STANDARD ROADWAY DRAWINGS

DWG. NO. REV. DESCRIPTION

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**10-100.00 STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS**

**10-100.01 STANDARD ROADWAY DRAWINGS TITLE SHEET**

RD-TP-1 09-26-16 STANDARD ROADWAY DRAWINGS TITLE SHEET

**10-100.02 STANDARD ABBREVIATIONS AND LEGENDS**

RD-A-1 02-20-20 STANDARD ABBREVIATIONS A THROUGH L

RD-A-2 STANDARD ABBREVIATIONS M THROUGH Z

RD-L-1 02-20-20 STANDARD LEGEND

RD-L-1A STANDARD LEGEND

RD-L-2 02-20-20 STANDARD LEGEND FOR UTILITY INSTALLATIONS

RD-L-3 03-01-23 STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING

RD-L-4 02-20-20 STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING

RD-L-5 02-20-20 STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

RD-L-6 02-20-20 STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

RD-L-7 02-20-20 STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

RD-L-8 02-20-20 STANDARD LEGEND FOR NATURAL STREAM DESIGN

**10-101.00 ROADWAY DESIGN STANDARDS**

**10-101.01 RD18 TYPICAL SECTIONS AND DESIGN CRITERIA**

RD18-RTS-1 DESIGN STANDARDS FOR SINGLE LANE URBAN AND RURAL ROUNDABOUTS

RD18-RTS-2 DESIGN STANDARDS FOR MULTI-LANE URBAN AND RURAL ROUNDABOUTS

RD18-RTS-3 STANDARD CONSTRUCTION DETAILS FOR ROUNDABOUTS

RD18-RSD-1 SIGHT DISTANCE FOR URBAN AND RURAL ROUNDABOUT

**10-101.02 RD11 TYPICAL SECTIONS AND DESIGN CRITERIA**

RD11-SE-1 TRANSITION AND CROSS SLOPE DETAILS

RD11-SE-2 SUPERELEVATION TRANSITION DETAILS FOR UNDIVIDED ROADWAYS

RD11-SE-2A SUPERELEVATION TRANSITION SECTIONS FOR UNDIVIDED ROADWAYS

RD11-SE-3 SUPERELEVATION TRANSITION DETAILS FOR DIVIDED ROADWAYS

RD11-SE-3A SUPERELEVATION TRANSITION SECTIONS FOR DIVIDED ROADWAYS

RD11-TS-1 06-28-19 DESIGN STANDARDS FOR LOW-VOLUME ROADS

RD11-TS-1A 06-28-19 DESIGN STANDARDS FOR LOCAL ROADS AND STREETS

RD11-TS-2 DESIGN STANDARDS FOR COLLECTORS, 2-LANE ROADS AND STREETS

RD11-TS-2A DESIGN STANDARDS FOR COLLECTOR HIGHWAYS WITH DEPRESSED MEDIAN (4 AND 6 LANE)

RD11-TS-2B DESIGN STANDARDS FOR COLLECTOR HIGHWAYS WITH FLUSH MEDIAN (4 AND 6 LANE)

RD11-TS-3 DESIGN STANDARD FOR ARTERIAL HIGHWAYS (2-LANE)

RD11-TS-3A 06-28-19 DESIGN STANDARDS FOR ARTERIAL HIGHWAYS WITH DEPRESSED MEDIAN (4 AND 6 LANE)

RD11-TS-3B DESIGN STANDARDS FOR ARTERIAL HIGHWAYS WITH FLUSH MEDIAN (4 AND 6 LANE)

RD11-TS-3C DESIGN STANDARDS FOR ARTERIALS WITH INDEPENDENT ROADWAYS (4 AND 6 LANE)

RD11-TS-4 DESIGN STANDARDS FOR ARTERIAL AND FREEWAY RAMPS (1, 2 AND 3 LANE)

RD11-TS-5 06-28-19 DESIGN STANDARDS FOR FREEWAYS WITH DEPRESSED MEDIAN (4 AND 6 LANE)

RD11-TS-5A DESIGN STANDARDS FOR FREEWAYS WITH INDEPENDENT ROADWAYS (4 AND 6 LANE)

RD11-TS-5B DESIGN STANDARDS FOR FREEWAYS WITH MEDIAN BARRIER (4 AND 6 LANE)

RD11-TS-5W 06-15-21 TYPICAL DETAIL FOR INSIDE LANE WIDENING OF FREEWAYS

RD11-TS-6 TYPICAL CURB & GUTTER SECTIONS WITH SHOULDERS AND WITH GRASS STRIPS

RD11-TS-6A TYPICAL CURB & GUTTER SECTIONS WITHOUT SHOULDERS AND WITH GRASS STRIPS

RD11-TS-6B TYPICAL CURB AND GUTTER SECTIONS WITH SHOULDERS AND WITHOUT GRASS STRIPS

RD11-TS-6C TYPICAL CURB AND GUTTER SECTIONS WITHOUT SHOULDERS AND WITHOUT GRASS STRIPS

RD11-TS-7 07-17-20 DESIGN STANDARDS 2-LANE CURB & GUTTER WITH CONTINUOUS 2-WAY LEFT-TURN LANE WITHOUT GRASS STRIPS

RD11-TS-7A 07-17-20 DESIGN STANDARDS 2-LANE CURB & GUTTER WITH CONTINUOUS 2-WAY LEFT-TURN LANE WITH GRASS STRIPS

RD11-TS-7B 07-17-20 DESIGN STANDARDS 2-LANE HIGHWAYS WITH CONTINUOUS 2-WAY LEFT-TURN LANE

**10-101.03 RD11 SLOPE DEVELOPMENT AND RUNOFF LENGTHS**

RD11-LR-1 MINIMUM RUNOFF LENGTHS (LR) FOR URBAN HIGHWAYS

RD11-LR-2 MINIMUM RUNOFF LENGTHS (LR) FOR RURAL HIGHWAYS

RD11-S-11 DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT

RD11-S-11A ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION

RD11-S-11B DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT

RD11-SA-1 01-09-24 SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION

**10-101.04 RD11 INTERSECTION SIGHT DISTANCE**

RD11-SD-1 INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES

RD11-SD-2 INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION

RD11-SD-3 INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS

RD11-SD-4 INTERSECTION SIGHT DISTANCE 4-LANE AND 5-LANE UNDIVIDED ROADWAYS

RD11-SD-5 INTERSECTION SIGHT DISTANCE 4-LANE DIVIDED HIGHWAYS

RD11-SD-6 INTERSECTION SIGHT DISTANCE 6-LANE DIVIDED HIGHWAYS

RD11-SD-7 INTERSECTION SIGHT DISTANCE FOR PASSIVE RAILROAD HIGHWAY GRADE CROSSINGS

**10-102.00 PIPE CULVERTS AND ENDWALLS**

**10-102.01 PIPE CULVERTS AND FLUME**

D-FLU-1 06-28-19 FLUME DETAILS

D-FLU-2 BRIDGE END DRAIN FLUME DETAILS

D-FLU-2A BRIDGE END DRAIN FLUME DETAILS

D-PB-1 03-01-23 STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION

D-PB-2 03-01-23 STANDARD DETAILS FOR FLEXIBLE PIPE INSTALLATION

D-PB-3 11-30-20 INDUCED TRENCH SOIL EMBANKMENT FOR PIPE CULVERT INSTALLATION

D-PB-4 01-09-24 PIPE COLLAR DETAILS

D-PG-3 06-28-19 FERROUS AND ALUMINUM CORRUGATED METAL PIPE

D-PG-4 06-28-19 FERROUS AND ALUMINUM CORRUGATED METAL PIPE ARCHES

D-PO-1 06-28-19 STANDARD OVAL AND REINFORCED CONCRETE ARCH PIPE CULVERT

D-PS-1 06-28-19 STRUTTING DETAILS FOR CORR. METAL & STRUCTURAL PLATE ROUND PIPE

**10-102.02 SAFETY CROSS DRAIN ENDWALLS**

D-PE-15A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 15" PIPE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-15B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 15" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-18A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 18" PIPE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-18B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 18" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-24A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 24" PIPE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-24B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 24" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-30A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-30B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-36A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 36" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-36B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 36" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-42A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 42" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-42B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 42" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-48A 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 48" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)

D-PE-48B 06-28-19 TYPE "U" CROSS DRAIN ENDWALL FOR 48" PIPE, BILL OF STEEL AND PRECAST NOTES

D-PE-99 03-04-21 TYPE "U" CROSS DRAIN ENDWALL DETAILS, PIPE GRATE & SKEWED CONNECTION

**10-102.03 SAFETY SIDE DRAIN ENDWALLS**

D-SEW-1A 07-07-23 TYPE "SAFETY" SIDE ENDWALL WITH STEEL PIPE GRATE, FOR 15" THRU 48" PIPES, 6:1 SLOPE

D-SEW-12D 07-07-23 TYPE “SAFETY” SIDE DRAIN ENDWALL WITH STEEL PIPE GRATE, FOR 18” PIPE, 12:1 SLOPE

SD-MSE-1 06-28-19 SIDE DRAIN MITERED END SECTION

**10-102.04 PROTECTED ENDWALLS\***

**NOTE: THE PROTECTED ENDWALLS MAY NOT BE USED INSIDE THE CLEAR ZONE UNLESS SHIELDED BY GUARDRAIL OR OTHER SAFETY DEVICE.**

D-PE-4 06-28-19 STRAIGHT CONCRETE ENDWALLS (PIPE SIZES 18" TO 30")

D-PE-5 06-28-19 STRAIGHT CONCRETE ENDWALLS FOR HORIZONTAL OVAL CONCRETE PIPES (ALL SIZES AND SKEWS)

D-PEW-1 PROTECTED ENDWALLS FOR ROUND & OVAL PIPES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)

D-PEW-2 PROTECTED ENDWALLS FOR ROUND PIPES DETAILS & QUANTITIES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)

D-PEW-3 PROTECTED ENDWALLS FOR OVAL PIPES DETAILS & QUANTITIES (EQU. PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)

D-PEW-4 PROTECTED STRAIGHT ENDWALLS (PIPE SIZES 18” TO 30” & EQU. OVAL PIPES)

D-PEW-5 RIP-RAP END TREATMENT FOR CORRUGATED METAL PIPE, OVAL AND PIPE ARCH CULVERTS WITH BEVELED ENDS (PIPE SIZES 42” & LARGER)

**10-103.00 CATCH BASINS AND MANHOLES**

**10-103.01 CATCH BASINS**

D-CB-DI ALTERNATE CATCH BASIN DROP INLET DETAILS

D-CB-10LPC 02-20-20 LOW PROFILE LOWERED CURB 32" X 26" RECTANGULAR CONCRETE NO. 10LPC CATCH BASIN

D-CB-10RA 01-28-22 STANDARD PRECAST 48" CIRCULAR NO. 10 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-10S 02-20-20 STANDARD RECTANGULAR CONCRETE N0. 10 CATCH BASIN

D-CB-10SB 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 10 CATCH BASIN

D-CB-12LP 02-20-20 LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 12LP CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-12LPA ALTERNATE REINFORCEMENT FOR PRECAST CONCRETE 32” X 32” NO. 12LP CATCH BASIN

D-CB-12P 02-20-20 STANDARD PRECAST RECTANGULAR CONCRETE NO.12 CATCH BASIN

D-CB-12RA 01-28-22 STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-12RB 02-20-20 STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-12RC 02-20-20 STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-12S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 12 CATCH BASIN

D-CB-12SB 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 12 CATCH BASIN

D-CB-12SC 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 12 CATCH BASIN

D-CB-12SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN

D-CB-12SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 12 CATCH BASIN

D-CB-13P 02-20-20 STANDARD PRECAST RECTANGULAR CONCRETE NO. 13 CATCH BASIN

D-CB-13RA 01-28-22 STANDARD PRECAST 48" CIRCULAR NO. 13 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-13RB 02-20-20 STANDARD PRECAST 60" AND 72" CIRCULAR NO. 13 CATCH BASIN FOR USE WITH 6" VERTICAL CURB

D-CB-13RC 02-20-20 STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 13 CATCH BASIN (FOR USE WITH 6" VERTICAL CURB)

D-CB-13S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 13 CATCH BASIN

D-CB-14P 02-20-20 STANDARD PRECAST RECTANGULAR CONCRETE NO. 14 CATCH BASIN

D-CB-14RB 02-20-20 STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN

D-CB-14S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 14 CATCH BASIN

D-CB-14SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 14 CATCH BASIN

D-CB-16S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 16 CATCH BASIN

D-CB-17S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 17 CATCH BASIN

D-CB-25LP 02-20-20 LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 25LP CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25P 02-20-20 STANDARD PRECAST RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25RA 01-28-22 STANDARD PRECAST 48" CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25RB 02-20-20 STANDARD PRECAST CIRCULAR NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25SB 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25SC 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-25SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 25 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-26P 02-20-20 STANDARD PRECAST RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-26S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 26 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-27S 02-20-20 STANDARD RECTANGULAR CONCRETE NO. 27 CATCH BASIN (FOR USE WITH 6" SLOPING CURB)

D-CB-31R 02-20-20 STANDARD PRECAST CIRCULAR NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-31SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-31SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 31 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-32LP 02-20-20 STANDARD 80” X 32” RECTANGULAR CONCRETE NO. 32 CATCH BASIN (FOR USE UNDER CONCRETE MEDIUM BARRIER WALL)

D-CB-38RB 03-04-21 STANDARD PRECAST CIRCULAR NO. 38 CATCH BASIN

D-CB-38S 03-04-21 STANDARD 32" X 32" SQUARE CONCRETE NO. 38 CATCH BASIN

D-CB-38SB 03-04-21 STANDARD 4' X 4' SQUARE CONCRETE NO. 38 CATCH BASIN

D-CB-38SC 03-04-21 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 38 CATCH BASIN

D-CB-39RB 03-04-21 STANDARD PRECAST CIRCULAR NO. 39 CATCH BASIN

D-CB-39S 03-04-21 STANDARD 4' X 4' SQUARE CONCRETE NO. 39 CATCH BASIN

D-CB-39SC 03-04-21 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 39 CATCH BASIN

D-CB-39SD 03-04-21 STANDARD 7' X 7' SQUARE CONCRETE NO. 39 CATCH BASIN

D-CB-39SE 03-04-21 STANDARD 9' X 9' SQUARE CONCRETE NO. 39 CATCH BASIN

D-CB-40S 03-04-21 STANDARD 4' X 8' RECTANGULAR CONCRETE NO. 40 CATCH BASIN

D-CB-40SE 03-04-21 STANDARD 9’ X 9’ SQUARE CONCRETE NO. 40. CATCH BASIN

D-CB-41LP 02-20-20 LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 41LP CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41P 02-20-20 STANDARD PRECAST 4' x 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41RB 02-20-20 STANDARD PRECAST CIRCULAR NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41S 02-20-20 STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41SB 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41SC 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-41SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-42RB 02-20-20 STANDARD PRECAST CIRCULAR NO. 42 CATCH BASIN

D-CB-42S 02-20-20 STANDARD 32" X 32" SQUARE CONCRETE NO. 42 CATCH BASIN

D-CB-42SB 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 42 CATCH BASIN

D-CB-42SC 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 42 CATCH BASIN

D-CB-42SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 42 CATCH BASIN

D-CB-43R 02-20-20 STANDARD PRECAST CIRCULAR NO. 43R CATCH BASIN

D-CB-43SB 02-20-20 STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 43SB CATCH BASIN

D-CB-43SC 02-20-20 STANDARD 8' X 5' 2" RECTANGULAR CONCRETE NO. 43SC CATCH BASIN

D-CB-44SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 44 CATCH BASIN

D-CB-45S 02-20-20 STANDARD 8' X 4' RECTANGULAR CONCRETE NO. 45 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-46SE 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 46 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)

D-CB-51SC 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 51 CATCH BASIN (FOR USE IN FRONT OF CONCRETE RETAINING WALL)

D-CB-51SD 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 51 CATCH BASIN (FOR USE IN FRONT OF CONCRETE RETAINING WALL)

D-CB-51SE 02-20-20 STANDARD 9’ X 9’ SQUARE CONCRETE NO. 51 CATCH BASIN

D-CB-52SE 02-20-20 STANDARD 9’ x 9’ SQUARE CONCRETE NO. 52 CATCH BASIN

D-CB-99 02-20-20 MISCELLANEOUS DETAILS FOR RECTANGULAR STRUCTURES

D-CB-99GS CATCH BASIN DETAILS FOR GRADE SEPARATION WALL

D-CB-99R 01-28-22 MISCELLANEOUS DETAILS FOR ROUND STRUCTURES

D-CB-99RA 10-29-21 BILL OF STEEL FOR ROUND CATCH BASIN LIDS

D-CB-99RB 02-20-20 ROUND JUNCTION BOX SPRING DRAIN BOX

D-CBB-12A 06-28-19 TYPE ‘B’ CAST IRON FRAME, GRATE & VERTICAL INLET DETAILS FOR NOS. 10, 12, 14, 16 & 17 TYPE CATCH BASINS

D-CBB-12B 06-28-19 TYPE ‘B’ CAST IRON FRAME, GRATE & 6" SLOPING INLET DETAILS FOR NOS. 25, 26 & 27 TYPE CATCH BASINS

D-CBB-12D 07-07-23 TYPE "B" CAST IRON FRAME, GRATE & CURB HOOD DETAILS FOR NOS. 12, 14, 16 & 17 TYPE CATCH BASINS

D-CBB-13 06-28-19 TYPE ‘B’ CAST IRON FRAME, GRATE & VERTICAL INLET DETAILS FOR NO. 13 TYPE CATCH BASINS

D-CBB-31 02-20-20 TYPE “B” CAST IRON FRAME, GRATE & INLET DETAILS FOR NOS. 31, 41, 45, 46, & 51 TYPE CATCH BASINS

D-CBB-42 10-29-21 CAST IRON GRATE DETAILS FOR NOS. 42, 43 & 44 TYPE CATCH BASINS

D-RL-1 ROUND LID DETAILS FOR SINGLE CURB AND WALL INLET

D-RL-2 ROUND LID DETAILS FOR DOUBLE CURB AND WALL INLET

D-RL-3 ROUND LID DETAILS FOR SINGLE OPENING AREA DRAIN

D-RL-4 ROUND LID DETAILS FOR DOUBLE OPENING AREA DRAIN

D-RS-1 PRECAST ROUND STRUCTURES (48” THRU 120”)

D-RS-2 PRECAST ROUND STRUCTURES REINFORCEMENT DETAILS

D-RS-3 MISCELLANEOUS DETAILS FOR ROUND STRUCTURES

**10-103.02 JUNCTION BOXES**

D-JBS-1 02-20-20 STANDARD 32" X 32" SQUARE CONCRETE NO. 1 JUNCTION BOX

D-JBS-2 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 2 JUNCTION BOX

D-JBS-3 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 3 JUNCTION BOX

D-JBS-4 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 4 JUNCTION BOX

D-JBS-5 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 5 JUNCTION BOX

D-RJB-1 PRECAST ROUND JUNCTION BOX STRUCTURES (48” THRU 120”)

**10-103.03 MANHOLES**

D-MH-2 02-20-20 STANDARD PRECAST NO. 3 MANHOLE

D-MH-3 02-20-20 TYPICAL DESIGN OF LIDS FOR NO. 3 MANHOLE

D-MH-4 02-20-20 STANDARD NO. 3 MANHOLE CASTINGS AND STEPS

D-MH-5 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 3 MANHOLE

D-MH-6 02-20-20 STANDARD 7' X 7' SQUARE CONCRETE NO. 3 MANHOLE

D-MH-7 02-20-20 STANDARD 9' X 9' SQUARE CONCRETE NO. 3 MANHOLE

D-RMH-1 PRECAST MANHOLE STRUCTURES (48” THRU 120”)

**10-103.04 PRECAST RISERS**

D-RF-1 05-04-22 STANDARD PRECAST RISER

**10-103.05 SPRING DRAIN BOXES**

D-SDS-1 02-20-20 STANDARD 32" X 32" SQUARE CONCRETE NO. 1 SPRING DRAIN BOX

D-SDS-2A 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 2A SPRING DRAIN BOX

D-SDS-2B 02-20-20 STANDARD 4' X 4' SQUARE CONCRETE NO. 2B SPRING DRAIN BOX

D-SDS-3A 02-20-20 STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 3A SPRING DRAIN BOX

D-RSB-1 PRECAST ROUND SPRING DRAIN BOX STRUCTURES (48” THRU 120”)

**10-103.06 SLOTTED AND TRENCH DRAINS**

D-SLD-1 02-20-20 SLOTTED DRAINS

D-SLD-2 02-20-20 SLOTTED DRAINS

D-SLD-3 02-20-20 SLOTTED DRAINS

D-TD-1 07-07-23 TRENCH DRAIN

**10-104.00 ROADWAY, PAVEMENT APPURTENANCES, AND FENCES**

**10-104.01 CONCRETE PAVEMENT**

RP-CS-1 05-01-20 CONCRETE SHOULDER RUMBLE STRIP DETAIL (FOR 4-LANE DIVIDED HIGHWAY)

RP-CS-2 05-01-20 CONCRETE SHOULDER RUMBLE STRIP DETAIL (FOR 6-LANE OR WIDER DIVIDED HIGHWAY)

RP-CS-3 CONCRETE SHOULDER MILLED RUMBLE STRIP DETAILS

RP-J-1 05-01-20 PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING

RP-J-3 05-01-20 PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING

RP-J-5 05-01-20 TYPICAL ACCELERATION AND DECELERATION LANE JOINT TYPES AND SPACING FOR CONCRETE RAMPS

RP-J-7 05-01-20 CONCRETE RAMP JOINT TYPES AND SPACING

RP-J-9 05-01-20 CONTRACTION AND CONSTRUCTION JOINTS FOR CONCRETE PAVEMENT

RP-J-11 05-01-20 3/4" AND 1 3/4" EXPANSION AND EDGE PAVEMENT JOINTS

RP-J-13 05-01-20 3/4" AND 1 3/4" ELASTOMERIC COMPRESSION JOINT SEALS

RP-J-15 05-01-20 LONGITUDINAL CONTRACTION AND CONSTRUCTION JOINTS

RP-J-17 05-01-20 DOWEL ASSEMBLY DEVICES

RP-J-18 01-28-22 DOWEL ASSEMBLY DEVICES

RP-J-19 05-01-20 DOWEL ASSEMBLY DEVICES

RP-J-23 01-28-22 CONCRETE PAVEMENT REPAIR DETAILS

RP-J-24 05-01-20 CONCRETE PAVEMENT SPALL AND RANDOM CRACK REPAIR DETAILS

RP-J-25 05-01-20 CONCRETE PAVEMENT JOINT REPAIR DETAILS

**10-104.02 ROADWAY PAVEMENT**

RP-EPO-1 EMERGENCY PULL OVER AREA

**10-104.03 INTERSECTIONS**

RP-D-15 06-15-21 DETAILS OF STANDARD CONCRETE DRIVEWAYS

RP-D-16 10-29-21 DETAILS OF LOWERED STANDARD CONCRETE DRIVEWAYS

RP-DHO-1 05-01-20 MEDIAN OPENINGS ON 4-LANE DIVIDED HIGHWAY

RP-DHO-2 01-09-24 MEDIAN OPENING DETAILS FOR RESTRICTED CROSSING & J-TURN INTERSECTIONS

RP-I-5 05-01-20 EXAMPLES OF STREET & ALLEY INTERSECTIONS

RP-PMR-1 05-01-20 STANDARD DETAILS FOR PROPOSED PERMANENT MAINTENANCE RAMP

**10-104.04 CURBS**

RP-SC-1 05-04-22 SLOPING CONCRETE CURB AND CURB AND GUTTER

RP-VC-10 03-04-21 VERTICAL CONCRETE CURB AND CURB AND GUTTER (FOR 8” TO 12” GUTTER DEPTH)

RP-VC-11 03-04-21 VERTICAL CONCRETE CURB AND CURB AND GUTTER (FOR 6” & 7” GUTTER DEPTH)

**10-104.05 WALLS**

W-CIP-1 05-01-20 ROADWAY FEATURES AT CAST IN PLACE RETAINING WALL

W-MSE-1 05-01-20 ROADWAY FEATURES FOR MSE SEGMENTAL PRECAST FACING RETAINING WALL

W-MSE-2 05-01-20 ROADWAY FEATURES FOR MSE MODULAR BLOCK FACING RETAINING WALL

W-SG-1 05-01-20 STANDARD GRAVITY-TYPE RETAINING WALLS

W-SP-1 05-01-20 ROADWAY FEATURES AT SOLDIER PILE AND SOIL ANCHORED RETAINING WALLS

**10-104.06 FENCES AND RIGHT-OF-WAY MARKERS**

S-F-1 03-01-23 HIGH VISIBILITY FENCE

S-F-10 07-17-20 STANDARD RIGHT-OF-WAY STOCK FENCE

S-F-10A 06-28-19 STANDARD RIGHT-OF-WAY STOCK FENCE WITH TIMBER POSTS

S-F-10B 06-28-19 STANDARD RIGHT-OF-WAY CHAIN LINK FENCE

S-F-10C 06-28-19 RIGHT-OF-WAY FENCE AT BRIDGES AND BOX CULVERTS

S-F-10D 06-28-19 RIGHT-OF-WAY FENCE LOCATIONS AT INTERCHANGES

S-FG-11 06-28-19 STANDARD STOCK FENCE GATE

S-FG-20 06-28-19 EXAMPLES OF WATER GATES AND WATER CROSSINGS

S-RP-2 06-28-19 STANDARD CONCRETE RIGHT-OF-WAY MARKERS

**10-104.07 UNDERDRAINS**

RD-UD-3 01-09-24 UNDERDRAIN DETAILS

RD-UD-4 06-28-19 UNDERDRAIN LATERAL DETAILS

RD-UD-6 06-28-19 LATERAL UNDERDRAIN ENDWALL DETAIL FOR 1:1 & 2:1 SLOPES

RD-UD-7 06-28-19 LATERAL UNDERDRAIN ENDWALL DETAIL FOR 3:1 & 4:1 SLOPES

RD-UD-8 06-28-19 LATERAL UNDERDRAIN ENDWALL DETAIL FOR 5:1 SLOPES

RD-UD-9 06-28-19 LATERAL UNDERDRAIN ENDWALL DETAIL FOR 6:1 SLOPES

**10-105.00 MULTIMODAL**

**10-105.01 CURB RAMPS**

MM-CR-1 06-28-19 DETECTABLE WARNING SURFACE PLACEMENT ON CURB RAMPS

MM-CR-2 PERPENDICULAR CURB RAMP

MM-CR-3 PARALLEL CURB RAMP

MM-CR-4 PEDESTRIAN REFUGE

MM-CR-5 06-28-19 SINGLE CROSSING CURB RAMP IN CURVE

MM-CR-6 DUAL CROSSING CURB RAMP PLACED OUTSIDE CURVE

MM-CR-7 CURB RAMPS IN CURVE Bl-DIRECTIONAL DUAL CROSSING

MM-CR-8 MONO-DIRECTIONAL SINGLE CROSSWALK CURB RAMP DETAILS

MM-CR-9 ALTERNATIVE CURB RAMP DETAILS

**10-105.02 PAVEMENT MARKING**

MM-PM-1 SIGNING AND PAVEMENT MARKINGS AT INTERSECTION CROSSINGS FOR SHARED-USE PATHS

MM-PM-2 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANE OR ROUTES

MM-PM-3 06-15-21 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES ON URBAN ROADWAYS

MM-PM-4 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES

MM-PM-5 05-04-22 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES AT INTERSECTIONS

**10-105.03 SAFETY RAIL**

MM-BPR-1 01-28-22 BIKE AND PEDESTRIAN SAFETY RAIL

MM-BPR-2 10-16-20 BIKE AND PEDESTRIAN MEDIAN BARRIER RAIL

MM-BPR-3 BARRIER SLOPED END TREATMENT

MM-VPR-1 VEHICLE AND PEDESTRIAN SAFETY RAIL

**10-105.04 SIDEWALK**

MM-PS-1 DETAILS FOR PEDESTRIAN STEPS AND HANDRAILS

MM-SW-1 07-07-23 DETAILS FOR CONCRETE SIDEWALKS

MM-SW-2 ALTERNATE DETAILS FOR CONCRETE SIDEWALK (REHABILITATION)

**10-105.05 TYPICAL SECTION**

MM-BS-1 TYPICAL BUS STOP LOCATION

MM-TS-1 06-15-21 BIKE ACCOMMODATION DESIGN GUIDANCE

MM-TS-2 06-15-21 LATERAL OFFSETS FOR SIDEWALK AND SHARED USE PATH

MM-TS-3 01-28-22 SEPARATED SHARED USE PATH TYPICAL SECTIONS

MM-PM-3 06-15-21 SIGNING AND PAVEMENT MARKING FOR BIKE LANES ON URBAN ROADWAYS

**10-106.00 SAFETY DESIGN AND GUARDRAILS**

**10-106.01 CLEAR ZONE AND SAFETY PLANS**

S-CZ-1 06-28-19 CLEAR ZONE CRITERIA

S-PL-1 03-01-23 SAFETY PLAN FOR BARRIER LENGTH OF NEED

S-PL-1A 03-01-23 SAFETY PLAN FOR BARRIER LENGTH OF NEED (FOR RIGID OBJECTS)

S-PL-1B 03-01-23 SAFETY PLAN FOR BARRIER LENGTH OF NEED ON CURVED ROADWAYS

S-PL-3 03-01-23 SAFETY PLAN MINIMUM INSTALLATION AT BRIDGE ENDS

S-PL-4 01-09-24 SAFETY PLAN FOR BRIDGE PIERS IN DEPRESSED MEDIAN

S-PL-4A 01-09-24 SAFETY PLAN TO FOR BRIDGE PIERS/ ABUTMENTS OUTSIDE THE SHOULDER

S-PL-5 06-28-19 SAFETY PLAN FOR BRIDGE ENDS IN MEDIANS

S-PL-6 06-15-21 SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE

S-PL-6A 06-28-19 SAFETY PLAN SAFETY HARDWARE PLACEMENT IN MEDIAN

**10-106.02 CABLE BARRIER**

S-CB-1 01-09-24 CABLE BARRIER PLACEMENT

S-CB-2 07-07-23 HIGH TENSION CABLE BARRIER

**10-106.03 CRASH CUSHIONS**

S-CC-1 01-09-24 CRASH CUSHION

S-CC-2 06-28-19 CRASH CUSHION (GATING) BARREL ARRAY

**10-106.04 GUARDRAIL DETAILS**

S-GR31-1 06-15-21 GUARDRAIL DETAILS

S-GR31-1A 06-28-19 GUARDRAIL AND BLOCK-OUT DETAILS

S-GR31-1B GUARDRAIL FASTENING HARDWARE

S-GR31-1C 07-07-23 GUARDRAIL GENERAL NOTES AND POST DETAILS

S-GR31-1D 03-01-23 GUARDRAIL POST PLACEMENT IN ROCK

**10-106.05 GUARDRAIL CONNECTIONS**

S-GRC-4 07-07-23 GUARDRAIL CONNECTION TO BRIDGE RAILING CONCRETE PARAPET

S-GRC-5 02-28-20 GUARDRAIL CONNECTION TO BRIDGE ENDS (TRAILING ENDS)

S-GRC-6 07-07-23 GUARDRAIL CONNECTION TO BRIDGE ENDS FOR LOW SPEED ROADWAYS

**10-106.06 GUARDRAIL (SPECIAL CASES)**

S-CPW-1 CURVED PARAPET WALL ≤ 40 M.P.H.

S-GRS-1 06-15-21 SPECIAL CASE LONG SPAN GUARDRAIL 1 POST, 2 OR 3 POSTS OMITTED

S-GRS-2 01-28-22 SPECIAL CASE GUARDRAIL ATTACHMENT TO CONCRETE DECKS

S-GRS-3 06-28-19 SPECIAL CASE GUARDRAIL FOOTING

S-GRS-4 05-04-22 SPECIAL CASE GUARDRAIL HEIGHT TRANSITION DETAIL

S-GRS-5 SPECIAL CASE WEAK-POST GUARDRAIL ATTACHMENT TO CULVERT

S-GRS-5A 06-15-21 WEAK-POST GUARDRAIL ASSEMBLY DETAILS FOR TYPE 1 & 2

S-GRS-5B WEAK-POST GUARDRAIL ASSEMBLY DETAILS FOR TYPE 3 & 4

S-GRS-6 SPECIAL CASE FLEXIBITLTY ON GUARDRAIL POST INSTALLATIONS

S-GRS-7 01-09-24 SHORT – RADIUS GUARDRAIL SYSTEM (SRGS)

S-GRS-7A 01-09-24 SHORT – RADIUS GUARDRAIL SYSTEM (SRGS) DETAILS

S-GRS-7B SHORT RADIUS-GR SYSTEM (SRGS) EYE-BOLT SPACING DETAILS

**10-106.07 GUARDRAIL TERMINALS**

S-GRT-1 10-29-21 TYPE 12 GUARDRAIL TERMINAL BURIED-IN-BACKSLOPE

S-GRT-1A LAYOUT OF FLARED GUARDRAIL (TL- 3)

S-GRT-1B LAYOUT OF FLARED GUARDRAIL (TL- 2)

S-GRT-2 06-28-19 TYPE 38 GUARDRAIL END TERMINAL

S-GRT-2P 10-16-20 EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL

S-GRT-2R 06-28-19 EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL (RETROFIT)

S-GRT-3 06-28-19 TYPE 21 GUARDRAIL END TERMINAL

S-GRT-4 TYPE 21 GATING END TERMINAL

S-GRT-4A TYPE 21 GATING END TERMINAL ANCHOR DETAILS

S-GRT-4B GATING TERMINAL POST & RAIL DETAILS

**10-106.08 GUARDRAIL ANCHORS**

S-GRA-1 06-28-19 TYPE 12 GUARDRAIL ANCHOR

S-GRA-1A 06-28-19 GUARDRAIL ANCHOR FOR TYPE 12 TERMINAL (ALTERNATIVE)

S-GRA-3 01-09-24 TYPE 13 GUARDRAIL ANCHOR

S-GRA-4 03-01-23 IN-LINE GUARDRAIL ANCHOR TO PRIVATE DRIVE

S-GRA-5 06-28-19 FLARED GUARDRAIL ANCHOR

**10-106.09 CONCRETE MEDIAN BARRIERS**

S-SSMB-1 01-28-22 32” SINGLE SLOPE CONCRETE BARRIER WALL

S-SSMB-1A 10-29-21 36” SINGLE SLOPE CONCRETE BARRIER WALL

S-SSMB-2 10-29-21 51” SINGLE SLOPE CONCRETE BARRIER WALL

S-SSMB-3 10-29-21 51” HALF SIZE SINGLE SLOPE CONCRETE BARRIER WALL

S-SSMB-4 07-17-20 FLARED SINGLE SLOPE CONCRETE MEDIAN BARRIER WALL (VERTICAL BACK)

S-SSMB-5 05-01-20 SINGLE SLOPE MEDIAN BARRIER WALL CATCH BASIN DETAIL

S-SSMB-6 06-28-19 32"CONCRETE SINGLE SLOPE BARRIER WALL WITH SINGLE GUARDRAIL ATTACHMENT

S-SSMB-6A 36” CONCRETE SINGLE SLOPE BARRIER WALL FOR ATTACHING GUARDRAIL

S-SSMB-6B DUAL GUARDRAIL ATTACHMENT TO SINGLE SLOPE 36” BARRIER WALL

S-SSMB-6C SINGLE GUARDRAIL ATTACHMENT TO SINGLE SLOPE 36” BARRIER WALL

S-SSMB-6D 51” CONCRETE SINGLE SLOPE BARRIER WALL FOR ATTACHING GUARDRAIL

S-SSMB-6E DUAL GUARDRAIL ATTACHMENT TO SINGLE SLOPE 51” BARRIER WALL

S-SSMB-6F SINGLE GUARDRAIL ATTACHMENT TO SINGLE SLOPE 51” BARRIER WALL

S-SSMB-7 05-01-20 FOOTING DETAILS FOR OVERHEAD SIGN STRUCTURE 32” MEDIAN BARRIER WALL

S-SSMB-8 05-01-20 FOOTING DETAILS FOR OVERHEAD SIGN STRUCTURE 51” MEDIAN BARRIER WALL

S-SSMB-9 10-29-21 SINGLE SLOPE BARRIER WALL FOR GRADE SEPARATED MEDIAN

S-SSMB-10 01-09-24 SPECIAL DETAIL FOR CONCRETE MEDIAN BARRIER WALL BARRIER WALL TRANSITION FROM 32” OR 36” TO 51”

**10-106.10 GUARDRAIL MAINTENANCE**

S-GR28-1M 06-15-21 W-BEAM & THRIE BEAM BARRIER RAIL AND RUB RAIL DETAILS

S-GR28-2M 06-28-19 GUARDRAIL HARDWARE DETAILS

S-GR28-3M 01-28-22 GUARDRAIL HEIGHT ADJUSTMENT

S-GR28-4M 06-28-19 GUARDRAIL TERMINAL ANCHOR TYPE 13

S-GR28-5M 06-28-19 MEDIAN DIVIDER GUARDRAIL

S-GR28-6M 10-29-21 GUARDRAIL ATTACHMENT TO CONCRETE DECKS

S-GR28-7M 06-28-19 GUARDRAIL ATTACHMENT TO BRIDGE END DETAILS MAINTENANCE ONLY

S-GRC-1M GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL

S-GRC-2M GUARDRAIL CONNECTION TO BRIDGE END FOR LOCAL ROADS (ADT<2000)

S-GRC-3M MEDIAN DIVIDER GUARDRAIL TRANSITION TO CONCRETE MEDIAN BARRIER

S-PL-2M SAFETY PLAN AT SIDE ROADS OR PRIVATE DRIVES

S-SSMB-6M GUARDRAIL ATTACHMENT TO EXISTING SINGLE SLOPE CONCRETE BARRIER WALL

**10-107.00 DESIGN - TRAFFIC CONTROL**

**10-107.01 PAVEMENT MARKINGS**

T-M-1 06-28-19 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS

T-M-2 01-09-24 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS

T-M-3 07-07-23 MARKING STANDARDS FOR TRAFFIC ISLANDS, PAVED SHOULDERS AND MEDIANS FOR CONVENTIONAL ROADS

T-M-4 07-17-20 STANDARD INTERSECTION PAVEMENT MARKINGS

T-M-4A 03-01-23 STANDARD UNSIGNALIZED MID-BLOCK CROSSING

T-M-4B 03-01-23 STANDARD SIGNALIZED MID-BLOCK CROSSING

T-M-4C PEDESTRIAN GATEWAY TREATMENT

T-M-5 03-01-23 MARKING DETAIL FOR FREEWAYS

T-M-6 03-01-23 MARKING DETAIL FOR EXPRESSWAY AND FREEWAY INTERCHANGES

T-M-7 06-28-19 GORE MARKING DETAILS FOR EXPRESSWAY & FREEWAY INTERCHANGES

T-M-8 06-28-19 MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS

T-M-9 05-01-23 PAVEMENT MARKING AND SIGNING DETAILS FOR RAMP INTERSECTIONS

T-M-9A PAVEMENT MARKING AND SIGNING DETAILS FOR RAMP INTERSECTIONS

T-M-9B PAVEMENT MARKING AND SIGNING DETAILS FOR RAMP INTERSECTIONS

T-M-15 06-28-19 ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES

T-M-15A 06-28-19 ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED RURAL ROUTES

T-M-16 03-04-21 RUMBLE STRIPE INSTALLATION LAYOUT

T-M-16A 02-03-20 RUMBLE STRIPE DETAILS FOR EDGE OF PAVEMENT AND CENTERLINE

T-M-17 05-04-22 PAVEMENT MARKING DETAILS FOR ROUNDABOUTS

T-M-18 10-29-21 FLEXIBLE DELINEATOR DETAILS

T-M-18A DELINEATOR MOUNTING DETAILS

T-M-19 01-09-24 PAVEMENT MARKING DETAILS FOR RESTRICTED CROSSING & J-TURN INTERSECTION.

**10-107.02 WORK ZONES**

T-WZ-10 04-02-12 ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS

T-WZ-11 03-04-21 ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS

T-WZ-12 03-04-21 ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS

T-WZ-13 05-01-20 TWO-OUTSIDE LANE CLOSURE FOR EXPRESSWAY AND FREEWAYS

T-WZ-14 03-04-21 TWO-OUTSIDE LANE CLOSURE FOR INTERSTATES AND EXPRESSWAYS

T-WZ-15 05-01-20 INTERIOR LANE CLOSURE FOR FREEWAYS

T-WZ-16 03-04-21 LANE SHIFT FOR DIVIDED HIGHWAYS AND FREEWAYS

T-WZ-18 07-07-23 SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS

T-WZ-19 03-04-21 MEDIAN CROSS-OVER DETAIL ON FREEWAYS

T-WZ-20 12-18-99 GEOMETRIC MEDIAN CROSS-OVER DETAIL ON DIVIDED HIGHWAYS

T-WZ-21 05-01-20 LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT

T-WZ-30 09-01-05 TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (40 MPH OR LESS)

T-WZ-31 09-01-05 TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (GREATER THAN 40 MPH)

T-WZ-32 11-30-20 TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

T-WZ-33 05-27-98 TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

T-WZ-34 09-01-05 TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

T-WZ-35 04-02-12 TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

T-WZ-36 03-05-17 LANE CLOSURE ON LOW-VOLUME 2-LANE HIGHWAY

T-WZ-40 03-05-17 RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

T-WZ-41 03-05-17 LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

T-WZ-42 03-05-17 CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS

T-WZ-50 04-02-12 TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES

T-WZ-51 04-02-12 TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR ROUTES

T-WZ-52 04-02-12 TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR 5 LANE MAJOR AND MINOR ROUTES

T-WZ-53 04-02-12 TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES

T-WZ-54 04-02-12 TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES AND 4 OR MORE LANE MINOR ROUTES

T-WZ-55 10-29-21 SIDEWALK TRAFFIC CONTROL

T-WZ-56 05-15-22 TRANSVERSE RUMBLE STRIP USE WITHIN WORK ZONES

T-WZ-60 FREEWAY RESURFACING SIGNING LAYOUT

T-WZ-61 05-15-22 ROLLING ROADBLOCK DETAIL FOR DIVIDED HIGHWAYS

T-WZ-62 CONSTRUCTION ACCESS/EMERGENCY PULL-OFF ON FREEWAYS

T-WZ-63 01-09-24 WORK ZONE IN THE VICINITY OF AN ENTRANCE RAMP

T-WZ-64 WORK ZONE IN THE VICINITY OF AN EXIT

T-WZ-65 LANE CLOSURE WITH LATE MERGE

T-WZ-FAB1 FLASHING YELLOW ARROW BOARD

T-WZ-PBR1 12-09-22 INTERCONNECTED PORTABLE BARRIER RAIL

T-WZ-PBR2 02-28-20 DETAILS FOR WORK ZONE CHANNELIZATION DEVICES

T-WZ-PCB1 12-09-22 10 FOOT PORTABLE CONCRETE BARRIER RAIL

T-WZ-PCB2 12-09--22 20 FOOT PORTABLE CONCRETE BARRIER RAIL

T-WZ-PCB2A 12-09-22 20 FOOT PORTABLE CONCRETE BARRIER RAIL STIFFENER TUBE

T-WZ-PCB3 01-28-22 PORTABLE CONCRETE BARRIER RAIL DETAILS

T-WZ-PCB4 12-09-22 PORTABLE CONCRETE BARRIER RAIL ANCHOR PIN DETAILS

**10-108.00 EROSION PREVENTION AND SEDIMENT CONTROL**

**10-108.01 DEWATERING DEVICES**

EC-STR-1 08-01-12 DEWATERING STRUCTURE

EC-STR-2 08-01-12 SEDIMENT FILTER BAG

**10-108.02 SLOPE DEVICES**

EC-STR-3B 06-15-21 SILT FENCE

EC-STR-3C 03-01-23 SILT FENCE WITH WIRE BACKING

EC-STR-3D 03-01-23 ENHANCED SILT FENCE

EC-STR-3E 04-01-08 SILT FENCE FABRIC JOINING DETAILS

EC-STR-8 06-10-14 FILTER SOCK

EC-STR-27 08-01-12 TEMPORARY SLOPE DRAIN AND BERM

EC-STR-29 08-01-12 PERMANENT SLOPE DRAIN PIPE

EC-STR-34 05-04-22 EROSION CONTROL BLANKET FOR SLOPE INSTALLATION

EC-STR-35 08-01-12 FILTER BERMS

EC-STR-37 06-10-14 SEDIMENT TUBE

**10-108.03 DITCH DEVICES**

EC-STR-4 08-01-12 ENHANCED SILT FENCE CHECK (TRAPEZOIDAL DITCH)

EC-STR-4A 08-01-12 ENHANCED SILT FENCE CHECK (V-DITCH)

EC-STR-4B 08-01-12 ENHANCED SILT FENCE CHECK DETAILS

EC-STR-6 11-30-20 ROCK CHECK DAM

EC-STR-6A 05-06-16 ENHANCED ROCK CHECK DAM

EC-STR-7 05-04-22 SEDIMENT TRAP WITH CHECK DAM

EC-STR-55 08-01-12 GABION CHECK DAM

EC-STR-56 04-01-08 GABION CHECK DAM DESIGN TABLES

EC-STR-57 04-01-08 GABION ASSEMBLY DETAILS

EC-STR-58 04-01-08 GABION ASSEMBLY DETAILS

EC-STR-59 08-01-12 GABION CHECK DAM GENERAL NOTES AND COMPONENT PROPERTIES

EC-STR-61 03-16-17 LEVEL SPREADERS

**10-108.04 INLET PROTECTION**

EC-STR-11 03-16-17 CULVERT PROTECTION TYPE 1

EC-STR-19 04-01-08 CATCH BASIN PROTECTION

EC-STR-39 08-01-12 CURB INLET PROTECTION TYPE 1 & 2

EC-STR-39A 08-01-12 CURB INLET PROTECTION TYPE 3 & 4

EC-STR-40 CATCH BASIN FILTER ASSEMBLY FOR CIRCULAR STRUCTURES

EC-STR-41 CATCH BASIN FILTER ASSEMBLY (TYPE 1)

EC-STR-41A CATCH BASIN FILTER ASSEMBLY (TYPE 1) SLIPCOVER DETAILS

EC-STR-42 CATCH BASIN FILTER ASSEMBLY (TYPE 2)

EC-STR-42A CATCH BASIN FILTER ASSEMBLY (TYPE 2) SLIPCOVER DETAILS

EC-STR-43 CATCH BASIN FILTER ASSEMBLY (TYPE 3)

EC-STR-43A CATCH BASIN FILTER ASSEMBLY (TYPE 3) SLIPCOVER DETAILS

EC-STR-44 CATCH BASIN FILTER ASSEMBLY (TYPE 4)

EC-STR-44A CATCH BASIN FILTER ASSEMBLY (TYPE 4) SLIPCOVER DETAILS

EC-STR-45 CATCH BASIN FILTER ASSEMBLY (TYPE 5)

EC-STR-45A CATCH BASIN FILTER ASSEMBLY (TYPE 5) SLIPCOVER DETAILS

EC-STR-46 CATCH BASIN FILTER ASSEMBLY (TYPE 6)

EC-STR-46A CATCH BASIN FILTER ASSEMBLY (TYPE 6) SLIPCOVER DETAILS

EC-STR-47 CATCH BASIN FILTER ASSEMBLY (TYPE 7)

EC-STR-47A CATCH BASIN FILTER ASSEMBLY (TYPE 7) SLIPCOVER DETAILS

EC-STR-48 CATCH BASIN FILTER ASSEMBLY (TYPE 8)

EC-STR-48A CATCH BASIN FILTER ASSEMBLY (TYPE 8) SLIPCOVER DETAILS

EC-STR-49 CATCH BASIN FILTER ASSEMBLY (TYPE 9)

EC-STR-49A CATCH BASIN FILTER ASSEMBLY (TYPE 9) SLIPCOVER DETAILS

EC-STR-50 CATCH BASIN FILTER ASSEMBLY (TYPE 10)

EC-STR-50A CATCH BASIN FILTER ASSEMBLY (TYPE 10) SLIPCOVER DETAILS

EC-STR-51 CATCH BASIN FILTER ASSEMBLY (TYPE 11)

EC-STR-51A CATCH BASIN FILTER ASSEMBLY (TYPE 11) SLIPCOVER DETAILS

**10-108.05 DETAINING DEVICES**

EC-STR-12 08-01-12 ROCK SEDIMENT DAM

EC-STR-13 08-01-12 ROCK AND EARTH SEDIMENT EMBANKMENT

EC-STR-15 08-01-12 SEDIMENT BASIN

EC-STR-16 08-01-12 SEDIMENT BASIN RISER AND COLLAR APPURTENANCES

EC-STR-17 08-01-12 SEDIMENT BASIN EMBANKMENT DETAILS

EC-STR-18 SEDIMENT BASIN FLOATING OUTLET STRUCTURE

EC-STR-21 05-04-22 PERMANENT RIPRAP BASIN ENERGY DISSIPATORS

**10-108.06 IN-STREAM DEVICES**

EC-STR-11A 08-01-12 CULVERT PROTECTION TYPE 2

EC-STR-25 08-01-12 TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD

EC-STR-30 INSTREAM DIVERSION (WITHOUT TRAFFIC)

EC-STR-30A INSTREAM DIVERSION (WITH TRAFFIC)

EC-STR-31 05-04-22 TEMPORARY DIVERSION CHANNEL

EC-STR-31A 04-01-08 TEMPORARY DIVERSION CHANNEL DESIGN

EC-STR-32 08-01-12 TEMPORARY DIVERSION CULVERTS

EC-STR-33 08-01-12 SUSPENDED PIPE DIVERSION (DOWNSTREAM)

EC-STR-33A 08-01-12 SUSPENDED PIPE DIVERSION (UPSTREAM)

EC-STR-36 05-04-22 TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION

EC-STR-38 08-01-12 FLOATING TURBIDITY CURTAIN

**10-109.00 NATURAL STREAM DESIGN**

**10-109.01 DEFLECTORS, VANES AND ENERGY DISSIPATORS**

D-NSD-13 05-01-20 LONGITUDINAL STONE TOE

D-NSD-21 05-01-20 BOULDER CLUSTERS

D-NSD-22 05-01-20 BOULDER CROSS VANE

D-NSD-23 05-01-20 BOULDER CROSS VANE WITH STEP

D-NSD-24 05-01-20 BOULDER W-WEIR

D-NSD-25 05-01-20 BOULDER VANES AND J-HOOK

D-NSD-26 11-30-20 LOG VANES, ROOT WADS, AND BOULDER J-HOOK

D-NSD-27 11-30-20 LOG AND BOULDER STEP POOLS

D-NSD-28 05-01-20 BOULDER RIFFLES

D-NSD-28A 11-30-20 LOG RIFFLES

D-NSD-29 05-01-20 CONSTRUCTED ALLUVIAL RIFFLE

D-NSD-30 05-01-20 SUBSTRATE RESTORATION

D-NSD-31 05-01-20 CLAY CHANNEL PLUG

D-NSD-32 05-01-20 WOOD TOE WITH GEO-LIFTS

D-NSD-32A 05-01-20 BOULDER TOE WITH GEO-LIFTS

D-NSD-33 05-01-20 COIR FIBER EROSION CONTROL BLANKET AND

COIR FIBER ROLLS

D-NSD-34 05-01-20 LIVE STAKES AND LIVE SILTATION

D-NSD-35 05-01-20 LIVE FASCINES

D-NSD-36 05-01-20 BRUSH MATTRESS

D-NSD-37 05-01-20 SPECIAL NOTES FOR NATURAL STREAM DESIGN