STATE OF VERMONT
AGENCY OF TRANSPORTATION

# REINFORCING STEEL SCHEDULE

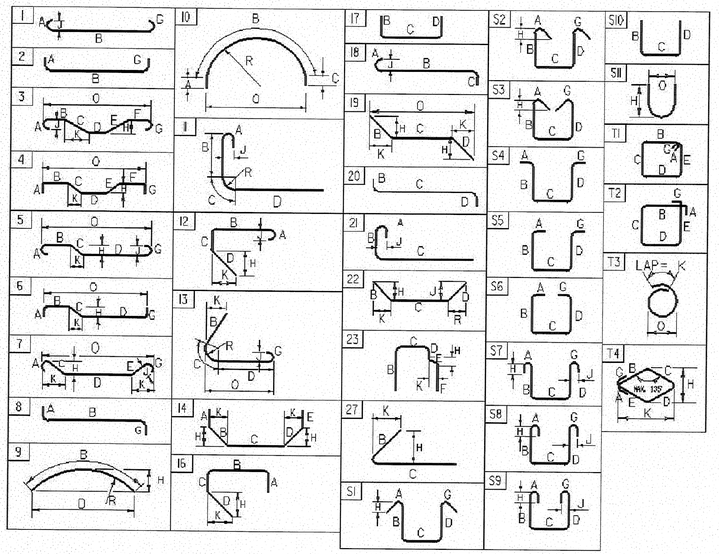
Metric

| ITEM | EACH | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DECK** | | | | | | | | | | | | | | | | | |
| | 186 | 16 | 10075 | ES1601 | STR | | | | | | | | | | | | |
| | 180 | 16 | 1455 | ES1602 | S5 | 300 | 320 | 215 | 320 | | | 300 | | | | | |
| ✳ | 39 | 16 | 2360 | ES1603 | S5 | 660 | 220 | 680 | 140 | | | 660 | | | | | |
| | 188 | 16 | 7115 | ES1604 | 1 | 175 | 6940 | | | | | | | | | | |
| ✳ | 95 | 19 | 6940 | ES1901 | STR | | | | | | | | | | | | |
| ▲ | 8 | 19 | 6940 | ES1903 | STR | | | | | | | | | | | | |
| **APPROACH SLAB NO. 1** | | | | | | | | | | | | | | | | | |
| ✳ | 22 | 16 | 6440 | 1EAS1601 | STR | | | | | | | | | | | | |
| | 12 | 25 | 1100 | 1EAS2501 | 19 | | 500 | 600 | --- | | | | | | | | |
| ▲ | 27 | 29 | 6480 | 1EAS2901 | 1 | 500 | 5980 | | | | | --- | | 220 | | | |
| **APPROACH SLAB NO. 2** | | | | | | | | | | | | | | | | | |
| ▲ | 22 | 16 | 7200 | 2EAS1601 | STR | | | | | | | | | | | | |
| | 12 | 25 | 1100 | 2EAS2501 | 19 | | 500 | 600 | --- | | | | | | | | |
| ✳ | 31 | 29 | 6480 | 2EAS2901 | 1 | 500 | 5980 | | | | | --- | | 220 | | | |
| **ABUTMENT NO. 1** | | | | | | | | | | | | | | | | | |
| | 11 | 16 | 7050 | 1A1601 | STR | | | | | | | | | | | | |
| | 28 | 16 | 4160 | 1A1602 | STR | | | | | | | | | | | | |
| ▲ | 30 | 16 | 3940 | 1A1603 | STR | | | | | | | | | | | | |
| | 28 | 16 | 4830 | 1A1604 | STR | | | | | | | | | | | | |
| ▲ | 30 | 16 | 2170 | 1A1605 | STR | | | | | | | | | | | | |
| | 32 | 16 | 1080 | 1A1606 | STR | | | | | | | | | | | | |
| | 32 | 16 | 1320 | 1A1607 | STR | | | | | | | | | | | | |
| | 14 | 16 | 5300 | 1A1608A | STR | | | | | | | | | | | | |
| | 14 | 16 | 4700 | 1A1608B | STR | | | | | | | | | | | | |
| | 11 | 16 | 9620 | 1A1614 | STR | | | | | | | | | | | | |
| | 3 | 16 | 4000 | 1A1615 | STR | | | | | | | | | | | | |
| ▲ | 32 | 16 | 2380 | 1A1609 | S10 | | 970 | 440 | 970 | | | | | | | | |
| ▲ | 32 | 16 | 2380 | 1A1610 | S10 | | 1120 | 140 | 1120 | | | | | | | | |
| | 32 | 16 | 3320 | 1A1611 | 16 | 660 | 1040 | 420 | 1200 | | | | | | | | |
| ▲ | 31 | 16 | 3070 | 1A1612 | 17 | | 1330 | 1740 | --- | | | | | | | | |
| | 8 | 16 | 3640 | 1A1613 | S10 | | 1600 | 440 | 1600 | | | | | | | | |
| | 31 | 22 | 4840 | 1A2201 | 17 | | 1740 | 3100 | --- | | | | | | | | |
| ✳ ▲ | 31 | 22 | 3790 | 1A2202 | 17 | | 1740 | 2050 | --- | | | | | | | | |
| ✳ | 35 | 25 | 3040 | 1A2501 | STR | | | | | | | | | | | | |
| **WINGWALL NO. 1** | | | | | | | | | | | | | | | | | |
| | 17 | 16 | 4555 | 1W1601 | STR | | | | | | | | | | | | |
| | 13 | 16 | 3830 | 1W1602 | STR | | | | | | | | | | | | |
| ▲ | 13 | 16 | 3450 | 1W1603 | STR | | | | | | | | | | | | |
| ▲ | 40 | 16 | 3465 | 1W1604 | STR | | | | | | | | | | | | |
| | | | | 1W1605 | | NOT USED | | | | | | | | | | | |
| ▲ | 11 | 16 | 3520 | 1W1606 | S10 | | 1540 | 440 | 1540 | | | | | | | | |
| | 2 | 16 | 2780 | 1W1607 | 19 | | 350 | 2430 | --- | | | | 130 | | 330 | | |
| | 20 | 16 | 1600 | 1W1608 | 19 | | 800 | 800 | --- | | | | | | | | |
| ▲ | 40 | 16 | 1860 | 1W1609 | 19 | | 660 | 1200 | --- | | | | | | | | |
| | 11 | 19 | 2500 | 1W1901 | STR | | | | | | | | | | | | |
| ✳ | 13 | 25 | 3935 | 1W2501 | 17 | | 425 | 3510 | --- | | | | | | | | |
| | 11 | 25 | 3460 | 1W2502 | 17 | | 1160 | 2300 | --- | | | | | | | | |
| ✳ | 32 | 29 | 3240 | 1W2901 | STR | | | | | | | | | | | | |
| **WINGWALL NO. 2** | | | | | | | | | | | | | | | | | |
| | 12 | 16 | 4260 | 2W1601 | STR | | | | | | | | | | | | |
| | 19 | 16 | 1330 | 2W1602 | STR | | | | | | | | | | | | |
| ▲ | 19 | 16 | 4740 | 2W1603 | STR | | | | | | | | | | | | |
| ▲ | 42 | 16 | 5340 | 2W1604 | STR | | | | | | | | | | | | |
| | 5 | 16 | 6640 | 2W1605 | STR | | | | | | | | | | | | |
| | 4 | 16 | 1180 | 2W1607 | STR | | | | | | | | | | | | |
| ▲ | 17 | 16 | 3700 | 2W1606 | S10 | | 1630 | 440 | 1630 | | | | | | | | |
| | | | | 2W1608 | | NOT USED | | | | | | | | | | | |
| | 14 | 16 | 3470 | 2W1609 | 22 | | 660 | 2150 | 660 | | | | | | | | |
| | 14 | 16 | 1320 | 2W1610 | 17 | | 660 | 660 | --- | | | | | | | | |
| | 6 | 16 | 1840 | 2W1611 | 17 | | 1180 | 660 | --- | | | | | | | | |
| | 17 | 19 | 2700 | 2W1901 | STR | | | | | | | | | | | | |
| | 19 | 25 | 3925 | 2W2501 | 17 | | 425 | 3500 | --- | | | | | | | | |
| | 18 | 25 | 3540 | 2W2502 | 17 | | 1240 | 2300 | --- | | | | | | | | |
| | 46 | 29 | 3240 | 2W2901 | STR | | | | | | | | | | | | |

| ITEM | EACH | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ABUTMENT NO. 2** | | | | | | | | | | | | | | | | | |
| | 22 | 16 | 7855 | 2A1601 | STR | | | | | | | | | | | | |
| | 28 | 16 | 3130 | 2A1602 | STR | | | | | | | | | | | | |
| ▲ | 30 | 16 | 3945 | 2A1603 | STR | | | | | | | | | | | | |
| | 28 | 16 | 5430 | 2A1604 | STR | | | | | | | | | | | | |
| | 30 | 16 | 4770 | 2A1605 | STR | | | | | | | | | | | | |
| | 32 | 16 | 3590 | 2A1606 | STR | | | | | | | | | | | | |
| △ | 34 | 16 | 1150 | 2A1607 | STR | | | | | | | | | | | | |
| | 14 | 16 | 1620 | 2A1608A | STR | | | | | | | | | | | | |
| | 14 | 16 | 5180 | 2A1608B | STR | | | | | | | | | | | | |
| ▲ | 32 | 16 | 2380 | 2A1609 | S10 | | 970 | 440 | 970 | | | | | | | | |
| ▲ | 32 | 16 | 2380 | 2A1610 | S10 | | 1120 | 140 | 1120 | | | | | | | | |
| | 32 | 16 | 3320 | 2A1611 | 16 | 660 | 1040 | 420 | 1200 | | | | | | | | |
| | 30 | 16 | 3070 | 2A1612 | 17 | | 1330 | 1740 | --- | | | | | | | | |
| ▲ | 8 | 16 | 3640 | 2A1613 | S10 | | 1600 | 440 | 1600 | | | | | | | | |
| ✳ | 31 | 22 | 4840 | 2A2201 | 17 | | 1740 | 3100 | --- | | | | | | | | |
| | 29 | 22 | 3790 | 2A2202 | 17 | | 1740 | 2050 | --- | | | | | | | | |
| ✳ | 29 | 25 | 3040 | 2A2501 | STR | | | | | | | | | | | | |
| **WINGWALL NO. 3** | | | | | | | | | | | | | | | | | |
| | 17 | 16 | 4555 | 3W1601 | STR | | | | | | | | | | | | |
| | 13 | 16 | 3830 | 3W1602 | STR | | | | | | | | | | | | |
| ▲ | 13 | 16 | 3450 | 3W1603 | STR | | | | | | | | | | | | |
| ▲ | 40 | 16 | 3465 | 3W1604 | STR | | | | | | | | | | | | |
| | | | | 3W1605 | | NOT USED | | | | | | | | | | | |
| ▲ | 10 | 16 | 3520 | 3W1606 | S10 | | 1540 | 440 | 1540 | | | | | | | | |
| | 2 | 16 | 2845 | 3W1607 | 19 | | 350 | 2495 | --- | | | | | | | | |
| | 20 | 16 | 1600 | 3W1608 | 19 | | 800 | 800 | --- | | | | | | | | |
| ▲ | 40 | 16 | 1860 | 3W1609 | 19 | | 660 | 1200 | --- | | | | | | | | |
| | 10 | 19 | 2600 | 3W1901 | STR | | | | | | | | | | | | |
| | 13 | 25 | 3935 | 3W2501 | 17 | | 425 | 3510 | --- | | | | | | | | |
| | 12 | 25 | 3460 | 3W2502 | 17 | | 1160 | 2300 | --- | | | | | | | | |
| ✳ | 33 | 29 | 3240 | 3W2901 | STR | | | | | | | | | | | | |
| **WINGWALL NO. 4** | | | | | | | | | | | | | | | | | |
| | 17 | 16 | 5300 | 4W1601 | STR | | | | | | | | | | | | |
| | 15 | 16 | 1330 | 4W1602 | STR | | | | | | | | | | | | |
| ▲ | 15 | 16 | 3020 | 4W1603 | STR | | | | | | | | | | | | |
| ▲ | 40 | 16 | 4260 | 4W1604 | STR | | | | | | | | | | | | |
| | | | | 4W1605 | | NOT USED | | | | | | | | | | | |
| ▲ | 13 | 16 | 3640 | 4W1606 | S10 | | 1600 | 440 | 1600 | | | | | | | | |
| | 2 | 16 | 3530 | 4W1607 | 19 | | 355 | 3175 | --- | | | | | | | | |
| | 20 | 16 | 1600 | 4W1608 | 19 | | 800 | 800 | --- | | | | | | | | |
| ▲ | 40 | 16 | 1860 | 4W1609 | 19 | | 660 | 1200 | --- | | | | | | | | |
| | 13 | 19 | 3020 | 4W1901 | STR | | | | | | | | | | | | |
| ✳ | 16 | 25 | 3935 | 4W2501 | 17 | | 425 | 3510 | --- | | | | | | | | |
| | 14 | 25 | 3460 | 4W2502 | 17 | | 1160 | 2300 | --- | | | | | | | | |
| | 37 | 29 | 3240 | 4W2901 | STR | | | | | | | | | | | | |

## ~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.




**ASTM STANDARD REINFORCING BARS**

| BAR SIZE | NOMINAL MASS (Kg/m) | NOMINAL DIMENSIONS ROUND SECTION | | |
|---|---|---|---|---|
| | | DIAMETER (mm) | CROSS SECTIONAL AREA (mm²) | PERIMETER (mm) |
| #10 | 0.560 | 9.5 | 71 | 29.84 |
| #13 | 0.994 | 12.7 | 129 | 39.90 |
| #16 | 1.552 | 15.9 | 199 | 49.95 |
| #19 | 2.235 | 19.1 | 284 | 60.00 |
| #22 | 3.042 | 22.2 | 387 | 69.74 |
| #25 | 3.973 | 25.4 | 510 | 79.80 |
| #29 | 5.060 | 28.7 | 645 | 90.16 |
| #32 | 6.404 | 32.3 | 819 | 101.47 |
| #36 | 7.907 | 35.8 | 1006 | 112.47 |
| #43 | 11.380 | 43.0 | 1452 | 135.09 |
| #57 | 20.240 | 57.3 | 2581 | 180.01 |

PROJECT NAME: SUNDERLAND
PROJECT NUMBER: BRF 0114(2)

FILE NAME: /PW/93j009/sj009rss.xls
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: D. BONNEAU
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: 9/21/2005
DRAWN BY: J. GILMORE
CHECKED BY: C. CARLSON
SHEET 48 OF 67