


**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

| | |
|---|---------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-1 |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/10/10 | |
| SEAL | |
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**SIGNING PLANS
CRAVEN COUNTY**

LOCATION: US 17 FROM MILLS STEET TO NORFOLK & SOUTHERN RAILROAD

CONTRACT: C201877 T.I.P.: R-3403AA

PAY ITEM NOTES

| | |
|---|-------------------------------------|
| 1 | DISPOSAL OF SIGN SYSTEM, WOOD |
| 2 | DISPOSAL OF SIGN SYSTEM, U-CHANNEL |
| 3 | DISPOSAL OF SIGN SYSTEM, STEEL BEAM |
| 4 | RELOCATE SIGN, TYPE E |
| 5 | DISPOSAL OF SUPPORT, WOOD |

PROJECT NOTES

| | |
|---|---|
| A | BRIDGETON TOWN FORCES TO REMOVE SIGN(S) AND REPLACE AS NEEDED |
|---|---|

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.
- . DO NOT BEGIN FABRICATION FOR TYPES A & B SIGNS MOUNTED ON OVERHEAD STRUCTURES OR STEEL SUPPORTS UNTIL "S" DIMENSIONS HAVE BEEN FIELD VERIFIED.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

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

| | |
|-------------------------|---|
| AYMAN I. ALQUDWAH, P.E. | SIGNING & DELINEATION REGIONAL ENGINEER |
| ERIC WARD | SIGNING & DELINEATION DESIGN ENGINEER |

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 | 1339 | LB. |
| 4082000000 | 903 | SUPPORTS, WOOD | 792 | L.F. |
| 4102000000 | 904 | SIGN ERECTION, TYPE E | 37 | EA. |
| 4108000000 | 904 | SIGN ERECTION, TYPE F | 1 | EA. |
| 4110000000 | 904 | SIGN ERECTION, TYPE A (GROUND MOUNTED) | 1 | EA. |
| 4110000000 | 904 | SIGN ERECTION, TYPE B (GROUND MOUNTED) | 1 | EA. |
| 4116100000 | 904 | SIGN ERECTION, RELOCATE SIGN TYPE E | 1 | EA. |
| 4141000000 | 907 | DISPOSAL OF SUPPORT, WOOD | 1 | EA. |
| 4152000000 | 907 | DISPOSAL OF SIGN SYSTEM, STEEL BEAM | 1 | EA. |
| 4155000000 | 907 | DISPOSAL OF SIGN SYSTEM, U-CHANNEL | 27 | EA. |
| 4158000000 | 907 | DISPOSAL OF SIGN SYSTEM, WOOD | 16 | EA. |


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 |
| 901.20 | TYPE 'B' SIGNS |
| 901.50 | ARROWS AND SHIELDS |
| 901.70 | SIGN STRINGERS AND SUPPORT SPACING |
| 903.20 | WOOD SIGN POST |
| 904.10 | ORIENTATION OF GROUND MOUNTED SIGNS |
| 904.50 | MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS |

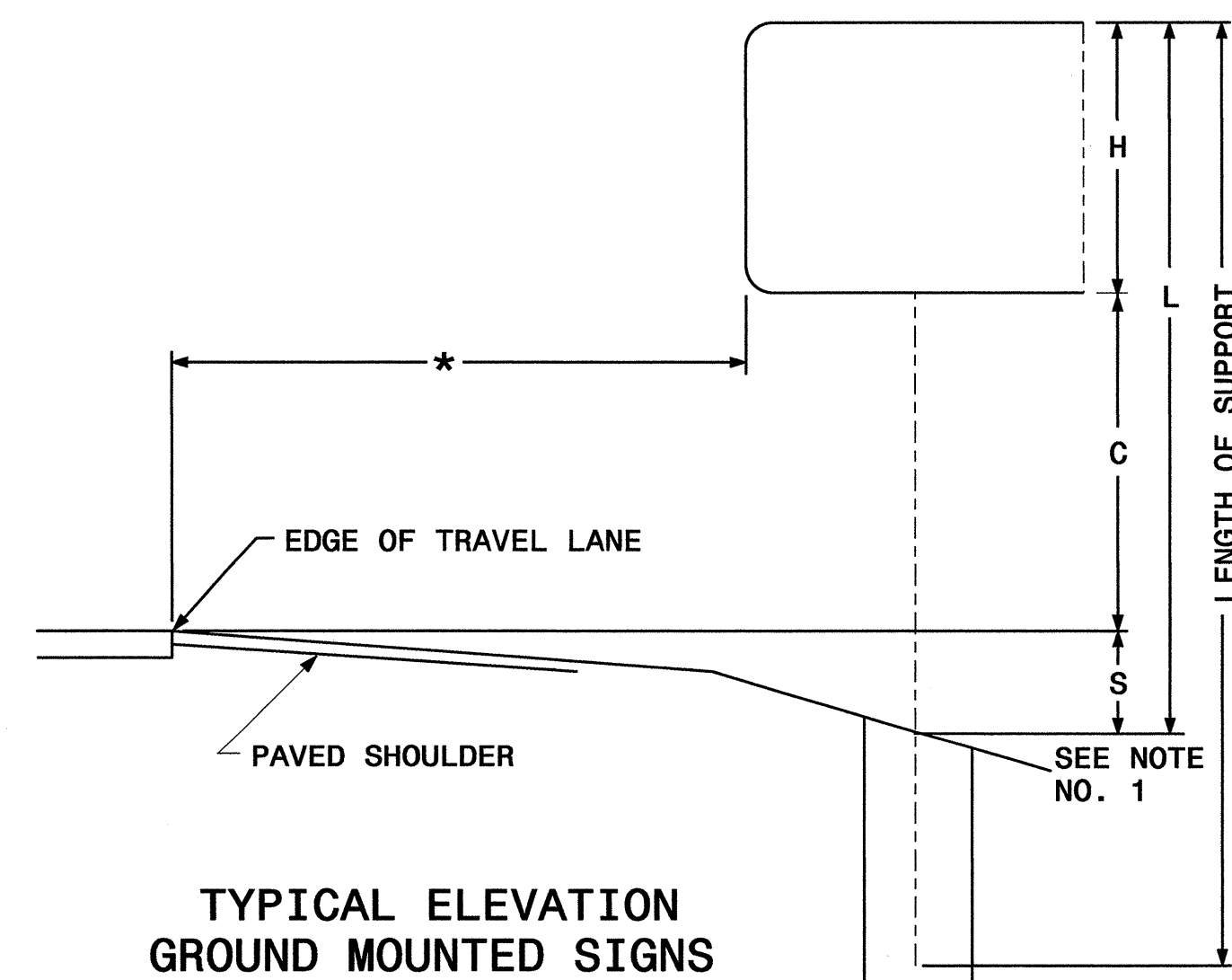
INDEX

| SHEET NO. | DESCRIPTION |
|---------------|--|
| SIGN - 1 | TITLE SHEET - SUMMARY OF QUANTITIES, ROADWAY STANDARD DRAWINGS, INDEX, & NOTES |
| SIGN - 2 - 2D | SUPPORT INFORMATION |
| SIGN - 3 | SIGN DESIGN SHEET |
| SIGN - 4 | "E" AND "F" SHEET |
| SIGN - 5 - 7 | SIGNING DETAIL SHEETS |

| | |
|---|---------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-2 |
| APPROVED: <i>[Signature]</i> | |
| DATE: _____ | |
| SEAL | |
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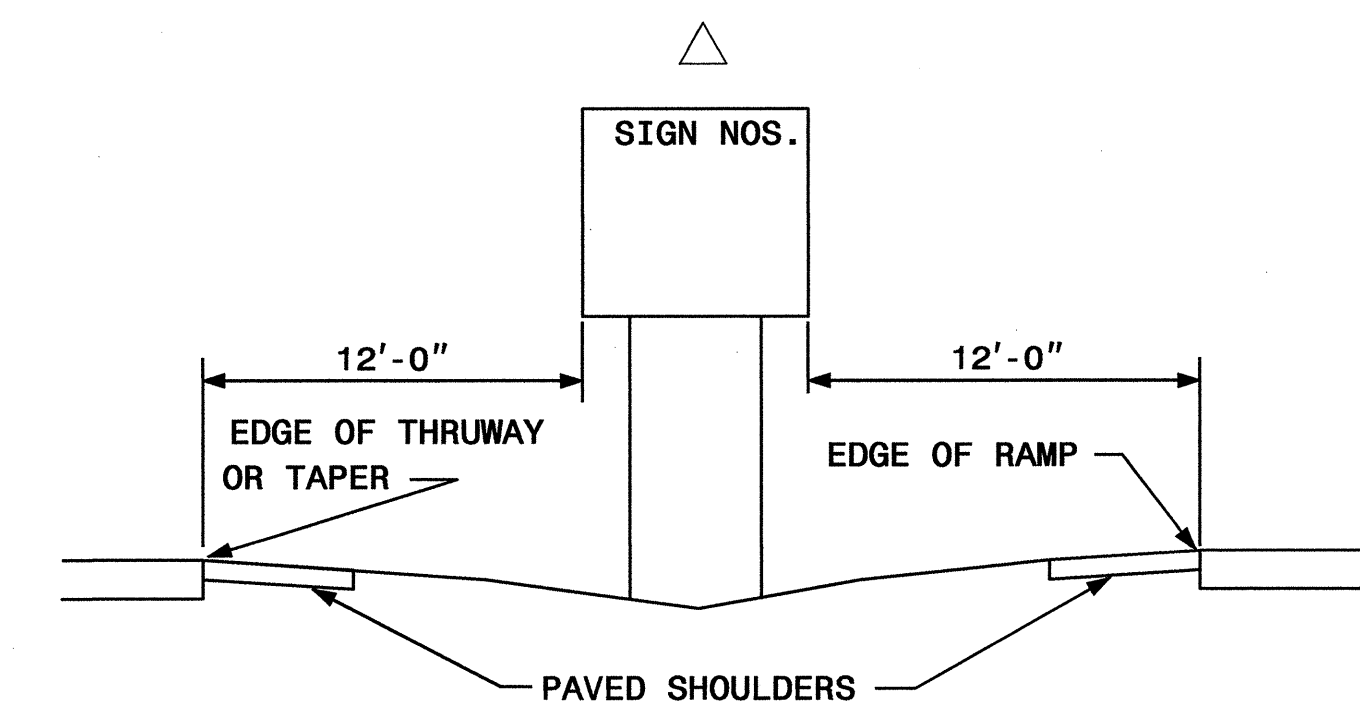
TYPE "A" AND "B" GROUND MOUNTED SIGNS

| SIGN NO. | SIGN TYPE | SIGN SIZE (in.) | | | ROADWAY STATION | NO. OF SUP. | BEAM SECTION | SUPPORT TYPE BA or S | ATTACH METHOD | MOUNTING METHOD | HORIZ. CLR.* (ft.) | LENGTH (ft) | | | | LEFT SUPPORT (ft) | | | CENTER SUPPORT (ft) | | | RIGHT SUPPORT (ft) | | | FOOTING DIAMETER (ft.) | FOOTING DEPTH (ft.) | B/A SUPPORT WEIGHTS (lbs.) | SIMPLE SUPPORT WEIGHTS (lbs.) | REINF. FTGS. (c.y.) | FIELD VERIFIED SEE NOTE 2 (mm/dd/yy) | | | | | | | | | | | | | | | | | | | |
|----------|-----------|-----------------|---|-----|-----------------|-------------|--------------|----------------------|---------------|-----------------|--------------------|-------------|------|--------|------------|-------------------|-------|--------------|---------------------|------|--------------|--------------------|---------|--------------|------------------------|---------------------|----------------------------|-------------------------------|---------------------|--------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | w | x | h | | | | | | | | SNS H | HT C | MTG HT | EMBED-MENT | S | L | TOTAL LENGTH | S | L | TOTAL LENGTH | S | L | TOTAL LENGTH | | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | B | 114 | X | 36 | 33+50 -L- | 2 | S4x7.7 | BA | N/A | N/A | 22.00 | 3.00 | 7.00 | 4 | 2.14 | 12.14 | 16.14 | 0.00 | 0.00 | 0.00 | 2.99 | 12.99 | 16.99 | 1 | 4.5 | 295.71 | 0.00 | 0.26 | | | | | | | | | | | | | | | | | | | | | |
| 102 | A | 132 | X | 126 | 38+20 -L- | 2 | W6x16 | BA | N/A | N/A | 20.00 | 10.50 | 7.00 | 6.5 | 5.24 | 22.74 | 29.24 | 0.00 | 0.00 | 0.00 | 3.63 | 21.13 | 27.63 | 1.5 | 7 | 1042.30 | 0.00 | 0.92 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | TOTAL | TOTAL | TOTAL | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | 1338.01 | 0.00 | 1.18 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | USE: | 1339 | 0 | | | | | | | | | | | | | | | | | | | | | | | | |




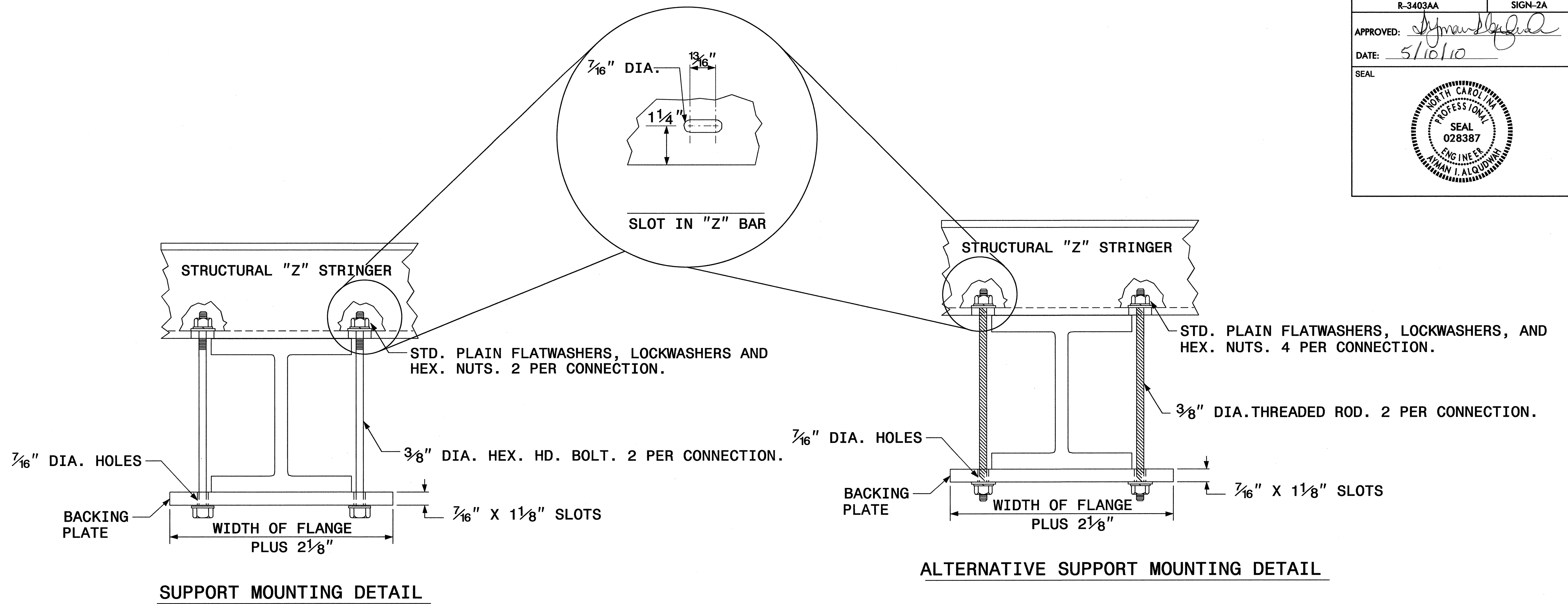
NOTES

- 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.

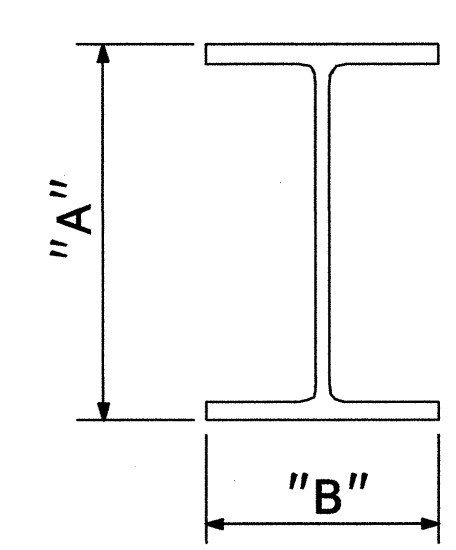


TYPE "A" AND TYPE "B" GROUND MOUNTED SIGNS

| | |
|---|----------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-2A |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/10/10 | |
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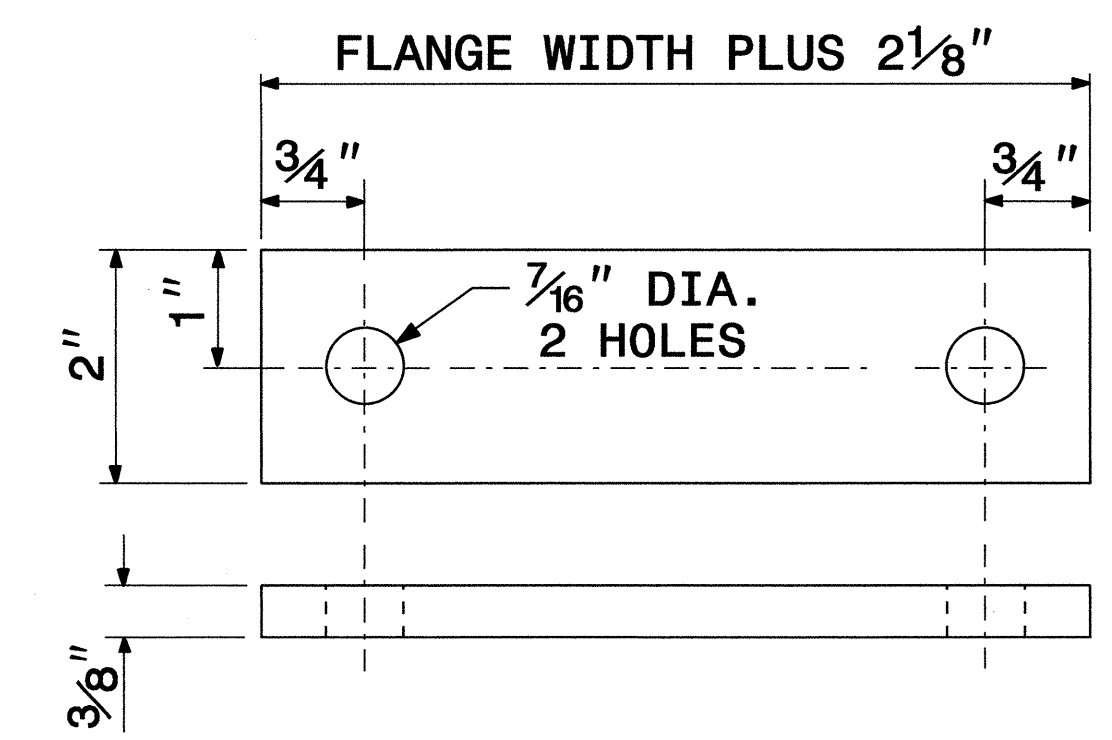


SIGN SUPPORTS SECTION DIMENSIONS



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


BACKING PLATE DETAIL

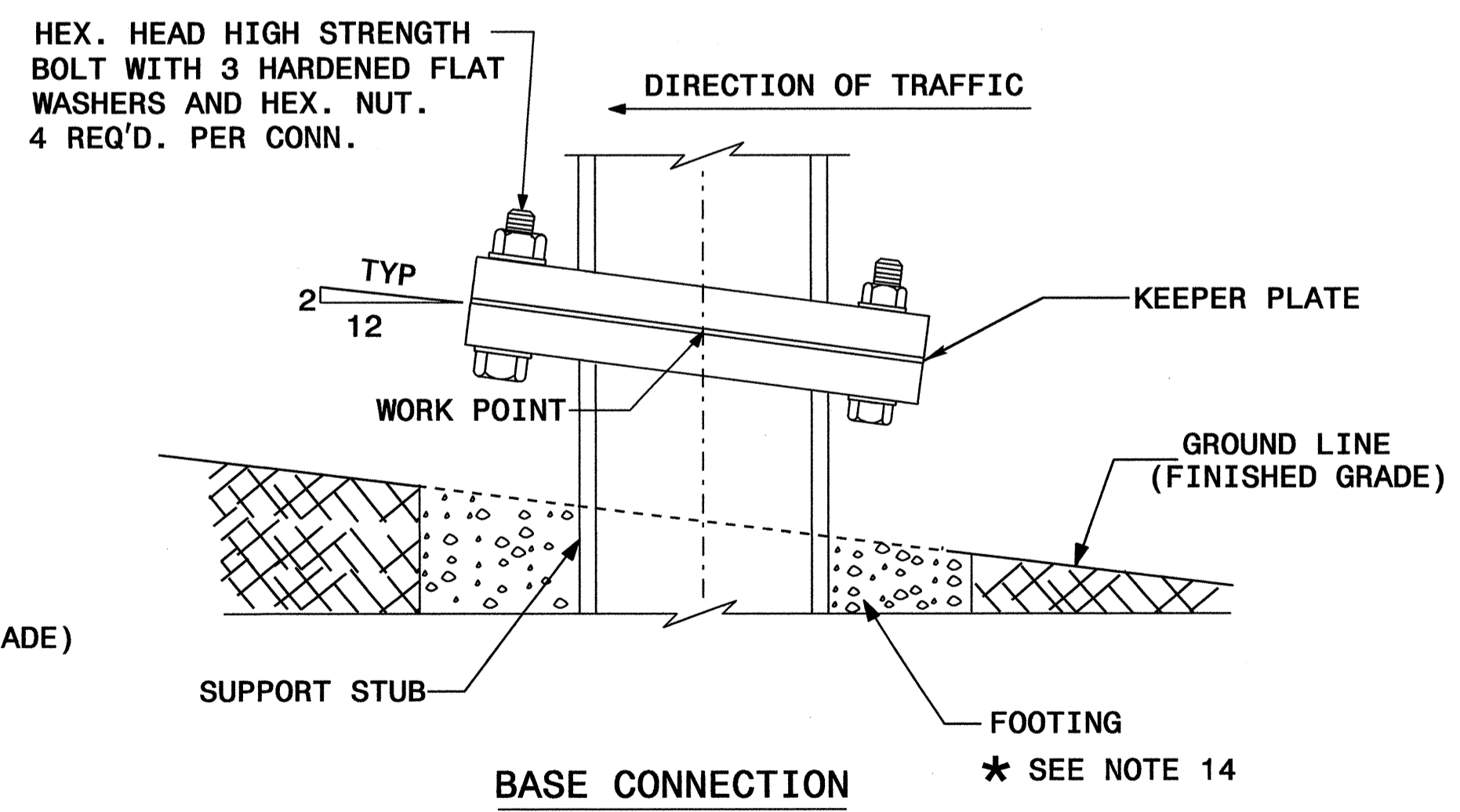
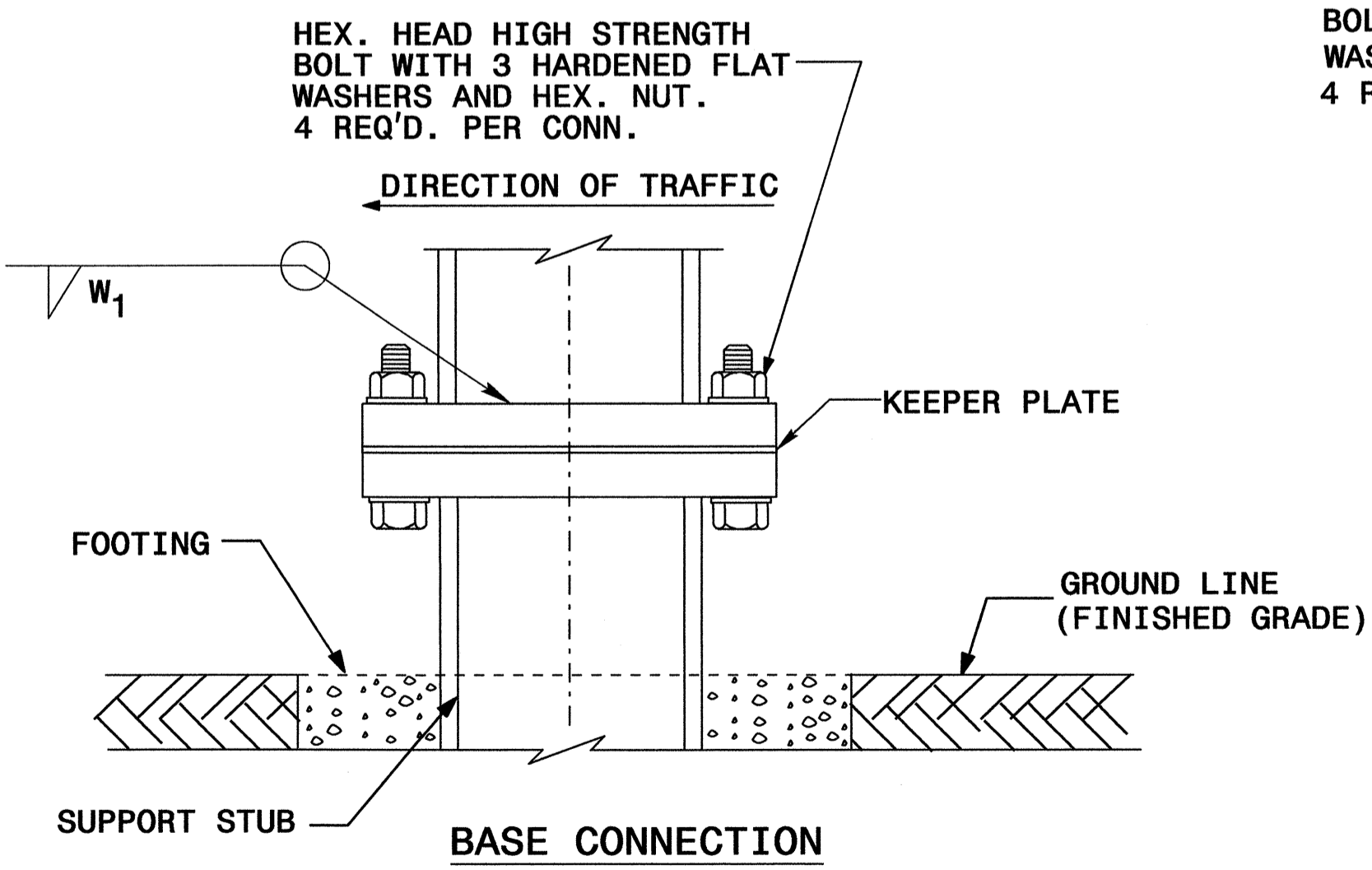
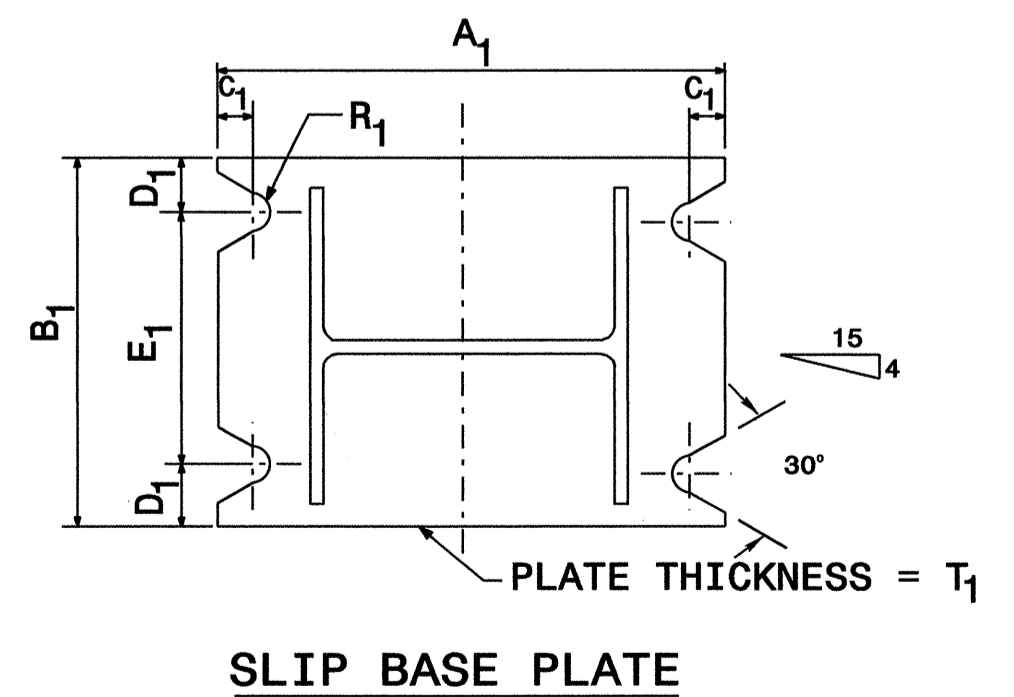
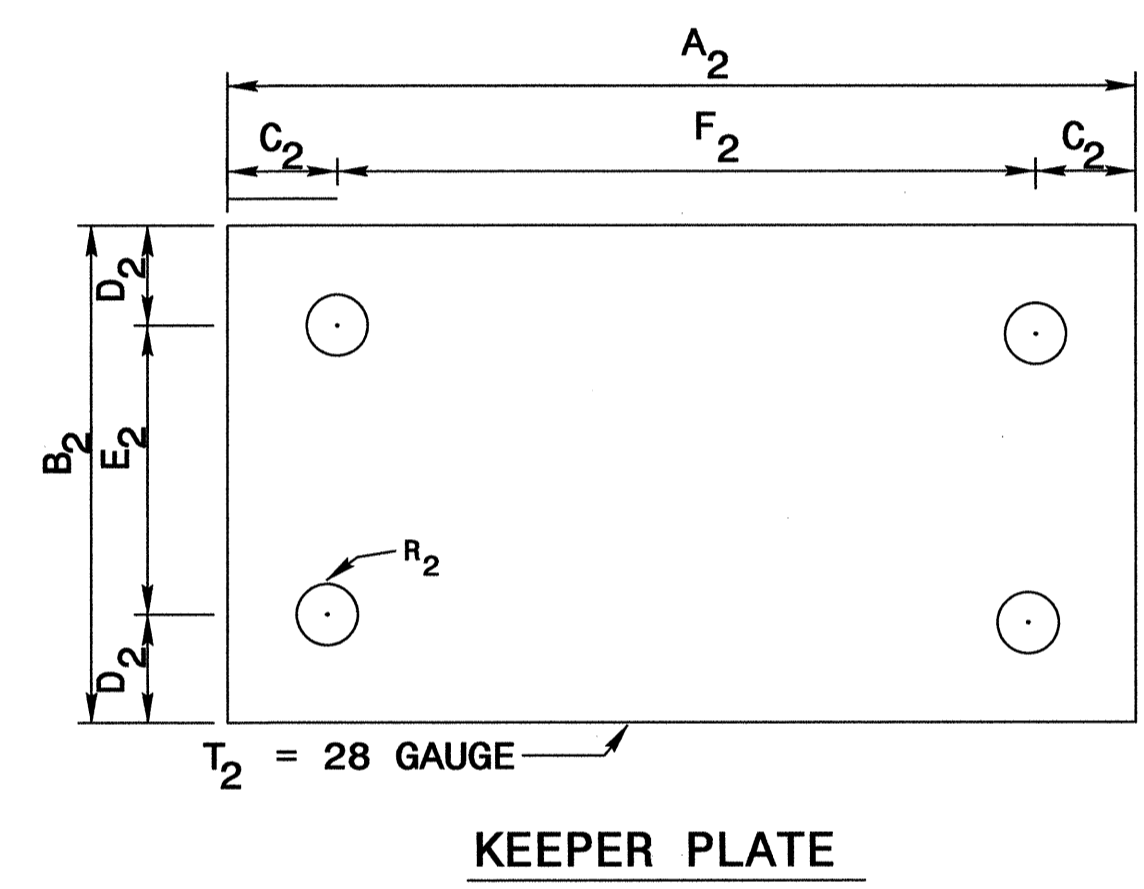
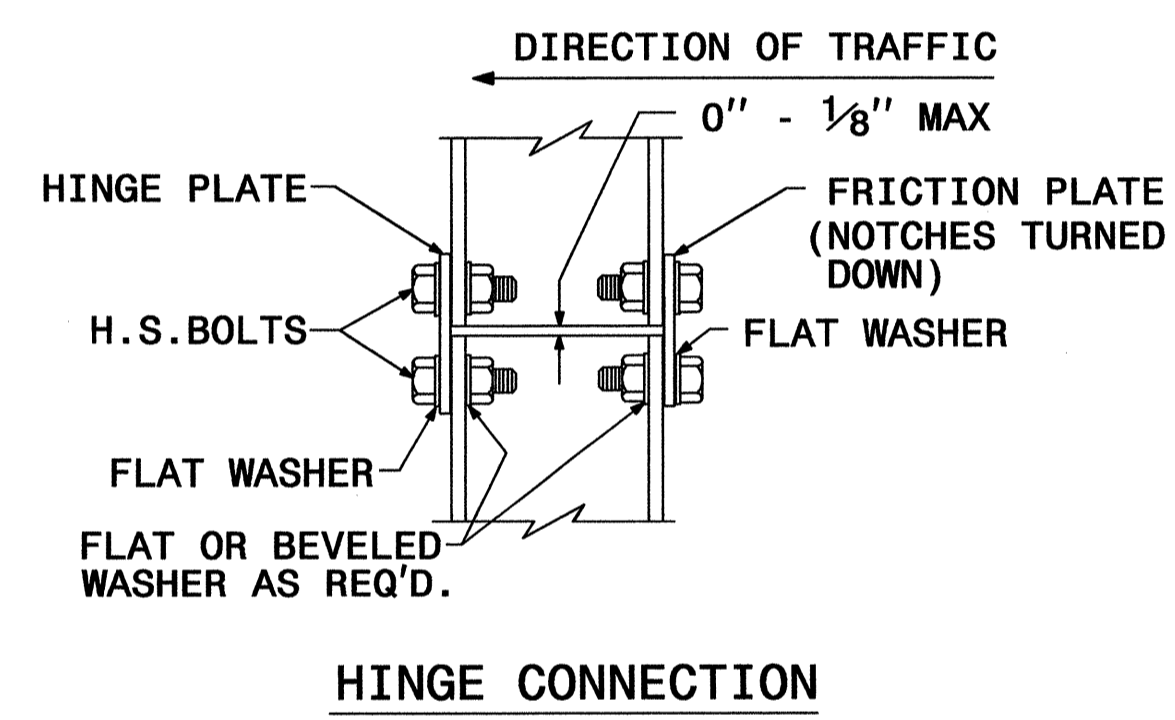
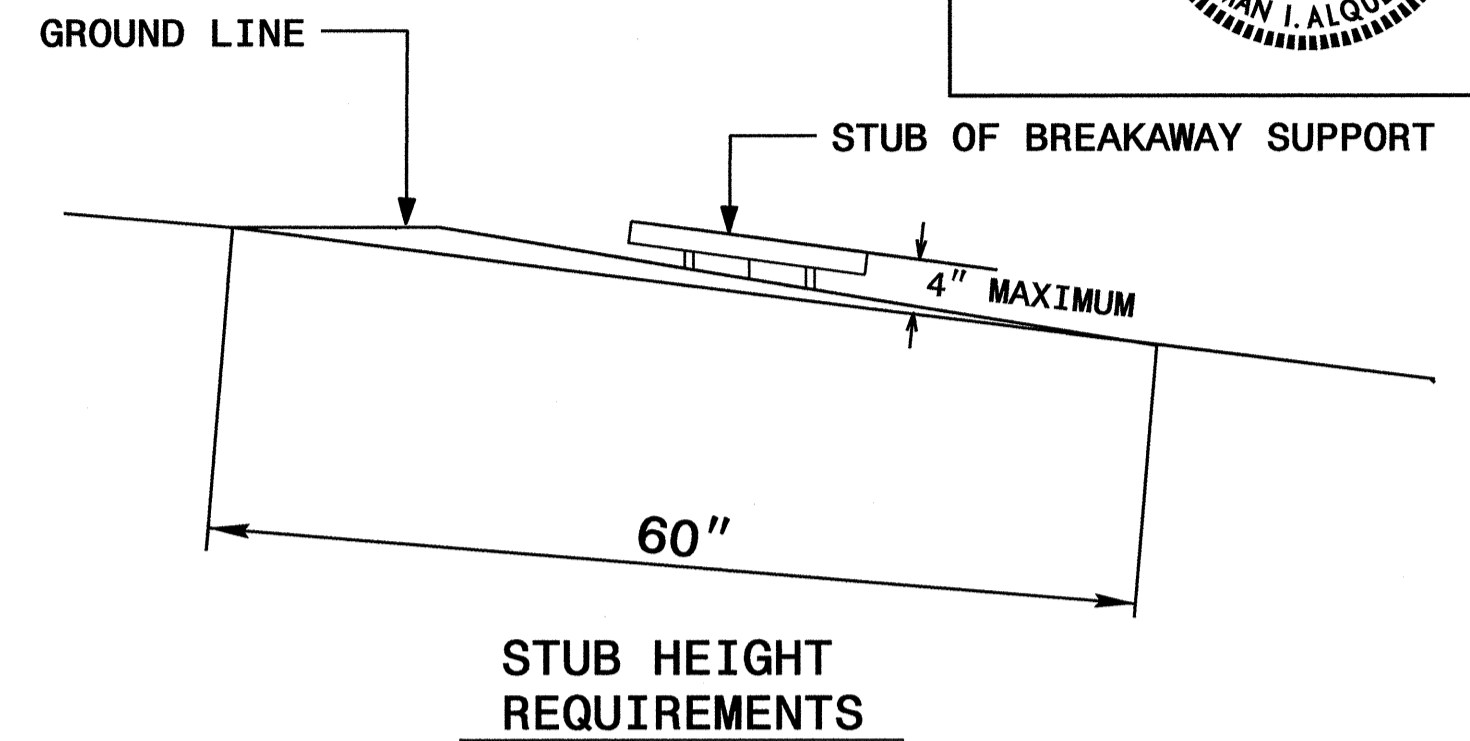
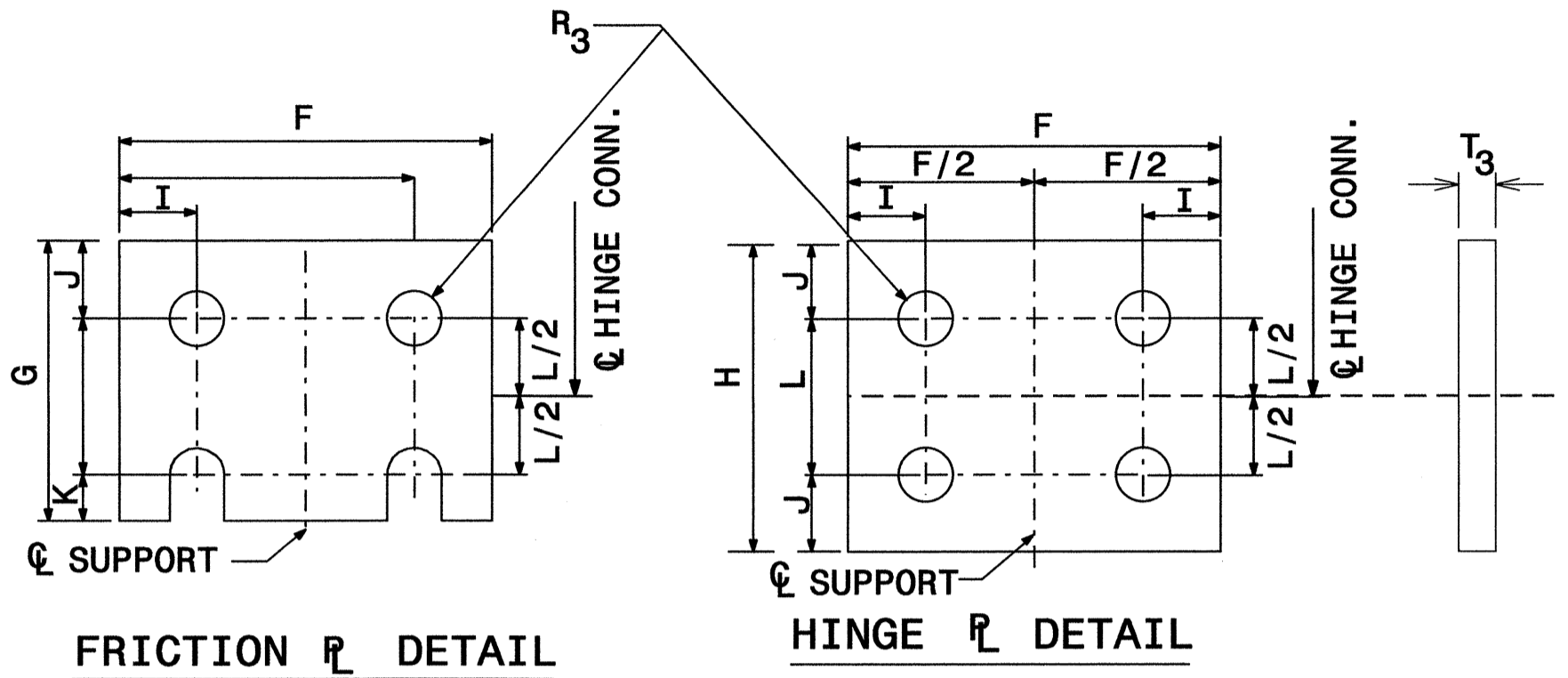
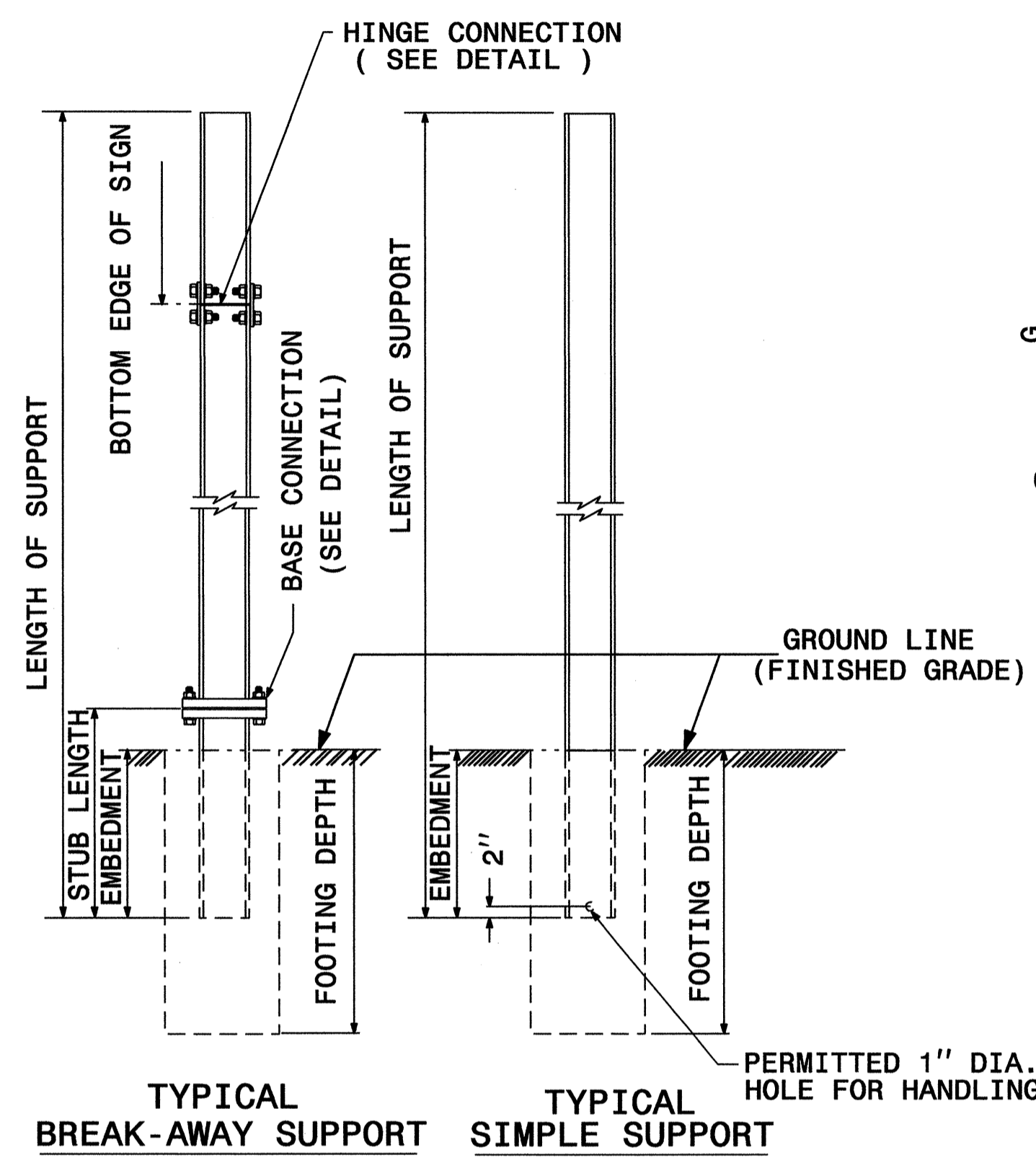


1. THE SUPPORT MOUNTING DETAIL SHOWS A "W" OR "S" BEAM. THIS DETAIL IS ALSO USED FOR MOUNTING SIGNS TO WOOD OR SQUARE TUBE SUPPORTS.
2. USE GALVANIZED STEEL FOR BACKING PLATES AND MOUNTING BOLTS IN ACCORDANCE WITH ASTM A123.
3. SEE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR TYPE OF MATERIAL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

SIGN MOUNTING DETAILS

10-MAY-2010 10:52
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| TIP NO. R-3403AA | SHEET NO. SIGN-2B |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/10/10 | |
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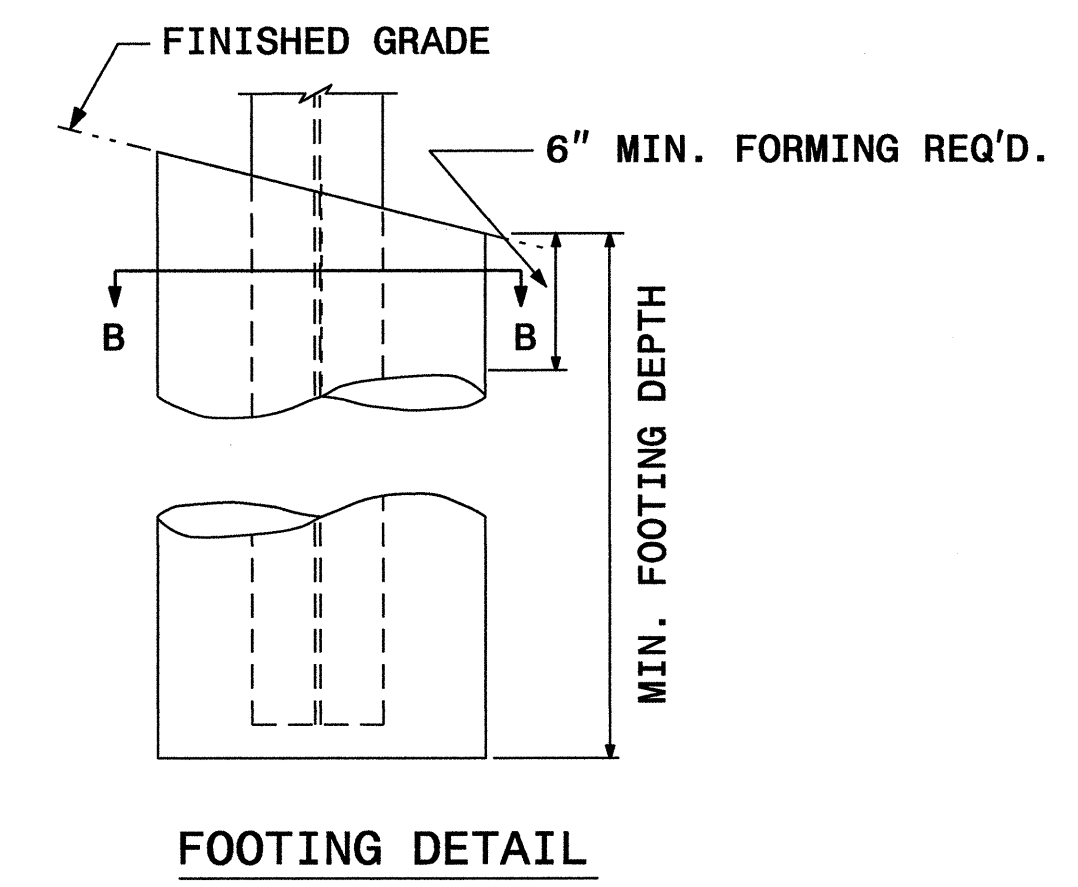
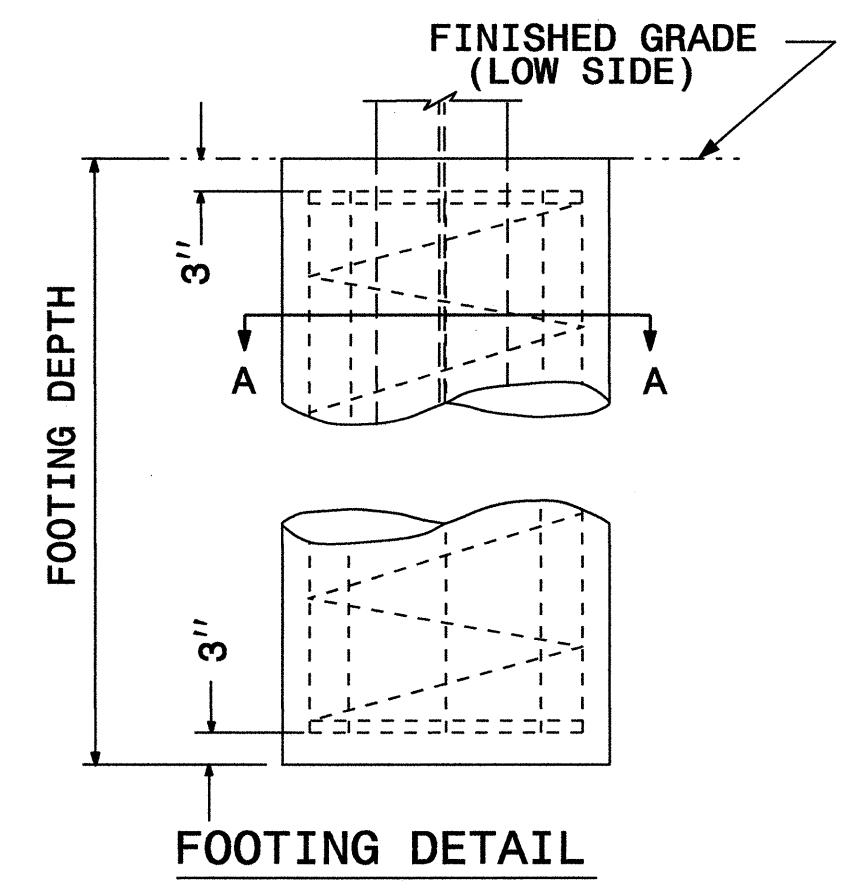
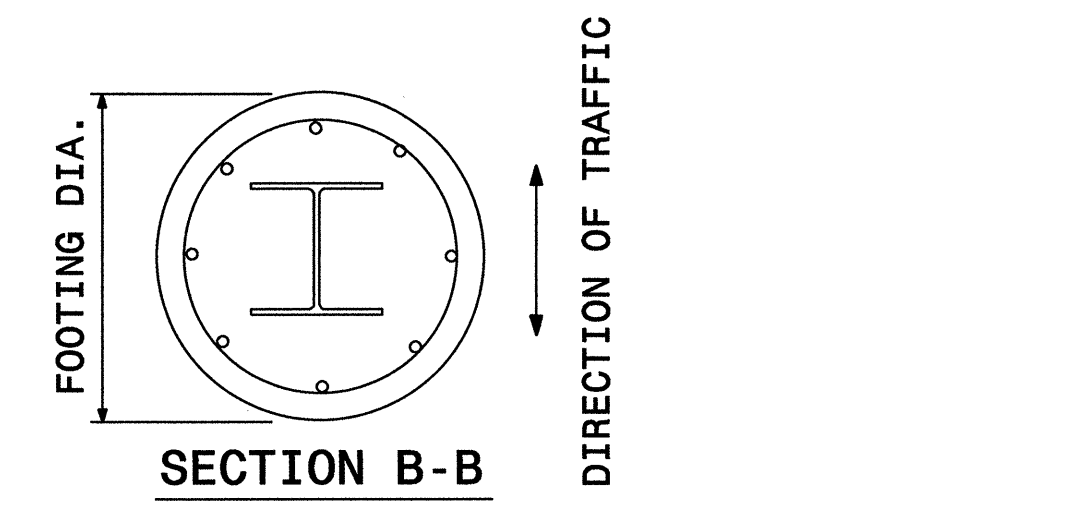
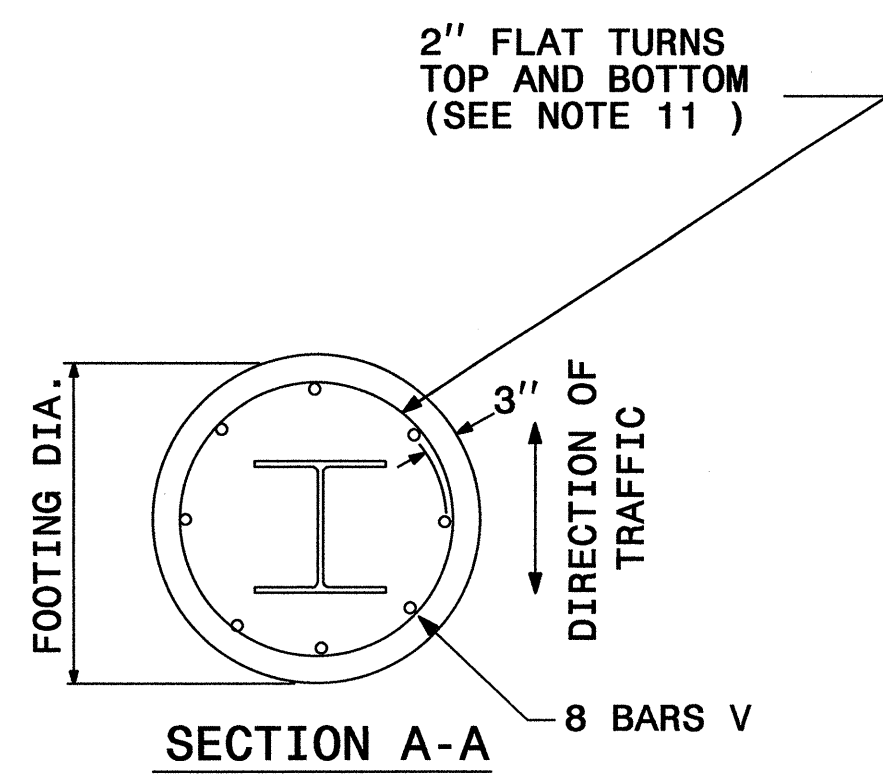
GROUND MOUNTED SIGN SUPPORT

SEE SHEET SIGN-2C FOR DIMENSIONS.
SEE SHEET SIGN-2D FOR NOTES.

10-MAY-2010 10:52
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|---|----------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-2C |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/10/10 | |
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| BEAM SHAPE | SLIP BASE PLATE DATA | | | | | | | | | | KEEPER PLATE DATA | | | | | | | HINGE CONNECTION DATA | | | | | | | BREAK AWAY SUPPORT WEIGHT CONSTANT LBS. | | | |
|------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------|--------|--------|--------|--------|--------|------|---|--------|----------------|----------------|
| | BOLT SIZE | A ₁ | B ₁ | C ₁ | D ₁ | E ₁ | T ₁ | W ₁ | R ₁ | A ₂ | B ₂ | C ₂ | D ₂ | E ₂ | F ₂ | R ₂ | T ₂ | BOLT SIZE | F | G | H | I | J | K | | L | R ₃ | T ₃ |
| S3X5.7 | 1/2"DIA. X 3" | 7" | 4" | 1" | 3/4" | 2 1/2" | 1" | 3/8" | 9/32" | 7" | 4" | 1" | 3/4" | 2 1/2" | 5" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 2 1/4" | 3 1/2" | 4" | 1/2" | 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" | 3/8" | 9/32" | 8" | 4" | 1" | 3/4" | 2 1/2" | 6" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 2 5/8" | 3 1/2" | 4" | 1/2" | 1" | 1/2" | 2" | 9/32" | 3/8" | 20 |
| W6X9 | 1/2"DIA. X 3" | 10" | 5" | 1" | 3/4" | 3 1/2" | 1" | 3/8" | 9/32" | 10" | 5" | 1" | 3/4" | 3 1/2" | 8" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 4" | 3 1/2" | 4" | 3/4" | 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" | 3/8" | 11/32" | 11" | 5" | 1 1/4" | 7/8" | 3 1/4" | 8 1/2" | 11/32" | 28 GAUGE | 5/8"DIA. X 2 1/4" | 4" | 4" | 4 1/2" | 3/4" | 1 1/8" | 5/8" | 2 1/4" | 11/32" | 3/8" | 43 |
| W6X16 | 5/8"DIA. X 4 1/4" | 12" | 6" | 1 1/4" | 7/8" | 4 1/4" | 1 1/2" | 3/8" | 11/32" | 12" | 6" | 1 1/4" | 7/8" | 4 1/4" | 9 1/2" | 11/32" | 28 GAUGE | 5/8"DIA. X 2 1/2" | 4" | 4" | 4 1/2" | 3/4" | 1 1/8" | 5/8" | 2 1/4" | 11/32" | 1/2" | 66 |
| 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" | 3/8" | 11/32" | 13 1/2" | 6 1/2" | 1 1/4" | 7/8" | 4 3/4" | 11" | 11/32" | 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" | 11/32" | 1/2" | 81 |
| W8X21 | 3/4"DIA. X 4 1/4" | 14" | 7" | 1 1/2" | 1" | 5" | 1 1/2" | 3/8" | 13/32" | 14" | 7" | 1 1/2" | 1" | 5" | 11" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 1/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 1/2" | 93 |
| W10X22 | 3/4"DIA. X 4 1/4" | 16" | 8" | 1 1/2" | 1" | 6" | 1 1/2" | 3/8" | 13/32" | 16" | 8" | 1 1/2" | 1" | 6" | 13" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 3/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 1/2" | 119 |
| W10X26 | 3/4"DIA. X 4 3/4" | 16 1/2" | 8" | 1 1/2" | 1" | 6" | 1 3/4" | 3/8" | 13/32" | 16 1/2" | 8" | 1 1/2" | 1" | 6" | 13 1/2" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 3/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 5/8" | 144 |
| W12X26 | 3/4"DIA. X 4 3/4" | 18 1/2" | 9" | 1 1/2" | 1" | 7" | 1 3/4" | 3/8" | 13/32" | 18 1/2" | 9" | 1 1/2" | 1" | 7" | 15 1/2" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 6 1/2" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 5/8" | 180 |
| W14X30 | 1"DIA. X 5 3/4" | 22" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 22" | 9" | 2" | 1 1/2" | 6" | 18" | 17/32" | 28 GAUGE | 1"DIA. X 3" | 6 3/4" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 5/8" | 242 |
| W16X31 | 1"DIA. X 5 3/4" | 24" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 24" | 9" | 2" | 1 1/2" | 6" | 20" | 17/32" | 28 GAUGE | 1"DIA. X 3 1/4" | 5 1/2" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 3/4" | 263 |
| W18X35 | 1"DIA. X 5 3/4" | 25" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 25" | 9" | 2" | 1 1/2" | 6" | 21" | 17/32" | 28 GAUGE | 1"DIA. X 3 1/4" | 6" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 3/4" | 274 |
| W18X40 | 1"DIA. X 6 1/4" | 26" | 9" | 2" | 1 1/2" | 6" | 2 1/4" | 5/8" | 17/32" | 26" | 9" | 2" | 1 1/2" | 6" | 22" | 17/32" | 28 GAUGE | 1"DIA. X 3 3/4" | 6" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 7/8" | 321 |
| W21X44 | 1"DIA. X 6 3/4" | 29" | 9" | 2" | 1 1/2" | 6" | 2 1/2" | 5/8" | 17/32" | 29" | 9" | 2" | 1 1/2" | 6" | 25" | 17/32" | 28 GAUGE | 1"DIA. X 3 3/4" | 6 1/2" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 7/8" | 394 |

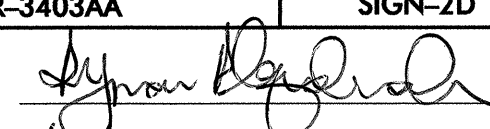



| FOUNDATION DATA * | | |
|-------------------|---------------|------------------|
| FOOTING DIAMETER | REINFORCEMENT | SPIRAL BAR |
| 1' | 8 # 4 BARS | #3 BAR, 3" PITCH |
| 1' 6" | 8 # 6 BARS | #3 BAR, 3" PITCH |
| 2' | 8 # 7 BARS | #3 BAR, 3" PITCH |
| 2' 6" | 8 # 9 BARS | #3 BAR, 3" PITCH |
| 3' |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

10-MAY-2010 10:53
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 ericward AT TE247906

| | |
|---|----------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-2D |
| APPROVED:  | |
| DATE: 5/10/10 | |
| SEAL | |
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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. 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 |
| 3/4" | 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.

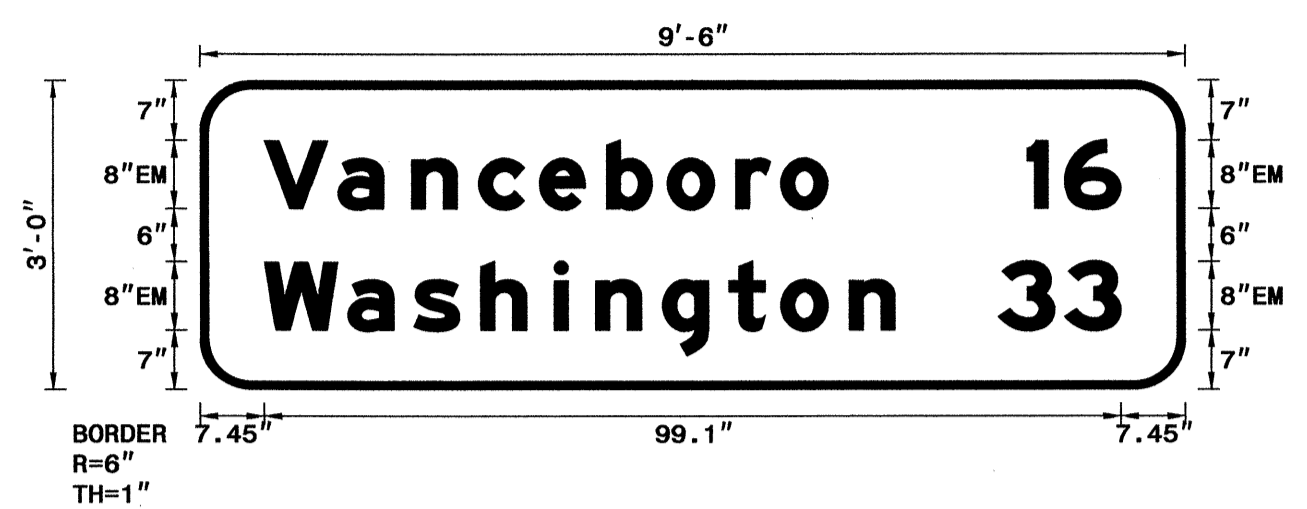
GROUND MOUNTED SIGN SUPPORT

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|------------------------------|---------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-3 |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/10/10 | |
| SEAL | |



| SIGN NUMBER: 101 TYPE: B QUANTITY: 1 SIGN WIDTH: 9'-6" HEIGHT: 3'-0" TOTAL AREA: 28.5 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 1" RADII: 6" NO. Z BARS: 2 LENGTH: 106.0 | BACKG COLOR: Green COPY COLOR: White <table border="1"> <tr><th>SYMBOL</th><th>X</th><th>Y</th><th>WID</th><th>HT</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> MAT'L: 0.125" (3.2 mm) ALUMINUM | SYMBOL | X | Y | WID | HT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | DESIGN BY: WARD PROJECT ID: R-3403AA CHECKED BY: EATON DIV: 2 DATE: Feb 05, 2008 |
|---|---|--------|-----|----|-----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| SYMBOL | X | Y | WID | HT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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USE NOTES: 1,2

- Legend and border shall be direct applied Grade C sheeting.
- Background shall be Grade C reflective sheeting.
- Shields shall be on 0.032" (0.8mm) aluminum and demountable.
- Shields shall be Grade C sheeting.
- Bottom panel shall be yellow Grade C sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:

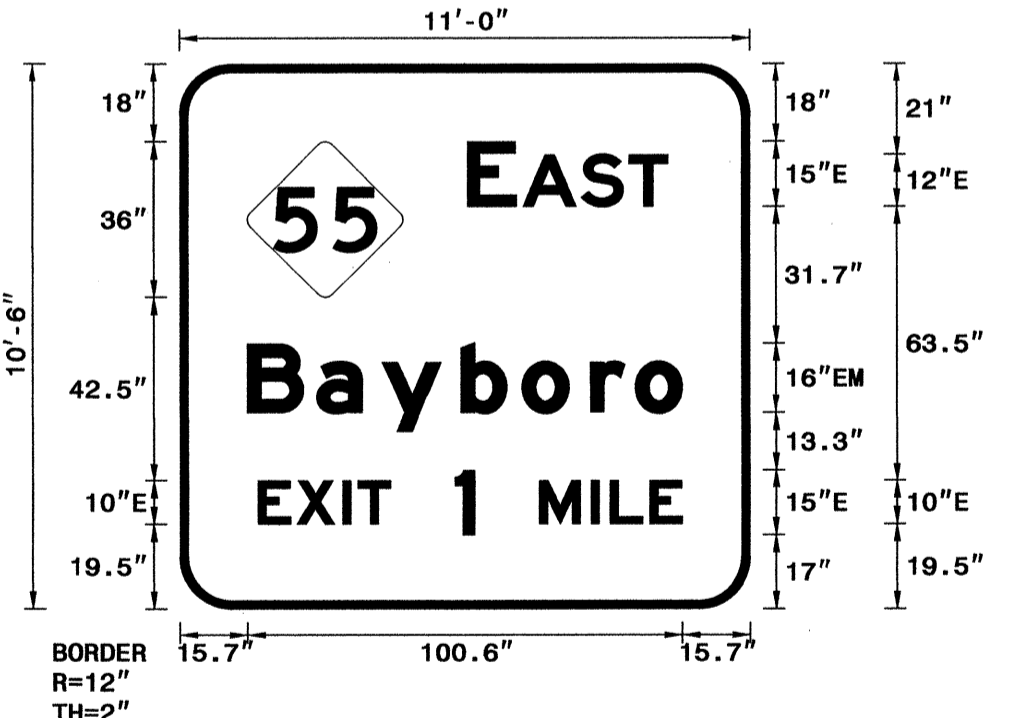
LETTER POSITIONS

| Letter spacings are to start of next letter | | | | | | | | | | | | | Series/Size | Text Length | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|-------------|---------|------|
| V | a | n | c | e | b | o | r | o | 1 | 6 | | | | | EM 2000 | 99.1 |
| 7.4 | 8.6 | 8.5 | 7.8 | 7 | 7.8 | 7 | 7.9 | 5.2 | 5.4 | 23.1 | 4.3 | 6.5 | 7.5 | | | |
| W | a | s | h | i | n | g | t | o | n | 3 | 3 | | | | EM 2000 | 99.1 |
| 7.4 | 9.7 | 7.6 | 7.8 | 8.5 | 4.8 | 7.8 | 7.7 | 6 | 7.9 | 5.3 | 12 | 7.7 | 6.5 | 7.4 | | |

Spacing Factor is 1 unless specified otherwise

FILENAME: r3403a_sgn_guidesign NORTH CAROLINA D.O.T. SIGN DETAIL

| SIGN NUMBER: 102 TYPE: A QUANTITY: 1 SIGN WIDTH: 11'-0" HEIGHT: 10'-6" TOTAL AREA: 115.5 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 2" RADII: 12" NO. Z BARS: 3 LENGTH: 124.0 | BACKG COLOR: Green COPY COLOR: White <table border="1"> <tr><th>SYMBOL</th><th>X</th><th>Y</th><th>WID</th><th>HT</th></tr> <tr><td>NC242</td><td>15.7</td><td>72</td><td>36</td><td>36</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> MAT'L: 0.125" (3.2 mm) ALUMINUM | SYMBOL | X | Y | WID | HT | NC242 | 15.7 | 72 | 36 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | DESIGN BY: WARD PROJECT ID: R-3403AA CHECKED BY: EATON DIV: 2 DATE: Feb 05, 2008 |
|---|---|--------|-----|----|-----|----|-------|------|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| SYMBOL | X | Y | WID | HT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NC242 | 15.7 | 72 | 36 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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USE NOTES: 1,2,4

- Legend and border shall be direct applied Grade C sheeting.
- Background shall be Grade C reflective sheeting.
- Shields shall be on 0.032" (0.8mm) aluminum and demountable.
- Shields shall be Grade C sheeting.
- Bottom panel shall be yellow Grade C sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:

LETTER POSITIONS

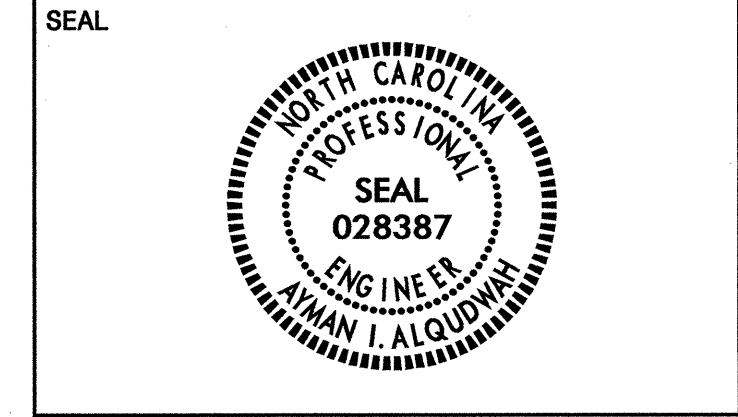
| Letter spacings are to start of next letter | | | | | | | | | | | | | Series/Size | Text Length | | |
|---|------|------|------|------|------|------|------|------|-----|-----|-----|------|-------------|-------------|---------|-------|
| E | A | S | T | | | | | | | | | | | | E 2000 | 46.4 |
| 66.7 | 11.3 | 1.5 | 13.6 | 11 | 9 | 18.9 | | | | | | | | | | |
| B | a | y | b | o | r | o | | | | | | | | | EM 2000 | 100.6 |
| 15.7 | 16 | 15.2 | 18.2 | 14.1 | 15.8 | 10.4 | 10.9 | 15.7 | | | | | | | | |
| E | X | I | T | 1 | M | I | L | E | | | | | | | E 2000 | 98.2 |
| 18.1 | 8.9 | 10.7 | 3.5 | 7.5 | 15 | 4.5 | 15 | 12 | 4.4 | 9.2 | 7.5 | 15.7 | | | | |

Spacing Factor is 1 unless specified otherwise

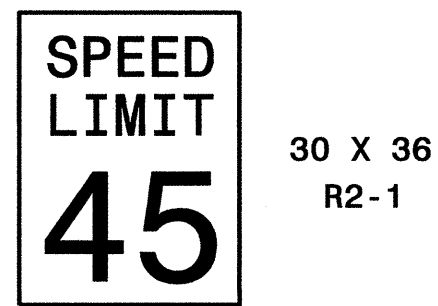
FILENAME: r3403a_sgn_guidesign NORTH CAROLINA D.O.T. SIGN DETAIL

TYPE A & B SIGN DESIGNS

10-MAY-2010 10:45
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 ericward AT 1E247905



402 QUANTITY REQ'D 4



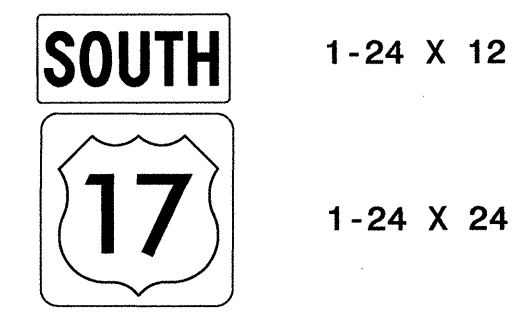
ONE WOOD POST PER SIGN

413 QUANTITY REQ'D 8



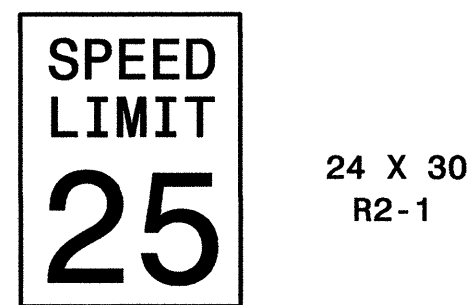
TWO WOOD POSTS PER SIGN
MOUNT BACK TO BACK WITH
SIGN 414 IN 3 LOCATIONS

501



ONE WOOD POST PER SIGN

404 QUANTITY REQ'D 2



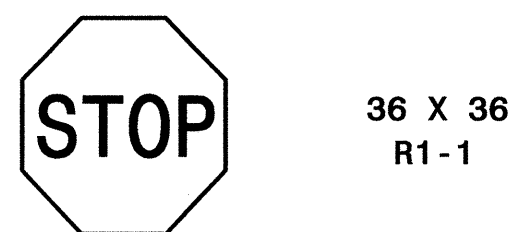
ONE WOOD POST PER SIGN

414 QUANTITY REQ'D 9



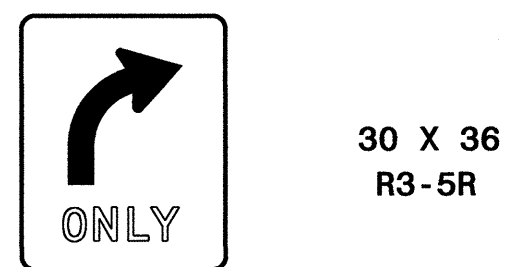
TWO WOOD POSTS PER SIGN

408 QUANTITY REQ'D 8



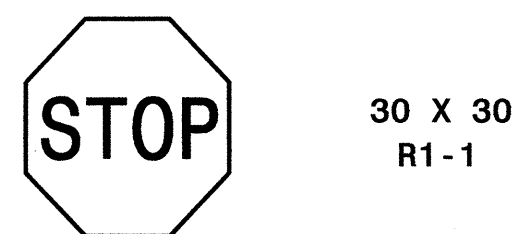
MOUNT BELOW SIGN 413
IN 8 INSTALLATIONS

451 QUANTITY REQ'D 3



ONE WOOD POST PER SIGN

409 QUANTITY REQ'D 1



ONE WOOD POST PER SIGN

458 QUANTITY REQ'D 1



ONE WOOD POST PER SIGN

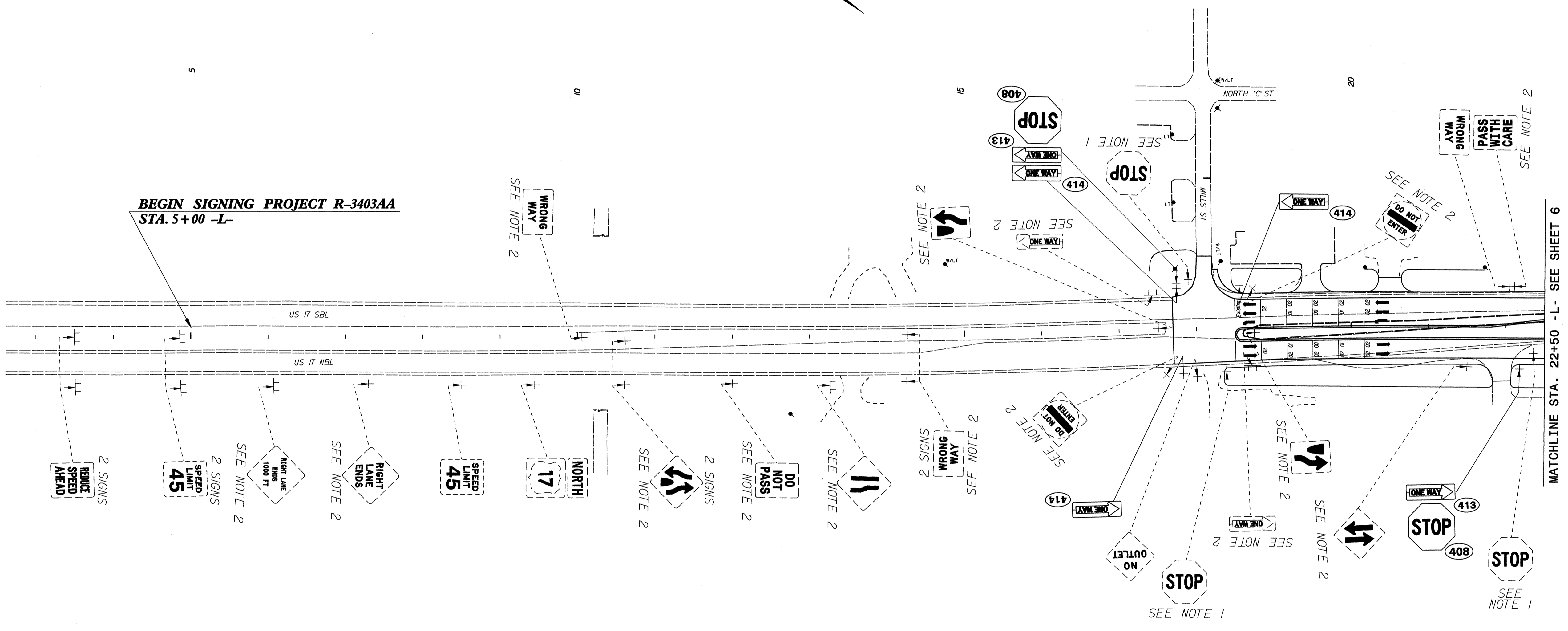
411 QUANTITY REQ'D 1



ONE WOOD POST PER SIGN

TYPE "E" & "F" SIGNS

| | |
|------------------------------|---------------------|
| TIP NO. R-3403AA | SHEET NO. SIGN-5 |
| APPROVED: <i>[Signature]</i> | |
| DATE: 5/11/10 | |
| SEAL | |
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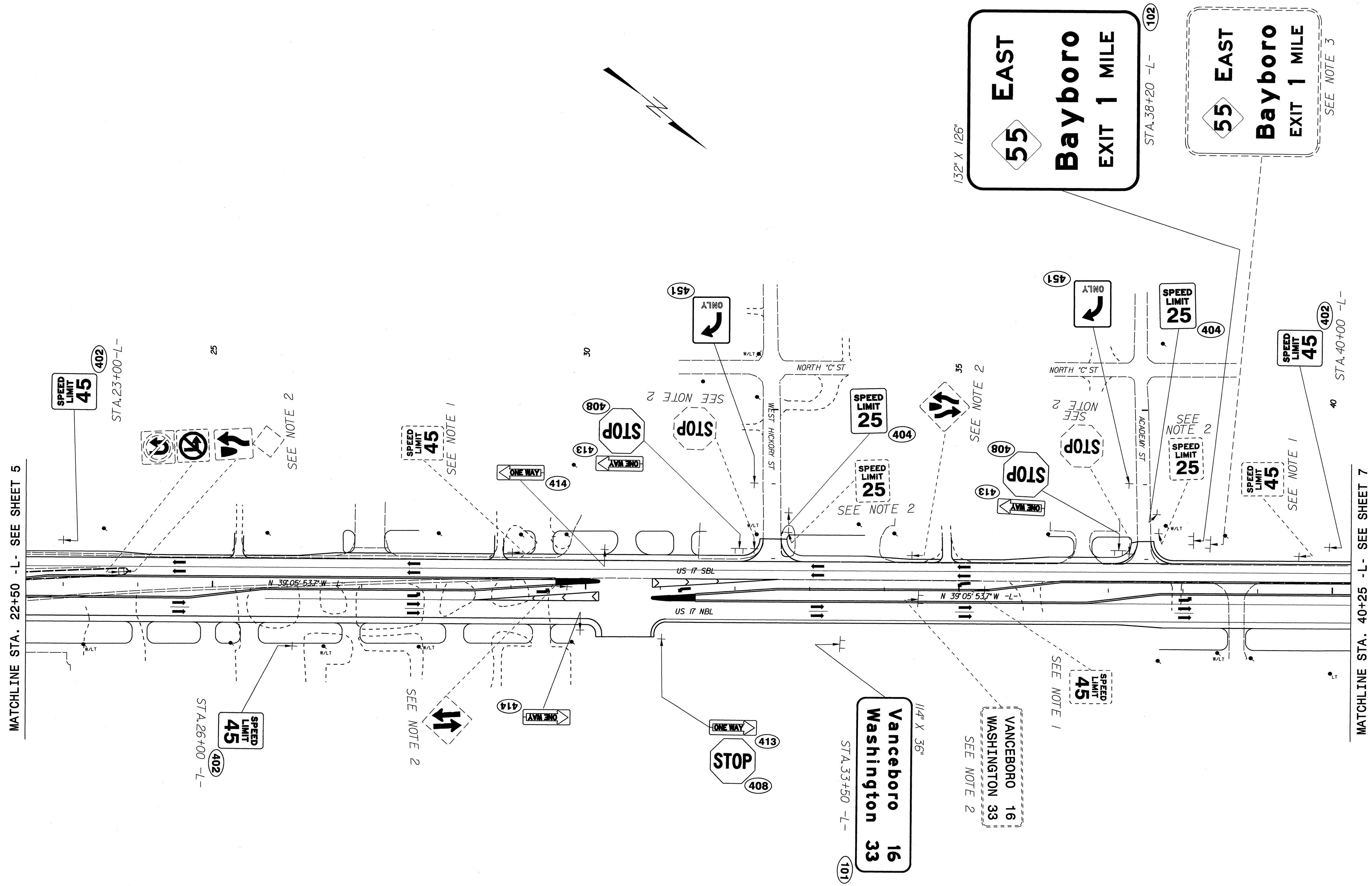
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STA. 5+00 -L-**

MATCHLINE STA. 22+50 -L- SEE SHEET 6

**PROPOSED & EXISTING SIGNS
US 17
-L- STA. 5+00 TO STA. 22+50**

10-MAY-2010 10:55
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 ericward AT TE247905

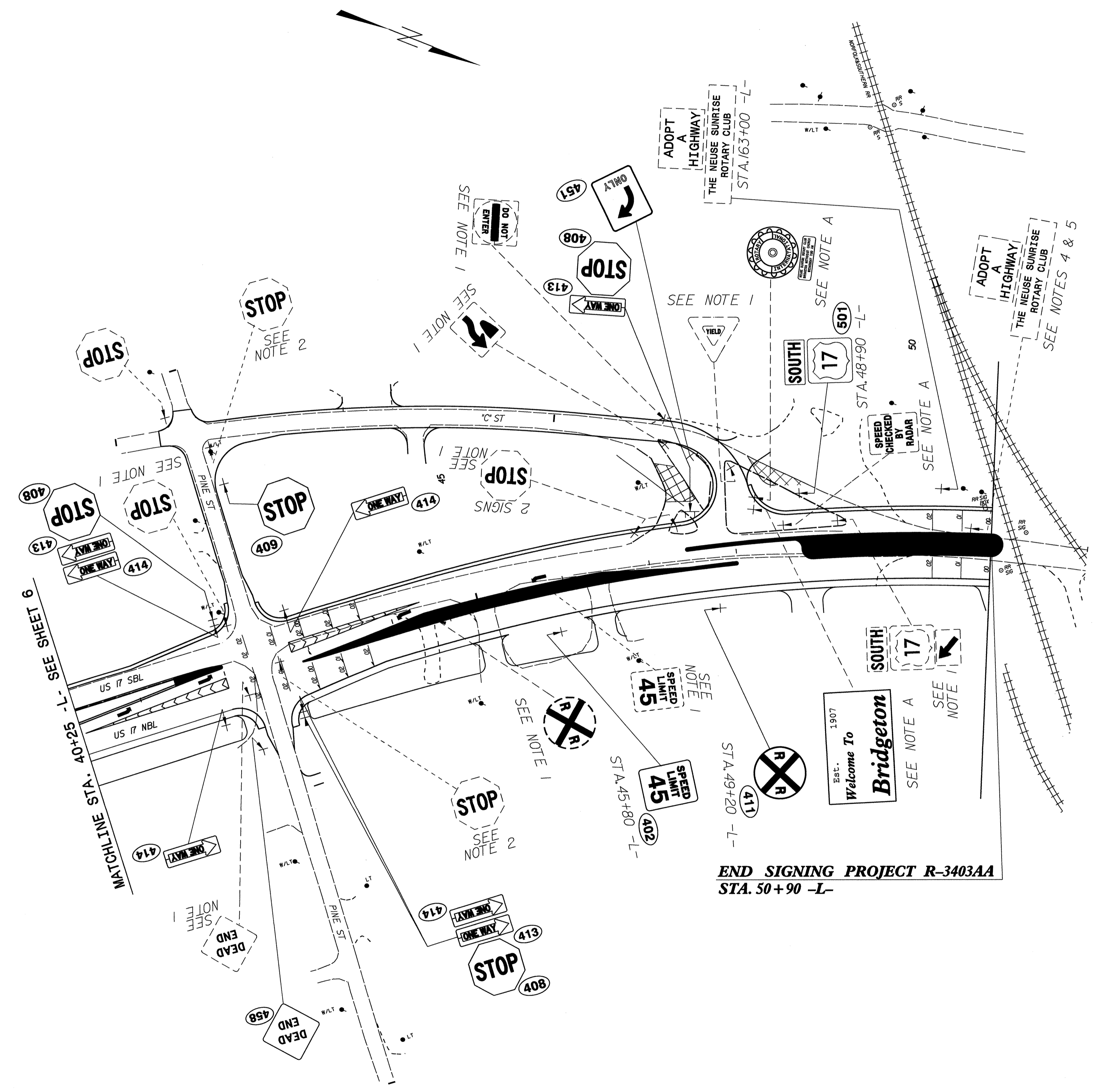
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| DATE: 5/1/10 | |
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**PROPOSED & EXISTING SIGNS
US 17
-L- STA. 22+50 TO STA. 40+25**

10-MAY-2010 10:56
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| DATE: 5/11/10 | |
| SEAL | |
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END SIGNING PROJECT R-3403AA
 -L- STA. 50+90 -L-

PROPOSED & EXISTING SIGNS
US 17
 -L- STA. 40+25 TO STA. 50+90

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