

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-1 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/16/11                |                     |
| SEAL                         |                     |
|                              |                     |

**SIGNING PLAN**  
**CALDWELL & WATAUGA COUNTIES**

LOCATION: US 321 FROM SR 1500 (BLACKBERRY RD.)  
TO US 221 AT BLOWING ROCK

T.I.P.: R-2237C

CONTRACT:

**ROADWAY STANDARD DRAWING**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE  |
|----------|--|
| 901.10   | TYPE 'A' SIGNS   |
| 901.30   | VHB TAPE CONSTRUCTION - FOR TYPE 'A' SIGNS                   |
| 901.50   | ARROWS AND SHIELDS   |
| 901.70   | SIGN STRINGERS AND SUPPORT SPACING                           |
| 901.80   | SIGN MOUNTING DETAILS - FOR TYPE A AND TYPE B SIGNS          |
| 903.10   | GROUND MOUNTED SIGN SUPPORTS                                 |
| 903.20   | WOOD SIGN SUPPORTS   |
| 904.10   | ORIENTATION OF GROUND MOUNTED SIGNS                          |
| 904.20   | SECONDARY SIGN MOUNTING                                      |
| 904.30   | SUPPLEMENTAL SIGN MOUNTING                                   |
| 904.50   | MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS |

**PAY ITEM NOTES**

- DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- DISPOSAL OF SIGN SYSTEM, WOOD
- RELOCATE SIGN, TYPE D
- RELOCATE SIGN, TYPE E
- DISPOSAL OF SUPPORT, WOOD
- DISPOSAL OF SUPPORT, U-CHANNEL

**PROJECT NOTES**

- A - THE CONTRACTOR SHALL COORDINATE WITH N.C.D.O.T. DIVISION FORCES FOR THE REMOVAL AND STOCKPILING OF THE HISTORICAL MARKER

**GENERAL NOTES**

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING OR PAVEMENT MARKINGS. SEE TRAFFIC CONTROL PLANS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

**SUMMARY OF QUANTITIES**

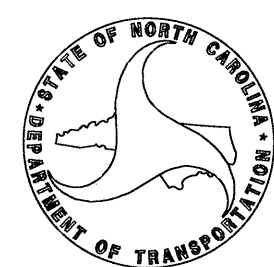
| ITEM NO.   |           | ITEM DESCRIPTION                       | QUANTITY | UNIT |
|------------|-----------|--|----------|------|
| DESC. NO.  | SECT. NO. |  |          |      |
| 4048000000 | 902       | REINFORCED CONCRETE SIGN FOUNDATION    | 2        | C.Y. |
| 4060000000 | 903       | SUPPORTS, BREAKAWAY STEEL BEAM         | 1519     | LB.  |
| 4072000000 | 903       | SUPPORTS, 3 LB STEEL U-CHANNEL         | 3459     | L.F. |
| 4082000000 | 903       | SUPPORTS, WOOD                         | 40       | L.F. |
| 4096000000 | 904       | SIGN ERECTION, TYPE D                  | 7        | EA.  |
| 4102000000 | 904       | SIGN ERECTION, TYPE E                  | 129      | EA.  |
| 4108000000 | 904       | SIGN ERECTION, TYPE F                  | 20       | EA.  |
| 4110000000 | 904       | SIGN ERECTION, TYPE A (GROUND MOUNTED) | 2        | EA.  |
| 4116100000 | 904       | SIGN ERECTION, RELOCATE SIGN TYPE D    | 5        | EA.  |
| 4116100000 | 904       | SIGN ERECTION, RELOCATE SIGN TYPE E    | 5        | EA.  |
| 4141000000 | 907       | DISPOSAL OF SUPPORT, WOOD              | 4        | EA.  |
| 4155000000 | 907       | DISPOSAL OF SIGN SYSTEM, U-CHANNEL     | 85       | EA.  |
| 4158000000 | 907       | DISPOSAL OF SIGN SYSTEM, WOOD          | 36       | EA.  |
| 4192000000 | 907       | DISPOSAL OF SUPPORT, U-CHANNEL         | 5        | EA.  |

**INDEX**

| SHEET NO. | DESCRIPTION                                 |
|-----------|---|
| SIGN-1    | TITLE SHEET                                 |
| SIGN-2-2D | SUPPORT INFORMATION AND GROUND MOUNT SHEETS |
| SIGN-3-3B | E AND F SHEETS                              |
| SIGN-4-4A | SIGN DESIGNS                                |
| SIGN-5-18 | PROPOSED AND EXISTING SIGNS                 |

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN I. ALQUODWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER  
DERRICK H. BEARD SIGNING & DELINEATION PROJECT DESIGN ENGINEER



3 WAY CHECK: 3/17/11 *[Signatures]*

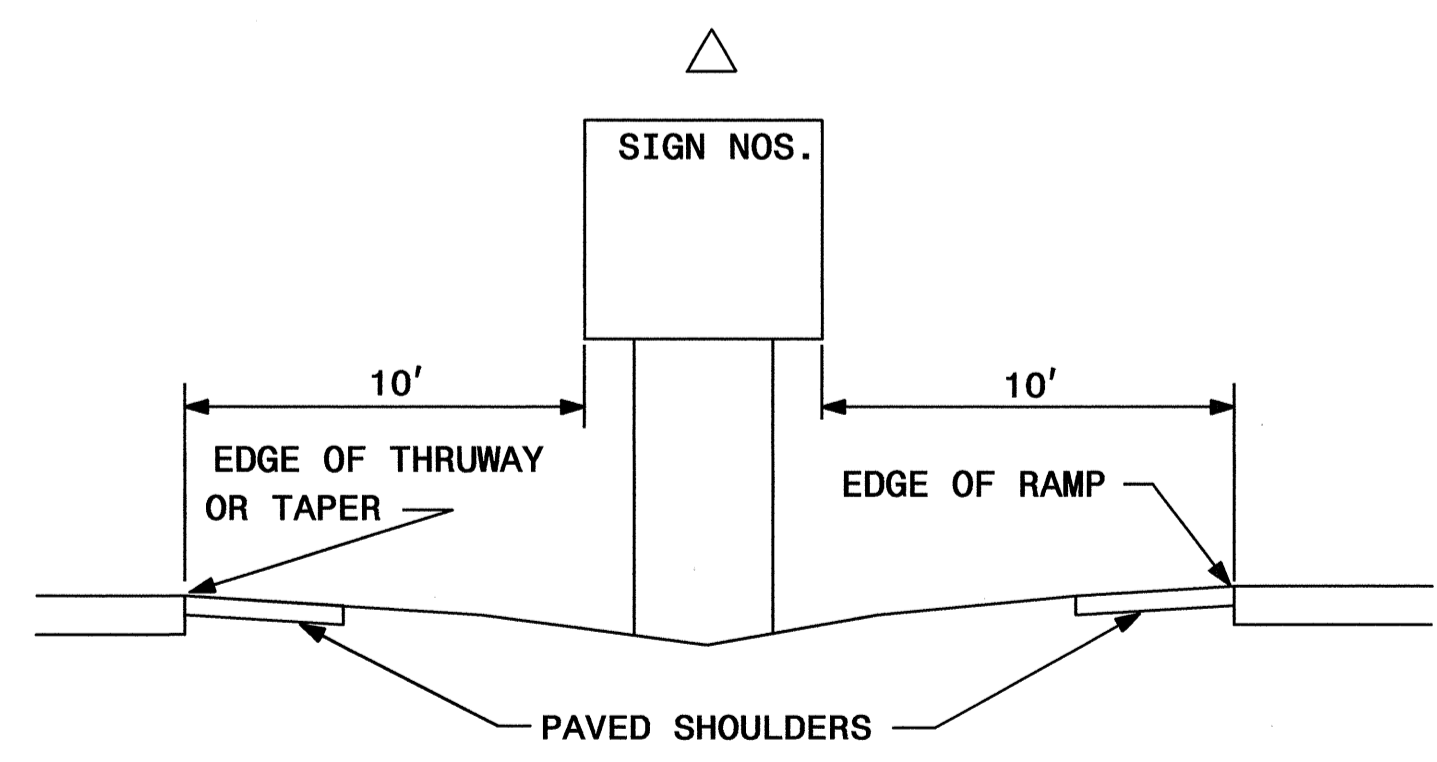
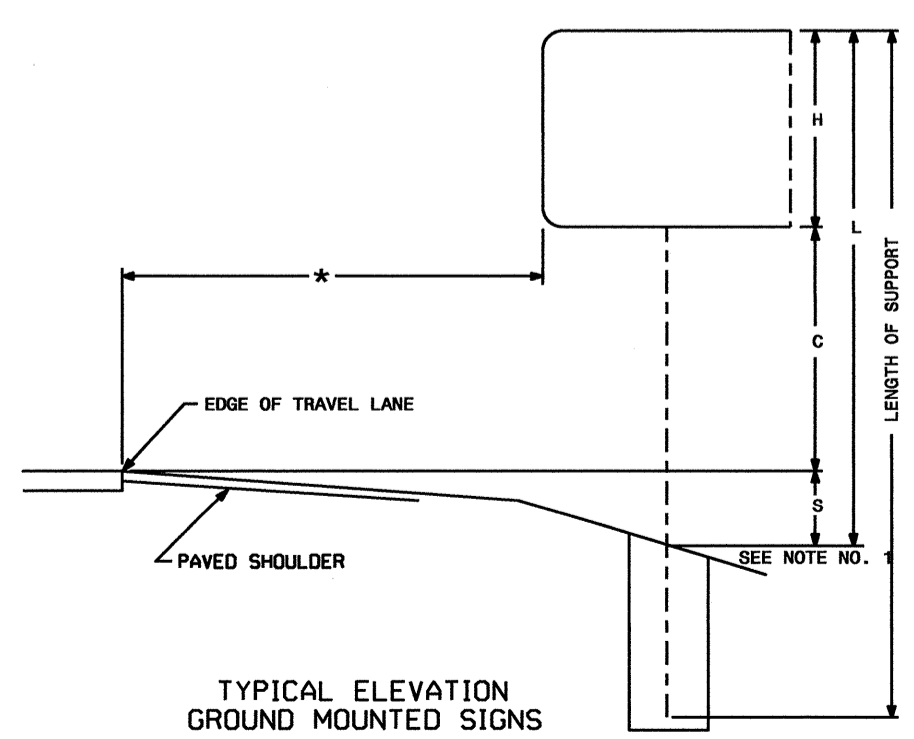
|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-2 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/16/11                |                     |
| SEAL                         |                     |
|                              |                     |

| SIGN NO. | SIGN TYPE | SIGN SIZE (in.) | ROADWAY STATION | NO. OF SUP. | BEAM SECTION | SUPPORT TYPE | ATTACH METHOD | MOUNTING METHOD | HORIZ. CLR. (ft.) | LENGTH (ft.) |      |        | LEFT SUPPORT (ft.) |       |       | CENTER SUPPORT (ft.) |        |      | RIGHT SUPPORT (ft.) |        |       | FOOTING DIAMETER (ft.) | FOOTING DEPTH (ft.) | SUPPORT WEIGHTS (lbs.) | SIMPLE WEIGHTS (lbs.) | FIELD REINFTGS. (c.y.) | PLAIN REINFTGS. (c.y.) | FIELD VERIFIED (mm/dd/yy) |
|----------|-----------|-----------------|-----------------|-------------|--------------|--------------|---------------|-----------------|-------------------|--------------|------|--------|--------------------|-------|-------|----------------------|--------|------|---------------------|--------|-------|------------------------|---------------------|------------------------|-----------------------|------------------------|------------------------|---------------------------|
|          |           |                 |                 |             |              |              |               |                 |                   | SNS          | HT   | MTG HT | EMBED-             | TOTAL | S     | L                    | LENGTH | S    | L                   | LENGTH | S     |                        |                     |                        |                       |                        |                        |                           |
| 101      | A         | 96X138          | L 552+80+/-     | 2           | W6x16        | BA           | N/A           | N/A             | 30.00             | 11.50        | 7.00 | 5      | 1.50               | 20.00 | 25.00 | 0.00                 | 0.00   | 0.00 | 0.67                | 19.17  | 24.17 | 1.5                    | 5.5                 | 919.10                 | 0.00                  | 0.72                   | 0.00                   |                           |
| 102      | A         | 96X96           | L 558+50+/-     | 2           | W6x12        | BA           | N/A           | N/A             | 30.00             | 8.00         | 7.00 | 4      | 2.42               | 17.42 | 21.42 | 0.00                 | 0.00   | 0.00 | 2.42                | 17.42  | 21.42 | 1.5                    | 4.5                 | 599.44                 | 0.00                  | 0.59                   | 0.00                   |                           |

|         |       |       |       |
|---------|-------|-------|-------|
| TOTAL   | TOTAL | TOTAL | TOTAL |
| 1518.54 | 0.00  | 1.31  | 0.00  |
| USE:    | 1519  | 0     | 2     |
|         |       |       | 0     |

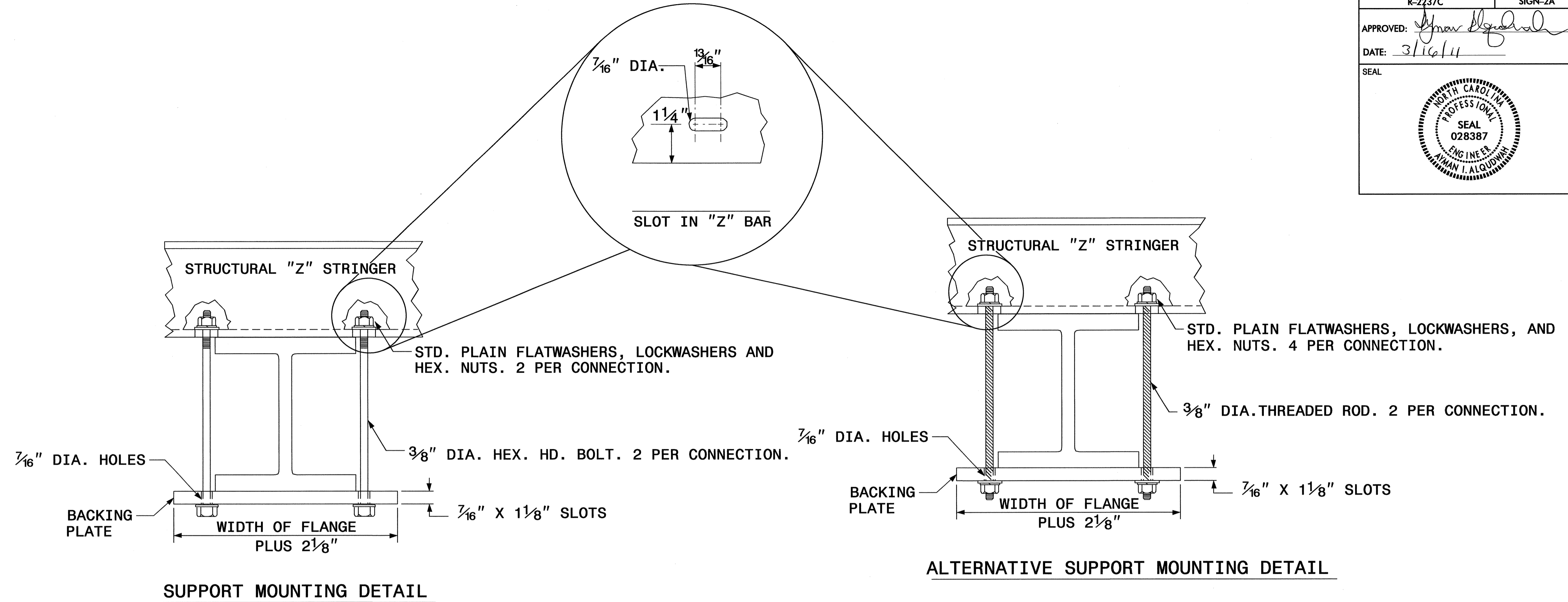
**NOTES**

- DIMENSION "S" REPRESENTS AN INCREASE (+), OR A DECREASE (-) IN POLE LENGTH, RELATIVE TO THE ELEVATION OF THE EDGE OF PAVEMENT.
- FIELD VERIFICATIONS SHALL BE REQUIRED FOR ALL SUPPORTS, SEE (\*) ARTICLE 903-3. FABRICATORS SHALL BE AISC CERTIFIED IN CATEGORY 1, SEE (\*) ARTICLE 1072-1. (\*) = N.C.D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES
- PLAN LOCATIONS FOR EXISTING UTILITIES ARE BASED ON THE BEST AVAILABLE INFORMATION AND, THEREFORE MAY NOT BE PRECISELY ACCURATE. THEREFORE, IT IS INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK IN A LOCATION.

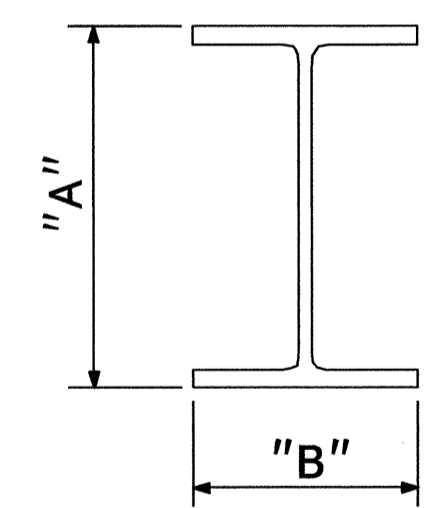


**TYPE "A" AND TYPE "B" GROUND MOUNTED SIGNS**

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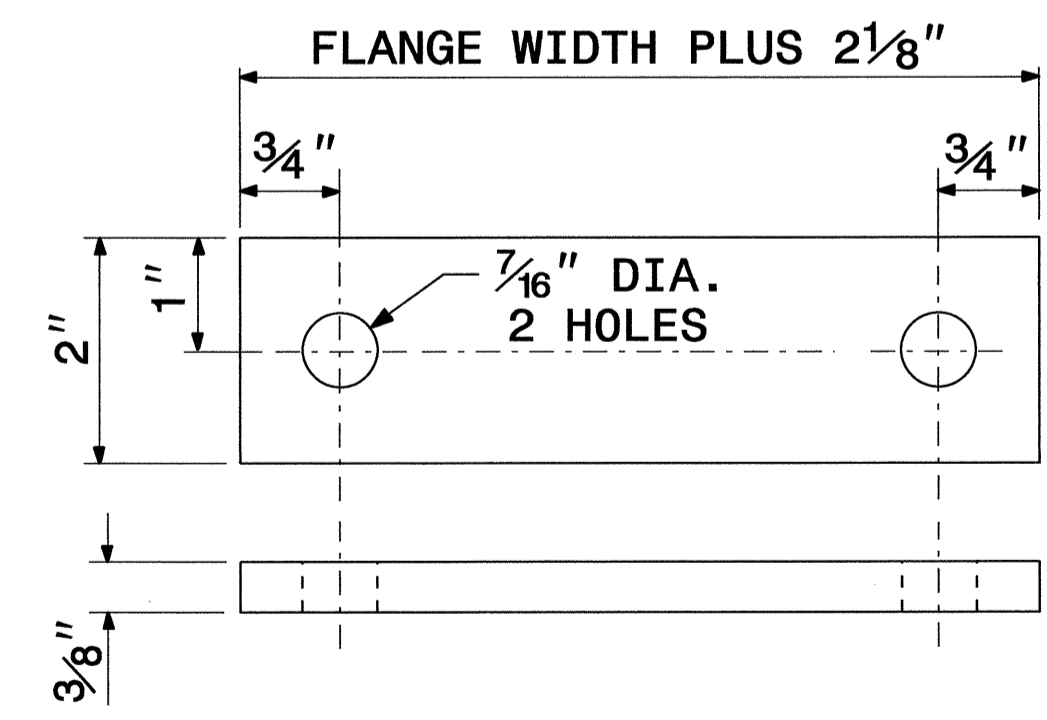


**SIGN SUPPORTS SECTION DIMENSIONS**




| SECTION  | A       | B      |
|----------|---------|--------|
| S3 X 5.7 | 3"      | 2 3/8" |
| S4 X 7.7 | 4"      | 2 5/8" |
| W6 X 9   | 6"      | 4"     |
| W6 X 12  | 6"      | 4"     |
| W6 X 16  | 6 1/4"  | 4"     |
| W8 X 18  | 8 1/8"  | 5 1/4" |
| W8 X 21  | 8 1/4"  | 5 1/4" |
| W10 X 22 | 10 1/8" | 5 3/4" |
| W10 X 26 | 10 3/8" | 5 3/4" |
| W12 X 26 | 12 1/4" | 6 1/2" |
| W14 X 30 | 13 7/8" | 6 3/4" |
| W16 X 31 | 15 7/8" | 5 1/2" |
| W18 X 35 | 17 3/4" | 6"     |
| W18 X 40 | 17 7/8" | 6"     |
| W21 X 44 | 20 5/8" | 6 1/2" |

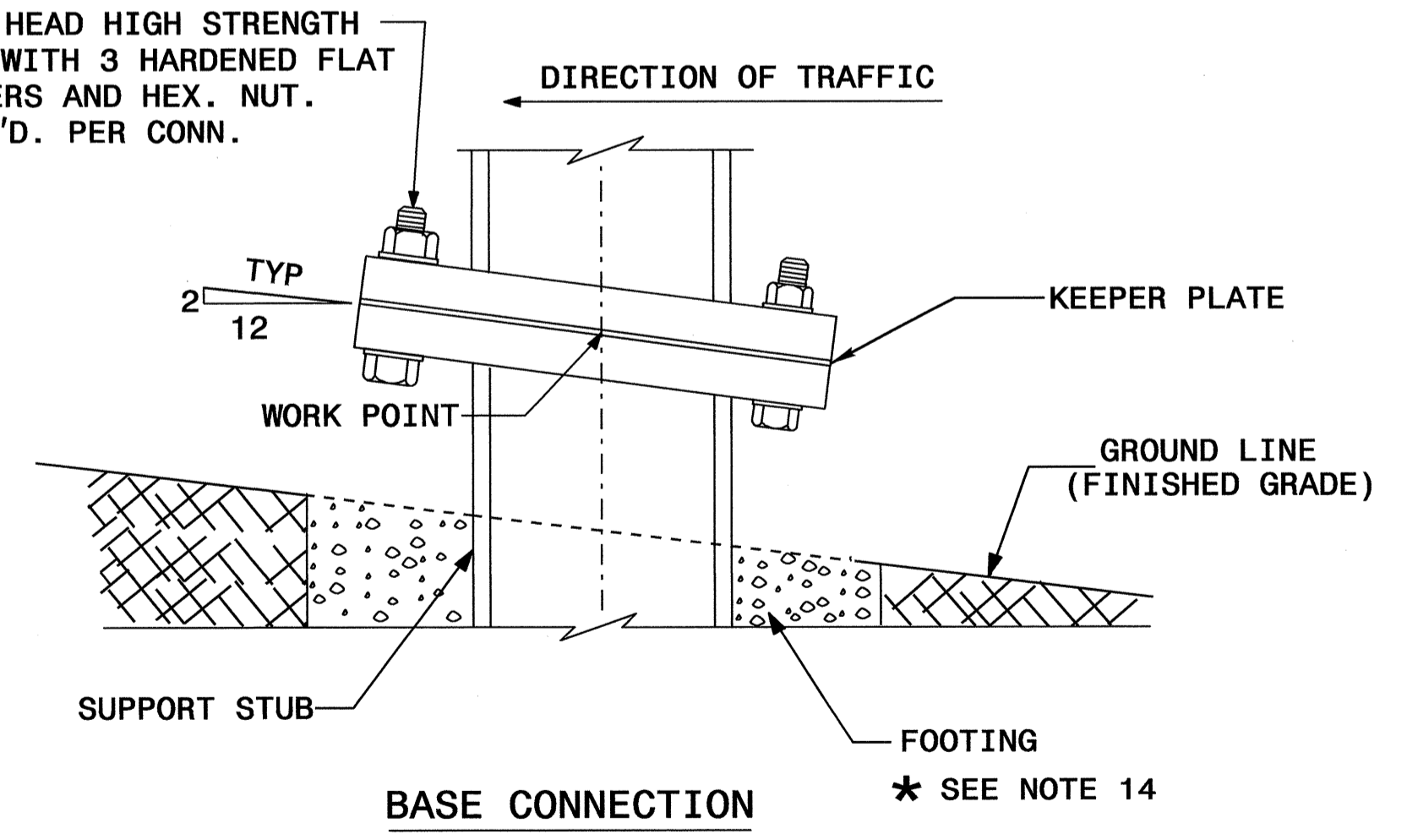
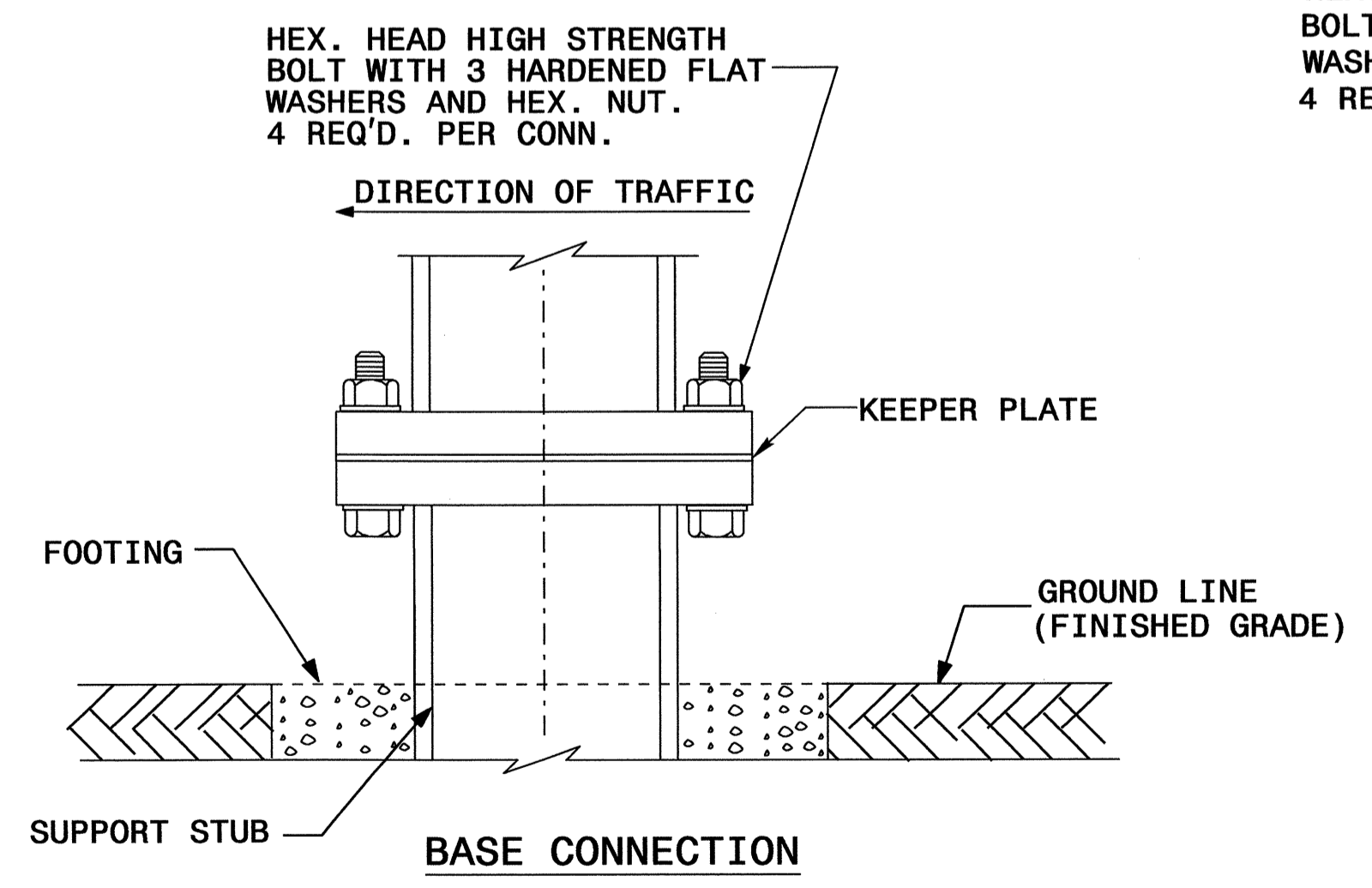
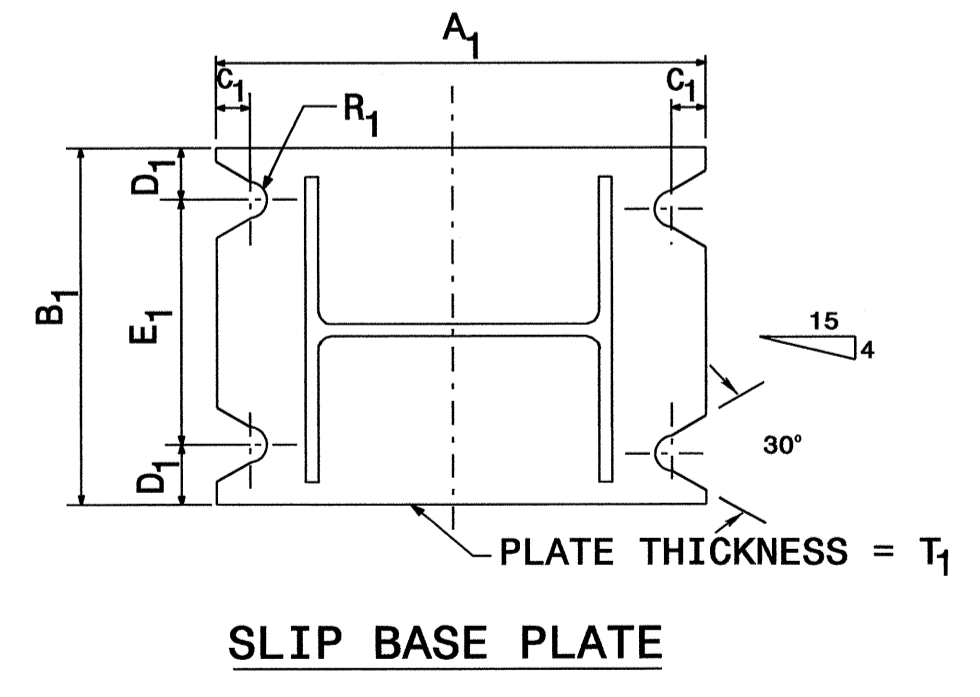
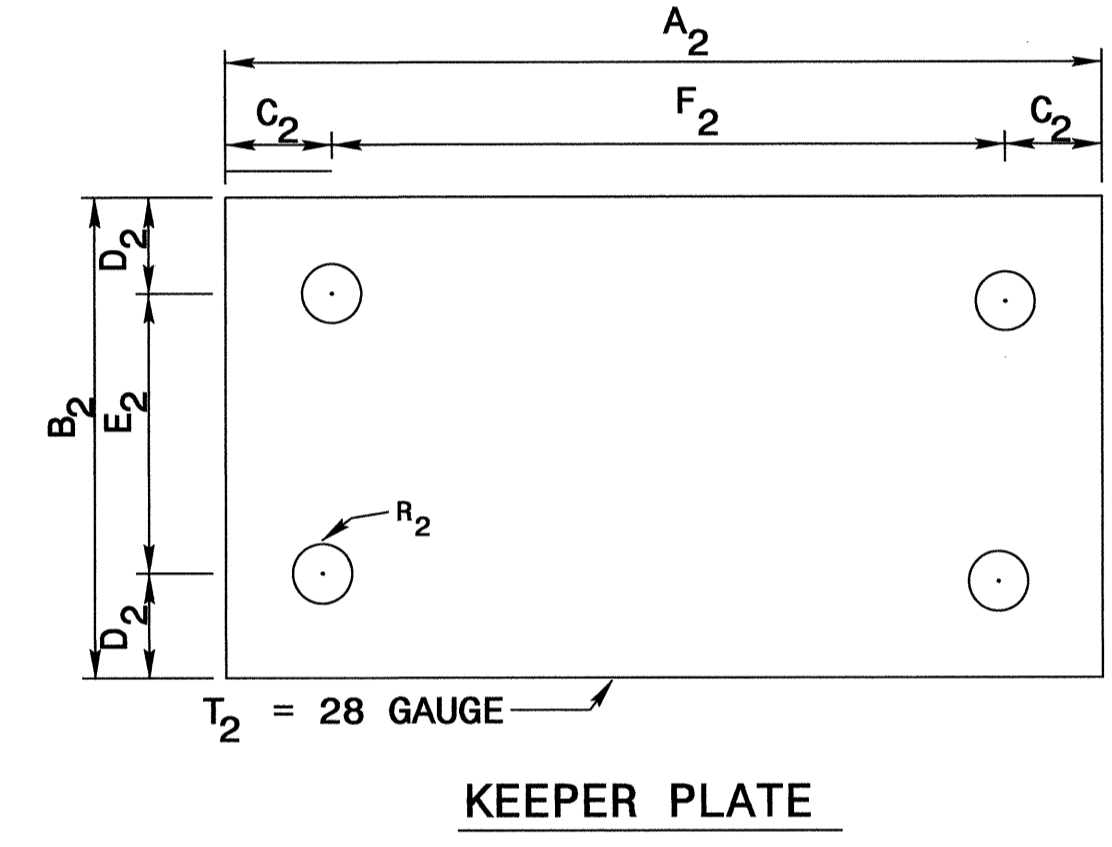
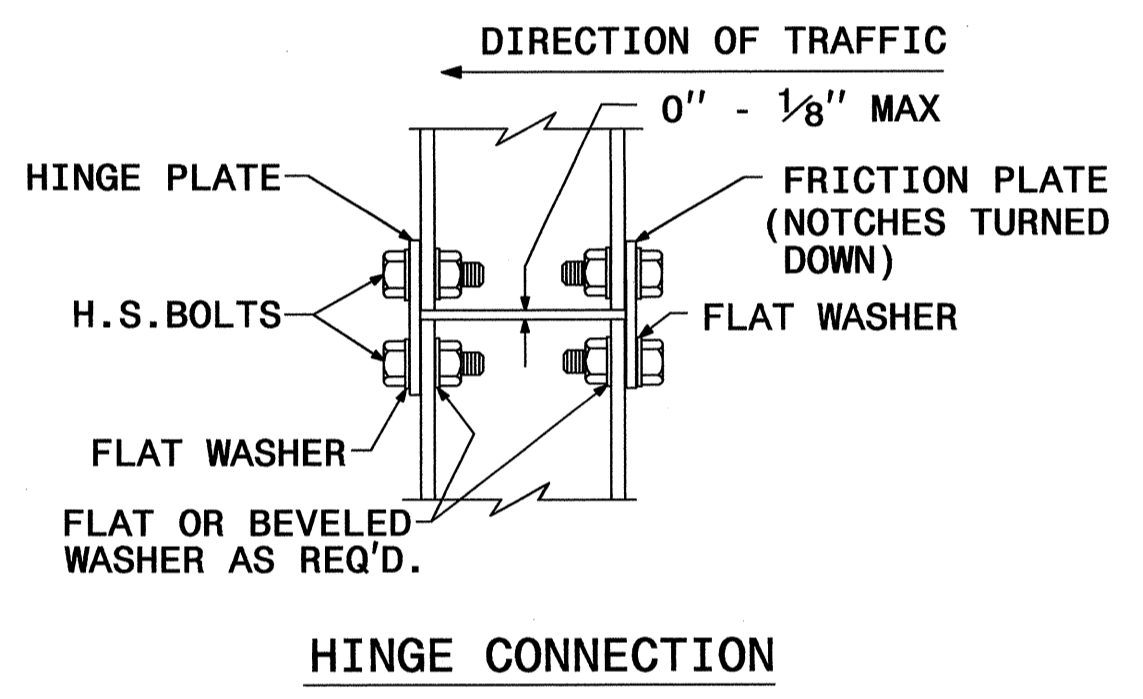
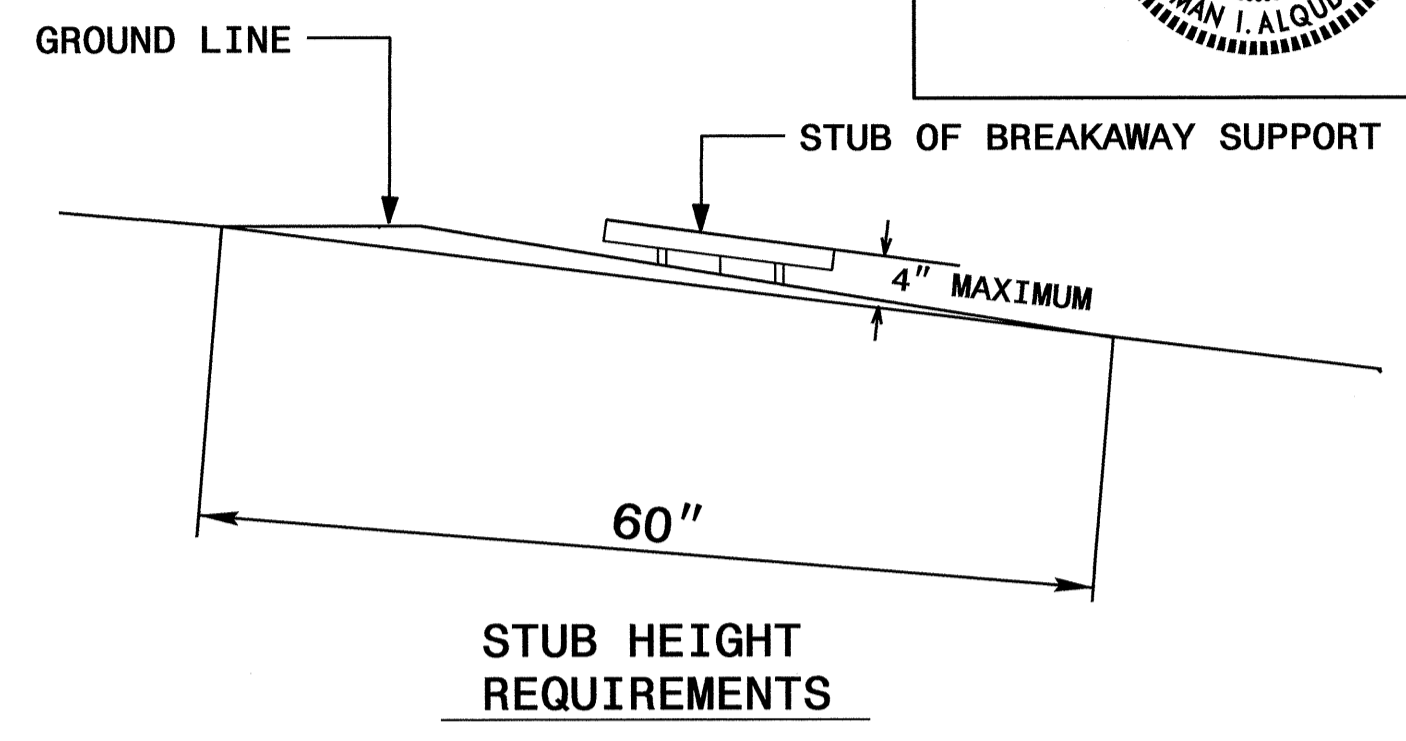
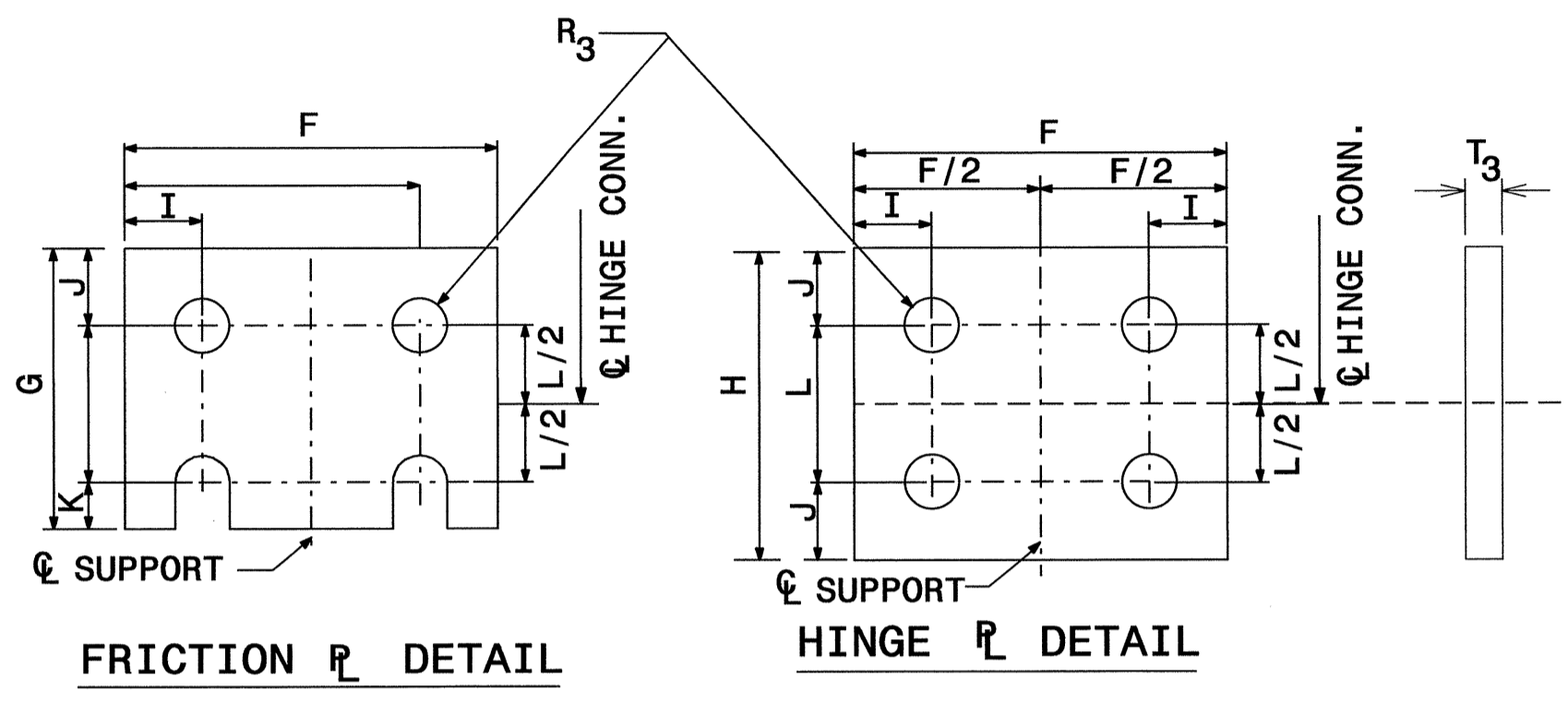
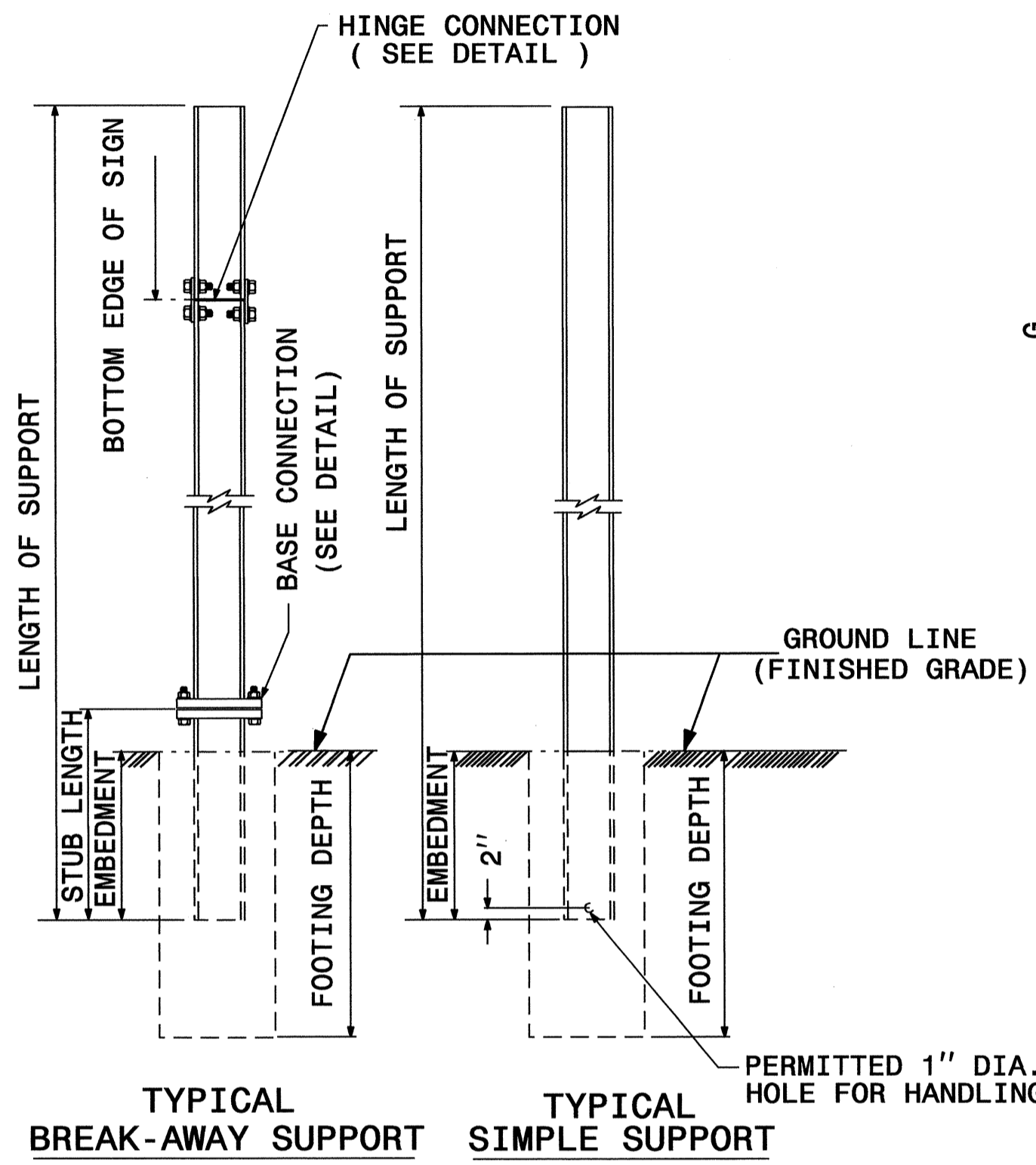
**BACKING PLATE DETAIL**



1. THE SUPPORT MOUNTING DETAIL SHOWS A "W" OR "S" BEAM. THIS DETAIL IS ALSO USED FOR MOUNTING SIGNS TO WOOD OR SQUARE TUBE SUPPORTS.
2. USE GALVANIZED STEEL FOR BACKING PLATES AND MOUNTING BOLTS IN ACCORDANCE WITH ASTM A123.
3. SEE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR TYPE OF MATERIAL TO BE USED FOR SIGN HANGER ASSEMBLIES AND SUPPORTS.
4. USE GALVANIZED STEEL FOR MOUNTING BOLTS AND THREADED RODS IN COMPLIANCE WITH ASTM A307 AND ASTM A153.

**SIGN MOUNTING DETAILS**


|   |                      |
|---|----------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-2B |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/11   |                      |
| SEAL  |                      |
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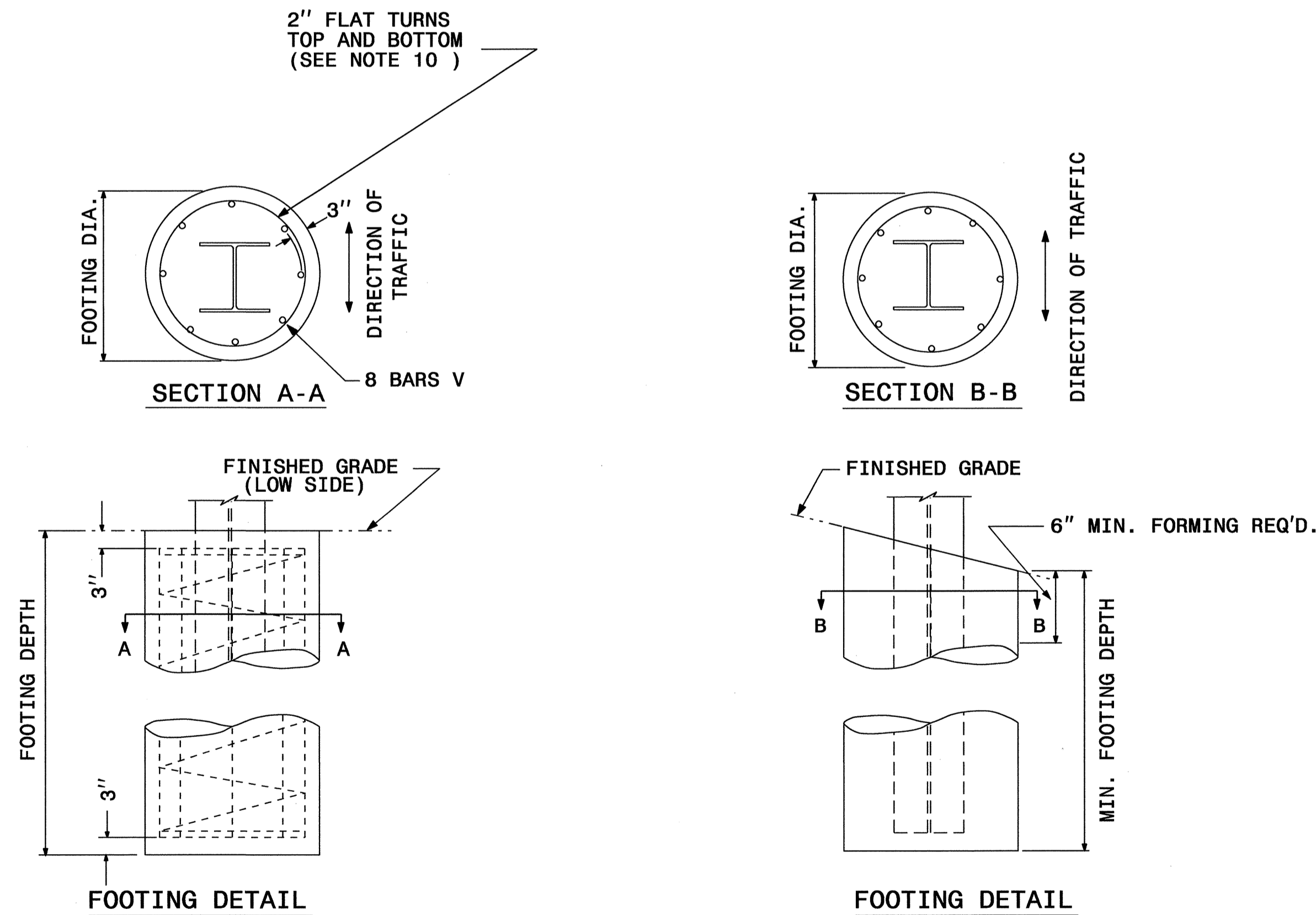
SEE SHEET SIGN-2C FOR DIMENSIONS.  
SEE SHEET SIGN-2D FOR NOTES.

**GROUND MOUNTED SIGN SUPPORT**

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 chbeard  
 11/24/11

|   |                      |
|---|----------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-2C |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/11   |                      |
| SEAL  |                      |
|  |                      |


| BEAM SHAPE | SLIP BASE PLATE DATA |                |                |                |                |                |                |                | KEEPER PLATE DATA |                |                |                |                |                |                |                   | HINGE CONNECTION DATA |        |        |        |        |        |        |                | BREAK AWAY SUPPORT WEIGHT CONSTANT LBS. |                |
|------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|-----------------------|--------|--------|--------|--------|--------|--------|----------------|---|----------------|
|            | BOLT SIZE            | A <sub>1</sub> | B <sub>1</sub> | C <sub>1</sub> | D <sub>1</sub> | E <sub>1</sub> | T <sub>1</sub> | R <sub>1</sub> | A <sub>2</sub>    | B <sub>2</sub> | C <sub>2</sub> | D <sub>2</sub> | E <sub>2</sub> | R <sub>2</sub> | T <sub>2</sub> | BOLT SIZE         | F                     | G      | H      | I      | J      | K      | L      | R <sub>3</sub> |   | T <sub>3</sub> |
| S3X5.7     | 1/2"DIA. X 3"        | 7"             | 4"             | 1"             | 3/4"           | 2 1/2"         | 1"             | 9/32"          | 7"                | 4"             | 1"             | 3/4"           | 2 1/2"         | 9/32"          | 28 GAUGE       | 1/2"DIA. X 1 1/4" | 2 1/4"                | 3 1/2" | 4"     | 1 1/2" | 1"     | 1 1/2" | 2"     | 9/32"          | 3/8"                                    | 18             |
| S4X7.7     | 1/2"DIA. X 3"        | 8"             | 4"             | 1"             | 3/4"           | 2 1/2"         | 1"             | 9/32"          | 8"                | 4"             | 1"             | 3/4"           | 2 1/2"         | 9/32"          | 28 GAUGE       | 1/2"DIA. X 1 1/4" | 2 5/8"                | 3 1/2" | 4"     | 1 1/2" | 1"     | 1 1/2" | 2"     | 9/32"          | 3/8"                                    | 20             |
| W6X9       | 1/2"DIA. X 3"        | 10"            | 5"             | 1"             | 3/4"           | 3 1/2"         | 1"             | 9/32"          | 10"               | 5"             | 1"             | 3/4"           | 3 1/2"         | 9/32"          | 28 GAUGE       | 1/2"DIA. X 1 1/4" | 4"                    | 3 1/2" | 4"     | 3/4"   | 1"     | 1 1/2" | 2"     | 9/32"          | 3/8"                                    | 32             |
| W6X12      | 5/8"DIA. X 3 3/4"    | 11"            | 5"             | 1 1/4"         | 7/8"           | 3 1/4"         | 1 1/4"         | 1 1/32"        | 11"               | 5"             | 1 1/4"         | 7/8"           | 3 1/4"         | 1 1/32"        | 28 GAUGE       | 5/8"DIA. X 2 1/4" | 4"                    | 4"     | 4 1/2" | 3/4"   | 1 1/8" | 5/8"   | 2 1/4" | 1 1/32"        | 3/8"                                    | 39             |
| W6X16      | 5/8"DIA. X 3 3/4"    | 12"            | 6"             | 1 1/4"         | 7/8"           | 4 1/4"         | 1 1/2"         | 1 1/32"        | 12"               | 6"             | 1 1/4"         | 7/8"           | 4 1/4"         | 1 1/32"        | 28 GAUGE       | 5/8"DIA. X 2 1/2" | 4"                    | 4"     | 4 1/2" | 3/4"   | 1 1/8" | 5/8"   | 2 1/4" | 1 1/32"        | 1/2"                                    | 47             |
| W8X18      | 5/8"DIA. X 4 1/4"    | 13 1/2"        | 6 1/2"         | 1 1/4"         | 7/8"           | 4 3/4"         | 1 1/2"         | 1 1/32"        | 13 1/2"           | 6 1/2"         | 1 1/4"         | 7/8"           | 4 3/4"         | 1 1/32"        | 28 GAUGE       | 5/8"DIA. X 2 1/2" | 5 1/4"                | 4"     | 4 1/2" | 1"     | 1 1/8" | 5/8"   | 2 1/4" | 1 1/32"        | 1/2"                                    | 70             |
| W8X21      | 3/4"DIA. X 4 1/4"    | 14"            | 7"             | 1 1/2"         | 1"             | 5"             | 1 1/2"         | 1 3/32"        | 14"               | 7"             | 1 1/2"         | 1"             | 5"             | 1 3/32"        | 28 GAUGE       | 3/4"DIA. X 2 3/4" | 5 1/4"                | 6"     | 7"     | 1"     | 1 3/4" | 3/4"   | 3 1/2" | 1 3/32"        | 1/2"                                    | 73             |
| W10X22     | 3/4"DIA. X 4 1/4"    | 16"            | 8"             | 1 1/2"         | 1"             | 6"             | 1 1/2"         | 1 3/32"        | 16"               | 8"             | 1 1/2"         | 1"             | 6"             | 1 3/32"        | 28 GAUGE       | 3/4"DIA. X 2 3/4" | 5 3/4"                | 6"     | 7"     | 1"     | 1 3/4" | 3/4"   | 3 1/2" | 1 3/32"        | 1/2"                                    | 119            |
| W10X26     | 3/4"DIA. X 4 3/4"    | 16 1/2"        | 8"             | 1 1/2"         | 1"             | 6"             | 1 3/4"         | 1 3/32"        | 16 1/2"           | 8"             | 1 1/2"         | 1"             | 6"             | 1 3/32"        | 28 GAUGE       | 3/4"DIA. X 2 3/4" | 5 3/4"                | 6"     | 7"     | 1"     | 1 3/4" | 3/4"   | 3 1/2" | 1 3/32"        | 5/8"                                    | 140            |
| W12X26     | 3/4"DIA. X 4 3/4"    | 18 1/2"        | 9"             | 1 1/2"         | 1"             | 7"             | 1 3/4"         | 1 3/32"        | 18 1/2"           | 9"             | 1 1/2"         | 1"             | 7"             | 1 3/32"        | 28 GAUGE       | 3/4"DIA. X 2 3/4" | 6 1/2"                | 6"     | 7"     | 1"     | 1 3/4" | 3/4"   | 3 1/2" | 1 3/32"        | 5/8"                                    | 176            |
| W14X30     | 1"DIA. X 5"          | 22"            | 9"             | 2"             | 1 1/2"         | 6"             | 2"             | 1 7/32"        | 22"               | 9"             | 2"             | 1 1/2"         | 6"             | 1 7/32"        | 28 GAUGE       | 1"DIA. X 3"       | 6 3/4"                | 7"     | 8"     | 1 1/4" | 2"     | 1"     | 4"     | 1 7/32"        | 5/8"                                    | 205            |
| W16X31     | 1"DIA. X 5"          | 24"            | 9"             | 2"             | 1 1/2"         | 6"             | 2"             | 1 7/32"        | 24"               | 9"             | 2"             | 1 1/2"         | 6"             | 1 7/32"        | 28 GAUGE       | 1"DIA. X 3 1/4"   | 5 1/2"                | 7"     | 8"     | 1 1/4" | 2"     | 1"     | 4"     | 1 7/32"        | 3/4"                                    | 223            |
| W18X35     | 1"DIA. X 5"          | 25"            | 9"             | 2"             | 1 1/2"         | 6"             | 2"             | 1 7/32"        | 25"               | 9"             | 2"             | 1 1/2"         | 6"             | 1 7/32"        | 28 GAUGE       | 1"DIA. X 3 1/4"   | 6"                    | 7"     | 8"     | 1 1/4" | 2"     | 1"     | 4"     | 1 7/32"        | 3/4"                                    | 243            |
| W18X40     | 1"DIA. X 5 1/2"      | 26"            | 9"             | 2"             | 1 1/2"         | 6"             | 2 1/4"         | 1 7/32"        | 26"               | 9"             | 2"             | 1 1/2"         | 6"             | 1 7/32"        | 28 GAUGE       | 1"DIA. X 3 3/4"   | 6"                    | 7"     | 8"     | 1 1/4" | 2"     | 1"     | 4"     | 1 7/32"        | 7/8"                                    | 278            |
| W21X44     | 1"DIA. X 5 1/2"      | 29"            | 9"             | 2"             | 1 1/2"         | 6"             | 2 1/2"         | 1 7/32"        | 29"               | 9"             | 2"             | 1 1/2"         | 6"             | 1 7/32"        | 28 GAUGE       | 1"DIA. X 3 3/4"   | 6 1/2"                | 7"     | 8"     | 1 1/4" | 2"     | 1"     | 4"     | 1 7/32"        | 7/8"                                    | 310            |



| FOUNDATION DATA * |               |                  |
|-------------------|---------------|------------------|
| FOOTING DIAMETER  | REINFORCEMENT | SPIRAL BAR       |
| 1' 6"             | 8 # 6 BARS    | #3 BAR, 3" PITCH |
| 2'                | 8 # 7 BARS    | #3 BAR, 3" PITCH |
| 2' 6"             | 8 # 9 BARS    | #3 BAR, 3" PITCH |
| 3'                | 8 # 11 BARS   | #3 BAR, 3" PITCH |
| 3' 6"             | 8 # 12 BARS   | #3 BAR, 3" PITCH |
| 4'                | 8 # 14 BARS   | #3 BAR, 3" PITCH |

\* FOUNDATION DIMENSIONS ARE SHOWN IN PLANS  
SEE SHEET SIGN-2D FOR NOTES.

**GROUND MOUNTED SIGN SUPPORT**

|   |                      |
|---|----------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-2D |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/14   |                      |
| SEAL  |                      |
|  |                      |

**NOTES:**

1. DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - A.A.S.H.T.O.
2. USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO A.S.T.M. A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153.
4. USE BACKING PLATES, SLIP BASE PLATES, FRICTION PLATES, AND HINGE PLATES THAT CONFORM TO A.S.T.M. A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTION BEYOND THE PLATE FACE. KEEPER PLATES SHALL BE MANUFACTURED FROM 28 GAUGE SHEET STEEL THAT CONFORMS TO A.S.T.M. A-36 AND IS GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123
5. ASSEMBLE HINGE CONNECTIONS IN THE SHOP. SHOP TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH HINGE CONNECTION BOLT TO 1/3 PAST SNUG.
6. BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS.
7. ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. SLIP BASE PLATES SHALL BE FILLET WELDED ONTO POSTS ALL AROUND THE STRUCTURAL SHAPE SO AS TO INSURE NO LOSS OF STRENGTH. ASSEMBLE IN EITHER SHOP OR FIELD. 28 GAUGE KEEPER PLATE IS PLACED BETWEEN SLIP BASE PLATES TO PREVENT BOLT SLIPPING. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

| BOLT DIAMETER | TORQUE (LB. FT.) |
|---------------|------------------|
| 1/2"          | 9                |
| 5/8"          | 22               |
| 3/8"          | 37               |
| 1"            | 48               |

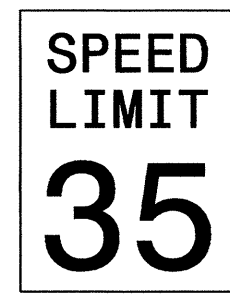
COMPLETELY ASSEMBLE B/A POSTS PRIOR TO ERECTION. B/A POST TO BE SET IN ONE PIECE. AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTINGS HAS CURED AT LEAST 48 HRS., CLEAN CONCRETE FROM BASE CONNECTION BOLTS THEN LOOSEN AND RETIGHTEN EACH BOLT IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. DO NOT OVERTIGHTEN. BURR ALL BOLT THREADS OF BASE CONNECTIONS TO PREVENT LOOSENING.

8. USE REINFORCED FOOTINGS WITH DIMENSIONS AS SHOWN IN PLANS. WHERE SOLID ROCK IS ENCOUNTERED, THE ENGINEER DIRECTS WHETHER TO PLACE THE FOOTING AT THE PRESCRIBED DEPTH OR EXTEND IT AT LEAST TWO FEET INTO THE ROCK. CONSTRUCT ALL FOOTINGS OF CLASS A CONCRETE.
9. FORM TOP 6" OF FOOTINGS. ENGINEER APPROVES THE METHOD USED.
10. THE FINAL FLAT TURN OF SPIRAL OR HOOPS NO. 3 OR LARGER PLACED 3" FROM TOP AND BOTTOM OF FOOTING MAY BE WELDED TO VERTICAL REINFORCING BARS. NO OTHER WELDING WILL BE PERMITTED.
11. ELIMINATE HINGE CONNECTION FOR ALL SINGLE SUPPORT SIGNS.
12. DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, TWO FRICTION PLATES SHALL BE USED IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.
13. SHAPE THE TOPS OF THE FOOTINGS TO CONFORM WITH FINISHED GROUND ELEVATIONS SUCH THAT WATER WILL NOT COLLECT AGAINST THE SUPPORTS.
14. IF THE GROUNDWATER IS ENCOUNTERED AT AN DEPTH SHALLOWER THAN 7 FEET, THE SIGN FOUNDATION MUST BE REDESIGNED BASED UPON THE ACTUAL FIELD CONDITIONS. THE FOUNDATION DESIGN DOES NOT APPLY TO VERY SOFT OR LOOSE SOIL, MUCK, WEATHERED ROCK, OR HARD ROCK.

**GROUND MOUNTED SIGN SUPPORT**

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-3 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/10/11                |                     |
| SEAL                         |                     |
|                              |                     |


401 QUANTITY REQ'D .1\_



36" X 48"  
R2-1

TWO "U" POSTS PER SIGN


406 QUANTITY REQ'D .8\_



30" X 30"  
R1-1

ONE "U" POST PER SIGN


411 QUANTITY REQ'D .1\_



54" X 18"  
R6-1 (R)

TWO "U" POSTS PER SIGN

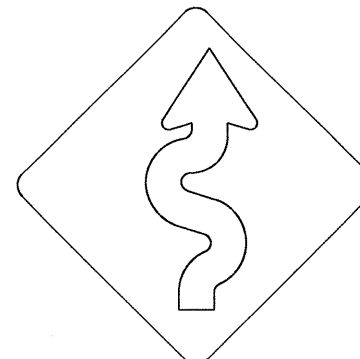
416 QUANTITY REQ'D .1\_



30" X 30"  
W14-1

ONE "U" POST PER SIGN

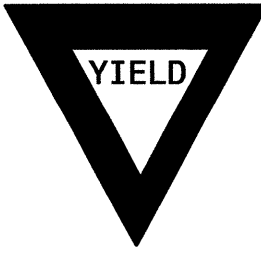
421 QUANTITY REQ'D .1\_



36" X 36"  
W1-5R

ONE "U" POST PER SIGN

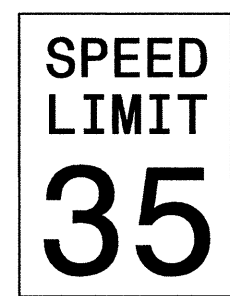
426 QUANTITY REQ'D .1\_



36" X 36" X 36"  
R1-2

ONE "U" POST PER SIGN


402 QUANTITY REQ'D .20



30" X 36"  
R2-1

ONE "U" POST PER SIGN

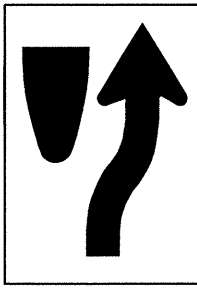
407 QUANTITY REQ'D .7\_



36" X 36"  
R1-1

ONE "U" POST PER SIGN


412 QUANTITY REQ'D .9\_



24" X 30"  
R4-7

ONE "U" POST PER SIGN

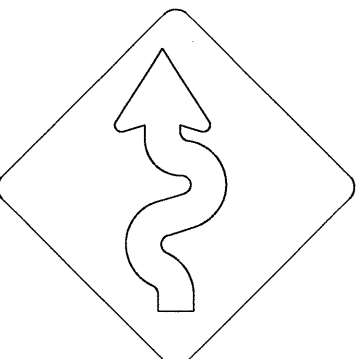
417 QUANTITY REQ'D .2\_



36" X 36"

ONE "U" POST PER SIGN


422 QUANTITY REQ'D .3\_



36" X 36"  
W1-5L

ONE "U" POST PER SIGN

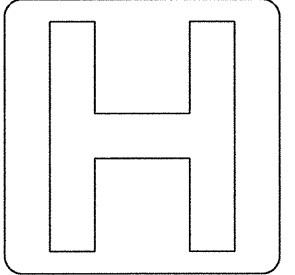
427 QUANTITY REQ'D .2\_



36" X 36"  
R5-1

ONE "U" POST PER SIGN

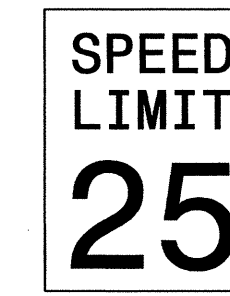
430 QUANTITY REQ'D .2\_



24" X 24"  
W13-1P

ONE "U" POST PER SIGN


403 QUANTITY REQ'D .2\_



24" X 30"  
R2-1

ONE "U" POST PER SIGN

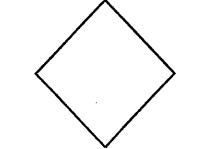
408 QUANTITY REQ'D .4\_



36" X 12"  
R6-1 (L)

MOUNT BEHIND SIGN 409  
IN 4 INSTALLATIONS

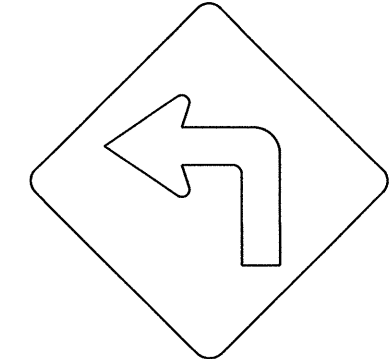
413 QUANTITY REQ'D .9\_



18" X 18"  
OM1-3

MOUNT BELOW SIGN 412  
IN 9 INSTALLATIONS

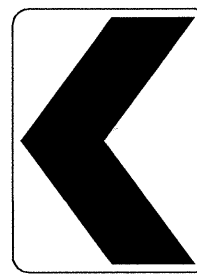
418 QUANTITY REQ'D .2\_



36" X 36"  
W1-1L

ONE "U" POST PER SIGN

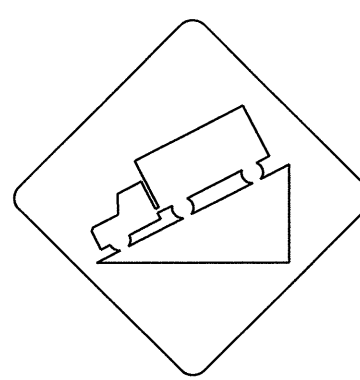
423 QUANTITY REQ'D .7\_



18" X 24"  
W1-8L

ONE "U" POST PER SIGN

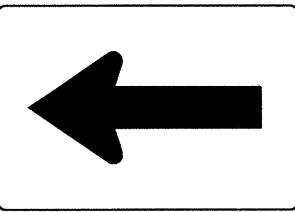
428 QUANTITY REQ'D .1\_



36" X 36"  
W7-1

ONE "U" POST PER SIGN


431 QUANTITY REQ'D .1\_



21" X 15"  
M6-1L

MOUNT BELOW SIGN 430  
IN 1 INSTALLATION


404 QUANTITY REQ'D .1\_



24" X 30"  
R2-1

ONE "U" POST PER SIGN

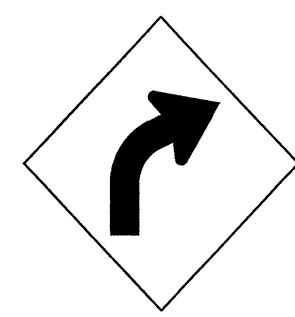
409 QUANTITY REQ'D .7\_



36" X 12"  
R6-1 (R)

MOUNT ABOVE SIGN 407  
IN 7 INSTALLATIONS

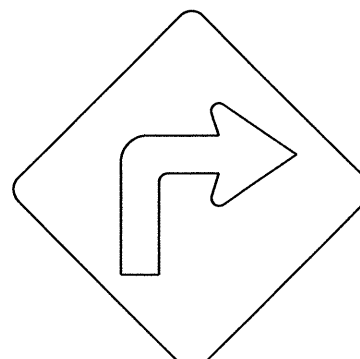
414 QUANTITY REQ'D .2\_



36" X 36"  
W1-2R

ONE "U" POST PER SIGN

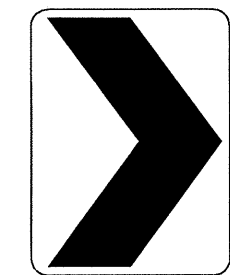
419 QUANTITY REQ'D .2\_



36" X 36"  
W1-1R

ONE "U" POST PER SIGN

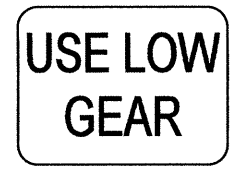
424 QUANTITY REQ'D .7\_



18" X 24"  
W1-8R

ONE "U" POST PER SIGN

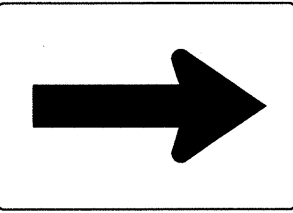
429 QUANTITY REQ'D .1\_



24" X 18"  
W13-1P

MOUNT BELOW SIGN 428  
IN 1 INSTALLATION


432 QUANTITY REQ'D .1\_



21" X 15"  
M6-1R

MOUNT BELOW SIGN 430  
IN 1 INSTALLATION


405 QUANTITY REQ'D .1\_



48" X 48"  
W3-5

TWO "U" POSTS PER SIGN

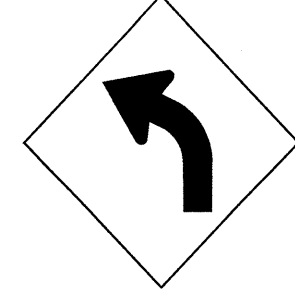
410 QUANTITY REQ'D .10



54" X 18"  
R6-1 (L)

TWO "U" POSTS PER SIGN

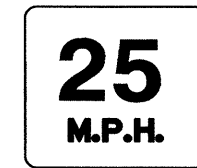
415 QUANTITY REQ'D .2\_



36" X 36"  
W1-2L

ONE "U" POST PER SIGN

420 QUANTITY REQ'D .4\_



18" X 18"  
W13-1P

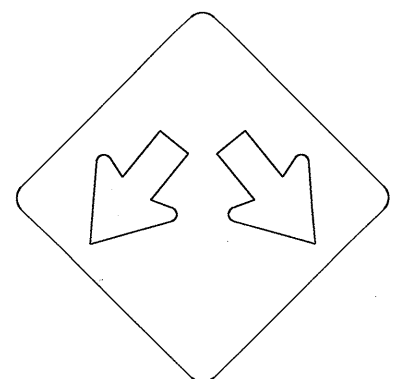
MOUNT BELOW SIGN 418  
IN 1 INSTALLATION

MOUNT BELOW SIGN 419  
IN 1 INSTALLATION

MOUNT BELOW SIGN 421  
IN 1 INSTALLATION

MOUNT BELOW SIGN 422  
IN 1 INSTALLATION

425 QUANTITY REQ'D .2\_




36" X 36"  
W12-1

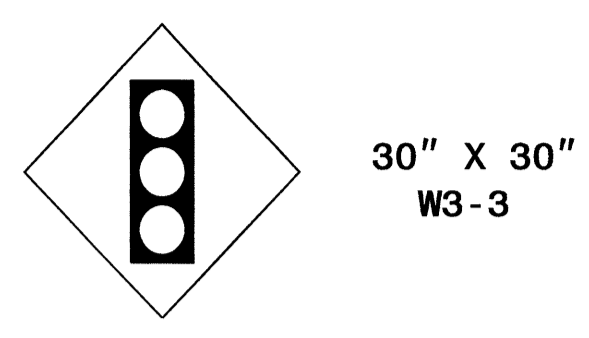
ONE "U" POST PER SIGN

**TYPE "E" SIGNS**

I:\MAR-2011\459 Shared to sign\20110314\236 Shared to sign\20110314\236 Layout Plans\Engseal.SGN 1-4.dgn

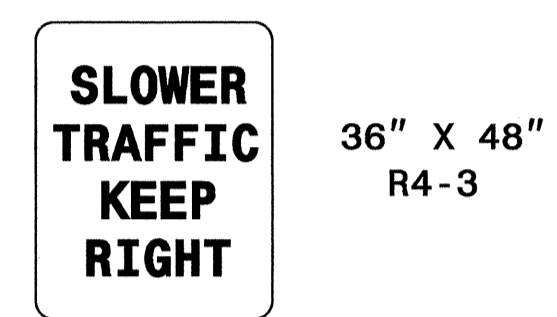
|   |                      |
|---|----------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-3A |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/11   |                      |
| SEAL  |                      |
|  |                      |

433 QUANTITY REQ'D \_1\_



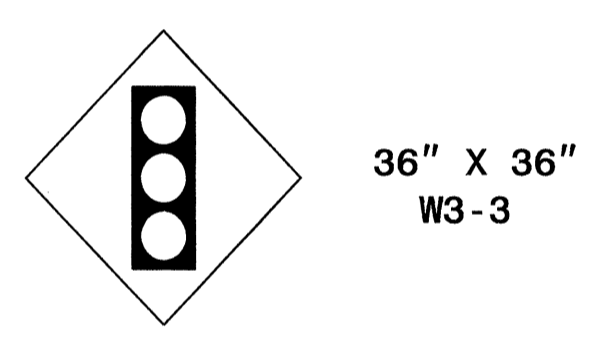
ONE "U" POST PER SIGN

434 QUANTITY REQ'D \_1\_



TWO "U" POSTS PER SIGN


435 QUANTITY REQ'D \_2\_





ONE WOOD POST PER SIGN

**TYPE "E" SIGNS**

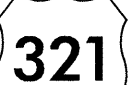
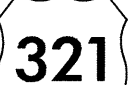
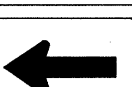
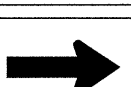


|   |                      |
|---|----------------------|
| TIP NO.<br>R-2287C  | SHEET NO.<br>SIGN-3B |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/11   |                      |
| SEAL  |                      |
|  |                      |





501  
502  
503

**NORTH** 24" X 12"  
 24" X 24"  
 24" X 24"


512

24" X 12" **NORTH** **SOUTH** 24" X 12"  
 24" X 24"   24" X 24"  
 21" X 15"   21" X 15"


518

24" X 12" **SOUTH** 24" X 12"  
 24" X 24"   24" X 24"  
 24" X 12" **SOUTH** **BUSINESS** 24" X 12"  
 24" X 24"   24" X 24"



504  
505  
506  
507  
508

**SOUTH** 24" X 12"  
 24" X 24"


513

**NORTH** 24" X 12"  
**BUSINESS** 24" X 12"  
 24" X 24"



519


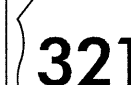


**NORTH** 24" X 12"  
 24" X 24"  
 21" X 15"

509



**JCT** 21" X 15"  
**BUSINESS** 24" X 12"  
 24" X 24"

514



**NORTH** 24" X 12"  
**BUSINESS** 24" X 12"  
 24" X 24"  
 21" X 15"

24" X 12" **NORTH** **SOUTH** 24" X 12"  
 24" X 24"   24" X 24"  
 21" X 15"   21" X 15"




510

**NORTH** 24" X 12"  
**BUSINESS** 24" X 12"  
 24" X 24"  
 21" X 15"





515

21" X 15" **JCT** **BUSINESS** 24" X 12"  
 24" X 24"   24" X 24"



520

21" X 15" **JCT**  
 24" X 12" **BUSINESS** **SOUTH** 24" X 12"  
 24" X 24"   24" X 24"  
 21" X 15"

511

24" X 12" **NORTH**  
 24" X 12" **BUSINESS** **NORTH** 24" X 12"  
 24" X 24"   24" X 24"  
 21" X 15"   21" X 15"


516  
517

**NORTH** 24" X 12"  
 24" X 24"  
 24" X 24"

**TYPE "F" SIGNS**

I:\MAR-2011\457... \Signage\Layout Plans\Engineed\_SGN\_1-4.dgn

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-4 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/16/11                |                     |
| SEAL                         |                     |



SIGN NUMBER: 101      BACKG COLOR: Green  
TYPE: A      COPY COLOR: White

DESIGN BY: DHB      CHECKED BY:      DATE: Mar 17, 2011  
PROJECT ID: R-2237C      DIV: 11

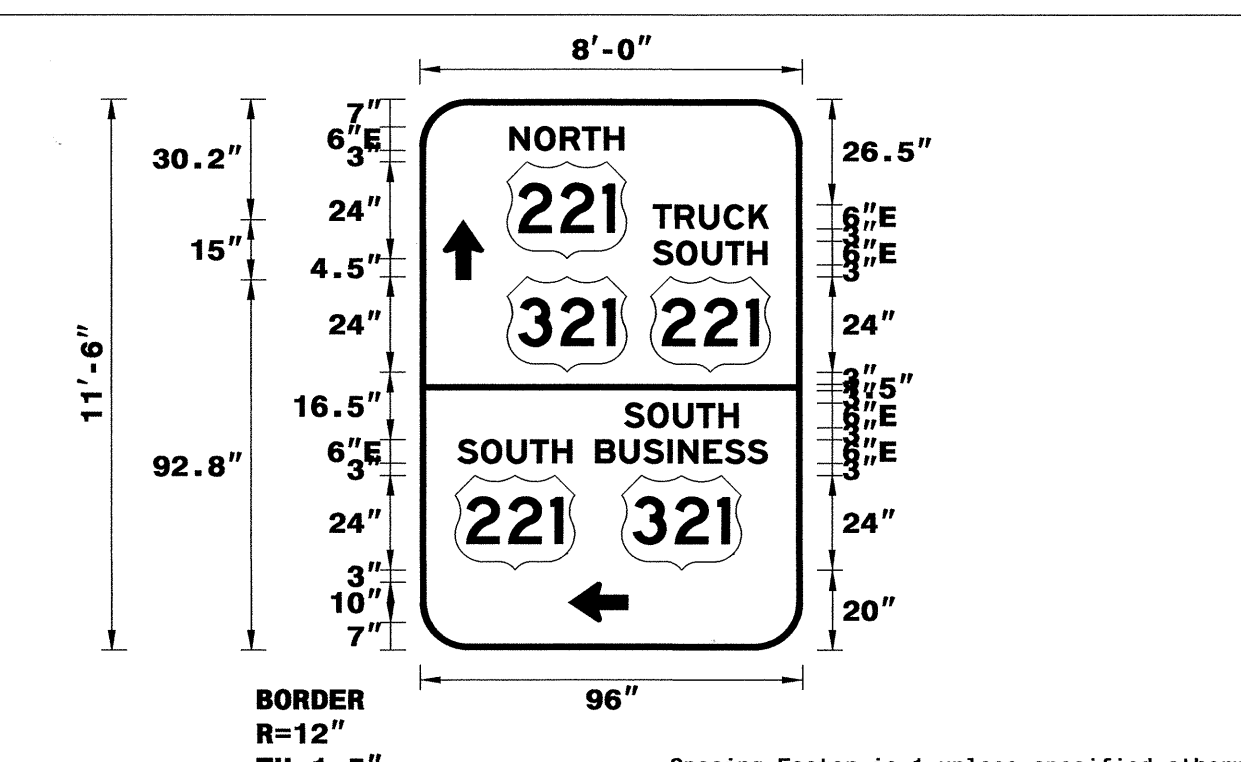
QUANTITY: 1

| SYMBOL | X    | Y    | WID | HT |
|--------|------|------|-----|----|
| M1_4   | 21.9 | 98   | 30  | 24 |
| ARUP   | 5.9  | 92.8 | 10  | 15 |

SIGN WIDTH: 8'-0"  
HEIGHT: 11'-6"  
TOTAL AREA: 92.0 Sq.Ft.

BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1.5"  
RADIUS: 12"

NO. Z BARS: 3      MAT'L: 0.125" (3.2 mm) ALUMINUM  
LENGTH: 88.0



USE NOTES:  
1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.  
3. Shields; A, B, and C type arrows shall be on 0.032" (0.8mm) aluminum and demountable.

LETTER POSITIONS

Letter spacings are to start of next letter

| Letter          | N    | O   | R   | T   | H   | Series/Size | Text Length |
|-----------------|------|-----|-----|-----|-----|-------------|-------------|
| N O R T H       | 22.6 | 6.2 | 6.4 | 5.5 | 5.5 | E 2000      | 28.6        |
| T R U C K       | 58.6 | 5.5 | 6.1 | 6.2 | 6.2 | E 2000      | 29          |
| S O U T H       | 58.6 | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| S O U T H       | 51.4 | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| S O U T H       | 9.5  | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| B U S I N E S S | 44.1 | 6.1 | 6.1 | 6.1 | 2.6 | E 2000      | 43.1        |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN      NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 102      BACKG COLOR: Green  
TYPE: A      COPY COLOR: White

DESIGN BY: DHB      CHECKED BY:      DATE: Mar 17, 2011  
PROJECT ID: R-2237C      DIV: 11

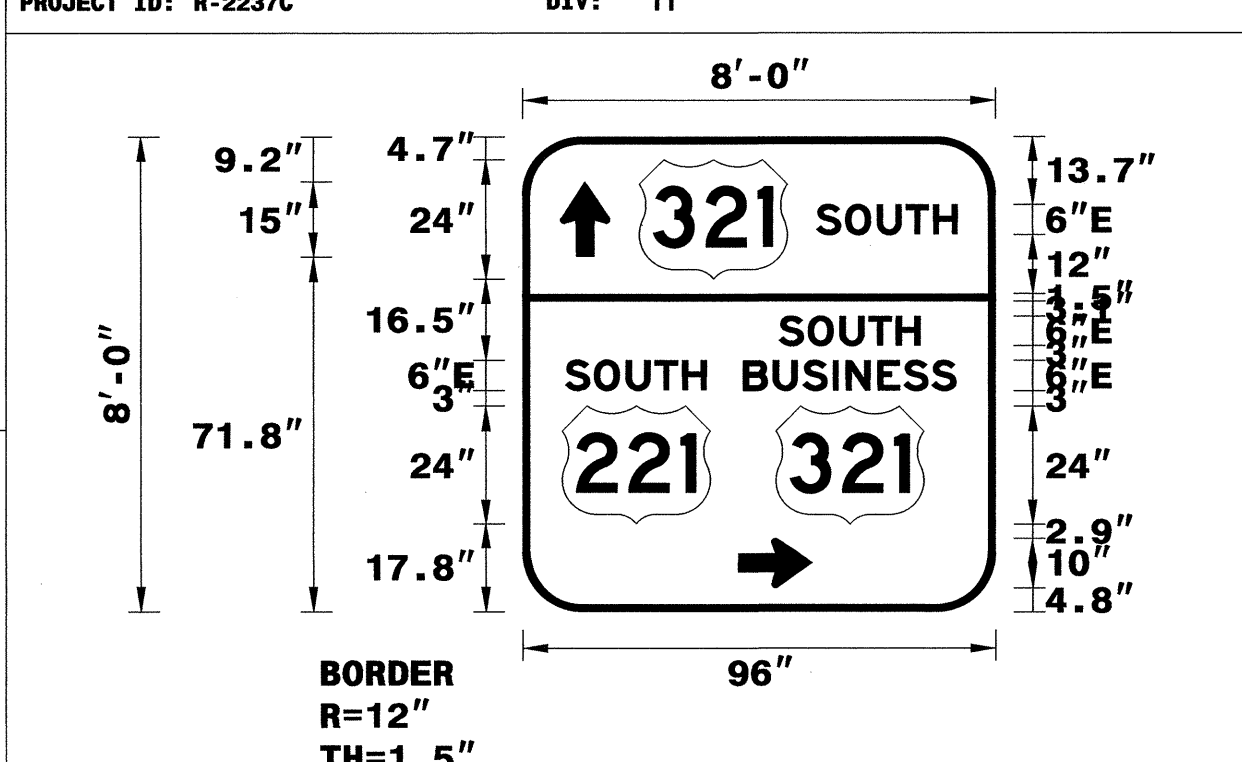
QUANTITY: 1

| SYMBOL | X    | Y    | WID | HT |
|--------|------|------|-----|----|
| M1_4   | 7.7  | 71.8 | 10  | 15 |
| M1_4   | 23.7 | 67.3 | 30  | 24 |
| M1_4   | 8    | 17.8 | 30  | 24 |
| M1_4   | 51.4 | 17.6 | 30  | 24 |
| ARUP   | 43.8 | 4.7  | 10  | 15 |

SIGN WIDTH: 8'-0"  
HEIGHT: 8'-0"  
TOTAL AREA: 64.0 Sq.Ft.

BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1.5"  
RADIUS: 12"

NO. Z BARS: 3      MAT'L: 0.125" (3.2 mm) ALUMINUM  
LENGTH: 88.0



USE NOTES:  
1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.  
3. Shields; A, B, and C type arrows shall be on 0.032" (0.8mm) aluminum and demountable.

LETTER POSITIONS

Letter spacings are to start of next letter

| Letter          | S    | O   | U   | T   | H   | Series/Size | Text Length |
|-----------------|------|-----|-----|-----|-----|-------------|-------------|
| S O U T H       | 59.7 | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| S O U T H       | 52.1 | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| S O U T H       | 8.7  | 5.9 | 6.4 | 5.9 | 5.5 | E 2000      | 28.6        |
| B U S I N E S S | 44.8 | 6.1 | 6.1 | 6.1 | 2.6 | E 2000      | 43.1        |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN      NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 301, 302      BACKG COLOR: Green  
TYPE: D      COPY COLOR: White

DESIGN BY: DHB      CHECKED BY:      DATE: Mar 08, 2011  
PROJECT ID: R-2237C      DIV: 11

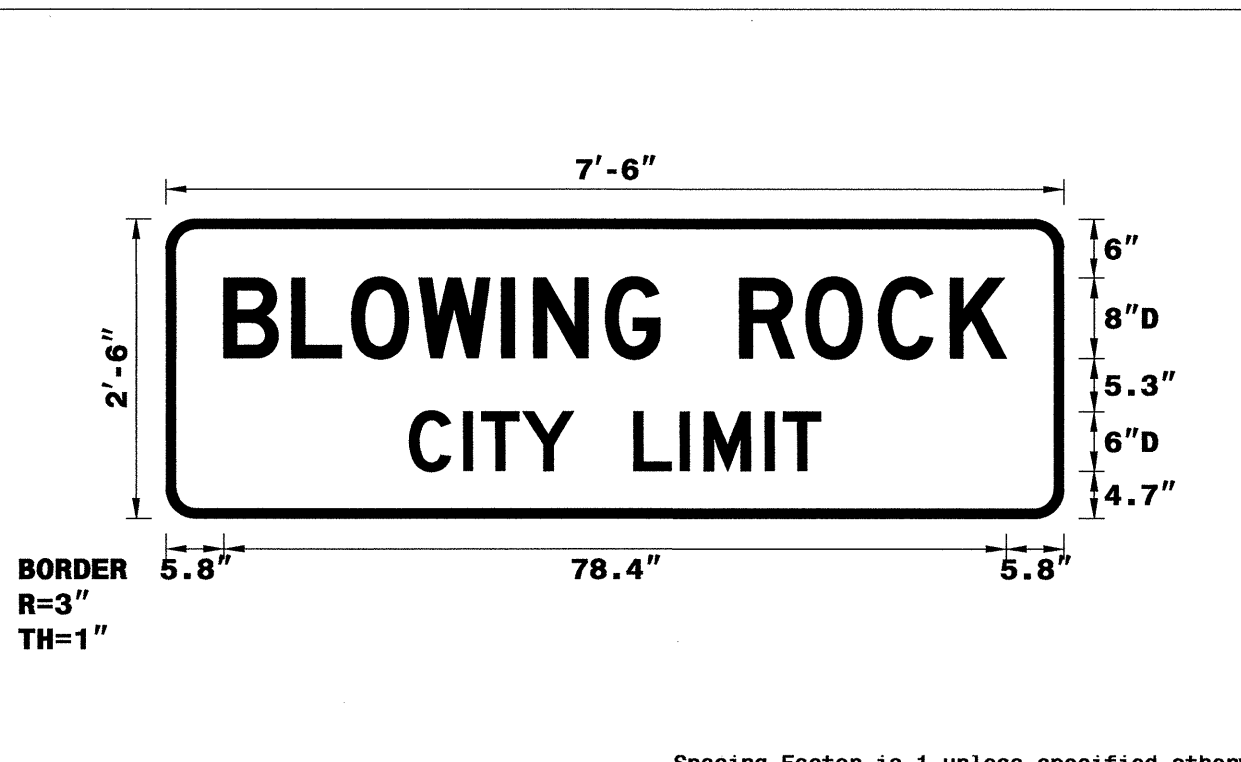
QUANTITY: 2

| SYMBOL | X | Y | WID | HT |
|--------|---|---|-----|----|
|        |   |   |     |    |

SIGN WIDTH: 7'-6"  
HEIGHT: 2'-6"  
TOTAL AREA: 18.8 Sq.Ft.

BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1"  
RADIUS: 3"

NO. Z BARS:      MAT'L: 0.125" (3.2 mm) ALUMINUM  
LENGTH:



USE NOTES: 1,2  
1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.  
3. Shields; A, B, and C type arrows shall be on 0.032" (0.8mm) aluminum and demountable.

LETTER POSITIONS

Letter spacings are to start of next letter

| Letter            | B    | L   | O   | W   | I   | N   | G   | R   | O   | C   | K   | Series/Size | Text Length |
|-------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-------------|
| B L O W I N G     | 5.8  | 6.8 | 6   | 6.7 | 8.3 | 3.2 | 7.2 | 5.4 | 8   | 6.6 | 7.3 | D 2000      | 78.4        |
| C I T Y L I M I T | 24.4 | 5.4 | 1.9 | 4.1 | 5.2 | 6   | 4.6 | 2.4 | 6.1 | 1.9 | 3.7 | D 2000      | 41.2        |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN      NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 303      BACKG COLOR: Yellow  
TYPE: D      COPY COLOR: Black

DESIGN BY: DHB      CHECKED BY:      DATE: Jun 22, 2010  
PROJECT ID: R-2237C      DIV: 11

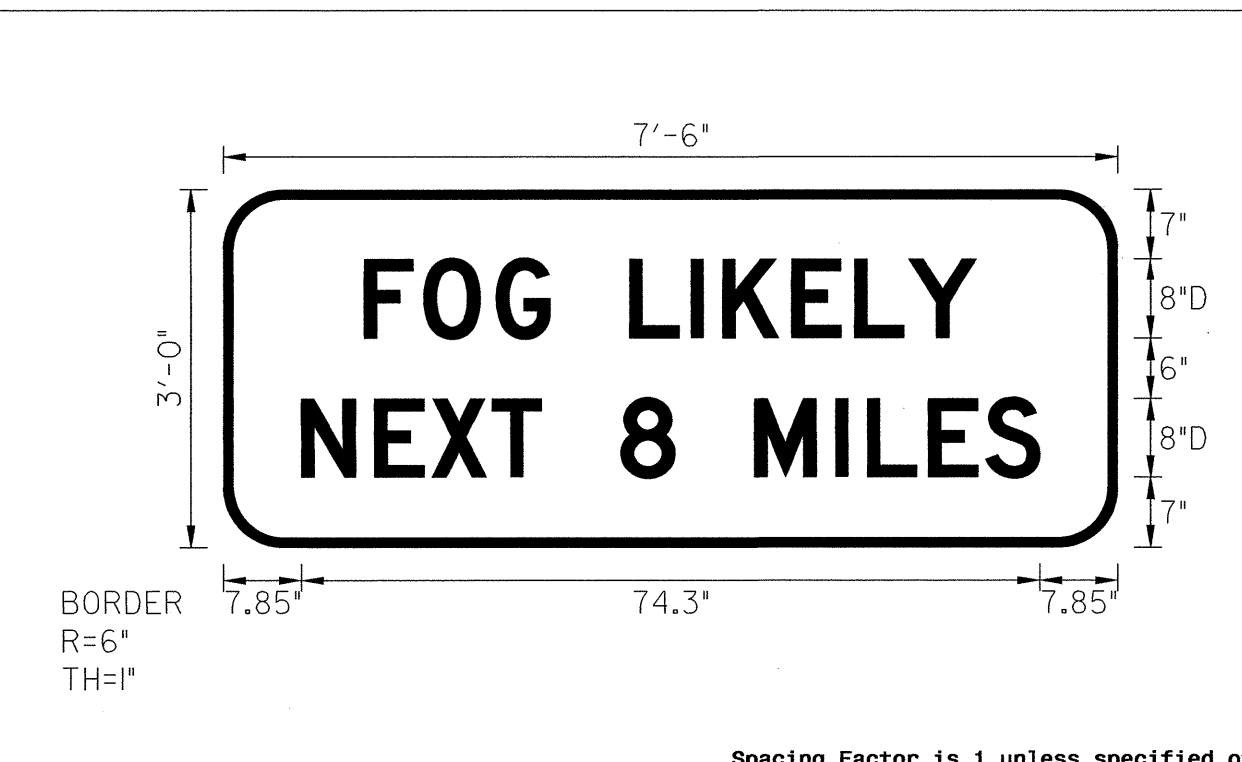
QUANTITY: 1

| SYMBOL | X | Y | WID | HT |
|--------|---|---|-----|----|
|        |   |   |     |    |

SIGN WIDTH: 7'-6"  
HEIGHT: 3'-0"  
TOTAL AREA: 22.5 Sq.Ft.

BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1"  
RADIUS: 6"

NO. Z BARS:      MAT'L: 0.125" (3.2 mm) ALUMINUM  
LENGTH:



USE NOTES: 1,2  
1. Legend and border shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.

LETTER POSITIONS

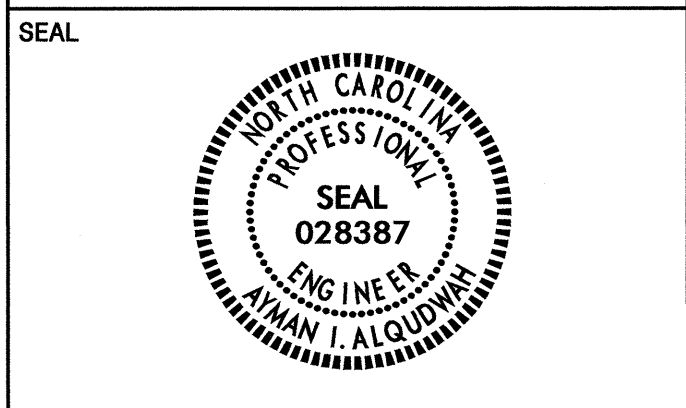
Letter spacings are to start of next letter

| Letter              | F    | O   | G   | L   | I | K   | E   | L | Y   | Series/Size | Text Length |      |
|---------------------|------|-----|-----|-----|---|-----|-----|---|-----|-------------|-------------|------|
| F O G L I K E L Y   | 14.2 | 6   | 7.3 | 5.4 | 8 | 6.2 | 3.2 | 7 | 6.3 | 5.4         | D 2000      | 61.7 |
| N E X T 8 M I L E S | 7.8  | 7.4 | 5.8 | 6.1 | 5 | 8   | 5.4 | 8 | 8.2 | 3.2         | D 2000      | 74.3 |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN      NORTH CAROLINA D.O.T. SIGN DETAIL

I:\MAR-2011\1156  
R:\11-97110\Sigsig\1156\1156\_Signing Layout Plans\Engseed\_SGN 1-4.dgn  
dbbeard AI 11244736

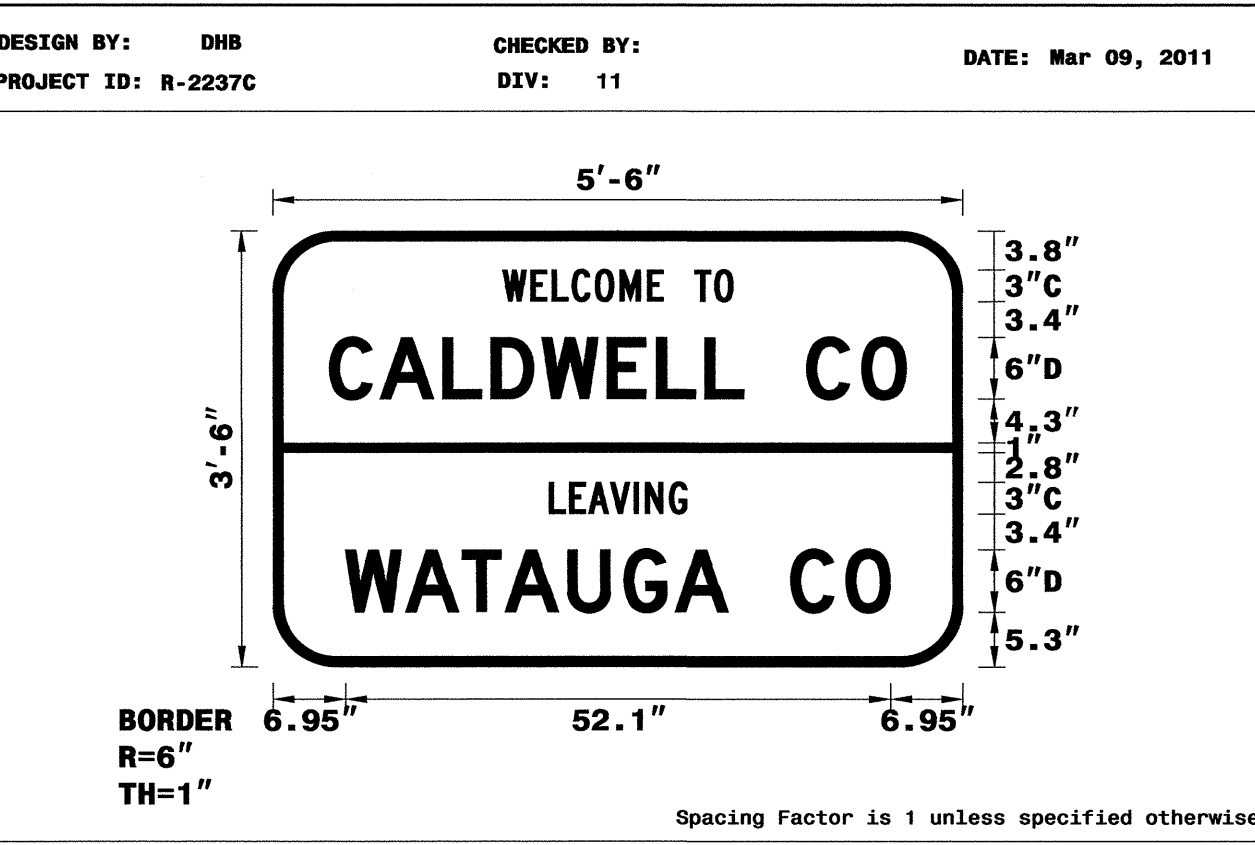
APPROVED: *[Signature]*  
DATE: 3/10/11



SIGN NUMBER: 304  
TYPE: D  
QUANTITY: 1  
SIGN WIDTH: 5'-6"  
HEIGHT: 3'-6"  
TOTAL AREA: 19.3 Sq.Ft.  
BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1"  
RADIUS: 6"  
NO. Z BARS:  
LENGTH:

| SYMBOL | X | Y | WID | HT |
|--------|---|---|-----|----|
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |

BACKG COLOR: Green/Green  
COPY COLOR: White  
MATERIAL: 0.125" (3.2 mm) ALUMINUM



USE NOTES: 1,2  
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.

LETTER POSITIONS

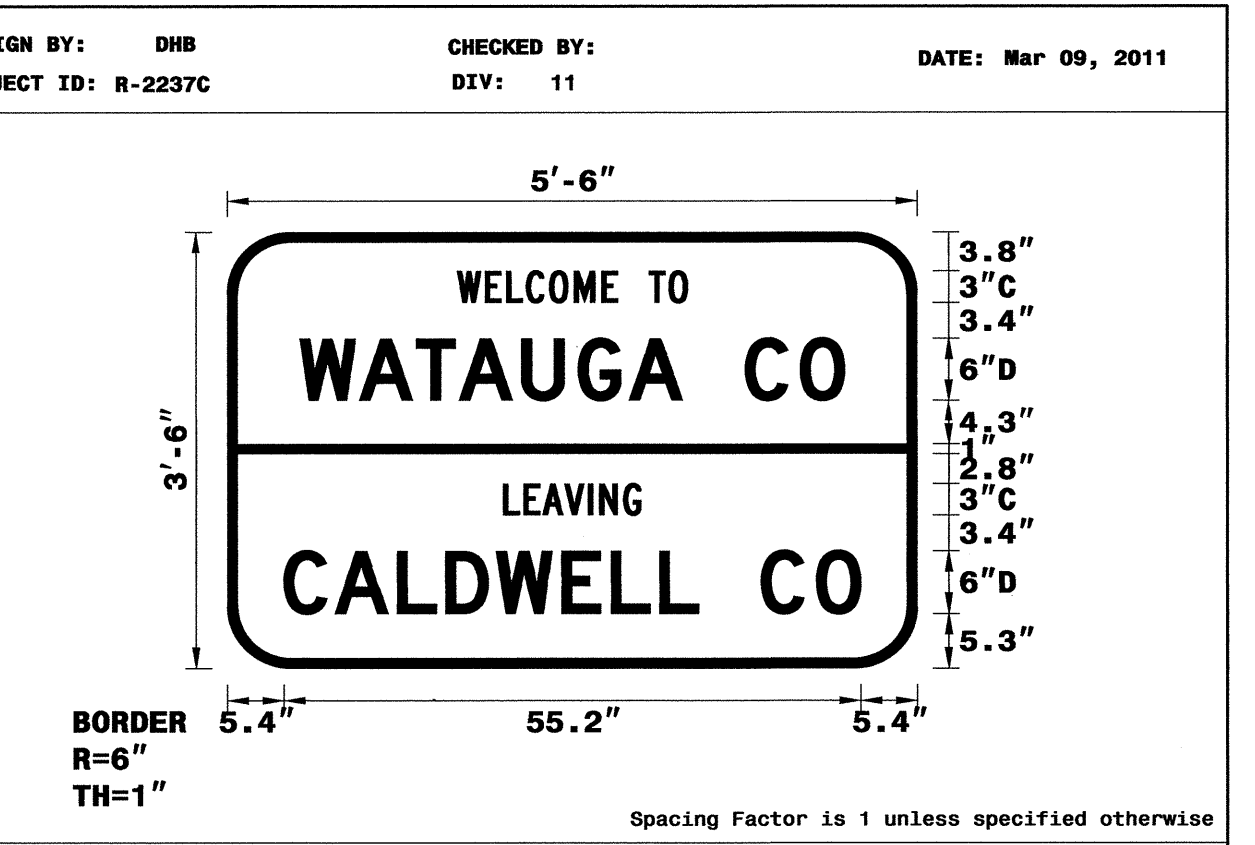
| Letter spacings are to start of next letter |     |     |     |     |     |     |     |      |     |     | Series/Size | Text Length |
|---|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|-------------|
| W   | E   | L   | C   | O   | M   | E   | T   | O    |     |     | C 2000      | 22.1        |
| 22  | 2.7 | 2   | 1.9 | 2.2 | 2.4 | 2.6 | 1.5 | 3    | 1.9 | 1.8 |             |             |
| C   | A   | L   | D   | W   | E   | L   | L   | C    | O   |     | D 2000      | 55.2        |
| 5.4   | 4.9 | 6   | 4.6 | 4.9 | 6.2 | 4.7 | 4.6 | 3.7  | 6   | 5.3 | 4.3         | 5.4         |
| L   | E   | A   | V   | I   | N   | G   |     |      |     |     | C 2000      | 13.2        |
| 26.4  | 2   | 1.8 | 2.1 | 2.3 | 1.1 | 2.3 | 1.7 | 26.4 |     |     |             |             |
| W   | A   | T   | A   | U   | G   | A   | C   | O    |     |     | D 2000      | 52.1        |
| 6.9   | 5.7 | 5.5 | 4.1 | 6   | 5.4 | 4.9 | 5.1 | 6    | 5.3 | 4.3 | 6.9         |             |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 305  
TYPE: D  
QUANTITY: 1  
SIGN WIDTH: 5'-6"  
HEIGHT: 3'-6"  
TOTAL AREA: 19.3 Sq.Ft.  
BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1"  
RADIUS: 6"  
NO. Z BARS:  
LENGTH:

| SYMBOL | X | Y | WID | HT |
|--------|---|---|-----|----|
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |

BACKG COLOR: Green/Green  
COPY COLOR: White  
MATERIAL: 0.125" (3.2 mm) ALUMINUM



USE NOTES: 1,2  
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.  
2. Background shall be Grade C reflective sheeting.

LETTER POSITIONS

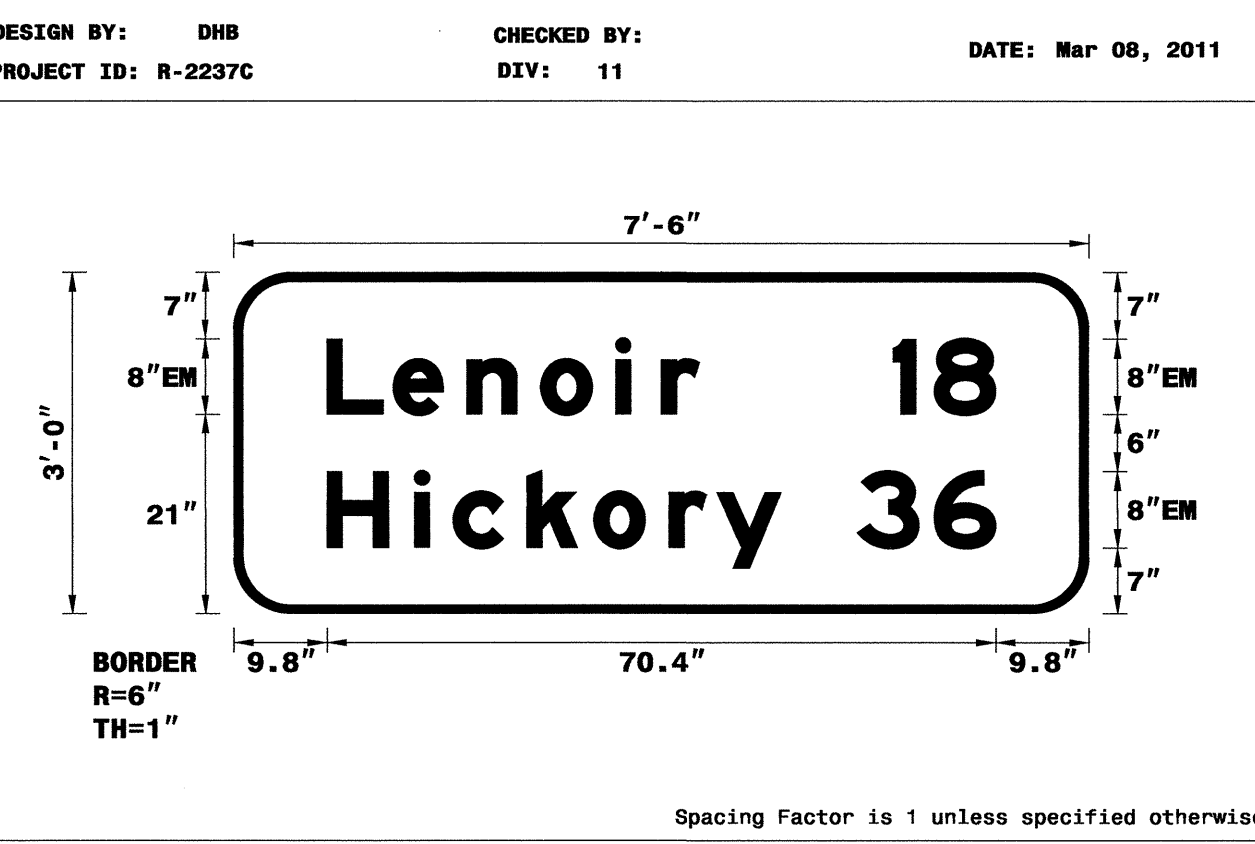
| Letter spacings are to start of next letter |     |     |     |     |     |     |     |      |     |     | Series/Size | Text Length |
|---|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|-------------|
| W   | E   | L   | C   | O   | M   | E   | T   | O    |     |     | C 2000      | 22.1        |
| 22  | 2.7 | 2   | 1.9 | 2.2 | 2.4 | 2.6 | 1.5 | 3    | 1.9 | 1.8 |             |             |
| W   | A   | T   | A   | U   | G   | A   | C   | O    |     |     | D 2000      | 52.1        |
| 6.9   | 5.7 | 5.5 | 4.1 | 6   | 5.4 | 4.9 | 5.1 | 6    | 5.3 | 4.3 | 6.9         |             |
| L   | E   | A   | V   | I   | N   | G   |     |      |     |     | C 2000      | 13.2        |
| 26.4  | 1.9 | 1.8 | 2.1 | 2.3 | 1.1 | 2.3 | 1.7 | 26.4 |     |     |             |             |
| C   | A   | L   | D   | W   | E   | L   | L   | C    | O   |     | D 2000      | 55.2        |
| 5.4   | 4.9 | 6   | 4.6 | 4.9 | 6.2 | 4.7 | 4.6 | 3.7  | 6   | 5.3 | 4.3         | 5.4         |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 306  
TYPE: D  
QUANTITY: 1  
SIGN WIDTH: 7'-6"  
HEIGHT: 3'-0"  
TOTAL AREA: 22.5 Sq.Ft.  
BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 1"  
RADIUS: 6"  
NO. Z BARS:  
LENGTH:

| SYMBOL | X | Y | WID | HT |
|--------|---|---|-----|----|
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |
|        |   |   |     |    |

BACKG COLOR: Green  
COPY COLOR: White  
MATERIAL: 0.125" (3.2 mm) ALUMINUM



LETTER POSITIONS

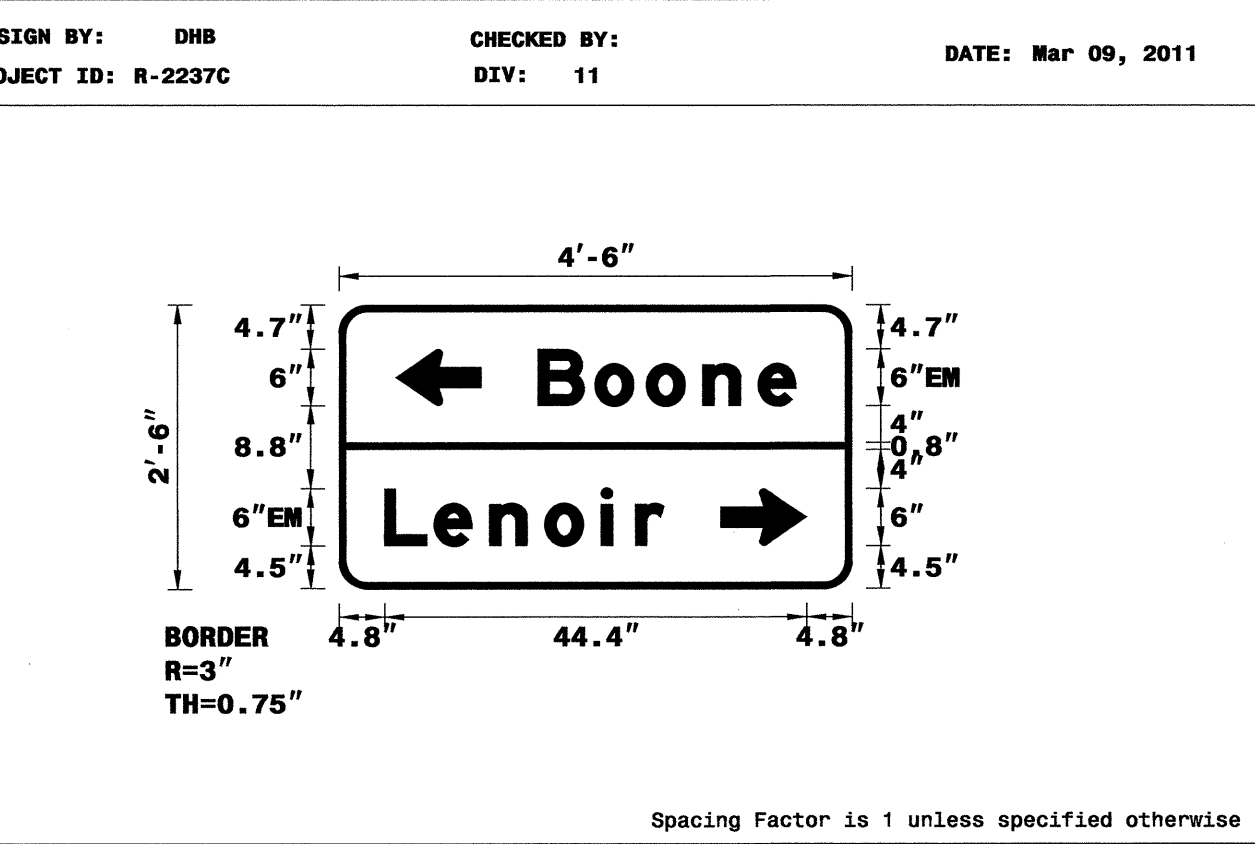
| Letter spacings are to start of next letter |     |     |     |     |     |   |     |   |     |     | Series/Size | Text Length |
|---|-----|-----|-----|-----|-----|---|-----|---|-----|-----|-------------|-------------|
| L   | e   | n   | o   | i   | r   |   |     |   |     |     | EM 2000     | 39.2        |
| 9.8   | 7   | 7.8 | 7.8 | 7.9 | 4.8 | 4 | 4.1 |   |     |     |             |             |
| 1   | 8   |     |     |     |     |   |     |   |     |     | EM 2000     | 10.8        |
| 69.4  | 4.3 | 6.5 | 9.8 |     |     |   |     |   |     |     |             |             |
| H   | i   | c   | k   | o   | r   | y |     |   |     |     | EM 2000     | 70.4        |
| 9.8   | 9.2 | 4.1 | 7.8 | 7   | 7.9 | 5 | 6.8 | 8 | 8.1 | 6.5 | 9.8         |             |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 307  
TYPE: D  
QUANTITY: 1  
SIGN WIDTH: 4'-6"  
HEIGHT: 2'-6"  
TOTAL AREA: 11.3 Sq.Ft.  
BORDER TYPE: FLUSH  
RECESS: 0"  
WIDTH: 0.75"  
RADIUS: 3"  
NO. Z BARS:  
LENGTH:

| SYMBOL | X    | Y    | WID | HT |
|--------|------|------|-----|----|
| ARUP   | 5.9  | 19.3 | 6   | 9  |
| ARUP   | 40.2 | 4.6  | 6   | 9  |
|        |      |      |     |    |
|        |      |      |     |    |
|        |      |      |     |    |
|        |      |      |     |    |
|        |      |      |     |    |
|        |      |      |     |    |

BACKG COLOR: Green/Green  
COPY COLOR: White  
MATERIAL: 0.125" (3.2 mm) ALUMINUM



LETTER POSITIONS

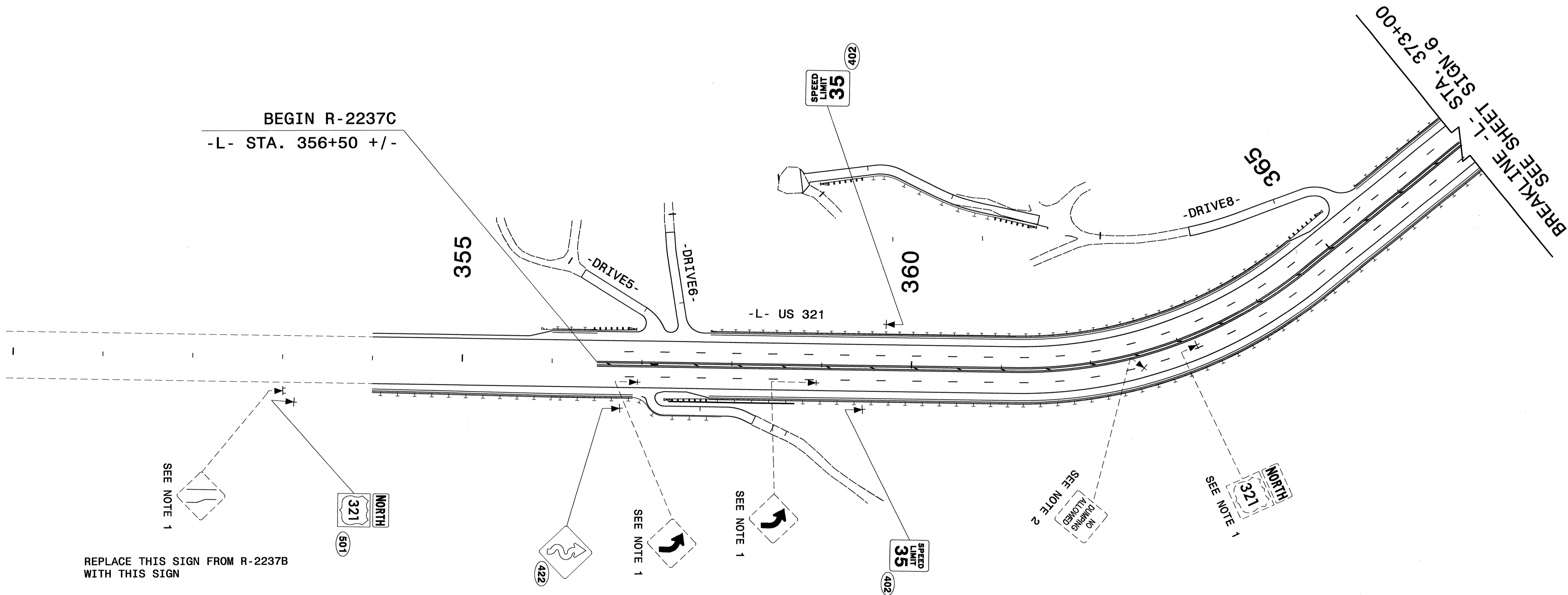
| Letter spacings are to start of next letter |     |     |     |     |     |     |      |  |  |  | Series/Size | Text Length |
|---|-----|-----|-----|-----|-----|-----|------|--|--|--|-------------|-------------|
| B   | o   | o   | n   | e   |     |     |      |  |  |  | EM 2000     | 27.1        |
| 20.9  | 6   | 5.4 | 5.9 | 5.8 | 4   | 5.9 |      |  |  |  |             |             |
| L   | e   | n   | o   | i   | r   |     |      |  |  |  | EM 2000     | 29.4        |
| 4.8   | 5.2 | 5.8 | 5.8 | 5.9 | 3.6 | 3   | 19.8 |  |  |  |             |             |

FILENAME: R-2237C\_Sgn\_SGN\_SIGNDESIGN NORTH CAROLINA D.O.T. SIGN DETAIL

**SIGN DESIGNS**

I:\MAR-2011\57  
 ddb\ref\file\sign\Layout Plans\Engineer\_SGN 1-4.dgn  
 3/10/11 10:47:35

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-5 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/17/14                |                     |
| SEAL                         |                     |



REPLACE THIS SIGN FROM R-2237B WITH THIS SIGN

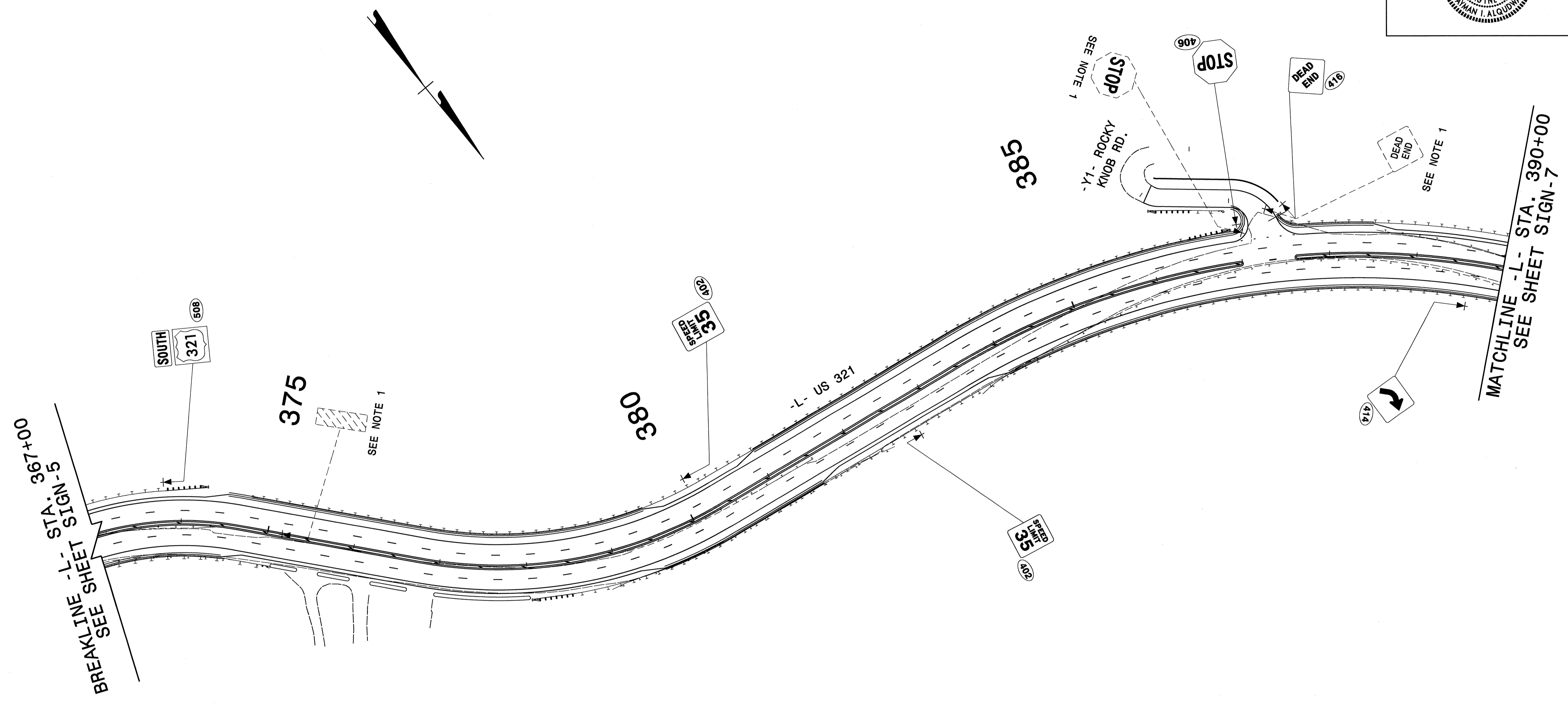
**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR\_2011\2277\Drawings\CADD\Signing Layout Plans\R-2237C\_Sgn\_SGN\_5.dgn  
 chibbard 3/17/14

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-6 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/16/11                |                     |
| SEAL                         |                     |
|                              |                     |



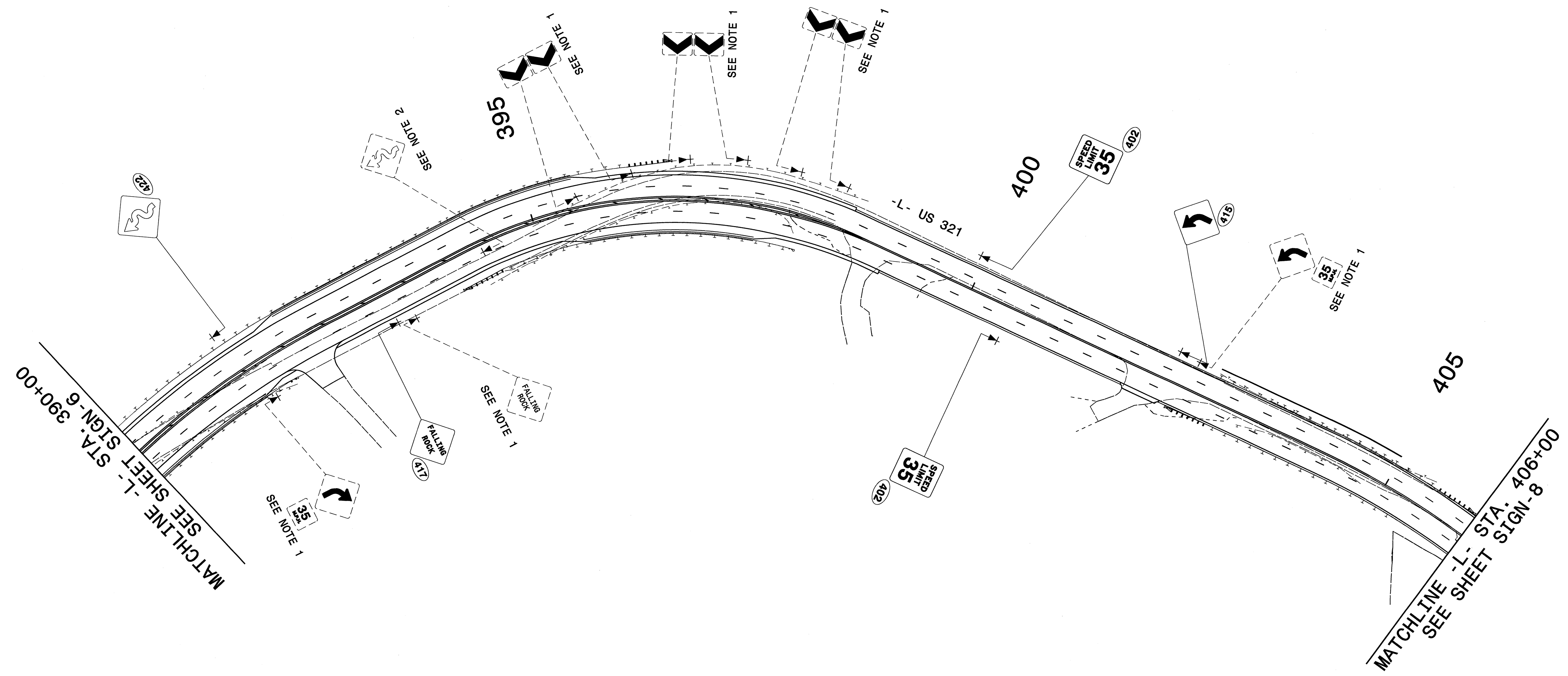
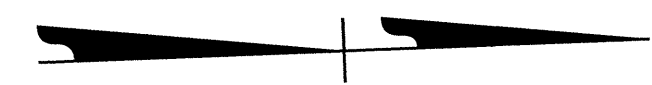
**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR\_2011\215  
 11-11-11  
 Signage\CADD\Signing Layout Plans\R-2237C\_Sgn\_SGN\_6.dgn  
 chbeard

|                                   |                     |
|-----------------------------------|---------------------|
| TIP NO.<br>R-2237C                | SHEET NO.<br>SIGN-7 |
| APPROVED: <i>Ayman Al-Qudmani</i> |                     |
| DATE: 3/16/11                     |                     |
| SEAL                              |                     |
|                                   |                     |




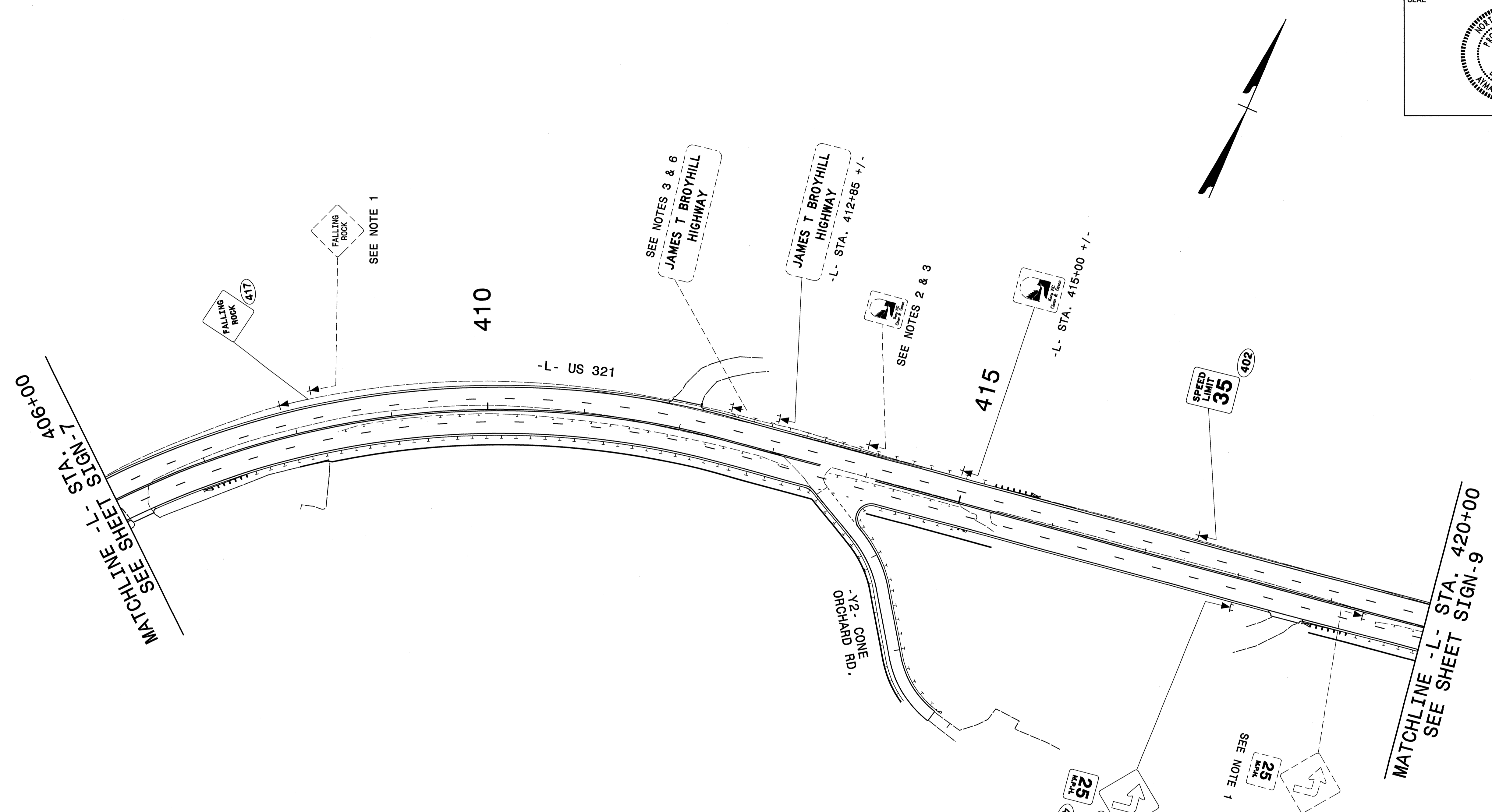
**PROJECT NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR\_2011\216\Signing\CADD\Signing Layout Plans\R-2237C\_Sgn\_SGN\_7.dgn  
 chibbard 3/16/11 12:47:36

|   |                     |
|---|---------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-8 |
| APPROVED: <i>[Signature]</i>  |                     |
| DATE: 3/16/11   |                     |
| SEAL  |                     |
|  |                     |



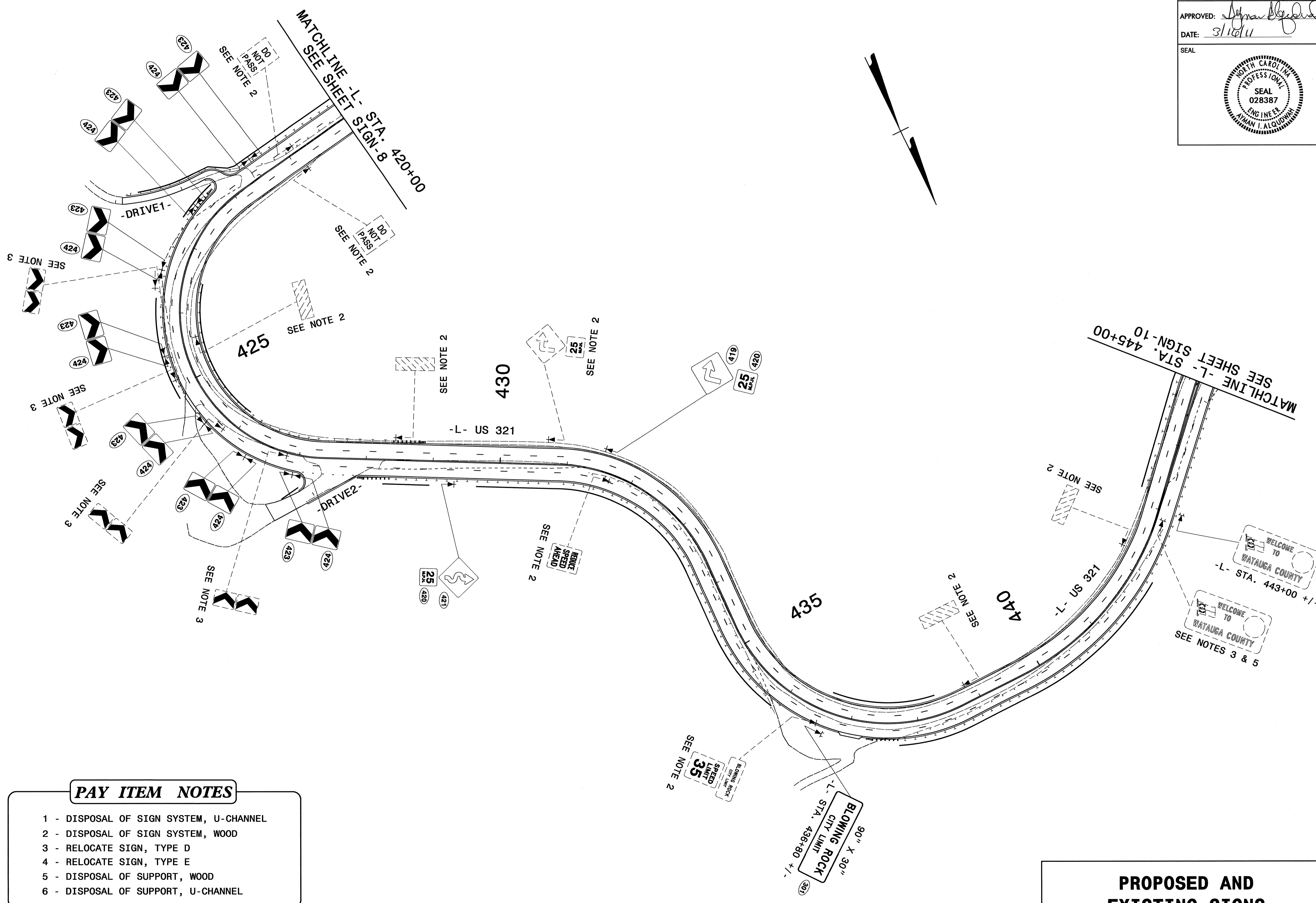
**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR-2011\220  
 chboard  
 11-11-2011 12:47:36  
 Signing Layout Plans\R-2237C\_Sgn\_SGN.dgn

|                              |                     |
|------------------------------|---------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-9 |
| APPROVED: <i>[Signature]</i> |                     |
| DATE: 3/10/11                |                     |
| SEAL                         |                     |



**PAY ITEM NOTES**

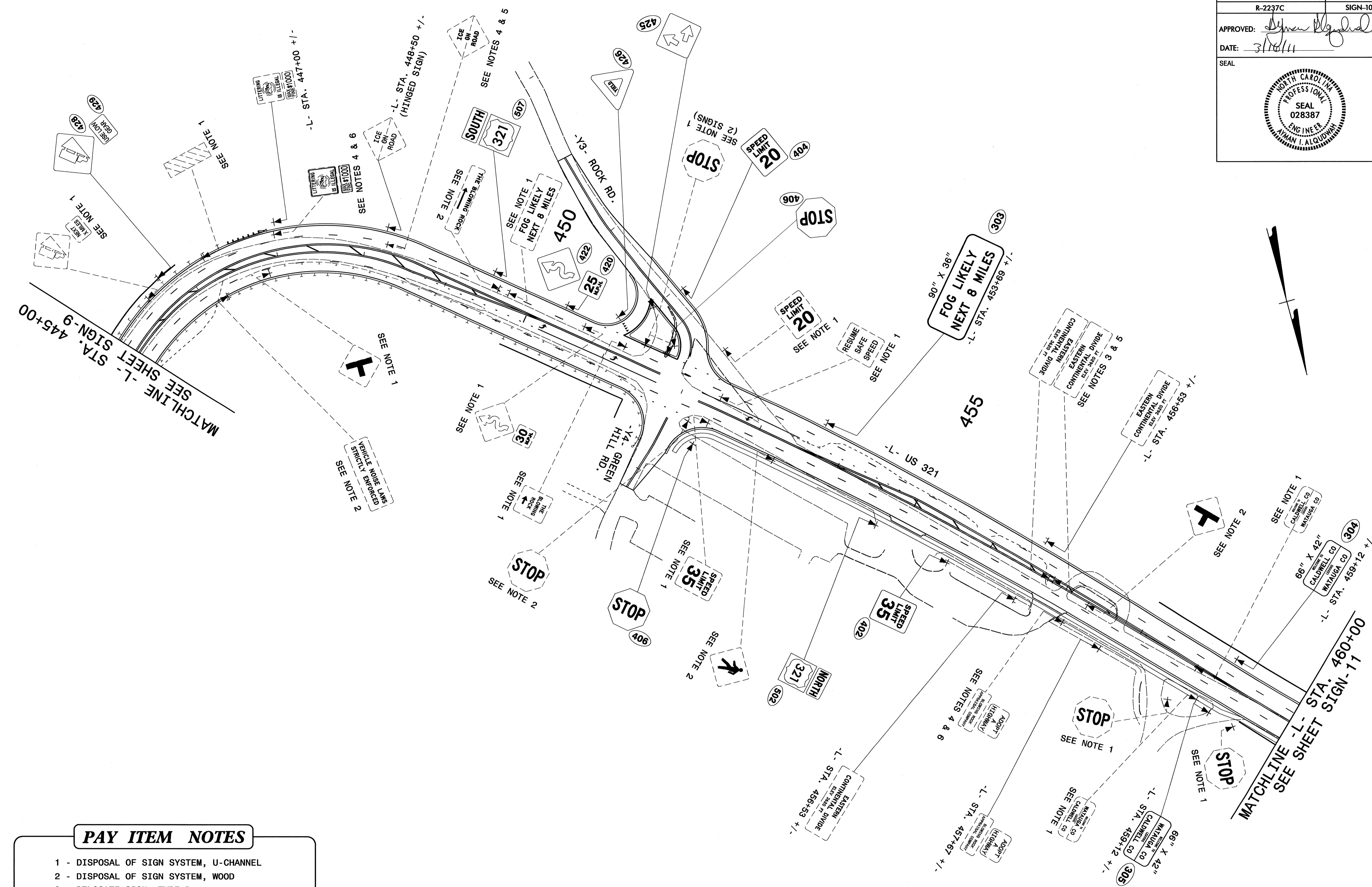
- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR\_2011\237...Signing Layout Plans\R-2237C\_Sgn\_SGN\_9.dgn  
 3/10/11 10:24:36  
 chbeard



|                             |                      |
|-----------------------------|----------------------|
| TIP NO.<br>R-2237C          | SHEET NO.<br>SIGN-10 |
| APPROVED: <i>Dyan Bligh</i> |                      |
| DATE: 3/16/11               |                      |
| SEAL                        |                      |
|                             |                      |



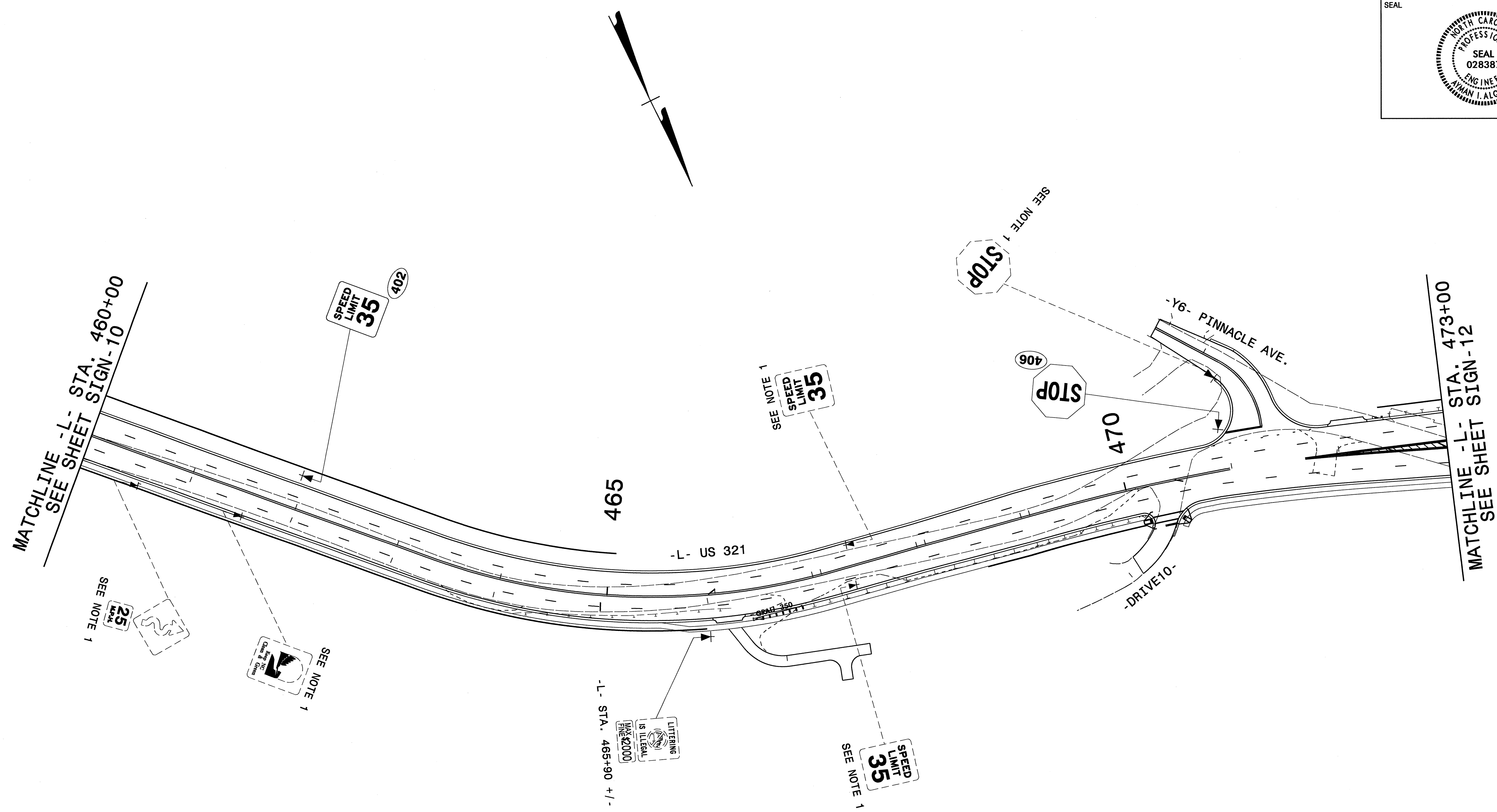
**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I7-MAR-2011 12:30  
 R:\Projects\Signage\10\Signing Layout Plans\R-2237C\_Sgn\_SGN.10.dgn  
 shboard A1 1E244736

|                                 |                      |
|---------------------------------|----------------------|
| TIP NO.<br>R-2237C              | SHEET NO.<br>SIGN-11 |
| APPROVED: <i>Ayman Alquodbi</i> |                      |
| DATE: 3/16/11                   |                      |
| SEAL                            |                      |
|                                 |                      |



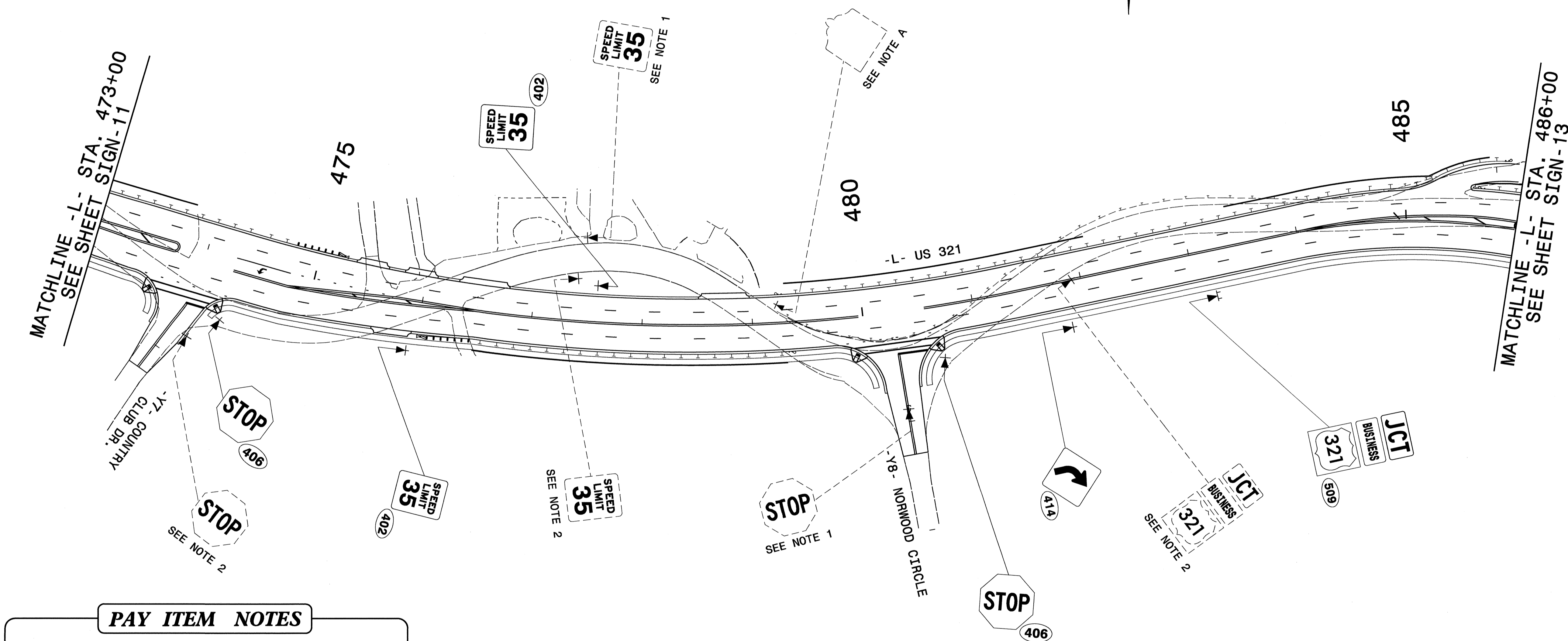
**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR-2011\231\Signage\CADD\Signing Layout Plans\R-2237C\_Sgn\_SGN-11.dgn  
 chboard  
 3/16/11 12:47:36

|                              |                      |
|------------------------------|----------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-12 |
| APPROVED: <i>[Signature]</i> |                      |
| DATE: 3/16/11                |                      |
| SEAL                         |                      |
|                              |                      |



**PAY ITEM NOTES**

- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL


**PROJECT NOTES**

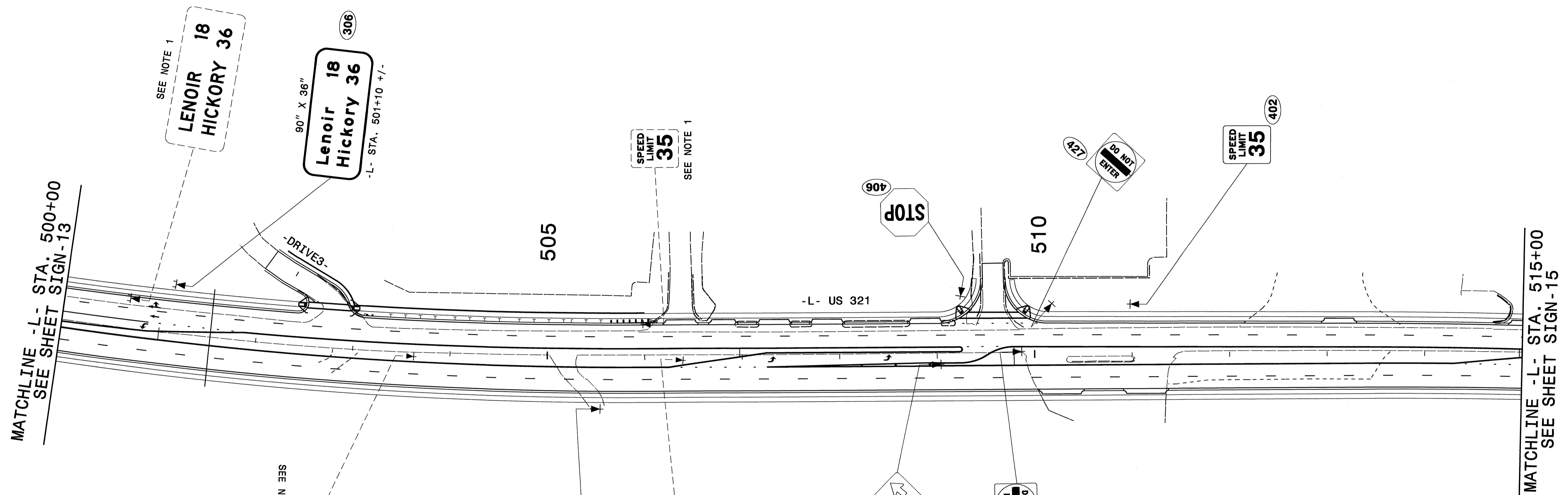
A - THE CONTRACTOR SHALL COORDINATE WITH N.C.D.O.T. DIVISION FORCES FOR THE REMOVAL AND STOCKPILING OF THE HISTORICAL MARKER

**PROPOSED AND EXISTING SIGNS**

I:\MAR\_2011\2237C\CADD\Signing Layout Plans\R-2237C\_Sgn\_SGN.12.dgn  
 3/16/11 10:47:36  
 chbeard



|   |                      |
|---|----------------------|
| TIP NO.<br>R-2237C  | SHEET NO.<br>SIGN-14 |
| APPROVED: <i>[Signature]</i>  |                      |
| DATE: 3/16/11   |                      |
| SEAL  |                      |
|  |                      |



MATCHLINE -L- STA. 500+00  
SEE SHEET SIGN-13

MATCHLINE -L- STA. 515+00  
SEE SHEET SIGN-15


**PAY ITEM NOTES**

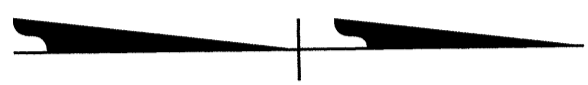
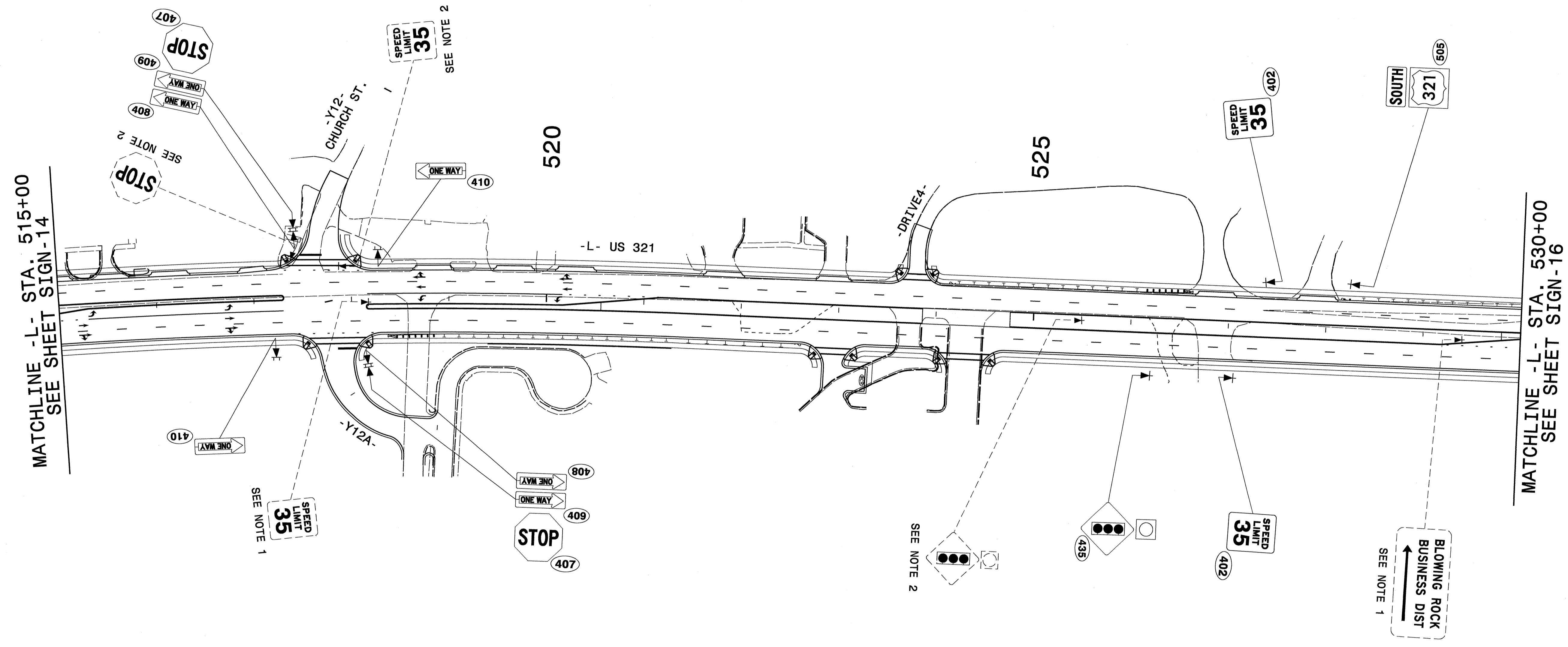
- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR-2011\3212...  
 17-MAR-2011 13:21  
 411124736

|                              |                      |
|------------------------------|----------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-15 |
| APPROVED: <i>[Signature]</i> |                      |
| DATE: 3/16/11                |                      |
| SEAL                         |                      |



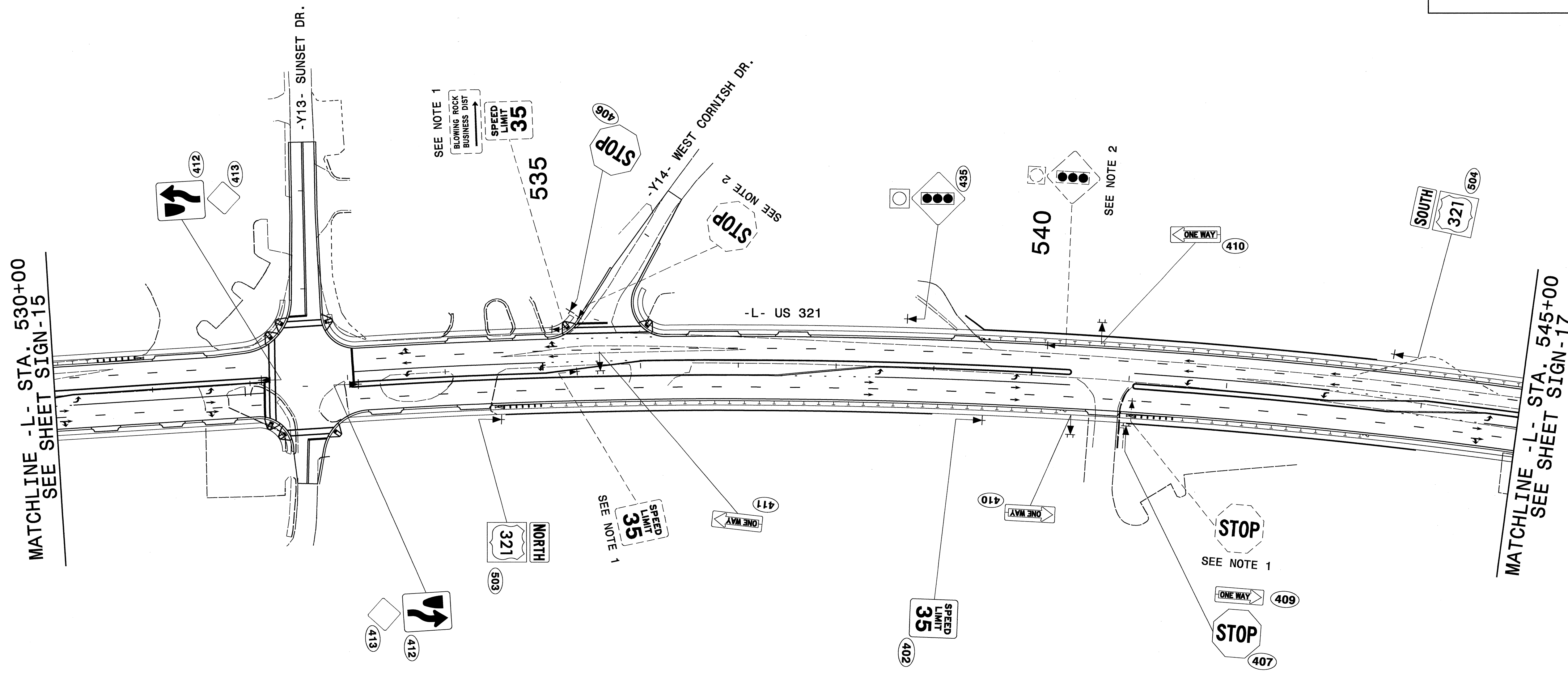


- PAY ITEM NOTES**
- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
  - 2 - DISPOSAL OF SIGN SYSTEM, WOOD
  - 3 - RELOCATE SIGN, TYPE D
  - 4 - RELOCATE SIGN, TYPE E
  - 5 - DISPOSAL OF SUPPORT, WOOD
  - 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**

I:\MAR-2011\315  
 chbbs\p\cadd\Signing Layout Plans\R-2237C\_Sgn\_SGN-15.dgn  
 3/16/11 11:47:36

|                              |                      |
|------------------------------|----------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-16 |
| APPROVED: <i>[Signature]</i> |                      |
| DATE: 3/16/11                |                      |
| SEAL                         |                      |



MATCHLINE -L- STA: 530+00  
SEE SHEET SIGN-15

MATCHLINE -L- STA: 545+00  
SEE SHEET SIGN-17

**PAY ITEM NOTES**

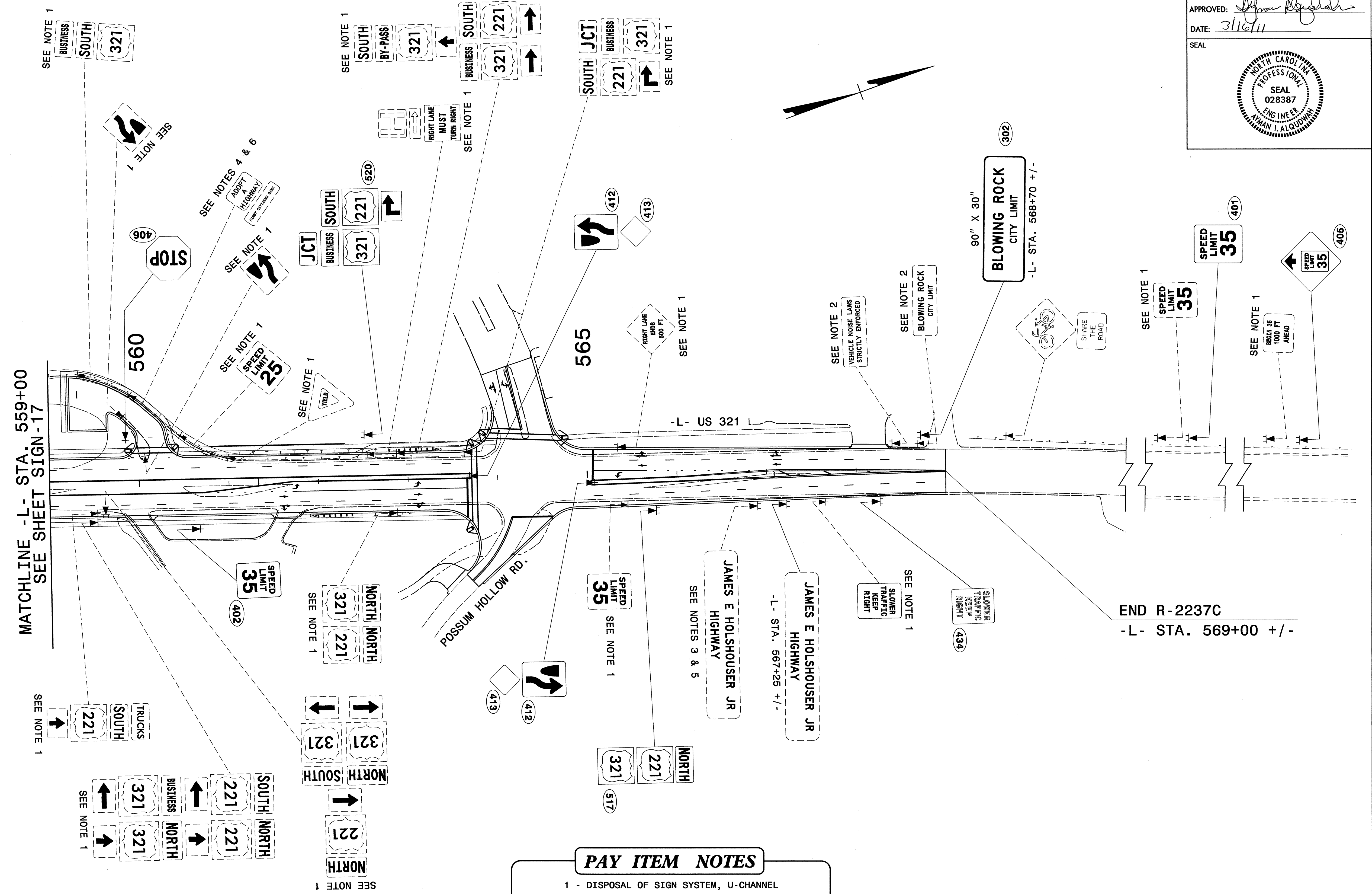
- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 - DISPOSAL OF SIGN SYSTEM, WOOD
- 3 - RELOCATE SIGN, TYPE D
- 4 - RELOCATE SIGN, TYPE E
- 5 - DISPOSAL OF SUPPORT, WOOD
- 6 - DISPOSAL OF SUPPORT, U-CHANNEL

**PROPOSED AND EXISTING SIGNS**





|                              |                      |
|------------------------------|----------------------|
| TIP NO.<br>R-2237C           | SHEET NO.<br>SIGN-18 |
| APPROVED: <i>[Signature]</i> |                      |
| DATE: 3/16/11                |                      |
| SEAL                         |                      |
|                              |                      |



- PAY ITEM NOTES**
- 1 - DISPOSAL OF SIGN SYSTEM, U-CHANNEL
  - 2 - DISPOSAL OF SIGN SYSTEM, WOOD
  - 3 - RELOCATE SIGN, TYPE D
  - 4 - RELOCATE SIGN, TYPE E
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**PROPOSED AND EXISTING SIGNS**