

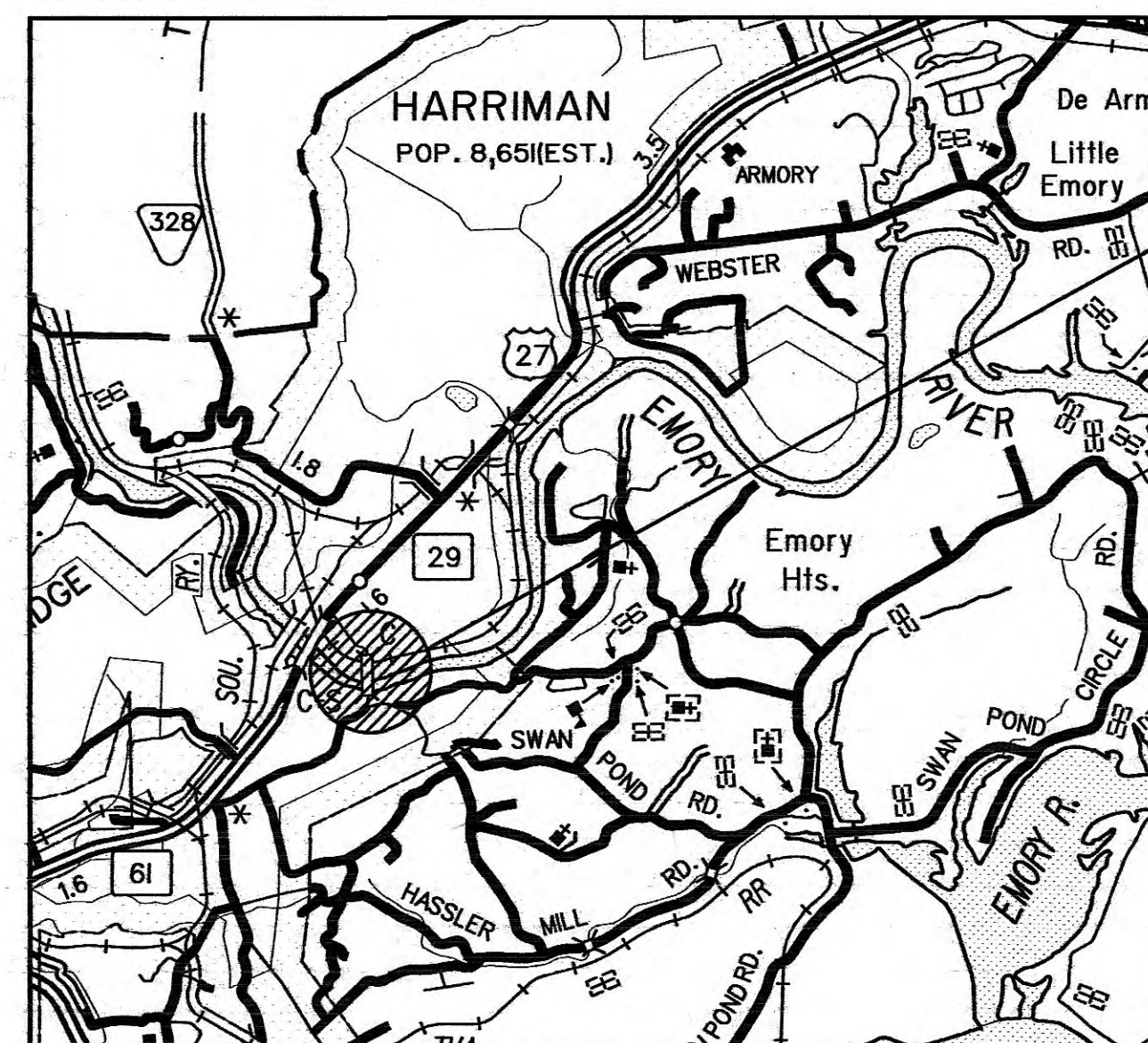
HARRIMAN UTILITY BOARD

Roane County, Tennessee

WATER LINE ADDITIONS

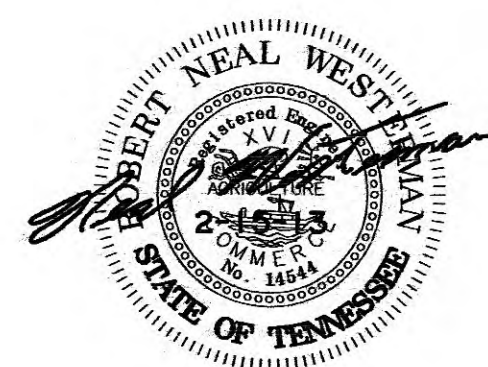
CONTRACT 112

LOCATION MAP



PROJECT LOCATION

Project Engineer



PLANS REVIEWED AND APPROVED BY HARRIMAN UTILITY BOARD

Frankie Davis

2-15-2013
DATE

SHEET INDEX

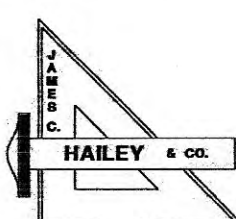
TITLE SHEET	
KEY MAP AND GENERAL NOTES	1
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WATER LINE ADDITIONS	4
WATER LINE BRIDGE CROSSING DETAILS	5
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STANDARD WATER LINE DETAILS	7

RECORD DRAWING

This Record Drawing has been prepared, in part based upon information provided by others and is believed to be reliable. No warranty is expressed for potential errors or omissions due to incorrect information provided.

September 2014
DATE

SET NUMBER



JAMES C. HAILEY & CO.

PHONE: 615-883-4933

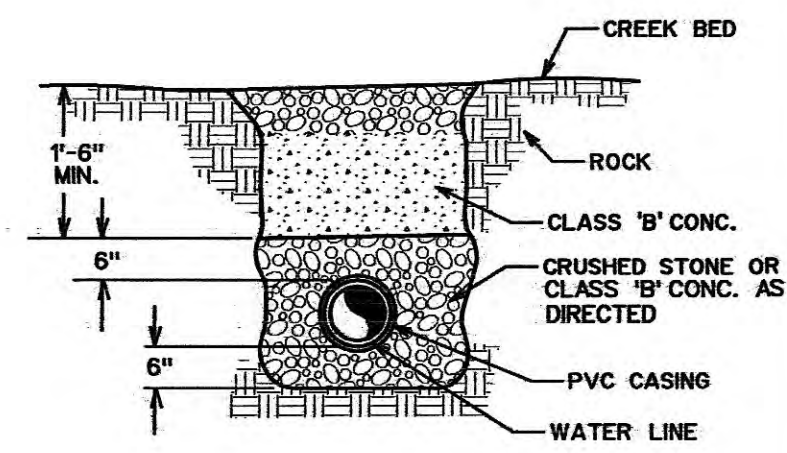
7518 HIGHWAY 70 S - SUITE 100 NASHVILLE, TENNESSEE

FAX: 615-883-4937

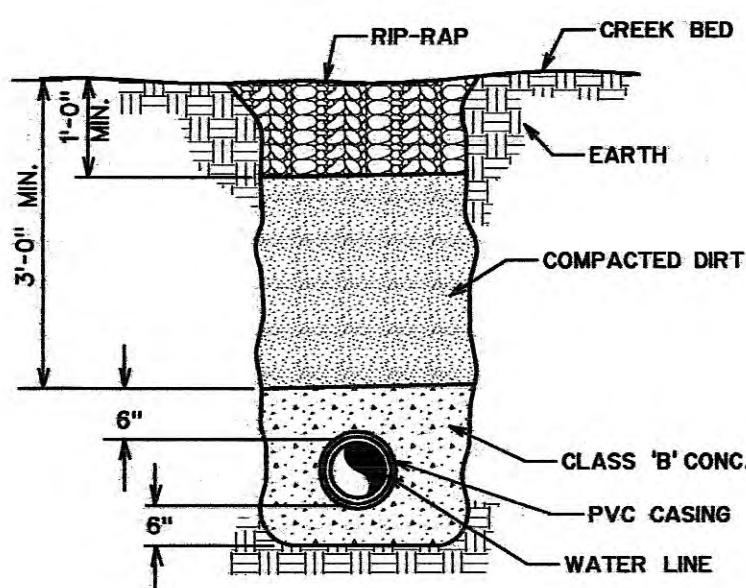
<http://www.jchengr.com>

JCH PROJECT NO. 09212

HARRIMAN - CONT. 112 - WATER LINE ADDITIONS

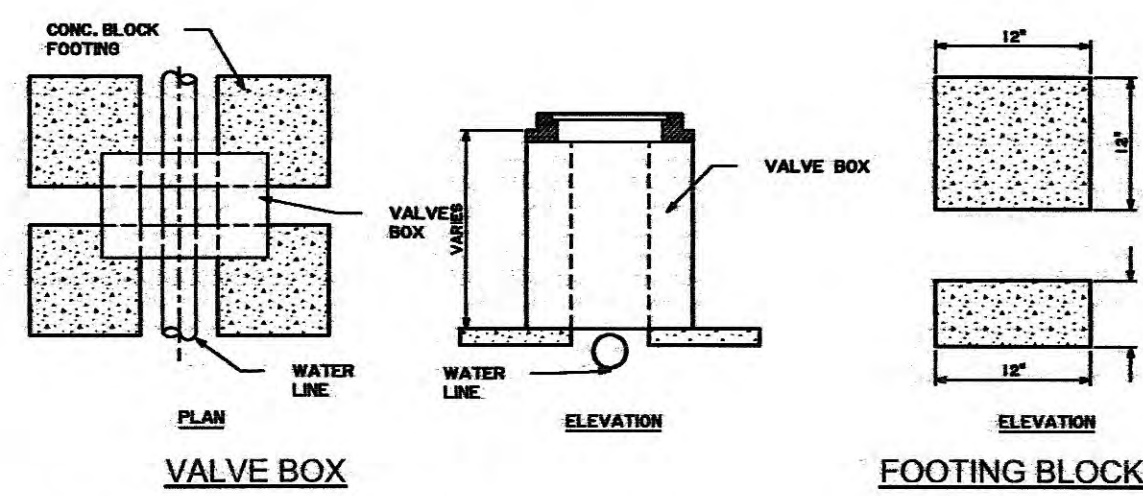


IN ROCK

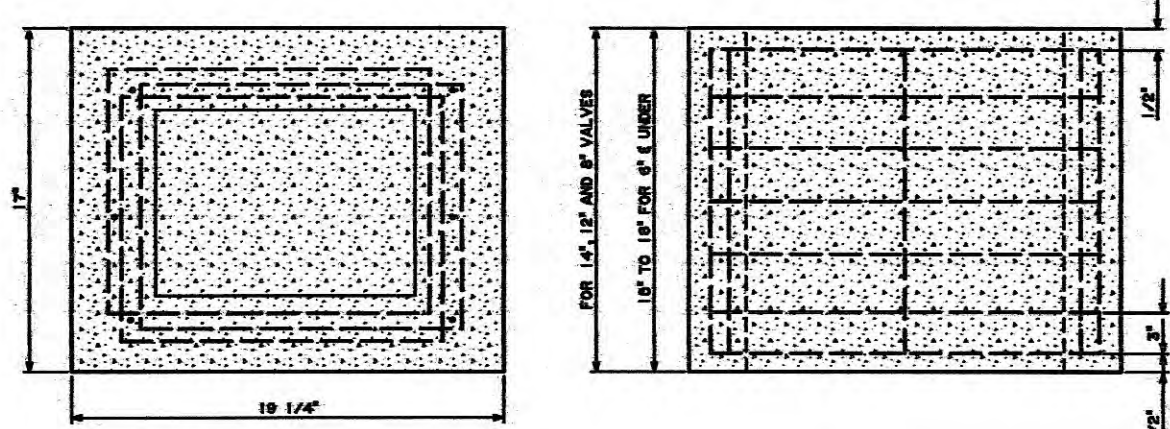


IN EARTH

TYPICAL STREAM CROSSING DETAIL

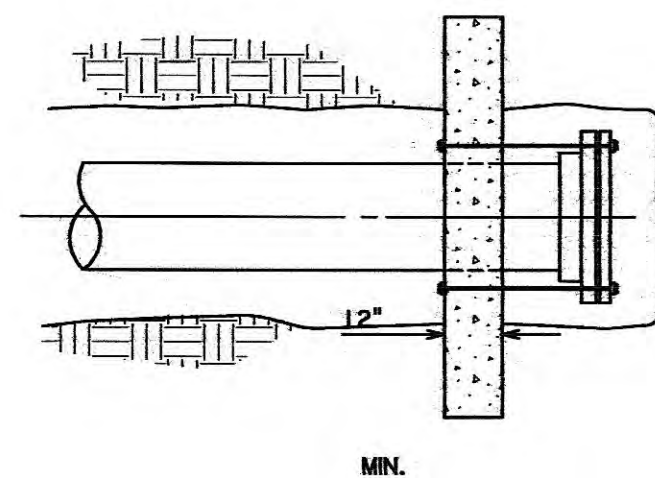


- NOTES:
- FOUR (4) CONCRETE BLOCKS OF THE SIZE AND SHAPE SHOWN ARE TO BE PLACED UNDER EACH BOX, ONE UNDER EACH CORNER OF BOX.
 - NO REINFORCING STEEL IN FOOTING BLOCKS. CONCRETE MIX TO BE (1) PART CEMENT, (2) PARTS SAND AND (4) PARTS NO. 2 CRUSHED STONE OR GRAVEL. VOLUME FOR ONE BLOCK = .353 CU. FT. WEIGHT OF ONE BLOCK = 50 LBS. WEIGHT FOR ALL FOUR BLOCKS = 200 LBS. BEARING AREA ON SOIL = 576 SQ. IN.



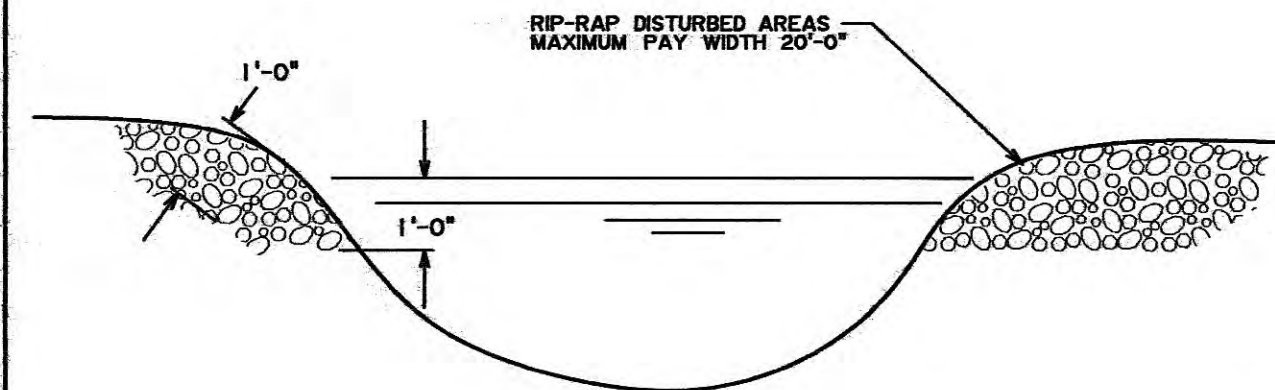
- NOTES:
- REINFORCING TO BE 1/4" STEEL REINFORCING RODS PLACED HORIZONTALLY IN SQUARES 18 1/4" x 14" AND TO BE STAGGERED APPROXIMATELY 1/2" SHOWN ON PLAN. ONE FOR EVERY 3" OF HEIGHT OF BOX. VERTICAL BARS ARE TO BE 1" SHORTER THAN THE HEIGHT OF THE BOX AND SHALL BE PLACED IN EACH CORNER OF THE BOX AND AT THE HALFWAY POINT TO EACH SIDE OF THE BOX USING 6 RISERS TO THE BOX. TOTAL LENGTH OF REINFORCING ROD FOR BOX APPROX. 47'.
 - CONCRETE MIXTURE TO BE (1) PART CEMENT, (2) PARTS SAND AND (4) PARTS NO. 2 CRUSHED STONE OR GRAVEL. TOTAL VOLUME OF MIXTURE FOR BOX APPROXIMATELY 2 CU. FT.

STANDARD CONCRETE VALVE BOX

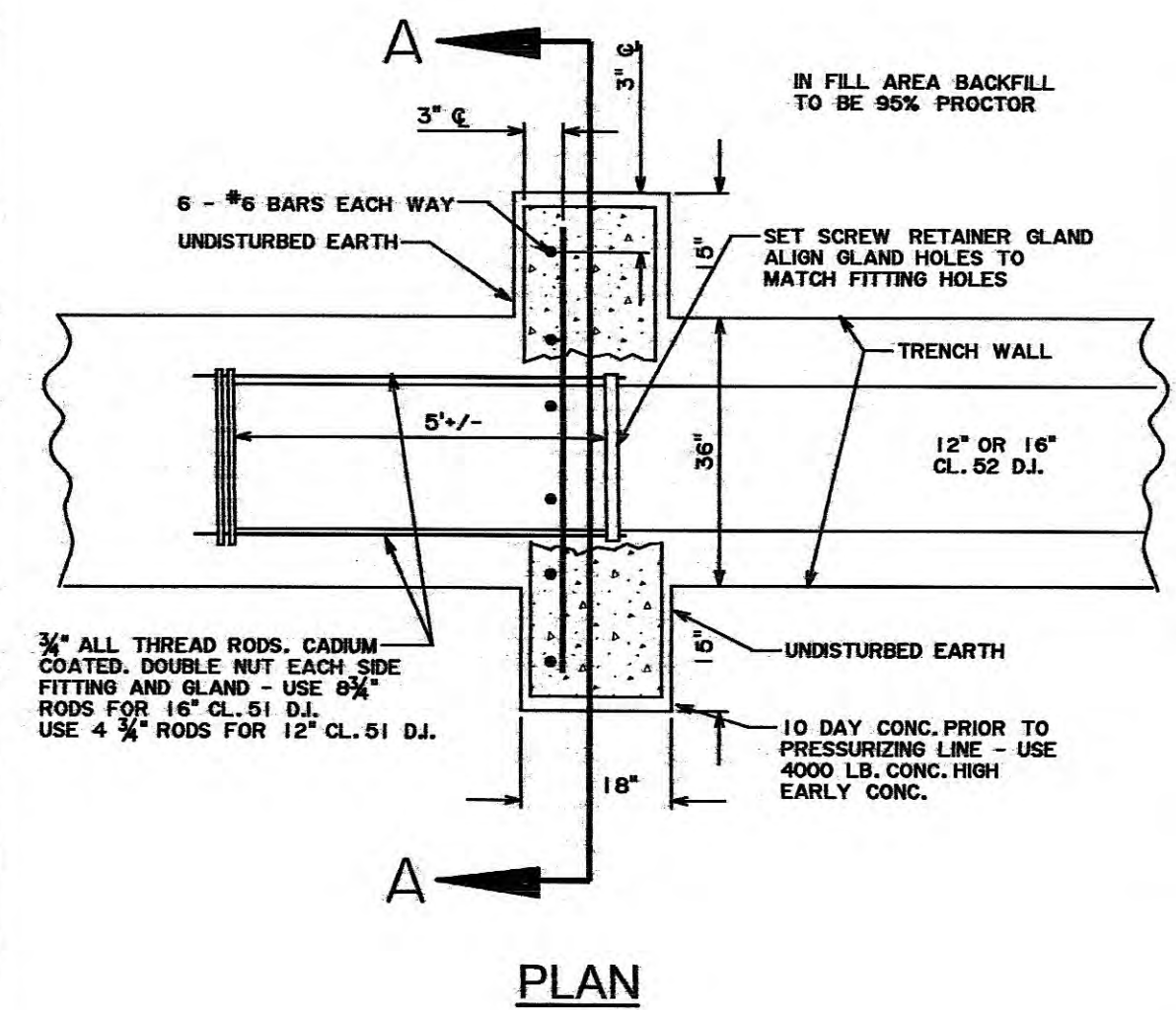


SIZE	2	4	6	8	10	12	16	20
* OF RODS	2	2	4	5	7	10	16	24

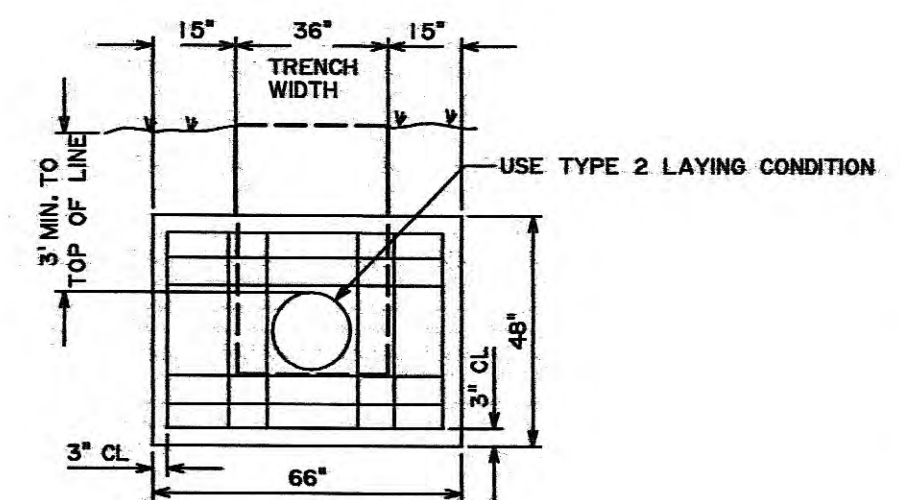
CONC. THRUST BLOCK (BRACE)
3/4" RODS - DEAD END



RIP-RAP DETAIL
STREAM CROSSING SECTION

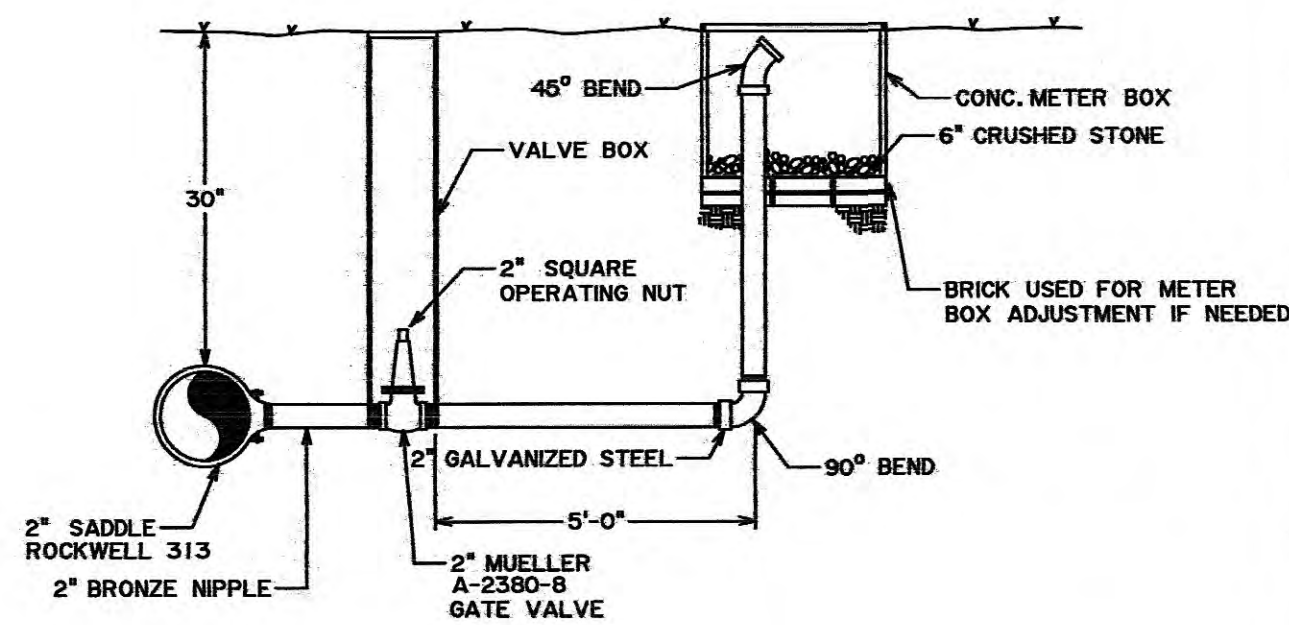


PLAN

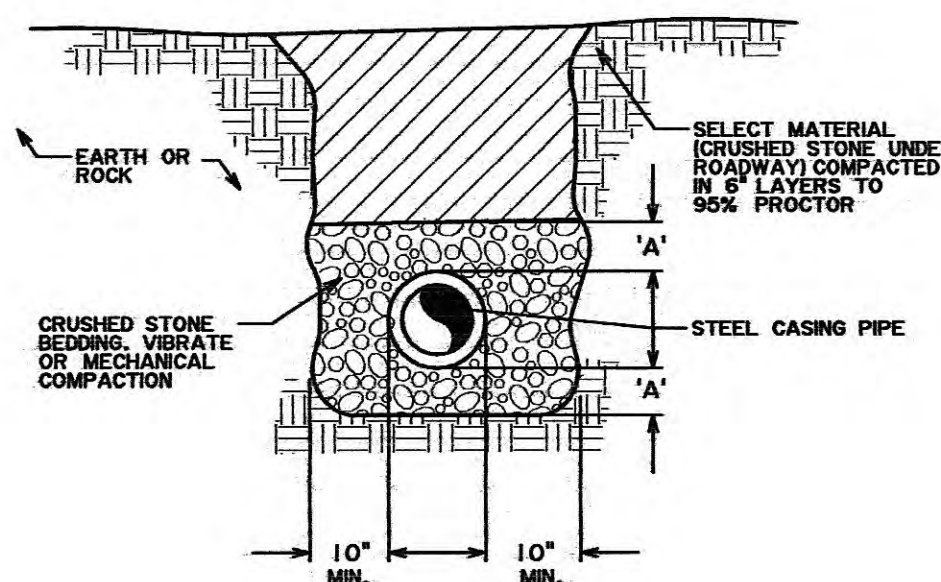


SECTION A-A

TYPICAL REINFORCED
CONCRETE REVERSE KICKER

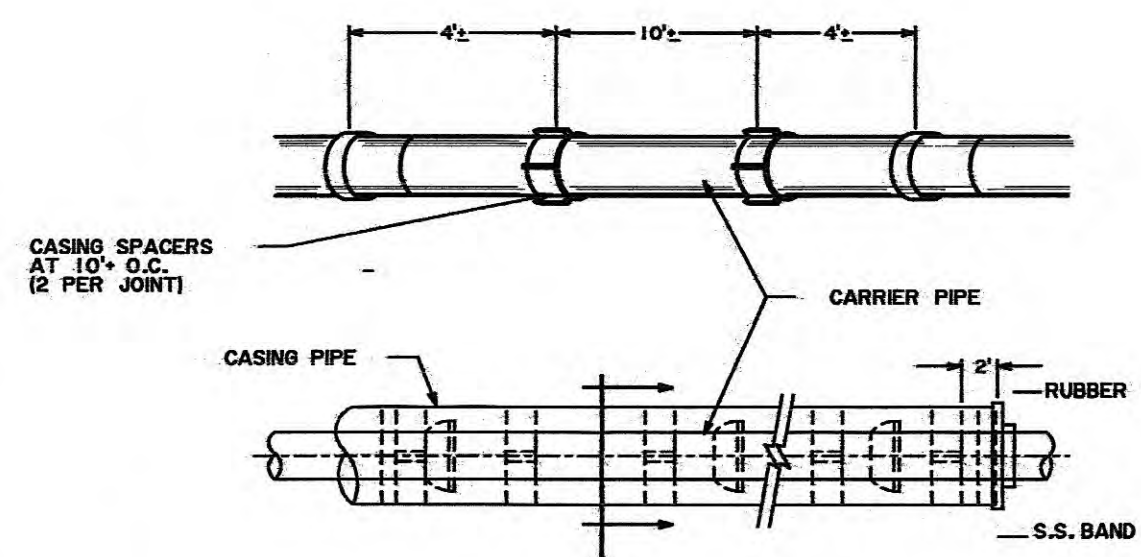


BLOW-OFF DETAIL FOR
MAINS OVER 4"

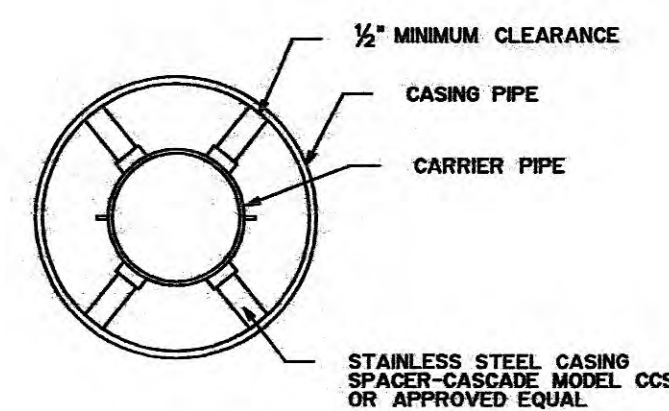


DIMENSION 'A' - FOR UNDER 12" PIPE = 6" MINIMUM
FOR 12" AND OVER PIPE = 12" MINIMUM

TRENCH SECTION FOR CASING
BY OPEN CUT

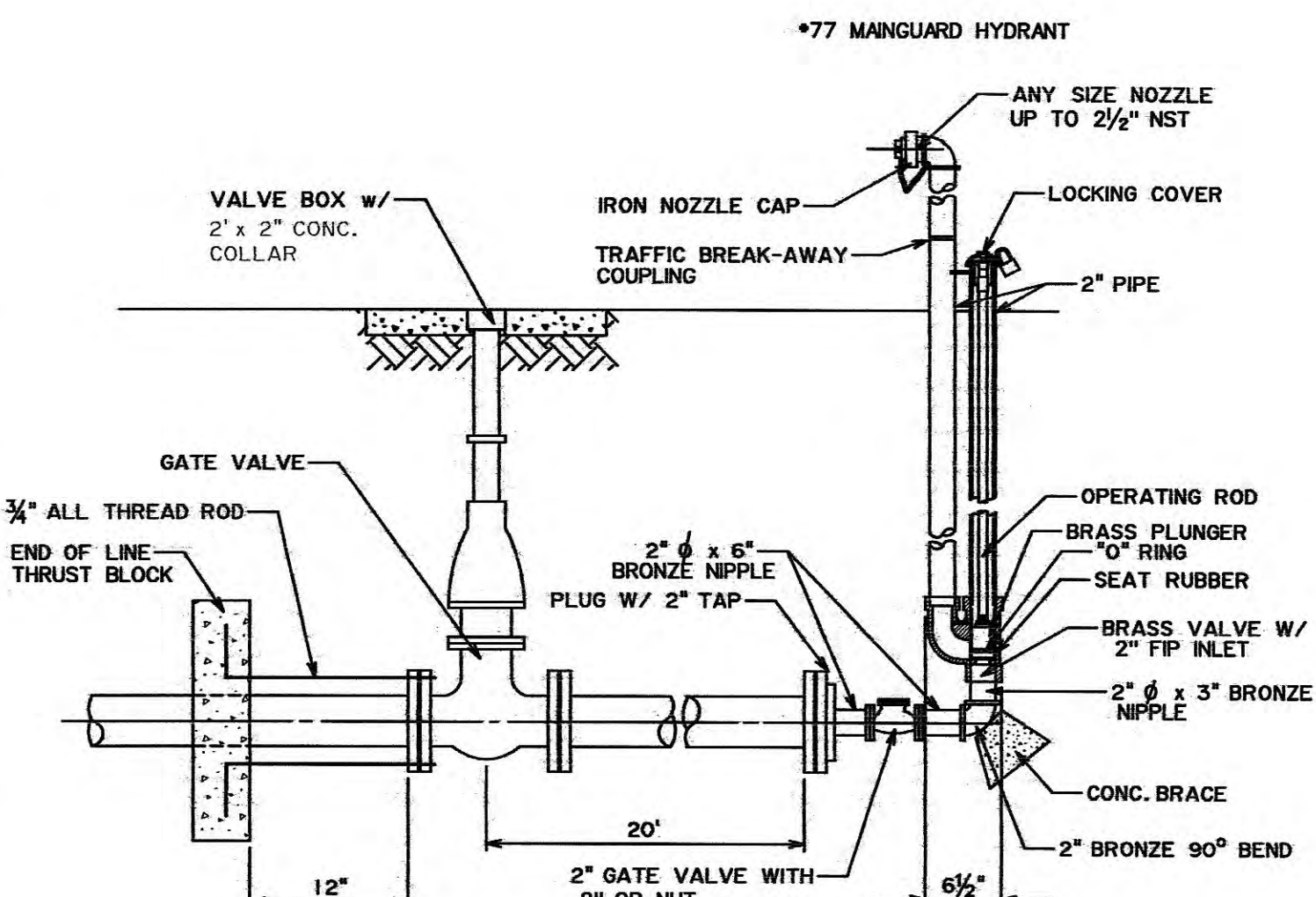


TYPICAL SECTION

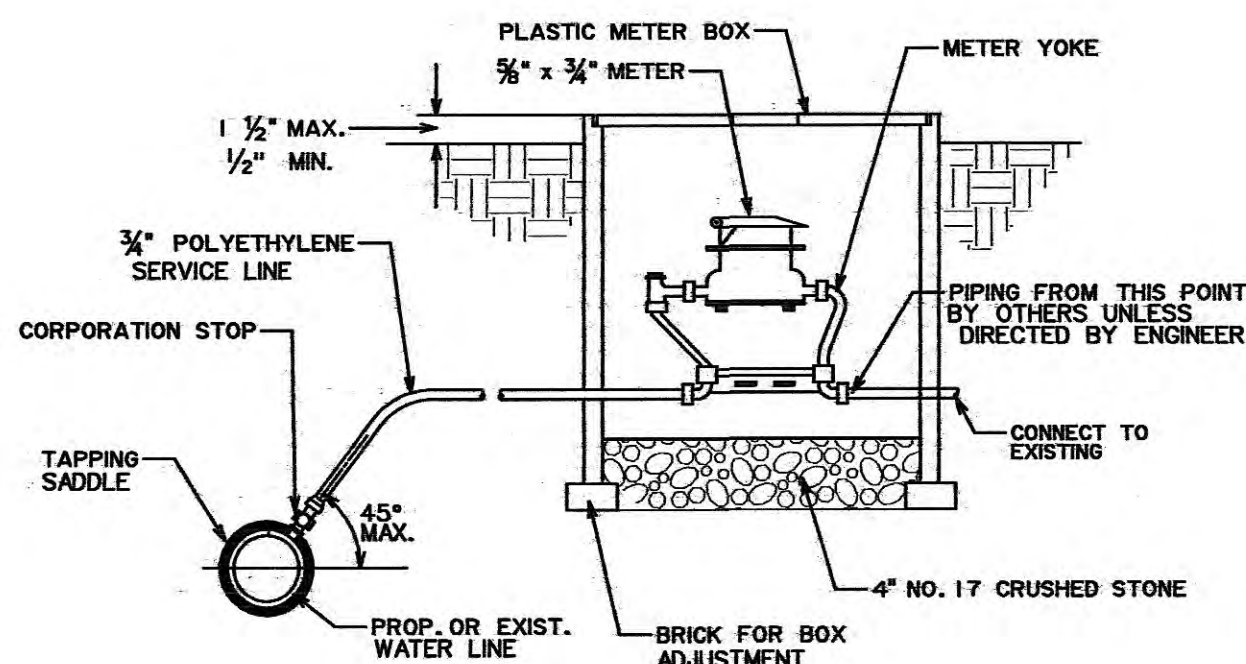


- NOTES:
- ALL JOINTS WITHIN CASING TO BE RESTRAINED.
 - CARRIER PIPE TO BE IN CENTER OF CASING TO PROVIDE RESTRAINT AGAINST MOVEMENT

WATER LINE CASING DETAIL

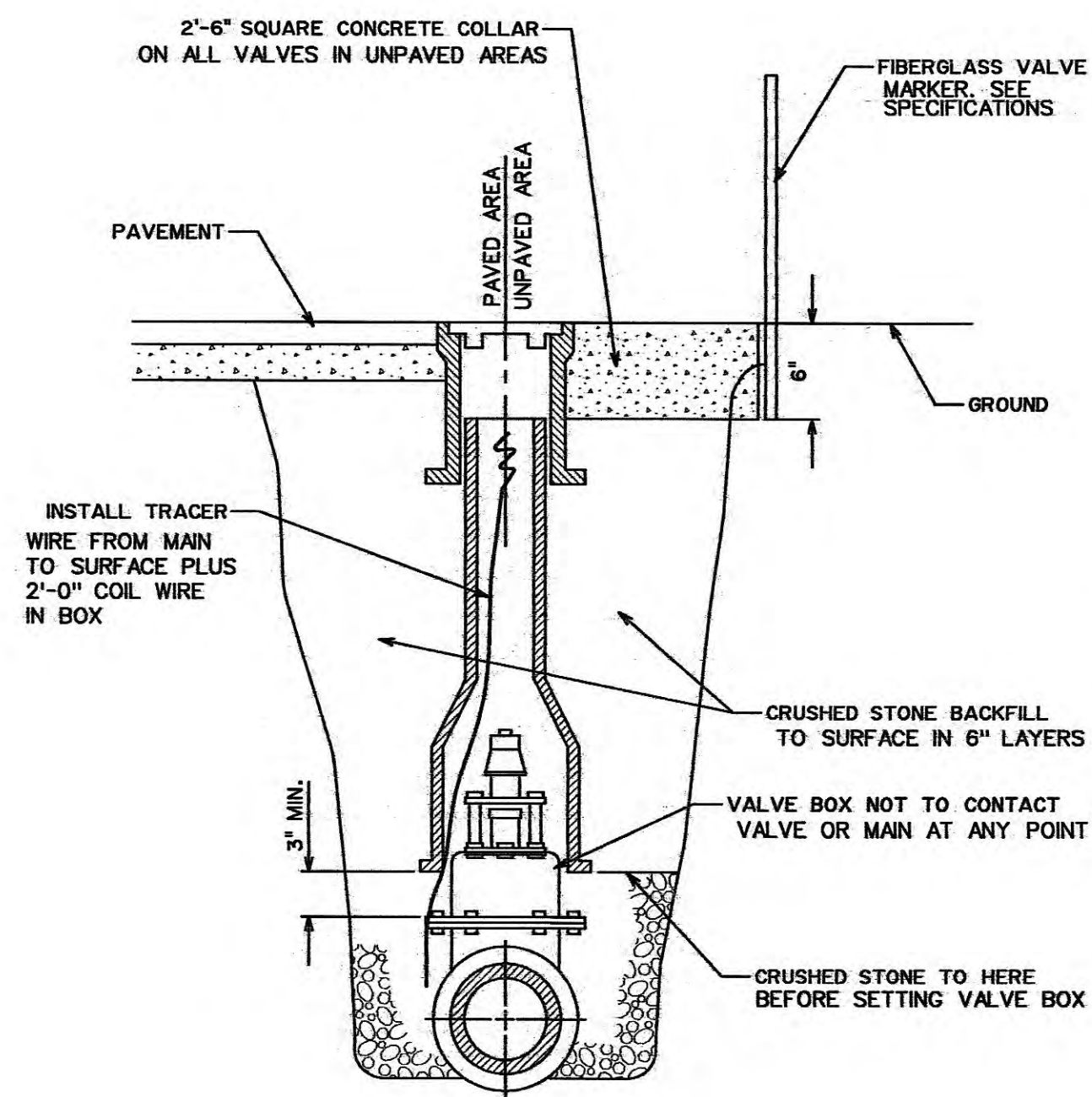


END OF LINE BLOW-OFF
ASSEMBLY DETAIL

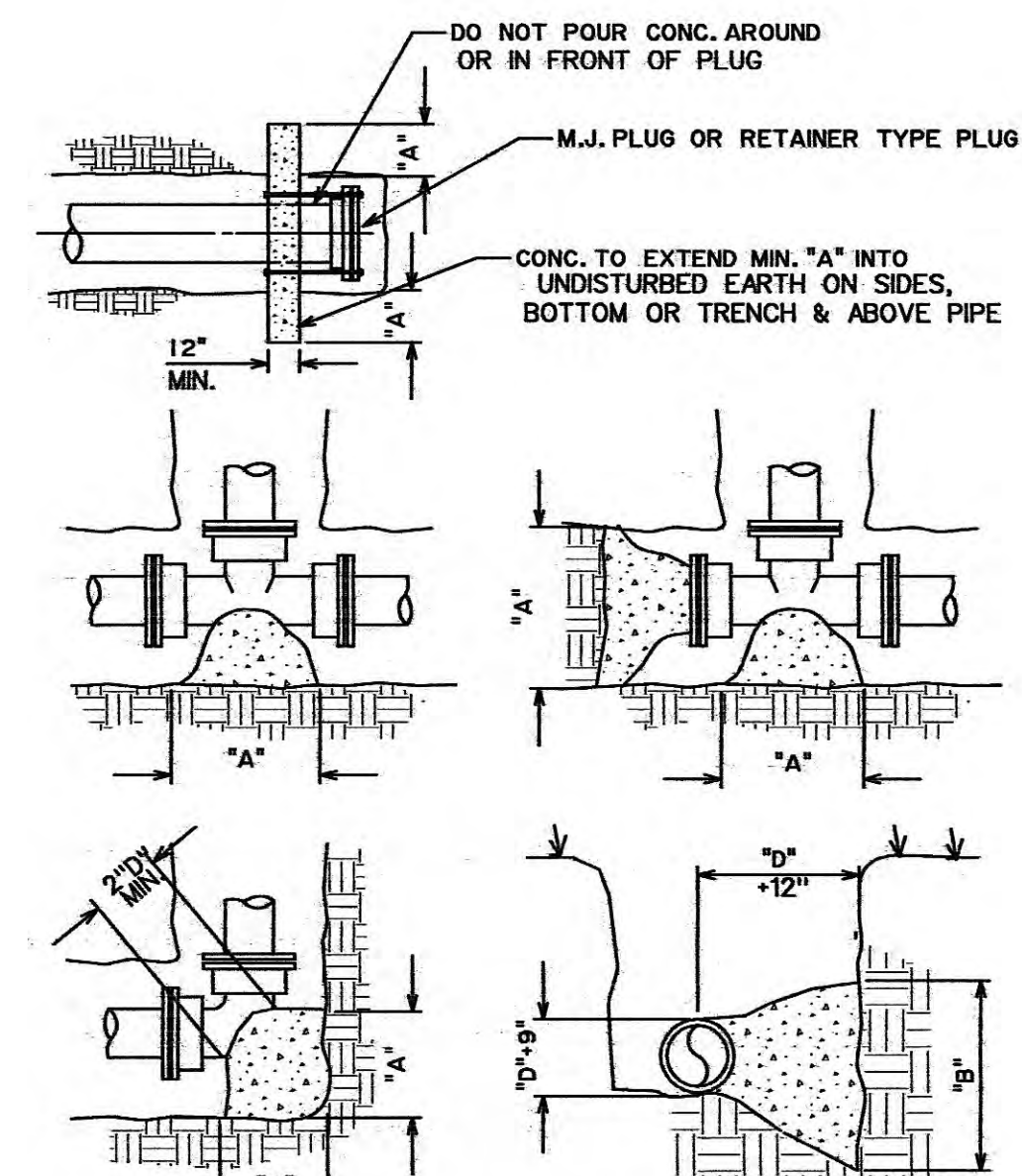


- NOTES:
1. NO. 17 CRUSHED STONE TO BE PROVIDED FOR METER SUPPORT IF PLASTIC SERVICE LINE IS USED.
 2. SERVICE LINE TO RUN FROM MAIN TO METER BOX ALONG THE SHORTEST, MOST DIRECT ROUTE POSSIBLE UNLESS OTHERWISE DIRECTED BY RESIDENT INSPECTOR.
 3. SERVICE LINE TO BE CONTINUOUS FROM MAIN LINE TO METER YOKE WITHOUT COUPLINGS.

TYPICAL SERVICE CONNECTION



TYPICAL VALVE BOX SETTING

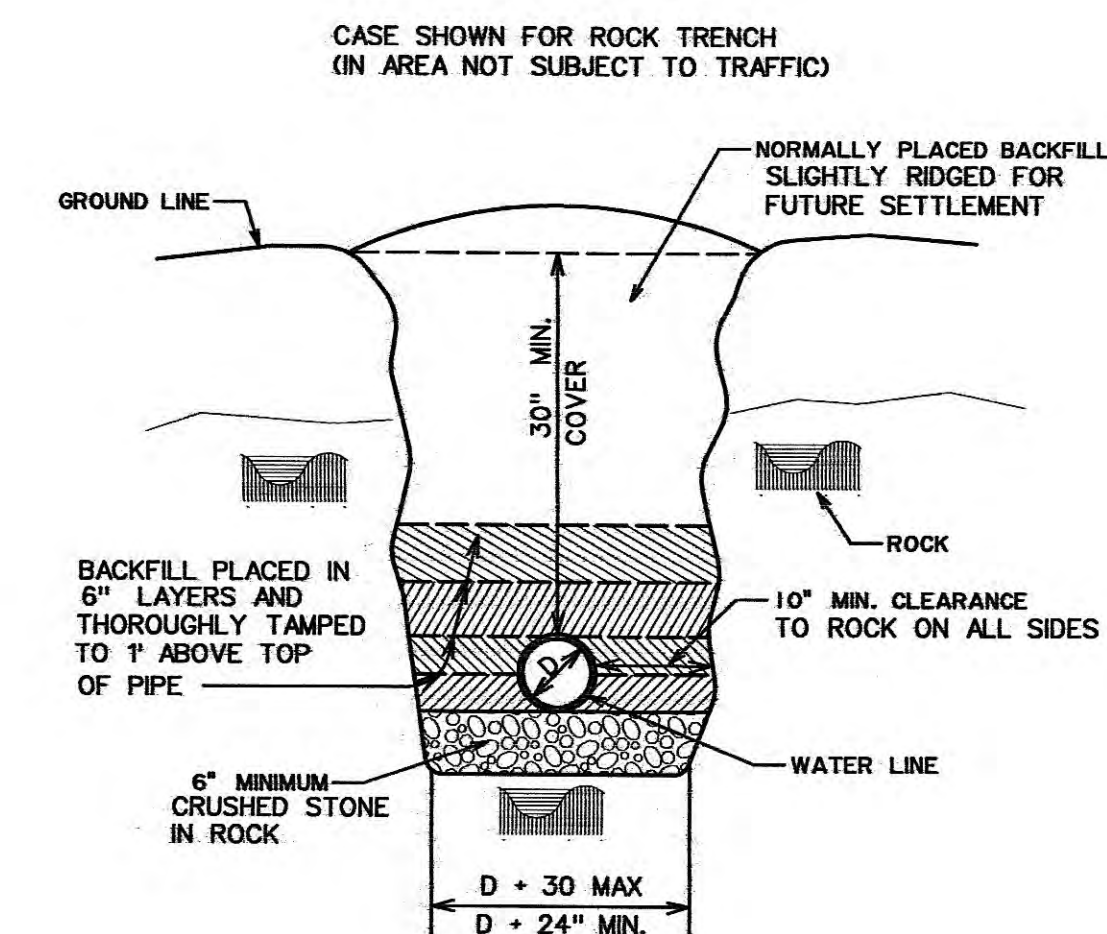


BLOCK MUST BE POURED AGAINST UNDISTURBED EARTH (TYP.)

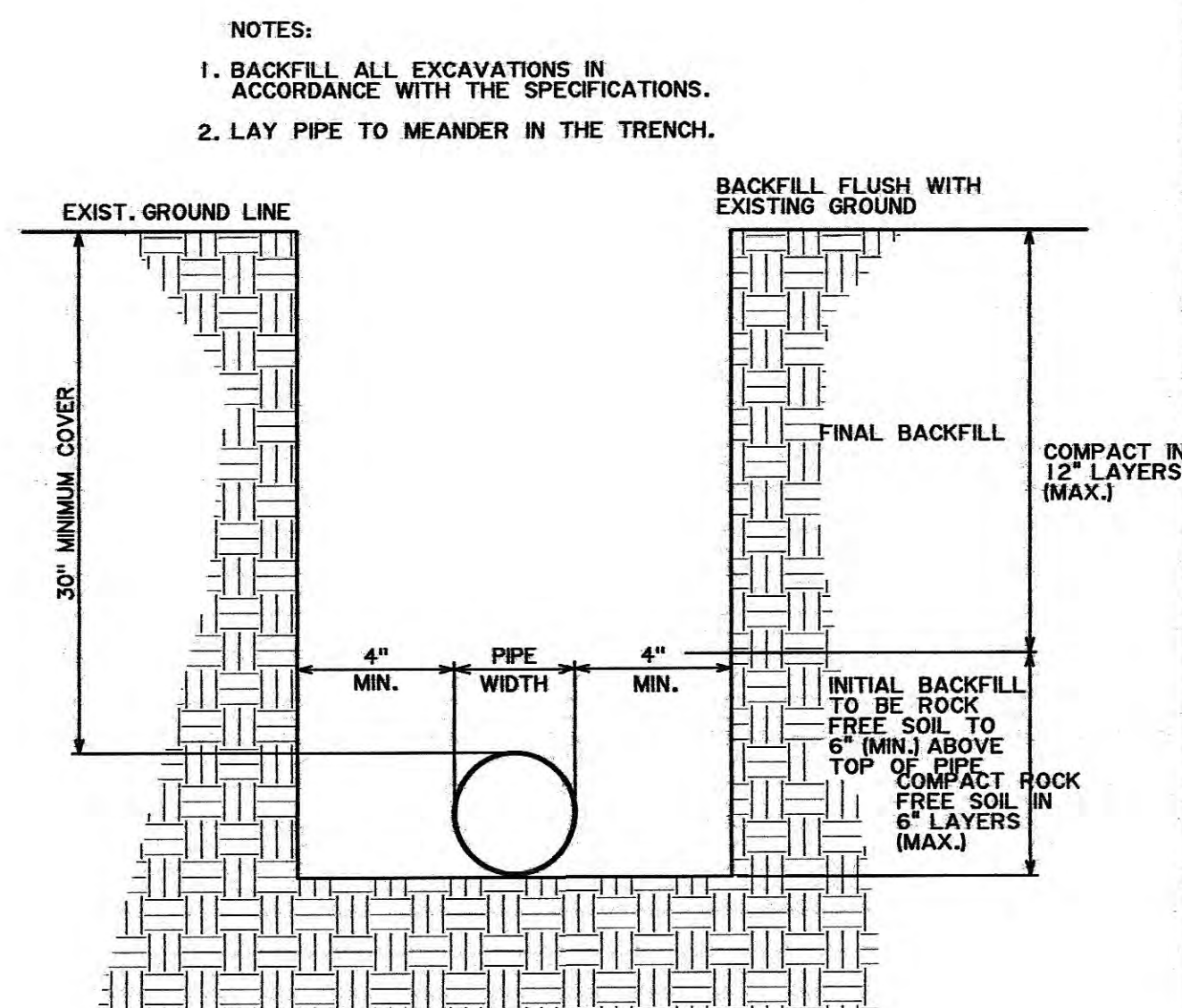
CONCRETE BRACE DIMENSION SCHEDULE

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		TEE		DEAD END	
	A	B	A	B	A	B	A	B	A	B
6" OR UNDER	2'-0"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"	2'-0"	2'-0"	1'-6"	1'-6"
8"	2'-3"	2'-3"	1'-9"	1'-9"	1'-9"	1'-9"	2'-6"	2'-0"	2'-0"	2'-0"
10"	2'-6"	2'-6"	2'-0"	2'-0"	2'-0"	2'-0"	3'-0"	3'-0"	2'-4"	2'-4"
12"	3'-6"	3'-0"	2'-6"	2'-6"	2'-3"	2'-3"	4'-0"	3'-6"	2'-9"	2'-9"
16"	4'-0"	4'-0"	3'-0"	3'-0"	2'-6"	2'-6"	5'-6"	4'-0"	4'-0"	3'-0"
20"	5'-6"	4'-6"	4'-0"	3'-6"	3'-0"	3'-0"	6'-6"	5'-0"	5'-0"	3'-6"
24"	7'-0"	5'-0"	5'-0"	4'-0"	3'-6"	3'-6"	8'-0"	6'-0"	6'-0"	4'-0"
30"	9'-0"	6'-0"	6'-6"	4'-6"	4'-0"	4'-0"	12'-0"	6'-0"	7'-9"	5'-0"

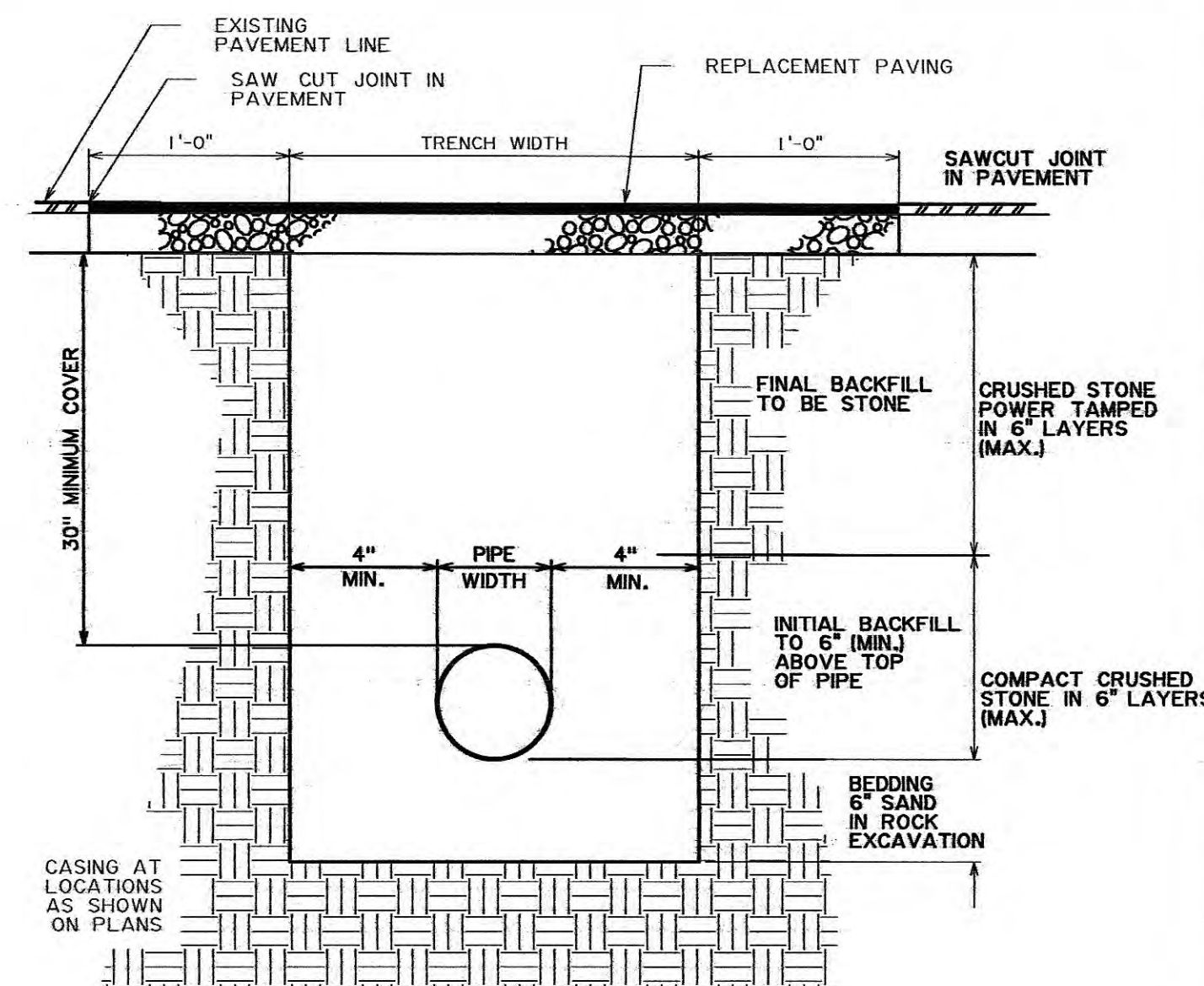
CONC. THRUST BLOCK (BRACE)



TYPICAL TRENCH SECTION

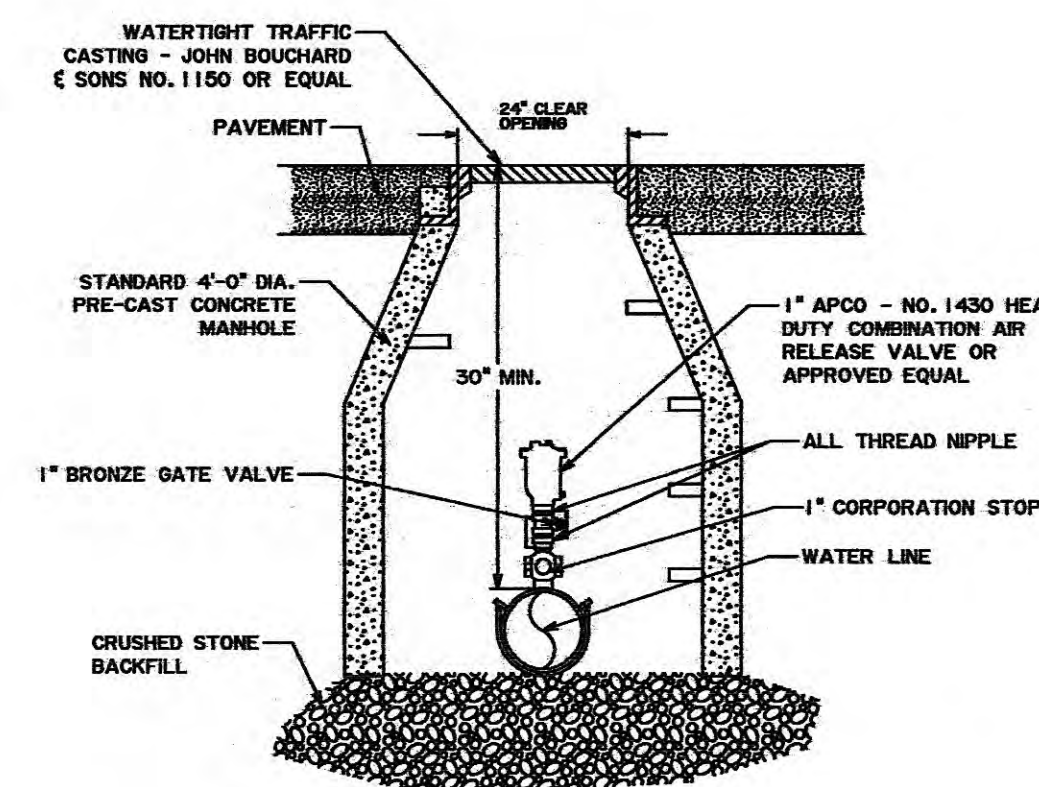


TYPICAL TRENCH SECTION IN SOIL EXCAVATION

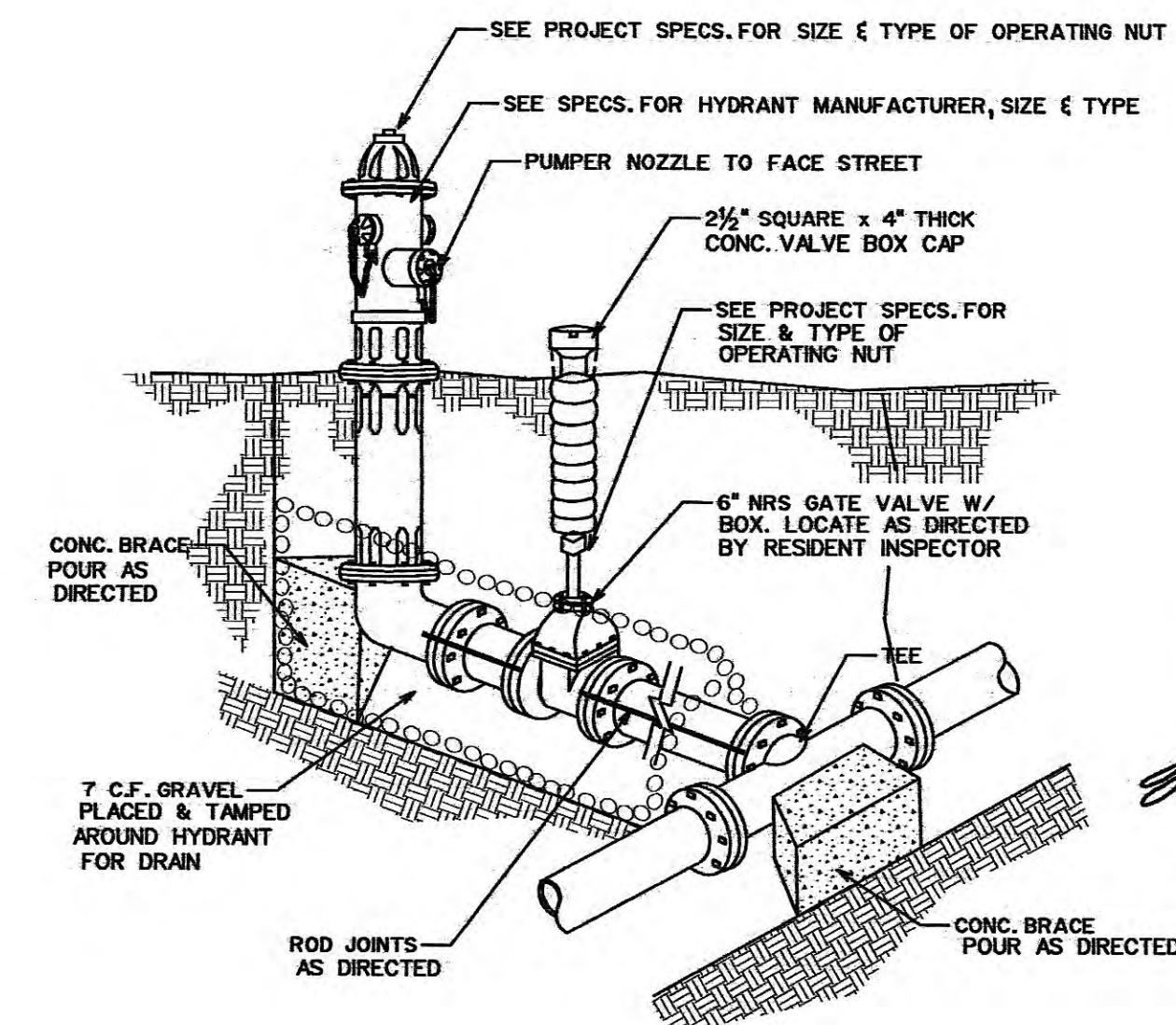


- NOTES:
1. CRUSHED STONE DRIVES SHALL BE PREPARED IN ACCORDANCE WITH THIS DETAIL EXCEPT THAT THE REPLACEMENT PAVING SHALL BE DELETED.
 2. WHEN CASING IS REQUIRED, THE PIPE WIDTH AND MINIMUM COVER SHALL REFER TO THE CASING DIAMETER.

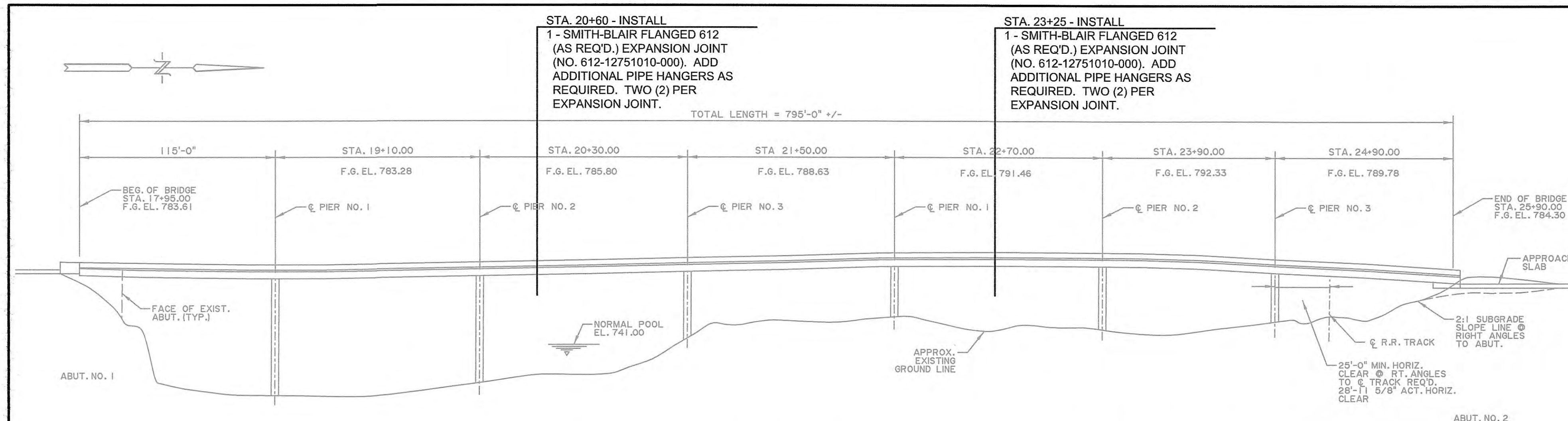
TYPICAL TRENCH SECTION UNDER PAVEMENT



AIR RELEASE VALVE ASSEMBLY



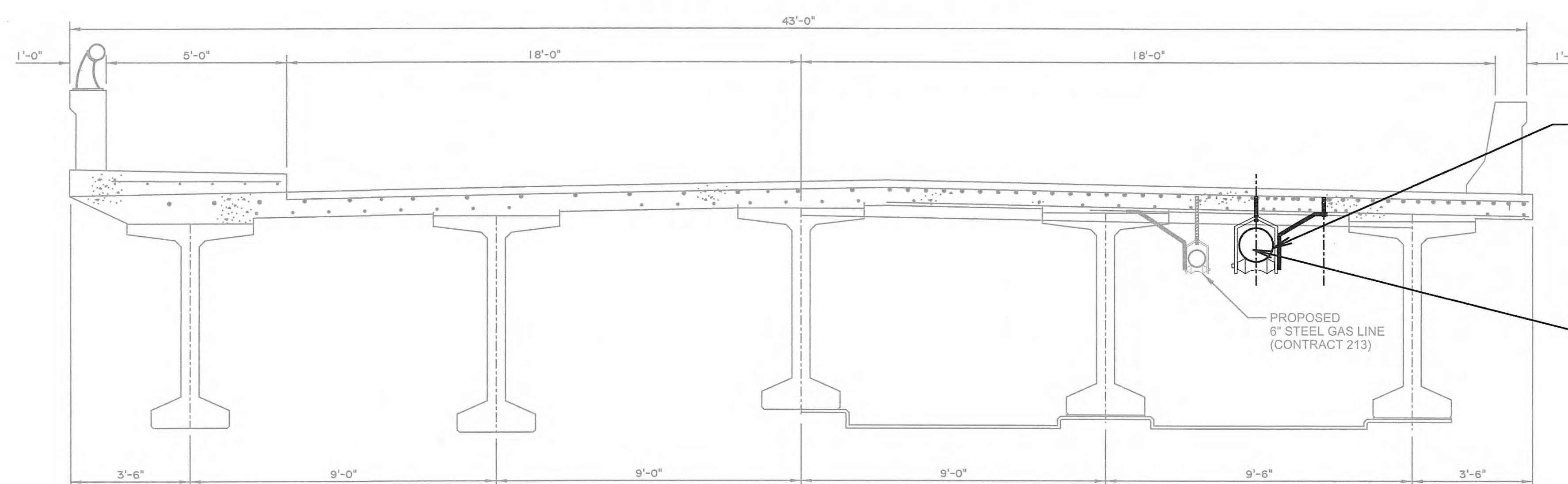
TYPICAL FIRE HYDRANT INSTALLATION



ELEVATION AT RIGHT ANGLES TO PAPER LOCATED @ SWAN POND ROAD

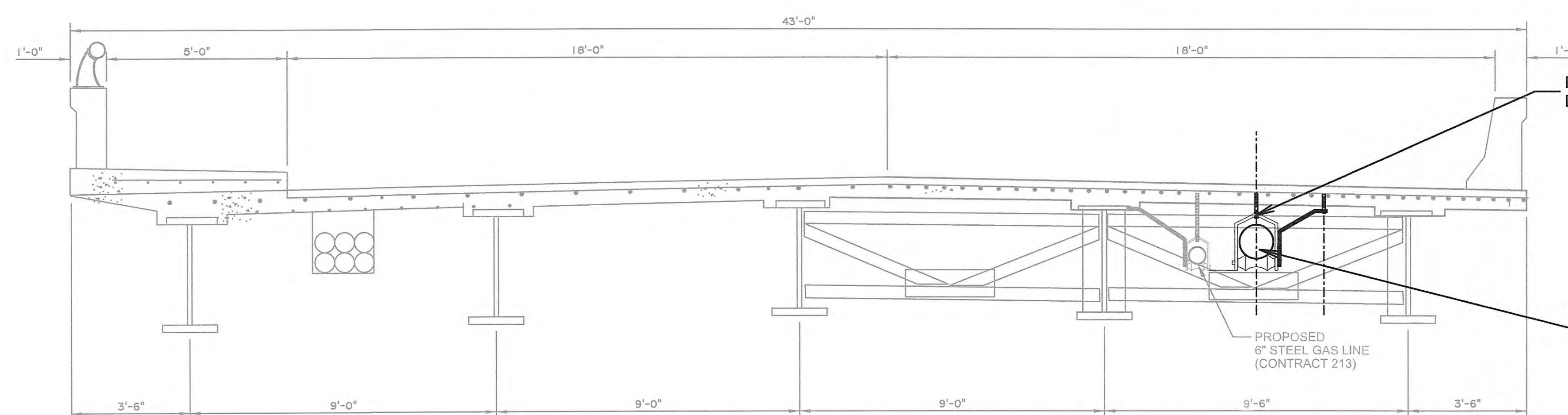
NOT TO SCALE

BID ITEM EXTENDS FROM EDGE OF APPROACH SLAB TO EDGE OF APPROACH SLAB AT OPPOSITE END



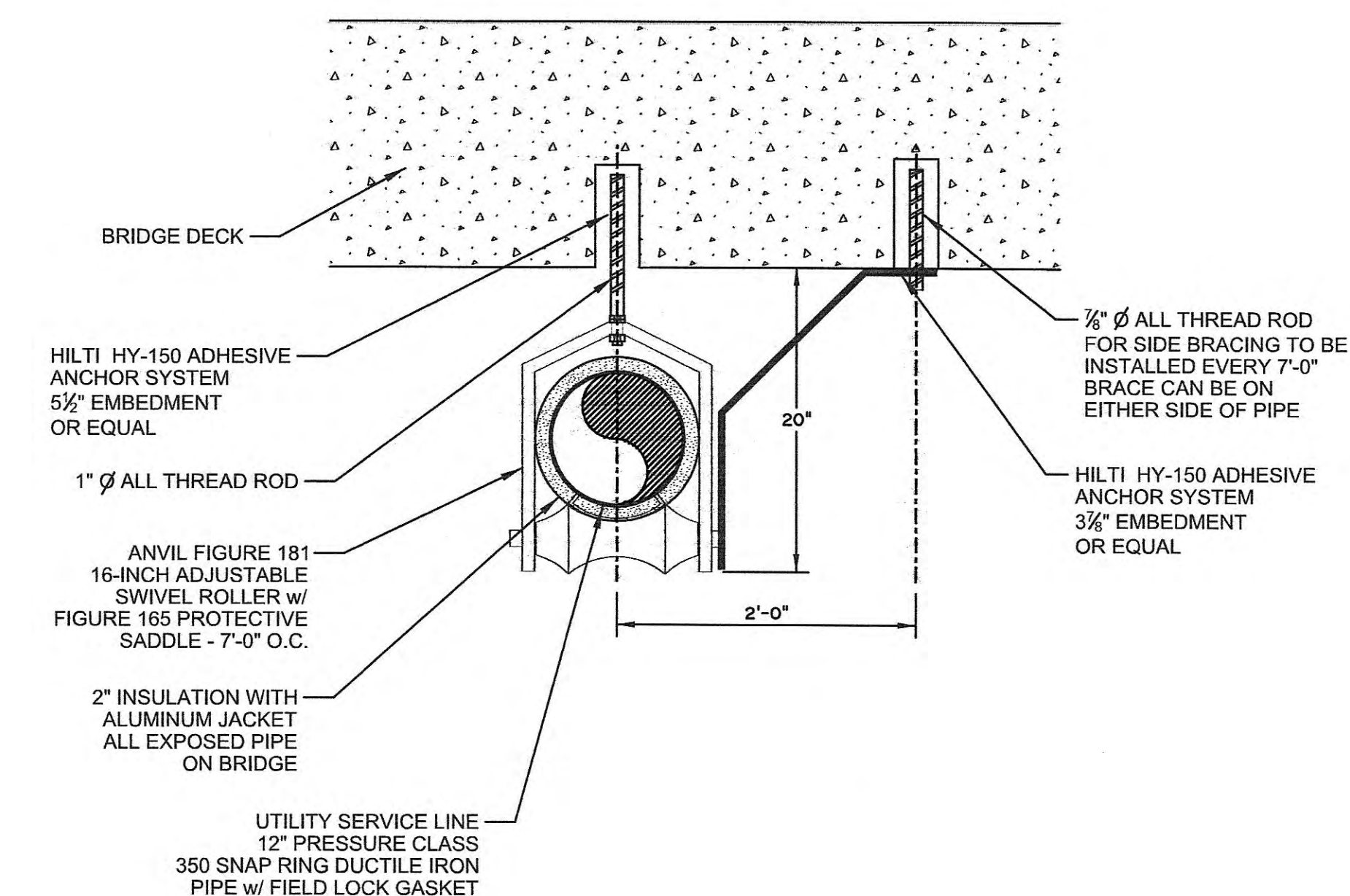
TYPICAL CROSS SECTION (SPANS 1-6)

NOT TO SCALE



TYPICAL CROSS SECTION (SPANS 7 ONLY)

NOT TO SCALE



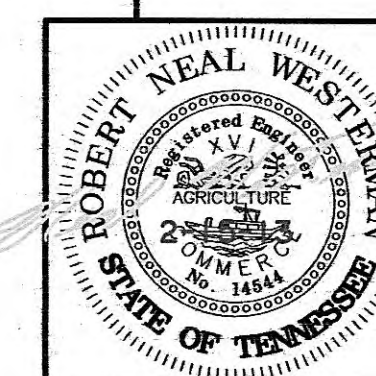
DETAIL - PIPE ROLLER 12" WATER LINE

N.T.S.

JAMES C. HAILEY & COMPANY
Consulting Engineers
Nashville, Tennessee 37221
PH: 615-883-4933 FAX: 615-883-4937
http://www.jchengr.com

WATER LINE ADDITIONS
BRIDGE CROSSING

HARRIMAN UTILITY BOARD
Roane County, Tennessee



DESIGN
RNW
DRAWN
LLB
CHECKED
RNW
DATE
AUG. 2012
SCALE
AS NOTED
PROJECT NO.
09212
SHEET

5

INSTALLED (OUTSIDE GUARDRAIL)
1 - 12" CAP (THREADED)
1 - BLOW-OFF
1 - CONC. BRACE

INSTALLED
1 - 12" TEE
3 - 12" RES. SEAT G. VALVES & BOXES
1 - AIR RELEASE VALVE
1 - CONC. BRACE
3 - 12" MEG-A-LUGS

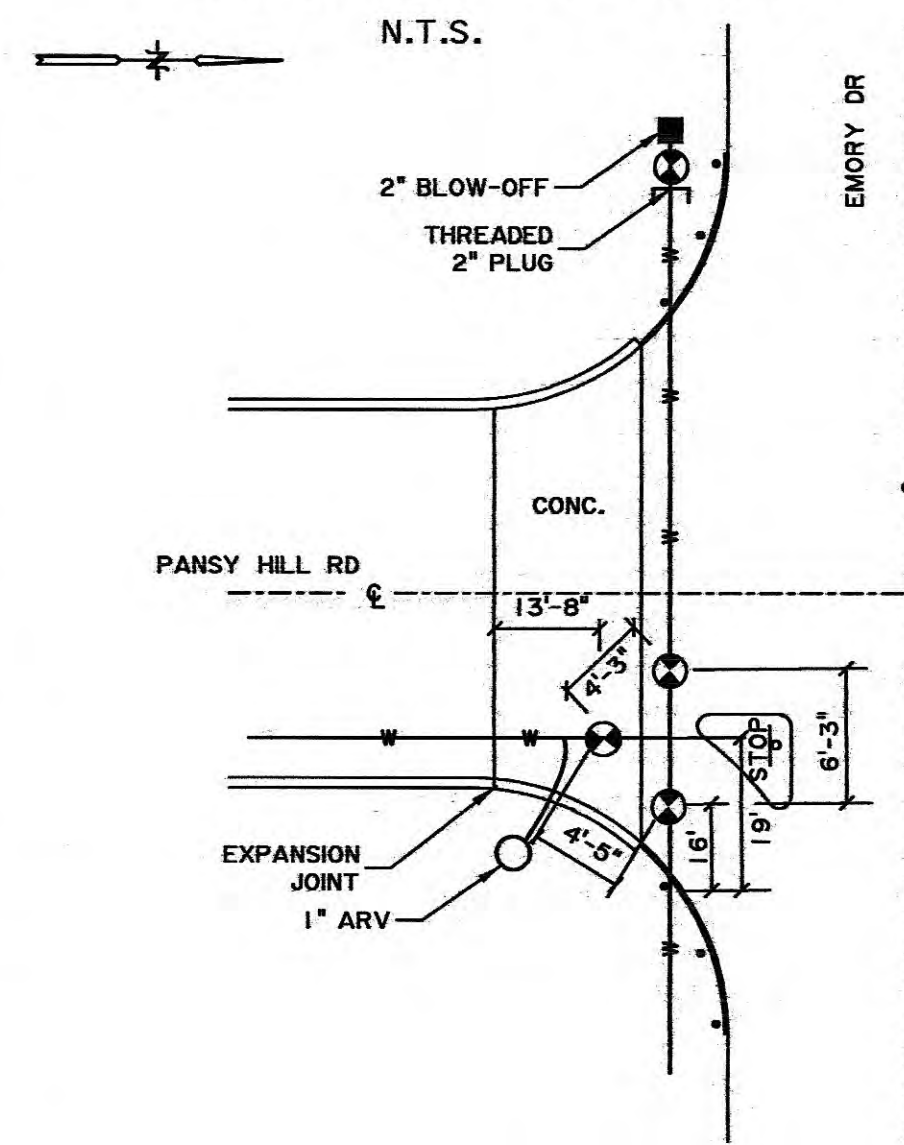
AS BUILT DETAIL 8
THIS SHEET

INSTALLED
1 - 12" 45° BEND
1 - CONC. BRACE

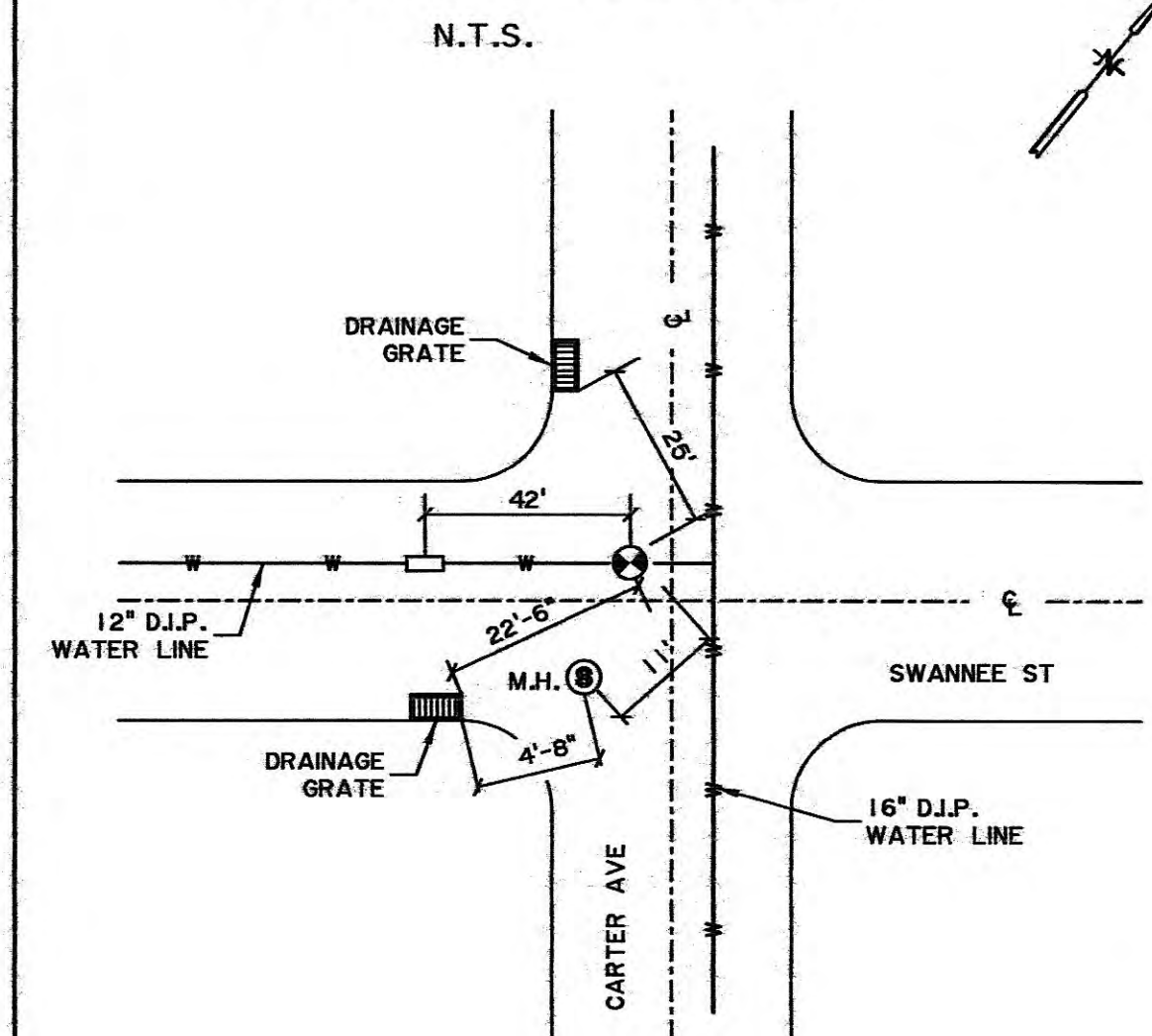
CLT MAP 026KM PARCEL 5
WILLIAM TAYLOR
DB 1096, PG 536

CROSS UNDER EXISTING
WATER LINE
12" PRESSURE CLASS 350
DUCTILE IRON WATER LINE

AS BUILT - DETAIL 8



AS BUILT - DETAIL 9



AS BUILT DETAIL 9
THIS SHEET

CROSS UNDER EXISTING
WATER LINE

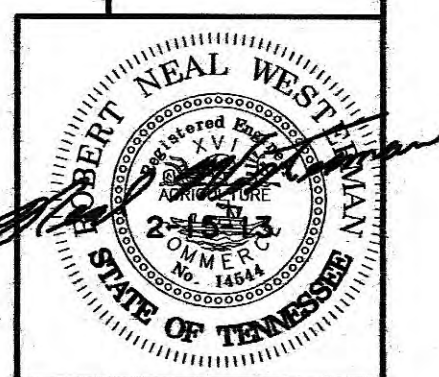
INSTALLED
1 - 16" x 12" TAPPING TEE & VALVE
(FULL BODIED DUCTILE IRON)
(5'-6" COVER)
5 - CONC. BRACES

AS BUILTS

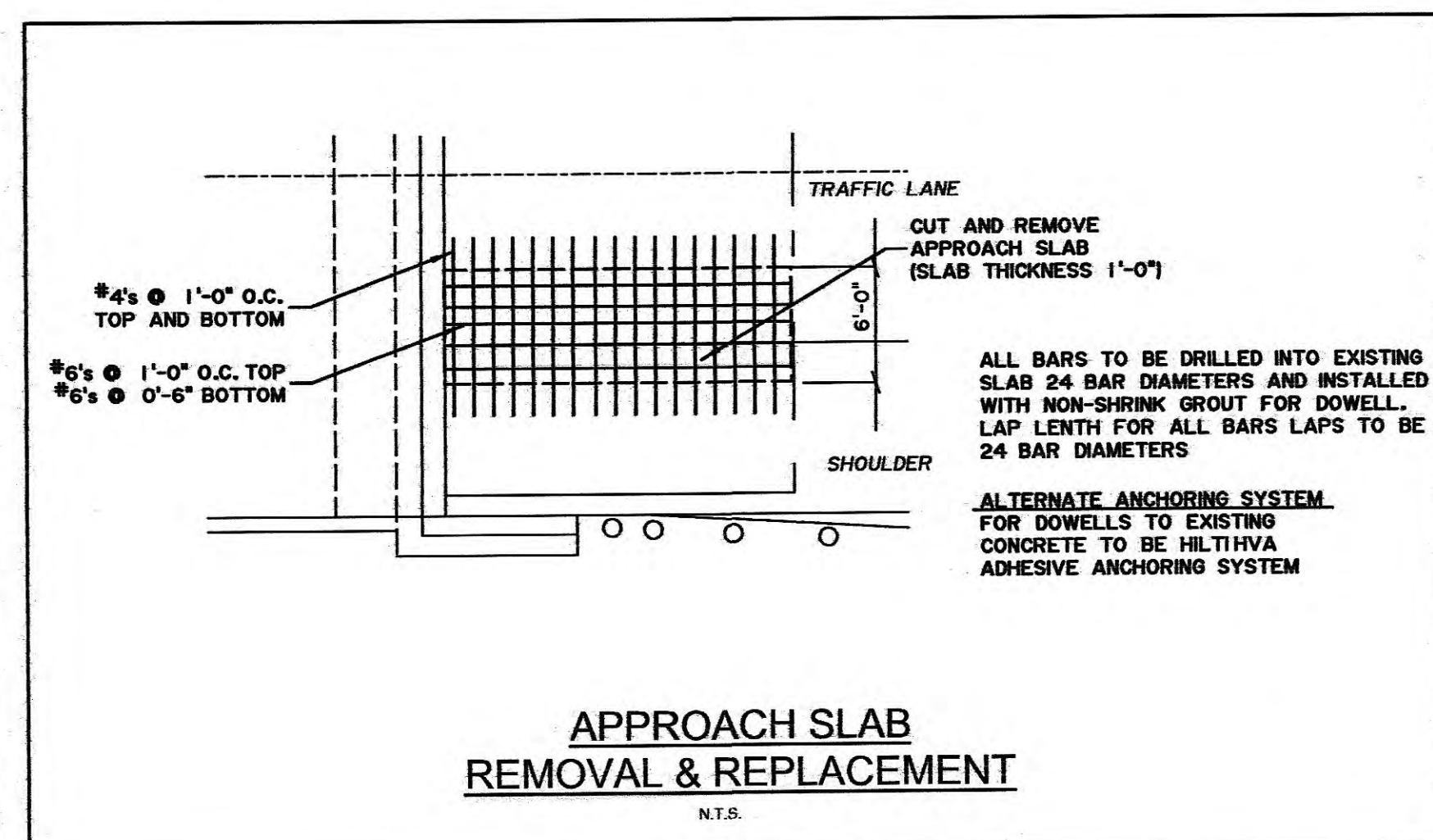
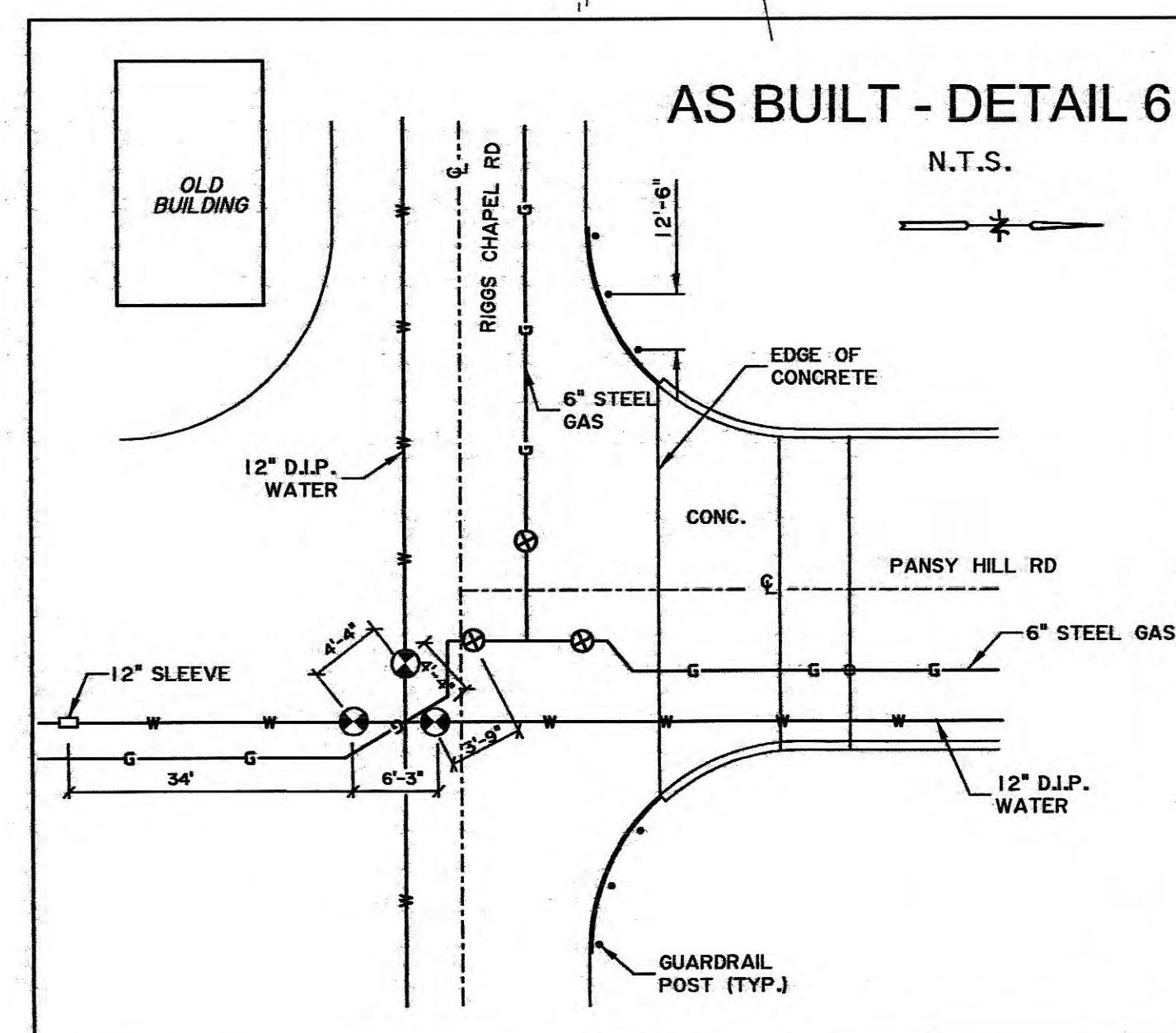
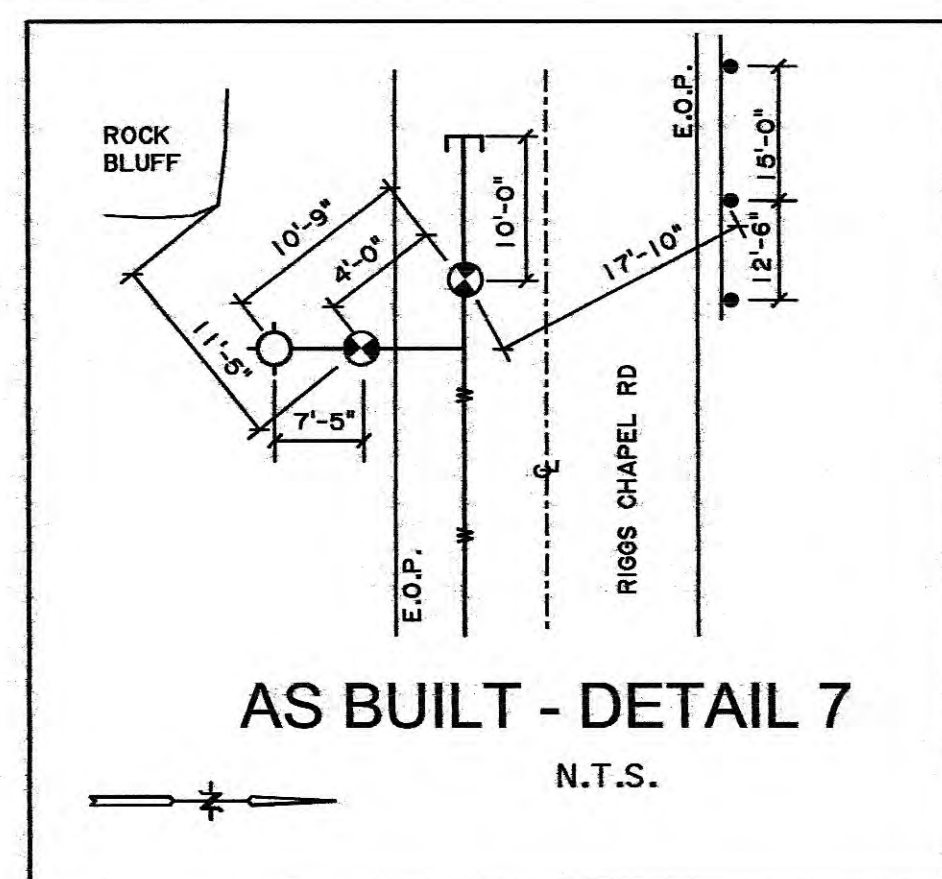
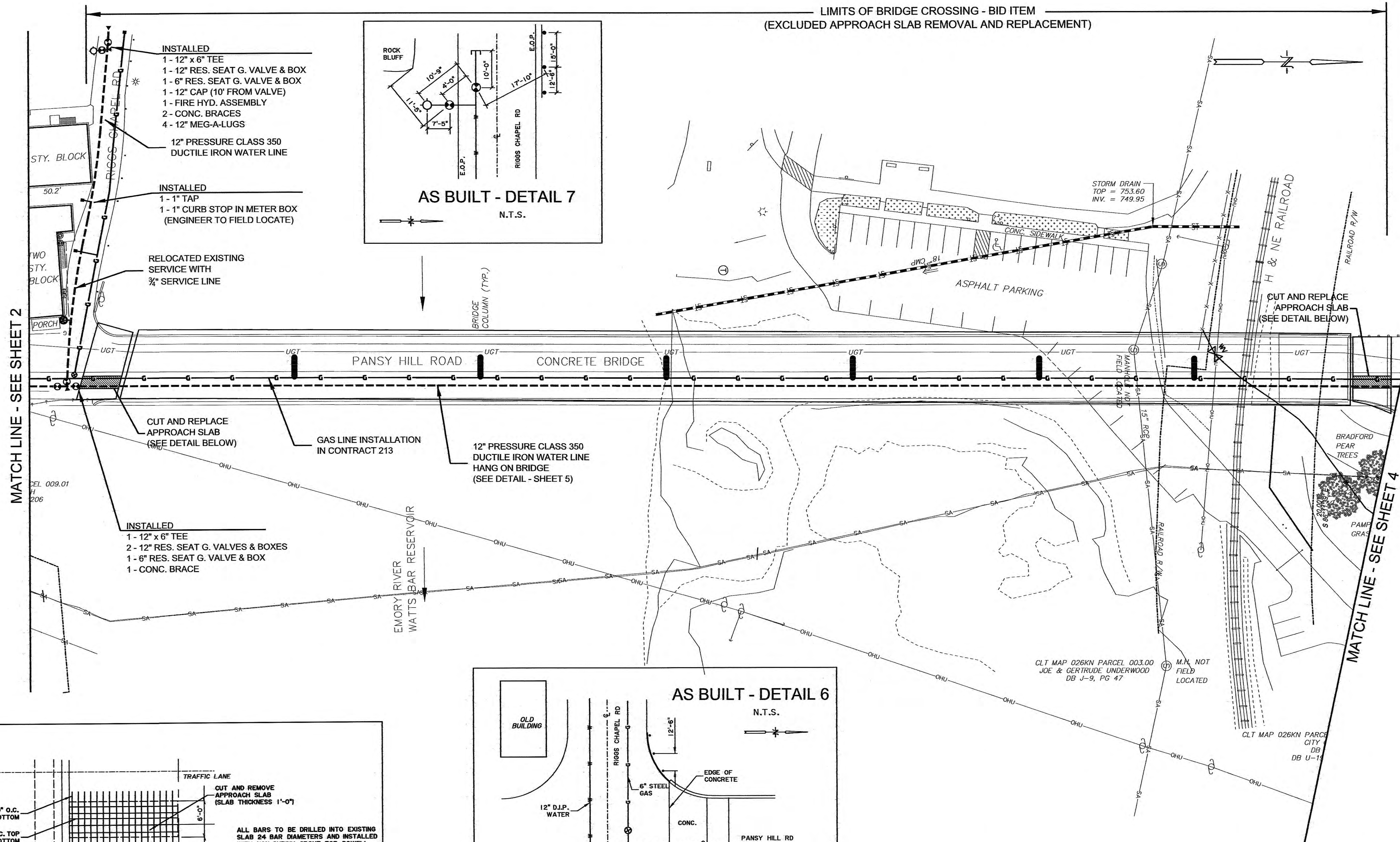
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Nashville, Tennessee 37221
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http://www.jchengr.com

WATER LINE ADDITIONS
PLAN

HARRIMAN UTILITY BOARD
Roane County, Tennessee



DESIGN
RNW
DRAWN
LLB
CHECKED
RNW
DATE
FEB. 2011
SCALE
1" = 30'
PROJECT NO.
09212
SHEET



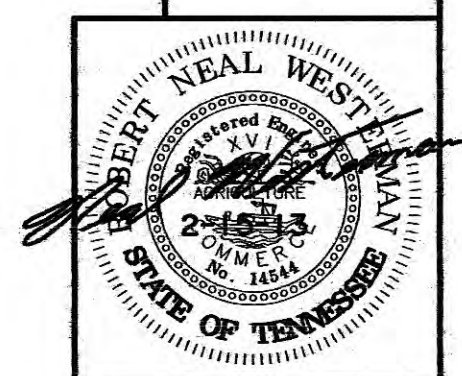
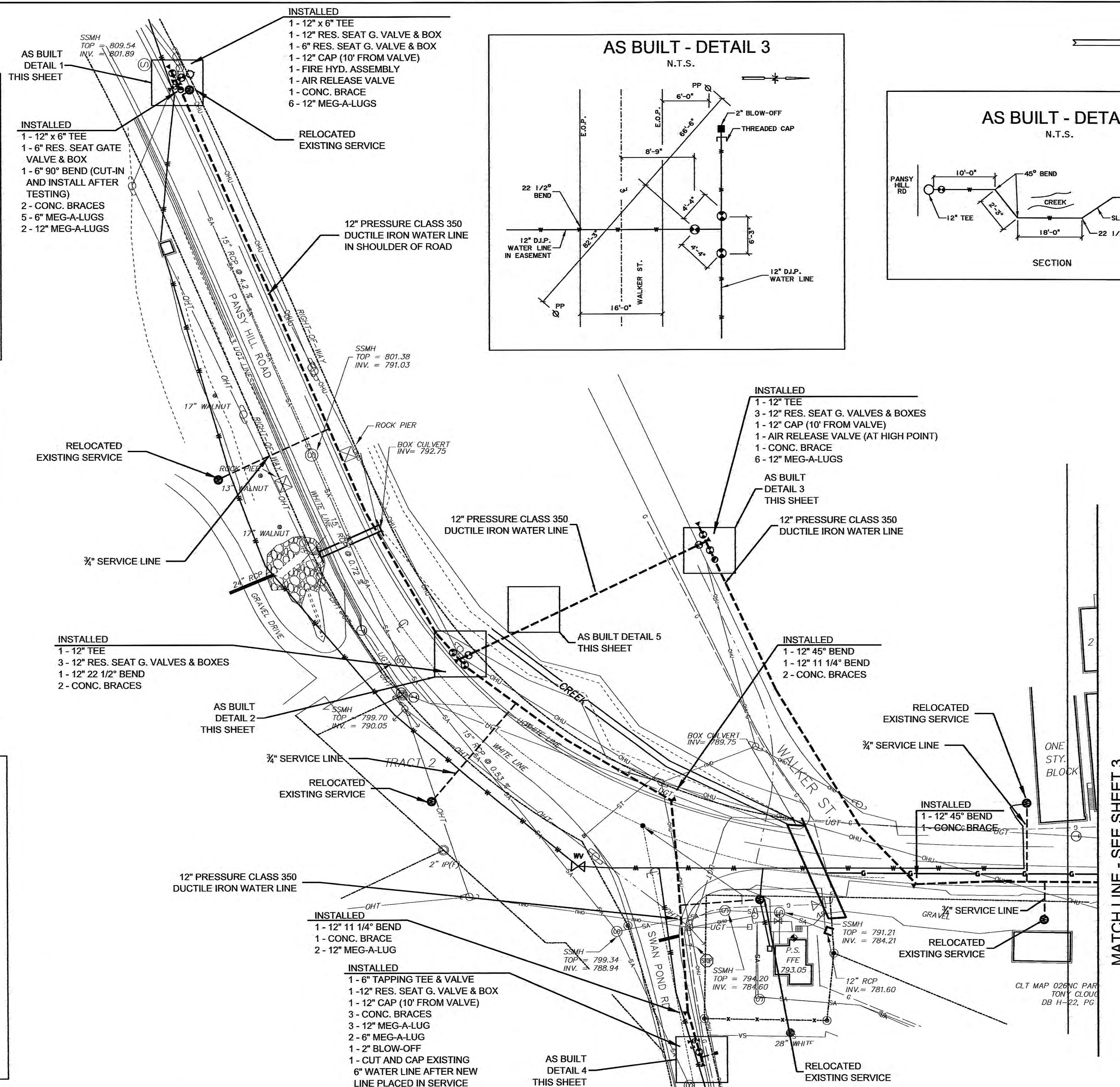
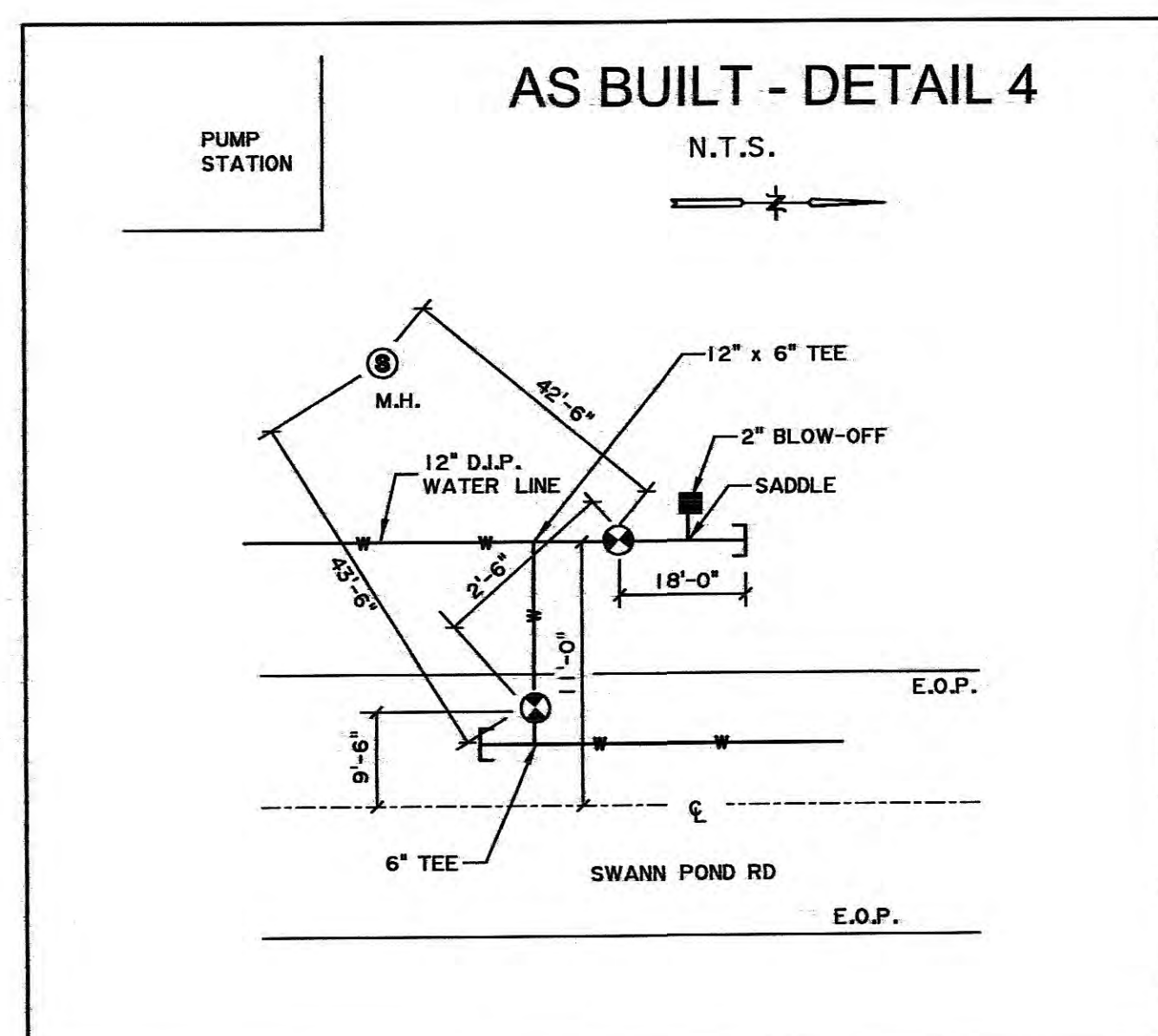
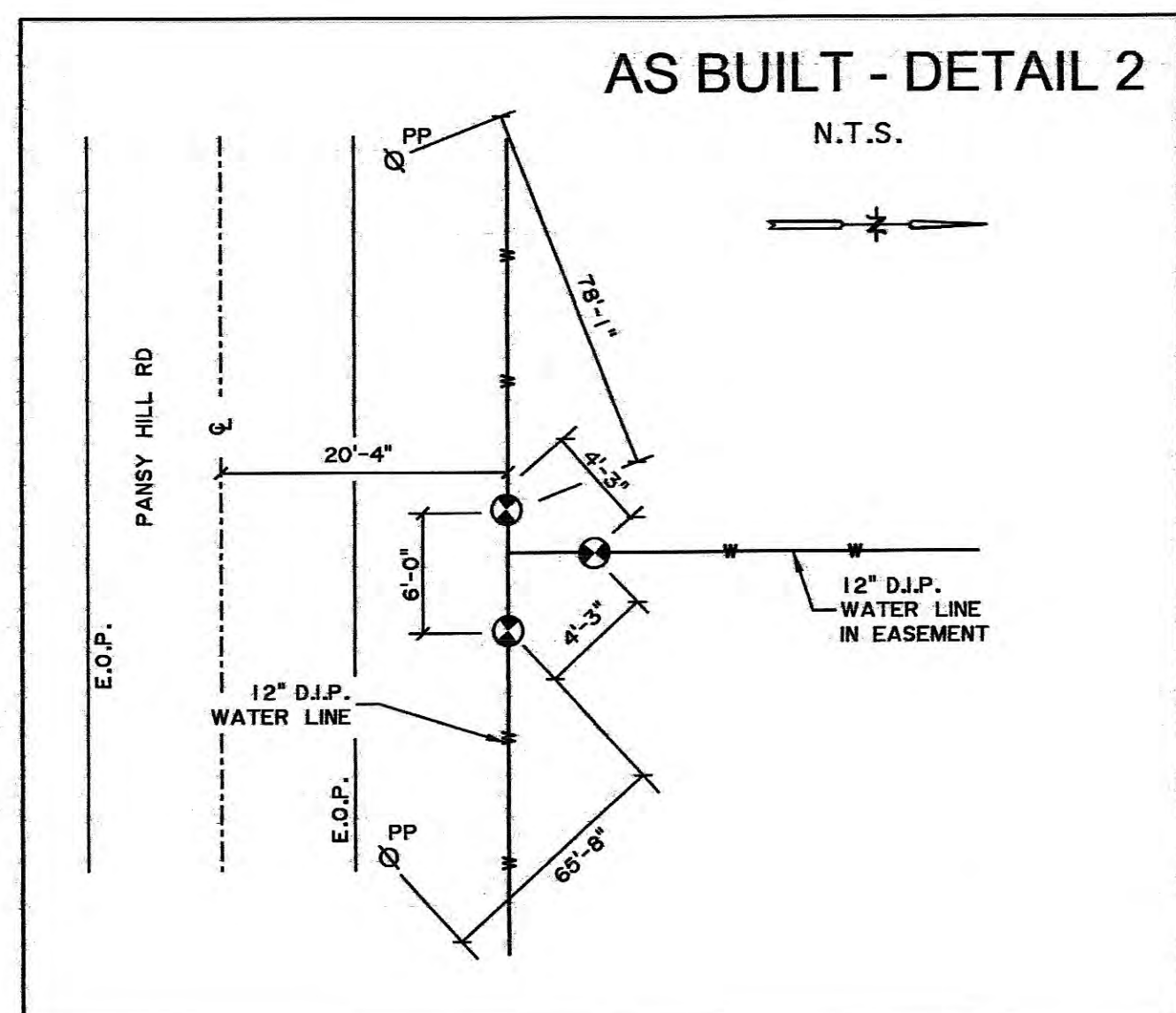
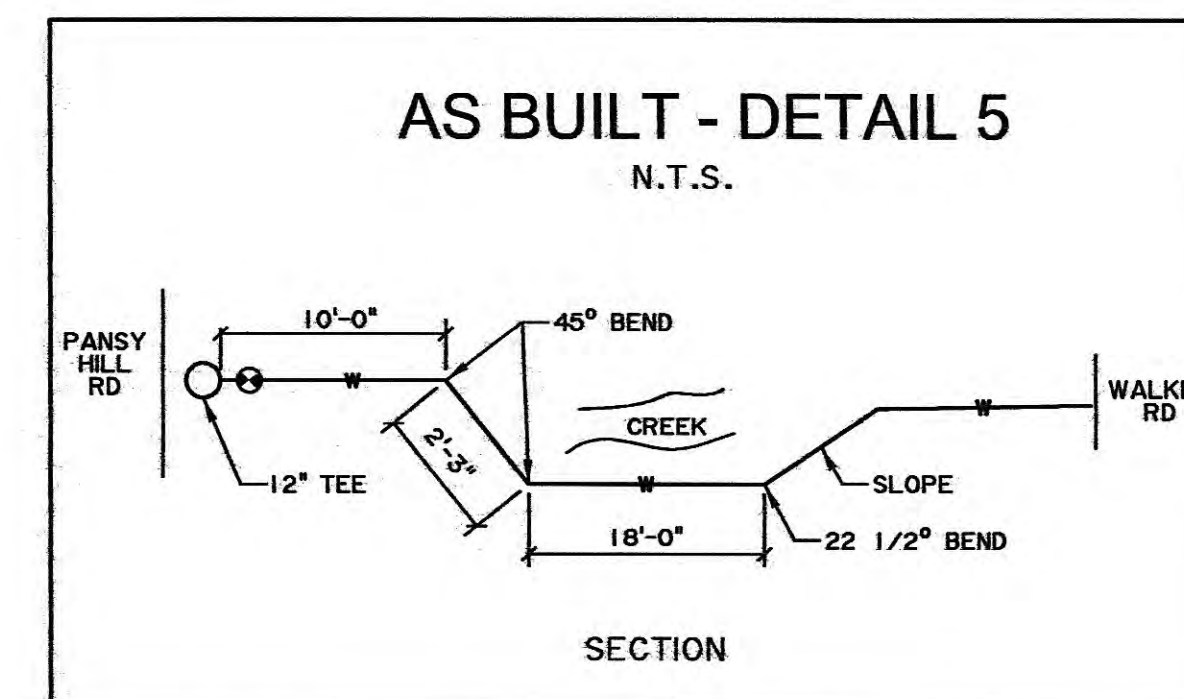
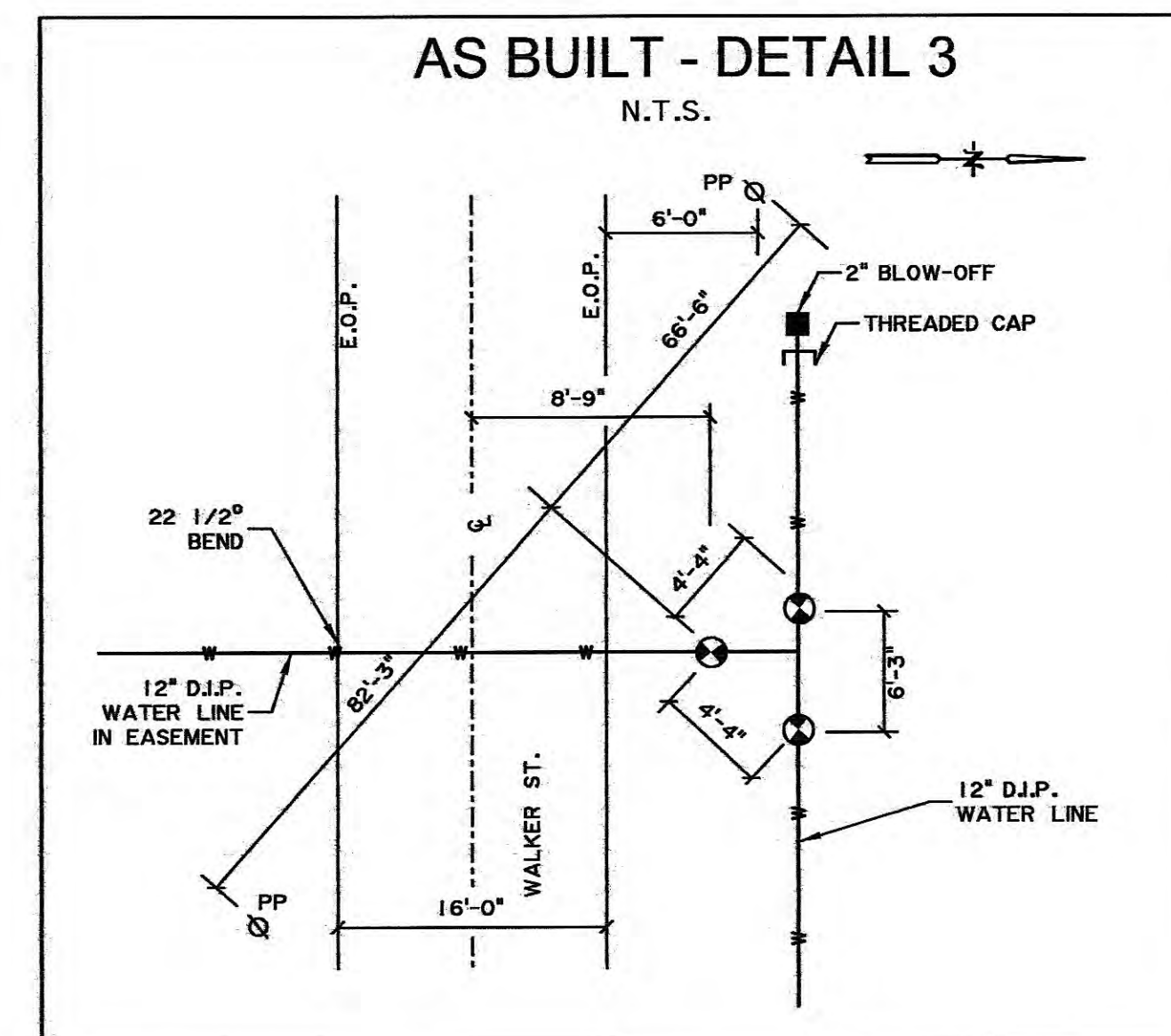
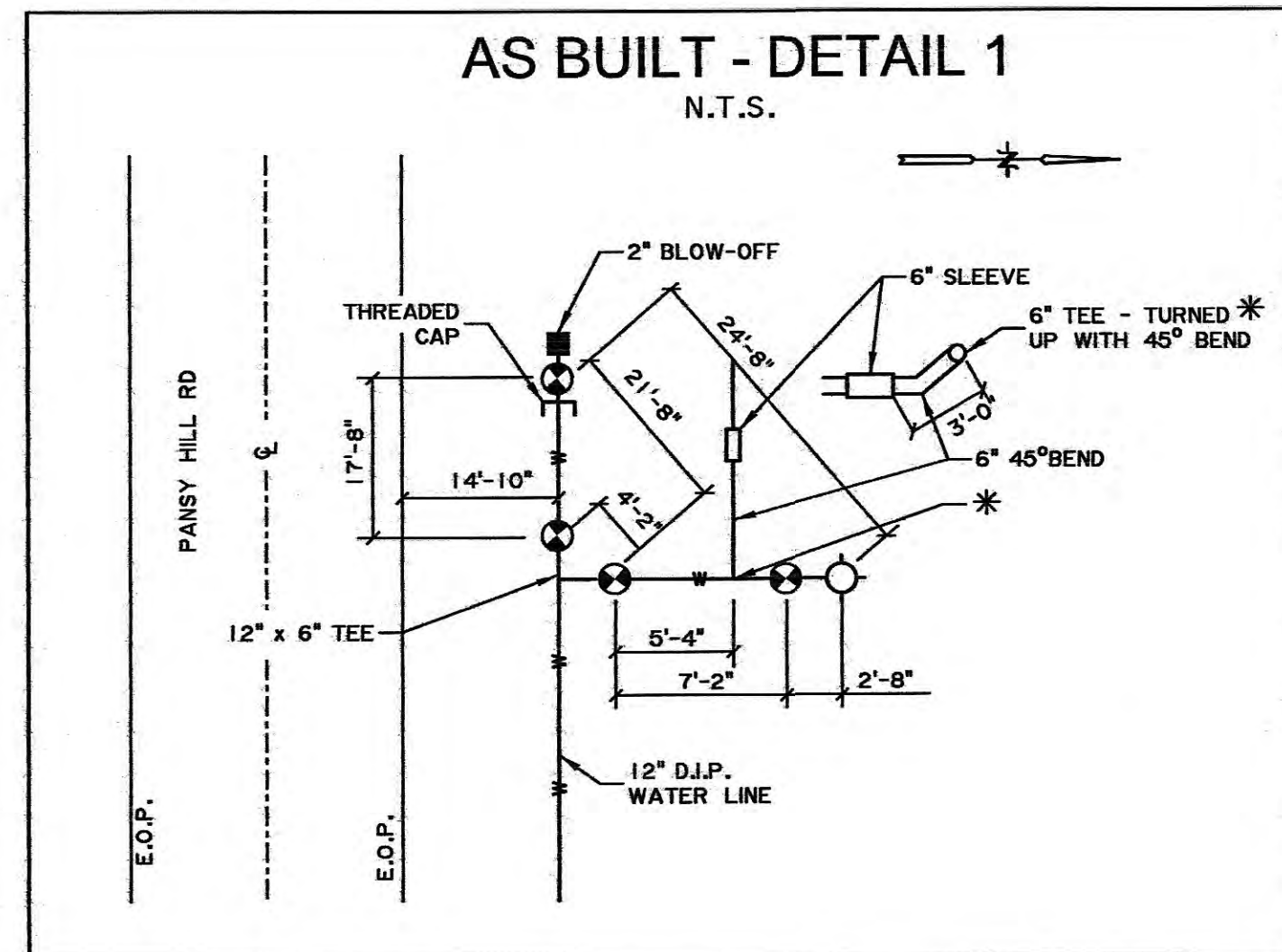
LIMITS OF BRIDGE CROSSING - BID ITEM
(EXCLUDED APPROACH SLAB REMOVAL AND REPLACEMENT)

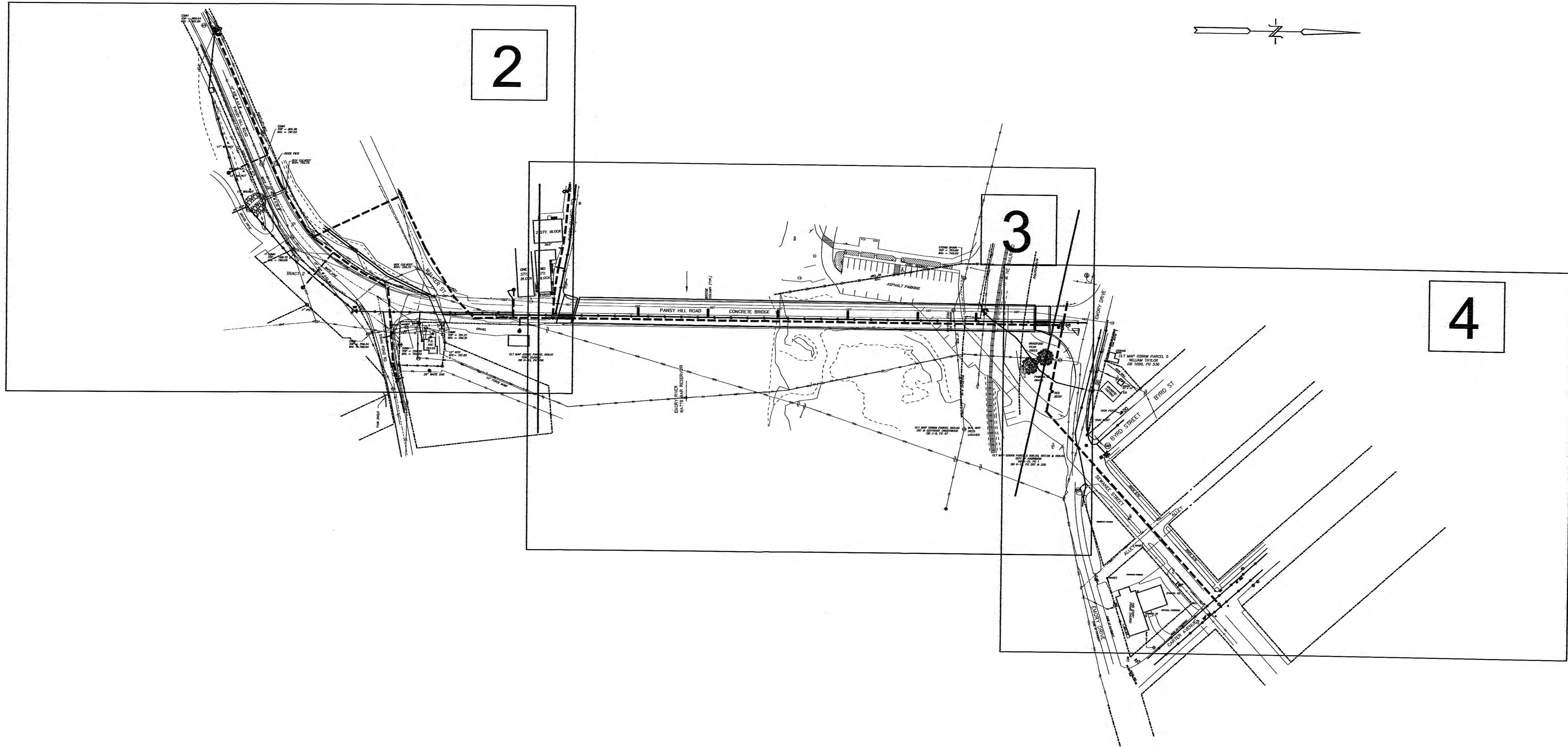
MATCH LINE - SEE SHEET 4

MATCH LINE - SEE SHEET 2

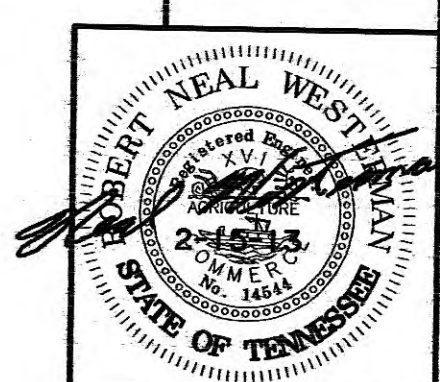
AS BUILTS

JAMES C. HAILEY & COMPANY Consulting Engineers Nashville, Tennessee 37221 PH: 615-883-4933 FAX: 615-883-4937 http://www.jchengr.com	
WATER LINE ADDITIONS PLAN	
HARRIMAN UTILITY BOARD Roane County, Tennessee	
DESIGN	RNW
DRAWN	LLB
CHECKED	RNW
DATE	FEB. 2011
SCALE	1" = 30'
PROJECT NO.	09212
SHEET	3





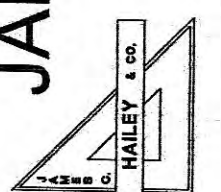
- NOTES:
1. COORDINATE APPROACH SLAB REMOVAL AND REPLACEMENT INCLUDING WATER LINE INSTALLATION WITH GAS LINE CONTRACTOR TO FACILITATE GAS LINE INSTALLATION WHILE APPROACH SLAB IS OPEN.
 2. GAS LINE CONTRACTOR WILL PLACE PAVEMENT BINDER OVER GAS LINE TRENCH. FULL WIDTH PAVING IS IN WATER LINE CONTRACT.



DESIGN	RNW
DRAWN	LLB
CHECKED	RNW
DATE	FEB. 2011
SCALE	1" = 30'
PROJECT NO.	09212
SHEET	1

WATER LINE ADDITIONS
PLAN

HARRIMAN UTILITY BOARD
Roane County, Tennessee



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