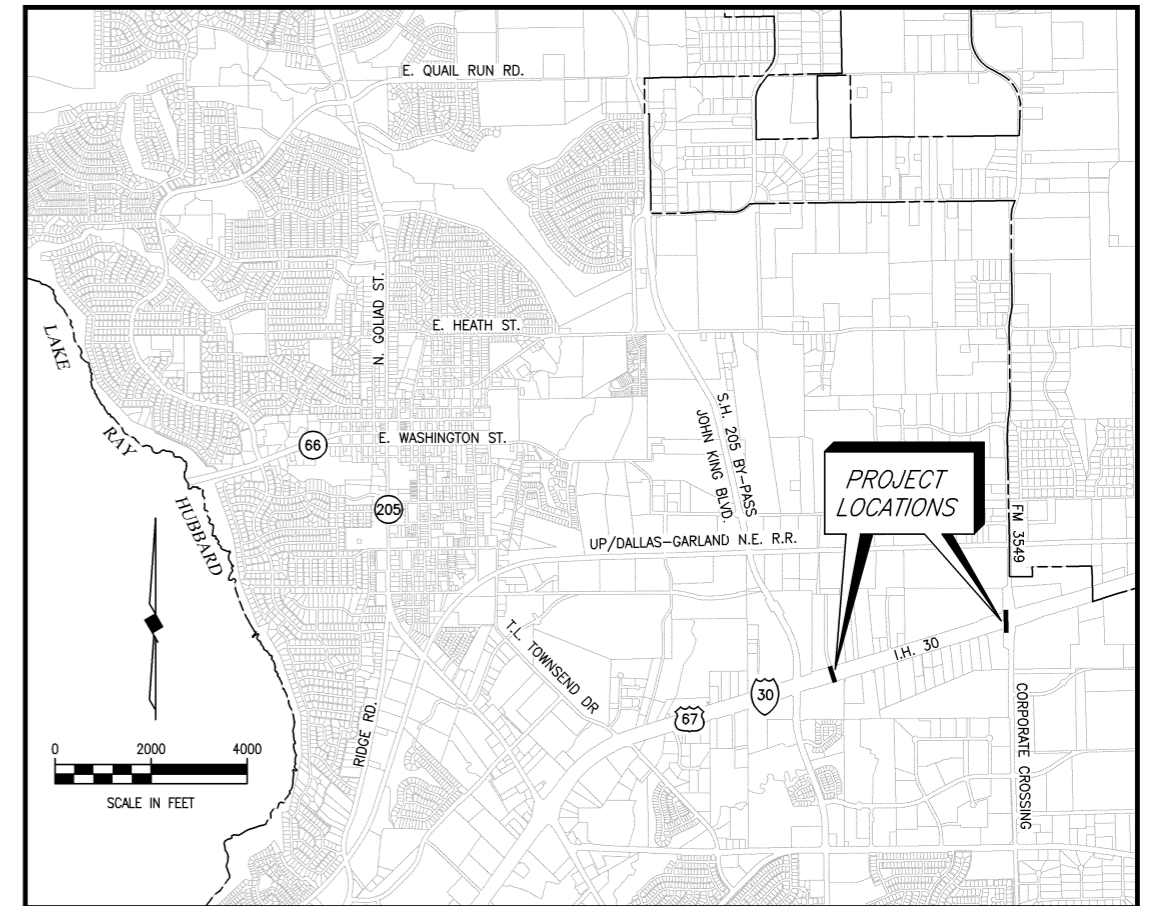


CITY OF ROCKWALL, TEXAS

CONSTRUCTION PLANS FOR:

780 ZONE I.H. 30 WATER LINE CROSSINGS ROCKWALL PROJECT NO. CIP 2021-001

RECORD DRAWINGS



LOCATION MAP

COUNCIL MEMBERS

- KEVIN FOWLER, MAYOR
- JOHN HOHENSHELT, MAYOR PRO-TEM
- DANA MACALIK
- BENNIE DANIELS
- CLARENCE JORIF
- TRACE JOHANNESSEN
- ANNA CAMPBELL

CITY MANAGER
MARY SMITH

ASSISTANT CITY
JOEY BOYD

CONTRACTOR
ADDRESS/PHONE NO.: WILSON CONTRACTOR SERVICES, LLC.
3985 MINGO ROAD
DENTON, TEXAS 76208
940-243-1174

CONTRACT COMPLETION DATE: APRIL 30, 2023

ORIGINAL CONTRACT AMOUNT: \$1,140,070.99
FINAL CONTRACT AMOUNT: \$1,043,803.49

CITY INSPECTOR: STEVE SALAZAR



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

MARCH 2022

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 11/6/2023

SHEET INDEX

SHEET NO.	SHEET TITLE
1	LOCATION MAP AND SHEET INDEX
2	CITY OF ROCKWALL GENERAL CONSTRUCTION NOTES
3	CITY OF ROCKWALL GENERAL CONSTRUCTION NOTES
4	PROJECT LOCATIONS / CONTROL
5	LOCATION 1 WATERLINE PLAN - PROFILE
6	LOCATION 2 WATERLINE PLAN - PROFILE
7	780 IMPLEMENTATION PLAN - 780 PRESSURE ZONE MAP AND INSET A
8	780 IMPLEMENTATION PLAN - INSET B LOCATION NO. 1 AND INSET C LOCATION NO. 2
9	PROJECT GENERAL NOTES, PROJECT SEQUENCING & 780 IMPLEMENTATION PLAN
10	EROSION CONTROL PLAN
11	EROSION CONTROL DETAILS 1
12	ERISION CONTROL DETAILS 2
13	CONSTRUCTION DETAILS 1
14	CONSTRUCTION DETAILS 2
15	TxDOT TRAFFIC CONTROL PLAN (SC-1)-21
16	TxDOT TRAFFIC CONTROL PLAN (SC-2)-21
17	TxDOT TRAFFIC CONTROL PLAN (SC-3)-21
18	TxDOT TRAFFIC CONTROL PLAN (SC-4)-21
19	TxDOT TRAFFIC CONTROL PLAN (SC-5)-21
20	TxDOT TRAFFIC CONTROL PLAN (SC-6)-21
21	TxDOT TRAFFIC CONTROL PLAN (SC-7)-21



Matthew Hickey
3/08/22

GENERAL ITEMS

- All construction shall conform to the requirements of 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
- The CONTRACTOR shall protect existing property monumentation and primary control. Any such points which the CONTRACTOR believes will be destroyed shall have offset points established by the CONTRACTOR prior to construction. Any monumentation destroyed by the CONTRACTOR shall be re-established at CONTRACTOR's expense by a registered professional land surveyor.
- Upon the CITIES request the CONTRACTOR shall provide survey Northings, Eastings and Elevations by registered professional land surveyor for: any existing utilities that may be in conflict with the proposed improvements of the construction plans, and any proposed installation to verify it has been installed per plan. (no separate pay)
- Any item called out for on the plans that does not have a specific bid item shall be subsidiary to the project and no separate pay shall be given.
- The CONTRACTOR is solely responsible for performing all construction layouts from the site layout control points, and from the dimensions and centerlines shown. The CONTRACTOR must notify the engineer of any discrepancies before proceeding with the work.
- CONTRACTOR shall take all available precautions to control dust. CONTRACTOR shall control dust by sprinkling water (no separate pay), or as approved by the City and engineer.
- CONTRACTOR shall video record and provide a copy to the construction inspector of the entire job site before construction starts. Video record of the site will be used to dispute discrepancies of any preexisting conditions of the project site before construction begins.
- It is the CONTRACTOR's responsibility to maintain a neat and accurate redline record of construction for the City's records. The CONTRACTOR shall provide the City full size reproducible markups that record all construction deviating from the plans. These redline construction plan records shall be submitted to the City at the end of the job and sign by the CONTRACTOR. These records must be received or the City will not release final retainage or acceptance on the job.

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 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. Disposal site shall be documented and provided to the City.
- CONTRACTOR shall grade ground and ditches disturbed by construction to prevent ponding of storm water runoff. Grading shall be subsidiary to the appropriate bid item for unclassified street and unclassified channel excavation. Topsoil shall be stockpiled and replaced to a minimum depth of 6-inches and disc harrowed to a minimum depth of 4-inches (no pay item). CONTRACTOR shall replace grass areas disturbed by construction activities with solid sod. Sodded areas shall be watered and maintained until established.
- The CONTRACTOR shall provide 4 inches of top soil in all parkways that are to be sodded. Top soil shall be approved by the City in writing. Topsoil shall be subsidiary to placement of grass/sod.
- All areas outside pavement disturbed by construction activities shall be tilled 6-inches and topped with clean top soil to final grade and have grass sod established immediately. Sod shall match existing yard type. Payment shall be made under the appropriate bid schedule item. Areas disturbed outside the R.O.W. or limits of construction shall have grass sod established immediately at the CONTRACTOR's expense.

FRANCHISE UTILITY NOTES

- Reasonable effort has been made to show the location of all known underground franchise utilities and service lines. However, the owner assumes no responsibility for failure to show any or all existing subsurface franchise utilities or utility line, or to show them in their exact location. The CONTRACTOR shall be responsible for the protection of all existing utilities, service lines or the like, which are exposed by the construction operation.
- Existing franchise utilities shown in these plans reflect approximate locations prior to relocations. Some relocations have occurred with utility pole, gas, phone and cable utilities. The CONTRACTOR shall contact 811/Dig-Tess to locate existing and new utilities not shown in these plans.
- CONTRACTOR shall support utilities where crossing with proposed storm sewer, water lines and sanitary sewers. Method of support shall be provided to the owner 24 hours prior to crossing.
- The location off all Atmos gas lines, AT&T, Charter/Spectrum and TXU/Oncor electric underground phone lines in these plans are approximate. The CONTRACTOR shall contact Atmos, TXU/Oncor, AT&T and Charter/Spectrum to verify location and depth of all existing gas, electric and phone lines prior to construction.
- CONTRACTOR shall have and pay for TXU/Oncor, AT&T and/or Charter/Spectrum support and protect all power, guy wires or cable and/or light poles in the work area.
- Any damage incurred to existing franchise utilities, appurtenances, utility poles, light standards, etc. By construction related activities shall be the sole responsibility of the CONTRACTOR

TRAFFIC CONTROL

- A suggested traffic control sequence plan is provided in the plan set. At a minimum the CONTRACTOR will be required to use the suggested sequence plan. If the CONTRACTOR chooses to change the traffic control sequencing, a traffic control sequencing plan and traffic control sheets of each phase will have to be provided for review and approval by the City. All shall be signed and sealed by a Registered Professional Engineer with the State of Texas.
- All new Detouring or Traffic Control Plans submitted by the City for review and approval a minimum of 21 calendar days prior to planned day of implementation.
- CONTRACTOR shall notify the City 14 Calendar days prior to changing Detouring and Traffic Control for each Phase and Segment. This is to give time for Contractor to place Message Boards for warning of Detour Change and for City Notification to other departments, emergency services, mail delivery, school district, and trash services.
- Pedestrian and vehicular traffic flow, safety and access shall be maintained during all phases of construction. Barricading and traffic control during construction shall be the responsibility of the CONTRACTOR and shall conform to the "Texas Manual on Uniform Traffic Control Devices", latest edition, Part IV in particular. Traffic flow and access shall be maintained during all phases of construction unless otherwise noted on the traffic control plan. The CONTRACTOR is responsible for providing traffic safety measures for work on the project. The CONTRACTOR shall assume full responsibility for public safety in the construction area during the duration of construction activities.
- The CONTRACTOR shall furnish, install, maintain and remove all necessary traffic control devices in conformance with the Texas Manual on Uniform Traffic Control Devices (Part 6). The CONTRACTOR shall provide access to properties at all times during each phase of construction to all local residents, businesses, mail service, trash pick-up and emergency services.
- No traffic signs shall be taken down without permission from the City. CONTRACTOR needing to move and replace traffic sign for construction purposes should be paid for under traffic control bid item.
- CONTRACTOR will furnish and install all signage in accordance with TMUTCD guidelines. Prior to installation of signage, CONTRACTOR shall stake locations and receive approval from City on locations. All signage that is removed by the CONTRACTOR shall be saved and delivered to municipal service center, streets division. All replaced signs shall be new. See City requirements for sign materials.
- The CONTRACTOR shall be responsible for coordination, scheduling and temporary equipment that is needed for all temporary traffic signal modifications during construction traffic control phasing. (Subsidiary to all traffic control pay items)

MAILBOXES, MAIL SERVICE AND TRASH SERVICE NOTES

- Existing mailboxes in conflict with construction shall be temporarily taken out of service. Were possible the CONTRACTOR shall attempt to move and reset the same mailbox. When not possible to reuse the old mailbox, the mailbox shall be removed and replace to the same or better condition and placed in a location approved by the city/property owner. Photographs of the mailbox shall be taken with the address shown, shall be provided to the city prior to being removed.
- Payment for removal and replacement of existing mailbox will be paid for under the appropriate bid item. Brick mailbox shall match existing brick.
- Temporary mailbox shall be provided and maintained throughout the project where existing mail boxes are being removed. Addresses shall be provided on all temporary mail boxes. CONTRACTOR shall coordinate with coordinate with Construction Inspector and Postmaster/Mail carrier for location of temporary mailbox locations. (No Separate Pay)
- Trash service shall be maintained throughout the duration of construction. On collection days the contractor shall move trash and recycling receptacles to location along street to be collected and moved back to original location at the end of the day. (No Separate Pay)

FENCES, TREES, LANDSCAPING, AND IRRIGATION NOTES

- The removal, replacement or reconstruction of any fence for the convenience of construction shall be at the CONTRACTOR's expense (no separate pay). New materials shall match existing fences. All wood fences shall be replaced with new cedar with the post matching City requirements.
- Temporary fencing shall be required where there is evidence of livestock and where damaged or removed fences are not to be replaced by the end of the same work day. Unless there is a specific pay item then temporary fencing shall be considered subsidiary to the main remove and replacement fence pay item.
- All shrubs, plants, trees, etc. must be approved by the City before removal.
- The removal and replacement of all shrubs, plants, trees, etc. for the convenience of construction shall be at the CONTRACTOR's expense (no separate pay). New shrubs, tree, etc. shall be equal to or better than existing ones.
- CONTRACTOR shall replace any trees removed or destroyed that are not shown in these plans to be removed or shall pay fair market value to the owner as determined by the owner. (No Separate Pay).
- The CONTRACTOR shall locate and record existing irrigation systems prior to construction. If irrigations systems are damaged during construction the CONTRACTOR shall repair to same or better condition. An irrigator licensed in the state of Texas shall repair all damaged caused by construction. CONTRACTOR shall coordinate any irrigation work with the City of Rockwall and property owner's representatives. (No Separate Pay).
- If an irrigation system is damaged between the months of March and October the Contractor shall repair the system back in working order within one week. The contractor shall be responsible for any damage to landscaping, trees, shrubs, foundations, etc. due to the lack of non-working irrigation systems. (No Separate Pay)

UTILITY NOTES

- Reasonable effort has been made to show the location and type of all known City of Rockwall underground wet utilities and service lines. However, the City of Rockwall assumes no responsibility for failure to show any or all existing City of Rockwall underground wet utilities and service lines, or to show them in their exact location. The CONTRACTOR shall be responsible for the protection of all existing utilities, service lines or the like, which are exposed by the construction operation.
- Bidders shall make any investigation of existing subsurface conditions as deemed necessary at no expense to the City of Rockwall. Neither the City of Rockwall nor the engineer will be responsible in any way for additional compensation for excavation work performed under this contract due to the CONTRACTOR's assumptions.
- CONTRACTOR shall adjust all City of Rockwall utilities to the final grades.
- CONTRACTOR shall be responsible for the protection of all existing service lines crossed or exposed by construction operations. Where existing service lines are cut, broken or damaged, the CONTRACTOR shall immediately replace the service line with same type of original construction or better.
- The CONTRACTOR shall excavate and field locate the horizontal and vertical location of existing utility crossing locations utilizing provided project control. The CONTRACTOR shall immediately notify the engineer of any discrepancies identified between the CONTRACTORs field verified existing utility location and proposed location of utilities for the project.
- The CONTRACTOR shall abide by all applicable federal, state, and local laws governing excavation. The CONTRACTOR shall provide detailed plans and specifications for trench safety systems that comply with applicable laws governing excavation. These plans shall be sealed by an engineer experienced in the design of trench safety systems, registered in the state of Texas. The CONTRACTOR shall submit completed trench safety plan to the engineer and City prior to commencing work. The CONTRACTOR shall be solely responsible for all aspects of work related to excavations.
- Dewatering of utility trenches, bores pits, and any other excavations shall be no separate pay and shall be subsidiary to the other pay items on the project.

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 BY D.B.C. DATE 11/6/2023

SHEET NO.
2



GENERAL CONSTRUCTION NOTES
November 2020

**CITY OF ROCKWALL
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**
385 S. Goliad P (972) 771-7746
Rockwall, Texas 75087 F (972) 771-7748

WATERLINE NOTES

1. The CONTRACTOR shall maintain existing water service at all times during construction.
2. 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.
3. Proposed water line embedment shall be NCTCOG Class 'B-3' as amended by the City of Rockwall's public works standards of design and construction manual.
4. CONTRACTOR shall coordinate the shutting down of all water lines with the City of Rockwall, Public Works, Water Division. The City shall operate all water valves.
5. CONTRACTOR shall furnish and install gasket on water lines between all dissimilar metals and at valves (both existing and proposed).
6. All fire hydrants and valves removed and salvaged shall be returned to the City of Rockwall municipal service center.
7. 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'.
8. CONTRACTOR to install new meter boxes, all fittings and new meters per each service complete including connection to the main line. CONTRACTOR shall be responsible to coordinate with Utility Billing 972-771-7736 on which meters need to be replaced and which meters are to remain for the project. New meters will be supplied by the Utility Billing Department. CONTRACTOR shall give the Utility Billing Department ample Notice to make sure meters are on hand to be installed for the project.
9. Existing meter and meter boxes, and valve stem and covers not specifically called to be relocated shall be adjusted to match final grades (no pay item). Any meter in pavement shall have a traffic rated lid.
10. All water valve extensions, bolts, nuts and washers shall be 316 Stainless Steel.
11. All fire hydrants bolts, nuts and washers that are buried shall be 316 Stainless Steel.
12. 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

WASTEWATER LINE NOTES

1. The CONTRACTOR shall maintain existing wastewater service at all times during construction.
2. 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].
3. Proposed wastewater line embedment shall be NCTCOG Class 'H' as amended by the City of Rockwall's standard design and construction manual.
4. Green EMS pads shall be installed at every 250', manhole, clean out and service lateral on proposed wastewater lines.
5. All existing wastewater services shall be transferred from wastewater lines being abandoned to proposed wastewater lines. Transferring wastewater services shall include double clean outs at the property lines, caps, tees, wyes, plugs and connection. Payment for transferring wastewater services shall be paid per each, under the appropriate bid schedule item.
6. 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. (no separate pay)
7. 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.
8. Existing manholes and cleanouts not specifically called to be relocated shall be adjusted to match final grades (no pay item).
9. All wastewater pipes and public services shall be inspected by photographic means (television and DVD) prior to final acceptance. The contractor shall furnish a DVD to the Engineering Division Construction Inspector for review. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the contractor at the contractor's expense. An additional television survey will be performed as part of the final testing in the twentieth (20th) month of the maintenance period.
10. 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.
11. All new or existing manholes that are to be placed in pavement shall be fitted with a sealed (gasketed) rim and cover to prevent inflow.
12. All new or existing manholes being modified shall have corrosion protection being Raven Liner 405 epoxy coating, ConShield, or approved equal.. Consheild 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.

DEMOLITION, REMOVAL, DISPOSAL AND EXCAVATION NOTES

1. CONTRACTOR shall remove and properly dispose of all existing concrete and HMAC pavement outside of the City limits as required for construction of the project. All cost shall be included in the appropriate item in the bid schedule.
2. Payments for removal and replacement of street, driveway and sidewalk pavement shall be based on plan quantity and no adjustments will be made unless approved in writing by the City engineer.
3. All pavements to be removed and replaced shall be saw cut to full depth along neat lines shown in the plans. Proposed concrete pavement shall be constructed with longitudinal butt construction joints at all connections to existing concrete pavement. Concrete Pavement to be removed and replaced shall be full panel replacement.
4. The CONTRACTOR shall remove from the project area all surplus material. This work shall be incidental and not a separate pay item. Surplus materials from excavation include dirt, trash, rock measuring greater than 6" in the largest dimension, etc. Shall be properly disposed of at a site acceptable to the City of Rockwall if within the City limits. 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. If the CONTRACTOR places excess materials in these areas without written permission, he will be responsible for all damages resulting from such fill and he shall remove the material at his own cost.
5. All excavation on the project is unclassified. If soil borings were conducted they are provided in the bid/contract documents.

PAVING

1. All paving roadway sections thickness, strength, reinforcement, joint type, joint spacing and subgrade treatment shall match the typical sections and details called out in the plans. If not called out on the plans all concrete paving shall conform to the minimum requirements in the Standards of Design and Construction.
2. 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.
3. All proposed HMAC street pavement shall consist of 4 inches of Type B (Base) with 2 inches of Type D (Surface) on top of 6" flex base (if not specified in the plans)
4. No sand shall be allowed under any paving.
5. Concrete mix design shall be submitted to the City for review and approval prior to placement.
6. 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.
7. All curb and gutter shall be integral (monolithic) with the pavement. Curb height tapers shall be form by hand, saw-cutting of curb height tapers will be no be allow. Any saw-cutting of curbs will require full pavement removal and replacement at the CONTRACTOR's expense.
8. 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 approved by the City.
9. All proposed sidewalks shall include barrier free ramps at intersecting streets, alleys, etc. Barrier free ramps shall meet current City and ADA requirements and be approved by the Texas Department of Licensing and Regulation (TDLR).
10. Sidewalks shall be doweled into pavement where it abuts curbs and driveways. Expansion joint material shall be used at these locations (no pay item).
11. All connection of proposed concrete pavement to existing concrete pavement shall include a longitudinal butt joint as the load transfer device. Concrete saw cuts for all driveways and sidewalks shall be subsidiary to the appropriate bid item for driveway and sidewalk replacement. All longitudinal butt joints shall be clean, straight and smooth (not jagged in appearance)
12. There shall be no separate payment for subgrade preparation under driveway and sidewalk areas and all cost shall be included in the appropriate items of the bid schedule.
13. Cracks formed in concrete pavement shall be repaired or removed by the CONTRACTOR at the City's discretion.

DRAINAGE / STORM SEWER NOTES

1. 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.
2. All structural concrete shall be 4200 psi compressive strength at 28 days minimum 7.0 sack, air entrained, no fly ash allowed, unless noted otherwise.
3. Proposed storm sewer embedment shall be NCTCOG Class 'B' as amended by the City of Rockwall's Public Works, Engineering Division Standards of Design and Construction Manual.
4. All storm pipe shall be reinforced concrete pipe (RCP), Class III, unless otherwise noted.
5. All drainage structures shall be double formed. No earth forms will be allowed.

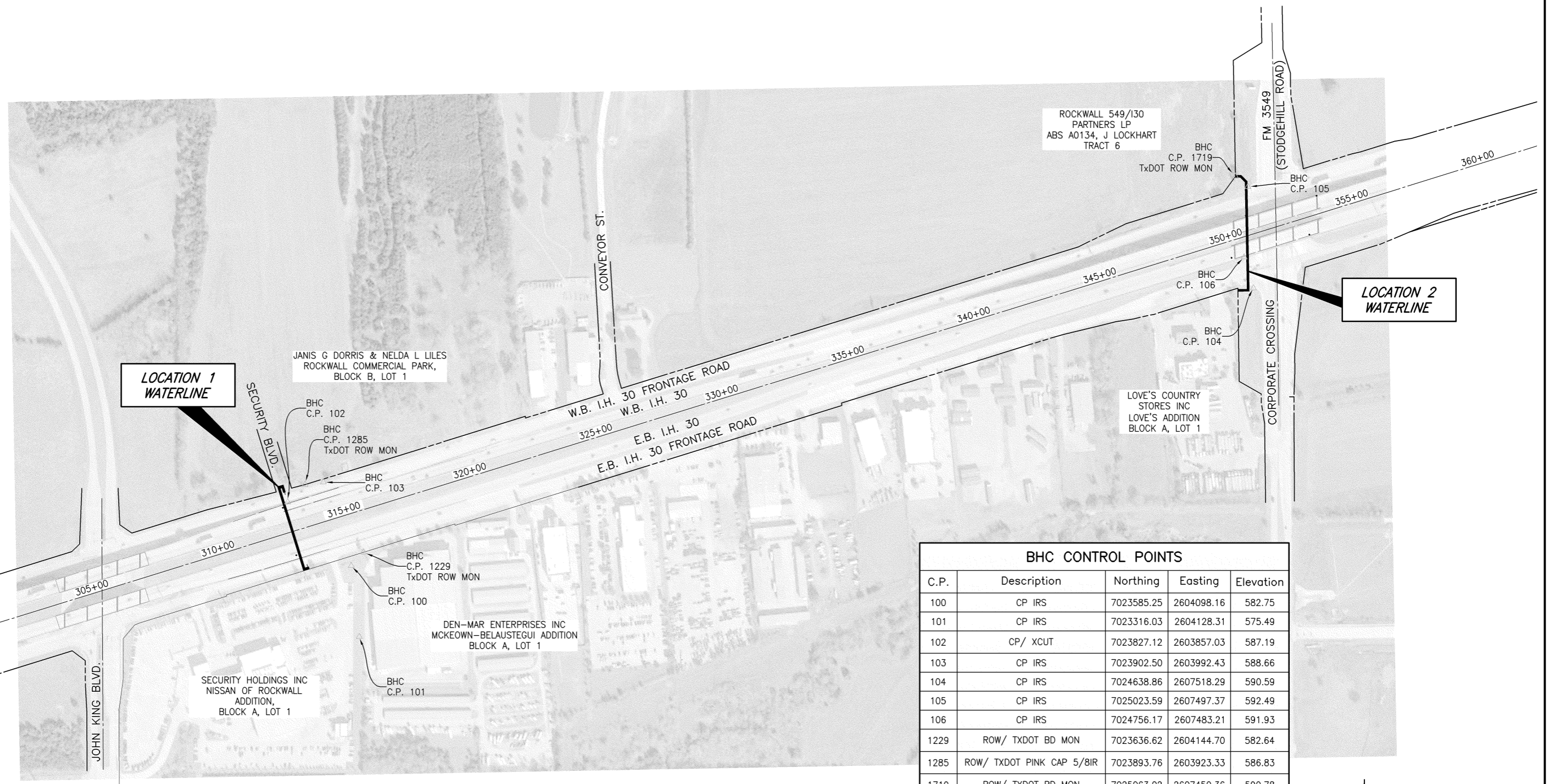
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SHEET NO.
3



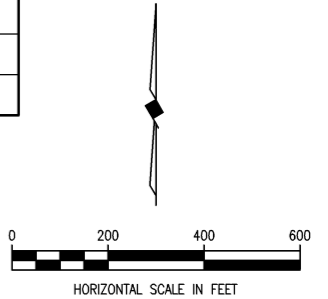
GENERAL CONSTRUCTION NOTES
November 2020

**CITY OF ROCKWALL
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**
385 S. Goliad P (972) 771-7746
Rockwall, Texas 75087 F (972) 771-7748



BHC CONTROL POINTS				
C.P.	Description	Northing	Easting	Elevation
100	CP IRS	7023585.25	2604098.16	582.75
101	CP IRS	7023316.03	2604128.31	575.49
102	CP/ X CUT	7023827.12	2603857.03	587.19
103	CP IRS	7023902.50	2603992.43	588.66
104	CP IRS	7024638.86	2607518.29	590.59
105	CP IRS	7025023.59	2607497.37	592.49
106	CP IRS	7024756.17	2607483.21	591.93
1229	ROW/ TXDOT BD MON	7023636.62	2604144.70	582.64
1285	ROW/ TXDOT PINK CAP 5/BIR	7023893.76	2603923.33	586.83
1719	ROW/ TXDOT BD MON	7025063.02	2607450.36	590.78
10000	CP/ TXDOT 2" DISK E1990115	7022971.10	2601973.65	572.21
10001	CP/TXDOT 2" DISK E1990125	7022959.21	2600960.39	548.99

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 BY D.B.C. DATE 11/6/2023



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.

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
 3/08/22

CITY OF ROCKWALL, TEXAS
 780 ZONE I.H. 30 WATER LINE CROSSINGS
 PROJECT LOCATIONS / CONTROL

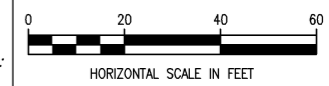
BHC PROJECT NO. 2021-115
 MARCH 2022
 SHEET NO. **4**

LEGEND

SOLID SOD
410 S.Y.

CATION!!
OVERHEAD POWER
& UGT LINES IN
VICINITY OF
EXCAVATION

CATION!!
OVERHEAD POWER
LINE IN VICINITY
OF EXCAVATION



SECURITY HOLDINGS, INC.
NISSAN OF ROCKWALL
1700 I.H. 30

NISSAN
PARKING LOT
(SEE GENERAL
CONSTRUCTION
NOTE 17)

N 7023572.2916
E 2603920.6527
P.I. STA. 0+20.00
Δ = 90°00'00"
FURNISH & INSTALL:
1 - 16" 90° BEND

PROPOSED
10'x20'
RECEIVING PIT

N 7023576.7350
E 2603934.9794
P.I. STA. 0+05.00
Δ = 90°00'00"
FURNISH & INSTALL:
1 - 16" 90° BEND

N 7023581.5106
E 2603933.4983
STA. 0+00.00
FURNISH & INSTALL:
1 - 16"x16 TEE
3 - 16" BUTTERFLY VALVE
CONNECT TO EXIST. 16" W.L. (E)&(W)

FURNISH AND INSTALL:
300 L.F. 16" W.L. WITH 28"
STEEL ENCASEMENT (1/4" THICK)
BY DRY BORE

N 7023863.3451
E 2603846.0870
STA. 3+74.92
FURNISH & INSTALL:
1 - 16"x16 TEE
3 - 16" BUTTERFLY VALVE
CONNECT TO EXIST. 16" W.L. (E)&(W)

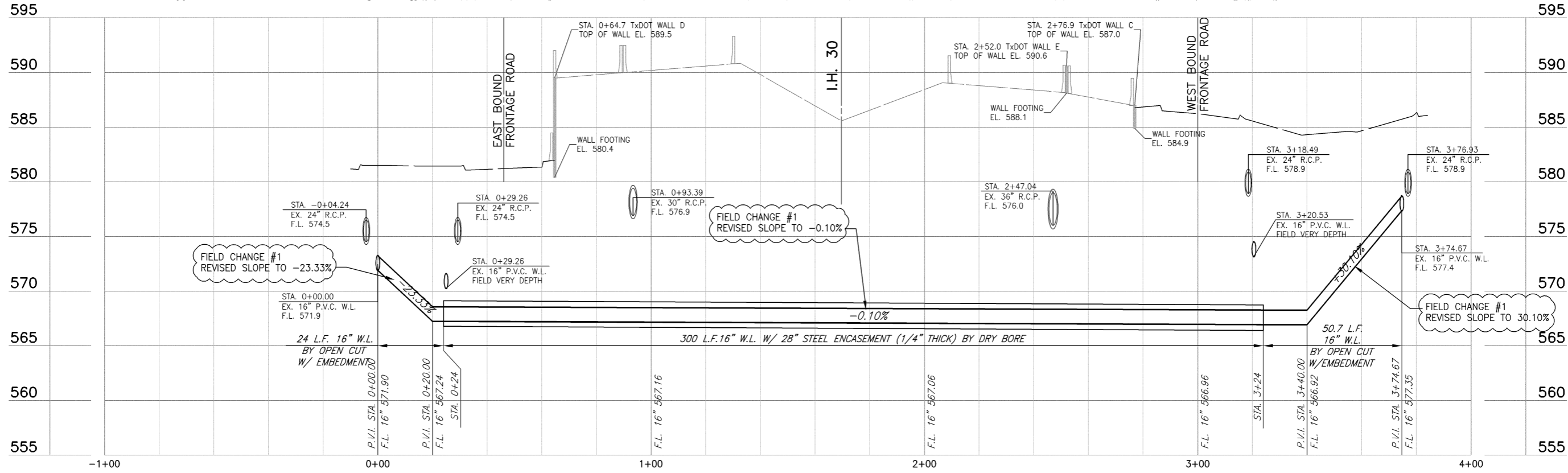
EXISTING 16"
IN-LINE VALVE
(LOCATED DURING
CONSTRUCTION)

N 7023882.3723
E 2603840.1857
P.I. STA. 3+55.00
Δ = 90°00'00"
FURNISH & INSTALL:
1 - 16" 90° BEND

PROPOSED
30'x15'
BORE PIT

2" BLEEDER
VALVE ASSEMBLY
IN GALVANIZED
METER CAN

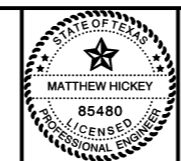
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BY D.B.C. DATE 11/6/2023



ADDENDUM NO. 1 - MAY 10, 2022
FIELD CHANGE NO. 1 - REVISE GRADE TO BORE UPSLOPE AND FIELD VERIFIED F.L. OF EXIST. 16" W.L. (10/20/2022)
ADDED 2" BLEEDER VALVES AND EXISTING 16" IN-LINE VALVE LOCATED DURING CONSTRUCTION, 11/6/2023

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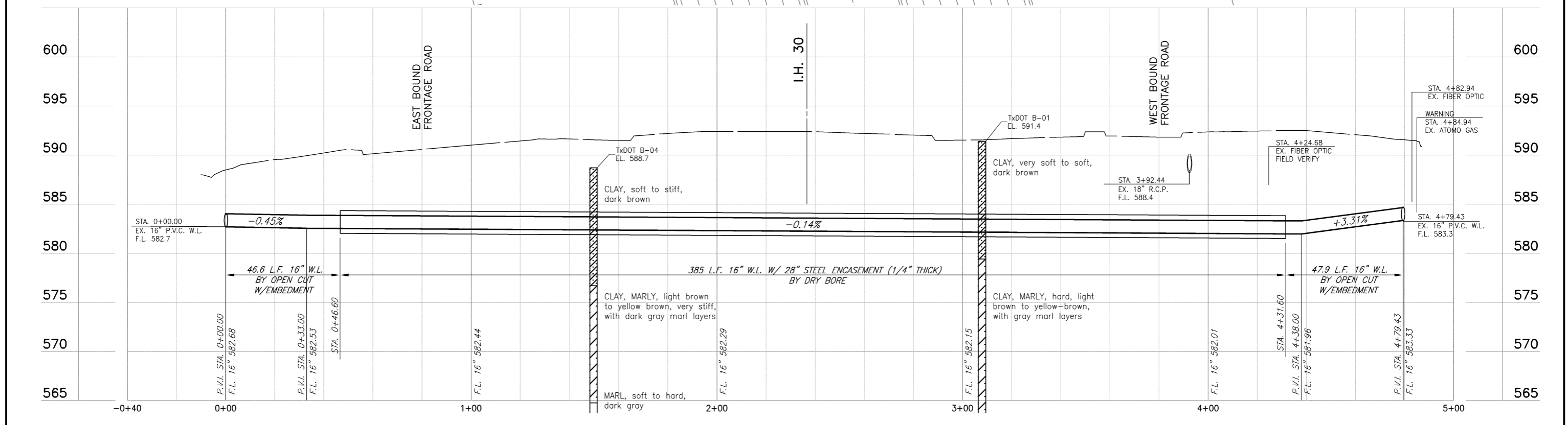
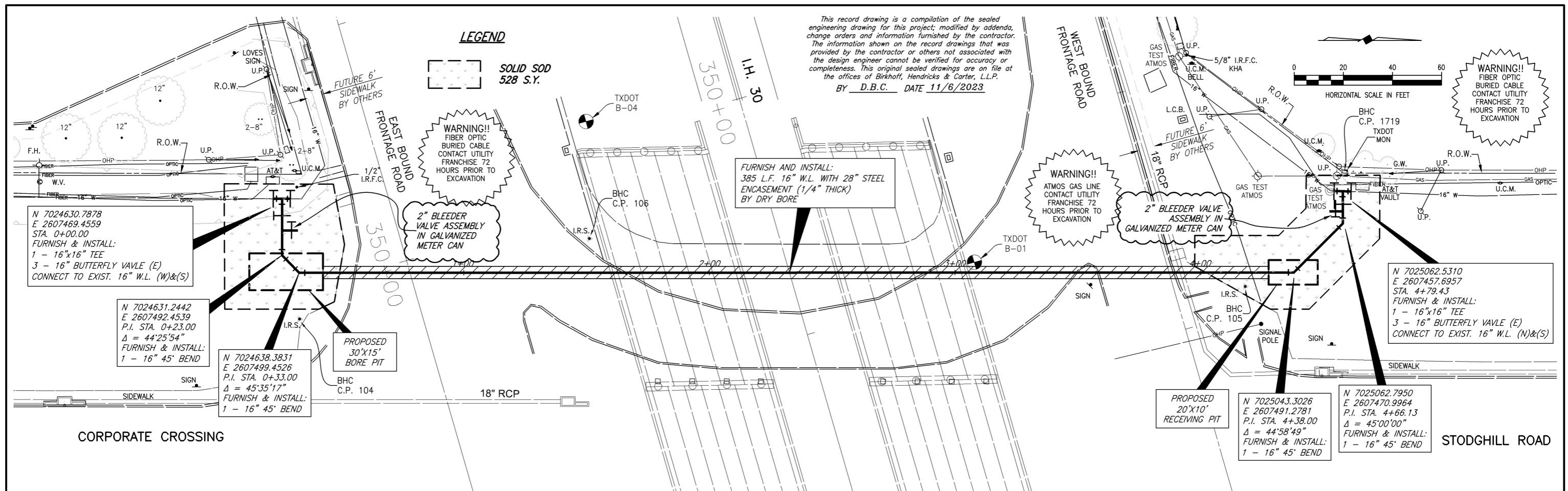
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
TBPE Firm No. 526; TBPLS Firm No. 10031800
11910 Greenville Ave., Suite 600
Dallas, Texas 75243 (214) 361-7900



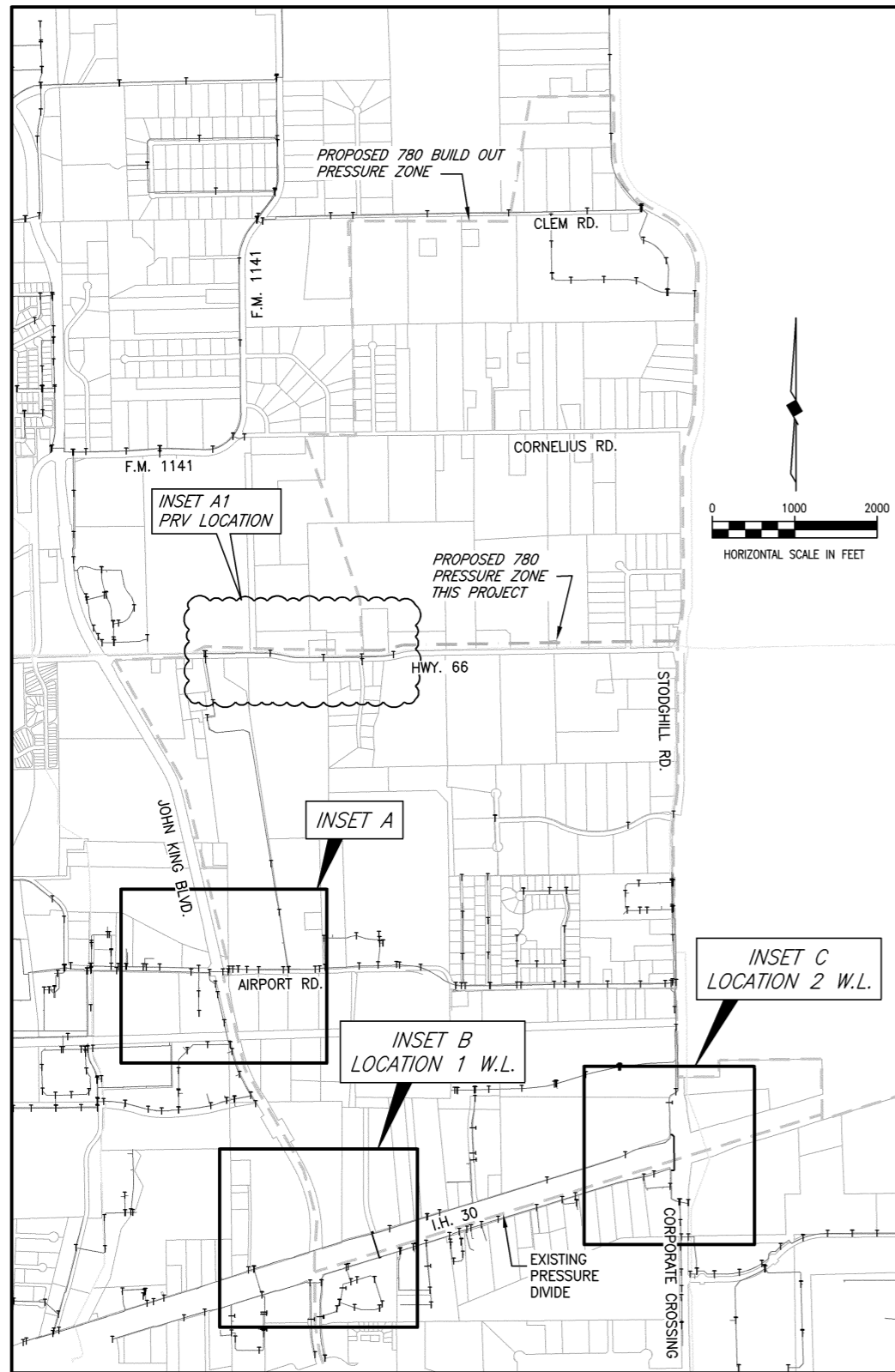
Matthew Hickey
3/08/22

CITY OF ROCKWALL, TEXAS
780 ZONE I.H. 30 WATER LINE CROSSINGS
LOCATION 1 WATERLINE PLAN - PROFILE

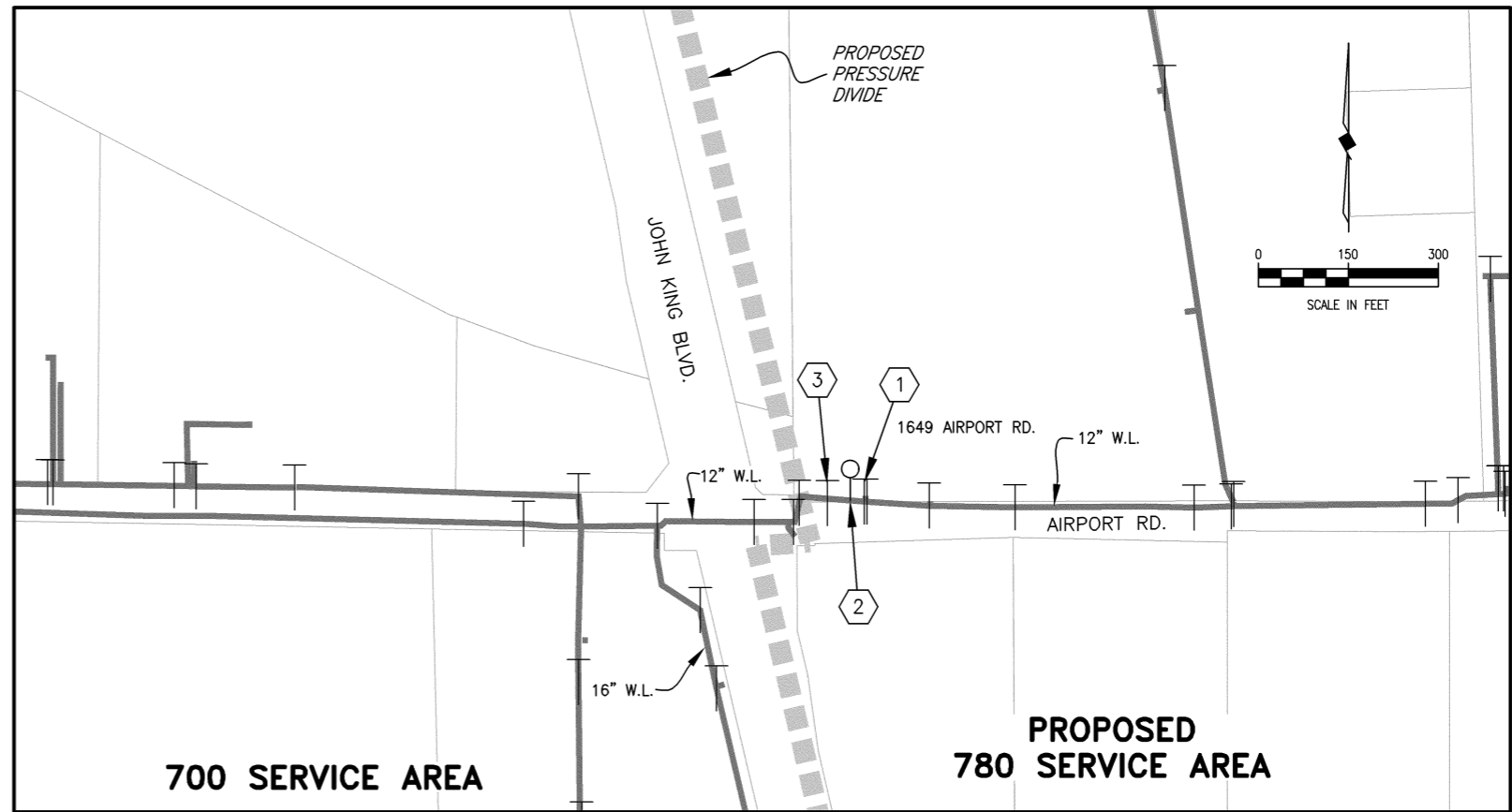
BHC
PROJECT NO.
2021-115
MARCH 2022
SHEET NO.
5



<p>ADDED 2" BLEEDER VALVES, 11/6/2023</p> <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, 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><i>Matthew Hickey</i> 3/08/22</p>	<p>CITY OF ROCKWALL, TEXAS 780 ZONE I.H. 30 WATER LINE CROSSINGS LOCATION 2 WATERLINE PLAN - PROFILE</p>	<p>BHC PROJECT NO. 2021-115 MARCH 2022</p> <p>SHEET NO. 6</p>
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780 PRESSURE ZONE MAP



INSET A



INSET A1

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 BY D.B.C. DATE 11/6/2023

- LEGEND**
- T EXISTING MAIN LINE VALVES FROM ROCKWALL GIS
 - ⊕ POINT NUMBER (SEE TABLE ON SHEET 9)
 - ⊕ FURNISH & INSTALL 2" BLOW OFF VALVE IN METER BOX
 - ⊕ CUT & PLUG EXISTING WATER LINE (BOTH DIRECTIONS)

ADDED INSET A1 SHOWING LOCATION OF 5 PRV's INSTALLED ALONG S.H.-66 AND DELETED CUT & PLUG AT LOCATION 2 ON INSET A, 11/6/2023

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Matthew Hickey
 3/08/22

CITY OF ROCKWALL, TEXAS
 780 ZONE I.H. 30 WATER LINE CROSSINGS

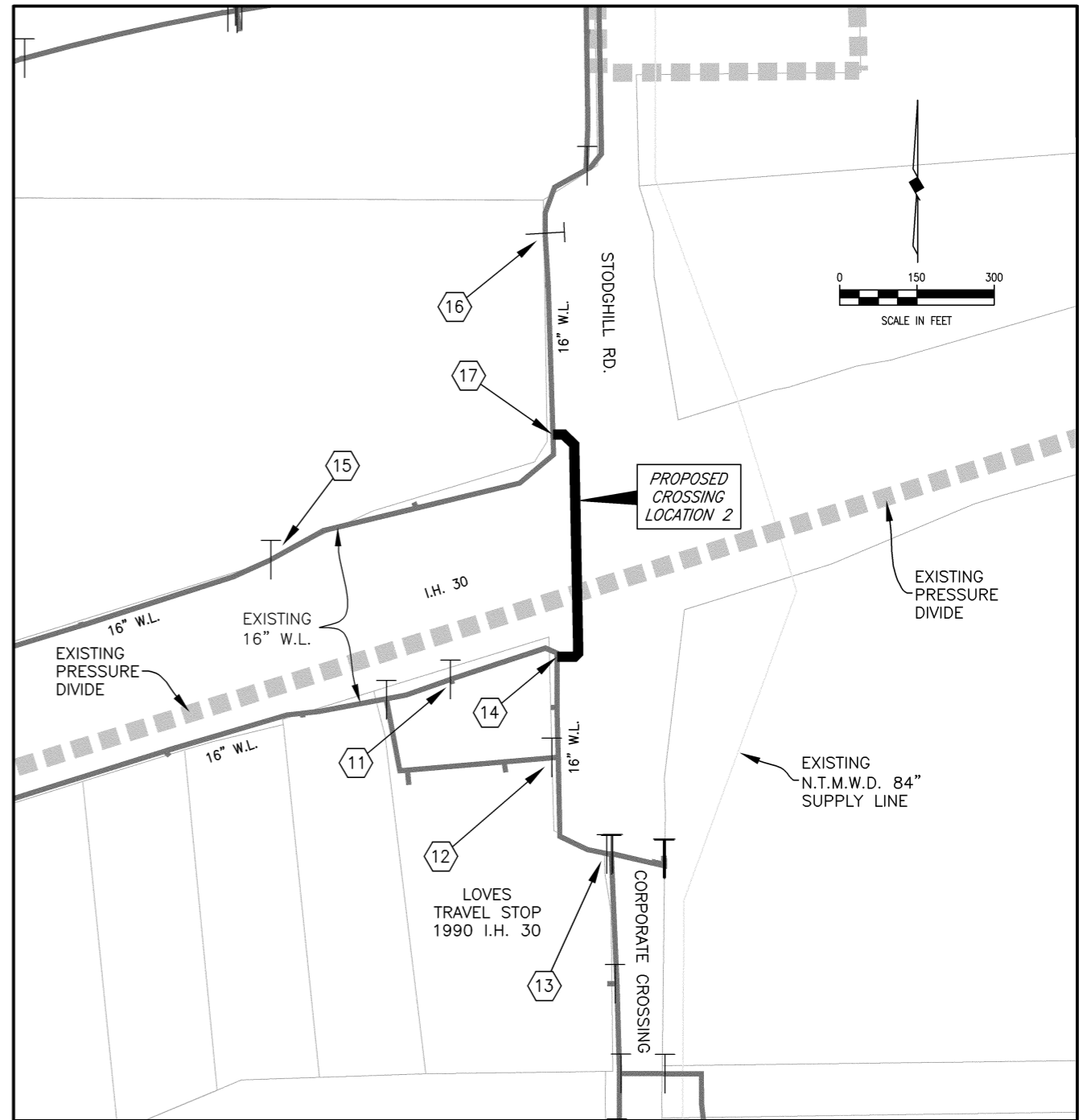
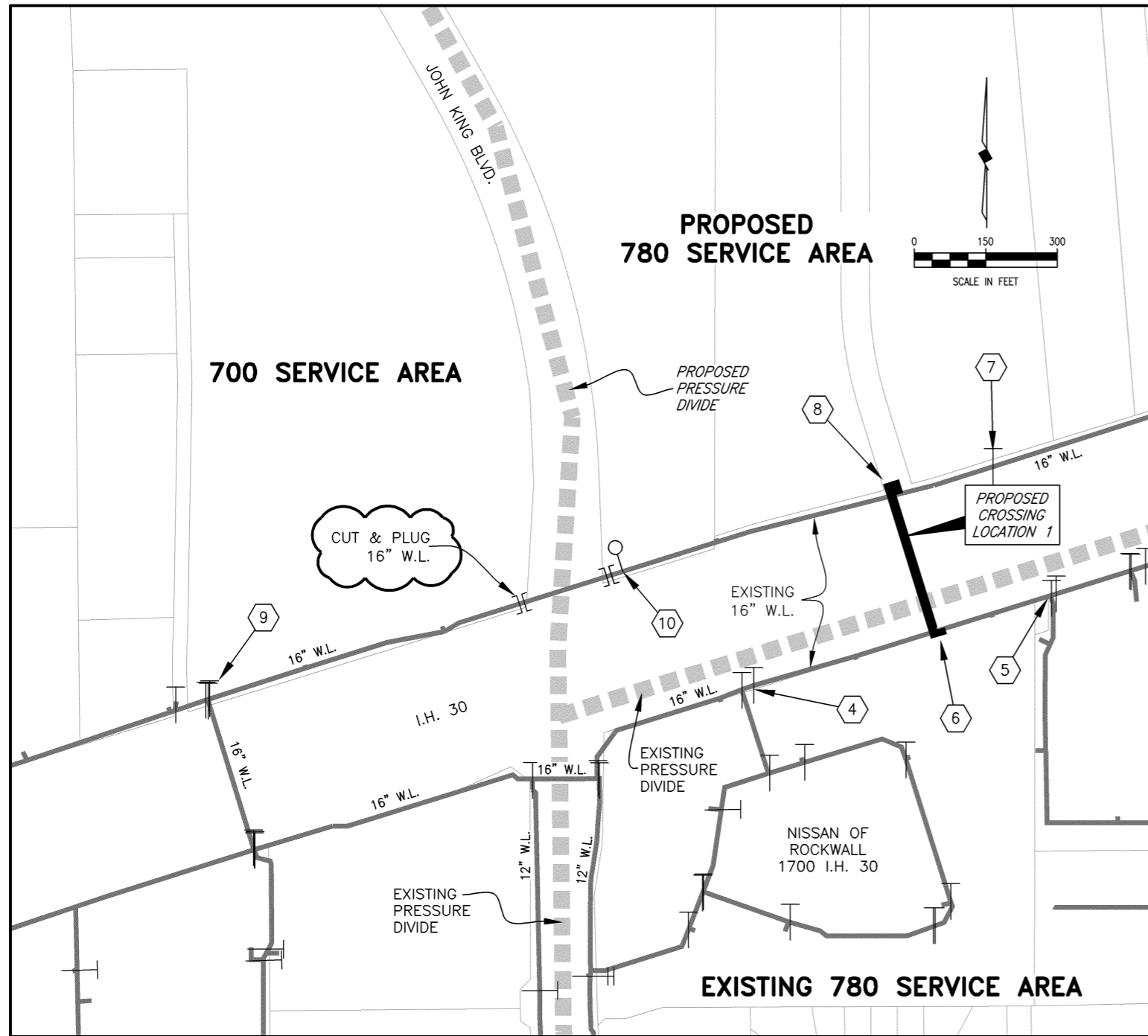
780 IMPLEMENTATION PLAN - 780 PRESSURE ZONE MAP AND INSET A

BHC PROJECT NO. 2021-115

MARCH 2022

SHEET NO.

7



INSET B
CROSSING NO. 1

INSET C
CROSSING NO. 2

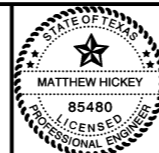
- LEGEND**
- EXISTING MAIN LINE VALVES FROM ROCKWALL GIS
 - POINT NUMBER (SEE TABLE ON SHEET 9)
 - FURNISH & INSTALL 2" BLOW OFF VALVE IN METER BOX
 - CUT & PLUG EXISTING WATER LINE (BOTH DIRECTIONS)

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 BY D.B.C. DATE 11/6/2023

ADDED CUT & PLUG FOR 16" W.L. AT
 NORTHWEST INTERSECTION IH-30 & JOHN KING 11/6/2023

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Matthew Hickey
 3/08/22

CITY OF ROCKWALL, TEXAS
 780 ZONE I.H. 30 WATER LINE CROSSINGS
 780 IMPLEMENTATION PLAN - INSET B LOCATION NO. 1 AND INSET C LOCATION NO. 2

BHC
 PROJECT NO.
 2021-115
 MARCH 2022
 SHEET NO.
8

PROJECT GENERAL CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL LIMIT WORK TO THE R.O.W., PERMANENT EASEMENTS, TEMPORARY CONSTRUCTION EASEMENTS OR CITY PROPERTY. ALL DISTURBED/DAMAGED AREAS OUTSIDE THE CONSTRUCTION LIMITS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTORS EXPENSE.
- CONTRACTOR SHALL RESET ALL R.O.W. AND PROPERTY MARKERS DISTURBED BY CONSTRUCTION. PRIOR TO DISTURBING MARKERS, THE CONTRACTOR SHALL SURVEY THE MARKER'S COORDINATES AND PROVIDE A COPY TO THE CITY (NO PAY ITEM).
- IN ACCORDANCE WITH TEXAS STATE LAW, AT LEAST 2 DAYS PRIOR TO BEGINNING EXCAVATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING A TEXAS REGISTERED NOTIFICATION CENTER (I.E. TEXAS 811 ONE CALL), IN ORDER TO HAVE EXISTING UTILITIES LOCATED
- 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 THE SAME TYPE OF ORIGINAL CONSTRUCTION, OR BETTER, AT THE CONTRACTORS EXPENSE.
- CONTRACTOR SHALL SUPPORT UTILITIES WHERE CROSSING WITH PROPOSED WATER LINE. METHOD OF SUPPORT SHALL BE PROVIDED TO THE CITY PRIOR TO THE START OF CONSTRUCTION. SUPPORT OF EXISTING UTILITIES SHALL BE SUBSIDIARY TO OTHER ITEMS OF WORK.
- CONTRACTOR SHALL ARRANGE AND PAY FOR UTILITY COMPANIES TO SUPPORT ALL UTILITY POLES OR LIGHT STANDARDS AND RE-SET GUY WIRES NEAR EXCAVATION. (NO SEPARATE PAY ITEM)
- THE CONTRACTOR SHALL NOT DISPOSE OF ANY WASTE MATERIALS INTO STREAMS, WATERWAYS OR THE 100-YEAR FLOOD PLAIN. CONTRACTOR SHALL SECURE EXCAVATION AT THE END OF EACH DAY AND DISPOSE OF ALL EXCESS EXCAVATIONS. DISPOSAL OF EXCESS EXCAVATION SHALL BE SUBSIDIARY TO OTHER ITEMS OF WORK. DISPOSAL SITE SHALL BE DOCUMENTED AND PROVIDED TO THE CITY.
- CONTRACTOR SHALL RESTORE GROUND AND DITCHES DISTURBED BY CONSTRUCTION TO ORIGINAL GRADE AND CROSS SECTION AND PREVENT THE PONDING OF STORM WATER RUNOFF. TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6-INCHES AND DISC HARROWED TO A MINIMUM DEPTH OF 4-INCHES. CONTRACTOR CAN IMPORT TOPSOIL TO ACHIEVE 6-INCH DEPTH (NO PAY ITEM). FINISHED GROUND SHALL HAVE NO ROCKS GREATER THAN 1-INCH OF THE SURROUNDING UNDISTURBED GROUND. ALL ROCKS GREATER THAN 1-INCH SHALL BE COLLECTED AND DISPOSED OF BY THE CONTRACTOR (NO PAY ITEM).
- ALL SIGNS THAT ARE REMOVED FOR THE CONVENIENCE OF CONSTRUCTION SHALL BE REESTABLISHED. EXISTING POSTS HAVING CONCRETE SHALL HAVE CONCRETE REMOVED AND SHALL BE RESET WITH NEW 2,000-PSI CONCRETE (NO PAY ITEM).
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LOCATE EXISTING 16-INCH WATER LINES ON THE NORTH AND SOUTH SIDES OF I.H. 30 TO VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF THE EXISTING WATER LINES. WATER LINE LOCATES SHALL BE PAID UNDER THE PAY ITEM IN THE BID SCHEDULE FOR EXISTING WATER LINE LOCATES.
- DURING NON-WORKING HOURS, THE CONTRACTOR SHALL NOT LEAVE OPEN PROPOSED TRENCHES. AT THE END OF EACH DAY THE CONTRACTOR SHALL SECURE ALL OPEN TRENCHES WITH TEMPORARY CONSTRUCTION FENCING CAPABLE OF PREVENTING PEDESTRIANS FROM ENTERING THE CONSTRUCTION ZONE. THE COST FOR PROVIDING TEMPORARY CONSTRUCTION FENCING DURING NON-WORKING HOURS SHALL BE SUBSIDIARY TO OTHER ITEMS OF WORK
- ALL BOLTS USED ON FITTINGS AND VALVES SHALL BE TYPE 316 STAINLESS STEEL AND BE COATED WITH ANTI-SEIZE COMPOUND.
- THE CONTRACTOR SHALL INCLUDE IN THE BID ALL COSTS TO REMOVE AND DISPOSE OF EXCESS SPOILS FROM THE SITE. REMOVAL LOCATION SHALL BE DOCUMENTED AND PROVIDED TO THE CITY. COSTS SHALL BE SUBSIDIARY TO OTHER ITEMS OF WORK.
- REFER TO THE TECHNICAL SPECIFICATIONS FOR ALLOWABLE PIPE MATERIALS
- PRIOR TO BEING PLACED INTO SERVICE, ALL WATER LINES SHALL BE DISINFECTED PER NCTCOG ITEM 506.7 AND HYDROSTATICALLY TESTED PER NCTCOG ITEM 506.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL BLOW-OFFS AND BLEEDER LINES REQUIRED TO COMPLETE THE DISINFECTION AND TESTING OF THE PROPOSED WATER LINES. ALL COSTS SHALL BE SUBSIDIARY TO THE CONSTRUCTION OF THE PROPOSED WATER LINES.
- BASED ON RECORD DRAWINGS PROVIDED BY THE CITY OF ROCKWALL, THE EXISTING WATER LINES FOR THE PROPOSED LOCATION 1 AND LOCATION 2 WATER LINE CONNECTIONS ARE BELIEVED TO BE AWWA C-900 PVC (DR-18). CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING PIPE MATERIALS AT TIE IN LOCATIONS
- CONTRACTOR SHALL ONLY UTILIZE THE TEMPORARY EASEMENT ON THE NISSAN PARKING LOT FOR FOOT TRAFFIC AND MINOR TOOL STORAGE. ANY DAMAGE TO THE NISSAN PROPERTY SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO CONSTRUCTION. PROPERTY OWNER AND CITY SHALL DETERMINE QUALITY OF REPAIR.
- THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER TO DETERMINE IF THE AREA BETWEEN THE I.H 30 ROW AND THE NISSAN PARKING LT HAS IRRIGATION LINES AND HEADS. ANY DAMAGE TO IRRIGATION SYSTEM SHALL BE REPAIRED BY A LICENSED IRRIGATOR IN THE STATE OF TEXAS TO THE SATISFACTION OF THE PROPERTY OWNER AND THE CITY. (NO PAY ITEM)
- THE CONTRACTOR SHALL PROTECT AND NOT DAMAGE THE EXISTING TREES IN THE VICINITY OF THE PROJECT NO. 1 RECEIVING PIT, METAL EDGING AND PLANTS ADJACENT TO THE PARKING LOT CURB OR PARKING LOT LIGHTS. IF TREES, LANDSCAPE OR PARKING LOT LIGHTS ARE DAMAGED BY CONSTRUCTION, THE TREES SHALL BE REPLACED WITH AN EQUAL OR LARGER CALIPER TREE OF THE SAME SPECIES AND THE LANDSCAPE WITH THE SAME GALLON SIZE OF PLANT AT THE CONTRACTOR'S EXPENSE.

SUGGESTED SEQUENCE OF WORK:

THE FOLLOWING SEQUENCING IS A SUGGESTED APPROACH WITH THE INTENT TO KEEP THE EXISTING WATER DISTRIBUTION SYSTEM IN SERVICE AND OPERATIONAL DURING CONSTRUCTION. THE CONTRACTOR MAY SUBMIT, AT THE CONTRACTOR'S OWN EXPENSE, AN ALTERNATE SEQUENCING PLAN AS A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE OWNER AND ENGINEER.


- MOBILIZE AND PERFORM NECESSARY CONTROL STAKING.
- FURNISH & INSTALL EROSION CONTROL DEVICES
- PREPARE AND SUBMIT SHOP DRAWINGS FOR REVIEW, ORDER PROPOSED VALVES, PIPE AND FITTINGS.
- CONSTRUCT DRY BORES AT CROSSING LOCATIONS 1 AND 2.
- INSTALL 16-INCH PIPE FOR CROSSING LOCATION 1 FROM STATION 0+05 TO 3+55.
- INSTALL 16-INCH PIPE FOR CROSSING LOCATION 2 FROM STATION 0+23 TO 4+66
- 14-DAYS PRIOR TO MAKING CROSSING LOCATION NO. 2 CONNECTIONS FROM STA 0+00 TO STA. 0+23 AND STA. 4+66 TO STA. 4+79, COORDINATE WITH THE CITY OF ROCKWALL TO CLOSE VALVES AT POINT NUMBERS 11,12, AND 13 AND 15 AND 16 (SEE SHEET 8, INSET C).
- CUT IN TEES. INSTALL 16 INCH PIPE AND VALVES FROM STA. 0+00 TO 0+23 AND 4+66 TO STA. 4+79.
- TEST AND DISINFECT CROSSING LOCATION NO. 2 WATER LINE. A PASSED BACTERIOLOGICAL RESULT SHALL BE OBTAINED.
- 7-DAYS PRIOR TO PLACING CROSSING LOCATION NO. 2 WATER LINE INTO SERVICE, COORDINATE WITH THE CITY OF ROCKWALL TO MAKE THE PRESSURE DIVIDE CHANGES AND JOHN KING BLVD. AND AIRPORT DRIVE. PRIOR TO PRESSURE DIVIDE CHANGES,
 - CLOSE 12" VALVE AT JOHN KING BLVD AND AIRPORT ROAD (SHEET 7, INSET A, POINT NUMBER 3). POINT 3 12" VALVE TO REMAIN CLOSED.
 - CONCURRENTLY CLOSE 16" VALVE AT JOHN KING AND THE NORTH SIDE OF I.H. 30 (SHEET 8, INSET B, POINT NUMBER 7). KEEP POINT 7 VALVE CLOSED.
 - OPEN LOCATION 2 VALVES AT POINTS 11, 12, 13 15 AND 17.

- 14-DAYS PRIOR TO MAKING CROSSING LOCATION NO. 1 CONNECTION FROM STA 0+00 TO STA. 0+05 AND STA 3+55 TO 3+74, COORDINATE WITH THE CITY OF ROCKWALL TO CLOSE 16" VALVES AT POINT NUMBERS 7 AND 9 ON EAST & WEST SIDE OF JOHN KING BLVD. (SEE SHEET 8, INSET B).
- CUT AND PLUG EXISTING 16-INCH WATER LINE ON THE EAST SIDE OF JOHN KING BLVD. ADJACENT TO THE JOHN KING BLVD. ROW. CUT & PLUGS SHALL BE ON BOTH SIDES OF CUT, CREATING 2-PLUGGED PIPES.
- FURNISH & INSTALL 2-INCH FLUSH VALVE IN A METER BOX (POINT 10).
- CITY OF ROCKWALL OPEN EXISTING 16" VALVE AT POINT 9.
- CUT IN TEES. INSTALL 16 INCH PIPE AND VALVES FROM STA. STA. 0+00 TO STA. 0+05 AND STA. 3+55 TO STA. 3+74.
- TEST AND DISINFECT CROSSING LOCATION NO. 1 WATER LINE.
- OBTAIN A PASSED BACTERIOLOGICAL TEST RESULT.
- OPEN CROSSING LOCATION 1 VALVES AND VALVE AT POINT NUMBERS 7 AND 9 (SHEET 8, INSET B) AND PLACE CROSSING LOCATION 1 INTO SERVICE.
- CITY OF ROCKWALL CLOSE EXISTING 12" POINT NO. 1 AND 3 VALVES (SHEET 7, INSET A).
- FURNISH & INSTALL 2-INCH FLUSH VALVE IN A METER BOX (POINT 2). OPEN VALVE AT POINT NO. 1. VALVE AT POINT 3 TO REMAIN CLOSED.
- CUT & PLUG EXISTING 12" WATER LINE IN GRASS AREA ALONG NORTH SIDE OF AIRPORT ROAD IN THE PARKWAY. CUT & PLUGS SHALL BE ON BOTH SIDES OF CUT CREATING 2-PLUGGED PIPES.
- FURNISH, PLACE, FERTILIZE AND WATER SOLID SOD IN ALL AREAS DISTURBED BY CONSTRUCTION.
- REMOVE ALL CONSTRUCTION DEBRIS, EQUIPMENT AND EXCESS SPOILS.
- COMPLETE FINAL WALK THROUGH AND PUNCH LIST.


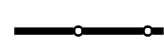


PROPOSED 780 ZONE (NORTH OF I.H. 30) IMPLEMENTATION PLAN

POINT NUMBER	IDENTIFICATION	CONSTRUCTION SCOPE	CITY OF ROCKWALL SCOPE
1	INSET A - AIRPORT RD AT JOHN KING		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
2	INSET A - AIRPORT RD AT JOHN KING	REMOVE & REPLACE 100-SF REINFORCED CONCRETE SIDEWALK	
3	INSET A - AIRPORT RD AT JOHN KING		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
4	INSET B JOHN KING AT SOUTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
5	INSET B JOHN KING AT SOUTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
6	INSET B JOHN KING AT SOUTH SIDE I.H. 30	CUT IN 16" TEE AND VALVES (SEE LOC. 1 PLAN SHEET & SEQUENCING NOTES ON SHEET 9)	
7	INSET B JOHN KING AT NORTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
8	INSET B JOHN KING AT NORTH SIDE I.H. 30	CUT IN 16" TEE AND VALVES (SEE LOC. 1 PLAN SHEET & SEQUENCING NOTES ON SHEET 9)	
9	INSET B JOHN KING AT NORTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
10	INSET B JOHN KING AT NORTH SIDE I.H. 30	CUT AND PLUG EXISTING 16" WATER LINE CLOSE TO JOHN KING ROW AS POSSIBLE; FURNISH & INSTALL 2" BLOW OFF VALVE IN METER BOX (SEE SEQUENCING NOTES ON SHEET 9)	
11	INSET C CORPORATE CROSSING AT SOUTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
12	INSET C CORPORATE CROSSING AT SOUTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
13	INSET C CORPORATE CROSSING AT SOUTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
14	INSET C CORPORATE CROSSING AT SOUTH SIDE I.H. 30	CUT IN 16" TEE AND VALVES (SEE LOC. 2 PLAN SHEET & SEQUENCING NOTES ON SHEET 9)	
15	INSET C STODGHILL ROAD AT NORTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
16	INSET C STODGHILL ROAD AT NORTH SIDE I.H. 30		CITY CLOSE IN LINE VALVE TO ISOLATE SYSTEM
17	INSET C STODGHILL ROAD AT NORTH SIDE I.H. 30	CUT IN 16" TEE AND VALVES (SEE LOC. 2 PLAN SHEET & SEQUENCING NOTES ON SHEET 9)	

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 BY D.B.C. DATE 11/6/2023

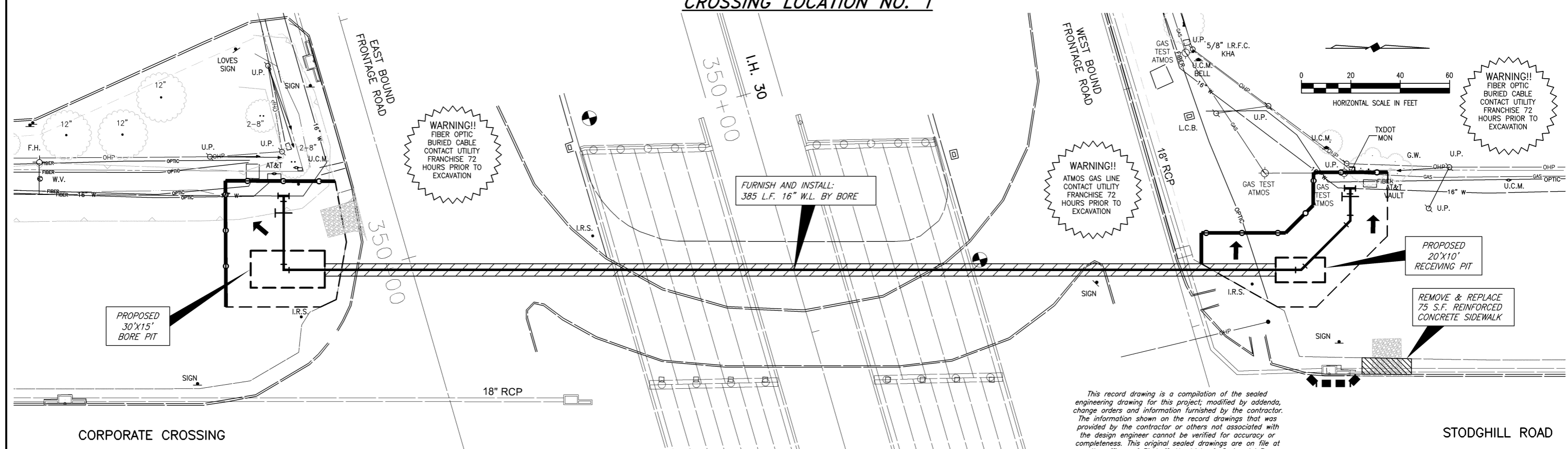
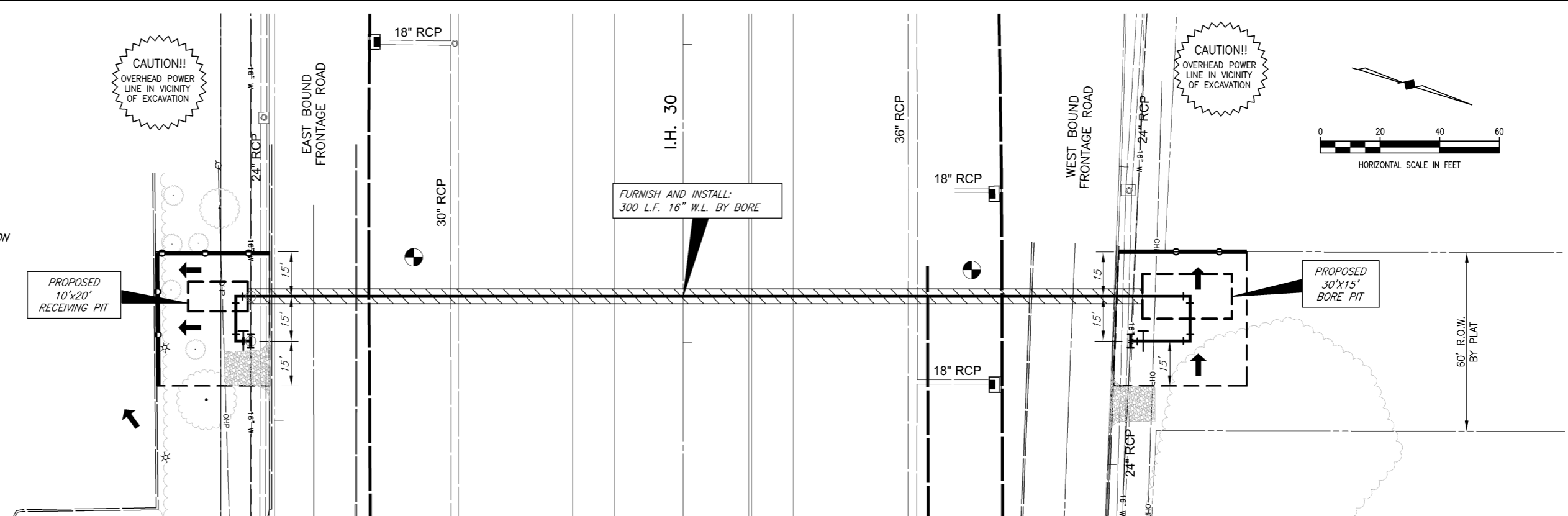
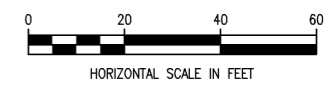
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			<p>PROJECT GENERAL NOTES, PROJECT SEQUENCING & 780 IMPLEMENTATION PLAN</p>	<p>MARCH 2022</p>	

LEGEND


-  DIRECTION OF RUNOFF
-  FURNISH & INSTALL, MAINTAIN AND REMOVE SILT FENCE (327 L.F. THIS SHEET)
-  FURNISH & INSTALL, MAINTAIN AND REMOVE STABILIZED CONSTRUCTION ENTRANCE (4 EA. THIS SHEET)
-  FURNISH & INSTALL, MAINTAIN AND REMOVE INLET PROTECTION (1 EA. THIS SHEET)

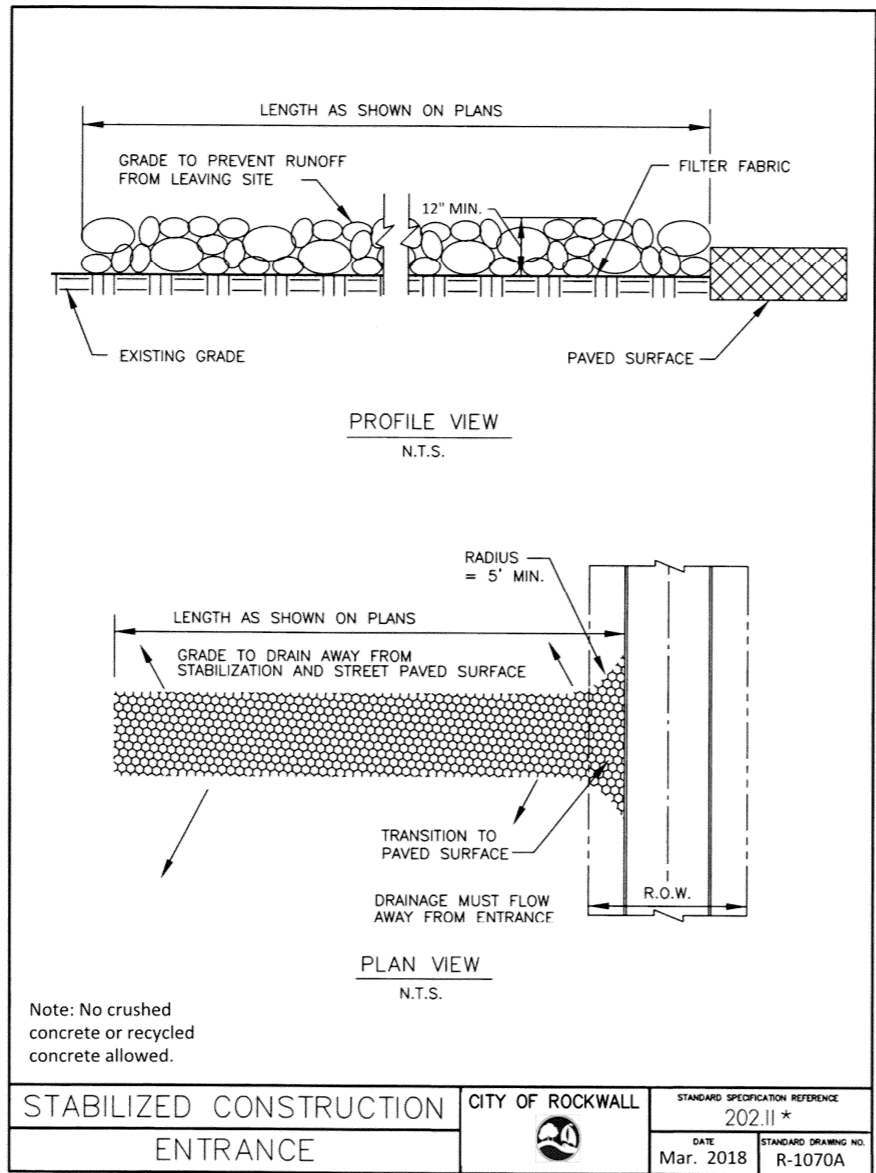
CAUTION!!
OVERHEAD POWER LINE IN VICINITY OF EXCAVATION

CAUTION!!
OVERHEAD POWER LINE IN VICINITY OF EXCAVATION



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

*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.*

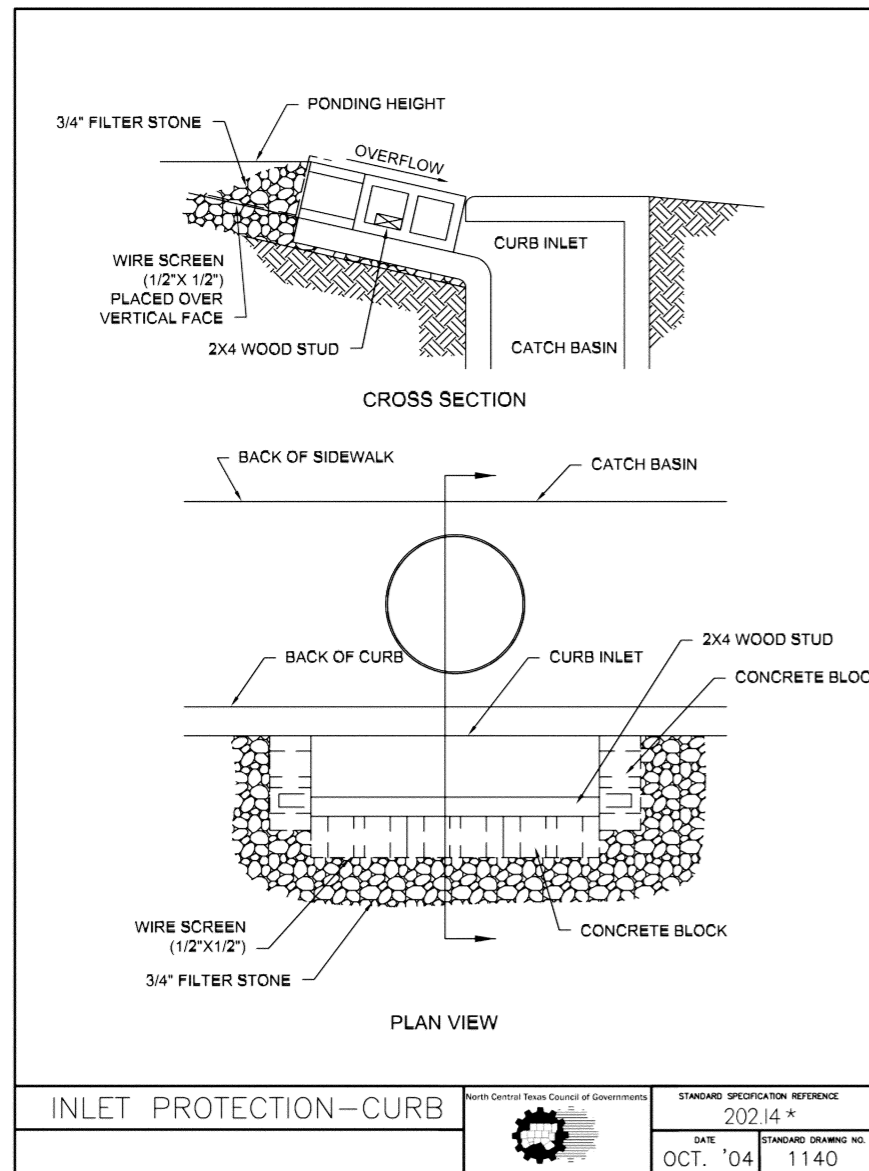
- STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:**
1. STONE SHALL BE 4 TO 6 INCH DIAMETER COARSE AGGREGATE.
 2. MINIMUM LENGTH SHALL BE 50 FEET AND WIDTH SHALL BE 20 FEET.
 3. THE THICKNESS SHALL NOT BE LESS THAN 12 INCHES.
 4. THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
 5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
 6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.
 7. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
 8. PREVENT SHORTCUTTING OF THE FULL LENGTH OF THE CONSTRUCTION ENTRANCE BY INSTALLING BARRIERS AS NECESSARY.
 9. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.
 10. NO CRUSHED OR RECYCLED CONCRETE ALLOWED.

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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 BY D.B.C. DATE 11/6/2023

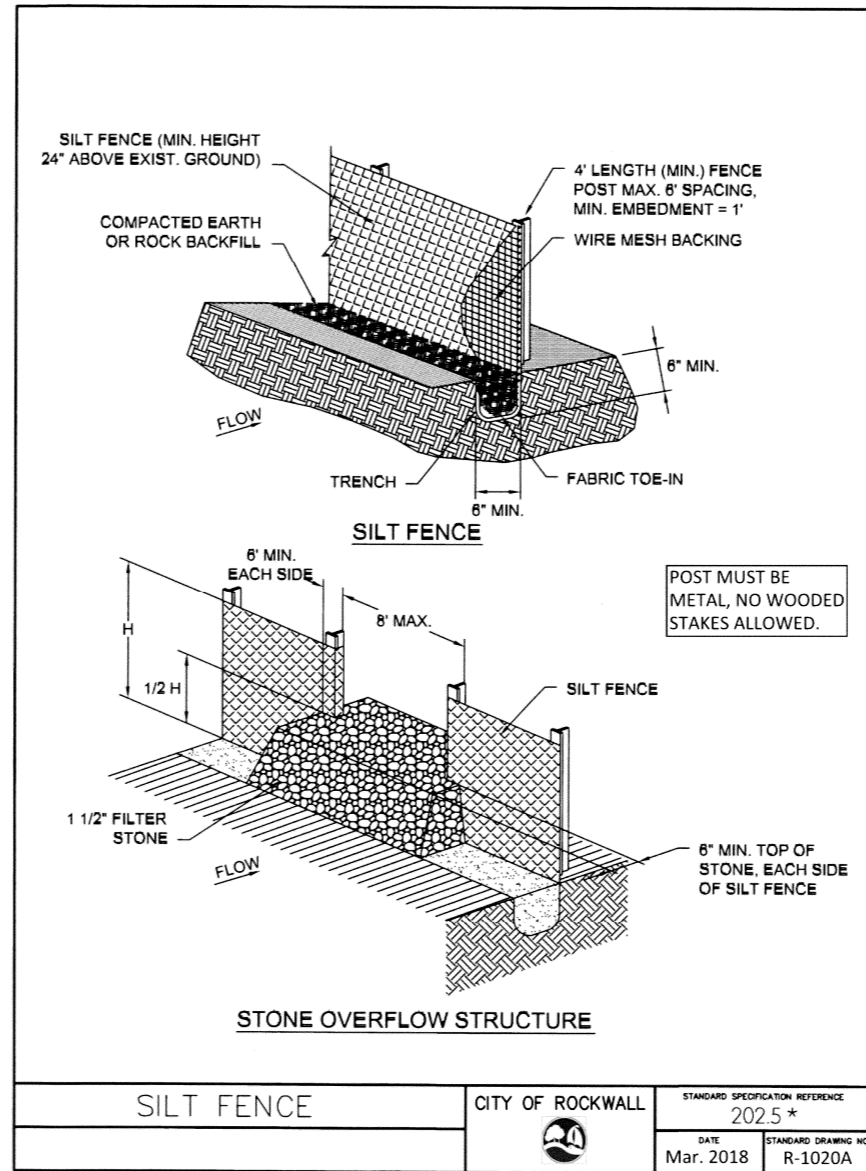
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				EROSION CONTROL DETAILS 1	MARCH 2022	



INLET PROTECTION-CURB

North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE 202.14 *
DATE OCT. '04	STANDARD DRAWING NO. 1140

*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.*

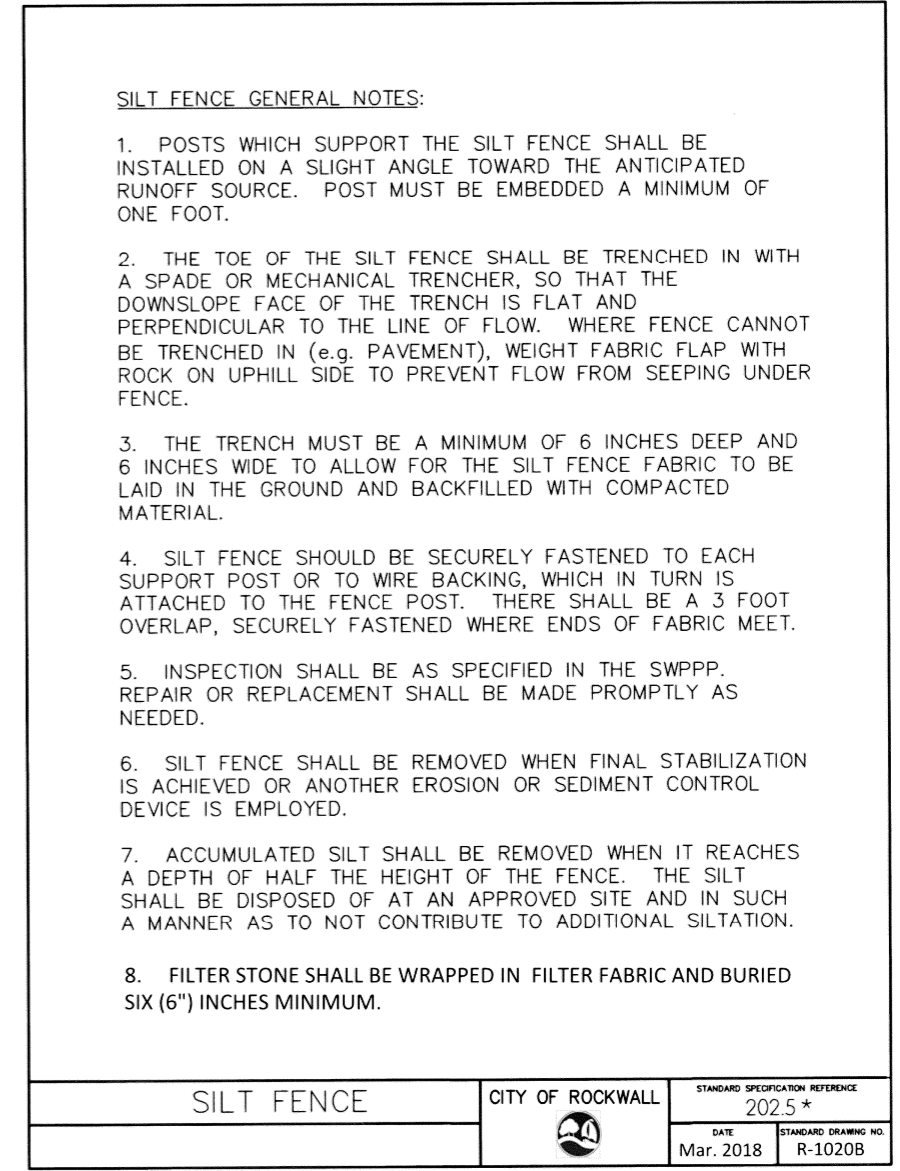


SILT FENCE

CITY OF ROCKWALL

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

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.*

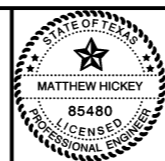
SILT FENCE GENERAL NOTES:

1. POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WIRE BACKING, WHICH IN TURN IS ATTACHED TO THE FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. FILTER STONE SHALL BE WRAPPED IN FILTER FABRIC AND BURIED SIX (6") INCHES MINIMUM.

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BY D.B.C. DATE 11/6/2023*

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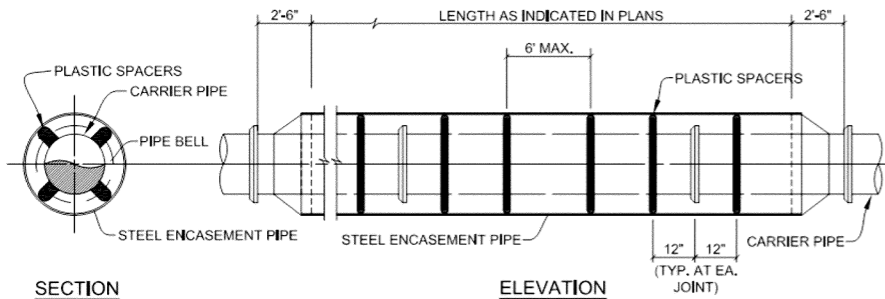
BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 TBPE Firm No. 526; TBPLS Firm No. 10031800
 11910 Greenville Ave., Suite 600
 Dallas, Texas 75243 (214) 361-7900



Matthew Hickey
 3/08/22

CITY OF ROCKWALL, TEXAS
 780 ZONE I.H. 30 WATER LINE CROSSINGS
 EROSION CONTROL DETAILS 2

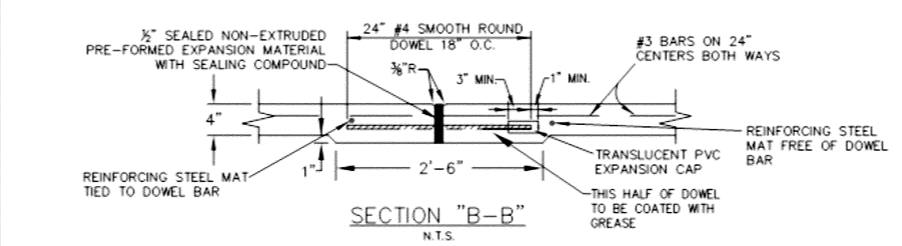
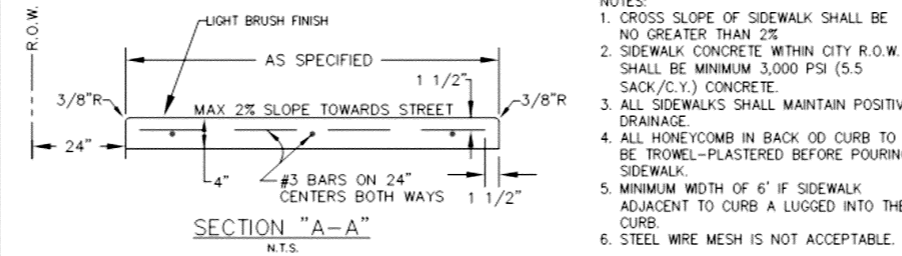
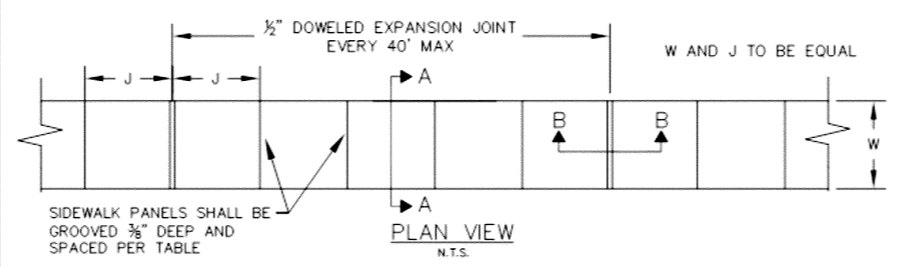
BHC PROJECT NO. 2021-115	SHEET NO. 12
MARCH 2022	



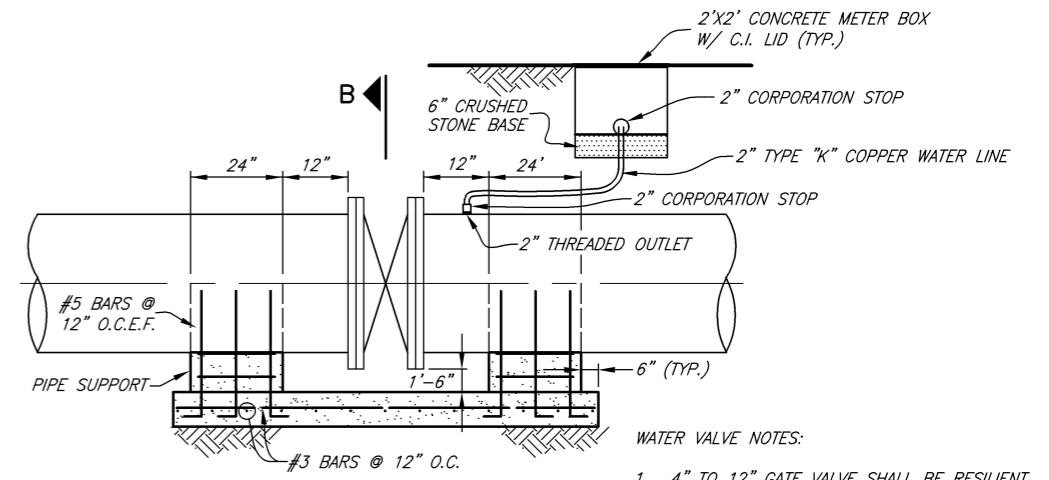
ENCASED ROAD BORE
NO SCALE

- NOTES:
- 1) ALL BORES BY CONTRACTOR SHALL BE DRY BORES.
 - 2) PREFABRICATED PLASTIC SPACERS SHALL BE RACI NORTH AMERICA OR APPROVED EQUAL. FOR THE SPECIFIC APPLICATION AS RECOMMENDED BY THE MANUFACTURER.
 - 3) CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE A MIN. 1" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
 - 4) ENDS OF ENCASEMENT PIPE SHALL HAVE END SEALS INSTALLED PER MANUFACTURER'S REQUIREMENTS. END SEALS SHALL BE CCI MODEL ESW WRAP-AROUND BY CCI PIPELINE SYSTEMS OR APPROVED EQUAL.
 - 5) THE DESIGN ENGINEER SHALL DESIGN THE MINIMUM THICKNESS OF THE ENCASEMENT PIPE. DESIGN WILL NEED TO INCLUDE DEAD LOADING BASED ON THE HEIGHT OF COVER AND HS-20 LOADINGS FOR ROADWAY CROSSINGS AND E-80 LOADINGS FOR RAILROAD CROSSINGS.
 - 6) STEEL ENCASEMENT PIPE SHALL CONFORM TO AWWA C-200. PIPE SHALL BE FABRICATED IN ACCORDANCE WITH ASTM A-570 FROM STEEL PLATES HAVING MINIMUM YIELD STRENGTH 36,000 PSL.
 - 7) STEEL ENCASEMENT PIPE SHALL BE PAINTED INSIDE AND OUTSIDE WITH TWO COATS OF TNEDEC, HB TNEDECOL, SERIES 46+465 COAL TAR, OR CITY APPROVED EQUIVALENT PRIOR TO DELIVERY TO THE JOB SITE. MINIMUM COATING INSIDE AND OUTSIDE SHALL BE 12-MILS DRY FILM THICKNESS (DFT) PER EACH COAT.
 - 8) ENCASEMENT PIPE SHALL BE FEILD WELDED IN ACCORDANCE WITH AWWA C-206. WELDED JOINTS SHALL BE WIRE BRUSHED AND PAINTED WITH ONE COAT OF TNEDEC, OMNITHANE SERIES 530, 2.5-MILS DRY FILM THICKNESS (9DFT) OR CITY APPROVED EQUIVALENT.

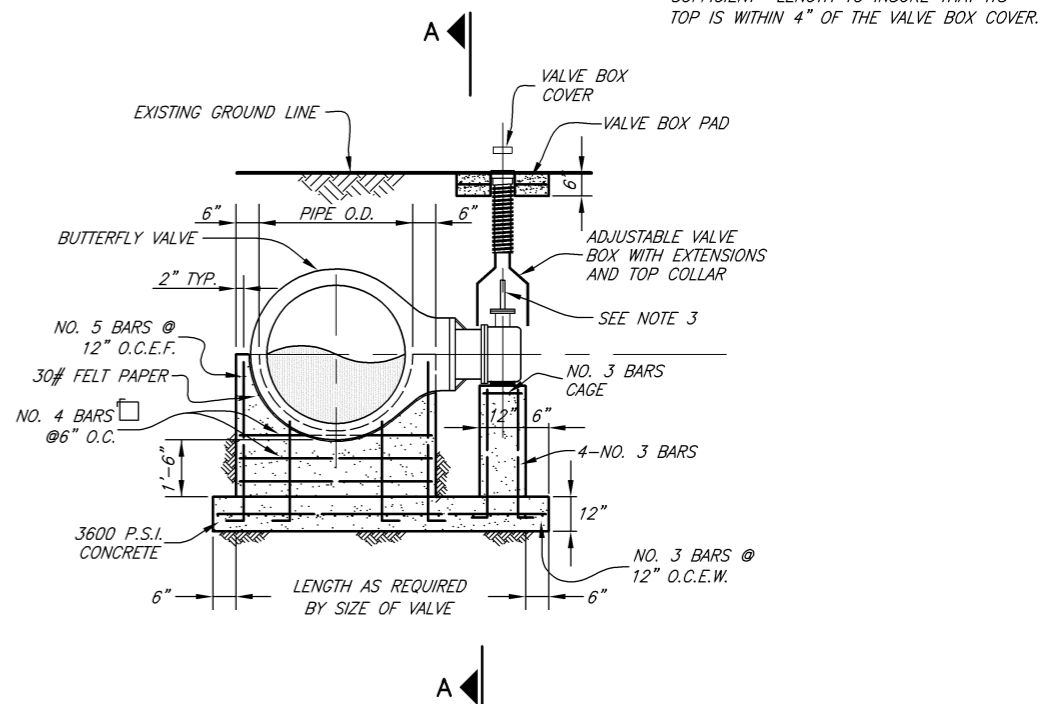
UNDERGROUND CONDUIT	CITY OF ROCKWALL	DATE	DRAWING NO.
STEEL ENCASED BORE		OCT. '17	R-3090



REINFORCED CONCRETE SIDEWALKS	CITY OF ROCKWALL	DATE	DRAWING NO.
JOINTS AND SPACING		AUG '19	R-2170



- WATER VALVE NOTES:
1. 4" TO 12" GATE VALVE SHALL BE RESILIENT SEATED WEDGE GATE VALVES ACCORDANCE WITH AWWA STANDARD C-509.
 2. BUTTERFLY VALVES SHALL BE IN ACCORDANCE WITH AWWA C504.
 3. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4" OF THE VALVE BOX COVER.



BUTTERFLY VALVE INSTALLATION
NOT TO SCALE

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BY D.B.C. DATE 11/6/2023

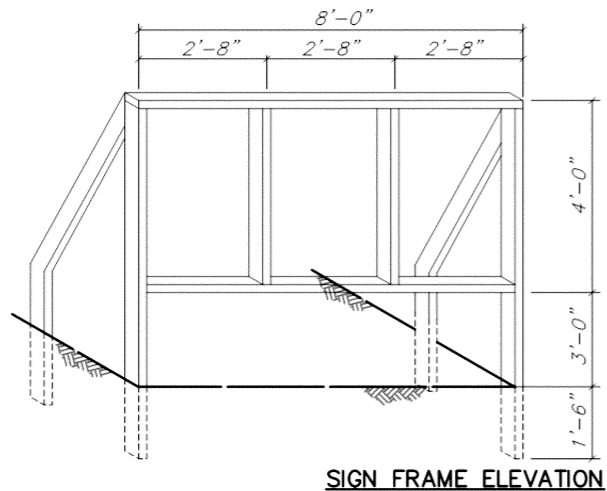
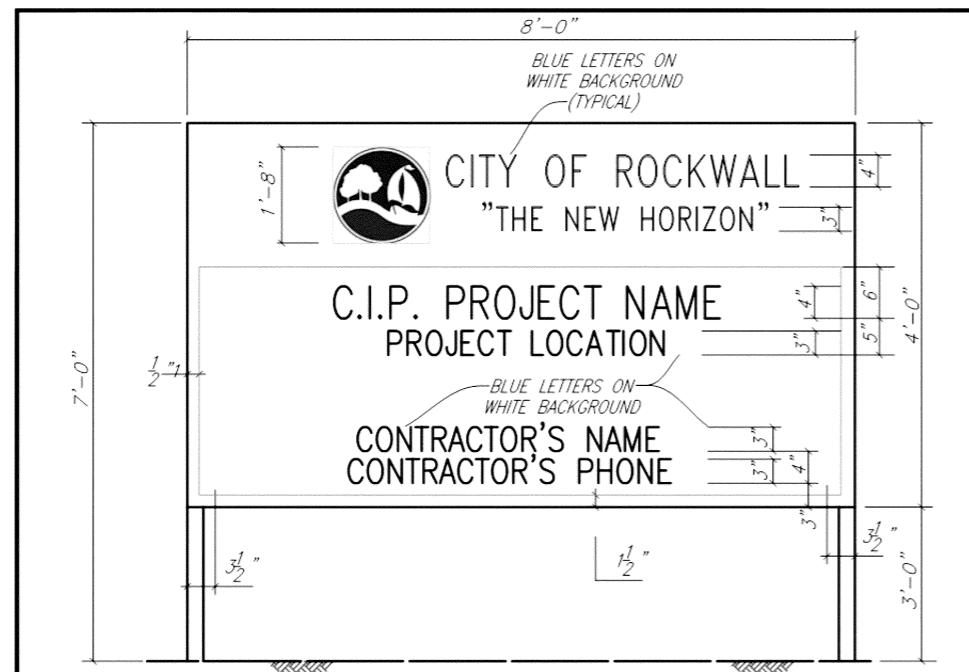
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Matthew Hickey
3/08/22

CITY OF ROCKWALL, TEXAS
780 ZONE I.H. 30 WATER LINE CROSSINGS
CONSTRUCTION DETAILS 1

BHC
PROJECT NO.
2021-115
MARCH 2022
SHEET NO.
13

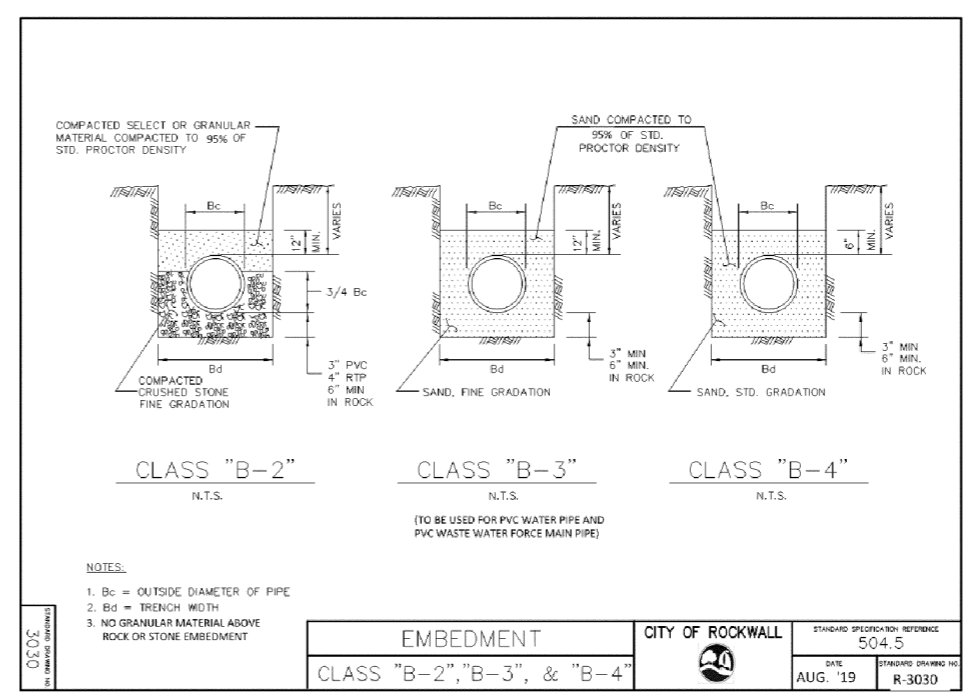


SIGN PANEL 3/4" EXTERIOR PLYWOOD
PAINT AS SHOWN ON DETAIL ABOVE

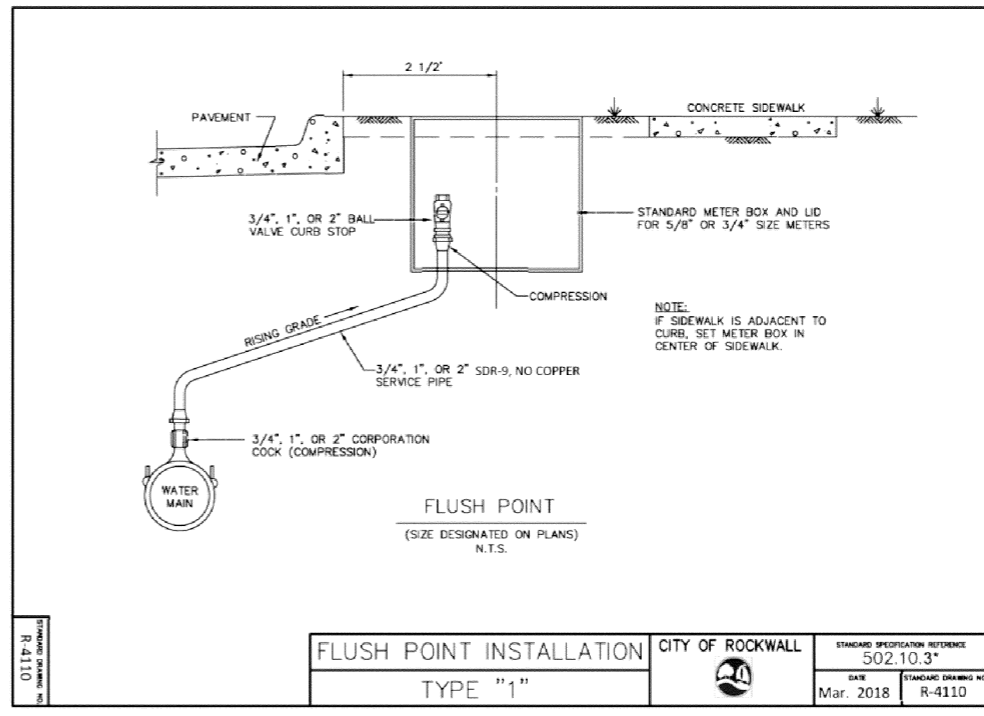
FRAME 2"x4" STOCK FRAME TO BE
PAINTED WHITE

ALL PAINT TO BE "EXTERIOR GRADE"

MISCELLANEOUS DETAILS	CITY OF ROCKWALL	DATE AUG. '15	DRAWING NO. R-7010
CONSTRUCTION SIGN DETAIL			



3030 IN PLACING OPERATIONS	EMBEDMENT	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 504.5
	CLASS "B-2", "B-3", & "B-4"		DATE AUG. '19
			STANDARD DRAWING NO. R-3030



R-4110 STANDARD DRAWING NO.	FLUSH POINT INSTALLATION	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE 502.10.3
	TYPE "1"		DATE Mar. 2018
			STANDARD DRAWING NO. R-4110

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BY D.B.C. DATE 11/6/2023*

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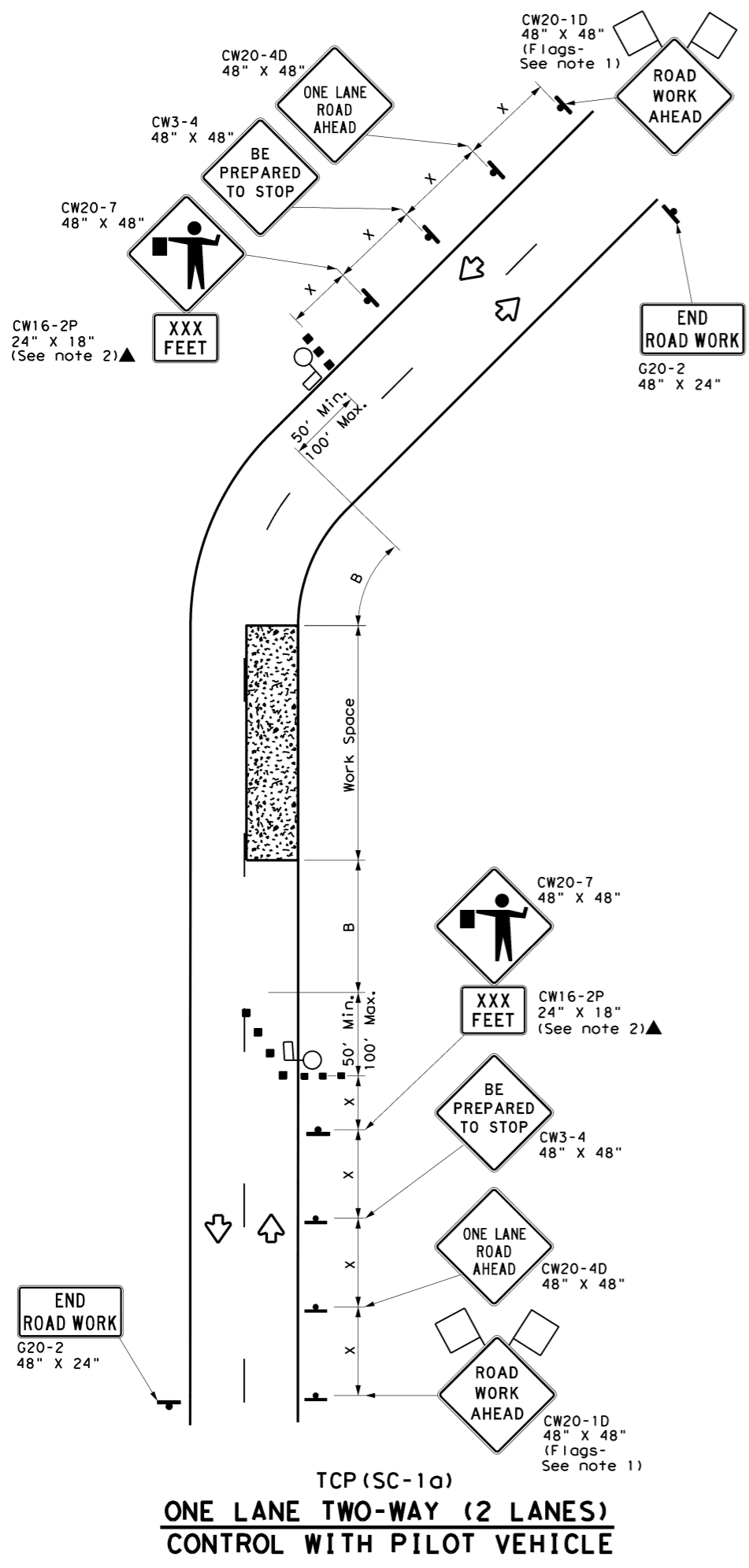
Matthew Hickey
3/08/22

CITY OF ROCKWALL, TEXAS
780 ZONE I.H. 30 WATER LINE CROSSINGS
CONSTRUCTION DETAILS 2

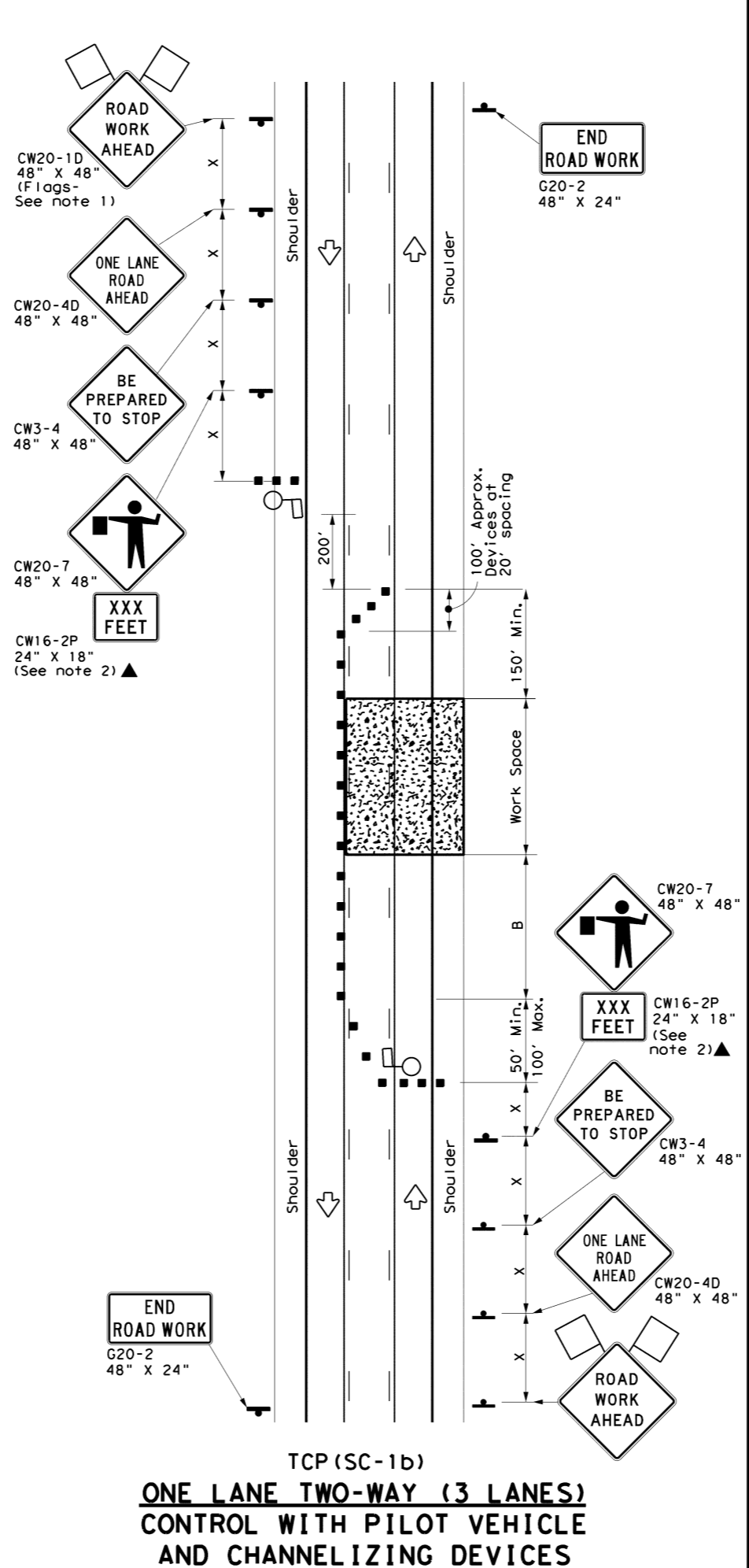
BHC
PROJECT NO.
2021-115
MARCH 2022
SHEET NO.
14

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DATE: FILE:



TCP (SC-1a)
ONE LANE TWO-WAY (2 LANES)
CONTROL WITH PILOT VEHICLE



TCP (SC-1b)
ONE LANE TWO-WAY (3 LANES)
CONTROL WITH PILOT VEHICLE
AND CHANNELIZING DEVICES

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

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

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

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

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
- Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger sign is less than 1500 feet.
- Flaggers should use two-way radios or other methods of communication at all times to control traffic.
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
- If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other member of the traffic control crew at the intersection.
- Temporary rumble strips are not required on seal coat operations.
- Pilot car is used to guide vehicles through traffic control zone, vehicle shall have an identification name displayed and "PILOT CAR, FOLLOW ME" (G20-4) sign or message board mounted in a conspicuous position on rear.

TCP (SC-1a)

- Channelizing devices on the center-line may be omitted when a pilot car is leading traffic.

SHEET 1 OF 7



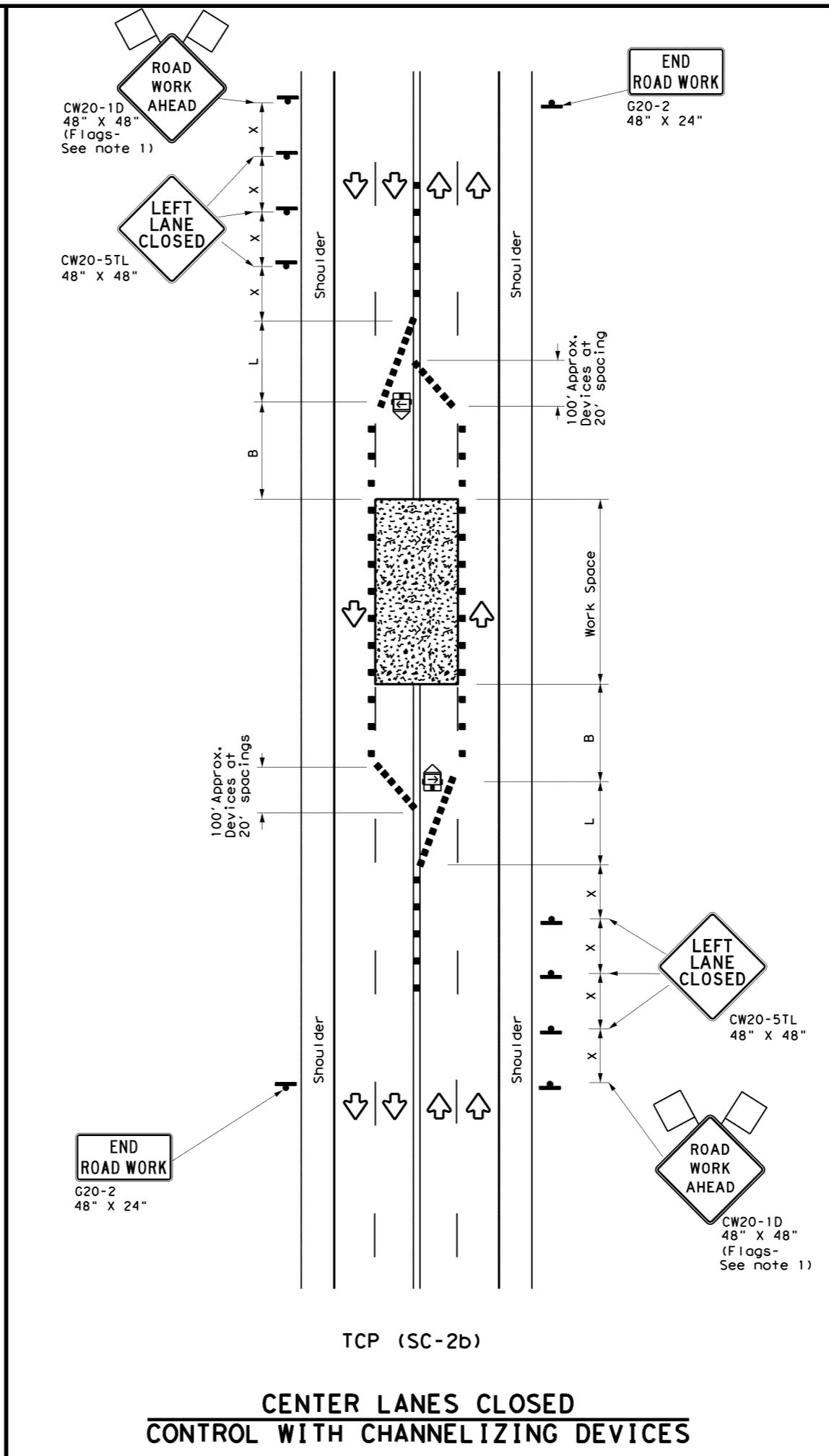
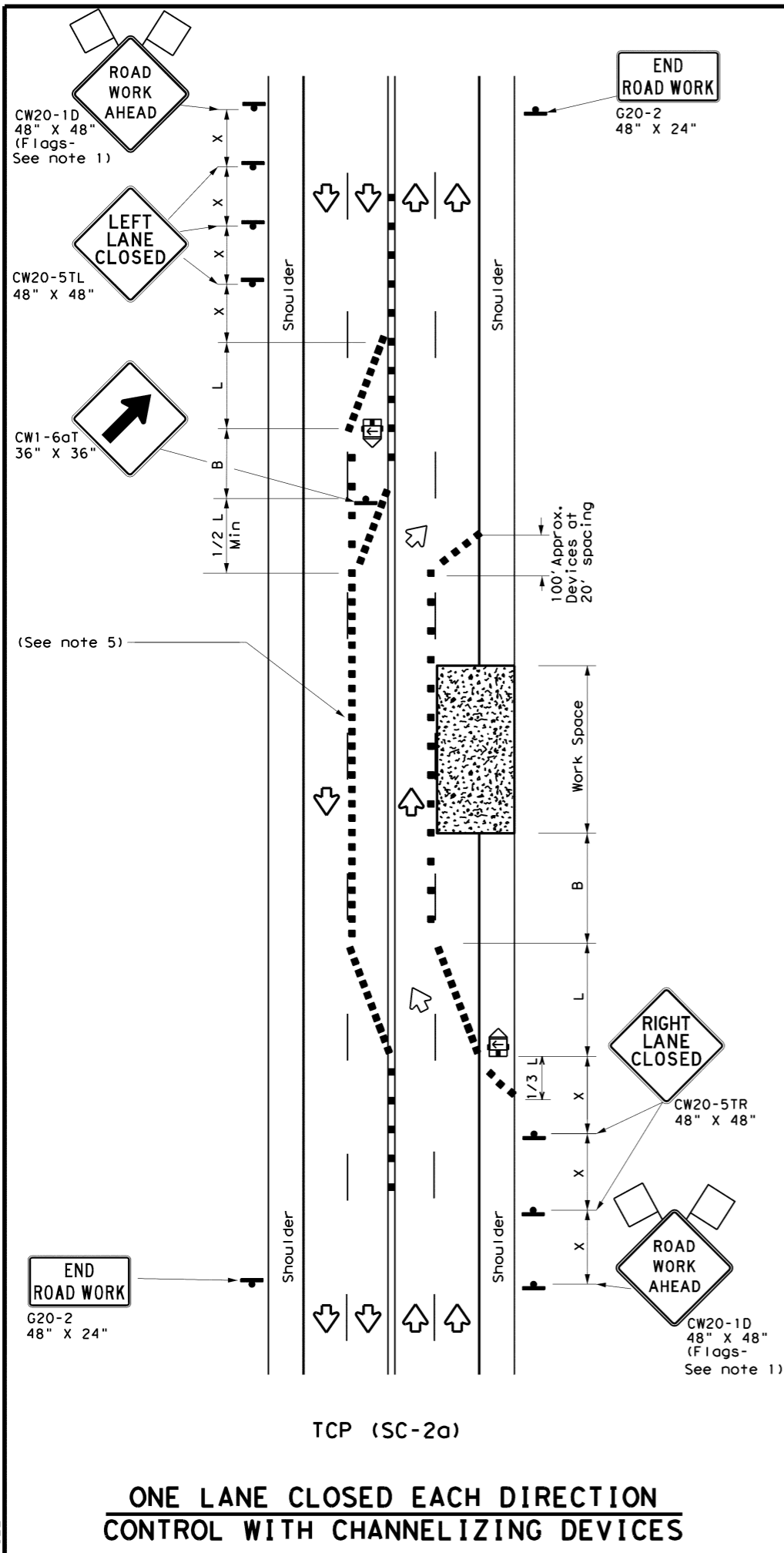
TRAFFIC CONTROL PLAN
SEAL COAT
OPERATIONS

TCP (SC-1) - 21

FILE: tcpsc-1-21.dgn	DN:	CK:	DW:	CK:
© TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.

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DATE: FILE:



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

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

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

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

- GENERAL NOTES**
- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
 - The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
 - If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other member of the traffic control crew at the intersection.
 - Temporary rumble strips are not required on seal coat operations.

TCP (SC-2a)

- Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the posted speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

SHEET 2 OF 7

Texas Department of Transportation
Traffic Operations Division Standard

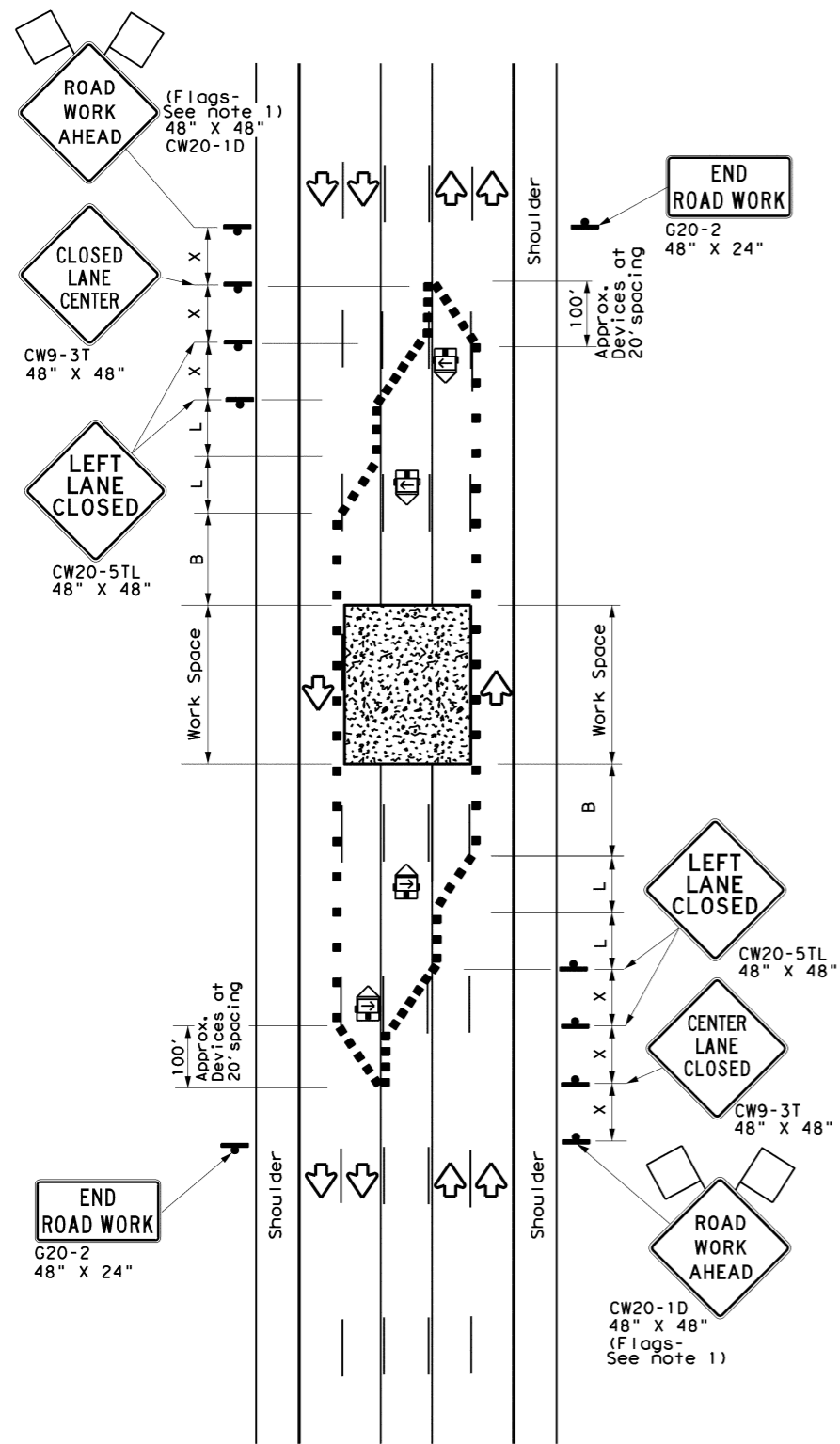
**TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE
CONVENTIONAL ROADS**

TCP (SC-2) -21

FILE: tcpsc-2-21.dgn	DN:	CK:	DW:	CK:
© TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY	SHEET NO.

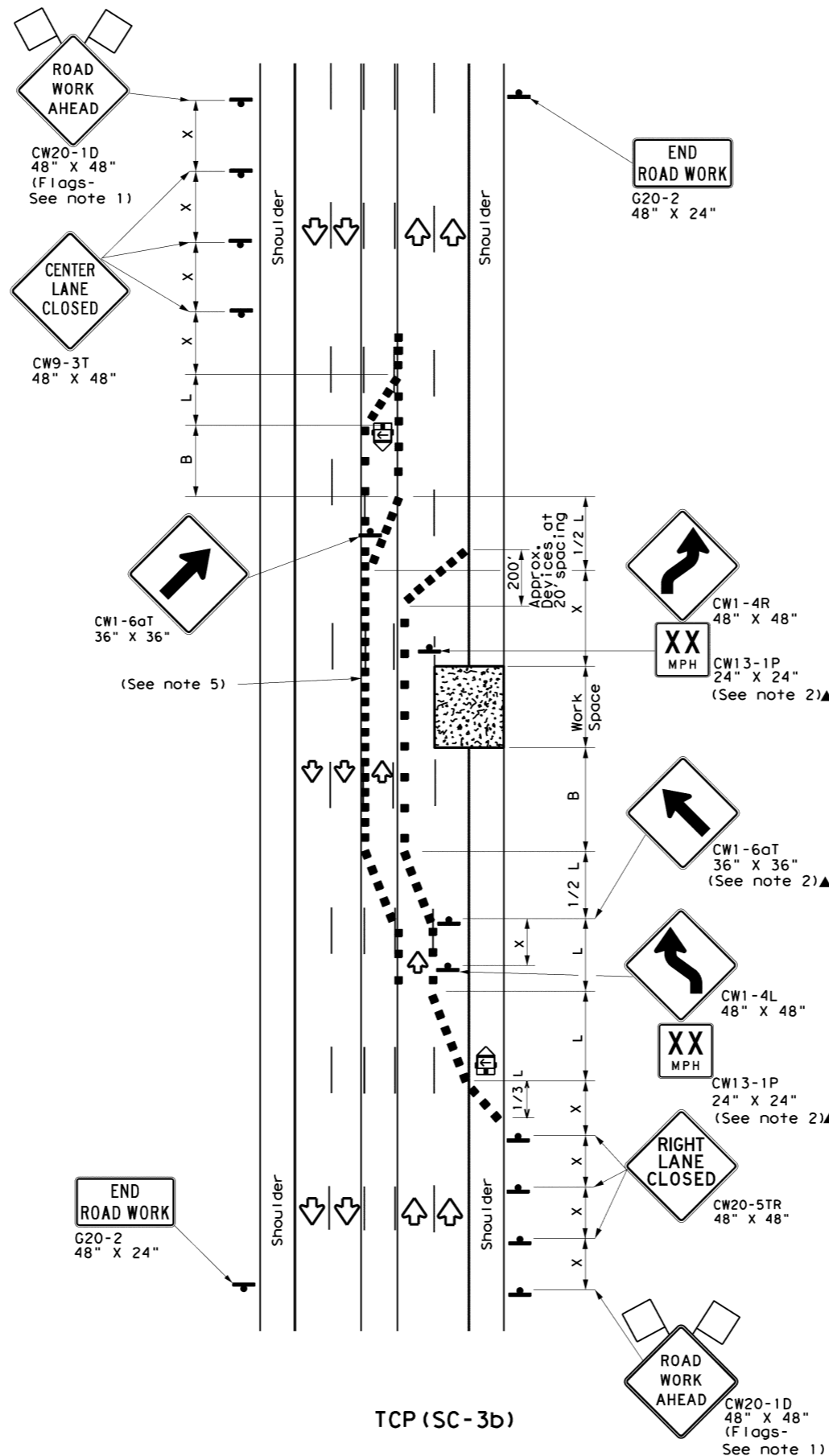
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DATE: FILES:



TCP (SC-3a)

**CENTER LANES CLOSED
CONTROL WITH CHANNELIZING DEVICES**



TCP (SC-3b)

**ONE LANES CLOSED
CONTROL WITH CHANNELIZING DEVICES**

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

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

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

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

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
 - If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other members of the traffic control crew at the intersection.
 - Temporary rumble strips are not required on seal coat operations.
- TCP (SC-3b)**
- For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the posted speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

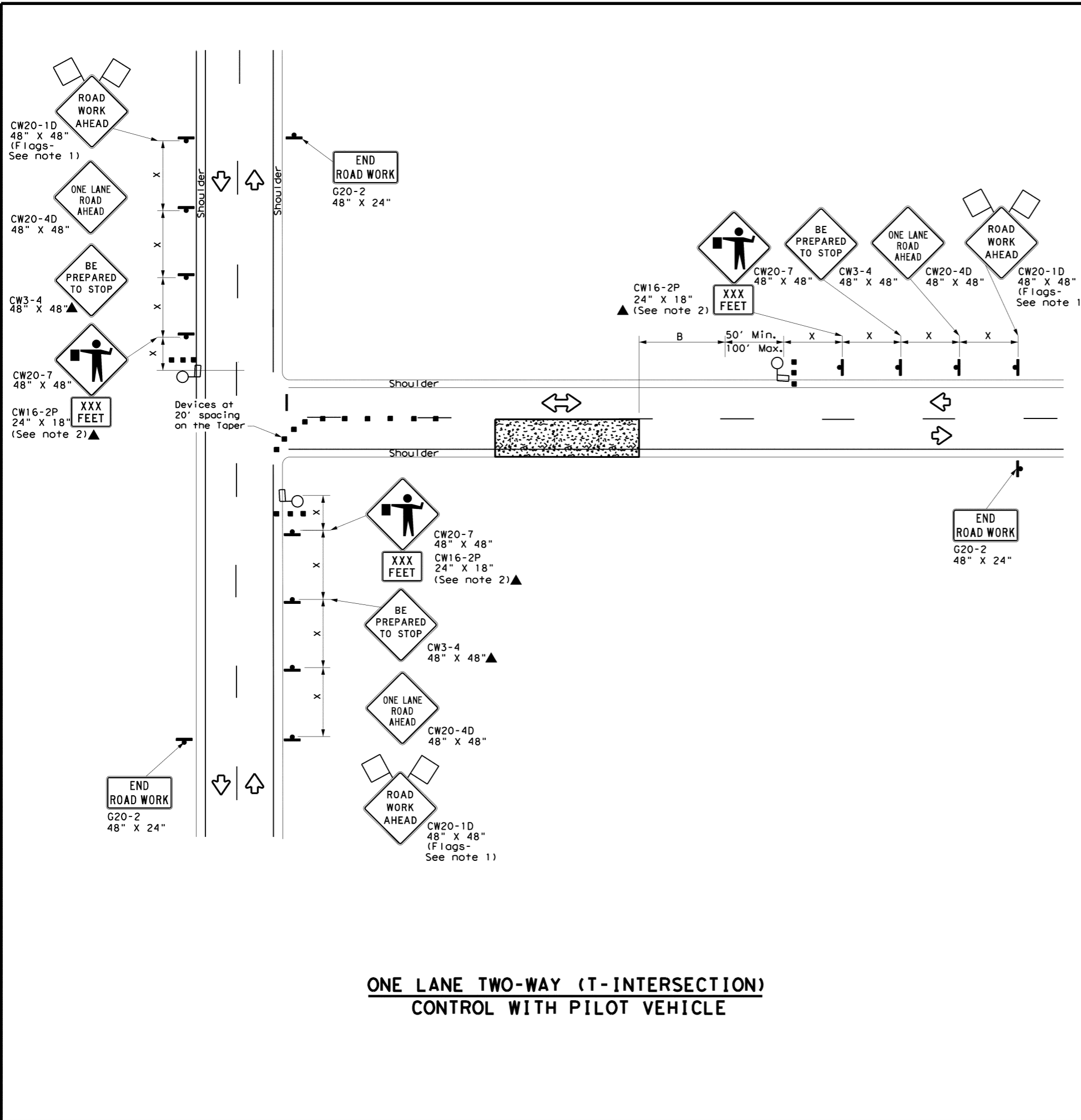
**TRAFFIC CONTROL PLAN
SEAL COAT
OPERATIONS**

TCP (SC-3) - 21

FILE: tcpsc-3-21.dgn	DN:	CK:	DW:	CK:
© TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY	SHEET NO.	

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**ONE LANE TWO-WAY (T-INTERSECTION)
CONTROL WITH PILOT VEHICLE**

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

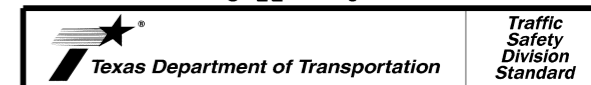
Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'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

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

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

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
- Flaggers should use two-way radios or other methods of communication at all times to control traffic.
- Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.
- If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
- Temporary rumble strips are not required on seal coat operations.
- Pilot car is used to guide vehicles through traffic control zone, vehicle shall have an identification name displayed and "PILOT CAR, FOLLOW ME" (G20-4) sign or message board mounted in a conspicuous position on rear.



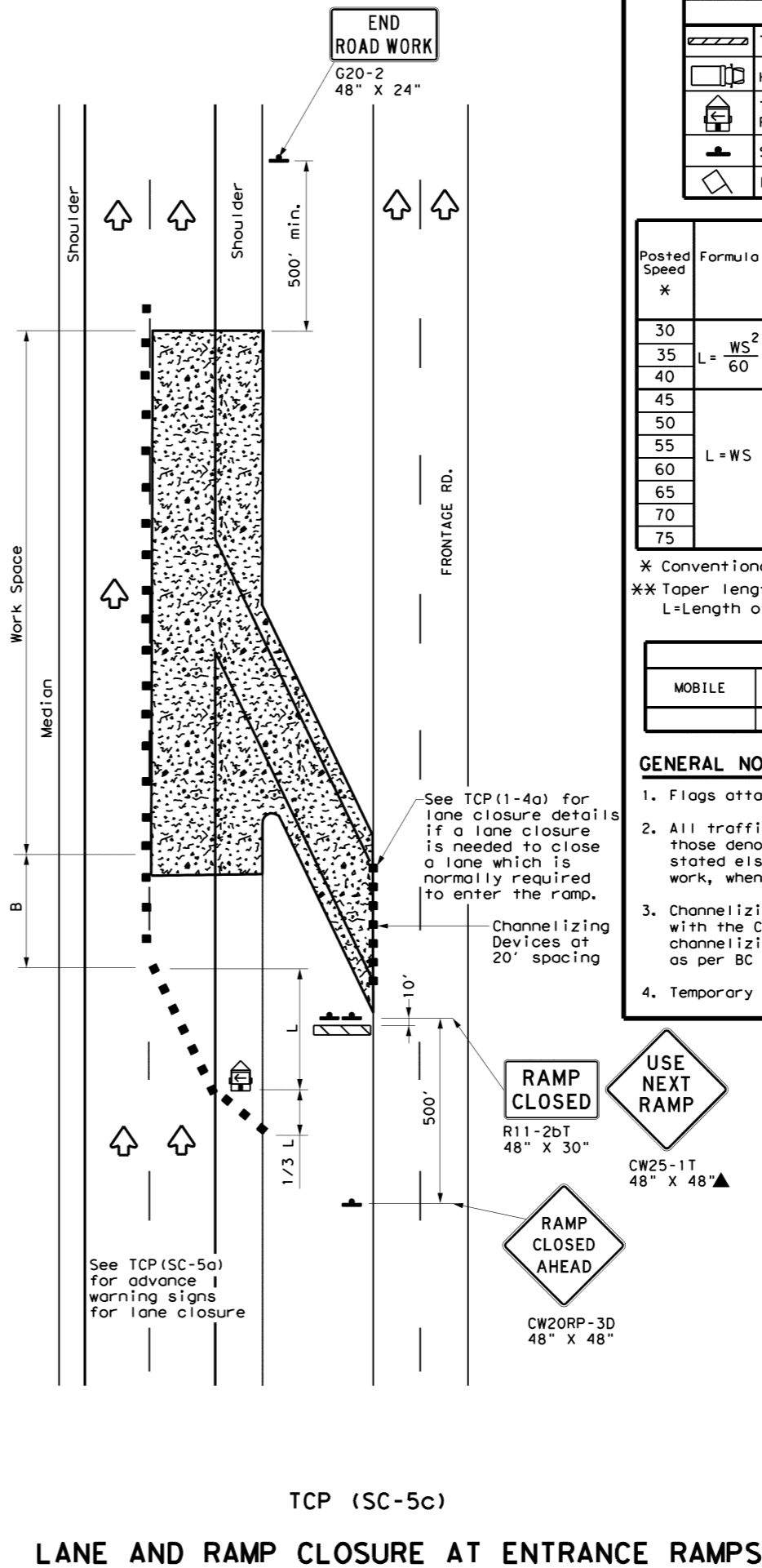
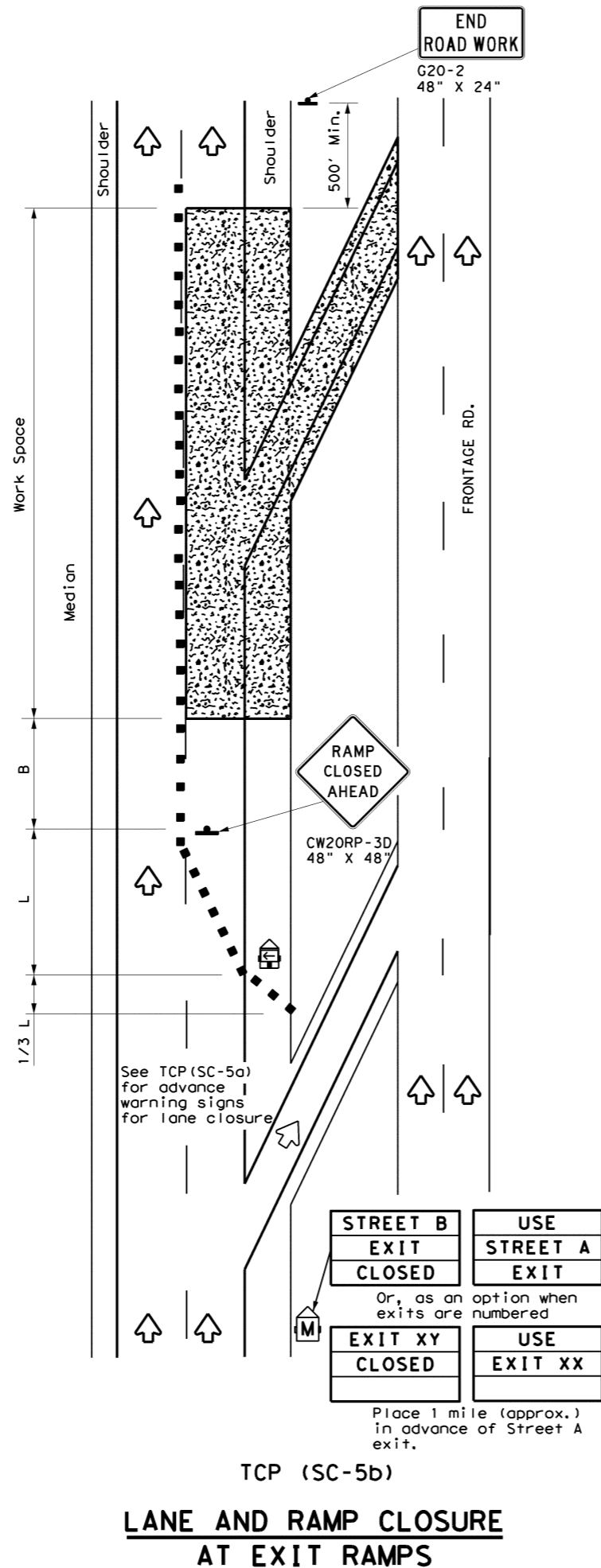
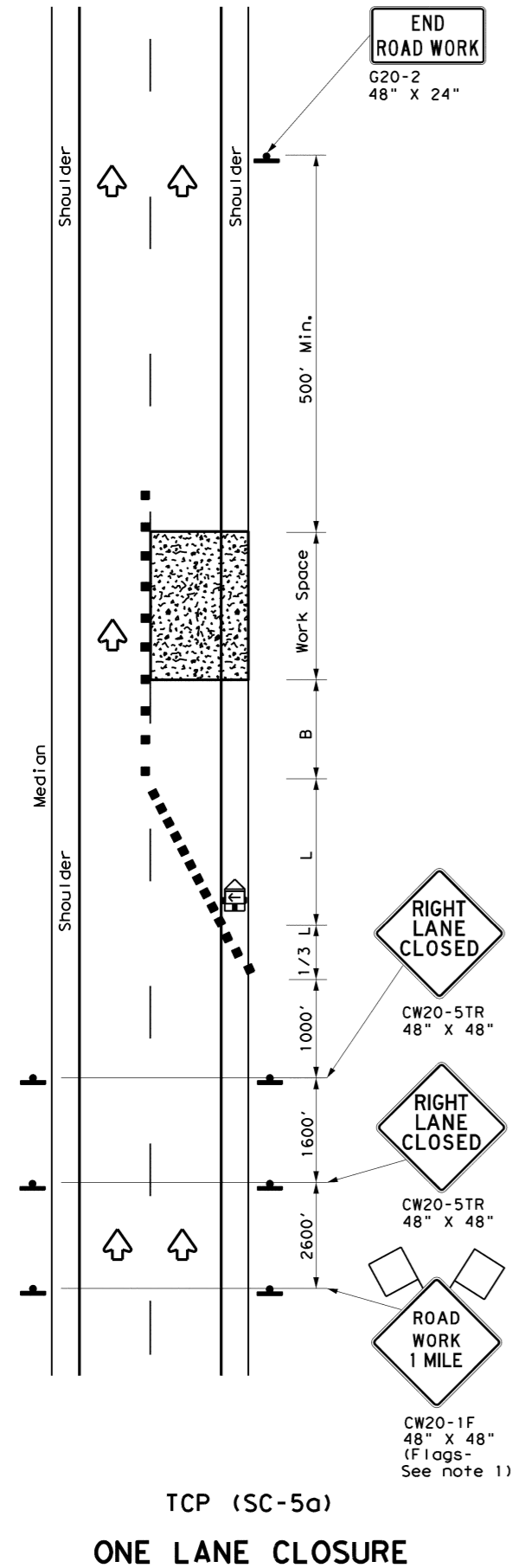
**TRAFFIC CONTROL PLAN
SEAL COAT
OPERATIONS**

TCP (SC-4) -21

FILE: tpcsc-4-21.dgn	DN:	CK:	DW:	CK:
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DIST		COUNTY		SHEET NO.

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

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

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

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

- GENERAL NOTES**
- Flags attached to signs where shown, are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
 - Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
 - Temporary rumble strips are not required on seal coat operations.

SHEET 5 OF 7

Texas Department of Transportation

Traffic Safety Division Standard

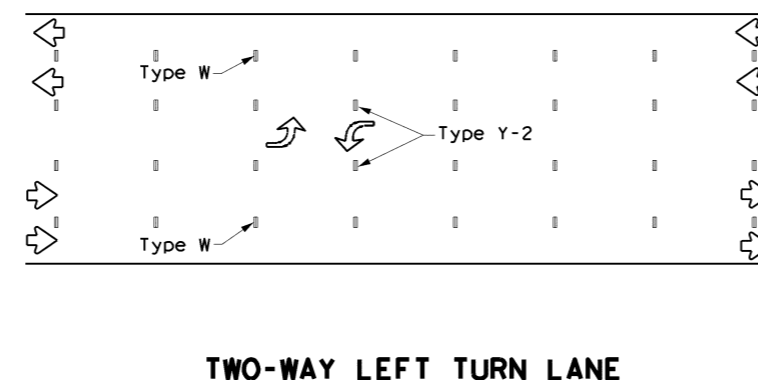
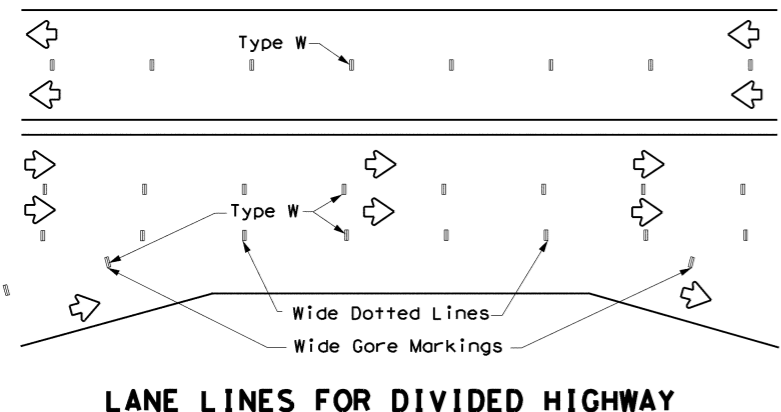
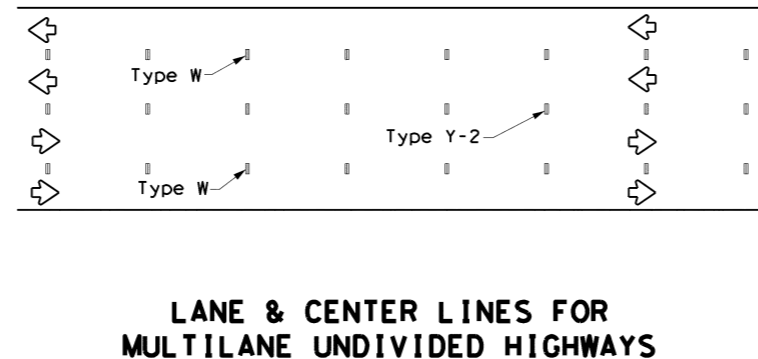
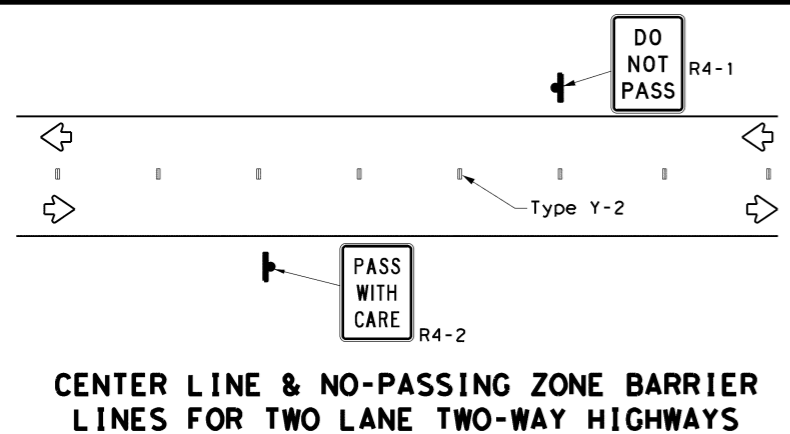
**TRAFFIC CONTROL PLAN
LANE CLOSURES FOR
DIVIDED HIGHWAYS**

TCP (SC-5) - 21

FILE: tcpsc-5-21.dgn	DN:	CK:	DW:	CK:
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WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS (TABS)



WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS (TABS)

SOLID LINES	DOUBLE NO-PASSING LINE	
	SINGLE NO-PASSING LINE or CHANNELIZATION LINE	
BROKEN LINES (FOR CENTER LINE OR LANE LINE)		
WIDE DOTTED LINES (FOR LANE DROP LINES)		
WIDE GORE MARKINGS		

NOTES:

- Short term pavement markings shall be temporary flexible-reflective roadway marker tabs with protective cover unless otherwise specified elsewhere in plans.
- Short term pavement markings shall NOT be used to simulate edge lines.
- Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.
- Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
- No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.
- For exit gores where a lane is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.

TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

- Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).
- Tabs shall meet requirements of Departmental Material Specification DMS-8242.
- When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.
- No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

- DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:
<http://www.txdot.gov>

SHEET 6 OF 7



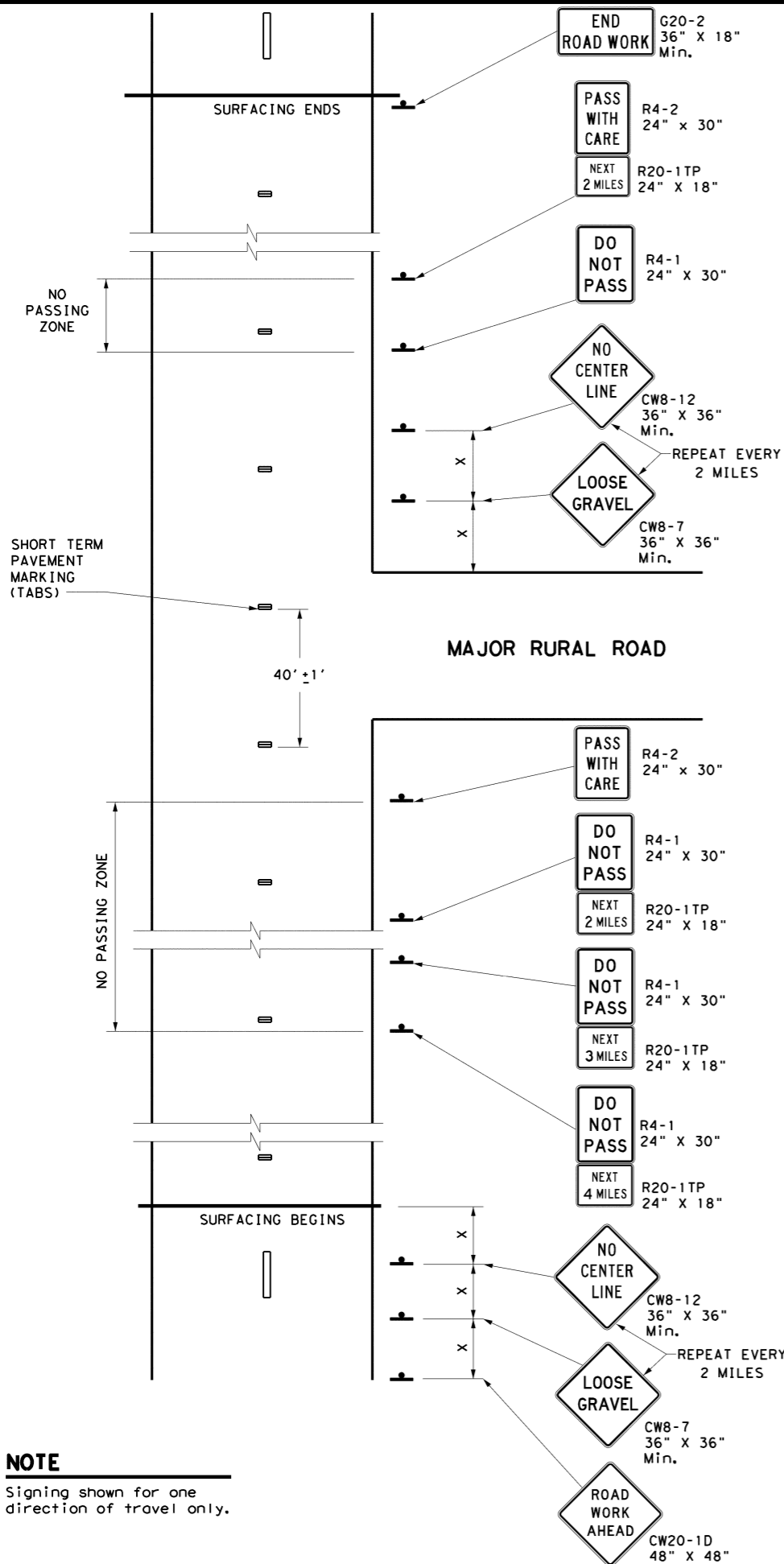
WORK ZONE SHORT TERM PAVEMENT MARKINGS FOR SEAL COAT OPERATIONS

TCP (SC-6) -21

FILE#	tcpsc-6-21.dgn	DW#	TxDOT	CK#	TxDOT	DW#	TxDOT	CK#	TxDOT
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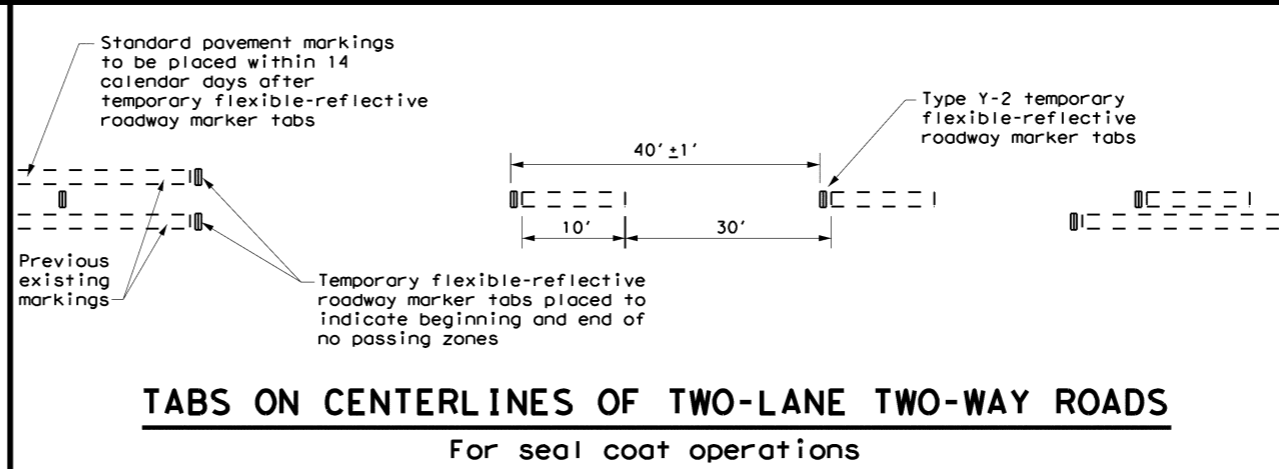
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NOTE
 Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



"DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

- Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.
- At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.
- Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one day operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.
- R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

"NO CENTER LINE" SIGN (CW8-12)

- Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.
- At the time construction activity obliterates the existing center line markings (low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.
- The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

"LOOSE GRAVEL" SIGN (CW8-7)

- When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.
- The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

PAVEMENT MARKINGS

- Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.
- Tabs shall not be used to simulate edge lines.

COORDINATION OF SIGN LOCATIONS

- The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.
- Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T) sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

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

GENERAL NOTES

- The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
- The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
- Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Short Duration / Short Term Stationary Work Zone Sign Supports.
- When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
- Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

SHEET 7 OF 7



TRAFFIC CONTROL DETAILS FOR SEAL COAT OPERATIONS

TCP (SC-7) - 21

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DIST	COUNTY		SHEET NO.	