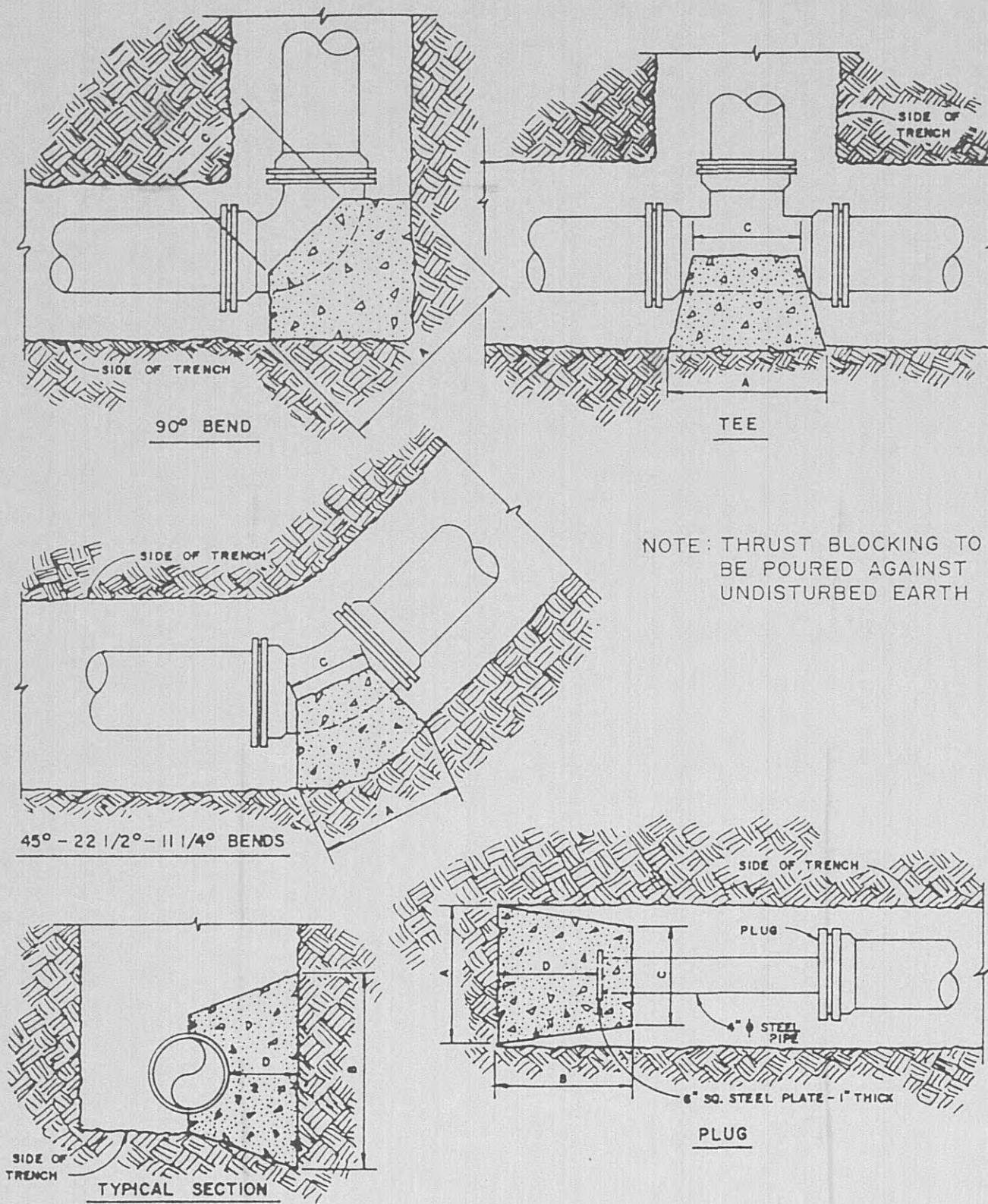




THRUST BLOCKING DETAILS
NOT TO SCALE

90° BEND						
SIZE	12"	10"	8"	6"	4"	2"
A	50	40	33	26	16	16
B	50	40	33	24	16	16
C	16	15	12	12	9	9
D	25	20	16	12	8	8

45° BEND						
SIZE	12"	10"	8"	6"	4"	2"
A	37	31	24	18	12	12
B	37	31	24	18	12	12
C	16	14	12	10	8	8
D	18	15	12	9	6	6

22 1/2° BEND						
SIZE	12"	10"	8"	6"	4"	2"
A	26	23	18	13	9	9
B	26	23	18	13	9	9
C	16	14	12	10	8	8
D	13	11	9	6	4	4

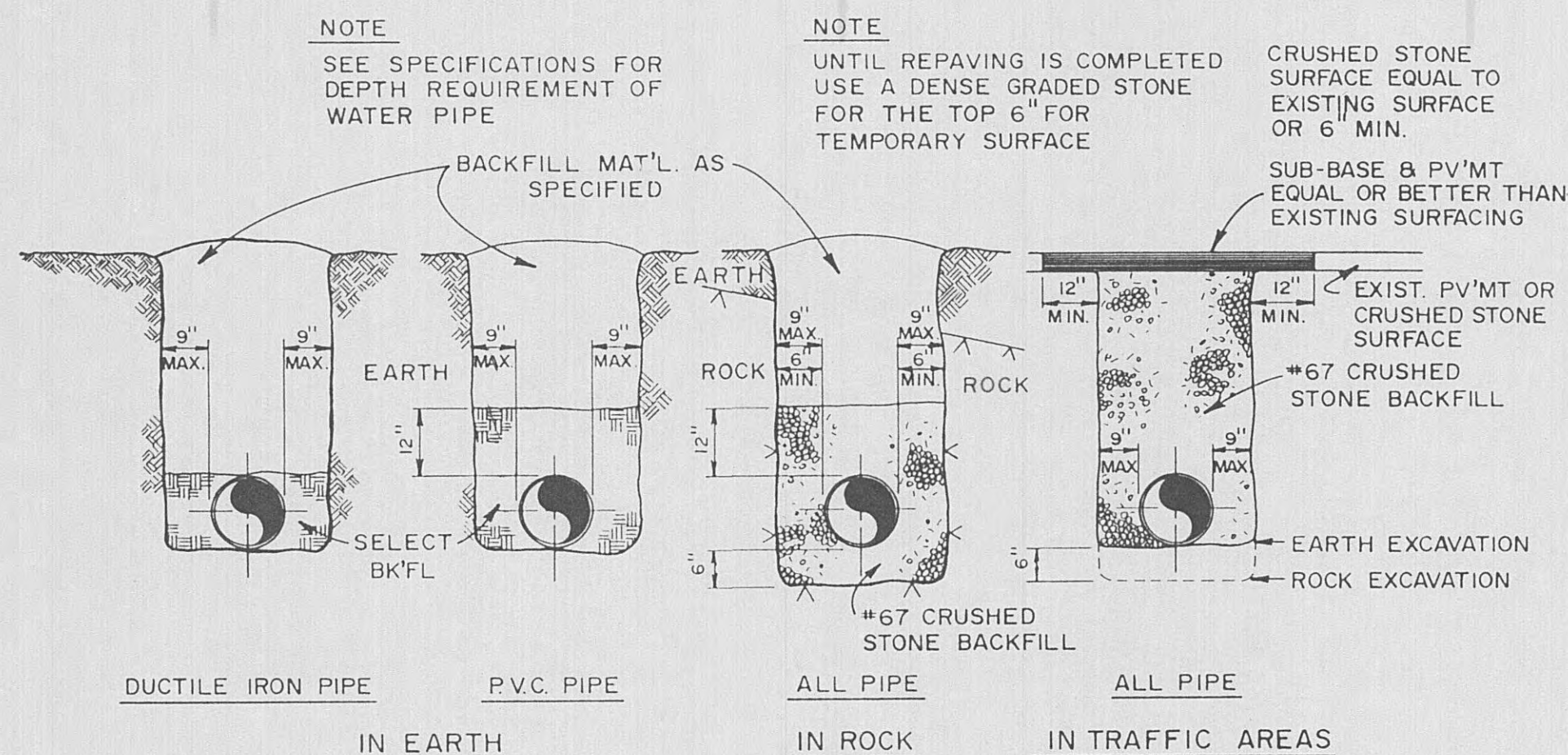
11 1/4° BEND						
SIZE	12"	10"	8"	6"	4"	2"
A	18	16	13	11	9	9
B	18	16	13	11	9	9
C	16	14	12	10	8	8
D	9	8	6	5	4	4

PLUG						
SIZE	12"	10"	8"	6"	4"	2"
A	52	43	34	26	26	26
B	52	43	34	26	26	26
C	12	12	12	12	12	12
D	32	22	15	11	11	11

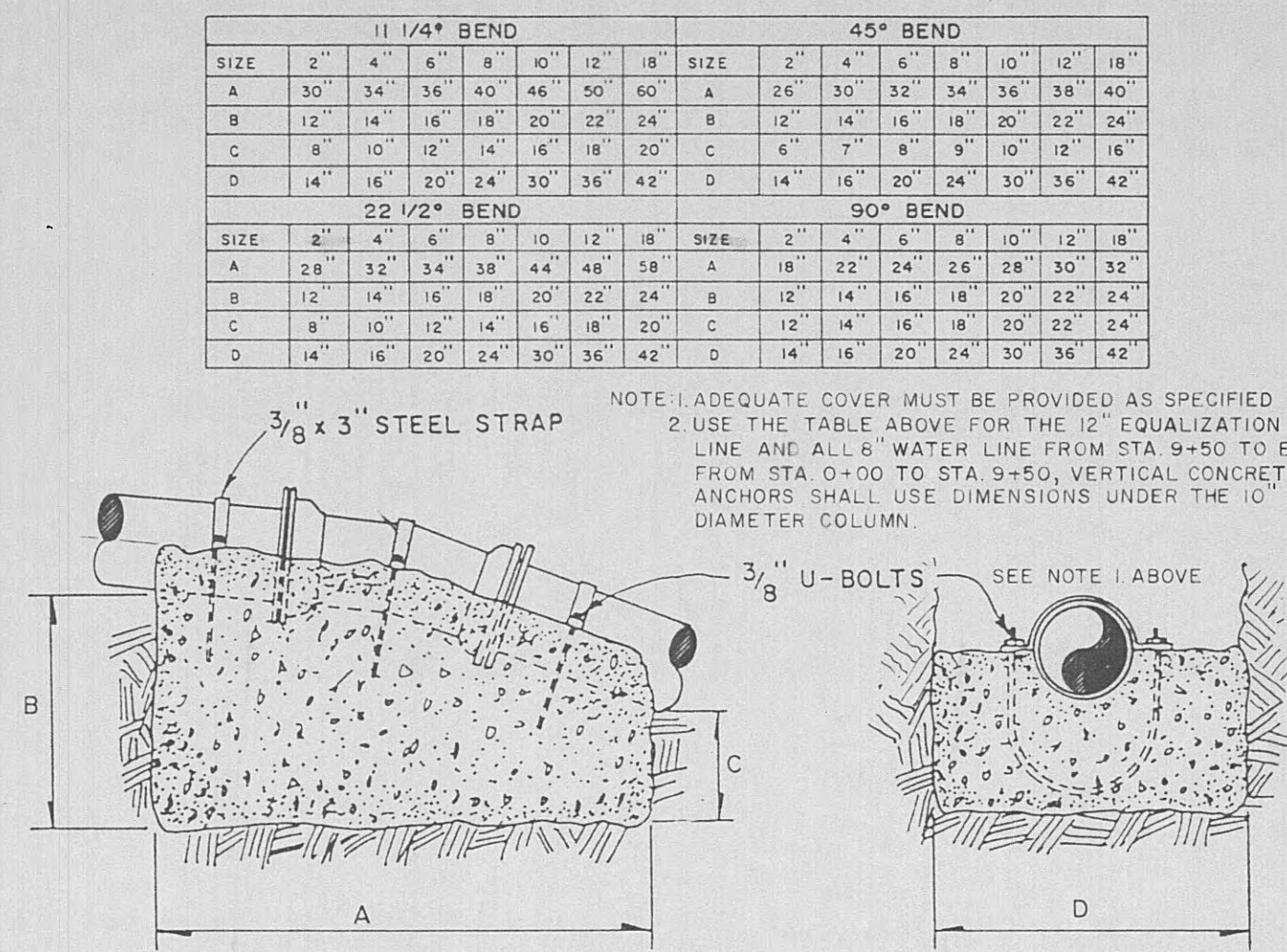
TEE						
SIZE	12"	10"	8"	6"	4"	2"
A	52	43	34	26	26	26
B	52	43	26	43	26	26
C	12	12	12	12	12	12
D	26	21	13	21	13	13

DIMENSIONS ARE IN INCHES

- NOTES:
- THRUST BLOCKS DESIGNED FOR 100 PSI PRESSURE AND 1000 PSI SOIL BEARING. FOR GREATER PRESSURE OR LESS SOIL BEARING, QUANTITIES WILL HAVE TO BE RECALCULATED.
 - IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
 - USE THE ABOVE TABLE FOR THE 12" EQUALIZATION LINE AND ALL 8" WATER LINE FROM STA. 12+00 TO STA. 12+50. TO E.O.L. FROM STA. 0+00 TO STA. 12+00, THRUST BLOCKING FOR THE 8" W.L. SHALL USE BLOCKING DIMENSIONS LISTED UNDER THE 10" DIAMETER COLUMN.

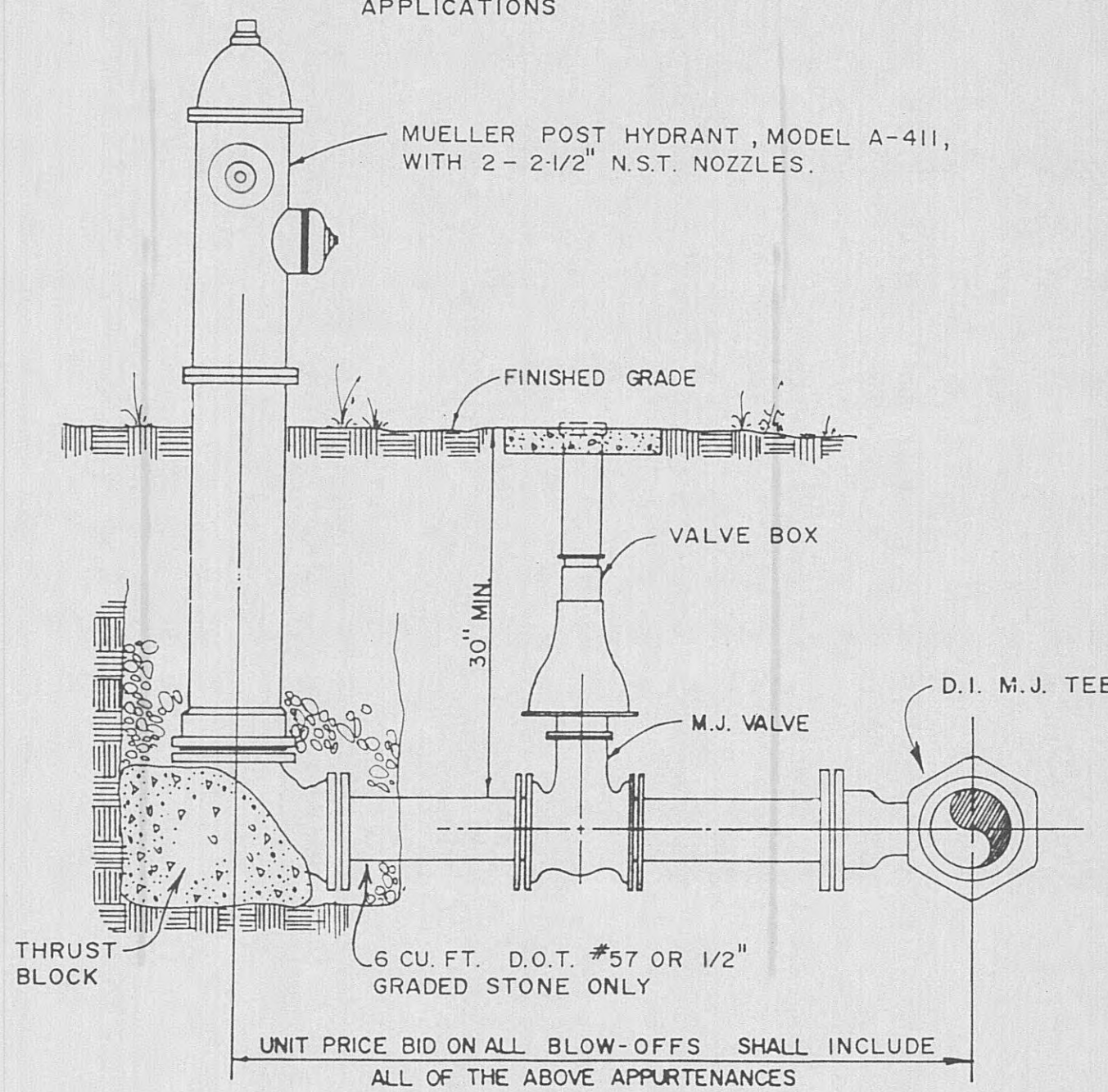


WATER MAIN BEDDING AND BACKFILLING
NOT TO SCALE

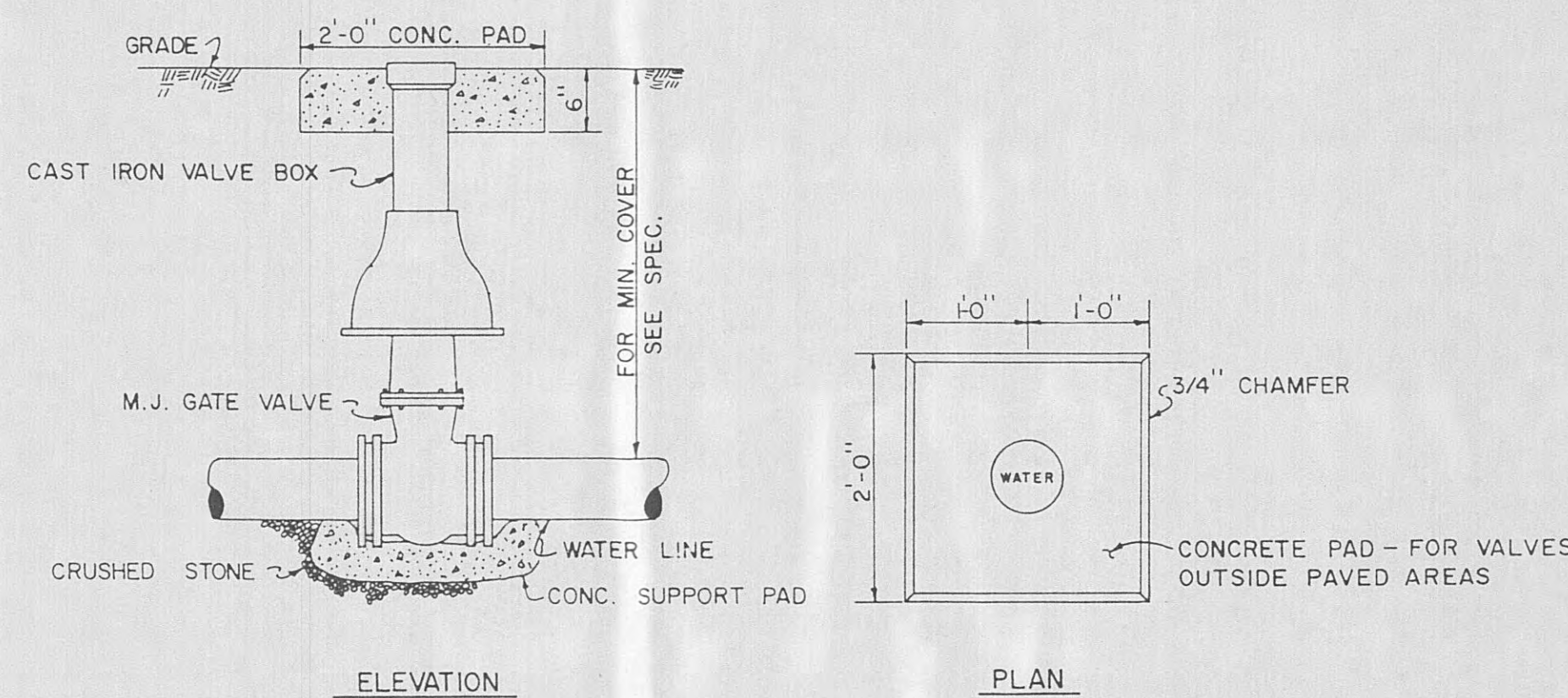


VERTICAL CONCRETE ANCHOR
N.T.S.

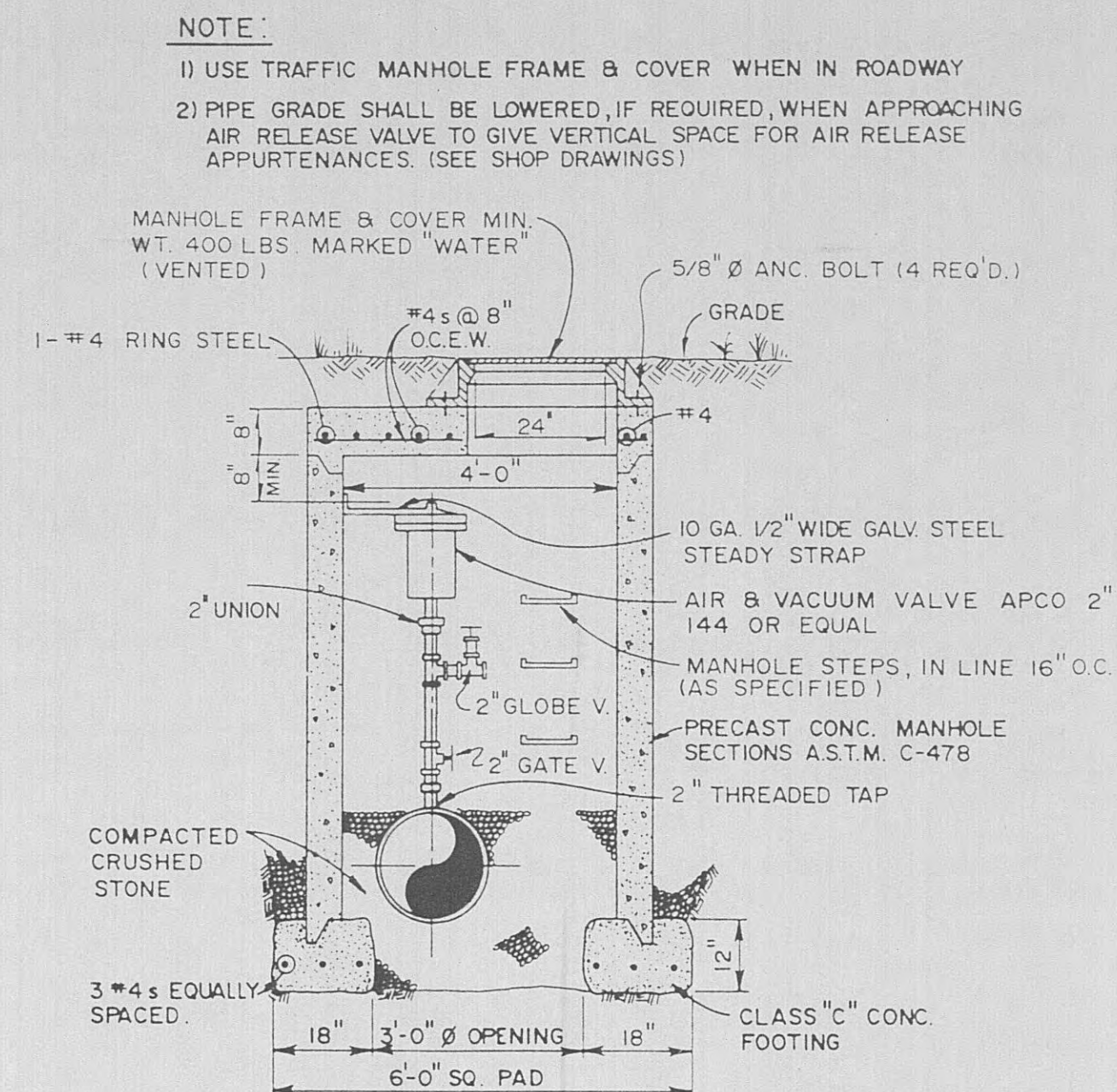
- NOTES:
- SET HYDRANT 12' TO 15' OFF E.O.P.
 - CAP & BLOCK TEE FOR END OF LINE APPLICATIONS



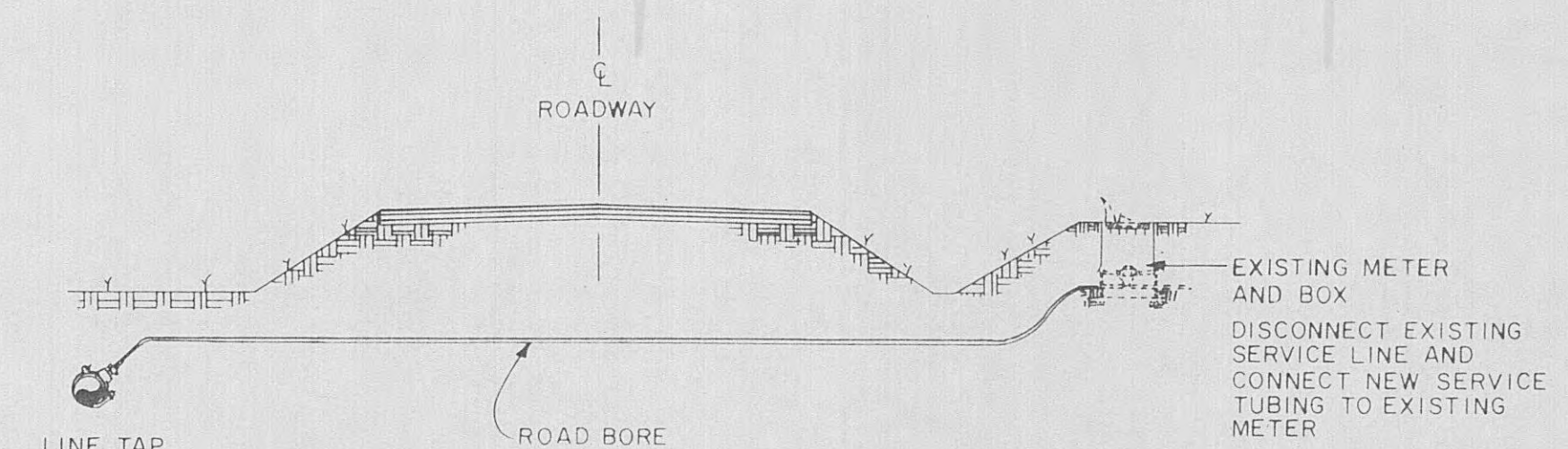
POST HYDRANT FOR BLOW-OFF
N.T.S.



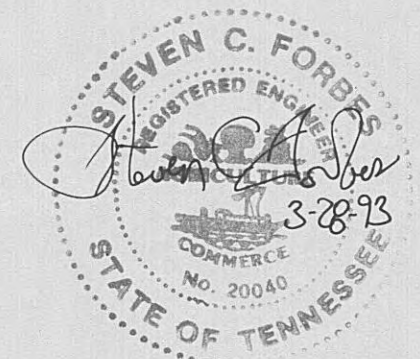
VALVE AND VALVE BOX INSTALLATION DETAIL



DETAIL OF 2" AIR & VACUUM VALVE
NOT TO SCALE



SERVICE RECONNECTION ASSEMBLY
NOT TO SCALE

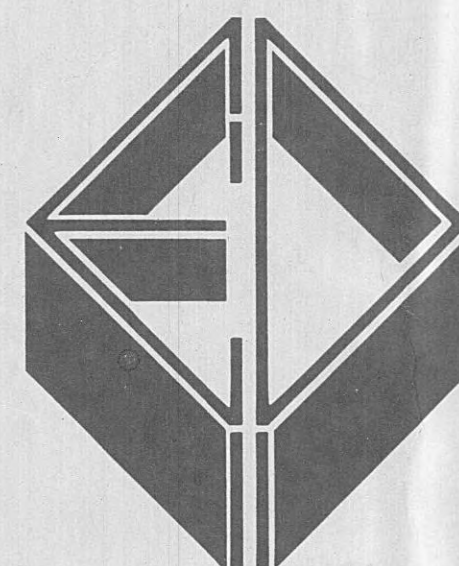


CONSTRUCTION PLANS
FOR
CITY OF HARRIMAN / WOLFE BRANCH UTILITY DISTRICT
WATER SYSTEM IMPROVEMENTS
BY
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

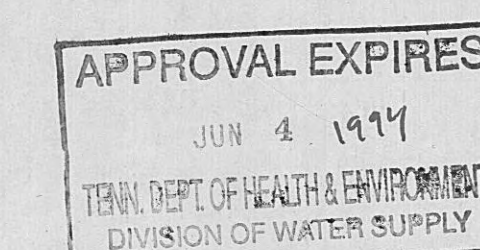
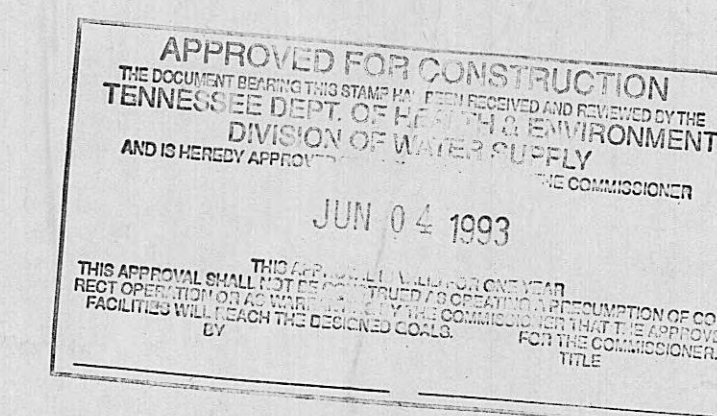
CDBG NO. Z-2-60331-2-00

CONTRACT NO. W93-01 - WATER LINE REPLACEMENT
CONTRACT NO. W93-02 - 200,000 GALLON WATER STORAGE TANK
(PLANS AND SPECIFICATIONS UNDER SEPARATE COVER)
CONTRACT NO. W93-03 - PAINTING OF CONCRETE RESERVOIR
(PLANS AND SPECIFICATIONS UNDER SEPARATE COVER)

MARCH 1993



ELROD · DUNSON, INC.
CONSULTING ENGINEERS
6200 BAUM DRIVE · KNOXVILLE, TN. 37919 · (615) 588-4166

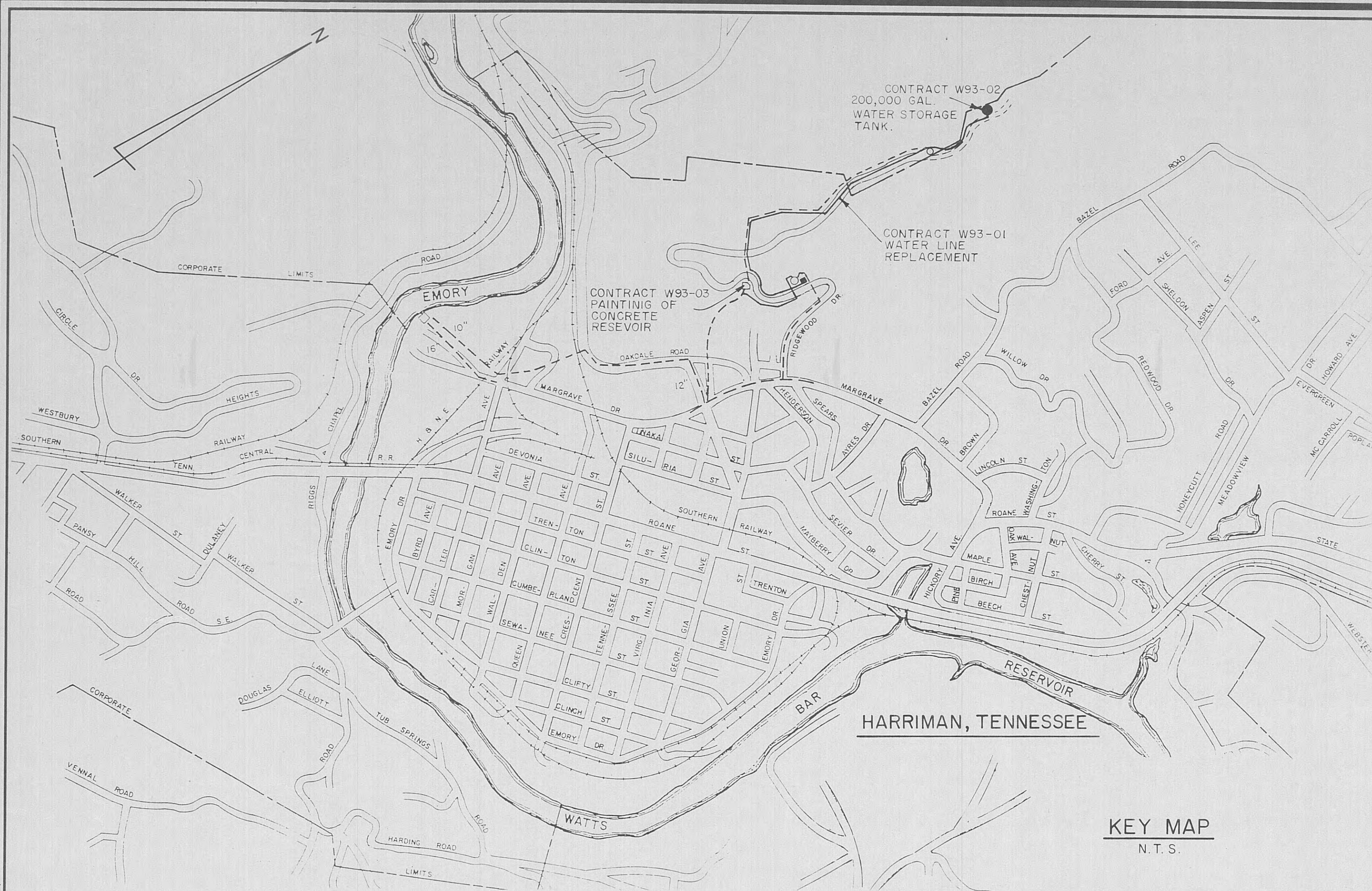


DW 93 0453

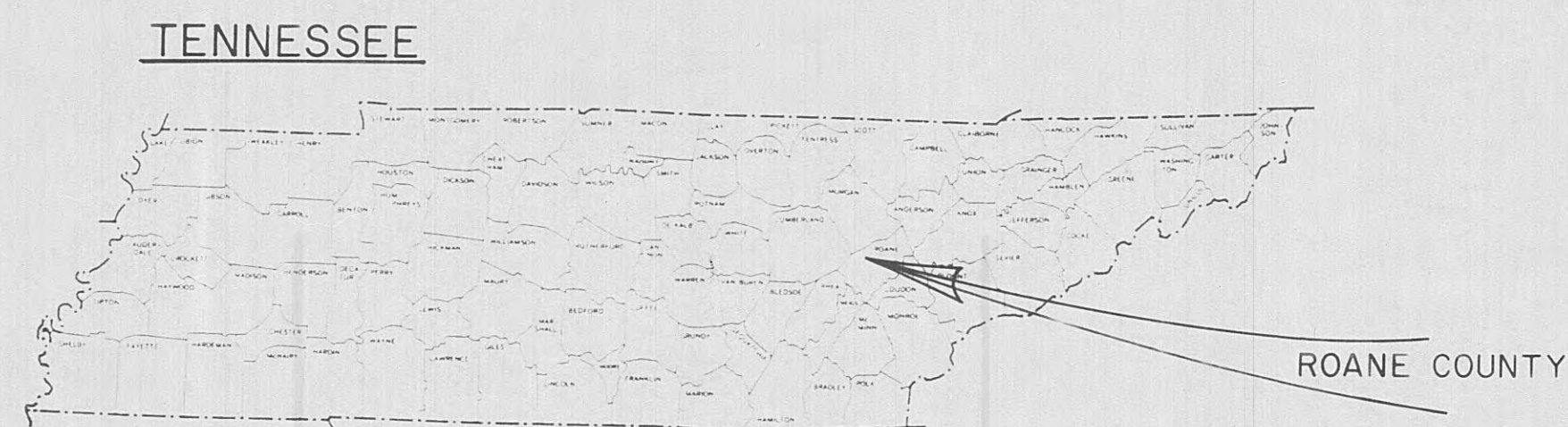
CONSTRUCTION PLANS AND DOCUMENTS APPROVED BY:
W. B. Poole 3/22/93
Chairman, Harriman Utility Board Date
W. H. H. H. 3/22/93
General Manager, Harriman Utility Board Date



PROJECT NO. 0992
SET NO. _____



KEY MAP
N.T.S.



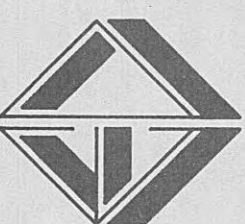
SHEET NO.	SHEET INDEX
1	KEY MAP, LOCATION MAPS, SHEET INDEX, LEGEND, AND GENERAL NOTES
2	12" DIP TANK EQUALIZATION LINE STA. 0+00 TO STA. 5+80 E.O.L.
3	8" DIP AND RESTRAINED JOINT DIP W. L. STA. 0+00 TO STA. 13+00, WOLFE BRANCH WATER BOOSTER STATION LOCATION
4	8" DIP REPLACEMENT LINE STA. 13+00 TO STA. 27+00
5	8" DIP REPLACEMENT LINE STA. 27+00 TO STA. 40+00
6	8" DIP REPLACEMENT LINE STA. 40+00 TO STA. 49+37 END OF CONTRACT W93-01
7	WOLFE BRANCH WATER BOOSTER STATION & APPURTENANCES, SITE PLAN AND TELEMETRY INSTALLATION
8	STANDARD WATER LINE DETAILS

LEGEND	
	EXISTING WATER LINE
	EXISTING BLOW OFF HYDRANT
	PROPOSED WATER LINE
	PROPOSED GATE VALVE
	PROPOSED BLOW OFF HYDRANT ASSEMBLY
	SHEET NUMBER
	PROPOSED AIR RELEASE/AIR VACUUM VALVE
	PROPOSED RECONNECTION TO EXISTING WATER METER
	PROPOSED REDUCER
	TAPPING SLEEVE
	SERVICE BORE

- GENERAL NOTES**
1. SURVEY DATA PROVIDED BY ELROD · DUNSON, INC.
 2. ELEVATIONS RELATIVE TO RECORD ELEVATION FOR THE EXISTING OVERFLOW STRUCTURE AT THE 640,000 GALLON RESERVOIR, 1066.77 FEET.
 3. KEY MAP TAKEN FROM HARRIMAN, TENNESSEE U.S.G.S. 7.5' TOPOGRAPHIC QUADRANGLES.
 4. THE LOCATION OF EXISTING UNDERGROUND AND SURFACE UTILITIES ARE INDICATED IF KNOWN. THESE LOCATIONS ARE APPROXIMATE AND ALL SUCH ITEMS TO BE ENCOUNTERED DURING THE WORK ARE NOT NECESSARILY INDICATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES IN THE AREA OF THE WORK WHETHER THEY ARE INDICATED OR NOT INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL UTILITIES RESULTING FROM DAMAGE CAUSED BY CONSTRUCTION.



ELROD · DUNSON, INC.
CONSULTING ENGINEERS
NASHVILLE · KNOXVILLE
LEXINGTON, KY



KEY MAP, LOCATION MAPS, SHEET INDEX, LEGEND AND GENERAL NOTES
WATER SYSTEM IMPROVEMENTS
CITY OF HARRIMAN/WOLFE BRANCH UTILITY DISTRICT
CONTRACT W93-01

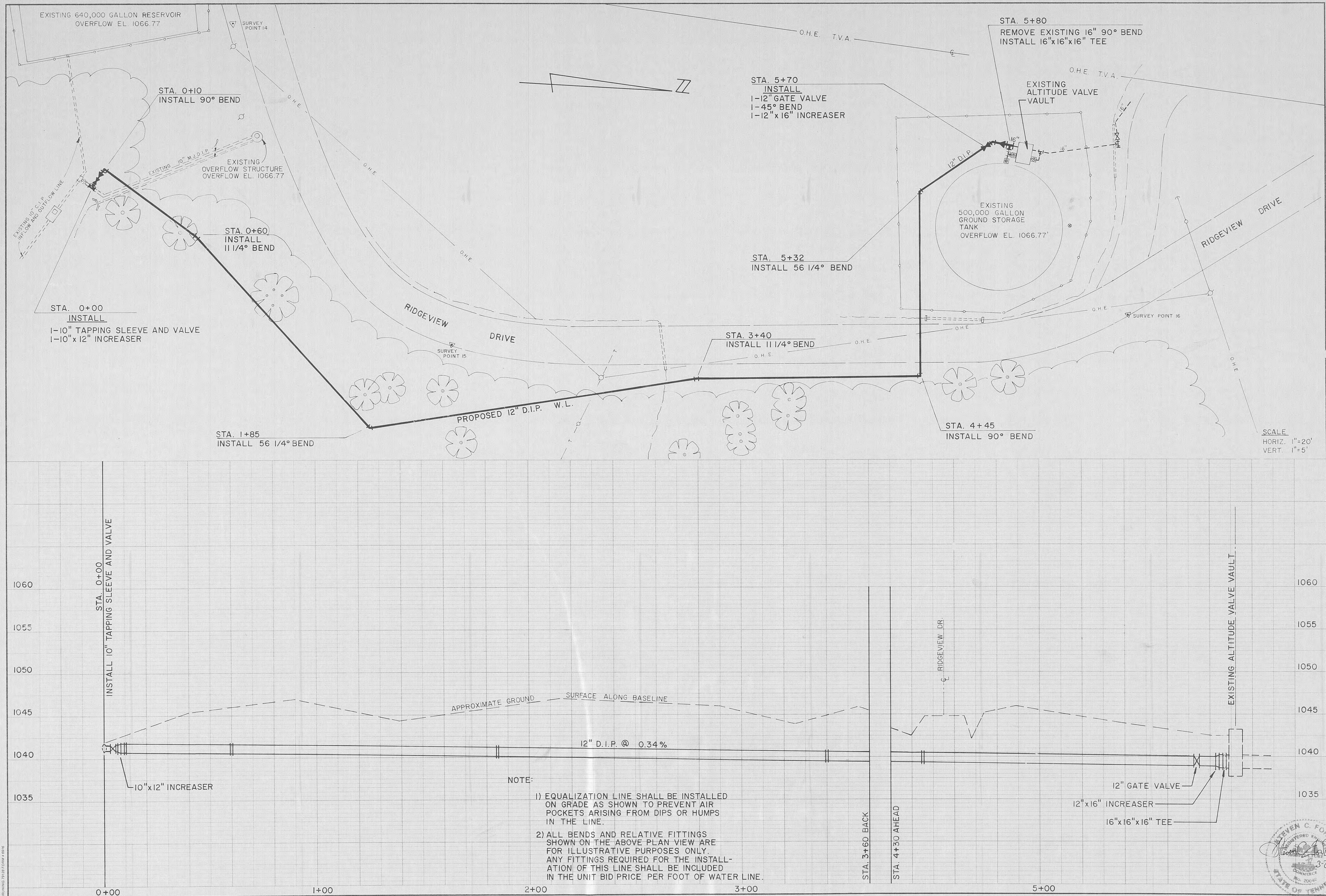
REVISIONS

DESIGNED: S.R.B.
DRAWN: S.R.B.
CHECKED: S.C.F.
DATE: MARCH 1993
SCALE: AS SHOWN
PROJ. NO. 0992

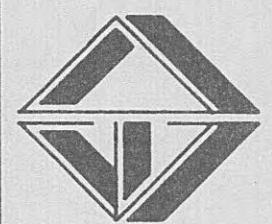
SHEET 1
OF 8

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHD	

PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHD	



ELROD · DUNSON, INC.
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NASHVILLE · KNOXVILLE
LEXINGTON, KY



12" D.I.P. TANK EQUALIZATION LINE
WATER SYSTEM IMPROVEMENTS
CITY OF HARRIMAN / WOLFE BRANCH UTILITY DISTRICT

STA. 0+00 TO STA. 5+80 EOL
CONTRACT 93-01

REVISIONS

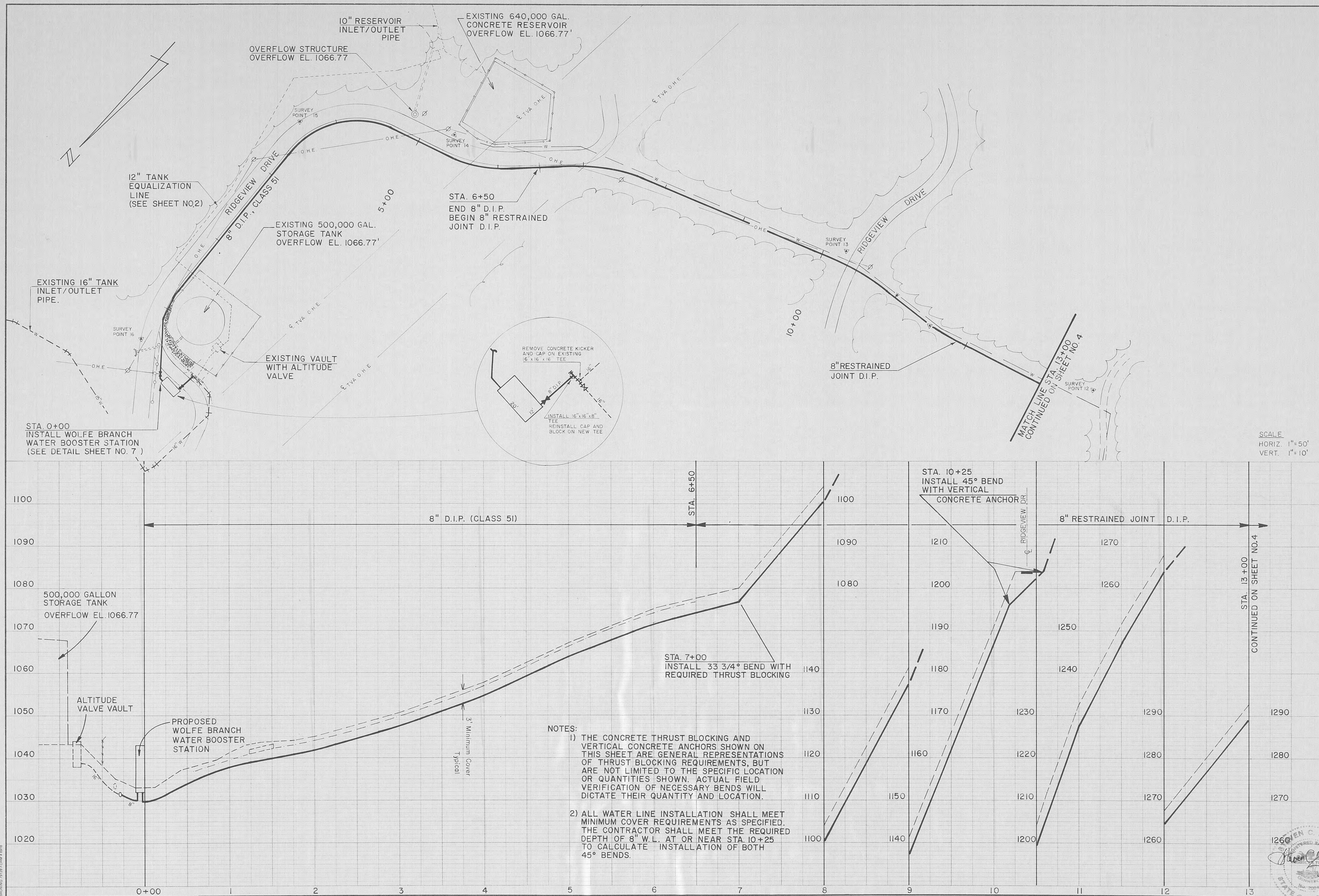
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DRAWN: S.R.B.
CHECKED: S.C.F.
DATE: MARCH 1993
SCALE: AS SHOWN
PROJ. NO. 0992

SHEET 2

OF 8

PLAN	DATE
SURVEYED	BY
PLOTTED	DATE
ALIGNED	DATE
CHECKED	DATE
STRUCTURE	DATE
NOTES	DATE
NO.	DATE

PROFILE	DATE
SURVEYED	BY
PLOTTED	DATE
ALIGNED	DATE
CHECKED	DATE
STRUCTURE	DATE
NOTES	DATE
NO.	DATE



ELROD • DUNSON, INC.
CONSULTING ENGINEERS
NASHVILLE • KNOXVILLE
LEXINGTON, KY

8" D.I.P. AND RESTRAINED JOINT D.I.P. W.L. STA. 0+00 TO STA. 13+00
WOLFE BRANCH WATER BOOSTER STATION LOCATION
WATER SYSTEM IMPROVEMENTS
CITY OF HARRIMAN/WOLFE BRANCH UTILITY DISTRICT

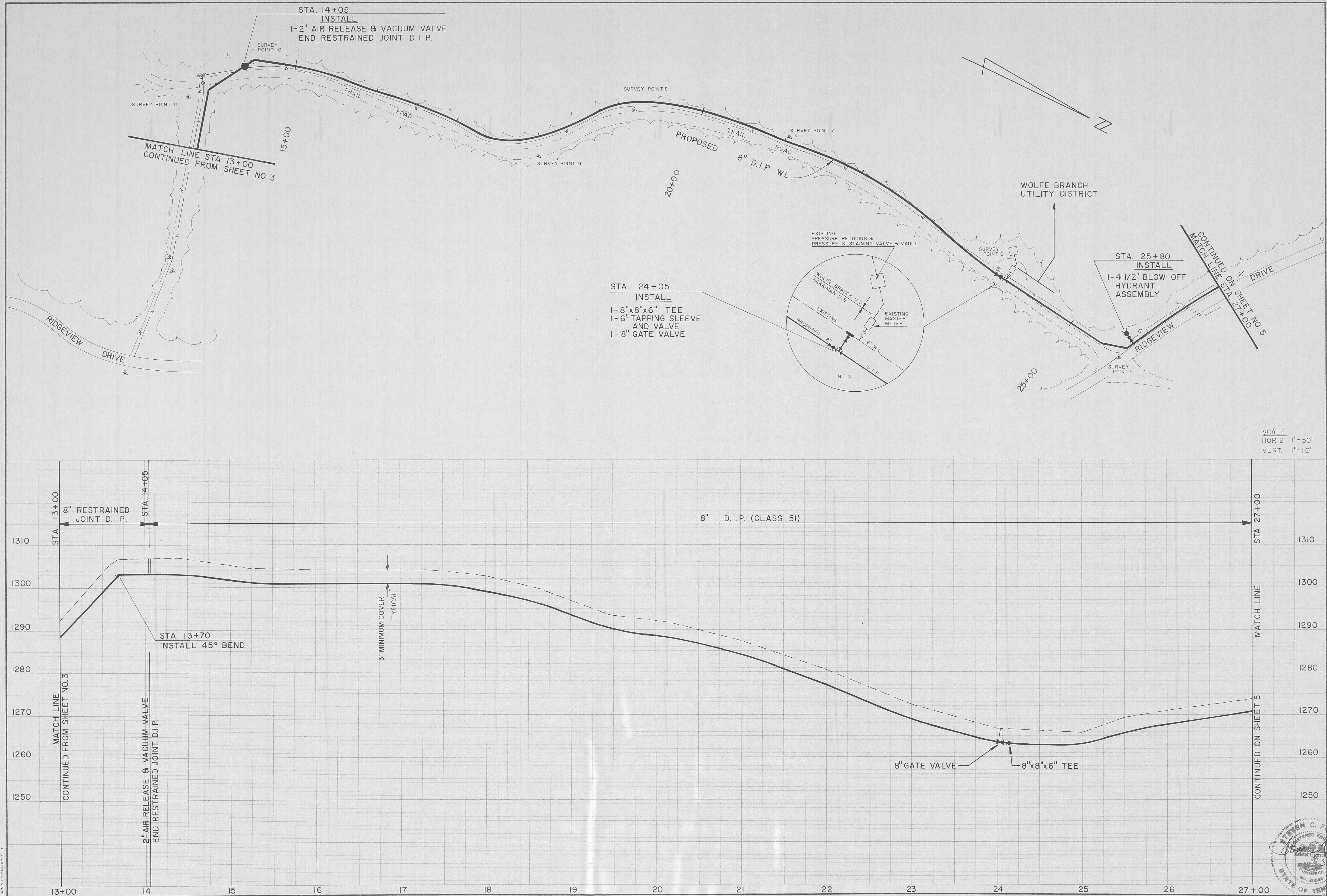
REVISIONS

DESIGNED: S.R.B.
DRAWN: S.R.B.
CHECKED: S.C.F.
DATE:
SCALE: AS SHOWN
PROJ. NO. 0992

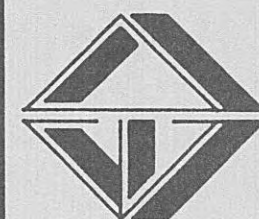
SHEET 3
OF 8

PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHD.	

PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	GRADES CHECKED	
	STRUCTURE NOTATIONS CHD.	



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 NASHVILLE · KNOXVILLE
 LEXINGTON, KY



8" D.I.P. REPLACEMENT LINE
 WATER SYSTEM IMPROVEMENTS
 CITY OF HARRIMAN/WOLFE BRANCH UTILITY DISTRICT

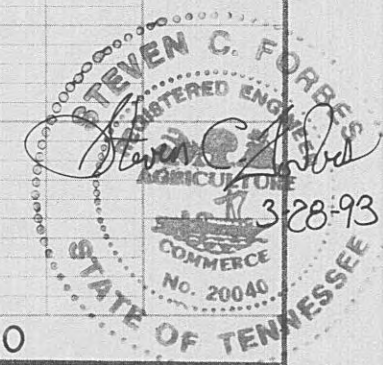
STA. 13+00 TO STA. 27+00

CONTRACT W93-01

REVISIONS

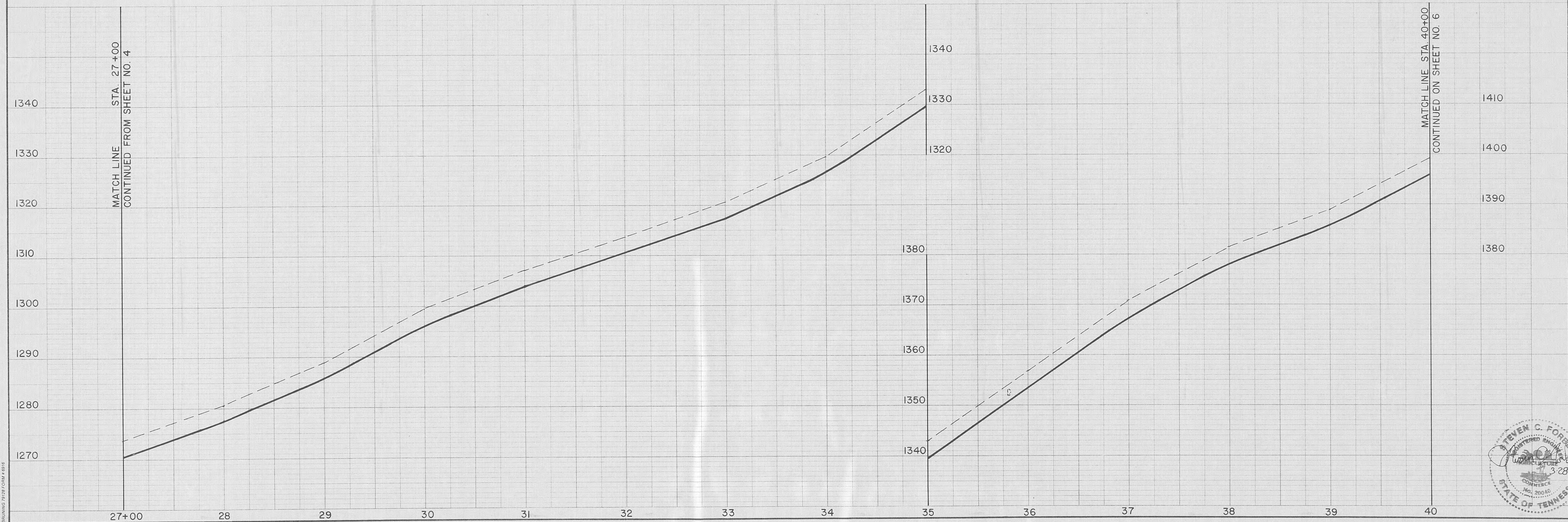
DESIGNED: S.R.B.
 DRAWN: S.R.B.
 CHECKED: S.C.F.
 DATE: MARCH 1993
 SCALE: AS SHOWN
 PROJ. NO. 0992

SHEET 4
 OF 8

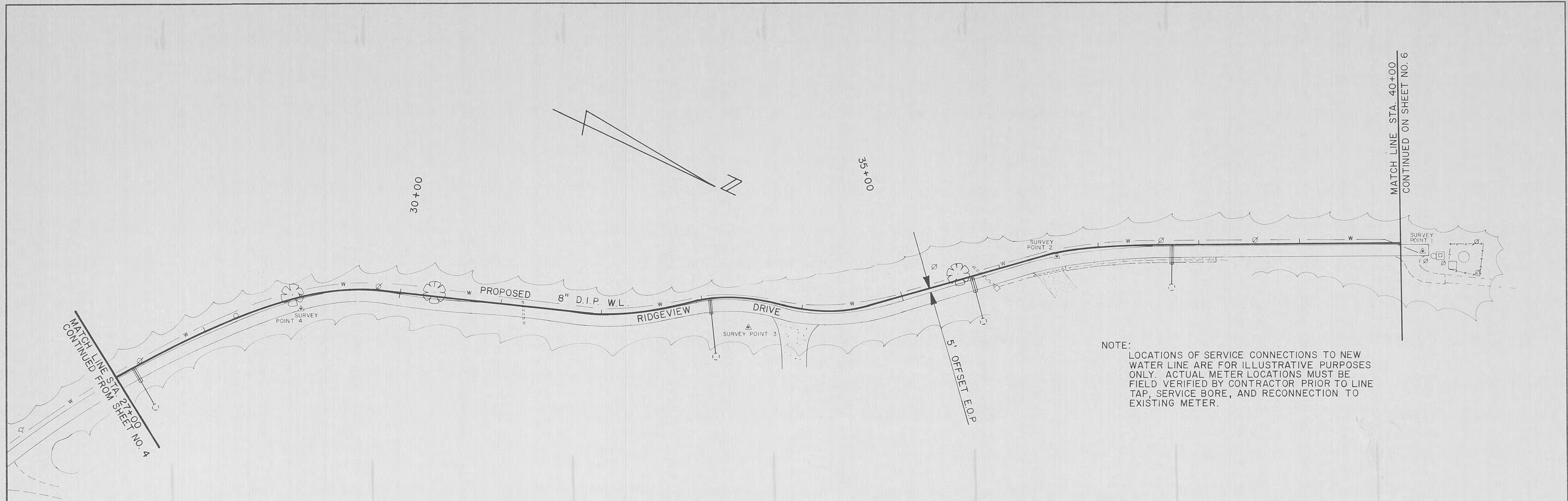
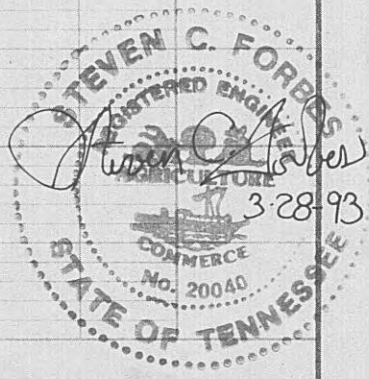


PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHD	

PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	GRADES CHECKED	
	STRUCTURE NOTATIONS CHD	

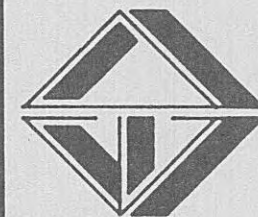


SCALE:
HORIZ. 1"=50'
VERT. 1"=10'



NOTE:
LOCATIONS OF SERVICE CONNECTIONS TO NEW WATER LINE ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL METER LOCATIONS MUST BE FIELD VERIFIED BY CONTRACTOR PRIOR TO LINE TAP, SERVICE BORE, AND RECONNECTION TO EXISTING METER.

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LEXINGTON, KY



STA. 27+00 TO STA. 40+00
8" D.I.P. REPLACEMENT LINE
WATER SYSTEM IMPROVEMENTS
CITY OF HARRIMAN/WOLFE BRANCH UTILITY DISTRICT

REVISIONS

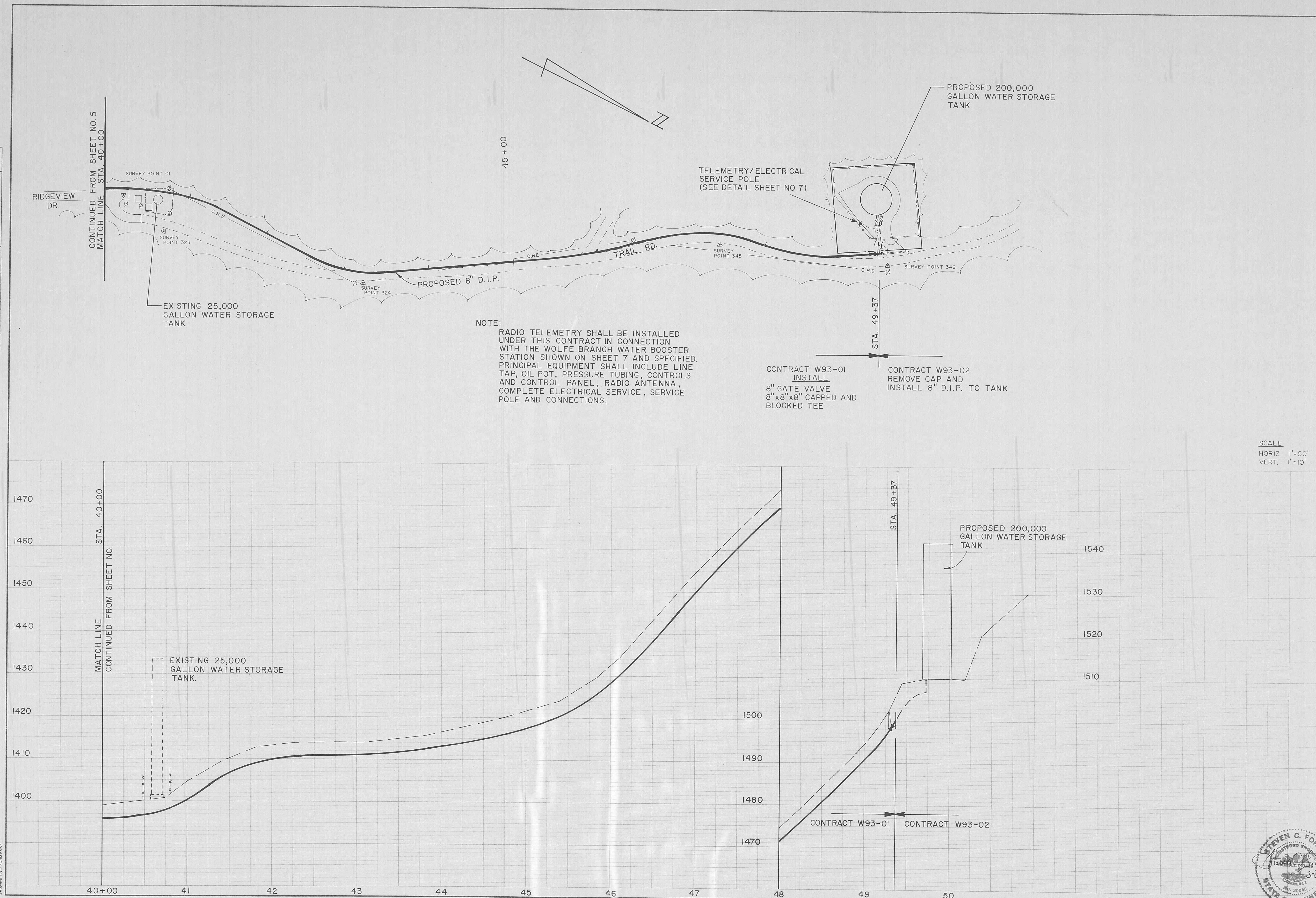
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DRAWN: S.R.B.
CHECKED: S.C.F.
DATE: MARCH 1993
SCALE: AS SHOWN
PROJ. NO. 0992

SHEET 5
OF 8

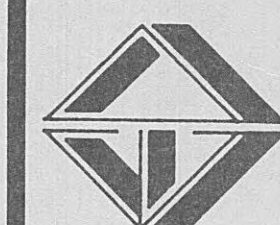
CONTRACT W93-01

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	DATE		
	BY		
	DATE		
	BY		
	DATE		
	BY		
	DATE		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
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CONSULTING ENGINEERS
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LEXINGTON, KY

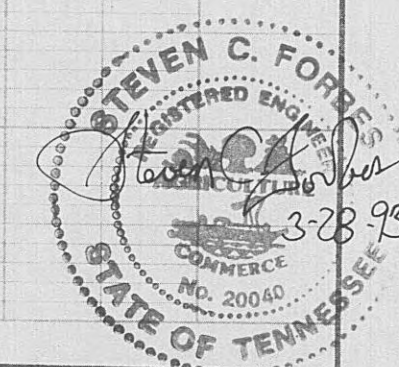


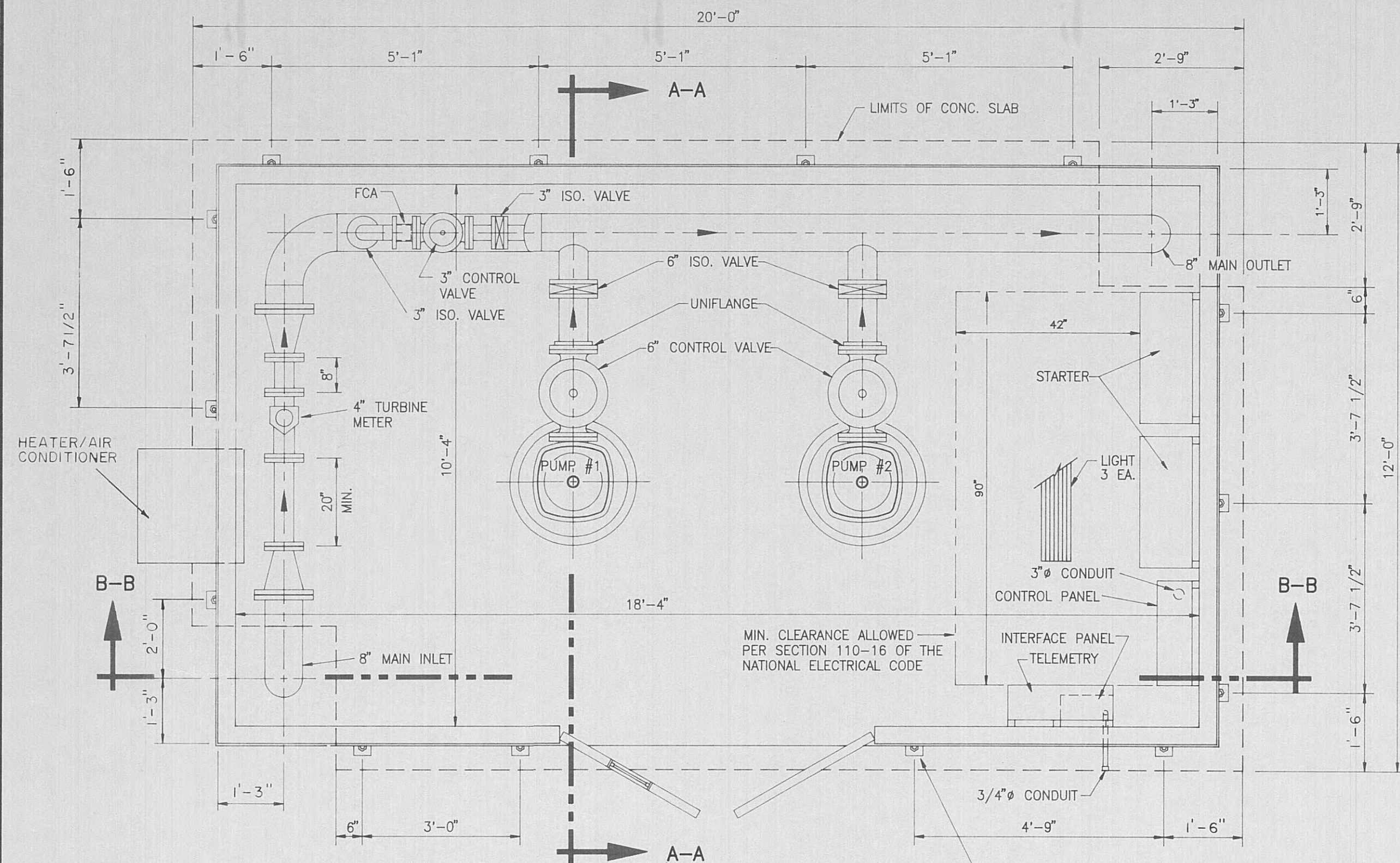
8" D.I.P. REPLACEMENT LINE STA. 40+00 TO STA. 49+37 END OF CONTRACT 93-01
WATER SYSTEM IMPROVEMENTS
CITY OF HARRIMAN / WOLFE BRANCH UTILITY DISTRICT
CONTRACT W93-01

REVISIONS

DESIGNED: S.R.B.
DRAWN: S.R.B.
CHECKED: S.C.F.
DATE: MAY 1993
SCALE: AS SHOWN
PROJ. NO. 0992

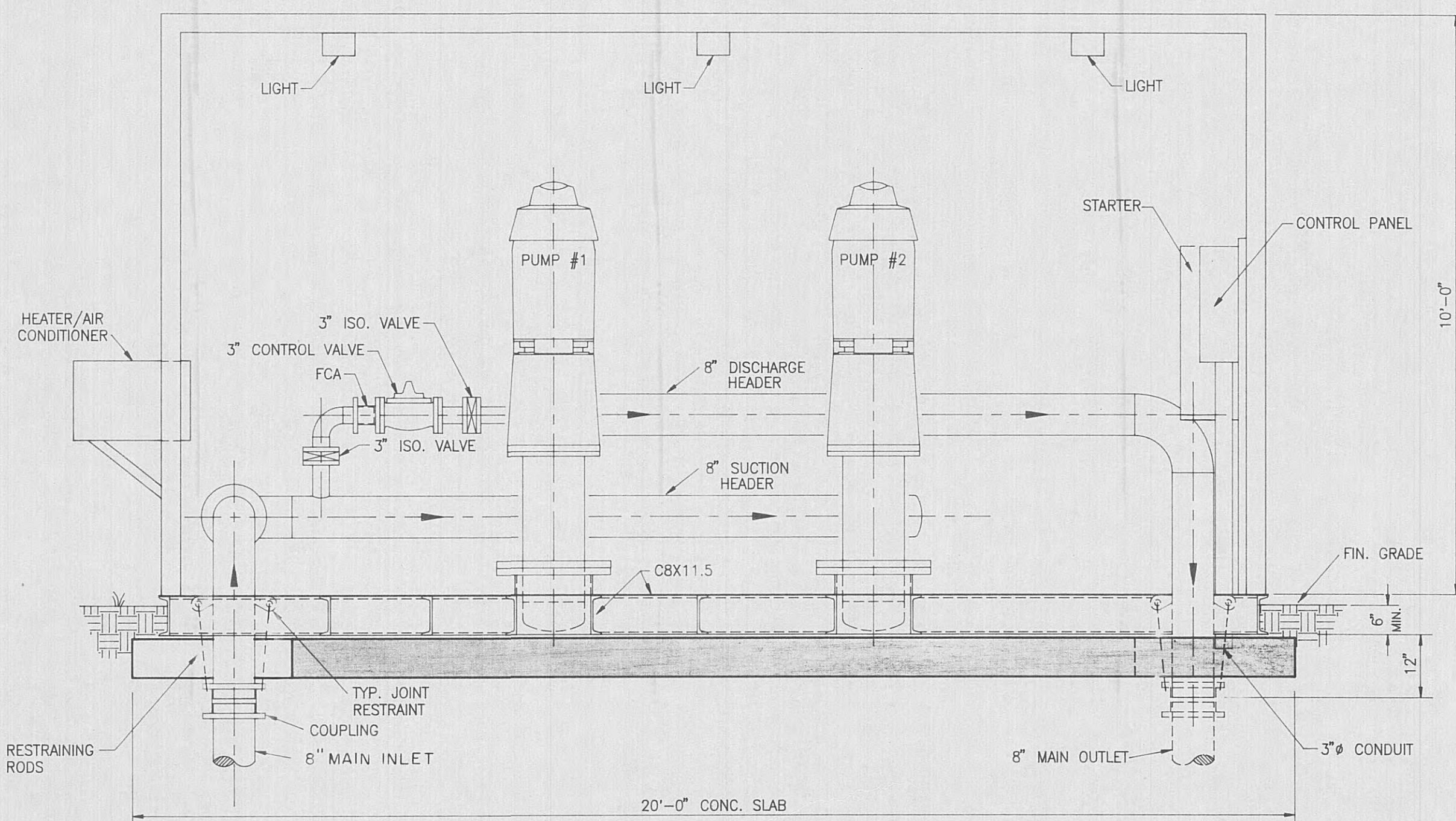
SHEET 6
OF 8





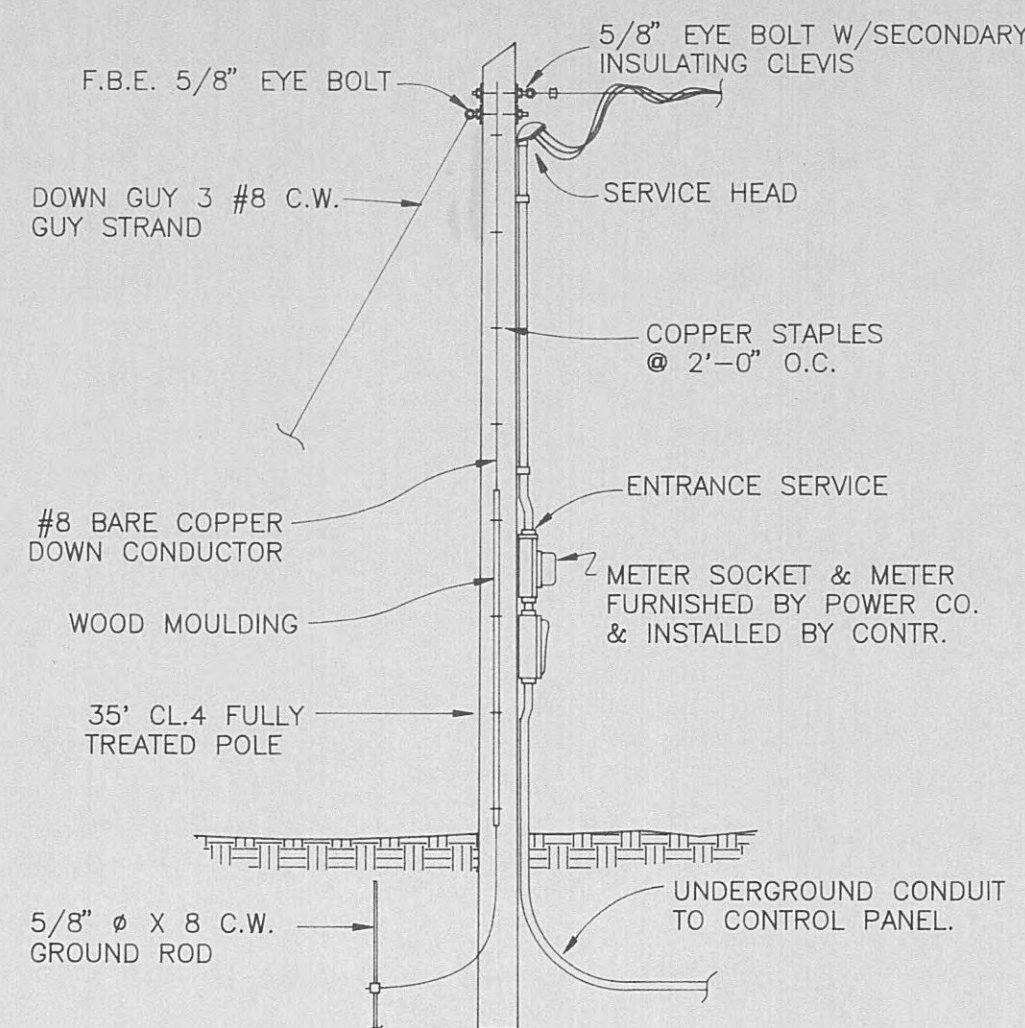
INTERIOR PLAN

SCALE: 1/2" = 1'-0"



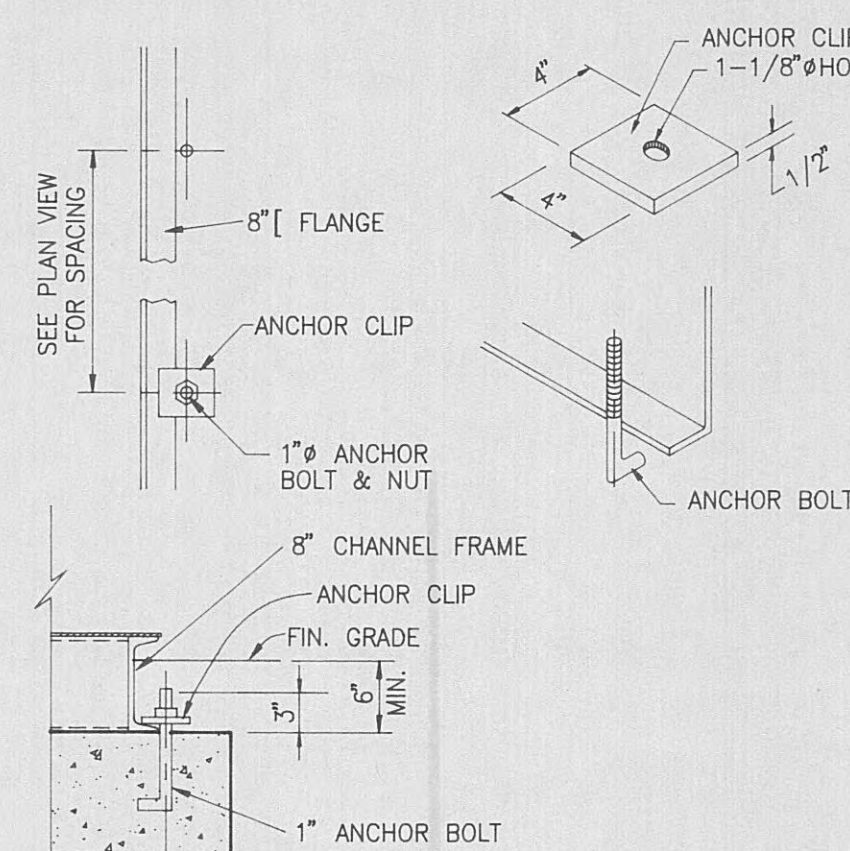
SECTION B-B

SCALE: 1/2" = 1'-0"



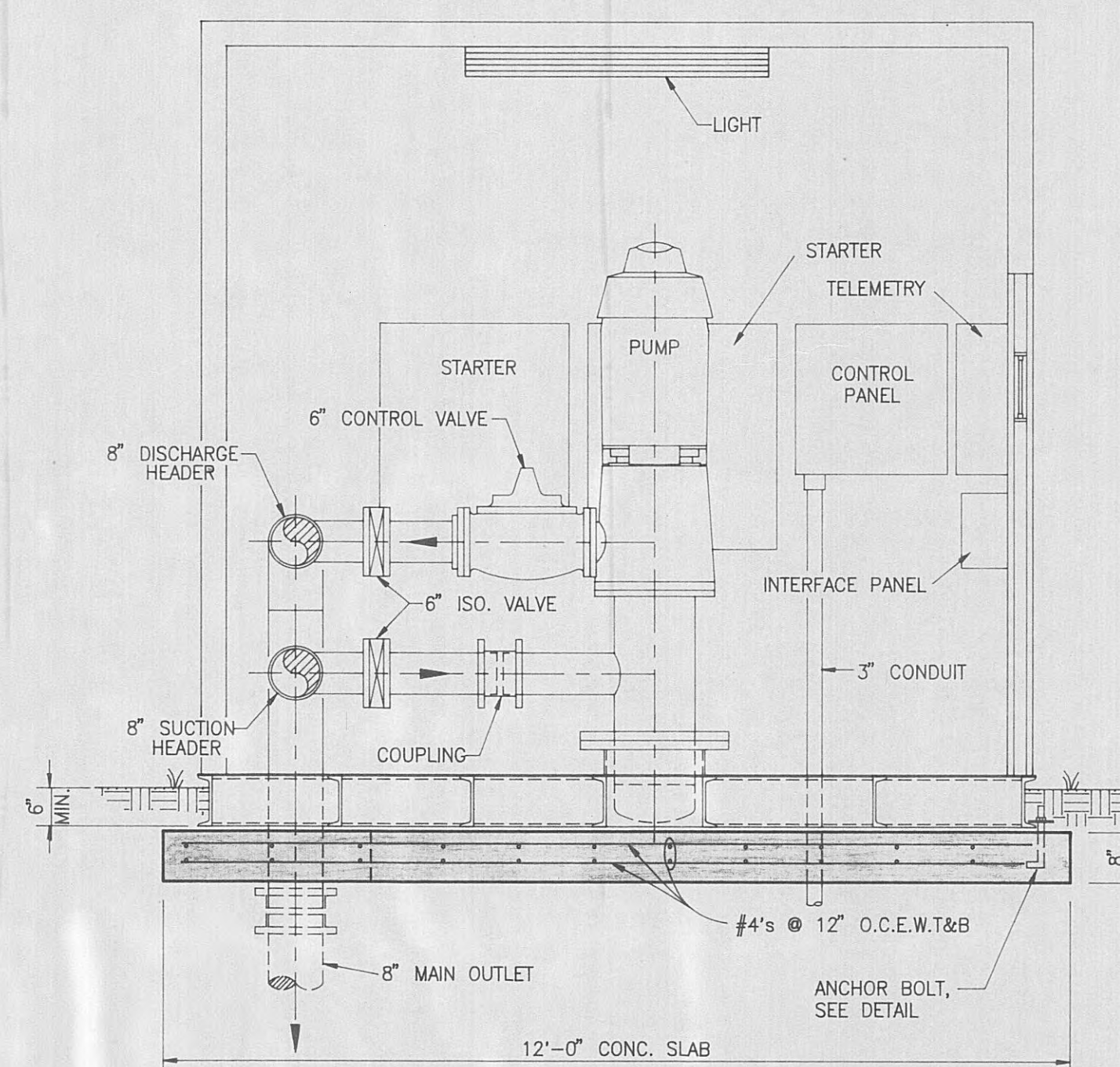
SERVICE ENTRANCE RISER POLE

NOT TO SCALE



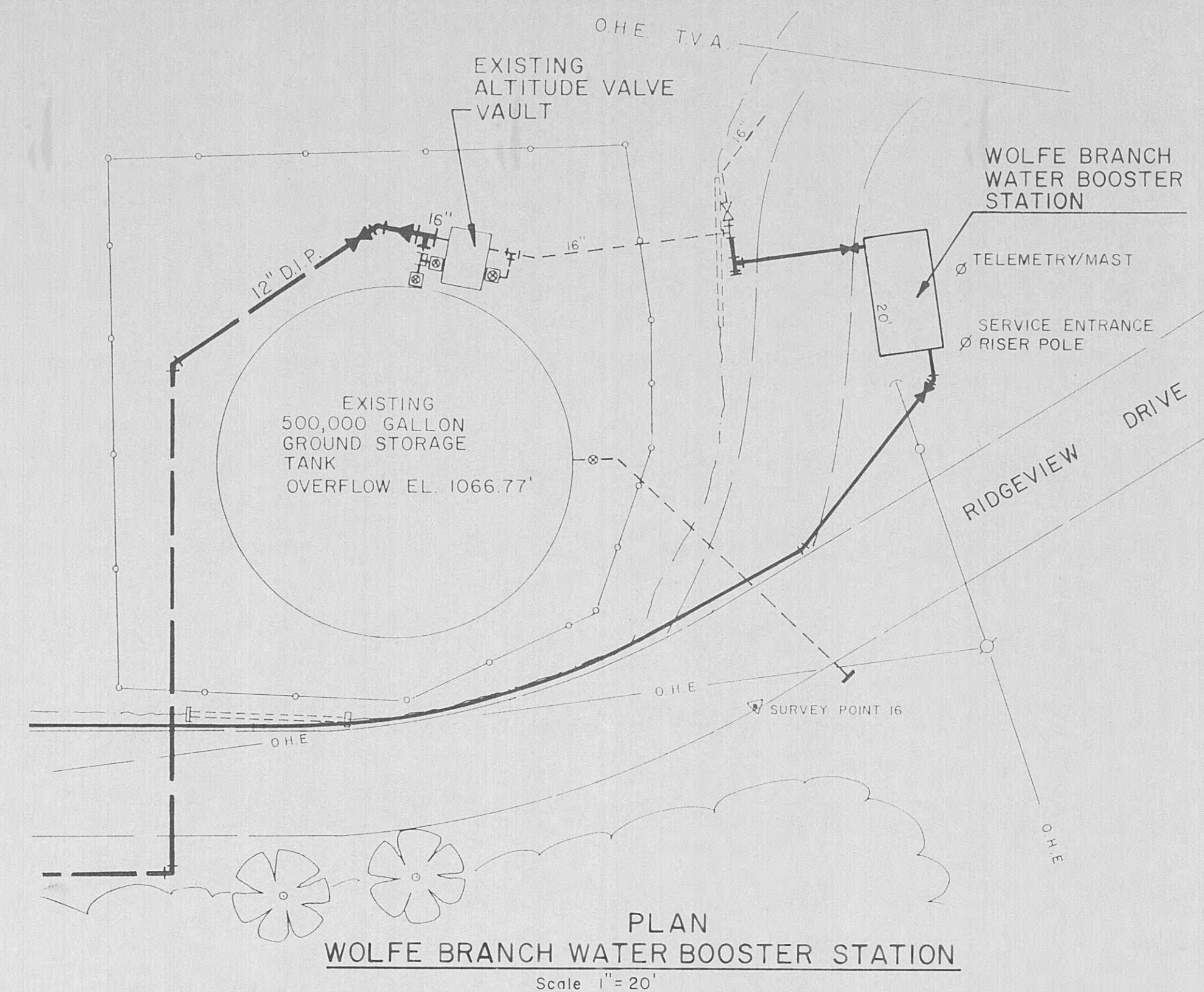
TYPICAL ANCHOR DETAIL

NOT TO SCALE



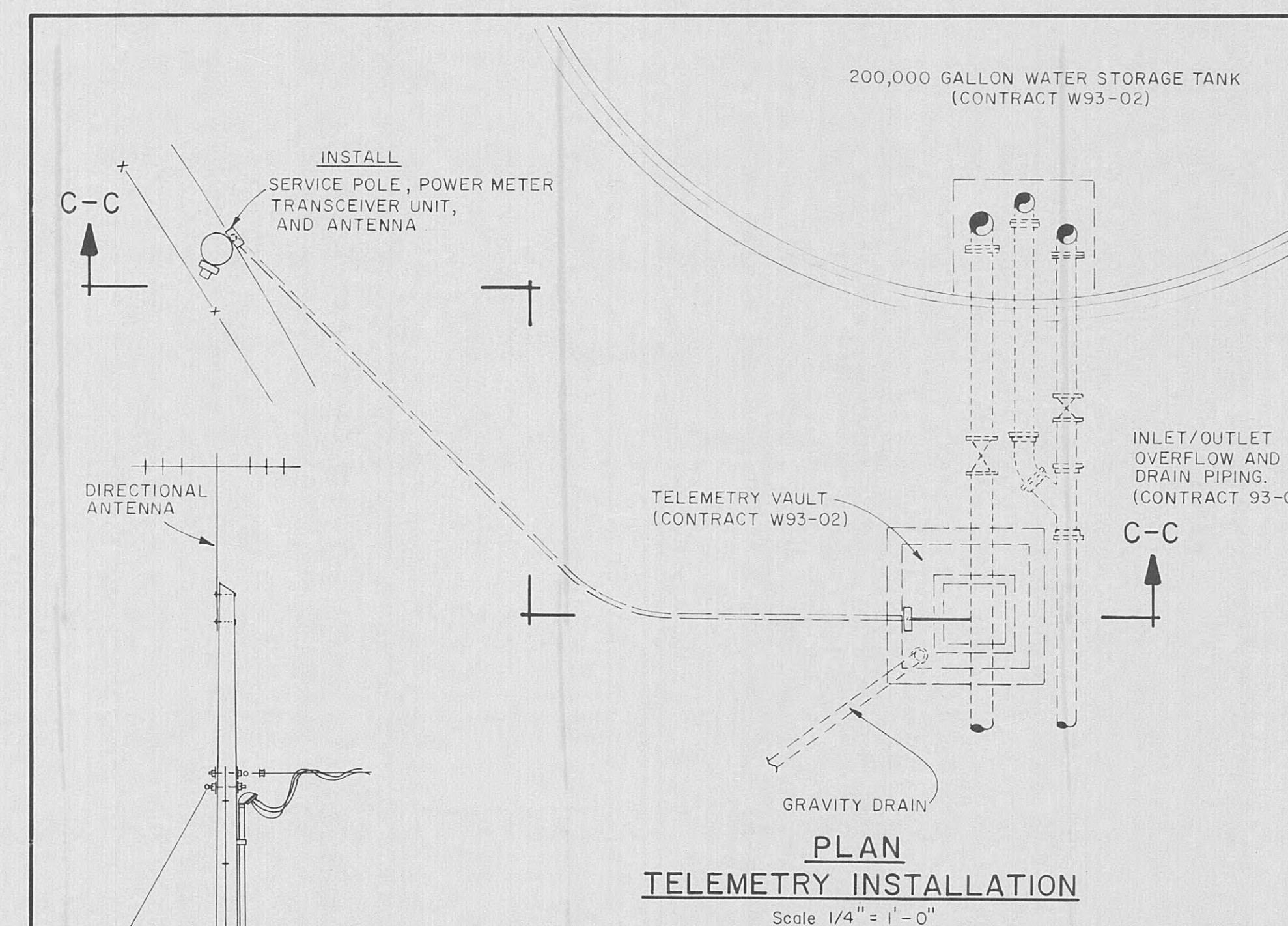
SECTION A-A

SCALE: 1/2" = 1'-0"



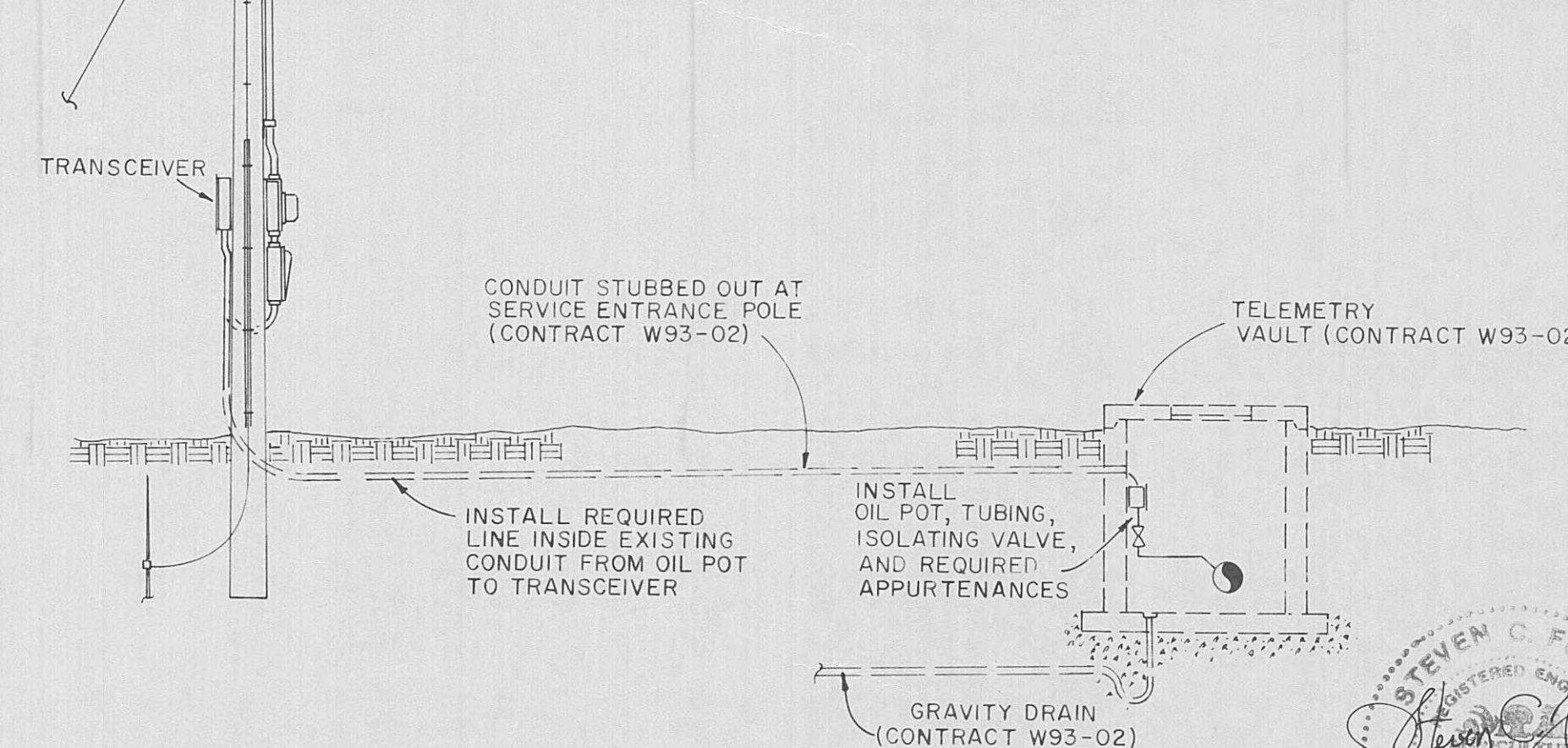
PLAN
WOLFE BRANCH WATER BOOSTER STATION

Scale 1" = 20'



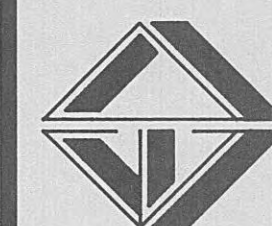
PLAN
TELEMETRY INSTALLATION

Scale 1/4" = 1'-0"



SECTION C-C

WOLFE BRANCH WATER BOOSTER STATION AND APPURTENANCES



CONTRACT W93-01

REVISIONS

DESIGNED: S.C.F.
DRAWN: S.C.G.
CHECKED: S.C.F.
DATE: MARCH 1993
SCALE: AS SHOWN
PROJ. NO. 0992

SHEET 7

OF 8