

VIRGINIA DEPARTMENT OF TRANSPORTATION

LOCATION AND DESIGN DIVISION

INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM

| | |
|--|-----------------------------|
| GENERAL SUBJECT: ALIGNMENT DATA | NUMBER: IIM-LD-185.3 |
| SPECIFIC SUBJECT: | DATE: DECEMBER 1, 2005 |
| | SUPERSEDES: IIM-LD-185.2 |
| DIVISION ADMINISTRATOR APPROVAL: Mohammad Mirshahi, P.E. State L&D Engineer Approved: December 1, 2005 | |

Changes are shaded.

CURRENT REVISION

-
- Updated for current Division Administrator Approval.
-

EFFECTIVE DATE

-
- This memorandum is effective upon receipt.
-

POLICY AND PROCEDURE

Horizontal Alignment and Vertical Control Data

- A Survey Alignment Data Sheet containing the project horizontal survey alignment and vertical controls, along with corresponding reference data, is furnished along with the project survey plan sheets by the Survey Section (See attached example). The Survey Alignment Data Sheet eliminates the need to show reference points and bench marks on the plan and profile sheets.

- A Horizontal Construction Alignment Data Sheet, plotted from the alignment data files, will be utilized on all projects.
- The sheet(s) will be made a part of the plan assembly in accordance with the guidelines contained in the Road Design Manual (Preparation of Supplemental Sheets – Index, Section 2D-9).
- The Survey Alignment Data as furnished by the Survey Section will accompany any requests for additional survey.
- Projects not requiring Alignment Data include No Plan, Landscape, Signal, Maintenance and projects without surveys.

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#REF001
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#LEV004

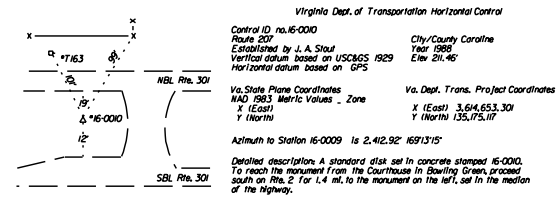
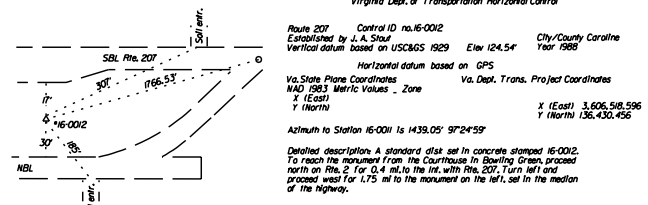
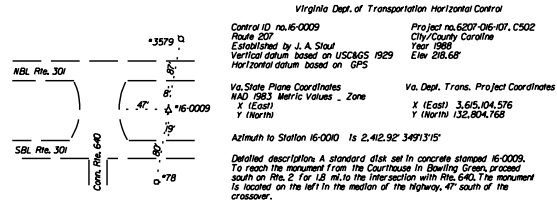
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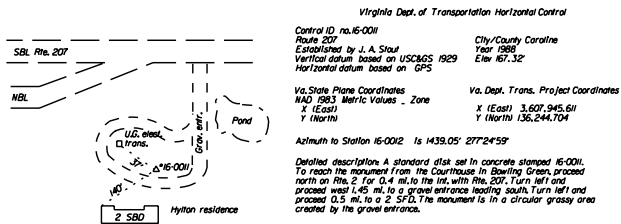
LIMITED ACCESS HIGHWAY By Resolution of Commonwealth Transportation Board dated 8-15-88

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

| ROUTE | PLAN | BOOK | SHEET NO. | TOTAL SHEETS | DATE | PROJECT | SCALE |
|-------|------|------|-----------|---------------------------|------|---------|-------|
| 1 | | 11 | 207 | 6207 - 016 - 107, C - 502 | IG | | |



| BENCH MARK REFERENCE: | | |
|--|---------------------------------|---------|
| Levels based on U.S.C. 865 - 1929 datum | | |
| B.M. Description | B.M. Location | Elev. |
| RR spike in base 12" pine | 75' LI, 578-40 Sur, SBL 207 BL | 160.67' |
| Corner of 1st conc. step to L5 SFD | 275' LI, 589-15 Sur, SBL 207 BL | 180.88' |
| 3 nails in base 12" h/w in oak | 85' LI, 599-80 Sur, SBL 207 BL | 192.43' |
| 3 nails in base 18" h/w in oak | 65' LI, 605-75 Sur, SBL 207 BL | 149.99' |
| 3 nails 3' up in side 12" gum | 90' LI, 607-75 Sur, SBL 207 BL | 194.68' |
| Conc. monument on PL corner Old Mansion Property | 70' LI, 618-45 Sur, SBL 207 BL | 205.59' |
| 3 nails in base 18" poplar | 125' LI, 627-15 Sur, SBL 207 BL | 174.98' |
| Iron pin on PL corner Old Mansion Property | 85' LI, 632-40 Sur, SBL 207 BL | 201.07' |
| 3 nails in base 18" Hickory | 65' LI, 636-20 Sur, SBL 207 BL | 194.89' |
| 3 nails in base 8" wild cherry on fence | 65' LI, 646-65 Sur, SBL 207 BL | 208.79' |
| Chiseled (I) on stone step | 35' LI, 57-13 Sur, NBL 301 | 213.26' |
| Chiseled x on headwall of pipe under Rte. 301 | 162' LI, 654-90 Sur, SBL 207 BL | 180.59' |
| R/W mon. on fence | 80' LI, 664-00 Sur, SBL 207 BL | 210.40' |
| Nail with flagging in conc. slab entr. to frame shed | 100' LI, 665-80 Sur, SBL 207 | 205.56' |



SUPERVISED BY: J. A. STOUT
 SUPERVISOR OF HIGHWAY SURVEYING
 DIVISION OF HIGHWAY CONSTRUCTION
 COMMONWEALTH OF VIRGINIA
 16-0000 BL

| NO. | DATE | DESCRIPTION |
|-----|---------|-------------------------|
| 1 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 2 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 3 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 4 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 5 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 6 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 7 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 8 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 9 | 10/1/88 | ISSUED FOR CONSTRUCTION |
| 10 | 10/1/88 | ISSUED FOR CONSTRUCTION |

| PLAN | BOOK | SHEET | TOTAL SHEETS |
|------|------|------------------|--------------|
| 1 | | 6207 - 016 - 107 | IG |

LIMITED ACCESS HIGHWAY

By Resolution of Commonwealth Transportation Board dated 8-18-88

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

| ROAD | PWA | PWA | PWA | PWA | | PWA | PWA |
|------|-----|-----|-----|---------|---------|-----|--------------------------|
| | | | | PROJECT | PROJECT | | |
| | 1 | 1A | | | | 207 | 6207 - 016 - 107.C - 502 |
| | | | | | | | IH |

SURVEY ALIGNMENTS

| POINT STATION ID. | BEARING | PROJECT NORTH (1) | COORDINATES EAST (1) |
|---|-----------------|---------------------------------|----------------------|
| SS 560-00.000 | N 50 47' 53" E | 136,487,383 | 3,606,523,804 |
| PC 577-26.045 | | 137,578,339 | 3,607,861,356 |
| PI 588-27.241 | | 138,274,356 | 3,608,714,698 |
| Δ 1 - 59' 50" 03" Rl. D - 3.0000 | | 100,026 | T - 1909,859 |
| L - 1,097,806 | | R - 1,909,859 | |
| PT 597-23.850 | S 69 16' 04" E | 137,884,532 | 3,609,744,585 |
| PC 597-23.848 | | 137,884,533 | 3,609,744,582 |
| PI 600-32.541 | | 137,775,255 | 3,600,033,286 |
| Δ 1 - 27' 15" 23" Rl. D - 4.5000 | | T - 30,8693 | |
| L - 695,698 | | R - 1,273,247 | |
| PT 603-29.545 | S 42' 00' 41" E | 137,545,893 | 3,602,339,887 |
| PC 603-29.539 | | 137,508,762 | 3,600,273,333 |
| PI 604-21.360 | | 136,734,661 | 3,609,970,615 |
| Δ 1 - 78' 35" 03" L. D - 4.5000 | | T - 1,044,844 | |
| L - 1,746,316 | | R - 1,273,247 | |
| PT 621-25.834 | N 59 24' 16" E | 138,594,799 | 3,614,016,492 |
| PC 647-38.669 | | 138,927,36 | 3,616,654,188 |
| PI 653-43.330 | | Δ 1 - 52' 15" 57" L. D - 4.5000 | T - 624,667 |
| L - 1,861,464 | | R - 1,273,247 | |
| PT 659-00.132 | N 7 08' 19" E | 139,552,555 | 3,614,731,815 |
| BK 668-99.130 | N 7 08' 19" E | 140,523,809 | 3,614,855,561 |
| PC 660-00.004 | | 140,523,809 | 3,614,855,561 |
| PI 662-91.002 | | 140,772,861 | 3,614,887,152 |
| Δ 1 - 12' 30' 00" Ll. D - 2.5000 | | T - 2,903,989 | |
| L - 5,000,007 | | R - 2,291,837 | |
| PT 665-00.000 | N 5 21' 41" W | 141,022,275 | 3,614,863,700 |
| PC 665-00.000 | | 141,022,275 | 3,614,863,700 |
| SBL RTE 301 (L/R 643-87.79 SBL 207) | | | |
| SS 55-66.520 | S 13 11' 57" E | 139,600,240 | 3,613,575,800 |
| PC 55-66.526 | | 139,600,234 | 3,613,575,802 |
| PI 57-50.009 | | 139,421,598 | 3,613,617,698 |
| Δ 1 - 5' 30' 00" Rl. D - 1.5000 | | T - 183,483 | |
| L - 366,666 | | R - 3,897,719 | |
| PT 59-33.782 | S 7 41' 57" E | 139,239,787 | 3,613,642,277 |
| PC 59-42.726 | | 139,201,530 | 3,613,446,233 |
| PI 64-46.203 | | 139,028,697 | 3,613,670,814 |
| Δ 1 - 5' 30' 00" Ll. D - 1.5000 | | T - 183,477 | |
| L - 366,666 | | R - 3,897,719 | |
| PT 63-29.392 | S 13 11' 57" E | 138,850,072 | 3,613,712,707 |
| AH 63-28.820 | S 13 11' 57" E | 138,850,072 | 3,613,712,707 |
| PI 80-00.000 | | 137,222,360 | 3,614,094,459 |
| NBL RTE 301 (L/R 644-33.90 SBL 207) | | | |
| SS 55-50.490 | S 13 11' 57" E | 139,617,226 | 3,613,577,980 |
| PI 80-49.800 | | 137,833,942 | 3,614,486,664 |
| CONV RTE 1234 - JEFF. DRIVE (L/R 650-71.29 POC SBL DES RTE 207) | | | |
| SS 10-00.000 | S 48 36' 57" E | 138,892,678 | 3,614,262,203 |
| PC 10-75.002 | | 138,843,094 | 3,614,318,477 |
| PI 12-75.000 | | 138,701,075 | 3,614,465,374 |
| Δ 1 - 49' 34' 13" Ll. D - 13.2283 | | T - 1,999,981 | |
| L - 37,4728 | | R - 433,300 | |
| PT 14-49.731 | N 81 48' 50" E | 138,739,352 | 3,614,666,494 |
| PI 17-00.000 | | 138,774,987 | 3,614,942,13 |

SURVEY ALIGNMENTS

| POINT STATION ID. | BEARING | PROJECT NORTH (1) | COORDINATES EAST (1) |
|--|----------------|-------------------|----------------------|
| FRONTAGE ROAD A (RT 573-46.70 SBL 207) | | | |
| SS 8-89.900 | S 25 36' 33" E | 137,338,574 | 3,607,567,394 |
| PC 10-47.04 | | 137,226,030 | 3,607,620,338 |
| PI 10-90.000 | | 137,158,31 | 3,607,653,883 |
| Δ 1 - 92' 52' 00" Ll. D - 7.9997 | | T - 75,296 | |
| L - 116,084 | | R - 716,20 | |
| PT 11-30.788 | N 61 31' 27" E | 137,194,031 | 3,607,720,070 |
| PC 12-86.210 | | 137,268,135 | 3,607,856,689 |
| PI 13-82.706 | | 137,314,143 | 3,607,941,511 |
| Δ 1 - 7 42' 30" Rl. D - 4.0000 | | T - 96,496 | |
| L - 1,927,079 | | R - 1,432,394 | |
| PT 14-78.919 | N 69 13' 57" E | 137,348,361 | 3,608,031,744 |
| PC 17-91.86 | | 137,459,084 | 3,608,323,723 |
| PI 19-15.354 | | 137,503,111 | 3,608,439,823 |
| Δ 1 - 9 54' 30" Rl. D - 4.0000 | | T - 124,668 | |
| L - 247,706 | | R - 1,432,394 | |
| PT 20-38.895 | N 79 08' 27" E | 137,526,502 | 3,608,561,759 |
| PI 23-28.290 | | 137,581,023 | 3,608,845,973 |
| FRONTAGE ROAD B (LT 718-65.00 NBL 301) | | | |
| SS 10-00.000 | N 76 48' 03" E | 138,025,896 | 3,613,951,999 |
| PC 10-13.000 | | 138,028,864 | 3,613,963,856 |
| PI 10-88.000 | | 138,045,989 | 3,614,036,874 |
| Δ 1 - 90' 00' 00" Ll. D - 76.3944 | | T - 75,000 | |
| L - 117,807 | | R - 75,000 | |
| PT 11-30.810 | N 13 11' 57" W | 138,190,008 | 3,614,051,949 |
| PC 11-30.810 | | 138,190,009 | 3,614,051,949 |
| PI 13-15.580 | | 138,298,898 | 3,613,977,559 |
| Δ 1 - 72' 36' 13" Rl. D - 2.2780 | | T - 884,710 | |
| L - 3,817.5 | | R - 2,515.7 | |
| PT 14-49.526 | N 59 24' 16" E | 138,392,994 | 3,614,366,606 |
| PC 15-31.987 | | 138,434,806 | 3,614,207,596 |
| PI 22-49.890 | | 138,800,305 | 3,614,825,545 |
| Δ 1 - 52' 27' 12" Ll. D - 3.9318 | | T - 717,833 | |
| L - 1,334,078 | | R - 1,457,239 | |
| PT 28-46.075 | N 6 57' 04" E | 139,512,922 | 3,614,912,426 |
| PC 30-07.482 | | 139,653,290 | 3,614,929,539 |
| PI 31-00.207 | | 139,745,135 | 3,614,940,737 |
| Δ 1 - 3 41' 58" Ll. D - 2.0000 | | T - 92,525 | |
| L - 184,874 | | R - 2,864,789 | |
| PT 31-92.454 | N 3 15' 06" E | 139,837,497 | 3,614,945,884 |
| PC 33-28.668 | | 139,973,492 | 3,614,953,170 |
| PI 35-64.93 | | 140,209,357 | 3,614,967,100 |
| Δ 1 - 9 25' 42" Rl. D - 2.0000 | | T - 236,242 | |
| L - 471,488 | | R - 2,864,789 | |
| PT 38-00.085 | N 12 40' 48" E | 140,439,834 | 3,615,018,966 |
| PI 39-00.000 | | 140,537,312 | 3,615,040,898 |
| OFF. REV. RAMP RTE 301 (LT 64-02.00 NBL RTE 301) | | | |
| SS 10-00.000 | N 76 48' 03" E | 139,080,286 | 3,613,703,910 |
| PC 12-58.836 | | 139,339,388 | 3,613,955,908 |
| PI 15-56.880 | | 139,207,283 | 3,614,245,397 |
| Δ 1 - 49' 05' 37" Rl. D - 8.0000 | | T - 297,344 | |
| L - 563,670 | | R - 716,491 | |
| PT 18-22.506 | S 58 06' 20" E | 139,050,719 | 3,614,497,849 |
| AH 18-27.900 | S 58 06' 20" E | 139,050,719 | 3,614,497,849 |
| PI 19-72.000 | | 138,973,673 | 3,614,620,788 |

SURVEY ALIGNMENTS

| POINT STATION ID. | BEARING | PROJECT NORTH (1) | COORDINATES EAST (1) |
|---|-----------------|-------------------|----------------------|
| NBL DESIGN RTE 207 | | | |
| SS 560-00.000 | S 136,422,290 | 3,606,576,897 | |
| PC 569-58.413 | N 50 47' 53" E | 137,028,061 | 3,607,399,594 |
| PI 574-76.756 | | 137,355,683 | 3,607,721,270 |
| Δ 1 - 20' 30' 43" Rl. D - 2.0000 | | T - 58,343 | |
| L - 1,025,597 | | R - 2,864,789 | |
| PT 579-84.011 | N 11 18' 36" E | 137,521,787 | 3,608,212,285 |
| PC 587-13.077 | | 137,755,415 | 3,608,902,905 |
| PI 595-50.690 | | 138,023,826 | 3,609,696,347 |
| Δ 1 - 66 40' 43" Rl. D - 4.5000 | | T - 837,813 | |
| L - 1,480,748 | | R - 1,273,247 | |
| PT 601-94.824 | S 42 00' 41" E | 137,401,470 | 3,610,256,943 |
| PC 601-94.829 | | 137,401,466 | 3,610,256,947 |
| PI 612-36.670 | | 136,627,366 | 3,609,954,228 |
| Δ 1 - 78 35' 03" Ll. D - 4.5000 | | T - 1,044,844 | |
| L - 1,746,316 | | R - 1,273,247 | |
| PT 609-41.444 | N 11 18' 36" E | 137,157,636 | 3,610,851,025 |
| BK 620-09.870 | N 59 24' 16" E | 137,192,616 | 3,611,901,813 |
| AH 621-25.830 | N 59 24' 16" E | 137,192,616 | 3,611,901,813 |
| PC 647-38.668 | | 138,522,485 | 3,614,592,266 |
| PI 654-04.540 | | 138,861,397 | 3,614,732,436 |
| Δ 1 - 52' 15' 57" Ll. D - 4.2251 | | T - 665,872 | |
| L - 1,238,089 | | R - 1,157,247 | |
| PT 659-76.757 | N 7 08' 19" E | 139,522,107 | 3,614,815,814 |
| AH 659-01.300 | N 7 08' 19" E | 139,522,107 | 3,614,815,814 |
| BK 668-99.130 | N 7 08' 19" E | 140,513,363 | 3,614,939,130 |
| PC 660-95.819 | | 140,513,363 | 3,614,939,130 |
| PI 663-48.864 | | 140,764,446 | 3,614,970,776 |
| Δ 1 - 12 09' 32" Ll. D - 2.416 | | T - 253,045 | |
| L - 504,817 | | R - 2,375,817 | |
| PT 666-00.000 | N 5 01' 13" W | 141,016,513 | 3,614,948,633 |
| PI 666-00.000 | | 141,016,513 | 3,614,948,633 |
| CONV RTE 207 (LT 584-51.97 POC 1967 SURVEY RTE 207 NBL) | | | |
| SS 904.660 | N 157 45' 15" E | 137,634,953 | 3,608,665,819 |
| PC 13-56.299 | | 138,060,484 | 3,608,713,003 |
| PI 14-00.281 | | 138,177,489 | 3,608,471,029 |
| Δ 1 - 44 54' 28" Rl. D - 1.0286 | | T - 1,233,982 | |
| L - 2,351,36 | | R - 300,000 | |
| PT 15-94.135 | N 25 09' 13" E | 138,289,394 | 3,608,523,797 |
| BK 17-21.210 | N 25 09' 13" E | 138,406,862 | 3,608,578,957 |
| AH 589-33.710 | N 25 09' 13" E | 138,406,862 | 3,608,578,957 |
| PI 590-12.500 | | 138,566,697 | 3,608,654,951 |
| D/T L/R 592-50.00 POC 1967 SUR 207 SBL 1968-83.95 DESIGN SBL 207) | | | |
| SS 18-00.000 | S 11 53' 00" W | 138,919,279 | 3,609,326,433 |
| PI 21-50.000 | | 137,849,080 | 3,609,254,361 |
| PI 23-65.820 | S 4 26' 00" E | 137,633,906 | 3,609,271,044 |
| PI 24-94.530 | S 37 17' 30" W | 137,513,509 | 3,609,933,062 |
| PI 28-24.750 | N 11 22' 30" W | 137,636,972 | 3,608,880,136 |
| PI 30-14.450 | | 137,662,253 | 3,608,692,228 |

(3,003,999)

SUPERVISED BY: W. B. ...
 DRAWN BY: ...
 CHECKED BY: ...
 REVISION BY: ...

| NO. | DATE | BY | DESCRIPTION |
|-----|------|----|-------------|
| | | | |
| | | | |
| | | | |
| | | | |

PROJECT STATION

| PROJECT | DATE | REVISION | DESCRIPTION |
|---------|------------------|----------|-------------|
| A | 6207 - 016 - 107 | | IH |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Table with columns: ROAD, ROAD NAME, STATE, FEDERAL AID, COUNTY, DISTRICT, SHEET NO. Values: 1, 1A, 207, 6207 - 016 - 107.C - 502, 11

SURVEY ALIGNMENTS

Table with columns: POINT STATION, BEARING, PROJECT COORDINATES (NORTH (Y), EAST (X)). Includes data for STA 30+44.5 D/T, STA 41+30 W, STA 47+53.30 W, etc.

SURVEY ALIGNMENTS

Table with columns: POINT STATION, BEARING, PROJECT COORDINATES (NORTH (Y), EAST (X)). Includes data for STA 25-5000, STA 26-5000, STA 27-18.00, etc.

SURVEY ALIGNMENTS

Table with columns: POINT STATION, BEARING, PROJECT COORDINATES (NORTH (Y), EAST (X)). Includes data for STA 500-53.84 EXIST, STA 16-20.620, STA 12-04.30, etc.

DESIGN ALIGNMENT

Table with columns: POINT STATION, BEARING, PROJECT COORDINATES (NORTH (Y), EAST (X)). Includes data for STA 55-66.52, STA 57-50.00, STA 64-66.52, etc.

DESIGN ALIGNMENT

Table with columns: POINT STATION, BEARING, PROJECT COORDINATES (NORTH (Y), EAST (X)). Includes data for STA 582-96.139, STA 583-45.793, STA 583-95.460, etc.

SUPERVISED BY: L. J. BROWN, REGISTERED PROFESSIONAL ENGINEER
DESIGNED BY: M. J. BROWN, REGISTERED PROFESSIONAL ENGINEER
CHECKED BY: J. J. BROWN, REGISTERED PROFESSIONAL ENGINEER

PROJECT MAP
DATE: 10/1/88
SCALE: 1" = 100'