



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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April 3, 2006

MEMORANDUM TO: All Holders of July, 2006 Edition of the
Roadway Standard Drawings Book

FROM: J. V. Barbour, PE
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SUBJECT: New and Revised Standard Drawings

This memo informs all holders of revisions made for the July 2006 edition of the Roadway Standard Drawings. The new edition will be effective with the July 2006 letting. The 2006 standard drawings are English only.

Listed below are new standard drawings and standard drawings that have been deleted or revised since the January 2002 edition of the Roadway Standard Drawings.

NEW STANDARDS:

<u>STANDARD DRAWING</u>	<u>SHEETS</u>	<u>TITLE</u>
840.13	1	CONCRETE BRIDGE APPROACH DROP INLET
846.03	2	FUNNEL DRAIN INSTALLATION
846.04	1	DROP INLET IN SHOULDER BERM GUTTER
848.06	5	WHEELCHAIR RAMPS – EXISTING SIDEWALKS
862.04	1	ANCHORING OF GUARDRAIL – B-77 AND B-83
901.80	1	SIGN MOUNTING DETAILS – TYPE A AND TYPE B SIGNS
1180.01	1	SKINNY DRUM
1604.01	1	RAILROAD EROSION CONTROL DETAIL
1607.01	1	GRAVEL CONSTRUCTION ENTRANCE

1630.06	1	SPECIAL STILLING BASIN
1700.01	1	ELECTRICAL SERVICE OPTIONS
1700.02	1	ELECTRICAL SERVICE GROUNDING
1751.01	2	CONTROLLERS AND CABINETS
1751.02	1	CONTROLLERS AND CABINETS

REVISED/DELETED STANDARDS:

<u>STANDARD DRAWING</u>	<u>SHEET</u>	<u>TITLE/REVISION</u>
200.03	1	METHOD OF CLEARING – METHOD III -CHANGED DIMENSION AND NO BERM DITCH ARROW.
225.01	1	GUIDE FOR GRADING SUBGRADE -ADDED NOTES AND MODIFIED SECTION DETAILS.
225.03	6	DECELERATION AND ACCELERATION LANES -CHANGED 7” TO 7’ FOR DECELERATION LANE DETAIL
422.10	7	REINFORCED BRIDGE APPROACH FILLS -ADDED ADDITIONAL SHEETS TO SHOW 15’ AND 25’ APPROACH FILL OPTIONS
560.03	5	METHOD OF SHOULDER CONSTRUCTION -FIXED ARROWHEADS AND ADDED SHEET FOR CONCRETE SHOULDER METHOD II.
610.03	1	GUIDE FOR PAVING SHOULDERS UNDER BRIDGES – METHOD III -ADDED 10’ PAVED SHOULDER ON PLAN VIEW DETAIL.
610.04	1	ASPHALT WEARING SURFACE ON APPROACH SLAB -DELETED STANDARD.
654.01	1	PAVEMENT REPAIRS -DELETED SHEET 1 OF 2.
665.01	2	ASPHALT SHOULDERS MILLED RUMBLE

			STRIPS -CHANGED OFFSET OF RUMBLE STRIP TO 6" FROM EDGE OF PAVEMENT. ADDED SHEET 2.
700.01	2		CONCRETE PAVEMENT JOINTS -CHANGED DETAILS AND NOTES ON BOTH SHEETS
700.02	1		EXPANSION JOINT LAYOUT -CHANGED JOINT SPACING AND DETAILS
700.03	2		DOWEL ASSEMBLY -REMOVED GRABBER SCREW DETAIL AND CHANGED OTHER DETAILS AND NOTES.
720.01	3		CONCRETE SHOULDERS -CHANGED ROLLED STRIPS TO CONTINUOUS RUMBLE STRIP. CHANGED OFFSET FROM EDGE OF TRAVEL LANE TO 6" ADDED MILLED OPTION TO DETAILS. ADDED RAMP LAYOUT SHEET
820.01	1		FUNNEL AND FUNNEL DRAIN -CHANGED THICKNESS OF METAL FUNNEL FROM 1/8" TO 12 GAUGE. CHANGED NOTE FOR 12" STUB
820.04	3		DRAIN INSTALLATION IN SHOULDER BERM GUTTER -CHANGED SHEETS 1 AND 2 TO STD. 846.03. CHANGED SHEET 3 TO STD. 846.04
838.02	1		CONCRETE ENDWALL AND SLUICE GATE -CHANGED LETTERING ON SLUICE GATE.
838.34	2		REINFORCED CONCRETE ENDWALL – FOR DOUBLE AND TRIPLE 66" PIPE -PUT IN DIMENSION THAT WAS LEFT OFF SECTION BB.
840.01	2		BRICK CATCH BASIN -SHEET 1: CHANGED NOTES
840.03	3		FRAMES, GRATES, AND HOODS FOR USE ON STANDARD CATCH BASINS -SHEET 1: ADDED ARROWHEADS

840.04	2	CONCRETE OPEN THROAT CATCH BASIN -CHANGED TITLE OF STANDARD.
840.05	2	BRICK OPEN THROAT CATCH BASIN -CHANGED TITLE OF STANDARD.
840.17	2	CONCRETE MEDIAN DROP INLET TYPE 'A' DELETED CONCRETE APRON NOTE.
840.18	1	CONCRETE MEDIAN DROP INLET TYPE 'B' -DELETED CONCRETE APRON NOTE.
840.19	1	CONCRETE MEDIAN DROP INLET TYPE 'D' -DELETED CONCRETE APRON NOTE.
840.26	2	BRICK MEDIAN DROP INLET TYPE 'A' -DELETED CONCRETE APRON NOTE.
840.27	1	BRICK MEDIAN DROP INLET TYPE 'B' -DELETED CONCRETE APRON NOTE.
840.28	1	BRICK MEDIAN DROP INLET TYPE 'D' -DELETED CONCRETE APRON NOTE.
840.34	2	TRAFFIC BEARING JUNCTION BOX -REMOVED DOWEL 'C'BAR FROM BOTH SHEETS.
840.35	2	TRAFFIC BEARING GRATED DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES -CHANGED TITLE OF STANDARD AND ADDED TYPE AA CONCRETE TO NOTES.
840.36	2	TRAFFIC BEARING GRATED DROP INLET FOR STEEL DOUBLE FRAME AND GRATES -CHANGED TITLE OF STANDARD.
840.45	2	PRECAST DRAINAGE STRUCTURE -CHANGED STEPS NOTE
840.46	2	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE - CHANGED NOTES
842.01	1	CONCRETE AND BRICK RETAINING WALLS -DELETED STANDARD
842.02	1	CONCRETE AND BRICK RETAINING

WALLS
-DELETED STANDARD

842.03	1	CONCRETE AND BRICK RETAINING WALLS -DELETED STANDARD
844.01	1	CONCRETE STEPS -DELETED STANDARD
844.02	1	BRICK MASONRY STEPS -DELETED STANDARD
846.02	1	DROP INLET INSTALLATION IN EXPRESSWAY GUTTER -CHANGED TITLE OF STANDARD AND ADDED DETAILS.
848.02	2	DRIVEWAY TURNOUT – RADIUS TYPE -ADDED SHEET 2 WITH MORE DRIVEWAY GRADE INFORMATION
848.03	2	DRIVEWAY TURNOUT – DROP CURB TYPE -ADDED SHEET 2 WITH MORE DRIVEWAY GRADE INFORMATION
848.05	4	WHEELCHAIR RAMP – CURB CUT -CHANGED DETAILS TO SHOW TRUNCATED DOMES. CHANGED SPACING ON DOMES. ADDED ADDITIONAL SHEET. DELETED DETAILS FROM SHEET 3.
852.04	1	METHOD FROM PLACEMENT OF DROP INLETS IN GRASSED MEDIAN -ADDED CONCRETE APRON NOTE AND REMOVED PER FROM PREVIOUS NOTE
852.05	1	MEDIAN CURB FOR CATCH BASIN -ADDED CONCRETE APRON NOTE AND REMOVED PER FROM PREVIOUS NOTE
852.06	1	METHOD FROM PLACEMENT OF DROP INLETS IN ISLANDS -ADDED CONCRETE APRON NOTE AND REMOVED PER FROM PREVIOUS NOTE
852.10	1	MEDIAN CONSTRUCTION – WITH CURB AND GUTTER

			-CHANGED ISLAND COVER TO 4". CHANGED NOTES FOR BASE UNDER ISLAND COVER
853.01	1		CONCRETE GLARE SCREEN -DELETED STANDARD
854.04	2		CONCRETE MEDIAN BARRIER – PRECAST PERMANENT -CHANGED PIN AND LOOP CONNECTIONS. CHANGED REINFORCING STEEL. CHANGED CONNECTOR PIN.
857.01	8		PRECAST REINFORCED CONCRETE BARRIER -SHEET 1: DELETED -SHEET 2: CHANGED GUARDRAIL CONNECTIONS AND LABELS. -SHEET 3: CHANGED GUARDRAIL CONNECTIONS AND LABELS. -SHEET 4: DELETED. -SHEET 5: CHANGED LABELS AND END TREATMENTS. -SHEET 6: DELETED -SHEET 7: RENUMBERED. CHANGED SHEET REFERENCE NUMBERS. -SHEET 8: CHANGED PART SECTION OF BARRIER DETAIL FROM CHEMICAL ANCHOR TO BOLT THRU METHOD -SHEET 9: RENUMBERED. CHANGED SHEET REFERENCE NUMBERS. -SHEET 10: RENUMBERED. CHANGED SHEET REFERENCE NUMBERS.
862.01	11		GUARDRAIL PLACEMENT -SHEET 9: CHANGED CLEAR SPAN DETAIL TO CONFORM TO NCHRP-350.
862.02	7		GUARDRAIL INSTALLATION -SHEET 1: CHANGED DIMENSIONS AND NOTES IN CAT-1 ASSEMBLY DETAIL -SHEET 2: CHANGED DIMENSIONS AND NOTES IN AT-1 ASSEMBLY DETAIL -SHEET 4: CHANGED DETAILS AND DIMENSIONS FOR WOOD POSTS.
862.03	9		STRUCTURE ANCHOR UNITS

- SHEET 1: CHANGED TO TYPE II FOR 15' APPROACH SLAB. MOVED OLD DETAILS TO SHEET 9
- SHEET 2: CHANGED TO TYPE III FOR 25' APPROACH SLAB
- SHEET 3: NEW SHEET – TYPE III FOR 15' APPROACH SLAB
- SHEET 4: RENUMBERED AND CHANGED DETAILS. TYPE III FOR 25' APPROACH SLAB.
- SHEET 5: DELETED TYPE XI MODIFIED WITH RUB RAIL.
- SHEET 6: NEW B-77 ANCHOR UNIT
- SHEET 7: DETAILS FOR B-77 ANCHOR UNIT
- SHEET 8: NEW B-83 ANCHOR UNIT
- SHEET 9: DETAILS FROM PREVIOUS SHEET 1

865.01	12	CABLE GUIDERAIL -CHANGED PROTECTION OF MEDIAN HAZARDS DETAIL. -ADDED DETAIL SHEET FOR 46' MEDIAN GUIDERAIL TRANSITIONS -CHANGE MIN. DEFLECTION AREA DISTANCE TO 12' -CHANGED THE ANCHOR UNIT DETAILS.
901.10	2	TYPE 'A' SIGNS – WELDED STUD CONSTRUCTION -REVISED DETAILS AND CHANGED NOTES.
901.20	1	TYPE 'B' SIGNS – WELDED STUD CONSTRUCTION -REVISED DETAILS AND ADDED NOTE
901.30	1	VHB TAPE CONSTRUCTION – FOR TYPE 'A' SIGNS -REVISED DETAILSS AND ADDED NOTE
901.40	1	VHB TAPE CONSTRUCTION – FOR TYPE 'B' SIGNS -REVISED DETAIL AND ADDED NOTE
901.50	2	ARROWS AND SHIELDS -REVISED TABLES
901.60	1	RIVET SPACING FOR OVERLAYED SIGNS -REVISED DETAILS
901.70	2	SIGN STRINGERS AND SUPPORT SPACING -REVISED DETAILS AND TABLES

903.10	3	GROUND MOUNTED SIGN SUPPORTS -REVISED DETAILS, ADDED DETAIL AND ADDED A NOTE.
903.20	2	WOOD SIGN POST -ADDED NEW SHEET AND ADDED NOTE.
903.40	2	MEDIAN BARRIER SIGN SUPPORT AND ANCHORAGE -ADDED DETAIL AND MOVED DETAILS BETWEEN SHEETS. REVISED NOTES
904.40	1	MILEPOST AND PLACEMENT -ADDED SIGNS AND REVISED NOTES
904.50	2	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON U-CHANNEL POSTS -REVISED DETAILS AND NOTES. ADDED NOTE.
905.10	2	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLIES -REVISED DETAILS AND NOTES. ADDED NOTES
1101.02	9	TEMPORARY LANE CLOSURES -REVISED DETAILS AND NOTES ON SHEETS 1-7. -ADDED SHEETS 8 AND 9.
1101.03	9	TEMPORARY ROAD CLOSURES -REVISED DETAILS AND NOTES ON SHEETS 1-9.
1101.04	1	TEMPORARY SHOULDER CLOSURES -DETAILS ALL NEW. CHANGED NOTES
1101.05	1	WORK ZONE VEHICLE ACCESSES -REVISED DETAILS AND NOTES
1101.11	4	TRAFFIC CONTROL DESIGN TABLES -ADDED 70 MPH LINE AND REVISED OTHER TABLES.
1110.01	1	STATIONARY WORK ZONE SIGNS -REVISED GENERAL NOTES
1110.02	1	PORTABLE WORK ZONE SIGNS -REVISED DETAILS AND ADDED NOTE

1130.01	1	DRUM -REVISED DETAIL
1145.01	1	BARRICADES – TYPE III -COMPLETELY REVISED DETAIL
1150.01	1	FLAGGING DEVICES -REVISED DETAILS AND GENERAL NOTES
1160.01	1	TEMPORARY CRASH CUSHION -REVISED DETAILS AND ADDED NOTE
1165.01	1	TRUCK MOUNTED IMPACT ATTENUATOR -REVISED DETAILS AND ADDED NOTES
1170.01	4	PORTABLE CONCRETE BARRIER -REVISED STANDARD DETAILS AND NOTES TO CONFORM WITH NCHRP-350
1205.01	2	PAVEMENT MARKINGS – LINE TYPES AND OFFSETS -REVISED TABLE, ADDED NOTES AND ADDED DETAIL
1205.03	3	PAVEMENT MARKINGS – INTERCHANGES -REVISED DETAILS AND REMOVED TABLE
1205.04	2	PAVEMENT MARKINGS – INTERSECTION -REVISED DETAILS AND NOTES
12505.05	1	PAVEMENT MARKINGS – TURN LANES -REVISED DETAILS AND ADDED NOTES
1205.06	4	PAVEMENT MARKINGS -NEW DETAIL SHEET ADDED. REVISED OTHER DETAILS AND NOTES
1205.07	1	PAVEMENT MARKINGS – PEDESTIAN CROSSWALKS -ADDED NOTE AND REMOVED DETAIL.
1205.08	7	PAVEMENT MARKINGS – SYMBOLS AND WORD MESSAGES -REVISED NOTES
1205.09	1	PAVEMENT MARKINGS – PAINTED ISLANDS -REVISED DETAILS AND GENERAL NOTES

1205.10	1	PAVEMENT MARKINGS – SCHOOL AREAS -REMOVED NOTE 3.
1205.11	4	PAVEMENT MARKINGS – RAILROAD CROSSINGS -REVISED DETAILS AND CHART ON SHEET 1.
1205.12	1	PAVEMENT MARKINGS – BRIDGES -ADDED SIGNS AND NOTES
1250.01	3	PAVEMENT MARKER SPACING - REVISED TABLES AND DETAILS
1253.01	1	SNOWPLOWABLE RAISED PAVEMENT MARKERS -REVISED NOTES
1261.01	1	GUARDRAIL AND BARRIER DELINEATOR SPACING -REVISED NOTE 3
1262.01	1	GUARDRAIL END DELINEATION -REVISED NOTE AND SHEETING TYPE
1264.01	1	OBJECT MARKERS -REVISED SHEETING TYPE
1401.01	2	HIGH MOUNT STANDARD -REVISED DETAIL ON SHEET 1.
1402.01	1	HIGH MOUNT FOUNDATION -UPDATED QUANTITIES
1403.01	1	HIGH MOUNT LUMINARIES -CHANGED GLASS LENS
1405.01	3	STANDARD FOUNDATION -REVISED DETAILS ON SHEETS 2 & 3
1406.01	1	LIGHT STANDARD LUMINARIES -CHANGED GLASS LENS
1407.01	1	ELECTRIC SERVICE POLE AND LATERAL -REVISED DIMENSIONS
1408.01	3	LIGHT CONTROL SYSTEM -REVISED AND ADDED NOTES
1409.01	1	ELECTRICAL DUCT -REVISED DETAIL

1605.01	1	TEMPORARY SILT FENCE -ELIMINATED WOOD POST OPTION
1606.01	1	SPECIAL SEDIMENT CONTROL FENCE -ELIMINATED WOOD POST OPTION AND REVISED DETAIL
1622.01	1	GUIDE FOR TEMPORARY BERMS AND SLOPE DRAINS -ELIMINATED T-SECTION OPTION AND REPLACED WITH STONE INLET OPTION
1630.01	2	RISER BASIN -REVISED RISER PIPE SIZE
1630.02	1	SILT BASIN TYPE 'B' -DELETED NOTE ABOVE DETAIL
1630.04	1	STILLING BASIN FOR PUMPED AFFLUENT -DELETED OVERFLOW PIPE AND STONE BAFFLE.
1632.03	1	ROCK INLET SEDIMENT TRAP TYPE 'C' -ADDED ¼" WIRE TO MESH UNDER SEDIMENT CONTROL STONE
1633.01	1	TEMPORARY ROCK SILT CHECK TYPE 'A' -CHANGED HEIGHT (H) TO 12" MINIMUM
1635.02	1	ROCK INLET SEDIMENT TRAP TYPE 'B' -REVISED NOTE IN FIRST PARAGRAPH
1636.01	1	ROCK SILT SCREEN -DELETED STANDARD
1700.01	1	ELECTRICAL SERVICE OPTIONS -MOVED FROM STD. 1751.02. COMPLETELY REVISED.
1700.02	1	ELECTRICAL SERVICE GROUNDING -MOVED FROM STD. 1751.01. REVISED DRAWING. DELETED SHEET.
1705.01	2	SIGNAL HEADS – VEHICLE ASSEMBLIES -REVISED LASHING DESCRIPTION
1705.02	4	SIGNAL HEADS – PEDESTRIAN ASSEMBLIES -REVISED NOTES AND DETAILS
1715.01	2	UNDERGROUND CONDUIT – TRENCHING -REVISED NOTES AND DETAILS

1716.01	1	JUNCTION BOXES -REVISED DETAILS AND NOTES
1720.01	1	WOOD POLES -REVISED DIMENSIONS AND NOTES
1721.01	3	GUY ASSEMBLIES -REVISED CLAMP REQUIREMENTS
1725.01	3	INDUCTIVE DETECTION LOOPS -REVISED DIMENSIONS AND NOTES
1730.01	1	FIBER-OPTIC CABLE -DELETED NOTES
1730.02	1	FIBER-OPTIC CABLE -DELETED STANDARD
1733.01	1	DELINEATOR MARKINGS -DELETED STANDARD
1740.01	2	METAL POLES -DELETED STANDARD
1742.01	2	METAL POLE FOUNDATIONS -DELETED STANDARD
1743.01	1	SIGNAL PEDESTALS -DELETED SHEET 1