

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3621B	UC-1	

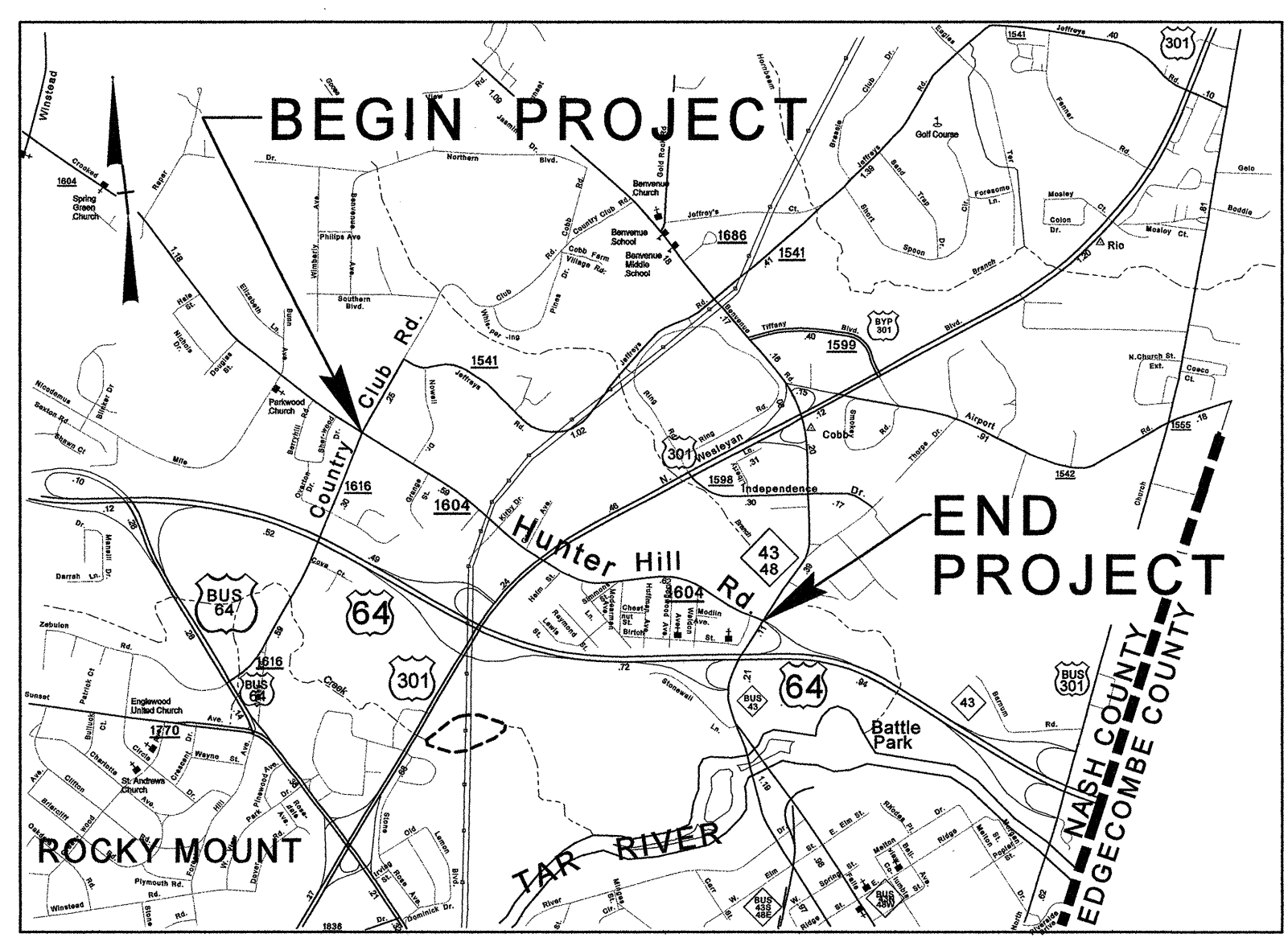
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: SR 1604 (HUNTER HILL RD) IN ROCKY MOUNT FROM
SR 1616 (COUNTRY CLUB RD) TO NC 43/48 (BENVENUE RD)

TYPE OF WORK: UTILITIES CONSTRUCTION

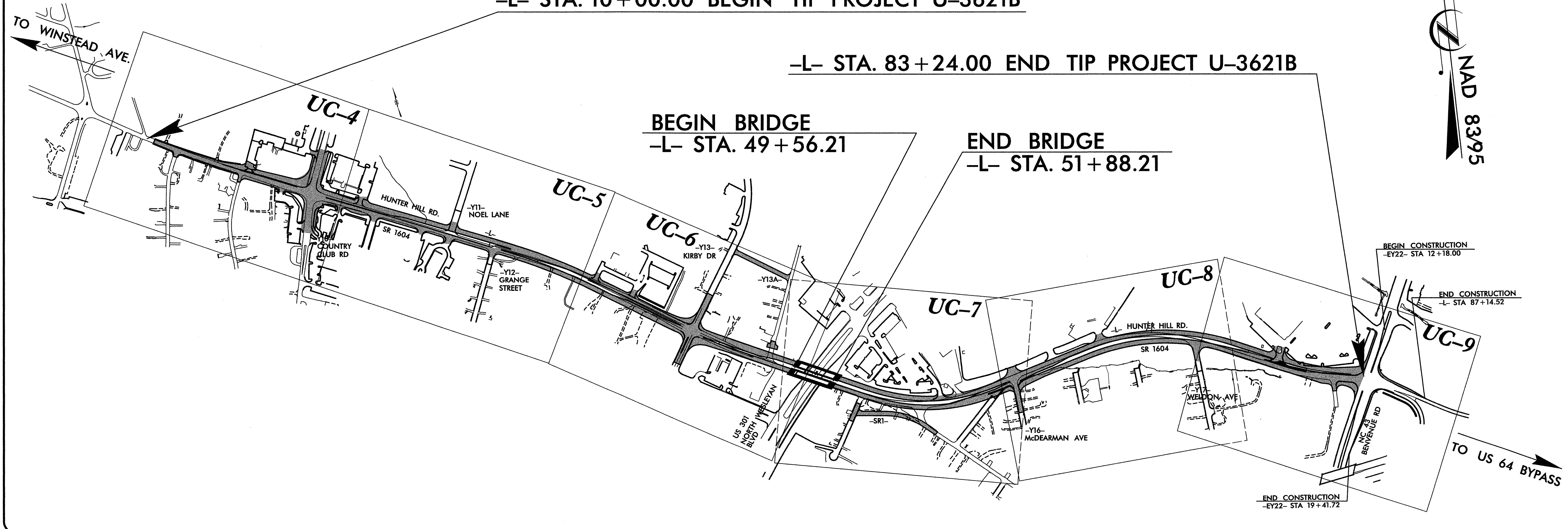
See Sheet 1-A For Index of Sheets



VICINITY MAP

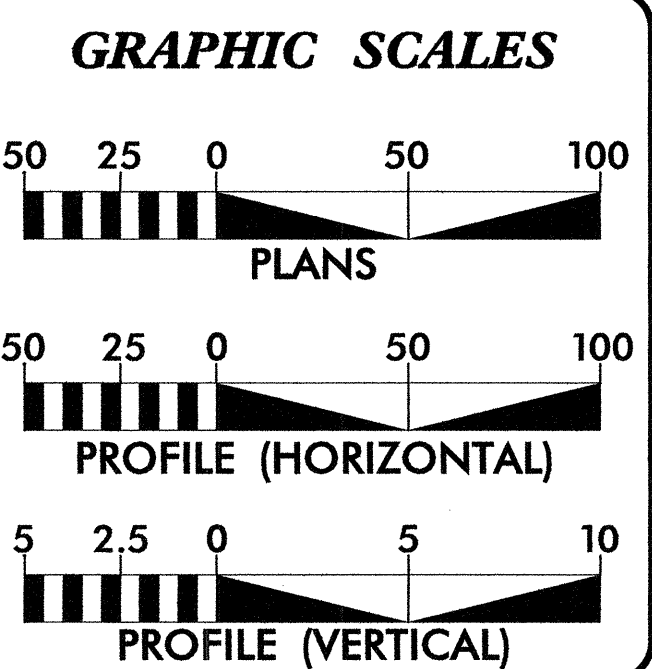
-L- STA. 10+00.00 BEGIN TIP PROJECT U-3621B

-L- STA. 83+24.00 END TIP PROJECT U-3621B



TIP PROJECT: U-3621B

CONTRACT:



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SYMBOLGY SHEET
UC-3	GENERAL NOTES SHEET
UC-4 TO UC-9	PLAN SHEETS
UC-10	WATER PROFILES
UC-11 TO UC-12	SEWER PROFILES
UC-13 TO UC-14	MISCELLANEOUS DETAILS
UC-15 TO UC-19	WATER DETAILS
UC-20 TO UC-22	SANITARY SEWER DETAILS

UTILITY OWNERS ON THIS PROJECT:

WATER - CITY OF ROCKY MOUNT
SANITARY SEWER - CITY OF ROCKY MOUNT

UTILITY DESIGN ENGINEER

UTILITY DESIGN BY:

MA Engineering CONSULTANTS, INC.
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

PLANS PREPARED FOR:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT
RALEIGH, NC

NCDOT ENGINEER:
ROGER WORTHINGTON

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	123
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	⋈
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⋈
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▬

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◇
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▨

VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	⊕
Vineyard	▨

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC HW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	S

UTILITIES:

POWER:	
Existing Power Pole	⊕
Proposed Power Pole	⊕
Existing Joint Use Pole	⊕
Proposed Joint Use Pole	⊕
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
U/G Power Cable Hand Hole	PH
H-Frame Pole	⊕
Recorded U/G Power Line	P
Designated U/G Power Line (S.U.E.*)	P

TELEPHONE:

Existing Telephone Pole	⊕
Proposed Telephone Pole	⊕
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	PH
Recorded U/G Telephone Cable	T
Designated U/G Telephone Cable (S.U.E.*)	T
Recorded U/G Telephone Conduit	TC
Designated U/G Telephone Conduit (S.U.E.*)	TC
Recorded U/G Fiber Optics Cable	T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊕
Water Hydrant	⊕
Recorded U/G Water Line	W
Designated U/G Water Line (S.U.E.*)	W
Above Ground Water Line	A/G Water

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
U/G TV Cable Hand Hole	PH
Recorded U/G TV Cable	TV
Designated U/G TV Cable (S.U.E.*)	TV
Recorded U/G Fiber Optic Cable	TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	TV FO

GAS:

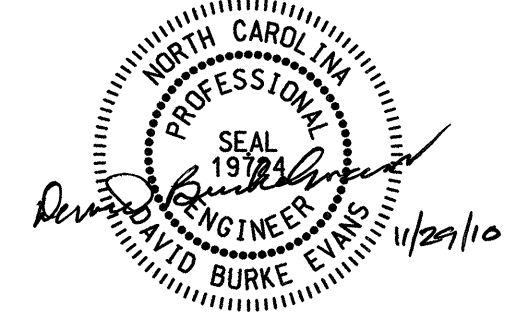

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	G
Designated U/G Gas Line (S.U.E.*)	G
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	FSS
Designated SS Forced Main Line (S.U.E.*)	FSS

MISCELLANEOUS:

Utility Pole	⊕
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	ZUTL
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
U-3621B	UC-3
UTILITY DESIGN ENGINEER	
	
	
<small>598 E. Chatham Street, Suite 137 Cary, N. C. 27511</small>	

GENERAL NOTES:

1. THE LOCATION, SIZE, AND MATERIAL TYPE OF THE EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED FROM THE BEST AVAILABLE DATA AT THE TIME. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, ELEVATION, SIZE, DIRECTION, AND MATERIAL TYPE OF ALL EXISTING UTILITIES PRIOR TO ORDERING HIS MATERIALS.
2. CONTRACTOR SHALL NOTIFY NC ONE-CALL AT 1-800-632-4949 PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY SUCH THAT ALL EXISTING UTILITIES CAN BE MARKED. FURTHERMORE, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO CONTACT ANY UTILITY OWNERS THAT ARE NOT MEMBERS OF NC ONE-CALL AND HAVE FACILITIES RESIDING WITHIN THE PROJECT LIMITS.
3. THE EXISTING WATER AND SEWER FACILITIES ARE TO REMAIN IN PLACE AND FUNCTIONING UNTIL NEW FACILITIES ARE CERTIFIED AS COMPLETE BY THE NCDOT RESIDENT ENGINEER.
4. ALL WATER AND SEWER IMPROVEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND STANDARD DRAWINGS OF THE NCDOT, DATED JULY 2006.
5. CONTRACTOR IS REQUIRED TO COMPLY WITH 15A NCAC 18C.906 - RELATION OF WATER MAINS TO SEWERS.
6. WATER AND SEWER IMPROVEMENTS SHALL BE CONSTRUCTED BY A NC LICENSED UTILITY CONTRACTOR.
7. CITY OF ROCKY MOUNT CONTACT INFORMATION:
CONTACT PERSON: BRAD KERR, DIRECTOR OF ENGINEERING PHONE: (252) 972-1120
8. CONTRACTOR SHALL NOTIFY THE CITY OF ROCKY MOUNT 96 HOURS IN ADVANCE OF PERFORMING ANY TIE-IN WORK. CONTRACTOR SHALL NOTIFY ALL AFFECTED CUSTOMERS 48 HOURS IN ADVANCE OF SERVICE INTERRUPTIONS. CONTRACTOR SHALL NOTIFY ALL AFFECTED CRITICAL FACILITIES (I.E., HOSPITAL, SCHOOLS, MEDICAL FACILITIES, DAY CARE CENTERS, ETC.) 72 HOURS IN ADVANCE OF SERVICE INTERRUPTION.
9. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING WATER SYSTEM. CONTRACTOR SHALL CONTACT THE CITY OF ROCKY MOUNT TO CONDUCT STRATEGIC OPERATION OF WATER VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC TIE-IN OPERATIONS.

WATER MAIN NOTES:

1. ALL WATER MAIN & FITTINGS SHALL BE PVC AWWA C900 DR18, CLASS 150 (4-INCHES THROUGH 12-INCHES IN DIAMETER), PVC AWWA C905 DR25, CLASS 150(14-INCHES THROUGH 48-INCHES IN DIAMETER), OR DUCTILE IRON PIPE (CLASS 350).
2. ANY BENDS OF WATER PIPE NOT SPECIFICALLY CALLED OUT WITH A 90, 45, 22.5, OR 11.25 DEGREE BEND FITTING, SHALL BE CONSTRUCTED BY DEFLECTION OF PIPE JOINTS IN ACCORDANCE WITH THE PIPE MANUFACTURER'S SPECIFICATIONS - OR A COMBINATION OF BEND FITTINGS AND DEFLECTION OF PIPE JOINTS.
3. ALL FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, ETC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION AND /OR CAST IN PLACE CONCRETE THRUST RESTRAINTS AS DETAILED ON THESE DRAWINGS, OR AS DIRECTED BY THE RESIDENT ENGINEER.
4. CONTRACTOR SHALL TIE-IN PROPOSED DUCTILE IRON PIPE TO EXISTING CAST IRON PIPE USING A MECHANICAL JOINT CONNECTION WITH A RESTRAINED RETAINER GLAND.
6. ALL WATER SERVICES, 2-INCHES IN DIAMETER AND SMALLER, SHALL BE INSTALLED UNDER ACTIVE ROADS BY TRENCHLESS METHOD, AS DIRECTED BY THE NCDOT RESIDENT ENGINEER.
7. ALL EXISTING WATER METERS TO REMAIN SHALL BE "RECONNECTED" TO THE PROPOSED WATER MAIN WITH NEW WATER SERVICE LINES.
8. ALL EXISTING WATER METERS TO BE RELOCATED SHALL BE DIRECTLY CONNECTED TO THE EXISTING OR PROPOSED WATER MAIN WITH NEW SERVICE LINES. ANY EXTENSIONS OR MODIFICATIONS TO EXISTING SERVICE LINES ON THE CUSTOMER SIDE OF THE METER SHALL BE MADE WITH LIKE MATERIAL.
9. ALL NEW WATER SERVICE LINES SHALL BE CONSIDERED INCIDENTAL TO THE: CONSTRUCTION OF NEW WATER METERS; RELOCATION OF EXISTING WATER METERS; AND RECONNECTION OF EXISTING WATER METERS.
10. ALL WATER METERS SHALL BE LOCATED AT THE RIGHT-OF-WAY LINE.
11. CONTRACTOR SHALL CONNECT THE OUTLET SIDE OF RELOCATED WATER METER TO THE EXISTING CUSTOMER SERVICE LINE OUTSIDE OF THE RIGHT-OF-WAY LINE.
12. CONTRACTOR SHALL RETURN ALL REMOVED FIRE HYDRANTS AND WATER METERS TO THE CITY OF ROCKY MOUNT. CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER PARTS, PIPING, AND METER BOXES.
13. EXISTING WATER SERVICE LINES BETWEEN THE EXISTING WATER MAIN AND THE REMOVED WATER METER SHALL BE ABANDONED IN PLACE OR REMOVED AS NEEDED, AS PER NCDOT SPECIFICATIONS.
14. ALL HYDRANTS, RELOCATED OR PROPOSED, SHALL BE LOCATED 2 FEET BEHIND SIDEWALK OR AS NOTED PER THE INSTALLATION DETAIL.
15. HYDRANTS, LABELED HEREIN, TO BE REMOVED SHALL BE RETURNED TO THE CITY OF ROCKY MOUNT. THESE HYDRANTS SHALL NOT BE USED AS NEW HYDRANTS IN THE PROPOSED CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE CITY OF ROCKY MOUNT REPRESENTATIVE.
16. WHERE SHOWN ON THE PLANS, A PUBLIC UTILITY EASEMENT (PUE) SHALL EXTEND 10 FEET FROM THE CENTER OF THE PROPOSED LINE, AS NEEDED BEYOND THE RIGHT-OF-WAY LINE, TO ALLOW FOR CONSTRUCTION AND MAINTENANCE OF THE WATER LINE.

GRAVITY SANITARY SEWER MAIN NOTES:

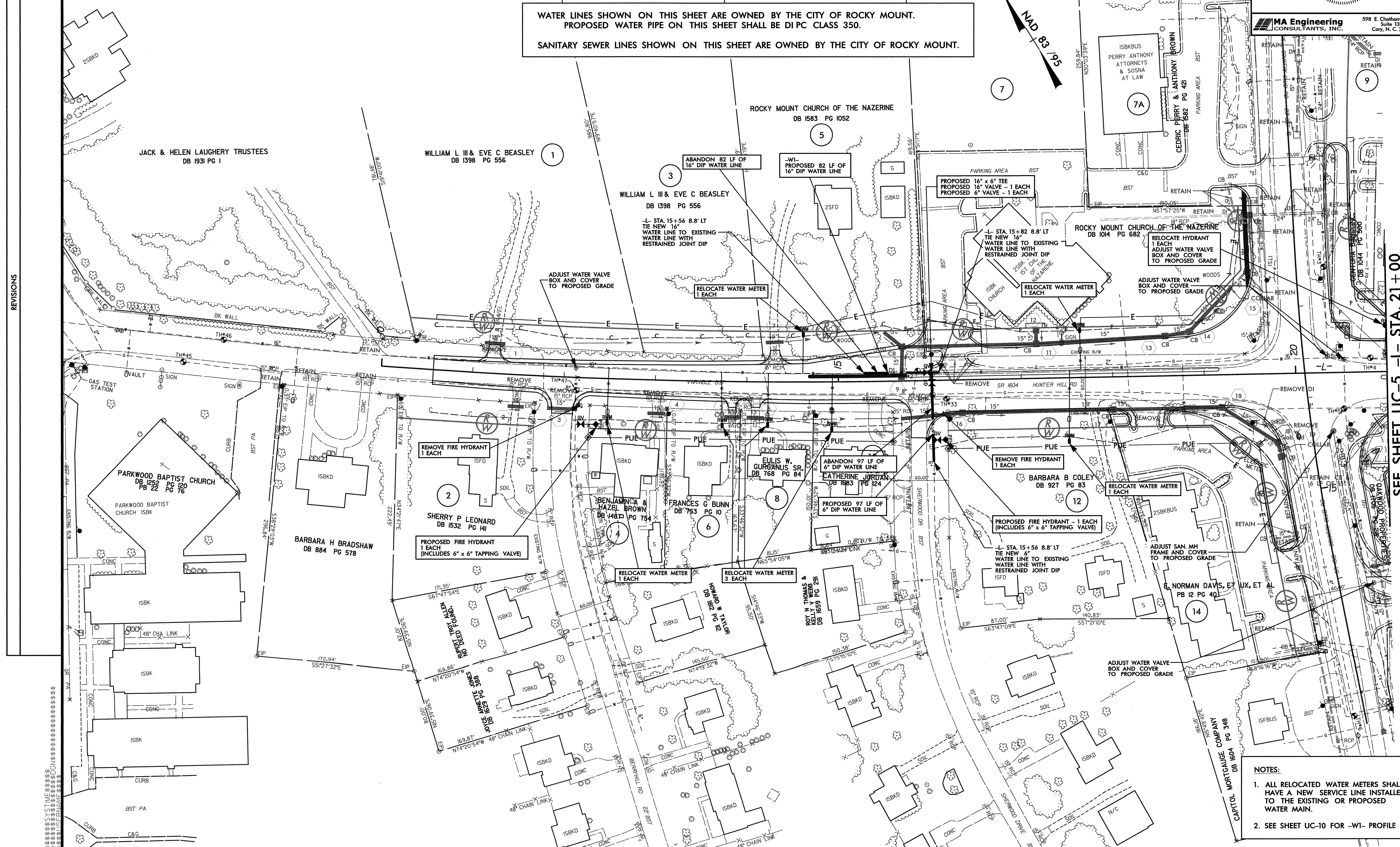
1. ALL PROPOSED GRAVITY SEWER MAIN SHALL BE PVC AWWA SDR 2635, EXCEPT WHEN:
 - (1) 18-INCHES MINIMUM CLEARANCE CAN NOT BE MAINTAINED WITH WATER MAIN.
 - (2) WATER CROSSES UNDER SANITARY SEWER.
 - (3) LESS THAN 3 FEET OF COVER TO TOP OF SANITARY SEWER PIPE IS MAINTAINED.
 IN THE ABOVE CASES, THE SEWER MAIN SHALL BE D.I.P. (CLASS 350) WITH CEMENT MORTAR FROM MANHOLE TO MANHOLE.
2. ALL GRAVITY SEWER MAIN SHALL BE CONSTRUCTED IN A STRAIGHT LINE BETWEEN MANHOLES.
3. ALL PROPOSED SANITARY MANHOLES SHALL BE PRECAST CONCRETE MANHOLES WITH PRECAST INVERTS. MANHOLES SHALL HAVE AN INSIDE DIAMETER OF 4 FEET FOR PIPE CONNECTIONS UP TO AND INCLUDING 10-INCHES IN DIAMETER.
4. WHERE A NEW MANHOLE IS TO BE INSTALLED AND CONNECTED TO AN EXISTING SEWER MAIN, THE NEW MANHOLE SHALL BE INSTALLED WITH A 20 FOOT LENGTH OF PIPE AND TIE-IN TO THE EXISTING PIPE. IF PIPE MATERIALS ARE DIFFERENT, THE CONNECTION SHALL BE MADE USING A FLEXIBLE COUPLING.
5. CONTRACTOR SHALL EMPLOY A PUMP AND HAUL METHOD TO BYPASS SECTIONS OF GRAVITY SEWER MAIN UNDER CONSTRUCTION. CONTRACTOR SHALL PUMP WASTE FROM A MANHOLE, UPSTREAM OF THE CONSTRUCTION, INTO A TANKER AND REINTRODUCE THE WASTE BACK INTO THE SAME SYSTEM AT A MANHOLE DOWNSTREAM OF THE CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL ASPECTS OF THIS OPERATION WITH THE CITY OF ROCKY MOUNT PRIOR TO BEGINNING ANY SAID WORK. ALL TRANSPORTING OF WASTEWATER SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF NCDOT, THE LOCAL MUNICIPALITY, AND OTHER AGENCIES WITH JURISDICTION.
6. WHERE SHOWN ON THE PLANS, A PUBLIC UTILITY EASEMENT (PUE) SHALL EXTEND 10 FEET FROM THE CENTER OF THE PROPOSED LINE, AS NEEDED BEYOND THE RIGHT-OF-WAY LINE, TO ALLOW FOR CONSTRUCTION AND MAINTENANCE OF THE SANITARY SEWER LINE.

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3621B	UC-4
UTILITY DESIGN ENGINEER	
MA Engineering CONSULTANTS, INC. 598 E. Chatham Street, Suite 137 Cary, N. C. 27511	

WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
 PROPOSED WATER PIPE ON THIS SHEET SHALL BE DI PC CLASS 350.
 SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.



REVISIONS

SEE SHEET UC-5 -L- STA. 21+00

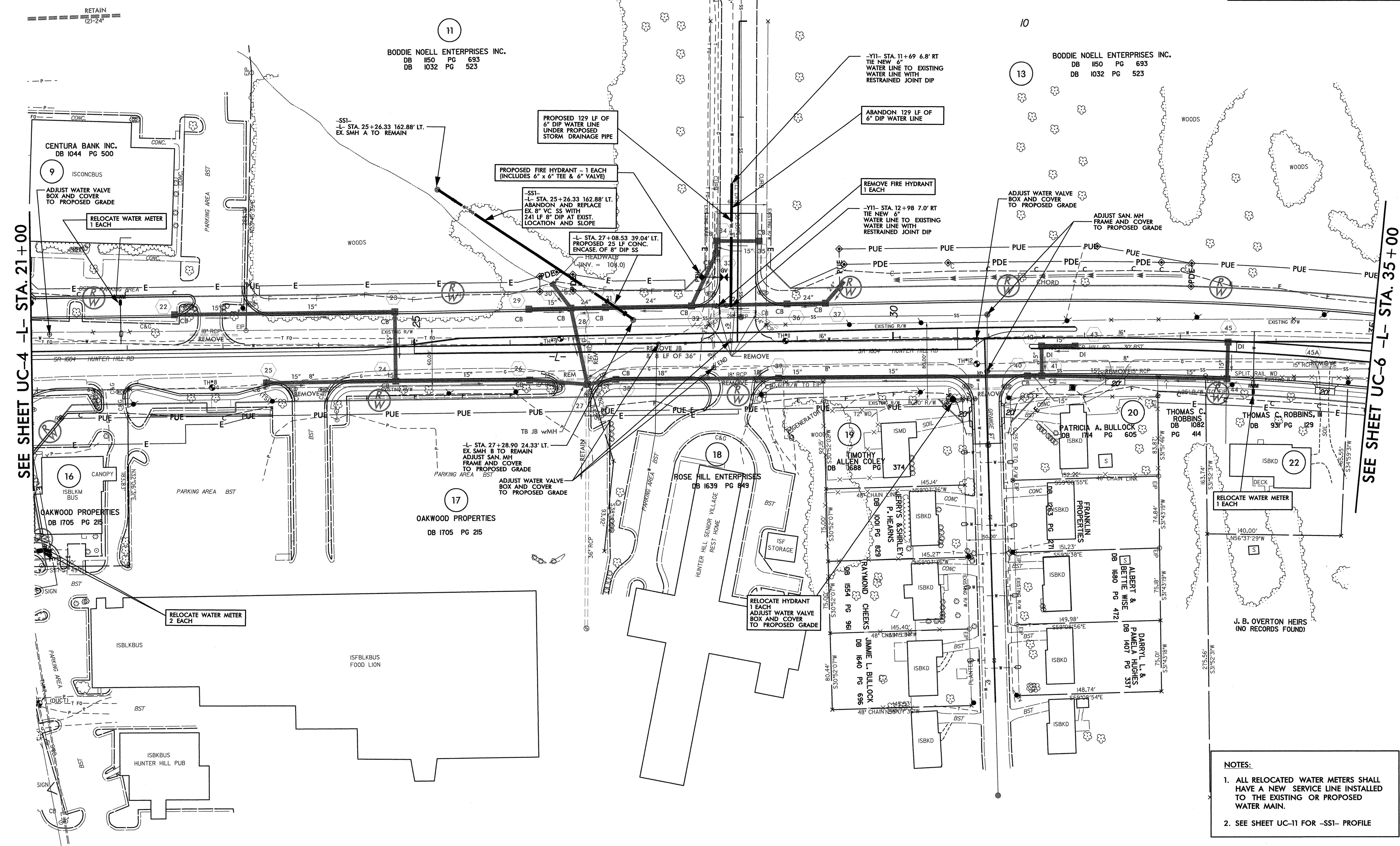
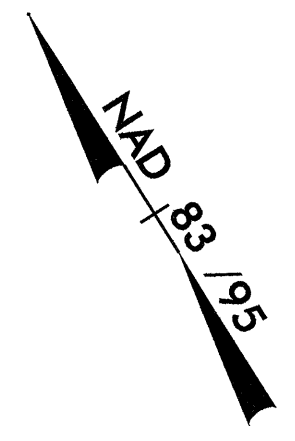
- NOTES:**
1. ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
 2. SEE SHEET UC-10 FOR -W1- PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3621B	UC-5
UTILITY DESIGN ENGINEER	
598 E. Chatham Street, Suite 137 Cary, N. C. 27511	

WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
PROPOSED WATER PIPE ON THIS SHEET SHALL BE DIP CLASS 350.

SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
PROPOSED SANITARY SEWER PIPE ON THIS SHEET SHALL BE DIP PC CLASS 50.



REVISIONS

NOTES:

- ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
- SEE SHEET UC-11 FOR -SS1- PROFILE



WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT. PROPOSED WATER PIPE ON THIS SHEET SHALL BE DI PC CLASS 350.
SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT. PROPOSED SANITARY SEWER PIPE ON THIS SHEET SHALL BE DIP PC CLASS 50.

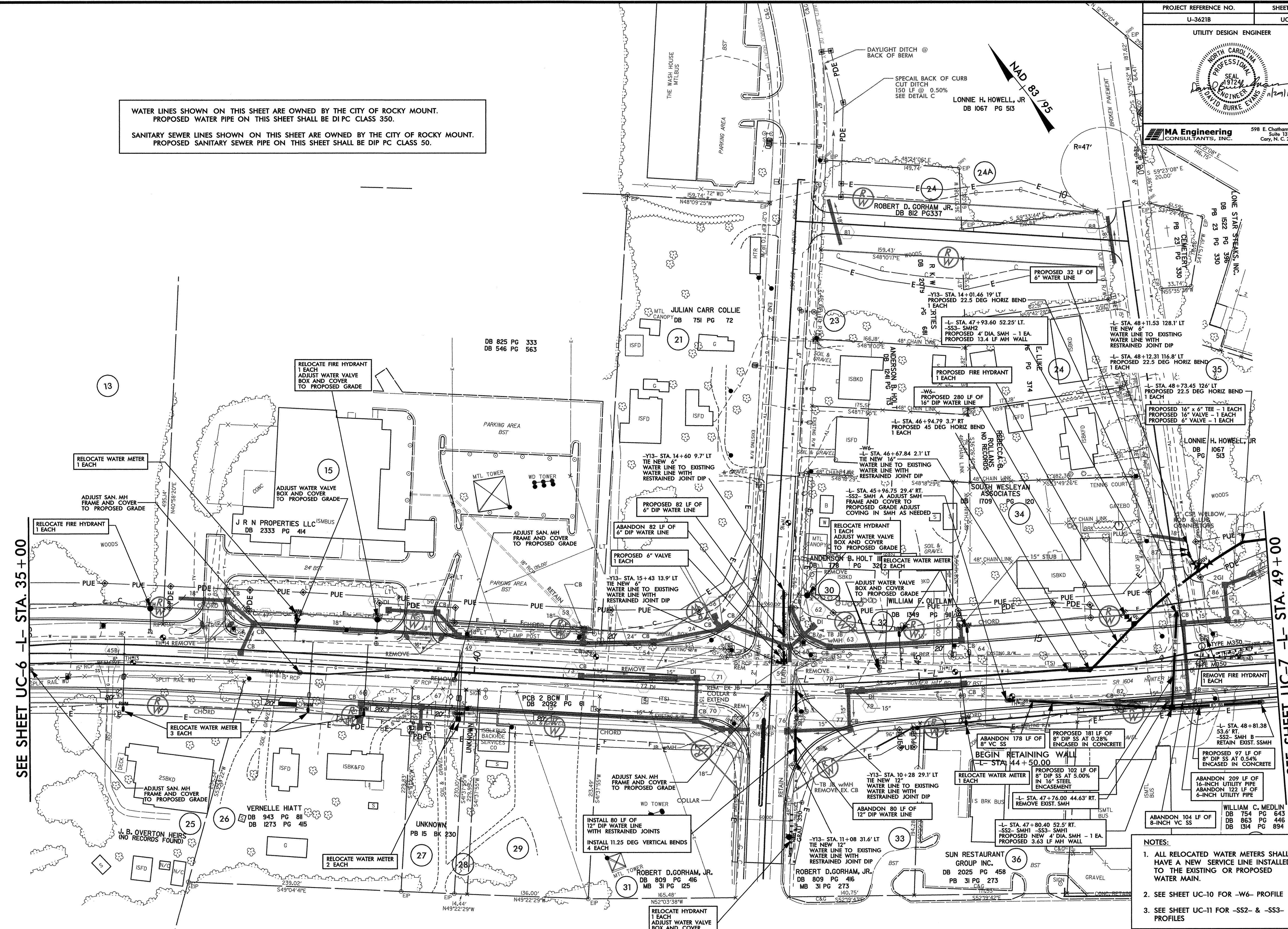
Lonnie H. Howell, Jr.
DB 1067 PG 513

8/17/99

REVISIONS

SEE SHEET UC-6 -L- STA. 35+00

SEE SHEET UC-7 -L- STA. 49+00



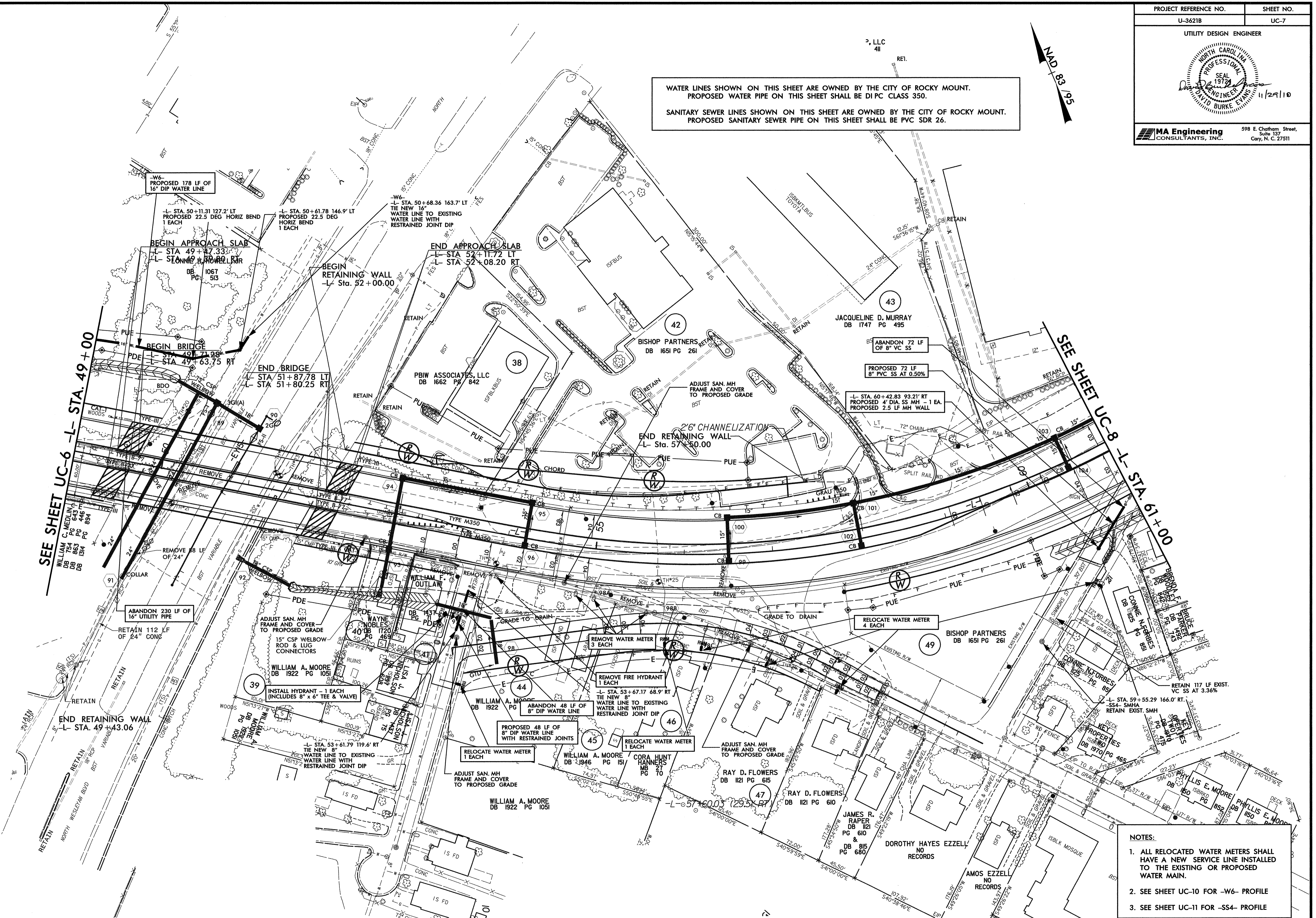
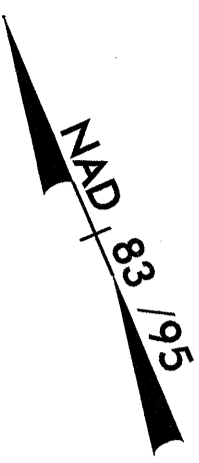
- NOTES:
1. ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
 2. SEE SHEET UC-10 FOR -W6- PROFILE
 3. SEE SHEET UC-11 FOR -SS2- & -SS3- PROFILES

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3621B	UC-7
UTILITY DESIGN ENGINEER	
598 E. Clatham Street, Suite 137, Cary, N. C. 27511	

WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
 PROPOSED WATER PIPE ON THIS SHEET SHALL BE DI PC CLASS 350.

SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
 PROPOSED SANITARY SEWER PIPE ON THIS SHEET SHALL BE PVC SDR 26.



SEE SHEET UC-6 -L- STA. 49+00

SEE SHEET UC-8 -L- STA. 61+00

REVISIONS

- NOTES:
1. ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
 2. SEE SHEET UC-10 FOR -W6- PROFILE
 3. SEE SHEET UC-11 FOR -SS4- PROFILE

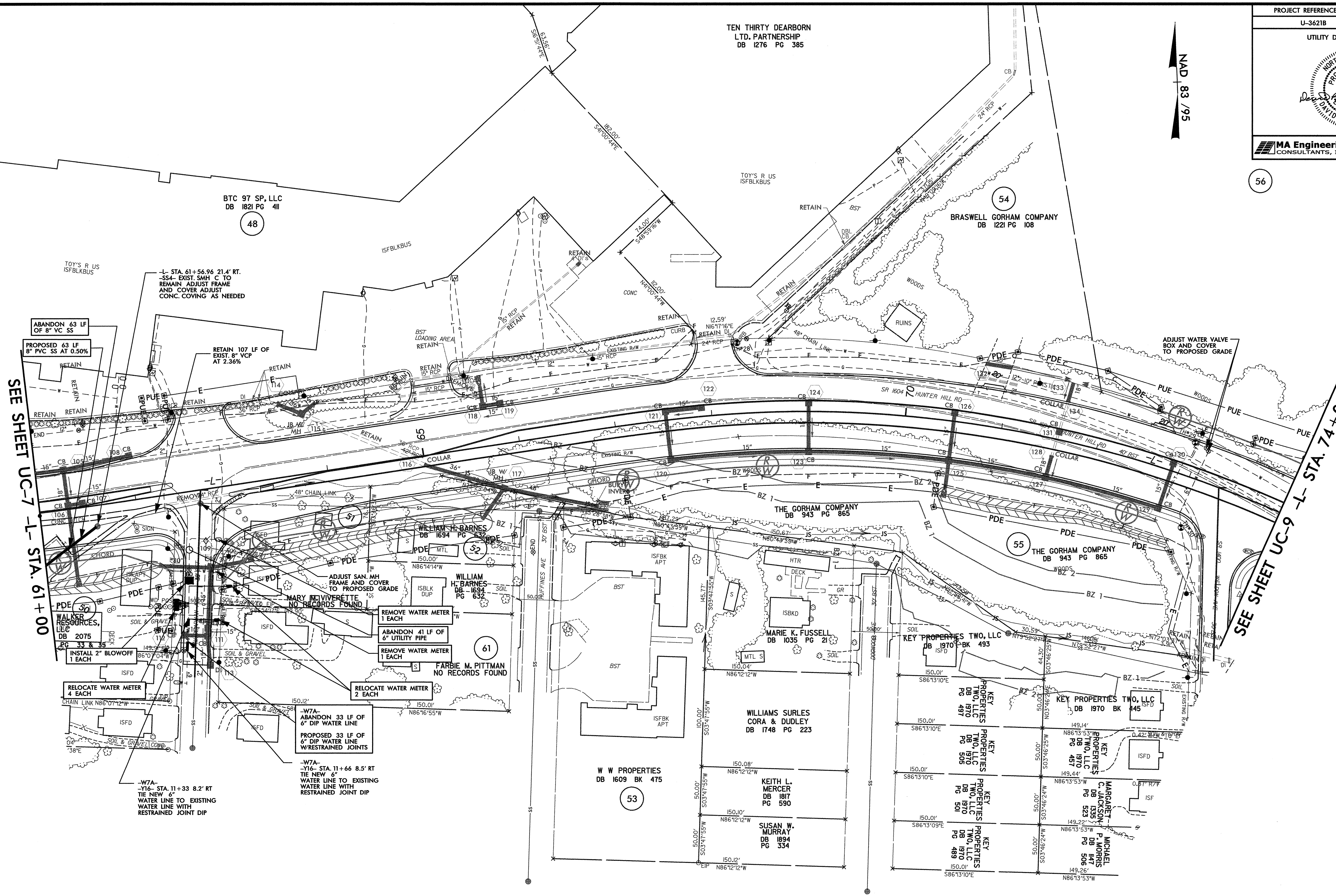
8/17/99

TEN THIRTY DEARBORN
LTD. PARTNERSHIP
DB 1276 PG 385

PROJECT REFERENCE NO. U-3621B	SHEET NO. UC-8
UTILITY DESIGN ENGINEER	
598 E. Clatham Street, Suite 137 Cary, N. C. 27511	

56

NAD 83 /95



SEE SHEET UC-7 -L- STA. 61+00

SEE SHEET UC-9 -L- STA. 74+00

WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
PROPOSED WATER PIPE ON THIS SHEET SHALL BE DI PC CLASS 350.

SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT.
PROPOSED SANITARY SEWER PIPE ON THIS SHEET SHALL BE PVC SDR 26.

- NOTES:
1. ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
 2. SEE SHEET UC-11 FOR -SS4- PROFILE

REVISIONS

1. 11/17/99
 2. 11/17/99
 3. 11/17/99
 4. 11/17/99
 5. 11/17/99
 6. 11/17/99
 7. 11/17/99
 8. 11/17/99
 9. 11/17/99
 10. 11/17/99
 11. 11/17/99
 12. 11/17/99
 13. 11/17/99
 14. 11/17/99
 15. 11/17/99
 16. 11/17/99
 17. 11/17/99
 18. 11/17/99
 19. 11/17/99
 20. 11/17/99
 21. 11/17/99
 22. 11/17/99
 23. 11/17/99
 24. 11/17/99
 25. 11/17/99
 26. 11/17/99
 27. 11/17/99
 28. 11/17/99
 29. 11/17/99
 30. 11/17/99
 31. 11/17/99
 32. 11/17/99
 33. 11/17/99
 34. 11/17/99
 35. 11/17/99
 36. 11/17/99
 37. 11/17/99
 38. 11/17/99
 39. 11/17/99
 40. 11/17/99
 41. 11/17/99
 42. 11/17/99
 43. 11/17/99
 44. 11/17/99
 45. 11/17/99
 46. 11/17/99
 47. 11/17/99
 48. 11/17/99
 49. 11/17/99
 50. 11/17/99
 51. 11/17/99
 52. 11/17/99
 53. 11/17/99
 54. 11/17/99
 55. 11/17/99
 56. 11/17/99
 57. 11/17/99
 58. 11/17/99
 59. 11/17/99
 60. 11/17/99
 61. 11/17/99
 62. 11/17/99
 63. 11/17/99
 64. 11/17/99
 65. 11/17/99
 66. 11/17/99
 67. 11/17/99
 68. 11/17/99
 69. 11/17/99
 70. 11/17/99
 71. 11/17/99
 72. 11/17/99
 73. 11/17/99
 74. 11/17/99
 75. 11/17/99
 76. 11/17/99
 77. 11/17/99
 78. 11/17/99
 79. 11/17/99
 80. 11/17/99
 81. 11/17/99
 82. 11/17/99
 83. 11/17/99
 84. 11/17/99
 85. 11/17/99
 86. 11/17/99
 87. 11/17/99
 88. 11/17/99
 89. 11/17/99
 90. 11/17/99
 91. 11/17/99
 92. 11/17/99
 93. 11/17/99
 94. 11/17/99
 95. 11/17/99
 96. 11/17/99
 97. 11/17/99
 98. 11/17/99
 99. 11/17/99
 100. 11/17/99

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3621B	UC-9
UTILITY DESIGN ENGINEER	
598 E. Chatham Street, Suite 137, Cary, N.C. 27511	

C. B. DAUGHRIDGE JR., ET AL
DB 1316 PG 559

PROPOSED 162 LF OF 12" DIP WATER LINE WITH RESTRAINED JOINTS

-L- STA. 75+24.11 18.4' LT PROPOSED 22.5 DEG HORIZ BEND 1 EACH

-L- STA. 75+07.21 12.7' LT PROPOSED 22.5 DEG HORIZ BEND 1 EACH

-L- STA. 74+72.61 14.4' LT TIE NEW 12" WATER LINE TO EXISTING WATER LINE WITH RESTRAINED JOINT DIP

RELOCATE HYDRANT 1 EACH ADJUST WATER VALVE BOX AND COVER TO PROPOSED GRADE

-L- STA. 75+79.61 14.7' LT PROPOSED 22.5 DEG HORIZ BEND 1 EACH

-L- STA. 75+95.57 6.5' LT PROPOSED 22.5 DEG HORIZ BEND 1 EACH

-L- STA. 76+30.46 3.8' LT TIE NEW 12" WATER LINE TO EXISTING WATER LINE WITH RESTRAINED JOINT DIP

-L- STA. 77+33.94 19.0' LT -SS5- SMH B RETAIN EXIST. SMH ADJUST FRAME AND COVER TO NEW GRADE

ADJUST HYDRANT, WATER VALVE BOX AND COVER TO PROPOSED GRADE

58 UNITED ENTERTAINMENT DB 1694 PG 1043

-L- STA. 81+46.02 15.2' LT TIE NEW 12" WATER LINE TO EXISTING WATER LINE

-L- STA. 82+48.25 47.0' LT -SS6- SMH 1 PROPOSED 4" DIA. SMH - EACH PROPOSED 2.4 LF MH WALL W/WATERPROOF COVER

PROPOSED 213 LF OF 12" DIP WATER LINE WITH RESTRAINED JOINTS

RELOCATE HYDRANT 1 EACH ADJUST WATER VALVE BOX AND COVER TO PROPOSED GRADE

INSTALL 72 LF OF 8" PVC SS AT 0.75%

RETAIN EXIST. 8" DIP SS

-L- STA. 83+22.13 62.5' LT PROPOSED 45 DEG HORIZ BEND 1 EACH

-L- STA. 82+72.00 28.4' LT PROPOSED 22.5 DEG HORIZ BEND 1 EACH

SEE SHEET UC-8 -L- STA. 74+00

ABANDON 159 LF OF 12" DIP WATER LINE

THE GORHAM COMPANY DB 943 PG 865

JOSEPH LANE JOHNSON DB 1918 PG 948 PB 208 PG 44

JOSEPH LANE JOHNSON DB 1918 PG 928 PB 208 PG 44

-L- STA. 76+66.52 17.5' LT. RETAIN EXIST. SMH. ADJUST FRAME AND COVER TO PROPOSED GRADE

C. B. DAUGHRIDGE JR., ET AL DB 1296 PG 455

ABANDON 154 LF OF 8" DIP SS

-L- STA. 81+26.57 20.1' LT. REMOVE EXIST. SMH

ABANDON 196 LF OF 8" DIP SS

ABANDON 251 LF OF 30" DIP WATER LINE

-W10- EY22- STA. 16+00.00 75.0' LT TIE NEW 30" WATER LINE TO EXISTING WATER LINE WITH RESTRAINED JOINT DIP

-EY22- STA. 16+09.95 74.0' LT PROPOSED 11.25 DEG HORIZ BEND 1 EACH

-EY22- STA. 16+58.03 78.8' LT PROPOSED 11.25 DEG HORIZ BEND 1 EACH

-EY22- STA. 17+92.31 65.6' LT PROPOSED 11.25 DEG HORIZ BEND 1 EACH

-EY22- STA. 17+92.31 65.6' LT PROPOSED 11.25 DEG HORIZ BEND 1 EACH

-W10- PROPOSED 253 LF OF 30" DIP WATER LINE

-W10- EY22- STA. 18+50.00 49.6' LT TIE NEW 30" WATER LINE TO EXISTING WATER LINE WITH RESTRAINED JOINT DIP

WATER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT. PROPOSED WATER PIPE ON THIS SHEET SHALL BE DI PC CLASS 350.

SANITARY SEWER LINES SHOWN ON THIS SHEET ARE OWNED BY THE CITY OF ROCKY MOUNT. PROPOSED SANITARY SEWER PIPE ON THIS SHEET SHALL BE PVC SDR 35.

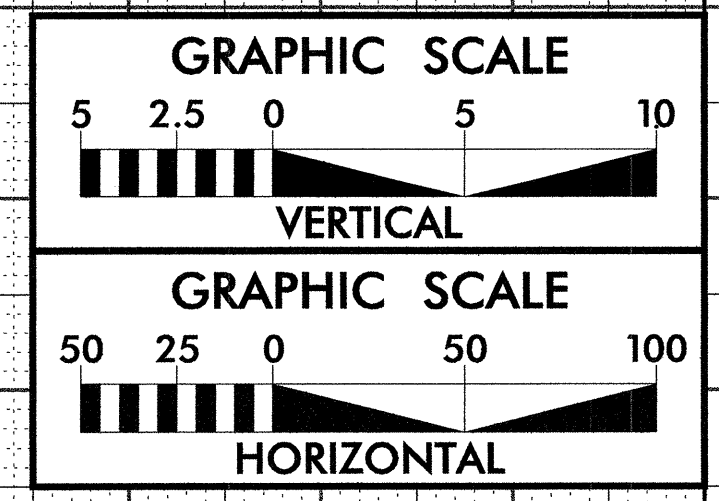
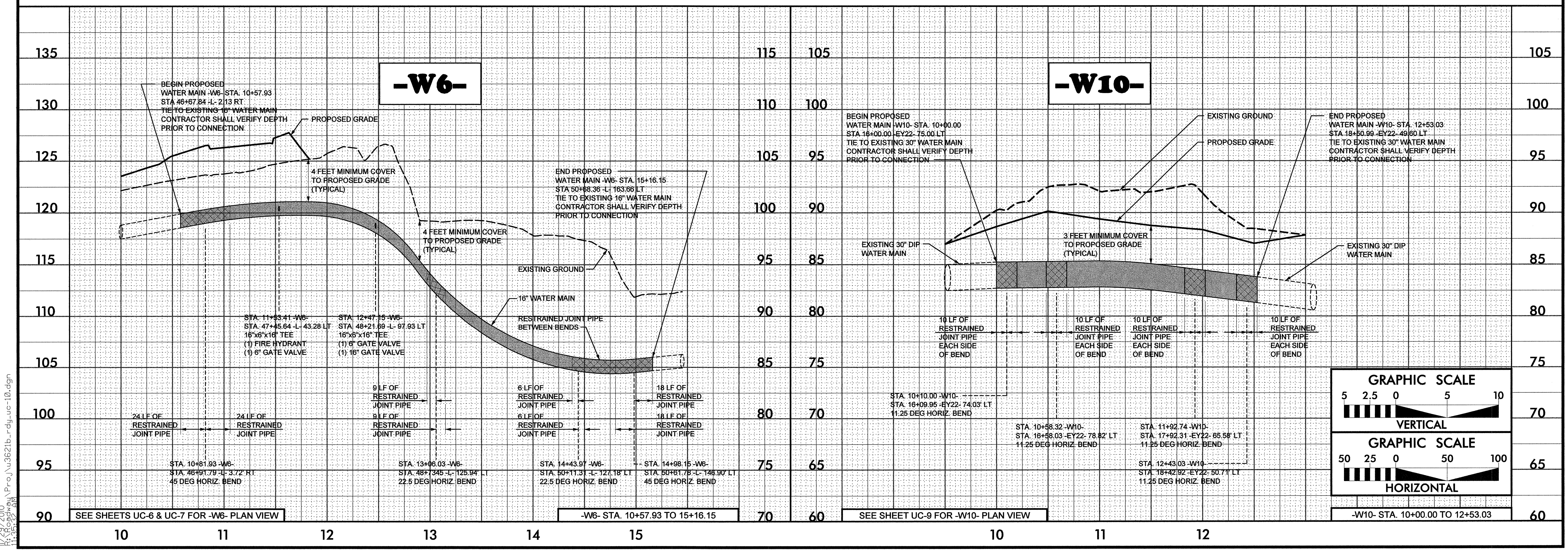
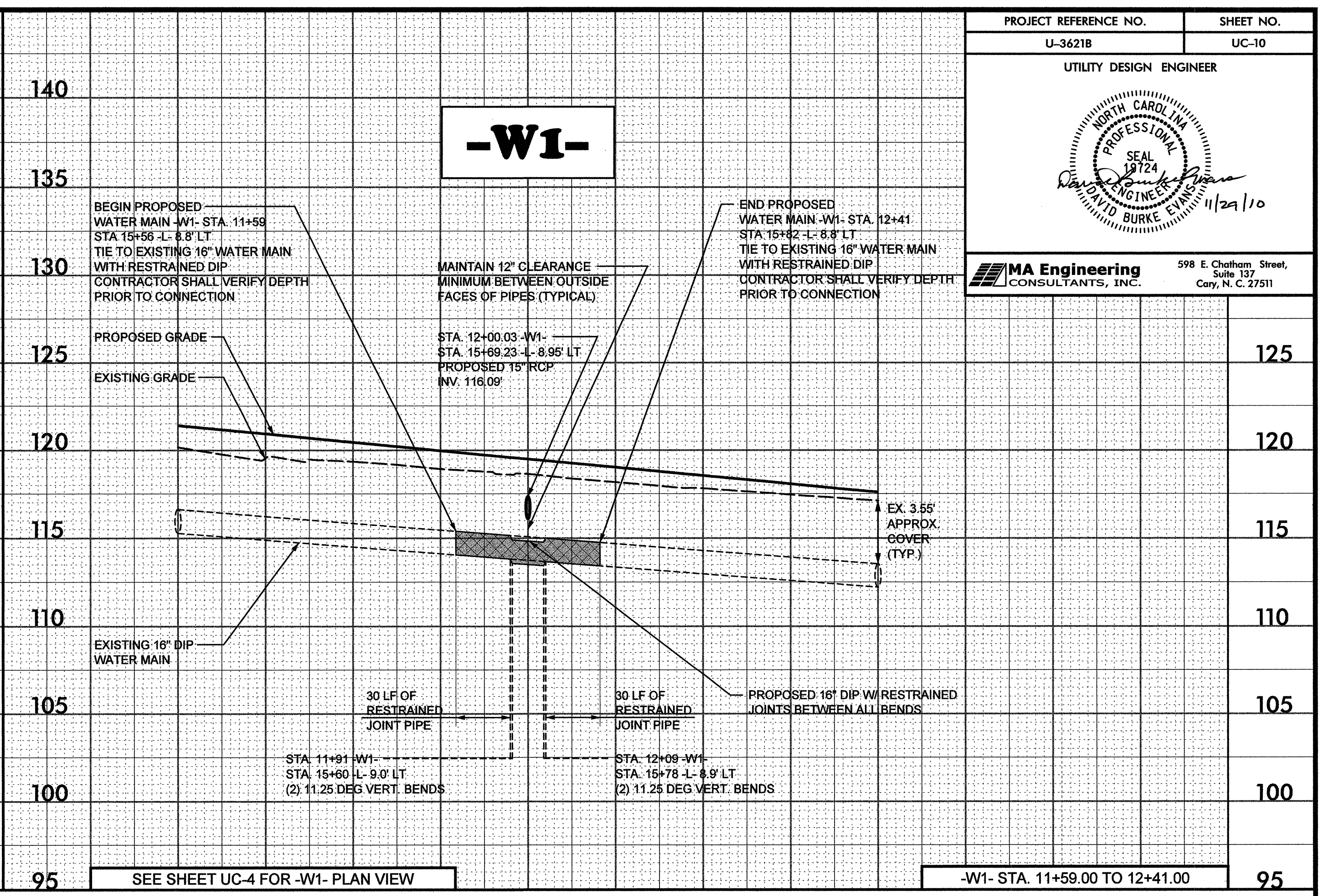
- NOTES:
- ALL RELOCATED WATER METERS SHALL HAVE A NEW SERVICE LINE INSTALLED TO THE EXISTING OR PROPOSED WATER MAIN.
 - SEE SHEET UC-10 FOR -W10- PROFILE
 - SEE SHEET UC-12 FOR -SS5- & -SS6- PROFILES

REVISIONS

8/17/99

5/28/99

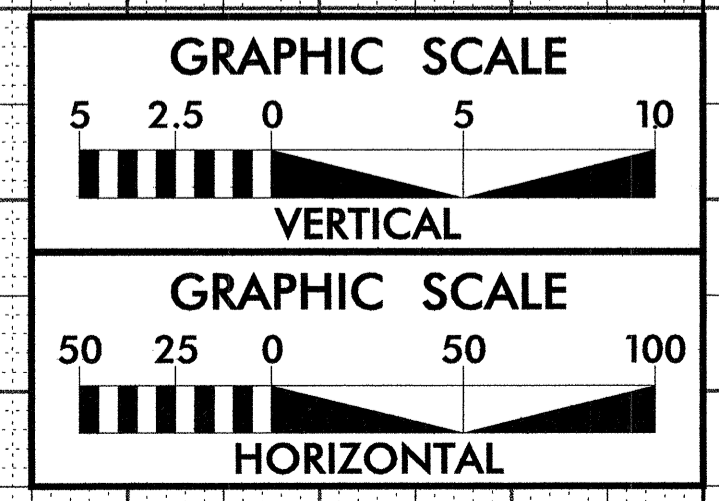
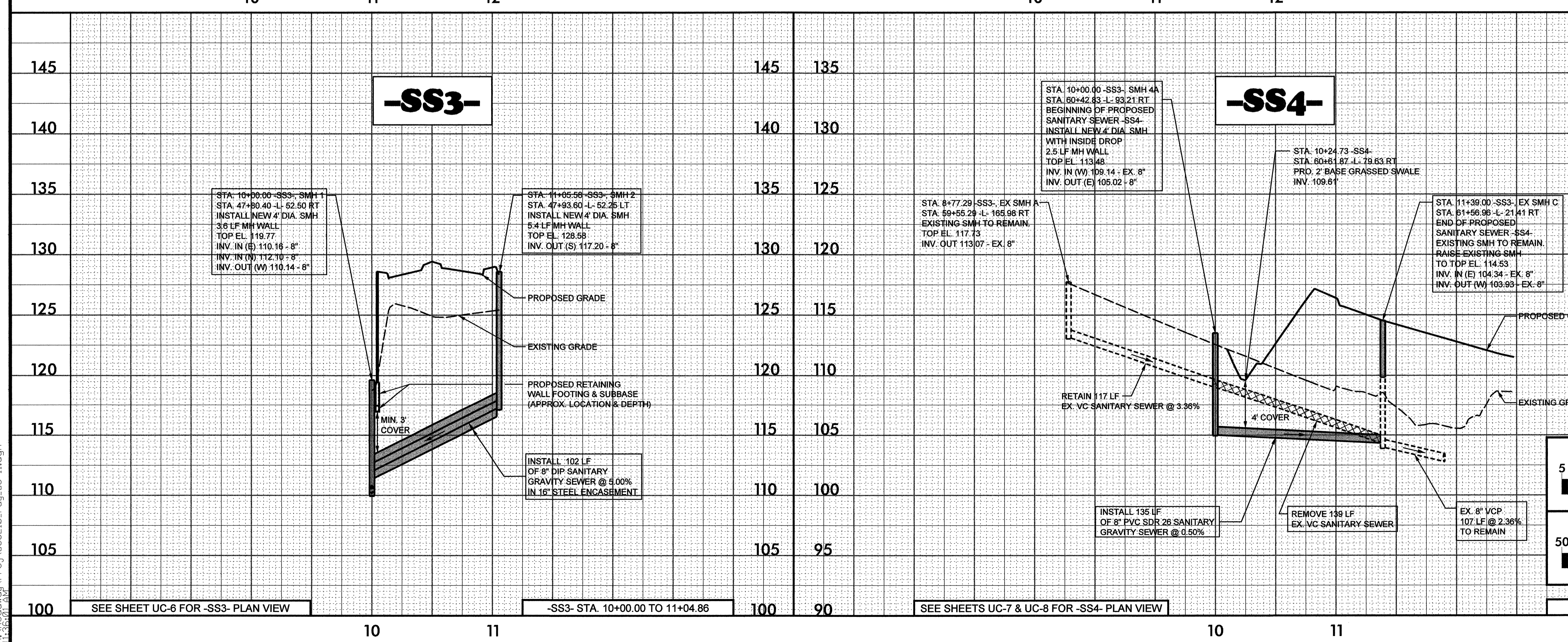
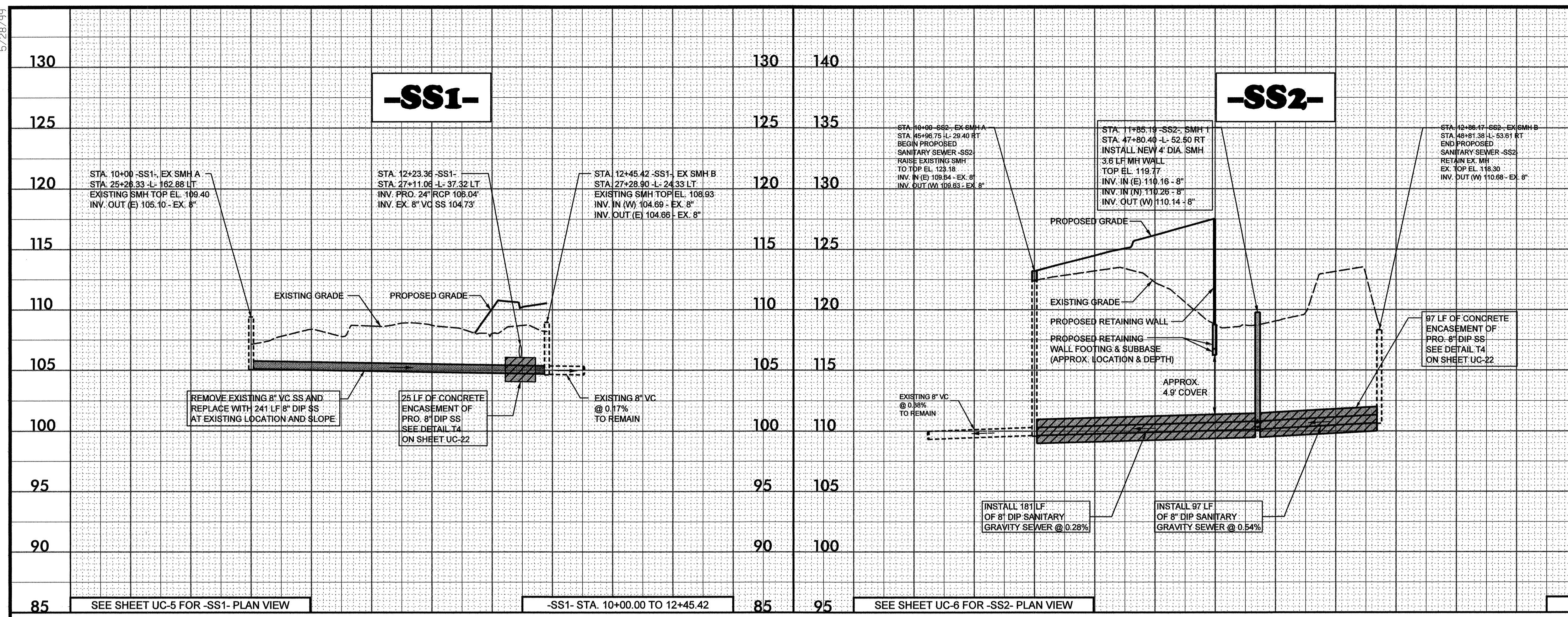
PROJECT REFERENCE NO. U-3621B	SHEET NO. UC-10
UTILITY DESIGN ENGINEER	
MA Engineering CONSULTANTS, INC. <p>598 E. Chatham Street, Suite 137 Cary, N. C. 27511</p>	



11/29/2010
P:\Roschewy\Projects\3621b_rdu_uc-10.dgn

5/28/99

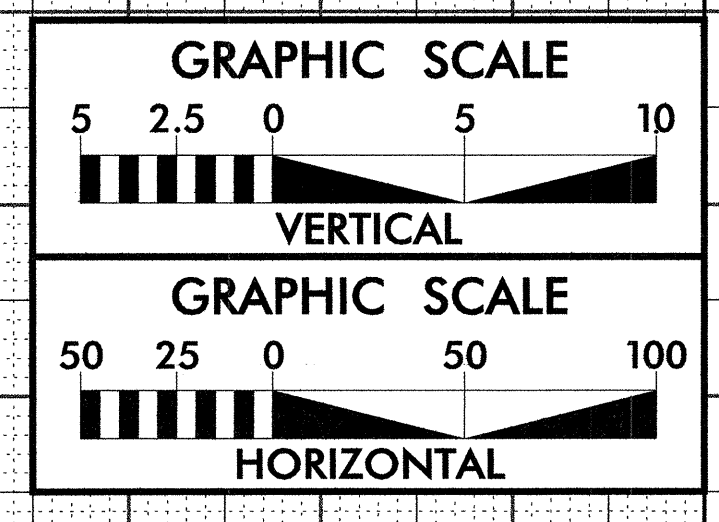
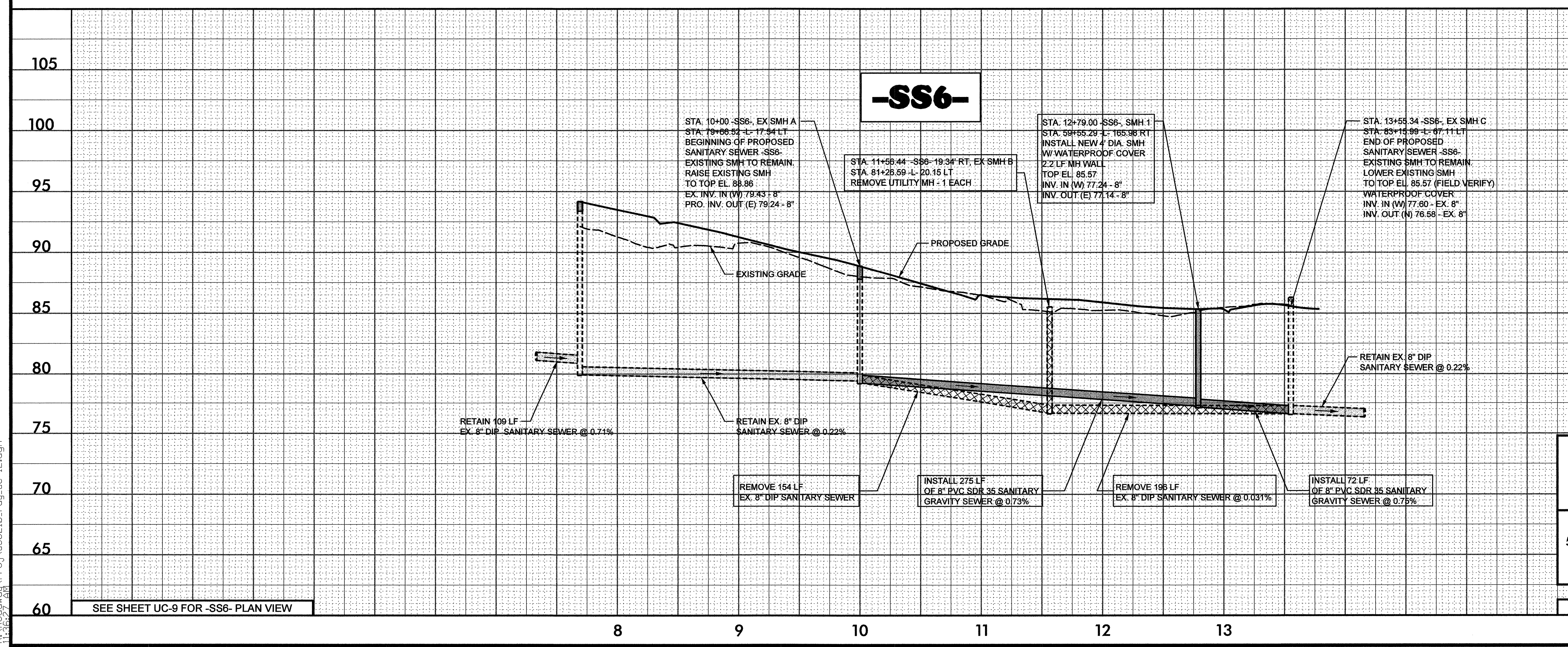
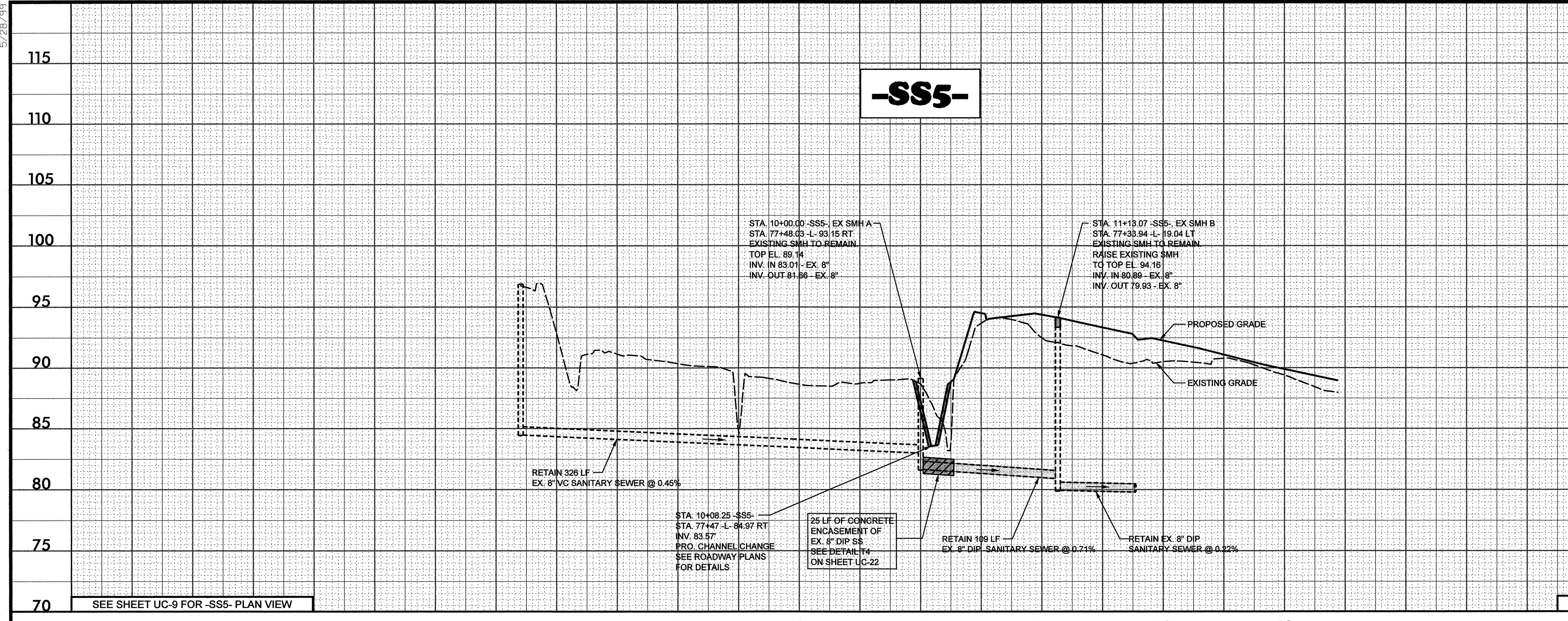
PROJECT REFERENCE NO. U-3621B	SHEET NO. UC-11
UTILITY DESIGN ENGINEER	
MA Engineering CONSULTANTS, INC. 598 E. Chatham Street, Suite 137 Cary, N. C. 27511	



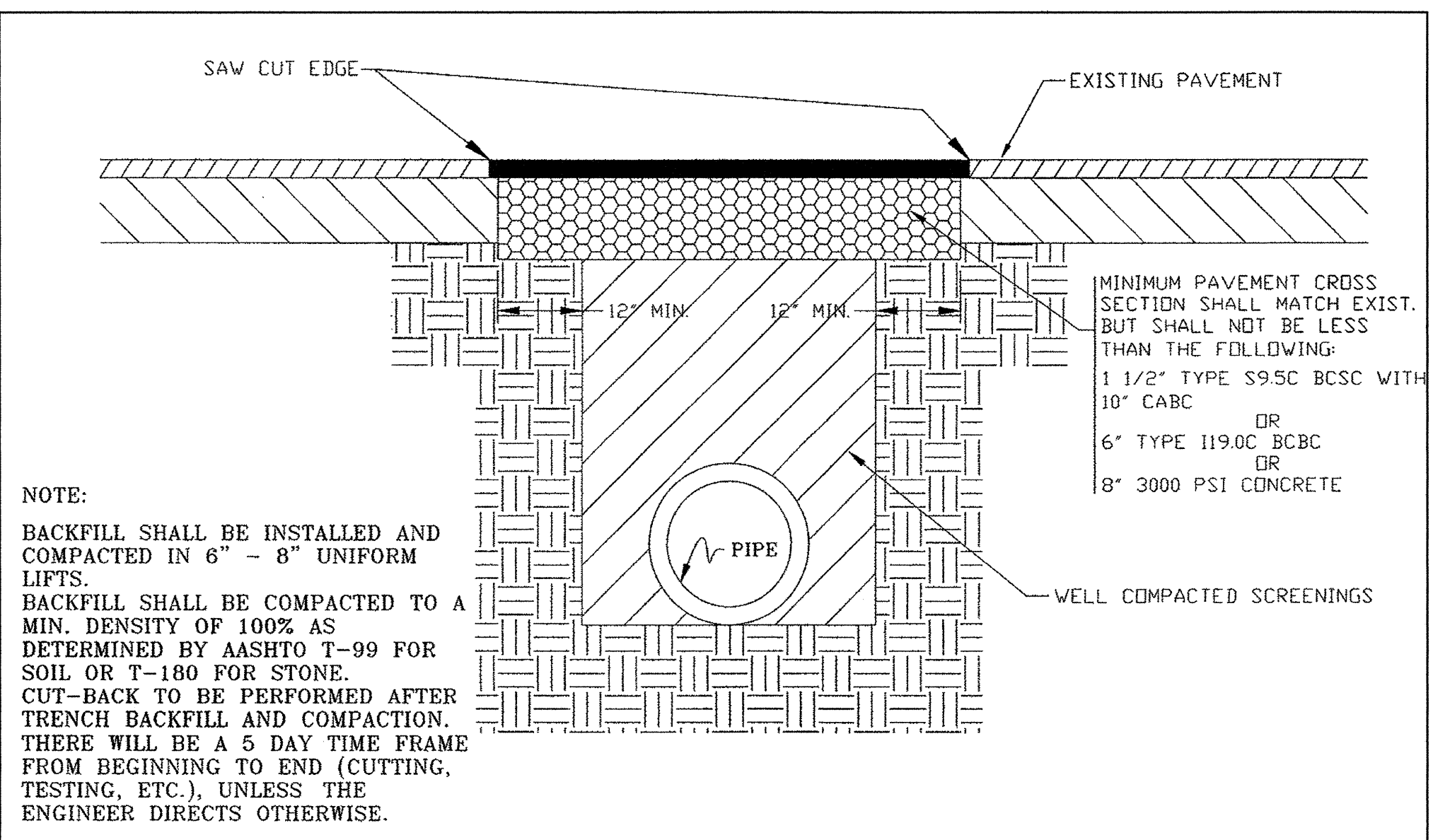
11/29/2010
R:\Projects\U3621b_r.dwg uc-11.dgn

5/28/99

PROJECT REFERENCE NO. U-3621B	SHEET NO. UC-12
UTILITY DESIGN ENGINEER	
MA Engineering CONSULTANTS, INC. <p>598 E. Chatham Street, Suite 137 Cary, N. C. 27511</p>	



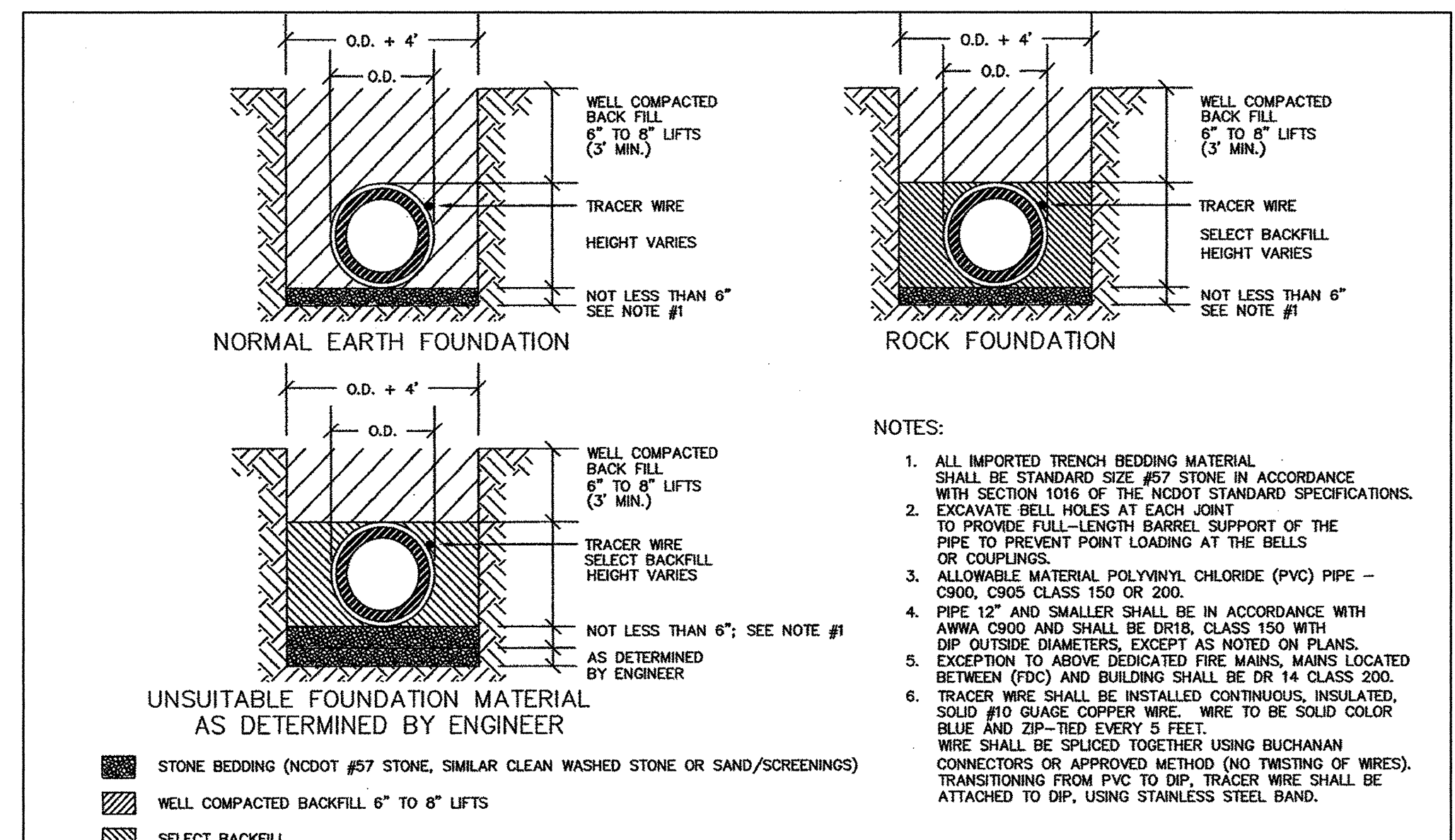
11/29/2010
R:\Roadway\Proj\U3621b_rdy_uc-12.dgn
11:45:27 AM



NOTE:
 BACKFILL SHALL BE INSTALLED AND COMPACTED IN 6" - 8" UNIFORM LIFTS.
 BACKFILL SHALL BE COMPACTED TO A MIN. DENSITY OF 100% AS DETERMINED BY AASHTO T-99 FOR SOIL OR T-180 FOR STONE.
 CUT-BACK TO BE PERFORMED AFTER TRENCH BACKFILL AND COMPACTION. THERE WILL BE A 5 DAY TIME FRAME FROM BEGINNING TO END (CUTTING, TESTING, ETC.), UNLESS THE ENGINEER DIRECTS OTHERWISE.

DETAIL OF PAVEMENT PATCHING FOR UTILITY INSTALLATIONS

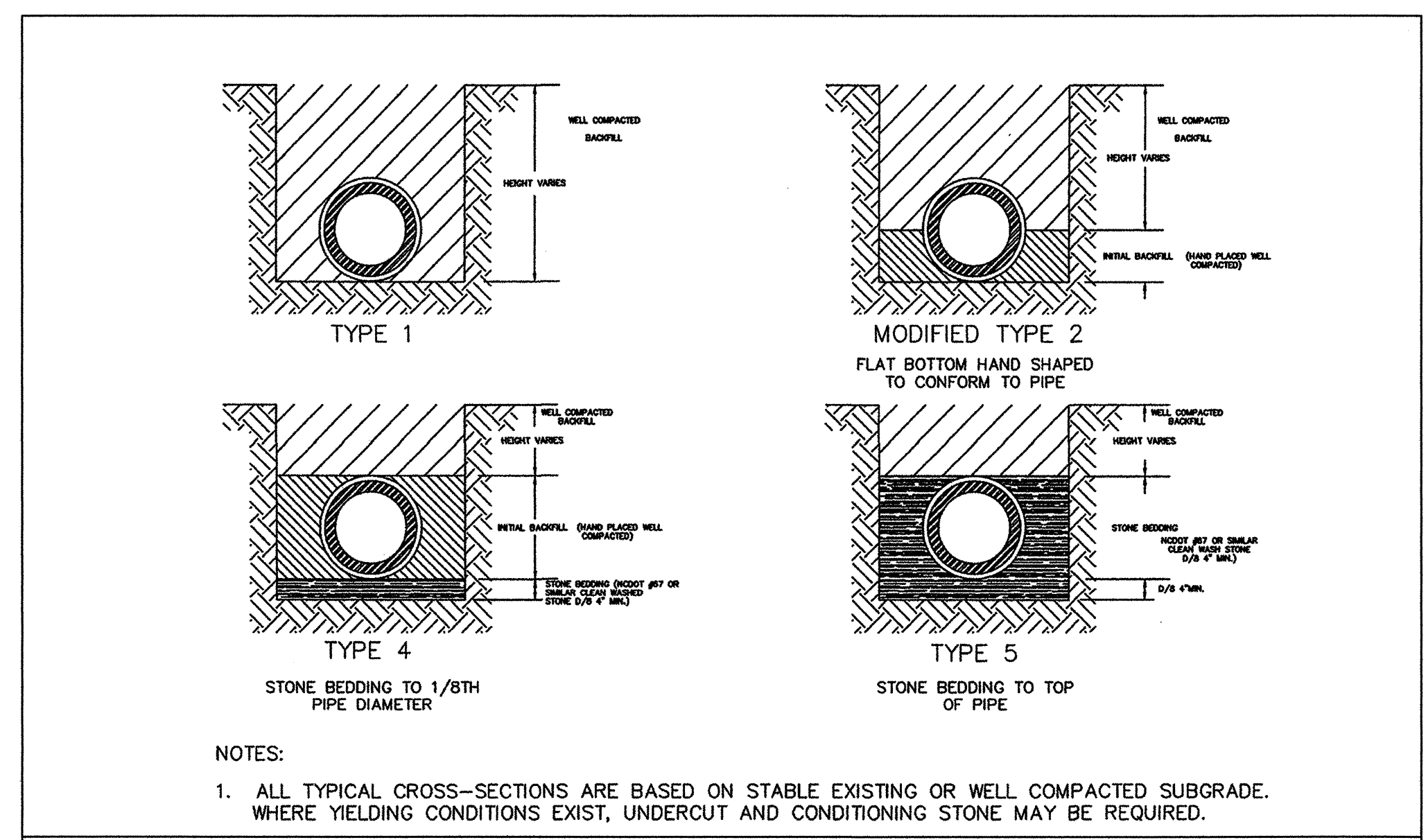
NTS



- NOTES:
- ALL IMPORTED TRENCH BEDDING MATERIAL SHALL BE STANDARD SIZE #57 STONE IN ACCORDANCE WITH SECTION 1016 OF THE NCDOT STANDARD SPECIFICATIONS.
 - EXCAVATE BELL HOLES AT EACH JOINT TO PROVIDE FULL-LENGTH BARREL SUPPORT OF THE PIPE TO PREVENT POINT LOADING AT THE BELLS OR COUPLINGS.
 - ALLOWABLE MATERIAL POLYVINYL CHLORIDE (PVC) PIPE - C900, C905 CLASS 150 OR 200.
 - PIPE 12" AND SMALLER SHALL BE IN ACCORDANCE WITH AWWA C900 AND SHALL BE DR18, CLASS 150 WITH DIP OUTSIDE DIAMETERS, EXCEPT AS NOTED ON PLANS.
 - EXCEPTION TO ABOVE DEDICATED FIRE MAINS, MAINS LOCATED BETWEEN (FOO) AND BUILDING SHALL BE DR 14 CLASS 200.
 - TRACER WIRE SHALL BE INSTALLED CONTINUOUS, INSULATED, SOLID #10 GAUGE COPPER WIRE. WIRE TO BE SOLID COLOR BLUE AND ZIP-TIED EVERY 5 FEET. WIRE SHALL BE SPLICED TOGETHER USING BUCHANAN CONNECTORS OR APPROVED METHOD (NO TWISTING OF WIRES). TRANSITIONING FROM PVC TO DIP, TRACER WIRE SHALL BE ATTACHED TO DIP, USING STAINLESS STEEL BAND.

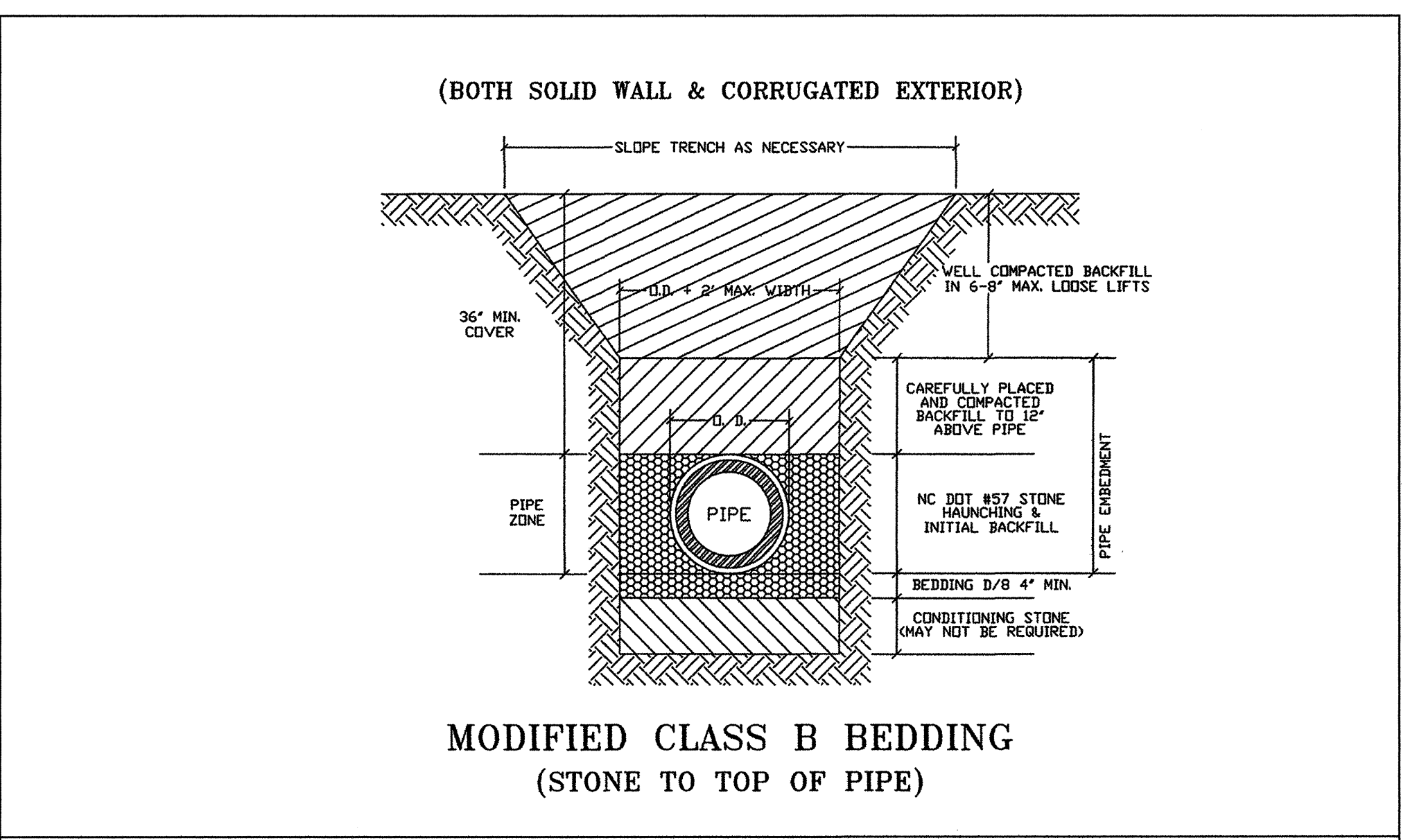
DETAIL FOR BEDDING FOR POLYVINYLCHLORIDE PIPE WATERLINES

NTS



DETAIL FOR BEDDING FOR DUCTILE IRON PIPE

NTS

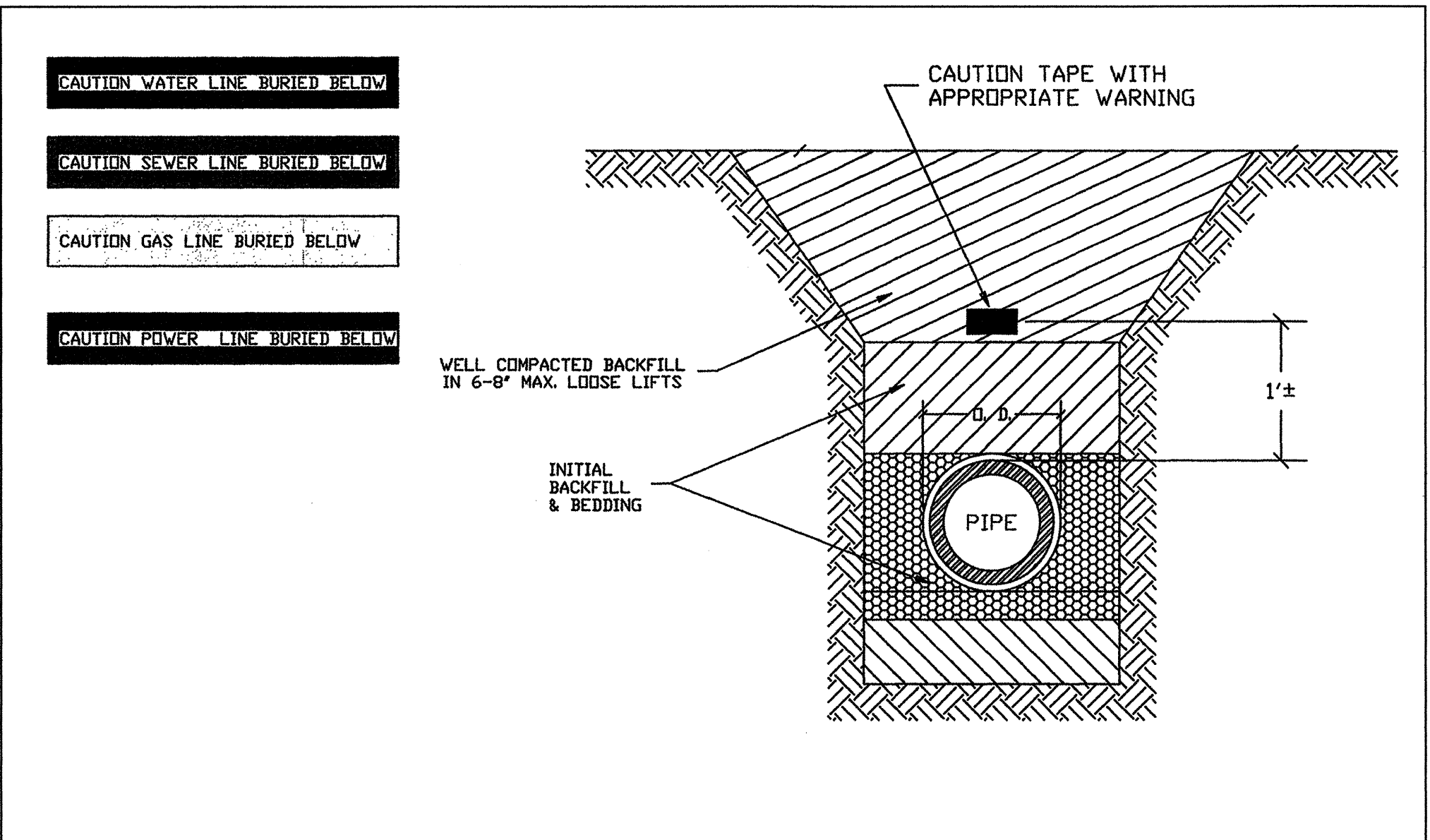


DETAIL FOR BEDDING FOR POLYVINYLCHLORIDE PIPE

NTS

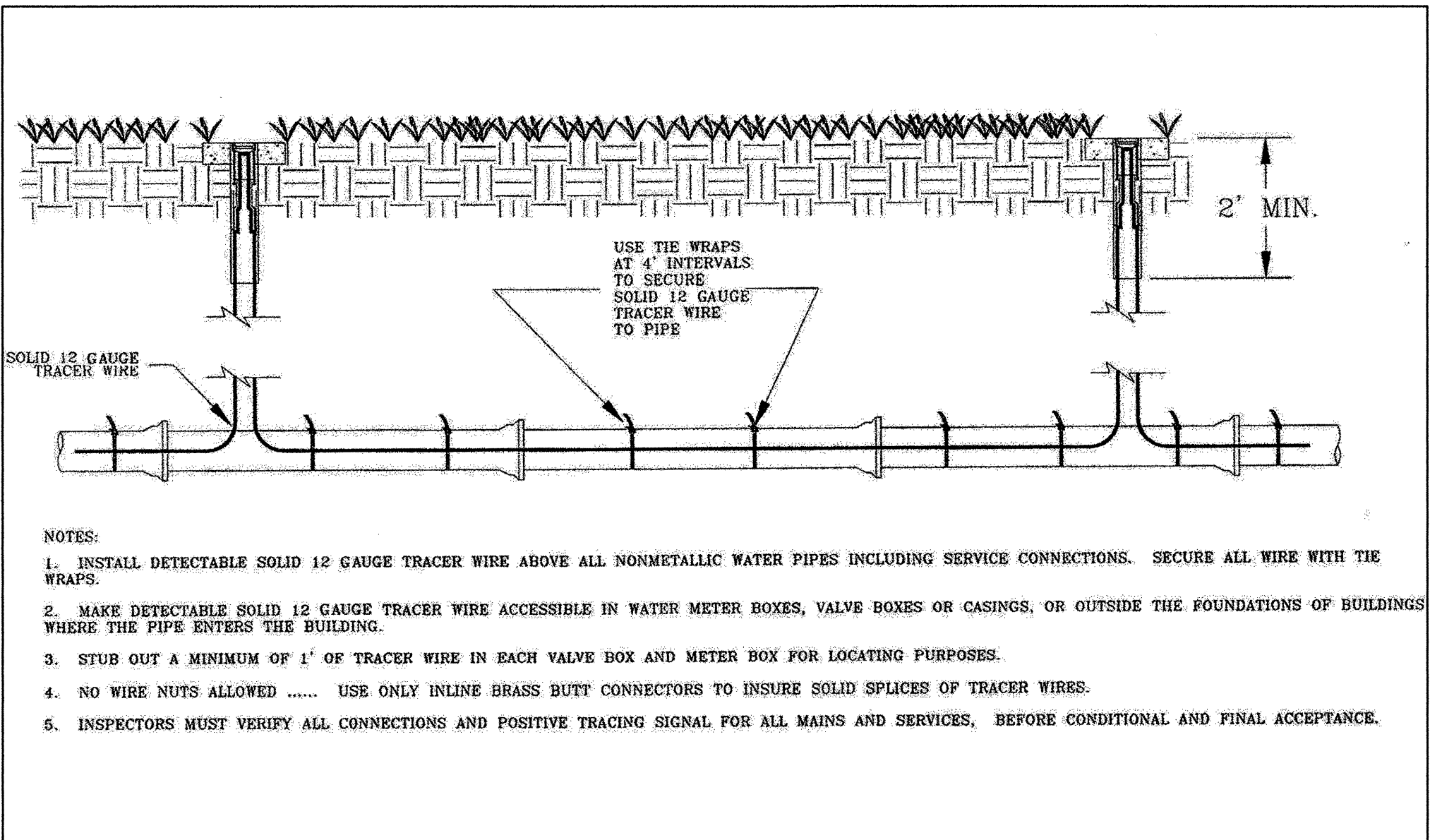
REVISIONS

FILE: SFILES
DATE: 5/24/15



**DETAIL OF CAUTION TAPE
FOR UTILITY INSTALLATIONS**

NTS

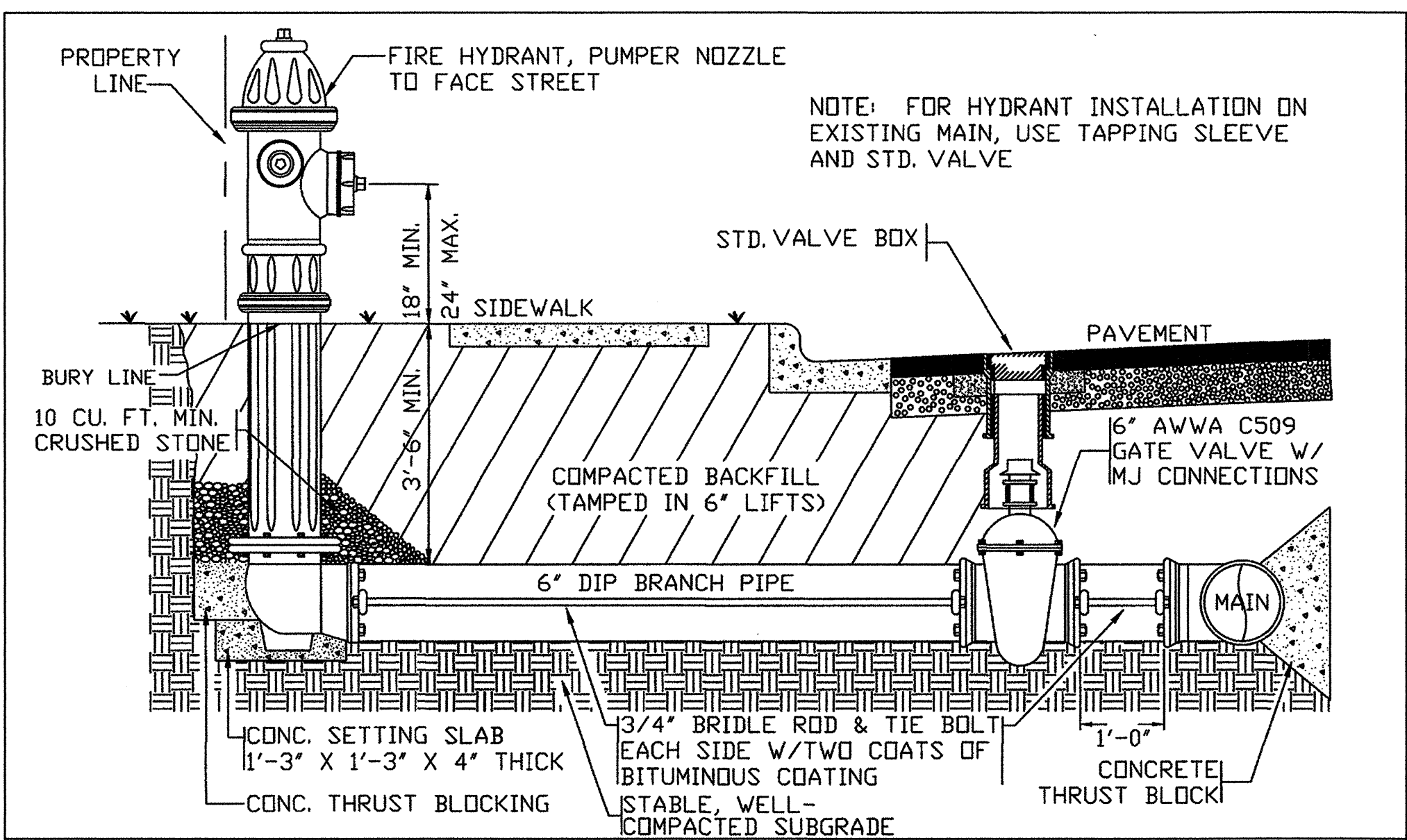


- NOTES:
1. INSTALL DETECTABLE SOLID 12 GAUGE TRACER WIRE ABOVE ALL NONMETALLIC WATER PIPES INCLUDING SERVICE CONNECTIONS. SECURE ALL WIRE WITH TIE WRAPS.
 2. MAKE DETECTABLE SOLID 12 GAUGE TRACER WIRE ACCESSIBLE IN WATER METER BOXES, VALVE BOXES OR CASINGS, OR OUTSIDE THE FOUNDATIONS OF BUILDINGS WHERE THE PIPE ENTERS THE BUILDING.
 3. STUB OUT A MINIMUM OF 1' OF TRACER WIRE IN EACH VALVE BOX AND METER BOX FOR LOCATING PURPOSES.
 4. NO WIRE NUTS ALLOWED USE ONLY INLINE BRASS BUTT CONNECTORS TO INSURE SOLID SPLICES OF TRACER WIRES.
 5. INSPECTORS MUST VERIFY ALL CONNECTIONS AND POSITIVE TRACING SIGNAL FOR ALL MAINS AND SERVICES, BEFORE CONDITIONAL AND FINAL ACCEPTANCE.

**DETAIL OF TRACER WIRE
FOR UTILITY INSTALLATIONS**

NTS

REVISIONS



DETAIL OF HYDRANT INSTALLATION

NTS

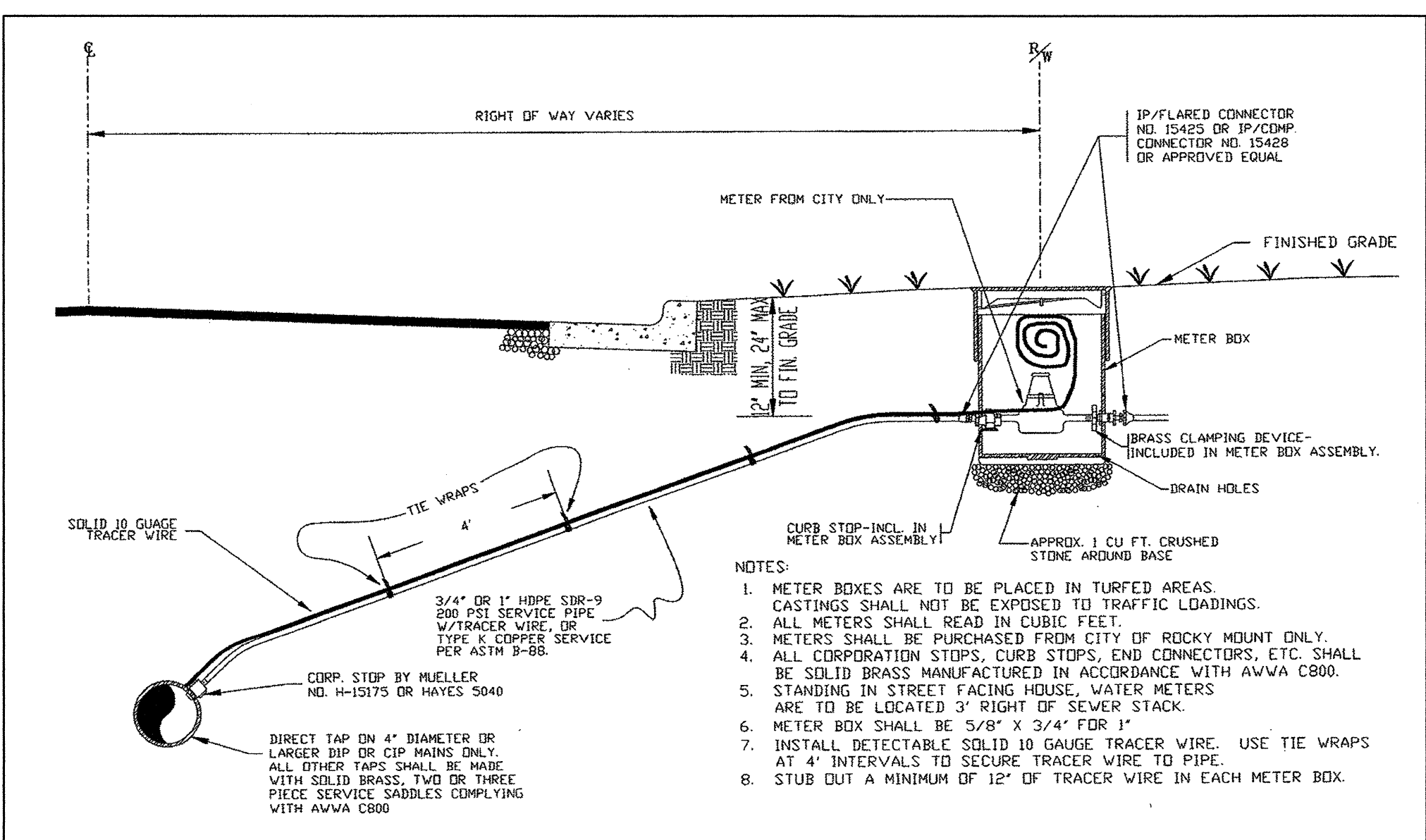
HYDRANT GENERAL CONSTRUCTION NOTES

- FIRE HYDRANT:** HYDRANT SHALL BE AWWA C502, DRY BARRELL, DRY BONNET, THREE-WAY HYDRANT WITH 3' 6" MIN. BURY, 4 1/2" MIN. MAIN VALVE OPENING, 4 1/2" PUMPER NOZZLE, TWO EACH 2 1/2" HOZE NOZZLES, REPLACEABLE BRONZE NOZZLES WITH NATIONAL STANDARD THREADS, BREAK-AWAY TRAFFIC FEATURE, AND BRONZE OR BRONZE SEAT RINGS. HYDRANT SHALL HAVE PENTAGON SHAPED (5 SIDED) OPERATING NUT AND SHALL OPEN TURNING LEFT (COUNTER-CLOCKWISE.)
- PAINT:** CHAINS SHALL BE REMOVED, AND HYDRANT SHALL BE PAINTED WITH RUSTOLEUM #964 FEDERAL SAFETY RED. NOZZLE CAPS AND BONNET SHALL ALSO RECEIVE A COAT OF ALERT SERIES 1440 SILVER WHITE AS MANUFACTURED BY FERRO, INC.
- OIL/GREASE:** HYDRANT SHALL BE OILED OR GREASED AS RECOMMENDED BY MANUFACTURER AFTER INSTALLATION.
- RESTRAINT:** ALL INSTALLATIONS SHALL HAVE CLASS A CONCRETE BLOCKING PLACED BEHIND BOTH TEE AND HYDRANT. EN LIEU OF THREADED BRIDLE RODS, APPROVED GRIP RING OR LOCKING FLANGE CONNECTIONS MAY BE USED. BOTH GRIP RINGS AND LOCKING FLANGES SHALL BE U.L. LISTED AND F.M. APPROVED WITH A RATED WORKING PRESSURE OF NOT LESS THAN 350 PSI WITH A MIN. SAFETY FACTOR OF 2:1. LOCKING FLANGE CONNECTIONS SHALL ONLY BE PERMITTED WHERE PROPER PLACEMENT AND GRADE ADJUSTMENT CAN BE PROVIDED.

HYDRANT CONSTRUCTION NOTES

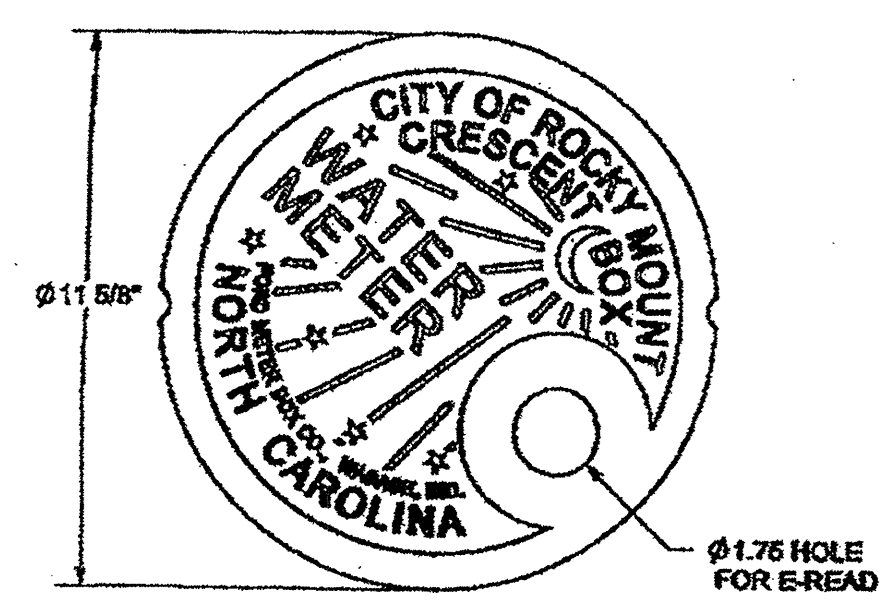
NTS

REVISIONS



DETAIL FOR 5/8", 3/4" & 1" WATER SERVICE

NTS



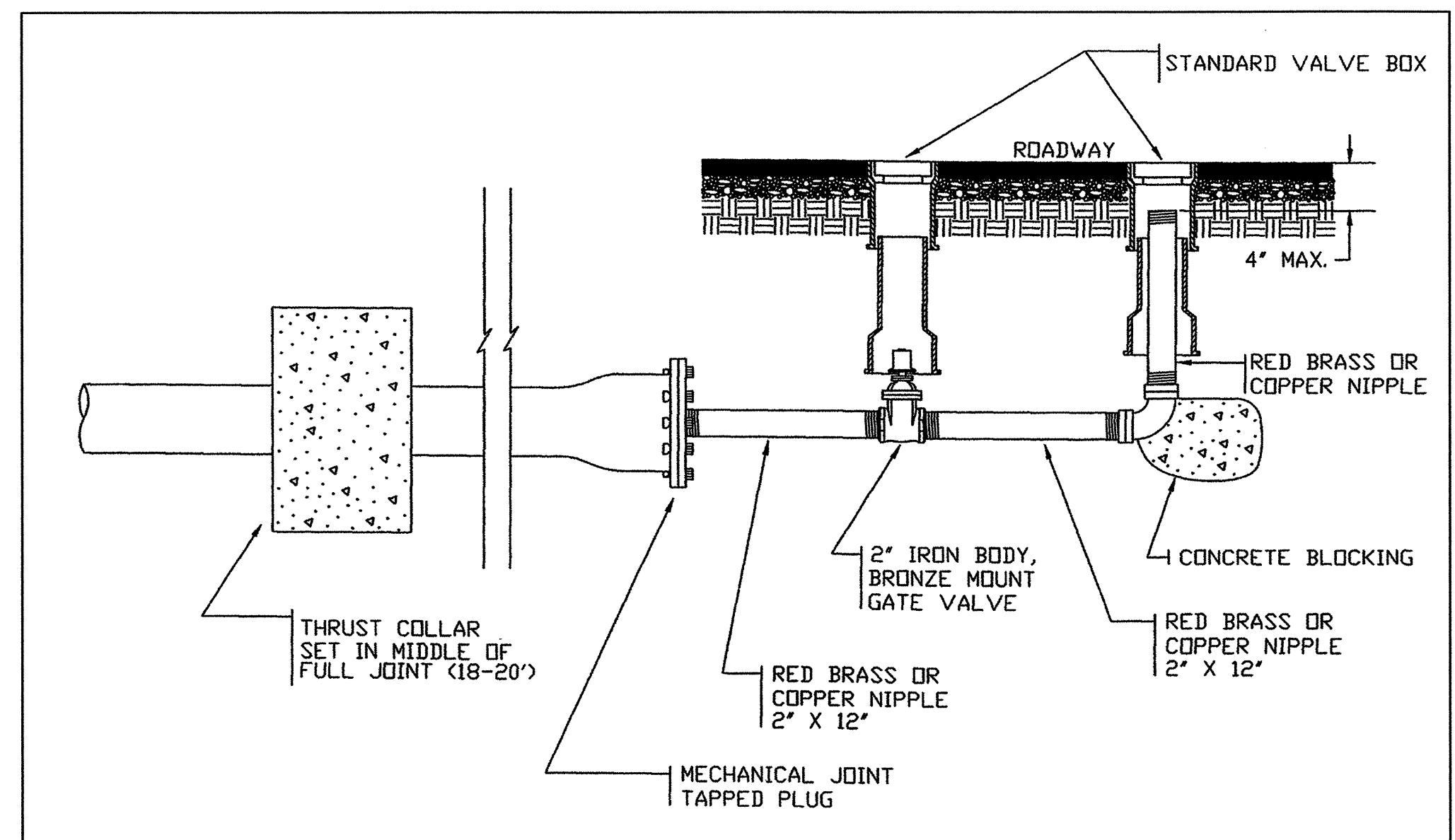
MATERIAL:
CAST GRAY IRON
ASTM A48-04, CLASS 25

FINISH:
E-COAT, POWERCRON 690
4-1.5 MIL THICK, BLACK

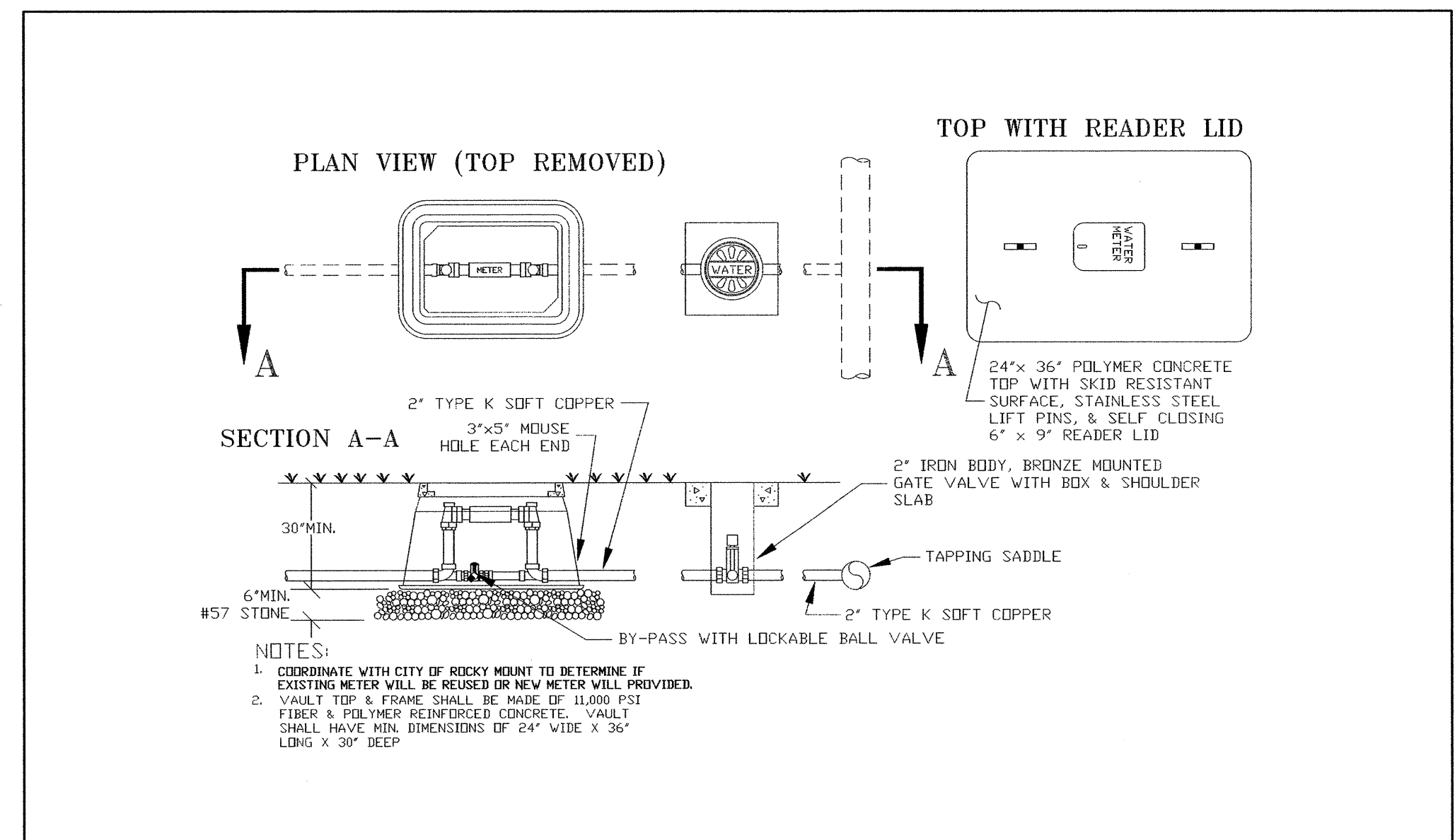
- NOTES:
- LID TO BE MANUFACTURED BY FORD METER BOX COMPANY OR APPROVED EQUAL.

DETAIL FOR 3/4" & 1" WATER METER BOX COVER

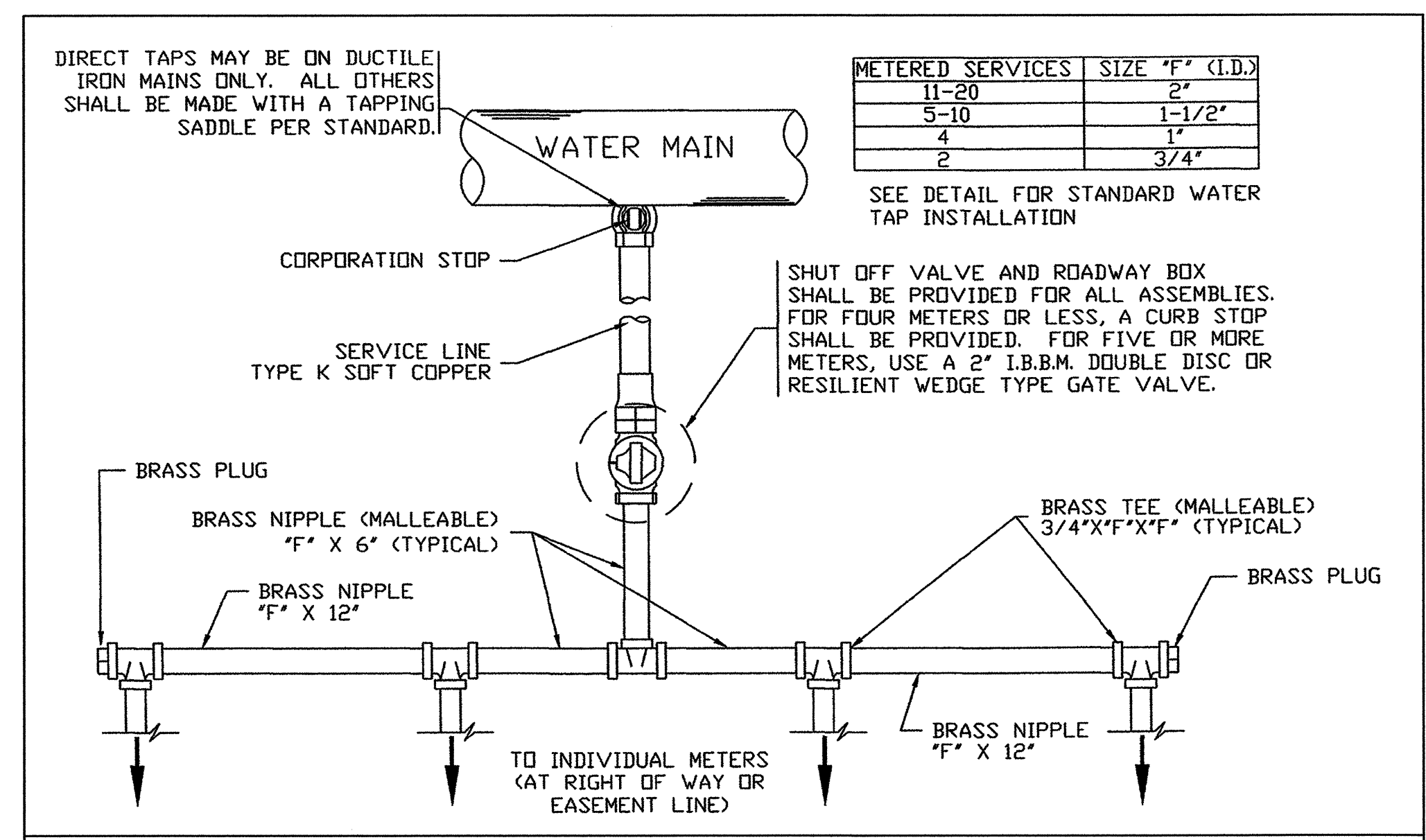
NTS



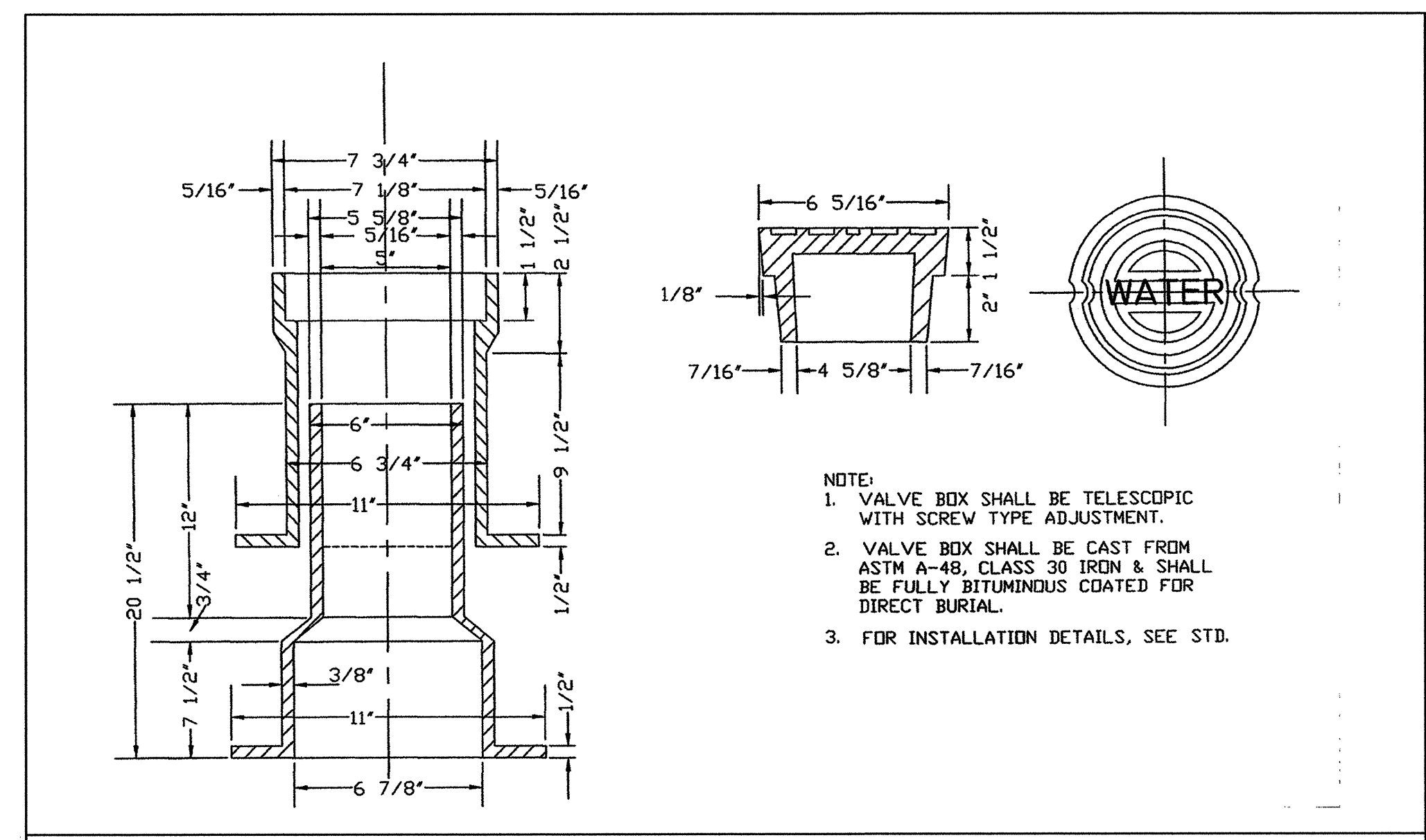
DETAIL OF STANDARD 2" BLOWOFF
NTS



DETAIL OF STANDARD 2" WATER METER VAULT
NTS



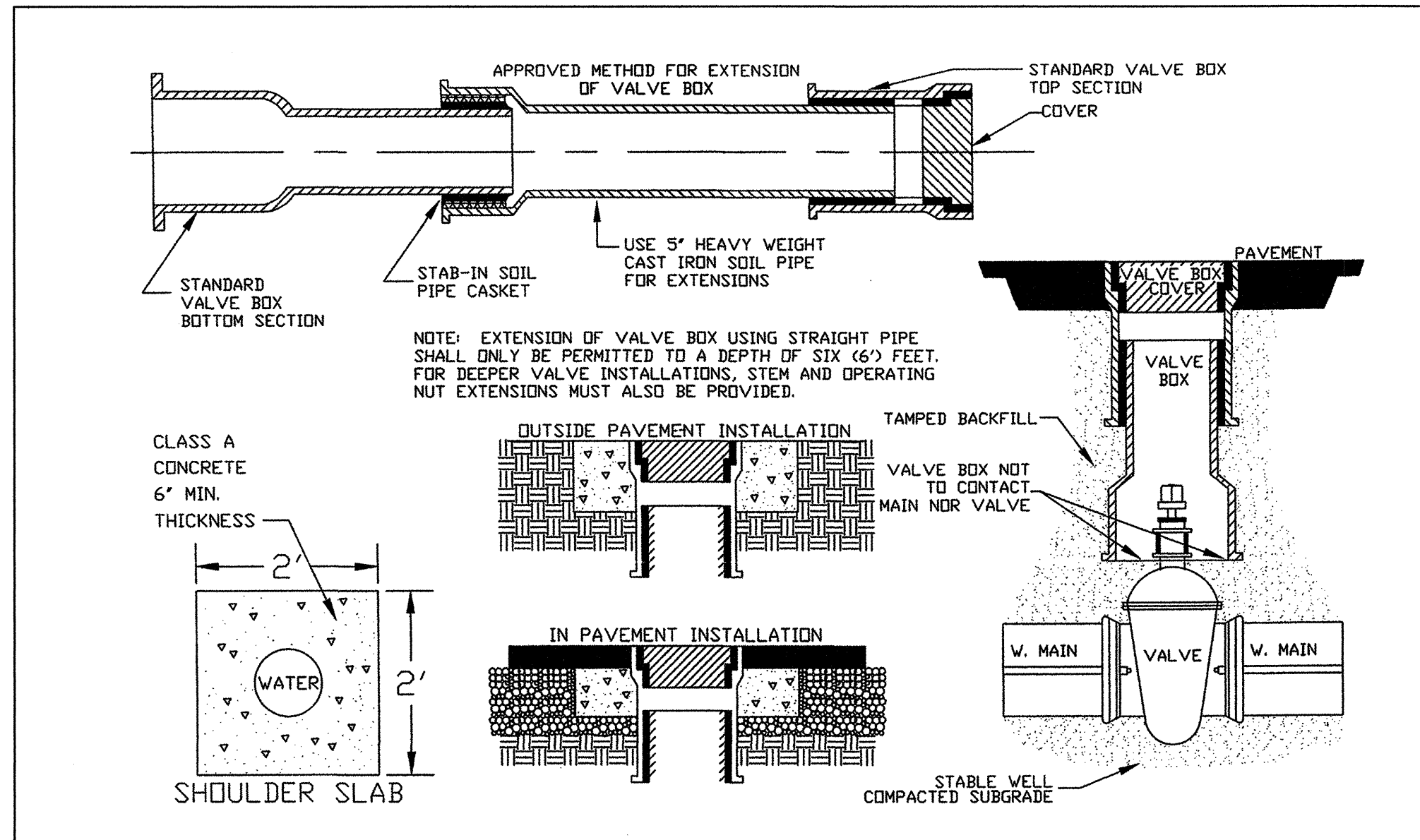
DETAIL FOR STANDARD GANG METER ASSEMBLY
NTS



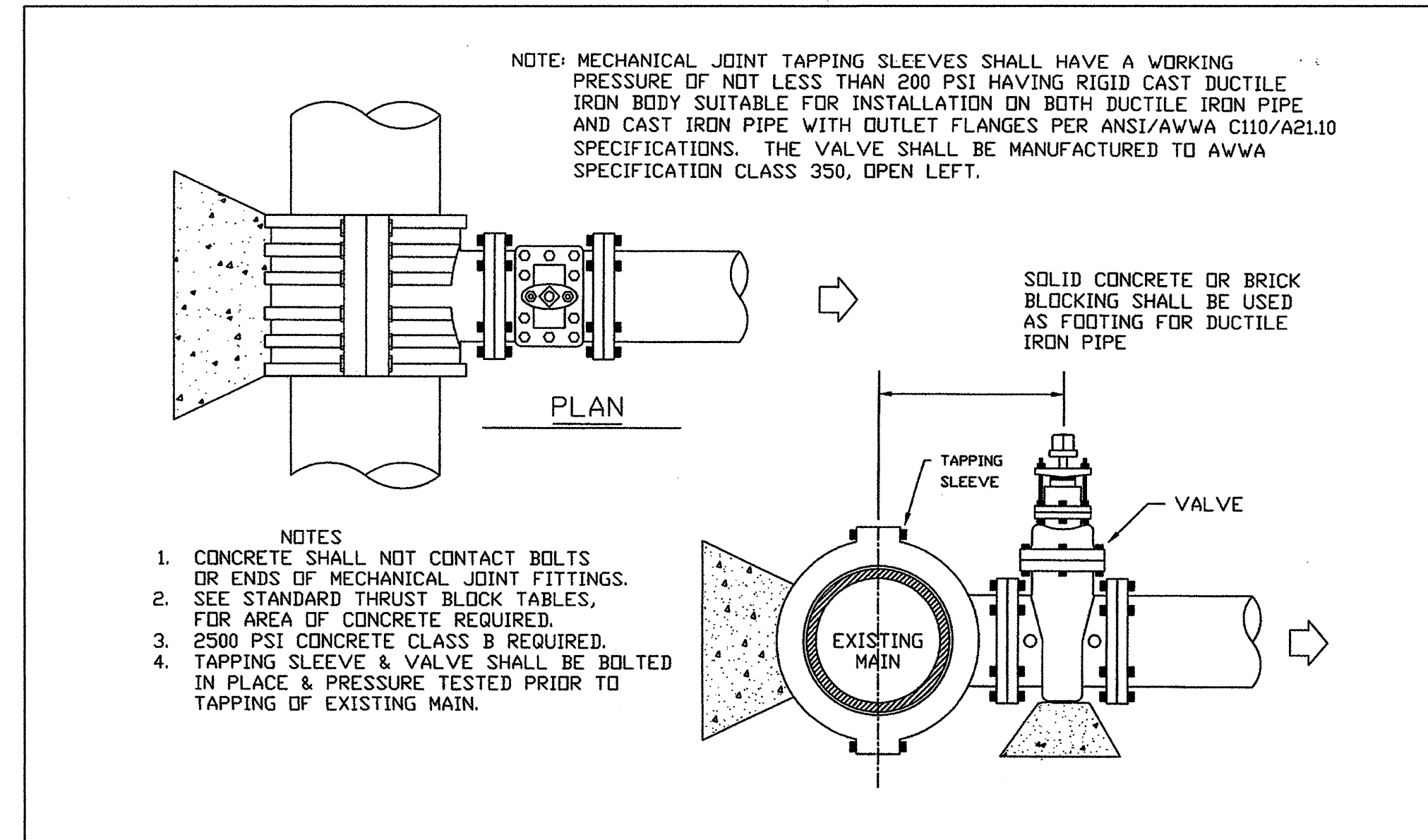
DETAIL FOR STANDARD VALVE BOX
NTS

REVISIONS

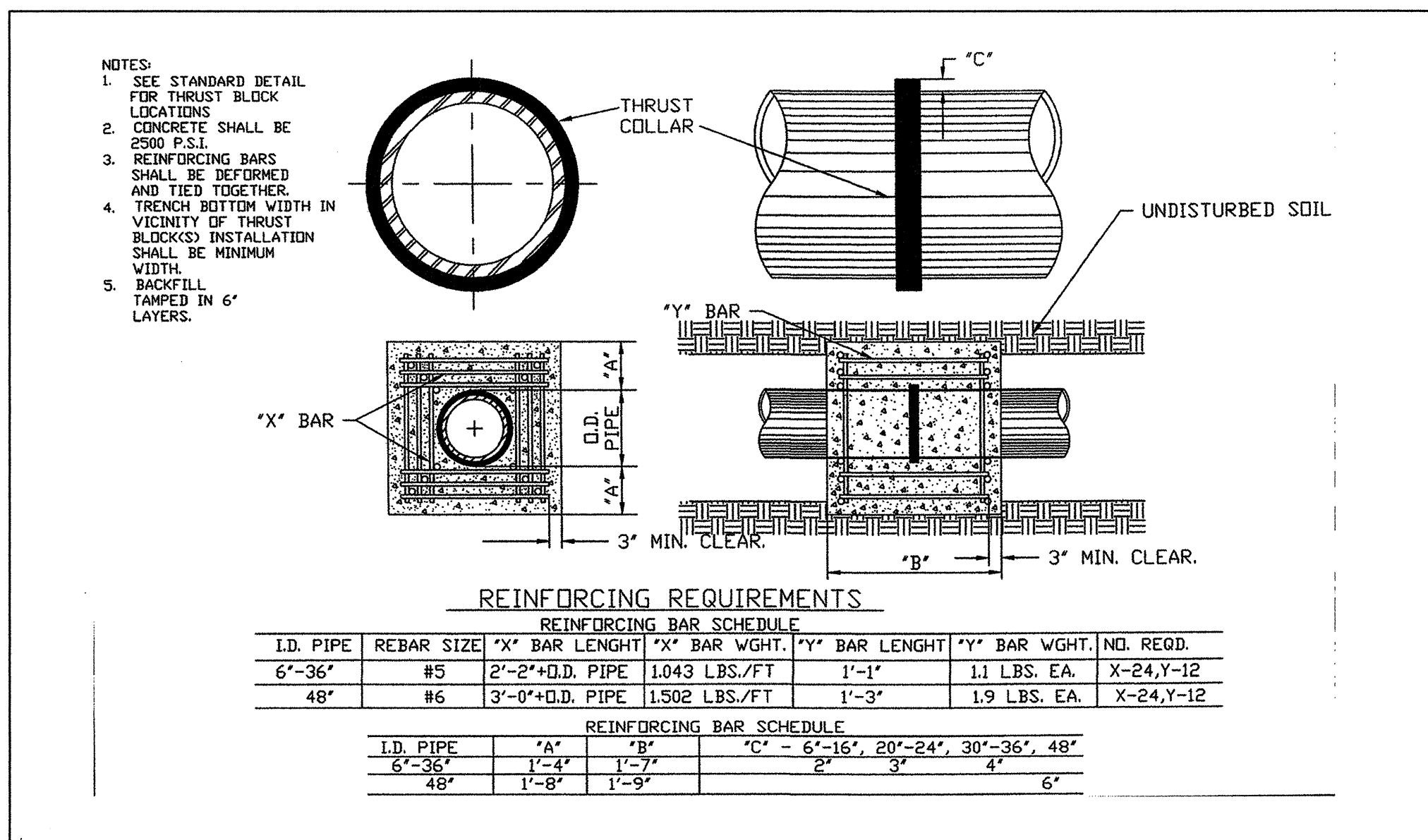
FILE: SFILES
DATE: SDATES



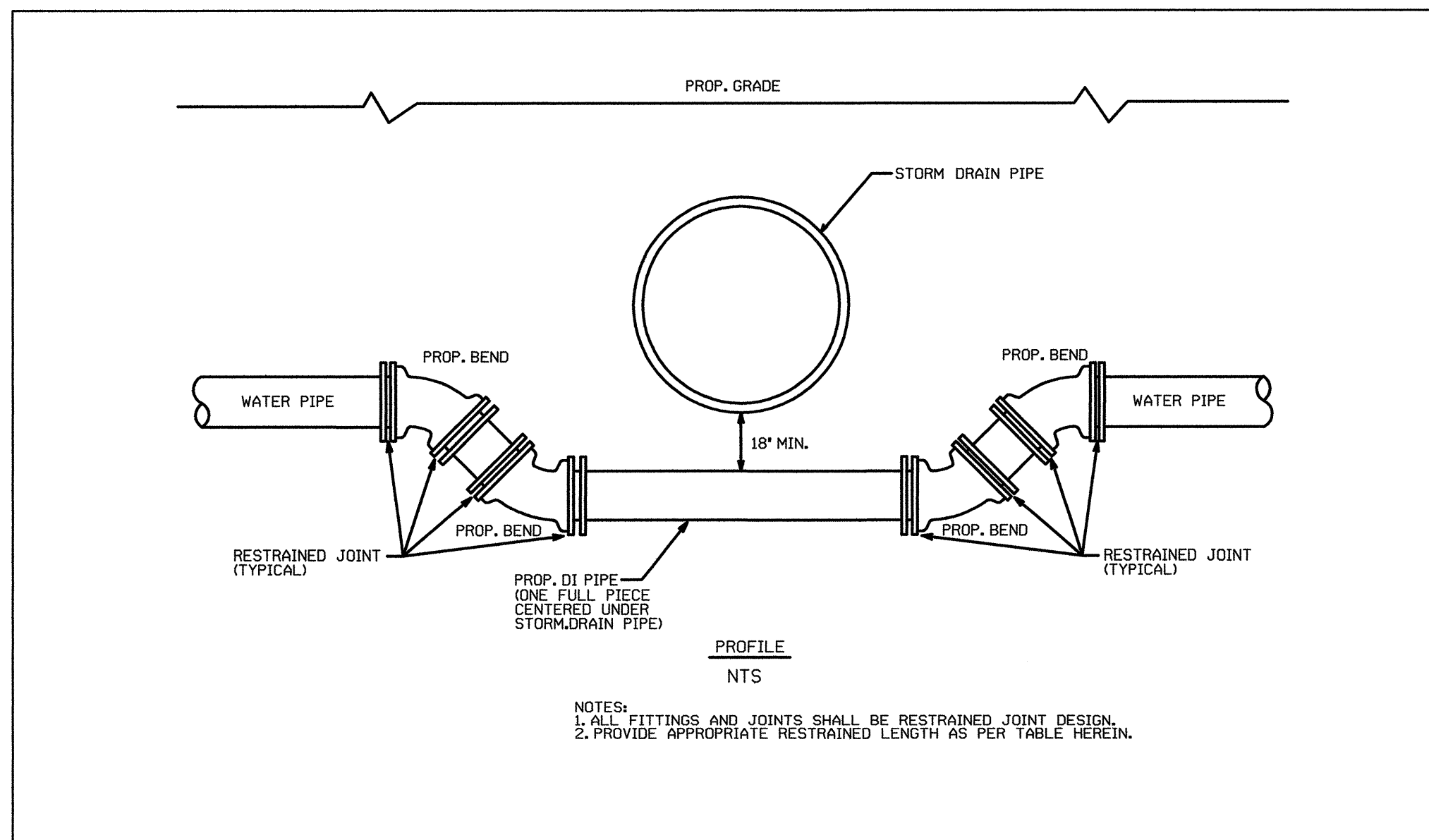
DETAIL OF VALVE BOX INSTALLATION
NTS



DETAIL OF STANDARD TAPPING SLEEVE & VALVE
NTS



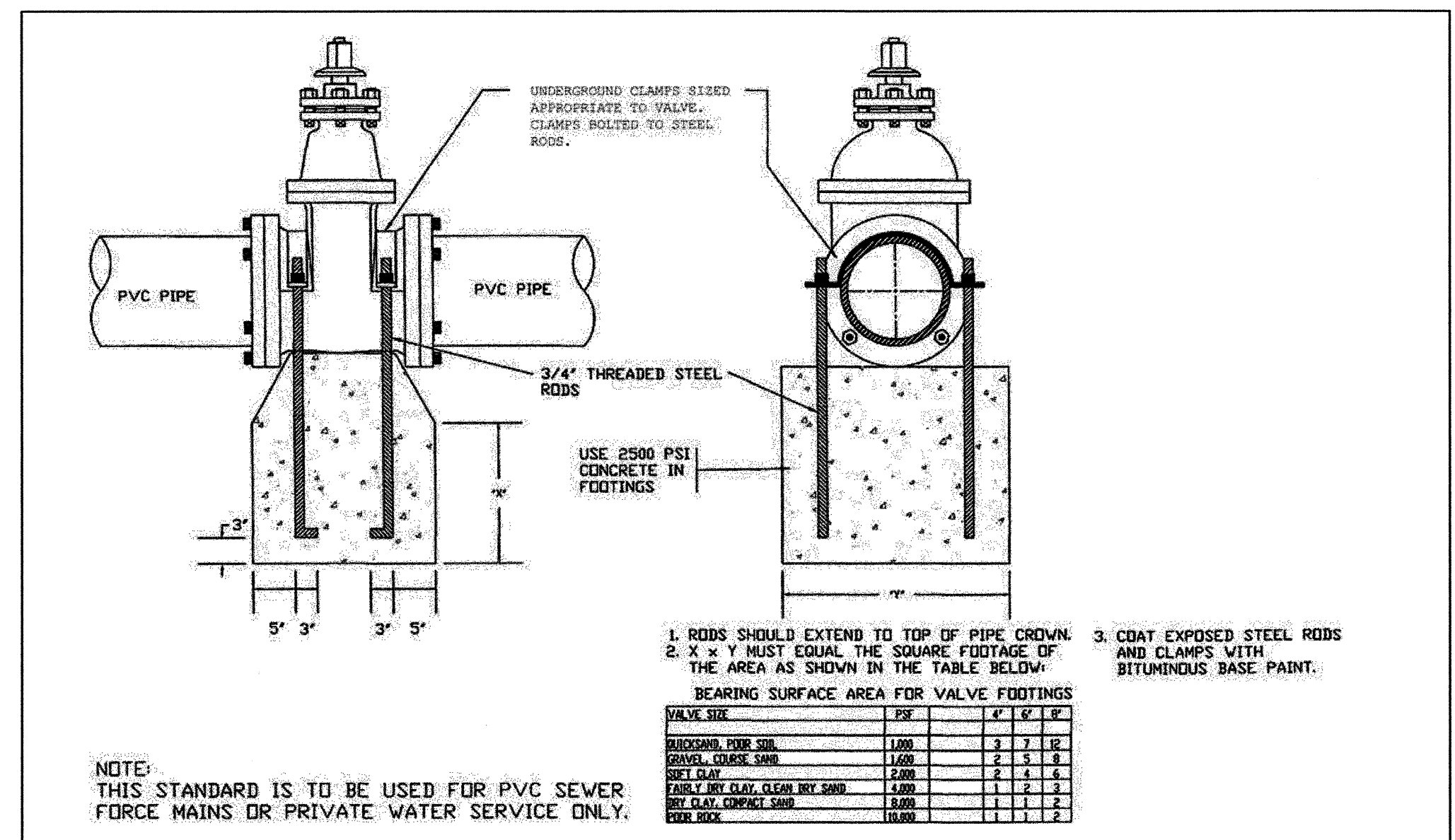
DETAIL FOR STANDARD THRUST COLLAR FOR WATER MAINS
NTS



DETAIL FOR WATER LINE CROSSING UNDER DRAINAGE PIPE
NTS

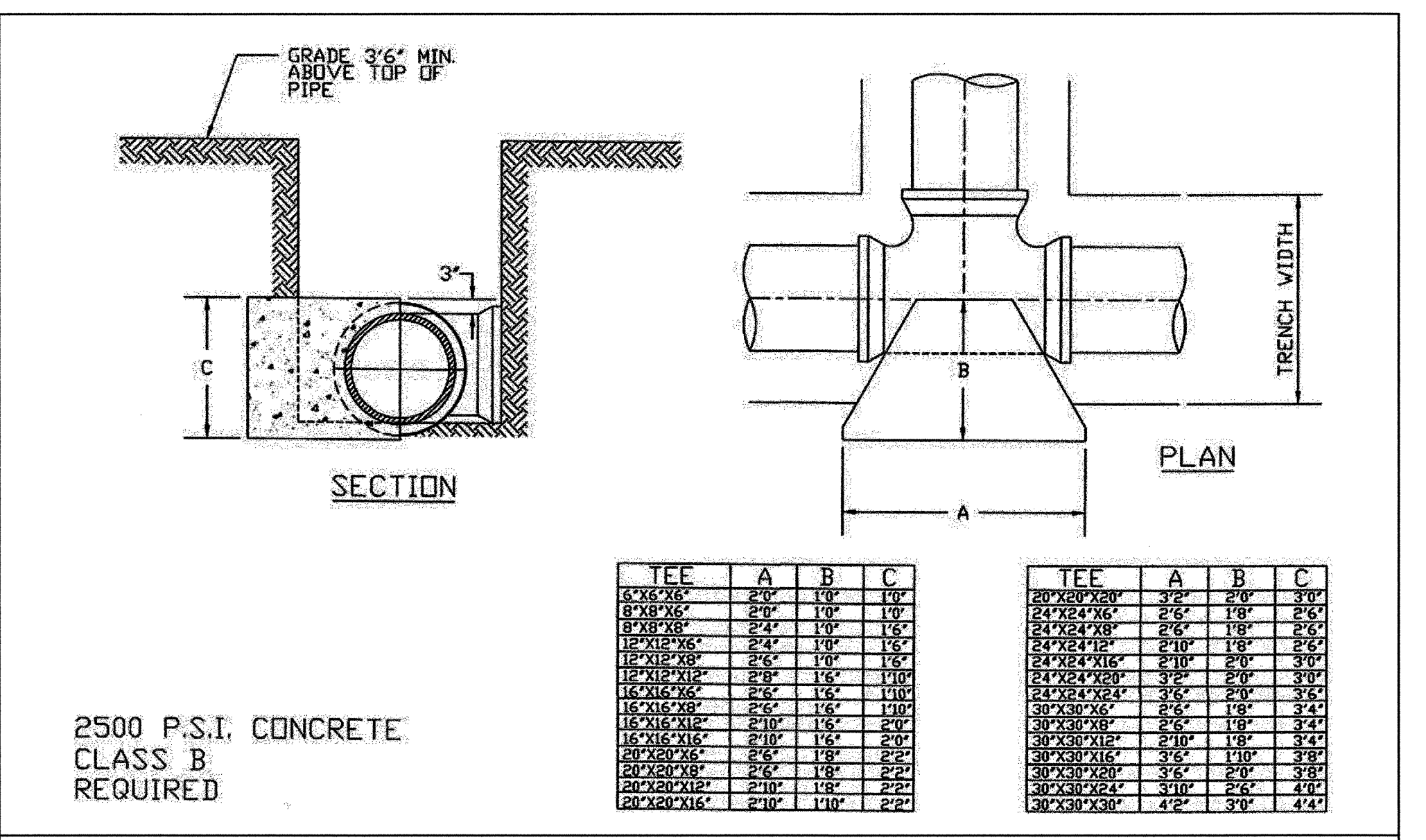
REVISIONS

FILE: #FILES
DATE: #DATES



DETAIL OF VALVE FOOTING

REVISIONS



DETAIL FOR TRENCHING AND BLOCKING OF TEES

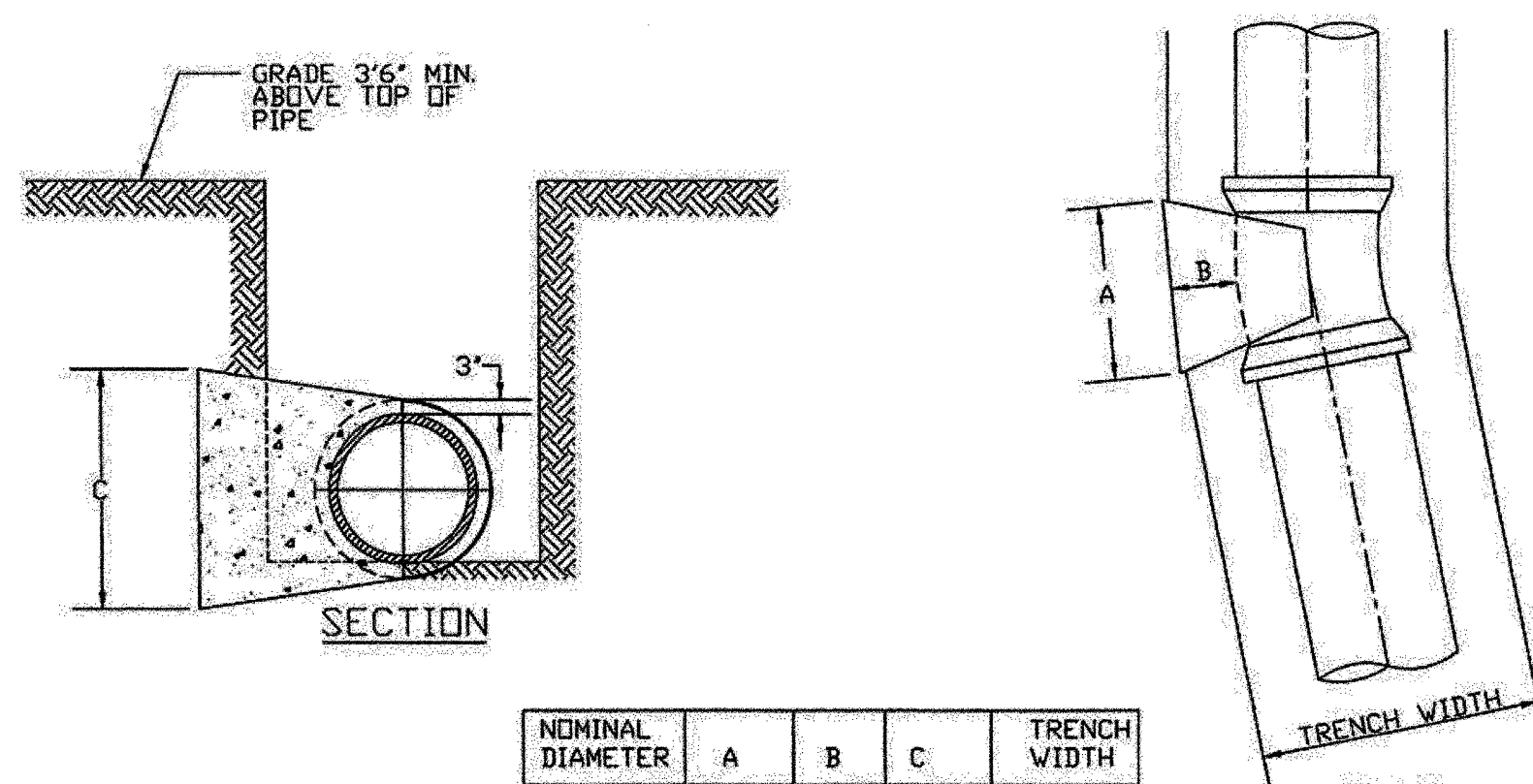
RESTRAINED JOINT DESIGN TABLE

FITTING	REQUIRED RESTRAINED LENGTH (FT) OF BARE D.I. PIPE BY DEPTH OF COVER							
	3 FT	4 FT	5 FT	6 FT	7 FT	8 FT	9 FT	10 FT
HORIZONTAL BENDS								
6 INCH DIA - 11.25 DEG	3	2	2	2	2	1	1	1
6 INCH DIA - 22.5 DEG	5	4	4	3	3	3	3	2
6 INCH DIA - 45 DEG	11	9	8	7	7	6	5	5
8 INCH DIA - 11.25 DEG								
8 INCH DIA - 11.25 DEG	3	3	2	2	2	2	2	2
8 INCH DIA - 22.5 DEG	7	6	5	5	4	4	3	3
8 INCH DIA - 45 DEG	14	12	10	9	8	8	7	7
12 INCH DIA - 11.25 DEG								
12 INCH DIA - 11.25 DEG	5	4	4	3	3	3	2	2
12 INCH DIA - 22.5 DEG	9	8	7	6	6	5	5	5
12 INCH DIA - 45 DEG	20	17	15	13	12	11	10	10
16 INCH DIA - 11.25 DEG								
16 INCH DIA - 11.25 DEG	6	5	5	4	4	3	3	3
16 INCH DIA - 22.5 DEG	12	11	9	8	8	7	6	6
16 INCH DIA - 45 DEG	25	22	19	17	16	14	13	12
30 INCH DIA - 11.25 DEG								
30 INCH DIA - 11.25 DEG	13	12	11	10	9	8	8	7
30 INCH DIA - 22.5 DEG	27	24	22	20	18	16	15	14
30 INCH DIA - 45 DEG	56	50	45	41	37	34	32	30
VERTICAL DOWN BENDS								
6 INCH DIA - 11.25 DEG	7	6	6	5	4	4	4	3
6 INCH DIA - 22.5 DEG	15	13	11	10	9	8	8	7
6 INCH DIA - 45 DEG	31	27	23	21	19	17	16	15
8 INCH DIA - 11.25 DEG								
8 INCH DIA - 11.25 DEG	10	8	7	6	6	5	5	5
8 INCH DIA - 22.5 DEG	19	17	15	13	12	11	10	9
8 INCH DIA - 45 DEG	40	35	30	27	25	22	21	19
12 INCH DIA - 11.25 DEG								
12 INCH DIA - 11.25 DEG	14	12	10	9	8	8	7	7
12 INCH DIA - 22.5 DEG	28	24	21	19	17	16	14	13
12 INCH DIA - 45 DEG	57	50	44	39	35	32	30	28
16 INCH DIA - 11.25 DEG								
16 INCH DIA - 11.25 DEG	18	15	14	12	11	10	9	9
16 INCH DIA - 22.5 DEG	36	31	27	25	22	20	19	17
16 INCH DIA - 45 DEG	74	65	57	51	46	42	39	36
30 INCH DIA - 11.25 DEG								
30 INCH DIA - 11.25 DEG	31	27	24	22	20	18	17	15
30 INCH DIA - 22.5 DEG	62	54	48	43	39	36	33	31
30 INCH DIA - 45 DEG	129	113	101	90	82	75	70	65
VERTICAL UP BENDS								
6 INCH DIA - 11.25 DEG	3	2	2	2	2	1	1	1
6 INCH DIA - 22.5 DEG	5	4	4	3	3	3	3	2
6 INCH DIA - 45 DEG	11	9	8	7	7	6	5	5
8 INCH DIA - 11.25 DEG								
8 INCH DIA - 11.25 DEG	3	3	2	2	2	2	2	2
8 INCH DIA - 22.5 DEG	7	6	5	5	4	4	3	3
8 INCH DIA - 45 DEG	14	12	10	9	8	8	7	7
12 INCH DIA - 11.25 DEG								
12 INCH DIA - 11.25 DEG	X	4	4	3	3	3	2	2
12 INCH DIA - 22.5 DEG	X	8	7	6	6	5	5	5
12 INCH DIA - 45 DEG	X	17	15	13	12	11	10	10
16 INCH DIA - 11.25 DEG								
16 INCH DIA - 11.25 DEG	X	5	5	4	4	3	3	3
16 INCH DIA - 22.5 DEG	X	11	9	8	8	7	6	6
16 INCH DIA - 45 DEG	X	22	19	17	16	14	13	12
30 INCH DIA - 11.25 DEG								
30 INCH DIA - 11.25 DEG	10	9	8	7	7	6	6	5
30 INCH DIA - 22.5 DEG	21	18	16	15	13	12	11	11
30 INCH DIA - 45 DEG	43	38	34	30	28	26	24	22

ASSUMPTIONS
 LAYING CONDITION = TYPE 4 DESIGN PRESSURE = 200 PSI (TEST PRESSURE)
 SOIL DESIGNATION = GC = COHESIVE-GRANULAR SAFETY FACTOR = 1.5

NOTES
 1. RESTRAINED LENGTH IS MEASURED FROM THE CENTER OF THE BEND AS FOLLOWS:
 A. HORIZONTAL AND VERTICAL BENDS: ALONG EACH SIDE OF BEND.
 B. HORIZONTAL AND VERTICAL BENDS - OFFSET OR COMBINED: ALONG THE OUTER SIDE OF EACH BEND.
 ALL PIPE BETWEEN THE TWO BENDS SHALL BE RESTRAINED JOINT WHEN THE DISTANCE BETWEEN THEM IS EQUAL TO OR LESS THAN THE REQUIRED RESTRAINED LENGTH. WHEN THE DISTANCE BETWEEN BENDS IS LESS THAN REQUIRED, THE BALANCE OF THE REQUIRED RESTRAINED LENGTH SHALL BE ADDED ON TO THE LENGTH ALONG THE OUTSIDE OF EACH BEND RESPECTIVELY TO MAKE UP FOR THE DEFICIENCY IN THAT DIRECTION. HORIZONTAL BEND EXAMPLE...INSTALL A 12 INCH 45 DEG BEND AND A 22.5 DEG BEND WITH 10 FEET BETWEEN BENDS AND 7 FEET OF COVER - THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL 1 FOOT OF RESTRAINED LENGTH BEYOND THE 45 DEG BEND (FOR A TOTAL OF 13 FEET) AND AN ADDITIONAL 7 FEET OF RESTRAINED LENGTH BEYOND THE 22.5 DEG BEND (FOR A TOTAL OF 13 FEET).
 2. WHEN IT IS NOT POSSIBLE TO INSTALL THE RESTRAINED LENGTHS AS NOTED BY THIS TABLE, THE CONTRACTOR SHALL INSTALL THE APPROPRIATE CONCRETE THRUST RESTRAINTS AS PER THE DETAILS HEREIN.

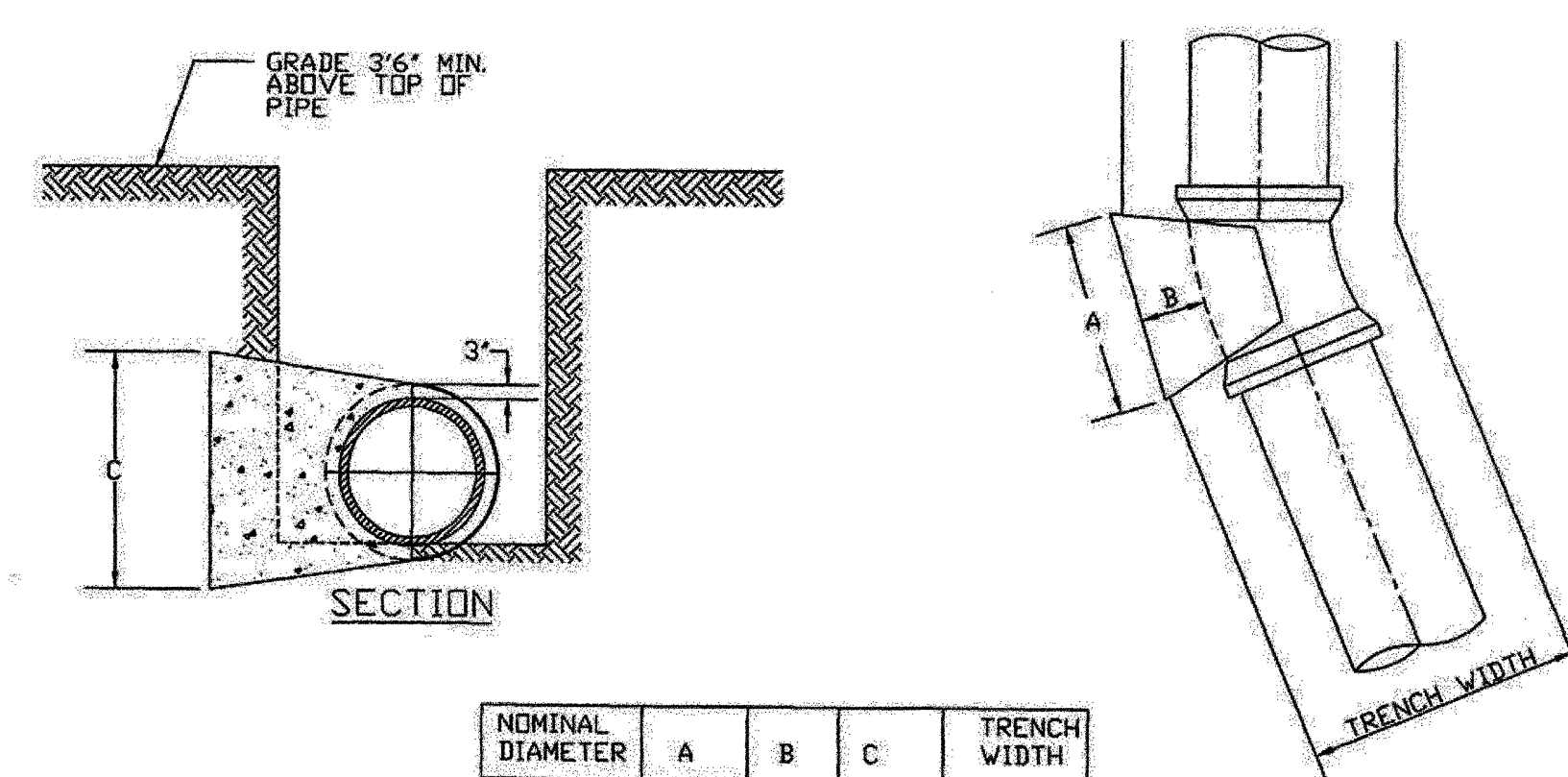
FILE: #FILES
 DATE: #DATES



2500 P.S.I. CONCRETE
CLASS B
REQUIRED

NOMINAL DIAMETER	A	B	C	TRENCH WIDTH
6"	6"	1'0"	1'0"	2'6"
8"	10"	1'0"	1'0"	2'8"
12"	1'3"	1'0"	1'0"	3'0"
16"	1'8"	1'2"	1'2"	3'4"
20"	2'1"	1'2"	1'6"	3'8"
24"	2'6"	1'2"	1'10"	4'0"
30"	3'0"	1'4"	2'4"	4'6"

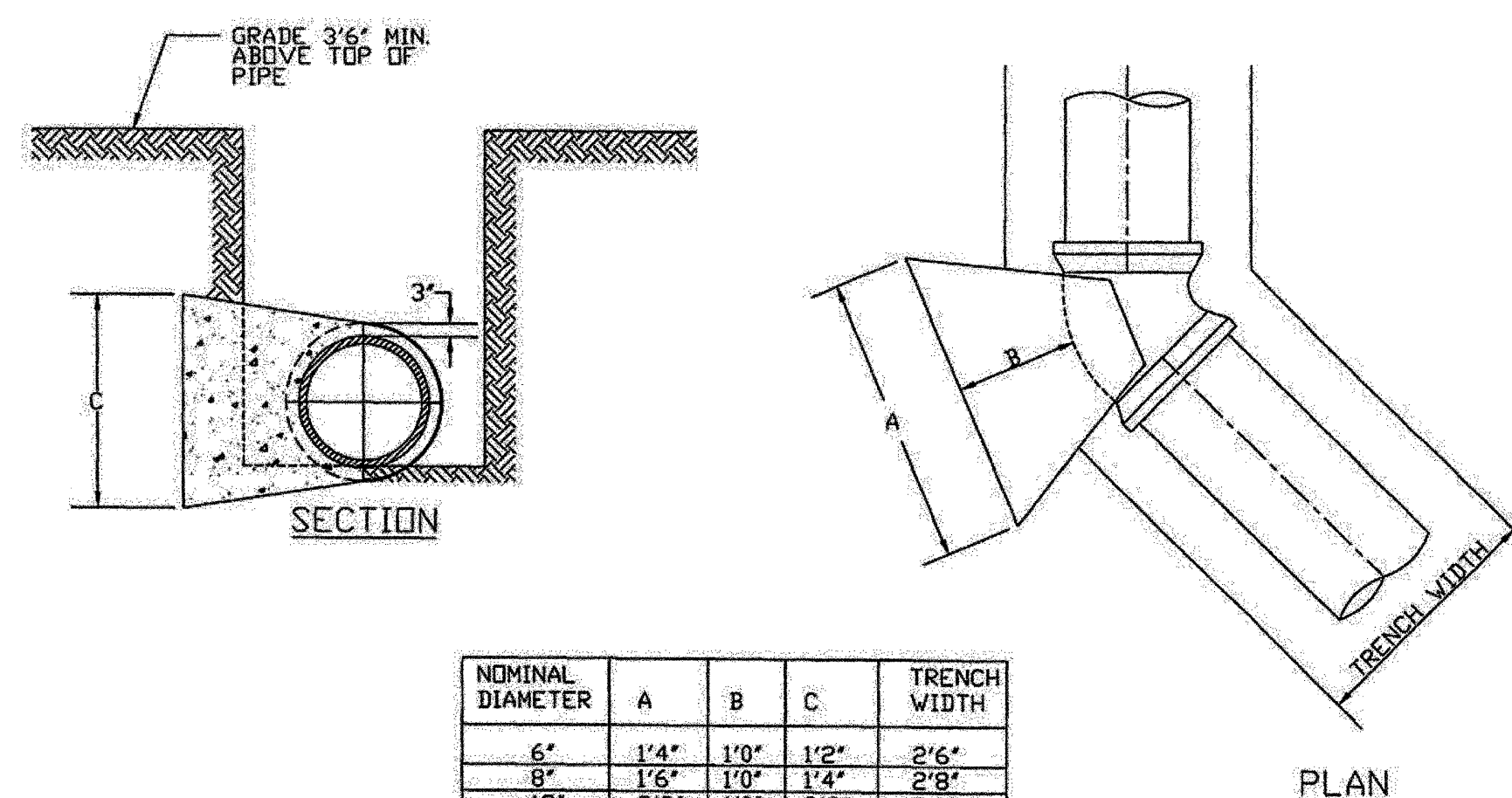
**DETAIL OF TRENCHING & BLOCKING
OF 11° 15' BENDS**



2500 P.S.I. CONCRETE
CLASS B
REQUIRED

NOMINAL DIAMETER	A	B	C	TRENCH WIDTH
6"	1'0"	1'0"	1'0"	2'6"
8"	1'4"	1'0"	1'2"	2'8"
12"	2'0"	1'0"	1'6"	3'0"
16"	2'8"	1'0"	1'10"	3'4"
20"	3'0"	1'0"	2'2"	3'8"
24"	3'0"	1'0"	3'0"	4'0"
30"	4'0"	1'6"	3'6"	4'6"

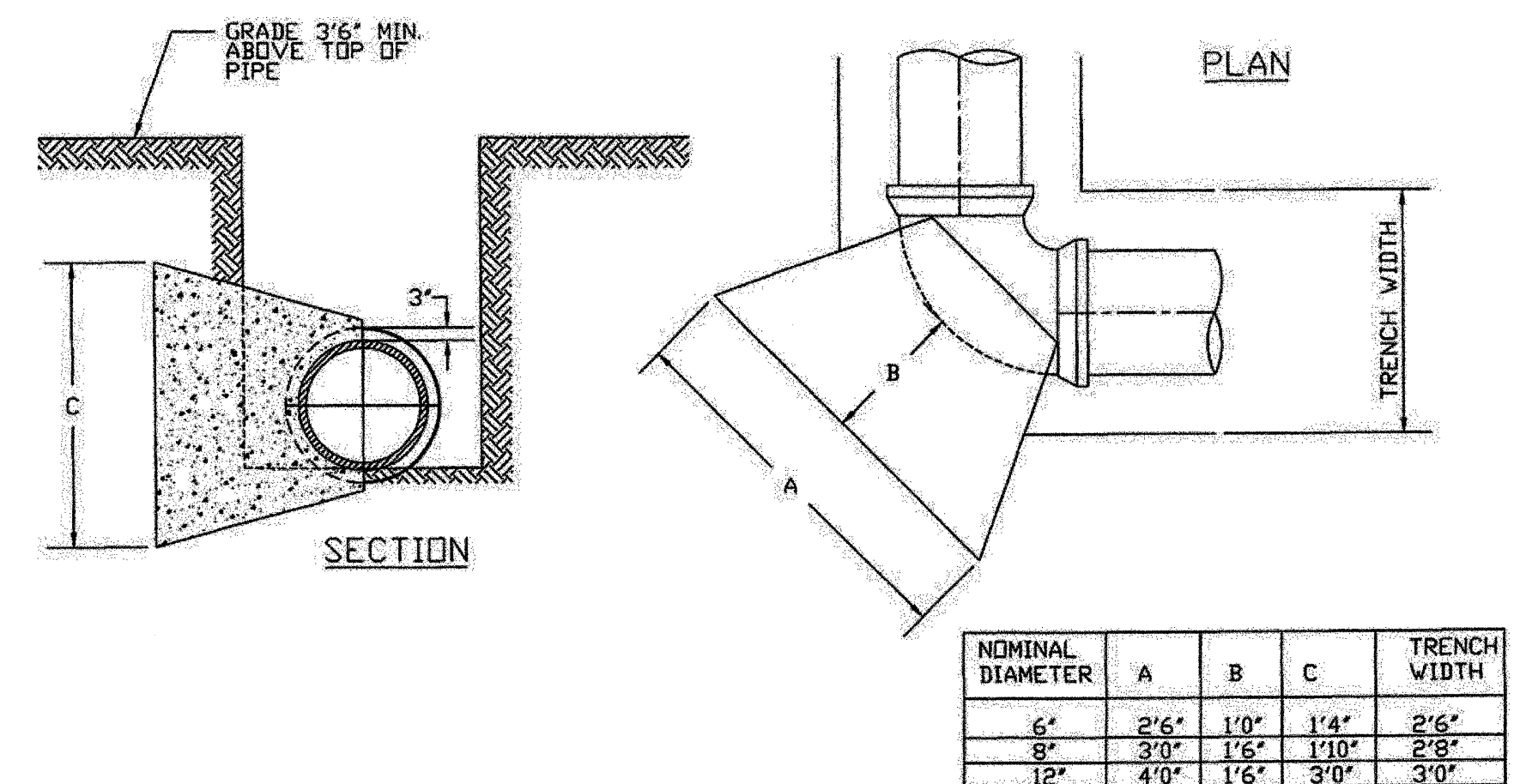
**DETAIL OF TRENCHING & BLOCKING
OF 22° 30' BENDS**



2500 P.S.I. CONCRETE
CLASS B
REQUIRED

NOMINAL DIAMETER	A	B	C	TRENCH WIDTH
6"	1'4"	1'0"	1'2"	2'6"
8"	1'6"	1'0"	1'4"	2'8"
12"	2'2"	1'0"	2'2"	3'0"
16"	3'0"	1'0"	2'8"	3'4"
20"	4'0"	1'6"	3'0"	3'8"
24"	5'0"	2'0"	3'6"	4'0"
30"	6'6"	2'6"	4'2"	4'6"

**DETAIL OF TRENCHING & BLOCKING
OF 45° 00' BENDS**



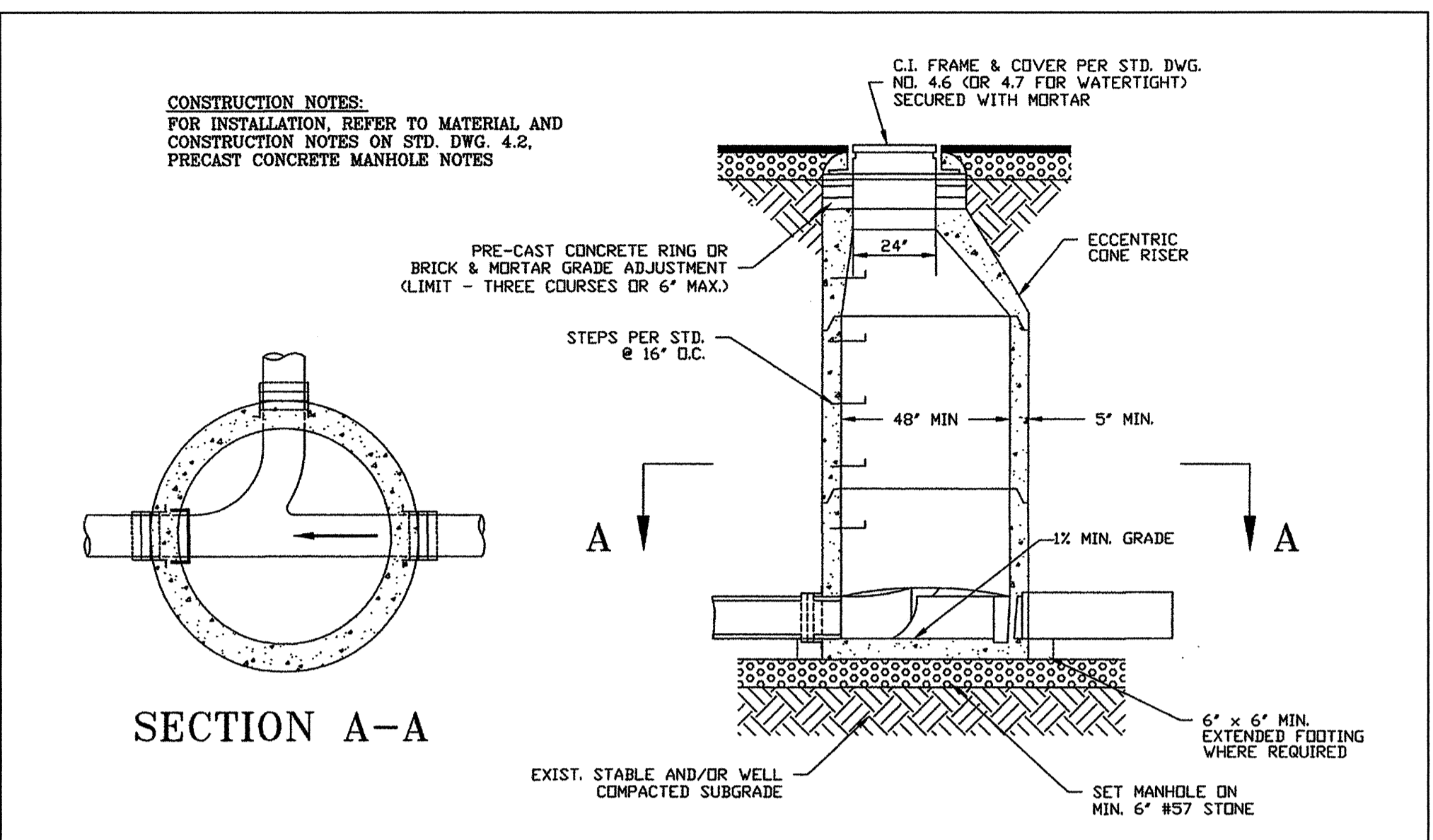
2500 P.S.I. CONCRETE
CLASS B
REQUIRED

NOMINAL DIAMETER	A	B	C	TRENCH WIDTH
6"	2'6"	1'0"	1'4"	2'6"
8"	3'0"	1'6"	1'10"	2'8"
12"	4'0"	1'6"	3'0"	3'0"
16"	6'0"	2'0"	3'8"	3'4"
20"	7'0"	2'6"	4'4"	3'8"
24"	8'0"	3'2"	5'6"	4'0"
30"	9'6"	4'0"	6'2"	4'6"

**DETAIL OF TRENCHING & BLOCKING
OF 90° 00' BENDS**

REVISIONS

FILE: SFILES
DATE: SDATE

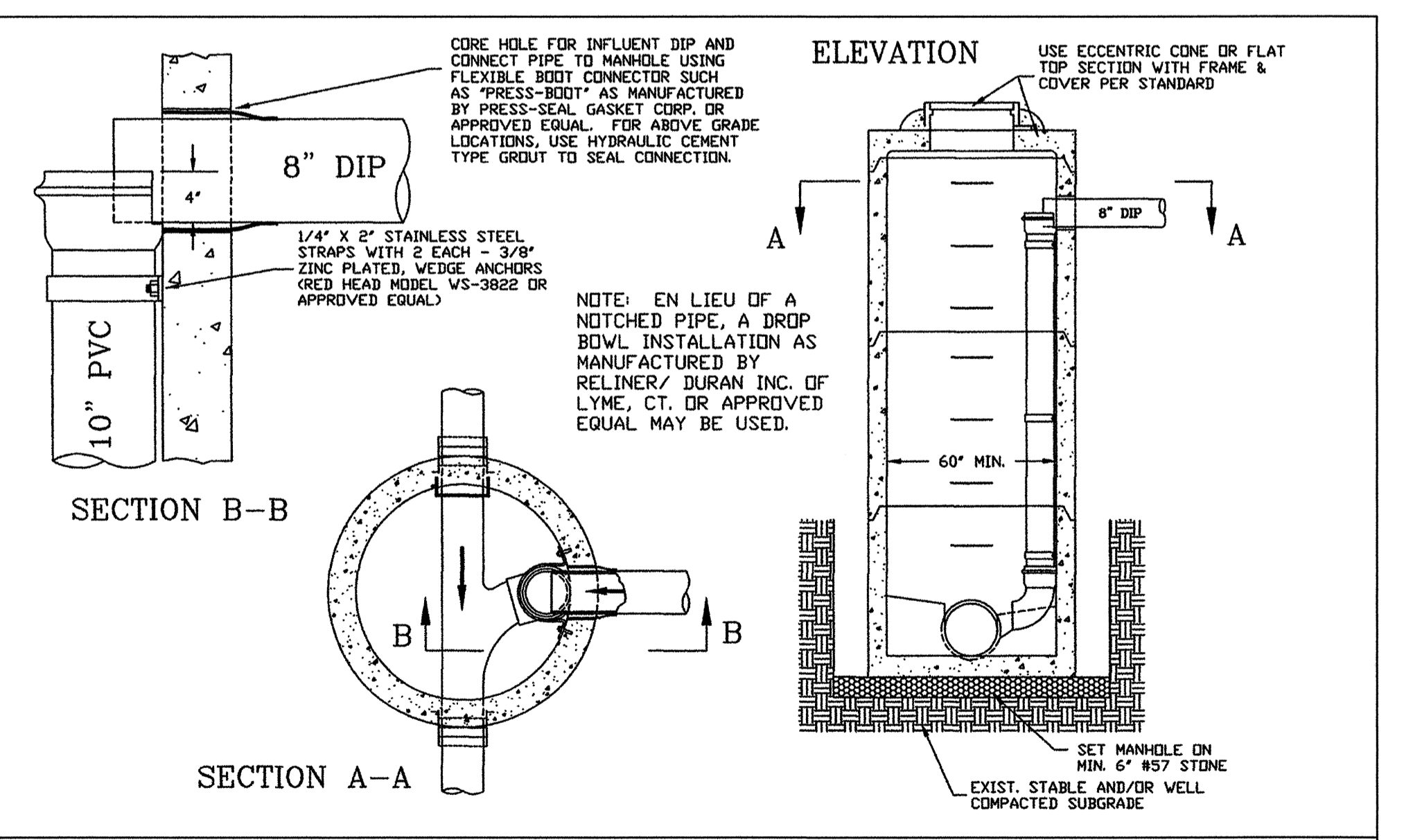


DETAIL OF PRECAST CONCRETE MANHOLE
NTS

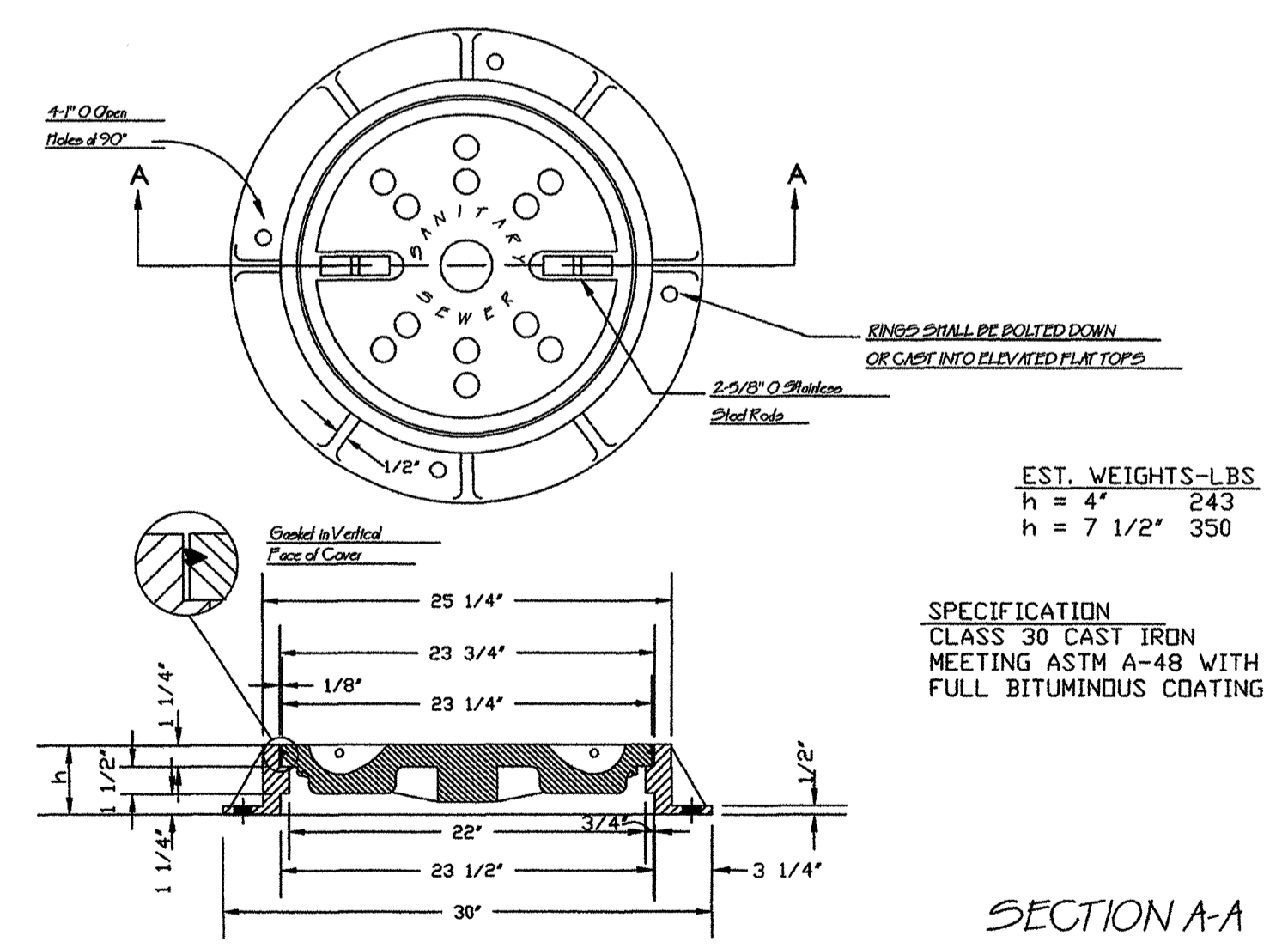
- NOTES:**
1. PRECAST CONCRETE MANHOLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C 478. ALL SURFACES SHALL BE SMOOTH AND EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FIN, AND OTHER IMPERFECTIONS.
 2. JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WATERTIGHT USING EITHER O-RING GASKETS CONFORMING WITH ASTM C 443 OR BUTYL RESIN CONFORMING WITH AASHTO M-198.
 3. HOLES FOR CONNECTION OF PIPE TO MANHOLE SHALL BE PRECAST OR CORED. DIAMETER OF HOLE SHALL NOT EXCEED OUTSIDE DIAMETER OF PIPE BY MORE THAN 3 INCHES.
 4. CONNECTIONS OF PIPE TO MANHOLE SHALL BE MADE WATERTIGHT USING RESILIENT CONNECTORS CONFORMING TO ASTM C 923 OR NEOPRENE BOOTS EMBEDDED IN PRECAST BASE WITH STAINLESS STEEL COMPRESSION BANDS.
 5. MANHOLE INVERTS SHALL BE INSTALLED USING BRICK AND MORTAR, OR MANHOLES MAY BE PRECAST, MONOLITHIC SECTIONS WITH FORMED INVERTS.
 6. LIFT HOLES SHALL BE PLUGGED AND FILLED FLUSH WITH MORTAR.
 7. ALL BRICK AND MORTAR SHALL RECEIVE A 1/2" MORTAR PARGE COAT ON INSIDE AND OUTSIDE.

PRECAST CONCRETE MANHOLE NOTES
NTS

REVISIONS



DETAIL OF PRECAST CONCRETE MANHOLE WITH INSIDE DROP
NTS

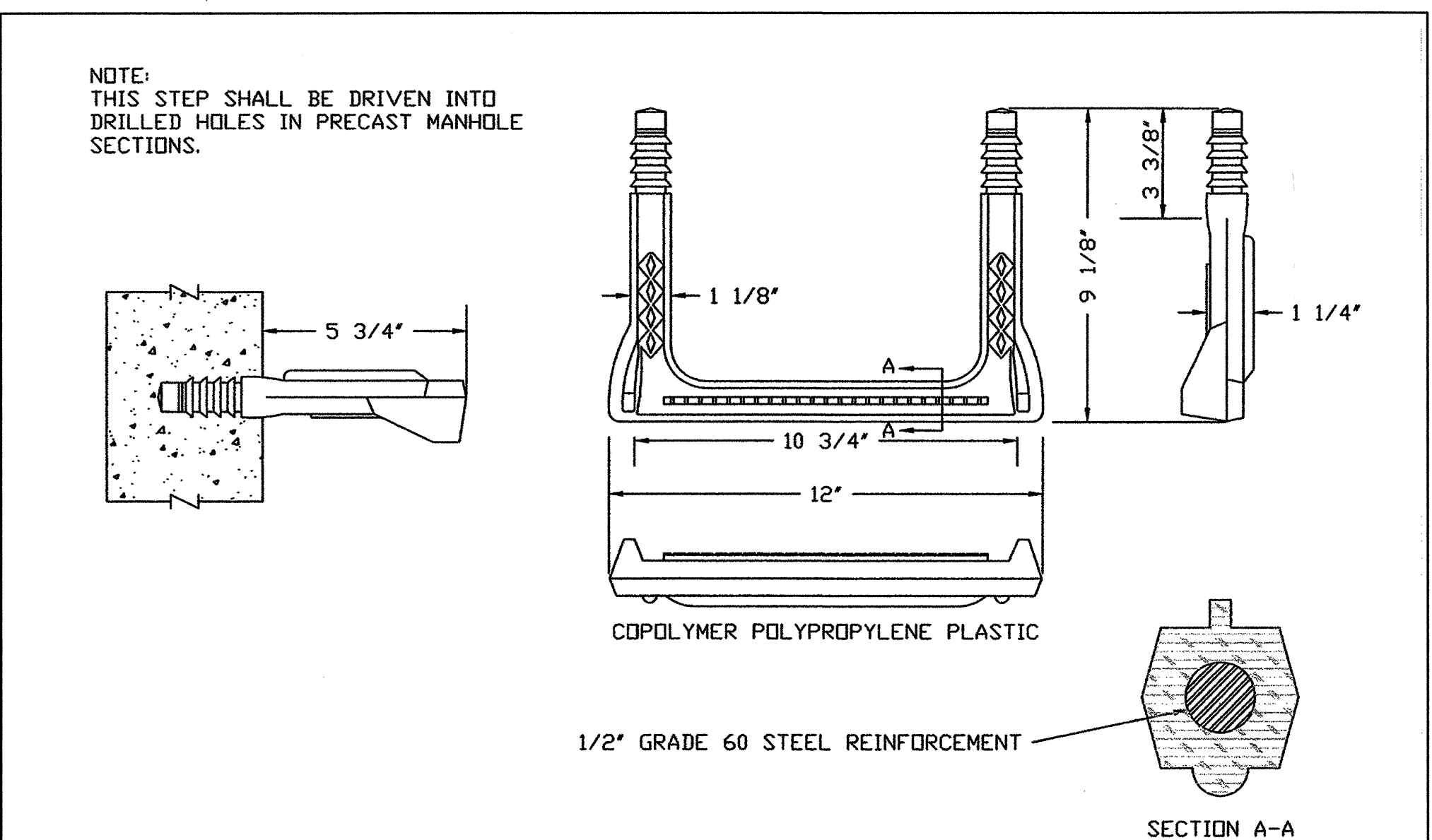


EST. WEIGHTS-LBS
h = 4" 243
h = 7 1/2" 350

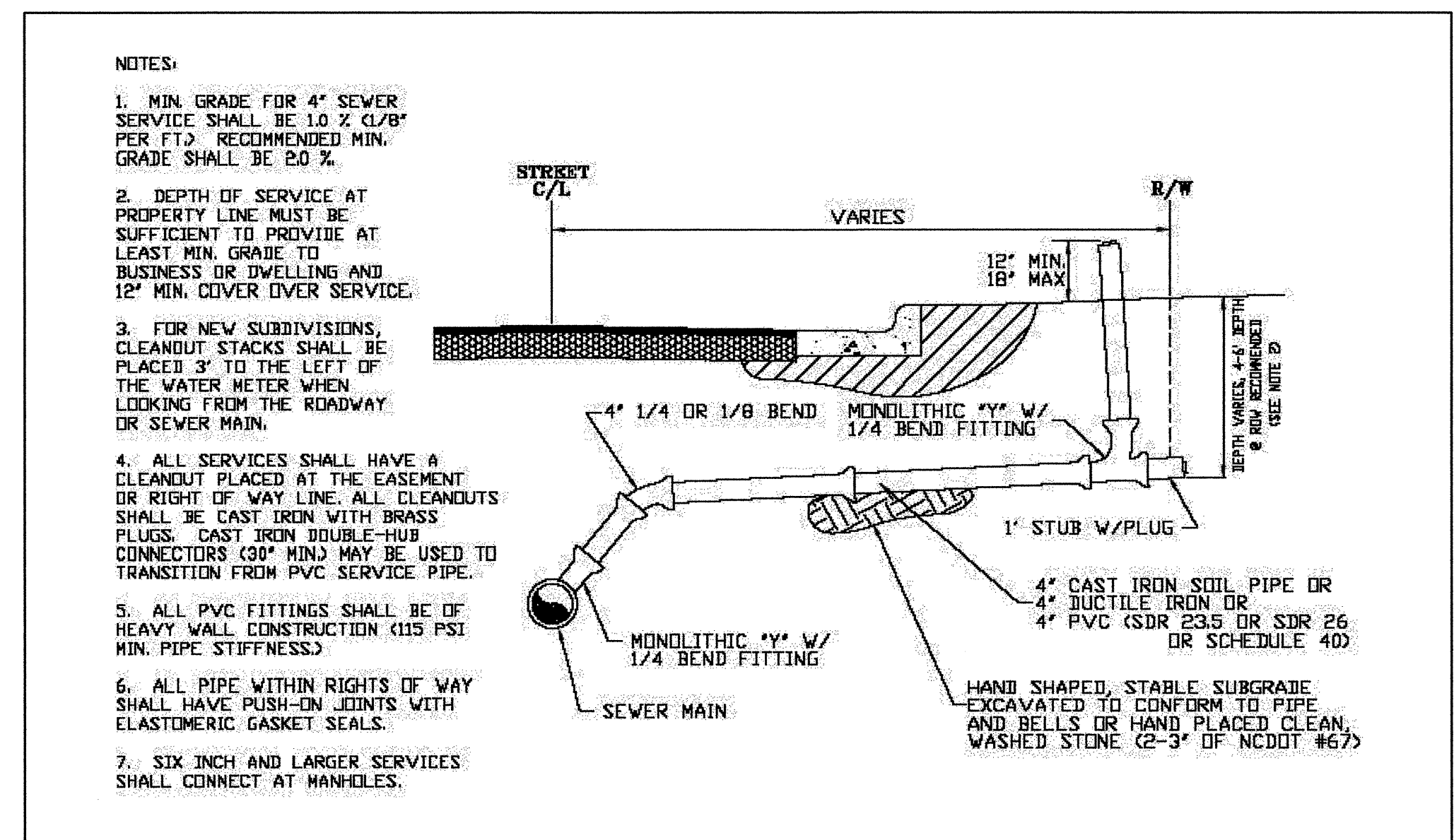
SPECIFICATION
CLASS 30 CAST IRON
MEETING ASTM A-48 WITH
FULL BITUMINOUS COATING

DETAIL FOR WATERTIGHT MANHOLE RING & COVER
NTS

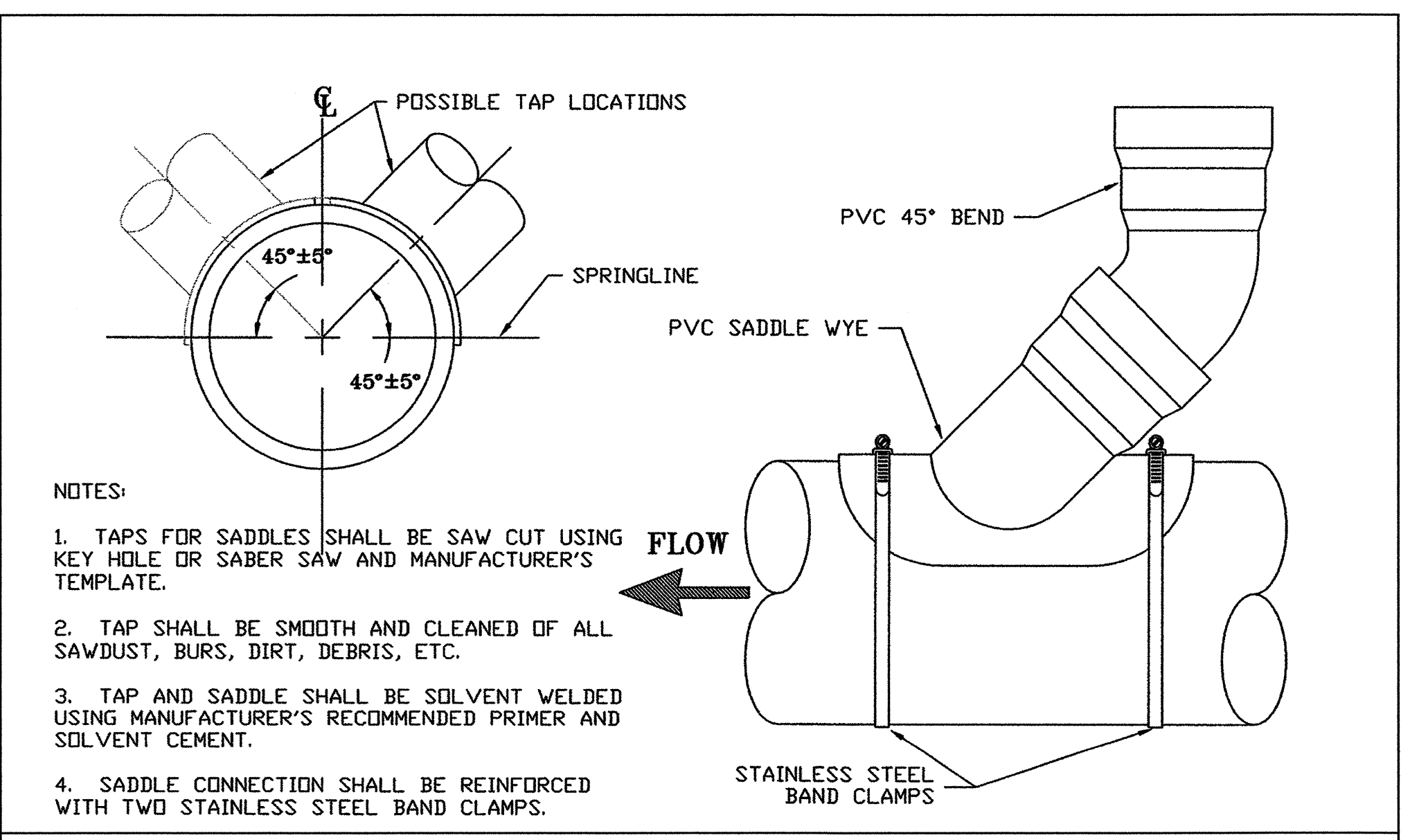
FILE: SFLES
DATE: 5/24/10



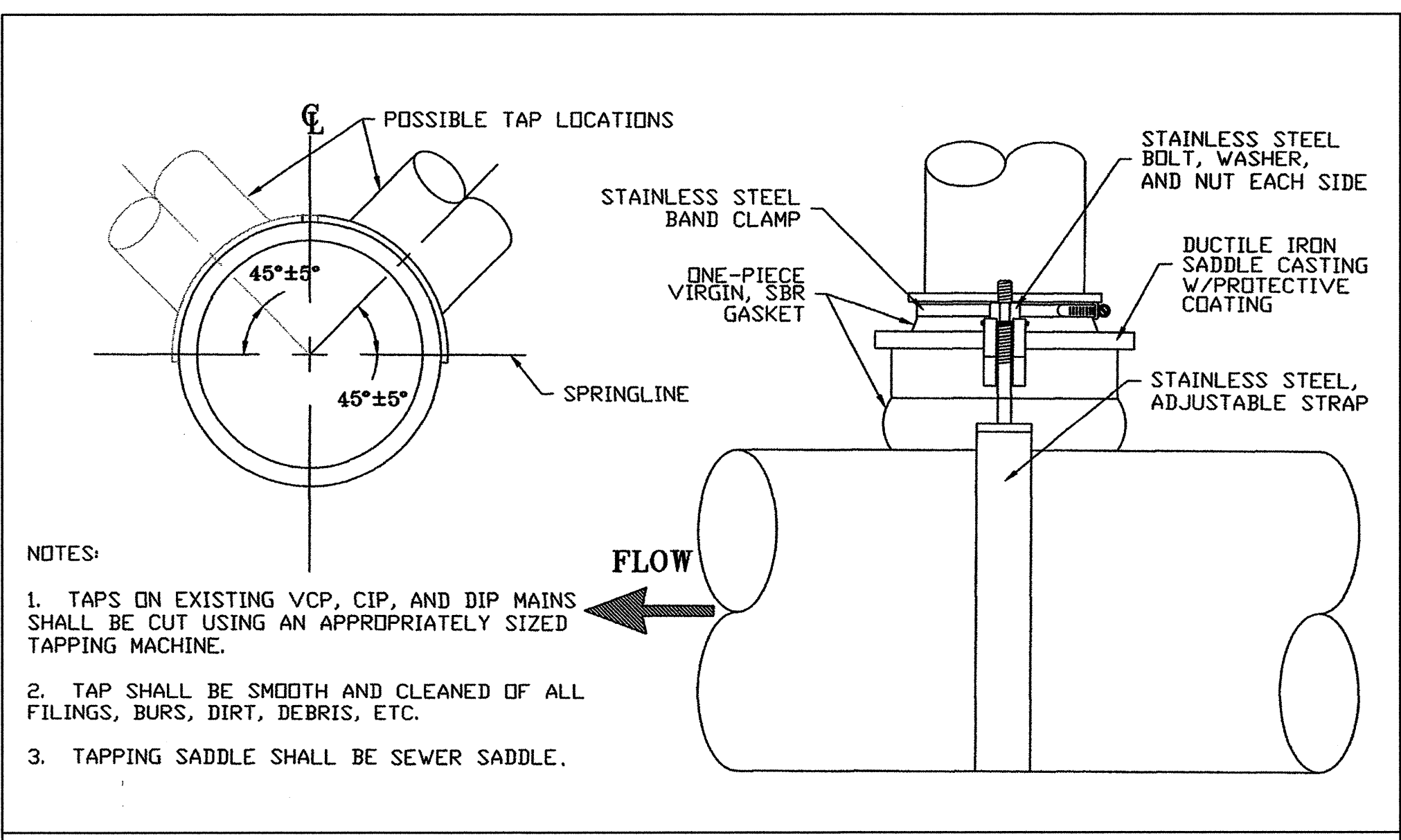
DETAIL OF STEP FOR PRECAST MANHOLE
NTS



DETAIL OF STANDARD 4" SERVICE LATERAL
NTS



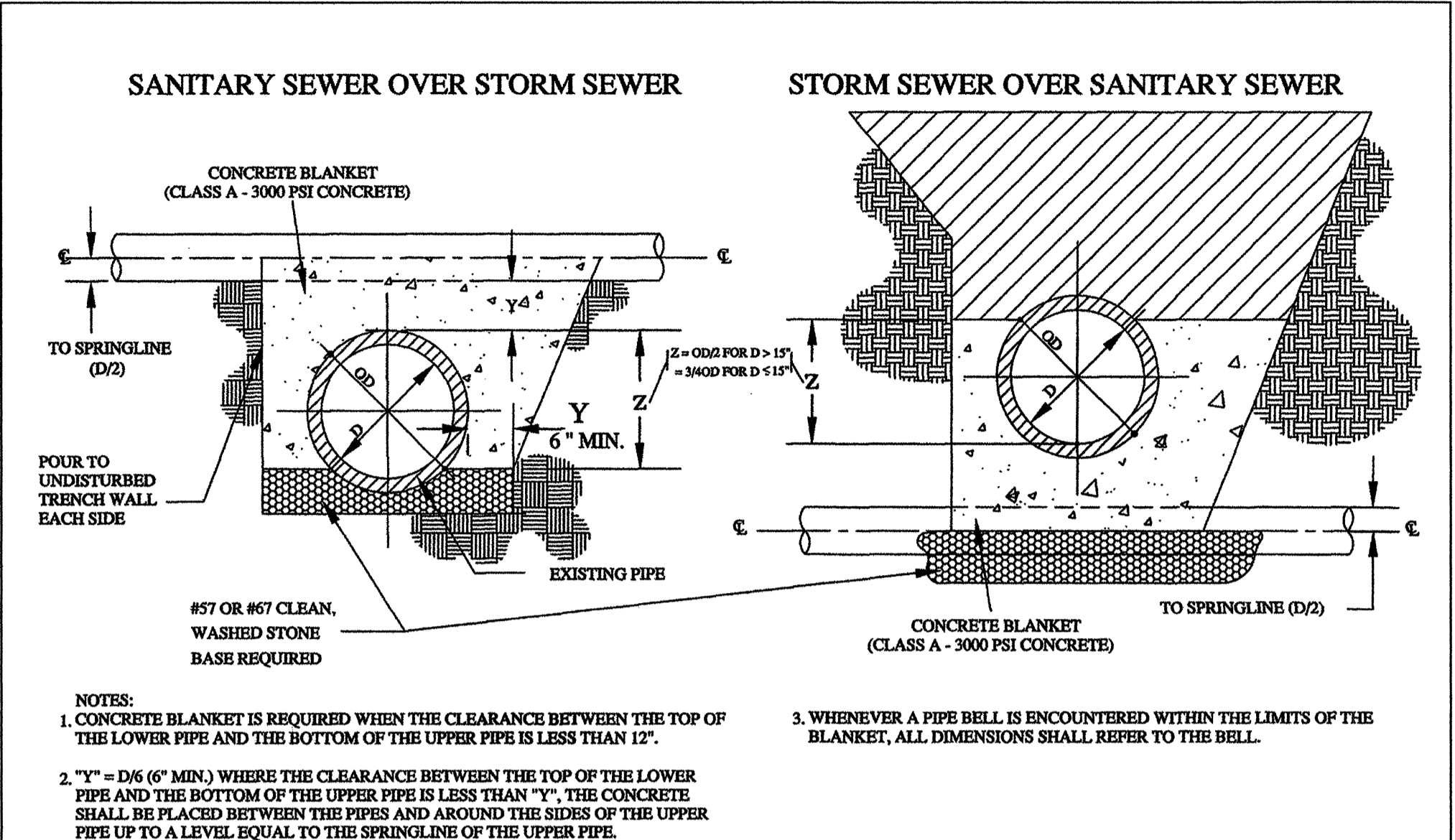
DETAIL OF STANDARD 4" SERVICE CONNECTION
ON EXISTING PVC MAIN
NTS



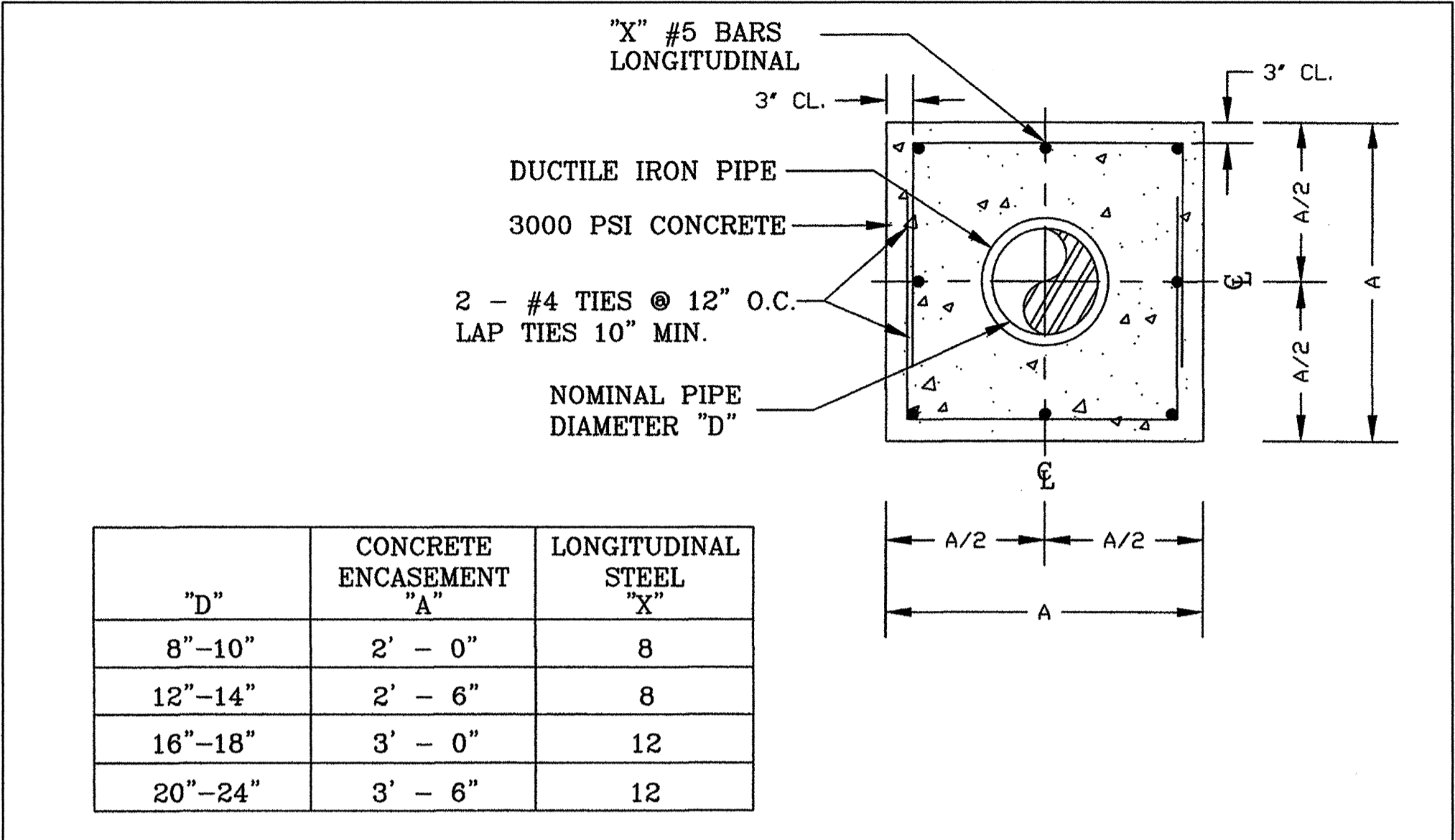
DETAIL OF STANDARD 4" SERVICE CONNECTION
ON EXISTING VCP, CIP, OR DIP MAIN
NTS

REVISIONS

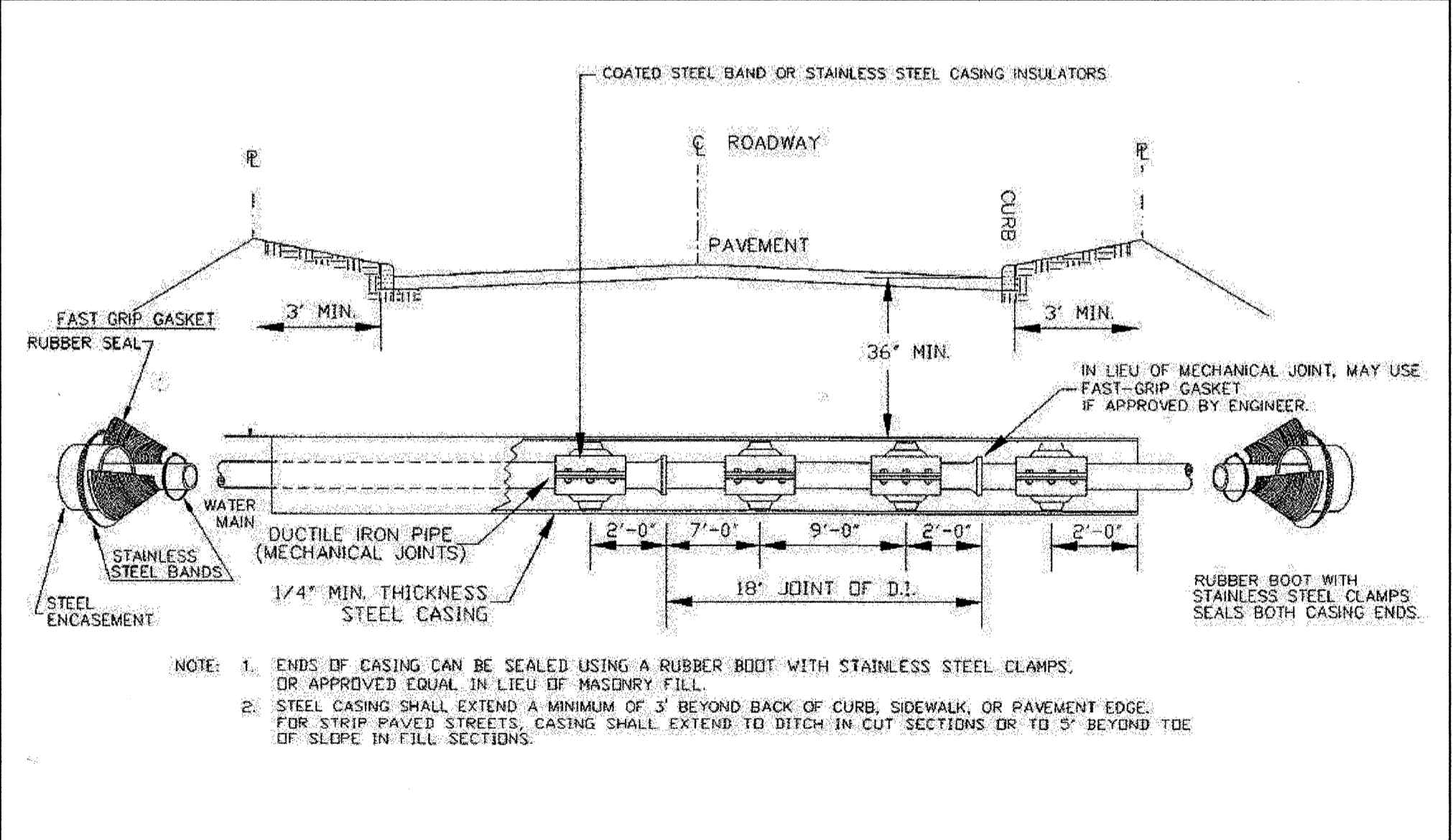
FILE: SFILES
DATE: 04/25/10



DETAIL OF CONCRETE BLANKET FOR CROSSING SEWER PIPES
 NTS



DETAIL OF CONCRETE ENCASEMENT
 NTS



DETAIL OF STEEL ENCASEMENT PIPE
 NTS

REVISIONS

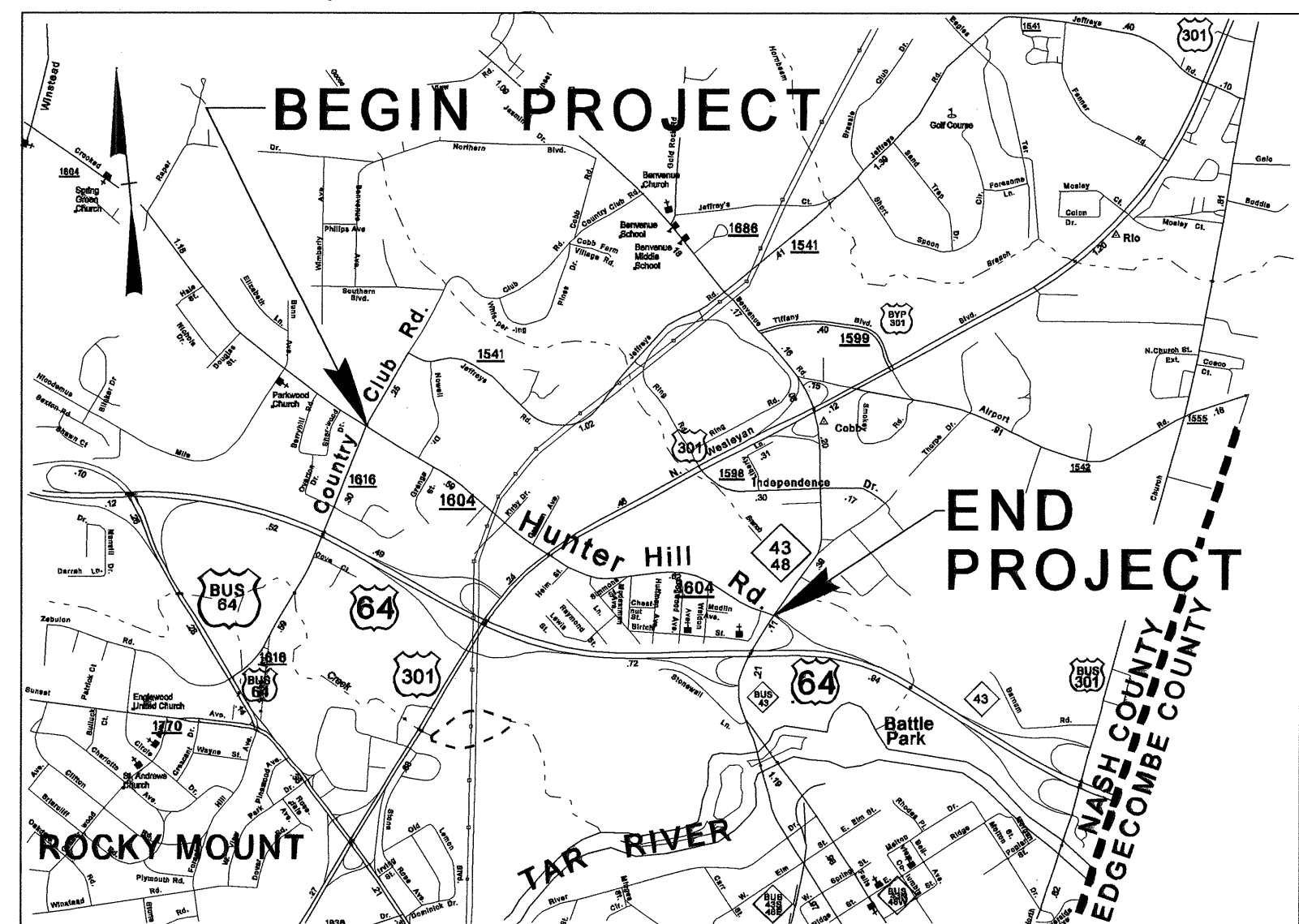
FILE: SFILES
 DATE: 8/24/10

09/08/99
04-NOV-2010 16:23
C:\Projects\NCDOT\NCDOT Utility On-Call\Contract U-3621B Nash County\U-3621B Utility\U3621b_rdy.tsh_UB0.dgn
CNewsome AT LPA30966

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-3621B	UO-1



VICINITY MAP

UTILITIES BY OTHERS PLAN NASH COUNTY

LOCATION: SR 1604 (HUNTER HILL RD) IN ROCKY MOUNT FROM
SR 1616 (COUNTRY CLUB RD) TO NC 43/48 (BENVENUE RD)

TYPE OF WORK: GRADING, WIDENING, PAVING, DRAINAGE,
STRUCTURES, SIGNALS AND GUARDRAIL.

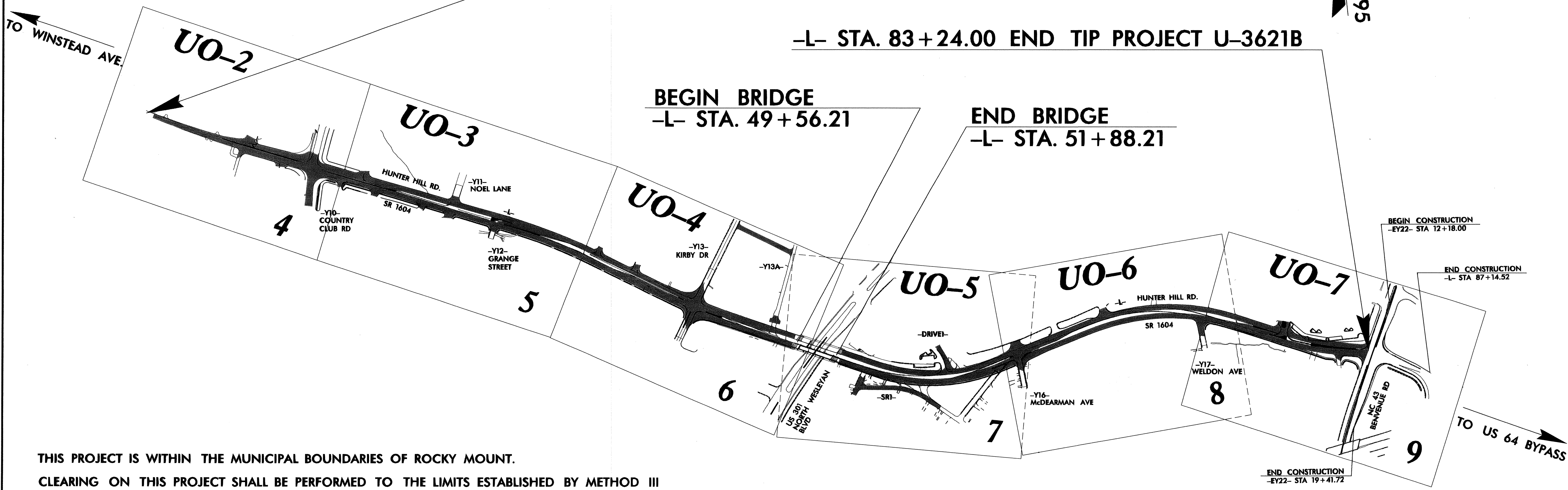


TIP PROJECT: U-3621B

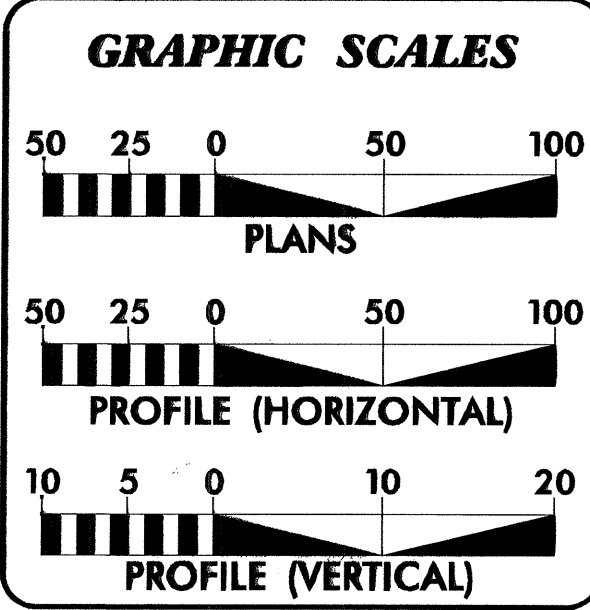
CONTRACT:

-L- STA. 10+00.00 BEGIN TIP PROJECT U-3621B

-L- STA. 83+24.00 END TIP PROJECT U-3621B

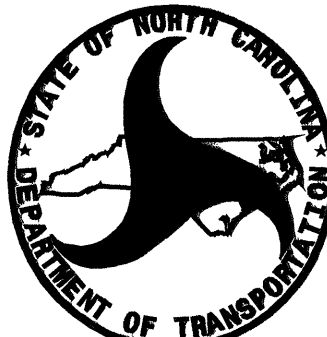


THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ROCKY MOUNT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 TO UO-7	UTILITY BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT
(1) Progress Energy (Power Transmission)
(2) City of Rocky Mount (Power Distribution /Transmission)
(3) Century Link (Telecommunications)
(4) Sudden Link (Cable Television)
(5) City of Rocky Mount (Gas Distribution)

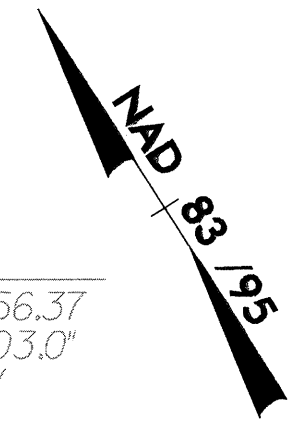


PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E.	UTILITIES SECTION ENGINEER
Steve McKee, P.E.	UTILITIES SQUAD LEADER PROJECT ENGINEER
Brandy Creech	UTILITIES COORDINATION CONSULTANT

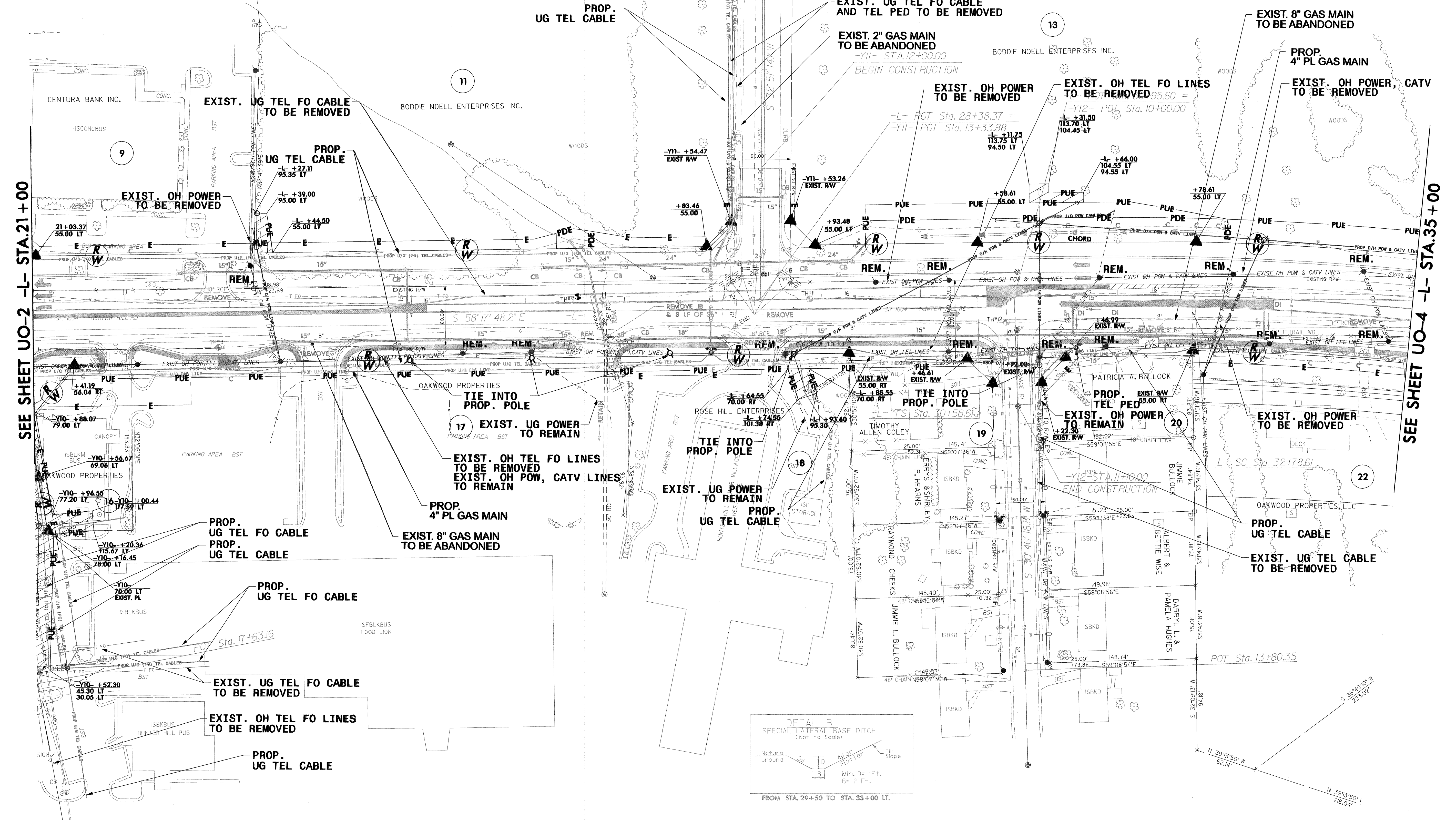
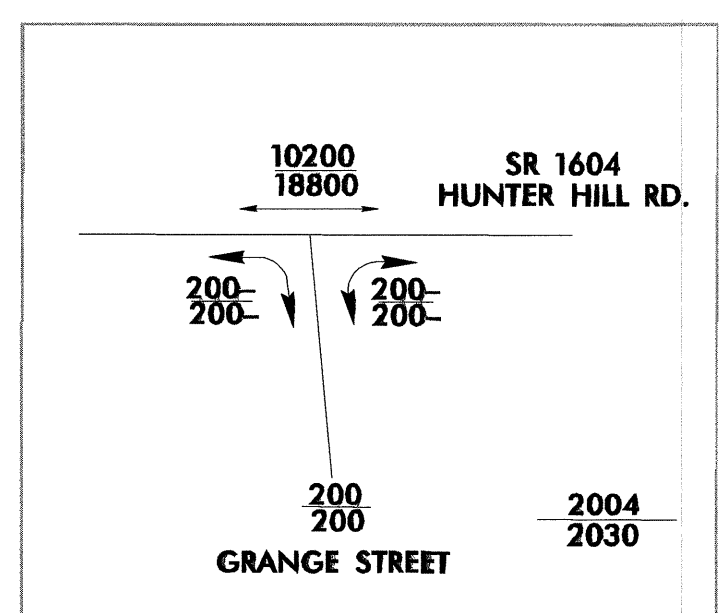
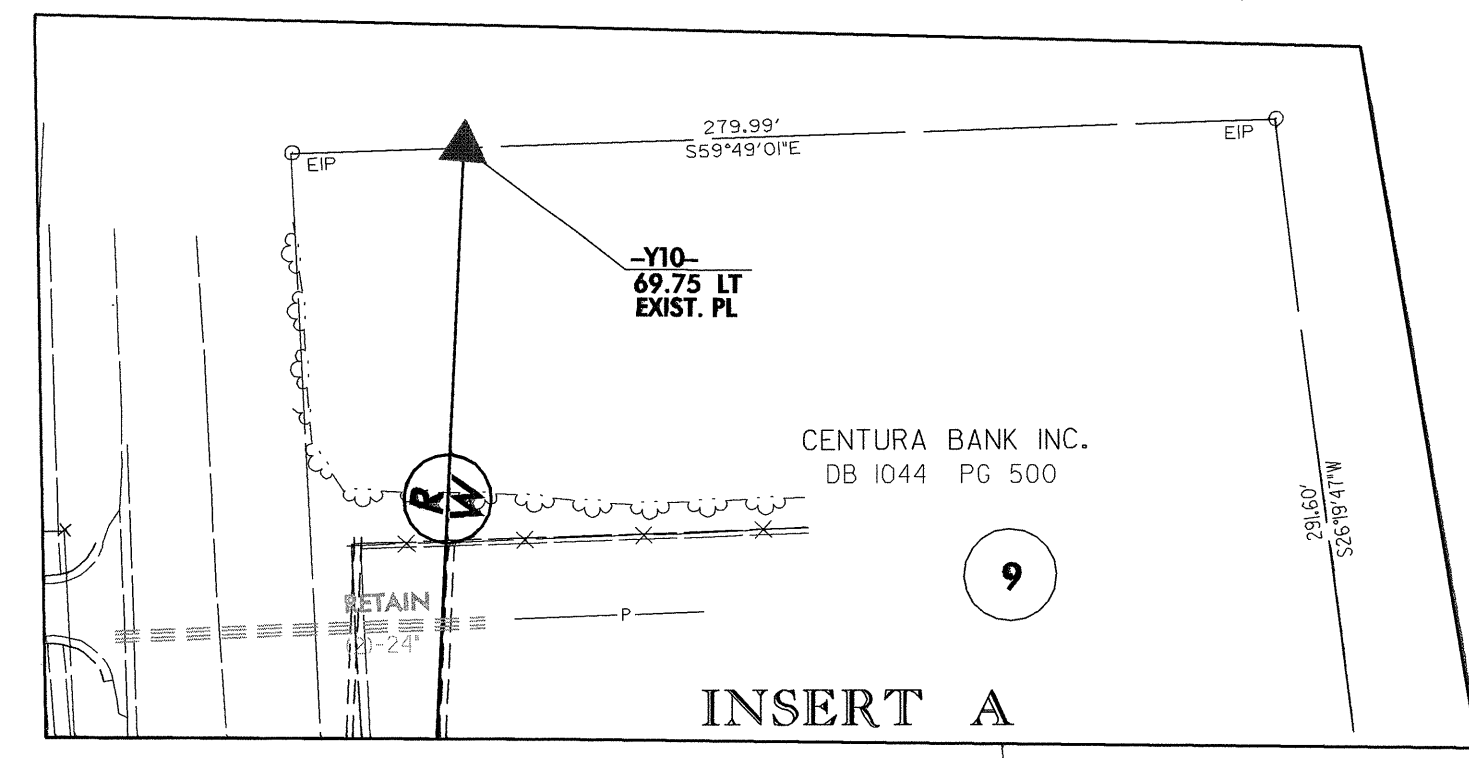
NOTE:
 ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



Pls Sta 32+05.29
 $\Theta_s = 2'06''03.0''$
 $L_s = 220.00'$
 $LT = 146.68'$
 $ST = 73.34'$

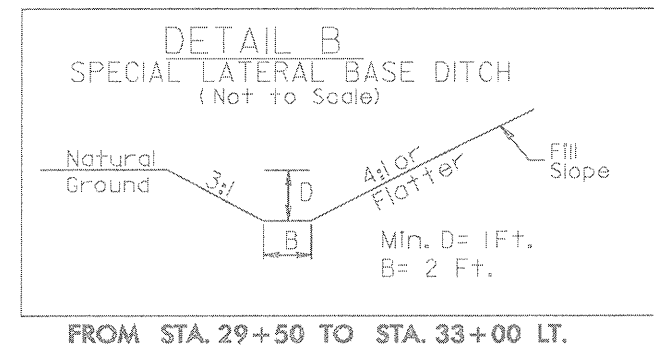
Pls Sta 34+30.95
 $\Delta = 5'48''50.0''(RT)$
 $D = 1'54''35.5''$
 $L = 304.4'$
 $T = 152.34'$
 $R = 3,000.00'$
 $RO = \text{SEE PLANS}$

Pls Sta 36+56.37
 $\Theta_s = 2'06''03.0''$
 $L_s = 220.00'$
 $LT = 146.68'$
 $ST = 73.34'$



SEE SHEET UO-2 -L- STA.21+00

SEE SHEET UO-4 -L- STA.35+00

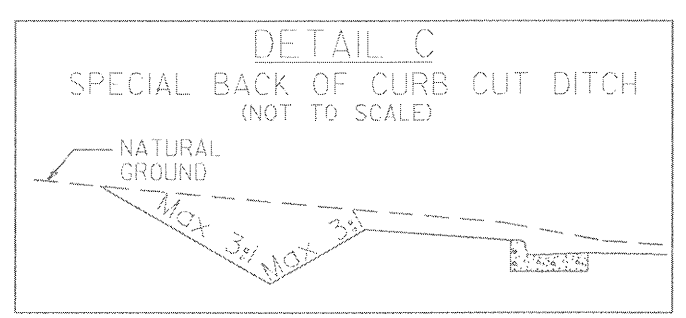
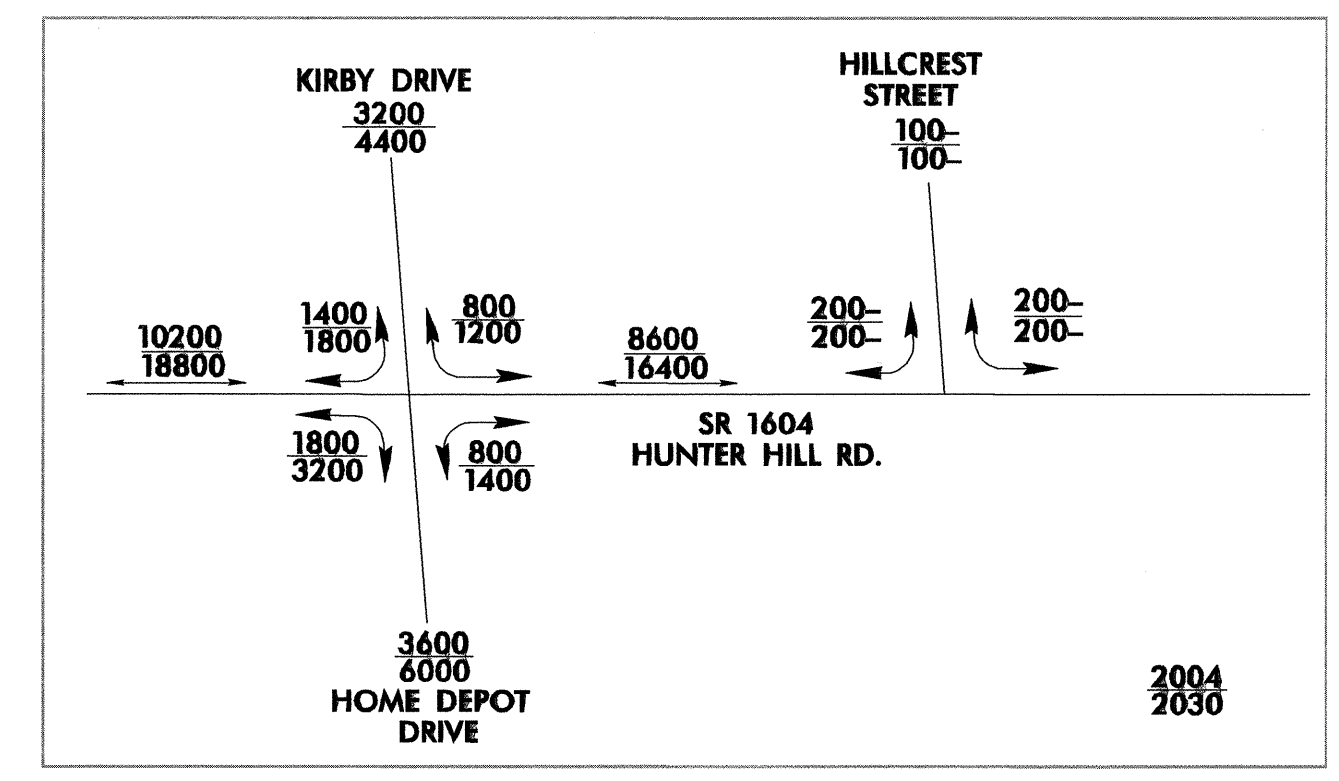
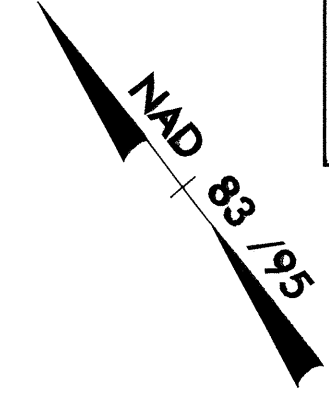


FROM STA. 29+50 TO STA. 33+00 LT.

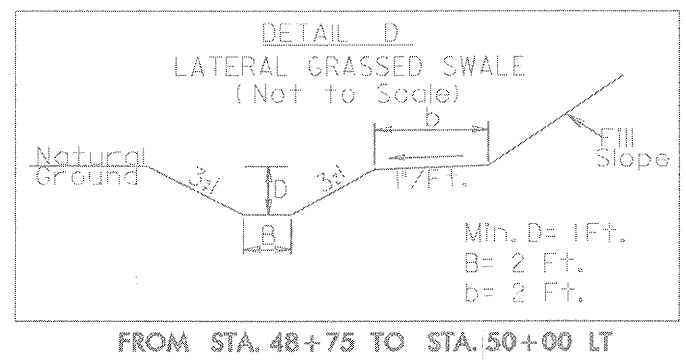
94-NOV-2010 16:26 UTILITY_COORDINATION\Utility Un-Call\Contr-ct U-3621B Nash County U-3621B Utility Un-Call\Utility Un-Call\U-003.dgn

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

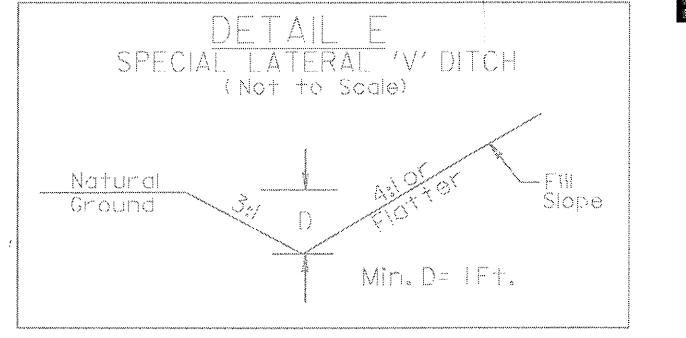
JOSEPH HOWELL



FROM -L- STA. 41+70 TO STA. 42+70 LT.
FROM -L- STA. 43+85 TO STA. 45+10 LT.
FROM -Y13- STA. 8+70 TO STA. 10+20 LT.
FROM -Y13- STA. 14+50 TO STA. 14+90 RT.
FROM -Y13- STA. 14+70 TO STA. 15+00 LT.



FROM STA. 48+75 TO STA. 50+00 LT



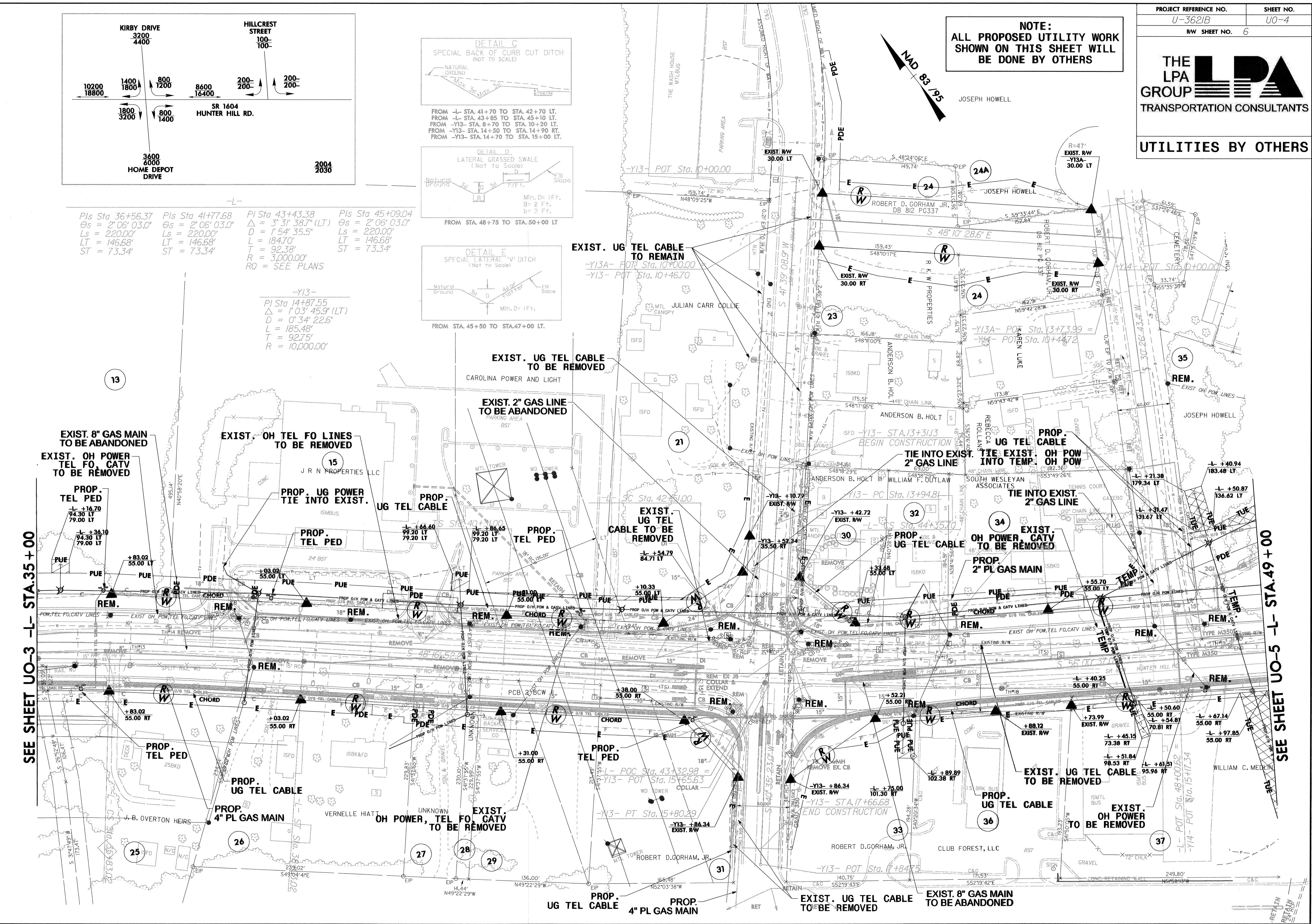
FROM STA. 45+50 TO STA. 47+00 LT.

Pls Sta 36+56.37 $\Delta s = 2' 06" 03.0"$ $Ls = 220.00'$ $LT = 146.68'$ $ST = 73.34'$
Pls Sta 41+77.68 $\Delta s = 2' 06" 03.0"$ $Ls = 220.00'$ $LT = 146.68'$ $ST = 73.34'$
Pls Sta 43+43.38 $\Delta = 3' 31" 38.7" (LT)$ $D = 1' 54" 35.5"$ $L = 184.70'$ $T = 92.38'$ $R = 3,000.00'$ $RO = \text{SEE PLANS}$
Pls Sta 45+09.04 $\Delta s = 2' 06" 03.0"$ $Ls = 220.00'$ $LT = 146.68'$ $ST = 73.34'$

-Y13-
PI Sta 14+87.55
 $\Delta = 1' 03" 45.9" (LT)$
 $D = 0' 34" 22.6"$
 $L = 185.48'$
 $T = 92.75'$
 $R = 10,000.00'$

SEE SHEET UO-3 -L- STA.35 + 00

SEE SHEET UO-5 -L- STA.49 + 00

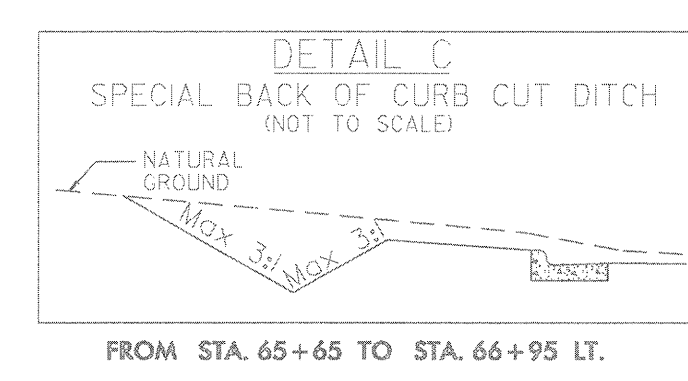
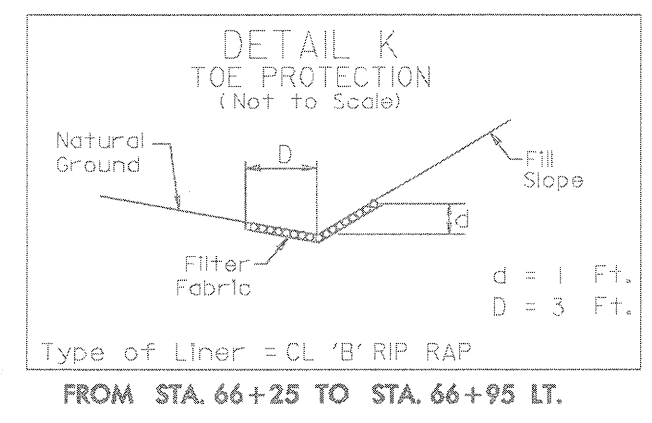
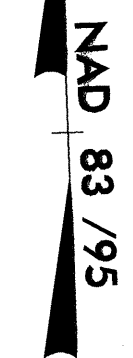


REVISIONS

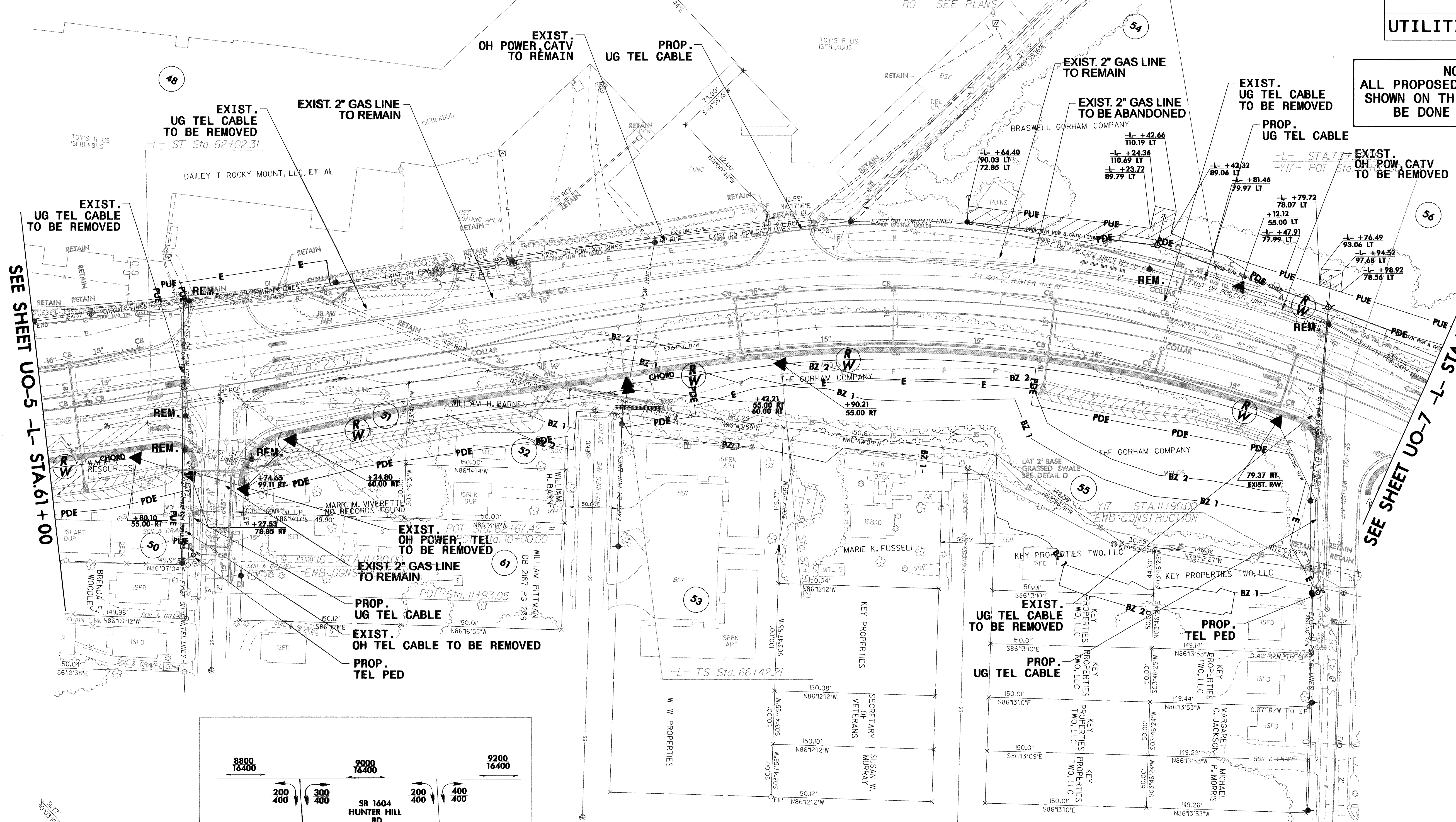
94-NOV-2010 16:24 UTILITY COORDINATION
U:\Projects\Nash County\Utility On-Call\Center\U-3621B Nash County\Utility On-Call\U-3621B_rdy_psh_U004.dgn
U:\Projects\Nash County\Utility On-Call\Center\U-3621B Nash County\Utility On-Call\U-3621B_rdy_psh_U004.dgn

NOTE:
 ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

DAILEY T ROCKY MOUNT, LLC, ET AL
 DB 2267 PG 543

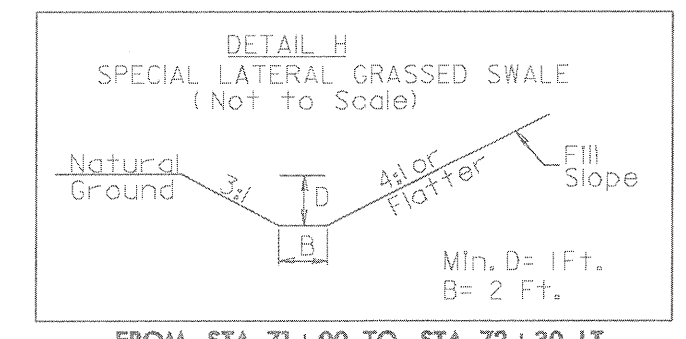
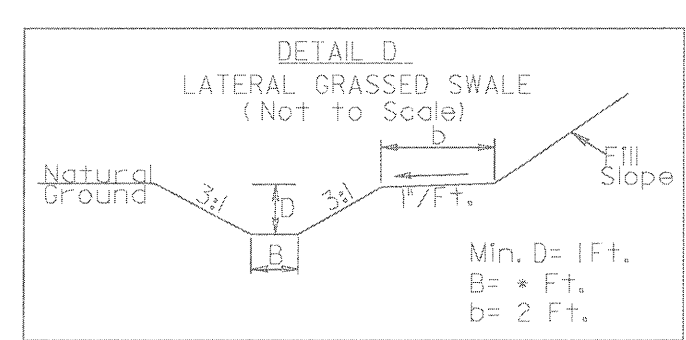
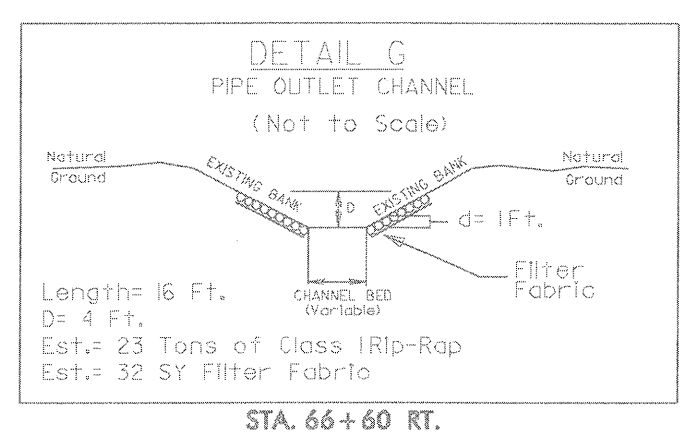
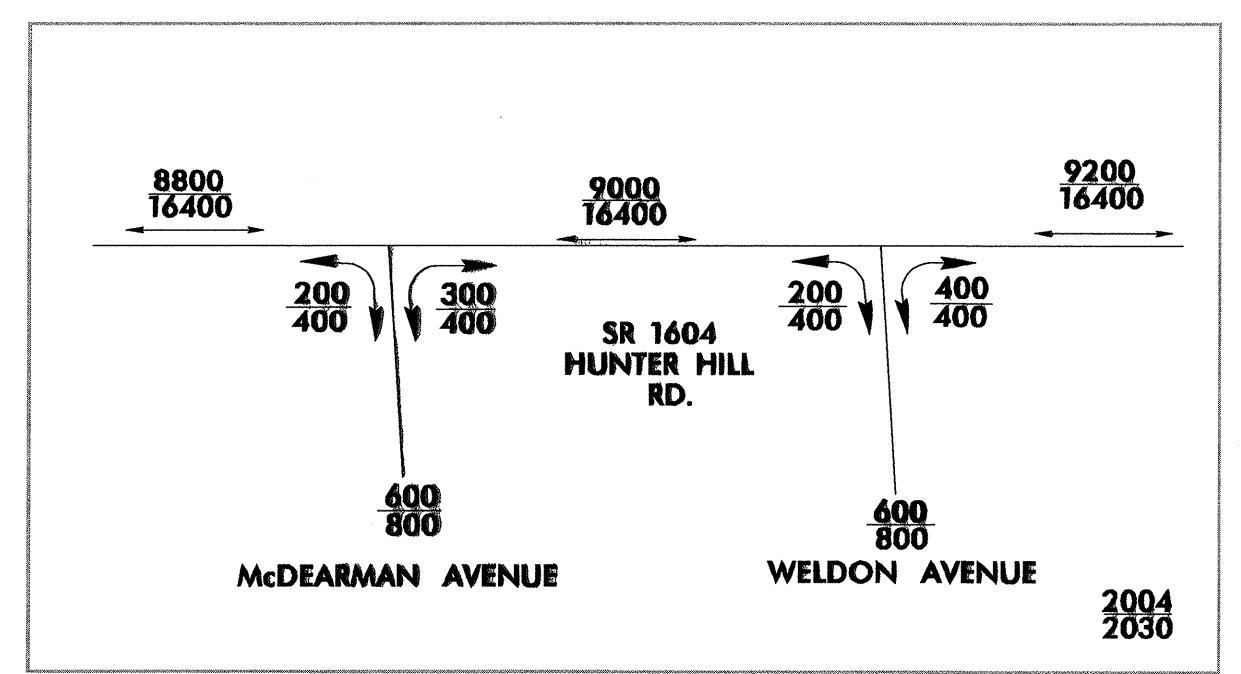


-L-
 Pls Sta 61+03.67
 Os = 4' 14" 23.6"
 Ls = 148.00'
 LT = 98.69'
 ST = 49.36'
 Pls Sta 67+40.89
 Os = 3' 31" 59.7"
 Ls = 148.00'
 LT = 98.69'
 ST = 49.35'
 Pls Sta 71+43.57
 Δ = 32' 48" 58.7" (RT)
 D = 4' 46" 28.7"
 L = 687.30'
 T = 353.36'
 R = 1,200.00'
 RO = SEE PLANS



SEE SHEET UO-5 -L- STA.61+00

SEE SHEET UO-7 -L- STA.74+00



FROM STA. 60+00 TO STA. 61+10 RT; B=2 Ft.
 FROM STA. 63+00 TO STA. 65+50 RT; B=4 Ft.
 FROM STA. 70+50 TO STA. 73+0 RT; B=2 Ft.

-Y17- POT Sta. 15+09.71

REVISIONS

04-NOV-2010 16:24 UTILITY COORDINATION\Utility Dr-Call Contr-pot-U-3621B Util.tty Uo3621b.rdy.psh_UO06.dgn
 03-NOV-2010 16:24 UTILITY COORDINATION\Utility Dr-Call Contr-pot-U-3621B Util.tty Uo3621b.rdy.psh_UO06.dgn

NOTE:
 ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

PI Sta 71+43.57 Δ = 32' 48" 58.7" (RT) D = 4' 46" 28.7" L = 687.30' T = 353.36' R = 1,200.00' RO = SEE PLANS

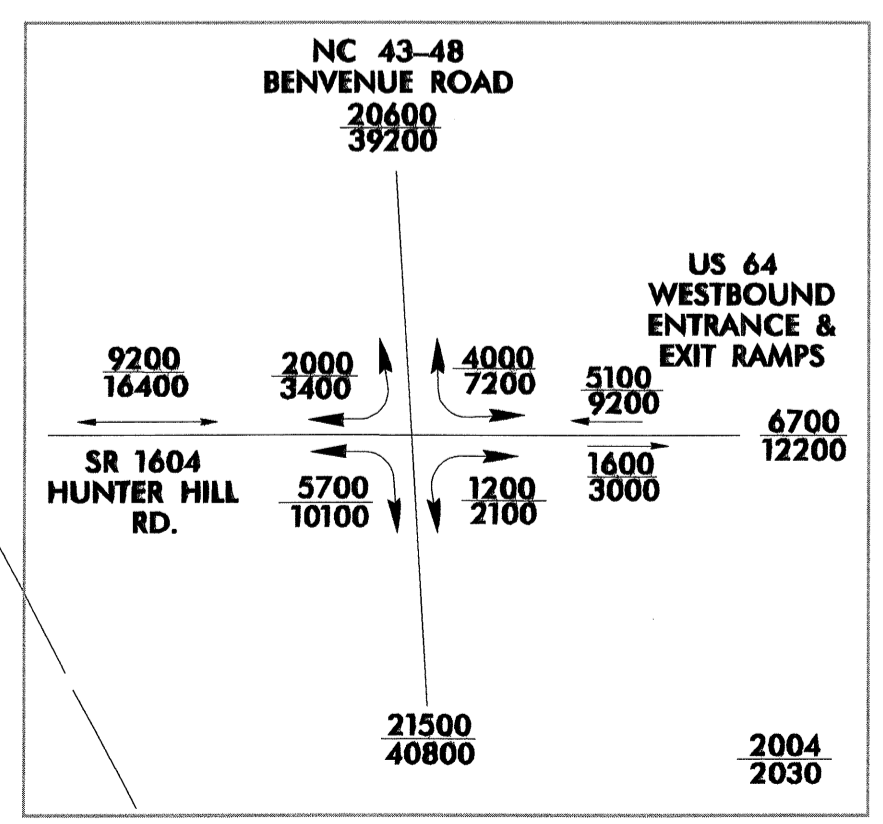
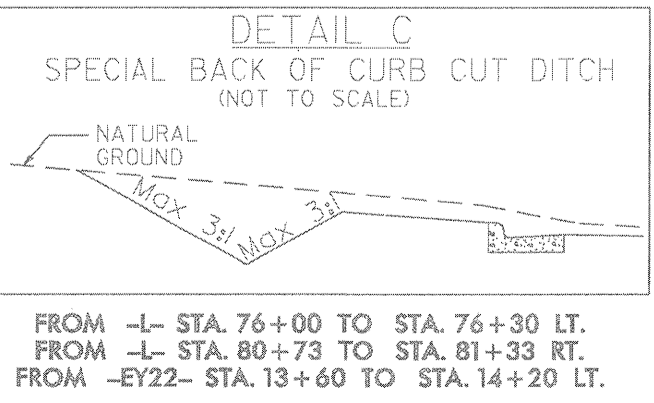
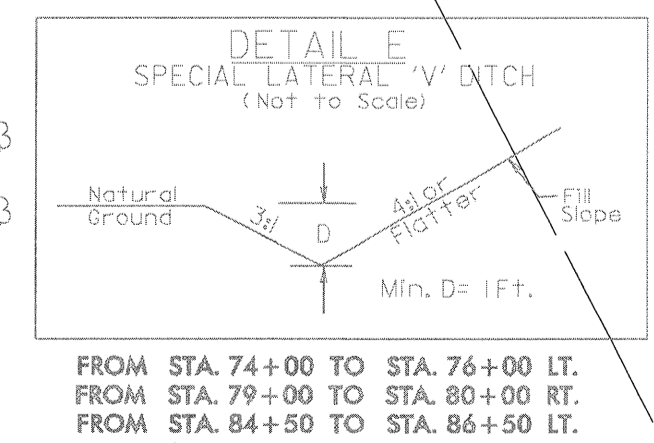
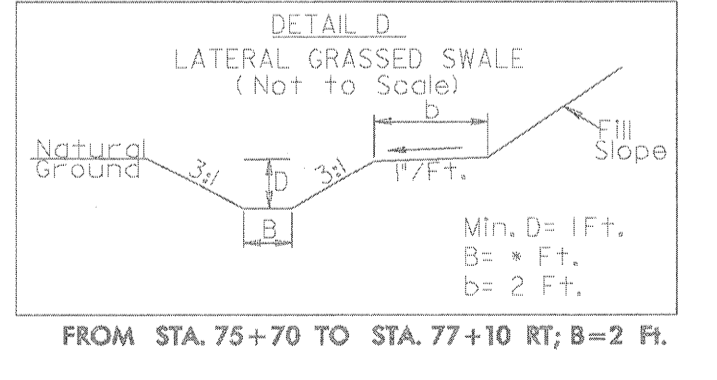
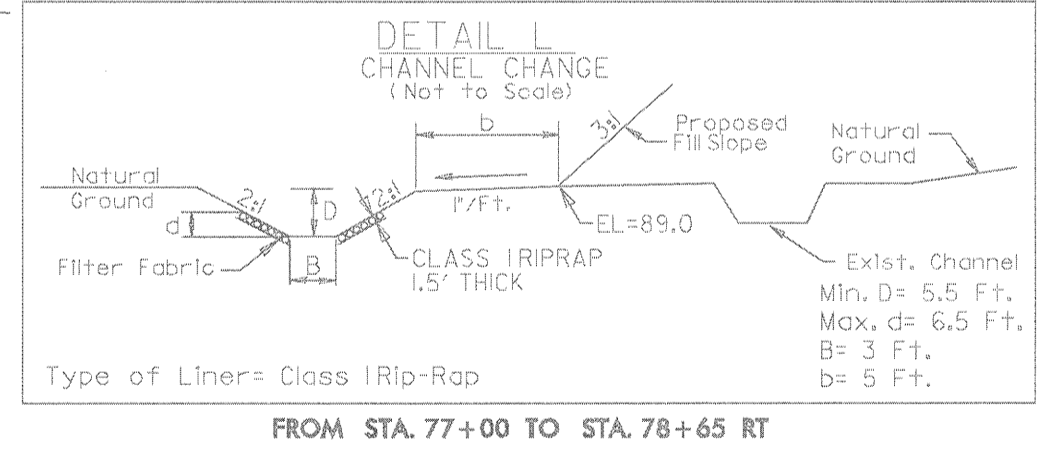
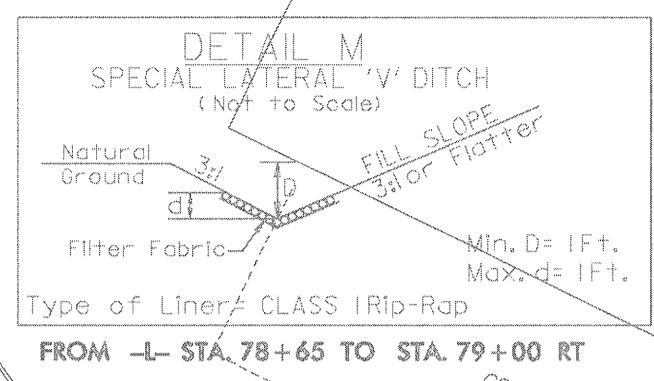
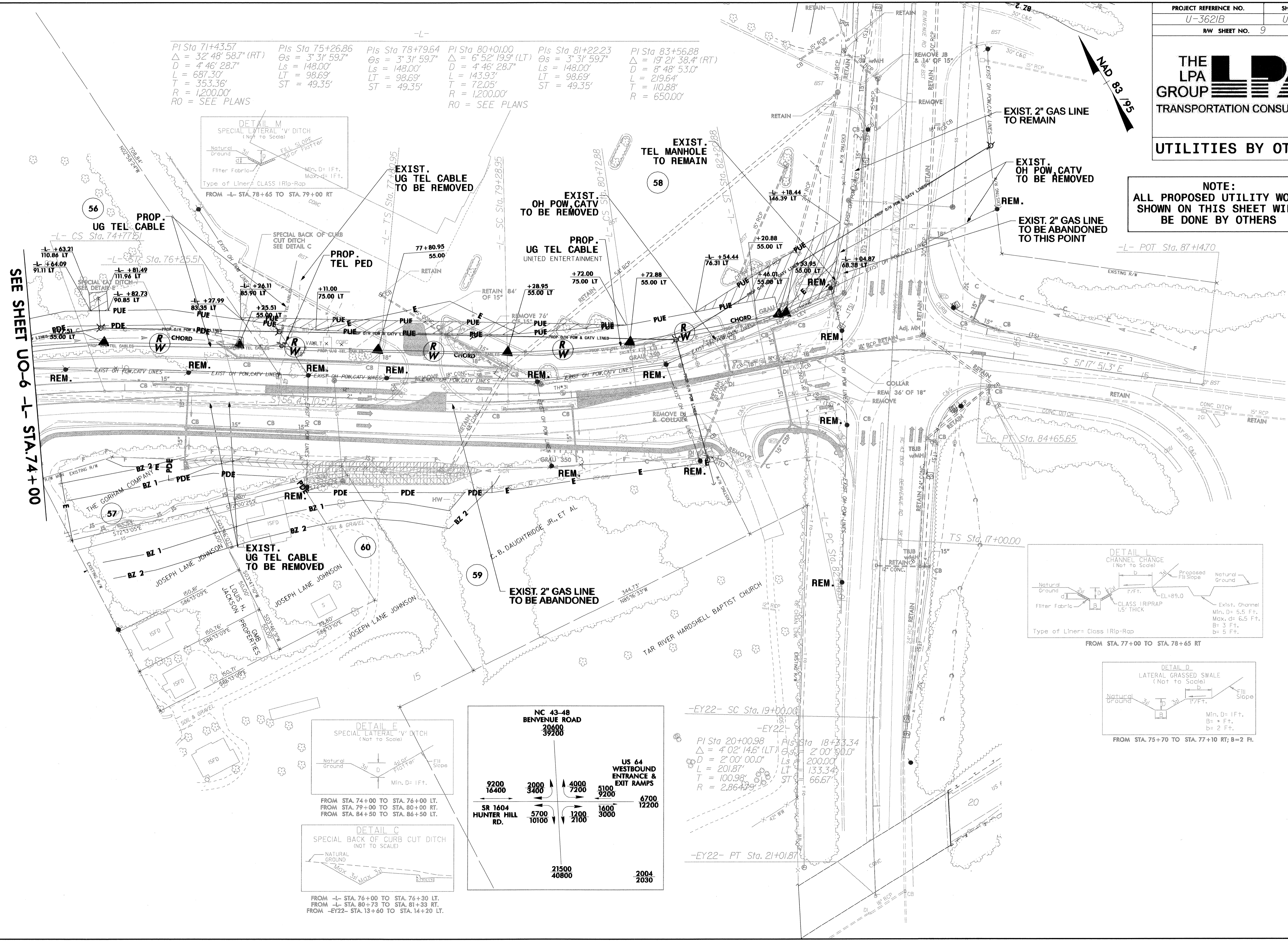
PIs Sta 75+26.86 Δs = 3' 31" 59.7" Ls = 148.00' LT = 98.69' ST = 49.35'

PIs Sta 78+79.64 Δs = 3' 31" 59.7" Ls = 148.00' LT = 98.69' ST = 49.35'

PI Sta 80+01.00 Δ = 6' 52" 19.9" (LT) D = 4' 46" 28.7" L = 143.93' T = 72.05' R = 1,200.00' RO = SEE PLANS

PIs Sta 81+22.23 Δs = 3' 31" 59.7" Ls = 148.00' LT = 98.69' ST = 49.35'

PI Sta 83+56.88 Δ = 19' 21" 38.4" (RT) D = 8' 48" 53.0" L = 219.64' T = 110.88' R = 650.00'



SEE SHEET UO-6 -L- STA. 74+00

REVISIONS

04 NOV-2010 16:24 UTILITY COORDINATION Nash County U-3621B Utility U-3621B_rdy.ph_U007.dgn
 11/04/2010 10:00 Utility On Call Contract U-3621B
 11/04/2010 10:00 Utility On Call Contract U-3621B