

CITY OF ROCKWALL, TEXAS

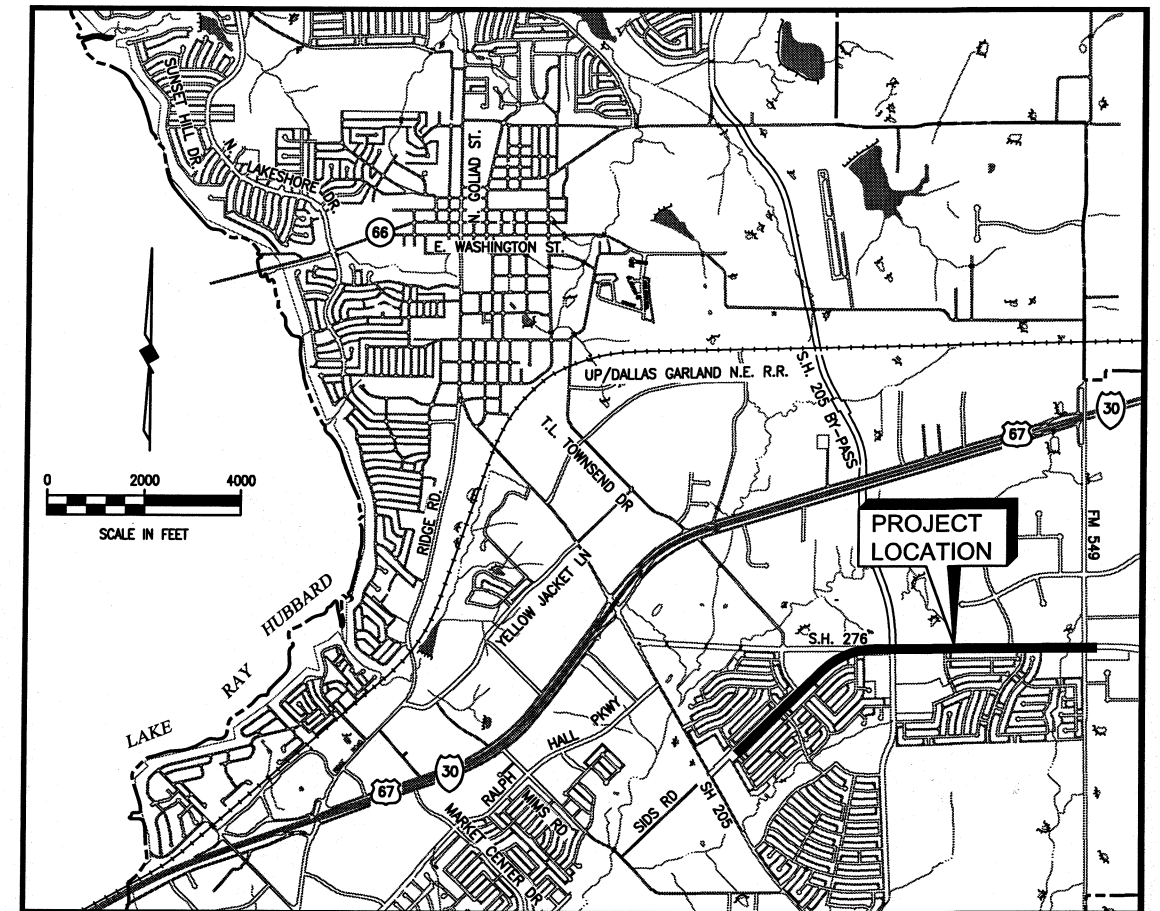
CONSTRUCTION PLANS FOR:

UTILITY RELOCATIONS ALONG S.H. 276

FROM GRAYSTONE DRIVE TO F.M. 549

CONFORMED FOR CONSTRUCTION

▲ ADDENDUM NO. 1: 1/26/2017



LOCATION MAP

COUNCIL MEMBERS

JIM PRUITT, MAYOR
MIKE TOWNSEND, MAYOR PRO-TEM
DAVID WHITE
JOHN HOHENSHELT
KEVIN FOWLER
DENNIS LEWIS
SCOTT MILDER

CITY MANAGER

RICK CROWLEY

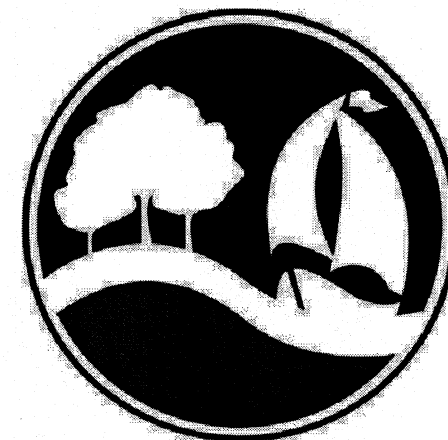
ASSISTANT CITY MANAGER

MARY SMITH
BRAD GRIGGS

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BY MH DATE 01/16/18



Matthew Hickey
1/5/17

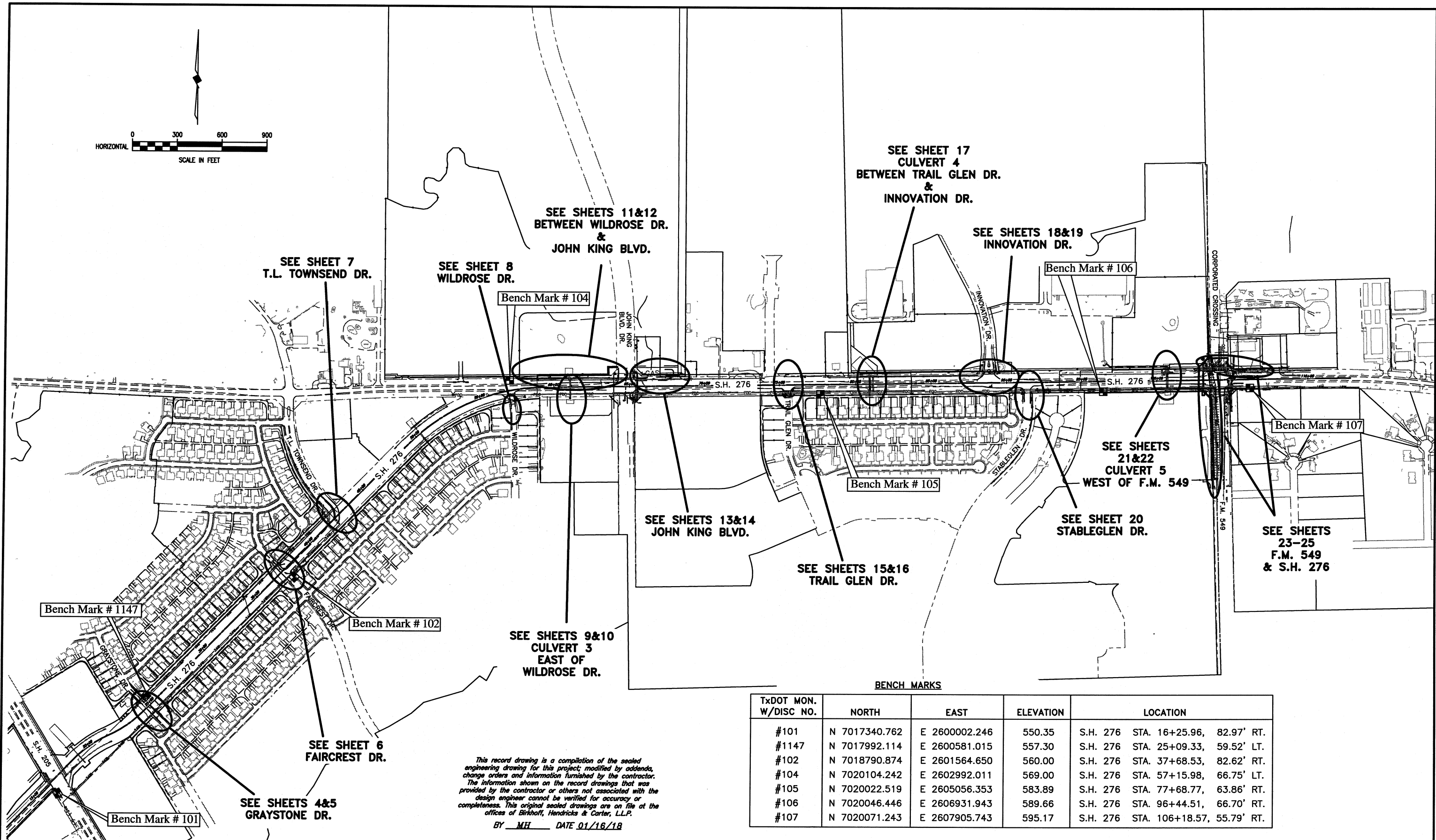
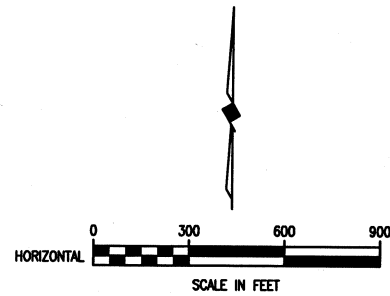


BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
Texas Firm 526
Dallas, Texas

January, 2018

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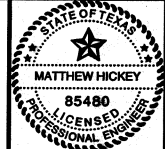
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BENCH MARKS

TxDOT MON. W/DISC NO.	NORTH	EAST	ELEVATION	LOCATION
#101	N 7017340.762	E 2600002.246	550.35	S.H. 276 STA. 16+25.96, 82.97' RT.
#1147	N 7017992.114	E 2600581.015	557.30	S.H. 276 STA. 25+09.33, 59.52' LT.
#102	N 7018790.874	E 2601564.650	560.00	S.H. 276 STA. 37+68.53, 82.62' RT.
#104	N 7020104.242	E 2602992.011	569.00	S.H. 276 STA. 57+15.98, 66.75' LT.
#105	N 7020022.519	E 2605056.353	583.89	S.H. 276 STA. 77+68.77, 63.86' RT.
#106	N 7020046.446	E 2606931.943	589.66	S.H. 276 STA. 96+44.51, 66.70' RT.
#107	N 7020071.243	E 2607905.743	595.17	S.H. 276 STA. 106+18.57, 55.79' RT.

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 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 S.H. 276 UTILITY LOCATION - MAP

BHC
 PROJECT NO.
 2016-102
 January, 2018
 SHEET NO.
2

GENERAL PROJECT NOTES

1. REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATION OF UNDERGROUND UTILITIES. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND THE OWNER AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR FAILURE TO SHOW ANY OR ALL SUBSURFACE UTILITIES OR TO SHOW THEM IN THEIR EXACT LOCATIONS. PRIOR TO CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND FIELD VERIFY THE LOCATION OF ALL KNOWN AND UNKNOWN UTILITIES THAT MY CONFLICT WITH CONSTRUCTION. THE CONTRACTOR SHALL COMPLETE FIELD VERIFICATION OF EXISTING UTILITIES PRIOR TO THE ORDERING OF VAULTS, PIPE OR FITTINGS SO THAT ADJUSTMENTS CAN BE MADE. NO SEPARATE PAY ITEM AND NO CONTRACT TIME EXTENSIONS WILL BE GRANTED FOR UTILITY LOCATES.
2. A VARIETY OF UNDERGROUND ELECTRICAL, TELEPHONE, CABLE TV AND FIBEROPTIC EXISTS ON THE SITE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT IF IT IS NECESSARY TO CHANGE THE DESIGN, THE PROGRESS OF THE WORK WILL NOT BE DELAYED, & ALL COSTS INCURRED FOR UTILITY CONFLICTS WILL BE AT NO ADDITIONAL COST. THE CONTRACTOR SHALL CONTACT THE TEXAS ONE CALL SYSTEM (811) TO LOCATE ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES EXPOSED OR CROSSED BY CONSTRUCTION. WHERE EXISTING LINES ARE CUT, BROKEN OR DAMAGED BY CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY REPAIR AND/OR REPLACE WITH SAME TYPE OF ORIGINAL CONSTRUCTION, OR BETTER, AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF ALL POWER AND TELEPHONE POLES AND GUY WIRES WITHIN 15 FEET OF PROPOSED IMPROVEMENTS AND SHALL REPAIR DAMAGED POLES AND GUY WIRES OR RELOCATE POLES AND GUY WIRES AS REQUIRED BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR MUST CONTACT & COORDINATE ALL WORK AND FEES W/ UTILITY OWNER AT NO ADDITIONAL COST TO CITY.
5. CONTRACTOR SHALL SECURE EXCAVATION AT THE END OF EACH DAY. THE OWNER MAY REQUIRE THAT NO TRENCHES BE LEFT OPEN OVERNIGHT IN STREETS OR POPULATED AREAS.
6. TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 12 INCHES AND DISC HARROWED TO A MINIMUM DEPTH OF 4 INCHES.
7. FINISHED GROUND SHALL HAVE NO ROCKS OVER 1 INCH THAN SURROUNDING UNDISTURBED GROUND.
8. PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
9. TRIMMING OF TREES SHALL BE ACCOMPLISHED USING A SAW OR PRUNING SHEARS. ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER TREE TRIMMING.
10. CONTRACTOR SHALL REPLACE ANY TREES REMOVED OR DESTROYED WITHOUT THE OWNER'S PERMISSION OR SHALL PAY FAIR MARKET VALUE (AS DETERMINED BY THE OWNER) TO THE OWNER.
11. ANY FENCES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE SAME LOCATION WITH A FENCE OF EQUAL OR SUPERIOR QUALITY.
12. TEMPORARY FENCING SHALL BE REQUIRED WHEN DIRECTED BY THE CITY.
13. CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN AND PROVIDE ALL APPURTENANCES TO COMPLY WITH THE LATEST TCEQ STORM WATER POLLUTION PREVENTION REGULATIONS.
14. CONTRACTOR SHALL PROVIDE ADEQUATE MEASURES FOR DEWATERING AS NECESSARY (NO PAY ITEM).
15. CONTRACTOR SHALL PROTECT ALL UNDERGROUND IRRIGATION SYSTEMS (KNOWN AND UNKNOWN). ALL DAMAGE SHALL BE REPAIRED BY AN IRRIGATOR LICENSED IN THE STATE OF TEXAS.
16. CONTRACTOR SHALL SUBMIT A WRITTEN PLAN AND SCHEDULE 14 DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES REQUIRING REPLACEMENT OR SUPPORT OF EXISTING SANITARY SEWER PIPE, WATER PIPE OR STORM DRAIN PIPE. THE PLAN SHALL DESCRIBE IN DETAIL THE METHOD FOR REPLACING OR SUPPORTING EXISTING PIPE AND ASSOCIATED SCHEDULE.
17. CONTRACTOR, AT HIS DISCRETION, MAY TUNNEL UNDER EXISTING UTILITIES OR ROADWAYS OTHER THAN THOSE CROSSINGS SPECIFICALLY SHOWN ON THE DRAWINGS, AT NO ADDITIONAL COST TO THE OWNER.
18. TxDOT CONTROL MONUMENTS SUMMARIZED ON SHEET 2 SHALL BE USED FOR HORIZONTAL AND VERTICAL SURVEY CONTROL FOR THE PROJECT. ALL CONSTRUCTION SURVEYS SHALL BE COMPLETED BY THE CONTRACTOR (NO PAY ITEM).
19. THE CONTRACTOR SHALL RESTORE AT HIS OWN EXPENSE, TEMPORARY ROADS AND CONSTRUCTION WORK AREAS.
20. CONTRACTORS OPERATIONS MUST STAY WITHIN THE PERMANENT EASEMENTS, R.O.W. AND CONTRACTOR'S WORK AREA DESIGNATED ON THE PLAN SHEETS. ANY DAMAGE OUTSIDE THESE OPERATIONS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTORS EXPENSE. ACCESS ROUTES OR OPERATIONS WHICH FALL OUTSIDE THE DESIGNATED AREAS WILL ONLY BE ALLOWED WITH PRIOR LANDOWNER CONSENT. CONTRACTOR SHALL PROVIDE THE OWNER WITH A COPY OF ANY AGREEMENTS MADE BETWEEN THE LANDOWNER AND THE CONTRACTOR.
21. THE CONTRACTOR SHALL PROVIDE A DVD TO THE OWNER DOCUMENTING THE CONDITION OF THE SITE INCLUDING THE R.O.W. EASEMENTS AND SURROUNDING AREA PRIOR TO THE START OF ANY CONSTRUCTION. DVD TO BE PROVIDED PRIOR TO FIRST PAYMENT TO CONTRACTOR (NO PAY ITEM).
22. PROVIDE ACCESS FOR LANDOWNERS AT EXISTING ROADS, ALLEYS, AND DRIVEWAYS AT ALL TIMES.
23. CONTRACTOR SHALL PROTECT ALL TREES, LANDSCAPING AND STRUCTURES LOCATED WITHIN THE PERMANENT EASEMENTS. TREES, LANDSCAPING AND STRUCTURES NOT INDICATED FOR REMOVAL OR TRANSPLANT ON THE PLANS SHALL NOT BE REMOVED OR TRANSPLANTED WITHOUT RECEIVING WRITTEN APPROVAL FROM THE CITY OF ROCKWALL.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE CONSTRUCTION SITE AND ADJACENT AREAS CLEAR OF TRASH AND CONSTRUCTION DEBRIS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RINSE ALL DIRT, MUD, SILT, DUST, ETC., OFF THE TIRES OF CONSTRUCTION EQUIPMENT PRIOR TO LEAVING THE SITE. CONTRACTOR SHALL SWEEP ROADWAYS THAT HAVE CONSTRUCTION DIRT, DEBRIS, ETC., A MINIMUM ONCE A DAY AND/OR AS REQUIRED BY CITY INSPECTOR.

STANDARD SEWER NOTES

1. SEWER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF ROCKWALL, SPECIFICATIONS AND CODES.
2. STANDARD MANHOLE FRAMES AND 30" DIAMETER COVER SHALL BE PAMREX AS MANUFACTURED BY CERTAINTEED CORPORATION.
3. 4200 P.S.I. CONCRETE SHALL BE USED FOR ALL MANHOLES.
4. USE ONLY A NON-SHEAR COUPLING FOR PIPE CONNECTIONS.
5. WHEN THE TRENCH SAFETY EXCEEDS 5 FEET IN DEPTH, THE CONTRACTOR SHALL MEET OR EXCEED THE O.S.H.A. STANDARDS FOR TRENCH SAFETY.

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WATER

1. ALL WATER LINE CROSSINGS OF SANITARY SEWER LINES SHALL BE AS SHOWN IN THE PLANS AND MEET TCEQ REQUIREMENTS.
2. PIPES 12 INCHES IN DIAMETER AND SMALLER SHALL BE POLYVINYL CHLORINE (P.V.C.) MEETING THE REQUIREMENTS OF AWWA C900-16 (DR 18) OR DUCTILE IRON PIPE (D.I.P.) MEETING THE REQUIREMENTS AWWA C 151 CLASS 150 PIPE. ALL D.I.P. SHALL BE WRAPPED WITH A POLYETHYLENE LINER.
3. FOR PIPES LARGER THAN 12 INCHES IN DIAMETER, THE PIPE SHALL BE REINFORCED CONCRETE CYLINDER PIPE (AWWA C301 OR AWWA C303). DUCTILE IRON PIPE (D.I.P.) (AWWA C151 CLASS 150) OR POLYVINYL CHLORINE (P.V.C.) PIPE UP TO 18 INCHES MEETING THE REQUIREMENTS OF AWWA C900-16 (DR 14) PIPE.
4. ALL VALVES ON PIPES 12 INCHES AND SMALLER SHALL BE RESILIENT SEATED WEDGE GATE VALVE (AWWA C509).
5. ALL VALVES ON PIPES LARGER THAN 12 INCHES BUT SMALLER THAN 30 INCHES SHALL BE BUTTERFLY VALVES (AWWA C504).
6. EMBEDMENT SHALL BE CLASS B-3 UNLESS AS SHOWN IN THE PLANS. BACKFILL WITHIN THE LIMITS OF EXISTING AND PROPOSED PAVEMENT SHALL BE COMPACTED TO 95% STANDARD PROCTOR. OUTSIDE PAVEMENT (EXISTING OR PROPOSED) SHALL BE COMPACTED TO MINIMUM OF 95% STANDARD PROCTOR. ALL COMPACTION SHALL BE BY MECHANICAL METHODS.
7. WATER LINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH CITY OF ROCKWALL ADDENDUM TO NCTCOG STANDARD SPECIFICATIONS SECTION 506.5.
8. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE BLOCKED OR FULLY RESTRAINED BY MECHANICAL DEVICES.
9. ALL FITTINGS SHALL INCLUDE MEGALUG CONNECTORS.
10. NO WET BORES WILL BE ALLOWED.
11. MAIN LINE VALVE REQUIRED AT ALL FIRE HYDRANTS.

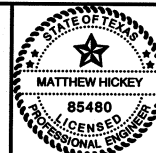
PAVING NOTES

1. CONCRETE FOR ALL CURB AND GUTTERS, VALLEY GUTTERS, DRIVEWAYS, SIDEWALKS AND BRICK PAVER BORDERS AND BASES SHALL BE IN CONFORMANCE WITH NCTCOG ITEM 303.3.9.2, CLASS P1 CONCRETE (4,000 P.S.I.). THE CONTRACTOR SHALL UTILIZE ONE CONCRETE MIX DESIGN THROUGHOUT THE PROJECT. 20% OF CEMENT CAN BE REPLACED WITH A FLY ASH REPLACEMENT RATIO OF 1.25. CONCRETE MIX DESIGN SHALL BE SUBMITTED FOR REVIEW.
2. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM 615, 616 AND 617.
3. ALL REINFORCING STEEL SHALL BE TIED (100%). REINFORCING STEEL SHALL BE SET ON PLASTIC CHAIRS. BAR LAPS SHALL BE MINIMUM 30 DIAMETERS.
4. SAWED TRANSVERSE DUMMY JOINTS SHALL BE SPACED EVERY 15' OR 1.25 TIMES 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.
5. FLEXIBLE BASE MATERIAL SHALL BE COMPACTED TO A 95% STANDARD PROCTOR DENSITY (ASTM D1557). 6-INCH COMPACTED SUBGRADE SHALL BE COMPACTED TO A 95% STANDARD PROCTOR DENSITY (ASTM D698). DENSITY TEST RESULTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. ALL RESULTS SHALL BE PROVIDED TO THE CITY. THERE SHALL BE NO SEPARATE PAYMENT FOR DETERMINATION OF MAXIMUM DENSITY, ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF THE BID SCHEDULE.
6. ALL FILL SHALL BE COMPACTED BY SHEEPS FOOT ROLLER. MAXIMUM LOOSE LIFT FOR COMPACTION SHALL BE 8 INCHES. ALL LIFTS SHALL BE TESTED FOR DENSITY BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY.
7. ALL AREAS OUTSIDE PAVEMENT DISTURBED BY CONSTRUCTION ACTIVITIES SHALL HAVE SOLID SOD ON 4" TOP SOIL GRASS ESTABLISHED IMMEDIATELY. GRASS SHALL MEET THE REQUIREMENTS OF NCTCOG ITEM 202.5. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE BID SCHEDULE ITEM. AREAS DISTURBED OUTSIDE THE R.O.W. OR LIMITS OF CONSTRUCTION SHALL HAVE GRASS ESTABLISHED IMMEDIATELY AT THE CONTRACTORS EXPENSE (NO PAY ITEM).
8. ALL AREAS TO BE EXCAVATED OR FILLED SHALL HAVE EROSION CONTROL PLACED PRIOR TO COMMENCING EARTHWORK. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH NCTCOG ITEM 201.
9. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING CONCRETE AND HMA PAVEMENT AS REQUIRED FOR CONSTRUCTION OF THE PROJECT. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEMS IN THE BID SCHEDULE.
10. ALL CONNECTIONS OF PROPOSED CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT SHALL INCLUDE A LONGITUDINAL BUTT JOINT AS THE LOAD TRANSFER DEVICE - SEE CITY OF ROCKWALL DETAIL R-2051 IN THE SPECIFICATIONS. CONCRETE SAW CUTS FOR ALL DRIVEWAYS AND SIDEWALKS SHALL BE SUBSIDIARY TO THE APPROPRIATE BID ITEM FOR DRIVEWAY AND SIDEWALK REPLACEMENT.
11. THERE SHALL BE NO SEPARATE PAYMENT FOR SUBGRADE PREPARATION UNDER DRIVEWAY AND ALLEY AREAS AND ALL COST SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF THE BID SCHEDULE.
12. PAYMENT FOR REMOVAL AND REPLACEMENT OF STREET, DRIVE AND SIDEWALK PAVEMENTS SHALL BE BASED ON PLAN QUANTITY AND NO ADJUSTMENTS WILL BE MADE UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
13. ALL PAVEMENTS TO BE REMOVED AND REPLACED SHALL BE FULL DEPTH SAW CUT ALONG NEAT LINES AS SHOWN IN THE PLANS. PROPOSED CONCRETE PAVEMENT SHALL BE CONSTRUCTED WITH LONGITUDINAL CONSTRUCTION JOINTS AT ALL CONNECTIONS TO EXISTING CONCRETE PAVEMENT.

ADDENDUM NO. 1: 1/26/2017

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Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS

GENERAL PROJECT NOTES

BHC
 PROJECT NO.
 2016-102

January, 2018

SHEET NO.

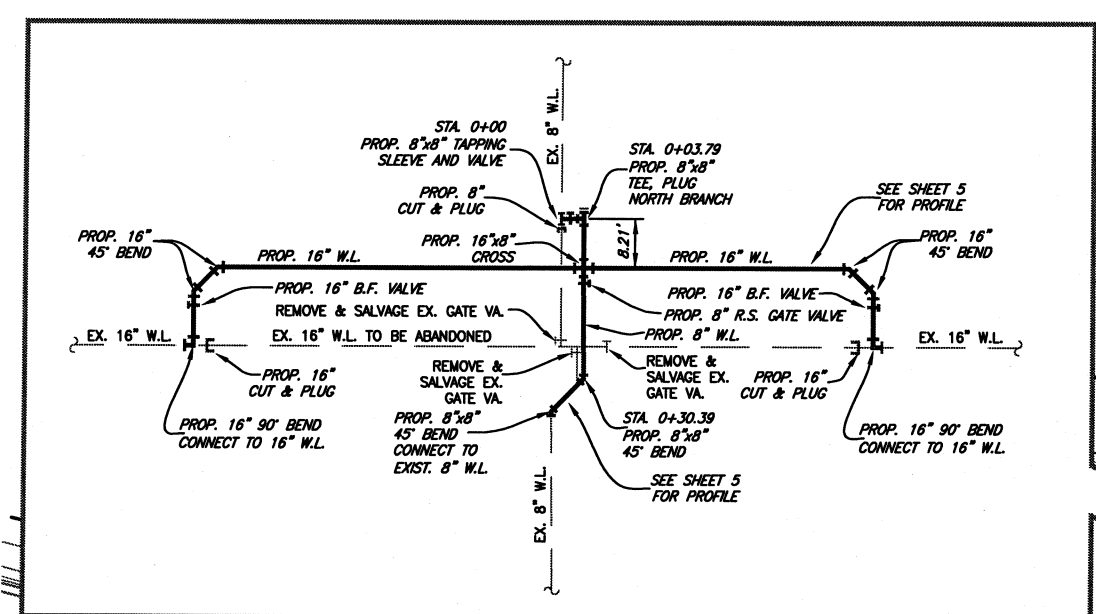
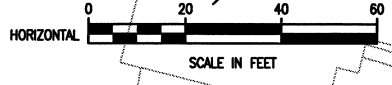
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TXDOT STATIONING FOR RELOCATIONS

1	TXDOT STA. 24+28.35, 54.65' LT.
2	TXDOT STA. 25+42.03, 54.35' LT.
3	TXDOT STA. 24+89.81, 75.73' LT.
4	TXDOT STA. 24+88.20, 43.70' LT.
5	TXDOT STA. 24+48.75, 49.94' LT.
6	TXDOT STA. 24+94.81, 71.65' RT.

NOTE:
1. CONTRACTOR SHALL DELIVER AND UNLOAD SALVAGED GATE VALVES TO CITY OF ROCKWALL AT 1600 AIRPORT ROAD. COST FOR DELIVERY AND UNLOADING SHALL BE INCLUDED IN PAY ITEM FOR SALVAGE EXISTING GATE VALVE.



DETAIL-1

FURNISH & INSTALL SAN. SEW. CLEANOUT CUT & PLUG 6" SAN. SEW. (SOUTH) SAW CUT 8' L.F. REINF. CONC. SIDEWALK REMOVE & REPLACE 2.5 S.Y. REINF. CONC. SIDEWALK

SAW CUT 58' L.F. REINF. CONC. PVMT. REMOVE & REPLACE 17.0 S.Y. 6-IN. REINF. CONC. PVMT.

N 7017942.8711
E 2600521.2070
P.I. STA. 0+14.70
Δ = 45'00"00" RT.
FURNISH & INSTALL:
1-16" 45° BEND

N 7017937.2143
E 2600521.2433
P.I. STA. 0+09.05
Δ = 45'00"00" RT.
FURNISH & INSTALL:
1-16" 45° BEND

N 7017930.8584
E 2600527.6815
STA. 0+00.00
FURNISH & INSTALL:
1-16" 90° BEND
CONNECT TO 16" W.L.

B.M.#1147
EL. 557.30

N 7018018.0752
E 2600595.4509
P.I. STA. 1+20.38
Δ = 45'00"00" RT.
FURNISH & INSTALL:
1-16" 45° BEND

N 7018018.1115
E 2600601.1076
P.I. STA. 1+26.04
Δ = 45'00"00" RT.
FURNISH & INSTALL:
1-16" 45° BEND

N 7018011.7557
E 2600607.5457
STA. 1+35.09
FURNISH & INSTALL:
1-16" 90° BEND
CONNECT TO 16" W.L.

PROP. 8" W.L. LOWERING

TOP INLET B2-1
557.36
F.L. 24" 553.00

TOP M.H. B2-4
557.69
F.L. 18" 551.60

N 7017887.0355
E 2600659.1323
N.G. EL. 558.98
M.D TO PIPE 8.6'
TOP OF 8" W.L. 550.38
F.L. 8" W.L. 549.7±

RELOCATE EXIST. WATER METER & APPURTENANT

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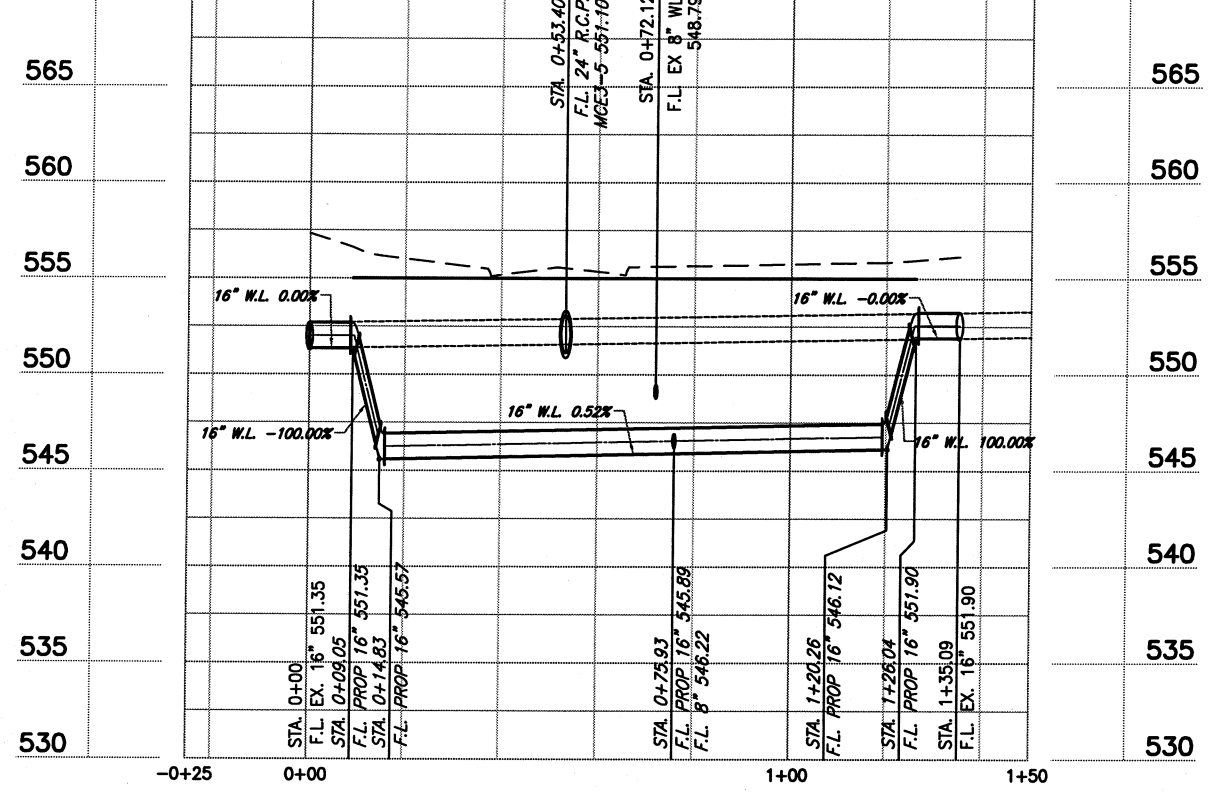
Matthew Hickey
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CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
S.H. 276 & GRAYSTONE DRIVE

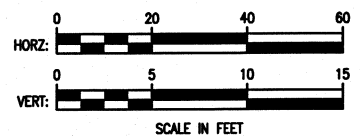
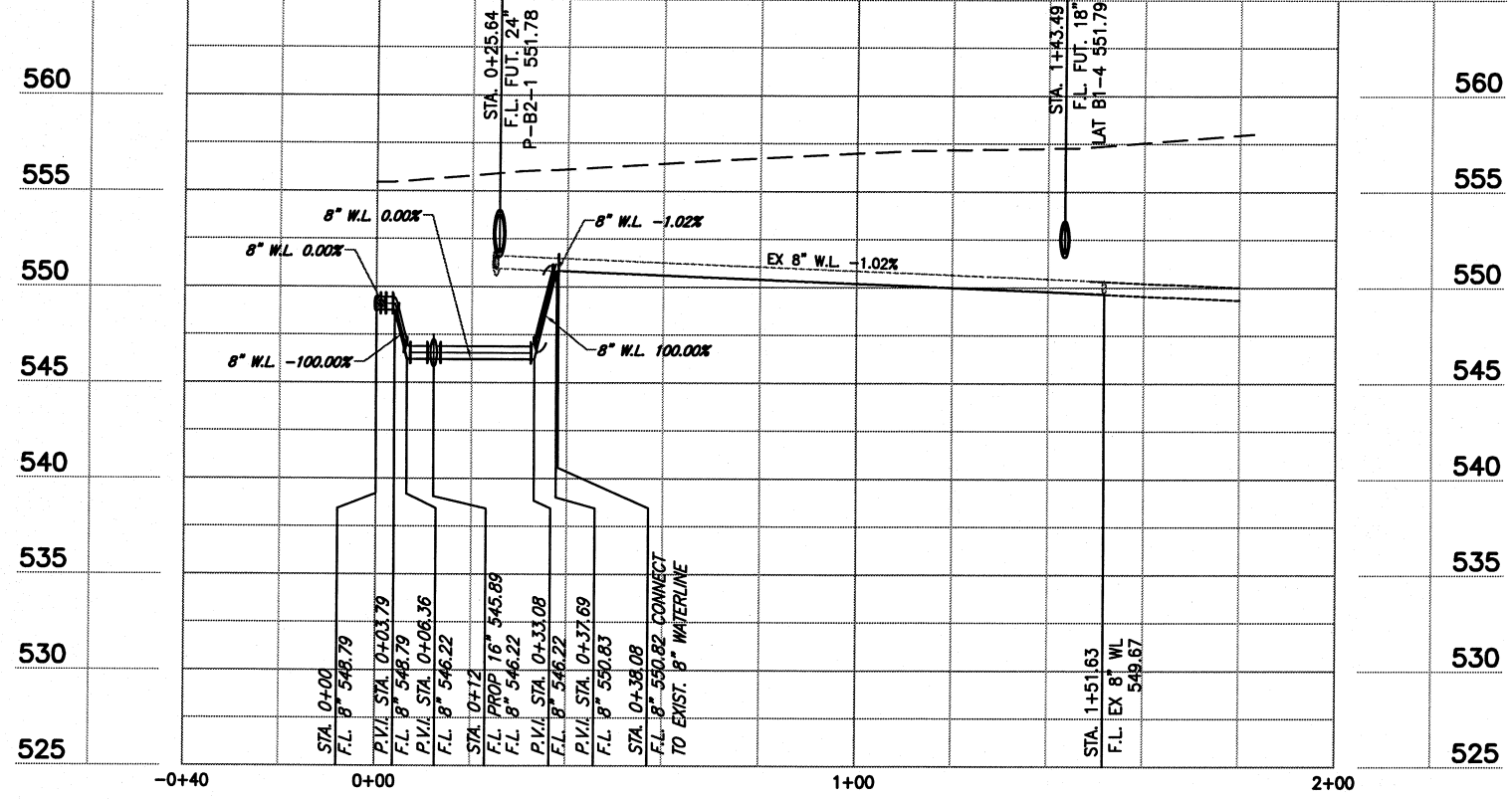
BHC PROJECT NO. 2016-102
January, 2018
SHEET NO. **4**



570 PROPOSED 16-IN W.L. LOWERING AT EXIST. STM. SEW. MCE3-5 570



565 PROPOSED 8-IN W.L. LOWERING AT FUTURE STM. SEW. P-B2-1 565

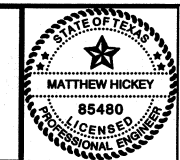


B.M. #1147
EL. 557.30

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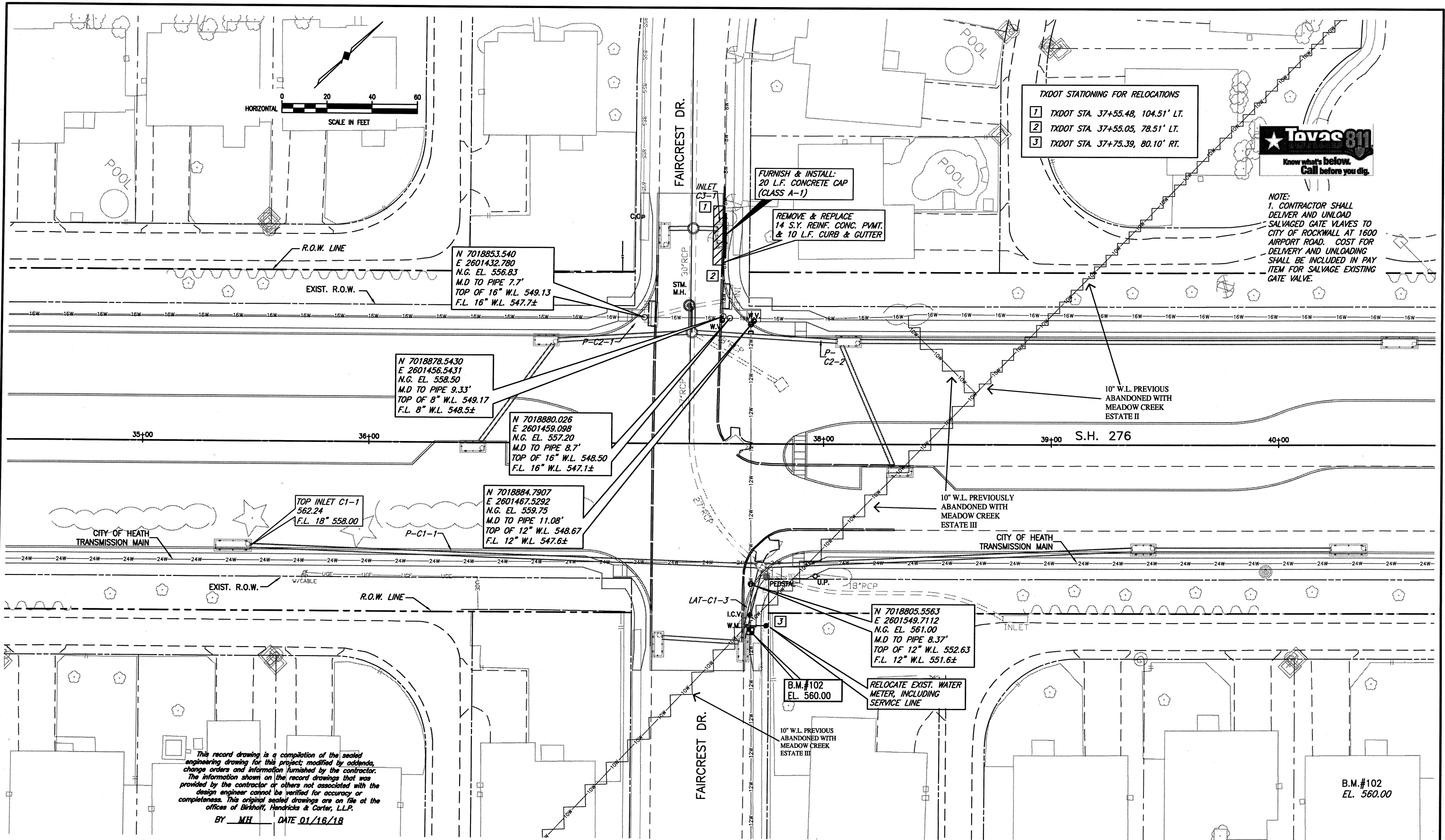


Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
S.H. 276 & GRAYSTONE DRIVE
UTILITY ADJUSTMENTS

BHC
PROJECT NO.
2016-102
January, 2018

SHEET NO.
5



- TXDOT STATIONING FOR RELOCATIONS**
- 1 TXDOT STA. 37+55.48, 104.51' LT.
 - 2 TXDOT STA. 37+55.05, 78.51' LT.
 - 3 TXDOT STA. 37+75.39, 80.10' RT.



NOTE:
 1. CONTRACTOR SHALL DELIVER AND UNLOAD SALVAGED GATE VALVES TO CITY OF ROCKWALL AT 1600 AIRPORT ROAD. COST FOR DELIVERY AND UNLOADING SHALL BE INCLUDED IN PAY ITEM FOR SALVAGE EXISTING GATE VALVE.

N 7018853.540
 E 2601432.780
 N.G. EL. 556.83
 M.D TO PIPE 7.7'
 TOP OF 16" W.L. 549.13
 F.L. 16" W.L. 547.7±

N 7018878.5430
 E 2601456.5431
 N.G. EL. 558.50
 M.D TO PIPE 9.33'
 TOP OF 8" W.L. 549.17
 F.L. 8" W.L. 548.5±

N 7018880.026
 E 2601459.098
 N.G. EL. 557.20
 M.D TO PIPE 8.7'
 TOP OF 16" W.L. 548.50
 F.L. 16" W.L. 547.1±

N 7018884.7907
 E 2601467.5292
 N.G. EL. 559.75
 M.D TO PIPE 11.08'
 TOP OF 12" W.L. 548.67
 F.L. 12" W.L. 547.6±

FURNISH & INSTALL:
 20 L.F. CONCRETE CAP
 (CLASS A-1)

REMOVE & REPLACE
 14 S.Y. REINF. CONC. PVMT.
 & 10 L.F. CURB & GUTTER

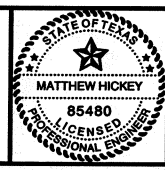
N 7018805.5563
 E 2601549.7112
 N.G. EL. 561.00
 M.D TO PIPE 8.37'
 TOP OF 12" W.L. 552.63
 F.L. 12" W.L. 551.6±

B.M.#102
 EL. 560.00

RELOCATE EXIST. WATER
 METER, INCLUDING
 SERVICE LINE

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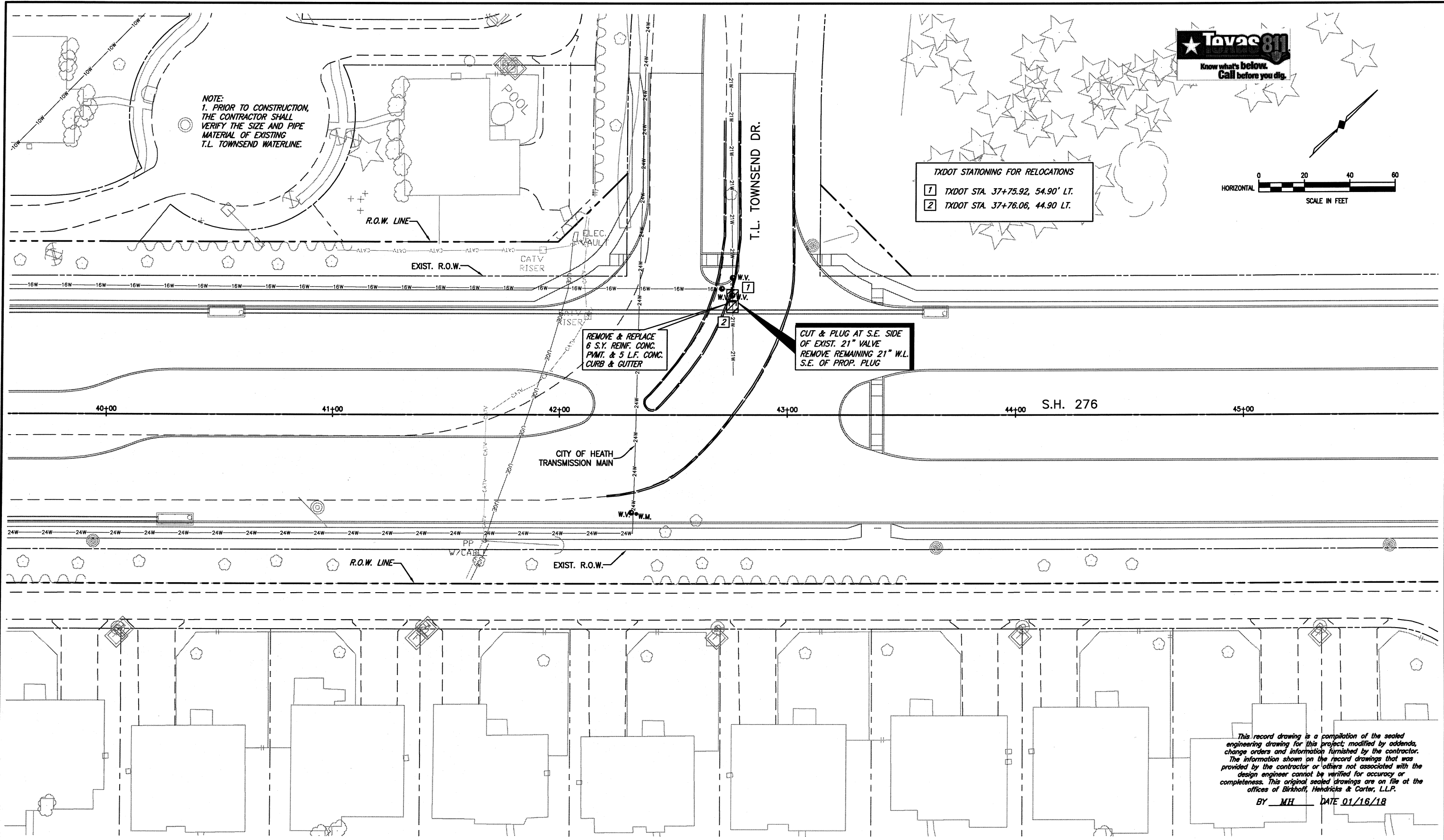
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



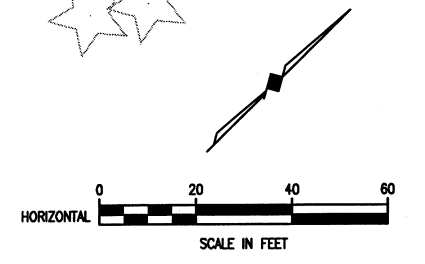
Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 S.H. 276 AND FAIRCRESS DRIVE

BHC PROJECT NO. 2016-102
 SHEET NO. **6**
 April, 2017



NOTE:
1. PRIOR TO CONSTRUCTION,
THE CONTRACTOR SHALL
VERIFY THE SIZE AND PIPE
MATERIAL OF EXISTING
T.L. TOWNSEND WATERLINE.



TXDOT STATIONING FOR RELOCATIONS

1	TXDOT STA. 37+75.92, 54.90' LT.
2	TXDOT STA. 37+76.06, 44.90' LT.

REMOVE & REPLACE
6 S.Y. REINF. CONC.
P.V.M.T. & 5 L.F. CONC.
CURB & GUTTER

CUT & PLUG AT S.E. SIDE
OF EXIST. 21" VALVE
REMOVE REMAINING 21" W.L.
S.E. OF PROP. PLUG

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BY MH DATE 01/16/18

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BIRKHOFF, HENDRICKS & CARTER, L.L.P.
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Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
S.H. 276 AND T.L. TOWNSEND DRIVE

BHC
PROJECT NO.
2016-102
January, 2018

SHEET NO.
7

NOTE:
1. CONTRACTOR SHALL FIELD VERIFY
HORIZONTAL & VERTICAL LOCATION
OF EXISTING 6" WATERLINE AT
CULVERT 3 PRIOR TO CONSTRUCTION

TXDOT STATIONING FOR RELOCATIONS
 1 TXDOT STA. 58+92.10, 48.74' LT.
 2 TXDOT STA. 60+93.19, 62.29' RT.
 3 TXDOT STA. 61+23.67, 62.30' RT.

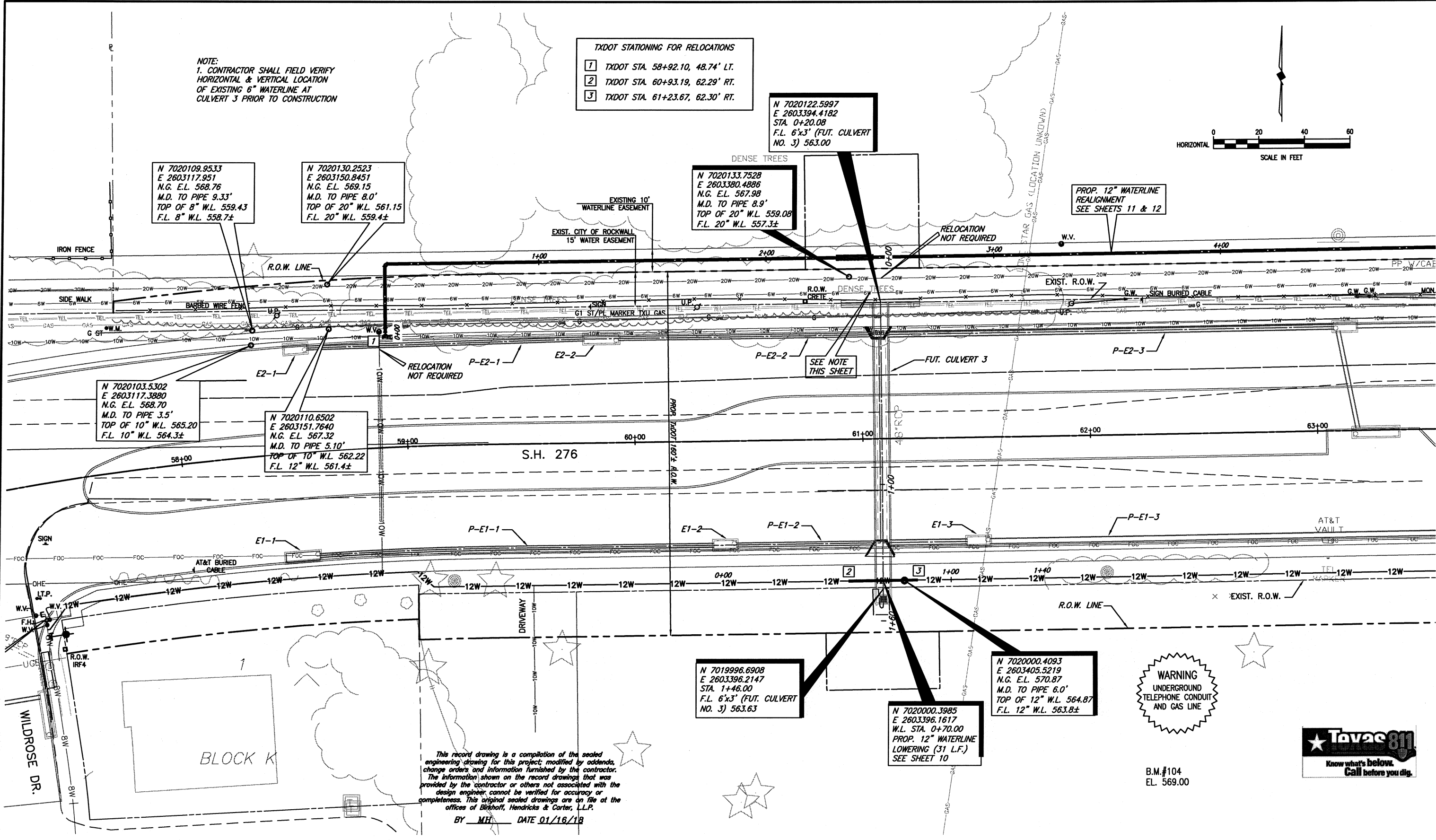
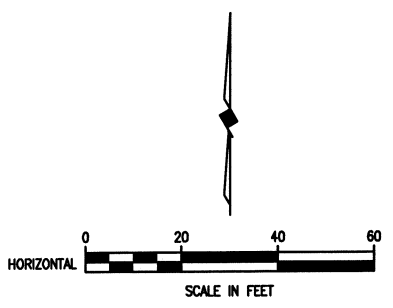
N 7020122.5997
E 2603394.4182
STA. 0+20.08
F.L. 6"x3" (FUT. CULVERT
NO. 3) 563.00

N 7020109.9533
E 2603117.951
N.G. E.L. 568.76
M.D. TO PIPE 9.33'
TOP OF 8" W.L. 559.43
F.L. 8" W.L. 558.7±

N 7020130.2523
E 2603150.8451
N.G. E.L. 569.15
M.D. TO PIPE 8.0'
TOP OF 20" W.L. 561.15
F.L. 20" W.L. 559.4±

N 7020133.7528
E 2603380.4886
N.G. E.L. 567.98
M.D. TO PIPE 8.9'
TOP OF 20" W.L. 559.08
F.L. 20" W.L. 557.3±

PROP. 12" WATERLINE
REALIGNMENT
SEE SHEETS 11 & 12



N 7020103.5302
E 2603117.3880
N.G. E.L. 568.70
M.D. TO PIPE 3.5'
TOP OF 10" W.L. 565.20
F.L. 10" W.L. 564.3±

N 7020110.6502
E 2603151.7640
N.G. E.L. 567.32
M.D. TO PIPE 5.10'
TOP OF 10" W.L. 562.22
F.L. 12" W.L. 561.4±

N 7019996.6908
E 2603396.2147
STA. 1+46.00
F.L. 6"x3" (FUT. CULVERT
NO. 3) 563.63

N 7020000.3985
E 2603396.1617
W.L. STA. 0+70.00
PROP. 12" WATERLINE
LOWERING (31 L.F.)
SEE SHEET 10

N 7020000.4093
E 2603405.5219
N.G. E.L. 570.87
M.D. TO PIPE 6.0'
TOP OF 12" W.L. 564.87
F.L. 12" W.L. 563.8±

WARNING
UNDERGROUND
TELEPHONE CONDUIT
AND GAS LINE

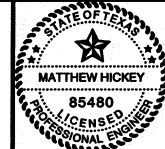


B.M.#104
EL. 569.00

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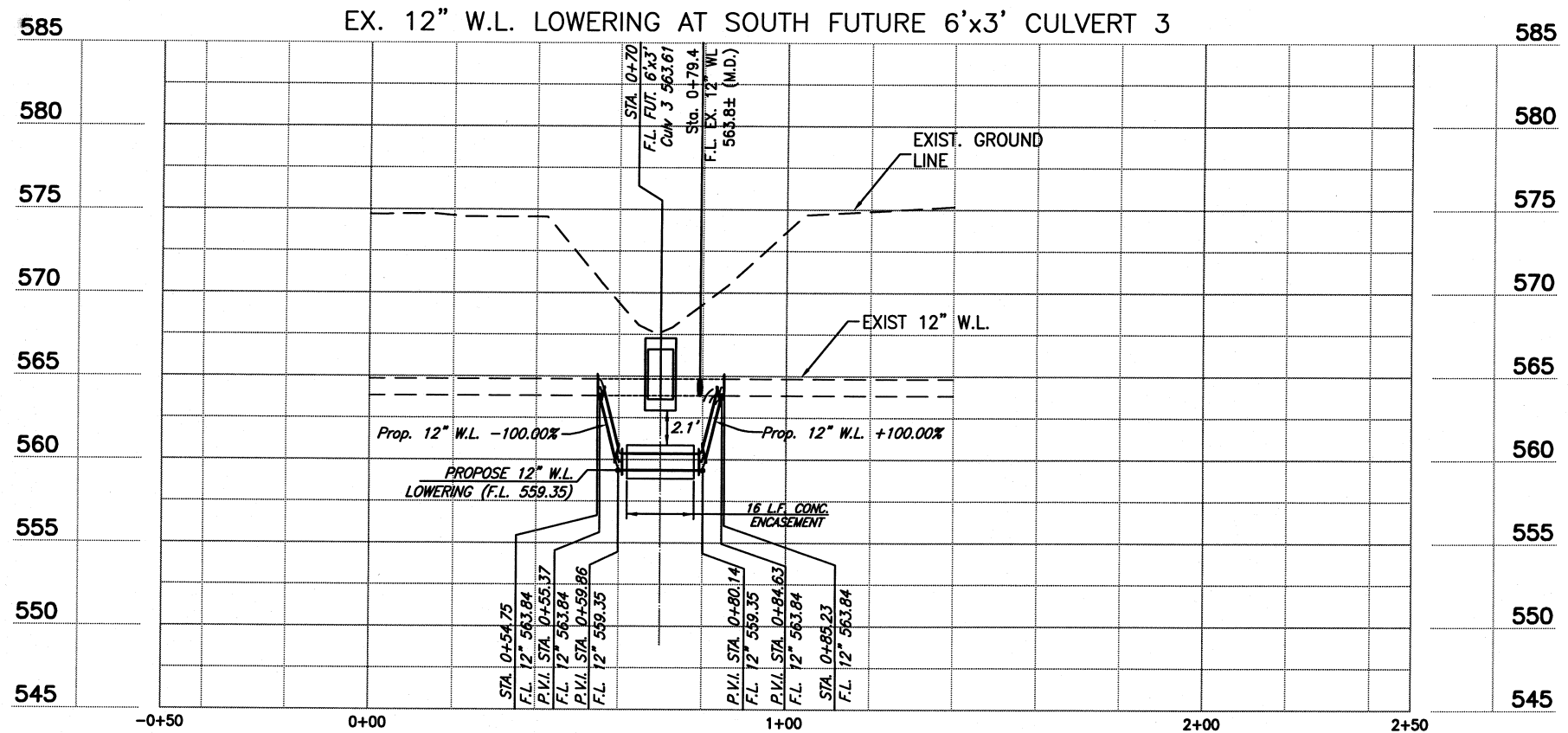
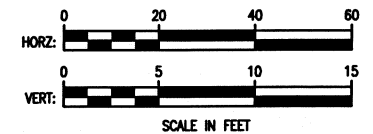
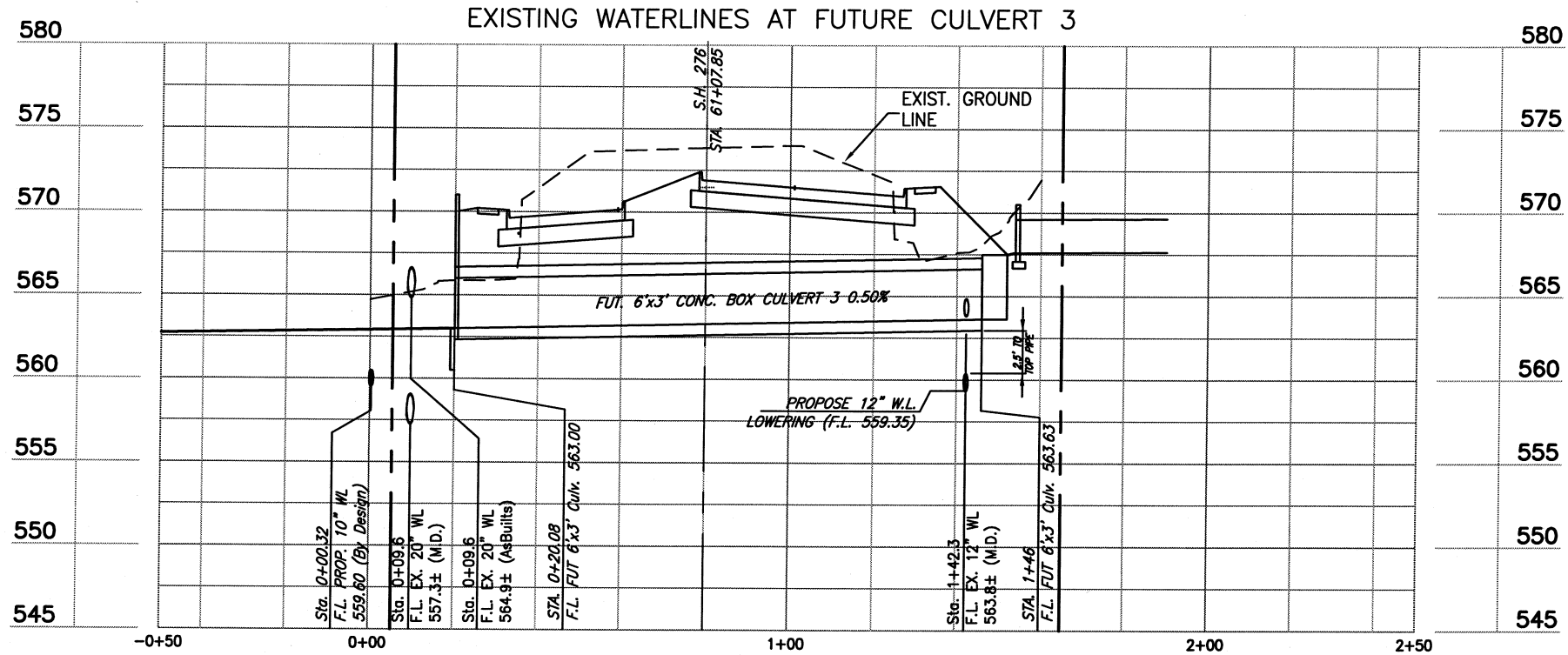
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
S.H. 276 STA. 61+08-CULVERT 3 - EAST OF WILDROSE DRIVE

BHC
PROJECT NO.
2016-102
January, 2018
SHEET NO.
9



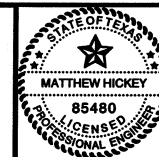
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Texas Firm F526
11910 Greenville Ave., Suite 600
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Matthew Hickey
1/5/17

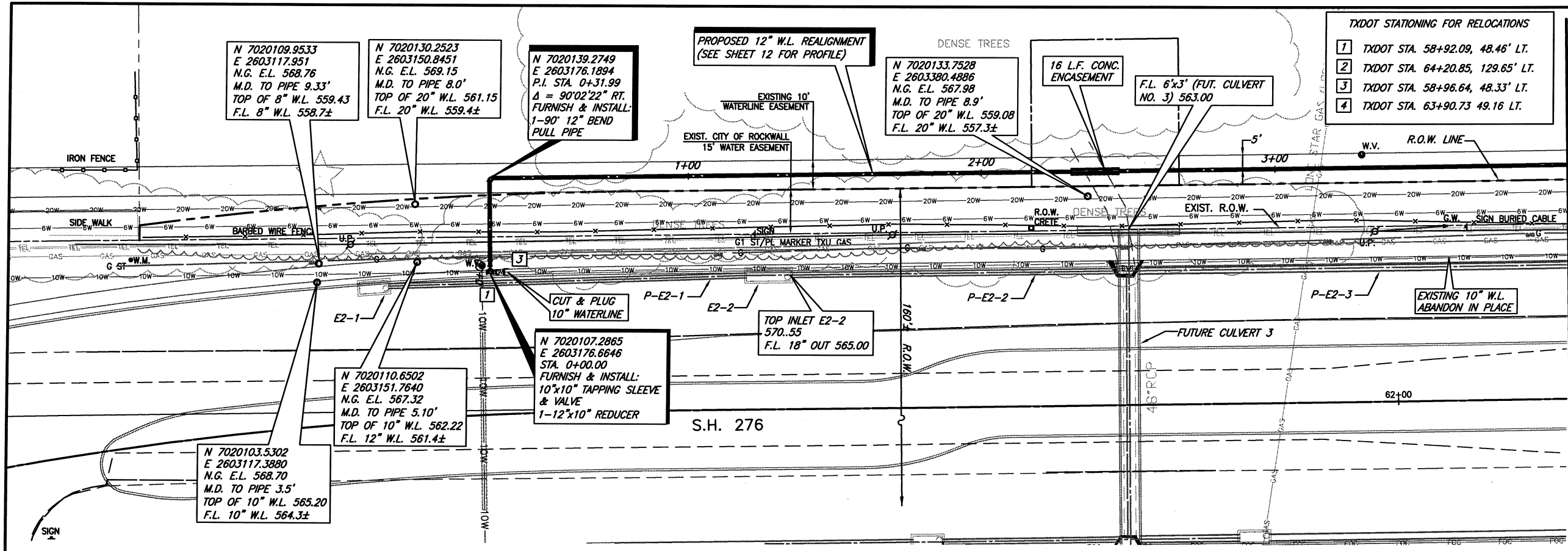
CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
S.H. 276 STA. 61+08 CULVERT 3
UTILITY ADJUSTMENTS

BHC
PROJECT NO.
2016-102

SHEET NO.

January, 2018

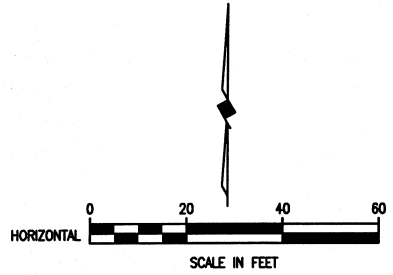
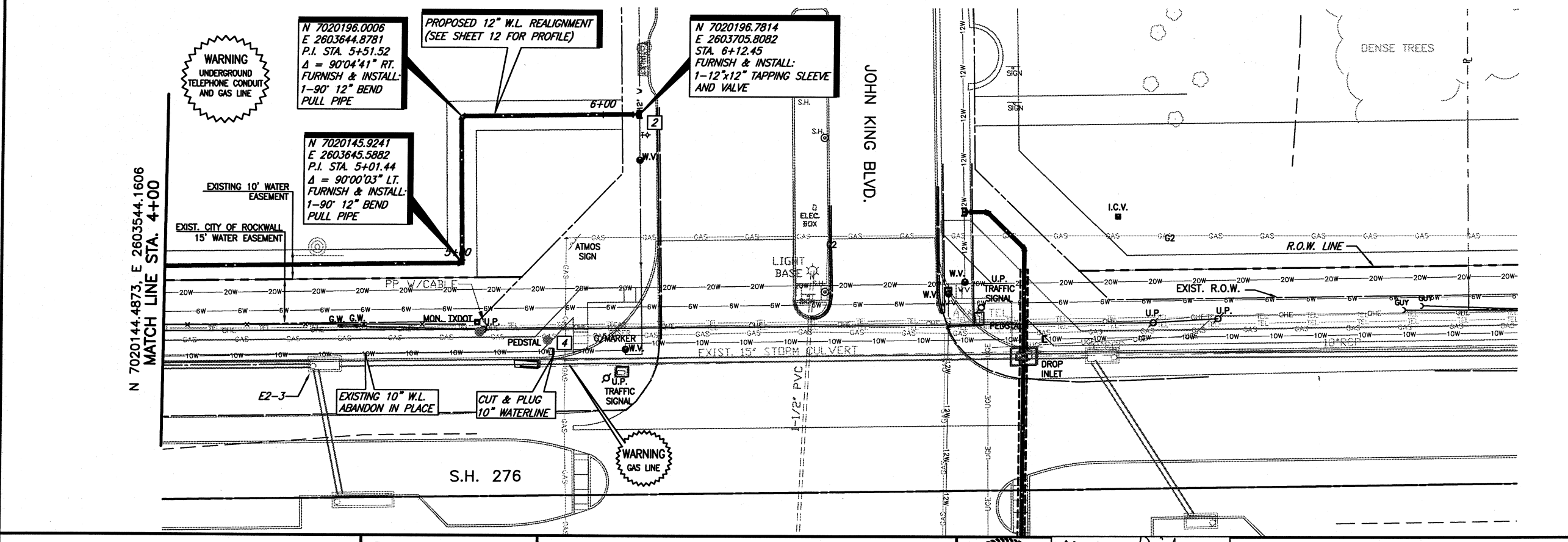
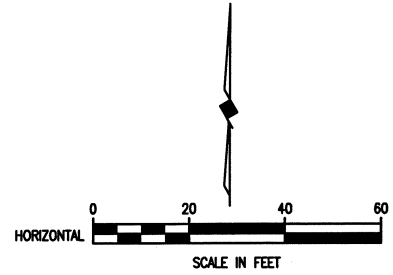
10



TXDOT STATIONING FOR RELOCATIONS

1	TXDOT STA. 58+92.09, 48.46' LT.
2	TXDOT STA. 64+20.85, 129.65' LT.
3	TXDOT STA. 58+96.64, 48.33' LT.
4	TXDOT STA. 63+90.73, 49.16 LT.

MATCH LINE STA. 4+00
N 7020144.4873, E 2603544.1606

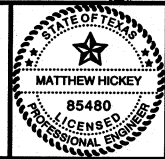


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EL. 569.00

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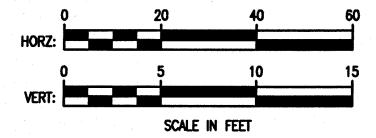
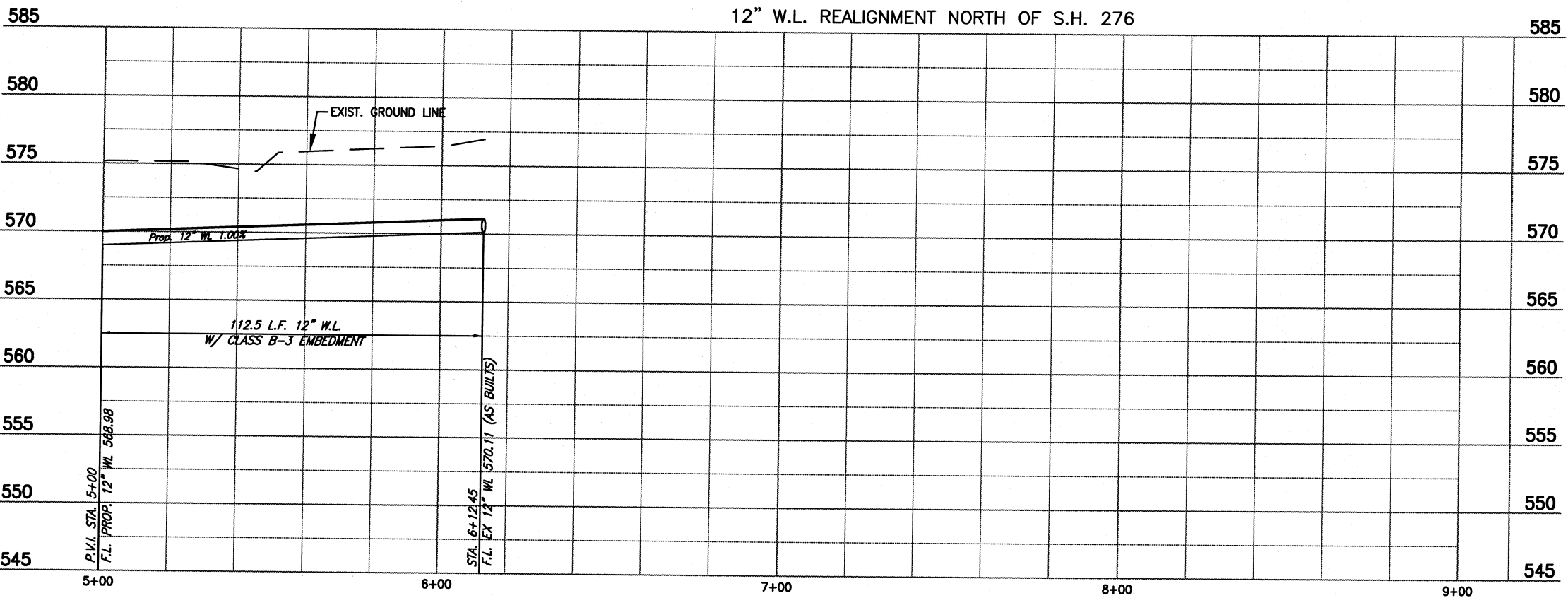
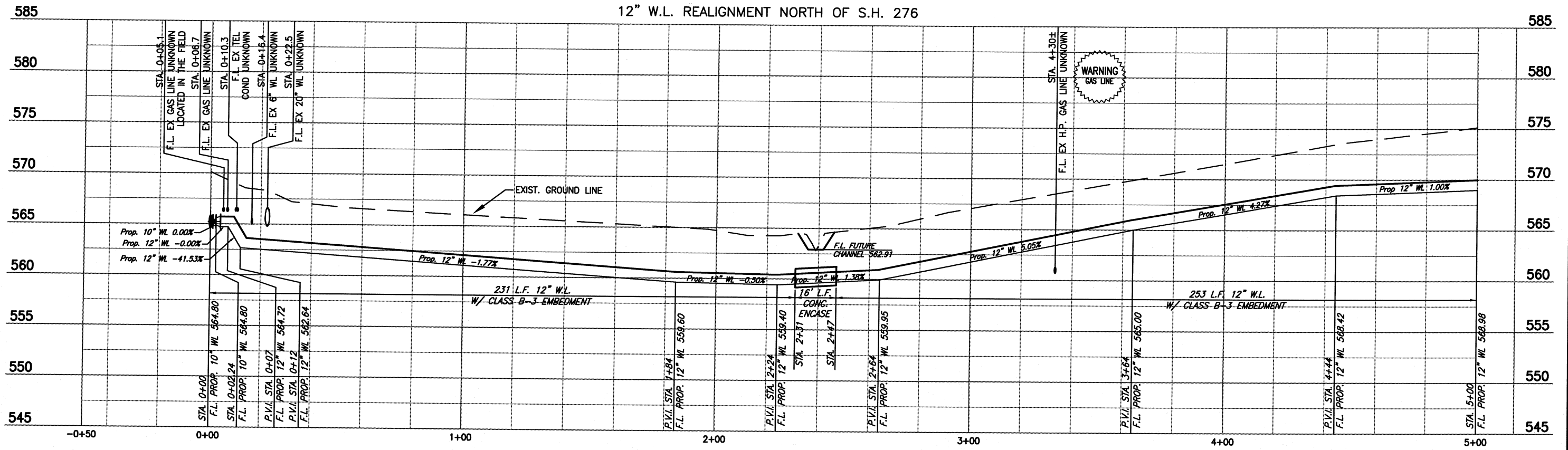
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
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11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
10-INCH W.L. REALIGNMENT NORTH SIDE OF S.H. 276
FROM S.H. 276 STA. 58+92.10, 48.5' LT. TO STA. 64+20.85, 129.64' LT.

BHC
PROJECT NO.
2016-102
January, 2018
SHEET NO.
11

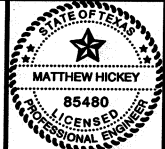


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B.M.#104
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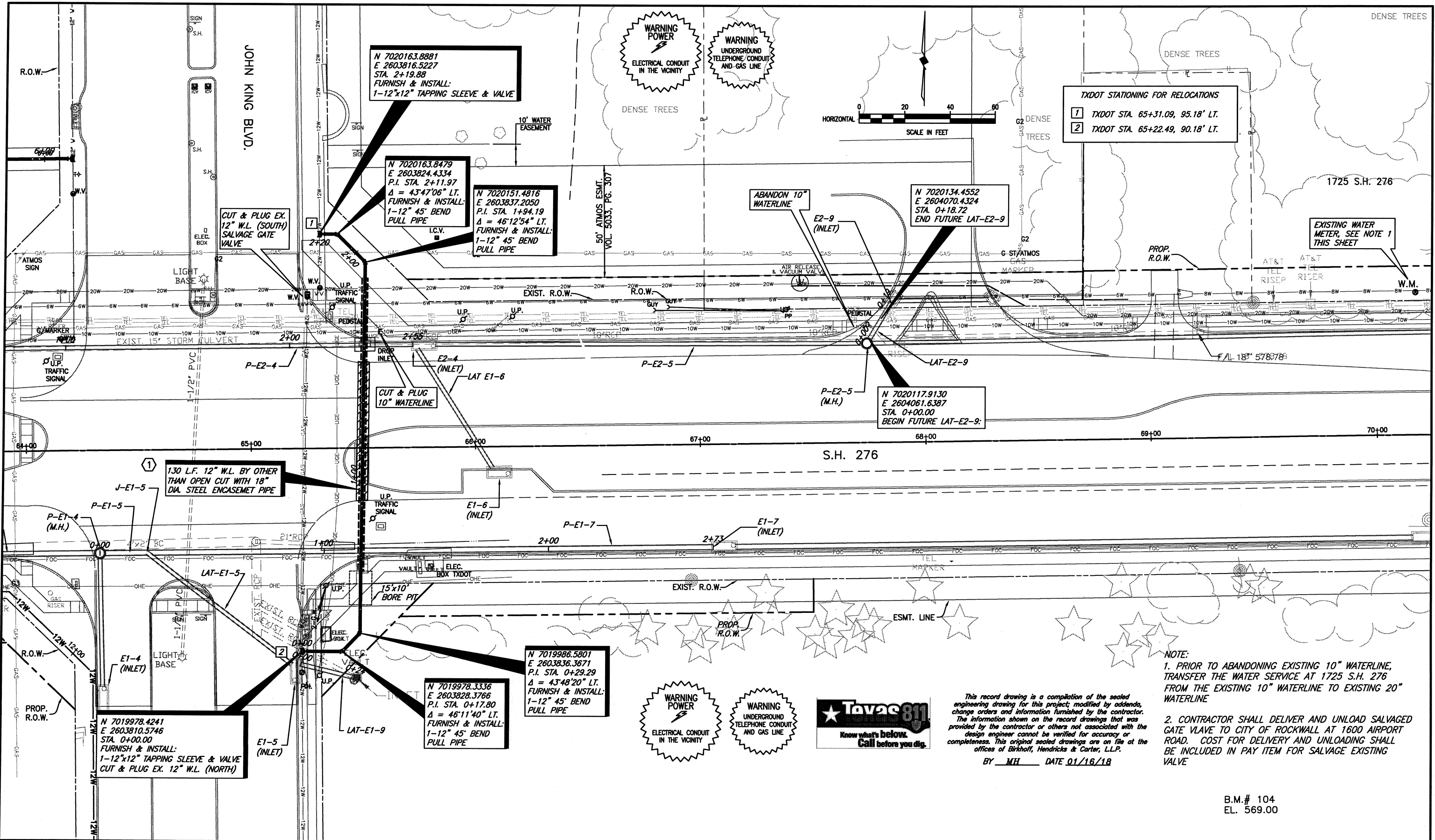
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Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 12" WATERLINE REALIGNMENT NORTH OF S.H. 276
 PROFILE - STA. 0+00 TO STA. 6+12.45

BHC
 PROJECT NO.
 2016-102
 SHEET NO.
12
 January, 2018



NOTE:
 1. PRIOR TO ABANDONING EXISTING 10" WATERLINE, TRANSFER THE WATER SERVICE AT 1725 S.H. 276 FROM THE EXISTING 10" WATERLINE TO EXISTING 20" WATERLINE
 2. CONTRACTOR SHALL DELIVER AND UNLOAD SALVAGED GATE VALVE TO CITY OF ROCKWALL AT 1600 AIRPORT ROAD. COST FOR DELIVERY AND UNLOADING SHALL BE INCLUDED IN PAY ITEM FOR SALVAGE EXISTING VALVE

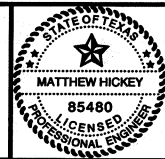
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B.M.# 104
 E.L. 569.00

1 CHANGE ORDER NO. 1 - REVISED 24" DIA. ENCASUREMENT PIPE TO 18" DIA. 03/14/2017

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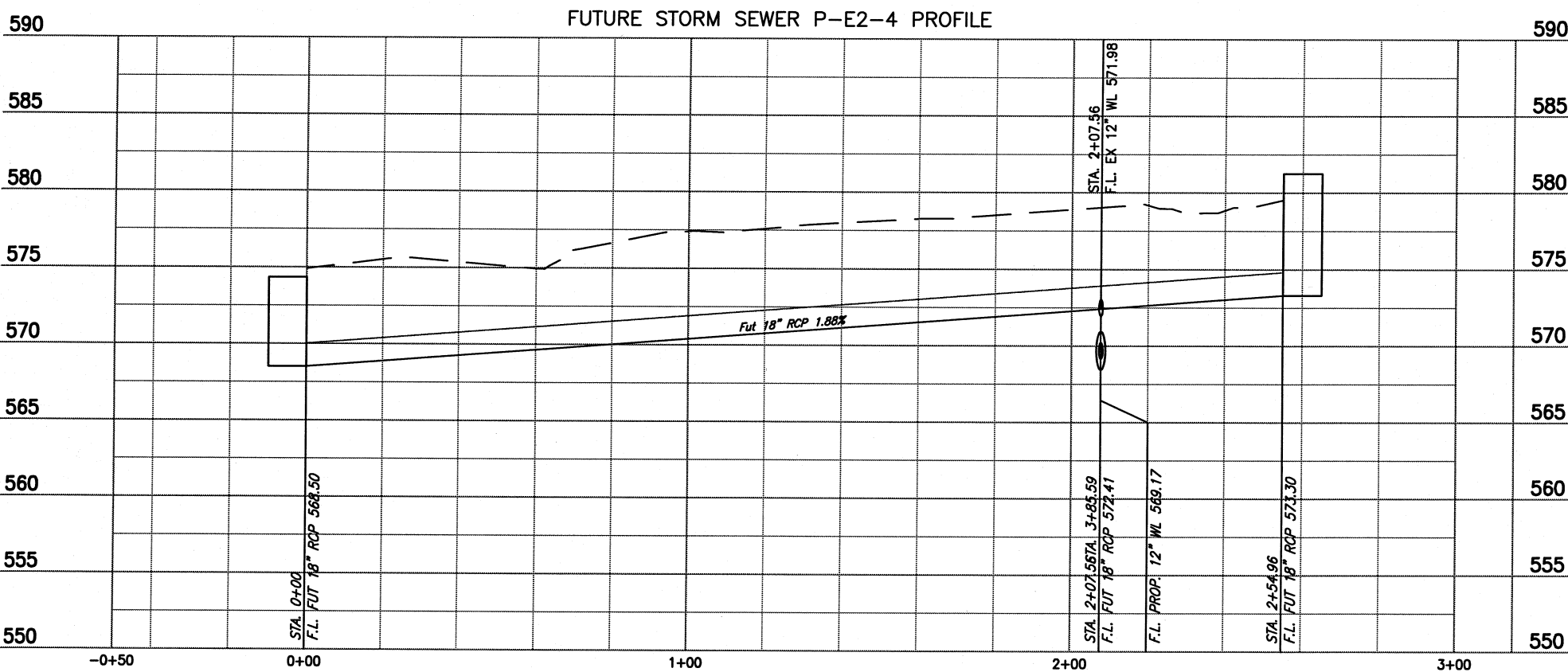
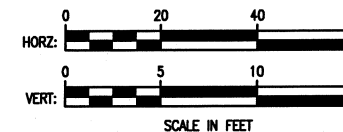
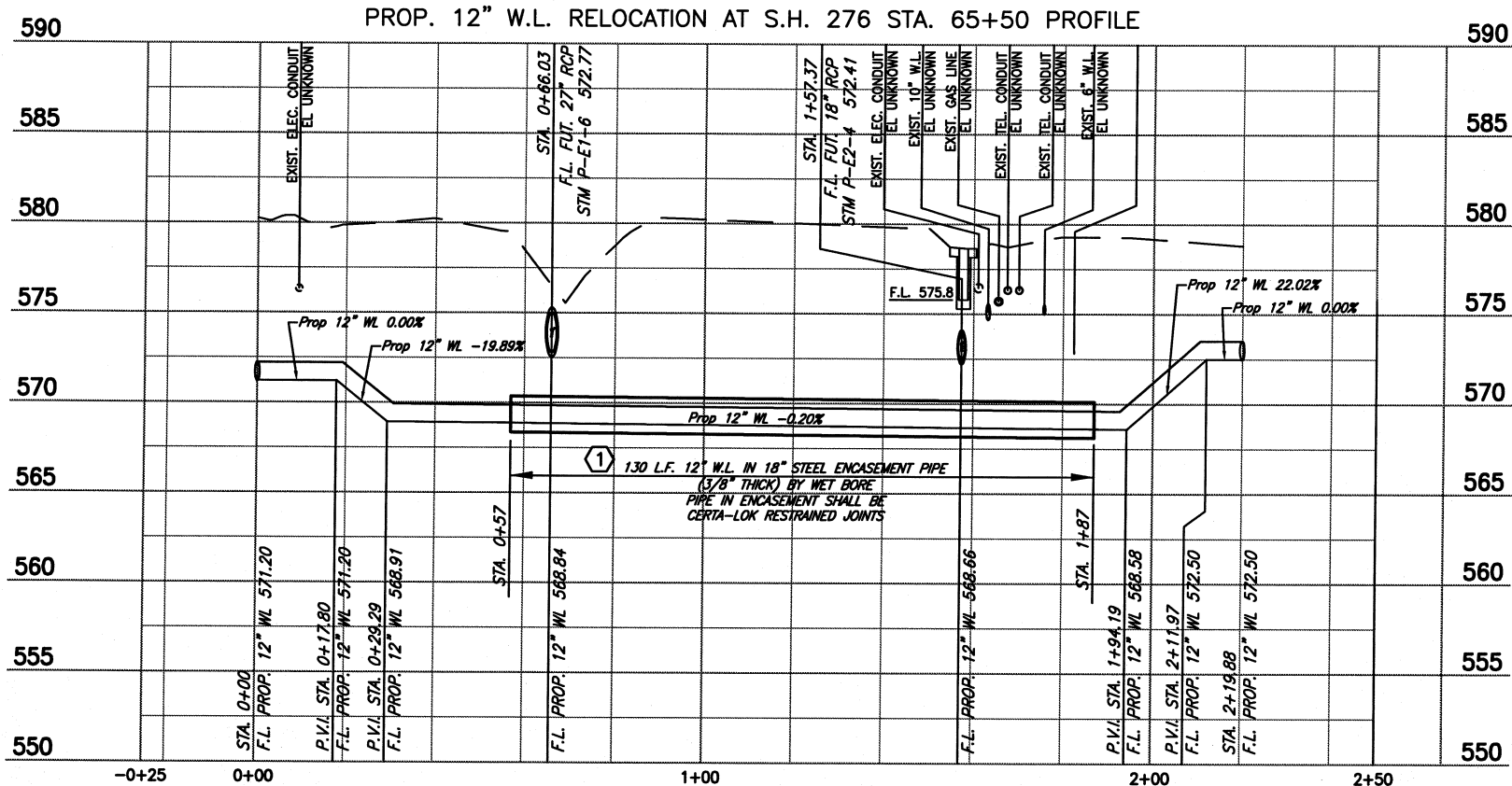
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Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 12-INCH W.L. AT S.H. 276 STA. 65+50 RELOCATION
 EAST OF JOHN KING BLVD.

BHC PROJECT NO. 2016-102
 SHEET NO. 13A
 January, 2018



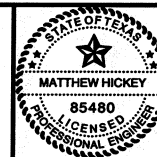
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B.M.# 104
 EL. 569.00

1 CHANGE ORDER NO. 1 - REVISED 24" DIA. ENCASUREMENT PIPE TO 18" DIA. 03/14/2017

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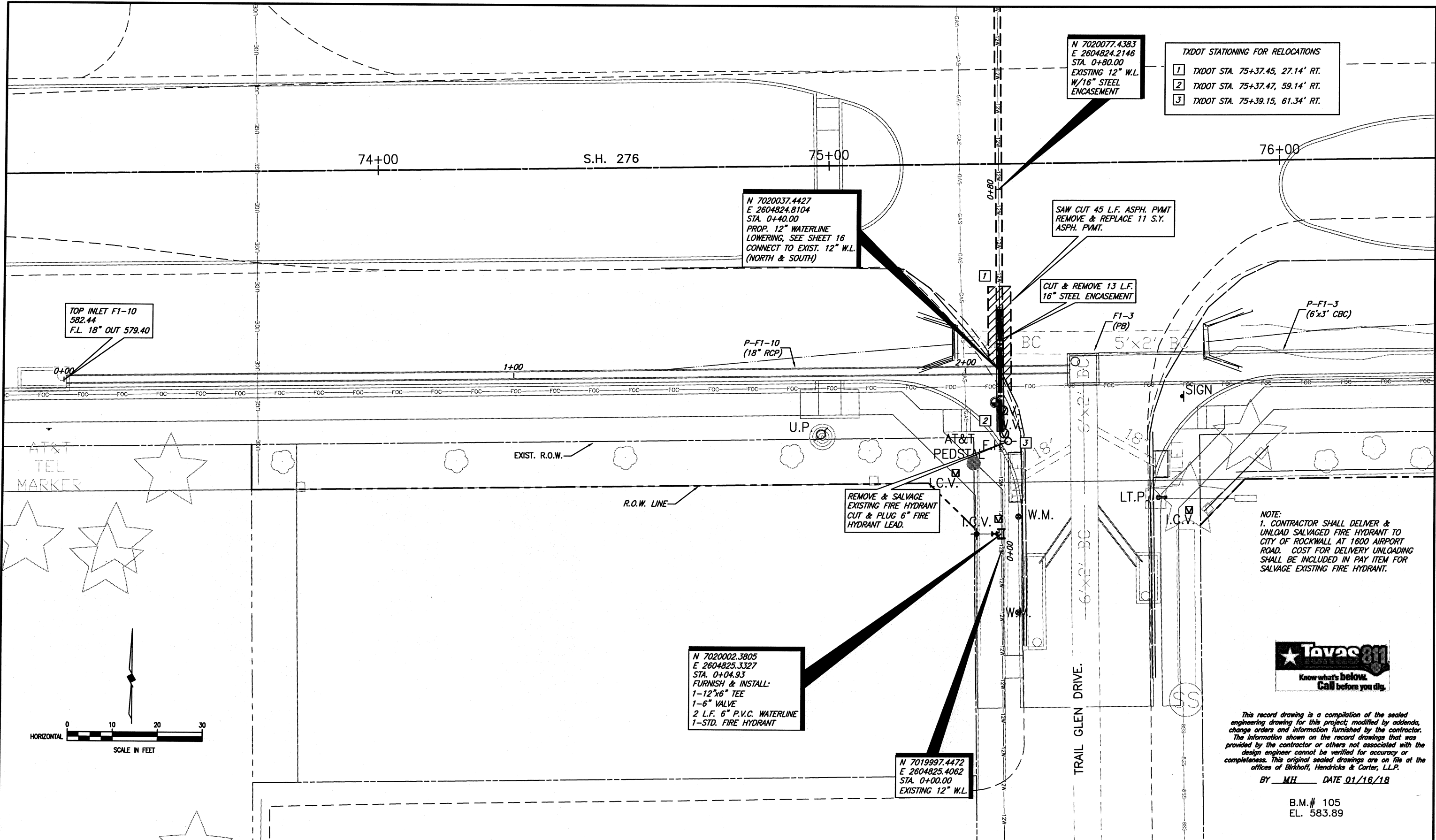


Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 12" WATERLINE REALIGNMENT EAST OF JOHN KING BLVD.

BHC
 PROJECT NO.
 2016-102
 January, 2018

SHEET NO.
14A



N 7020077.4383
E 2604824.2146
STA. 0+80.00
EXISTING 12" W.L.
W/16" STEEL
ENCASEMENT

TXDOT STATIONING FOR RELOCATIONS

1	TXDOT STA. 75+37.45, 27.14' RT.
2	TXDOT STA. 75+37.47, 59.14' RT.
3	TXDOT STA. 75+39.15, 61.34' RT.

N 7020037.4427
E 2604824.8104
STA. 0+40.00
PROP. 12" WATERLINE
LOWERING, SEE SHEET 16
CONNECT TO EXIST. 12" W.L.
(NORTH & SOUTH)

SAW CUT 45 L.F. ASPH. PVMT
REMOVE & REPLACE 11 S.Y.
ASPH. PVMT.

CUT & REMOVE 13 L.F.
16" STEEL ENCASEMENT

TOP INLET F1-10
582.44
F.L. 18" OUT 579.40

REMOVE & SALVAGE
EXISTING FIRE HYDRANT
CUT & PLUG 6" FIRE
HYDRANT LEAD.

N 7020002.3805
E 2604825.3327
STA. 0+04.93
FURNISH & INSTALL:
1-12"x6" TEE
1-6" VALVE
2 L.F. 6" P.V.C. WATERLINE
1-STD. FIRE HYDRANT

N 7019997.4472
E 2604825.4062
STA. 0+00.00
EXISTING 12" W.L.

NOTE:
1. CONTRACTOR SHALL DELIVER &
UNLOAD SALVAGED FIRE HYDRANT TO
CITY OF ROCKWALL AT 1600 AIRPORT
ROAD. COST FOR DELIVERY UNLOADING
SHALL BE INCLUDED IN PAY ITEM FOR
SALVAGE EXISTING FIRE HYDRANT.



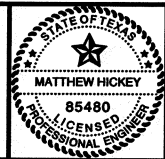
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BY MH DATE 01/16/18

B.M.# 105
EL. 583.89

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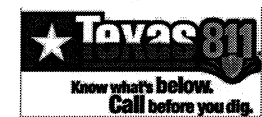
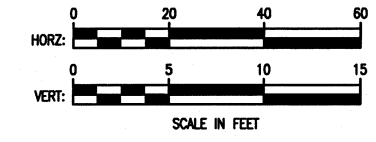
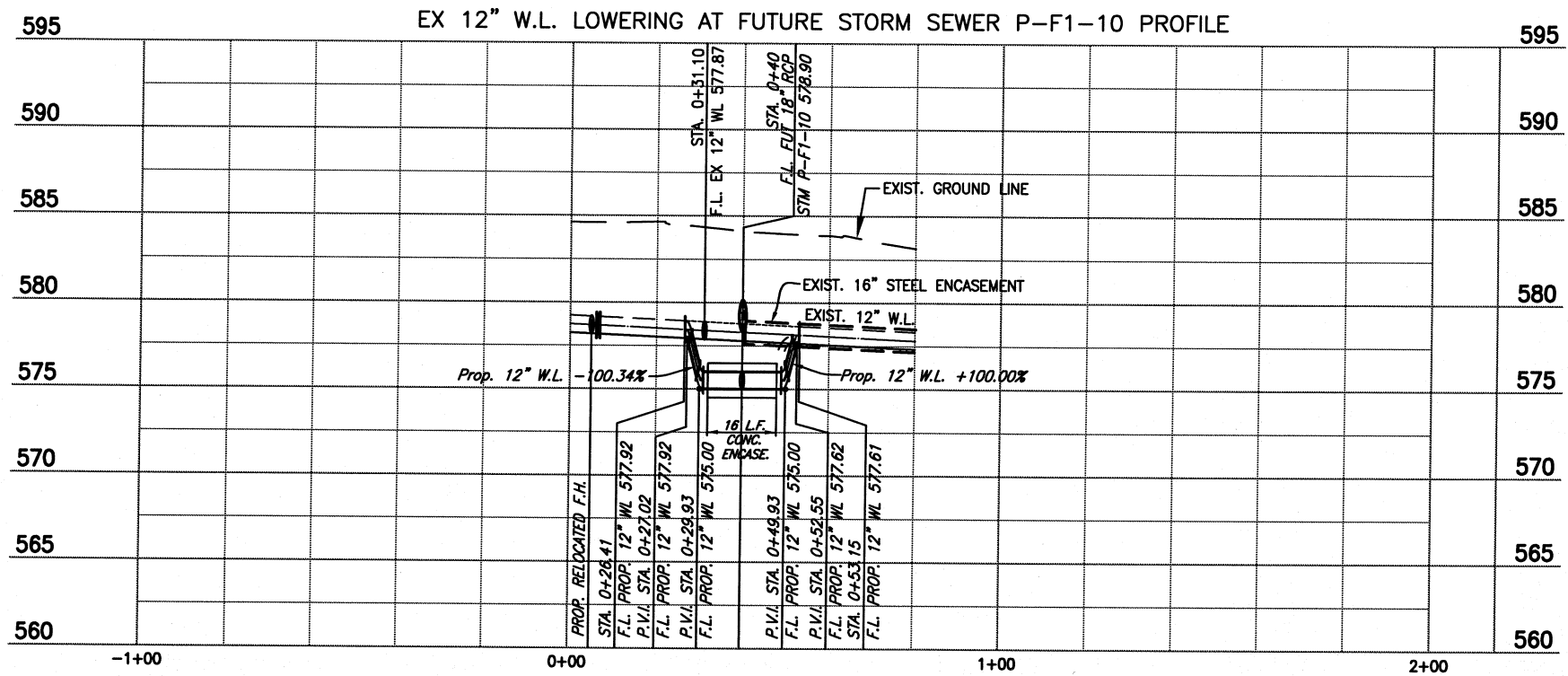
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Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
**12-INCH WATERLINE LOWERING WEST OF TRAIL GLEN - PLAN
UNDER STORM 18" RCP P-F1-10**

BHC
PROJECT NO.
2016-102
April, 2017
SHEET NO.
15



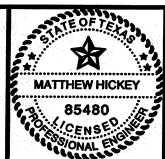
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B.M. #105
EL. 583.89

BY MH DATE 01/16/18

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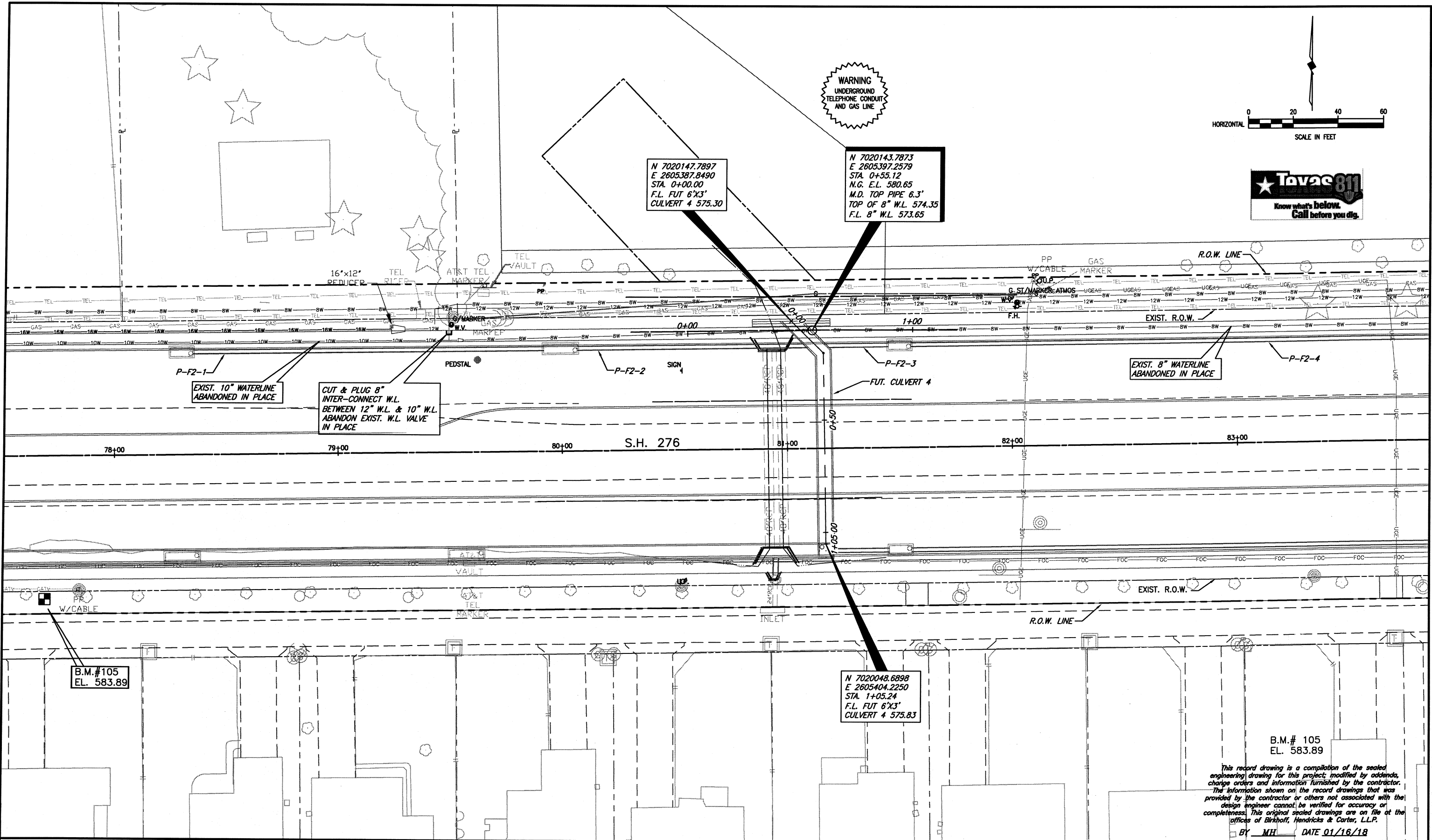
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
12" WATERLINE LOWERING WEST OF TRAIL GLEN
UNDER STORM 18" RCP P-F1-10

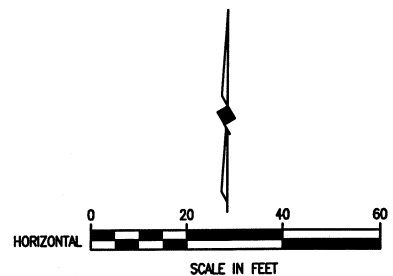
BHC
PROJECT NO.
2016-102
January, 2018
SHEET NO.
16



WARNING
UNDERGROUND
TELEPHONE CONDUIT
AND GAS LINE

N 7020147.7897
E 2605387.8490
STA. 0+00.00
F.L. FUT 6'X3'
CULVERT 4 575.30

N 7020143.7873
E 2605397.2579
STA. 0+55.12
N.G. E.L. 580.65
M.D. TOP PIPE 6.3'
TOP OF 8" W.L. 574.35
F.L. 8" W.L. 573.65



EXIST. 10" WATERLINE
ABANDONED IN PLACE

CUT & PLUG 8"
INTER-CONNECT W.L.
BETWEEN 12" W.L. & 10" W.L.
ABANDON EXIST. W.L. VALVE
IN PLACE

EXIST. 8" WATERLINE
ABANDONED IN PLACE

B.M.#105
EL. 583.89

N 7020048.6898
E 2605404.2250
STA. 1+05.24
F.L. FUT 6'X3'
CULVERT 4 575.83

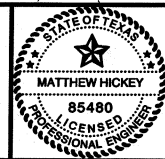
B.M.# 105
EL. 583.89

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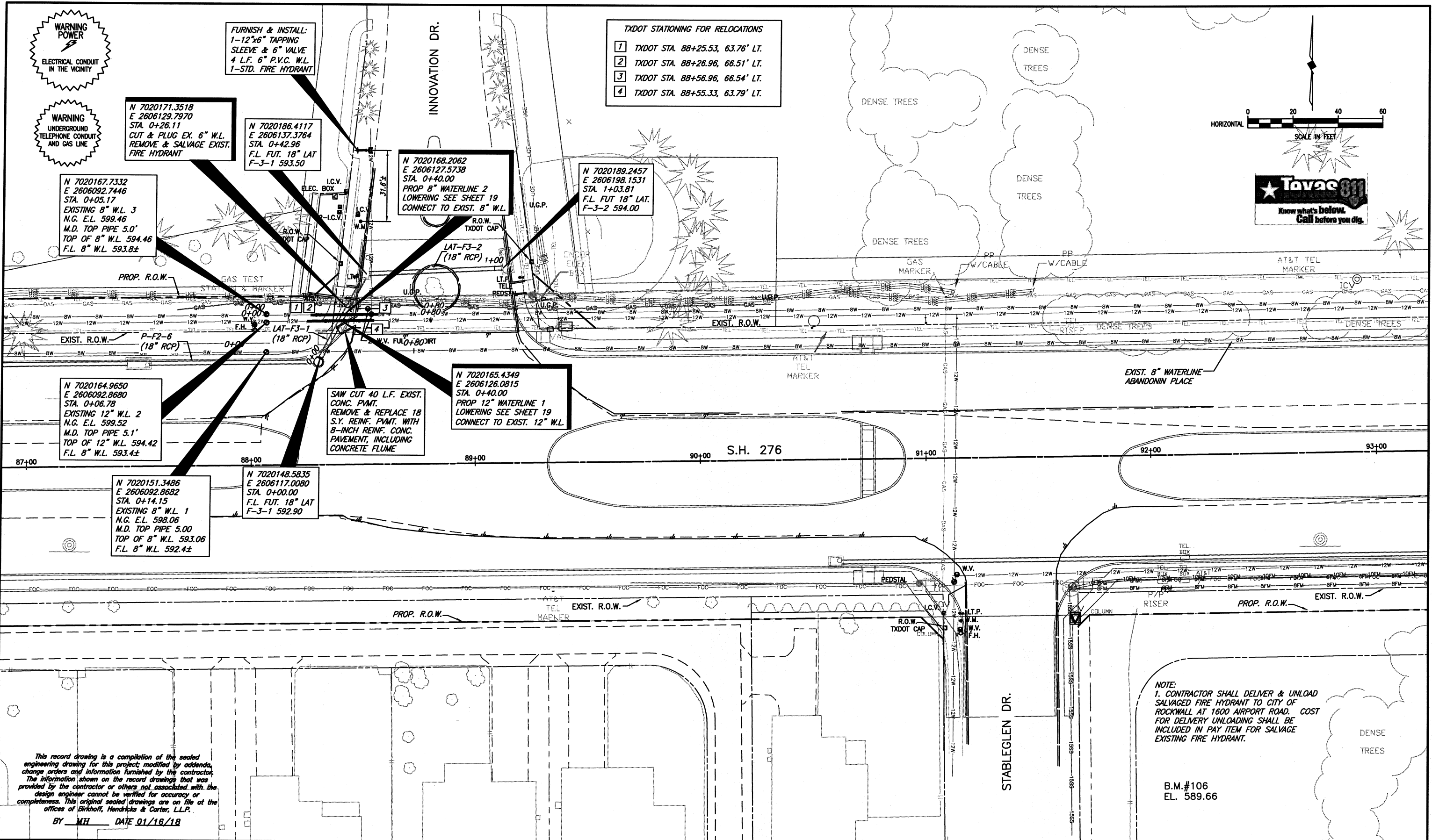
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

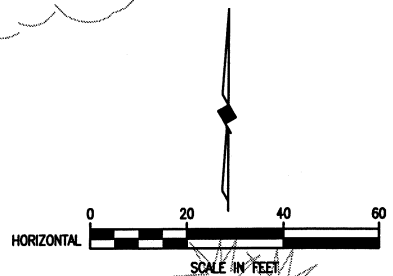
CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
8-INCH INTER-CONNECT WATERLINE ABANDONMENT- PLAN

BHC
PROJECT NO.
2016-102
SHEET NO.
17
January, 2018



TXDOT STATIONING FOR RELOCATIONS

- 1 TXDOT STA. 88+25.53, 63.76' LT.
- 2 TXDOT STA. 88+26.96, 66.51' LT.
- 3 TXDOT STA. 88+56.96, 66.54' LT.
- 4 TXDOT STA. 88+55.33, 63.79' LT.



WARNING POWER
ELECTRICAL CONDUIT IN THE VICINITY

WARNING UNDERGROUND TELEPHONE CONDUIT AND GAS LINE

FURNISH & INSTALL:
1-12"x6" TAPPING SLEEVE & 6" VALVE
4 L.F. 6" P.V.C. W.L.
1-STD. FIRE HYDRANT

N 7020171.3518
E 2606129.7970
STA. 0+26.11
CUT & PLUG EX. 6" W.L.
REMOVE & SALVAGE EXIST.
FIRE HYDRANT

N 7020186.4117
E 2606137.3764
STA. 0+42.96
F.L. FUT. 18" LAT
F-3-1 593.50

N 7020168.2062
E 2606127.5738
STA. 0+40.00
PROP 8" WATERLINE 2
LOWERING SEE SHEET 19
CONNECT TO EXIST. 8" W.L.

N 7020189.2457
E 2606198.1531
STA. 1+03.81
F.L. FUT 18" LAT.
F-3-2 594.00

N 7020167.7332
E 2606092.7446
STA. 0+05.17
EXISTING 8" W.L. 3
N.G. E.L. 599.46
M.D. TOP PIPE 5.0'
TOP OF 8" W.L. 594.46
F.L. 8" W.L. 593.8±

N 7020164.9650
E 2606092.8680
STA. 0+06.78
EXISTING 12" W.L. 2
N.G. E.L. 599.52
M.D. TOP PIPE 5.1'
TOP OF 12" W.L. 594.42
F.L. 8" W.L. 593.4±

N 7020151.3486
E 2606092.8682
STA. 0+14.15
EXISTING 8" W.L. 1
N.G. E.L. 598.06
M.D. TOP PIPE 5.00
TOP OF 8" W.L. 593.06
F.L. 8" W.L. 592.4±

N 7020148.5835
E 2606117.0080
STA. 0+00.00
F.L. FUT. 18" LAT
F-3-1 592.90

SAW CUT 40 L.F. EXIST.
CONC. PVMT.
REMOVE & REPLACE 18
S.Y. REINF. PVMT. WITH
8-INCH REINF. CONC.
PAVEMENT, INCLUDING
CONCRETE FLUME

N 7020165.4349
E 2606126.0815
STA. 0+40.00
PROP 12" WATERLINE 1
LOWERING SEE SHEET 19
CONNECT TO EXIST. 12" W.L.

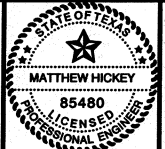
NOTE:
1. CONTRACTOR SHALL DELIVER & UNLOAD SALVAGED FIRE HYDRANT TO CITY OF ROCKWALL AT 1600 AIRPORT ROAD. COST FOR DELIVERY UNLOADING SHALL BE INCLUDED IN PAY ITEM FOR SALVAGE EXISTING FIRE HYDRANT.

B.M.#106
EL. 589.66

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BY MH DATE 01/16/18

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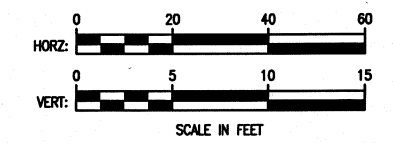
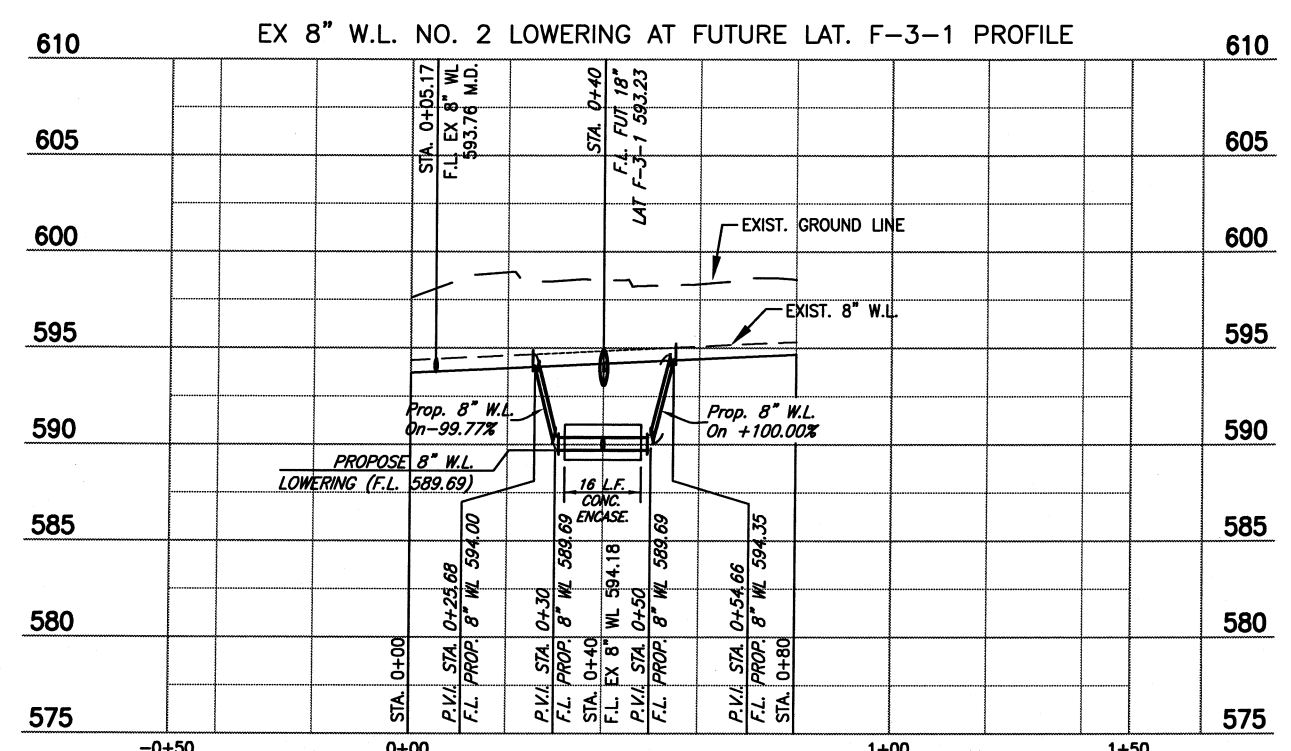
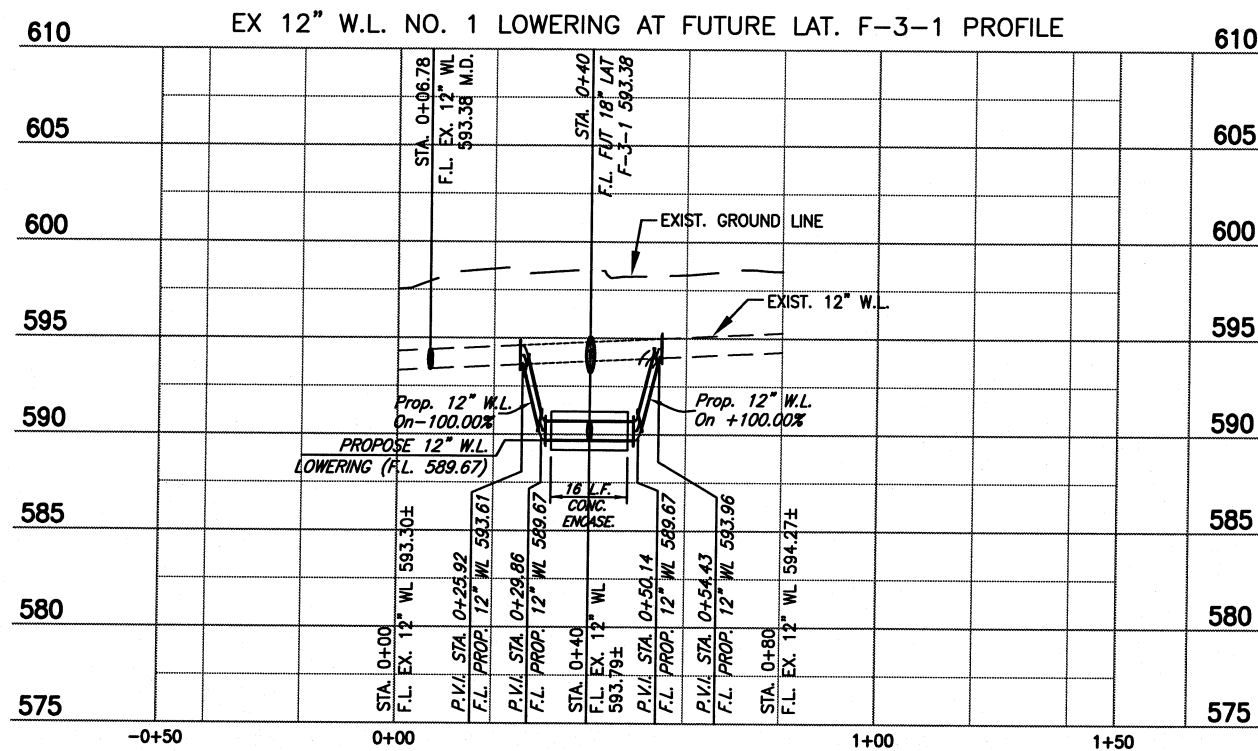
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
FUTURE 18" RCP LATERAL F3-1 AT INNOVATION DR. - PLAN
3-WATERLINE LOWERINGS & FIRE HYDRANT RELOCATION

BHC PROJECT NO. 2016-102
January, 2018
SHEET NO. 18



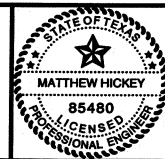
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 BY MH DATE 01/16/18



B.M.# 106
 EL. 589.66

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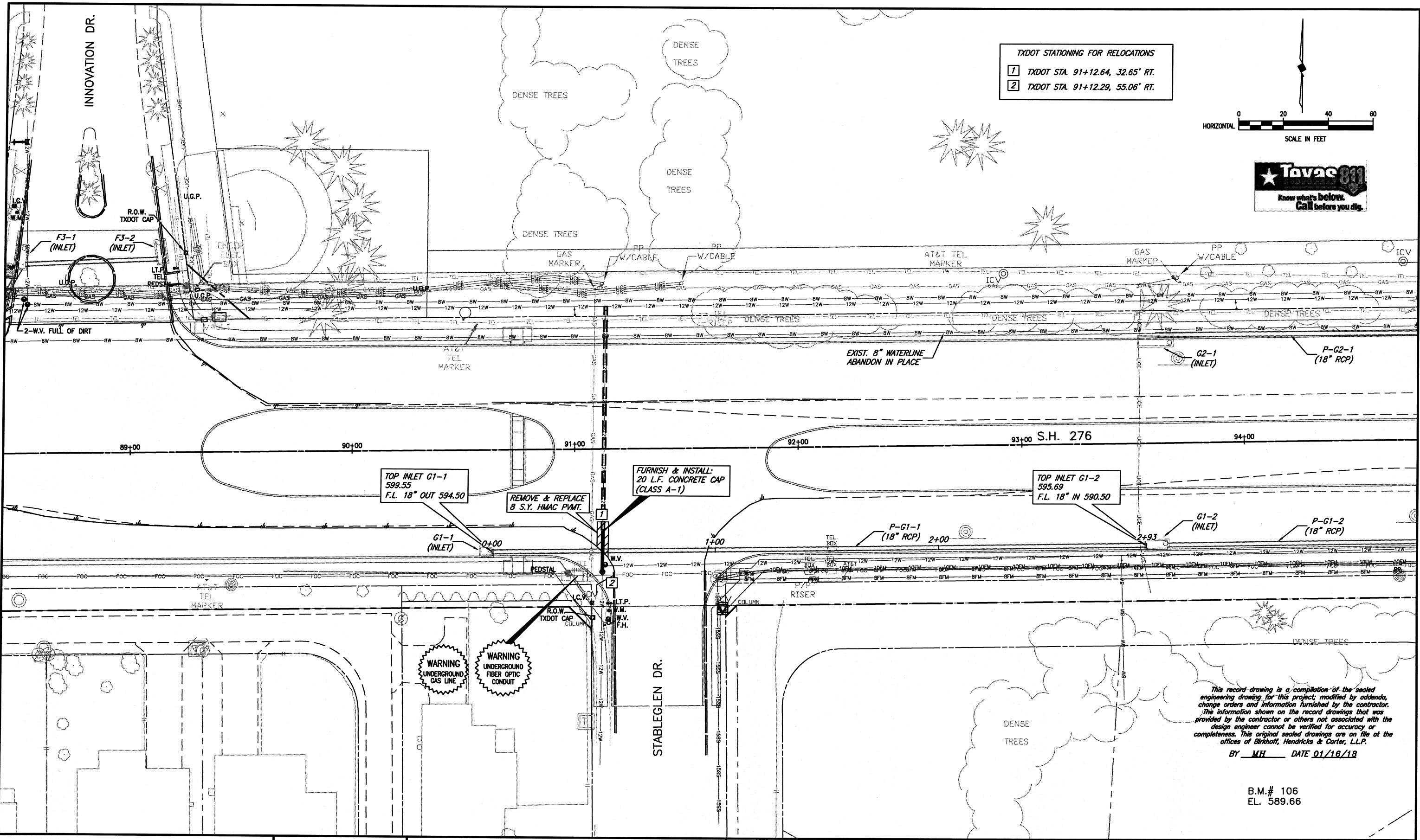


Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 FUTURE 18" RCP LATERAL F3-1- AT INNOVATION DR. - PROFILE
 2-WATERLINE LOWERINGS

BHC
 PROJECT NO.
 2016-102
 January, 2018

SHEET NO.
19



TXDOT STATIONING FOR RELOCATIONS

1 TXDOT STA. 91+12.64, 32.65' RT.

2 TXDOT STA. 91+12.29, 55.06' RT.

HORIZONTAL SCALE IN FEET

0 20 40 60



TOP INLET G1-1
599.55
F.L. 18" OUT 594.50

FURNISH & INSTALL:
20 L.F. CONCRETE CAP
(CLASS A-1)

TOP INLET G1-2
595.69
F.L. 18" IN 590.50

G1-1
(INLET)

REMOVE & REPLACE
8 S.Y. HMAC PVMT.

P-G1-1
(18" RCP) 2+00

G1-2
(INLET)

P-G1-2
(18" RCP)

WARNING
UNDERGROUND
GAS LINE

WARNING
UNDERGROUND
FIBER OPTIC
CONDUIT

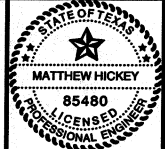
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BY MH DATE 01/16/18

B.M.# 106
EL. 589.66

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



Matthew Hickey
1/5/17

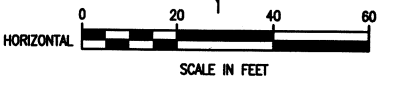
CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS

FUTURE 18" RCP LATERAL G1-1 AT STABLEGLEN DR. - PLAN
12" WATERLINE LOWERING

BHC
PROJECT NO.
2016-102
January, 2018

SHEET NO.
20

NOTE:
 1. CONTRACTOR SHALL DELIVER AND UNLOAD SALVAGED FIRE HYDRANT & GATE VALVE TO CITY OF ROCKWALL AT 1600 AIRPORT ROAD. COST FOR DELIVERY AND UNLOADING SHALL BE INCLUDED IN PAY ITEM FOR SALVAGE EXISTING FIRE HYDRANT.

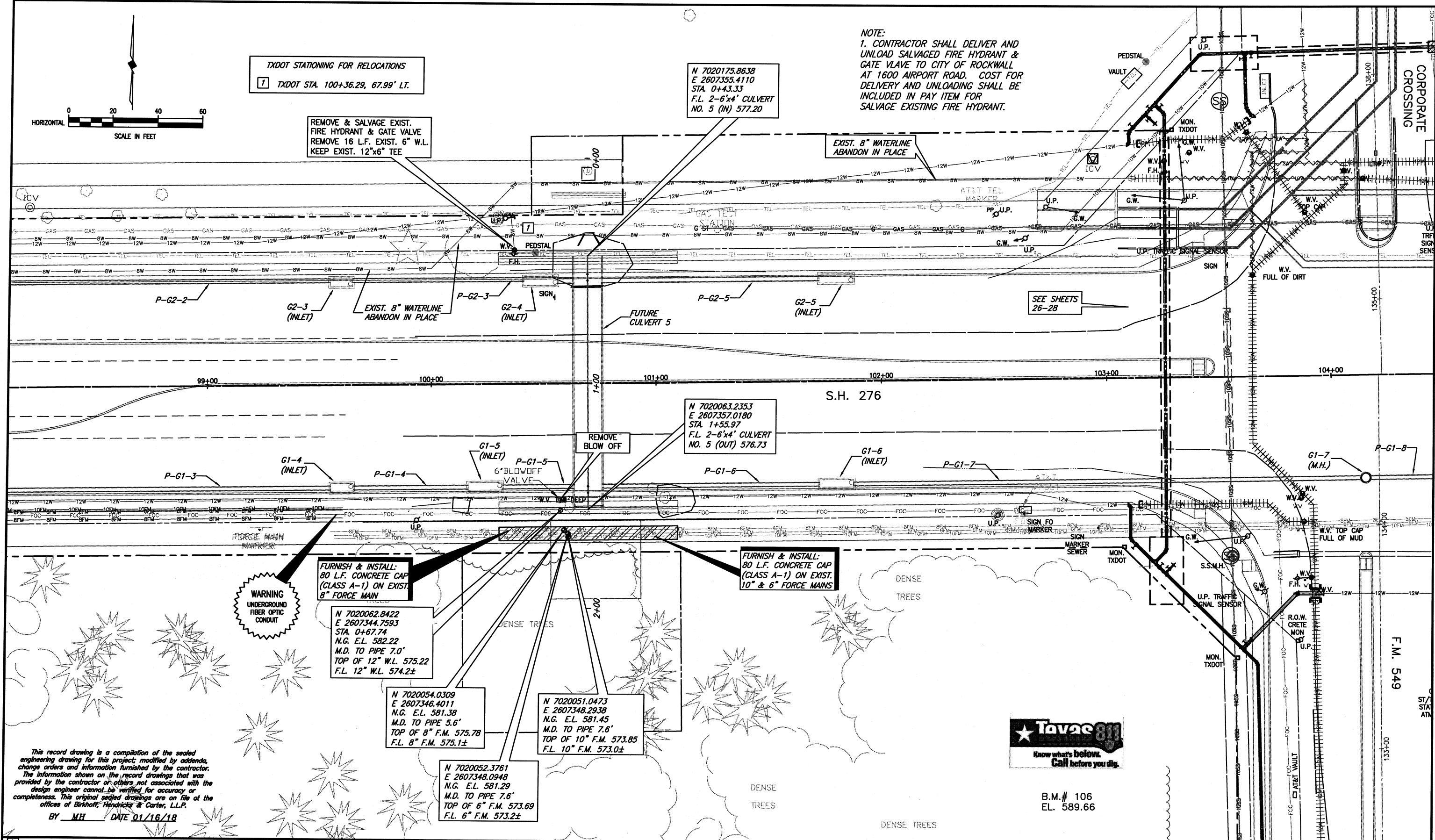


TXDOT STATIONING FOR RELOCATIONS
 1 TXDOT STA. 100+36.29, 67.99' LT.

N 7020175.8638
 E 2607355.4110
 STA. 0+43.33
 F.L. 2'-6"x4' CULVERT
 NO. 5 (IN) 577.20

REMOVE & SALVAGE EXIST.
 FIRE HYDRANT & GATE VALVE
 REMOVE 16 L.F. EXIST. 6" W.L.
 KEEP EXIST. 12"x6" TEE

EXIST. 8" WATERLINE
 ABANDON IN PLACE



SEE SHEETS
 26-28

N 7020063.2353
 E 2607357.0180
 STA. 1+55.97
 F.L. 2'-6"x4' CULVERT
 NO. 5 (OUT) 576.73

FURNISH & INSTALL:
 80 L.F. CONCRETE CAP
 (CLASS A-1) ON EXIST.
 8" FORCE MAIN

N 7020062.8422
 E 2607344.7593
 STA. 0+67.74
 N.G. E.L. 582.22
 M.D. TO PIPE 7.0'
 TOP OF 12" W.L. 575.22
 F.L. 12" W.L. 574.2±

N 7020054.0309
 E 2607346.4011
 N.G. E.L. 581.38
 M.D. TO PIPE 5.6'
 TOP OF 8" F.M. 575.78
 F.L. 8" F.M. 575.1±

N 7020051.0473
 E 2607348.2938
 N.G. E.L. 581.45
 M.D. TO PIPE 7.6'
 TOP OF 10" F.M. 573.85
 F.L. 10" F.M. 573.0±

N 7020052.3761
 E 2607348.0948
 N.G. E.L. 581.29
 M.D. TO PIPE 7.6'
 TOP OF 6" F.M. 573.69
 F.L. 6" F.M. 573.2±

WARNING
 UNDERGROUND
 FIBER OPTIC
 CONDUIT



B.M.# 106
 E.L. 589.66

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 BY MH DATE 01/16/18

1 FIELD CHANGE NO. 1 (06/16/2017) - DELETED 12" WATER LINE LOWERING ON SOUTH SIDE OF FUTURE CULVERT 5 BASED ON CONTRACTOR'S LOCATE

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 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
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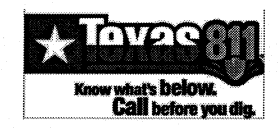
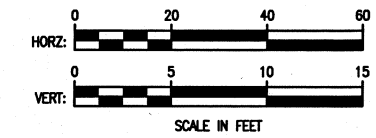
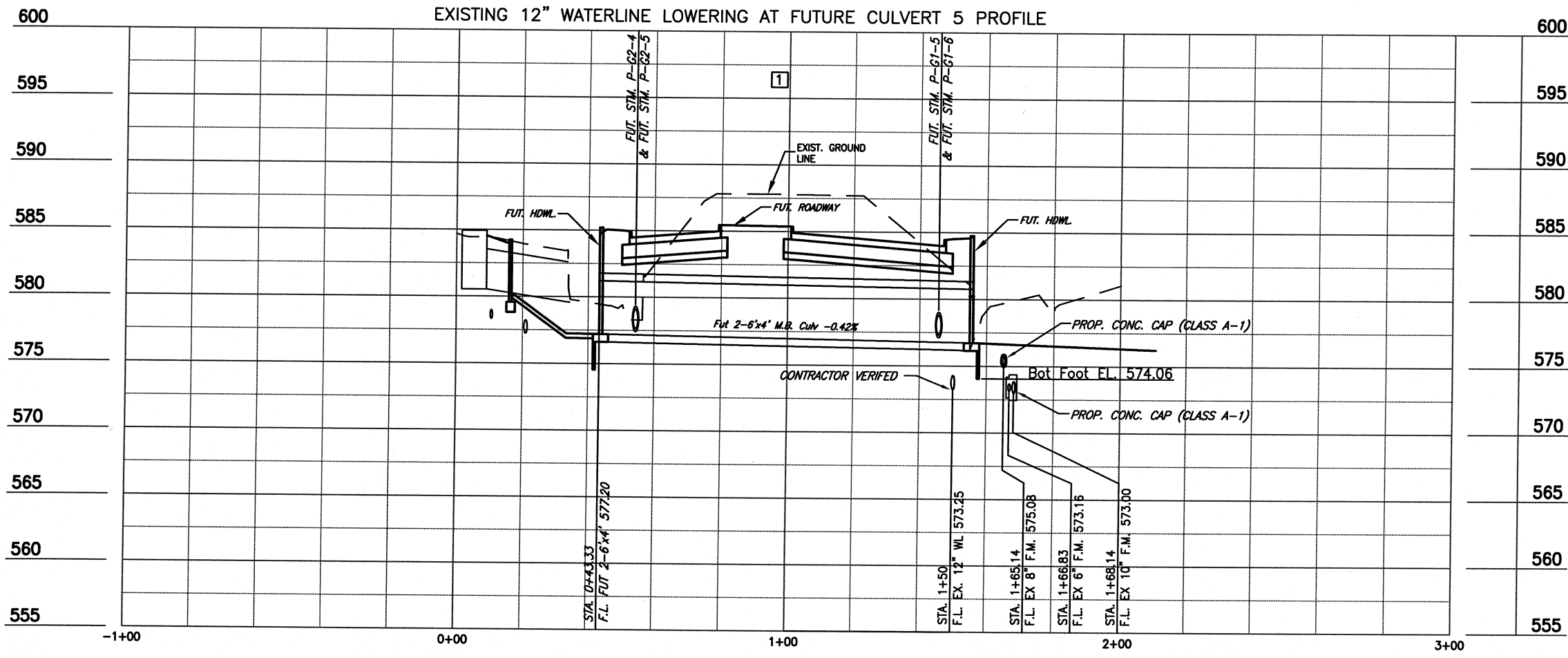
Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS

FUTURE 2'-6"x4' CULVERT 5 AT S.H. 276 STA. 100+69.78 - PLAN
 12" WATERLINE LOWERING

BHC
 PROJECT NO.
 2016-102
 April, 2017

SHEET NO.
21A



B.M.# 106
EL. 589.66

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BY MH DATE 01/16/18

1	FIELD CHANGE NO. 1 (06/16/2017)- DELETED 12" WATER LINE LOWERING ON SOUTH SIDE OF FUTURE CULVERT 5 BASED ON CONTRACTOR'S LOCATE

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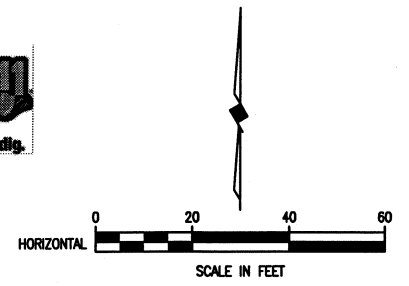


Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
FUTURE 2-6'x4' CULVERT 5 AT S.H. 276 - PROFILE
WATERLINE LOWERING

BHC
PROJECT NO.
2016-102
January, 2018
SHEET NO.
22A

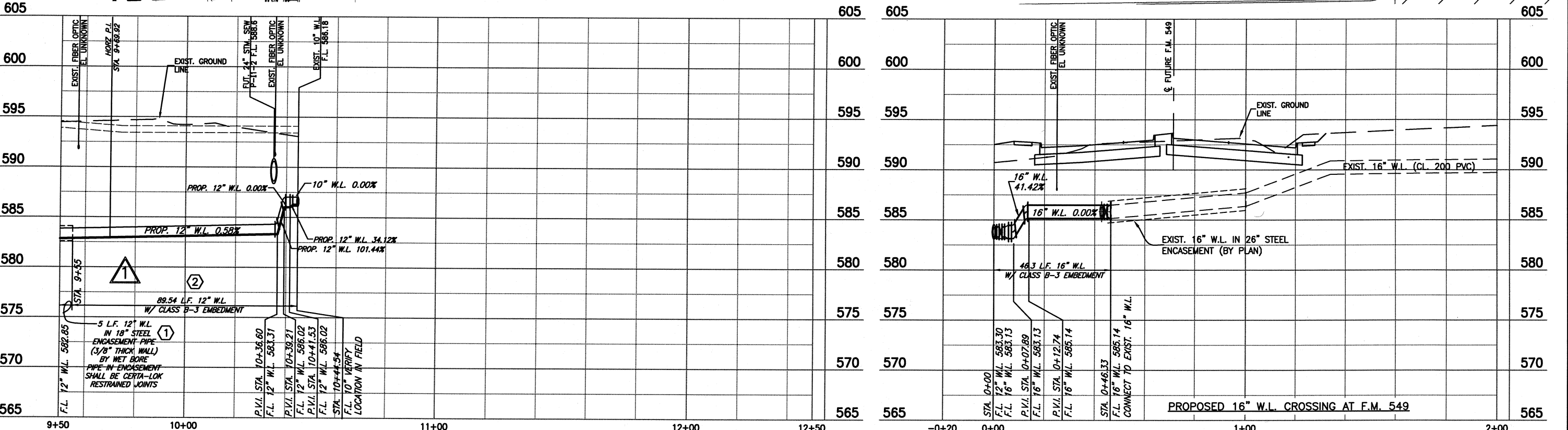
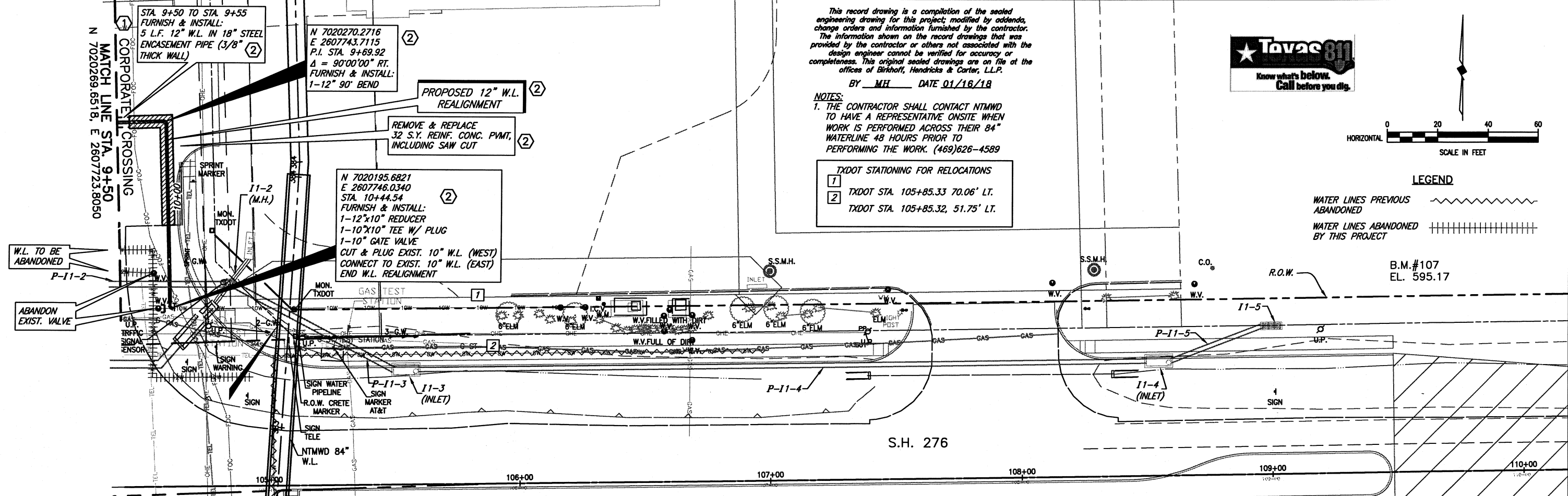
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 BY MH DATE 01/16/18



NOTES:
 1. THE CONTRACTOR SHALL CONTACT NTMWD TO HAVE A REPRESENTATIVE ONSITE WHEN WORK IS PERFORMED ACROSS THEIR 84" WATERLINE 48 HOURS PRIOR TO PERFORMING THE WORK. (469)626-4589

TXDOT STATIONING FOR RELOCATIONS
 1 TXDOT STA. 105+85.33 70.06' LT.
 2 TXDOT STA. 105+85.32, 51.75' LT.

LEGEND
 WATER LINES PREVIOUS ABANDONED
 WATER LINES ABANDONED BY THIS PROJECT



ADDENDUM NO. 1: 1/26/2017
 1 CHANGE ORDER NO. 1 - REVISED 24" DIA. ENCASEMENT PIPE TO 18" DIA. 03/14/2017
 2 CHANGE ORDER NO. 2 - REVISED BORE LOCATION 04/05/2017

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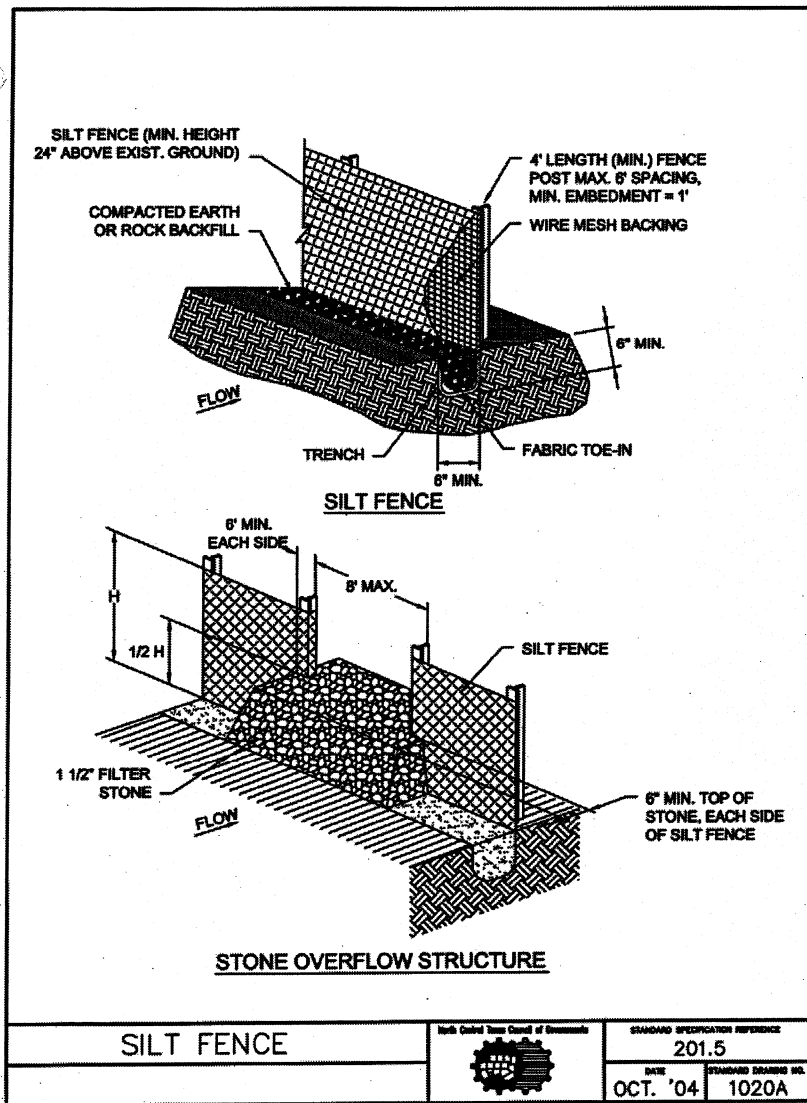
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



Martin Jicks
 4/7/17

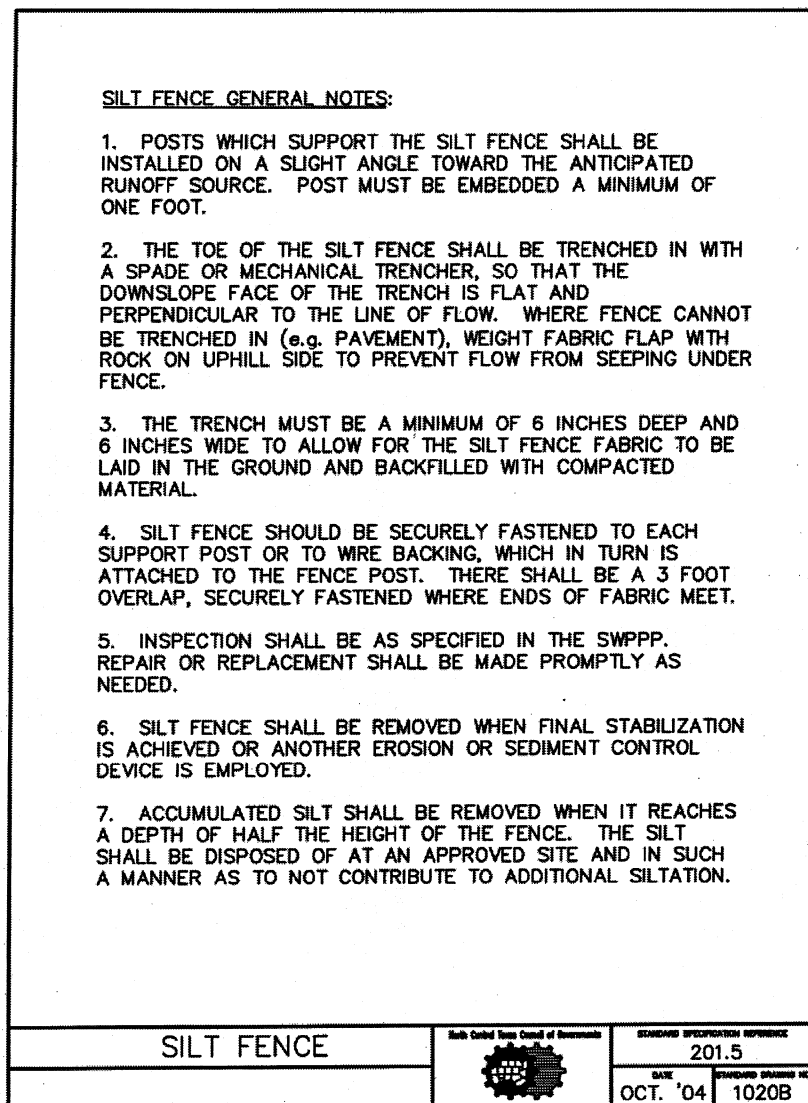
CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 12-INCH W.L. REALIGNMENT ALONG F.M. 549, CROSSING S.H. 276 & CROSSING CORPORATE CROSSING PLAN & PROFILE STA. 9+50 TO STA. 10+44.54

BHC PROJECT NO. 2016-102
 SHEET NO. **25B**
 January, 2018



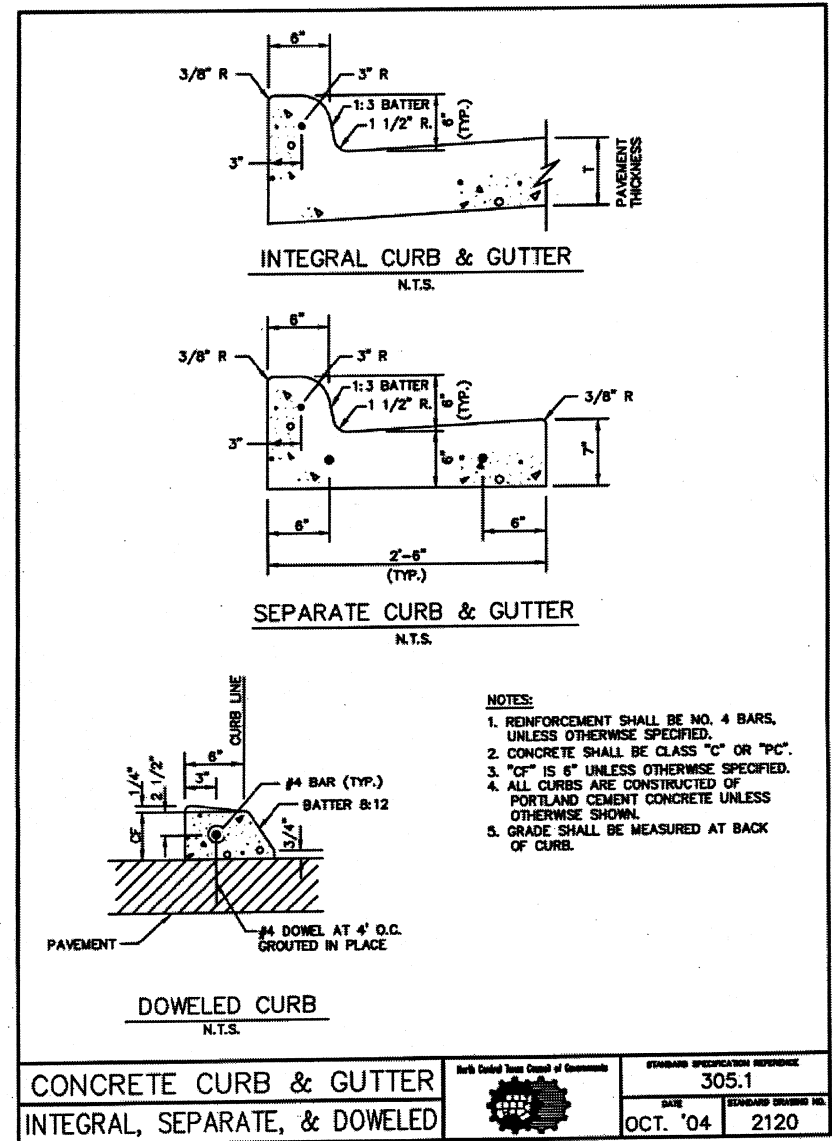
SILT FENCE		STANDARD SPECIFICATION REFERENCE	201.5
		DATE	OCT. '04
		STANDARD DRAWING NO.	1020A

- NOTE: (ADDED TO 1020A)
- POSTS SHALL BE METAL. NO WOODEN POSTS ALLOWED.



SILT FENCE		STANDARD SPECIFICATION REFERENCE	201.5
		DATE	OCT. '04
		STANDARD DRAWING NO.	1020B

- NOTE: (ADDED TO 1020B)
- FILTER STONE SHALL BE WRAPPED IN FILTER FABRIC AND BURIED MINIMUM OF 6 INCHES.

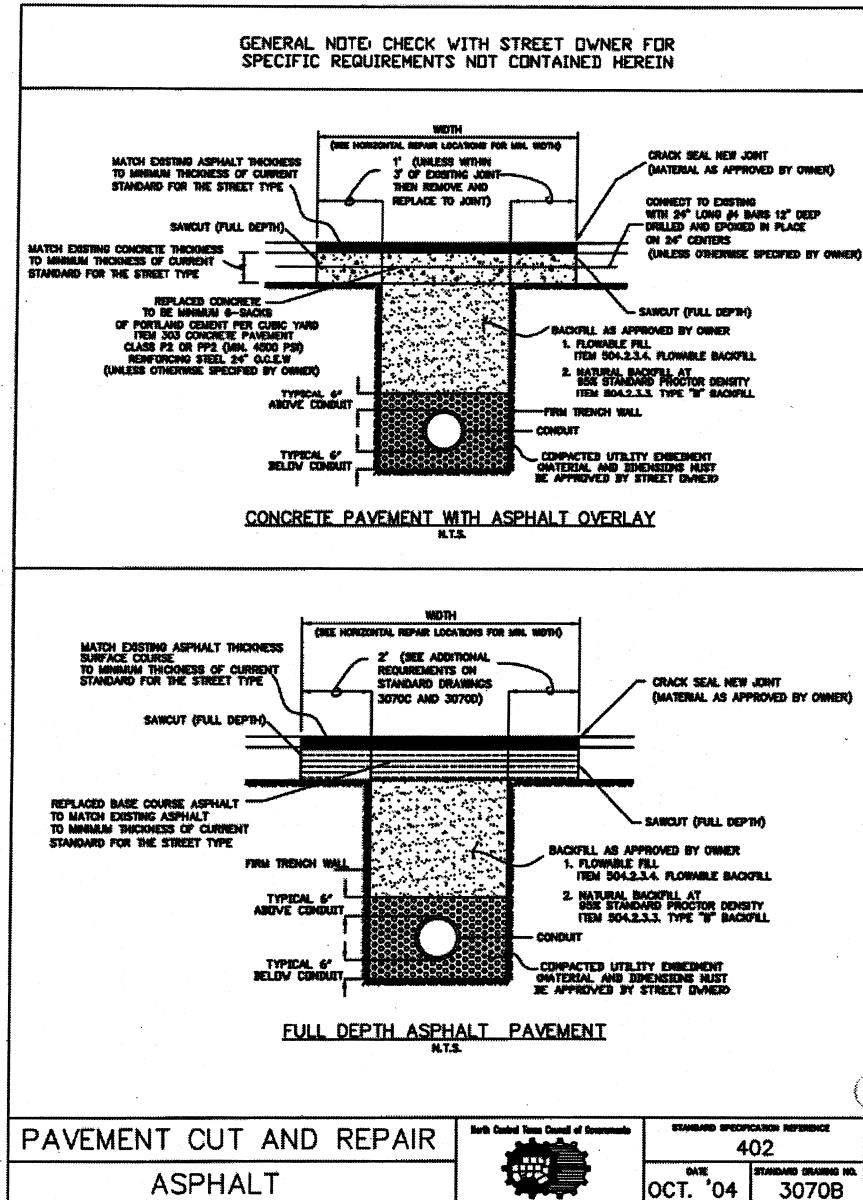


CONCRETE CURB & GUTTER INTEGRAL, SEPARATE, & DOWELED		STANDARD SPECIFICATION REFERENCE	305.1
		DATE	OCT. '04
		STANDARD DRAWING NO.	2120

- NOTES:**
- REINFORCEMENT SHALL BE NO. 4 BARS, UNLESS OTHERWISE SPECIFIED.
 - CONCRETE SHALL BE CLASS "C" OR "PC".
 - "CF" IS 6" UNLESS OTHERWISE SPECIFIED.
 - ALL CURBS ARE CONSTRUCTED OF PORTLAND CEMENT CONCRETE UNLESS OTHERWISE SHOWN.
 - GRADE SHALL BE MEASURED AT BACK OF CURB.

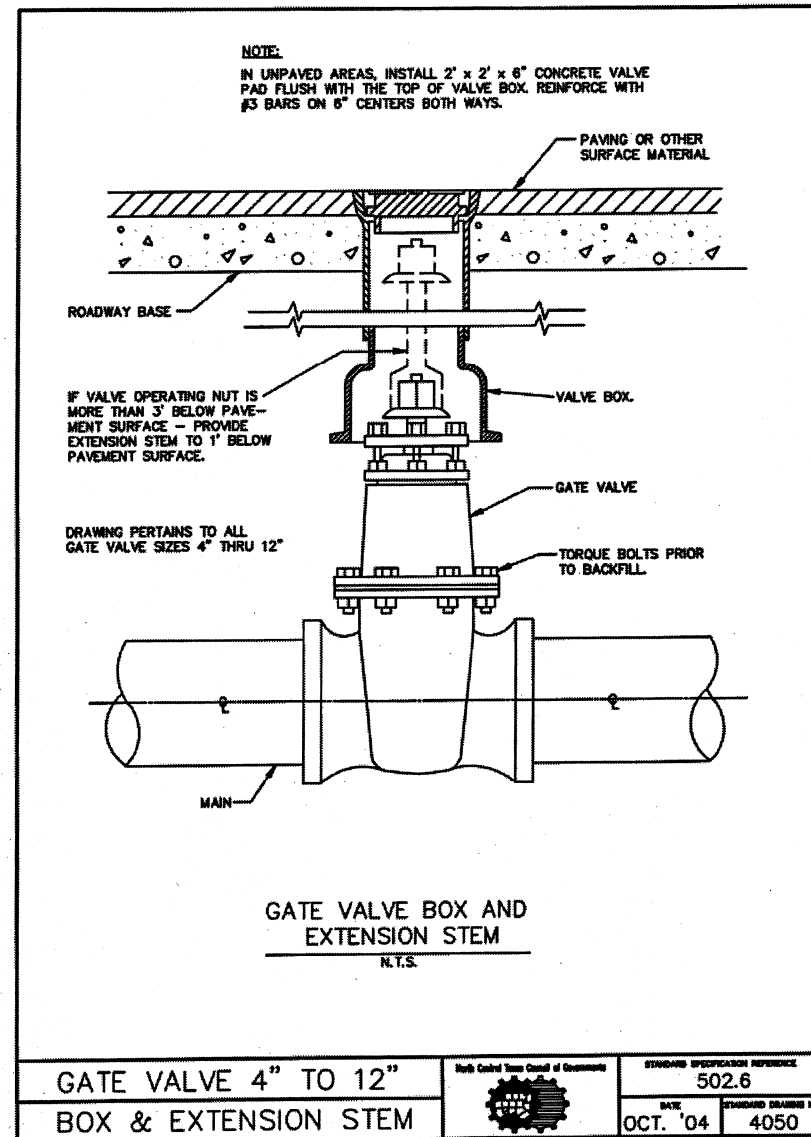
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 BY MH DATE 01/16/18

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				CONSTRUCTION DETAILS	January, 2018	



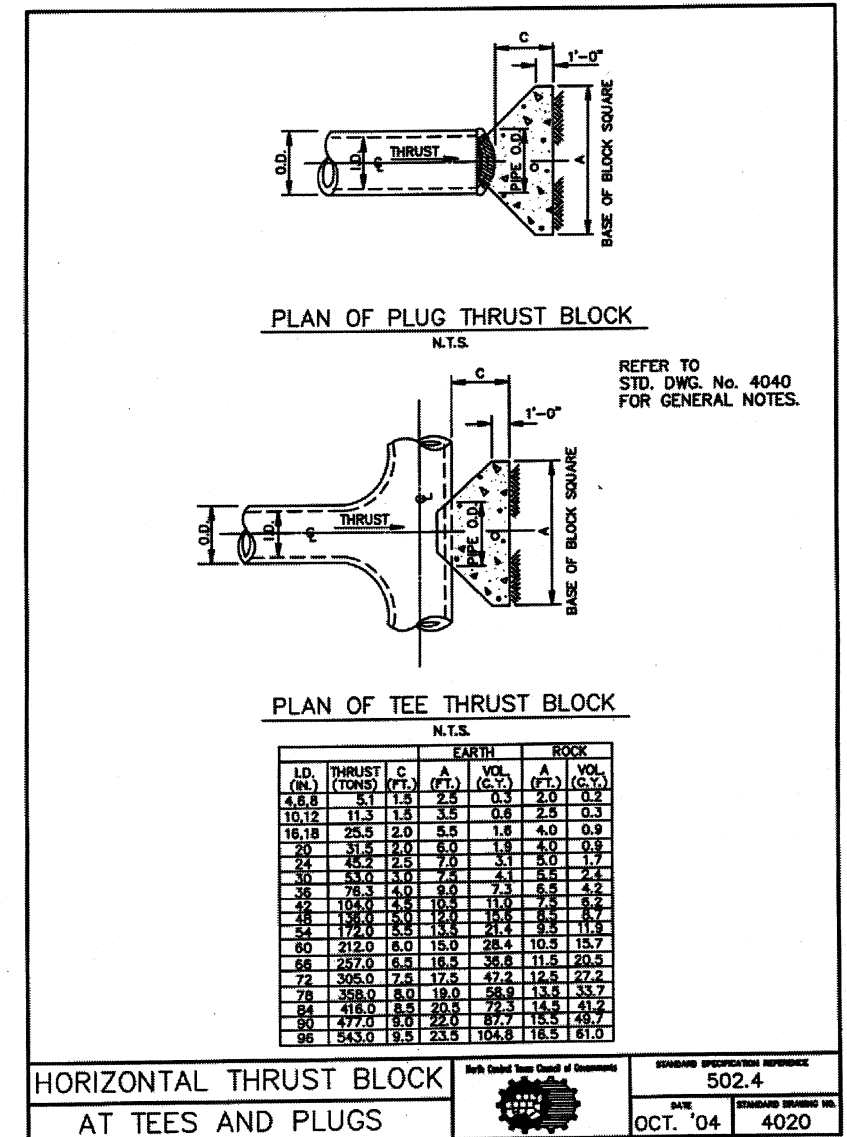
NOTES: (ADDED TO 3070B)

1. CONCRETE SHALL BE A MINIMUM 6.5 SACK CEMENT.
2. CONCRETE STEEL REINFORCING TO BE NO. 4 BARS ON 18" CENTERS EACH WAY, GRADE 60 STEEL.
3. STRIKE THE BACKFILL REQUIREMENT FOR FLOWABLE FILL ON BOTH THE CONCRETE PAVEMENT AND FULL DEPTH ASPHALT DETAIL.



NOTE: (REVISION TO 4050)

1. EXTENSION STEM TO BE TWO (2) FEET BELOW PAVEMENT INSTEAD OF ONE (1) FOOT.



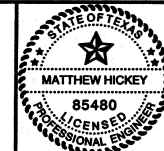
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BY MH DATE 01/16/18

ADDENDUM NO. 1: 1/26/2017

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Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS

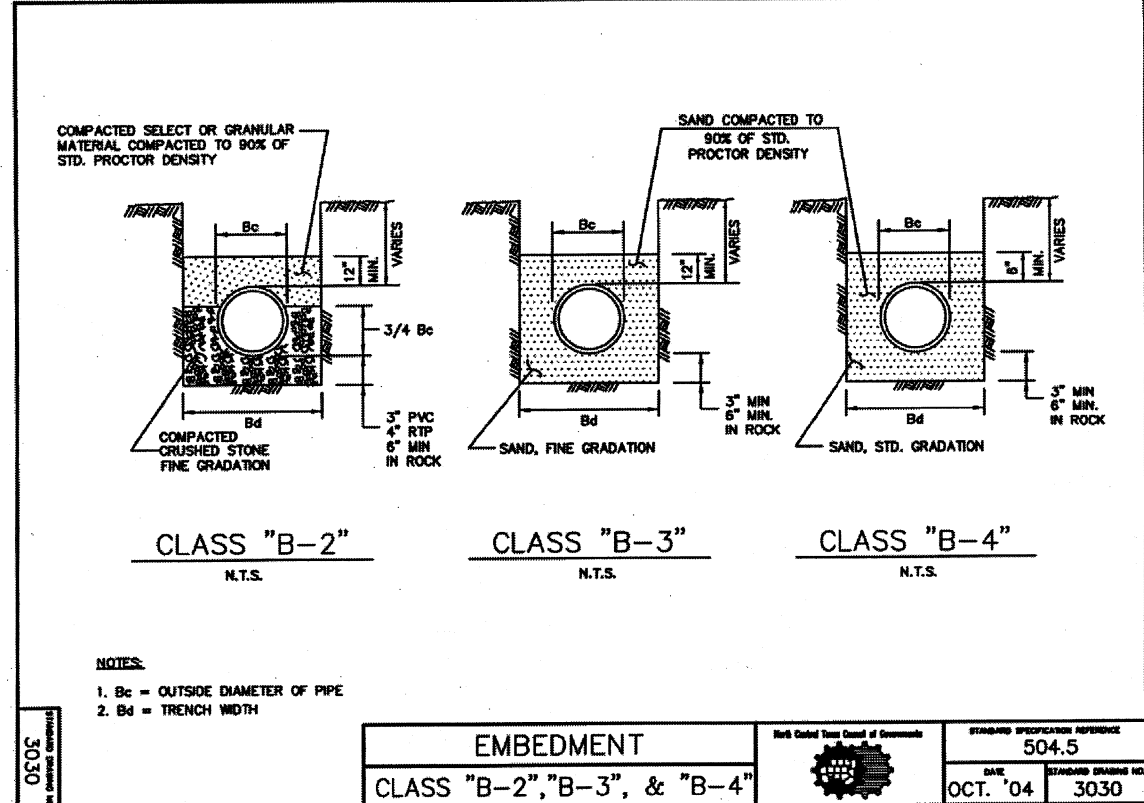
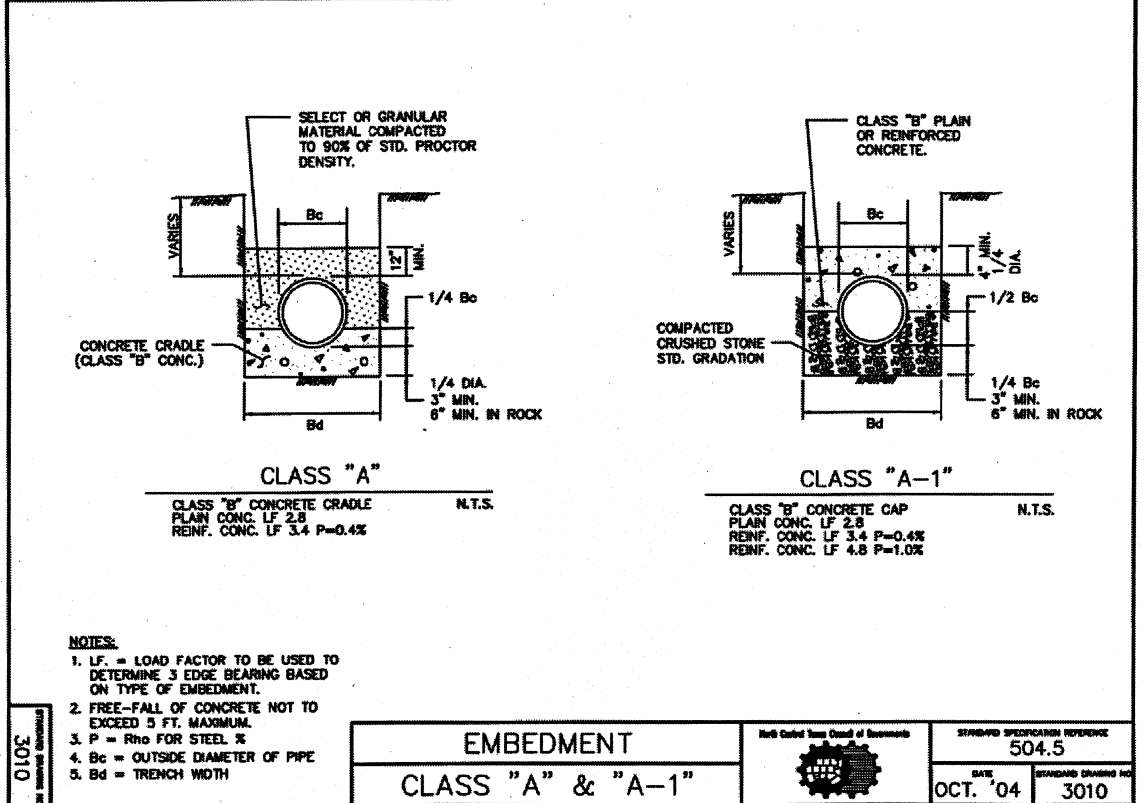
CONSTRUCTION DETAILS

BHC
PROJECT NO.
2016-102

SHEET NO.

January, 2018

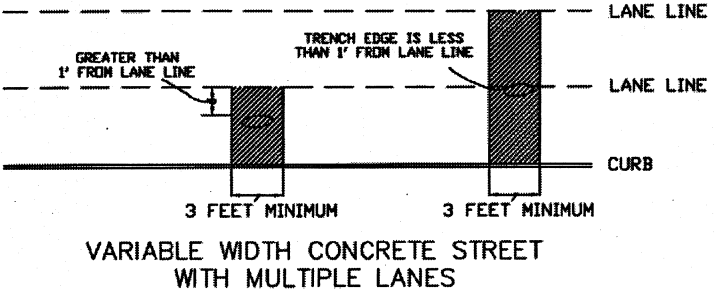
27



NOTES: (ADDED TO 3010)

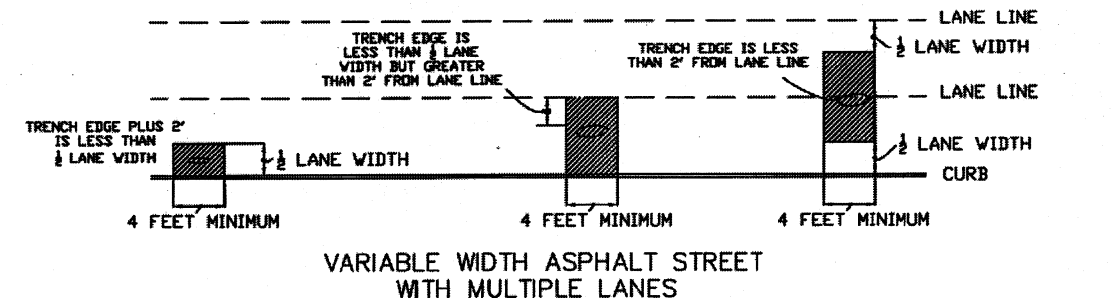
1. MATERIAL TO BE COMPACTED 95% OF STANDARD PROCTOR.
2. CLASS "A-1" EMBEDMENT CRUSHED STONE 3/4 BC.
3. MATERIAL ABOVE CRUSHED STONE IS TO BE NON-GRANULAR COMPACTED MATERIAL.

- GENERAL NOTES**
1. REMOVE AND REPLACE A MINIMUM OF 3" (CONCRETE) OR 4" (ASPHALT) LONGITUDINAL, OR 1" (CONCRETE) OR 2" (ASPHALT) FROM THE EDGE OF THE TRENCH, WHICHEVER IS GREATER.
 2. IF WITHIN 3' OF AN EXISTING JOINT, THEN REMOVE TO THE EXISTING JOINT.
 3. MULTIPLE LOCATIONS ARE TO BE A MINIMUM OF 10' APART FROM EDGE OF REPAIR TO EDGE OF REPAIR, IF LESS THAN 10' APART, A CONTINUOUS SECTION MUST BE REPLACED.
 4. A GUTTER OF AT LEAST 12" MAY REMAIN, PROVIDED THAT THE CURB AND GUTTER IS NOT DAMAGED BY THE CONSTRUCTION ACTIVITY.
 5. EXACT PAVEMENT REMOVAL LOCATIONS TO BE APPROVED BY OWNER PRIOR TO CONSTRUCTION.



NOTES: (ADDED TO 3030)

1. NO GRANULAR MATERIAL ABOVE ROCK OR STONE EMBEDMENT.
2. CLASS "B-3" EMBEDMENT TO BE USED FOR P.V.C. WATER LINE.
3. CLASS B-2-DELETE COMPACTED SELECT OR GRANULAR MATERIAL ABOVE CRUSHED STONE AND REPLACE WITH CRUSHED STONE FINE GRADATION.
4. MODIFIED CLASS B-2 EMBEDMENT FOR BE USED FOR P.V.C. SANITARY SEWER PIPE.
5. CLASS B-3 AND B-4 - COMPACT SAND TO 95% STANDARD PROCTOR.



3070D	PAVEMENT CUT AND REPAIR	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE
	EXTENT - MULTIPLE LANES		402
		DATE	STANDARD DRAWING NO.
		OCT. '04	3070D

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 BY MH DATE 01/16/18

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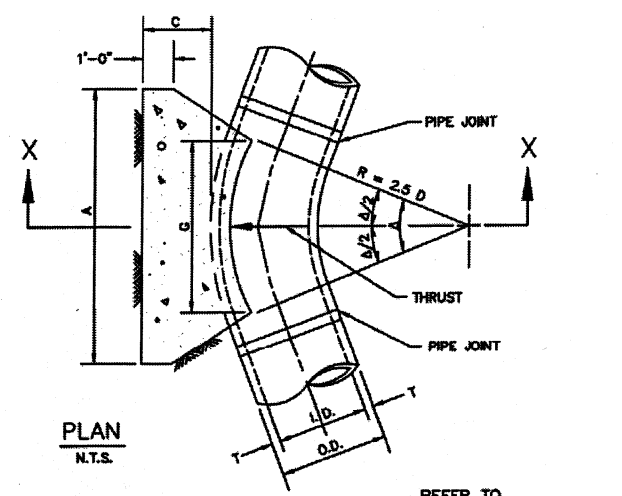
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 Texas Firm F526
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



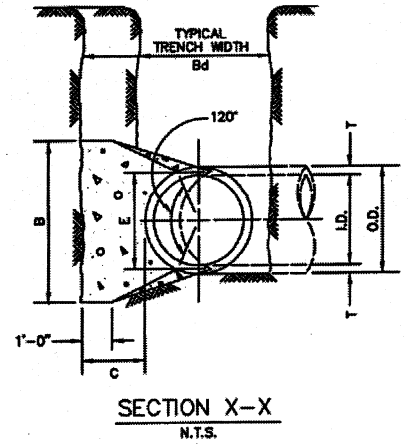
Matthew Hickey
 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 CONSTRUCTION DETAILS

BHC PROJECT NO. 2016-102
 SHEET NO. 28
 January, 2018



REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.



**HORIZONTAL THRUST BLOCK
AT PIPE BEND**

North Carolina State Council of Engineers

STANDARD SPECIFICATION REFERENCE
502.4

DATE: OCT. '04
STANDARD DRAWING NO.: 4010A

I.D. (IN.)	T (IN.)	Δ = 11.25° C (FT.)			Δ = 22.50° C (FT.)			E (FT.)
		A	B	VOL. (C.Y.)	A	B	VOL. (C.Y.)	
4,6,8	0.4	1.5	1.5	0.9				
10,12	0.5	1.5	1.5	1.2				
16,18	0.6	1.5	1.5	1.6				
20	0.7	1.5	1.5	1.8				
24	0.9	1.5	1.5	2.1				
30	2.9	1.5	1.9	2.6				
36	4.5	1.5	2.3	3.3				
42	5.0	1.8	2.6	3.8				
48	5.5	2.0	3.0	4.3				
54	6.0	2.3	3.4	4.8				
60	6.5	2.5	3.8	5.3				
66	6.8	2.8	4.1	5.7				
72	7.5	3.0	4.5	6.3				
78	7.5	3.3	4.9	6.7				
84	8.0	3.5	5.3	7.2				
90	8.5	3.8	5.6	7.7				
96	9.0	4.0	6.0	8.2				

I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3	20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1	48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4	54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	2.7	41.8	6.0	7.0	3.8	3.0	7.0	1.8	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3	72	6.6	119.1	11.0	11.0	17.8	7.5	8.0	9.1
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9	78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4	96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

TABLES OF DIMENSIONS AND QUANTITIES

**HORIZONTAL THRUST BLOCK
AT PIPE BEND**

North Carolina State Council of Engineers

STANDARD SPECIFICATION REFERENCE
502.4

DATE: OCT. '04
STANDARD DRAWING NO.: 4010B

I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1	4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.8	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.8	36	6.5	56.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.8	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	48.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.8
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.8	26.0	16.0	89.5	18.5	11.5	48.5

I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4,6,8	2.7	7.1	3.0	1.5	0.4	2.0	2.0	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9	16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.8	24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	9.4	84.9	14.5	6.0	6.2	9.5	4.5	3.8	36	11.9	106.0	18.0	6.0	11.4	12.0	4.5	5.3
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.6	14.0	5.5	8.7
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0	66	21.6	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4	72	23.6	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4	78	25.7	506.7	39.0	13.0	106.2	26.0	10.0	53.2
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5	84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	23.3	530.5	35.5	15.0	114.4	24.0	11.0	58.2	90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0	96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

TABLES OF DIMENSIONS AND QUANTITIES

**HORIZONTAL THRUST BLOCK
AT PIPE BEND**

North Carolina State Council of Engineers

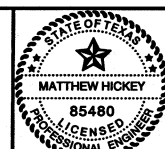
STANDARD SPECIFICATION REFERENCE
502.4

DATE: OCT. '04
STANDARD DRAWING NO.: 4010C

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BY MH DATE 01/16/18

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PROFESSIONAL ENGINEERS
Texas Firm F526
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900

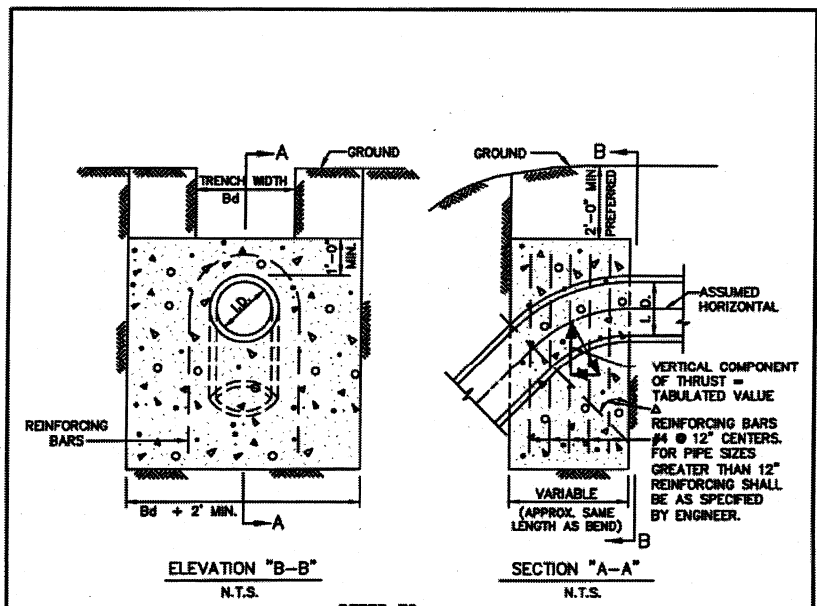


Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
CONSTRUCTION DETAILS

BHC
PROJECT NO.
2016-102
January, 2018

SHEET NO.
29



REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.

I.D. (IN.)	11.25°		22.50°		30°		45°		67.50°		90°		I.D. (IN.)
	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	28.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Engineers
STANDARD SPECIFICATION REFERENCE
502.4
DATE
OCT. '04
STANDARD DRAWING NO.
4030

GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOIL AND 2000 LBS./S.F. IN ROCK.
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE, OR PLUG TO PREVENT THE CONCRETE FROM STICKING TO IT.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

THRUST BLOCK
GENERAL NOTES

North Central Texas Council of Engineers
STANDARD SPECIFICATION REFERENCE
502.4
DATE
OCT. '04
STANDARD DRAWING NO.
4040

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BY MH DATE 01/16/18

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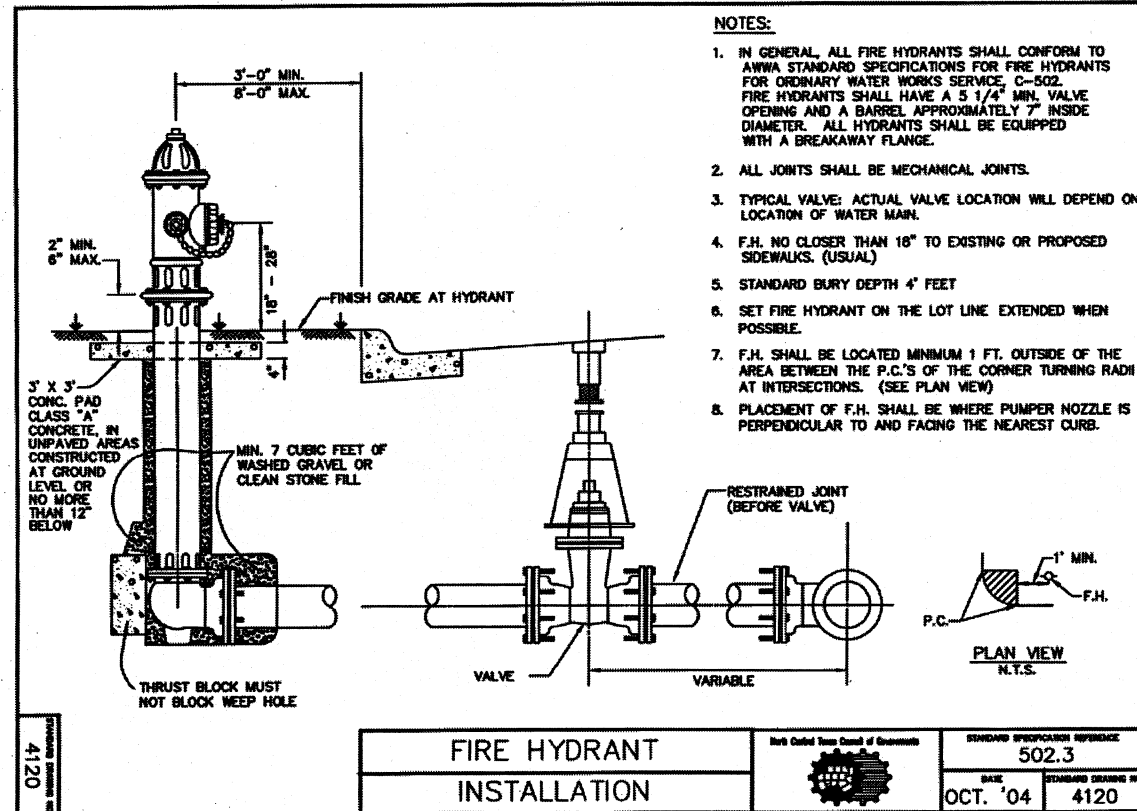
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
Texas Firm F526
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



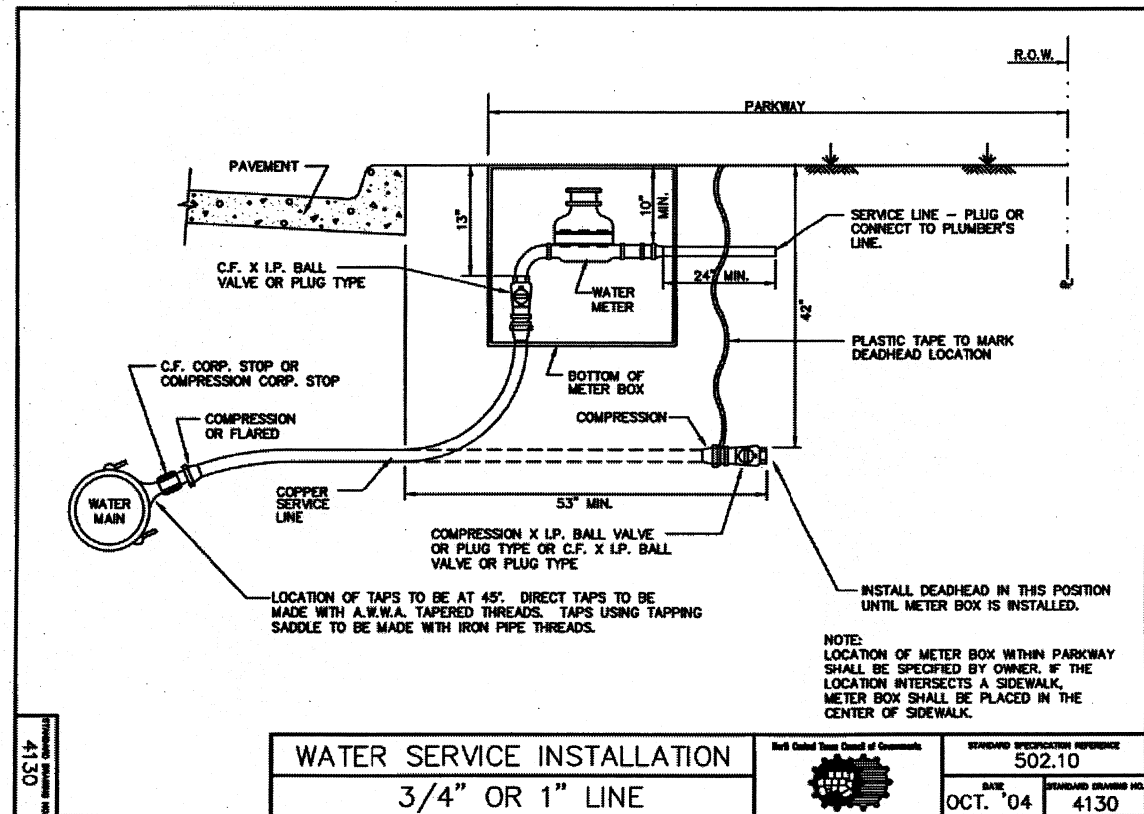
Matthew Hickey
1/5/17

CITY OF ROCKWALL, TEXAS
STATE HIGHWAY 276 - UTILITY RELOCATIONS
CONSTRUCTION DETAILS

BHC
PROJECT NO.
2016-102
SHEET NO.
30
January, 2018



- NOTES:**
1. IN GENERAL, ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE, C-502. FIRE HYDRANTS SHALL HAVE A 5 1/4" MIN. VALVE OPENING AND A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE.
 2. ALL JOINTS SHALL BE MECHANICAL JOINTS.
 3. TYPICAL VALVE: ACTUAL VALVE LOCATION WILL DEPEND ON LOCATION OF WATER MAIN.
 4. F.H. NO CLOSER THAN 18" TO EXISTING OR PROPOSED SIDEWALKS. (USUAL)
 5. STANDARD BURY DEPTH 4' FEET
 6. SET FIRE HYDRANT ON THE LOT LINE EXTENDED WHEN POSSIBLE.
 7. F.H. SHALL BE LOCATED MINIMUM 1 FT. OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADI AT INTERSECTIONS. (SEE PLAN VIEW)
 8. PLACEMENT OF F.H. SHALL BE WHERE PUMPER NOZZLE IS PERPENDICULAR TO AND FACING THE NEAREST CURB.



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NOTES: (ADDED TO 4120)

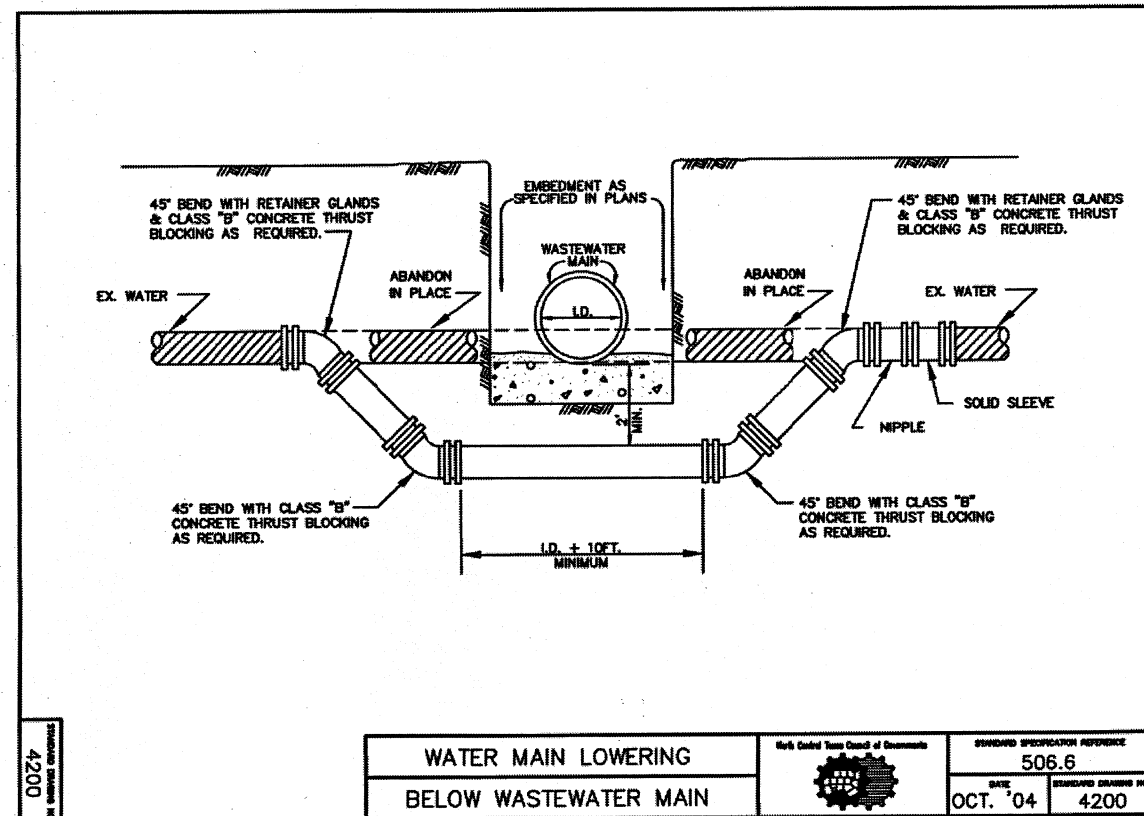
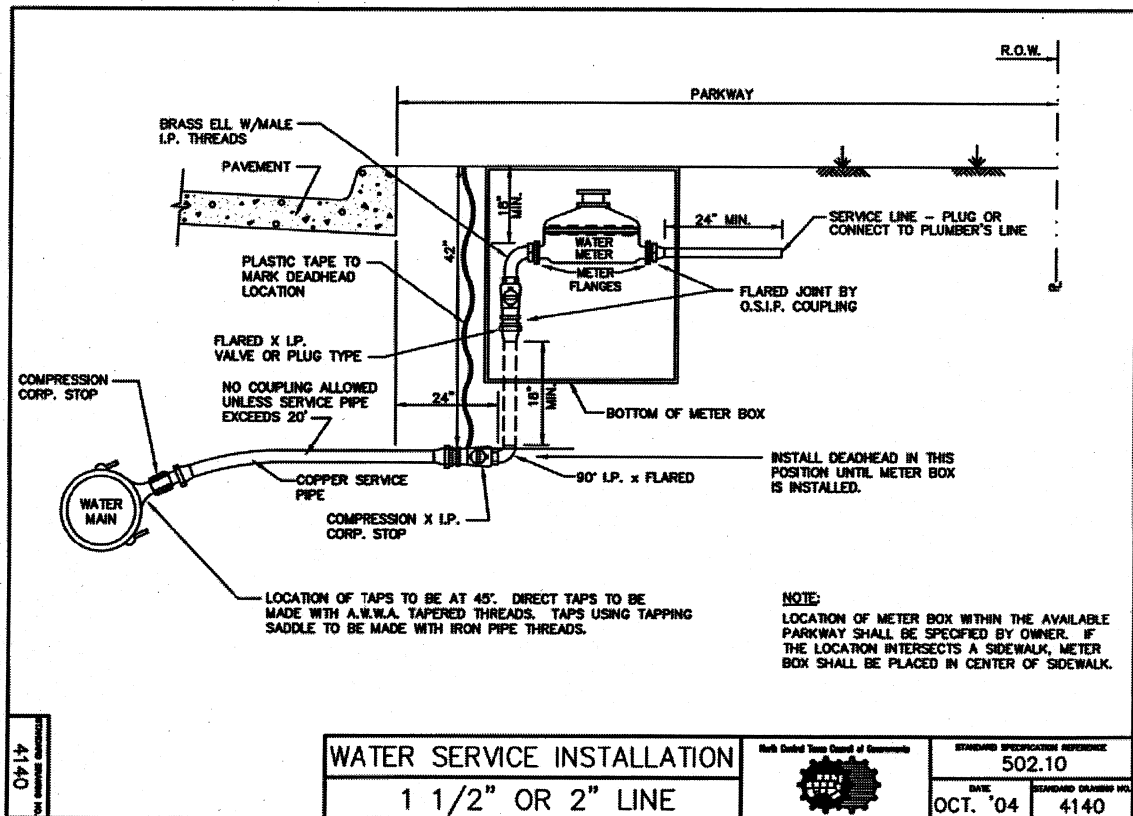
1. ALL JOINTS ARE TO BE RESTRAINED MEGA-LUG OR APPROVED EQUAL.

NOTES: (ADDED TO 4130)

1. COPPER SERVICE SHALL BE 1" I.D. C.T.S. POLY TUBE SDR-9.
2. METER BOX SHALL BE TWO (2) FEET FROM BACK OF CURB OR AS DECIDED BY THE CITY.
3. METER BOX SHALL BE EIGHTEEN (18) INCH DIAMETER BY FOURTEEN (14) INCH DEEP.
4. BLUE EMS DISK SHALL BE SET AT MAIN LINE.
5. NO C.F. CORPORATION STOPS.
6. SEE CITY DETAIL FOR SERVICE METER TP-L CONNECTION. CR-4145 IN THE SPECIFICATIONS.

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				<p>CONSTRUCTION DETAILS</p>	<p>January, 2018</p>	



NOTES: (ADDED TO 4140)

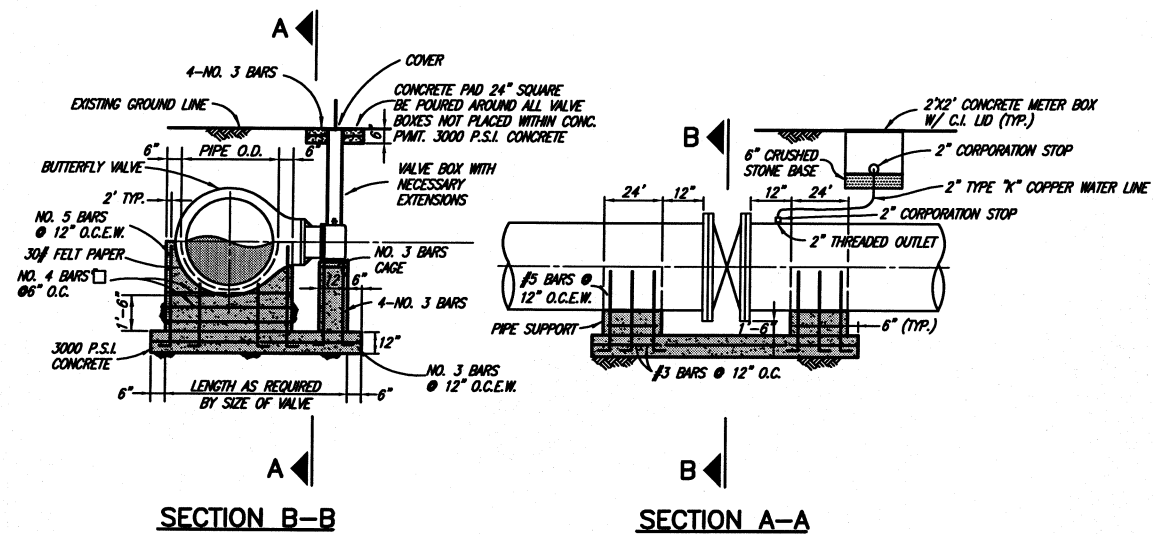
1. COPPER SERVICE SHALL BE 1" I.D. C.T.S. POLY TUBE SDR-9.
2. METER BOX SHALL BE TWO FEET SIX INCHES (2'-6") FROM BACK OF CURB AS DIRECTED BY THE CITY.
3. METER BOX SHALL BE EIGHTEEN (18) INCH DIAMETER BY FOURTEEN (14) INCH DEEP.
4. BLUE EMS DISK SHALL BE SET AT MAIN LINE.
5. SEE CITY DETAIL FOR SERVICE METER TP-L CONNECTION. CR-4145 IN THE SPECIFICATIONS.

NOTES: (ADDED TO 4200)

1. THE CONCRETE ENCASEMENT SHALL ENCASE THE ENTIRE WASTE WATER MAIN.
2. DEFLECT WATER LINE WHEN POSSIBLE.

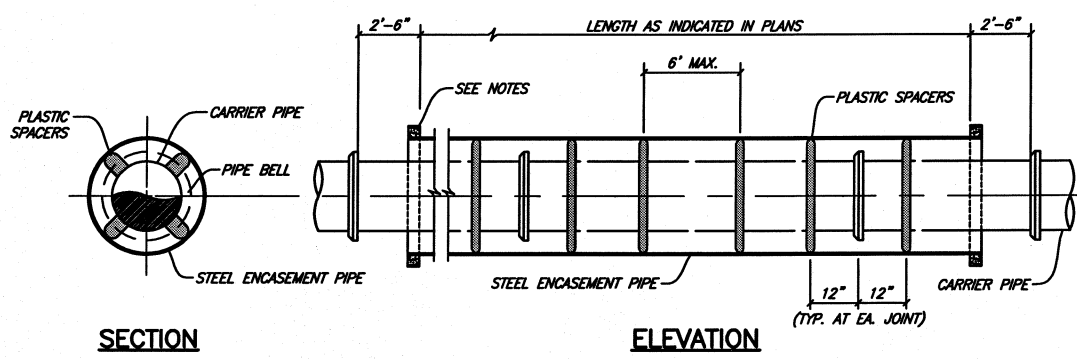
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				<p>CONSTRUCTION DETAILS</p>	<p>January, 2018</p>	



BUTTERFLY VALVE INSTALLATION

NO SCALE



ENCASED ROAD BORE

NO SCALE

- NOTES:**
- 1) PREFABRICATED PLASTIC SPACERS MUST BE APPROVED BY THE OWNER.
 - 2) CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE MIN. 1" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
 - 3) ENDS OF ENCASEMENT PIPE SHALL BE PLUGGED WITH BRICK AND MORTAR FOR ROADWAY CROSSINGS. PLUGS SHALL BE CONSTRUCTED WITH A WEEP HOLE.
 - 4) PRESSURE GROUT VOIDS BETWEEN ENCASEMENT AND BORE HOLE.

① CHANGE ORDER NO. 1

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① CHANGE ORDER NO. 1 - ADDED BORE DETAIL 03/14/2017

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 1/5/17

CITY OF ROCKWALL, TEXAS
 STATE HIGHWAY 276 - UTILITY RELOCATIONS
 CONSTRUCTION DETAILS

BHC
 PROJECT NO.
 2016-102
 January, 2018

SHEET NO.
33A