

090899

TIP PROJECT: R-5019

C201803

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLAN
FOR WATERLINE RELOCATION

ROBESON COUNTY

LOCATION: US 301 FROM EXISTING THREE-LANE SECTION 0.09 MI SOUTHEAST OF
SIMMONS DRIVE TO 0.22 MI NORTHEAST OF SR 1765 (ROZIER CHURCH ROAD)

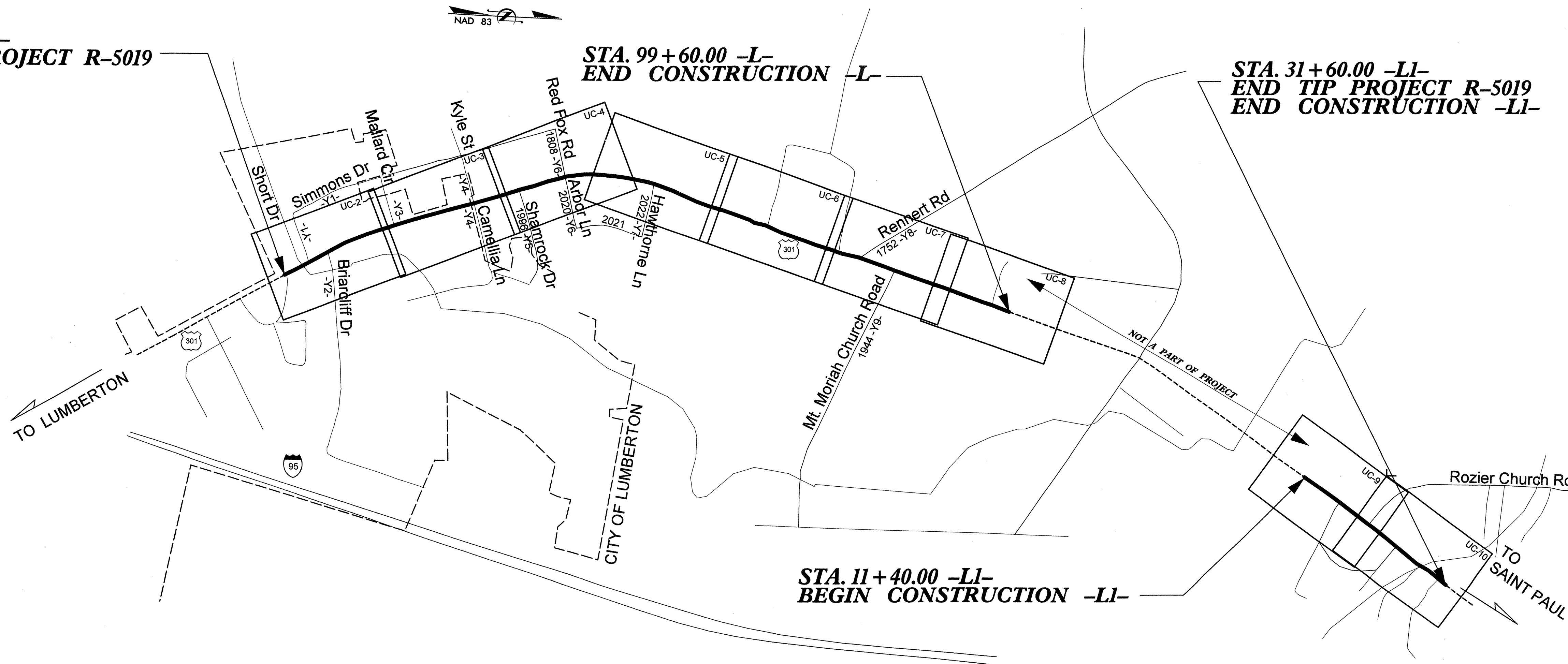
TYPE OF WORK: UTILITY CONSTRUCTION

T.I.P. NO.	SHEET NO.
R-5019	UC-1

STA. 9+00.00 -L-
BEGIN TIP PROJECT R-5019

STA. 99+60.00 -L-
END CONSTRUCTION -L-

STA. 31+60.00 -L1-
END TIP PROJECT R-5019
END CONSTRUCTION -L1-



GRAPHIC SCALES



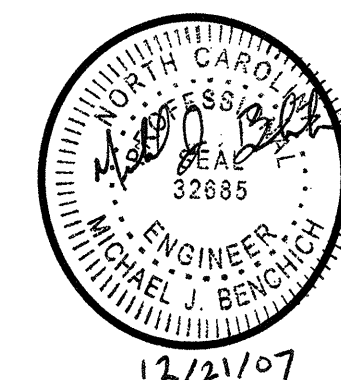
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-10	UTILITY CONSTRUCTION PLAN SHEETS
UC-11 THRU UC-12	DETAIL SHEETS

WATER AND SEWER OWNERS ON PROJECT

- (1) WATER - CITY OF LUMBERTON AND ROBESON COUNTY
- (2) SANITARY SEWER - CITY OF LUMBERTON

SEAL



Prepared By:
HDR Engineering, Inc.
of the Carolinas
128 S. Tryon Street, Suite 1400 Charlotte, N.C. 28202

2006 STANDARD SPECIFICATIONS

8/17/99
 REVISIONS
 3/4/2008
 8:45 AM
 8:57 AM
 9:00 AM

GENERAL NOTES

- A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.
- B. SIZE OF SERVICE CONNECTIONS WILL BE EITHER 3/4" OR 1", BUT SIZE OF INDIVIDUAL SERVICE CONNECTIONS ARE NOT KNOWN. CONTRACTOR TO FIELD VERIFY SERVICE CONNECTION SIZE PRIOR TO TRANSFERRING SERVICE TO NEW WATER MAIN.
- C. CONTRACTOR TO CONNECT NEW SERVICE SADDLES ON NEW WATER MAIN TO EXISTING SERVICE CONNECTION LINES.
- D. CONTRACTOR MAY NOT DISRUPT WATER SERVICE TO ANY CUSTOMER FOR MORE THAN 4 HOURS PER DISRUPTION.
- E. CONTRACTOR SHALL PROVIDE THE DEPARTMENT AND UTILITY OWNER A MINIMUM OF 1 WEEK'S NOTICE BEFORE DISRUPTION OF SERVICE OCCURS.
- F. THE SECTIONS OF EXISTING WATERLINE TO BE REPLACED SHALL BE ABANDONED OR REMOVED PER SECTION 1630 OF NCDOT STANDARD SPECIFICATIONS AS DIRECTED BY THE ENGINEER.
- G. PROPOSED WATERLINE TO HAVE A MINIMUM OF 3' COVER.
- H. ANY AND ALL PORTIONS OF PROPOSED WATERLINE THAT ARE WITHIN 10' HORIZONTAL FEET OF A SANITARY SEWER LINE OR MANHOLE MUST BE AT LEAST 18" ABOVE THE SEWER LINE AS MEASURED FROM THE TOP OF THE SEWER LINE OUTER WALL FACE TO THE BOTTOM OF THE WATERLINE OUTER WALL FACE.
- I. EXISTING VALVES ON ABANDONED LINES SHALL HAVE THE LIDS REMOVED AND THE BOXES FILLED WITH GROUT.
- J. WATERLINE IS NOT SURVEYED BUT DRAWN FROM "AS RECORDED" DRAWINGS AND THE CONTRACTOR WILL HAVE TO FIELD VERIFY THE ACTUAL LOCATIONS, PIPE SIZES, AND MATERIALS.

KEY NOTES

- ① LONG SIDE SERVICE CONNECTION TRANSFER
- ② SHORT SIDE SERVICE CONNECTION TRANSFER
- ③ RELOCATE WATER METER OUT OF PROPOSED DITCH.
- ④ REMOVE EXISTING FIRE HYDRANT.
- ⑤ INSTALL NEW FIRE HYDRANT.
- ⑥ WATERLINE BURIED UNDER GUARDRAIL SHALL HAVE MINIMUM DEPTH OF COVER OF 4'.
- ⑦ WATERLINE TO BE ROUTED UNDER BOX CULVERT WITH A MINIMUM 24" VERTICAL SEPARATION.
- ⑧ CUT AND CAP EXISTING WATERLINE WHEN NEW WATERLINE HAS BEEN TESTED AND DISINFECTED AND ALL SERVICES HAVE BEEN TRANSFERRED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO LOCATE AND OPERATE NECESSARY VALVES.
- ⑨ FIELD ADJUST LOCATION AS NECESSARY TO INSTALL A MINIMUM OF 8' FROM ANY PIPE JOINT.
- ⑩ PROVIDE THRUST COLLARS FOR VALVES PER DETAIL 4, SHEET UC-1. THRUST BLOCKS TO BE IN PLACE PRIOR TO CUTTING PIPE.

EROSION AND SEDIMENT CONTROL MEASURES

Sta. #	Description	Symbol
1605.01	Temporary Silt Fence	—#—
1633.01	Temporary Rock Silt Check Type A	⊠
1633.02	Temporary Rock Silt Check Type B	◀

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-2
RW SHEET NO.	

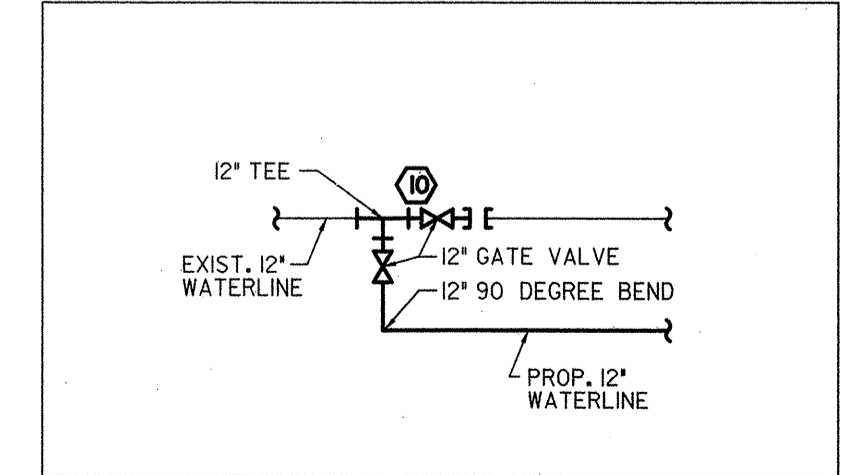
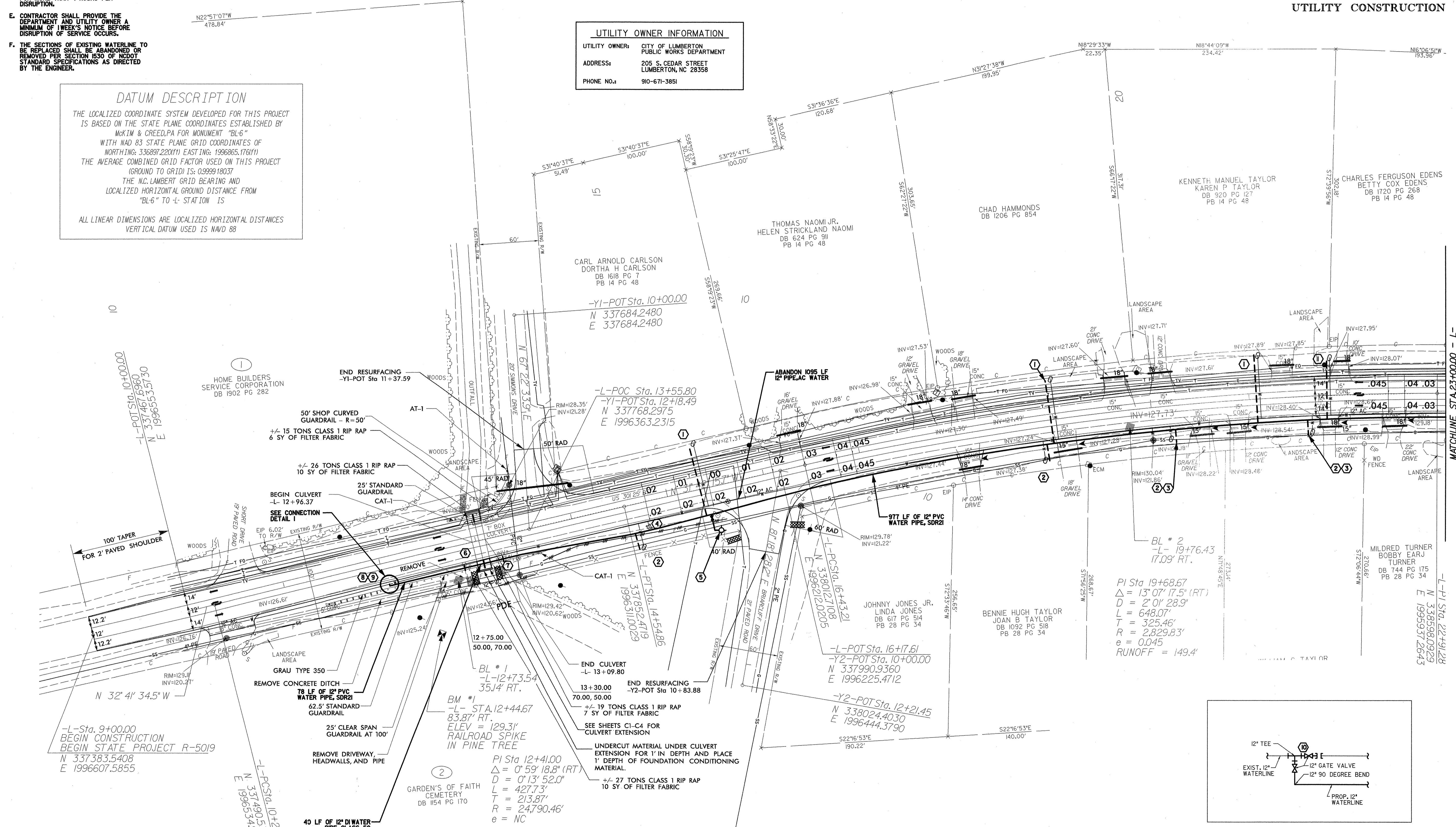
UTILITY CONSTRUCTION

UTILITY OWNER INFORMATION

UTILITY OWNER: CITY OF LUMBERTON
 PUBLIC WORKS DEPARTMENT
 ADDRESS: 205 S. CEDAR STREET
 LUMBERTON, NC 28358
 PHONE NO.: 910-671-3851

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MCKIM & CREED, PA FOR MONUMENT "BL-6" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 336897.220(11) EASTING: 1996865.176(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918037 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-6" TO L- STATION IS ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



**WATERLINE CONNECTION DETAIL I
(NOT TO SCALE)**

8/17/99

GENERAL NOTES

A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT OR 5' INSIDE THE RIGHT-OF-WAY AS SHOWN IN DRAWING.

KEY NOTES

- ① INSTALL 1' LONG SIDE CONNECTION.
- ② INSTALL 1' SHORT SIDE CONNECTION.
- ③ RELOCATE WATER METER OUT OF PROPOSED DITCH.
- ④ REMOVE EXISTING FIRE HYDRANT.
- ⑤ INSTALL NEW FIRE HYDRANT, AND GATE VALVE.

UTILITY OWNER INFORMATION

UTILITY OWNER: CITY OF LUMBERTON
PUBLIC WORKS DEPARTMENT
ADDRESS: 205 S. CEDAR STREET
LUMBERTON, NC 28358
PHONE NO.: 910-671-3851

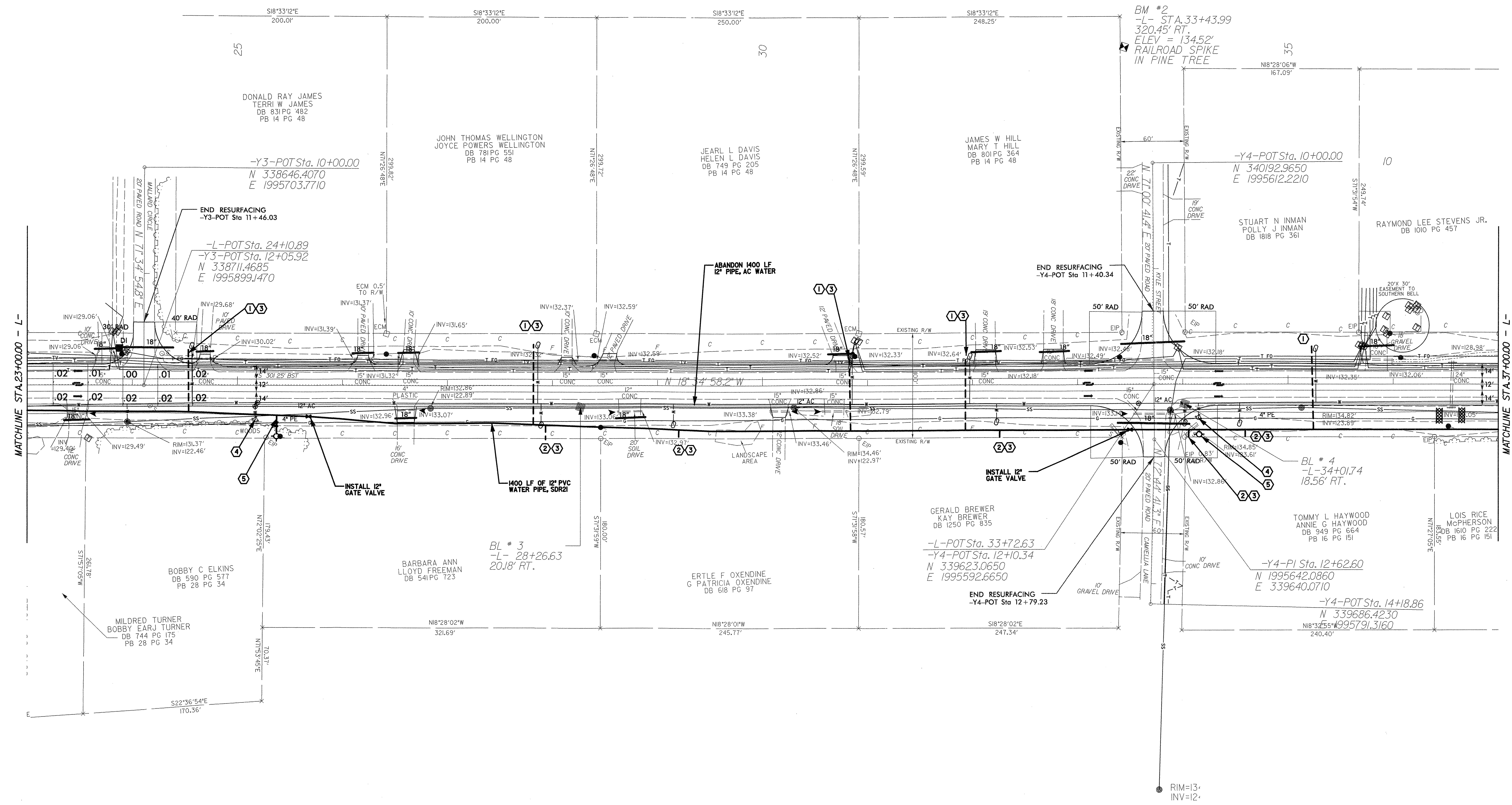
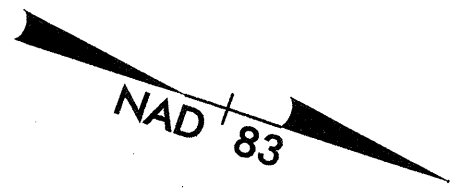
EROSION AND SEDIMENT CONTROL MEASURES

Sta. #	Description	Symbol
1605.01	Temporary Silt Fence	
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-3
RW SHEET NO.	

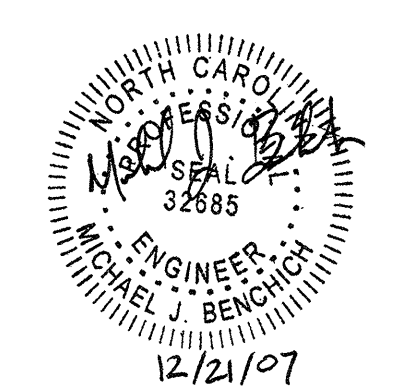


UTILITY CONSTRUCTION



REVISIONS

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UTILITY CONSTRUCTION

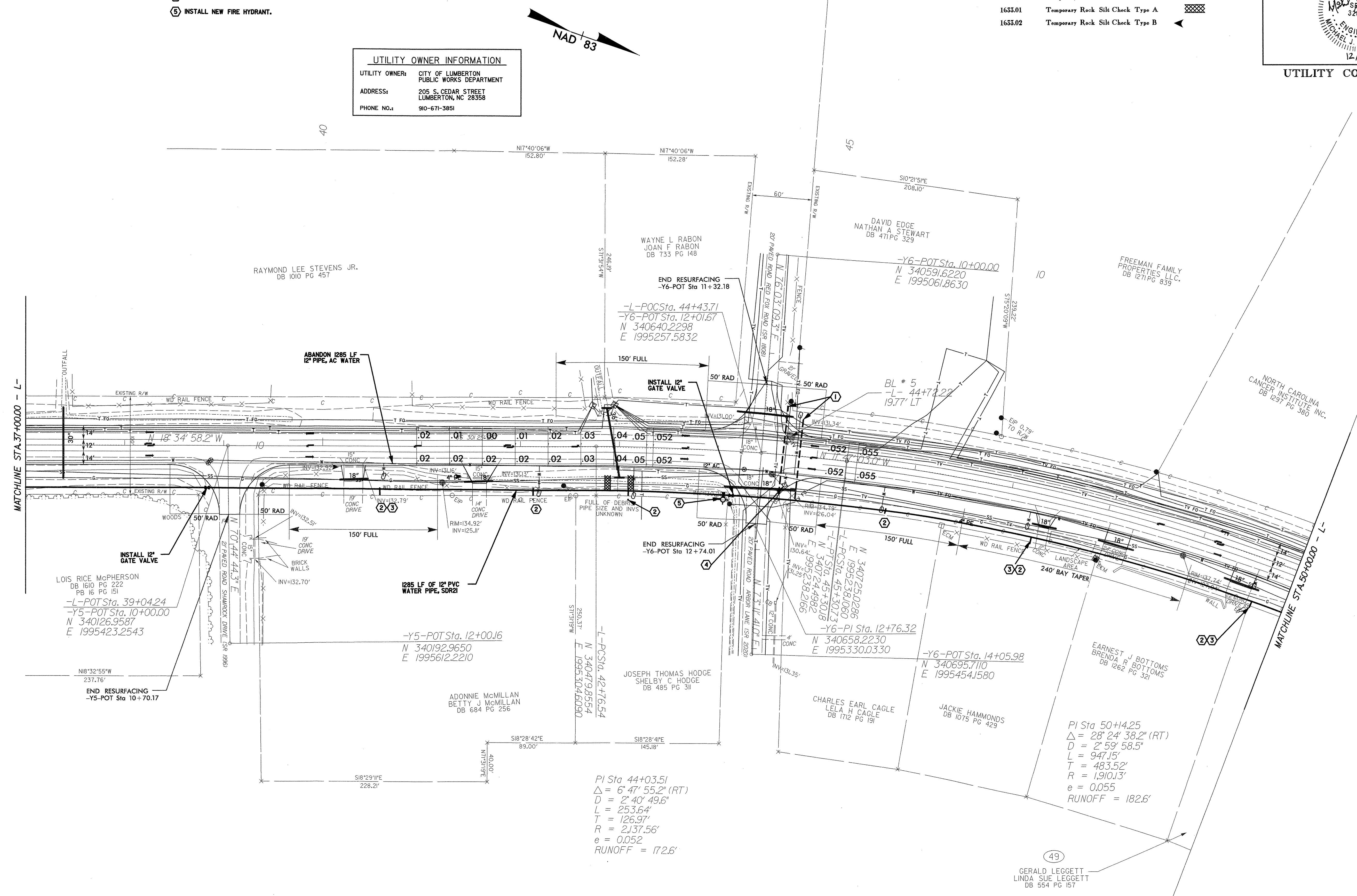
GENERAL NOTES
 A. PROPOSED WATERLINE TO BE 5' MINIMUM INSIDE THE RIGHT OF WAY.

- KEY NOTES**
1. INSTALL 1' LONG SIDE CONNECTION.
 2. INSTALL 1' SHORT SIDE CONNECTION.
 3. RELOCATE WATER METER OUT OF PROPOSED DITCH.
 4. REMOVE EXISTING FIRE HYDRANT.
 5. INSTALL NEW FIRE HYDRANT.

UTILITY OWNER INFORMATION
 UTILITY OWNER: CITY OF LUMBERTON
 PUBLIC WORKS DEPARTMENT
 ADDRESS: 205 S. CEDAR STREET
 LUMBERTON, NC 28558
 PHONE NO.: 910-671-3851

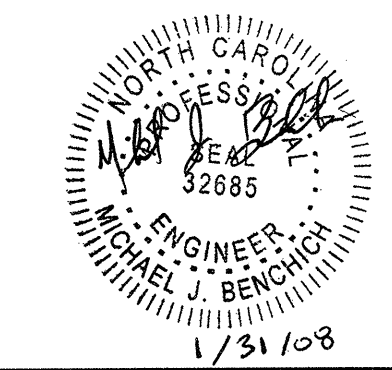
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	///
1633.01	Temporary Rock Silt Check Type A	XXXX
1633.02	Temporary Rock Silt Check Type B	▲



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UTILITY CONSTRUCTION

EROSION AND SEDIMENT CONTROL MEASURES

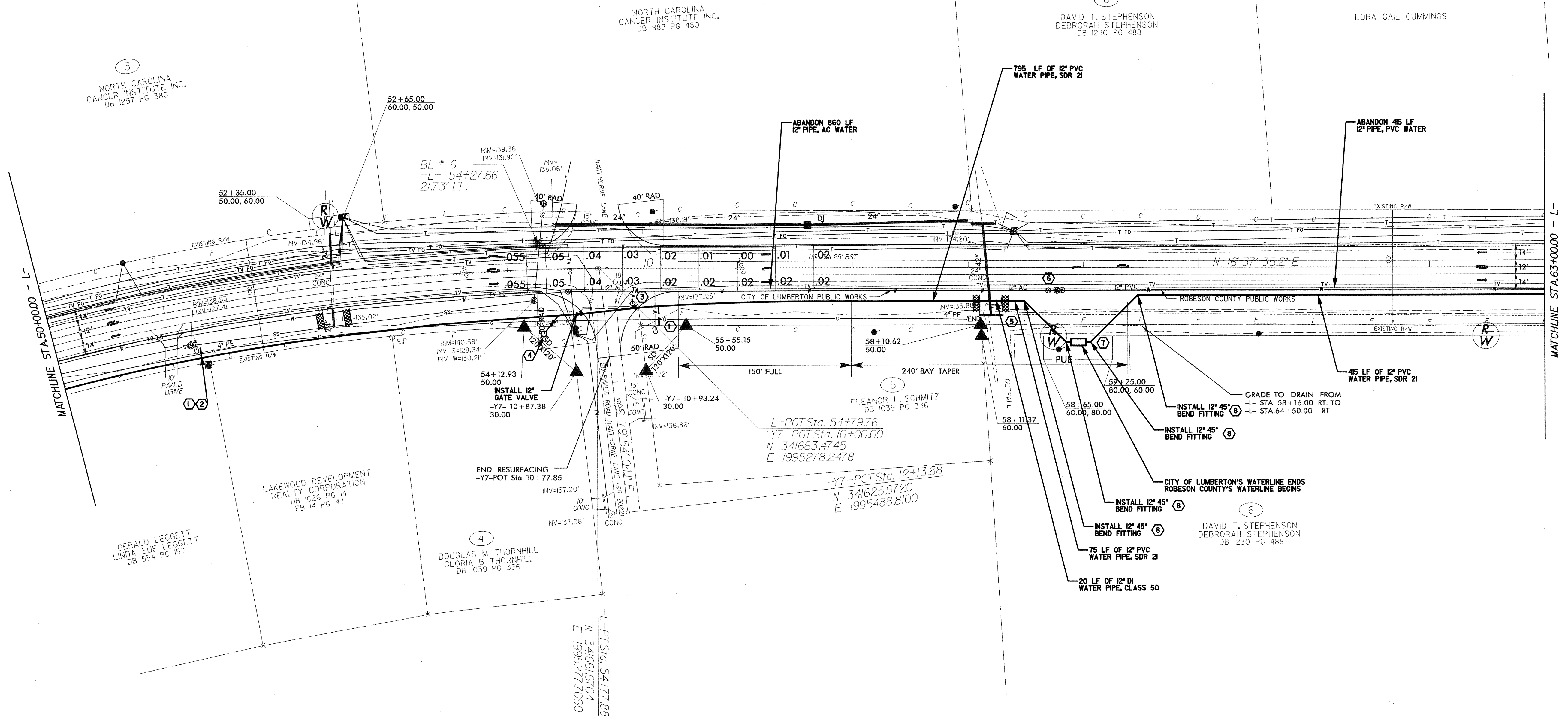
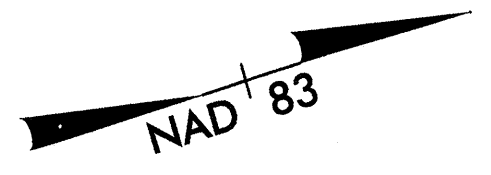
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	—/—/—
1653.01	Temporary Rock Silt Check Type A	▨
1653.02	Temporary Rock Silt Check Type B	◀

UTILITY OWNER INFORMATION

UTILITY OWNER: CITY OF LUMBERTON
PUBLIC WORKS DEPARTMENT
ADDRESS: 205 S. CEDAR STREET
LUMBERTON, NC 28358
PHONE NO.: 910-671-3851

UTILITY OWNER: ROBESON COUNTY
DEPARTMENT OF PUBLIC WORKS
ADDRESS: 176 LEGEND ROAD
LUMBERTON, NC 28358
PHONE NO.: 910-671-3485

- GENERAL NOTES**
- A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT OR 5' INSIDE THE RIGHT-OF-WAY AS SHOWN IN DRAWING.
- KEY NOTES**
- INSTALL 1" SHORT SIDE CONNECTION.
 - RELOCATE WATER METER OUT OF PROPOSED DITCH.
 - REMOVE EXISTING FIRE HYDRANT.
 - INSTALL NEW FIRE HYDRANT.
 - WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.
 - REMOVE CONTENTS OF METER VAULT. COORDINATE WITH THE OWNER TO SALVAGE OR DISPOSE OF REMOVED ITEMS. PLUG EXISTING LINE AT VALVES AND REMOVE VALVE STEMS AND BOXES. REMOVE VAULT STRUCTURE AND BACKFILL.
 - INSTALL NEW METER VAULT. SEE SHEET UC-12.
 - ROTATE BENDS AS NECESSARY TO MAINTAIN MINIMUM DEPTH OF COVER.



PI Sta 50+14.25
 $\Delta = 28^\circ 24' 38.2" (RT)$
 $D = 2' 59" 58.5"$
 $L = 947.15'$
 $T = 483.52'$
 $R = 1,910.13'$
 $e = 0.055$
 $RUNOFF = 182.6'$

REVISIONS

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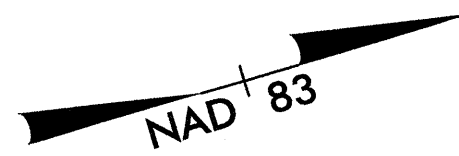
8/17/99

GENERAL NOTES

A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT, EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.

KEY NOTES

Ⓛ WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.



EROSION AND SEDIMENT CONTROL MEASURES

Sed. #	Description	Symbol
1605.01	Temporary Silt Fence	///
1635.01	Temporary Rock Silt Check Type A	▣
1635.02	Temporary Rock Silt Check Type B	▲

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-6
RW SHEET NO.	

UTILITY CONSTRUCTION

UTILITY OWNER INFORMATION

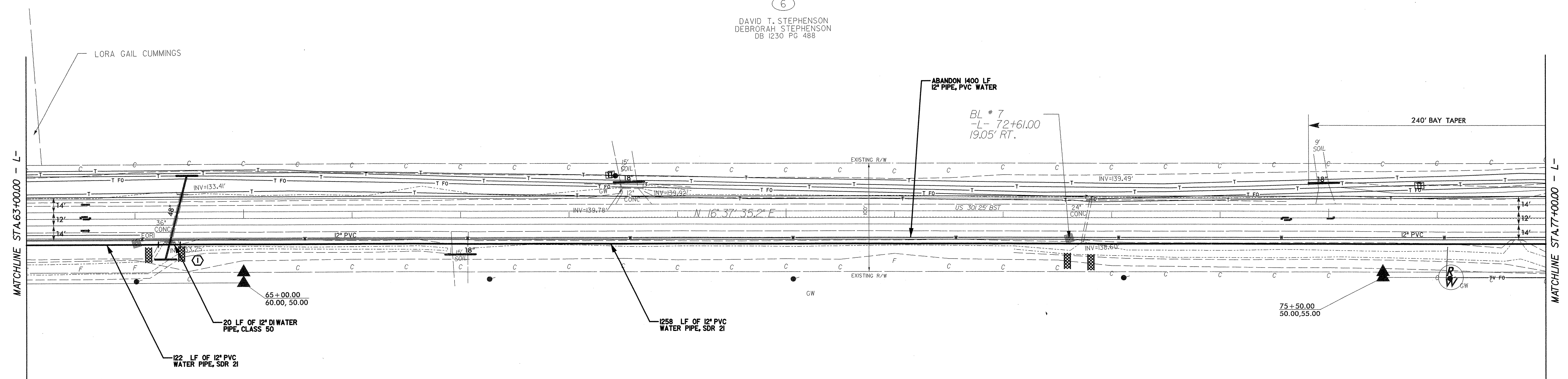
UTILITY OWNER: ROBESON COUNTY
DEPARTMENT OF PUBLIC WORKS

ADDRESS: 176 LEGEND ROAD
LUMBERTON, NC 28358

PHONE NO.: 910-671-3485

6

DAVID T. STEPHENSON
DEBORAH STEPHENSON
DB 1230 PG 488



6

DAVID T. STEPHENSON
DEBORAH STEPHENSON
DB 1230 PG 488

REVISIONS

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8/17/99

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	---
1652.05	Rock Inlet Sediment Trap Type C	C □
1653.01	Temporary Rock Silt Check Type A	▨
1653.02	Temporary Rock Silt Check Type B	◀

GENERAL NOTES
 A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAYEMENT, EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.

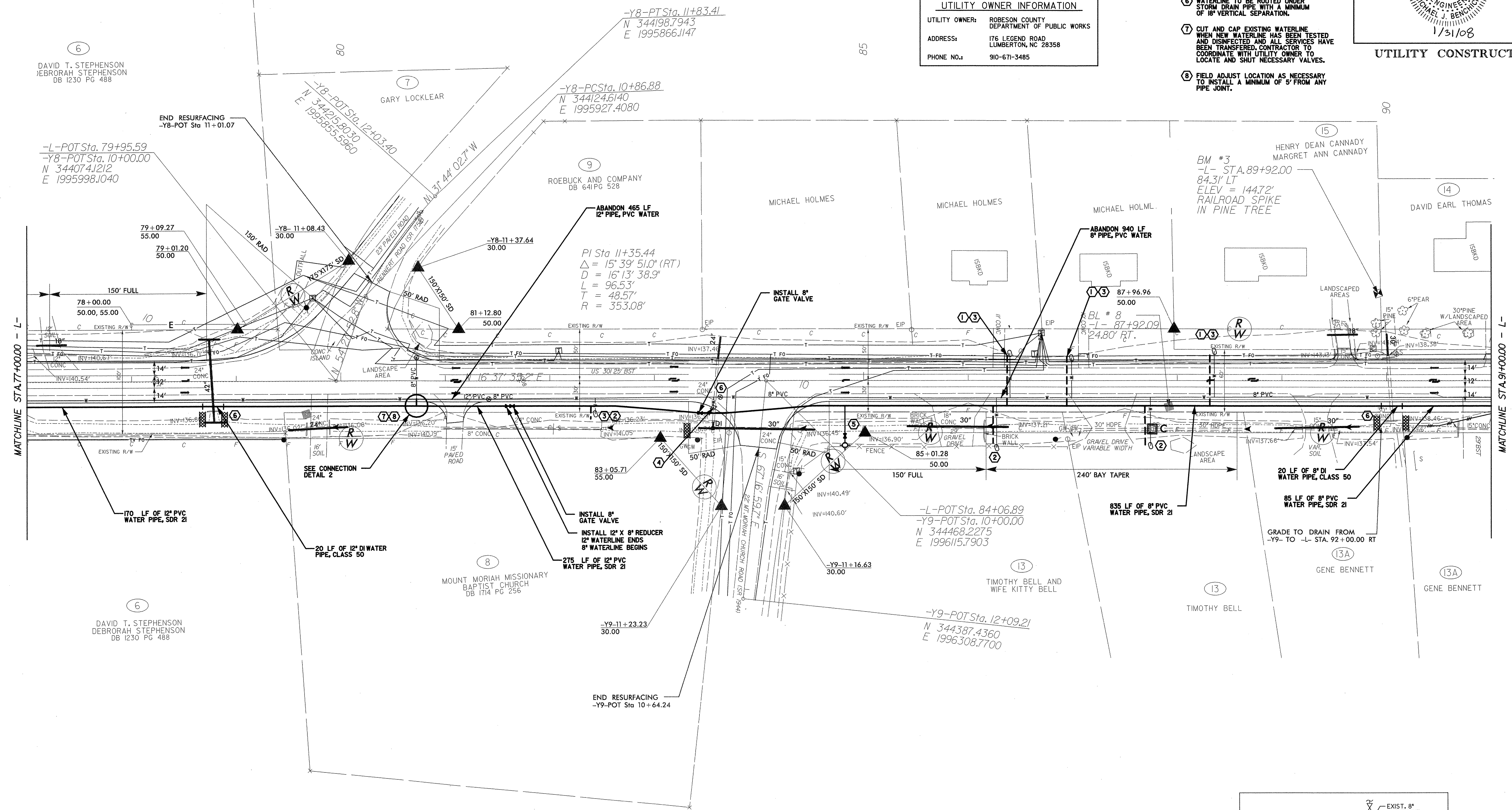
- KEY NOTES**
- INSTALL 1' LONG SIDE CONNECTION.
 - INSTALL 1' SHORT SIDE CONNECTION.
 - RELOCATE WATER METER OUT OF PROPOSED DITCH.
 - REMOVE EXISTING FIRE HYDRANT.
 - INSTALL NEW FIRE HYDRANT.
 - WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.
 - CUT AND CAP EXISTING WATERLINE WHEN NEW WATERLINE HAS BEEN TESTED AND DISINFECTED AND ALL SERVICES HAVE BEEN TRANSFERRED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO LOCATE AND SHUT NECESSARY VALVES.
 - FIELD ADJUST LOCATION AS NECESSARY TO INSTALL A MINIMUM OF 5' FROM ANY PIPE JOINT.

UTILITY OWNER INFORMATION
 UTILITY OWNER: ROBESON COUNTY DEPARTMENT OF PUBLIC WORKS
 ADDRESS: 176 LEGEND ROAD LUMBERTON, NC 28358
 PHONE NO.: 910-671-3485

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-7
RW SHEET NO.	

1/31/08

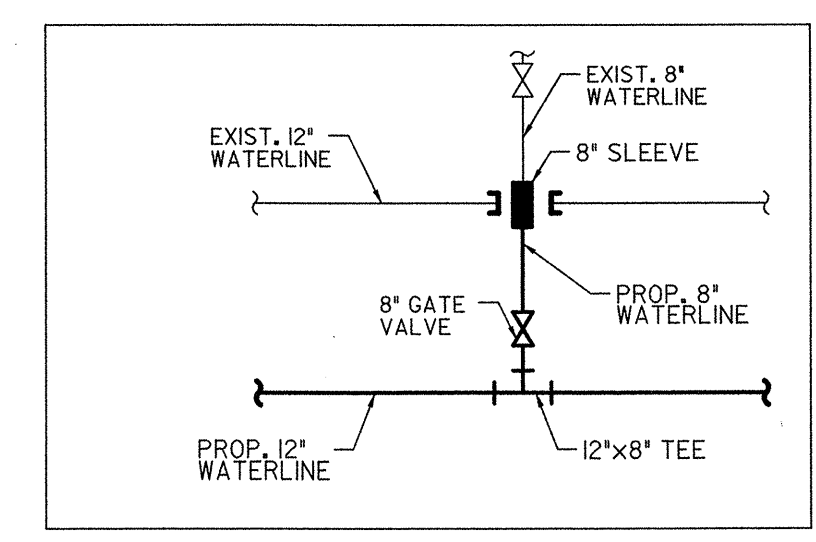
UTILITY CONSTRUCTION



REVISIONS

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MATCHLINE STA. 94+00.00 - L-



WATERLINE CONNECTION DETAIL 2 (NOT TO SCALE)

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EROSION AND SEDIMENT CONTROL MEASURES

Stn. #	Description	Symbol
1605.01	Temporary Silt Fence	—/—/—
1653.01	Temporary Rock Silt Check Type A	▣
1653.02	Temporary Rock Silt Check Type B	◀

GENERAL NOTES

A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT, EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.

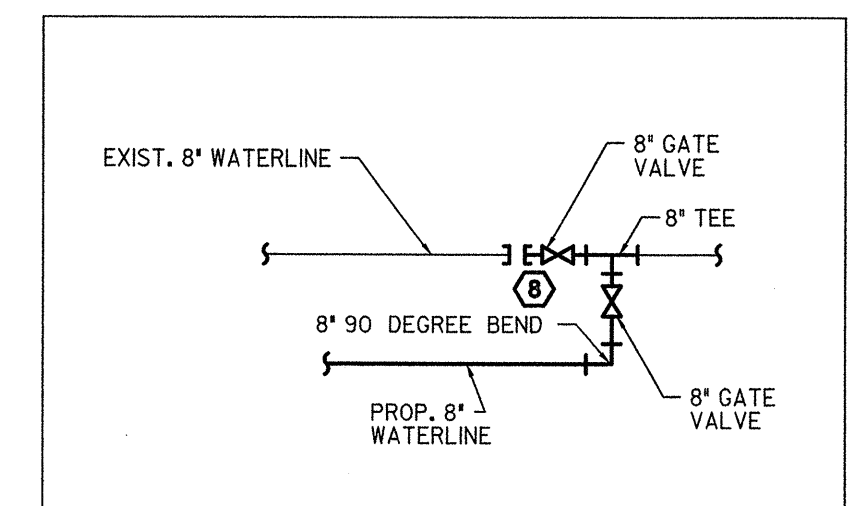
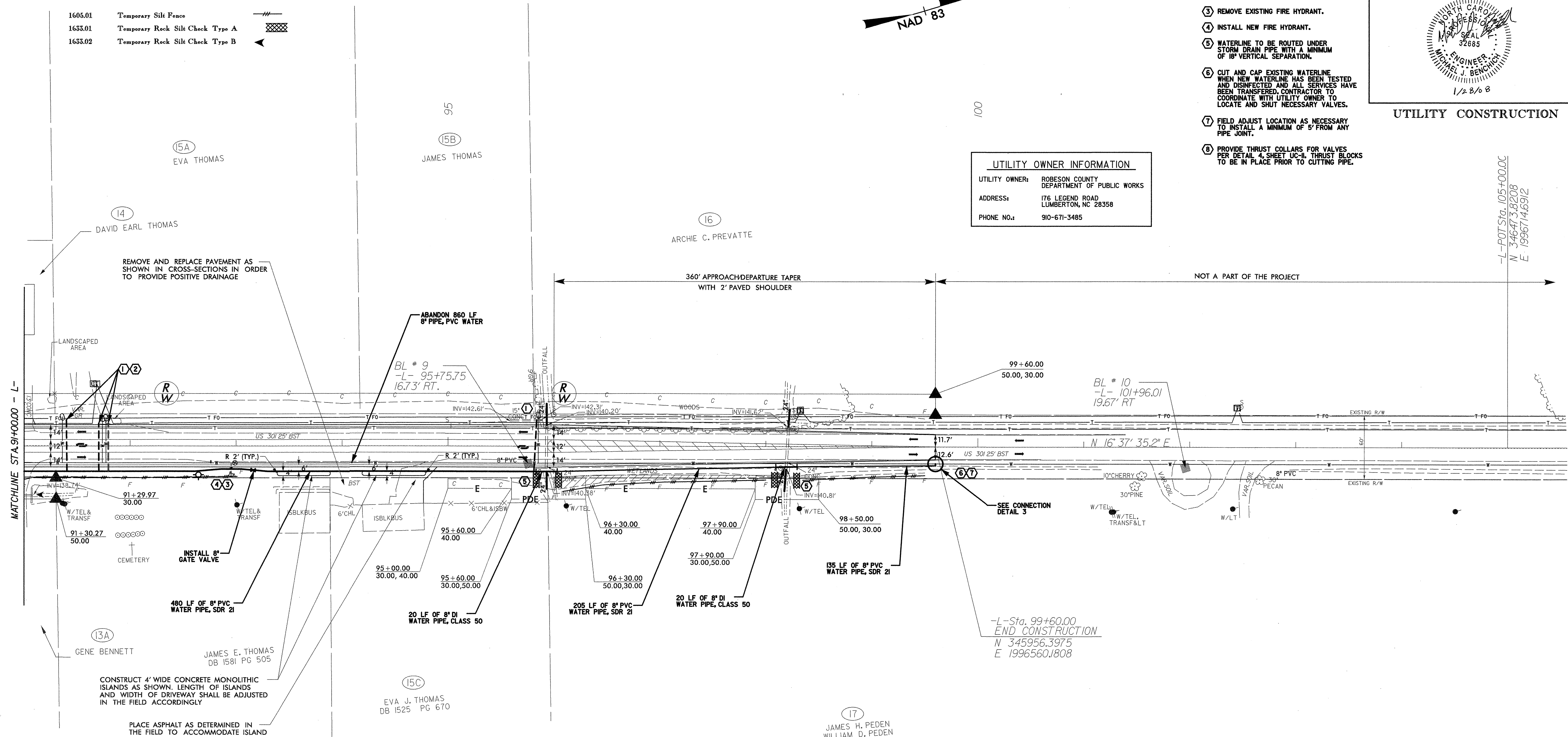
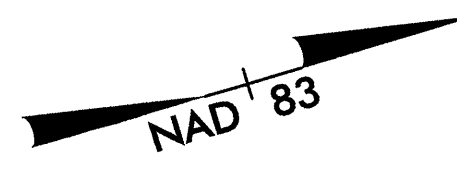
KEY NOTES

- INSTALL 1' LONG SIDE CONNECTION.
- RELOCATE WATER METER OUT OF PROPOSED DITCH.
- REMOVE EXISTING FIRE HYDRANT.
- INSTALL NEW FIRE HYDRANT.
- WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.
- CUT AND CAP EXISTING WATERLINE WHEN NEW WATERLINE HAS BEEN TESTED AND DISINFECTED AND ALL SERVICES HAVE BEEN TRANSFERRED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO LOCATE AND SHUT NECESSARY VALVES.
- FIELD ADJUST LOCATION AS NECESSARY TO INSTALL A MINIMUM OF 5' FROM ANY PIPE JOINT.
- PROVIDE THRUST COLLARS FOR VALVES PER DETAIL 4 SHEET UC-11. THRUST BLOCKS TO BE IN PLACE PRIOR TO CUTTING PIPE.

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-8
RW SHEET NO.	

UTILITY CONSTRUCTION

UTILITY OWNER INFORMATION	
UTILITY OWNER:	ROBESON COUNTY DEPARTMENT OF PUBLIC WORKS
ADDRESS:	176 LEGEND ROAD LUMBERTON, NC 28358
PHONE NO.:	910-671-3485

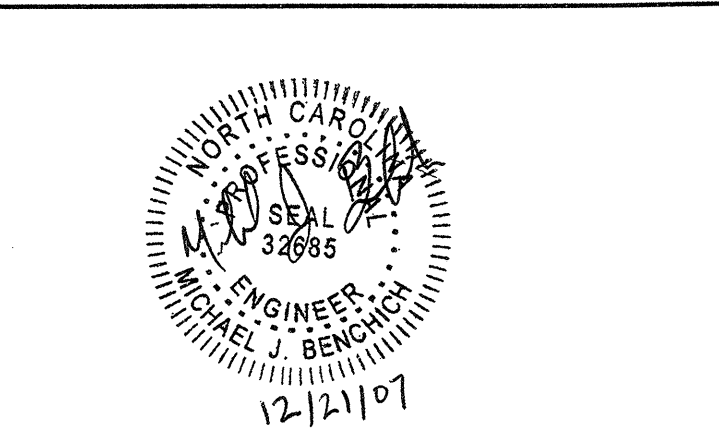


WATERLINE CONNECTION DETAIL 3
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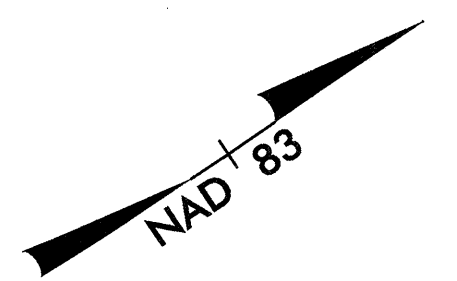
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E 19967146912



UTILITY CONSTRUCTION



GENERAL NOTES

A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.

KEY NOTES

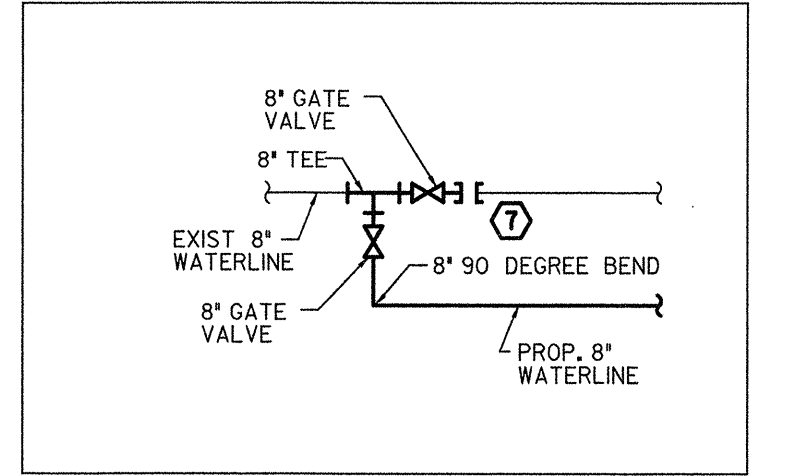
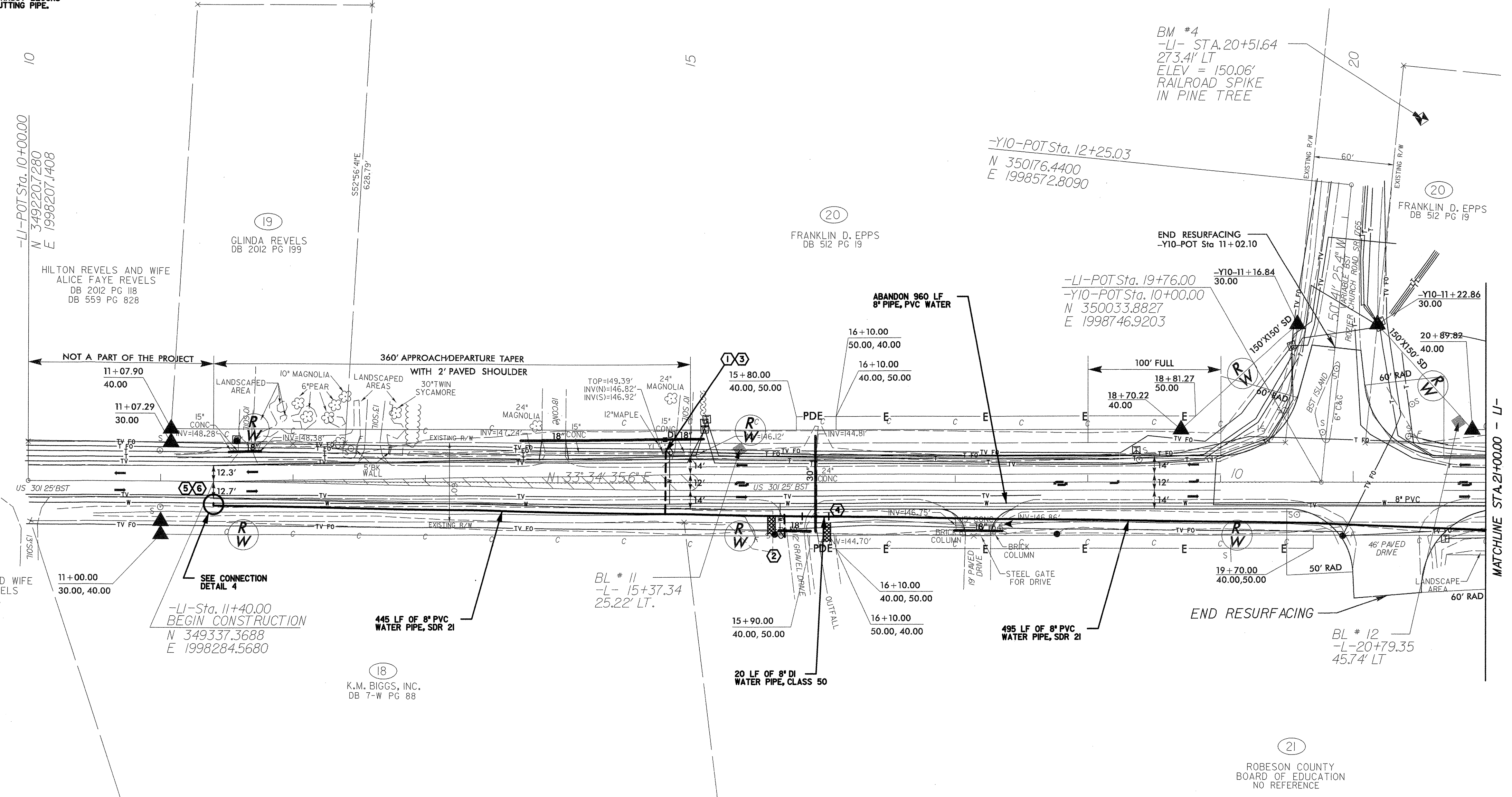
- ① INSTALL 1" LONG SIDE CONNECTION.
- ② INSTALL 1" SHORT SIDE CONNECTION.
- ③ RELOCATE WATER METER OUT OF PROPOSED DITCH.
- ④ WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.
- ⑤ CUT AND CAP EXISTING WATERLINE WHEN NEW WATERLINE HAS BEEN TESTED AND DISINFECTED AND ALL SERVICES HAVE BEEN TRANSFERRED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO LOCATE AND SHUT NECESSARY VALVES.
- ⑥ FIELD ADJUST LOCATION AS NECESSARY TO INSTALL A MINIMUM OF 5' FROM ANY PIPE JOINT.
- ⑦ PROVIDE THRUST COLLARS FOR VALVES PER DETAIL 4, SHEET UC-11. THRUST BLOCKS TO BE IN PLACE PRIOR TO CUTTING PIPE.

UTILITY OWNER INFORMATION

UTILITY OWNER: ROBESON COUNTY DEPARTMENT OF PUBLIC WORKS
 ADDRESS: 176 LEGEND ROAD LUMBERTON, NC 28358
 PHONE NO.: 910-671-3485

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	///
1635.01	Temporary Rock Silt Check Type A	XXXX
1635.02	Temporary Rock Silt Check Type B	▲



WATERLINE CONNECTION DETAIL 4
(NOT TO SCALE)

REVISIONS

8/17/99
12/21/07
K.M. BIGGS, INC.
16834 LIS. 301.111.1111
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9/1/07

8/17/99

12/21/07
R-5019 UC-10
12/21/07

UTILITY OWNER INFORMATION

UTILITY OWNER: ROBESON COUNTY
DEPARTMENT OF PUBLIC WORKS

ADDRESS: 176 LEGEND ROAD
LUMBERTON, NC 28358

PHONE NO.: 910-671-3485

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	///
1653.01	Temporary Rock Silt Check Type A	▨
1653.02	Temporary Rock Silt Check Type B	◀

PROJECT REFERENCE NO. R-5019	SHEET NO. UC-10
RW SHEET NO.	

12/21/07

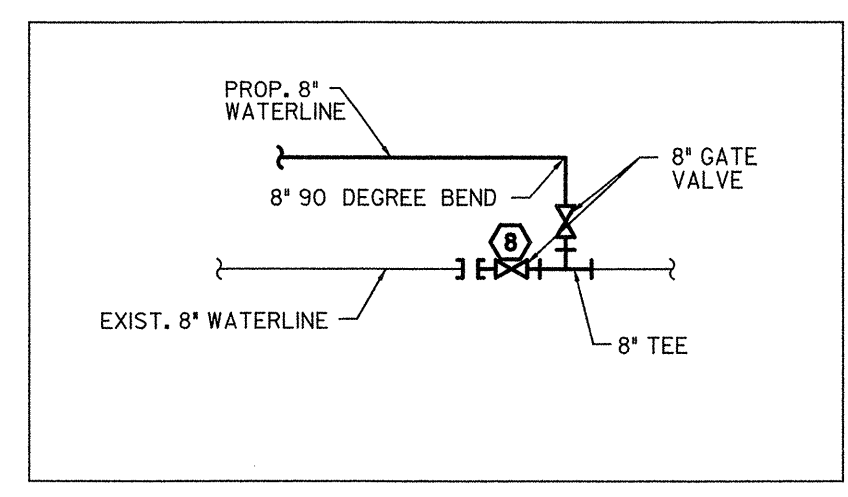
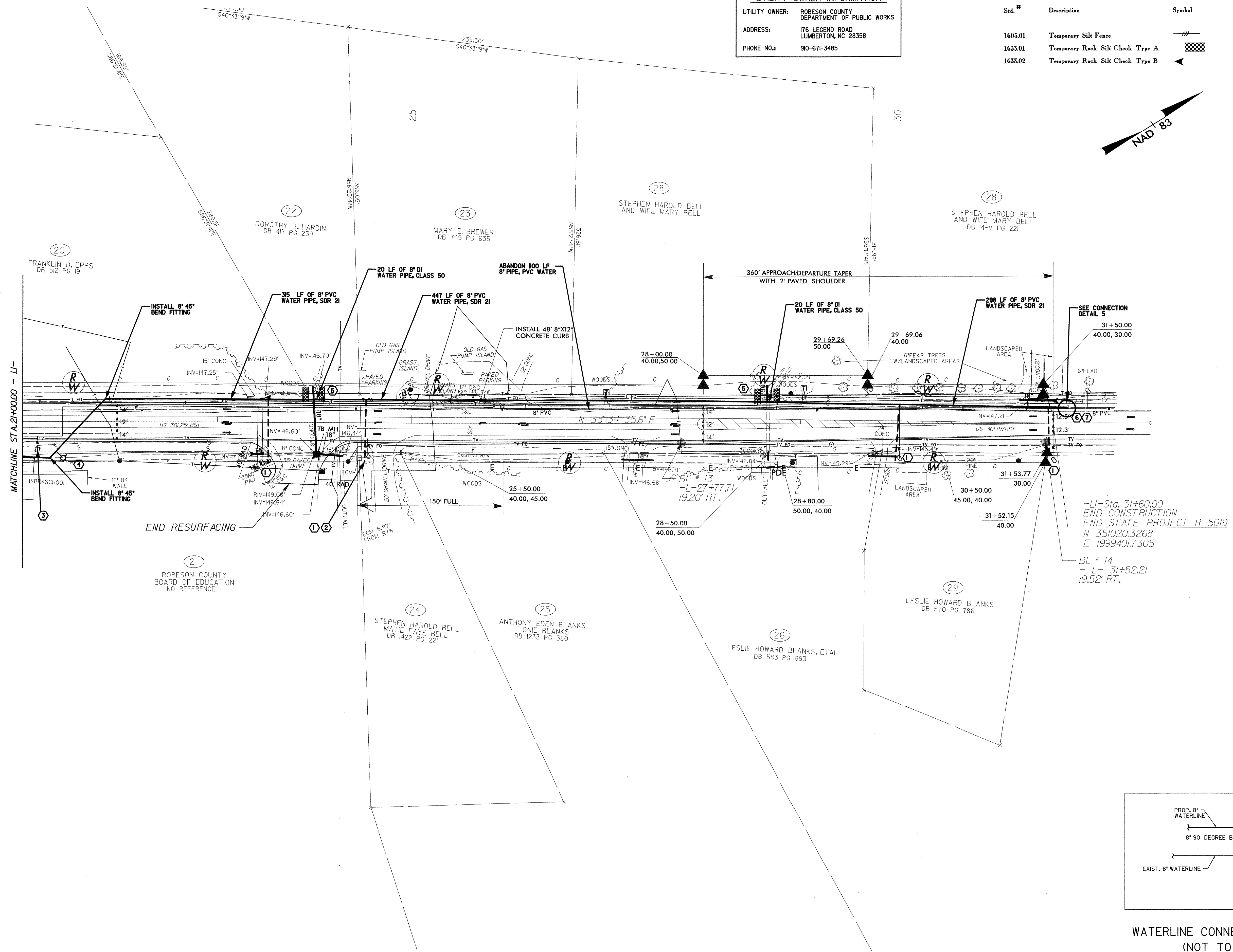
UTILITY CONSTRUCTION

GENERAL NOTES

A. PROPOSED WATERLINE TO BE 4' MINIMUM OUTSIDE PROPOSED EDGE OF PAVEMENT, EXCEPT AT OR NEAR INTERSECTIONS, AS SHOWN IN DRAWING.

KEY NOTES

- 1) INSTALL 1' LONG SIDE CONNECTION.
- 2) RELOCATE WATER METER OUT OF PROPOSED DITCH.
- 3) REMOVE EXISTING FIRE HYDRANT.
- 4) INSTALL NEW FIRE HYDRANT.
- 5) WATERLINE TO BE ROUTED UNDER STORM DRAIN PIPE WITH A MINIMUM OF 18" VERTICAL SEPARATION.
- 6) CUT AND CAP EXISTING WATERLINE WHEN NEW WATERLINE HAS BEEN TESTED AND DISINFECTED AND ALL SERVICES HAVE BEEN TRANSFERRED. CONTRACTOR TO COORDINATE WITH UTILITY OWNER TO LOCATE AND SHUT NECESSARY VALVES.
- 7) FIELD ADJUST LOCATION AS NECESSARY TO INSTALL A MINIMUM OF 5' FROM ANY PIPE JOINT.
- 8) PROVIDE THRUST COLLARS FOR VALVES PER DETAIL 4, SHEET UC-11. THRUST BLOCKS TO BE IN PLACE PRIOR TO CUTTING PIPE.



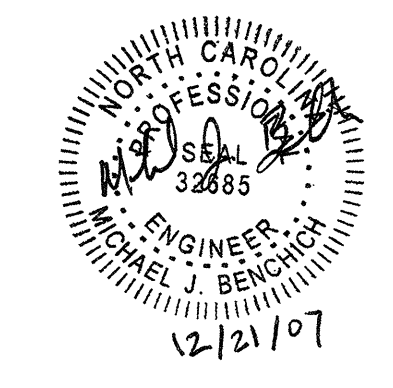
WATERLINE CONNECTION DETAIL 5
(NOT TO SCALE)

REVISIONS

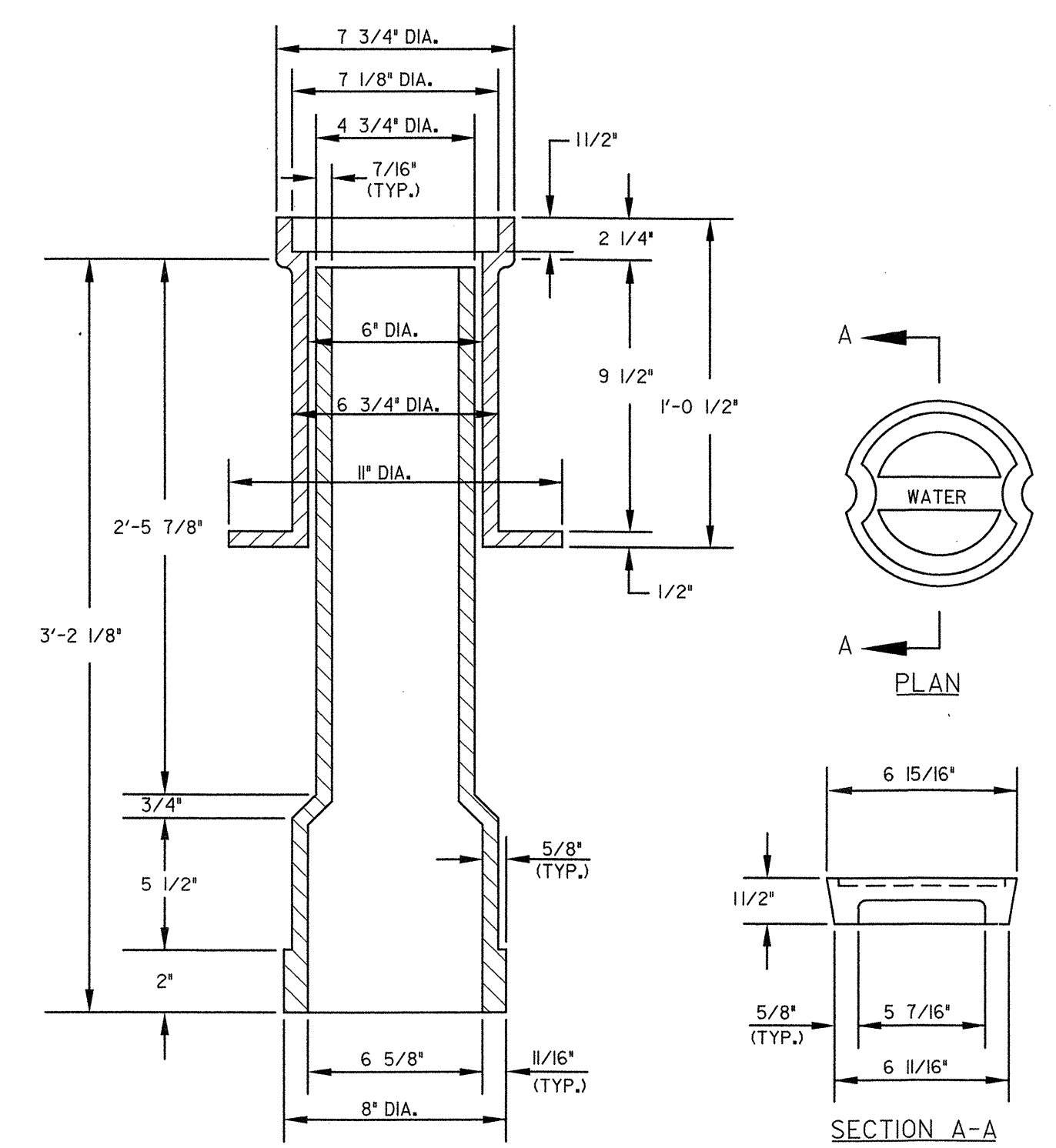
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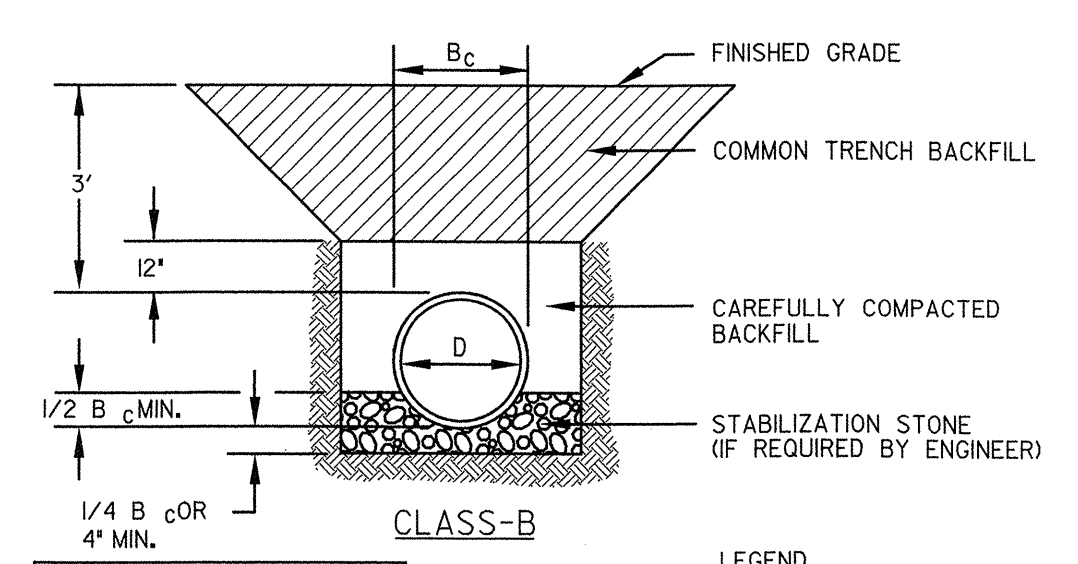
-L1- Sta. 31+60.00
END CONSTRUCTION
END STATE PROJECT R-5019
N 351020.3268
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19.52' RT.



UTILITY CONSTRUCTION



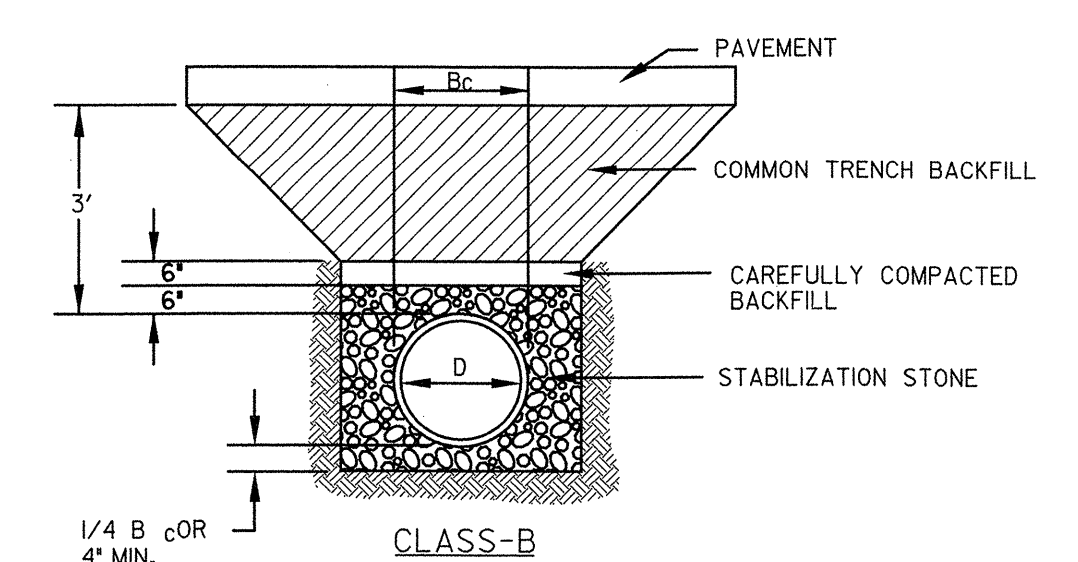
STANDARD TELESCOPING VALVE BOX DETAIL
NTS



MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
8	32
12	36

NOT UNDER PAVEMENT

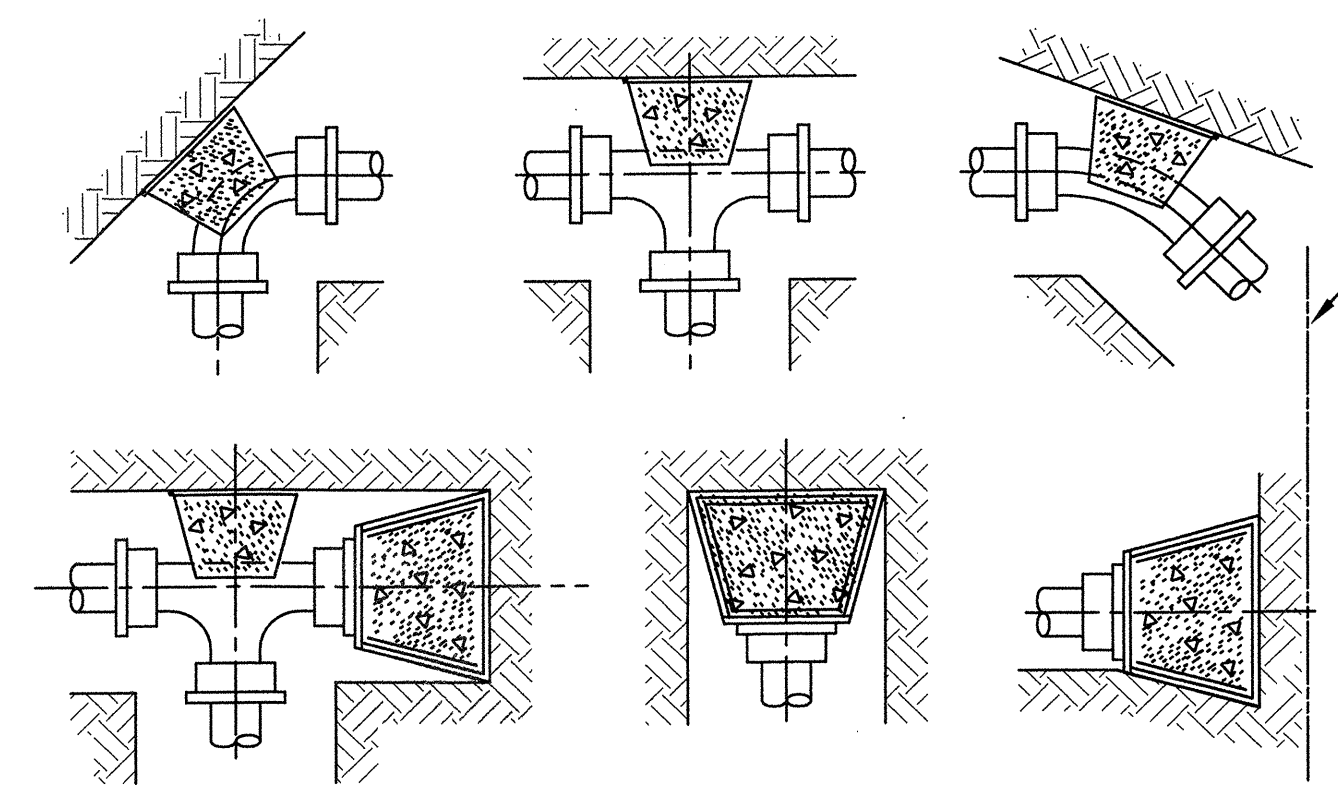


MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
8	32
12	36

UNDER PAVEMENT

PIPE BEDDING DETAIL
NTS

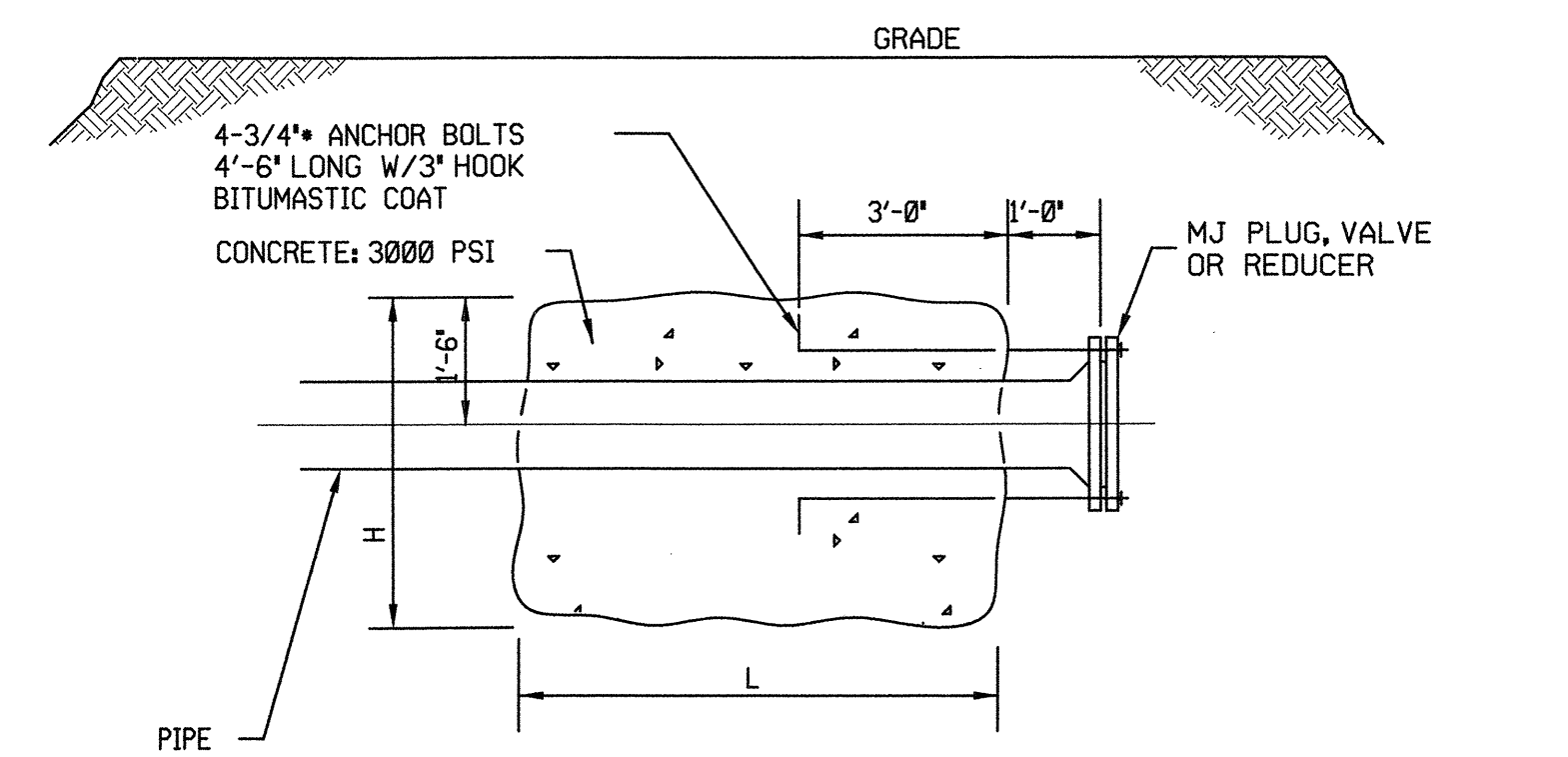


- NOTES
1. THESE DETAILS ARE FOR BOTH VERTICALLY & HORIZONTALLY LAID PIPE.
 2. POURED IN PLACE CONCRETE SHALL BE 3000 PSI.
 3. LEAVE JOINTS CLEAR OF CONCRETE FOR EASY ACCESS.
 4. POLYETHYLENE SHALL BE WRAPPED AROUND FITTINGS.
 5. TABLE ASSUMES A MAX. WATER PRESSURE OF 150 PSI.

BEARING AREA OF THRUST BLOCK IN SQUARE FEET

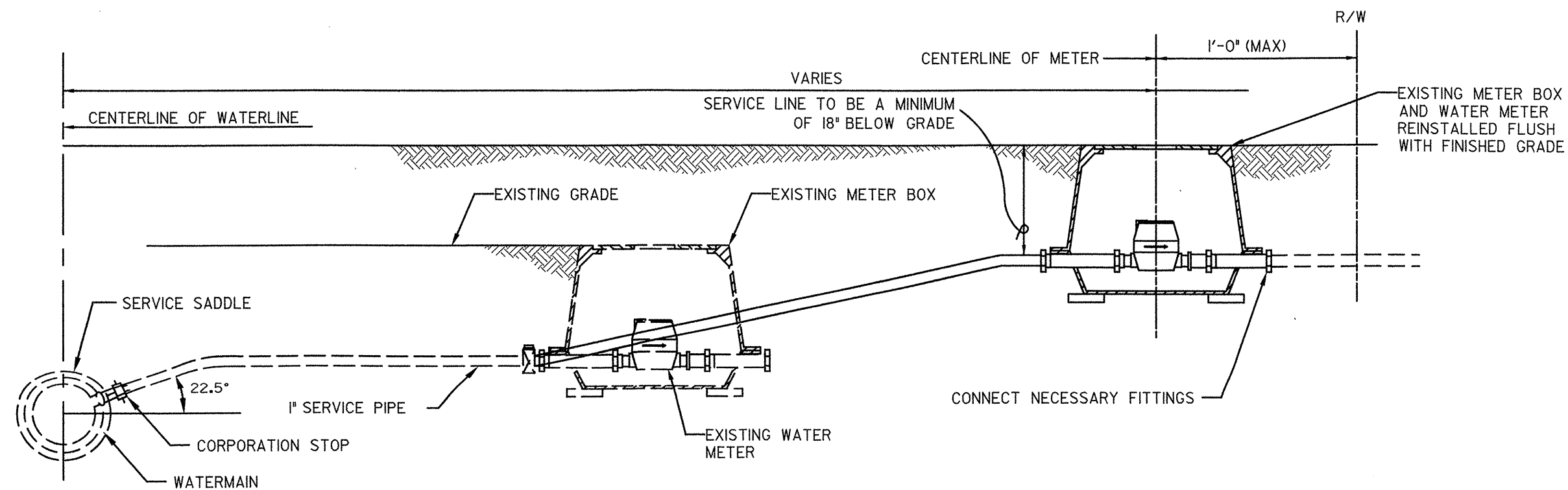
FITTING SIZE	90° FITTING	45° FITTING	22 1/2° FITTING	11/4° FITTING	TEE FITTING	PLUG OR CAP
8"	12.0	7.0	4.0	2.0	17.0	17.0
12"	26.0	14.0	8.0	4.0	37.0	37.0

CONCRETE BLOCKING DETAIL
NTS

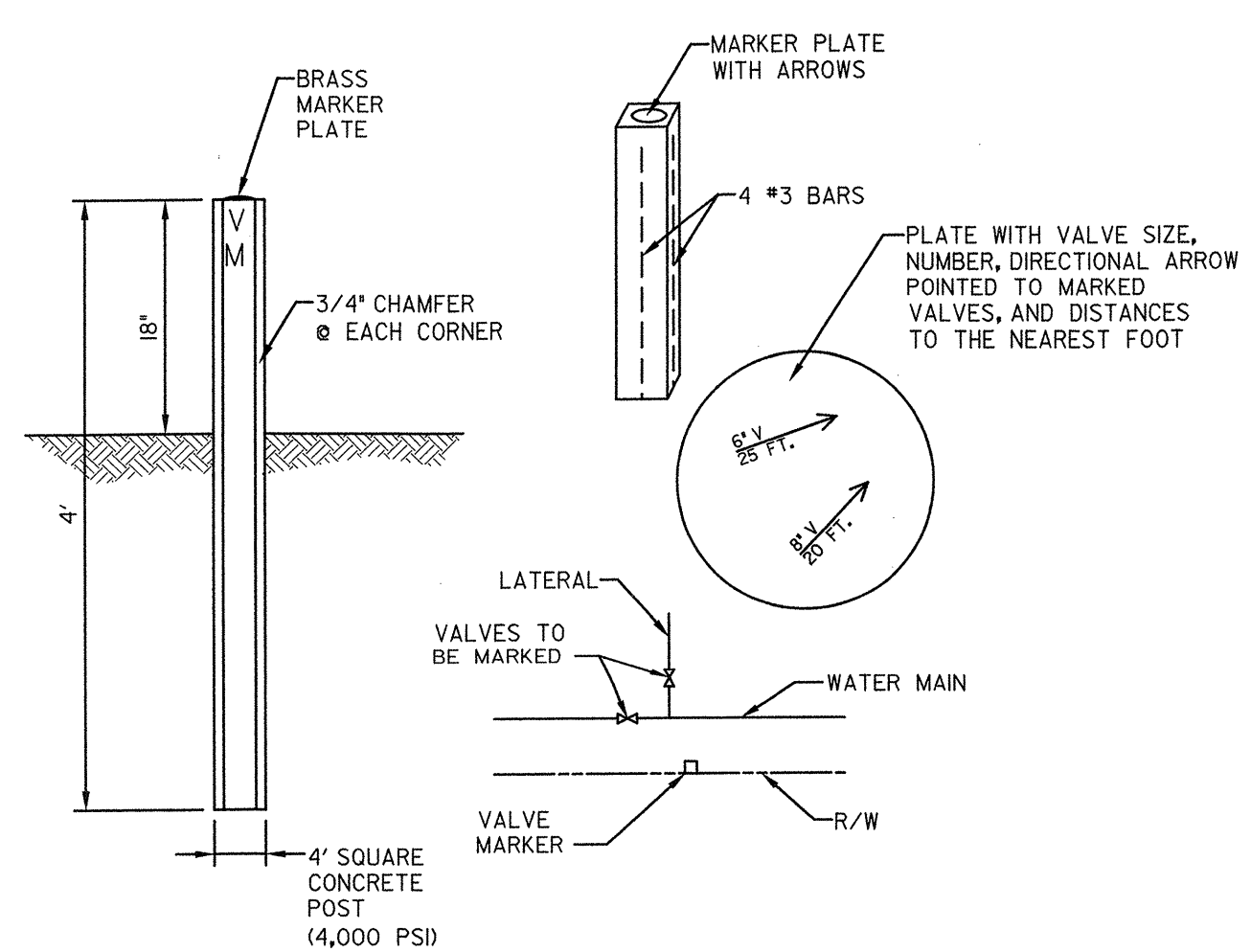


PIPE DIAMETER	L	W	H
4"	2'	2'	3'
6"	5'	3'	3'
8"	6'	3.5'	4'
10"	8'	4'	4'
12"	8'	4.5'	4.5'

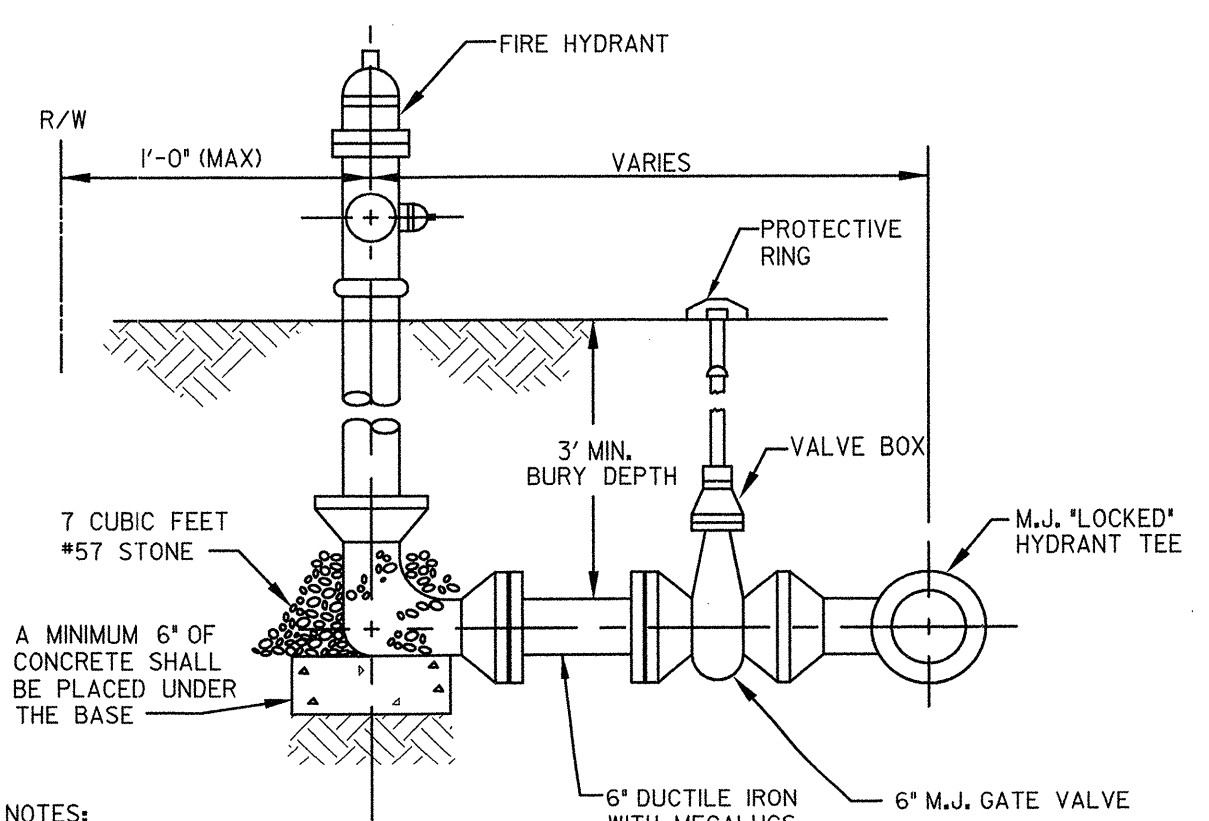
THRUST COLLAR DETAIL
NTS



WATER METER RELOCATION DETAIL
NTS



VALVE MARKER DETAIL
NTS

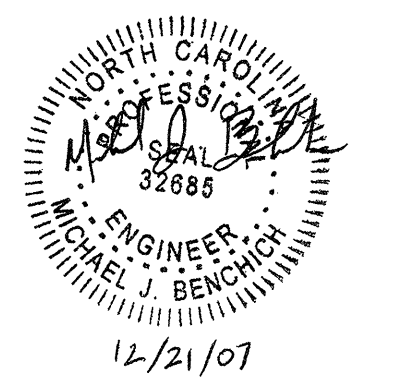


- NOTES:
1. DO NOT COVER ANY JOINT WITH CONCRETE.
 2. BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH. DO NOT BLOCK WEEP HOLES ON HYDRANTS.
 3. ALL JOINTS TO BE RESTRAINED USING MEGALUGS.

FIRE HYDRANT DETAIL
NTS

REVISIONS

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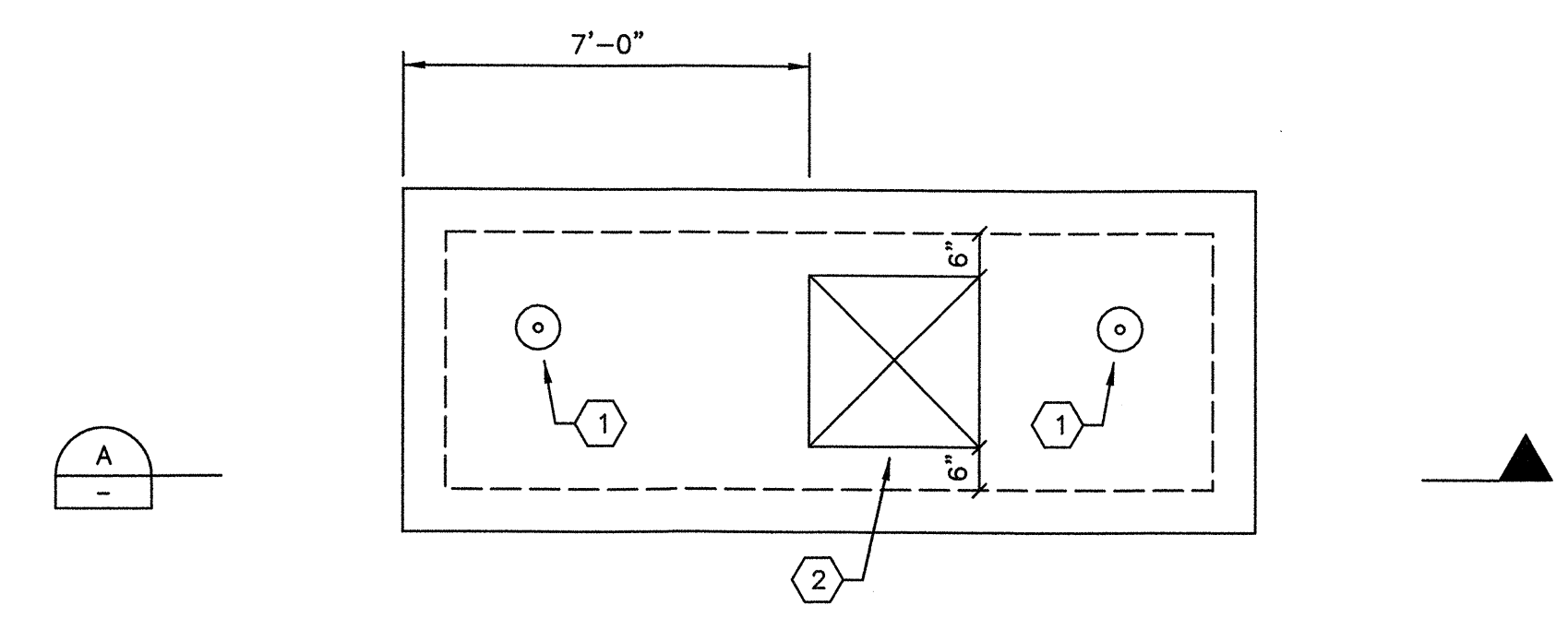
UTILITY CONSTRUCTION

GENERAL NOTES:

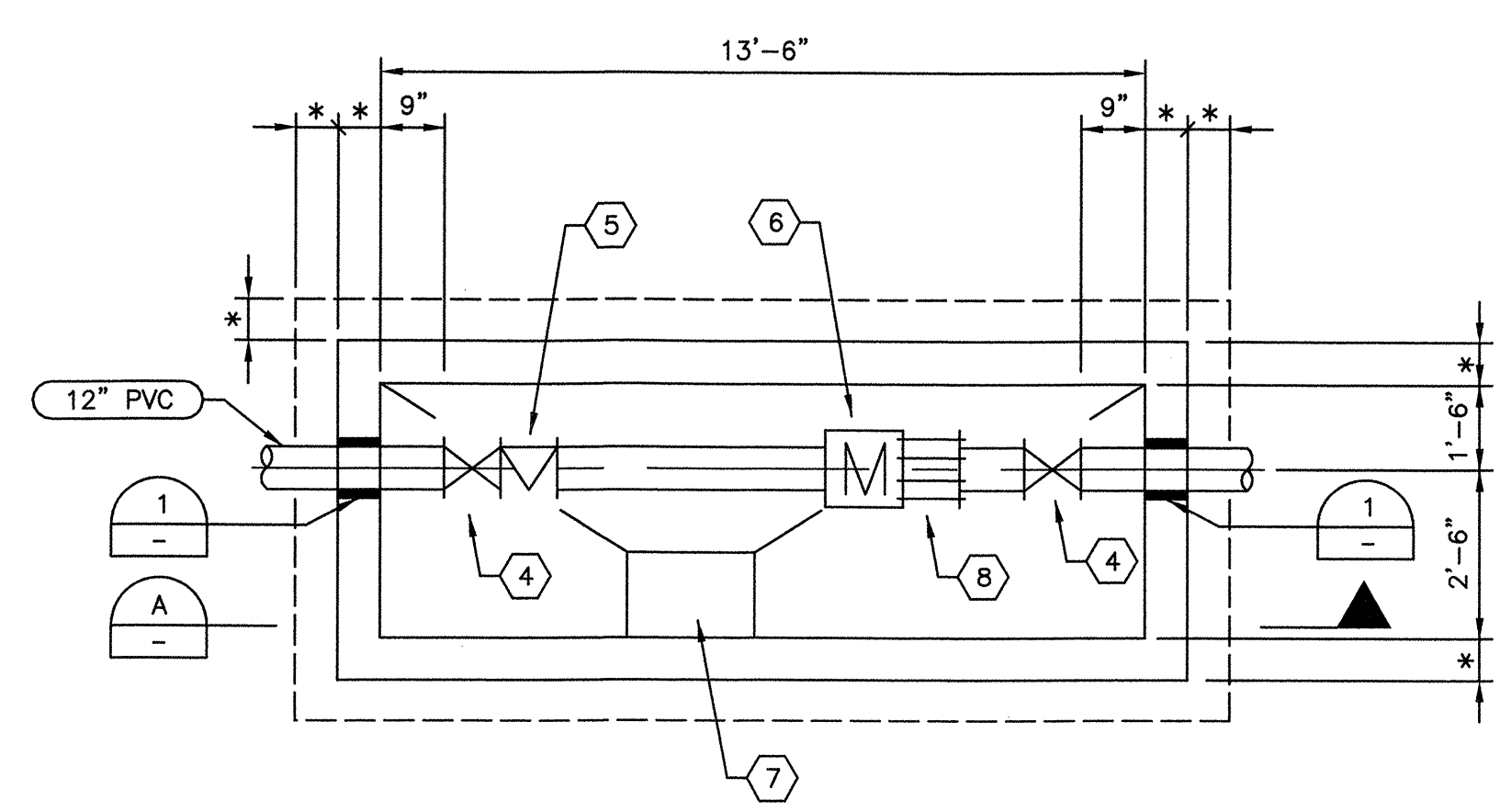
- A. CHAMFER ALL EXPOSED CONCRETE CORNERS $\frac{3}{4}$ ".
- B. * DIMENSION TO BE DETERMINED BY PRECASTER.
- C. VAULT FLOOR SHALL BE GROUTED WITH 4000 PSI COMPRESSIBLE STRENGTH NON-SHRINK GROUT.
- D. DESIGN VAULT FOR GROUNDWATER ELEVATION TO TOP OF STRUCTURE. STABILITY FOR FLOTATION SHALL BE 1.25 SAFETY FACTOR.
- E. DESIGN VAULT FOR AASHTO H20 RATED LOADING.

KEY NOTES:

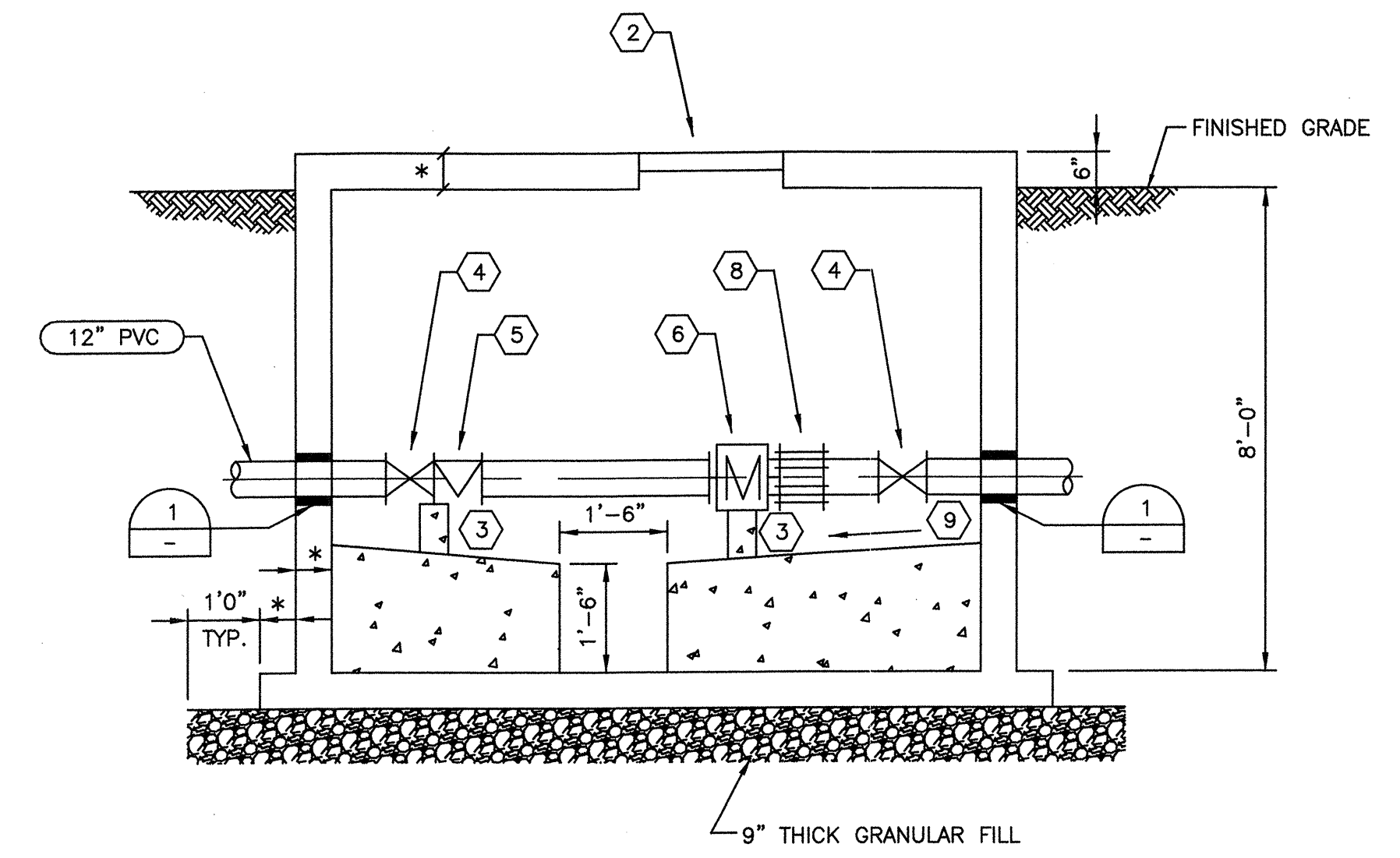
- 1 GATE VALVE WRENCH NUT AND BOX WITH EXTENSION STEM
- 2 3' X 3' ACCESS HATCH
- 3 PROVIDE SUPPORT FOR METER AND GATE VALVE PER MANUFACTURER'S RECOMMENDATIONS.
- 4 12" GATE VALVE
- 5 STRAINER
- 6 12" TURBINE WATER METER
- 7 18" X 12" X 18" SUMP
- 8 FLANGED COUPLING ADAPTER
- 9 PROVIDE FOR SLOPE OF $\frac{1}{4}$ " : 1' TO SUMP



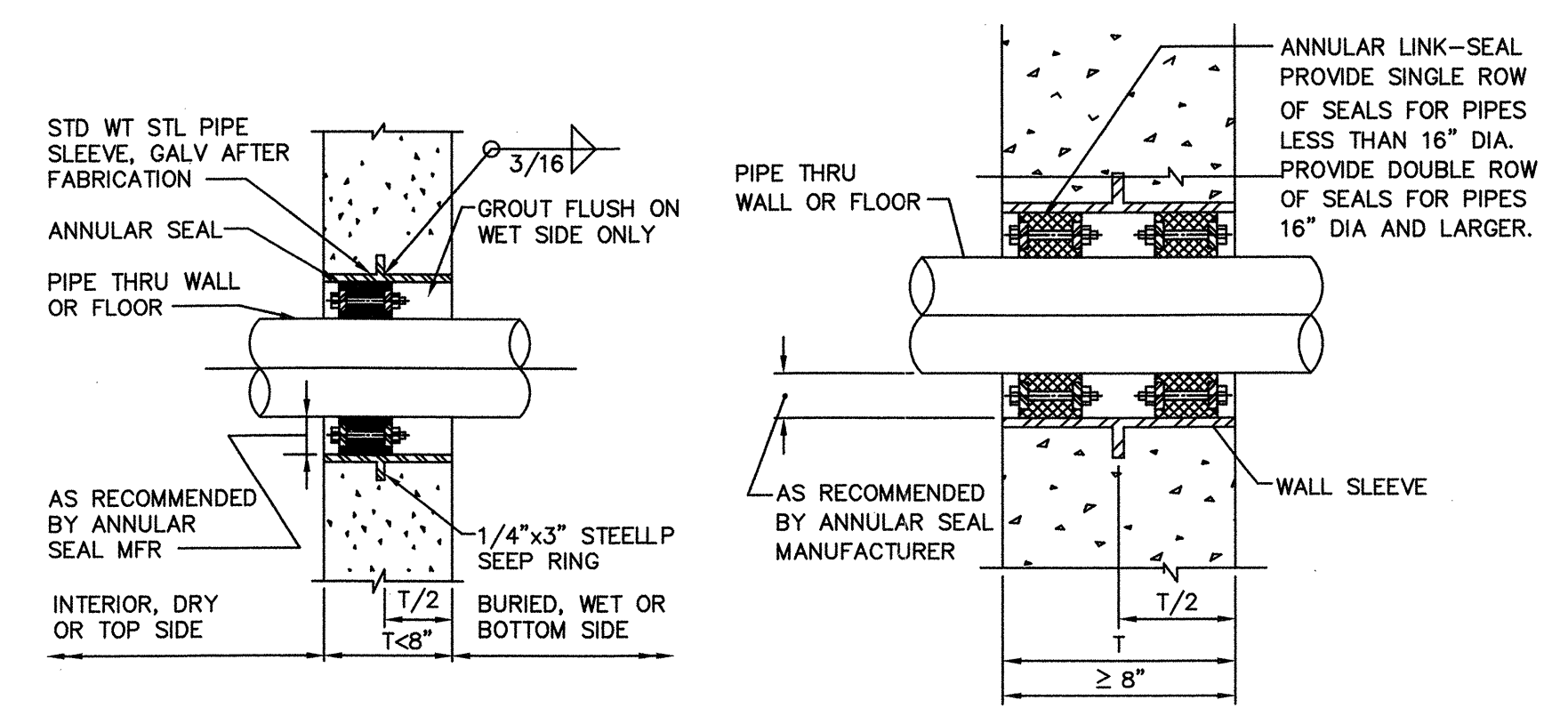
TOP PLAN
NOT TO SCALE



BOTTOM PLAN
NOT TO SCALE



SECTION
NOT TO SCALE



PIPE SEAL WITH ANNULAR SEAL DETAIL
NOT TO SCALE

REVISIONS

12/21/07
MJB
12.dwg

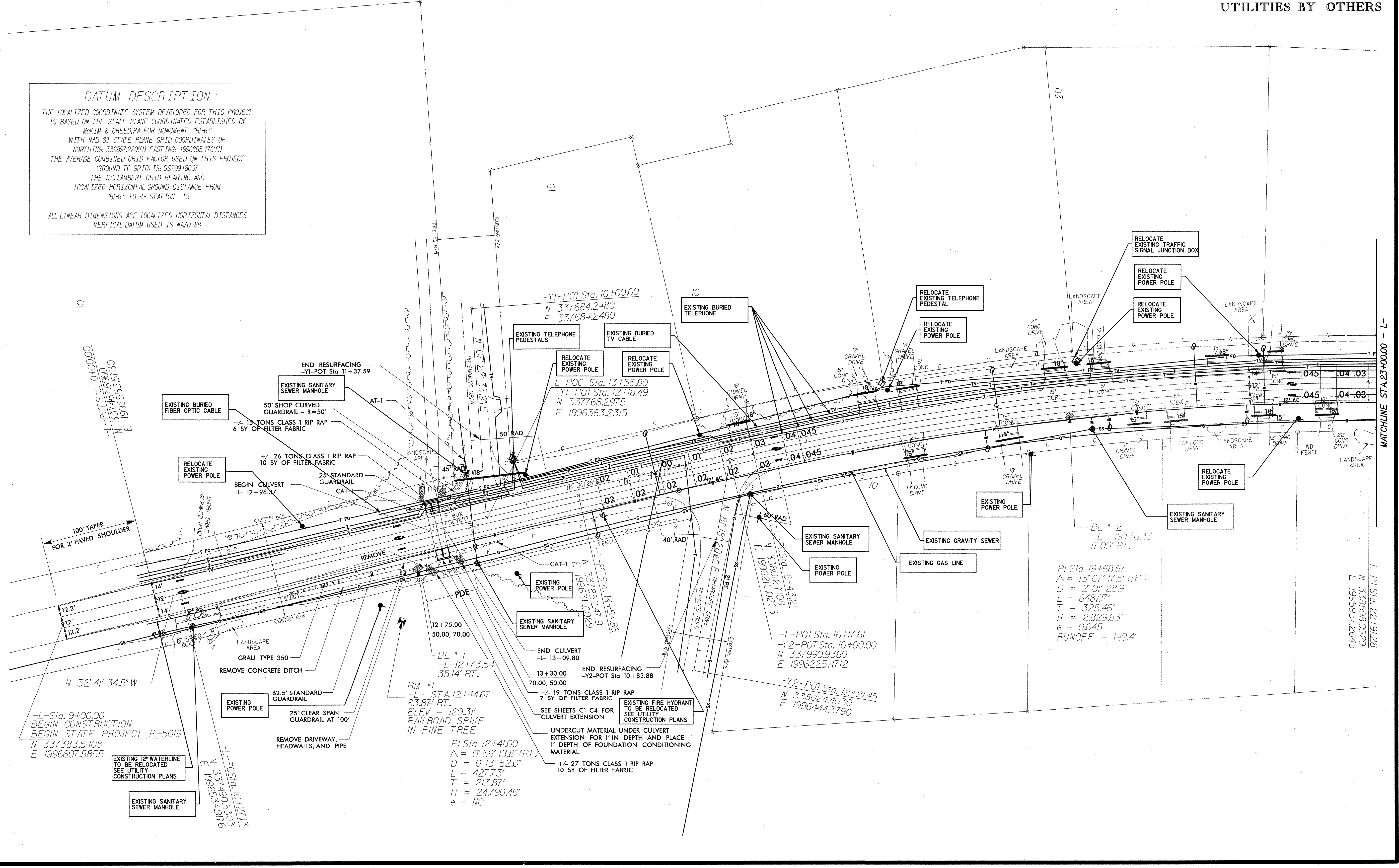


DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY McKIM & CREED, P.A. FOR MONUMENT "BL-6" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 336897.220(11) EASTING: 1996865.176(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918037 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-6" TO L- STATION IS

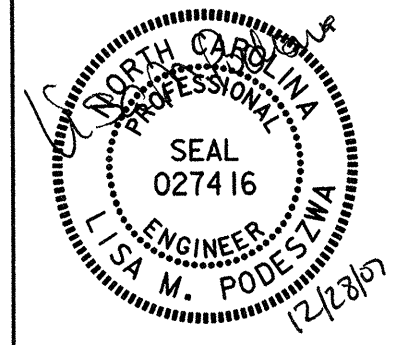
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

REVISIONS

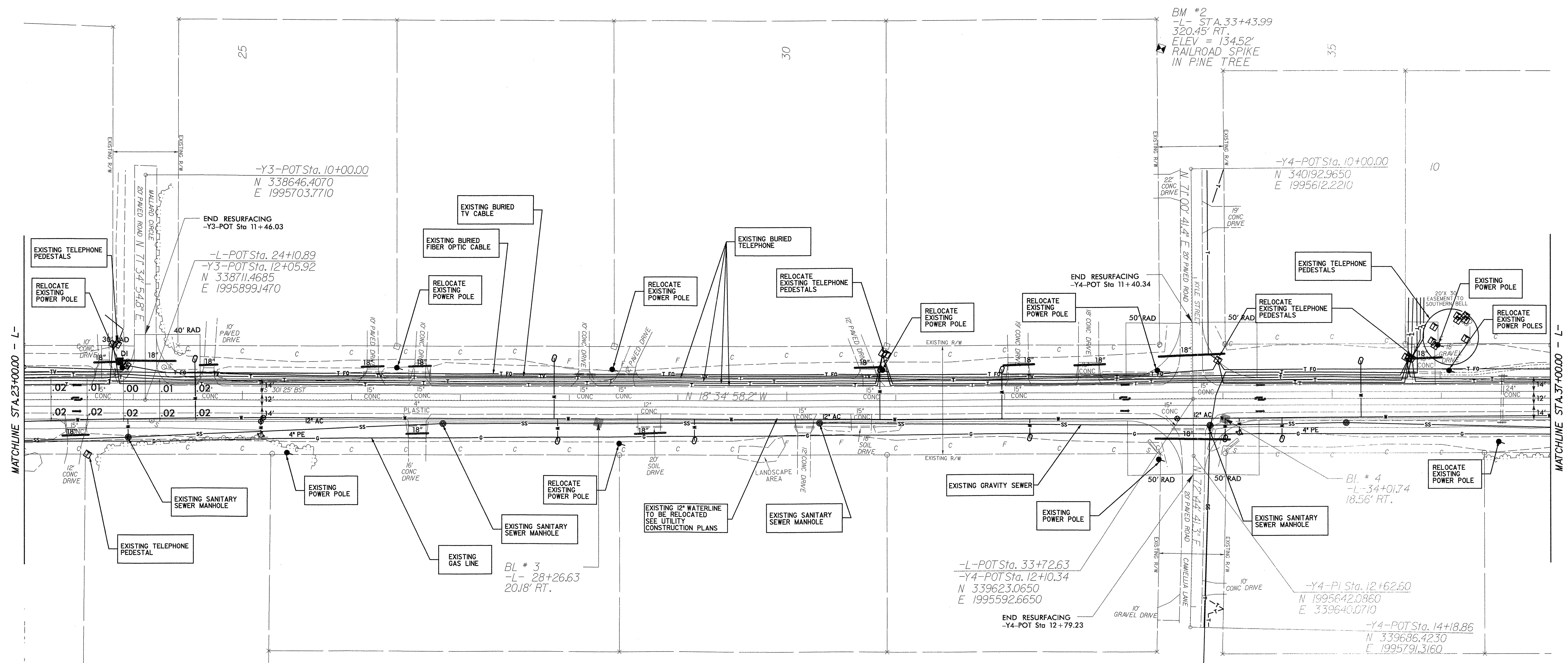
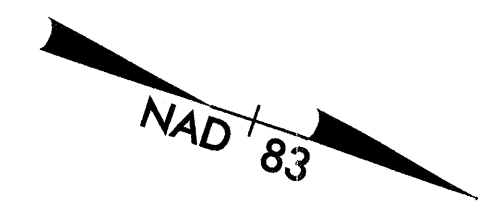


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L.S.M. PODLES, P.E.
8/17/99

PROJECT REFERENCE NO. R-5019	SHEET NO. U0-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



UTILITIES BY OTHERS



REVISIONS

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MATCHLINE STA. 37+00.00 - L-

B:17/99

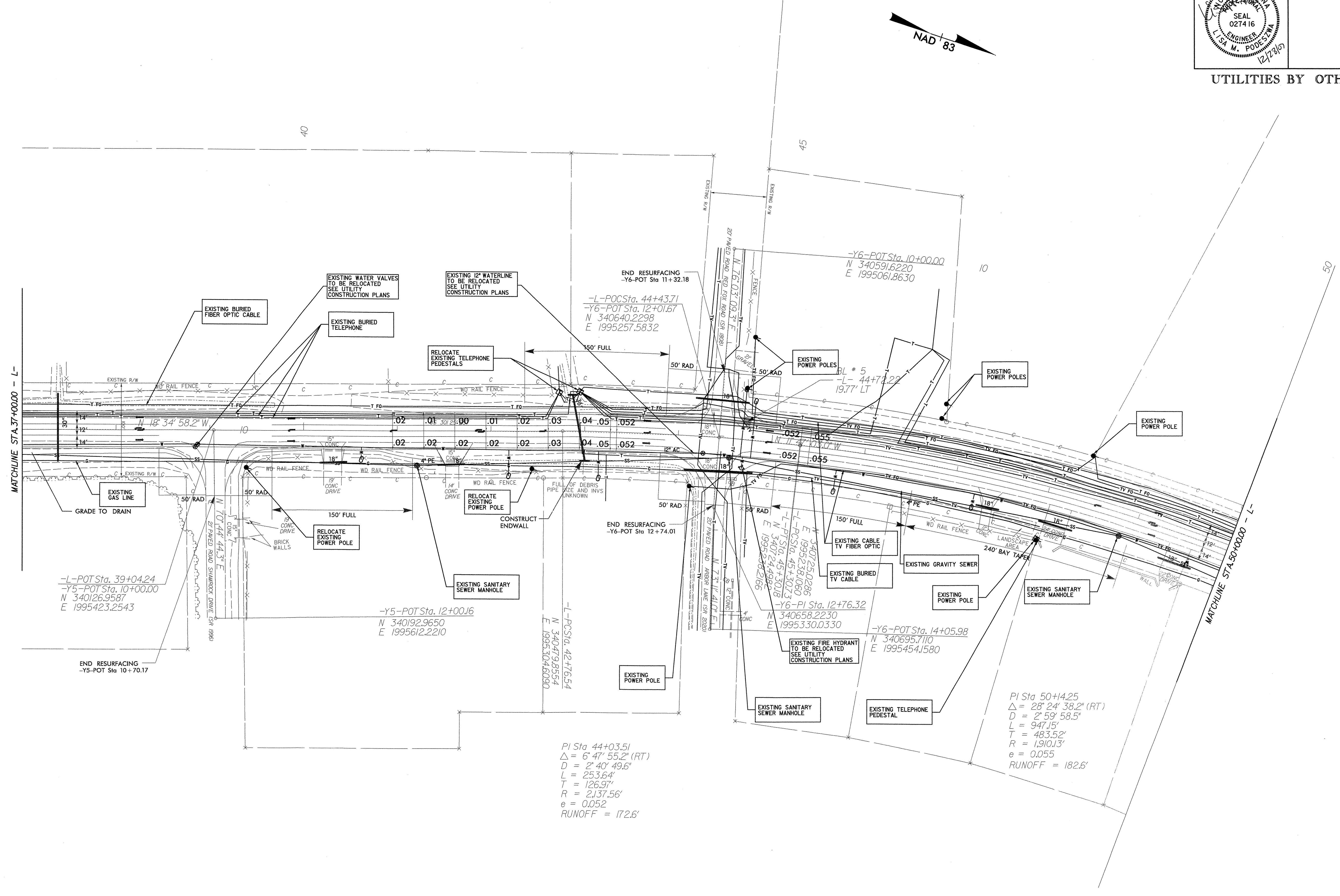
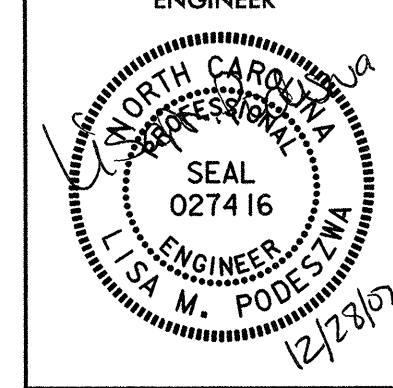
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8/17/99

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PROJECT REFERENCE NO. R-5019	SHEET NO. U0-3
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

UTILITIES BY OTHERS



REVISIONS

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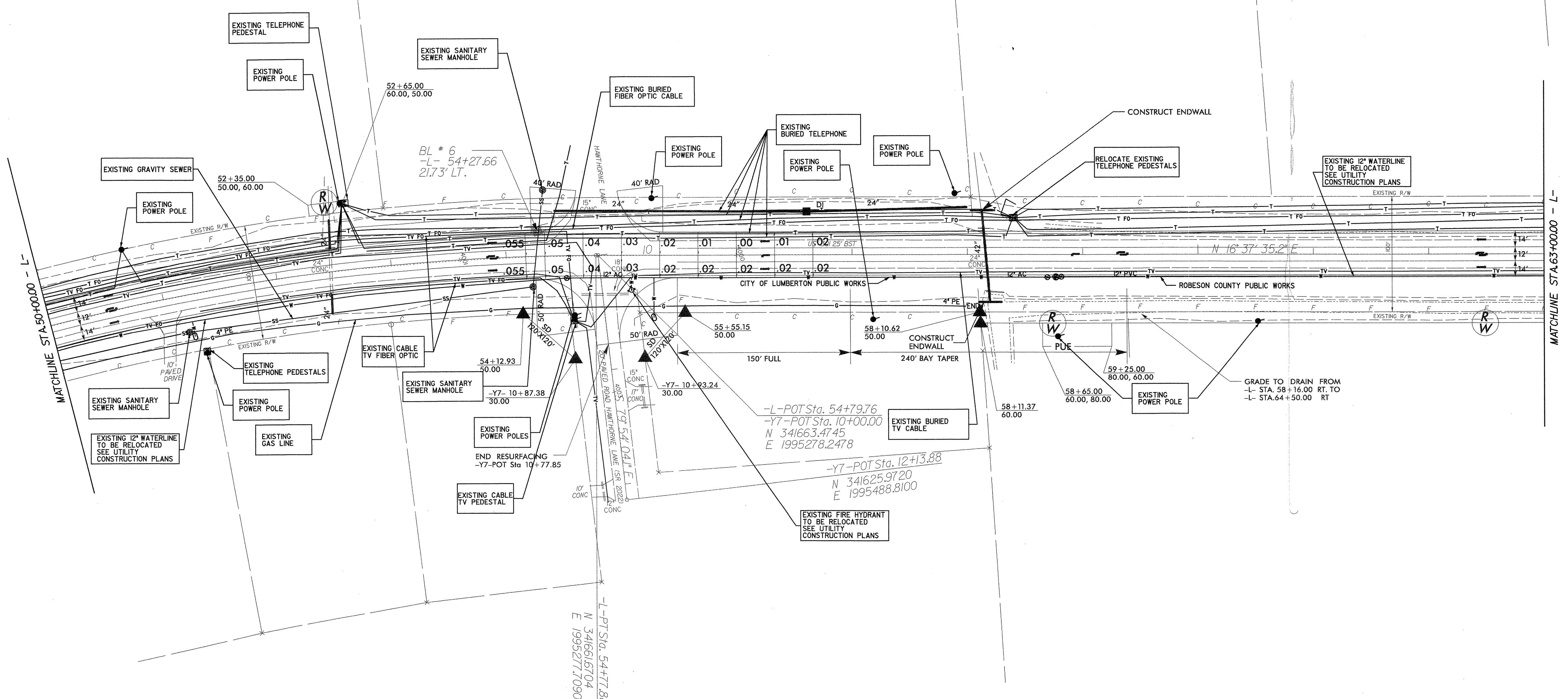
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
UTILITIES BY OTHERS	



50

55

60



MATCHLINE STA.50+00.00 - L

MATCHLINE STA.63+00.00 - L

BL # 6
-L- 54+27.66
2173' LT.

-L-POT Sta. 54+79.76
-Y7-POT Sta. 10+00.00
N 341663.4745
E 1995278.2478

-Y7-POT Sta. 12+13.88
N 341625.9720
E 1995488.8100

-L-PT Sta. 54+77.88
N 341681.6704
E 1995277.7090

PI Sta 50+14.25
Δ = 28° 24' 38.2" (RT)
D = 2' 59" 58.5"
L = 947.15'
T = 483.52'
R = 1,910.13'
e = 0.055
RUNOFF = 182.6'

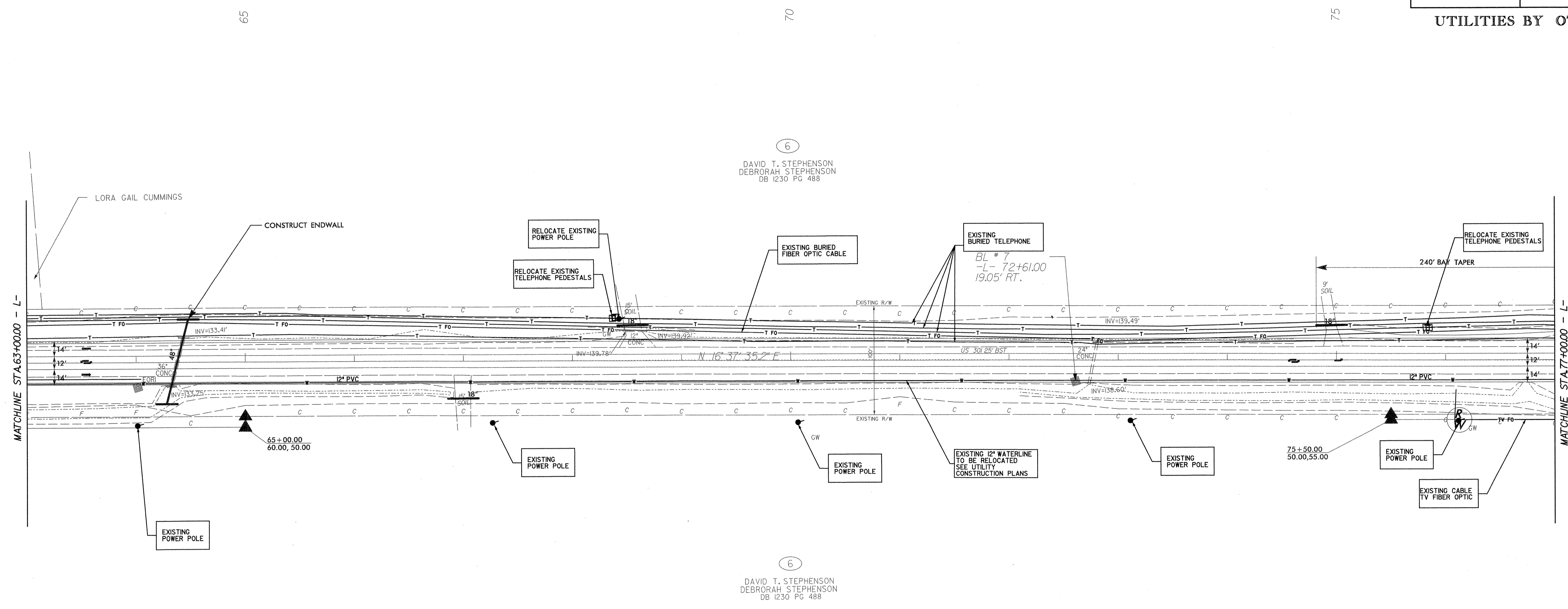
REVISIONS

8/17/99

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PROJECT REFERENCE NO. R-5019	SHEET NO. U0-5
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

UTILITIES BY OTHERS



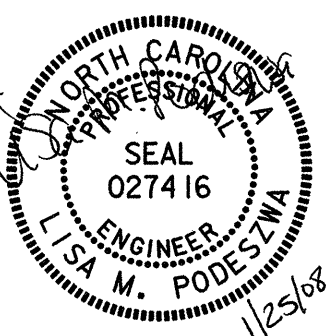
6
DAVID T. STEPHENSON
DEBORAH STEPHENSON
DB 1230 PG 488

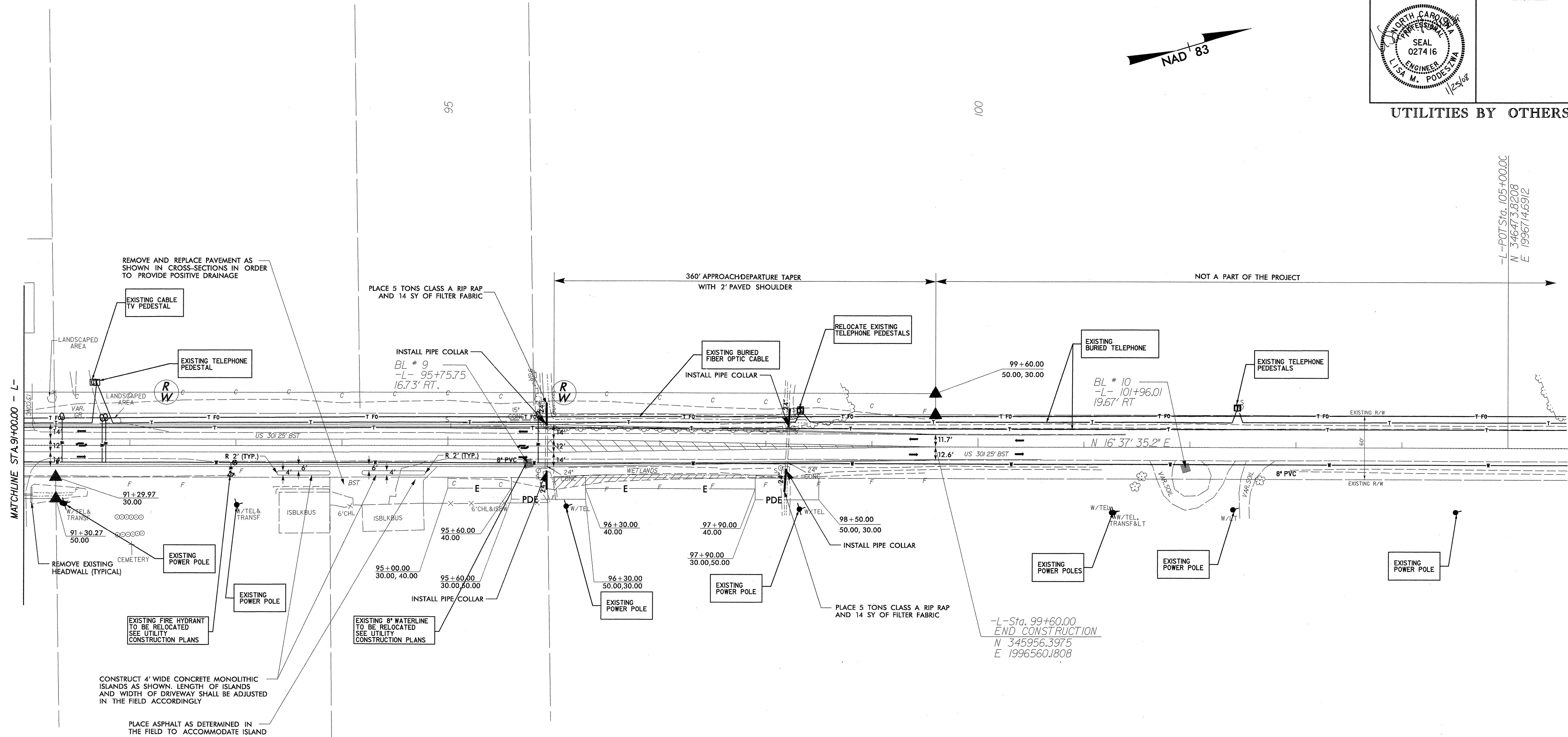
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DAVID T. STEPHENSON
DEBORAH STEPHENSON
DB 1230 PG 488

REVISIONS

8/17/99

1/24/2008
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PROJECT REFERENCE NO. R-5019	SHEET NO. U0-7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
UTILITIES BY OTHERS	



REVISIONS

MATCHLINE STA. 91+00.00 - L-

L-POT Sta. 105+00.00
N 34647.38208
E 19967146912

REMOVE AND REPLACE PAVEMENT AS SHOWN IN CROSS-SECTIONS IN ORDER TO PROVIDE POSITIVE DRAINAGE

PLACE 5 TONS CLASS A RIP RAP AND 14 SY OF FILTER FABRIC

360' APPROACH/DEPARTURE TAPER WITH 2' PAVED SHOULDER

NOT A PART OF THE PROJECT

EXISTING CABLE TV PEDESTAL

EXISTING TELEPHONE PEDESTAL

INSTALL PIPE COLLAR
BL # 9
-L- 95+75.75
16.73' RT.

RELOCATE EXISTING TELEPHONE PEDESTALS

EXISTING BURIED FIBER OPTIC CABLE
INSTALL PIPE COLLAR

EXISTING BURIED TELEPHONE

BL # 10
-L- 101+96.01
19.67' RT

EXISTING TELEPHONE PEDESTALS

91+29.97
30.00

91+30.27
50.00

REMOVE EXISTING HEADWALL (TYPICAL)

EXISTING POWER POLE

EXISTING POWER POLE

EXISTING FIRE HYDRANT TO BE RELOCATED SEE UTILITY CONSTRUCTION PLANS

CONSTRUCT 4' WIDE CONCRETE MONOLITHIC ISLANDS AS SHOWN. LENGTH OF ISLANDS AND WIDTH OF DRIVEWAY SHALL BE ADJUSTED IN THE FIELD ACCORDINGLY

PLACE ASPHALT AS DETERMINED IN THE FIELD TO ACCOMMODATE ISLAND

EXISTING 8" WATERLINE TO BE RELOCATED SEE UTILITY CONSTRUCTION PLANS

95+00.00
30.00, 40.00

95+60.00
30.00, 60.00

INSTALL PIPE COLLAR

96+30.00
40.00

96+30.00
50.00, 30.00

EXISTING POWER POLE

97+90.00
40.00

97+90.00
30.00, 50.00

EXISTING POWER POLE

PLACE 5 TONS CLASS A RIP RAP AND 14 SY OF FILTER FABRIC

-L- Sta. 99+60.00
END CONSTRUCTION
N 345956.3975
E 1996560.1808

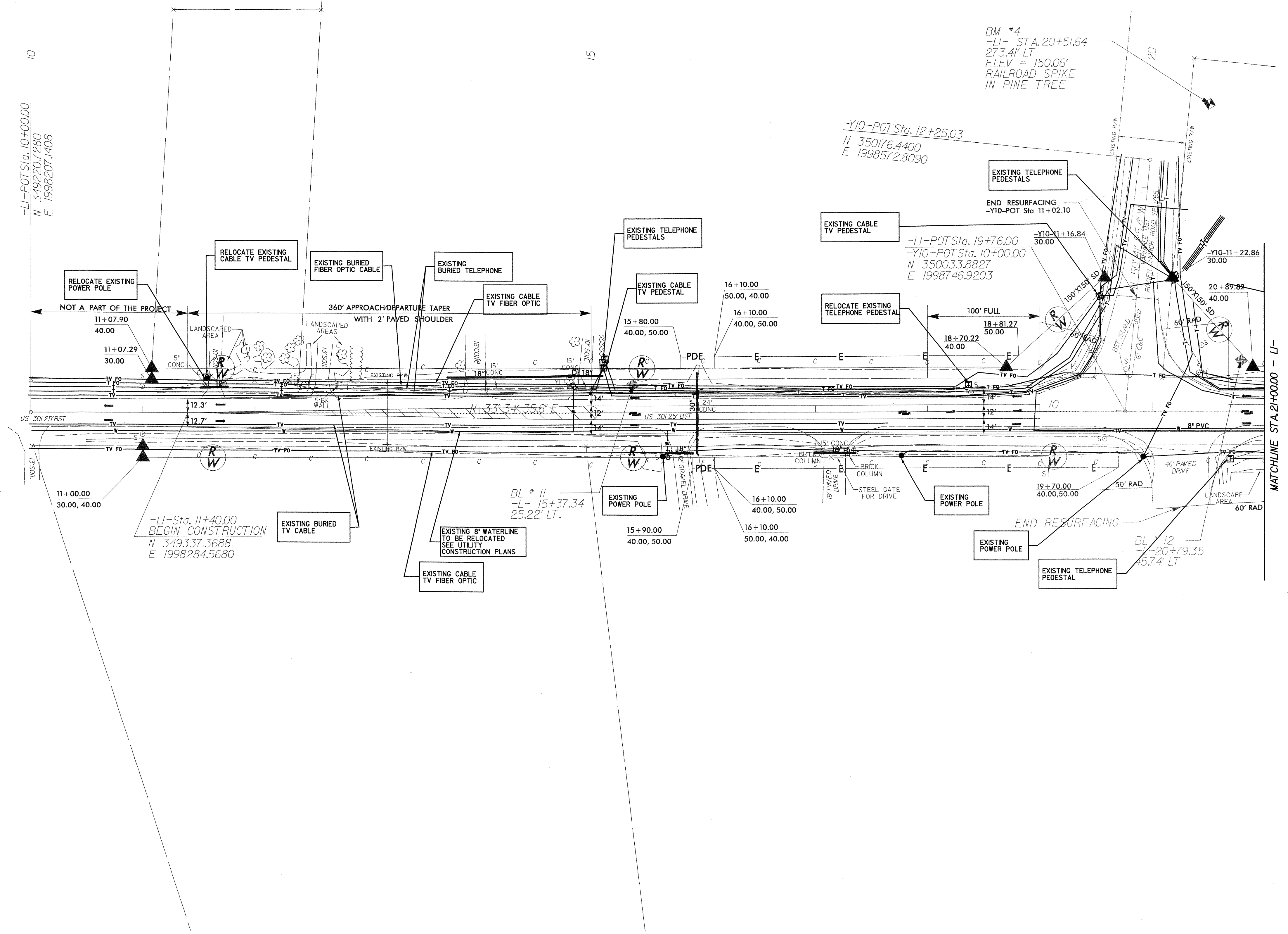
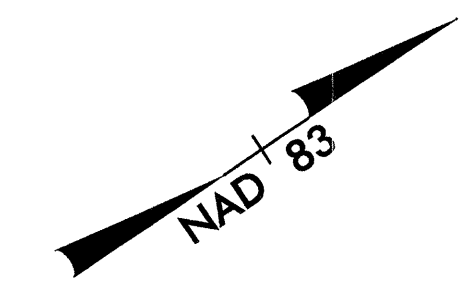
EXISTING POWER POLES

EXISTING POWER POLE

EXISTING POWER POLE

PROJECT REFERENCE NO. R-5019	SHEET NO. U0-8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

UTILITIES BY OTHERS



REVISIONS

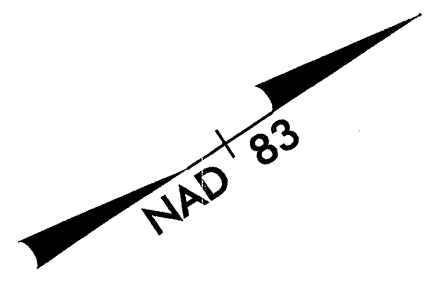
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8/17/99

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PROJECT REFERENCE NO. R-5019	SHEET NO. U0-9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

UTILITIES BY OTHERS



REVISIONS

