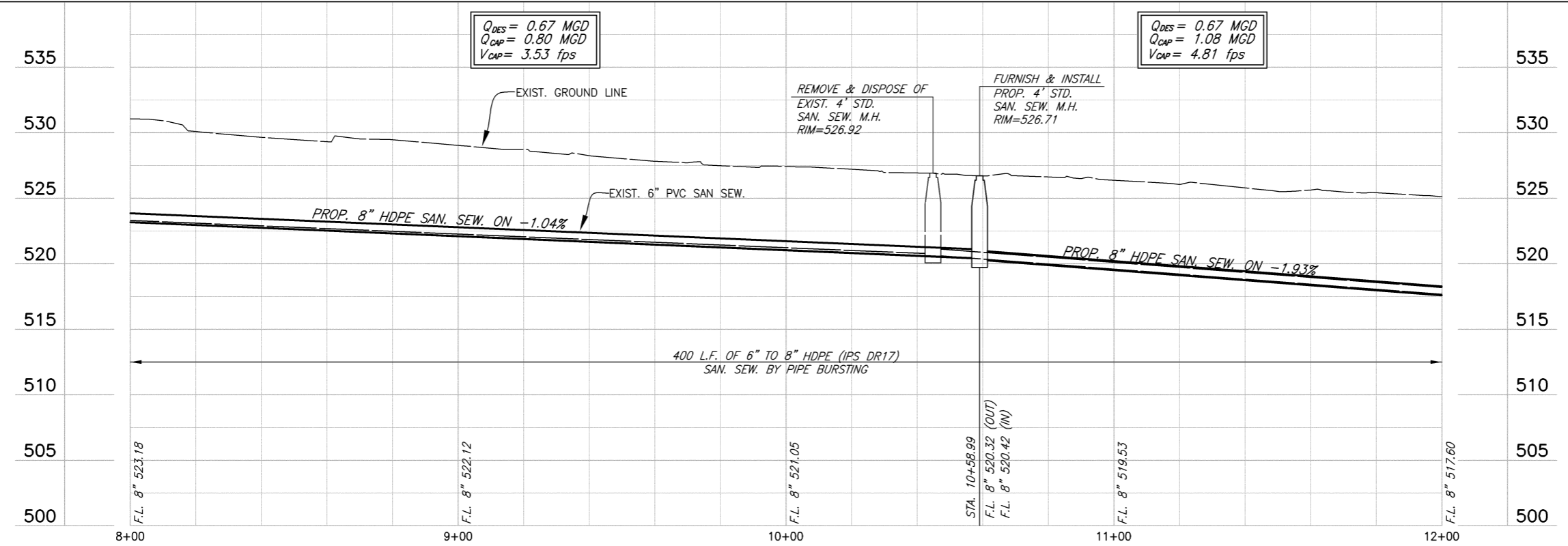
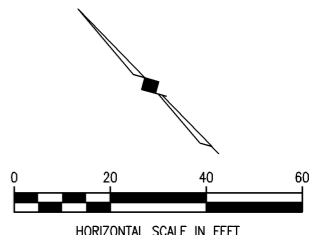
<p>These plans and related specifications were prepared for construction of this specific project only. Reuse of these documents is not permitted without written authorization of Birkhoff, Hendricks & Carter, L.L.P. If this drawing is converted to an electronic file, if any discrepancy occurs between the electronic file and the Birkhoff, Hendricks & Carter, L.L.P. original document, the original document will govern in all cases.</p>	<p>BIRKHOFF, HENDRICKS & CARTER, L.L.P. PROFESSIONAL ENGINEERS TBPE Firm No. 526; TBPLS Firm No. 10031800 11910 Greenville Ave., Suite 600 Dallas, Texas 75243 (214) 361-7900</p>		<p>CITY OF ROCKWALL, TEXAS TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION WINDMILL RIDGE SANITARY SEWER PLAN & PROFILE STA. 4+00 TO STA. 8+00</p>	<p>BHC PROJECT NO. 2019-122</p>	<p>SHEET NO. 7</p>
				<p>June, 2020</p>	



TBM-1279
 "X" CUT IN INLET
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 E 2592492.01
 ELEV.=546.18

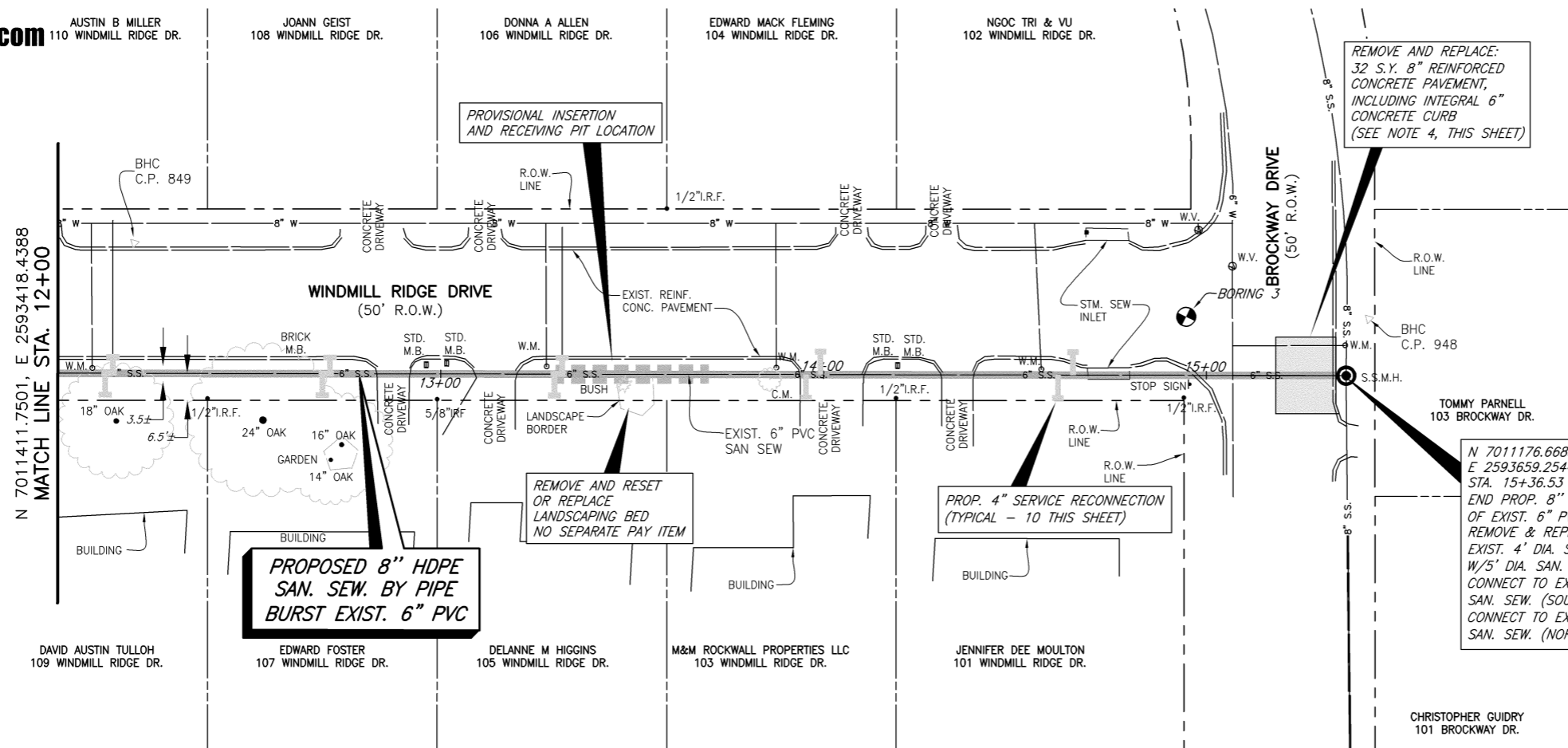
TBM-1278
 "X" CUT IN INLET
 N 7011250.79
 E 2593636.74
 ELEV.=522.29

- NOTES:
- LOCATIONS OF EXISTING SERVICE RECONNECTIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
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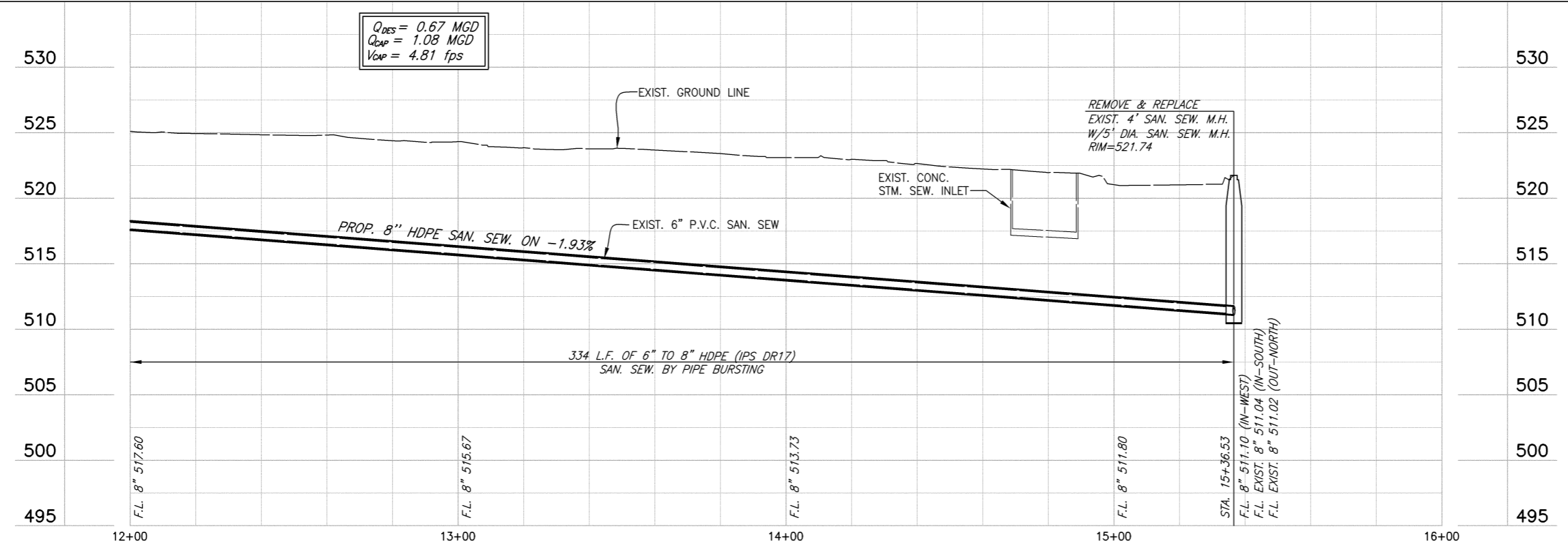
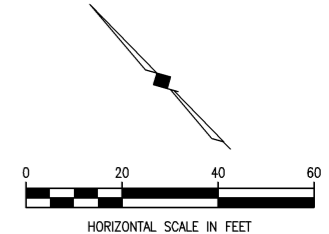
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					June, 2020	



TBM-1279
 "X" CUT IN INLET
 N 7012161.93
 E 2592492.01
 ELEV.=546.18

TBM-1278
 "X" CUT IN INLET
 N 7011250.79
 E 2593636.74
 ELEV.=522.29

- NOTES:**
- LOCATIONS OF EXISTING SERVICE RECONNECTIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 - BID ITEM FOR RECONNECTION OF EXISTING 4" SERVICE SHALL BE PAID ON A PER EACH BASIS. SEPARATE BID ITEMS ARE PROVIDED FOR SURFACE RESTORATION IF REQUIRED AS DIRECTED IN THE FIELD BY THE CITY'S INSPECTOR.
 - PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS ARE PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - CONTRACTOR MUST MAINTAIN MINIMUM ONE LANE (12' WIDE) WIDTH OF TRAFFIC OPEN AT ALL TIMES.



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 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



[Signature]
 06/19/20

CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
WINDMILL RIDGE SANITARY SEWER
PLAN & PROFILE STA. 12+00 TO STA. 15+36.53

BHC
 PROJECT NO.
 2019-122
 June, 2020

SHEET NO.
9

NOTES:

- CONTRACTOR SHALL PROVIDE, TEMPORARY SEWAGE BYPASS SYSTEM CAPABLE OF HANDLING FLOWS IN THE SEWER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
- A CONSTRUCTION SEQUENCING PLAN, INCLUDING SEWAGE BYPASS PLAN SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- AVERAGE AND PEAK WASTEWATER FLOWS SHOWN ARE ESTIMATED.
- DRIVEWAY ACCESS FOR RESIDENTS AND LOCAL TRAFFIC MUST BE MAINTAINED AT ALL TIMES. THE COST OF PROVIDING RAMPS OR OTHER ACCESS DEVICES NECESSARY SHALL BE SUBSIDIARY TO THE UNIT COST OF PROPOSED PIPE.
- CONTRACTOR SHALL NOTIFY AND OBTAIN REQUIRED PERMITS FROM THE NORTH TEXAS MUNICIPAL WATER DISTRICT (NTMWD) PRIOR TO INITIATING BYPASS.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF CITY OF DALLAS CONSTRUCTION PERMIT FOR WORK IN LAKE RAY HUBBARD TAKE LINE AREA.
- EXISTING INFLUENT 10" SAN. SEW. TO LIFT STATION WILL REQUIRE A TEMPORARY PLUG TO DEWATER UPSTREAM 10" PIPE PRIOR TO PIPE BURSTING OPERATION.

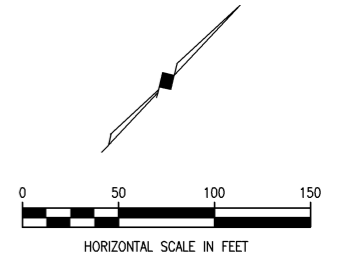
LAKE RAY HUBBARD CITY OF DALLAS

BHC CONTROL POINTS				
C.P.	Description	Northing	Easting	Elevation
1281	60DNail Set	7018105.90	2591095.19	441.97
1309	60D Nail Set	7018447.76	2591274.10	441.89
1310	60D Nail Set	7018710.19	2591322.04	440.90
1719	60D Nail Set	7018571.76	2591288.05	439.81
1809	60D Nail Set	7018755.41	2591441.14	443.29
1837	60D Nail Set	7018859.52	2591599.19	443.63
1950	60D Nail Set	7018876.08	2591779.05	444.68

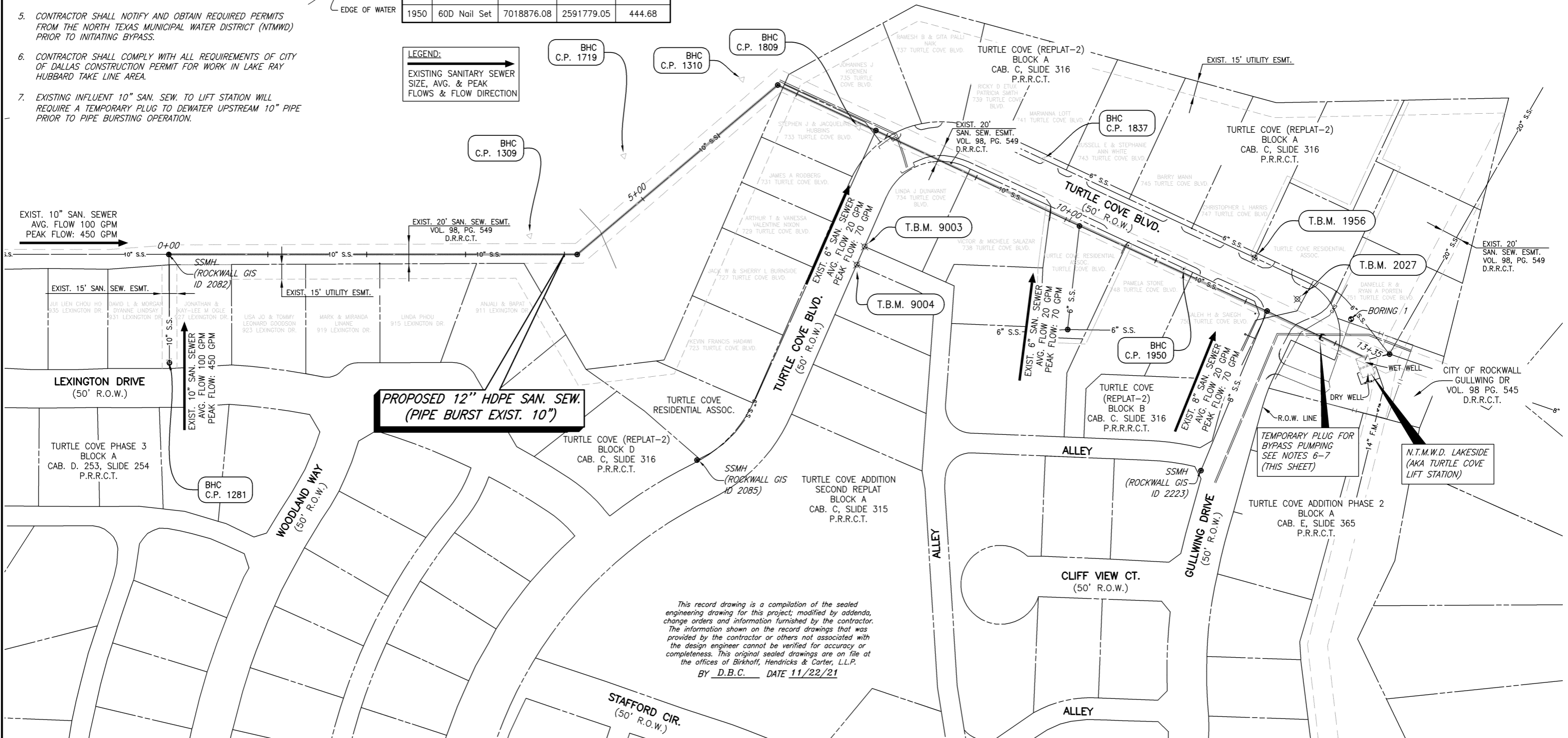
BHC TEMPORARY BENCHMARKS				
B.M.	Description	Northing	Easting	Elevation
1956	X FOUND IN PVMT.	7018933.89	2591823.28	444.43
2027	X FOUND IN CONC.	7018932.93	2591883.65	444.90
9003	X FOUND IN PVMT.	7018671.74	2591528.31	443.30
9004	X FOUND IN PVMT.	7018652.97	2591534.99	443.25

BASIS OF COORDINATE CONTROL:

COORDINATES CITED IN THESE PLANS ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202.



LEGEND:
 EXISTING SANITARY SEWER
 SIZE, AVG. & PEAK
 FLOWS & FLOW DIRECTION

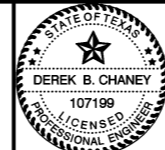


**PROPOSED 12" HDPE SAN. SEW.
 (PIPE BURST EXIST. 10")**

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 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



[Signature]
 06/19/20

CITY OF ROCKWALL, TEXAS
 TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
 TURTLE COVE SANITARY SEWER
 COORDINATE CONTROL & SEWAGE BYPASS PUMPING

BHC PROJECT NO. 2019-122
 June, 2020

SHEET NO. **10**

NOTES:
NO SEPARATE PAY ITEMS:

- CONTRACTOR SHALL DELIVER NOTIFICATION OF CONSTRUCTION OF ACCESS ROUTE AND CONSTRUCTION TO PROPERTIES ALONG THE ACCESS ROUTE FROM 959 LEXINGTON DRIVE TO 735 TURTLE COVE BLVD., TWO WEEKS PRIOR TO THE START OF MOBILIZATION AND STAGING OF CONSTRUCTION IN THE CITY OF DALLAS LAKE RAY HUBBARD TAKE LINE AREA.
- CONTRACTOR SHALL TAKE A PRE-CONSTRUCTION/EXISTING CONDITIONS VIDEO AND SUBMIT COPY OF VIDEO TO THE CITY OF ROCKWALL FOR RECORD OF THE ENTIRE TAKE LINE AREAS AND ACCESS PLAN ROUTE. THE VIDEO AND ACCESS TO THE TAKE LINE AREA SHALL ONLY BE DONE AFTER NOTICES ARE SENT TO THE ADJACENT PROPERTY OWNERS.
- ENTIRE ACCESS ROUTE AND CONSTRUCTION SITE IN THE CITY OF DALLAS LAKE RAY HUBBARD TAKE LINE AREA SHALL BE RESTORED TO EXISTING GRADE AFTER CONSTRUCTION IS COMPLETE. ALL RUTS AND DIVOTS CAUSED BY THE ACCESS ROUTE SHALL BE GRADED SMOOTH AND REESTABLISHED TO EXISTING ELEVATIONS. DISTURBED AREA SHALL BE SEEDED/HYDROMULCHED AND REESTABLISHED IN ALL AREAS DISTURBED IN THE TAKE LINE AREA AND ALL OTHER AREAS SHALL BE RESTORED WITH SOLID SOD MATCHING EXISTING TYPE. CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR AND PROPERTY OWNER IN REESTABLISHING NON-GRASS AREAS. THE WORK SHALL INCLUDE THE NECESSARY WATERING TO REESTABLISH GRASS AND SHALL BE COMPLETE WITHIN 1 MONTH AFTER COMPLETION OF SANITARY SEWER IMPROVEMENTS IN THE TAKE LINE AREA.
- CONTRACTOR SHALL CONFINE THEIR OPERATIONS WITHIN THE ACCESS ROUTE, THE EXISTING RIGHT-OF-WAY AND UTILITY EASEMENTS SHOWN ON THE PLANS. ALL DISTURBED OR DAMAGED AREAS INSIDE OR OUTSIDE OF THE WORK AREA SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- NO TREES SHALL BE REMOVED WITHOUT OWNER APPROVAL. ALL TREES REQUIRING TRIMMING/REMOVAL SHALL BE FLAGGED FOR OWNER APPROVAL.
- ACCESS ROUTE SHALL BE NO MORE THAN 20 FEET WIDE UNLESS OTHERWISE SHOWN ON THE PLANS. CONTRACTOR SHALL ESTABLISH PERIMETER BOUNDARY FOR ACCESS ROUTE WITHOUT RESTRICTING LAKE ACCESS FOR ADJACENT PROPERTY OWNERS.

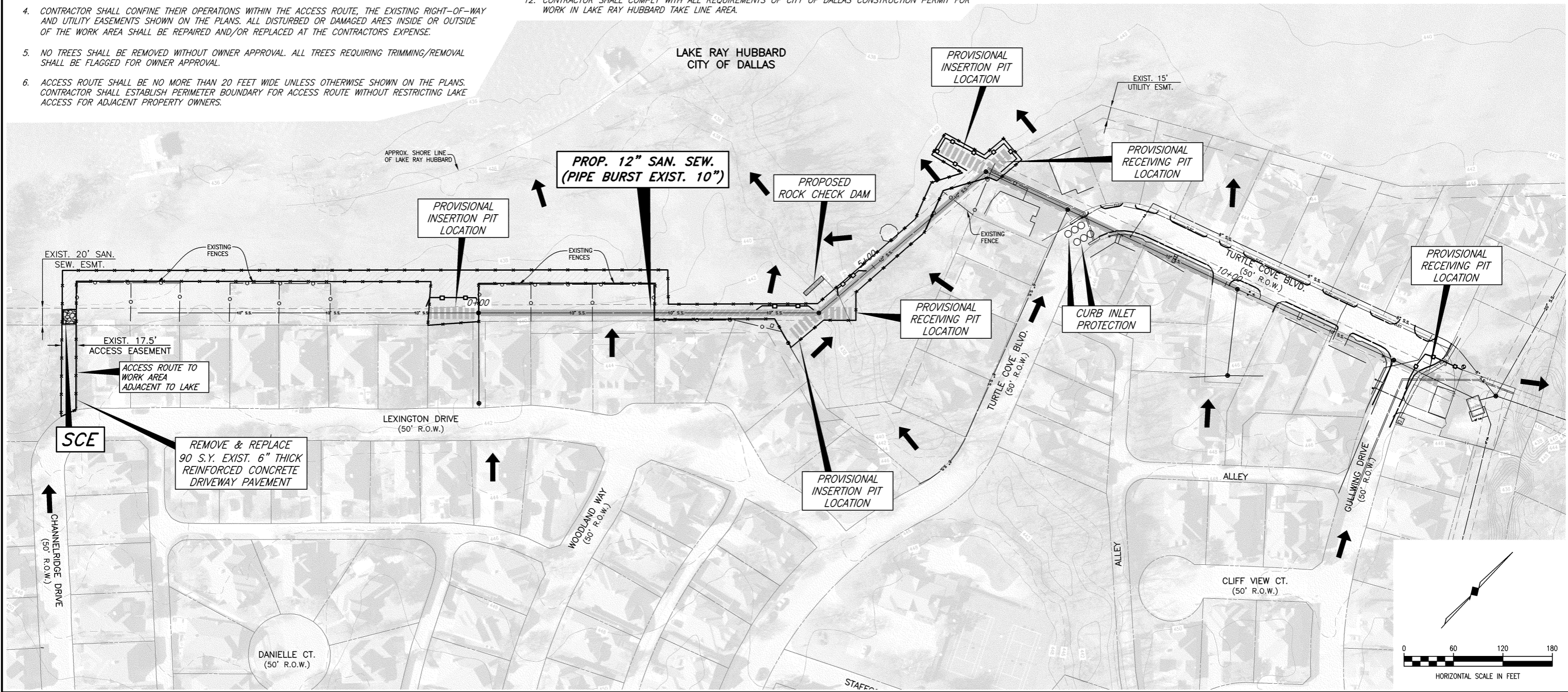
NOTES: (CONTINUED)

- ALL VEHICLES AND EQUIPMENT ACCESS TO CITY OF DALLAS LAKE RAY HUBBARD TAKE LINE AREA SHALL BE THROUGH 17.5-FOOT ACCESS EASEMENT AT LEXINGTON DR. AND CHANNEL RIDGE DR. ACCESS TO CITY OF DALLAS PROPERTY BY MEANS OTHER THAN THE PROPOSED ACCESS ROUTE IS PROHIBITED. CONTRACTOR SHALL REPAIR ANY PAVEMENT DAMAGED BY THE CONTRACTOR IN THE 17.5-FOOT ACCESS EASEMENT.
- COORDINATE WITH ONCOR TO CONFIRM LOCATION OF OVERHEAD ELECTRIC LINES AND ANY NECESSARY PROTECTION OF THOSE LINES.
- CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AS NECESSARY TO SECURE THE WORK AREA AND ACCESS ROUTE, INCLUDING ANY INSERTION AND RECEIVING PITS. NO OPEN TRENCHES SHALL BE LEFT WHILE WORKERS ARE NOT PRESENT.
- PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS HAVE BEEN PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SHOWN IN CONTRACTOR'S CONSTRUCTION SEQUENCING PLAN TO BE SUBMITTED TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR SHALL INCLUDE RELIEF PITS AT EXISTING UTILITY CROSSINGS, IF NECESSARY, IN THE SEQUENCING PLAN.
- THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF CITY OF DALLAS CONSTRUCTION PERMIT FOR WORK IN LAKE RAY HUBBARD TAKE LINE AREA.

LEGEND

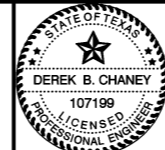
- FURNISH, INSTALL, MAINTAIN FILTER TUBE EROSION CONTROL
- FURNISH, INSTALL, MAINTAIN CONSTRUCTION FENCE
- CURB INLET PROTECTION
- DIRECTION OF RUNOFF
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- ROCK CHECK DAM

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By D.B.C. DATE 11/22/21



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BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



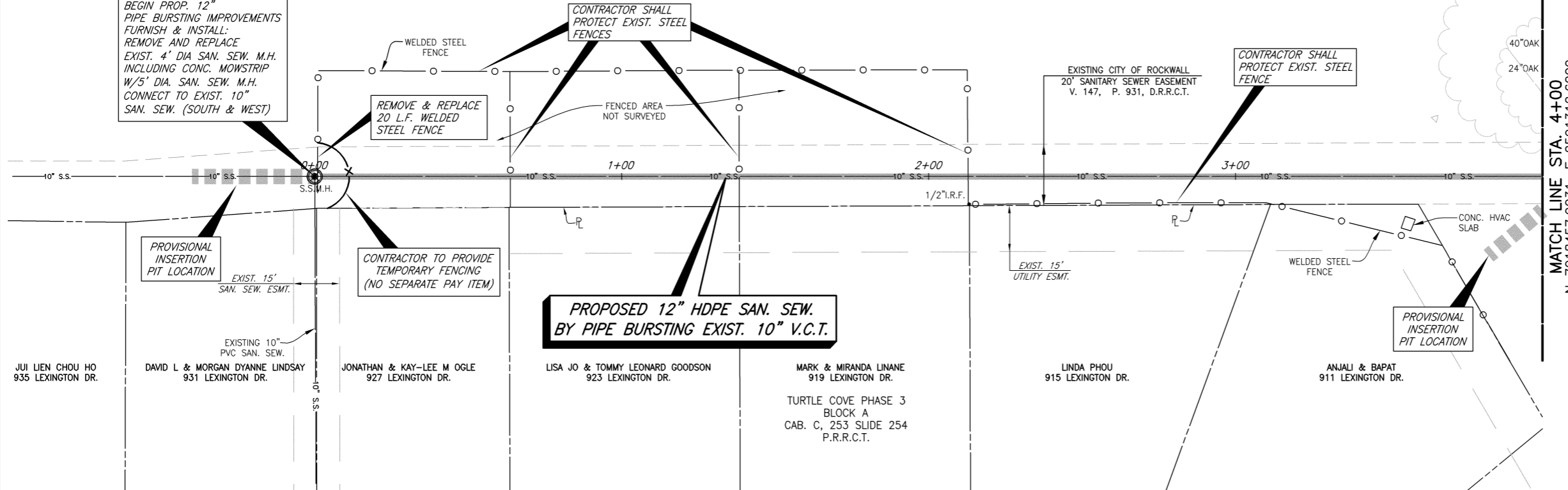
D.B.C.
06/19/20

CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
TURTLE COVE SANITARY SEWER
SITE ACCESS & EROSION CONTROL PLAN

BHC
PROJECT NO.
2019-122
June, 2020

SHEET NO.
11

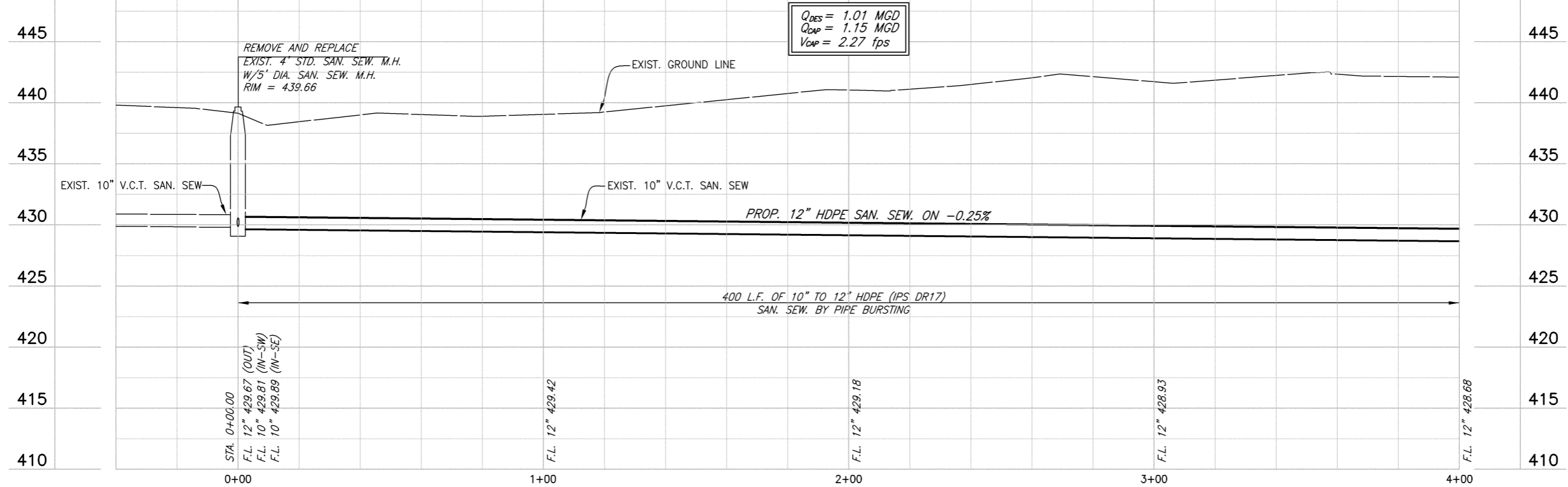
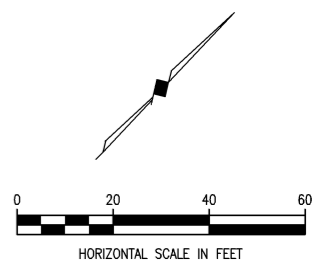
N 7018183.8730
 E 2591021.2120
 STA. 0+00.00
 BEGIN PROP. 12"
 PIPE BURSTING IMPROVEMENTS
 FURNISH & INSTALL:
 REMOVE AND REPLACE
 EXIST. 4' DIA SAN. SEW. M.H.
 INCLUDING CONC. MOWSTRIP
 W/5' DIA. SAN. SEW. M.H.
 CONNECT TO EXIST. 10"
 SAN. SEW. (SOUTH & WEST)



TBM-9003
 "X" FOUND IN PVMT
 N 7018671.74
 E 2591528.31
 ELEV.= 443.30

TBM-9004
 "X" FOUND IN PVMT
 N 7018652.97
 E 2591534.99
 ELEV.=443.25

- NOTES:
1. PROVISIONAL INSERTION AND RECEIVING PIT LOCATION ARE PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 2. PROPOSED MANHOLE RIM ELEVATIONS SHALL BE ADJUSTED TO EXISTING GRADE IF EXISTING RIM IS SUNKEN OR BURIED.

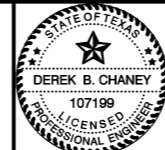


$Q_{DES} = 1.01$ MGD
 $Q_{CAP} = 1.15$ MGD
 $V_{CAP} = 2.27$ fps

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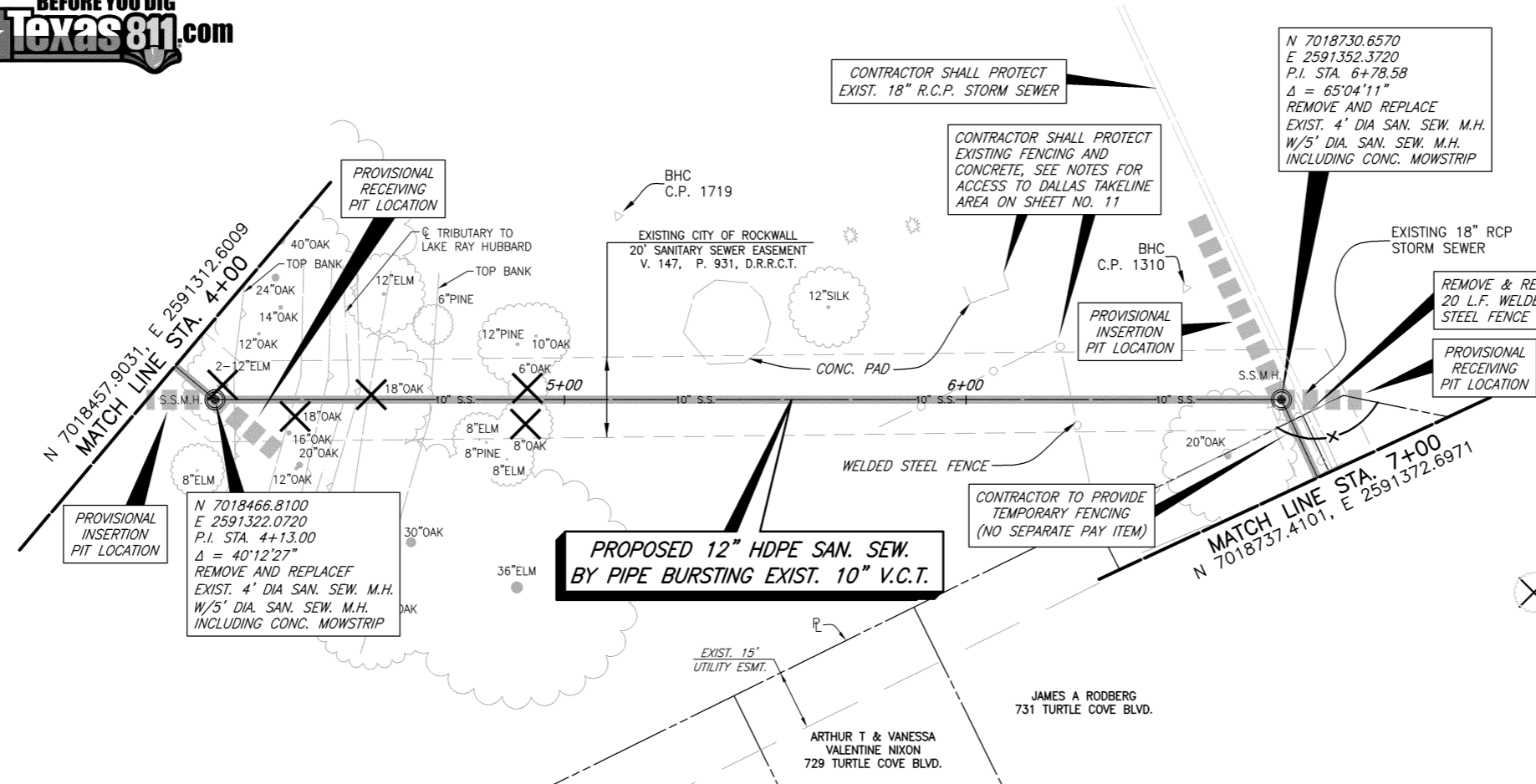


[Signature]
 06/19/20

CITY OF ROCKWALL, TEXAS
 TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
 TURTLE COVE SANITARY SEWER
 PLAN & PROFILE STA. 0+00 TO STA. 4+00

BHC
 PROJECT NO.
 2019-122
 June, 2020
 SHEET NO.
12

REMOVAL LEGEND
 = REMOVE TREE

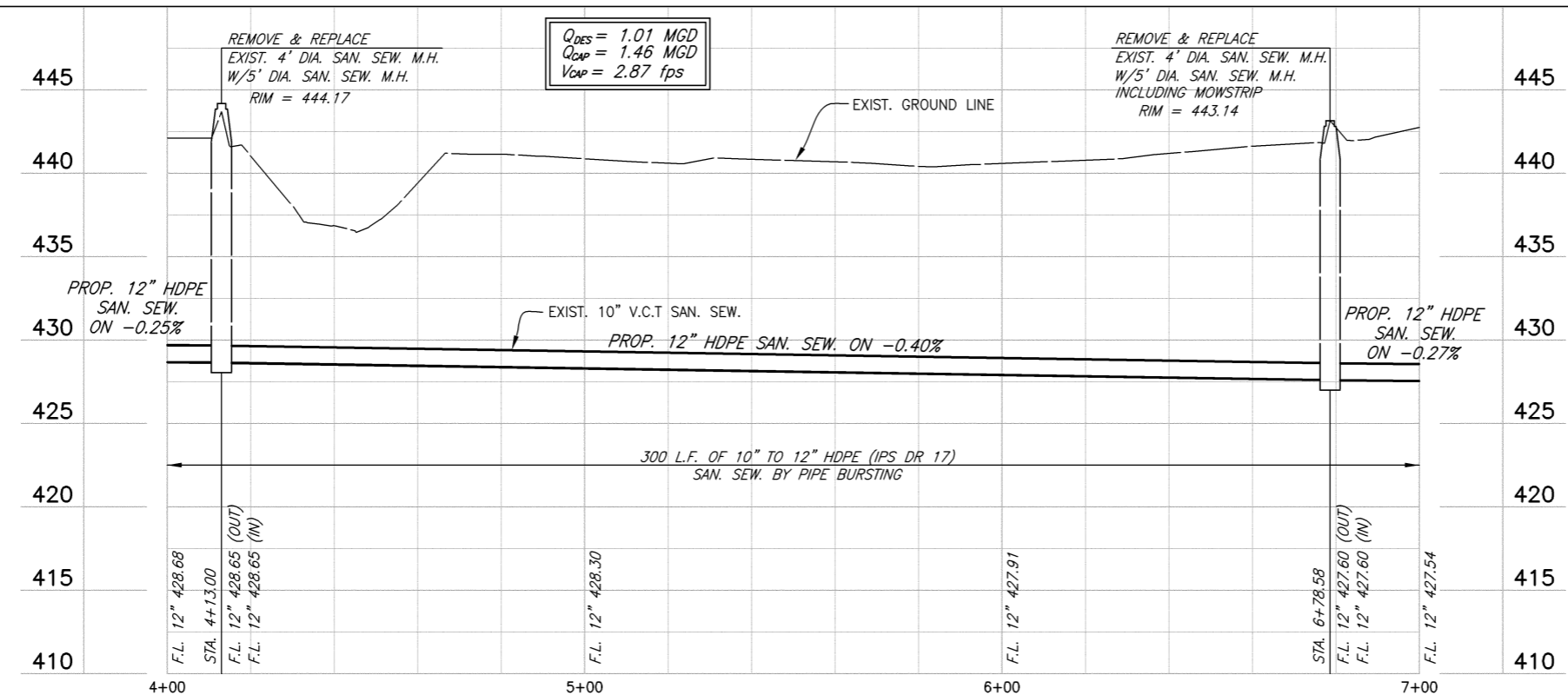
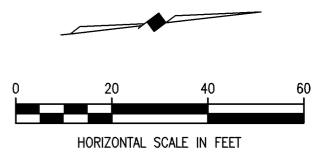


LEGEND
 DESIGNATED TREE REMOVAL

TBM-9003
 "X" FOUND IN PVMT
 N 7018671.74
 E 2591528.31
 ELEV.= 443.30

TBM-9004
 "X" FOUND IN PVMT
 N 7018652.97
 E 2591534.99
 ELEV.=443.25

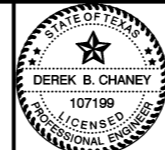
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 2. PROPOSED MANHOLE RIM ELEVATIONS SHALL BE ADJUSTED TO EXISTING GRADE IF EXISTING RIM IS SUNKEN OR BURIED.



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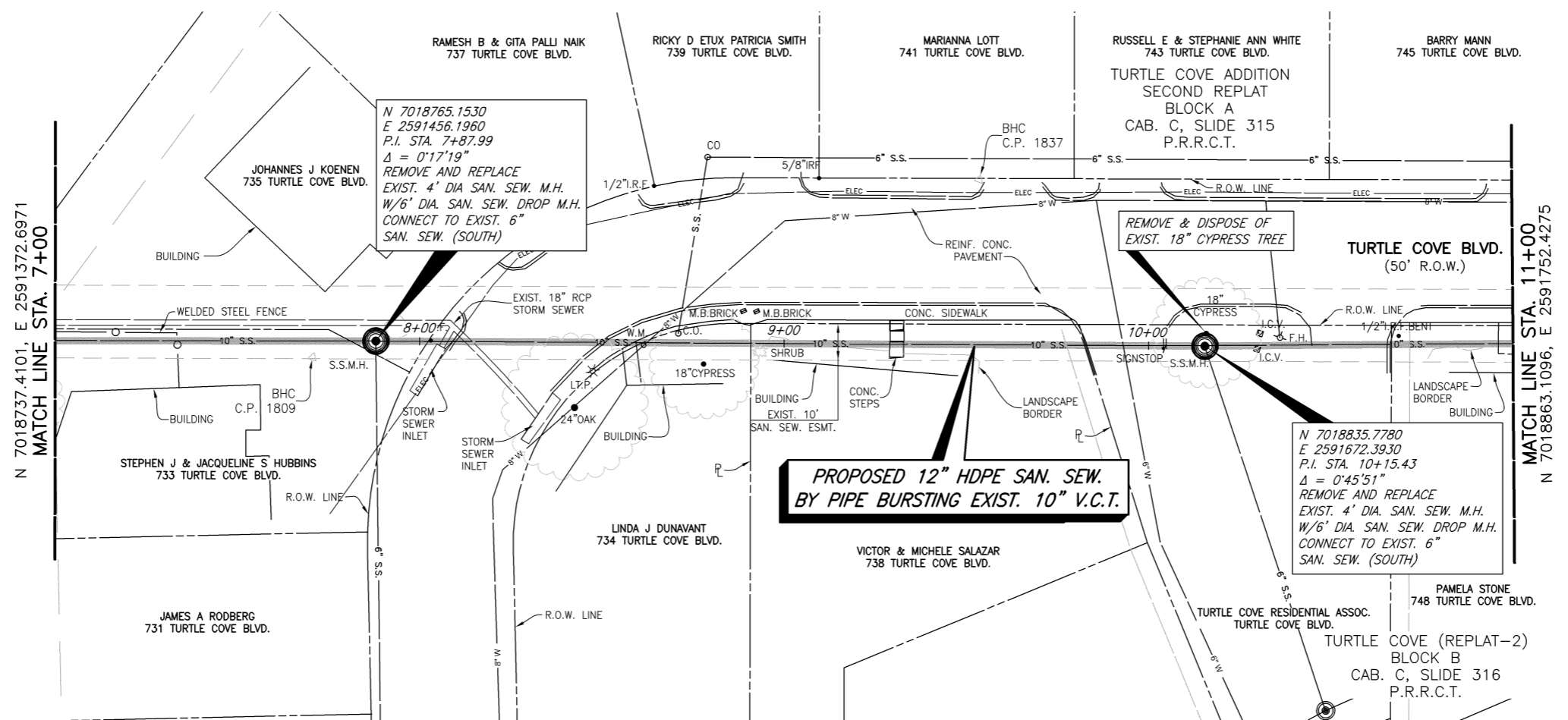
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 06/19/20

CITY OF ROCKWALL, TEXAS
 TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
 TURTLE COVE SANITARY SEWER
 PLAN & PROFILE STA. 4+00 TO STA. 7+00

BHC
 PROJECT NO.
 2019-122

June, 2020

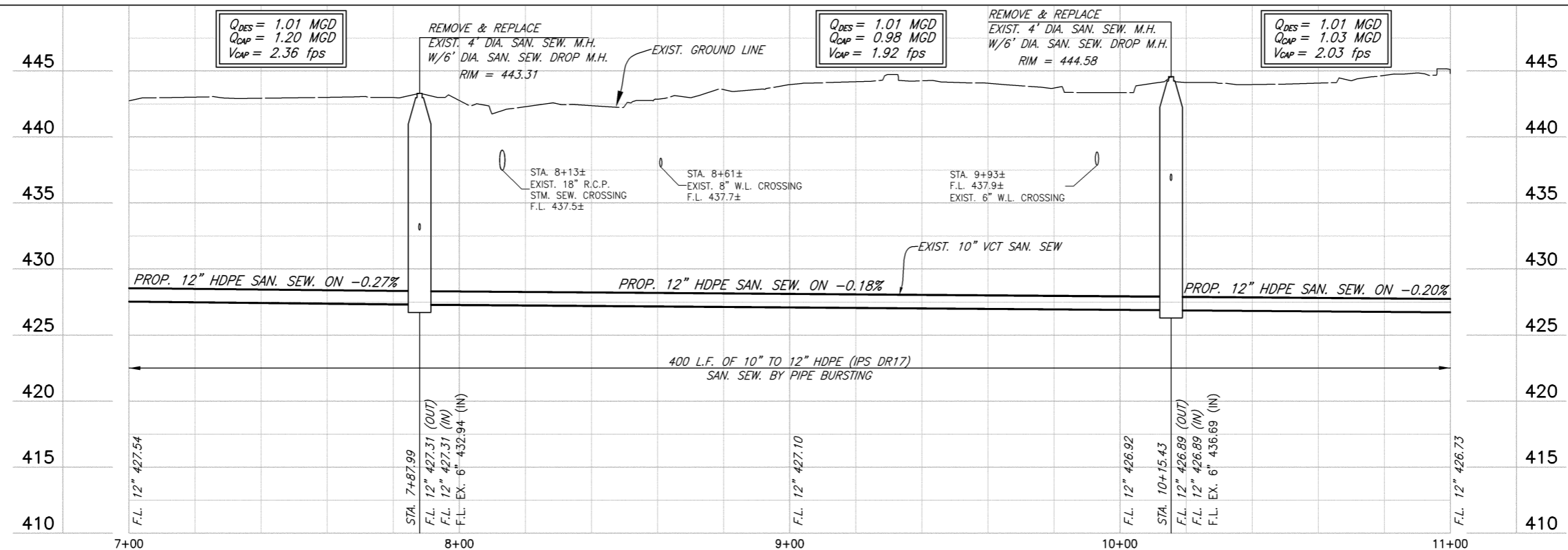
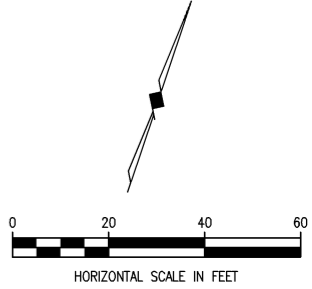
SHEET NO.
13



TBM-1956
 "X" CUT IN INLET
 N 7018933.89
 E 2591823.28
 ELEV. = 444.43

TBM-2027
 "X" CUT IN INLET
 N 7018932.93
 E 2591883.65
 ELEV. = 444.90

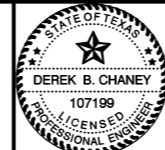
- NOTES:
- LOCATIONS OF SERVICE RECONNECTIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 - BID ITEM FOR RECONNECTION OF EXISTING 4" SERVICE SHALL BE PAID ON A PER EACH BASIS. SEPARATE BID ITEMS ARE PROVIDED FOR REVEGETATION AND REMOVAL OF CONC. PVMT. OR CURB AND GUTTER IF REQUIRED.
 - PROVISIONAL INSERTION AND RECEIVING PIT LOCATIONS ARE PLACED WITH INTENT TO MINIMIZE DISRUPTION. FINAL LOCATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - PROPOSED MANHOLE RIM ELEVATIONS SHALL BE ADJUSTED TO EXISTING GRADE IF EXISTING RIM IS SUNKEN OR BURIED.



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 BY D.B.C. DATE 11/22/21

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 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



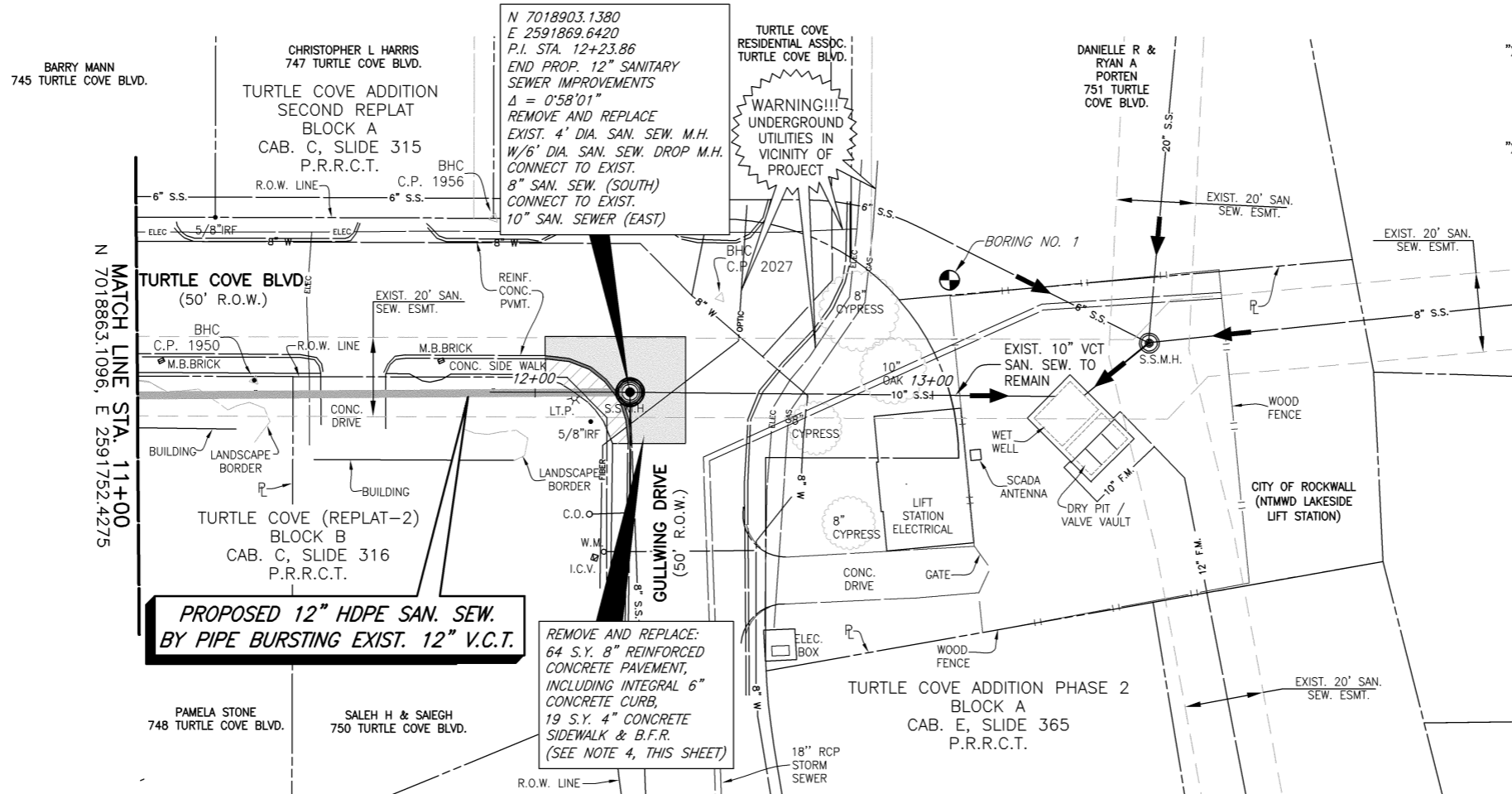
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 06/19/20

CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
TURTLE COVE SANITARY SEWER
PLAN & PROFILE STA. 7+00 TO STA. 11+00

BHC
 PROJECT NO.
 2019-122

SHEET NO.
14

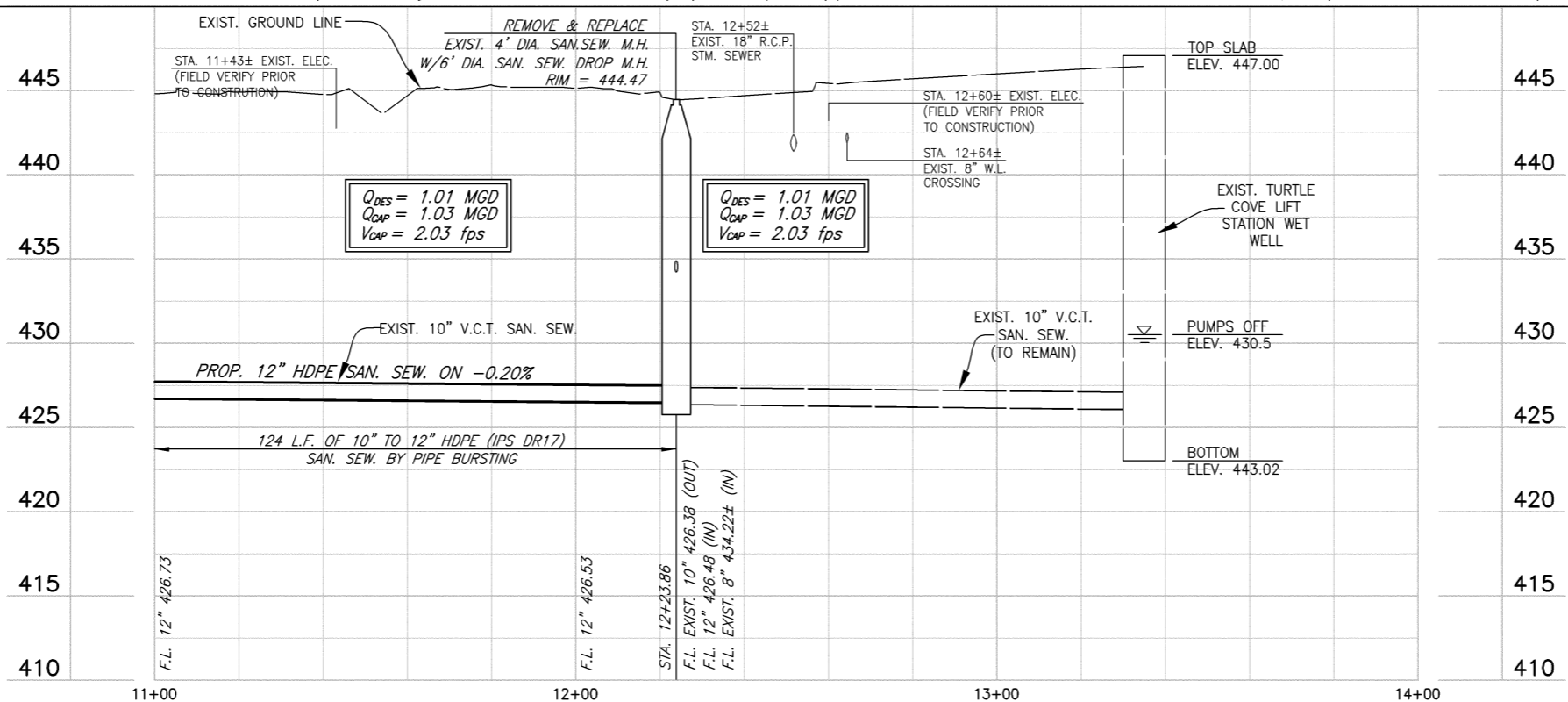
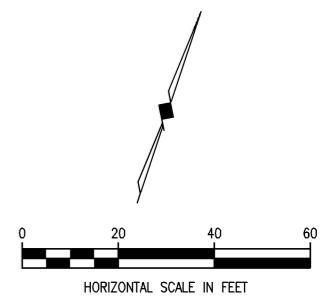
June, 2020



TBM-1956
 "X" CUT IN INLET
 N 7018933.89
 E 2591823.28
 ELEV.= 444.43

TBM-2027
 "X" CUT IN INLET
 N 7018932.93
 E 2591883.65
 ELEV.=444.90

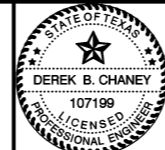
- NOTES:**
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 2. PROPOSED MANHOLE RIM ELEVATIONS SHALL BE ADJUSTED TO EXISTING GRADE IF EXISTING RIM IS SUNKEN OR BURIED.
 3. CONTRACTOR MUST MAINTAIN MINIMUM ONE LANE (12' WIDE) WIDTH OF TRAFFIC OPEN AT ALL TIMES.
 4. THE INVERT OF THE EXISTING 10" SANITARY SEWER ENTERS THE LIFT STATION WET WELL APPROXIMATELY 3' BELOW THE NORMAL WATER LEVEL, WHICH CREATES A SURCHARGE (SUBMERGED) CONDITION IN THE UPSTREAM PIPE FOR THE ENTIRE LENGTH OF THE PROJECT. THE CONTRACTOR'S SEQUENCING PLAN SHALL ADDRESS THE METHOD FOR TEMPORARILY PLUGGING AND DEWATERING THE EXISTING PIPE TO ALLOW FOR PIPEBURSTING. NO SEPARATE PAY ITEM.



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 BY D.B.C. DATE 11/22/21

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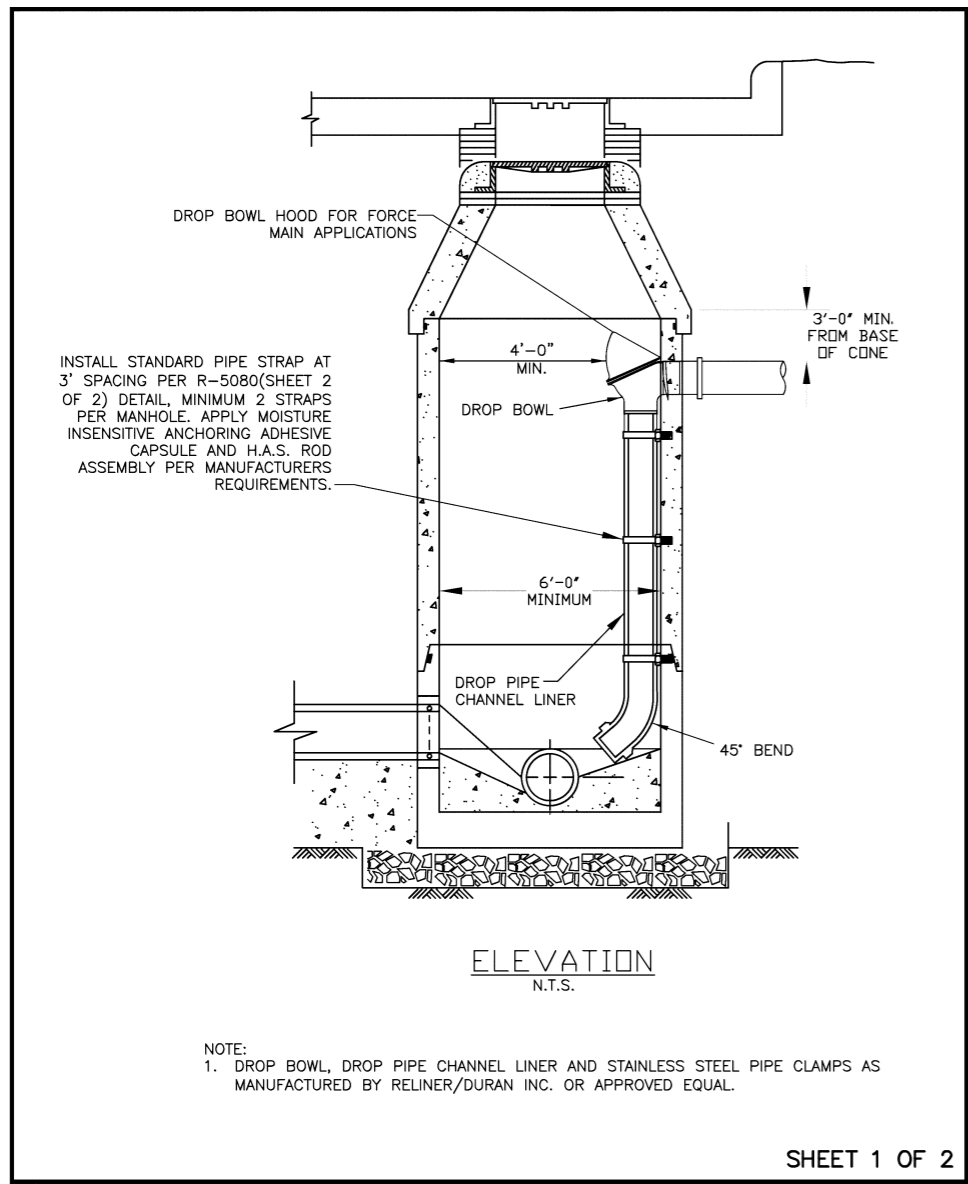


[Signature]
 06/19/20

CITY OF ROCKWALL, TEXAS
 TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
 TURTLE COVE SANITARY SEWER
 PLAN & PROFILE STA. 11+00 TO STA. 12+23.86

BHC
 PROJECT NO.
 2019-122
 June, 2020

SHEET NO.
15



WASTEWATER MANHOLE DROP CONNECTIONS	CITY OF ROCKWALL	DATE	DRAWING NO.
		AUG '19	R-5080

HVA ADHESIVE CAPSULE ANCHOR

- DRILL HOLES WITH ANSI B212.15 MATCHED TOLERANCE CARBIDE TIPPED DRILL BITS WITH DRILL IN ROTO-HAMMER MODE OR USE A MATCHED TOLERANCE DIAMOND CORE DRILL BIT OF DIAMETER SPECIFIED BY HILTI.
- DRILLED HOLE SPECIFICATIONS (DIAMETER & DEPTH) SHALL COMPLY WITH HILTI SPECIFICATION OR ICC ESR 1562.
- ALLOWABLE LOADS MAY BE INCREASED BY 33-1/3% FOR SHORT-TERM WIND OR SEISMIC LOAD RESISTANCE IAW ICC ESR 1682 UNLESS NOT PERMITTED BY THE APPLICABLE BUILDING CODE.
- WHEN CONDUCTED, PROOF TEST ANCHORS IN THE FIELD TO 150-200% OF HILTI PUBLISHED ALLOWABLE TENSION LOAD UNLESS NOTED OTHERWISE IN A PROOF TEST LOAD TABLE. TORQUE TESTING IS NOT PERMITTED.
- ANCHORS SHALL BE TIGHTENED WITH A CALIBRATED TORQUE WRENCH. USE OF AN IMPACT WRENCH IS NOT PERMITTED.
- CONTACT HILTI TECHNICAL SUPPORT AT 1-800-879-8000 FOR INSTALLATION INSTRUCTIONS IN SUBMERGED WATER CONDITIONS.
- CONTACT HILTI TECHNICAL SUPPORT AT 1-800-879-8000 FOR ADDITIONAL ASSISTANCE WITH HVA ADHESIVE ANCHOR INSTALLATIONS.
- INSTALLATION INSTRUCTIONS:
 - FOR HVA ADHESIVE CAPSULES WITH H.A.S. THREADED RODS:
 - DRILL ANCHOR HOLE WITH A CARBIDE BIT (SEE NOTE 1 ABOVE), TO SPECIFIED EMBEDMENT DEPTH.
 - CLEAN HOLE WITH COMPRESSED AIR OR BLOW OUT PUMP. INSERT NOZZLE TO BOTTOM OF HOLE.
 - IF USING MATCHED TOLERANCE CORE BIT, REMOVE STANDING WATER FROM HOLE.
 - INSERT APPROPRIATE HVU CAPSULE INTO HOLE WITH POINTED END FIRST. CAPSULE LENGTH IS LONGER THAN STANDARD EMBEDMENT AND WILL PROTRUDE FROM HOLE. DO NOT CUT OFF ANY PART OF THE HVU CAPSULE.
 - THREAD NUT ONTO ROD.
 - PLACE A WASHER ON FIRST NUT AND THREAD BLACK SETTING NUT DOWN ON WASHER.
 - TIGHTEN NUTS TOGETHER SO THAT BLACK SETTING WASHER IS AT TOP OF ROD.
 - INSERT SQUARE DRIVE SHAFT INTO HAMMER DRILL AND ATTACH PROPER IMPACT SOCKET.
 - WITH HAMMER DRILL OR ROTARY HAMMER, ENGAGE TOP NUT OF HAS ROD ASSEMBLY AND ROTOHAMMER ROD THROUGH CAPSULE(S) INTO THE HOLE. STOP DRILL ROTATION IMMEDIATELY UPON REACHING BOTTOM OF HOLE.
 - DO NOT DISTURB OR LOAD ANCHOR BEFORE CURING TIME ELAPSES.

DETAILS	HAS Rod Size	in.	3/8	1/2	5/8	3/4	7/8	1	1-1/4	
d _{bit}	nominal bit diameter	in.	15/32	9/16	11/16	7/8	1	1-1/8	1-3/8	
h _{nom}	std. depth of embed.	in.	3-1/2	4-1/4	5	6-5/8	6-5/8	8-1/4	12	
t	max. thickness fastened	in.	1	1-1/2	1-3/4	2	2-1/4	2-1/2	2-3/4	
t _{max}	max. tightening torque	All Hilti Rods	ft-lb	18	30	75	150	175	235	400
h	minimum base material thickness	h _{ef} =h _{nom}	in.	5-1/4	6-3/8	7-1/2	10	10	12-3/8	18
		h _{ef} =h _{nom}	in.	1.0h _{ef} 2	1.0h _{ef} 2	1.0h _{ef} 2	1.0h _{ef} 2	1.0h _{ef} 2	1.0h _{ef} 2	1.0h _{ef} 3
	Recommended Hilti Rotary Hammer Drill		TE-6, 15, 18M, 25	TE-18M, 25, 55, 76		TE-55, 76		TE-76		

For SI: 1 inch = 25.4mm, 1 lb = 1.4 Nm
Curing Time Table (Approximate)

Approx. Curing Time	Base Material Temperature
20 Minutes	ABOVE 68° F/20° C
30 Minutes	50° F/10° C
1 Hour	32° F/0° C
5 Hour	23° F/-5° C

INSTALLATION INSTRUCTIONS:

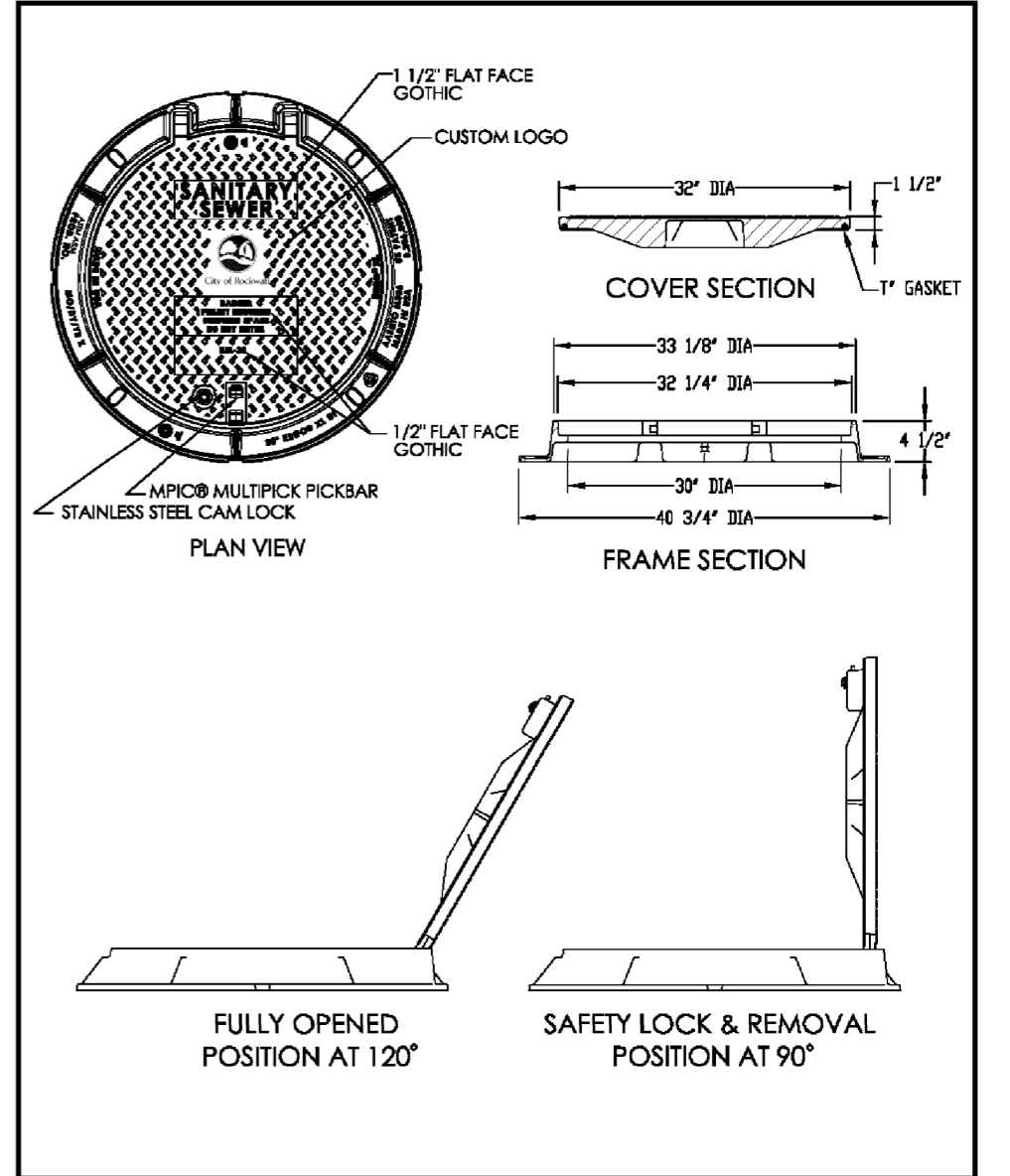
- SET THE DRILL DEPTH GAUGE AND DRILL A HOLE TO THE REQUIRED HOLE DEPTH. IMPORTANT: CLEAN OUT DUST AND DEBRIS. USE COMPRESSED AIR OR VACUUM AT BOTTOM OF THE HOLE. WHEN USING THE HILTI MATCHED TOLERANCE DIAMOND CORE BIT, IMMEDIATELY REMOVE STANDING WATER.
- INSERT APPROPRIATE DIAMETER HVU ADHESIVE CAPSULE INTO PRE-DRILLED HOLE IN BASE MATERIAL. NOTE: THE BEST METHOD FOR SETTING MULTIPLE CAPSULES IS TO CRUSH THE FIRST CAPSULE(S) INTO THE HOLE AND THEN INSERT THE NEXT CAPSULE. DO NOT CUT OFF CAPSULES PARTIALLY PROTRUDING FROM THE HOLE.
- CAPSULE LENGTH IS LONGER THAN STANDARD EMBED. DEPTH AND WILL PROTRUDE FROM THE HOLE.
- THREAD H.A.S. NUT ON THE H.A.S. ROD. PLACE A WASHER ON TOP OF THE FIRST NUT AND THEN THREAD A BLACK SETTING NUT DOWN ON TOP OF THE WASHER. TIGHTEN THE TWO NUTS TOGETHER "LOCKING" THE WASHER BETWEEN THEM. THE TOP NUT SHOULD BE FLUSH WITH THE TOP OF THE ROD.
- INSERT A SQUARE DRIVE SHAFT INTO THE HAMMER DRILL AND ATTACH THE PROPER IMPACT SOCKET. AT THE ROTARY HAMMER DRILL SETTING, ENGAGE THE TOP NUT OF THE HAS ROD ASSEMBLY WITH THE SOCKET AND DRIVE THE ROD DOWN THROUGH THE CAPSULE(S). STOP DRILL ROTATION IMMEDIATELY UPON REACHING BOTTOM OF HOLE.
- DO NOT DISTURB OR LOAD THE SET ANCHOR BEFORE THE SPECIFIED CURING TIME ELAPSES.

PIPE CLAMP DETAIL (N.T.S.)

DROP FIXTURE ANCHOR (N.T.S.)

SHEET 2 OF 2

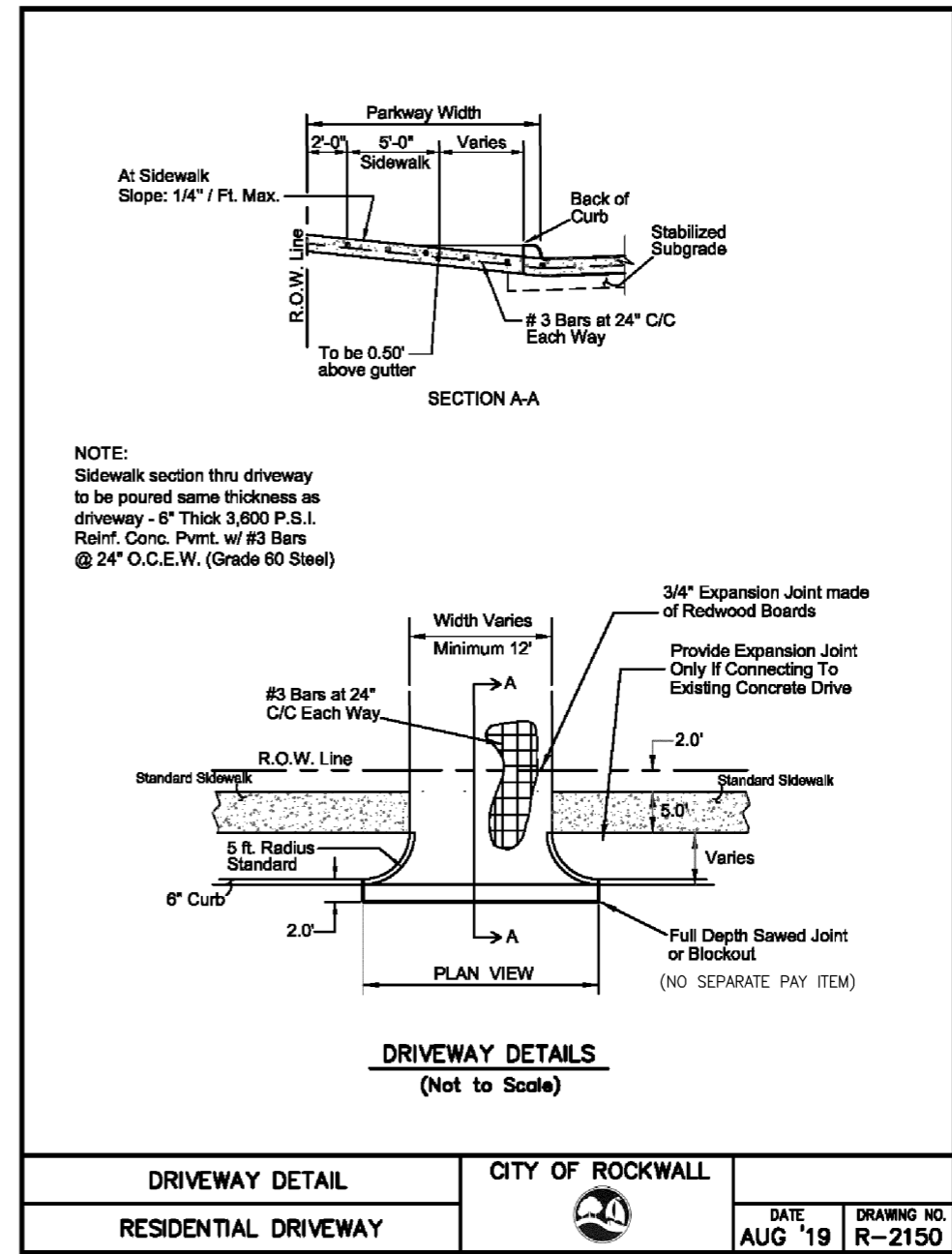
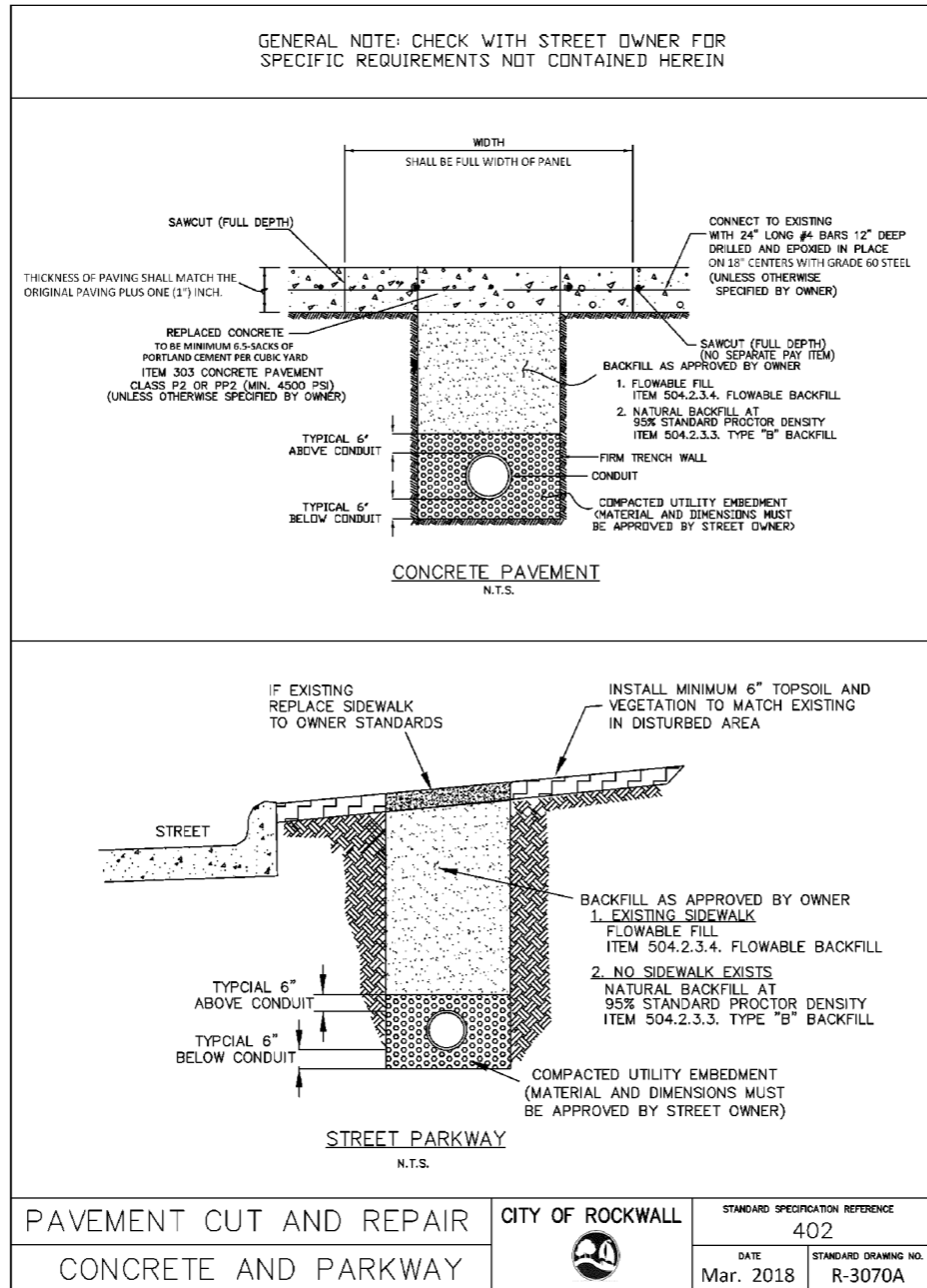
WASTEWATER MANHOLE DROP CONNECTIONS	CITY OF ROCKWALL	DATE	DRAWING NO.
		AUG '19	R-5080



WASTEWATER MANHOLE HINGED RIM AND COVER	CITY OF ROCKWALL	DATE	DRAWING NO.
		AUG '19	R-5101

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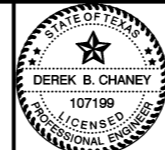
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				PLOTTED BY: TROY VASQUEZ ON 1/21/2022	PLOT SCALE: 1:2 PLOT STYLE: 11x17.ctb	REVISED: 1/21/22 - TVASQUEZ H:\Projects\Rockwall\2019122 Turtle Cove & Windmill Ridge SS\Sheets\2019122 - Miscellaneous Details.dwg



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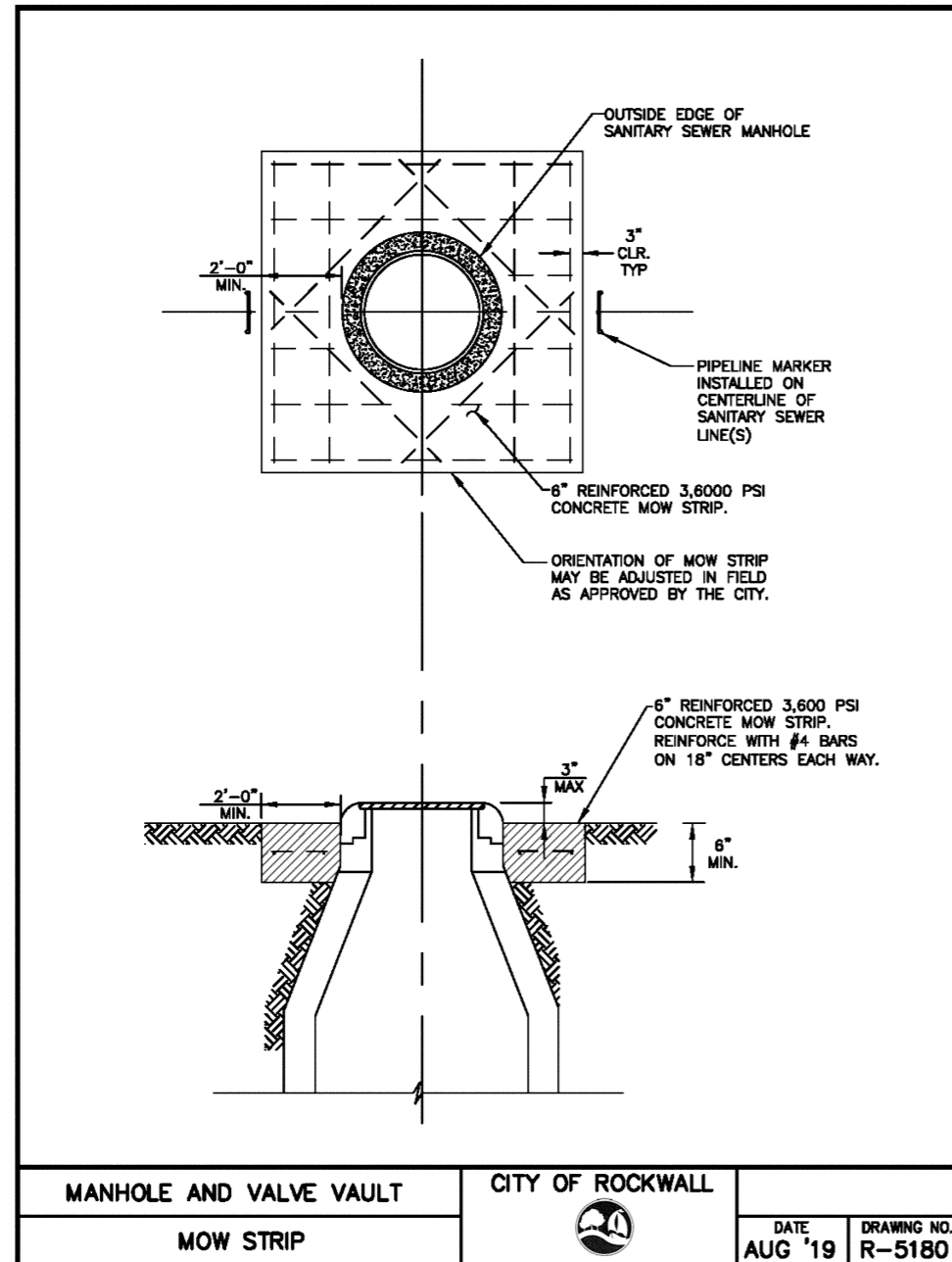
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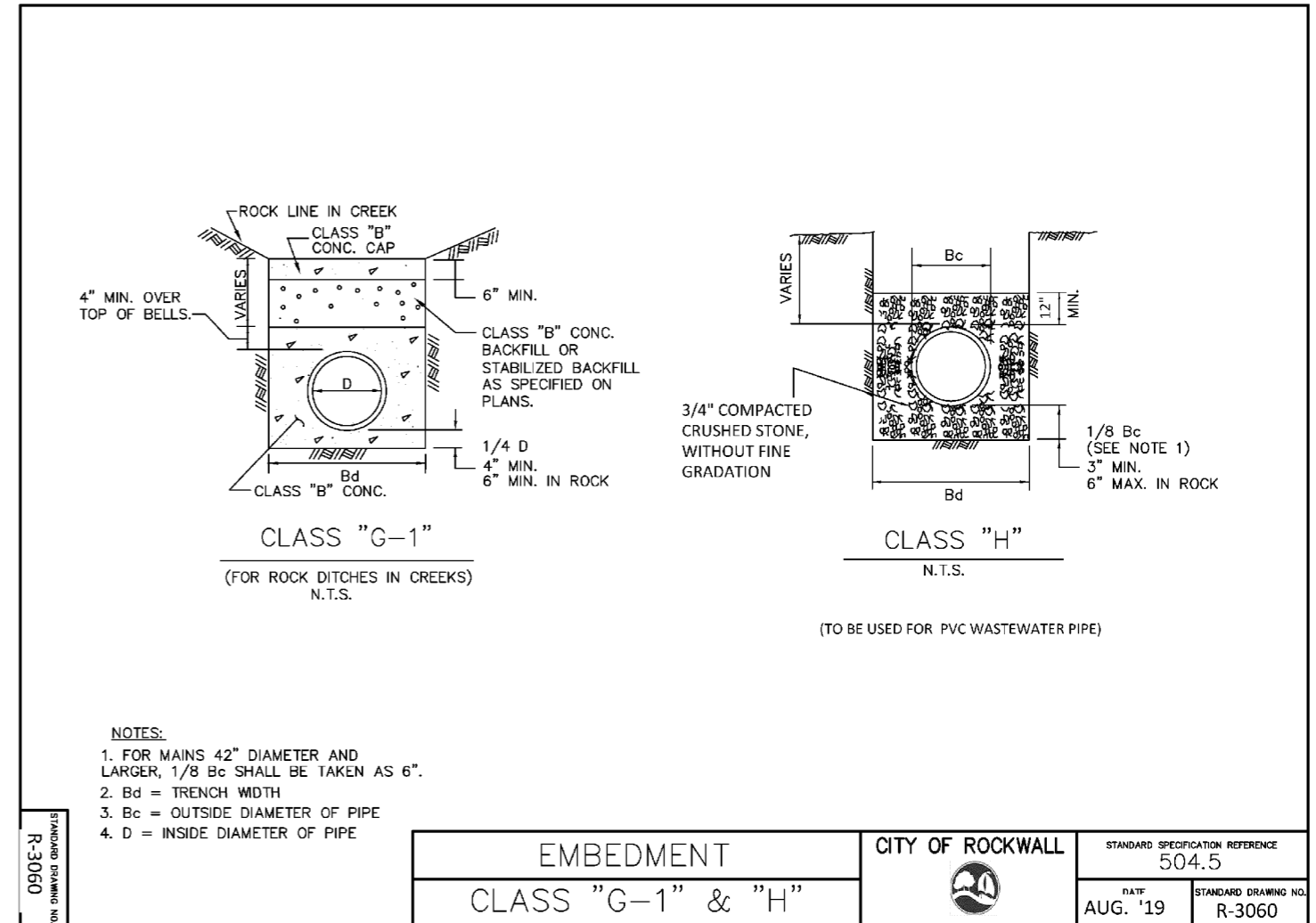
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06/19/20

CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
CITY OF ROCKWALL CONSTRUCTION DETAILS

BHC
PROJECT NO.
2019-122
June, 2020
SHEET NO.
18



MANHOLE AND VALVE VAULT	CITY OF ROCKWALL	DATE AUG '19	DRAWING NO. R-5180

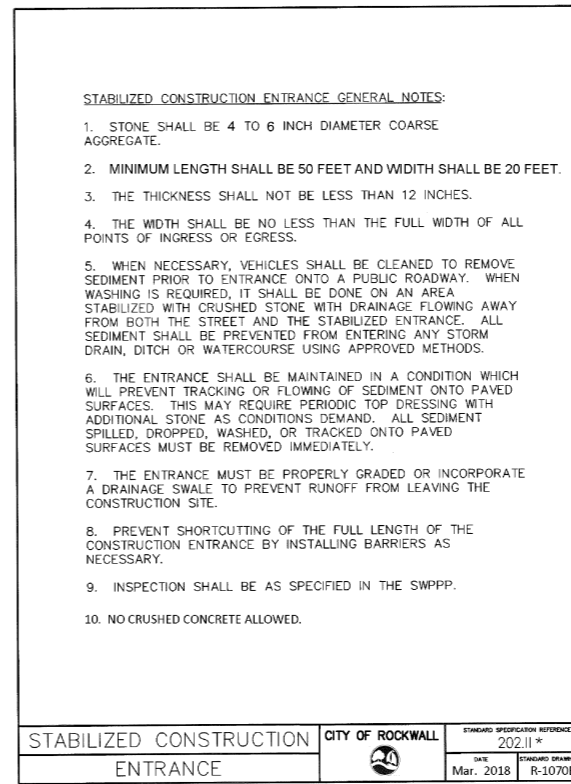
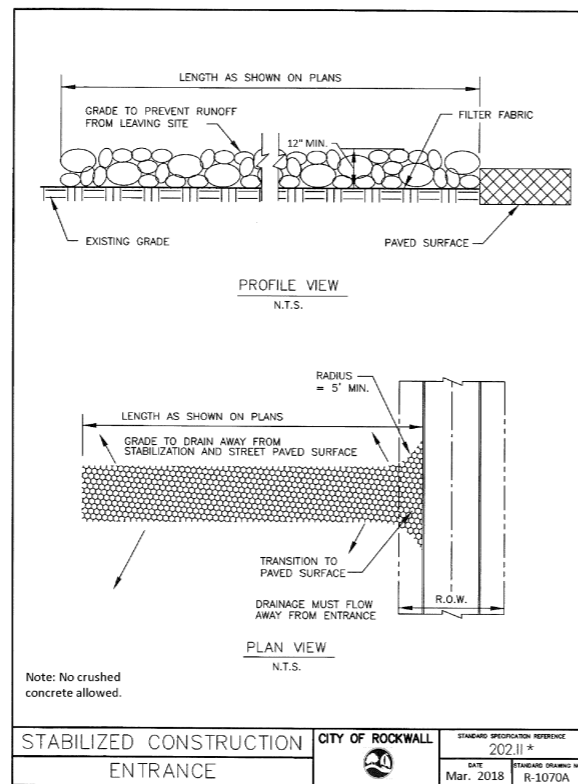


- NOTES:
1. FOR MAINS 42" DIAMETER AND LARGER, 1/8 Bc SHALL BE TAKEN AS 6".
 2. Bd = TRENCH WIDTH
 3. Bc = OUTSIDE DIAMETER OF PIPE
 4. D = INSIDE DIAMETER OF PIPE

EMBEDMENT CLASS "G-1" & "H"	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 504.5	
		DATE AUG. '19	STANDARD DRAWING NO. R-3060

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BY D.B.C. DATE 11/22/21

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				CITY OF ROCKWALL CONSTRUCTION DETAILS	June, 2020	



STABILIZED CONSTRUCTION ENTRANCE CITY OF ROCKWALL STANDARD SPECIFICATION REFERENCE 202.11 * DATE Mar. 2018 STANDARD DRAWING NO. R-1070A

STABILIZED CONSTRUCTION ENTRANCE CITY OF ROCKWALL STANDARD SPECIFICATION REFERENCE 202.11 * DATE Mar. 2018 STANDARD DRAWING NO. R-1070B

*Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.

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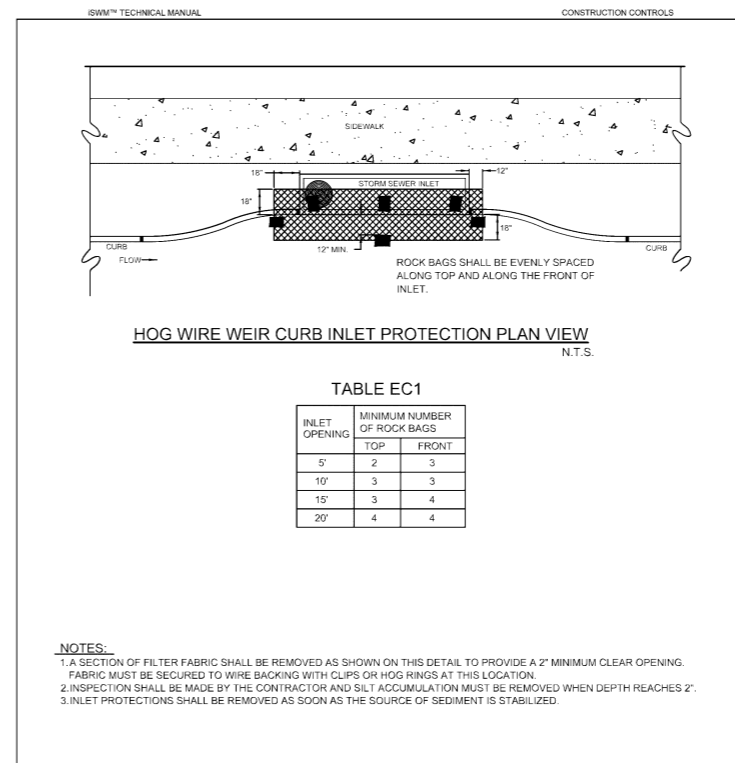
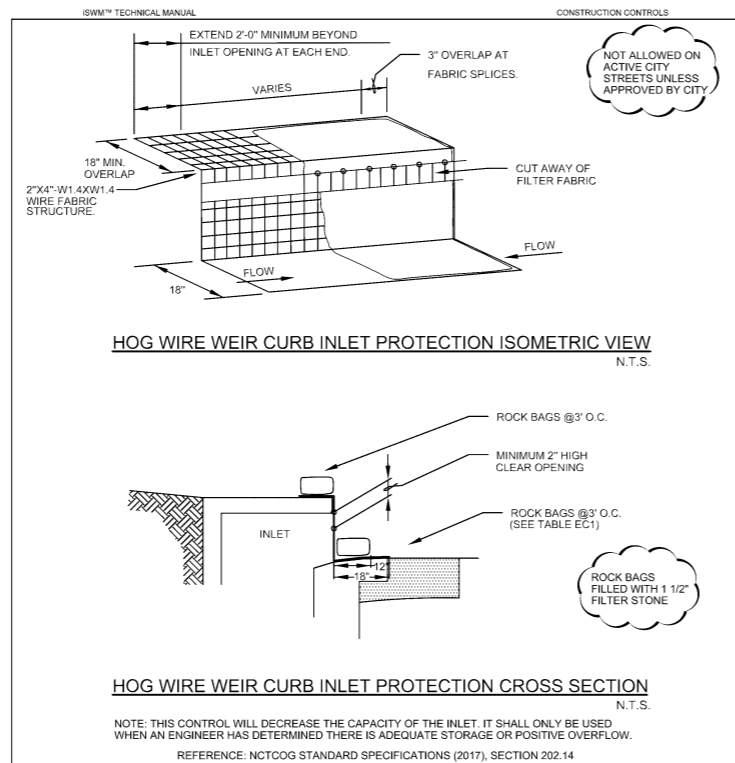


TABLE EC1

INLET OPENING	MINIMUM NUMBER OF ROCK BAGS	
	TOP	FRONT
5'	2	3
10'	3	3
15'	3	4
20'	4	4

NOTES:
 1. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL TO PROVIDE A 2" MINIMUM CLEAR OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
 2. INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
 3. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

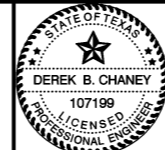
FIGURE 3.7 STANDARD CONSTRUCTION DETAIL - HOG WIRE WEIR CURB INLET PROTECTION (1 OF 2)

FIGURE 3.7 STANDARD CONSTRUCTION DETAIL - HOG WIRE WEIR CURB INLET PROTECTION (2 OF 2)

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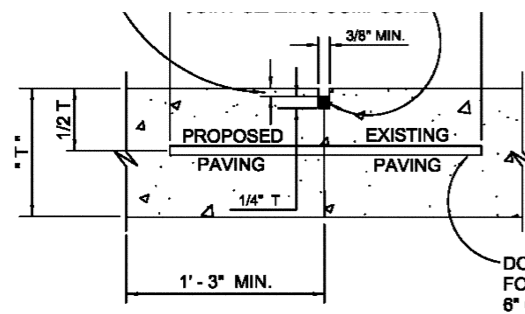
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



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CITY OF ROCKWALL, TEXAS
 TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
 CITY OF ROCKWALL CONSTRUCTION DETAILS

BHC PROJECT NO. 2019-122
 June, 2020
 SHEET NO. **20**



DOWEL SPACED ON ONE (1) FOOT CENTER TO CENTER, 6\"/>

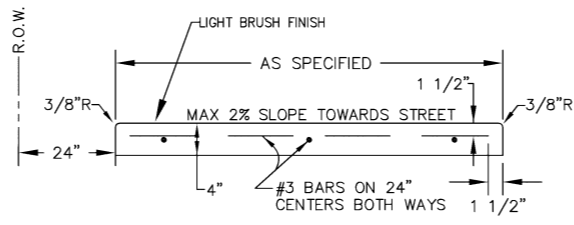
NOTES: T = PAVEMENT

1. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
2. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
3. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT
NOT TO SCALE

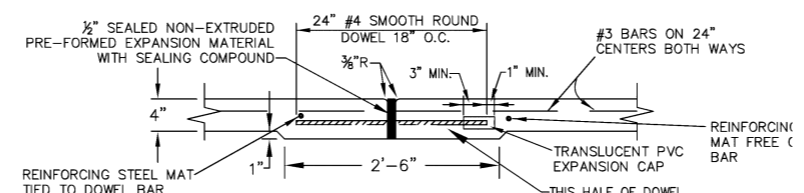
SIDEWALK PANELS SHALL BE GROOVED 3/8\"/>

PLAN VIEW
N.T.S.

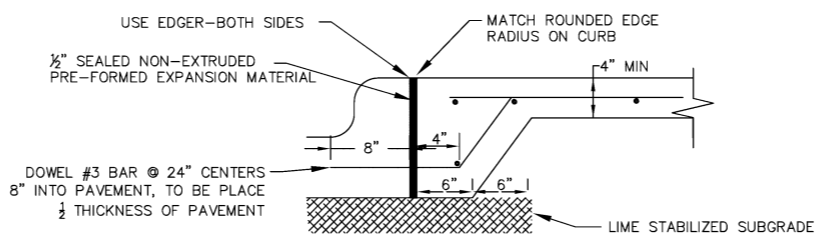


SECTION "A-A"
N.T.S.

- NOTES:
1. CROSS SLOPE OF SIDEWALK NO GREATER THAN 2%
 2. SIDEWALK CONCRETE WITHIN () SHALL BE MINIMUM 3,000 PSI SACK/C.Y.) CONCRETE.
 3. ALL SIDEWALKS SHALL MAINT. DRAINAGE.
 4. ALL HONEYCOMB IN BACK OD BE TROWEL-PLASTERED BEFO SIDEWALK.
 5. MINIMUM WIDTH OF 6' IF SIDE ADJACENT TO CURB A LUGGE CURB.
 6. STEEL WIRE MESH IS NOT AC



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



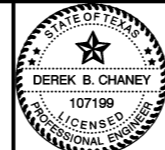
JOINT LUG DETAIL FOR MEDIAN PAVEMENT
LEAD WALK CONNECTIONS OR SIDEWALK ADJACENT TO CURB
N.T.S.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
LONGITUDINAL BUTT JOINT		DATE OCT. '17	DRAWING NO. R-2051

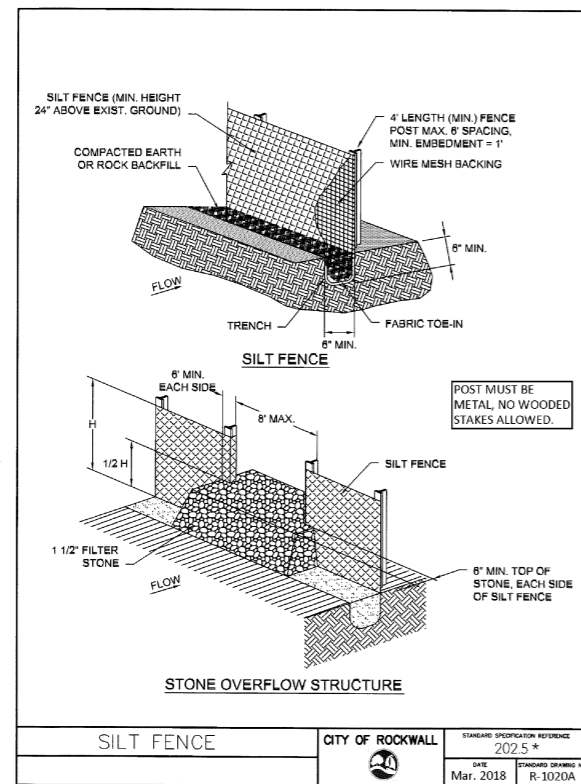
REINFORCED CONCRETE SIDEWALKS	CITY OF ROCKWALL		
JOINTS AND SPACING		DATE AUG '19	

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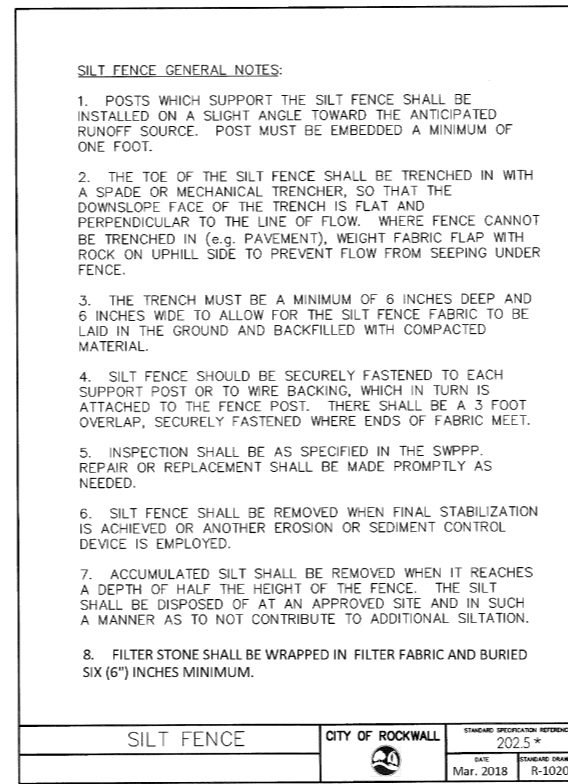


D. Chaney
06/19/20



SILT FENCE	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 202.5 *
		DATE Mar. 2018
		STANDARD DRAWING NO. R-1020A

*Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.



SILT FENCE	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 202.5 *
		DATE Mar. 2018
		STANDARD DRAWING NO. R-1020B

*Section II Standard Drawings as of October 2004. Reference number only has been updated for Fifth Edition Specifications. Public Works Construction Standards North Central Texas, Fifth Edition.

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BY D.B.C. DATE 11/22/21

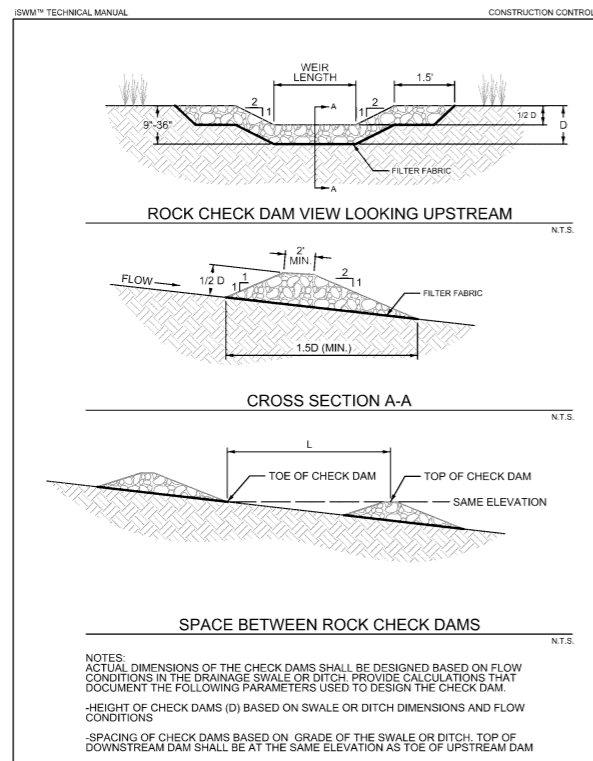


FIGURE 2.1 STANDARD CONSTRUCTION DETAIL - ROCK CHECK DAMS (1 OF 2)

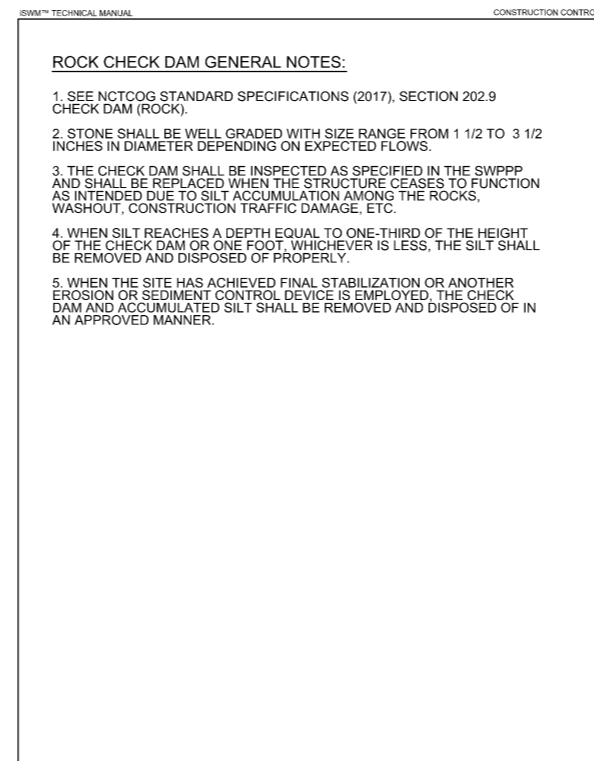


FIGURE 2.1 NOTES ON ROCK CHECK DAM (2 OF 2)

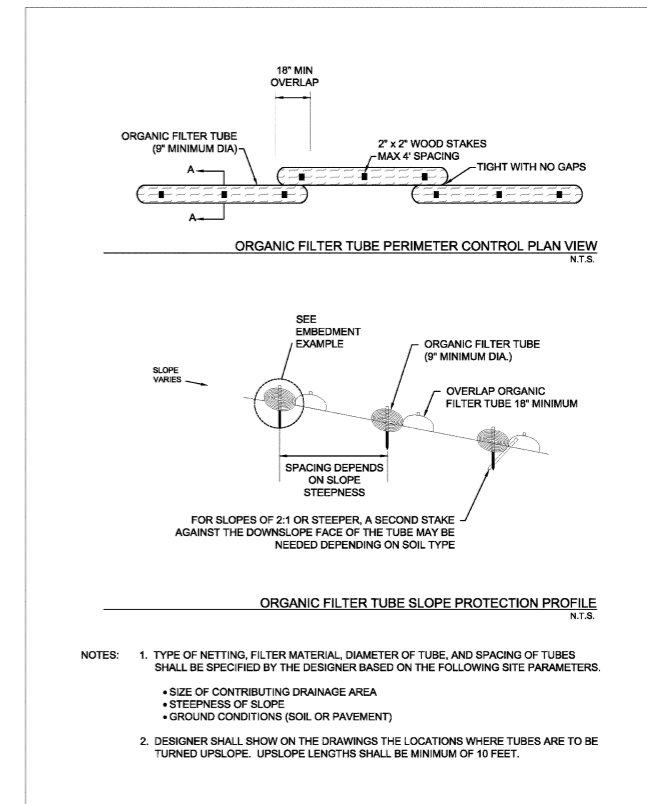
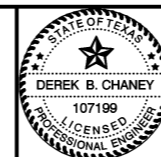


Figure 3.15 Schematics of Organic Filter Tubes

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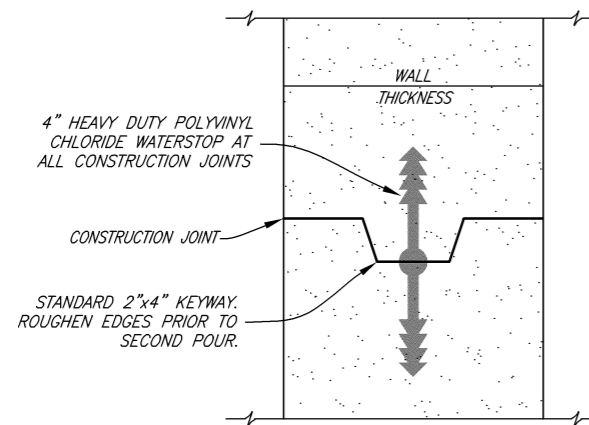


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CITY OF ROCKWALL, TEXAS
TURTLE COVE & WINDMILL RIDGE SANITARY SEWER REHABILITATION
EROSION CONTROL DETAILS

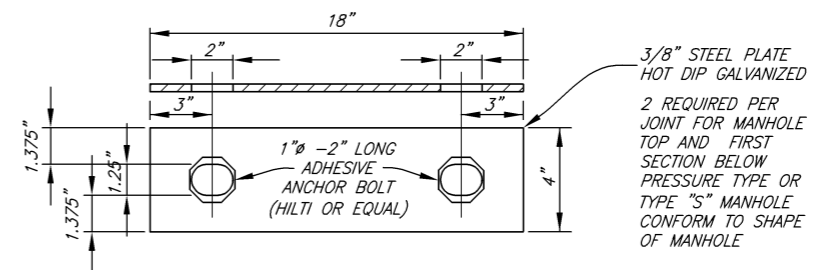
BHC
PROJECT NO.
2019-122
June, 2020

SHEET NO.
22



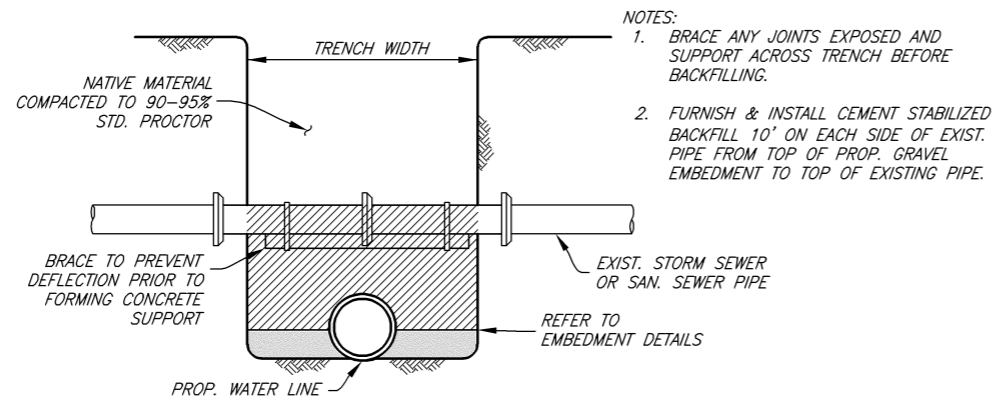
CAST IN PLACE MANHOLE CONSTRUCTION JOINT

STANDARD SANITARY SEWER 4', 5' & 6' DIAMETER CONCENTRIC MANHOLES
KEYWAY WITH WATERSTOP
NO SCALE



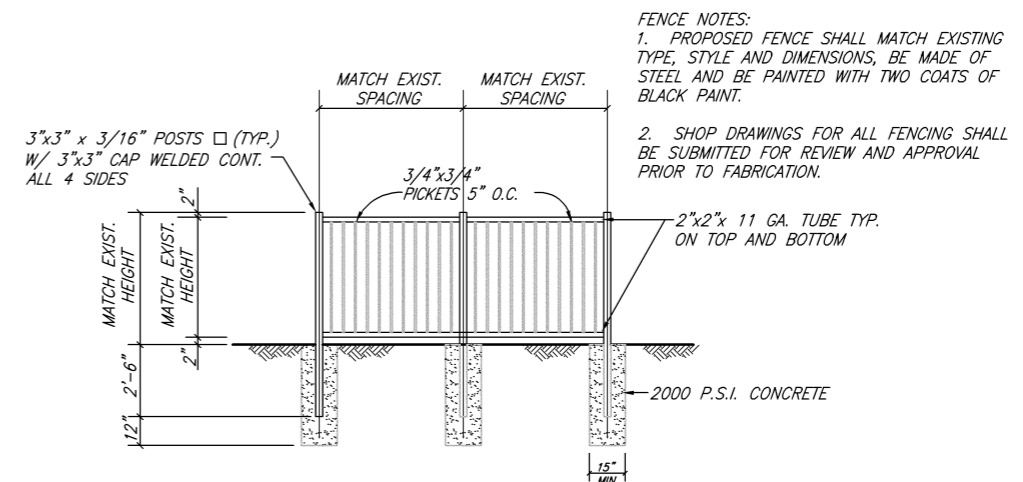
**JOINT RESTRAINER FOR
PRECAST MANHOLE**

SEE SPECIFICATIONS FOR PRECAST
MANHOLE REQUIREMENTS
NO SCALE



SANITARY OR STORM SEWER SUPPORT

NO SCALE



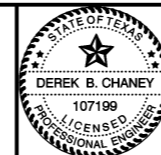
STEEL FENCE ELEVATION

NO SCALE

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CITY OF ROCKWALL, TEXAS
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MISCELLANEOUS CONSTRUCTION DETAILS

BHC
PROJECT NO.
2019-122
June, 2020

SHEET NO.

23