

EPOXY COATED REINFORCING BAR LIST, CAST-IN-PLACE ABUTMENT (TWO ABUTMENTS)

| BAR | LOCATION | SPAN | REINFORCED CONCRETE BOX BEAMS | | | | | | | | | PRETENSIONED/PRESTRESSED CONCRETE BOX BEAMS | | | | | | | | | | | | | | | | | | | | |
|--------------|---------------------------------|-------|-------------------------------|---------|--------|--------|---------|--------|--------|--------|--------|---------------------------------------------|---------|--------|--------|---------|--------|--------|---------|--------|--------|---------|--------|--------|---------|--------|-----|--------|--------|-----|--------|------|
| | | | 30'-0" | | | 40'-0" | | | 50'-0" | | | 30'-0" | | | 40'-0" | | | 50'-0" | | | 60'-0" | | | 70'-0" | | | | | | | | |
| | | SHAPE | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | NO. | LENGTH | WEIGHT | | | |
| 5c1 | FOOTING END, VERTICAL | | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 | 16 | 3'-9" | 63 |
| 5c2 | FOOTING END, HORIZONTAL | | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 | 16 | 4'-9" | 79 |
| 5d1 | BACKWALL, VERTICAL | | 164 | 4'-0" | 684 | 164 | 4'-0" | 684 | 164 | 4'-6" | 770 | 164 | 3'-6" | 599 | 164 | 3'-6" | 599 | 164 | 4'-0" | 684 | 164 | 4'-0" | 684 | 164 | 4'-0" | 684 | 164 | 4'-6" | 770 | 164 | 4'-6" | 770 |
| 5d2 | BACKWALL, VERTICAL | | 8 | 3'-10" | 32 | 8 | 3'-10" | 32 | 8 | 4'-4" | 36 | 8 | 3'-4" | 28 | 8 | 3'-4" | 28 | 8 | 3'-10" | 32 | 8 | 3'-10" | 32 | 8 | 3'-10" | 32 | 8 | 4'-4" | 36 | 8 | 4'-4" | 36 |
| 5d3 | BACKWALL, VERTICAL | | 8 | 3'-4" | 28 | 8 | 3'-4" | 28 | 8 | 3'-10" | 32 | 8 | 3'-0" | 25 | 8 | 3'-0" | 25 | 8 | 3'-4" | 28 | 8 | 3'-4" | 28 | 8 | 3'-4" | 28 | 8 | 3'-10" | 32 | 8 | 3'-10" | 32 |
| 5d4 | BACKWALL, VERTICAL | | 8 | 2'-11" | 24 | 8 | 2'-11" | 24 | 8 | 3'-5" | 29 | 8 | 2'-9" | 23 | 8 | 2'-9" | 23 | 8 | 2'-11" | 24 | 8 | 2'-11" | 24 | 8 | 2'-11" | 24 | 8 | 3'-5" | 29 | 8 | 3'-5" | 29 |
| 5d5 | BACKWALL, VERTICAL | | 8 | 2'-5" | 20 | 8 | 2'-5" | 20 | 8 | 2'-11" | 24 | 8 | 2'-5" | 20 | 8 | 2'-5" | 20 | 8 | 2'-5" | 20 | 8 | 2'-5" | 20 | 8 | 2'-5" | 20 | 8 | 2'-11" | 24 | 8 | 2'-11" | 24 |
| 8f1 | FOOTING, LONGITUDINAL | | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 | 24 | 40'-5" | 2590 |
| 6g1 | BACKWALL, HORIZONTAL | | 8 | 27'-11" | 335 | 8 | 27'-11" | 335 | 8 | 28'-5" | 341 | 8 | 26'-10" | 322 | 8 | 26'-10" | 322 | 8 | 27'-11" | 335 | 8 | 27'-11" | 335 | 8 | 27'-11" | 335 | 8 | 28'-5" | 341 | 8 | 28'-5" | 341 |
| 6g2 | BACKWALL, HORIZONTAL | | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 | 16 | 24'-7" | 591 | 16 | 24'-7" | 591 | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 | 16 | 25'-7" | 615 |
| 6g3 | BACKWALL, HORIZONTAL | | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 | 16 | 2'-7" | 62 | 16 | 2'-7" | 62 | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 | 16 | 3'-7" | 86 |
| 6g4 | FOOTING TO BACKWALL, HORIZONTAL | | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 | 16 | 5'-4" | 128 |
| 5p1 | FOOTING HOOPS | | 148 | 11'-8" | 1801 | 148 | 11'-8" | 1801 | 128 | 11'-8" | 1558 | 148 | 11'-8" | 1801 | 148 | 11'-8" | 1801 | 148 | 11'-8" | 1801 | 148 | 11'-8" | 1801 | 128 | 11'-8" | 1558 | 148 | 11'-8" | 1801 | 148 | 11'-8" | 1801 |
| 5p2 | FOOTING HOOPS | | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 | 8 | 12'-8" | 106 |
| | 1 1/4" DIA. SMOOTH DOWELS | | 16 | 2'-9" | 184 | 16 | 2'-9" | 184 | 16 | 3'-3" | 217 | 16 | 2'-3" | 150 | 16 | 2'-3" | 150 | 16 | 2'-9" | 184 | 16 | 2'-9" | 184 | 16 | 2'-9" | 184 | 16 | 2'-9" | 184 | 16 | 3'-3" | 217 |
| #2 | PILE SPIRAL * | | 12 | 38'-6" | 77 | 12 | 38'-6" | 77 | 14 | 38'-6" | 90 | 12 | 38'-6" | 77 | 12 | 38'-6" | 77 | 12 | 38'-6" | 77 | 12 | 38'-6" | 77 | 14 | 38'-6" | 90 | 16 | 38'-6" | 103 | 16 | 38'-6" | 103 |
| | SPIRAL SPACERS 1/2"x1/2"x0.70 * | | 36 | 1'-10" | 46 | 36 | 1'-10" | 46 | 42 | 1'-10" | 54 | 36 | 1'-10" | 46 | 36 | 1'-10" | 46 | 36 | 1'-10" | 46 | 42 | 1'-10" | 54 | 48 | 1'-10" | 62 | 48 | 1'-10" | 62 | 48 | 1'-10" | 62 |
| TOTAL (LBS.) | | | 6,898 | | | 6,898 | | | 6,818 | | | 6,710 | | | 6,710 | | | 6,898 | | | 6,676 | | | 7,082 | | | | | | | | |

* EPOXY COATING NOT REQUIRED

BENT BAR DETAILS

5c1

D=2 1/2

2'-5"

5c2

D=2 1/2

3'-5"

4"

5p1 & 5p2

D=2 1/2

2'-2"

3'-2"

3'-8"

5p1

5p2

6g1

D=4 1/2

21'-9"

"A"

"C"

"D"

| | REINFORCED CONCRETE BOX BEAMS | | | PRETENSIONED/PRESTRESSED CONCRETE BOX BEAMS | | | | |
|-----|-------------------------------|------------|------------|---------------------------------------------|-----------|------------|------------|------------|
| | 30'-0" | 40'-0" | 50'-0" | 30'-0" | 40'-0" | 50'-0" | 60'-0" | 70'-0" |
| *A* | 3'-9" | 3'-9" | 3'-9" | 2'-9" | 2'-9" | 3'-9" | 3'-9" | 3'-9" |
| *B* | 1'-10 1/2" | 1'-10 1/2" | 1'-10 1/2" | 1'-4 1/2" | 1'-4 1/2" | 1'-10 1/2" | 1'-10 1/2" | 1'-10 1/2" |
| *C* | 4'-2" | 4'-2" | 4'-2" | 3'-1" | 3'-1" | 4'-2" | 4'-2" | 4'-2" |
| *D* | 2'-0" | 2'-0" | 2'-6" | 2'-0" | 2'-0" | 2'-0" | 2'-0" | 2'-6" |

NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

CONCRETE PLACEMENT QUANTITIES (TWO ABUTMENTS)

| LOCATION | SPAN | REINFORCED CONCRETE BOX BEAMS | | | PRETENSIONED/PRESTRESSED CONCRETE BOX BEAMS | | | | |
|------------------|------|-------------------------------|--------|--------|---------------------------------------------|--------|--------|--------|--------|
| | | 30'-0" | 40'-0" | 50'-0" | 30'-0" | 40'-0" | 50'-0" | 60'-0" | 70'-0" |
| BACKWALLS (C.Y.) | | 10.0 | 10.0 | 11.9 | 7.7 | 7.7 | 10.0 | 10.0 | 11.9 |
| FOOTINGS (C.Y.) | | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 | 33.6 |
| TOTAL (C.Y.) | | 43.6 | 43.6 | 45.5 | 41.3 | 41.3 | 43.6 | 43.6 | 45.5 |

ADDITIONAL CONCRETE

| EACH FOOTING (C.Y.) | ROADWAY GRADE AT ABUTMENT | | | | |
|---------------------|---------------------------|-----|-----|-----|-----|
| | 1% | 2% | 3% | 4% | 5% |
| | 0.5 | 1.1 | 1.6 | 2.2 | 2.7 |

NOTES:

THE ADDITIONAL CONCRETE TABLE LISTS THE ADDITIONAL CONCRETE VOLUME REQUIRED IN EACH ABUTMENT FOOTING BASED ON THE ROADWAY GRADE AT EACH ABUTMENT. ADDITIONAL CONCRETE SHOULD BE ADDED TO THE PLANS FOR EACH ABUTMENT FOOTING THAT HAS 0.5 CU.YDS. OR MORE OF ADDITIONAL CONCRETE. VALUES SHOULD BE EXCLUDED FOR SCENARIOS THAT HAVE LESS THAN 0.5 CU.YDS. OF ADDITIONAL CONCRETE PER ABUTMENT FOOTING. VALUES MAY BE INTERPOLATED FOR GRADES BETWEEN THE VALUES SHOWN IN THE TABLE.

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|----------------------|---------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| LATEST REVISION DATE | APPROVED BY BRIDGE ENGINEER | STANDARD DESIGN - 30'-0" ROADWAY, SINGLE SPAN CONCRETE BOX BEAM BRIDGES DECEMBER, 2016 | ABUTMENT DETAILS (CAST-IN-PLACE) CONCRETE WINGS QUANTITIES 30° SKEW |
| | | | B30-16-16 |