

0422DEL\_P19

CONTRACT: C203255 TIP PROJECT: P-5201

MORRISVILLE-CARPENTER RD./TOWN HALL DR.

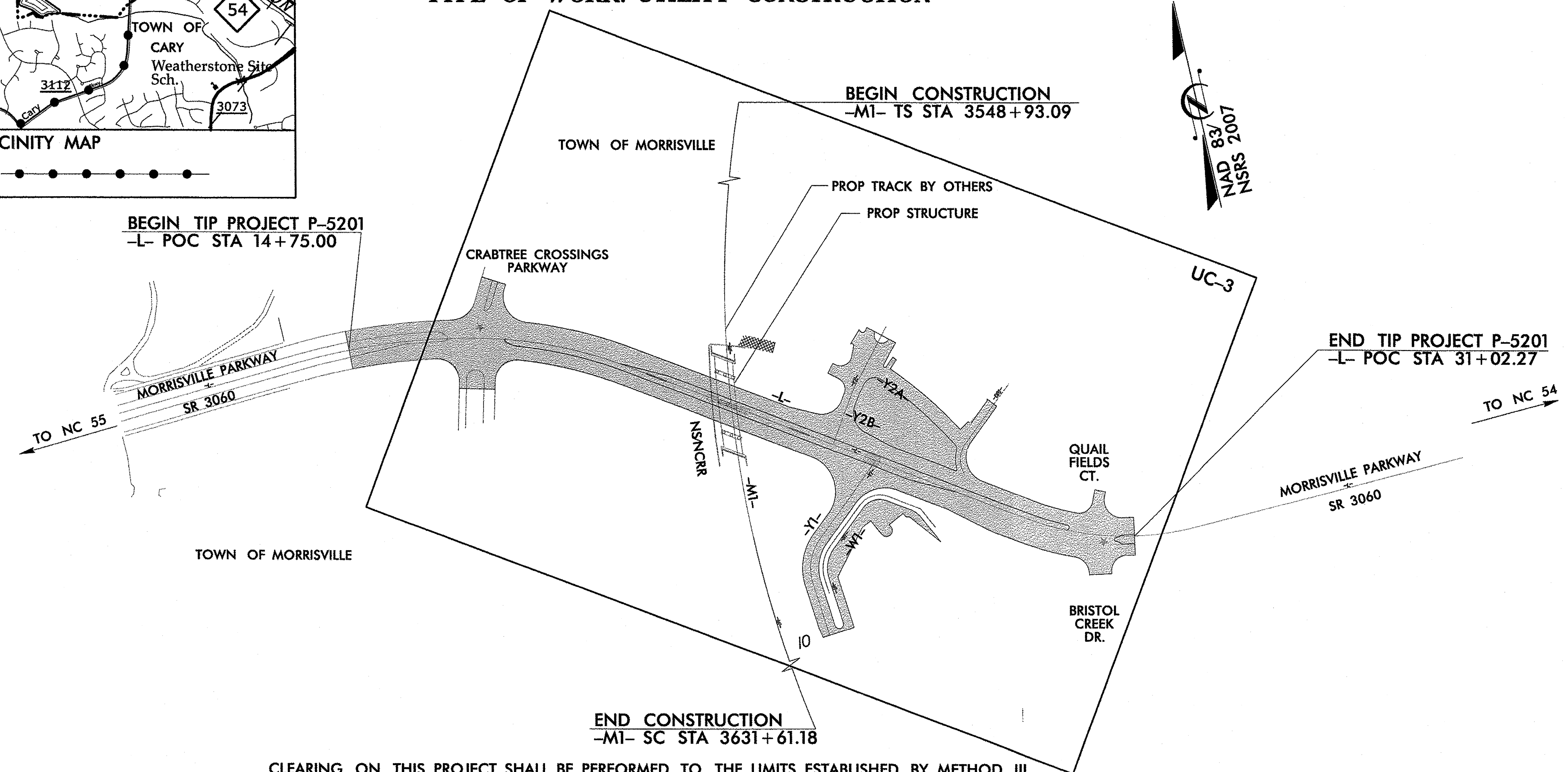
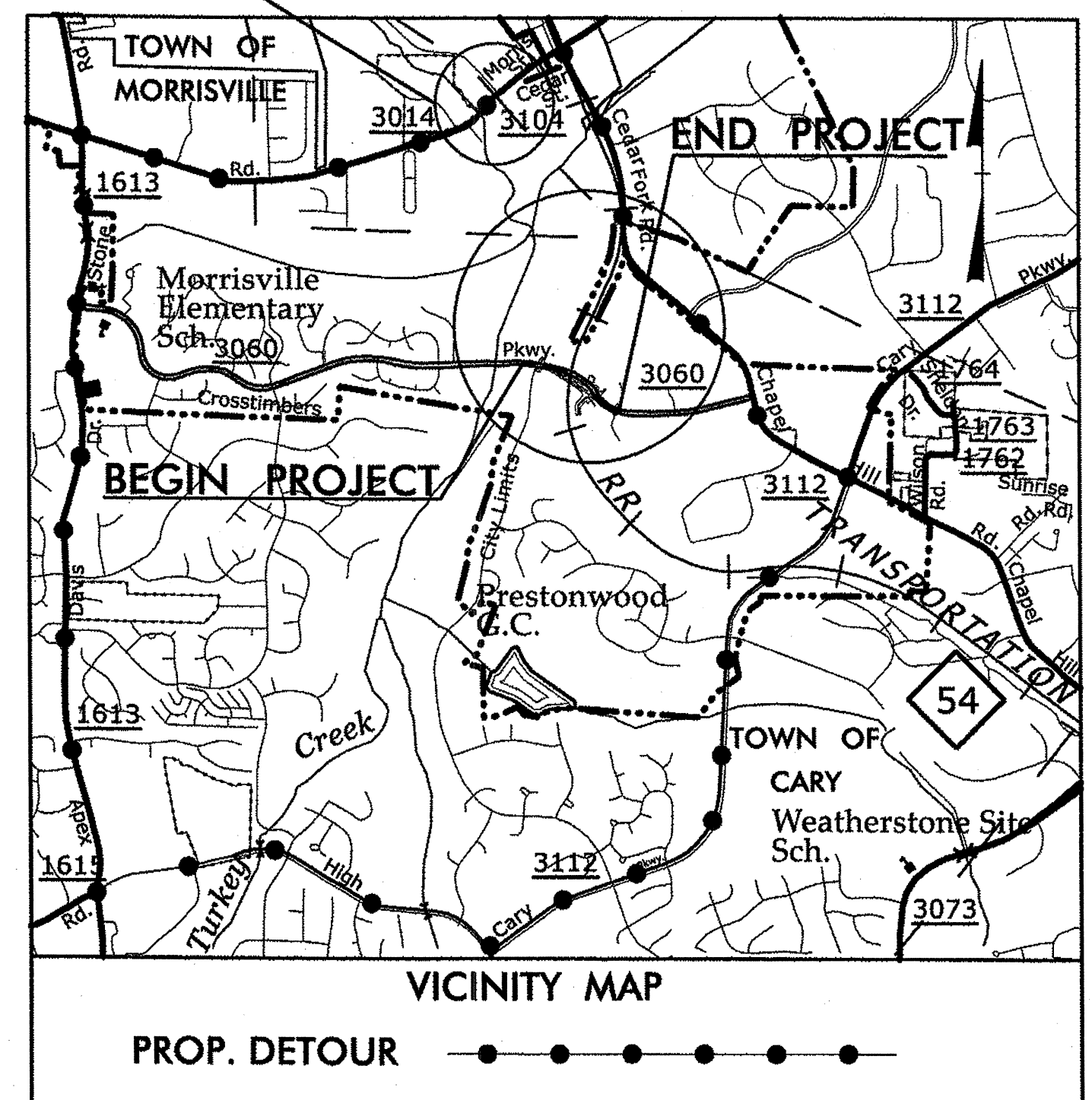
STATE OF NORTH CAROLINA RAIL DIVISION



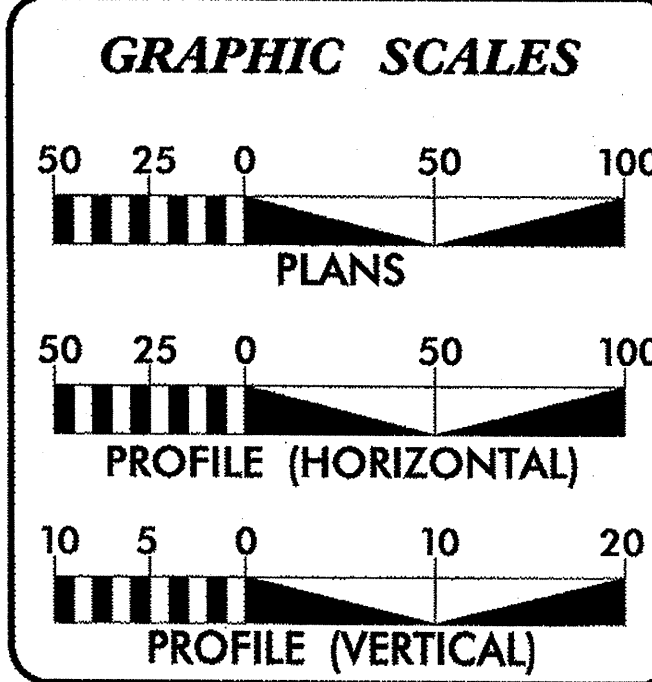
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-5201	UC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
52100.1.STR03T1B		UTIL PE, PE	
43219.2.STR05P5201		RW	
52100.3.STR01T4		UTIL CONST	
52100.3.STR01T4	FRA-FR-HSR-0006-10-01-00	CONST	

WAKE COUNTY

LOCATION: MORRISVILLE PARKWAY (SR 3060)  
 GRADE SEPARATION UNDER NS/NCRR RAILROAD  
 FROM WEST OF CRABTREE CROSSINGS PARKWAY  
 TO EAST OF BRISTOL CREEK DRIVE  
 TYPE OF WORK: UTILITY CONSTRUCTION



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III  
 THIS PROJECT IS WITHIN MUNICIPAL BOUNDARIES OF TOWN OF MORRISVILLE



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	CONSTRUCTION DETAILS
UC-3 thru 5	UTILITY CONSTRUCTION PLAN AND PROFILE SHEETS

UTILITY OWNERS ON PROJECT

(1) WATER - TOWN OF CARY  
 (2) SEWER - TOWN OF CARY

Prepared in the Office of:  
**AECOM**  
 NC FIRM LICENSE No: F-0342  
 701 Corporate Center Drive, Suite 475  
 Raleigh, NC 27607  
 (919) 854-6200 - (919) 854-6259(FAX)

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION  
 2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
 SEPTEMBER 28, 2012

LETTING DATE:  
 NOVEMBER 19, 2013

BILL JENKINS, PE  
 PROJECT ENGINEER

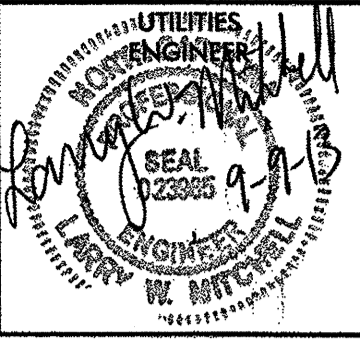
LARRY W. MITCHELL, PE  
 UTILITIES PROJECT ENGINEER

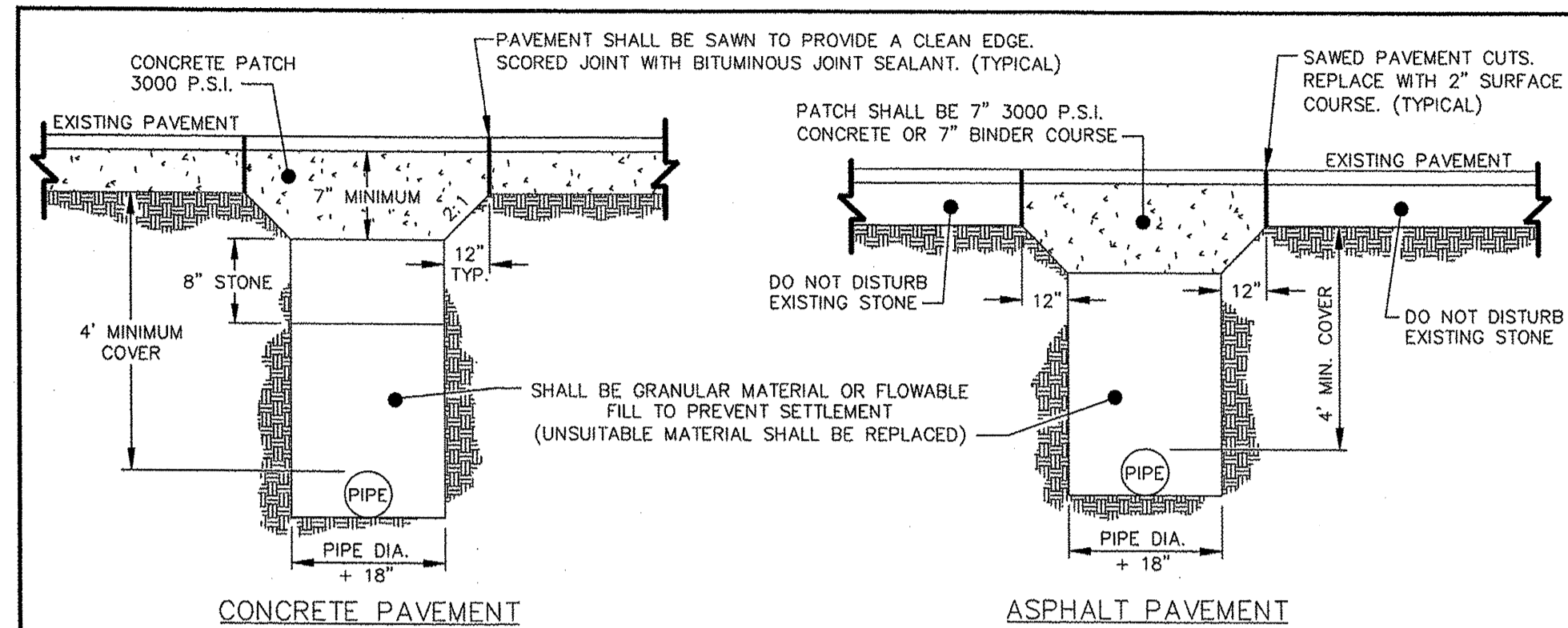
UTILITIES ENGINEER

Larry W. Mitchell P.E.  
 SIGNATURE

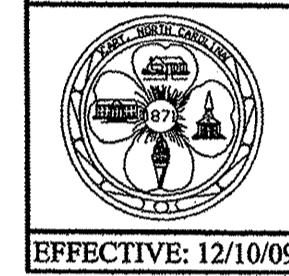


\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$DDON\$\$\$\$\$  
 \$\$\$SERNAME\$\$\$\$\$

PROJECT REFERENCE NO. P-5201	SHEET NO. UC-2
RW SHEET NO.	
SCALE: NONE	
Prepared in the Office of: <b>AECOM</b> <small>NC FIRM LICENSE No. P-0342 701 Corporate Center Drive, Suite 475 Raleigh, NC 27601 (919) 854-6200 • (919) 854-6259(FAX)</small>	

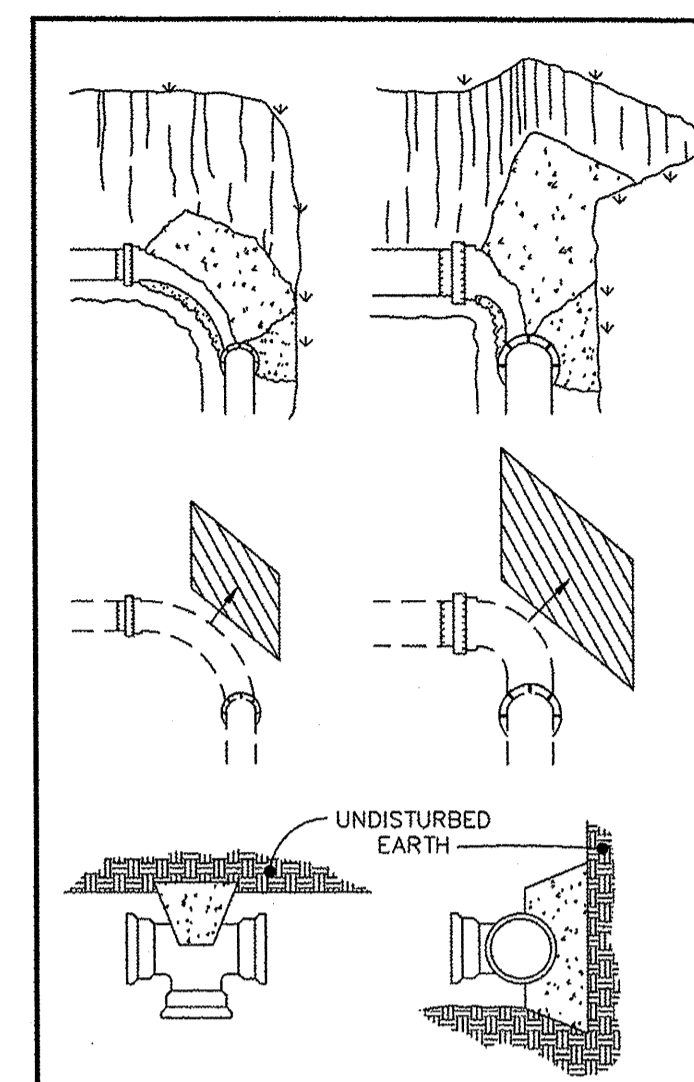


- NOTES:**
1. ALL PAVEMENT CUTS SHALL BE REPAIRED WITHIN A MAXIMUM OF THREE (3) DAYS FROM THE DATE THE CUT IS MADE. IF CONDITIONS DO NOT PERMIT A PERMANENT REPAIR WITHIN THE GIVEN TIME LIMIT, PERMISSION TO MAKE A TEMPORARY REPAIR MUST BE OBTAINED FROM THE TOWN ENGINEER.
  2. CONCRETE TRENCH CAP ON ASPHALT STREETS SHALL BE USED ONLY DURING INCLEMENT WEATHER WHEN ASPHALT PLANTS ARE NOT OPERATING.
  3. IN ALL OPEN TRENCHES, BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING COMPACTION REQUIREMENTS BY SOILS TESTING CERTIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER.
  4. BACKFILL WITH A HIGH CLAY CONTENT, HIGH SHRINK-SWELL POTENTIAL, OR HIGH MOISTURE CONTENT THAT CANNOT MEET COMPACTION REQUIREMENTS SHALL BE DEEMED UNSUITABLE AND SHALL BE REPLACED WITH SUITABLE BACKFILL MATERIAL.
  5. ALL PAVEMENT PATCHES SHALL PROVIDE A UNIFORM AND SMOOTH DRIVING SURFACE.



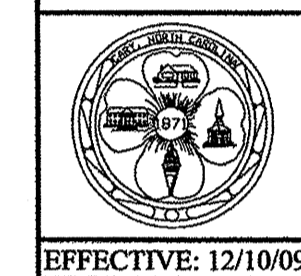
STANDARD TRENCH AND PAVEMENT REPAIR SECTIONS

DETAIL No.  
05000.01  
SHEET 1 OF 1



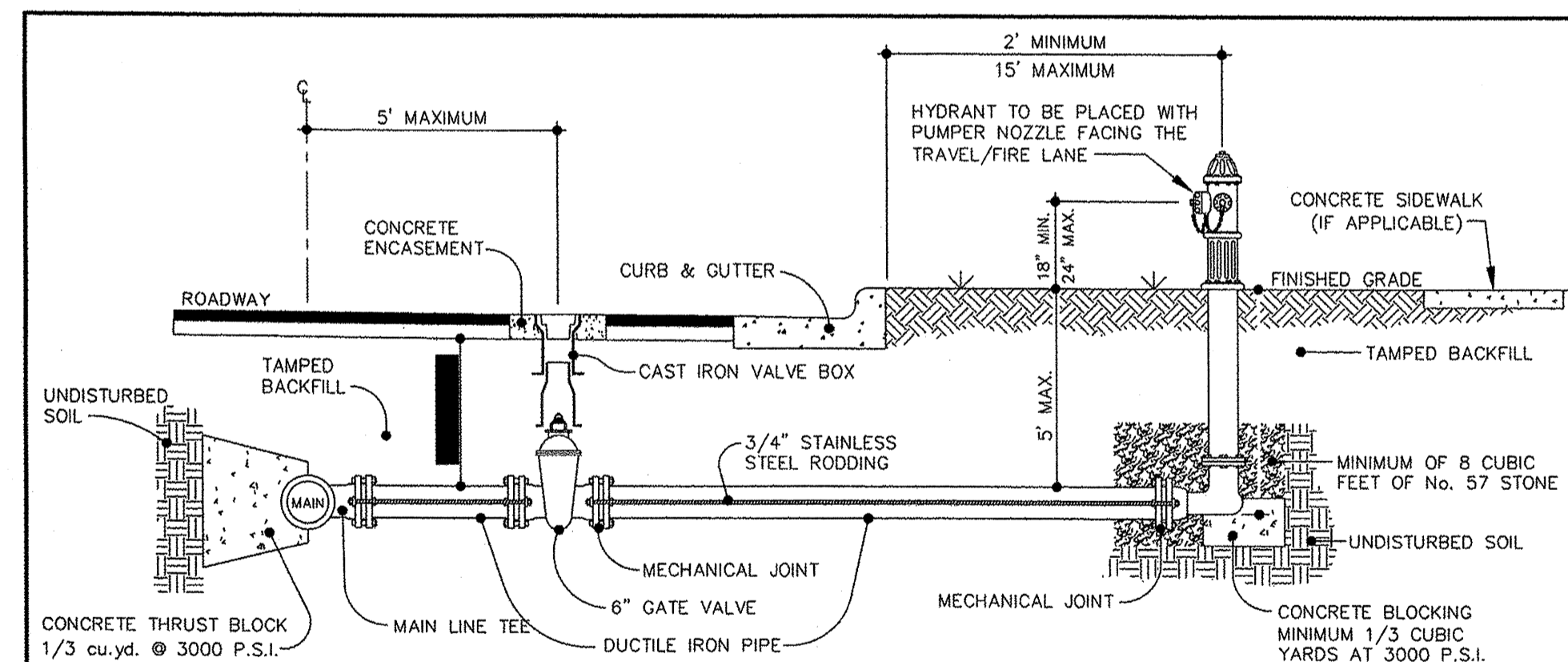
NOMINAL PIPE DIAMETER INCHES	TEES & DEAD ENDS	90° BEND	45° BEND	22½° BEND	11¼° BEND
4	1/3	1/3	1/3	1/3	1/3
6	1/3	1/3	1/3	1/3	1/3
8	1/3	1/2	1/3	1/3	1/3
10	2/3	3/4	1/2	1/3	1/3
12	3/4	1.0	2/3	1/3	1/3
14	1.0	1½	3/4	1/2	1/3
16	1½	2.0	1.0	1/2	1/3
18	1¾	2½	1½	2/3	1/3
20	2.0	3.0	1¾	¾	1/2
24	3.0	4½	2½	1½	2/3

- NOTES:**
- 1) FITTING SHALL BE WRAPPED WITH A MINIMUM 4 MIL PLASTIC.
  - 2) NO CONCRETE SHALL COVER BOLTS OR GLANDS.
- \* CONCRETE SHALL BE 3000 P.S.I. MIX.

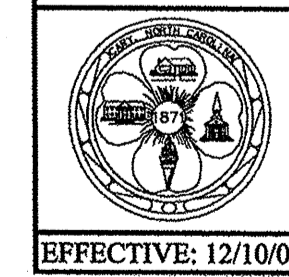


STANDARD REACTION BLOCKING

DETAIL No.  
06000.13  
SHEET 1 OF 1

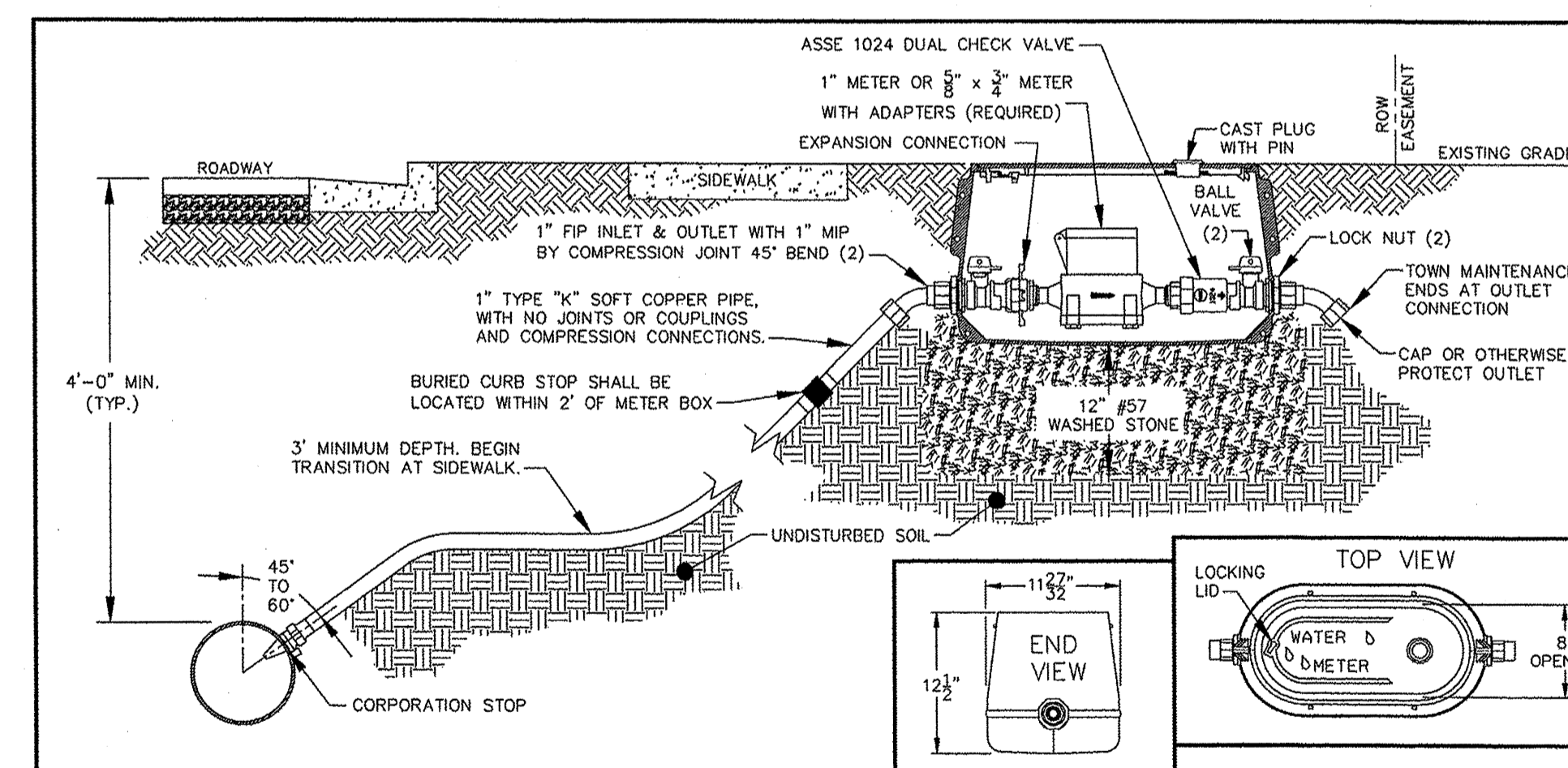


- NOTES:**
1. TOP OF BLOCKING TO BE 2 INCHES FROM HYDRANT WEEP HOLES.
  2. HYDRANT TEE MAY BE SUBSTITUTED FOR D.I.P. NIPPLE AND RODDING TO VALVE.
  3. IF HYDRANT IS LOCATED ON A DEPARTMENT OF TRANSPORTATION ROADWAY USE D.O.T. STANDARDS FOR LOCATION OF HYDRANT.
  4. HYDRANT SHALL BE LOCATED FROM 2 TO 15 FEET FROM BACK OF CURB.
  5. HYDRANT MAY BE LOCATED (AT LEAST 1-FT) BEHIND SIDEWALK WHEN IT CANNOT BE LOCATED INSIDE THE UTILITY STRIP.
  6. HYDRANT SHALL BE INSTALLED AT LEAST 2 FEET BEYOND TOP SLOPE OF ANY DRAINAGE DITCHES. HYDRANT INSTALLATION WITHIN THE DITCH LINE OR SLOPE SHALL BE PROHIBITED.
  7. STD. RODDING AND BLOCKING FROM GATE VALVE TO HYDRANT MAY BE SUBSTITUTED WITH A CONCENTRIC RING RESTRAINT SYSTEM SUCH AS MUELLER AQUAGRIP OR AN APPROVED EQUAL PRODUCT PROVIDED ALL PIPE SEGMENTS ARE RESTRAINED.
  8. STD. RODDING MAY BE SUBSTITUTED WITH AN APPROVED WEDGE ACTION RETAINER GLAND.
  9. HYDRANT EXTENSIONS ARE PROHIBITED.
  10. WITHIN THE TOWN OF MORRISVILLE ONLY, HYDRANTS NEAR FDC'S SHALL BE PROVIDED WITH A STORZ CONNECTION.

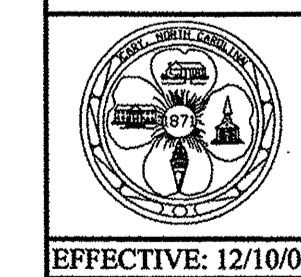


STANDARD HYDRANT INSTALLATION FOR ROADS WITH CURB & GUTTER

DETAIL No.  
06000.06  
SHEET 1 OF 3



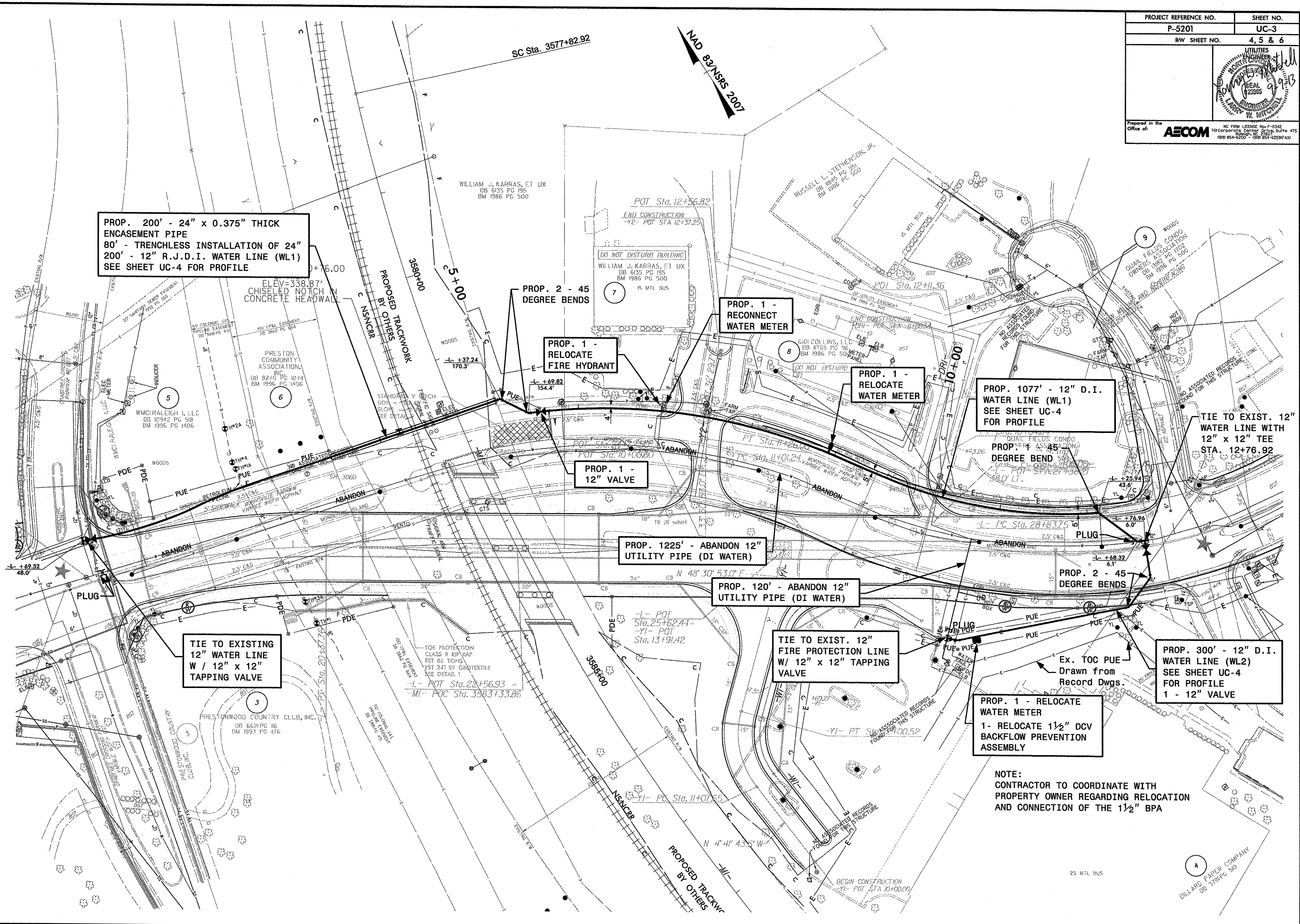
- NOTES:**
- 1) WATER METER SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC.
  - 2) ALL METER BOXES AND LIDS SHALL BE APPROVED BY THE TOWN.
  - 3) ALL SERVICE LINES, VALVES AND FITTINGS SHALL COMPLY WITH AWWA C800.
  - 4) FOR NON-RESIDENTIAL APPLICATIONS THAT REQUIRE AN ABOVE-GROUND BACKFLOW PREVENTER, THE DUAL CHECK ASSEMBLY MAY BE OMITTED.
  - 5) BOX AND LID SHALL BE CAST GRAY IRON, ASTM A48, CLASS 25.
  - 6) ALL BRASS OF 85-5-5 RED BRASS, AWWA C800, ASTM B62.
  - 7) ONE 2\"/>



STANDARD 1" WATER SERVICE & METER BOX INSTALLATION

DETAIL No.  
06000.01  
SHEET 1 OF 1

PROJECT REFERENCE NO. P-5201	SHEET NO. UC-3
RW SHEET NO. 4, 5 & 6	
Prepared in the Office of: <b>AECOM</b> <small>NC FIRM LICENSE No. P-0142          701 Corporate Center Dr., Suite 475          Raleigh, NC 27607          (919) 854-4200 • (919) 854-6259(FAX)</small>	



PROP. 200' - 24" x 0.375" THICK  
ENCASEMENT PIPE  
80' - TRENCHLESS INSTALLATION OF 24"  
200' - 12" R.J.D.I. WATER LINE (WL1)  
SEE SHEET UC-4 FOR PROFILE

TIE TO EXISTING  
12" WATER LINE  
W / 12" x 12"  
TAPPING VALVE

PROP. 2 - 45  
DEGREE BENDS

PROP. 1 -  
RELOCATE  
FIRE HYDRANT

PROP. 1 -  
RECONNECT  
WATER METER

PROP. 1 -  
RELOCATE  
WATER METER

PROP. 1077' - 12" D.I.  
WATER LINE (WL1)  
SEE SHEET UC-4  
FOR PROFILE

PROP. 1 - 45  
DEGREE BEND

TIE TO EXIST. 12"  
WATER LINE WITH  
12" x 12" TEE  
STA. 12+76.92

PROP. 1 -  
12" VALVE

PROP. 1225' - ABANDON 12"  
UTILITY PIPE (DI WATER)

PROP. 120' - ABANDON 12"  
UTILITY PIPE (DI WATER)

TIE TO EXIST. 12"  
FIRE PROTECTION LINE  
W / 12" x 12" TAPPING  
VALVE

PROP. 2 - 45  
DEGREE BENDS

PROP. 1 - RELOCATE  
WATER METER  
1 - RELOCATE 1 1/2" DCV  
BACKFLOW PREVENTION  
ASSEMBLY

PROP. 300' - 12" D.I.  
WATER LINE (WL2)  
SEE SHEET UC-4  
FOR PROFILE  
1 - 12" VALVE

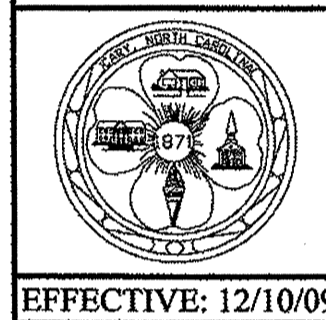
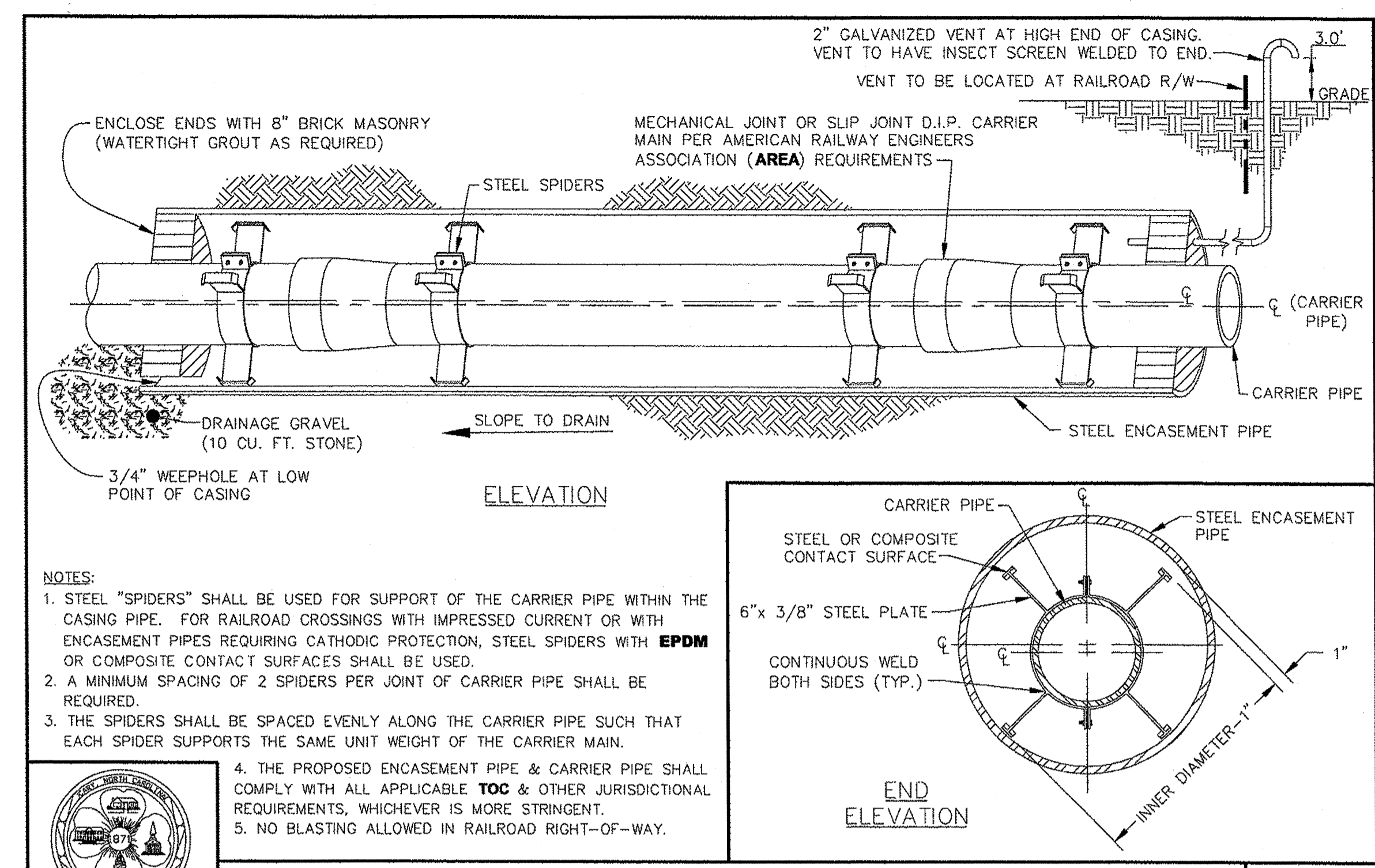
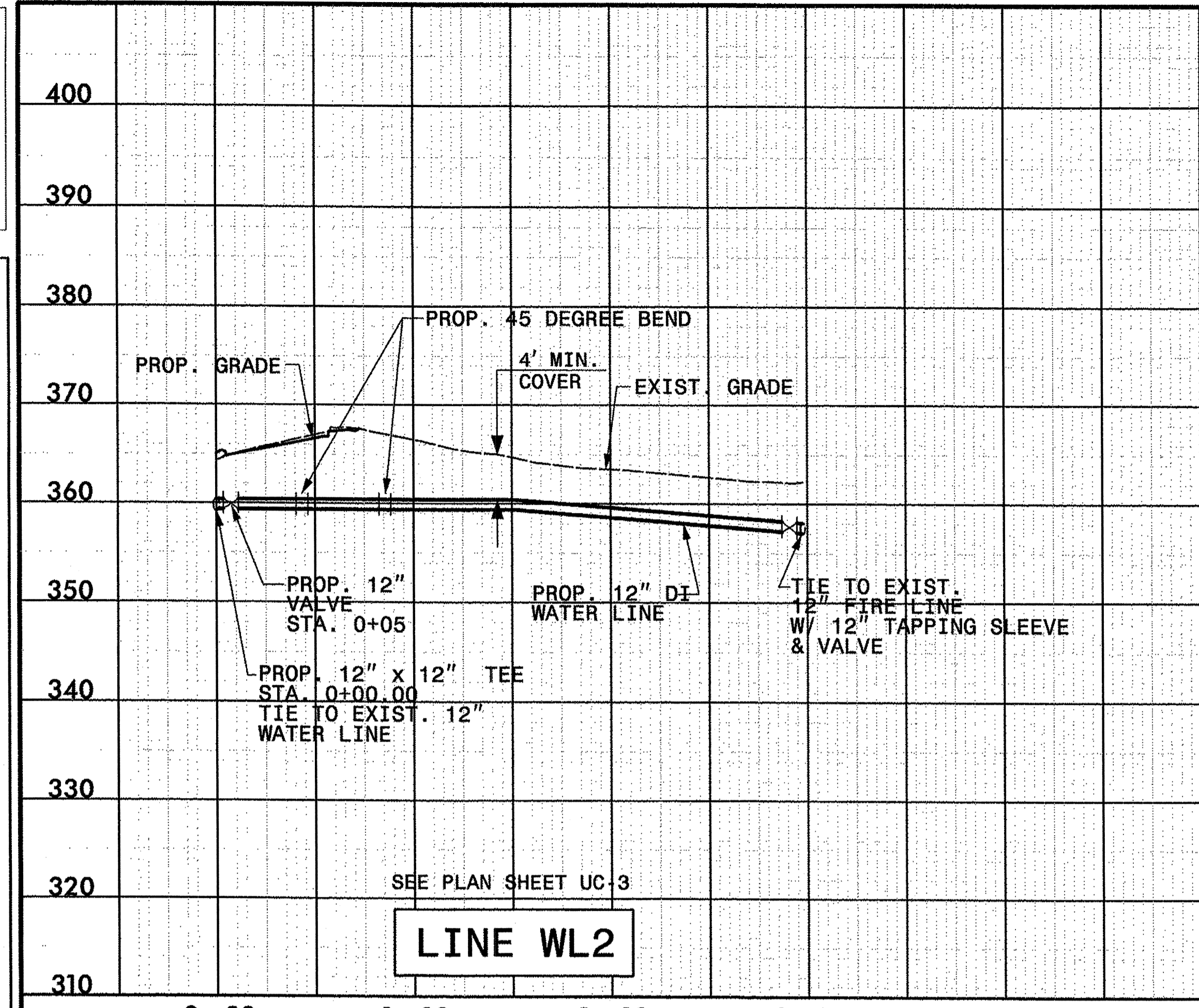
NOTE:  
CONTRACTOR TO COORDINATE WITH  
PROPERTY OWNER REGARDING RELOCATION  
AND CONNECTION OF THE 1 1/2" BPA

25 MTL BUS

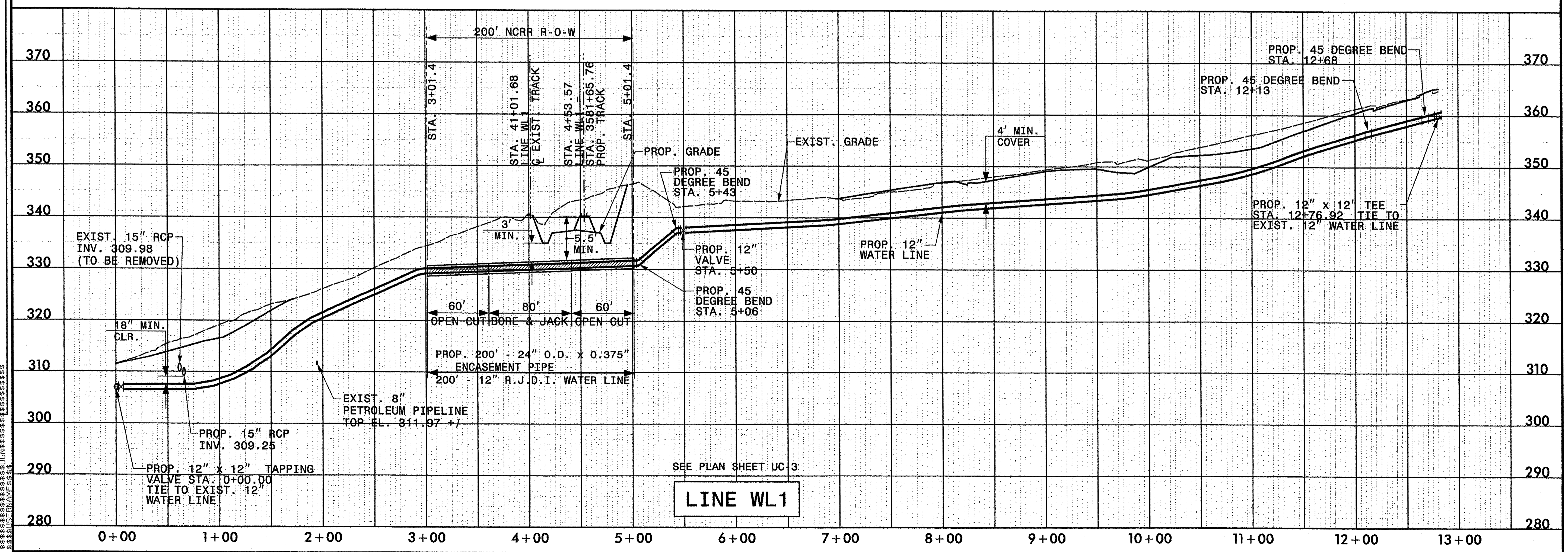
4  
DILLARD PAPER COMPANY  
DB 3787 PG 30

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PROJECT REFERENCE NO. P-5201	SHEET NO. UC-4
Prepared in the Office of: <b>AECOM</b> <small>NO. FIRM LICENSE No. F-0342 101 Concordia Center Drive, Suite 475 Raleigh, NC 27601 (919) 854-8000 (919) 854-9299 FAX</small>	



DETAIL No.  
05000.03  
SHEET 1 OF 1



POW

REVISIONS

SYSTIME  
DOON  
USERNAM



0422DEL\_P19

TIP PROJECT: P-5201

CONTRACT: C203255

CONTRACT: C203255

MORRISVILLE-CARPENTER RD./ TOWN HALL DR.

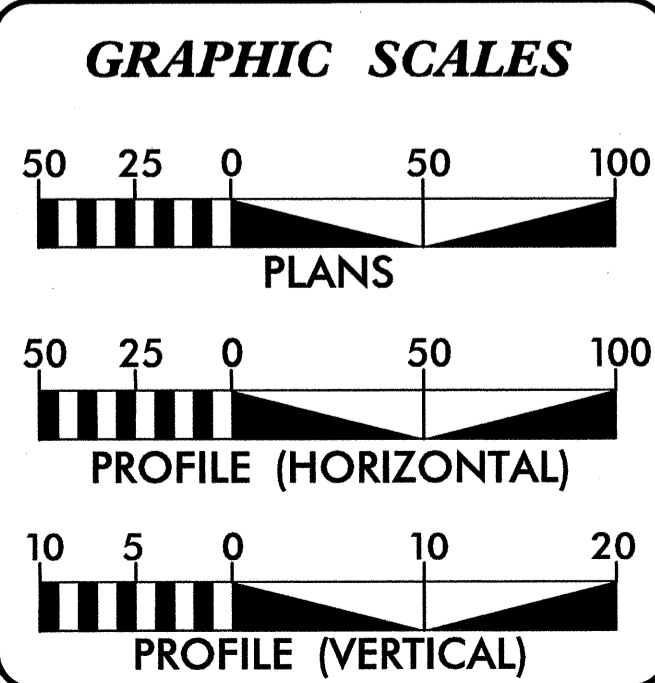
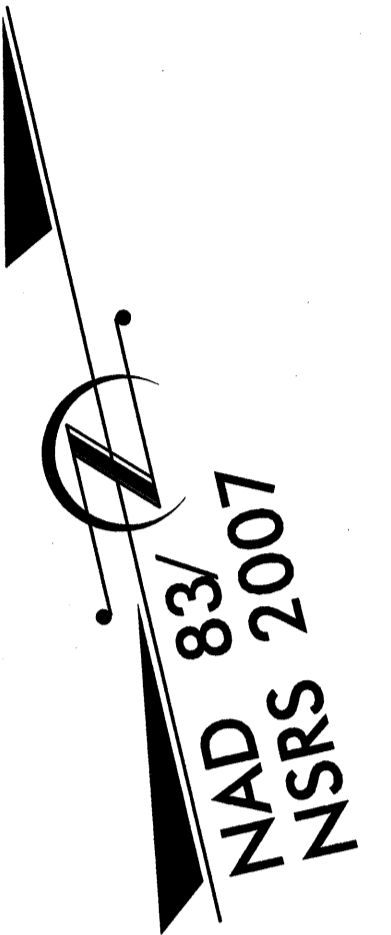
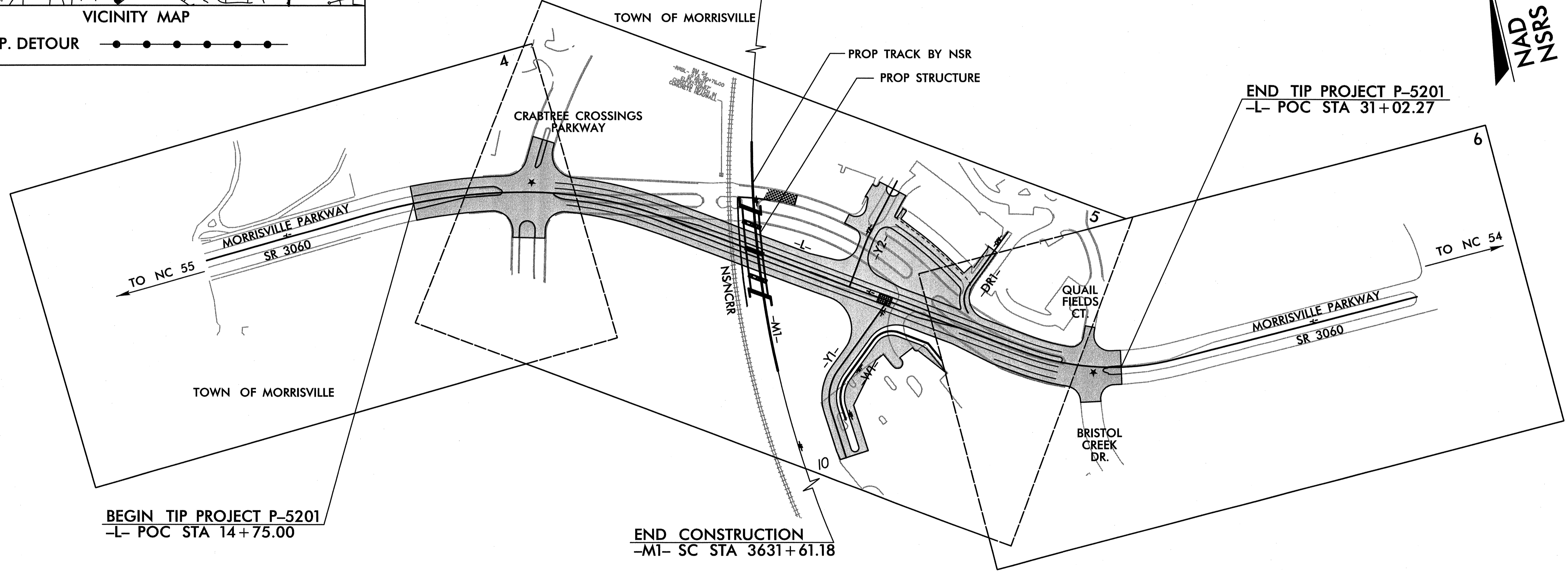
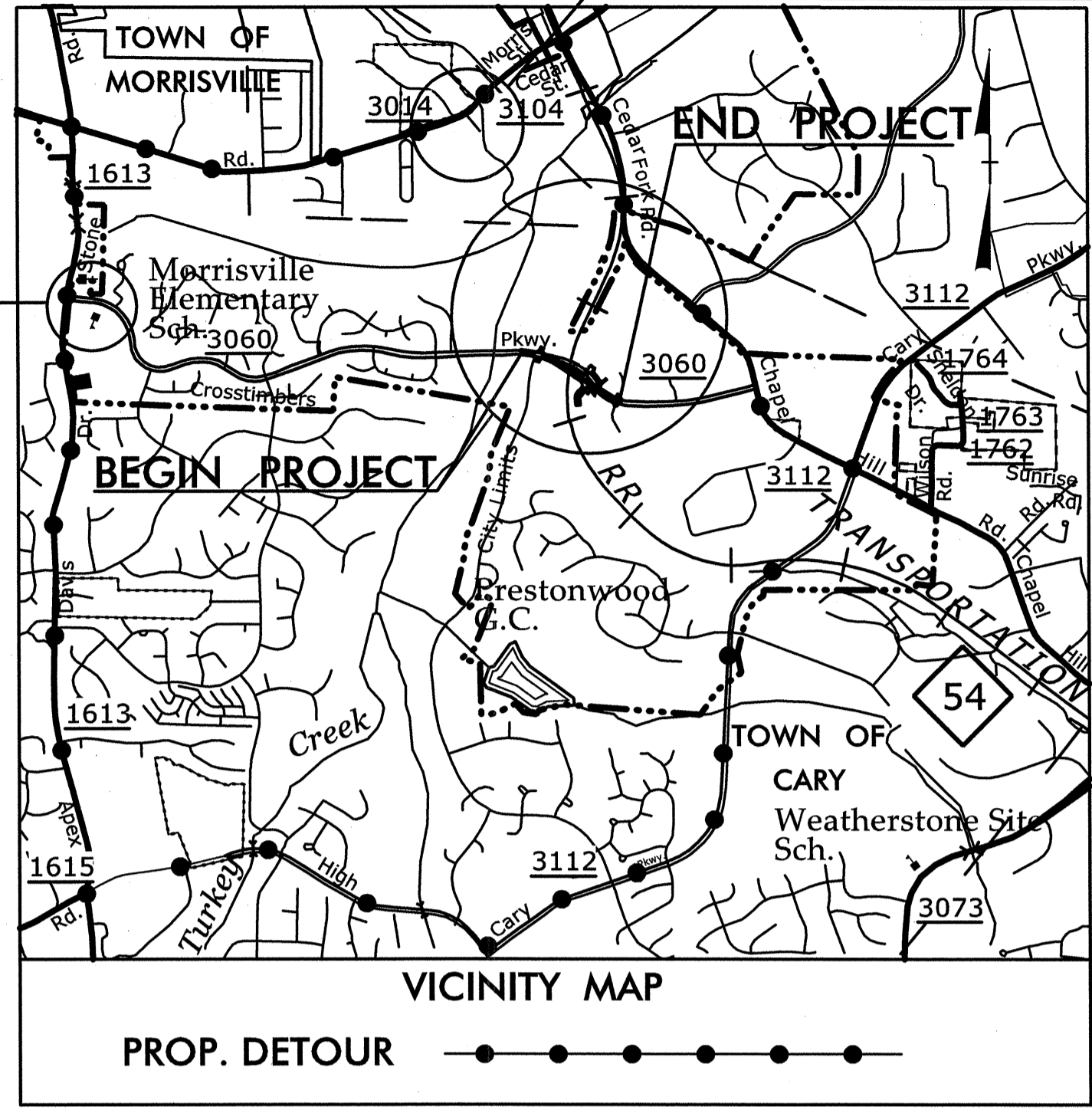
STATE OF NORTH CAROLINA RAIL DIVISION



T.I.P. NO.	SHEET NO.
P-5201	UO-1

UTILITIES BY OTHERS PLANS WAKE COUNTY

LOCATION: MORRISVILLE PARKWAY (SR 3060) GRADE SEPARATION UNDER NS/NCRR RAILROAD FROM WEST OF CRABTREE CROSSINGS PARKWAY TO EAST OF BRISTOL CREEK DRIVE TYPE OF WORK: UTILITIES RELOCATION



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

UTILITY OWNERS ON PROJECT
(A) PSNC - NATURAL GAS
(B) AT&T - COMMUNICATIONS
(C) PROGRESS ENERGY - POWER DISTRIBUTION
(D) TIME WARNER CABLE - CABLE TELEVISION
(E) COLONIAL PIPELINE - PETROLEUM PIPELINE
(F) VERIZON - COMMUNICATIONS

Prepared in the Office of:	
<b>AECOM</b>	
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION	
2012 STANDARD SPECIFICATIONS	RIGHT OF WAY DATE: SEPTEMBER 28, 2012
LETTING DATE: NOVEMBER 19, 2013	
BILL JENKINS, PE PROJECT ENGINEER	TOM HILDEBRAND, PE PROJECT DESIGN ENGINEER
JOHN D. SCHRINER, PLS UTILITY COORDINATOR	

NC DEPARTMENT OF TRANSPORTATION  
**RAIL DIVISION**

ENGINEERING AND SAFETY BRANCH  
144 MAIL SERVICE CENTER  
RALEIGH, NC 27607-1444

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**UTILITIES BY OTHERS**

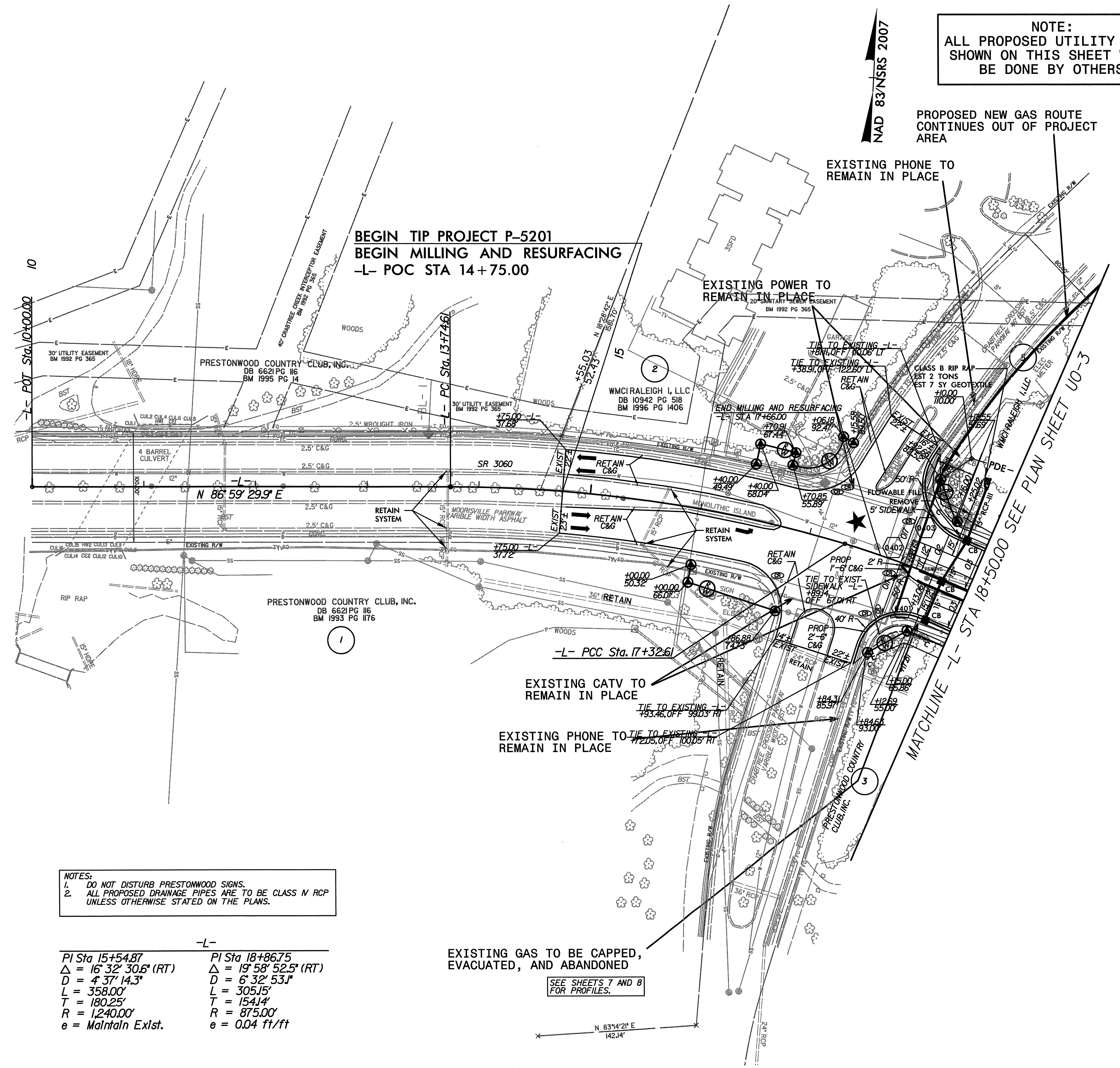
**NOTE:**  
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

PROPOSED NEW GAS ROUTE CONTINUES OUT OF PROJECT AREA

EXISTING PHONE TO REMAIN IN PLACE

EXISTING POWER TO REMAIN IN PLACE

**BEGIN TIP PROJECT P-5201  
BEGIN MILLING AND RESURFACING  
-L- POC STA 14+75.00**



- NOTES:**
- DO NOT DISTURB PRESTONWOOD SIGNS.
  - ALL PROPOSED DRAINAGE PIPES ARE TO BE CLASS N RCP UNLESS OTHERWISE STATED ON THE PLANS.

-L-	
PI Sta 15+54.87	PI Sta 18+86.75
Δ = 16' 32" 30.6" (RT)	Δ = 19' 58" 52.5" (RT)
D = 4' 37" 14.3"	D = 6' 32" 53.1"
L = 358.00'	L = 305.15'
T = 180.25'	T = 154.14'
R = 1,240.00'	R = 875.00'
e = Maintn Exlst.	e = 0.04 ft/ft

EXISTING GAS TO BE CAPPED, EVACUATED, AND ABANDONED

SEE SHEETS 7 AND 8 FOR PROFILES.

MATCHLINE -L- STA 18+50.00 SEE PLAN SHEET UO-3

NAD 83/NSRS 2007

0422DEL\_P19  
5/14/98

### UTILITIES BY OTHERS

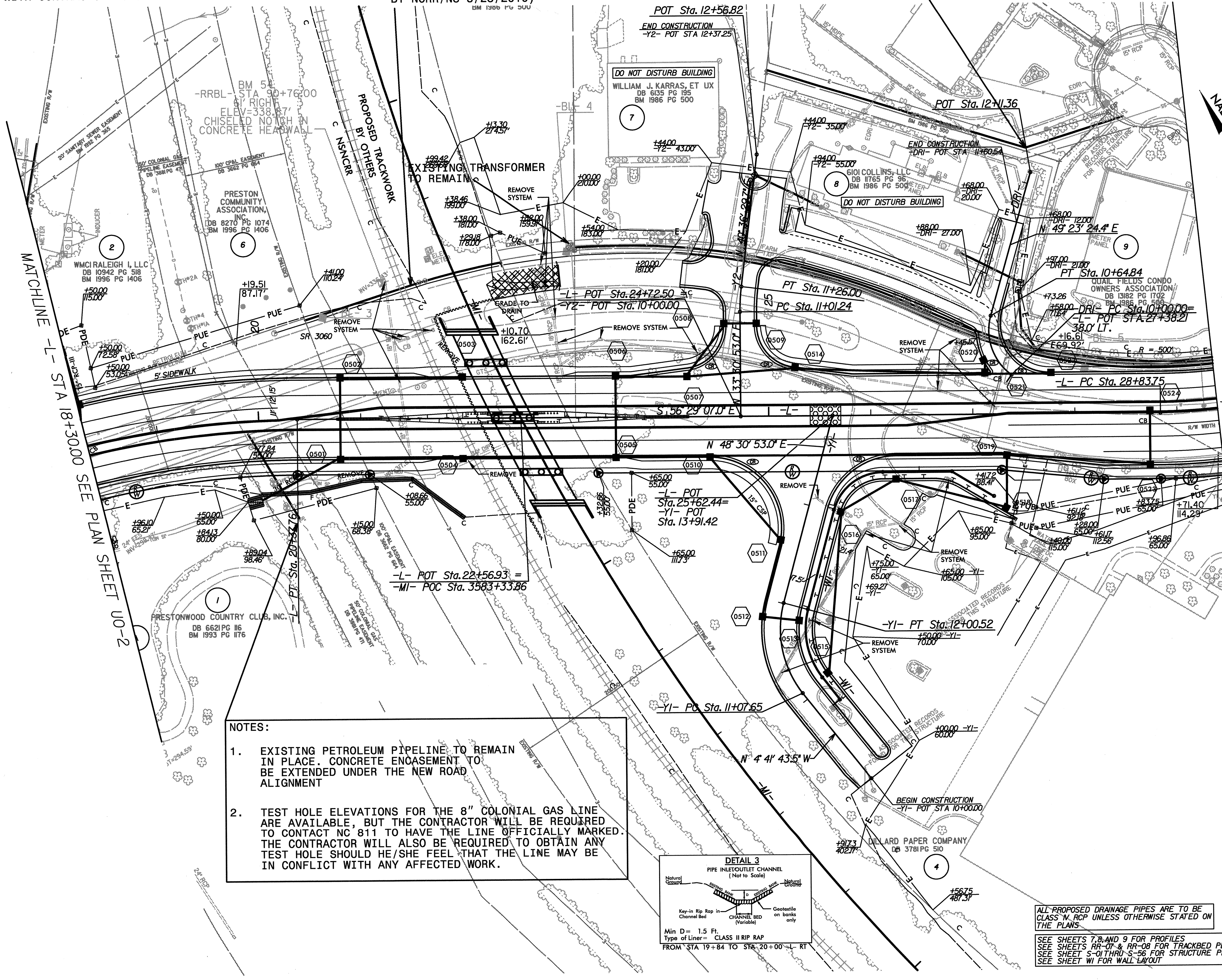
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ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

0422DEL\_P19  
0001ADD\_P19  
5/14/08

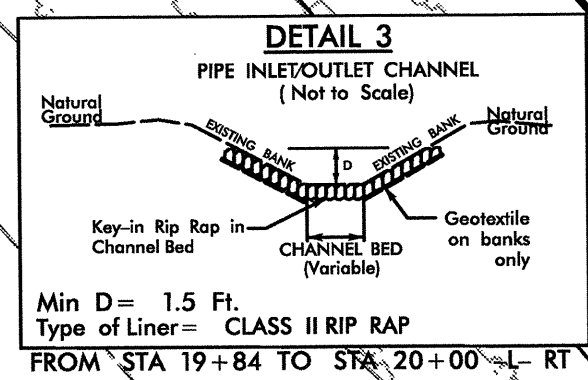
ROUTINE PIPELINE MAINTENANCE TO BE PERFORMED AFTER ROAD CLOSURE. PIPELINE OWNER TO COORDINATE WITH CONTRACTOR TO SCHEDULE WORK

NEW TELEPHONE CONDUIT (PREVIOUSLY PERMITTED BY NCCR/NS 8/23/2010)

NEW GAS LINE (SERVICE CONNECTIONS AS REQUIRED)



- NOTES:
- EXISTING PETROLEUM PIPELINE TO REMAIN IN PLACE. CONCRETE ENCASEMENT TO BE EXTENDED UNDER THE NEW ROAD ALIGNMENT
  - TEST HOLE ELEVATIONS FOR THE 8" COLONIAL GAS LINE ARE AVAILABLE, BUT THE CONTRACTOR WILL BE REQUIRED TO CONTACT NC 811 TO HAVE THE LINE OFFICIALLY MARKED. THE CONTRACTOR WILL ALSO BE REQUIRED TO OBTAIN ANY TEST HOLE SHOULD HE/SHE FEEL THAT THE LINE MAY BE IN CONFLICT WITH ANY AFFECTED WORK.



ALL PROPOSED DRAINAGE PIPES ARE TO BE CLASS 'N' RCP UNLESS OTHERWISE STATED ON THE PLANS

SEE SHEETS 7, 8, AND 9 FOR PROFILES  
SEE SHEETS RR-07 & RR-08 FOR TRACKBED PLANS  
SEE SHEETS S-01 THRU S-56 FOR STRUCTURE PLANS  
SEE SHEET W1 FOR WALL LAYOUT

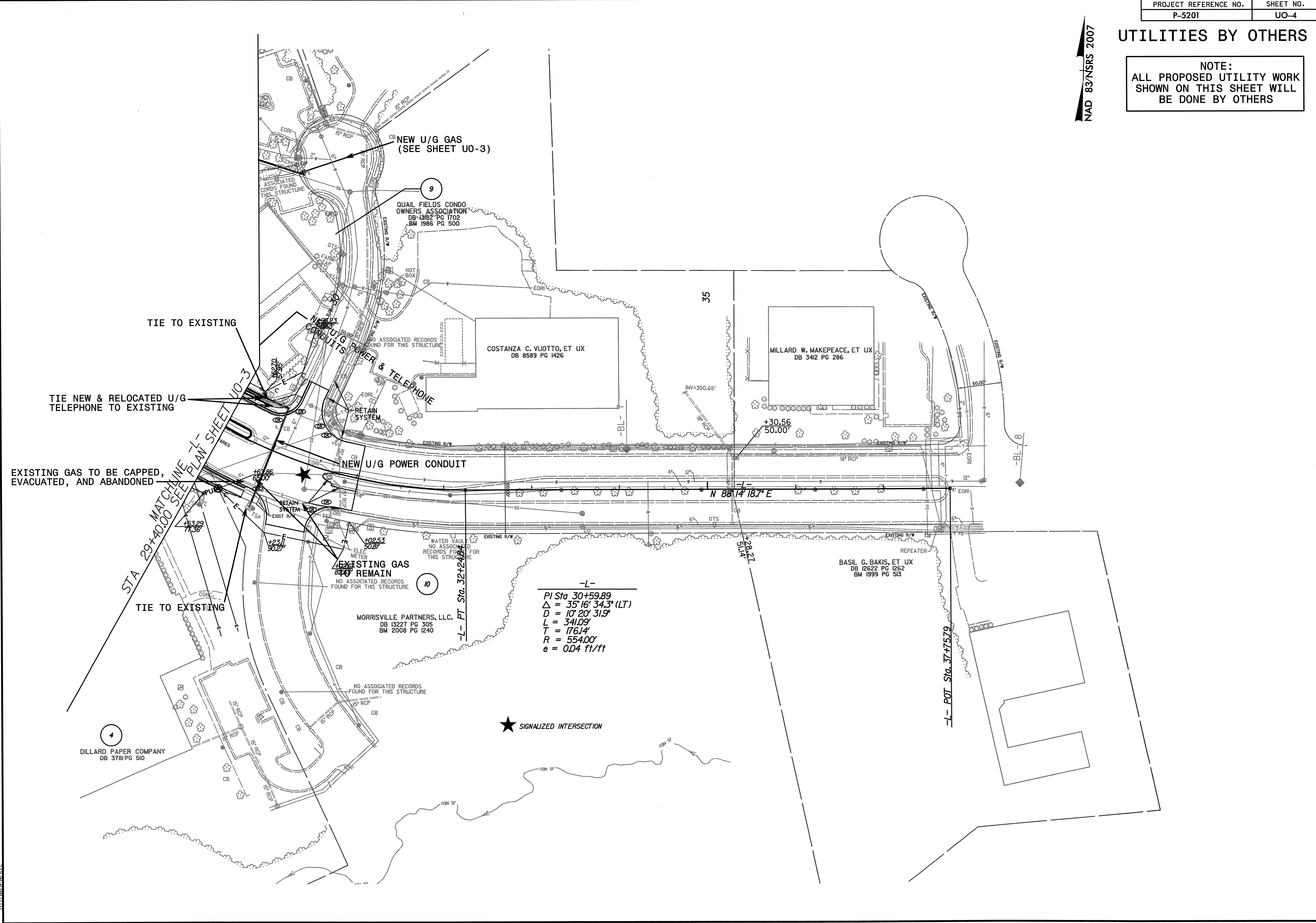


### UTILITIES BY OTHERS

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

NAD 83/NSRS 2007

0422DEL\_P19  
5/14/98



EXISTING GAS TO BE CAPPED,  
EVACUATED, AND ABANDONED

TIE NEW & RELOCATED U/G  
TELEPHONE TO EXISTING

TIE TO EXISTING

STA 29+40.00 SEE PLAN SHEET UO-3

TIE TO EXISTING

NEW U/G GAS  
(SEE SHEET UO-3)

QUAIL FIELDS CONDO  
OWNERS ASSOCIATION  
DB-13182 PG 1702  
BM 1986 PG 500

COSTANZA C. VUOTTO, ET UX  
DB 8589 PG 1426

MILLARD W. MAKEPEACE, ET UX  
DB 3412 PG 286

EXISTING GAS  
TO REMAIN  
NO ASSOCIATED RECORDS  
FOUND FOR THIS STRUCTURE

MORRISVILLE PARTNERS, LLC.  
DB 13227 PG 305  
BM 2008 PG 1240

DILLARD PAPER COMPANY  
DB 3781 PG 510

-L-  
PI Sta 30+59.89  
Δ = 35' 16" 34.3" (LT)  
D = 10' 20" 31.9"  
L = 341.09'  
T = 176.14'  
R = 554.00'  
e = 0.04 ft/ft

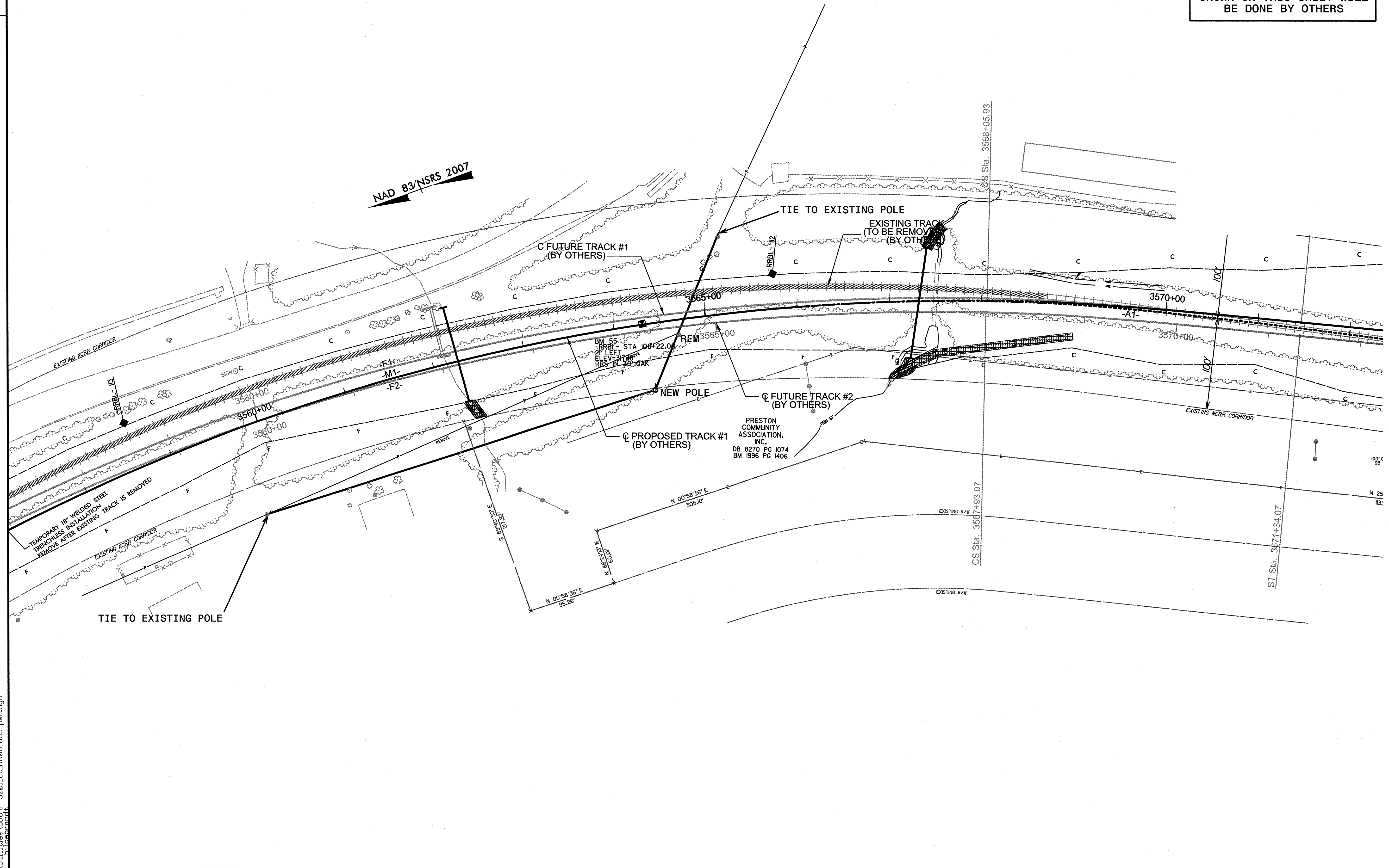
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hildebrand

### UTILITIES BY OTHERS

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5/14/99

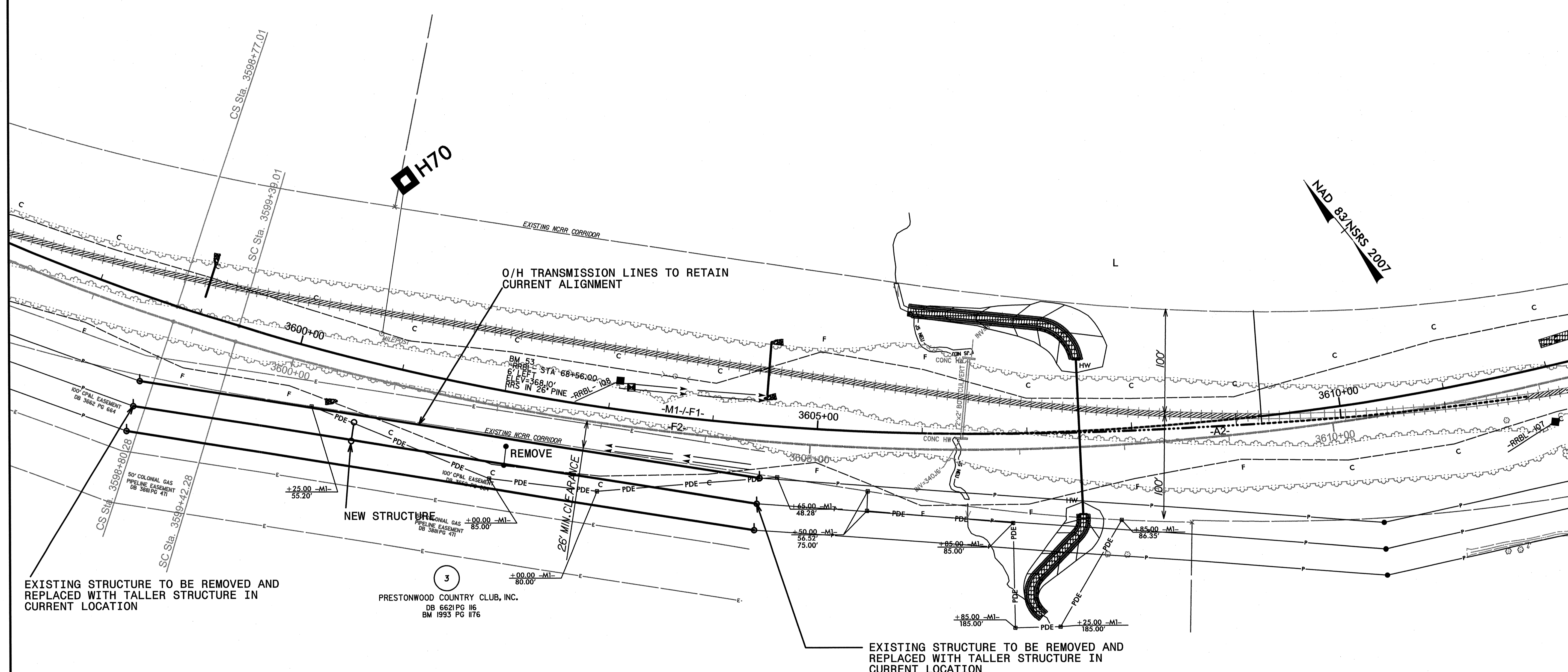


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### UTILITIES BY OTHERS

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5/14/98  
DGN

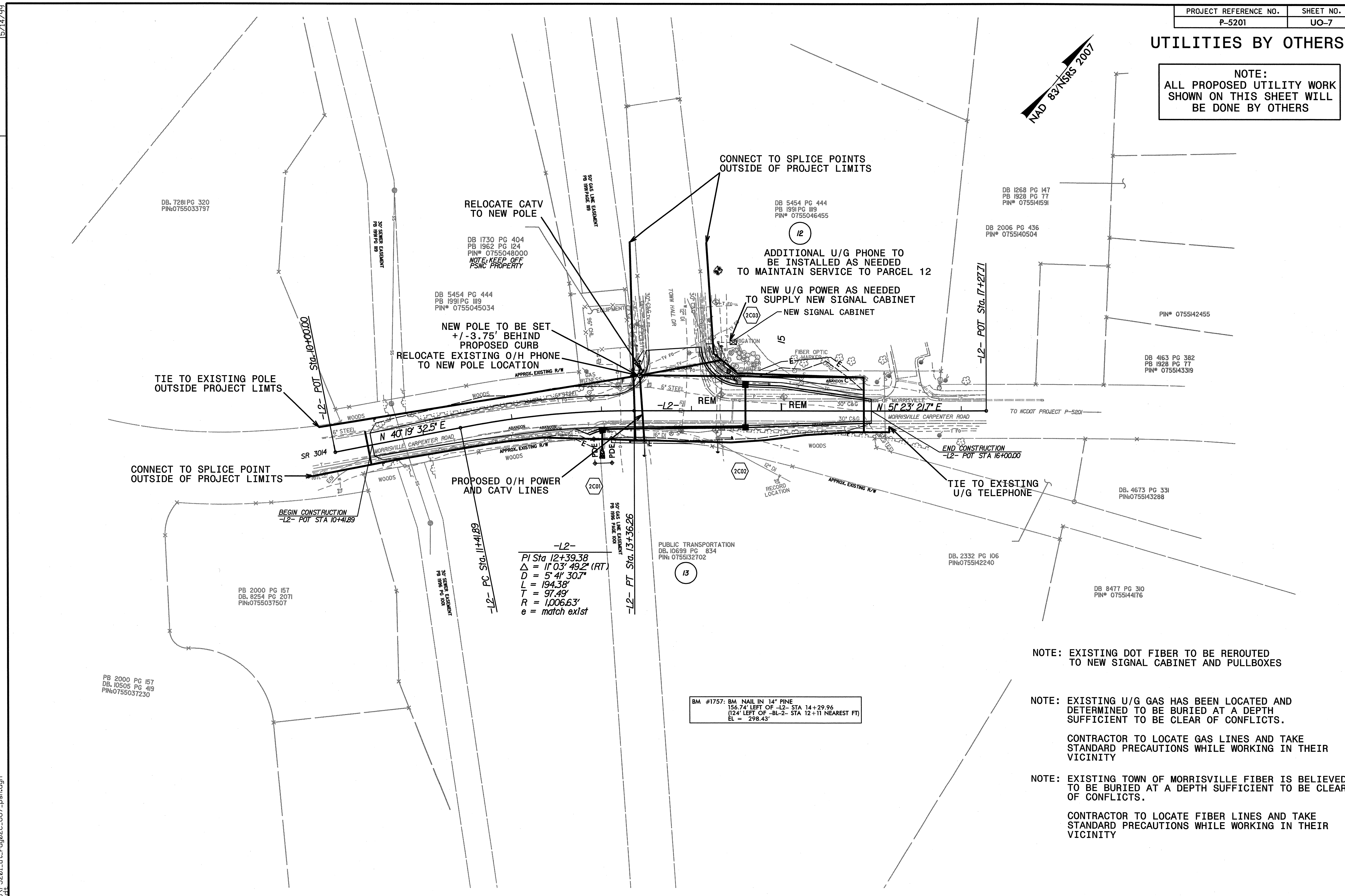


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### UTILITIES BY OTHERS

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

NAD 83/NGS 2007



TIE TO EXISTING POLE  
OUTSIDE PROJECT LIMTS

RELOCATE CATV  
TO NEW POLE

DB 1730 PG 404  
PB 1962 PG 124  
PIN# 0755048000  
NOTE: KEEP OFF  
PSNC PROPERTY

DB 5454 PG 444  
PB 1991 PG 119  
PIN# 0755045034

NEW POLE TO BE SET  
+/- 3.75' BEHIND  
PROPOSED CURB  
RELOCATE EXISTING O/H PHONE  
TO NEW POLE LOCATION

CONNECT TO SPLICE POINTS  
OUTSIDE OF PROJECT LIMITS

ADDITIONAL U/G PHONE TO  
BE INSTALLED AS NEEDED  
TO MAINTAIN SERVICE TO PARCEL 12

NEW U/G POWER AS NEEDED  
TO SUPPLY NEW SIGNAL CABINET

NEW SIGNAL CABINET

CONNECT TO SPLICE POINT  
OUTSIDE OF PROJECT LIMITS

PROPOSED O/H POWER  
AND CATV LINES

TIE TO EXISTING  
U/G TELEPHONE

NOTE: EXISTING DOT FIBER TO BE REROUTED  
TO NEW SIGNAL CABINET AND PULLBOXES

NOTE: EXISTING U/G GAS HAS BEEN LOCATED AND  
DETERMINED TO BE BURIED AT A DEPTH  
SUFFICIENT TO BE CLEAR OF CONFLICTS.

CONTRACTOR TO LOCATE GAS LINES AND TAKE  
STANDARD PRECAUTIONS WHILE WORKING IN THEIR  
VICINITY

NOTE: EXISTING TOWN OF MORRISVILLE FIBER IS BELIEVED  
TO BE BURIED AT A DEPTH SUFFICIENT TO BE CLEAR  
OF CONFLICTS.

CONTRACTOR TO LOCATE FIBER LINES AND TAKE  
STANDARD PRECAUTIONS WHILE WORKING IN THEIR  
VICINITY

BM #1757: BM NAIL IN 14" PINE  
156.74' LEFT OF -L2- STA 14+29.96  
(124' LEFT OF -BL-2- STA 12+11 NEAREST FT)  
EL = 298.43'

## MORRISVILLE CARPENTER RD - TOWN HALL DR INTERSECTION IMPROVEMENTS

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5/14/99

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