PROJECT TIP NO. U-5824 EFF. 01-15-18
COUNTY Forsyth County REV. 10-02-17
PROJECT ENGINEER Neil Dean, PE
PROJ. DESIGN ENGINEER Faith Jahnke, PE

REVIEW LIST FOR FINAL CONSTRUCTION PLANS
LET UNDER THE 2018 SPECIFICATIONS

CLICK THE RIGHT BOX TO APPLY "CHECK MARK" WHEN COMPLETED APPLICABLE ITEMS ON THIS REVIEW LIST. USE THE DROPDOWN ARROW TO PLACE "N/A" BY NON-APPLICABLE ITEMS.

TITLE SHEET

(1) ✔ LOCATION OF PROJECT IS COMPLETE AND ACCURATE
(2) ✔ COUNTY IS SHOWN
(3) ✔ TYPE OF WORK INCLUDES ALL ITEMS SHOWN ON CURRENT TENTATIVE LETTING LIST
(4) ✔ GRAPHIC SCALES ARE SHOWN FOR PLAN AND PROFILE SHEETS
(5) ✔ DESIGN DATA IS SHOWN
(6) ✔ CONTROL OF ACCESS NOTE SHOWN (FULL OR PARTIAL)
(7) N/A SHOW ANY ADDITIONAL "CONVENTIONAL SYMBOLS" ON SHEET 1B
(8) ✔ VICINITY MAP INCLUDES THE FOLLOWING:
  (A) ✔ CITY AND CITY LIMITS
  (B) ✔ INTERSTATE, U.S. AND STATE ROUTES
  (C) ✔ NORTH ARROW
  (D) ✔ BEGINNING AND END OF PROJECT
  (E) ✔ TITLE BLOCK
  (F) N/A OFFSITE DETOURS
(9) ✔ PROJECT LAYOUT ON NUMBERED SUPERIMPOSED SHEETS INCLUDES THE FOLLOWING:
  (A) ✔ PROJECT ALIGNMENT FOR ALL PROPOSED CONSTRUCTION, (-L- LINES, -Y- LINES, SERVICE ROADS, DETOURS, ETC)
  (B) N/A EXISTING ROADS AND STREETS AFFECTED BY CONSTRUCTION BUT NOT A PART OF THE PROJECT
  (C) ✔ ROUTE NUMBERS, SURVEY LINE NUMBERS, STREET NAMES, ETC.
  (D) N/A SYMBOLS FOR PROPOSED BRIDGES AND CULVERTS 20'/6 m AND OVER WITH BEGINNING AND ENDING STATIONS
  (E) ✔ STREAMS AND RIVERS
  (F) ✔ RAILROADS
  (G) N/A CITY LIMITS
  (H) N/A STATE AND COUNTY LIMITS
  (I) ✔ BEGINNING AND ENDING STATIONS FOR EACH PROJECT
  (J) ✔ BEGIN AND END CONSTRUCTION OUTSIDE PROJECT LIMITS
  (K) ✔ DESTINATION POINTS AT BEGINNING AND ENDING OF PROJECT
  (L) ✔ NORTH ARROW

(10) ✔ PROJECT NUMBER INFORMATION INCLUDES THE FOLLOWING:
- (A) ✔ PROJECT CONTRACT NUMBER AND T.I.P. NUMBER ON LEFT END OF SHEET
- (B) N/A P.E., R/W, UTILITY AND CONSTRUCTION F.A. PROJECT NUMBERS IN PROJECT IDENTIFICATION BLOCK (TOP RIGHT CORNER)
- (C) ✔ P.E., R/W, UTILITY AND CONSTRUCTION WBS ELEMENTS IN PROJECT IDENTIFICATION BLOCK (TOP RIGHT CORNER)

(11) ✔ LENGTH OF PROJECT CORRECT (LENGTH SHOWN FOR ROADWAY, STRUCTURE AND TOTAL PROJECT)
(12) ✔ SHOWN PLANS PREPARED BY: Summit Design & Engineering Services
(13) ✔ MONTH, DAY AND YEAR OF R/W AND LETTING SHOWN
(14) N/A AREAS NOT PART OF PROJECT NOTED
(15) ✔ REMOVE CLEARING METHOD NOTE
(16) ✔ REMOVE NOTE FOR MUNICIPAL BOUNDARIES

INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS

(1) ✔ SUBMIT 8 ½" x 11" WORK SHEETS TO PLAN REVIEW (AFTER REVIEW RETURN WORKSHEETS AND COMPLETED SHEET 1-A TO PLAN REVIEW)

TYPICAL SECTIONS

(1) ✔ PAVEMENT SCHEDULE CORRESPONDS WITH PAVEMENT DESIGN LETTER
(2) ✔ PAVEMENT COMPOSITIONS LABELED TO CORRESPOND WITH PAVEMENT SCHEDULE
(3) ✔ DIMENSIONS SHOWN ON PAVEMENT, SUBGRADES, STABILIZATION, SHOULDERS, DITCHES, SLOPES, CENTERLINE TO CENTERLINE, MEDIANS, SIDEWALKS, UTILITY STRIPS, CURB & GUTTER, ETC.
(4) ✔ SLOPES SHOWN ON PAVEMENT, FLEXIBLE PAVEMENT EDGE, SHOULDERS, SUBGRADE, DITCHES, HINGE POINT GRADING, CUTS AND FILLS, RUMBLE STRIPS
(5) ✔ STATION TO STATION SHOWN WITH CORRECT LINE REFERENCE
(6) N/A STATIONS ARE BROKEN FOR BRIDGES AND EQUALITIES
(7) ✔ GRADING LIMIT LINES SHOWN
(8) ✔ GRADE POINT SHOWN ON EACH TYPICAL SECTION
(9) N/A INFORMATION RELATED TO FUTURE CONSTRUCTION SHOWN
(10) ✔ VARIABLE LIMITS SHOWN
(11) ✔ NECESSARY NOTES OF EXPLANATION SHOWN
(12) ✔ TEMPORARY PAVEMENT REQUIRES A TEMPORARY PAVEMENT DESIGN FROM THE PAVEMENT MANAGEMENT UNIT AND A TYPICAL SECTION

DETAILS (WHERE APPLIED)

(1) ✔ INTERSECTIONS AND ISLANDS
(2) N/A LAYOUT OF SYMBOLS FOR TYPES OF CONCRETE PAVEMENT (THROUGH LANES, RAMPS AND MISCELLANEOUS)
(3) N/A RIP RAP NOT SHOWN BY STANDARDS
(4) N/A TEMPORARY SHORING

(5) N/A BENCH SLOPES
(6) N/A ROCK PLATING
(7) ✔ SPECIAL DRAINAGE STRUCTURE OR ENDWALLS
(8) ✔ SPECIAL DITCHES
(9) ✔ GUARDRAIL NOT COVERED BY STANDARDS
(10) N/A ASPHALT WEARING SURFACE ON CORED SLAB AND BOX BEAM BRIDGES

PLAN SHEETS

(1) ✔ BEGINNING AND ENDING STATIONS ARE SHOWN ON FIRST AND LAST PLAN SHEET TO AGREE WITH TITLE SHEET AND TYPICAL SECTIONS
(2) ✔ EXISTING PAVEMENT WIDTH AND TYPE IS SHOWN
(3) ✔ GRADE LINES AND DESIGN CORRECT
(4) ✔ THE FOLLOWING ARE SHOWN ON EACH PLAN AND/OR PROFILE SHEET:
- (A) ✔ NORTH ARROW
- (B) ✔ BEARINGS
- (C) ✔ CURVE DATA WITH SUPERELEVATION AND RUNOFF
- (D) ✔ CONSTRUCTION LIMITS, BERM DITCHES AND LATERAL DITCHES
- (E) ✔ PROPERTY OWNERS, PROPERTY LINES AND PARCEL NUMBERS
- (F) ✔ R/W, EASEMENT, CONTROL OF ACCESS BREAKS BY STATION AND DISTANCE
- (G) N/A AREAS TO REMAIN UNDISTURBED WITHIN THE RIGHT-OF-WAY ARE CLEARLY MARKED
- (H) N/A FENCE AND TYPE
- (I) ✔ STREETS, ROADS AND DRIVEWAYS
- (J) N/A ONSITE DETOURS
- (K) N/A DISPOSITION OF OLD ROADS IF PROJECT IS A RELOCATION
- (L) N/A DIMENSIONS OF PAVEMENT AND SHOULDERS IN RELATION TO PROPOSED BRIDGE WIDTH (SKETCH)
- (M) ✔ PROPOSED PAVEMENT AND RIGHT-OF-WAY WIDTHS AT THE BEGINNING AND END OF EACH SHEET
- (N) ✔ SHOW LANE LINES AT INTERSECTIONS, TAPERS, AUXILIARY LANES, ETC.
- (O) ✔ -Y- LINES WITH BEGINNING AND ENDING CONSTRUCTION STATIONS AND STATION TIES WITH MAIN LINE
- (P) ✔ TRAFFIC DATA FOR INTERSECTIONS
- (Q) ✔ LIMITS OF PAVED SHOULDERS AT INTERSECTIONS
- (R) N/A NOTE WHERE SIGHT DISTANCE GRADING IS REQUIRED
- (S) N/A BORROW AND/OR WASTE AREAS IF FURNISHED BY DOT
- (T) ✔ REMOVAL OF EXISTING PIPES
- (U) ✔ PIPES TO BE PLUGGED
- (V) ✔ CROSS REFERENCE NOTES CORRECT
- (W) N/A SYMBOL DENOTING PAVEMENT REMOVAL LOCATIONS
- (X) N/A BEGINNING AND END STATION FOR BRIDGES AND CULVERTS
- (Y) N/A UNDERCUT EXCAVATION ON PROFILE
- (Z) N/A STRUCTURAL SHEET NUMBERS, IF COMBINED BID
- (AA) ✔ HYDRAULIC DATA (DRAINAGE AREA, FREQUENCY, ETC.)

(BB) N/A FALSE SUMP DETAIL [IF NOT SHOWN ON DITCH DETAILS SHEET (2D-SERIES)]
(CC) ✔ BENCH MARKS (PROFILES AND/OR SURVEY CONTROL SHEETS)
(DD) ✔ LABEL QUANTITIES AT EACH LOCATION AS FOLLOWS:
1. ✔ RIP RAP
2. ✔ DRAINAGE DITCH EXCAVATION
3. ✔ GEOTEXTILE FOR DRAINAGE
(EE) ✔ DRAINAGE
(FF) ✔ REMOVE BASELINE AND BASELINE STATIONS
(GG) ✔ ENSURE BASELINE DATA IS SHOWN WITH POINT SYMBOL AND POINT NUMBER
(HH) ✔ LABEL WELLS TO BE SEALED AND ABANDONED.

INTERCHANGE SHEETS

(1) N/A INTERCHANGE SHEETS PROPERLY MATCHED WITH ADJACENT PLAN SHEET WITH NO OVERLAPPING COVERAGE, IF POSSIBLE
(2) N/A STRUCTURES CHECKED FOR VERTICAL AND HORIZONTAL CLEARANCES
(3) N/A THE FOLLOWING INFORMATION SHOWN ON THE INTERCHANGE DETAILS AND PROFILES:
(A) TRAFFIC DATA
(B) BAR SCALE
(C) ADDITIONAL ITEMS AS LISTED UNDER PLAN SHEETS
(4) N/A CONTOUR GRADING DETAIL SHOWN, IF REQUESTED BY THE DIVISION
(5) N/A CROSS-SECTION LAYOUT DETAIL/SHEAR POINT DIAGRAM(NOT ALWAYS REQUIRED FOR DIAMOND INTERCHANGE)

INTERSECTION SHEETS

THE INFORMATION SHOWN ON THE INTERSECTION DETAILS SHALL BE RESTRICTED TO DESIGN DATA ONLY. THE FOLLOWING SHALL BE SHOWN:
(1) N/A SHOW INFORMATION FOR CONSTRUCTING THREE CENTERED CURVES
(2) ✔ ISLAND DETAILS
(3) ✔ LEGEND FOR ISLANDS, SIDEWALKS, CURB RAMPS
(4) ✔ ALIGNMENT
(5) ✔ LANE MARKINGS
(6) ✔ BAR SCALE
(7) ✔ PROPOSED EDGES OF PAVEMENT
(8) ✔ NORTH ARROWS
(9) ✔ SUPERELEVATION RATES
(10) ✔ PAVED SHOULDER WIDTHS
(11) ✔ SUFFICIENT DIMENSIONS AND TIE POINTS FOR FIELD LOCATION

CROSS-SECTIONS

(1) ✔ SHOW EXISTING GROUND LINE, STATIONS AND ELEVATIONS
(2) ✔ TEMPLATES SHOWING LABELED CUT AND FILL SLOPES, GUARDRAIL WIDENING, DITCHES, CHANNEL CHANGES, ETC.
(3) ✔ GEOLOGY REPORT REVIEWED TO ASSURE CONFORMITY WITH PLANS

(4) ✔ UNDERCUT EXCAVATION AND/ OR SHALLOW UNDERCUT SYMBOL IS SHOWN
(5) ✔ NOTE ON CROSS-SECTION SUMMARY SHEET SHOULD INDICATE WHETHER OR NOT THE EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT
(6) ✔ EARTHWORK COMPUTATION SHEETS COMPLETE
(7) ✔ CROSS-SECTIONS CHECKED TO ASSURE ADEQUATE SIGHT DISTANCES AT BRIDGES AND INTERSECTIONS
(8) ✔ NOTE SHOWN ON CROSS-SECTION SUMMARY SHEET
(9) ✔ SCALE SHOWN ON EACH SHEET

GUARDRAIL DESIGN

(1) ✔ GUARDRAIL SHOWN FOR BRIDGE PIERS, CULVERTS, LARGE PIPE, SIGN SUPPORTS AND OTHER FIXED OBJECTS
(2) ✔ GUARDRAIL SHOWN FOR PONDS, RIVERS AND OTHER WATER RELATED HAZARDS
(3) ✔ GUARDRAIL SHOWN ON PLANS
(4) ✔ GUARDRAIL SHOWN ON THE GUARDRAIL SUMMARY SHEET
(5) ✔ SPECIAL DETAILS SHOWN AS REQUIRED
(6) N/A ENSURE THAT THE STRUCTURE GUARDRAIL ANCHOR SHOWN ON THE PLANS ATTACHES TO THE BRIDGE BARRIER

SUMMARY OF QUANTITIES

(1) ✔ COMPUTATION SHEET TOTALS FOR EACH PAY ITEM CHECKED AGAINST ESTIMATE
(2) ✔ SUMMARY SHEETS INITIALED BY PERSON WHO WORKED AND CHECKED SUMMARIES
(3) N/A REFERENCE PAVEMENT STRUCTURE VOLUME (WHEN APPLICABLE) BELOW EARTHWORK SUMMARY
(4) ✔ EARTHWORK SUMMARY (SHOW NOTE RELATED TO GEO-TECH DATA)
(5) ✔ DRAINAGE SUMMARY
(6) ✔ GUARDRAIL SUMMARY
(7) N/A SHOULDER DRAIN SUMMARY
(8) ✔ PAVEMENT REMOVAL SUMMARY
(9) N/A FENCE SUMMARY (URBAN PROJECTS)
(10) ✔ GEOTECHNICAL SUMMARIES (SHEET 3G-1)
(11) N/A MISCELLANEOUS SUMMARIES AS NECESSARY

ESTIMATES

(1) ✔ ESTIMATE MADE FOR EACH WBS ELEMENT, FEDERAL PROJECT NUMBER, AND OTHER PARTS AS NECESSARY
(2) ✔ FINAL TRNS*PORT ESTIMATE CHECKED AGAINST THE QUANTITY CALCULATIONS
(3) ✔ DESCRIPTION NUMBER, SECTION NUMBER AND ITEM DESCRIPTION CHECKED AGAINST PAY ITEM LIST
(4) N/A FORCE ACCOUNT ITEMS INCORPORATED INTO THE ESTIMATE ON F.A. PROJECTS
(5) ✔ TRNS*PORT ESTIMATE PLACED IN THE PROJECT FILE
(6) ✔ PROJECT LENGTH SHOWN ON ESTIMATE AGREES WITH TITLE SHEET

(ROADWAY'S LENGTH ONLY)

(7) ✔ COST BASED ESTIMATE QUANTITY BREAKDOWN SUMMARY SHEET COMPLETED

(8) N/A INCLUDE ON ROADWAY ESTIMATE ANY STRUCTURE REMOVAL PAY ITEMS NOT INCLUDED ON THE STRUCTURE ESTIMATE

GENERAL

(1) ✔ CHECK SUBSURFACE PLANS WITH GRADE LINE AND EARTHWORK BALANCE SHEET AGAINST FINAL ROADWAY PLANS

(2) ✔ ALL FILE FOLDERS IDENTIFIED BY CONSTRUCTION WBS ELEMENT, T.I.P. NUMBER, CONTRACT NUMBER AND COUNTY

(3) ✔ ALL QUANTITY CALCULATION SHEETS IDENTIFIED BY THE T.I.P. NUMBER. SHOW CONSTRUCTION WBS ELEMENT AND SIGNATURE ON SHEET NO. 1

(4) N/A EXCAVATION QUANTITIES AT CULVERTS HAVE BEEN COORDINATED WITH STRUCTURE MANAGEMENT

(5) ✔ REMOVE "PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION" NOTE FROM ALL SHEETS

(6) N/A DESIGN EXCEPTION REQUESTED, APPROVED, AND NOTED ON PLANS

(7) ✔ RIGHT-OF-WAY REVISION NOTES REMOVED FROM THE PLANS

(8) ✔ T.I.P. NUMBER IS SHOWN ON ALL SHEETS

(9) ✔ COORDINATE FINAL PLANS WITH PLANNING & ENVIRONMENTAL AND HYDRAULICS UNIT TO ENSURE COMPLIANCE WITH PERMIT

(10) ✔ UTILITY ITEMS ARE INCLUDED

(11) ✔ LANDSCAPE AND EROSION CONTROL ITEMS ARE INCLUDED

(12) ✔ SIGNING AND SIGNALIZATION ITEMS ARE INCLUDED

(13) ✔ TRAFFIC CONTROL PLAN ITEMS ARE INCLUDED

(14) ✔ SHOW RIGHT-OF-WAY PLAN SHEET NUMBER IN THE MARGIN ABOVE THE TITLE BLOCK IF DIFFERENT FROM CONSTRUCTION SHEET NUMBERS (EXAMPLE: R/W 12)

(15) N/A COMPLETE CHECKLIST FOR COORDINATION OF ROADWAY AND STRUCTURE PLANS (CIRCLE TYPE OF APPROACH FILL SPECIFIED IN STRUCTURE PLANS ITEM #8)

(16) ✔ PLACE IMAGE OF PROFESSIONAL ENGINEER SEAL (MULTIPLE SEALS MAY BE REQUIRED ON A SINGLE SHEET) WITH ENGINEER'S NAME AND LICENSE NUMBER. ELECTRONIC SIGNATURES ARE NOT REQUIRED AT THE INITIAL TURN-IN TO PLAN REVIEW.

(17) N/A HAS PAVEMENT MANAGEMENT REVIEWED PLANS FOR SHOULDER DRAIN LOCATIONS?

(18) ✔ SUBMIT FULL SIZE CROSS-SECTION SHEET IF 30 SHEETS OR LESS. SUBMIT LEDGER CROSS-SECTION SHEETS IF 31 SHEETS OR MORE.

(19) N/A ENSURE PLANS INCLUDE ANY "ENVIRONMENTAL COMMITMENTS".

(20) ✔ ALL INDIVIDUAL PDF SHEETS MUST BE SCALED 34" WIDE X 22" HIGH.

(21) N/A BIND PLANS WITH BINDER CLIPS. NO SCREWS, PLEASE.

(22) ✔ PROJECT FILE CONTAINS CORRESPONDENCE RELATED TO STANDARD SPECIFICATIONS SECTIONS 210 OR 215.

(23) ✔ INCLUDE PARCEL INDEX SHEET (FOR PROJECTS WITH 2 OR MORE PLAN SHEETS AS 3P-1.

(24) N/A ☐ INCLUDE BRIDGE "FOUNDATION RECOMMENDATIONS" IN THE BOUND FILE.

(25) ✔ RETAINING OR SOUND BARRIER WALLS PLANS INCLUDED AS SPECIFIED BY MR. ART MCMILLIAN, P.E. (PER MEMO 7-29-05)

(26) ✔ REFER TO THE ROADWAY DESIGN MANUAL, PART II, CHAPTER 13, SECTION 13-1 FOR PROJECT FILE CONTENT.

(27) ✔ AT THE TIME FINAL PLANS ARE SUBMITTED TO THE PLAN REVIEW SECTION, SEND A PDF OF THE TRANSPORT ESTIMATE FOR EACH OF THE DESIGN UNITS TO THE DIVISION CONSTRUCTION ENGINEER.

(28) ✔ AT THE TIME FINAL PLANS ARE SUBMITTED TO THE PLANS CHECKING UNIT, NOTIFY LOCATION & SURVEYS (L & S) CENTRAL OFFICE THAT PLANS ARE COMPLETE OF THE CURRENT DIRECTORY OF THE ELECTRONIC DESIGN PLANS (EMAIL TO UNIT HEAD IS SUFFICIENT).

(29) ✔ ONCE THE BALANCE SHEET HAS BEEN CHECKED BY THE PLANS AND STANDARDS MANAGEMENT SECTION, PLACE AN ELECTRONIC COPY (EXCEL FORMAT REQUIRED) OF THE EARTHWORK BALANCE SHEET IN THE "PRELETSTAGE\TIP#\ROADWAY\EARTHWORK BALANCE SHEET" FOLDER.

(30) ✔ GEOTECHNICAL STANDARD DRAWINGS AND PROVISIONS ARE CURRENT. FOR STANDARD DRAWINGS, COMPARE DRAWING DATE TO EFFECTIVE LET DATE SHOWN HERE:
https://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
FOR STANDARD PROVISIONS, COMPARE PROVISION DATE TO EFFECTIVE LET DATE SHOWN HERE
https://connect.ncdot.gov/resources/Geological/Pages/Geotech_Provisions_Notes.aspx

(31) ✔ HAVE YOU COORDINATED THE "GEOTECHNICAL SUMMARY TABLES" WITH THE GEOTECHNICAL ENGINEERING UNIT? (PER GEOTECH. AUGUST 28, 2012 MEMO)

(32) ✔ SEND A PDF OF YOUR PLANS TO PAVEMENT MANAGEMENT AND TO THE HYDRAULICS UNIT FOR REVIEW BEFORE SEALING THEIR PLANS

SPECIAL PROVISIONS

(1) ✔ (SPECIAL PROVISIONS WRITTEN FOR ALL PAY ITEMS AND CONTRACT IMPLEMENTATION ITEMS NOT COVERED BY THE CURRENT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES", PROJECT PROVISIONS OR STANDARD SPECIAL PROVISIONS.

PLANS PREPARED BY: Faith Jahnke, PE