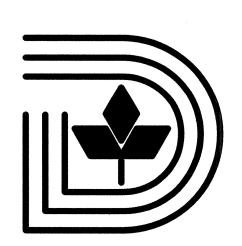
WATER AND WASTEWATER MAIN REPLACEMENTS AT VARIOUS LOCATIONS

WATER & WASTEWATER SHEET INDEX

SEG.	PID	LOCATION	DESIGN SHEET
1. 2.	3173 6042	Dallas St Alley Btwn JB Jackson Jr Blvd & S Trunk Ave	411Q-327 Sh.10 411Q-327 Sh.8-9
<i>3</i> .	3286	Pierce St	411Q-0336 Sh.004-007
4.	6008	Summer Creek Circle	411Q-1770 Sh.679
5. 6.	6045 6046	Munger Ave Annex Ave	411Q-1967 Sh.36-37 411Q-1967 Sh.35-36
7.	633/	R L Thornton Rd & Ann Arbor Dr	411Q-1890 Sh.128
8.	3240	Avenue H / Childs St	411Q-0508 Sh.008-009
9.	4468	Ravinia Dr	411Q-889 Sh.2-4
10.	2046	Jefferson Blvd	411Q-889 Sh.5-8,9-12
//.	5680	Easement East of Cliffdale Ave	411Q-889 Sh 13
12.	5681	W 9th St	411Q-889 Sh. 14

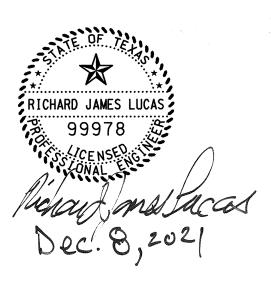
SCHEDULE A



Dallas Water Utilities City Of Dallas, Texas

Contract No.: 21-341/342 November 2021





GENERAL

- l. All work shall be done in accordance with the North Central Texas Council Of Governments (NCTCOG) Standard Specifications for Public Works Construction (Version 4) and Dallas Water Utilities Addendum (Oct.1,2011) to these specifications.
- 2. Reference to standard drawings shall mean those shown in the DWU Standard Drawings for Water & Wastewater
- 3. All items of work required to complete the work as shown or implied by the plans and as specified in the contract documents which are not listed as a pay item in the proposal shall be considered subsidiary.
- 4. The location, elevations and dimensions of existing utilities shown on the plans as obtained from The City of Dallas and utility company records, are considered approximate. The Engineer does not certify that all utilities are shown. The Contractor shall verify exact locations, sizes and depths of existing utilities before begining construction (including ordering pre-cast manholes and concrete pipe if applicable. NO SEPARATE PAY ITEM
- 5. The Contractor shall contact Texas Excavation Safety System (800-DIG-TESS: 800-344-8377) and other utilitycompanies 48 hours prior to locating existing utilities and/or construction activities.
- 6. The Contractor shall preserve and protect all existing utilities at all times during construction. Any damage to utilities resulting from the Contractor's operation shall be restored at his expense.
- 7. The Contractor shall support telephone conduits, storm drains, water and wastewater mains whegoing under said utilities NO SEPARATE PAY ITEM.
- 8. Power poles may have to be braced at the Contractor's expense.
- 9. No machinery, construction access or storage shall be allowed on park property beyond the limits of the temporary workspace as defined by the City of Dallas Project Manager or his/her representatives.

TRAFFIC CONTROL

- I. The Contractor shall develop a traffic control plan in accordance with the City Of Dallas Traffic Barricade Manual, Latest Edition and the TXDOT Texas Manual On Uniform Traffic Control Devices (TMUTCD), Latest Version. NO SEPARATE PAY ITEM.
- 2. The diversion of pedestrians and vehicles during the progress of the work shall be in a manner satisfactory
- 3. The Contractor shall coordinate all traffic variances with Traffic Safety Coordinators at 670-5896 or 683-5189, City Of Dallas Public Works & Transportation.
- 4. Two way traffic shall be maintained at all times and flagmen should be used to maintain two-way traffic
- 5. All barricades, warning signs and traffic control devices shall conform to the City Of Dallas standards.
- 6. When closing side streets, two working days notification is required for Fire, Police, Streets and Sanitation
- 7. Contractor shall maintain access to private driveways at all times during construction.
- 8. Vehicular ingress and egress (entrance and exit) to a business property shall be maintained at all time. If not, specific signs along with business name and direction arrow(s) shall be used for any temporary access locations. Additional signs may be necessary if there is a detour.NO SEPARATE PAY ITEM.

PAVEMENT REPLACEMENT

- . Sawcut, remove and replace pavements, sidewalks, curbs and gutters shall conform to City Of Dallas Public Works & Transportation, Pavement Cuts & Repair Standards Manual, Latest Edition.
- 2. All disturbed pavement markings including, but not limited to, striping, traffic buttons and crosswalks shall be restored to the same or improved condition as per City Of Dallas Specifications For Public Works Construction, Standard Construction Details and all addenda thereto. NO SEPARATE PAY ITEM.

TREES AND LANDSCAPING

I. Contractor shall not damage or remove any trees or landscaping unless otherwise authorized by the City of Dallas Forester. Any trees or landscaping that are damaged or removed during the construction shall be replaced

WATER MAIN AND APPURTENANCES

- I. All 6",8" and 12" water mains shall be PVC C900 (DR-14) water pipe, with Class "C+" embedment.except as noted. All fittings and fire hydrant bases shall be encased with polyethylene wrap.
- 2. All water mains with no profiles shall have a minimum cover of four (4) feet below street grade in an improved street and five (5) feet of cover in an unimproved street or alley.
- 3. Compact fittings are not authorized for this project. All ductile iron pipe, fittings and fire hydrant bases
- 4. All bends, tees fire hydrants and plugs are to be restrained type fittings and to be blocked with Class "B" Concrete as per DWU Standard Drawings *229-234, in addition to restrained joints. 5. If required by the City of Dallas Project Manager or his/her representative, the Contractor shall install
- and accepted by DWU. NO SEPARATE PAY ITEM. 6. If no temporary mains are required by the City of Dallas Project Manager or his/her representative, then the existing water mains are to be in service with the fire hydrants until the new water main has been tested,

temporary water lines on both sides of the street until the new water main has been completed, tested, approved,

- approved and accepted by DWU. NO SEPARATE PAY ITEM. 7. The Contractor will ensure that fire hydrants are accessible to fire trucks at all times.
- 8. The Contractor shall sequence his construction such that no more than one fire hydrant is out of service at
- 9. All fire hydrants shall be installed as per DWU Standard Drawing *224. Existing fire hydrants on killed water lines are to be removed and delivered to DWU Distribution Division at 4120 Scottsdale Street Dallas, Texas if required by the City of Dallas Project Manager or his/her representative, otherwise they become the property
- 10. Backfill made on break repairs to existing water mains may have been made with crushed rock. This could present a cave-in danger to a new ditch; therefore, precautions should be taken by the Contractor. NO SEPARATE PAY ITEM.
- II. Abandon all water valves on existing mains being killed as per DWU Standard Drawing *2/9. NO SEPARATE PAY ITEM.
- 12. The Contractor shall coordinate all water main ties-ins with the City of Dallas Inspectors or his/her representatives. 13. The Contractor shall verify the location and number of all existing active water services and construct new services up to the meter prior to killing existing main.
- 14. Water services greater than 30 feet shall be a minimum of one (I) inch in diameter.

WASTEWATER MAIN AND APPURTENANCES

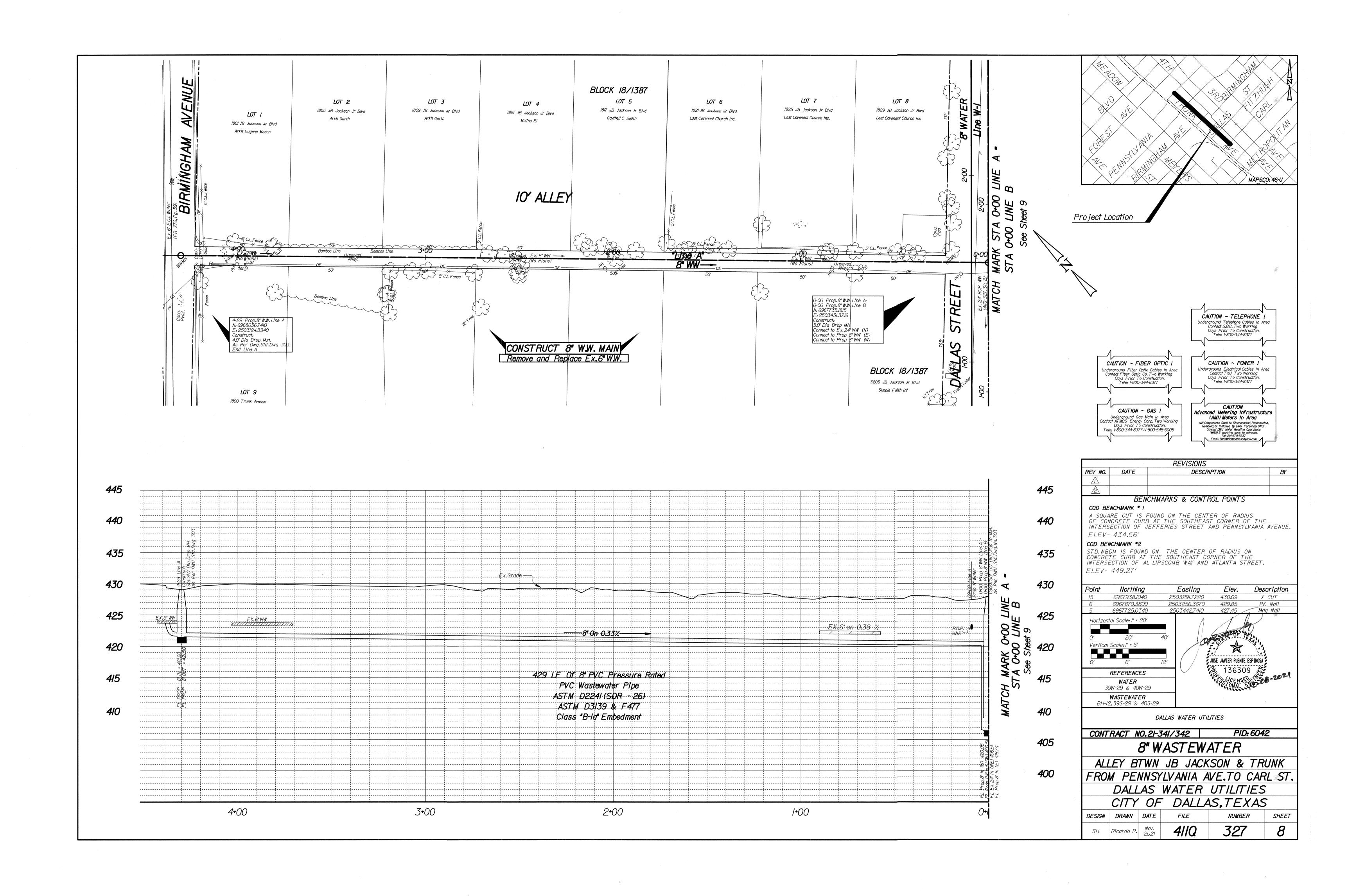
- I. The Contractor shall maintain existing wastewater flow at all times. NO SEPARATE PAY ITEM.
- 2. Abandon all manholes on abandoned wastewater mains.

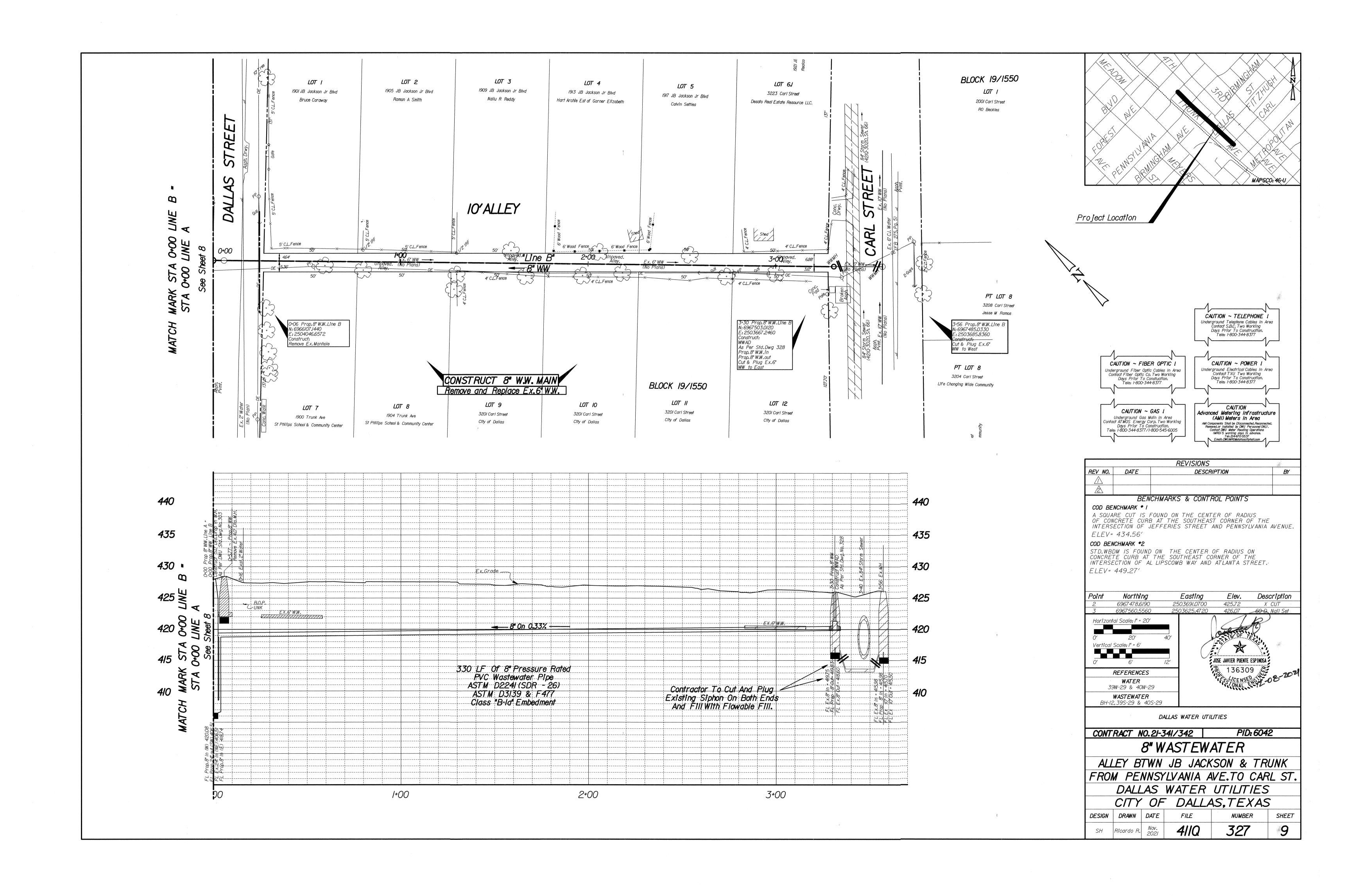
NO SEPARATE PAY ITEM.

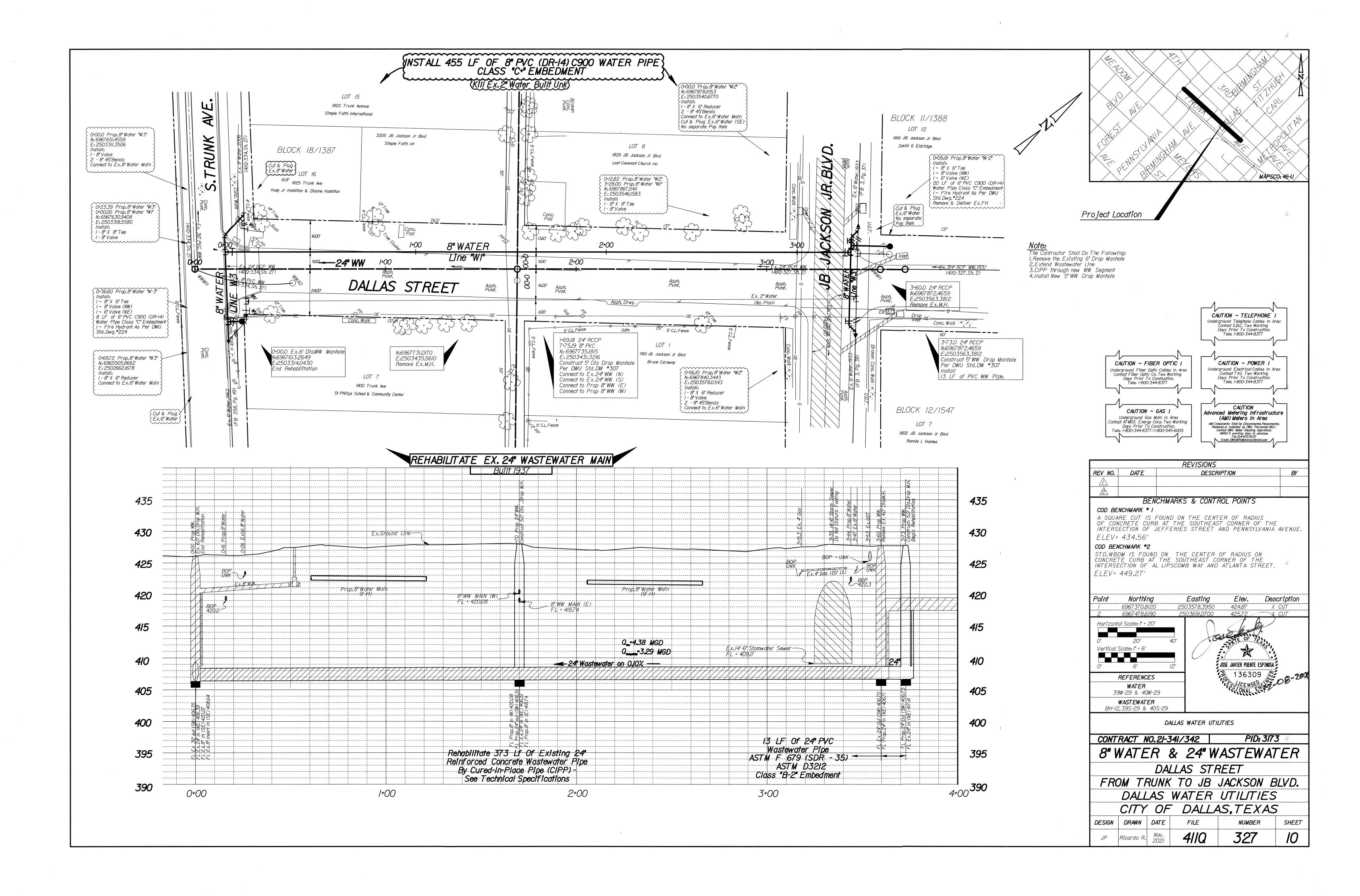
3. The Contractor shall verify the location of all wasterwater laterals and construct new laterals from the wastewater main to the property line with cleanouts and reconnect to the existing laterals. Due testing may be required at no additional cost to the owner.

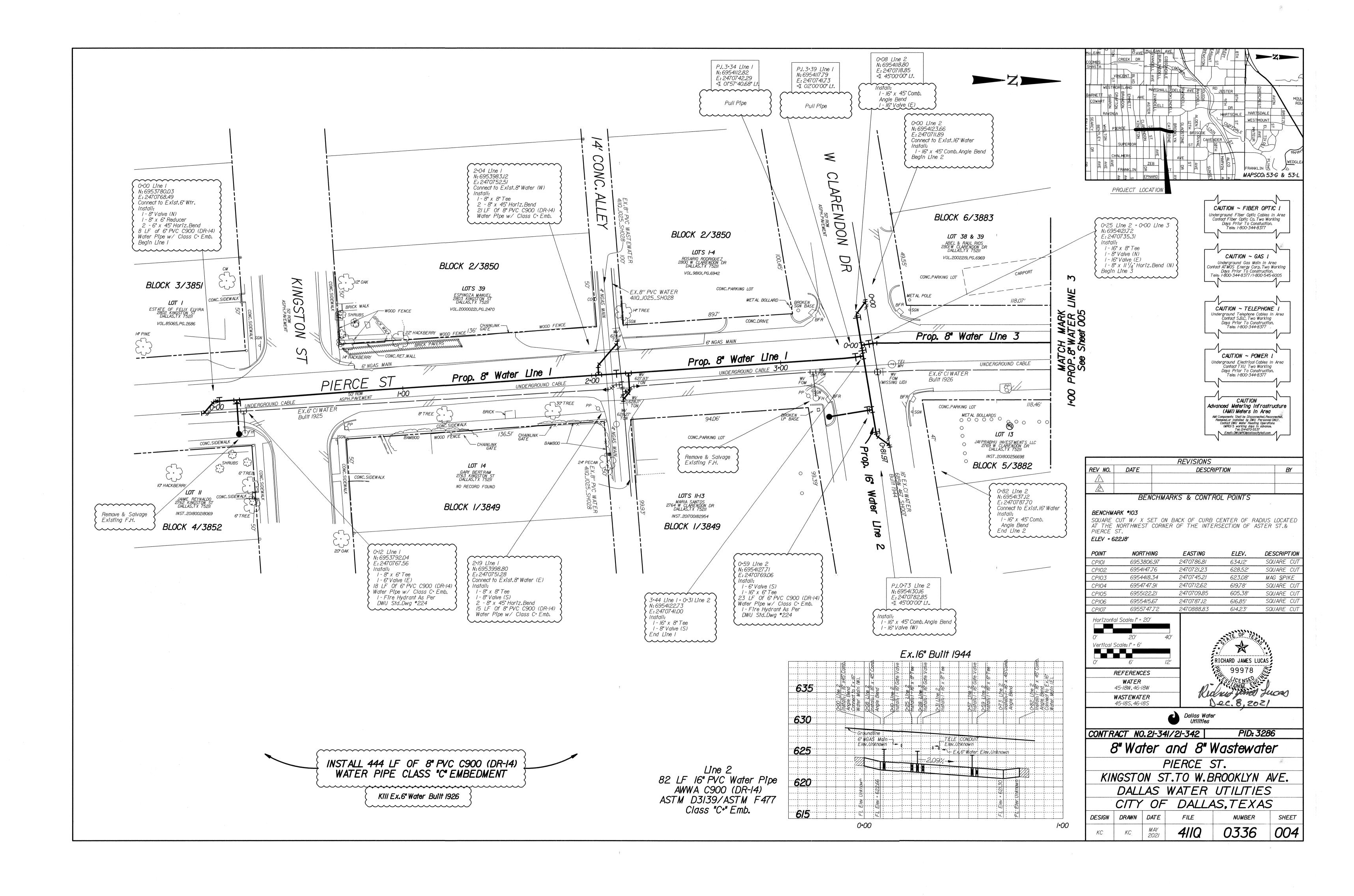
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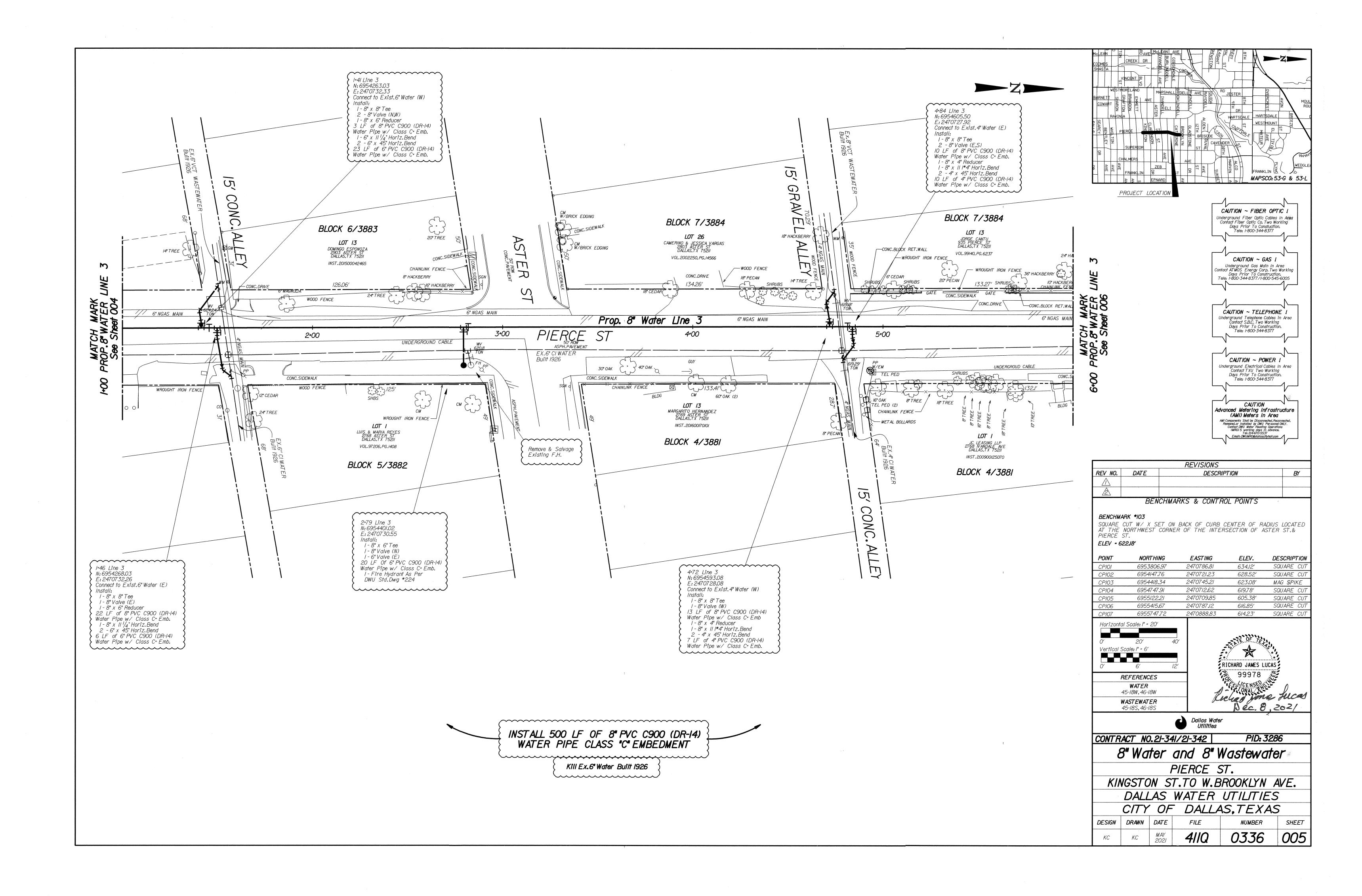
- 4. Prior to reconnection of the wastewater laterals, the Contractor shall verify whether the existing lateral is active or inactive. The Contractor is required, as a minimum, to include T.V. surveying and perform dye testing. All laterals determined to be inactive shall not be reconnected. The City of Dallas Project Manager or his/her representative shall approve all laterals targeted for reconnection. NO SEPARATE PAY ITEM.
- 5. The backfill around manholes located in existing or new pavement shall be flowable backfill as per Items 504.6.6 And 504.2.3.4 of the NCTCOG Standard Specifications.

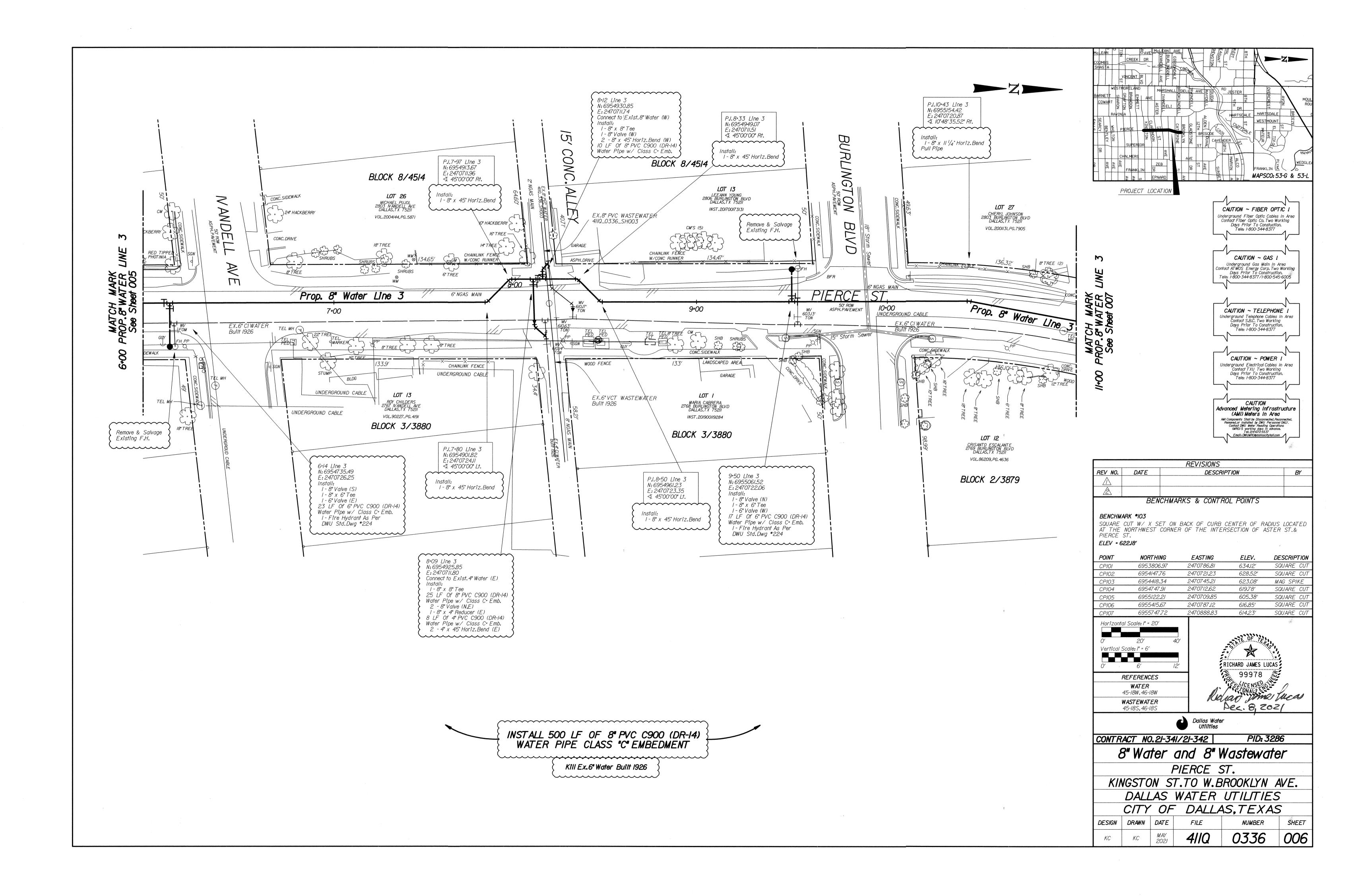


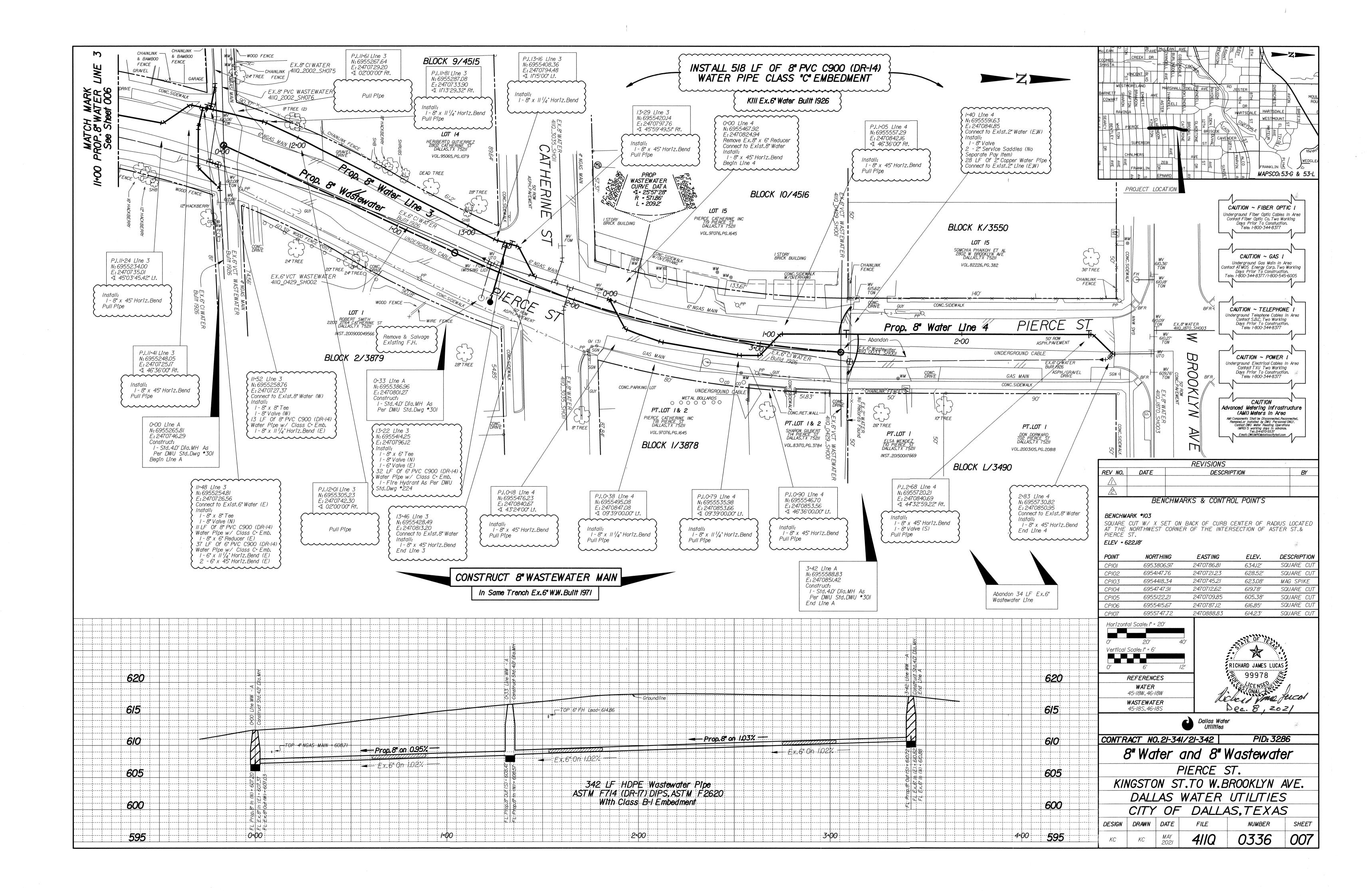


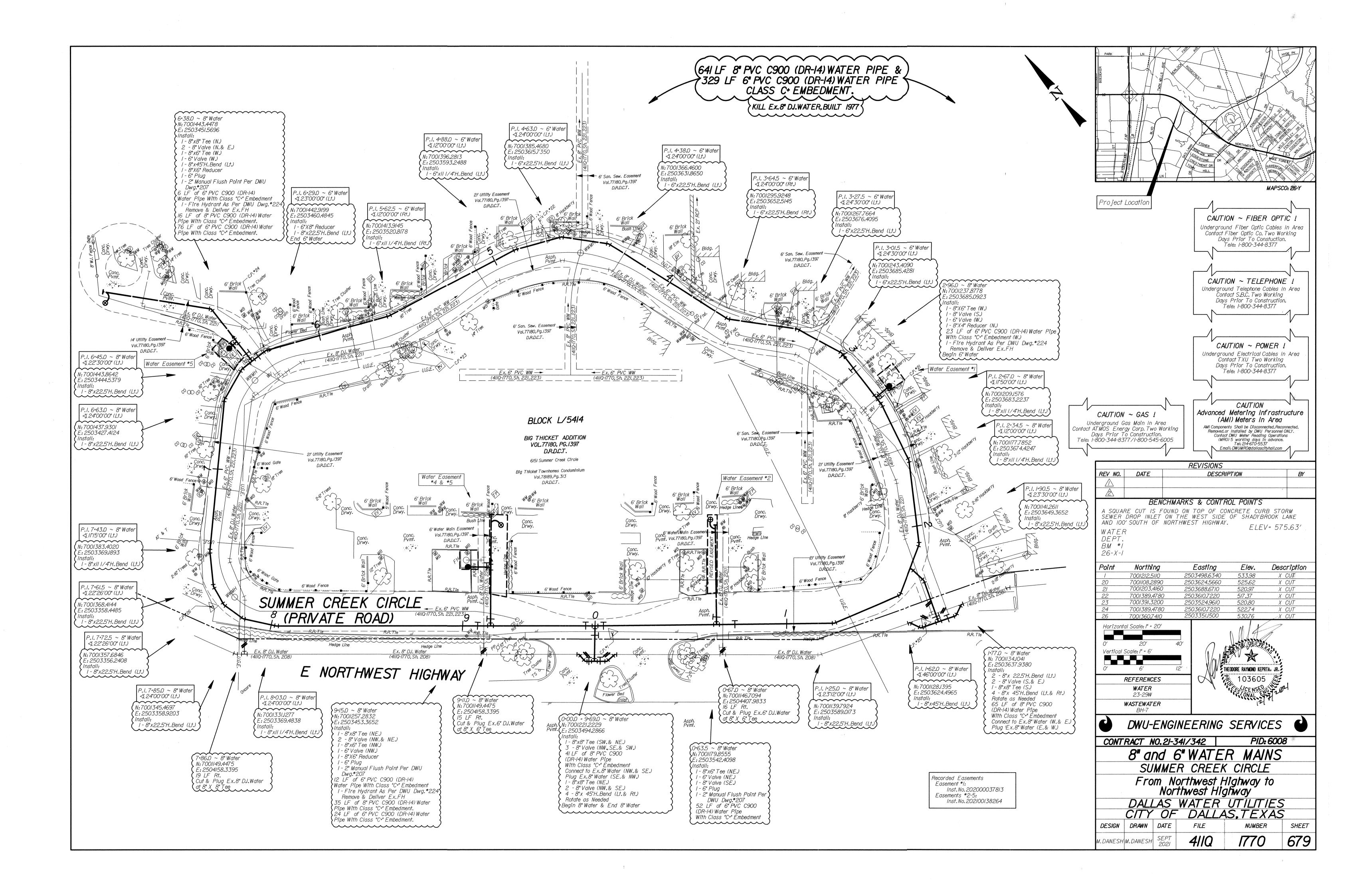


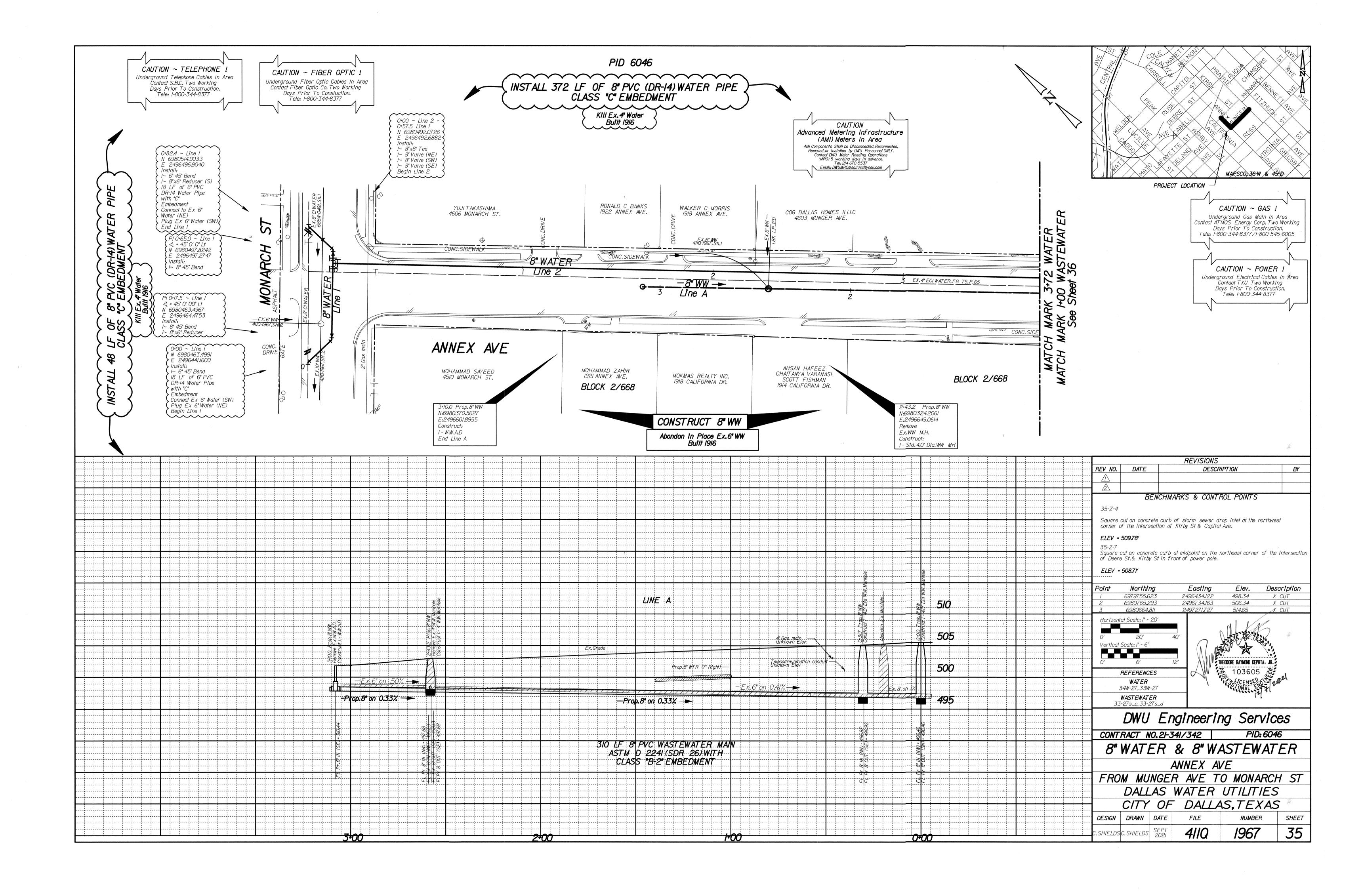


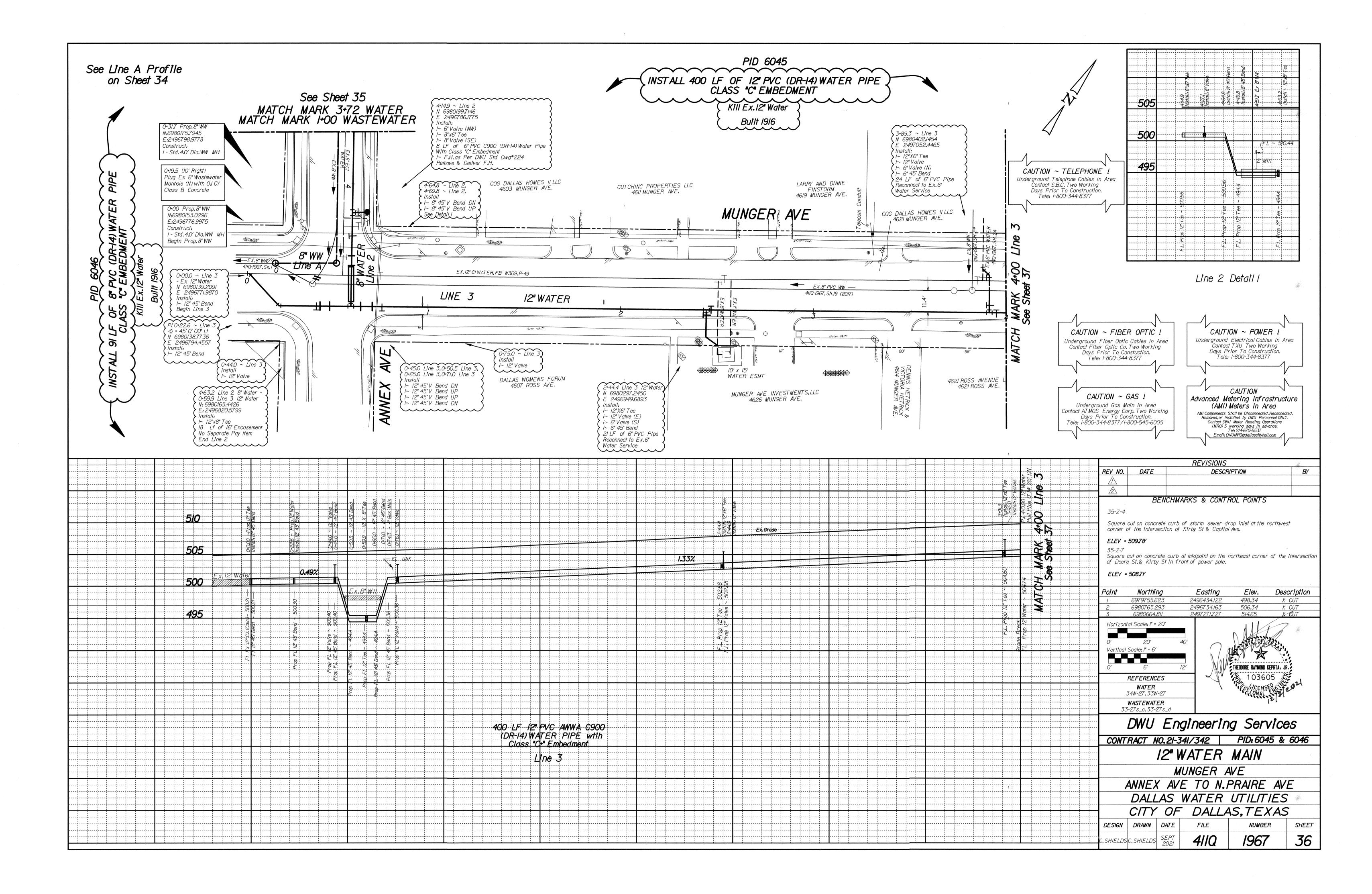


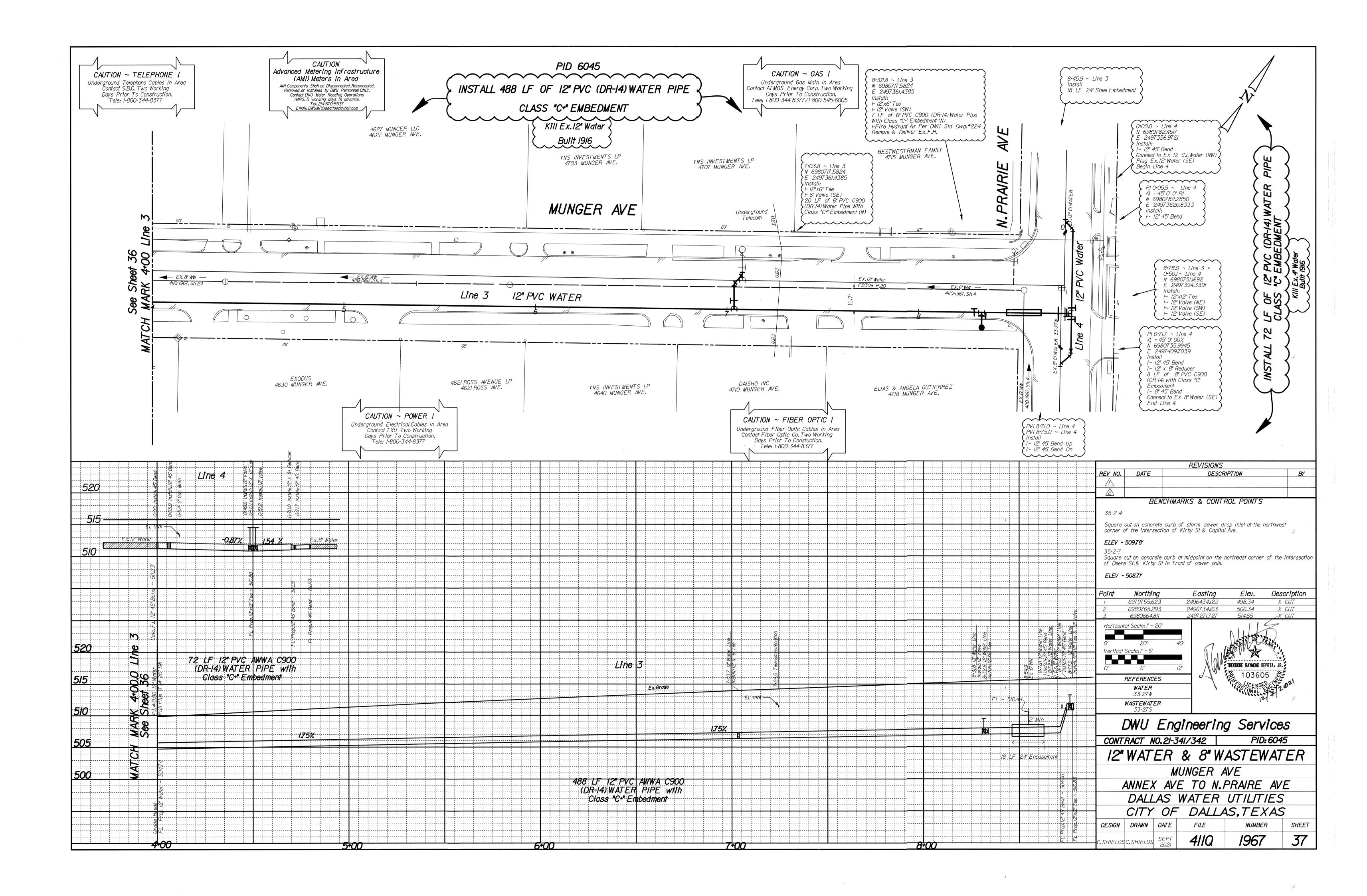


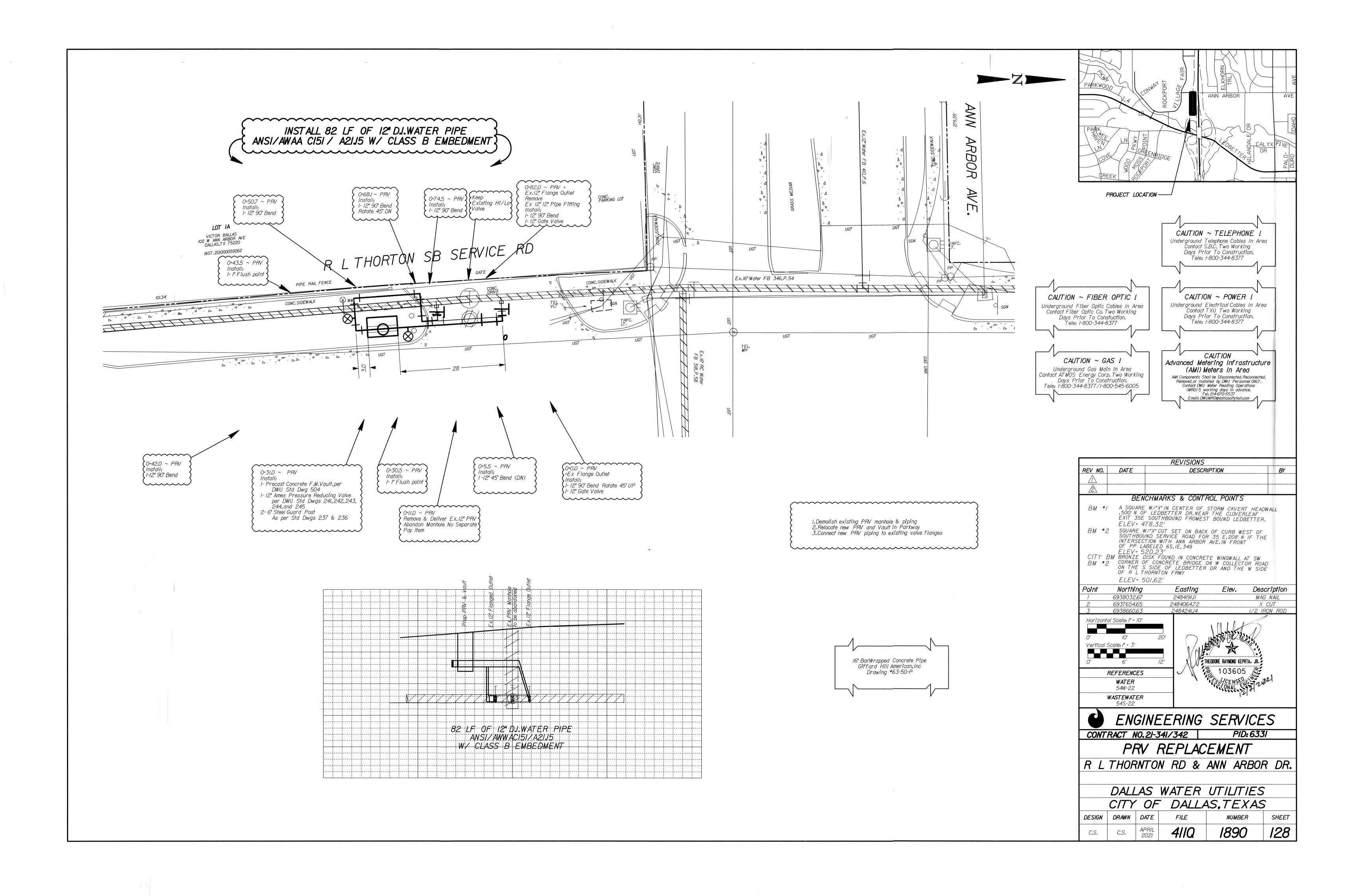


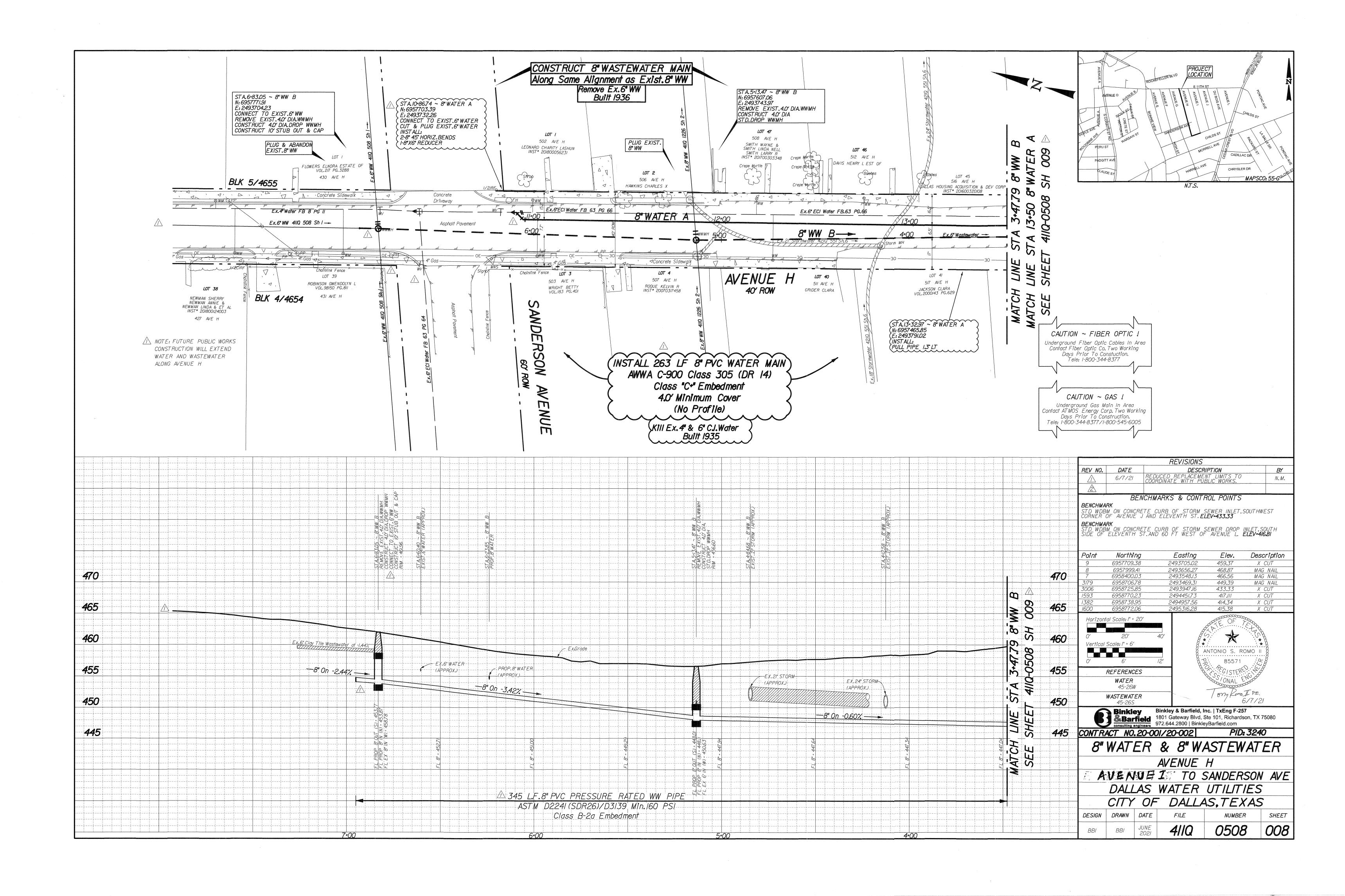


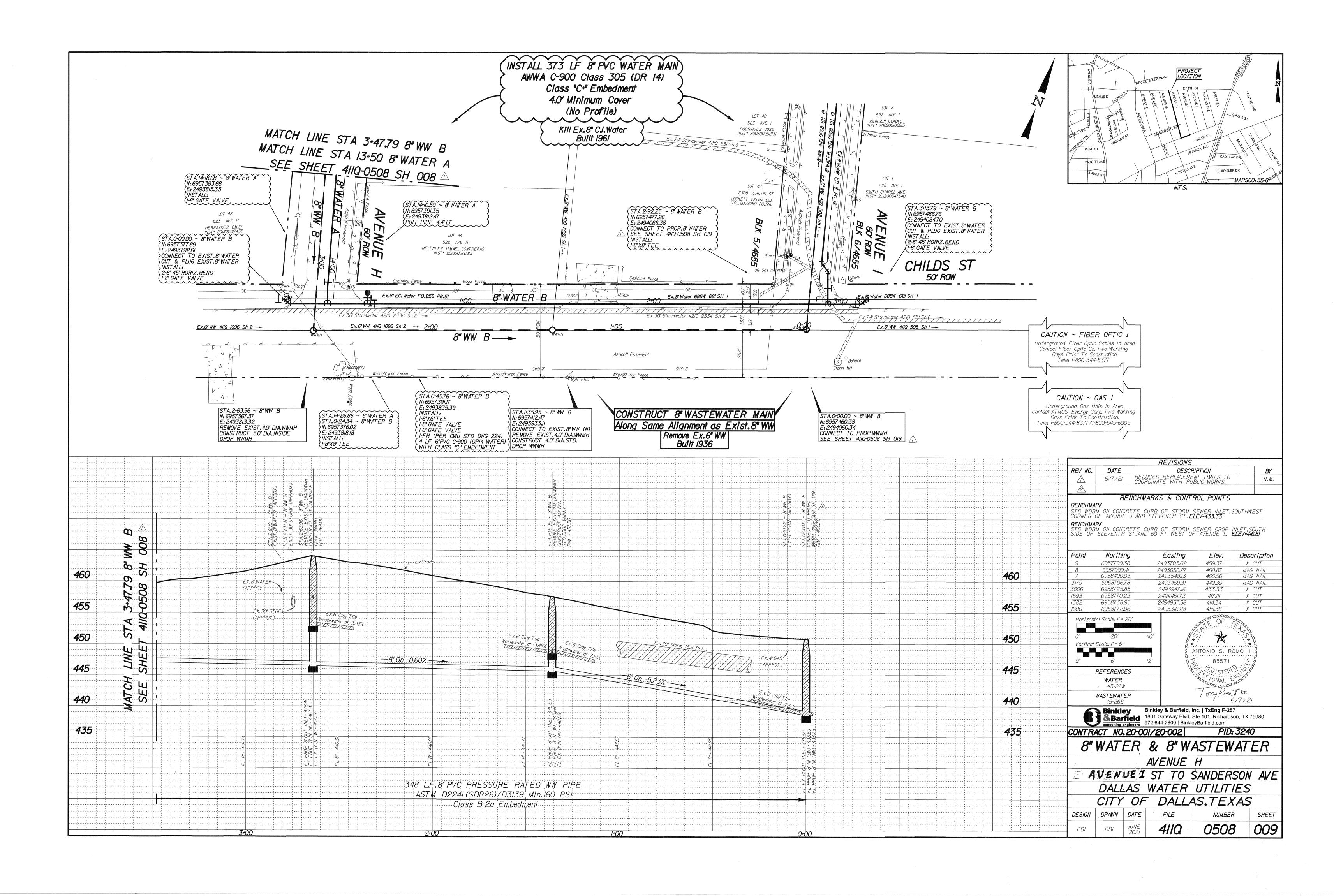


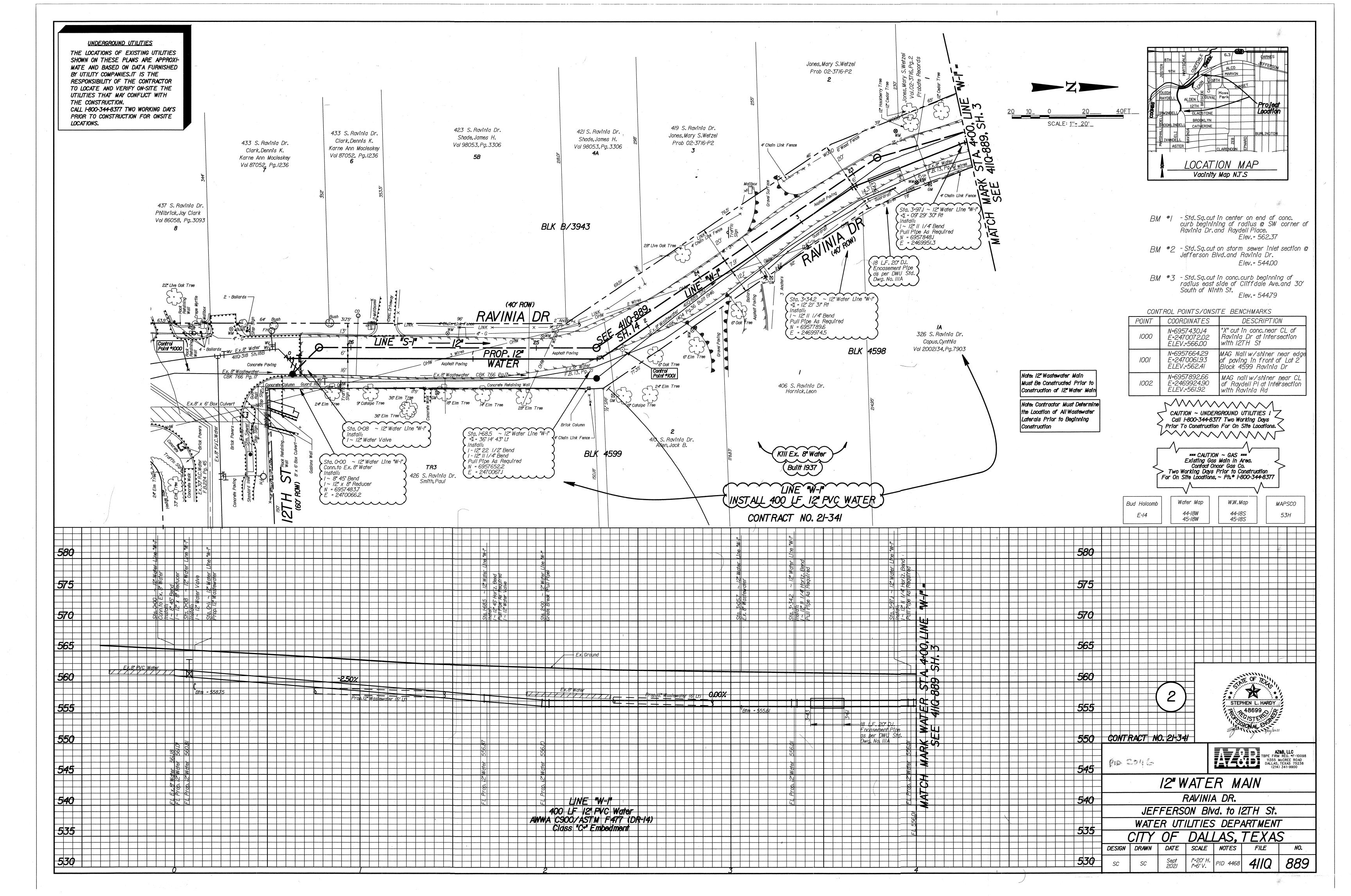


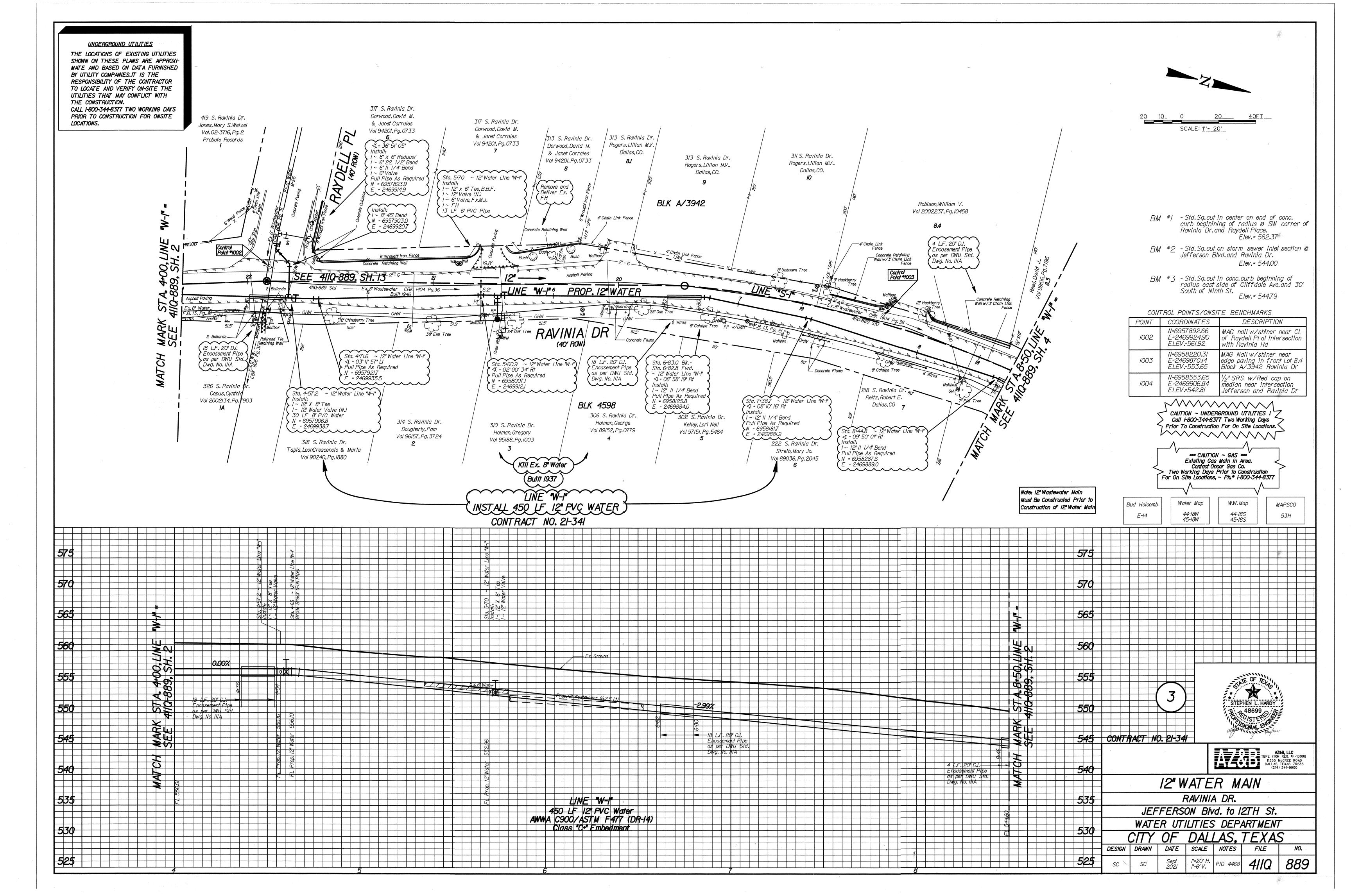


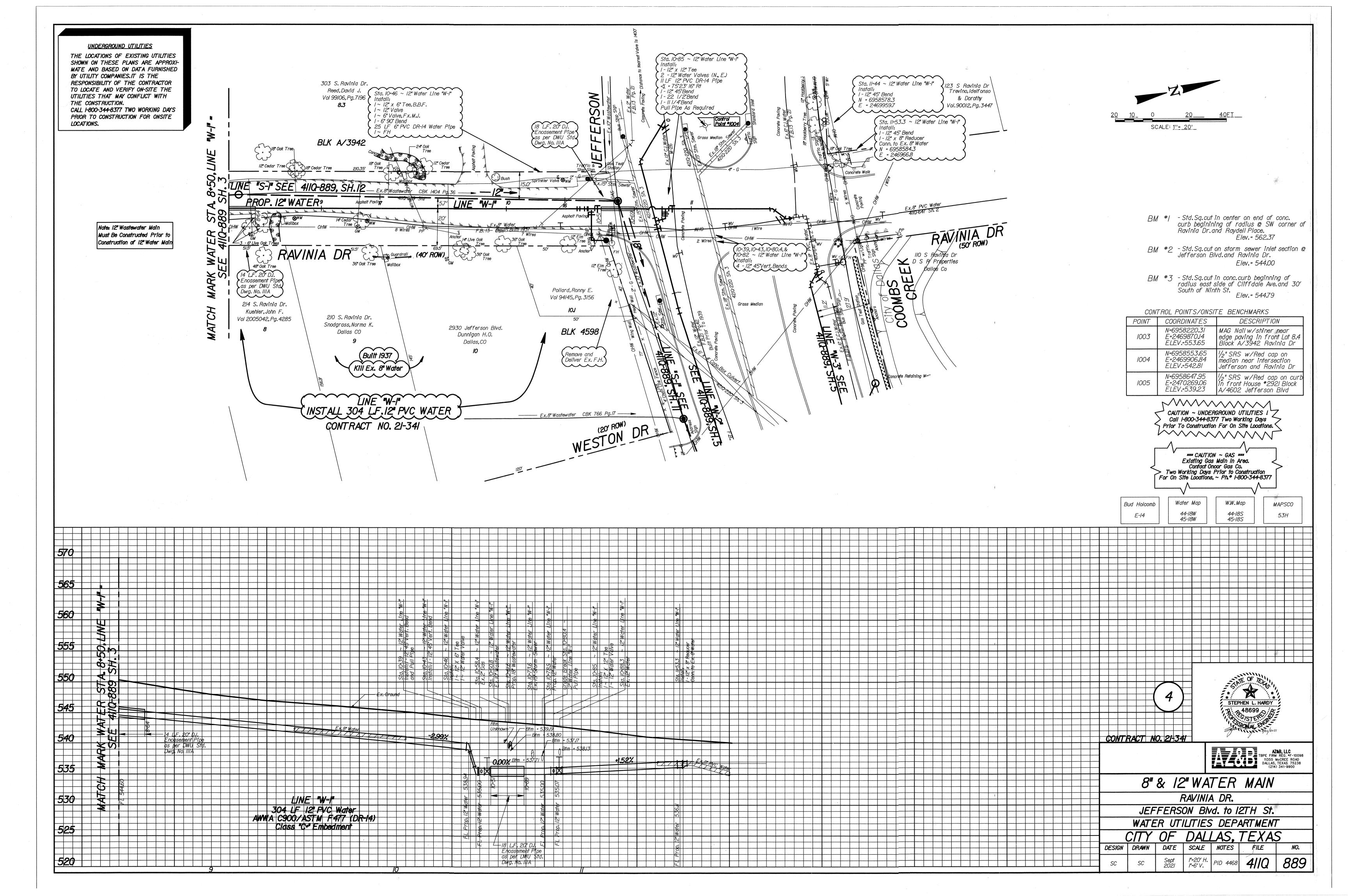


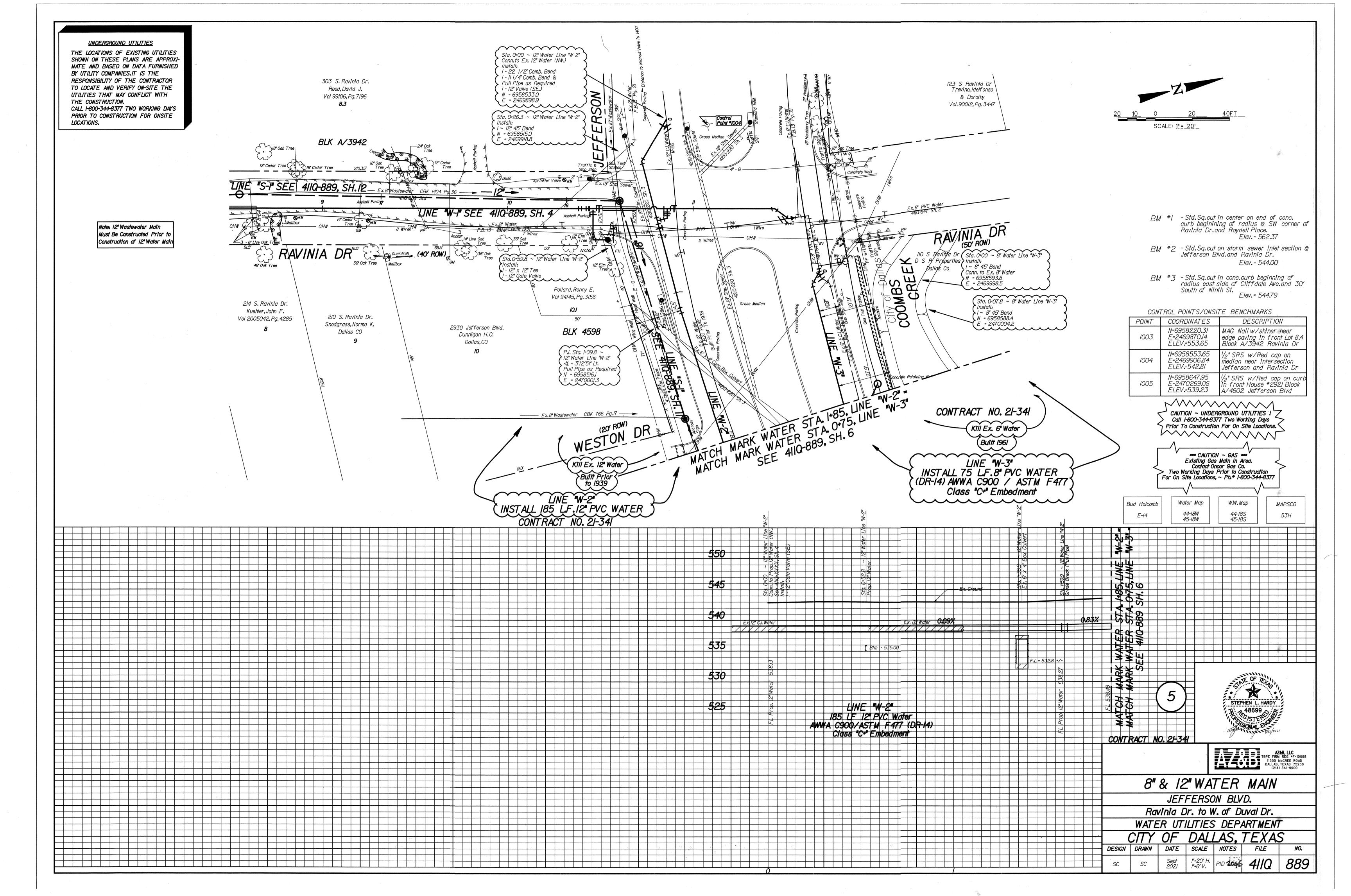


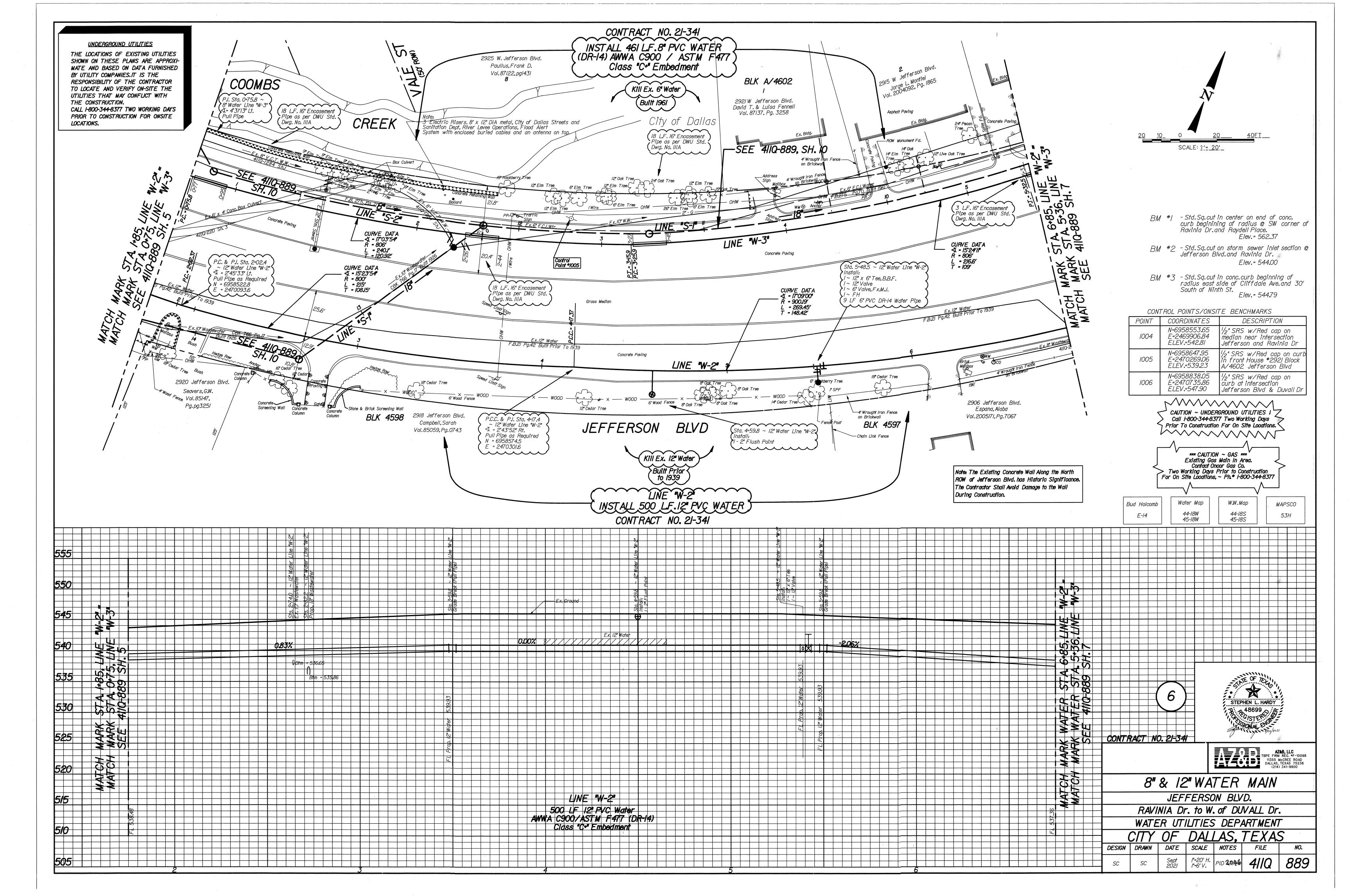


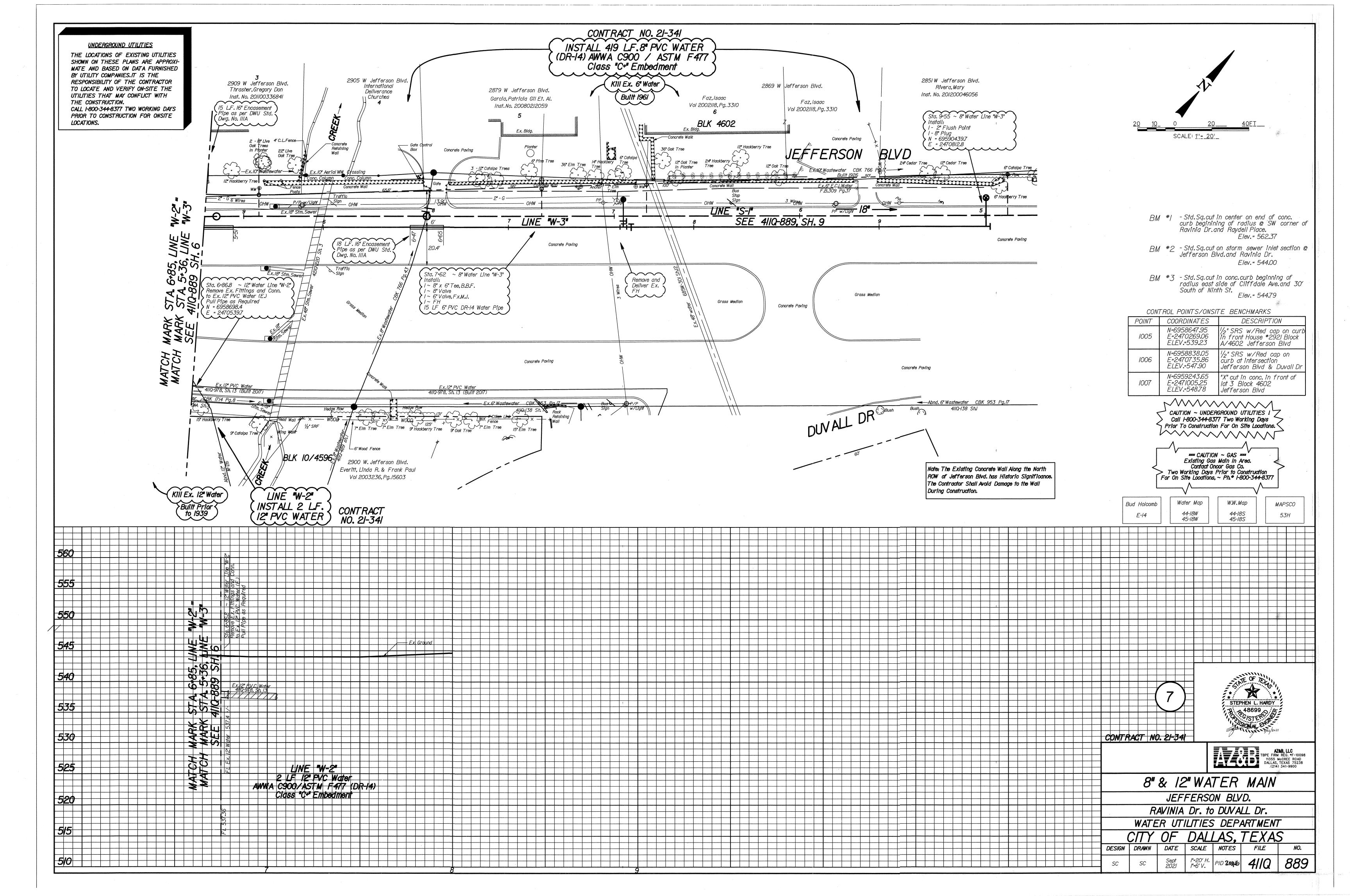


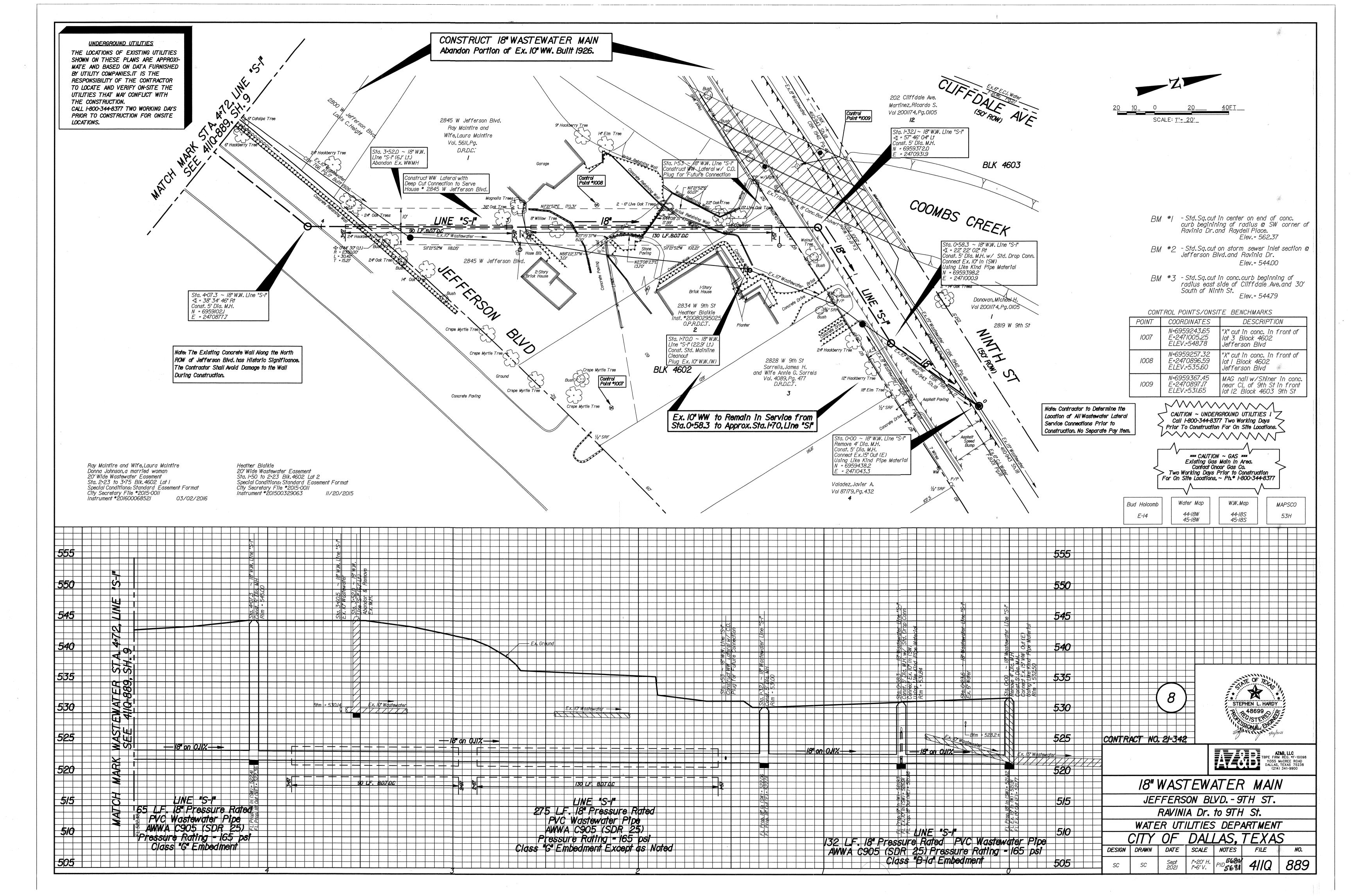


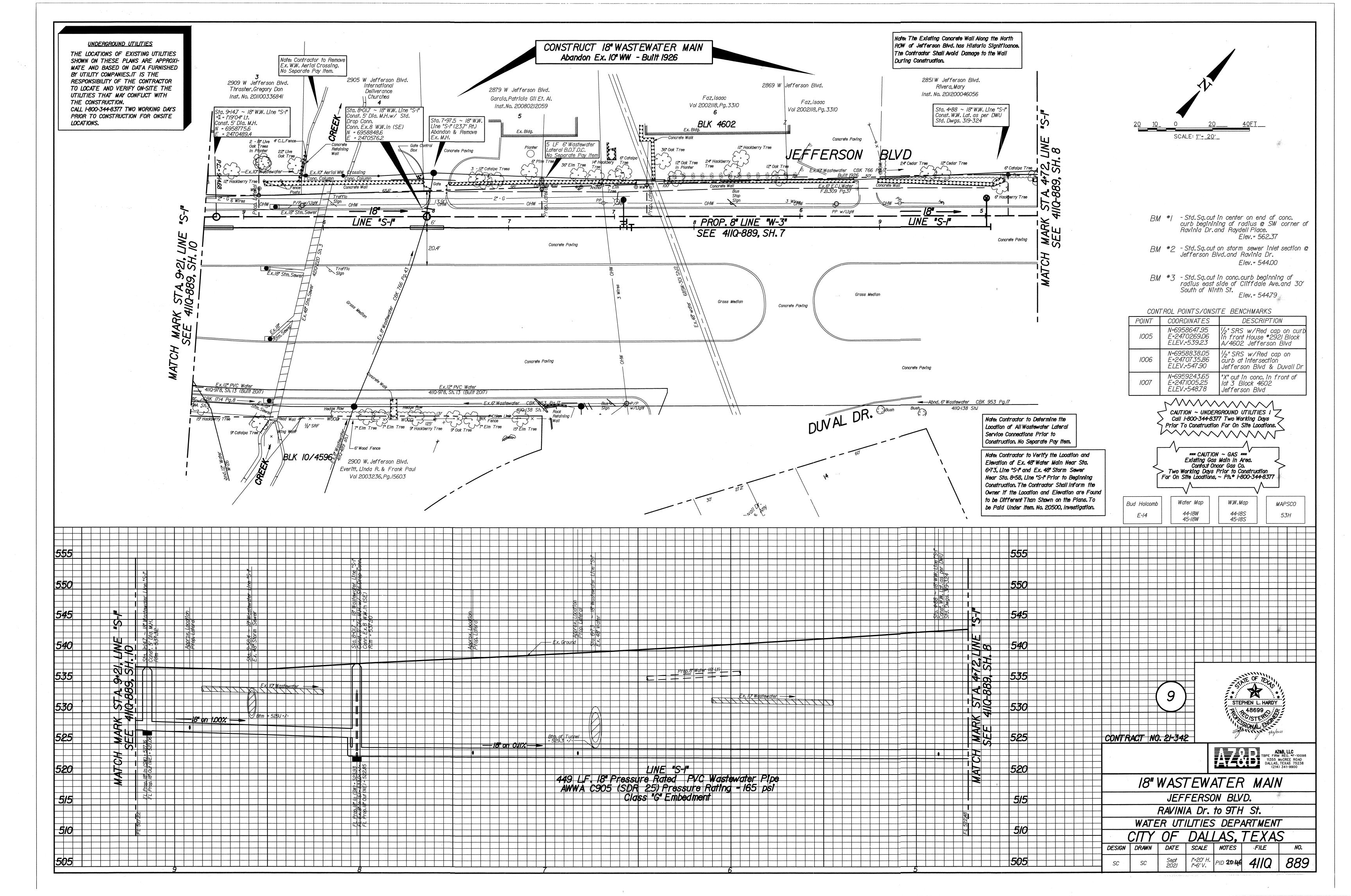


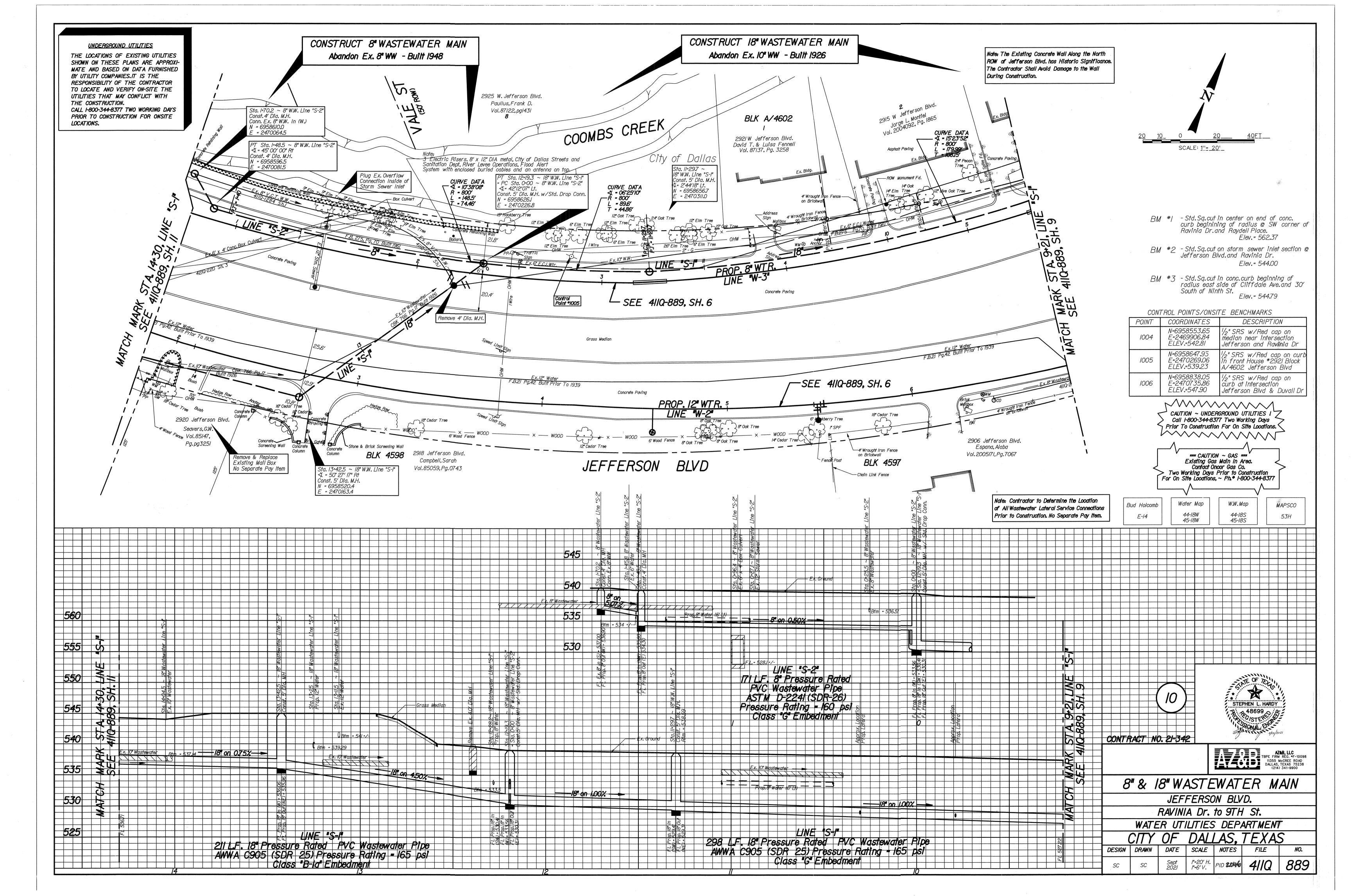


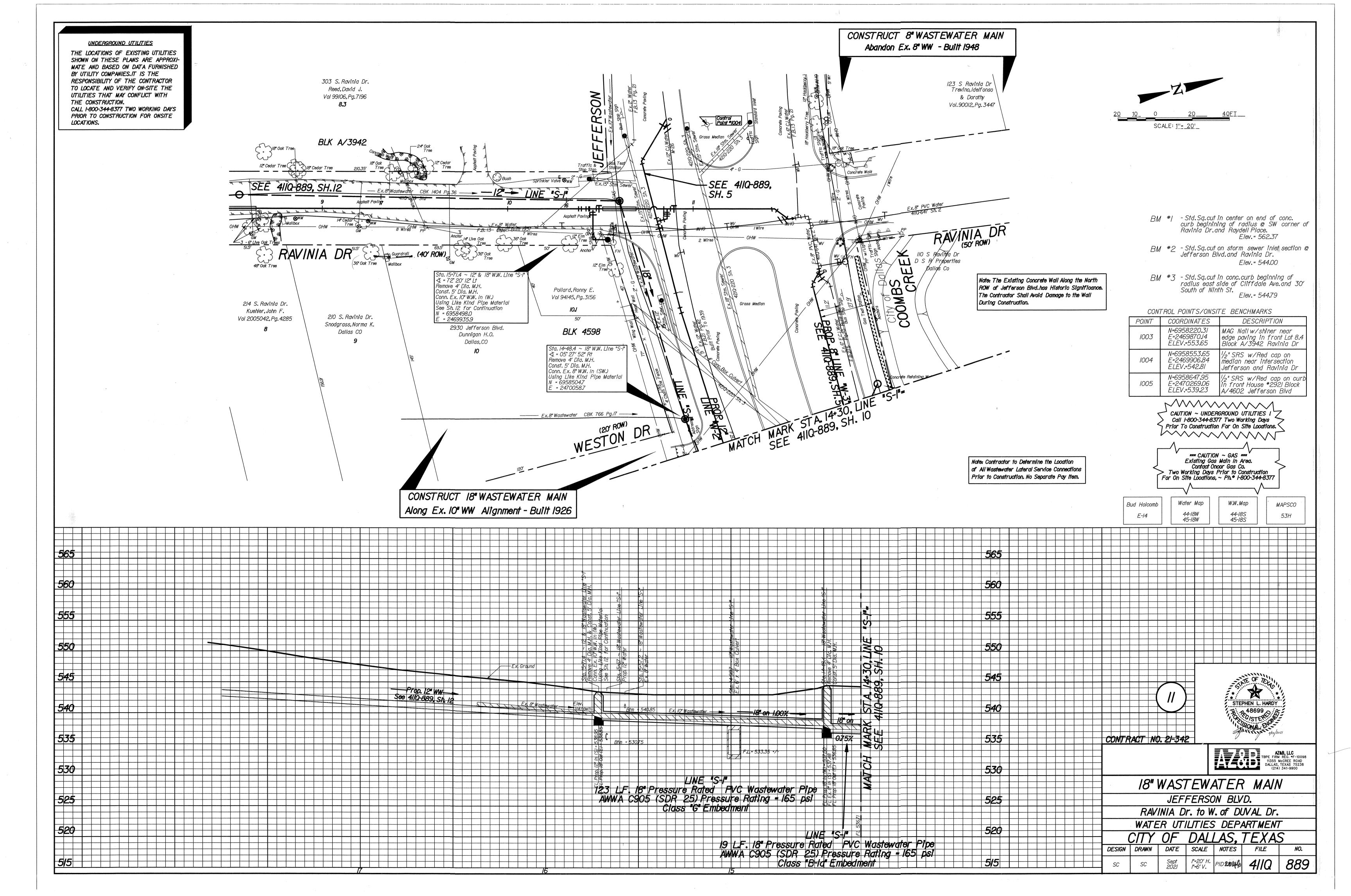


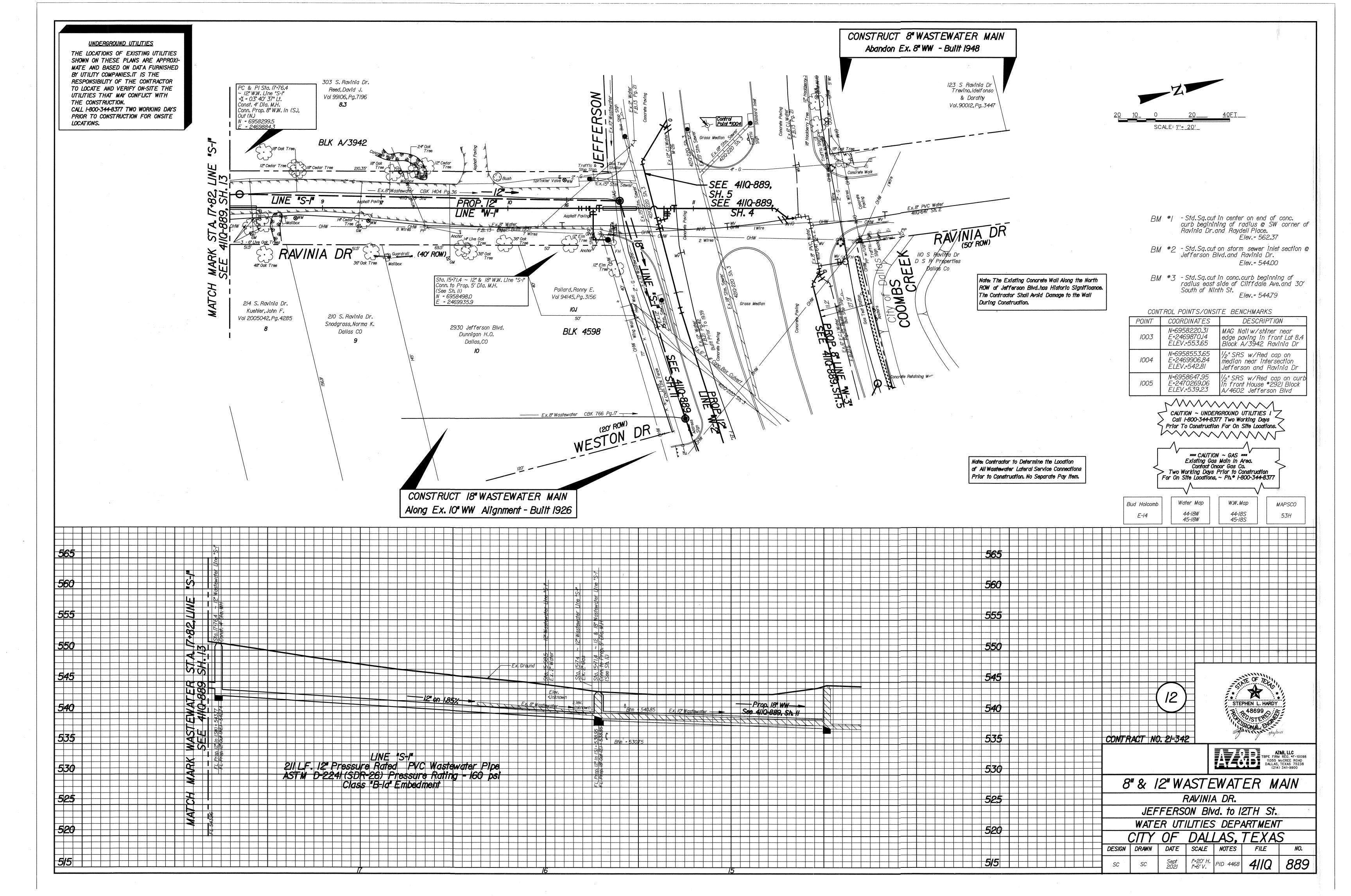


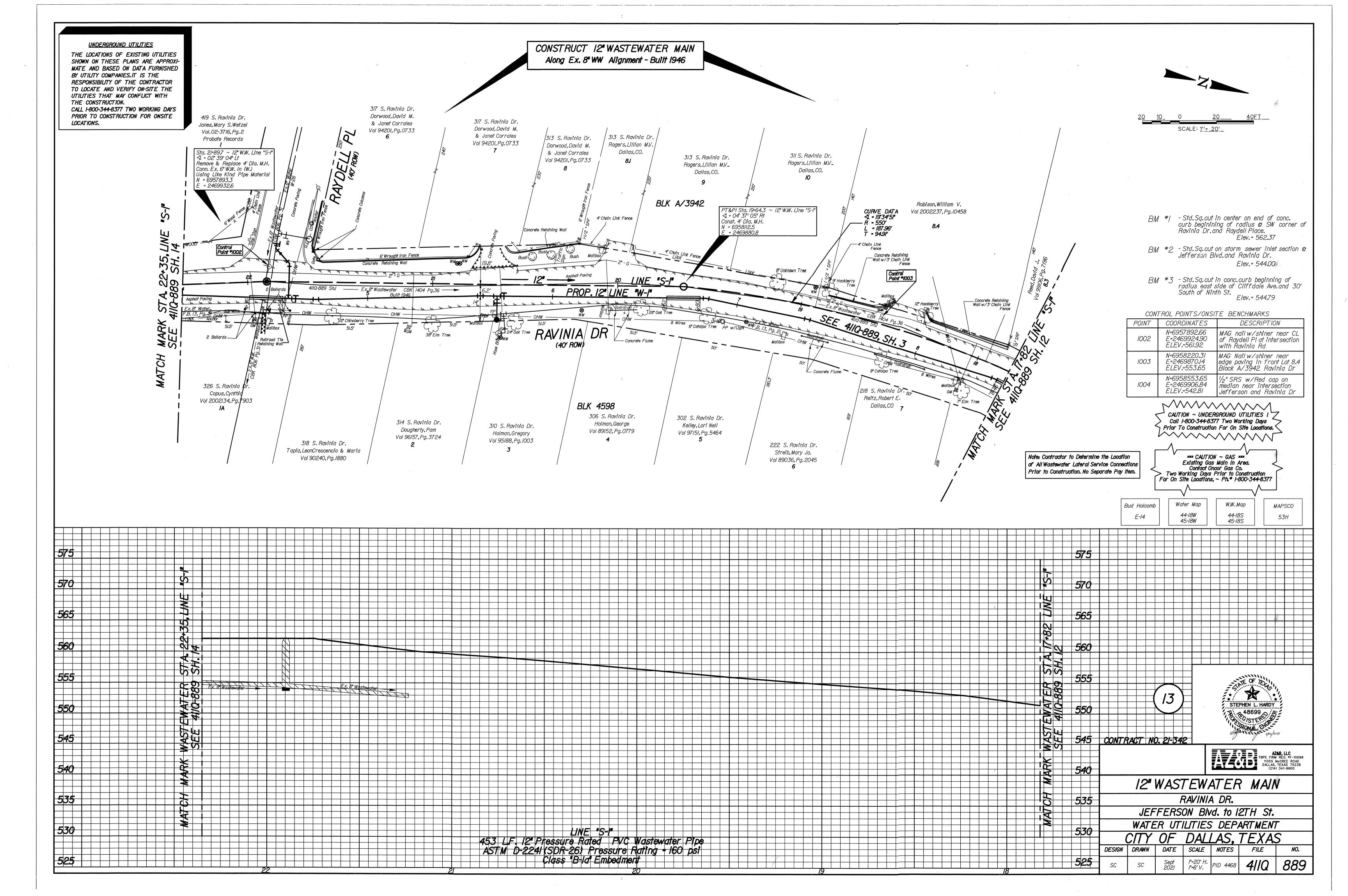


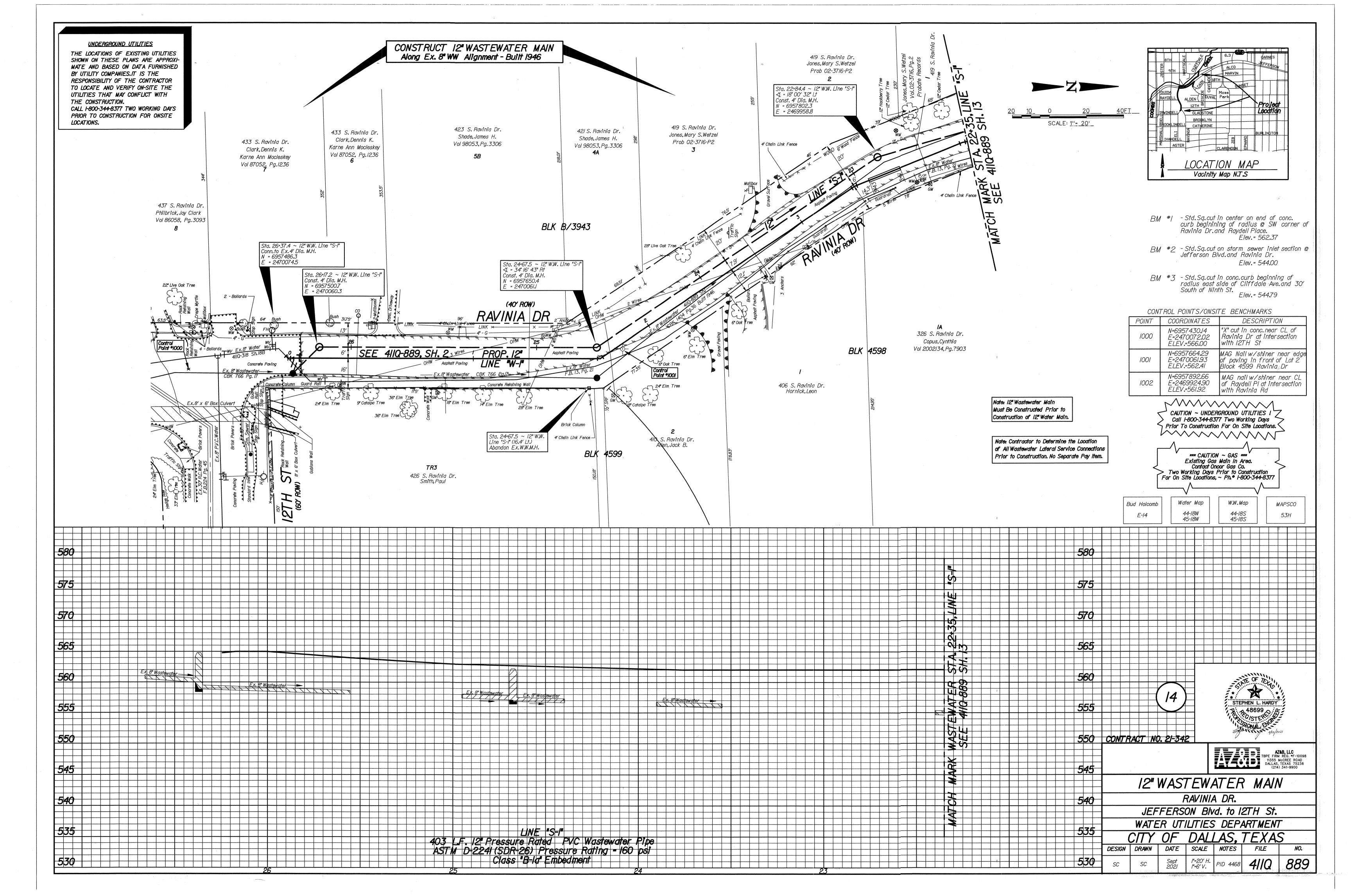










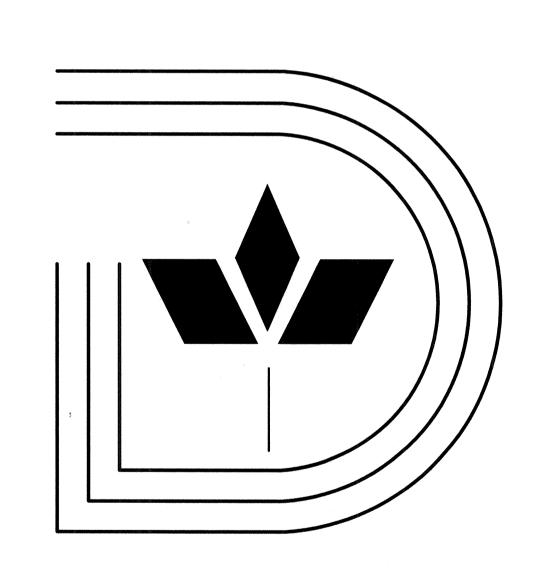


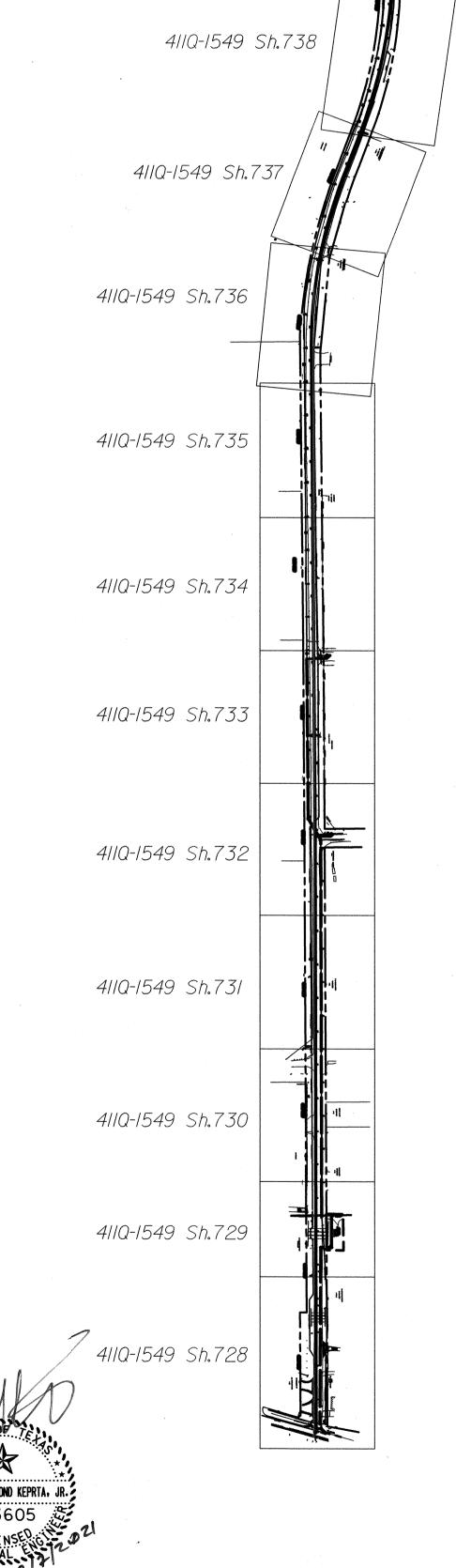
LUNA ROAD FROM NORTHWEST HIGHWAY TO ROYAL LANE PID 1210

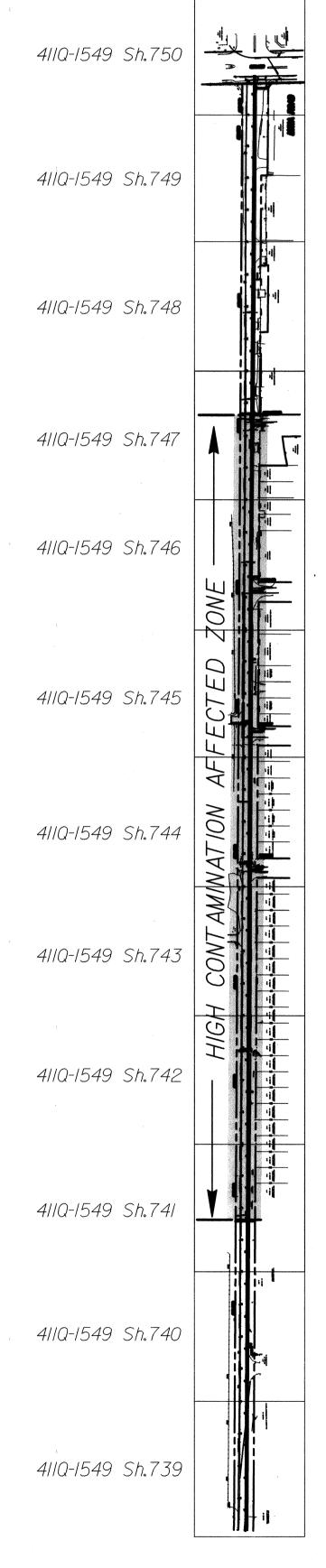
SCHEDULE B

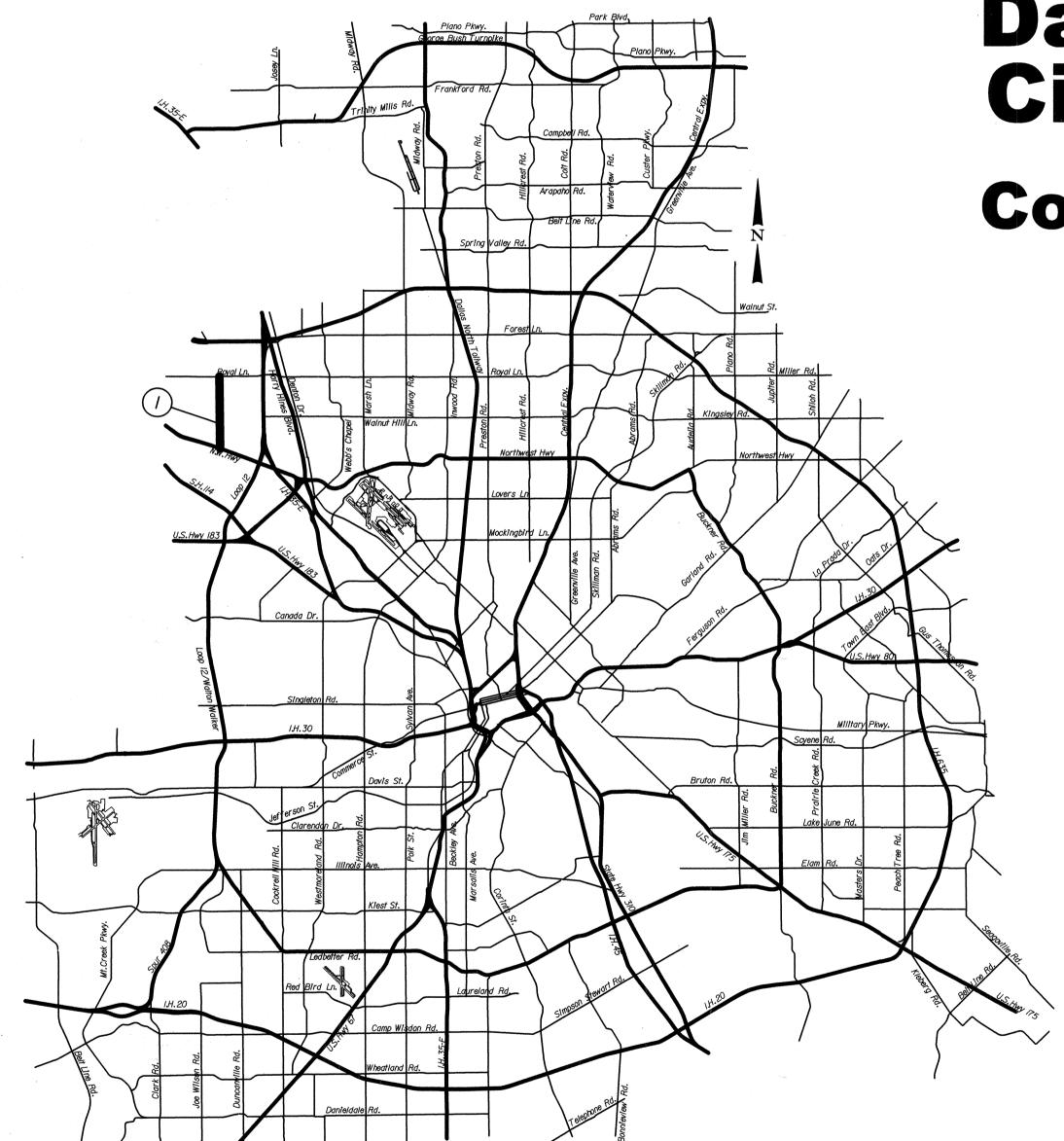
Dallas Water Utilities City Of Dallas, Texas

Contract No.: 21-341/342 November 2021









GENERAL		STORM DRAINS			Exist. 45° Fitting
		<u>STORM E</u>	Exist.Storm Drain	А	
⊕ _{BM} ∧ CP	Benchmark		Exist.Storm Manhole	д	Exist.90° Fitting
<u></u>	Control Point	(S)		-	Exist.Reducer
O _{IPF}	Iron Pin Found		Exist.Storm Inlet	д	Exist.Tee
[⊕] IPS	Iron Pin Set	{	Prop.Storm Drain	- 	Exist.Tapping Sleeve
	Exist.ROW	(\$) /	Prop.Storm Manhole	#	Exist.Cross
-	Prop.ROW	ゴニ UTILITIE	Prop.Storm Inlet		Exist.Plug
	ROW Centerline	OTILITIE	,		Exist.Blind Flange
	Alley ROW	G	Exist.Gas Line	//	Cut & Plug
	Exist.Easement	<u></u>	Exist.Gas Manhole	Н	Prop.II.25° Fitting
	Prop.Easement	UE	Exist.Underground Electric Line	Н	Prop. 22.5° Fitting
—— ——	Corporation Line Marker	OE	Exist.Overhead Electric Line	A	Prop.45° Fitting
	Exist.Structure/Building	ET	Exist.Electric Pad Mounted Transformer	႕	Prop.90° Fitting
	Prop. Structure/Building	ø	Exist.Electric Power Pole	•	Prop.Reducer
	Underground Structure/Building		Exist.Electric Pole Anchor	A	Prop.Tee
	Bank/Slope Line	(E)	Exist.Electric Utility Manhole	4	Prop.Tapping Sleeve
	Flow Line/Stream Line	EV	Exist.Electric Vault		Prop.Plug
■ ВН	Bore Hole		Exist.Telephone Line		Prop.Blind Flange
<u>TOPOGRAPHI</u>	C FEATURES	T	Exist.Telephone Utility Manhole	Т	Exist.Gate Valve
	Tree	TP	Exist.Telephone Pedestal	\bigcirc	Exist.High/Low Valve
	Brush, Shrub, Wood	F0	Exist.Fiber Optic Line		Exist.Check Valve
* *	Swamp	F	Exist.Fiber Optic Manhole	\otimes	Exist.Flush Point
\overline{M}	Mail Box	CATV	Exist.Cable TV Line	$igotimes_{_{A\!V}}$	Exist.Air Valve
0	Bollards	C	Exist.Cable TV Manhole	$\bigcirc_{_{TS}}$	Exist.Cathodic Test Station
	Irrigation Control Valve	WATER MAINS & AF	PPURTENANCES	Т	Prop.Gate Valve
xx	Chain Link/Other Fence		Exist.6" Water Main	lacktriangle	Prop.High/Low Valve
*	Wood Fence		Exist.8" to 27" Water Main	- 	Prop.Check Valve
0	Wrought Iron Fence		Exist.30" or Larger Water Main	⊗	Prop.Flush Point
1	Brick Wall		Prop.6" Water Main	$oldsymbol{\otimes}_{\scriptscriptstyle A\!V}$	Prop. Air Valve
	Concrete Wall		Prop.8" to 27" Water Main	$lackbox{lack}_{TS}$	Prop.Cathodic Test Station
	Retaining Wall		Prop.30" or Larger Water Main		NS & APPURTENANCES
@	Parking Meter		Future Water Main		Exist.6" to 27" Wastewater Main
- 0 -	Traffic Sign	⊗	Exist.Water Meter		Exist.30" or Larger Wastewater Main
	Traffic Signal Pole	0	Exist.Water Manhole		Prop.6" to 27" or Larger Wastewater Main
*	Street Lamp		Exist.Water Vault		Prop.30" or Larger Wastewater Main
	Railroad,Each Track	$O_{{\scriptscriptstyle{FH}}}$	Exist.Fire Hydrant	0	Exist.Wastewater Manhole
PAVEMENT		0	Prop.Water Manhole	Ο	Exist.Wastewater Access Device
	Exist.Gravel	\boxtimes	Prop.Water Vault	${\sf O}_{\it CO}$	Exist.Wastewater Cleanout
	Exist. Asphalt	•	Prop.Fire Hydrant	O	Prop.Wastewater Manhole
	Exist.Brick	Н	Exist.II.25° Fitting	0	Prop.Wastewater Access Device
P	Exist.Concrete	Н	Exist.22.5° Fitting	0	Prop.Wastewater Cleanout
	Prop. Pavement	、 ·		Ø	Remove & Replace Exist.Manhole
				•	

GENERAL

- I. All work shall be done in accordance with the North Central Texas Council Of Governments (NCTCOG) Standard Specifications for Public Works Construction (Version 4) and City of Dallas Addendum (October, 2011) to these specifications.
- 2. Reference to standard drawings shall mean those shown in the DWU Standard Drawings for Water & Wastewater Construction Edition 1.0 (October, 2012).
- 3. All items of work required to complete the work as shown or implied by the plans and as specified in the contract documents which are not listed as a pay item in the proposal shall be considered subsidiary.
- 4. The location, elevations and dimensions of existing utilities shown on the plans as obtained from The City of Dallas and utility company records, are considered approximate. The Engineer does not certify that all utilities are shown. The Contractor shall verify exact locations, sizes and depths of existing utilities before begining construction (including ordering pre-cast manholes and concrete pipe if applicable, NO SEPARATE PAY ITEM
- 5. The Contractor shall contact Texas Excavation Safety System (800-DIG-TESS: 800-344-8377) and relevant utility companies 48 hours prior to locating existing utilities and/or construction activities.
- 6. The Contractor shall preserve and protect all existing utilities at all times during construction. Any damage to utilities resulting from the Contractor's operation shall be restored at his expense.
- 7. The Contractor shall support telephone conduits, storm drains, water and wastewater mains when going under said utilities. NO SEPARATE PAY ITEM.
- 8. Power poles may have to be braced at the Contractor's expense.
- 9. No machinery, construction access or storage shall be allowed on park property beyond the limits of the temporary workspace as defined by the City of Dallas Inspector.

TRAFFIC CONTROL

- I. The Contractor shall develop a traffic control plan in accordance with the City Of Dallas Traffic Barricade Manual, Latest Edition and the TXDOT Texas Manual On Uniform Traffic Control Devices (TMUTCD), Latest Version as necessary. NO SEPARATE PAY ITEM.
- 2. The Contractor shall submit the traffic control plan to the City of Dallas on-line Right of Way system for approval.
- 3. The diversion of pedestrians and vehicles during the progress of the work shall be in a manner satisfactory to the City of Dallas Inspector.
- 4. The Contractor shall coordinate all traffic variances with Traffic Safety Coordinators at 670-5896 or 683-5189, City Of Dallas Public Works & Transportation.
- 5. Two way traffic shall be maintained at all times and flagmen should be used to maintain two-way traffic as necessay.
- 6. All barricades, warning signs and traffic control devices shall conform to the City Of Dallas standards. NO SEPARATE PAY ITEM.
- 7. When closing side streets, two working days notification is required for Fire, Police, Streets and Sanitation Departments. Please contact Gary Maxwell at 670-5896 or mobile 683-5189 to notify traffic restrictions.
- 8. Contractor shall maintain access to private driveways at all times during construction.
- NO SEPARATE PAY ITEM.

 9. Vehicular ingress and egress (entrance and exit) to a business property shall be maintained at all time.
- If not, specific signs along with business name and direction arrow(s) shall be used for any temporary access locations. Additional signs may be necessary if there is a detour.NO SEPARATE PAY ITEM.

PAVEMENT REPLACEMENT

- I. The Contractor shall all permit requests to the City of Dallas on-line Right of Way system for street cut permits.
- 2. Sawcut, remove and replace pavements, sidewalks, curbs and gutters shall conform to City Of Dallas Public Works & Transportation. Pavement Cuts & Repair Standards Manual. Latest Edition.
- 3. All disturbed pavement markings including, but not limited to, striping, traffic buttons and crosswalks shall be restored to the same or improved condition as per City Of Dallas Specifications For Public Works Construction, Standard Construction Details and all addenda thereto. NO SEPARATE PAY ITEM.

TREES AND LANDSCAPING

I. Contractor shall not damage or remove any trees or landscaping unless otherwise authorized by the City of Dallas Inspector. Any trees or landscaping that are damaged or removed during the construction shall be replaced by the contractor at his expense.

EMBEDMENT DETAIL COMPACTED BACKFILL PER SOIL GROUNDWATER MANAGEMENT PLAN (95% OF STANDARD CARRIER PIPE \ PROCTOR DENSITY MINIMUM) CEMENT STABILIZED SAND EMBEDMENT PER NOTE 1 RIRIRIRIRIRIRIRI CLASS E-1 EMBEDMENT CEMENT STABILIZED SAND EMBEDMENT DIMENSIONS NOTES: 1. D = Inside Diameter Of Containment Pipe 2. Bd = Trench Width Per Standard Drawing 112 Note 1: Cement stabilized sand shall have a minimum of 12% cement per cubic yard of cement stabilized sand mixture, based on loose dry weight volume (at least 3 bags of cement per cubic yard of mixture).

WATER MAIN AND APPURTENANCES

- I. All 6",8" and 12" water mains shall be PVC C900 (DR-14) water pipe, with Class "C+" embedment, except as noted.
- 2. All water mains with no profiles shall have a minimum cover of four (4) feet below street grade in an improved street and five (5) feet of cover in an unimproved street or alley.
- Compact fittings are not authorized for this project. All ductile iron pipe, fittings and fire hydrant bases shall be poly-wrapped.
- 4. All bends, tees fire hydrants and plugs are to be restrained type fittings and to be blocked with Class "B" Concrete as per DWU Standard Drawings #229-234, in addition to restrained joints.
- 5. If required by the City of Dallas Inspector, the Contractor shall install temporary water lines on both sides of the street until the new water main has been completed, tested, approved, and accepted by DWU. NO SEPARATE PAY ITEM.
- 6. If no temporary mains are required by the City of Dallas Inspector, then the existing water mains are to be in service with the fire hydrants until the new water main has been tested, approved and accepted by DWU.

 NO SEPARATE PAY ITEM.
- 7. The Contractor will ensure that fire hydrants are accessible to fire trucks at all times. NO SEPARATE PAY ITEM.
- 8. The Contractor shall sequence his construction such that no more than one fire hydrant is out of service at any
- given time.

 9. All fire hydrants shall be installed as per DWU Standard Drawing *224. Existing fire hydrants on killed water lines are to be removed and delivered to DWU Distribution Division at 4120 Scottsdale Street Dallas, Texas if
- required by the City of Dallas Project Inspector, otherwise they become the property of the Contractor.

 10. Contractor to coordinate actual location of fire hydrant with directly affected citizen(s) and with DWU inspector at
- II. Backfill made on break repairs to existing water mains may have been made with crushed rock. This could present a cave-in danger to a new ditch; therefore, precautions should be taken by the Contractor.

 NO SEPARATE PAY ITEM.
- 12. Abandon all water valves on existing mains being killed as per DWU Standard Drawing #219. NO SEPARATE PAY ITEM.
- 13. The Contractor shall coordinate all water main tie-ins with the City of Dallas Inspector.

least 48 hrs.prior to placement of fire hydrant.NO SEPARATE PAY ITEM.

- 14. The Contractor shall verify the location and number of all existing active water services and construct new services up to the meter prior to killing existing main.
- 15. Water services greater than 30 feet shall be a minimum of one (1) inch in diameter.

WASTEWATER MAIN AND APPURTENANCES

- I. The Contractor shall maintain existing wastewater flow at all times. NO SEPARATE PAY ITEM.
- 2. Abandon all manholes on abandoned wastewater mains.
- 3. The Contractor shall verify the location of all wasterwater laterals and construct new laterals from the wastewater main to the property line with cleanouts and reconnect to the existing laterals. Dye testing maybe required at no additional cost to the owner.
- 4. The backfill around manholes located in existing or new pavement shall be flowable backfill as per NCTCOG Specification Item 6.2.10(G). NO SEPARATE PAY ITEM.

ENVIRONMENTAL - SOIL & GROUNDWATER MANAGEMENT

- I. Contaminated soils and groundwater have been encountered along the entire length of this project. Highly contaminated soil and groundwater have been encounteresd between sta 53+00 and sta 78+00
- 2. Special embedment and clay dams are required throughout this project.
- 3. The high contamination affected zone requires steel pipes and cathodic protection protection in addition to the special embedment
- 4. The Contractor shall refer to the Soil and Groundwater Management Plan (SGMP) for how to collect, restore, dispose and otherwise manage the contmainated soils and groundwater encountered in the project. Contractor shall conform to the material management, disposal, and reporting requirements setforth in the SGMP included in the contract documents.
- 5. Groundwater must be tested for Molybdenum and Tetramethylammonium hydroxide (TMAH) prior to application of the PALS discharge permit.
- 6. Contractor must apply for a dishcarge permit from DWU-PALS for discharching any contaminated groudwater into the wastewater collection system. The discharge permit must be granted prior to start of construction.

CATHODIC PROTECTION

Shields

Keprta

Shields

Keprta

NOV

2021

I. The Contractor shall install the cathodic protection system between sta 53+00 and sta 78+00 per the technical speicifications included in the Contract Documents.



DWU Engineering Services

CONTRACT NO.21-341/342 PID: 1210

12" WATER & 8" WASTEWATER

LUNA ROAD

NORTHWEST HWY & ROYAL LN

DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

DESIGN DRAWN DATE FILE NUMBER SHEET

1549

