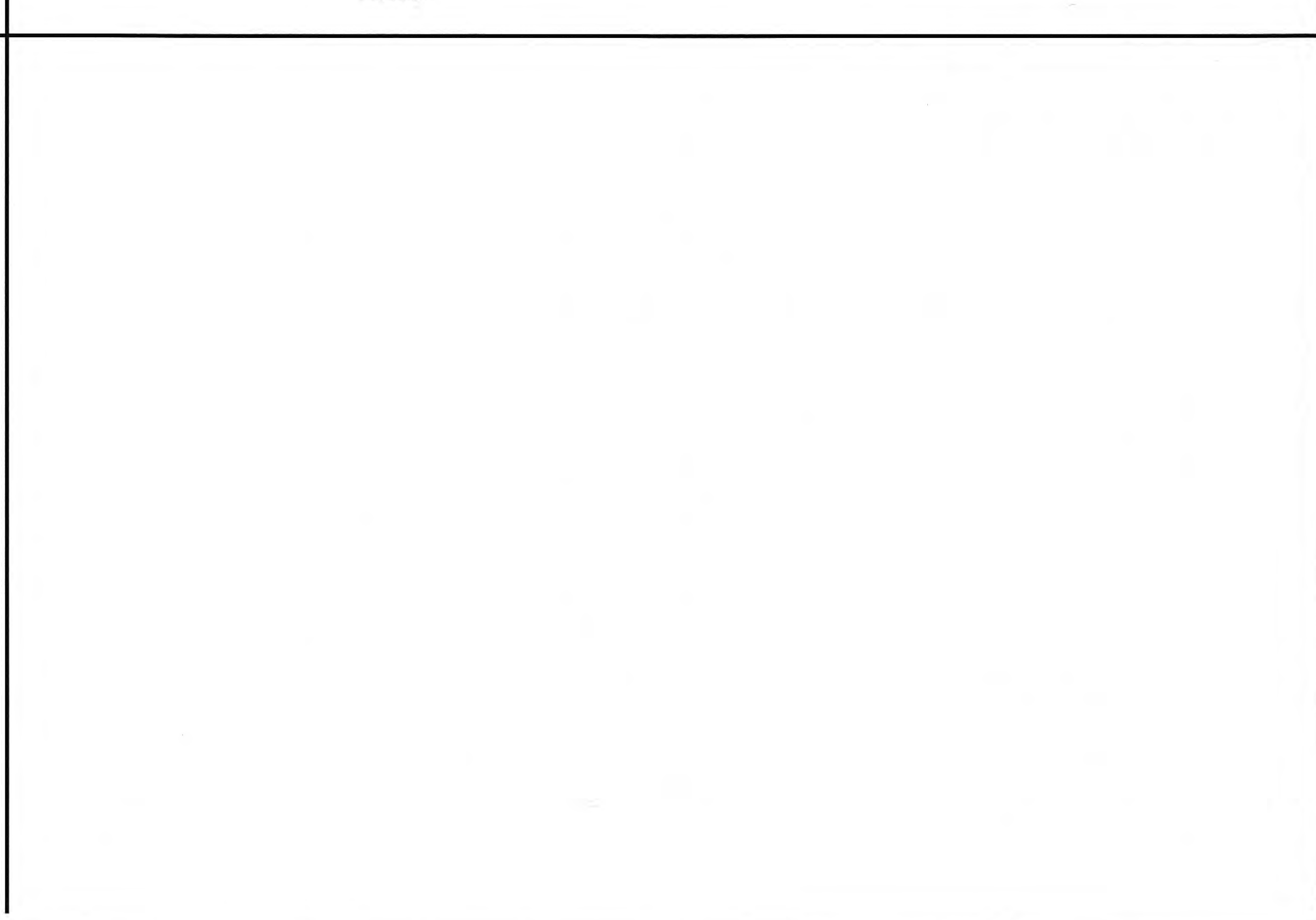
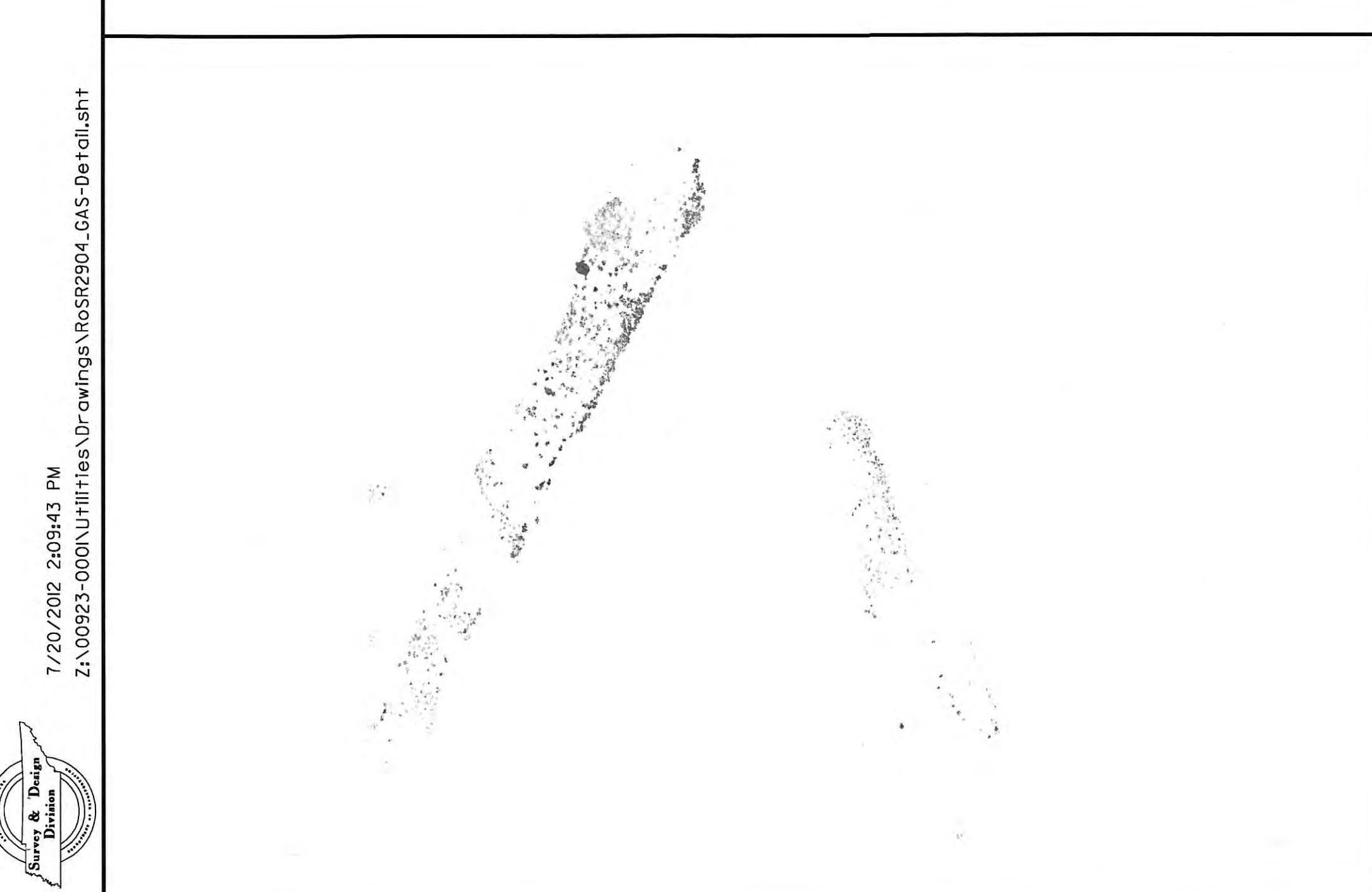
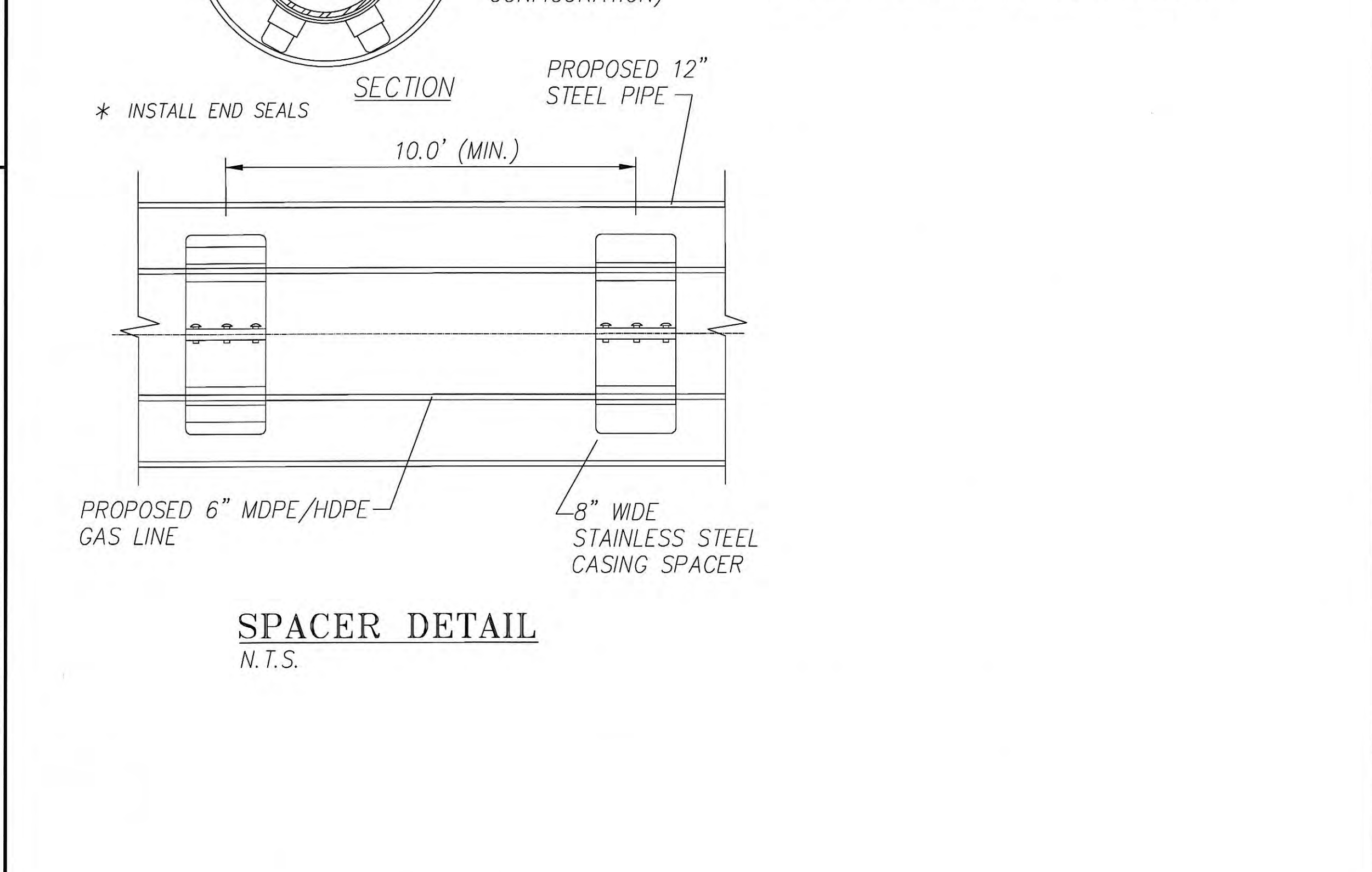
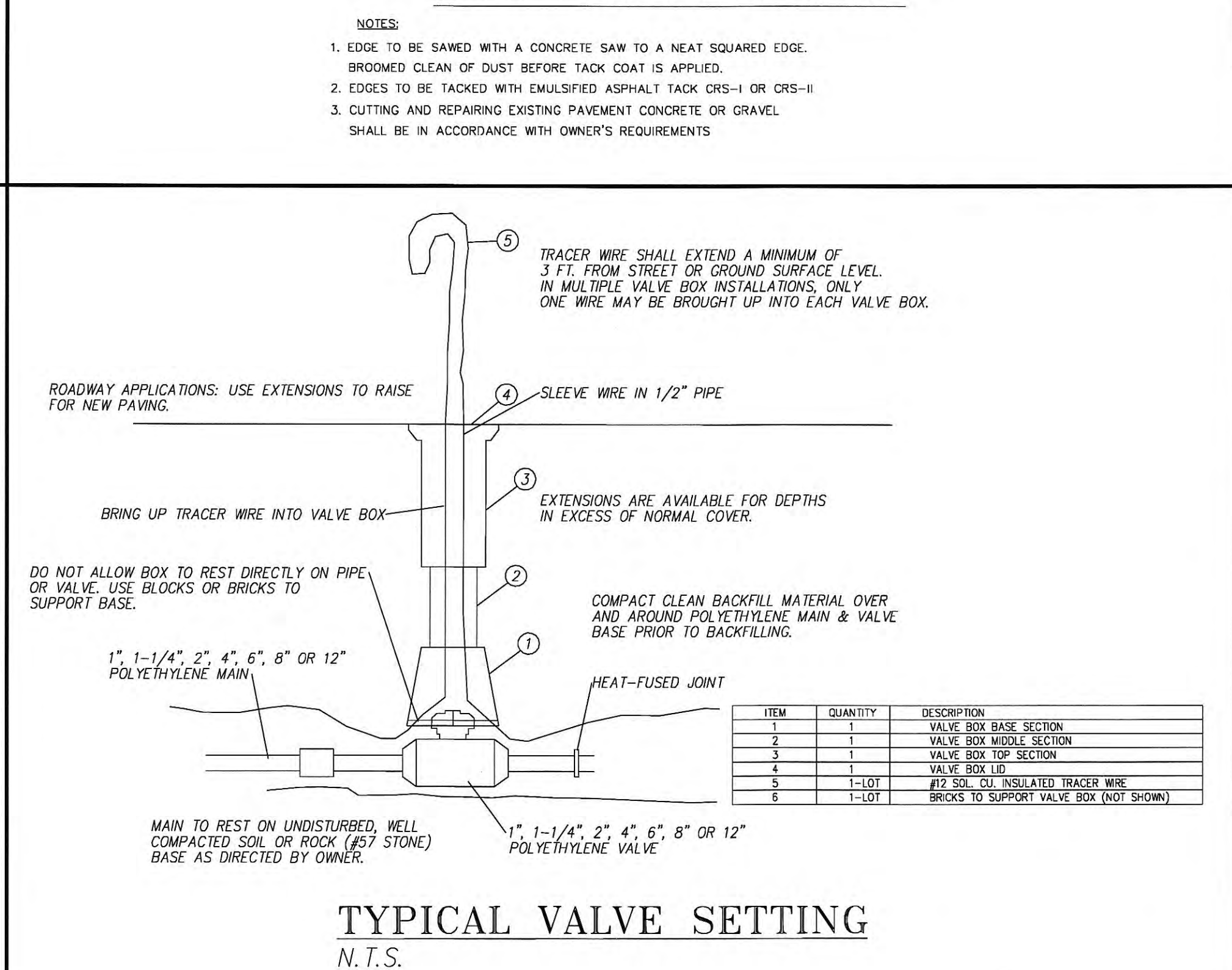
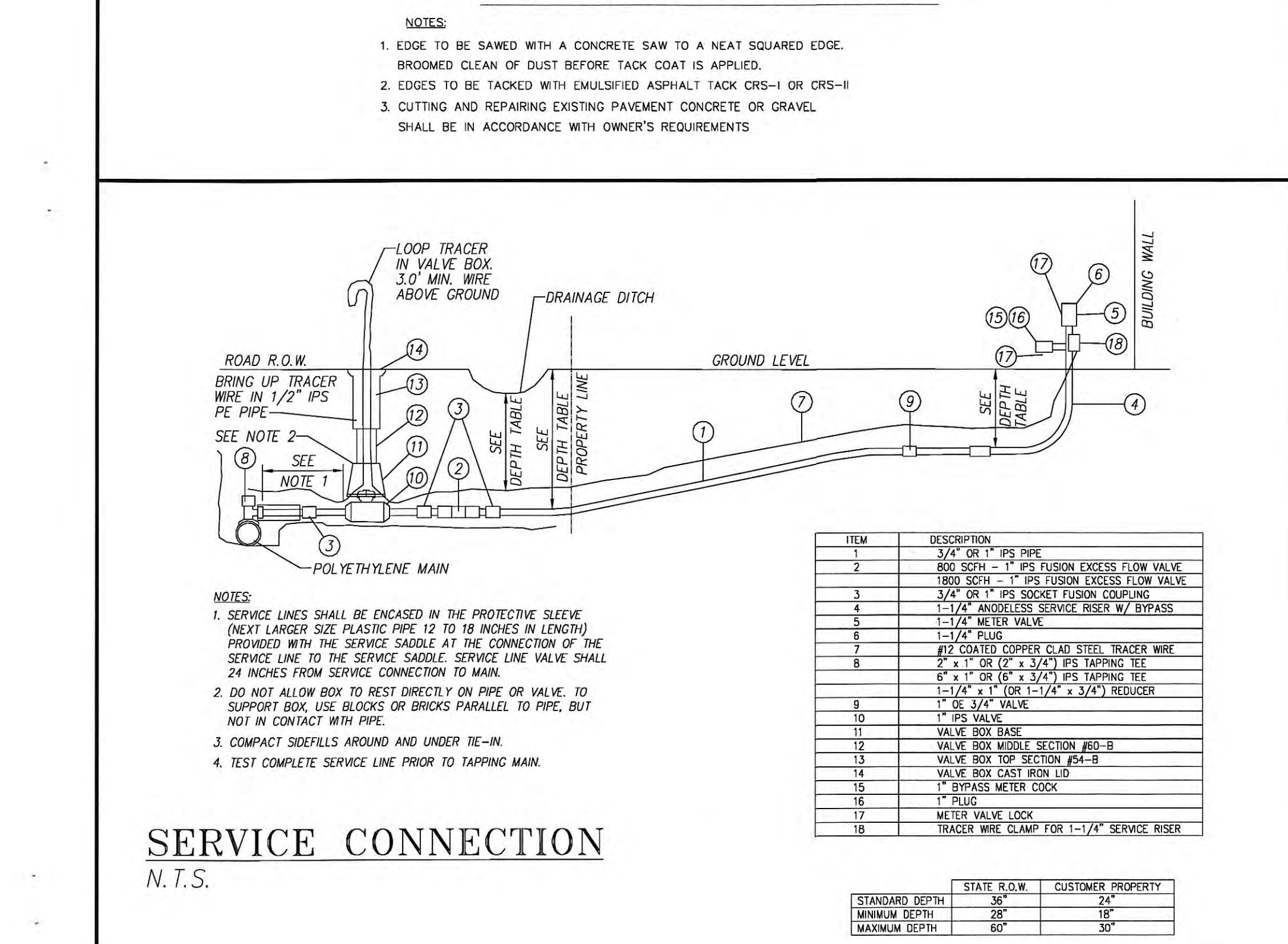
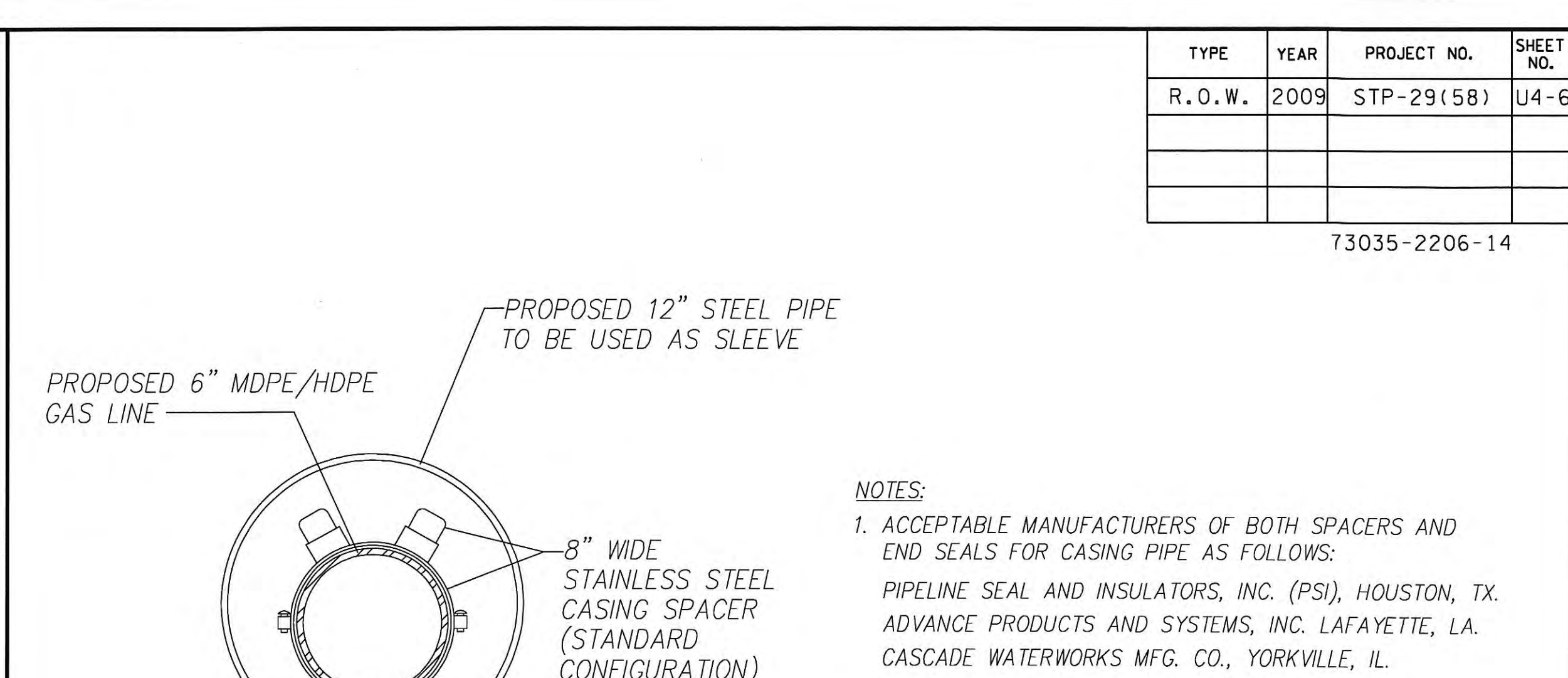
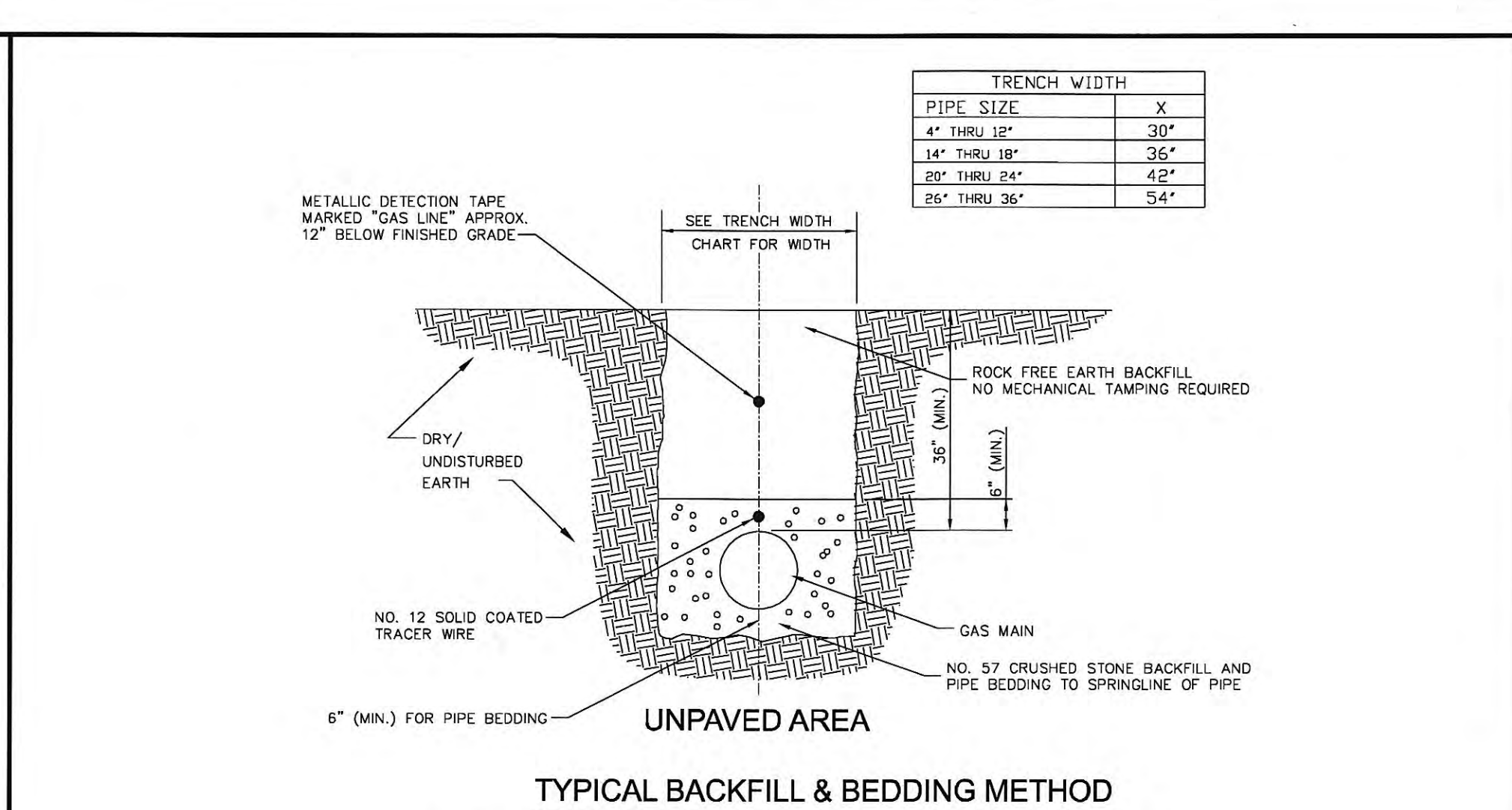
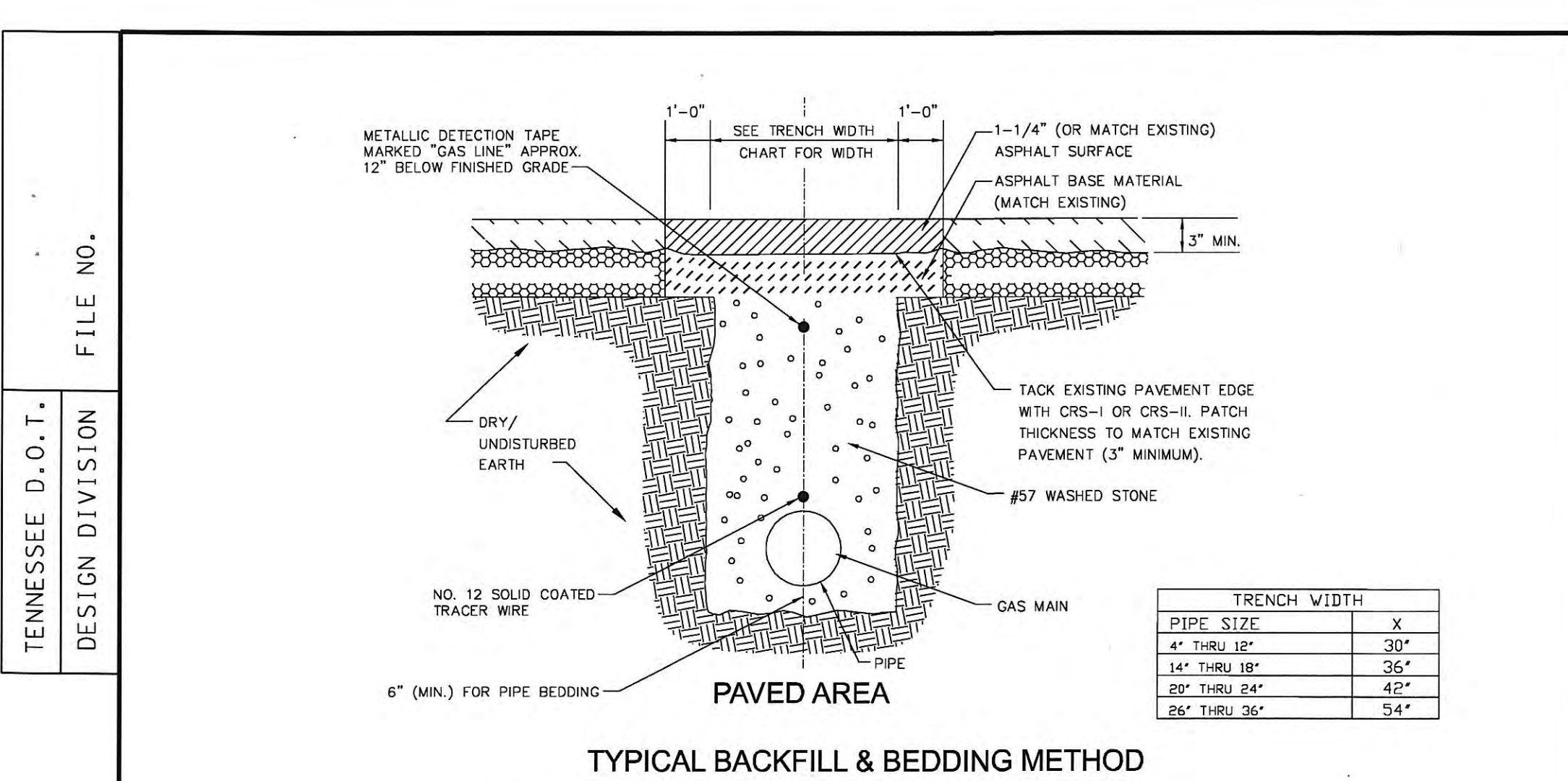




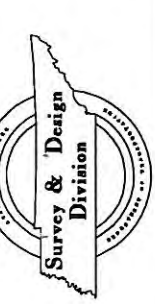
THOMAS F. TUCKER
REGISTERED ENGINEER
No. 108898
STATE OF TENNESSEE

GAS

COORDINATE VALUES ARE NAD/83(1995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

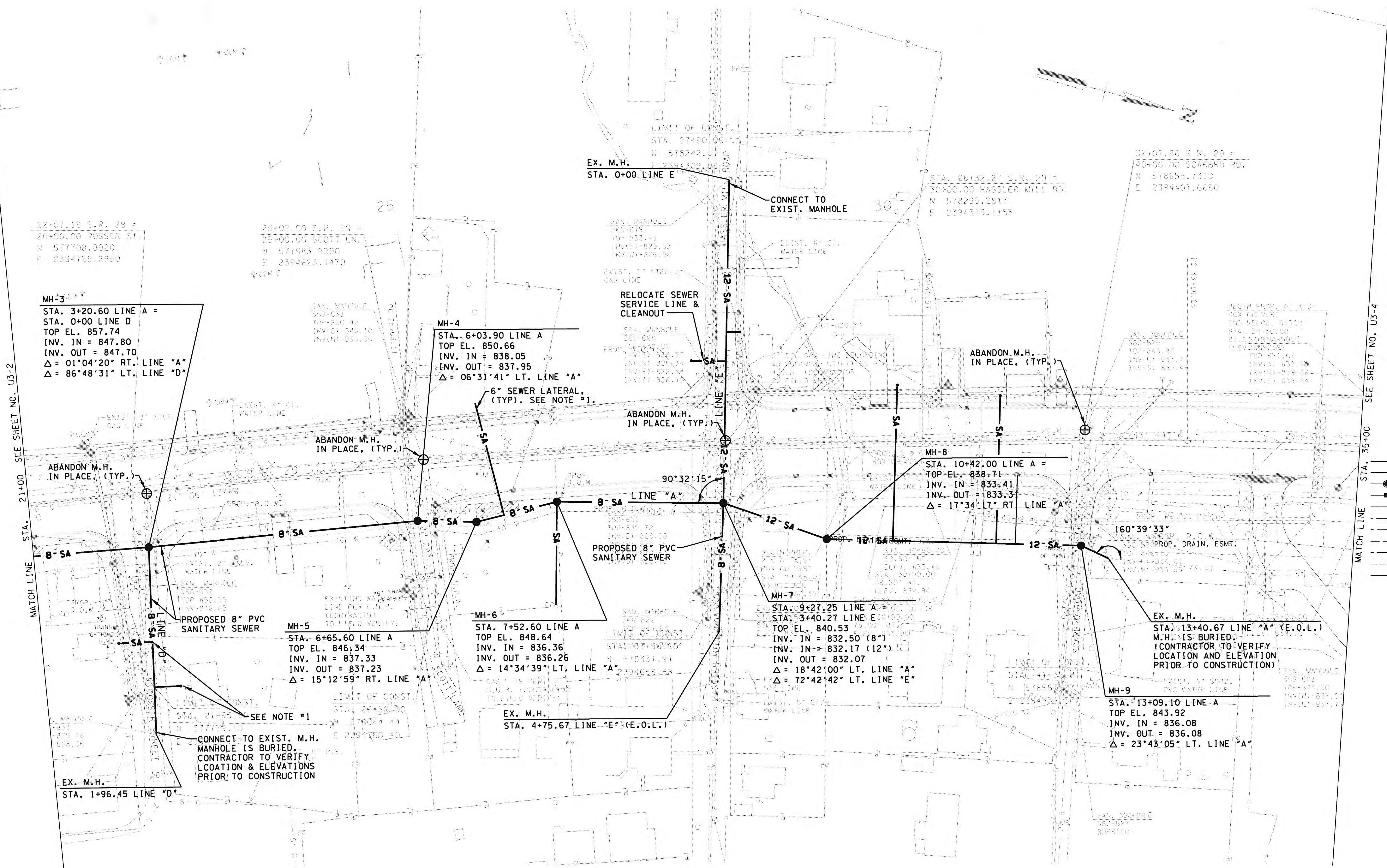
**TYPICAL
DETAILS**



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U3-3

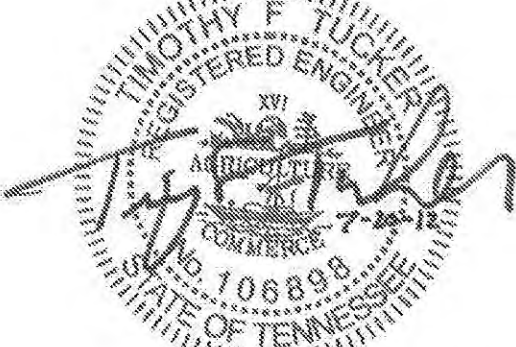
73035-2206-14

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NOTE:
1. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF PRIVATE SEWER LATERALS PRIOR TO CONSTRUCTION TO ENSURE PROPER GRADE & LOCATION OF SEWER LATERAL EXTENSION TO PROPOSED SEWER MAIN.

- LEGEND
- PROPOSED CENTERLINE
 - PROPOSED EXIST. R.O.W.
 - 8" SA PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - EXIST. PROPERTY LINE
 - 8" SA EXIST. SANITARY SEWER
 - 8" W EXIST. WATER LINE
 - P/T EXIST. POWER LINE
 - 3" G EXIST. NATURAL GAS
 - EXIST. STORM SEWER
 - EXIST. STREAM
 - W.M. EXIST. WATER METER
 - G.M. EXIST. GAS METER
 - MB EXIST. MAILBOX



SANITARY SEWER
COORDINATE VALUES ARE NAD(83)(995) AND ARE DATUM ADJUSTED BY THE FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

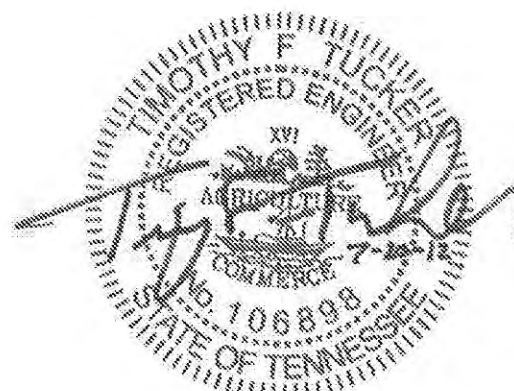
UTILITY RELOCATION
STA. 21+00 TO STA. 35+00
SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U3-4

73035-2206-14

NOTE:
1. CONTRACTOR TO
VERIFY LOCATION AND
ELEVATION OF PRIVATE
SEWER LATERALS PRIOR TO
CONSTRUCTION TO ENSURE
PROPER GRADE & LOCATION
OF SEWER LATERAL
EXTENSION TO PROPOSED
SEWER MAIN.

LEGEND	
	PROPOSED CENTERLINE
	PROP/EXIST. R.O.W.
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	EXIST. PROPERTY LINE
	EXIST. SANITARY SEWER
	EXIST. WATER LINE
	EXIST. POWER LINE
	EXIST. NATURAL GAS
	EXIST. STORM SEWER
	EXIST. STREAM
	EXIST. WATER METER
	EXIST. GAS METER
	EXIST. MAILBOX



**SANITARY
SEWER**

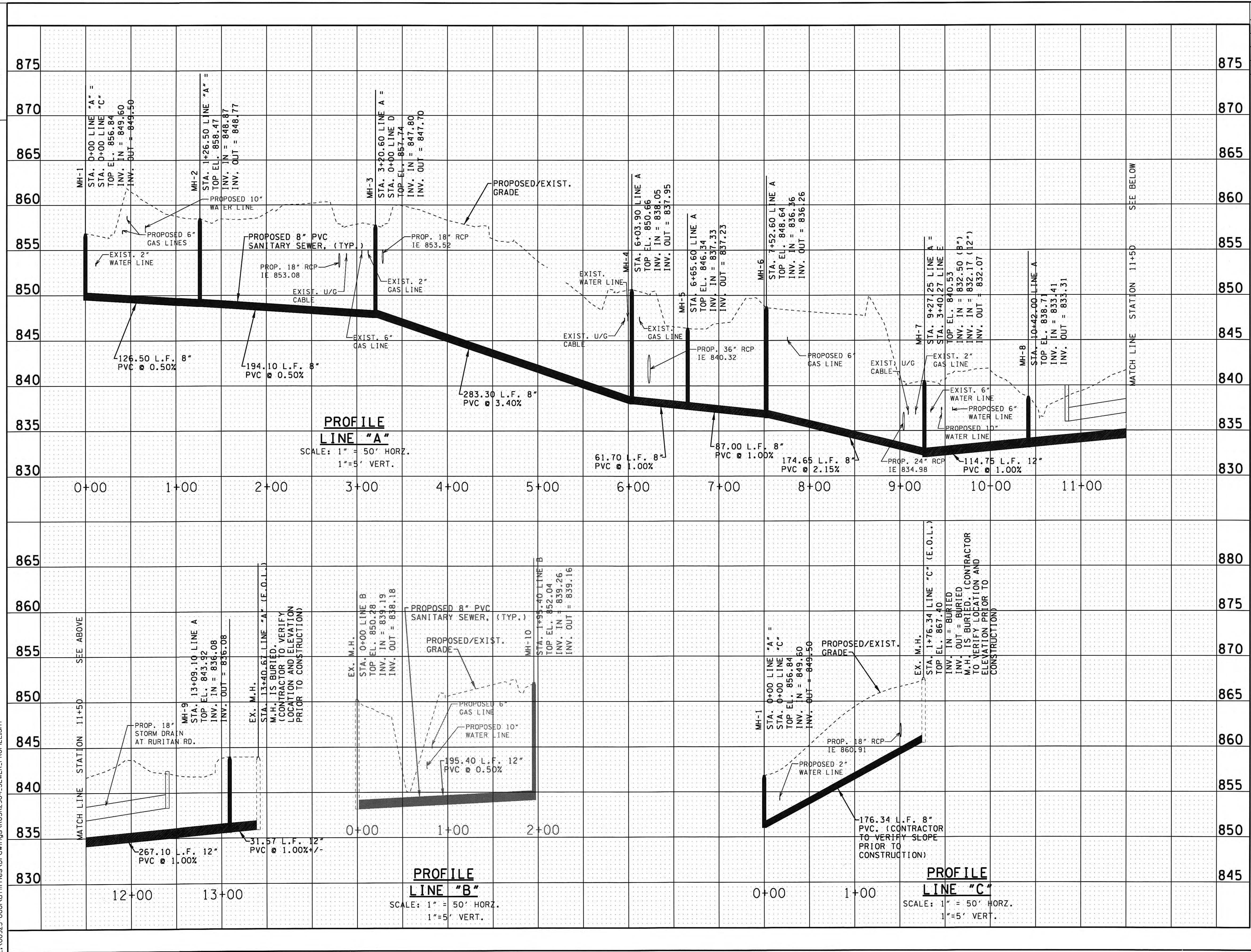
COORDINATE VALUES ARE NAD(83)(995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

**UTILITY
RELOCATION**

STA. 35+00 TO STA. 48+00
SCALE: 1"=50'





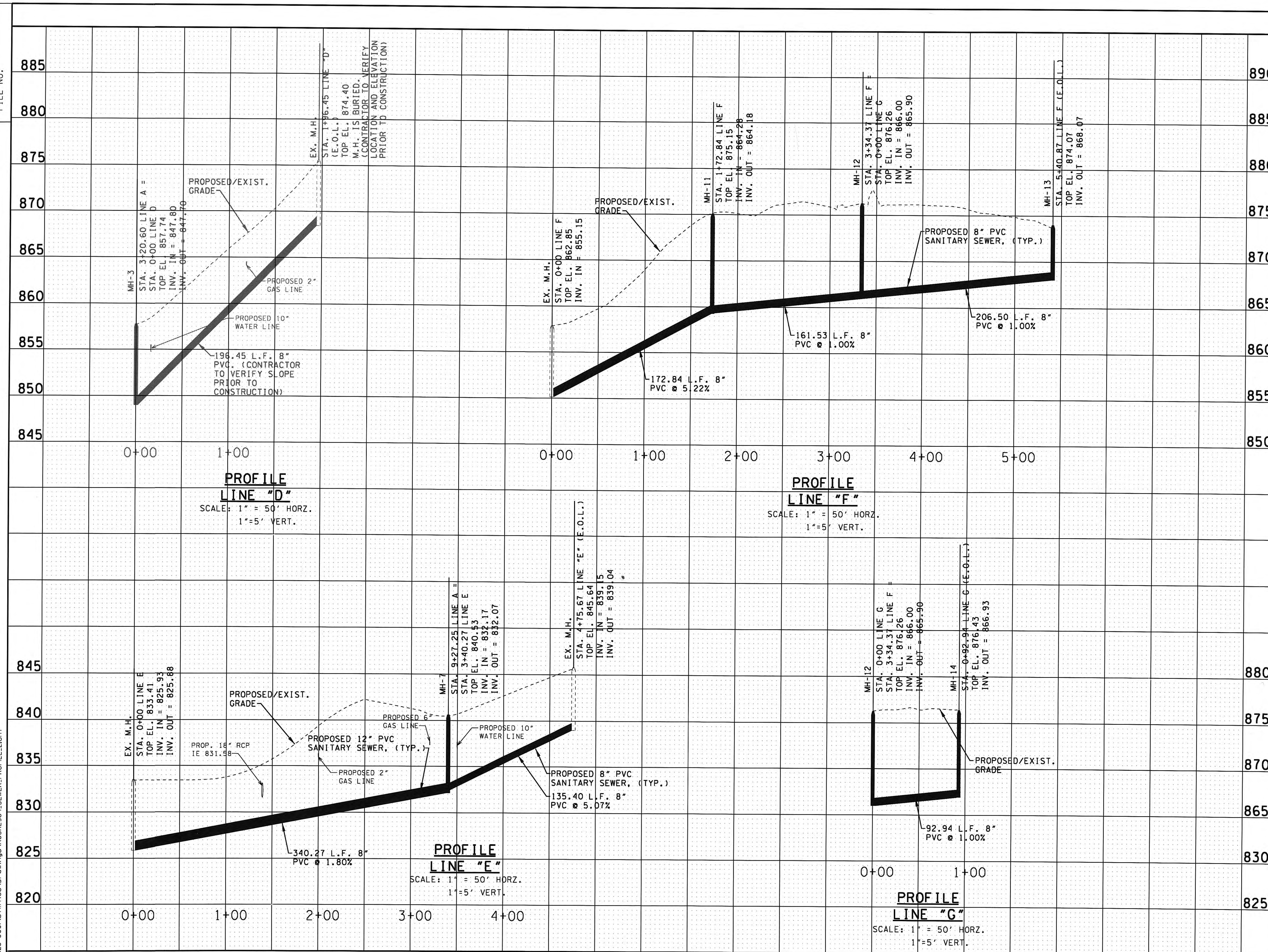
SANITARY
SEWER

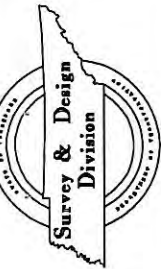
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY
RELOCATION

BEGIN PROJ. TO
STA. 21+00.00

BEGIN PROJ. TO
STA. 21+00.00



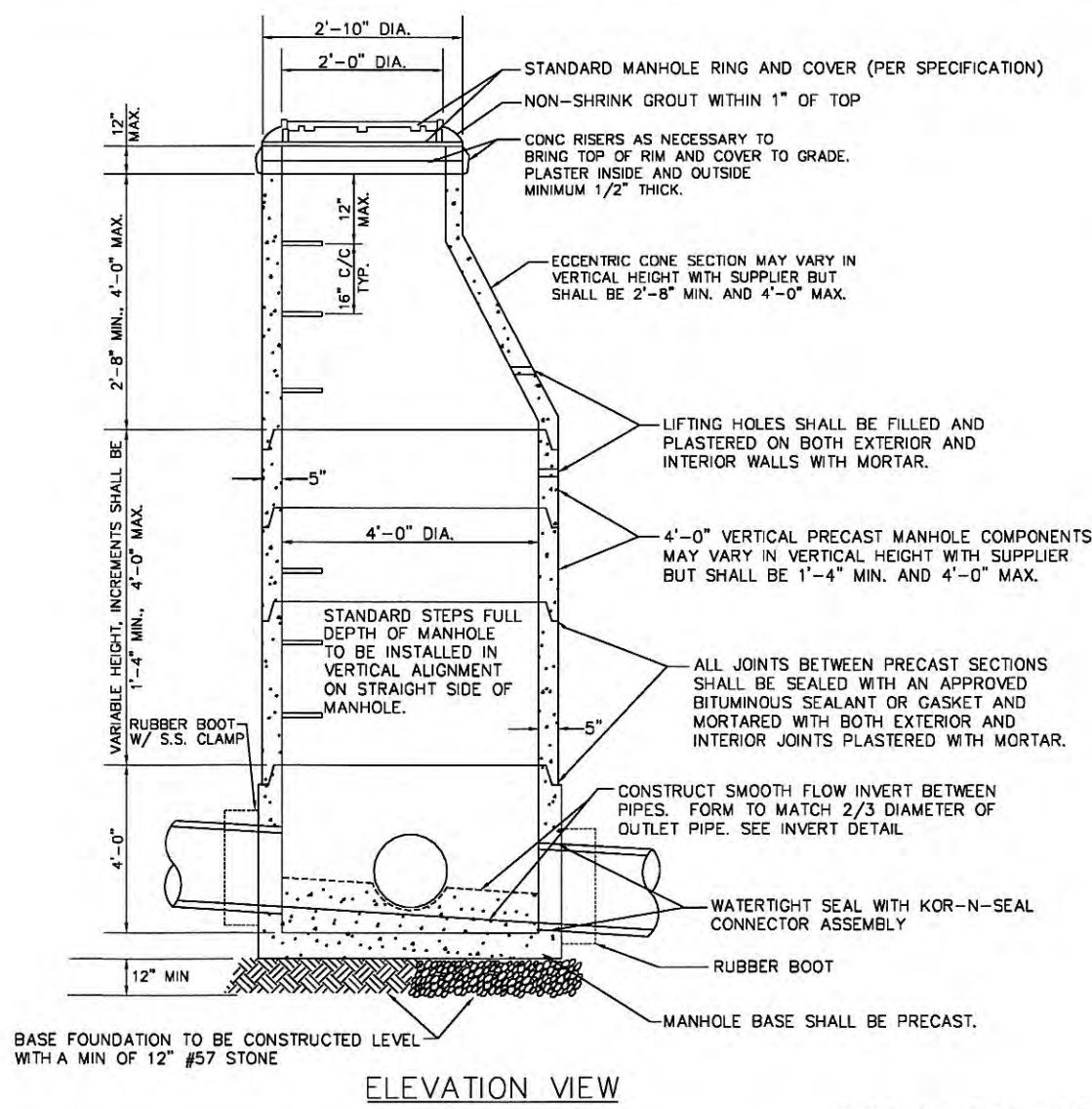
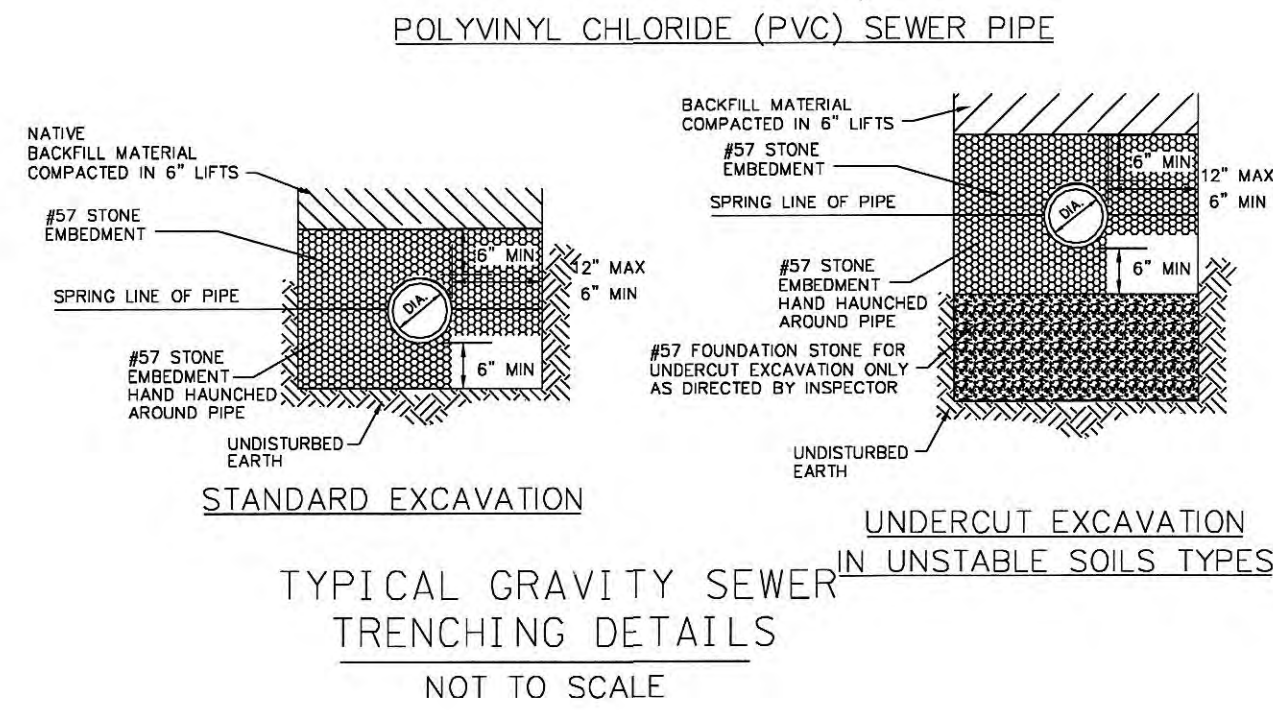


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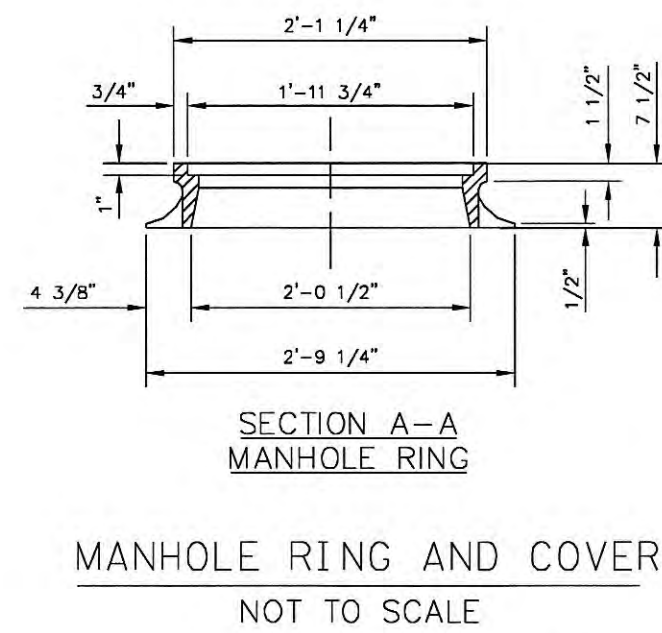
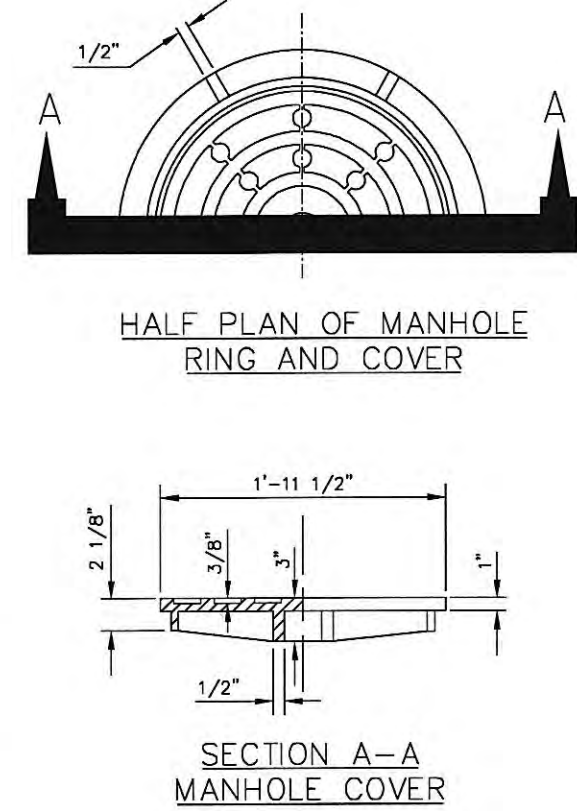
TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

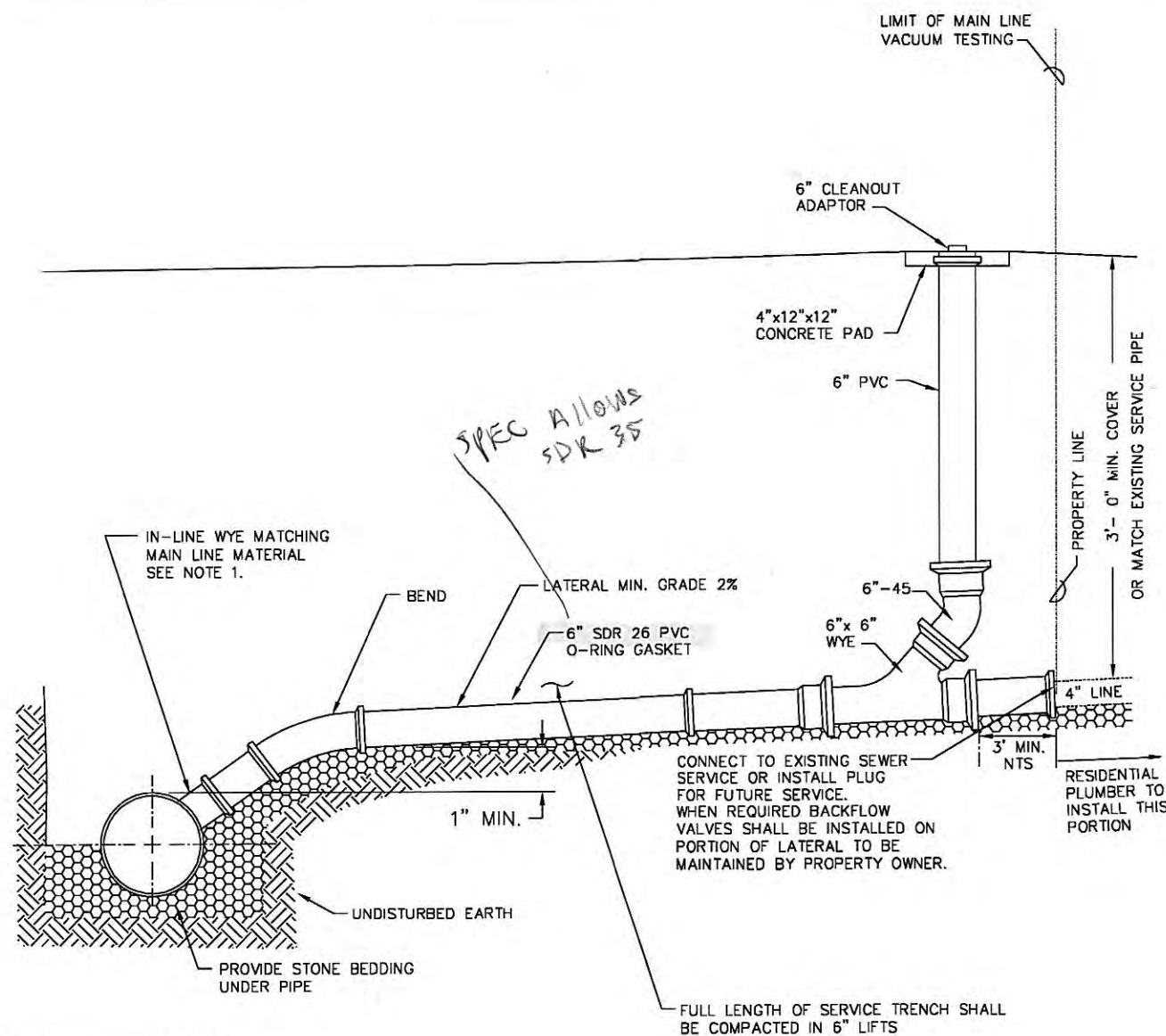
- NOTES:
1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.
 2. THE BACKFILL MATERIAL SHALL CONSIST OF 100% #57 STONE IN AREAS UNDER PAVEMENT AND IN ROADWAYS.



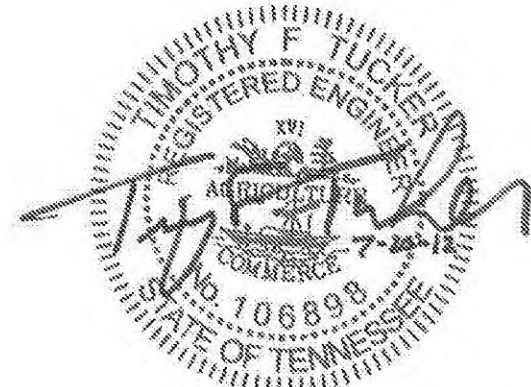
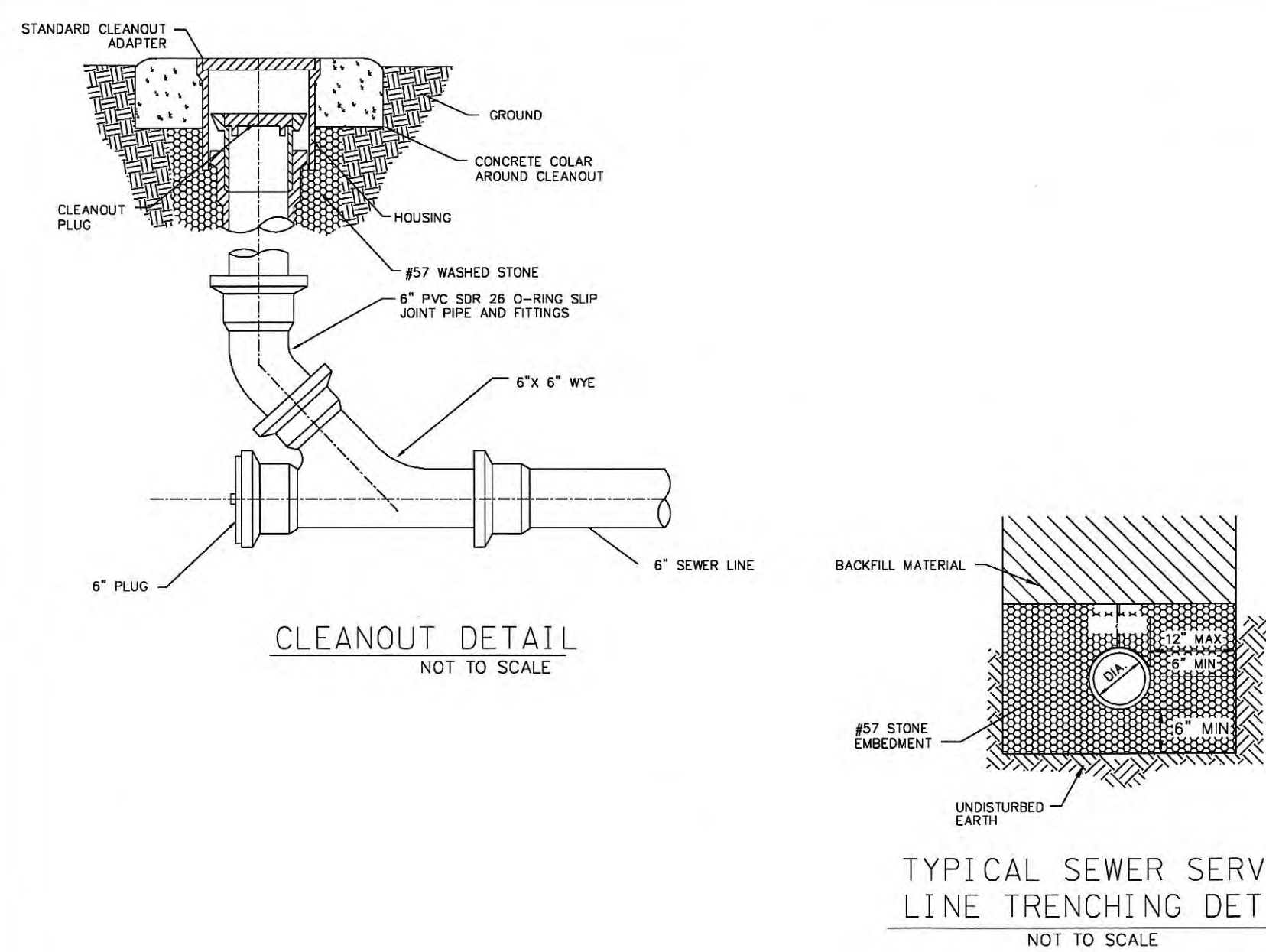
- PRECAST MANHOLE NOTES:
1. ALL PRECAST MANHOLE COMPONENTS SHALL MEET REQUIREMENTS OF ASTM C-478, LATEST REVISION.
 2. ALL MANHOLES SHALL BE CONSTRUCTED PLUMB.
 3. ALL MANHOLE GRADES SHOWN ON THE PLANS ARE FOR THE INVERT OF THE MANHOLE CENTER.
 4. IF MANHOLE IS SET IN LOCATION OF HIGH WATER TABLE OR UNDERGROUND WATER IS ENCOUNTERED, THE CONTRACTOR SHALL INSTALL UNDERDRAINS AND STONE AS DIRECTED IN THE FIELD BY THE INSPECTOR.
 5. STEPS SHALL BE INSTALLED ON STRAIGHT SIDE OF MANHOLE.



NOTE: TRAFFIC BEARING RING AND COVER. MINIMUM WEIGHT 365 POUNDS



- NOTE:
1. TAPPING SADDLES ARE APPROVED FOR CONNECTIONS TO EXISTING SEWER LINES ONLY.
 2. INTERMEDIATE CLEANOUTS SHALL BE INSTALLED EVERY 75 LINEAR FEET OF CUSTOMER'S SEWER SERVICE LATERTAL AND AT ALL CHANGES IN DIRECTION.



SANITARY SEWER

COORDINATE VALUES ARE NAD/83(1995) AND ARE DATUM ADJUSTED BY THE FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

TYPICAL
DETAILS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U4-1

73035-2206-14

INDEX OF DRAWINGS

<u>SHT. NUMBER</u>	<u>SHT. NAME</u>
U4-1	ESTIMATED QUANTITIES (GAS)
U4-2	UTILITY RELOCATION PLAN (GAS)
U4-3	UTILITY RELOCATION PLAN (GAS)
U4-4	UTILITY RELOCATION PLAN (GAS)
U4-5	UTILITY RELOCATION PLAN (GAS)
U4-6	TYPICAL GAS DETAILS

[illegible]

GENERAL NOTES:

- CONSTRUCTION MATERIALS AND INSTALLATION MUST MEET HUB SPECIFICATIONS. MATERIAL SUBMITTALS MUST BE APPROVED BY HUB PRIOR TO CONSTRUCTION.
- PRESENT WELDERS QUALIFICATION STATEMENTS & CERTIFICATES TO HUB PRIOR TO START OF CONSTRUCTION FOR EVERY WELDER THAT MAY WORK ON THIS PROJECT.
- THE CONTRACTOR SHALL STAKE THE PROPOSED GAS MAIN LAYOUTS TO ALLOW AMPLIFIED TIME FOR HUB'S INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT HUB FOR INSPECTION AT LEAST FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR TO COORDINATE CONNECTIONS INTO EXISTING GAS MAINS WITH HUB'S CONNECTION CREWS PRIOR TO MAKING TAPS. HUB APPROVAL REQUIRED PRIOR TO TAPS.
- CONTRACTOR TO STAKE CENTERLINE OF PROPOSED ROAD PRIOR TO GAS LINE INSTALLATION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR POT HOLING EXISTING UTILITIES AND DETERMINING ELEVATION AND LOCATION. POT HOLING SHALL BE CONDUCTED WITH THE LEAST INTRUSIVE MEANS SUCH AS A VACUUM, HAND DIGGING, OR OTHER SIMILAR EQUIPMENT. PAVEMENT RESTORATION AT POT HOLE LOCATIONS SHALL BE INCLUDED IN THE BASE BID.
- THE CONTRACTOR SHALL PHOTOGRAPH OR VIDEO EACH SITE WITHIN 24 HOURS OF BEGINNING WORK ON THE ASSOCIATED PROPERTY. THE CONTRACTOR SHALL PROVIDE ONE COPY OF SUCH PHOTOS OR VIDEO TO THE OWNER WITHIN 48 HOURS OF BEGINNING WORK ON SAID PROPERTY. IN THE EVENT THE RESIDENT PROJECT REPRESENTATIVE (RPR) IS NOT PRESENT FOR THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR TAKING A PHOTOGRAPH OF THE EXCAVATED SERVICE BEFORE THE CONDEMNATION AND AFTER THE CONDEMNATION. FAILURE TO DOCUMENT THE WORK BY MEANS OF PHOTOGRAPHY WILL RESULT IN THE CONTRACTOR VERIFYING THE WORK BY MEANS OF RE-EXCAVATING THE SITE, AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR MUST MEET ALL NECESSARY REQUIREMENTS OF CFR 49 PART 192, SUBPARTS E AND N RELATED TO NATURAL GAS WORK INCLUDING BUT NOT LIMITED TO DRUG AND ALCOHOL TESTING, OPERATOR QUALIFICATION, FUSION QUALIFICATION, WELDER CERTIFICATION, ETC. AS A PREREQUISITE REQUIREMENT TO THE OWNER EXECUTING A CONTRACT, THE CONTRACTOR SHALL FURNISH A LIST OF CREW MEMBERS THAT WILL BE SPECIFICALLY ASSIGNED TO THE WORK AND EVIDENCE OF THEIR QUALIFICATIONS UNDER THE REQUIRED PROGRAMS. UNQUALIFIED CREW MEMBERS WILL BE QUALIFIED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR MAY BE SUBJECT TO PENALTIES THAT COULD INCLUDE TERMINATION OF THE CONTRACT AS DETERMINED BY THE OWNER FOR HAVING CREW MEMBERS PERFORMING TASKS IN WHICH THEY ARE NOT QUALIFIED TO PERFORM.
- IN ORDER FOR THE MOST CURRENT OPERATOR QUALIFICATION STATUS CHECKS OF CONTRACTOR OR CONTRACTOR EMPLOYEES TO BE PERFORMED, THE CONTRACTOR MUST COMPLY WITH 49 CFR PART 192, SUBPART N USING ONCE OF THE THREE OPTIONS LISTED BELOW:
 - BE A SUBSCRIBER OF THE OQ PLAN PROVIDER THAT HUB CURRENTLY HAS A SUBSCRIPTION OR CONTRACT WITH.
 - USE HIS OR HER OWN OPERATOR QUALIFICATION PLAN THAT HAS BEEN APPROVED BY HUB OR
 - USE A THIRD-PARTY OPERATOR QUALIFICATION PLAN THAT HAS BEEN APPROVED BY HUB.
- THE CONTRACTOR SHALL HAVE ALL DOCUMENTATION DEMONSTRATING THAT PERSONNEL PERFORMING COVERED OQ TASKS ARE QUALIFIED TO PERFORM SUCH TASKS AS WELL AS MEET THE DOT OQ STANDARDS AND HAVE THAT DOCUMENTATION ELECTRONICALLY ACCESSIBLE BY THE OWNER WITHIN 10 BUSINESS DAYS AFTER RECEIVING THE NOTICE OF AWARD. THE OWNER MAY CONSIDER THE CONTRACTOR IN DEFAULT IF THIS DOCUMENTATION IS NOT RECEIVED OR ELECTRONICALLY AVAILABLE WITHIN 10 BUSINESS DAYS AFTER THE CONTRACTOR RECEIVES THE NOTICE OF AWARD.
- CONTRACTOR WILL BE REQUIRED TO HAVE THE FOLLOWING SAFETY EQUIPMENT ON-SITE AS THE WORK IS PERFORMED.
 - FIRE EXTINGUISHER – CONTRACTORS WILL NEED TO POSSESS A 20 CUBIC FOOT OR GREATER EXTINGUISHER RATED AS ABC.
 - A FIRE HOOD(S) FOR ALL PERSONNEL WORKING IN LIVE GAS WILL NEED TO PROVIDE COVERAGE FOR HEAD, FACE AND NECK AND BE CLASSIFIED AS FIRE RESISTANT.
 - A FIRE SUIT(S) FOR ALL PERSONNEL WORKING DIRECTLY IN LIVE GAS WILL NEED TO BE – INSULATED FLAME RESISTANT ONE PIECE COVERALL.
- EACH CONTRACTOR EMPLOYEE, PERFORMING OR PARTICIPATING IN THE PERFORMANCE OF A COVERED TASK, SHALL ADHERE TO THE FOLLOWING GUIDELINES FOR FIRE RETARDANT CLOTHING WHEN WORKING IN CONDITIONS AS STATED BELOW:
 - INITIAL EXCAVATION ACTIVITIES – 100% COTTON UNDERWEAR, COTTON SOCKS, COTTON SHIRT, COTTON PANTS, LEATHER WORK BOOTS + APPROPRIATE PPE FOR TASK.
 - AFTER EXCAVATION OF SERVICE TEE – 100% COTTON UNDERWEAR, COTTON SOCKS, COTTON SHIRT, COTTON PANTS, LEATHER WORK BOOTS + APPROPRIATE PPE FOR TASK.
 - SQUEEZE OFF OF PIPELINE – 100% COTTON CLOTHING PLUS HOODED FLAME RESISTANT 1 PIECE COVERALL, FLAME RESISTANT HEAD SOCK, + APPROPRIATE PPE FOR TASK.
 - BLOWING GAS ENVIRONMENT – 100% COTTON CLOTHING PLUS HOODED INSULATED FLAME RESISTANT ONE PIECE COVERALL, FLAME RESISTANT HEAD SOCK AND LEATHER GLOVES.

FOOTNOTES:

- ① INCLUDES ALL MATERIALS INCLUDING SAND/STONE BEDDING, FLOWABLE FILL, TEMPORARY PAVEMENT IN OR OUT OF R.O.W., LABOR, EQUIPMENT FOR COMPLETE INSTALLATION OF PIPE INCLUDING BUT NOT LIMITED TO TRAFFIC CONTROL, EXCAVATION INCLUDING DIRT/ROCK, BACKFILLING, CREEK CROSSINGS PER SWPPP, COUPLINGS, FITTINGS, PIPE FUSION, APPURTENANCES, MAINTAINING THE TRENCH, PURGE POINT INSTALLATION, TESTING BY UTILITY SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO AIR, NITROGEN, HYDROSTATIC OR X-RAY, DEW POINT OR DRYING, AND ANY OTHER LABOR OR MATERIAL REQUIRED TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS.
- ② INCLUDES ALL MATERIALS, LABOR, EQUIPMENT, AND TRAFFIC CONTROL, INCLUDING BUT NOT LIMITED TO FLUID CONTAINMENT FOR COMPLETE HORIZONTAL DIRECTIONAL DRILLING INSTALLATION OF CASING PIPE OR UNCASD CARRIER PIPE IN BOTH UNCONSOLIDATED SOIL OR ROCK. STEEL PIPE INCLUDES SPECIAL COATING AS SPECIFIED ON PLANS AND SPECS. IF CASING PIPE HAS CARRIER PIPE, THE CARRIER PIPE SHALL BE PAID AT THE OPEN CUT ITEM PRICE.
- ③ INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT, NECESSARY FOR CONNECTING TO EXISTING GAS LINE INCLUDING TRAFFIC CONTROL.
- ④ INCLUDES TRANSITION FITTINGS, VALVES, VALVE BOX, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, COUPLINGS, FUSION TEES, TAP OF EXISTING LINE, AND ALL OTHER NECESSARY MATERIALS AND LABOR FOR COMPLETE INSTALLATION OF ASSEMBLY INCLUDING TRAFFIC CONTROL.
- ⑤ INCLUDES ALL MATERIALS, PARTS, LABOR, EQUIPMENT, MACHINERY, TOOLS, OR APPARATUS NECESSARY FOR INSTALLATION OF GAS SERVICE ASSEMBLIES AS DESCRIBED IN THE PLANS AND SPECS. INSTALLATION FOR LONG SIDE AND SHORT SIDE APPLICATIONS. SERVICE PIPE SHALL BE PAID PER LINEAR FOOT INSTALLED.

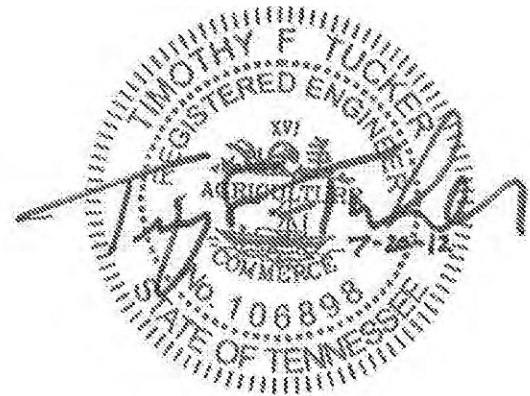
UTILITY INFORMATION

UTILITY TITLE
ADDRESS

CONTACT PERSON
PHONE

HARRIMAN UTILITY BOARD
P.O. BOX 434
HARRIMAN, TN. 37748

JAMES BURNHAM
(865) 285-1022



GAS

COORDINATE VALUES ARE NAD/83(1995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

HARRIMAN UTILITY

UTILITY RELOCATION

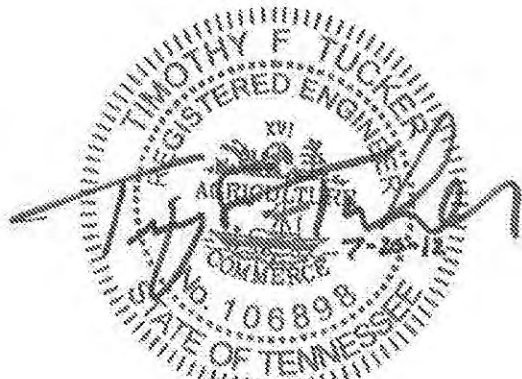
ESTIMATED QUANTITIES

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U4-2

73035-2206-14

LEGEND	
	PROPOSED CENTERLINE
	PROP/EXIST. R.O.W.
	PROPOSED GAS LINE
	PROPOSED STORM SEWER
	EXIST. PROPERTY LINE
	EXIST. SANITARY SEWER
	EXIST. WATER LINE
	EXIST. POWER LINE
	EXIST. NATURAL GAS
	EXIST. STORM SEWER
	EXIST. STREAM
	EXIST. WATER METER
	EXIST. GAS METER
	EXIST. MAILBOX

- NOTE:
1. MAXIMUM COVER FOR GAS LINE IS 36" DEPTH AND MINIMUM COVER IS 28" DEPTH.
 2. CONTRACTOR MUST MEET ALL NECESSARY REQUIREMENTS OF CFR 49 PART 192, SUBPART E AND N RELATED TO NATURAL GAS WORK, AND MUST MEET OR EXCEED HUB'S OPERATOR QUALIFICATION (OO) PROGRAM. (SEE SPECIFICATION 33 51 13.10) TO PERFORM THE GAS LINE WORK IN THIS CONTRACT.
 3. LINE "A" IS PROPOSED M.D.P.E. AND LINE "B" IS PROPOSED H.D.P.E.



GAS

COORDINATE VALUES ARE NAD/83(1995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

UTILITY
RELOCATION
BEGIN PROJ. TO
STA. 21+00.00
SCALE: 1"=50'

CONTROL POINTS COORDINATE LIST				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP- S1	576561.6641	2395325.6611	862.1500	GPS 73-029-03
CP- S2	576663.4159	2394818.5709	845.0000	GPS 73-029-04
CP- S3	576927.8931	2394999.9085	852.3500	GPS 73-029-05
CP- S4	577462.5819	2394822.2858	857.0900	GPS 73-029-06
CP- S5	577802.7604	2394685.3779	857.9600	GPS 73-029-07
CP- S6	578259.2949	2394478.2930	839.7300	GPS 73-029-08
CP- S7	578865.0073	2394344.9819	849.1900	GPS 73-029-09
CP- S8	579425.3815	2394241.1029	864.2000	GPS 73-029-10
CP- S9	580060.2802	2394271.7045	877.3200	GPS 73-029-11
CP- S10	580653.5569	2394170.8954	881.3500	GPS 73-029-12

STA. 0+00 BEGIN LINE "A"
CONNECT 6" P.E. GAS MAIN
TO EXIST. 2" GAS MAIN W/ 6"
90 DEG. BEND, 6" P.E. VALVE &
6" x 2" P.E. REDUCER AND 2"
P.E. x STL. TRANSITION FITTING

BEGIN. R.O.W.
PROJECT NO. STP-29(58)
STA. 11+52.13
N 576764.2099
E 2395163.6072

LIMIT OF CONST.
STA. 13+00.00
N 576778.33
E 2395012.27

12+54.73 S.R. 29
14+00.00 RURITAN RD.
N 576837.9360
E 2395032.3090

STA. 0+00 LINE "B"
CONNECT PROPOSED
6" P.E. GAS LINE TO
EXISTING 6" GAS LINE W/
6" ELECTROFUSION COUPLING

CUT, CAP & PURGE
EXIST. GAS LINE

SEE NOTE #1
(THIS SHEET)

PROPOSED 6"
H.D.P.E. GAS LINE

INSTALL (1)-2"x2" P.E. TEE,
(3)-2" P.E. VALVES AND (1)
2" P.E. 45 DEG. BEND

INSTALL APPROX.
80 L.F. 2" P.E.
GAS LINE

INSTALL APPROX.
181 L.F. 2" P.E.
GAS LINE

INSTALL 2" P.E. 90 DEG. BEND

19+02.78 S.R. 29 =
15+00.00 TIDWELL CIRCLE
N 577420.7310
E 2394826.5520

PROPOSED 6"
M.D.P.E. GAS LINE

STA. 4+61 LINE "B"
INSTALL 6" P.E.
90 DEG. BEND

STA. 11+50 LINE "A"
INSTALL 6" P.E.
90 DEG. BEND

INSTALL 90 L.F. OF
12" P.E. CASING

INSTALL 90 L.F. OF
12" P.E. CASING

LINE "B"
STA. 12+72 LINE "A"
INSTALL (1) 6" x 2" P.E.
TEE FOR 2" P.E. GAS
MAIN CONNECTION

STA. 12+75 LINE "A"
INSTALL (1) 6" P.E.
90 DEG. BEND

STA. 5+86 LINE "B"
INSTALL (1) 6" P.E.
90 DEG. BEND

CUT, CAP & PURGE
EXIST. GAS LINE

CONNECT PROPOSED
2" P.E. GAS LINE
TO EXISTING 2" GAS
LINE

LIMIT OF CONST.
STA. 17+00.00
N 577501.73
E 2398008.65

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U4-3

73035-2206-14

STA. 21+07 LINE "A"
INSTALL (1)-6"x2"
P.E. TEE, (1)-6" P.E.
VALVE AND (1)-2" P.E.
VALVE

STA. 21+10 LINE "A"
INSTALL (1)-6"x2"
P.E. TEE, (1)-6" P.E.
VALVE AND (1)-2" P.E.
VALVE

PROPOSED 6"
P.E. GAS LINE

INSTALL (2) 2" P.E.
45 DEG. BENDS

INSET
SCALE: 1" = 20'

22+07.19 S.R. 29 =
20+00.00 ROSSER ST.
N 577708.8920
E 2394729.2950

25+02.00 S.R. 29 =
25+00.00 SCOTT LN.
N 577983.9290
E 2394623.1470

INSTALL 2" P.E.
45 DEG. BEND

INSTALL APPROX.
285 L.F. 2" P.E.
GAS LINE

CONNECT PROPOSED 2" P.E. GAS
LINE TO EXISTING 2" STL. GAS LINE
W/ P.E. x STL. TRANSITION FITTING

CUT, CAP & PURGE
EXIST. GAS LINE

INSTALL (2) 2" P.E.
45 DEG. BENDS

SEE INSET
(THIS SHEET)

STA. 21+07 LINE "A"
INSTALL (1)-6"x2"
P.E. TEE, (1)-6" P.E.
VALVE, (1)-2" P.E. VALVE

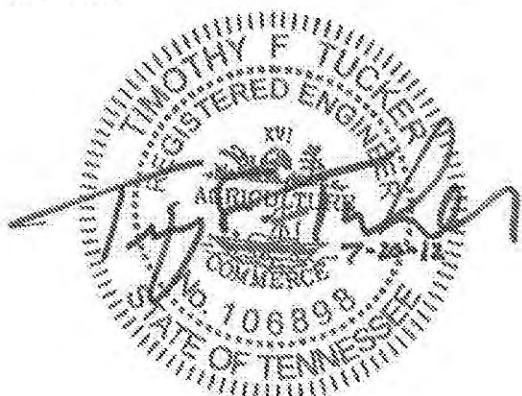
INSTALL 85 L.F.
OF 4" P.E. CASING
BY OPEN CUT

PROPOSED 6"
M.D.P.E. GAS LINE

STA. 24+93 LINE "A"
INSTALL (1)-6"x2"
P.E. TEE, (2)-6" P.E.
VALVES, (1)-2" P.E. VALVE

LEGEND	
—	PROPOSED CENTERLINE
—	PROP/EXIST. R.O.W.
— G —	PROPOSED GAS LINE
— S —	PROPOSED STORM SEWER
— P —	EXIST. PROPERTY LINE
— 8" SA —	EXIST. SANITARY SEWER
— 8" W —	EXIST. WATER LINE
— P/T —	EXIST. POWER LINE
— 3" G —	EXIST. NATURAL GAS
—	EXIST. STORM SEWER
—	EXIST. STREAM
□ W.M.	EXIST. WATER METER
□ G.M.	EXIST. GAS METER
□ MB	EXIST. MAILBOX

- NOTE:
1. MAXIMUM COVER FOR GAS LINE IS 36" DEPTH AND MINIMUM COVER IS 28" DEPTH.
 2. CONTRACTOR MUST MEET ALL NECESSARY REQUIREMENTS OF CFR 49 PART 192, SUBPART E AND N RELATED TO NATURAL GAS WORK, AND MUST MEET OR EXCEED HUB'S OPERATOR QUALIFICATION (OO) PROGRAM. (SEE SPECIFICATION 33 51 13.10) TO PERFORM THE GAS LINE WORK IN THIS CONTRACT.
 3. LINE "A" IS PROPOSED M.D.P.E. AND LINE "B" IS PROPOSED H.D.P.E.



GAS

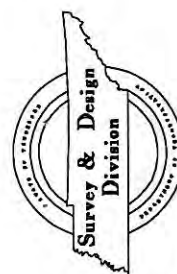
COORDINATE VALUES ARE NAD/83(1995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

UTILITY RELOCATION

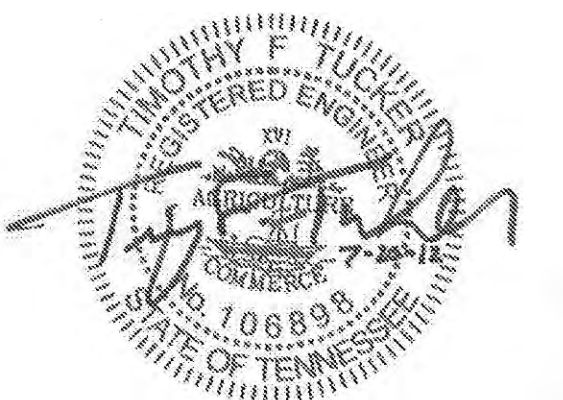
STA. 21+00 TO STA. 35+00

SCALE: 1"=50'



NOTE:

1. MAXIMUM COVER FOR GAS LINE IS 36" DEPTH AND MINIMUM COVER IS 28" DEPTH.
2. CONTRACTOR MUST MEET ALL NECESSARY REQUIREMENTS OF CFR 49 PART 192, SUBPART E AND N RELATED TO NATURAL GAS WORK, AND MUST MEET OR EXCEED HUB'S OPERATOR QUALIFICATION (OO) PROGRAM. (SEE SPECIFICATION 33 51 13.10) TO PERFORM THE GAS LINE WORK IN THIS CONTRACT.
3. LINE "A" IS PROPOSED M.D.P.E. AND LINE "B" IS PROPOSED H.D.P.E.



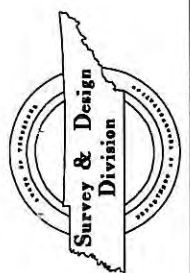
COORDINATE VALUES ARE NAD/83(1995)
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

UTILITY
RELOCATION

STA. 35+00 TO STA. 48+00

SCALE: 1"=50'



<u>SHT. NUMBER</u>	<u>SHT. NAME</u>
U2-1	ESTIMATED QUANTITIES (WATER)
U2-2	UTILITY RELOCATION PLAN (WATER)
U2-3	UTILITY RELOCATION PLAN (WATER)
U2-4	UTILITY RELOCATION PLAN (WATER)
U2-5	UTILITY RELOCATION PLAN (WATER)
U2-6	TYPICAL WATER DETAILS

73035-2206-14

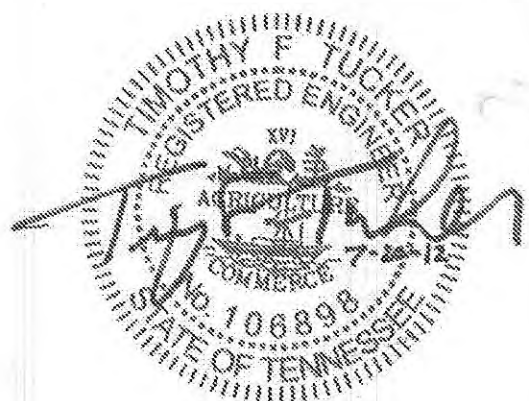
FOOTNOTES:

- ① INCLUDES ALL MATERIALS, LABOR, EQUIPMENT FOR COMPLETE INSTALLATION OF PIPE INCLUDING BUT NOT LIMITED TO TRAFFIC CONTROL, MATERIALS, EQUIPMENT, EXCAVATION IN BOTH UNCONSOLIDATED AND ROCK, REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL, ENVELOPE/BEDDING MATERIAL, BACKFILLING, FLOWABLE FILL, THRUST BLOCKING CONCRETE DEADMAN, PIPE FUSION, TRACER WIRE, WARNING TAPE, APPURTENANCES, TEMPORARY/PERMANENT SHORING, MAINTAINING THE TRENCH, TESTING, FLUSHING, DISINFECTION, BACTERIOLOGICAL SAMPLING, TEMPORARY/PERMANENT SURFACE RESTORATION, AND ANY OTHER LABOR OR MATERIAL REQUIRED TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS.
- ② INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO CASING PIPE, PIPE SPACERS, CASING END SEALS, FITTINGS, TRACER WIRE, WARNING TAPE, UTILITY LINE MARKERS AND TRAFFIC CONTROL. IF CASING PIPE HAS CARRIER PIPE, THE CARRIER PIPE SHALL BE PAID AT THE OPEN CUT ITEM.
- ③ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING WATER LINE INCLUDING TRAFFIC CONTROL. WARNING TAPE, UTILITY LINE MARKERS AND TRAFFIC CONTROL. IF CASING PIPE HAS CARRIER PIPE, THE CARRIER PIPE SHALL BE PAID AT THE OPEN CUT ITEM.
- ④ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO TAPPING SLEEVE, VALVE, VALVE BOX, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING AND RESTRAINT, TAP OF EXISTING LINE AND TRAFFIC CONTROL.
- ⑤ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO FITTINGS, VALVE, VALVE STEM EXTENSIONS, VALVE BOX AND COVER, BOX ADJUSTMENT, VALVE BOX COLLAR, VALVE MARKER, EXCAVATION, BEDDING, BACKFILL, BLOCKING AND TRAFFIC CONTROL.
- ⑥ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO MACHINERY, TOOLS OR APPARATUS NECESSARY FOR INSTALLATION OF ASSEMBLIES AS DESCRIBED IN THE PLANS AND SPECS EXCEPT FOR SERVICE LINE WHICH IS PAID SEPERATELY FOR EACH FOOT INSTALLED.
- ⑦ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR COMPLETE INSTALLATION OF SERVICE LINE OR CASING FOR SERVICE LINE ON LONG SIDE AND SHORT SIDE OF MAIN.
- ⑧ INCLUDES FITTINGS, GLANDS AND RESTRAINT DEVICES DESCRIBED IN POUNDS.

1. THE LOCATIONS OF THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.
2. PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD THE EXISTING UTILITIES FROM DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. FURNISH ANY SPECIAL EQUIPMENT REQUIRED TO WORK OVER AND AROUND THE UTILITIES.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS TO NOTIFY THEM OF WORK IN THE AREA AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY. NOTIFICATION SHALL BE GIVEN AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.
4. UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, AT 811.
5. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
6. THE STONE BEDDING AND BACKFILL SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE UTILITIES SPECIFICATIONS.
7. ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITIES SPECIFICATIONS.

8. WATER LINE PIPE SHALL BE PRESSURE CLASS 350 D.I.P. OR SDR 17 PVC PER UTILITIES SPECIFICATIONS.
9. CONTRACTOR TO INSTALL WATER LINES AT A POSITIVE GRADE BETWEEN DESIGNATED HIGH AND LOW POINTS TO PREVENT TRAPPING OF AIR.
10. PROPOSED 1" AIR RELEASE VALVES SHALL BE INSTALLED AT HIGH POINTS IN THE PROPOSED WATER LINE, AND SHALL BE FIELD LOCATED BY THE RESIDENT PROJECT REPRESENTATIVE.
11. CONTRACTOR TO COORDINATE FIELD LOCATIONS OF PROPOSED WATER SERVICES AND METERS WITH RESIDENT PROJECT REPRESENTATIVE.
12. NO VALVES SHALL BE INSTALLED UNDER AREAS TO RECEIVE ASPHALT PAVEMENT UNLESS APPROVED BY RESIDENT PROJECT REPRESENTATIVE.
13. VALVES, HYDRANTS AND METER ASSEMBLIES SHALL BE ORIENTED SO AS TO ASSURE WATER LINE APPURTENANCES ARE NOT LOCATED WITHIN SIDEWALK AND/OR CURB/CURB & GUTTER AREAS.
14. CONTRACTOR SHALL USE RESTRAINED JOINT FITTINGS FOR ALL WATER PIPE FITTINGS, EXCEPT FOR FITTINGS AT TIE-IN CONNECTIONS WHICH SHALL BE RESTRAINED WITH CONCRETE THRUST BLOCKS.
15. CONTRACTOR SHALL INSTALL RESTRAINED GASKETS FOR PUSH-ON JOINT PIPE.
16. CONTRACTOR SHALL INSTALL DETECTION WIRE AND WARNING TAPE PER UTILITY SPECIFICATIONS.

CONTACT PERSON JAMES BURNHAM
PHONE (865) 285-1022



COORDINATE VALUES ARE NAD/83(1995)
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

HARRIMAN UTILITY

UTILITY RELOCATION

ESTIMATED QUANTITIES

73035-2206-14

 PROPOSED CENTERLINE
 PROP/EXIST. R.O.W.
 PROPOSED GAS LINE
 PROPOSED STORM SEWER
 EXIST. PROPERTY LINE

1. MAXIMUM COVER FOR GAS LINE IS 36" DEPTH AND MINIMUM COVER IS 28" DEPTH.
2. CONTRACTOR MUST MEET ALL NECESSARY REQUIREMENTS OF CFR 49 PART 192, SUBPART E AND N RELATED TO NATURAL GAS WORK, AND MUST MEET OR EXCEED HUB'S OPERATOR QUALIFICATION (OO) PROGRAM. (SEE SPECIFICATION 33 51 13.10) TO PERFORM THE GAS LINE WORK IN THIS CONTRACT.
3. LINE "A" IS PROPOSED M.D.P.E. AND LINE "B" IS PROPOSED H.D.P.E.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

UTILITY RELOCATION

STA. 48+00 TO END OF PROJ.
SCALE: 1"=50'



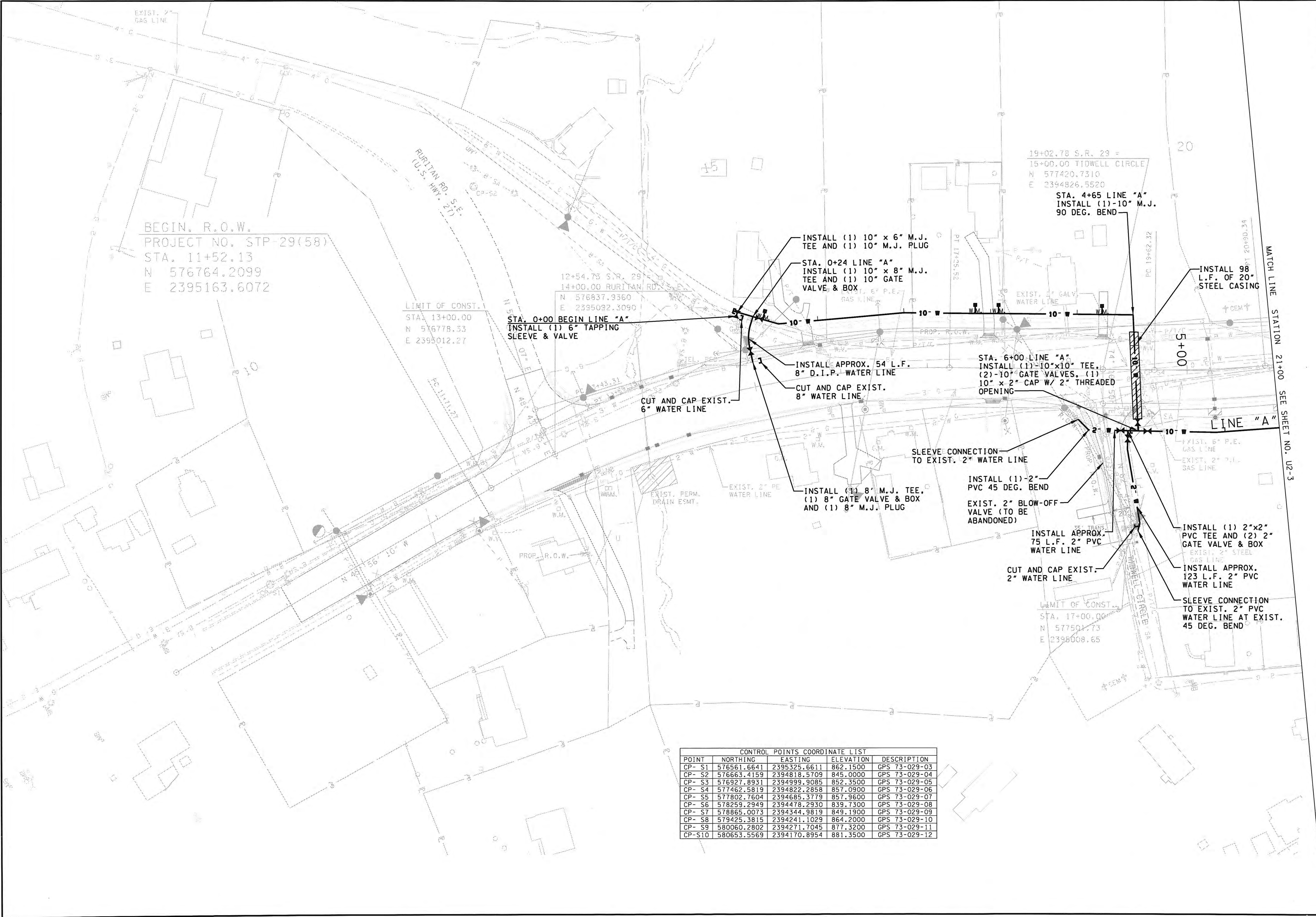
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TENNESSEE D.O.T.
DESIGN DIVISION

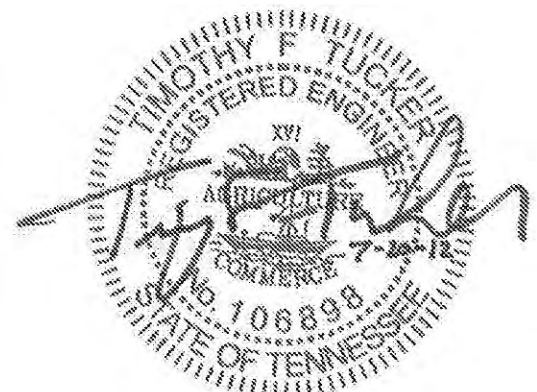
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U2-2

73035-2206-14



CONTROL POINTS COORDINATE LIST				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP- S1	576561.6641	2395325.6611	862.1500	GPS 73-029-03
CP- S2	576663.4159	2394818.5709	845.0000	GPS 73-029-04
CP- S3	576927.8931	2394999.9085	852.3500	GPS 73-029-05
CP- S4	577462.5819	2394822.2858	857.0900	GPS 73-029-06
CP- S5	577802.7604	2394685.3779	857.9600	GPS 73-029-07
CP- S6	578259.2949	2394478.2930	839.7300	GPS 73-029-08
CP- S7	578865.0073	2394344.9819	849.1900	GPS 73-029-09
CP- S8	579425.3815	2394241.1029	864.2000	GPS 73-029-10
CP- S9	580060.2802	2394271.7045	877.3200	GPS 73-029-11
CP- S10	580653.5569	2394170.8954	881.3500	GPS 73-029-12



WATER

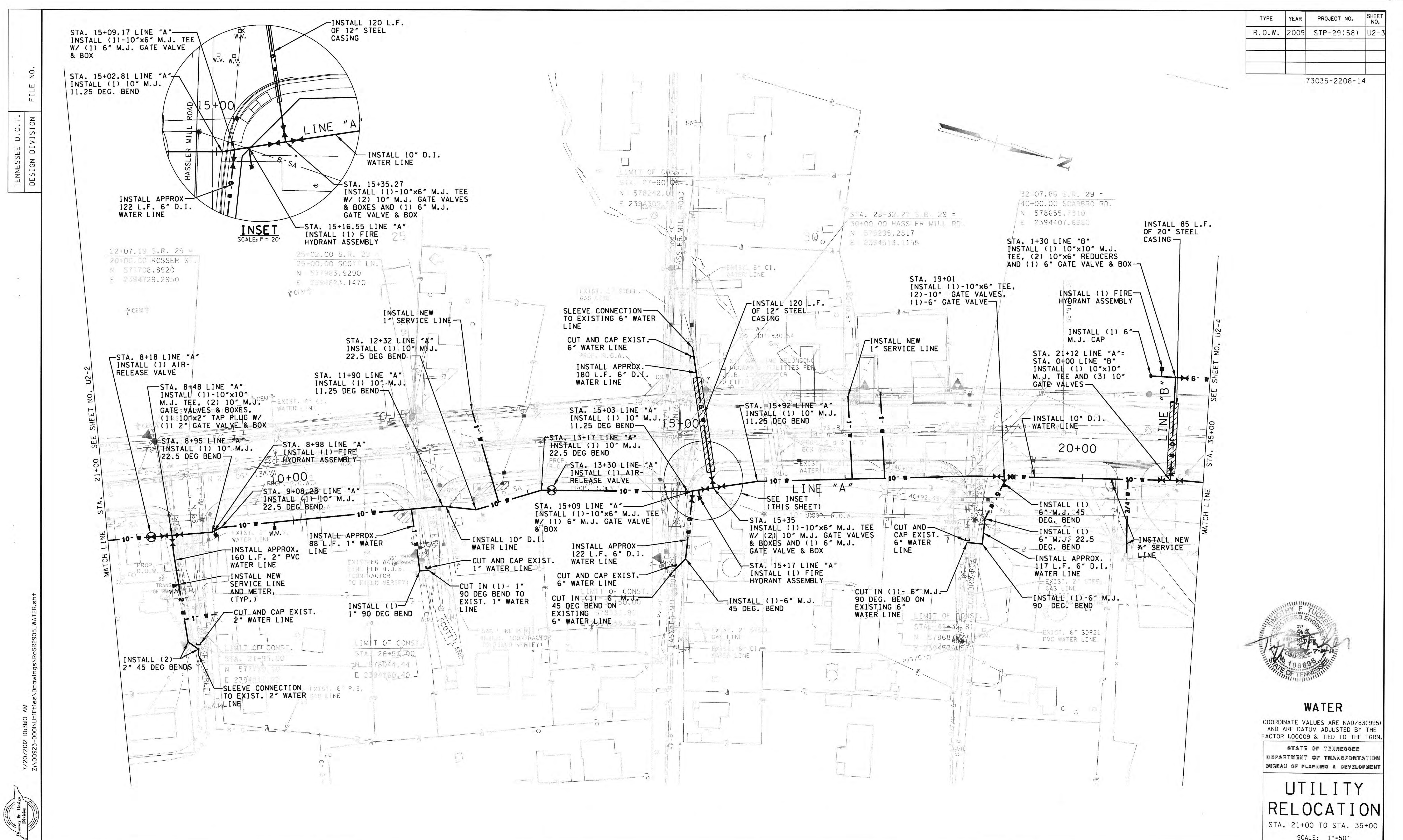
COORDINATE VALUES ARE NAD/83(1995)
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

**UTILITY
RELOCATION**
BEGIN PROJ. TO
STA. 21+00.00
SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U2-3

3035-2206-14



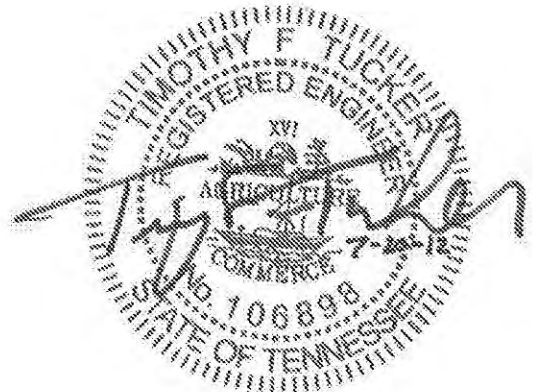
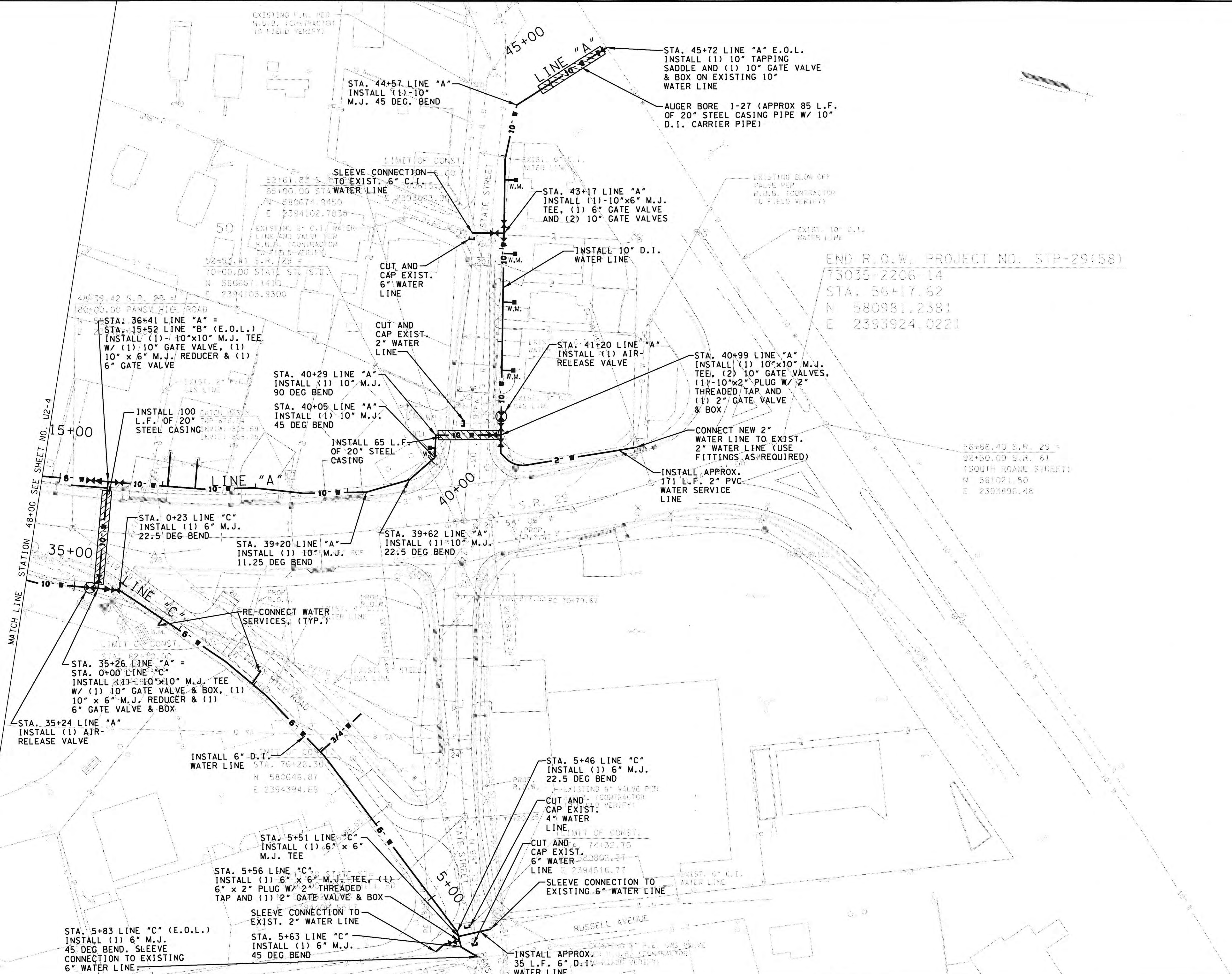
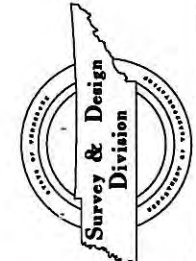
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U2-4

73035-2206-14



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U2-5

73035-2206-14



WATER

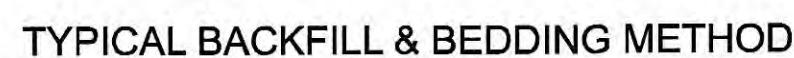
COORDINATE VALUES ARE NAD(83)1995
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

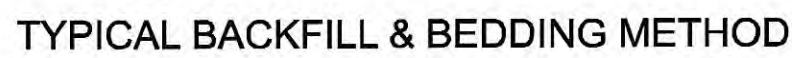
**UTILITY
RELOCATION**

STA. 48+00 TO END OF PROJ.
SCALE: 1"=50'

73035-2206-14



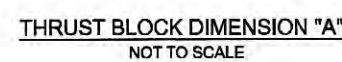
- NOTES:**
1. EDGE TO BE SAWED WITH A CONCRETE SAW TO A NEAT SQUARED EDGE. BROOMED CLEAN OF DUST BEFORE TACK COAT IS APPLIED.
 2. EDGES TO BE TACKED WITH EMULSIFIED ASPHALT TACK CRS-I OR CRS-II
 3. CUTTING AND REPAIRING EXISTING PAVEMENT CONCRETE OR GRAVEL SHALL BE IN ACCORDANCE WITH OWNER'S REQUIREMENTS



- NOTES:**
1. EDGE TO BE SAWED WITH A CONCRETE SAW TO A NEAT SQUARED EDGE. BROOMED CLEAN OF DUST BEFORE TACK COAT IS APPLIED.
 2. EDGES TO BE TACKED WITH EMULSIFIED ASPHALT TACK CRS-I OR CRS-II
 3. CUTTING AND REPAIRING EXISTING PAVEMENT CONCRETE OR GRAVEL SHALL BE IN ACCORDANCE WITH OWNER'S REQUIREMENTS



- NOTES:**
1. FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
 2. ROD AND EYE BOLT DIAMETER SHALL BE A MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
 3. CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.



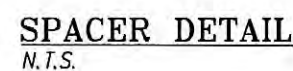
NOTES:

1. CONTRACTOR SHALL USE RESTRAINED JOINT FITTINGS OR REACTION BLOCKING FOR EACH FITTING INSTALLED ON THE PROJECT.
2. WHERE RESTRAINED JOINT FITTINGS ARE REQUIRED BY THE PLANS, SPECIFICATION, OR WHERE THE CONTRACTOR CHOOSES TO USE RESTRAINED JOINT FITTINGS IN LIEU OF REACTION BLOCKING, RESTRAINED JOINT FITTINGS MUST BE INSTALLED AS REQUIRED BY THE TABLES AND NOTES FOUND WITHIN THE PLANS AND SPECIFICATIONS.
3. RESTRAINED JOINT FITTINGS SHALL BE "MEGALUG" AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
4. CONTRACTOR SHALL INSTALL RESTRAINING CASCKES FOR PUSH-ON JOINT PIPE A MINIMUM DISTANCE FROM EACH VALVE OR FITTING AS REQUIRED IN THE ABOVE TABLE.
5. RESTRAINING CASCKES FOR PUSH-ON JOINT PIPE SHALL BE "FIELD LOK350" AS MANUFACTURED BY U.S. PIPE OR APPROVED EQUAL.
6. REACTION BLOCKING SHALL BE INSTALLED AS REQUIRED BY KUB STANDARD SPECIFICATION 02513.

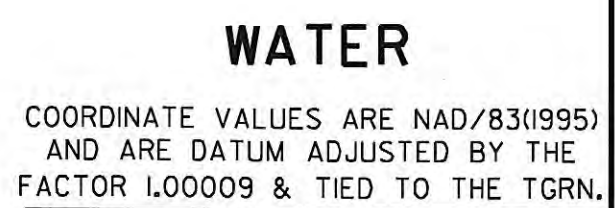
THRUST RESTRAINT JOINT TABLE



CONCRETE BLOCKING FOR VALVES
N.T.S.



- NOTES:**
1. ACCEPTABLE MANUFACTURERS OF BOTH SPACERS AND
END SEALS FOR CASING PIPE AS FOLLOWS:
PIPELINE SEAL AND INSULATORS, INC. (PSI), HOUSTON, TX
ADVANCE PRODUCTS AND SYSTEMS, INC. LAFAYETTE, LA
CASCADE WATERWORKS MFG. CO., YORKVILLE, IL



WATER

COORDINATE VALUES ARE NAD/83(1995)
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FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

TYPICAL DETAILS



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U3-1

73035-2206-14

INDEX OF DRAWINGS

<u>SHT. NUMBER</u>	<u>SHT. NAME</u>
U3-1	ESTIMATED QUANTITIES (SEWER)
U3-2	UTILITY RELOCATION PLAN (SEWER)
U3-3	UTILITY RELOCATION PLAN (SEWER)
U3-4	UTILITY RELOCATION PLAN (SEWER)
U3-5	UTILITY RELOCATION PLAN (SEWER)
U3-6	UTILITY RELOCATION PROFILE (SEWER)
U3-7	UTILITY RELOCATION PROFILE (SEWER)
U3-8	TYPICAL SEWER DETAILS

[illegible]

GENERAL NOTES:

1. CONSTRUCTION OF THE SANITARY SEWER SHALL CONFORM TO THE UTILITY SPECIFICATIONS AND INFORMATION CONTAINED HEREIN.
2. ALL WORK SHALL BE PERFORMED BY A TENNESSEE LICENSED UTILITY CONTRACTOR.
3. UNDERGROUND UTILITIES INCLUDE, BUT ARE NOT LIMITED TO, WATER, SEWER, GAS, STEAM PIPING/DUCT WORK, ELECTRIC, COMMUNICATION SERVICES, STREET LIGHTING AND TRAFFIC DETECTOR LOOPS. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL SUCH FACILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL SUCH FACILITIES THAT ARE DAMAGED DURING CONSTRUCTION. PAYMENT FOR LOCATING, PROTECTING, COORDINATING AND RE-PAIRING EXISTING FACILITIES WILL BE INCLUDED IN OTHER ITEMS OF WORK AND NO ADDITIONAL COMPENSATION WILL BE MADE. ALL REPAIRS SHALL BE DONE IN ACCORDANCE WITH STANDARDS AND REQUIREMENTS OF THE UTILITY'S OWNER. UTILITY SUPPORT METHODS WILL BE SUBMITTED PRIOR TO CONSTRUCTION FOR APPROVAL.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUITABLE SIGNAGE, BARRICADES, AND LIGHTS FOR PROTECTION OF TRAFFIC. ANY EXISTING ROAD SIGN REMOVED FOR CONSTRUCTION SHALL BE REPLACED BY THE END OF THE WORKING DAY. TEMPORARY STOP SIGNS SHALL BE ERECTED PRIOR TO REMOVAL OF PERMANENT STOP SIGNS.
5. THE CONTRACTOR SHALL NOT CLOSE OR BLOCK ANY HIGHWAY, STREET, OR ROADWAY WITHOUT FIRST OBTAINING ALL REQUIRED PERMITS FROM THE GOVERNING ENTITY (TDOT, CITY, COUNTY, ETC...).
6. THE CONTRACTOR SHALL PROVIDE ACCESS TO UTILITY COMPANIES FOR MAINTENANCE AND WORK ON THEIR UTILITIES DURING THE COURSE OF WORK.
7. SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE RESET AS DIRECTED BY THE RESIDENT PROJECT REPRESENTATIVE. PRIOR TO DISTURBANCE, CONTACT THE RESIDENT PROJECT REPRESENTATIVE FOR MONUMENT INFORMATION.
8. CONTRACTOR SHALL VERIFY WORK IN FIELD AND SHALL SATISFY HIMSELF AS TO THE ACCURACY BETWEEN WORK SET FORTH ON THESE PLANS AND THE WORK REQUIRED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT PROJECT REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.
9. THE EXISTING UTILITIES SHOWN AND INDICATED ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING UNDERGROUND UTILITIES, ALL COSTS ASSOCIATED WITH POT-HOLING WILL BE INCLUDED IN OTHER ITEMS OF WORK AND NO ADDITIONAL COMPENSATION WILL BE MADE THEREFORE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR DISRUPTION OF UTILITY SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO BEGINNING CONSTRUCTION.
10. THE CONTRACTOR SHALL PROVIDE SUPPORT OF EXISTING UTILITIES TO MAINTAIN SERVICE AND INTEGRITY.
11. THE CONTRACTOR SHALL NEATLY SAW CUT ALL ROADWAYS AND DRIVEWAYS PRIOR TO INSTALLING A PERMANENT PAVEMENT REPAIR.
12. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING CONSTRUCTION.
13. INDICATED SCALES ARE BASED ON FULL SIZE DRAWINGS; IF DRAWINGS ARE REDUCED, SCALES MUST BE ADJUSTED ACCORDINGLY.
14. CONTRACTOR SHALL NOTIFY THE RESIDENT PROJECT REPRESENTATIVE 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
15. LOCATION OF EXISTING RIGHT-OF-WAY (R.O.W.) LINES AND PROPERTY LINES ARE APPROXIMATE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROJECT SITE RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.
17. TREES THAT HAVE BEEN DAMAGED OR REMOVED, ASPHALT AND OTHER CONSTRUCTION DEBRIS SHALL BE REMOVED OFFSITE BY CONTRACTOR.
18. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO AND THROUGH EXISTING DRAINAGE FACILITIES. ANY CONSTRUCTION AROUND, THROUGH OR IN DRAINAGE PATHS SHALL NOT ALTER THE FLOW PATHS FROM EXISTING AFTER CONSTRUCTION IS COMPLETE.
19. CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR WORKING CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
20. WHEN EXCAVATION MUST OCCUR NEAR A UTILITY POLE, THE CONTRACTOR SHALL EMPLOY A LICENSED ELECTRICAL CONTRACTOR TO GUY, ANCHOR, BRACE, MECHANICALLY HOLD, ETC., THE POLE THROUGHOUT THE EXCAVATION PROCESS AND UNTIL THE AREA CAN BE PROPERLY BACKFILLED AND COMPACTED TO PREVENT THE MOVEMENT OF THE POLE. IF THE EXCAVATION AFFECTS AN ANCHOR, THE POLE WILL NEED TO BE STABILIZED IN A SIMILAR MANNER UNTIL THE ANCHOR CAN BE REINSTALLED IN THE EXACT LOCATION. CONTRACTOR SHALL NOTIFY THE UTILITY OWNER NOT LESS THAN SEVEN (7) CALENDAR DAYS PRIOR TO EXCAVATION WITHIN TWENTY (20) FEET OF ANY POLE AND SHALL PROVIDE INFORMATION TO THE UTILITY OWNER PERTAINING TO THE METHOD THAT IS TO BE USED TO STABILIZE THE POLE, AS WELL AS THE NAME OF THE ELECTRICAL CONTRACTOR RESPONSIBLE FOR THE PORTION OF THE WORK.

FOOTNOTES:

- ① INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR COMPLETE EXCAVATION INCLUDING BUT NOT LIMITED TO BEDDING, BACKFILLING, THRUST BLOCKING, PIPE FUSION, APPURTENANCES, FLOWABLE FILL, MAINTAINING THE TRENCH, TESTING, CHECK DAMS, AND ANY OTHER LABOR OR MATERIAL REQUIRED TO COMPLETE FOR GRAVITY SEWER LINES OR FORCE MAINS AS SPECIFIED ON THE PLANS. DUCTILE IRON PIPE GRAVITY SEWER LINES SHALL BE EPOXY LINED.
- ② INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR INSTALLATION OF PRECAST MANHOLE BOTH PREFORMED BASE OR OPEN BOTTOM (DOGHOUSE), INCLUDING BUT NOT LIMITED TO VENT ASSEMBLY (WHERE REQUIRED), CRUSHED STONE, PIPE TO MANHOLE CONNECTORS, EXCAVATION, BACKFILL, BUTYL RESIN GASKET, MANHOLE STEPS, ASPHALTIC WATERPROOFING, FRAME AND COVER AND TRAFFIC CONTROL.
- ③ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT, INCLUDING BUT NOT LIMITED TO MACHINERY, TOOLS OR APPARATUS NECESSARY FOR INSTALLATION OF ASSEMBLIES AS DESCRIBED AND DETAILED IN THE PLANS AND SPECS.
- ④ INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING FORCE MAIN, SEWER LINE, PUMP STATION OR MANHOLE AS SPECIFIED ON PLANS, INCLUDING TRAFFIC CONTROL.
- ⑤ INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR INCREASING OR DECREASING HEIGHT OF MANHOLE TO FINISHED ROAD GRADE, INCLUDING BUT NOT LIMITED TO ADDITIONAL OR REMOVAL OF BARREL SECTIONS OR FRAME RINGS AND ADJUSTMENTS TO FRAME AND COVER.
- ⑥ INCLUDES ALL LABOR, EQUIPMENT, DISPOSAL OF WASTE MATERIAL, DRILLING HOLES IN BASE FOR PROPER DRAINAGE, REMOVAL OF NECESSARY BARREL SECTIONS FOR PROPER GRADE AND STONE BACKFILL.

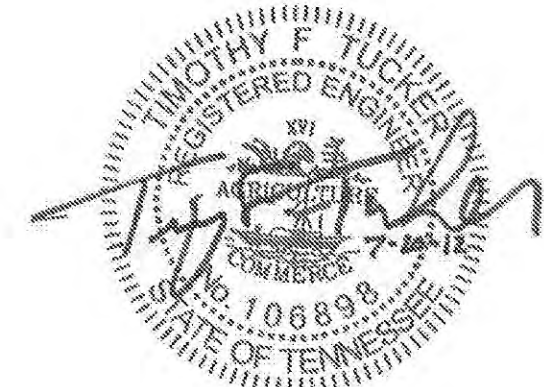
UTILITY INFORMATION

UTILITY TITLE
ADDRESS

CONTACT PERSON
PHONE

HARRIMAN UTILITY BOARD
P.O. BOX 434
HARRIMAN, TN. 37748

JAMES BURNHAM
(865) 285-1022



SANITARY
SEWER

COORDINATE VALUES ARE NAD/83(1995)
AND ARE DATUM ADJUSTED BY THE
FACTOR 1.00009 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

HARRIMAN UTILITY

UTILITY RELOCATION

ESTIMATED QUANTITIES



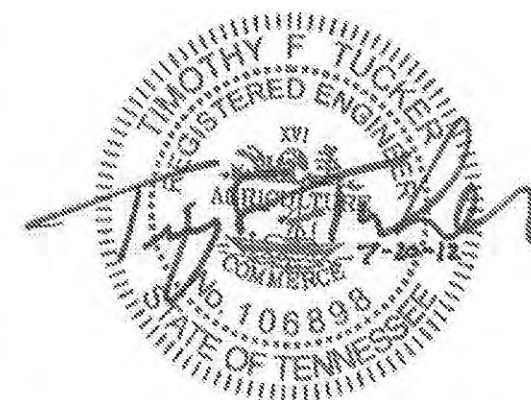
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	STP-29(58)	U3-2

73035-2206-14

LEGEND	
	PROPOSED CENTERLINE
	PROP/EXIST. R.O.W.
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	EXIST. PROPERTY LINE
	EXIST. SANITARY SEWER
	EXIST. WATER LINE
	EXIST. POWER LINE
	EXIST. NATURAL GAS
	EXIST. STORM SEWER
	EXIST. STREAM
	EXIST. WATER METER
	EXIST. GAS METER
	EXIST. MAILBOX

NOTE:
1. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF PRIVATE SEWER LATERALS PRIOR TO CONSTRUCTION TO ENSURE PROPER GRADE & LOCATION OF SEWER LATERAL EXTENSION TO PROPOSED SEWER MAIN.

CONTROL POINTS COORDINATE LIST				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP- S1	576561.6641	2395325.6611	862.1500	GPS 73-029-03
CP- S2	576663.4159	2394818.5709	845.0000	GPS 73-029-04
CP- S3	576927.8931	2394999.9085	852.3500	GPS 73-029-05
CP- S4	577462.5819	2394822.2858	857.0900	GPS 73-029-06
CP- S5	577802.7604	2394685.3779	857.9600	GPS 73-029-07
CP- S6	578259.2949	2394478.2930	839.7300	GPS 73-029-08
CP- S7	578865.0073	2394344.9819	849.1900	GPS 73-029-09
CP- S8	579425.3815	2394241.1029	864.2000	GPS 73-029-10
CP- S9	580060.2802	2394271.7045	877.3200	GPS 73-029-11
CP- S10	580653.5569	2394170.8954	881.3500	GPS 73-029-12



SANITARY SEWER

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BEGIN PROJ. TO STA. 21+00.00
SCALE: 1"=50'