PDN Stage 4 – Contract Standards Checklist

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| **SPOT ID/Project TIP #:** | Click or tap to edit. |
| **County:** | Click or tap to edit. |

4CS1 Complete PS&E Package: Review List for Final Construction Plans

| **Item #** | **Review Item** | **Yes** | **No** | **N/A** |
| --- | --- | --- | --- | --- |
|  | **General Items** | | | |
| 1 | Ensure document sets for correspondence and roadway supporting documents are created on SharePoint according to the PS&E checklist for projects |  |  |  |
| 2 | Create a combined PDF copy of all quantity sheets in the same order as the master pay item list. The first page should be the calculation of quantities cover sheet |  |  |  |
| 3 | Include the note “Structures Pay Item” for items on the Roadway plans covered by Structures. |  |  |  |
| 4 | Remove “PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION” labels from Final Plans sheets |  |  |  |
| 5 | The “Document not considered final unless all signatures completed” sticker should appear on the plans sheets to be sealed and design files containing information used to generate them |  |  |  |
| 6 | Approved Design Exception package is provided, if applicable |  |  |  |
| 7 | Right of Way revision notes removed from the plans |  |  |  |
| 8 | TIP number is shown on all sheets |  |  |  |
| 9 | Plan sheet numbers for plans from all disciplines are included in the index of sheets for sheet 1A |  |  |  |
| 10 | If the sheet numbers have changed for any parcel since the plans were sent for Right of Way acquisition, verify the R/W sheet number appears in the title block |  |  |  |
| 11 | Complete and submit signed checklist for coordination of roadway and structure plans |  |  |  |
| 12 | Place image of professional engineer seal with Engineer’s name and license number. Multiple seals may be required on a single sheet. Electronic signatures may be applied but are not required at the initial turn in to Plans and Standards Management for plan review |  |  |  |
| 13 | Verify Pavement Management has reviewed plans for shoulder drain locations |  |  |  |
| 14 | If submitting printed plans, submit 34” X 22” cross section sheets if 30 sheets or less. Submit 17” X 11” cross section sheets if 31 sheets or more. |  |  |  |
| 15 | Ensure all individual pdf sheets are scaled 34” Wide X 22” High except as noted for cross sections above |  |  |  |
| 16 | Ensure plans include any environmental commitments |  |  |  |
| 17 | Project documentation contains correspondence from Division Right of Way related to NCDOT Standard Specifications sections 210 or 215 |  |  |  |
| 18 | Include a parcel index sheet for projects with 2 or more plan sheets starting with sheet number 3P-1 |  |  |  |
| 19 | Include bridge foundation recommendations in the Correspondence Docu-set on SharePoint |  |  |  |
| 21 | Ensure the required roadway supporting documentation from the PS&E checklist is provided. Refer to the Roadway Design Manual Part II, Section 13.10 for further guidance |  |  |  |
| 22 | At the time final plans are submitted to r, ensure a PDF of the AWP or PIQ estimate is uploaded on SharePoint following PS&E checklist guidance |  |  |  |
| 23 | Verify Geotechnical standard drawings and provisions provided 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> |  |  |  |
| 24 | Verify the Geotechnical Summary Tables produced and approved by Geotechnical Engineering match the recommendation letters |  |  |  |
| 25 | Send a PDF of your plans to the Pavement Management and Hydraulic Engineer of Record for review prior to sealing their plans |  |  |  |
|  | **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 and accurate for plan and profile sheets |  |  |  |
| 5 | Design data is shown |  |  |  |
| 6 | Control of access note shown (full or partial) |  |  |  |
| 7 | Approved Design Exception note shown, if applicable |  |  |  |
| 8 | Vicinity map includes the following: |  | | |
| A | City name and municipal limits; County names and limits |  |  |  |
| B | Interstate, US and State Routes |  |  |  |
| C | North arrow |  |  |  |
| D | Beginning and end of project or project location, as appropriate |  |  |  |
| E | Title block |  |  |  |
| F | Offsite detours with legend as needed. |  |  |  |
| 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 | Existing roads and streets affected by construction but not a part of the project |  |  |  |
| C | Route numbers, survey line numbers, street names, etc. |  |  |  |
| D | Symbols for proposed bridges and culverts 20’ and over with beginning and ending stations |  |  |  |
| E | Streams and rivers |  |  |  |
| F | Railroads |  |  |  |
| G | City limits |  |  |  |
| H | State and County limits |  |  |  |
| I | Beginning and ending stations for each project |  |  |  |
| J | Begin and end construction outside project limits. Not needed for y-lines |  |  |  |
| K | Destination points at beginning and ending of project |  |  |  |
| L | North arrow |  |  |  |
| 10 | Project number includes the following: |  |  |  |
| A | Project contract number and TIP number on sheet |  |  |  |
| B | P.E., R/W, Utility, and Construction F.A. project numbers in project identification block, if federally funded |  |  |  |
| C | P.E., R/W, Utility, and Construction WBS elements in project identification block |  |  |  |
| 11 | Length of project information correct showing Roadway, Structure, and Total Project lengths |  |  |  |
| 12 | NCDOT Project Manager’s name and Firm/NCDOT Engineer of Record’s name are shown |  |  |  |
| 13 | Design firm’s official name and License number is shown on each sheet where a seal is required |  |  |  |
| 14 | Month, day, and year of R/W and Letting shown |  |  |  |
| 15 | Areas not part of project noted |  |  |  |
| 16 | Remove clearing method note |  |  |  |

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|  | **Index of Sheets, General Notes, and List of Standards (1A Sheet)** | | | |
| 1 | Submit completed 1A Excel spreadsheet with boxes checked under the General Notes and List of Standard Drawings tabs upon first submittal to plan review. An index of sheets can be completed in the Excel file template or submitted as a separate document |  |  |  |
| 2 | After initial review, submit a completed 1A sheet including information from the corrected Index of Sheets, General Notes, and List of Standard Drawings in a 34” x 22” PDF format |  |  |  |
|  | **Conventional Symbols (1B Sheet)** | | | |
| 1 | Add any project specific symbols to the standard 1B sheet or add symbol definitions to each affected plan sheet |  |  |  |
| 2 | Verify current standard 1B sheet is included |  |  |  |
|  | **Typical Sections** | | | |
| 1 | Pavement schedule corresponds with Final 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, shoulders, subgrade, ditches, hinge point, grading, cuts and fills, rumble strips |  |  |  |
| 5 | Station to Station shown with correct alignment reference |  |  |  |
| 6 | Stations are broken for bridges and equalities |  |  |  |
| 7 | “Grade to this Line” label is shown and points to the subgrade |  |  |  |
| 8 | Grade point or crown point shown on each typical section as appropriate |  |  |  |
| 9 | Detail showing shallow undercut by station range, if applicable |  |  |  |
| 10 | Detail(s) showing milling and/or wedging, if applicable |  |  |  |
| 11 | Information related to paving or other construction operations which will be covered under a future project is shown |  |  |  |
| 12 | Show high and low values for variable slopes and variable widths |  |  |  |
| 13 | Necessary notes of explanation shown |  |  |  |
| 14 | Temporary pavement typical section and design as needed |  |  |  |
| 15 | Typical sections under bridges are removed except in circumstances where needed through coordination with railroads or for construction of greenways or paths |  |  |  |
| 16 | Typical sections on bridges are provided |  |  |  |
| A | Asphalt wearing surface on cored slab and box beam bridges is shown |  |  |  |
| B | Note to “See structure plans for structure construction details” is included |  |  |  |
|  | **Details (as needed)** | | | |
| 1 | Intersections and Islands |  |  |  |
| 2 | Include Rip Rap on ditch details unless covered by the Roadway Standard Drawings |  |  |  |
| 3 | Temporary Shoring |  |  |  |
| 4 | Bench Slopes |  |  |  |
| 5 | Special Drainage Structure or Endwalls |  |  |  |
| 6 | Special Ditches |  |  |  |
| 7 | Guardrail not covered by Standards |  |  |  |
|  | **Plan Sheets** | | | |
| 1 | Begin and end project stations are shown on the first and last plan sheet and agree with title sheet and typical sections |  |  |  |
| 2 | Existing pavement width and type is shown |  |  |  |
| 3 | Final horizontal alignment and design shown |  |  |  |
| 4 | The following are shown on each plan sheet: |  | | |
| A | North Arrow |  |  |  |
| B | Bearings |  |  |  |
| C | Curve data with superelevation and runoff |  |  |  |
| D | Construction limits (slope stake lines), berm ditches, and lateral ditches |  |  |  |
| E | Property owners, property lines and parcel numbers |  |  |  |
| F | Right of Way, Easement, and Control of Access breaks by station and distance |  |  |  |
| G | Areas to remain undisturbed within the Right of Way are clearly marked |  |  |  |
| H | Fence and type |  |  |  |
| I | Streets, Roads, and Driveways |  |  |  |
| J | Onsite Detour alignments. Details for the detours can be shown on a separate plan sheet or as a roadway detail sheet (2-series) instead. |  |  |  |
| K | Notes explaining if the roadbed of an existing road to be relocated is left in place or graded to create a natural condition. |  |  |  |
| L | Information pertaining to bridge layout including lane width, offset to inside of rails, guardrail attachments, begin and end bridge and approach slab stations |  |  |  |
| M | Proposed pavement and Right of Way widths at the begin and end of each sheet |  |  |  |
| N | Lane lines at intersection, tapers, auxiliary lanes, etc |  |  |  |
| O | -Y- lines with begin and end construction stations and station ties with mainline |  |  |  |
| P | Traffic data diagrams for intersections from most recent traffic forecast showing the let year and the design year traffic |  |  |  |
| Q | Limits of paved shoulders at intersections |  |  |  |
| R | Note where sight distance grading is required |  |  |  |
| S | Borrow and/or waste areas if furnished by NCDOT |  |  |  |
| T | Cross reference notes on the plan sheets identify the appropriate sheet number for profile sheets, detail sheets and/or sheets from other units |  |  |  |
| U | Symbol denoting pavement removal for locations outside of slope stake lines |  |  |  |
| V | Begin and End stations for bridges and culverts |  |  |  |
| W | False sump detail if not shown on ditch detail series sheets |  |  |  |
| X | Benchmark symbols and number |  |  |  |
| Y | Label rip rap, drainage ditch excavation, and geotextile for drainage quantities at each location unless provided on ditch details |  |  |  |
| Z | Drainage design shown |  |  |  |
|  | 1. Proposed pipe |  |  |  |
|  | 2. Proposed Drainage Structures |  |  |  |
|  | 3. Removal of existing pipes |  |  |  |
|  | 4. Pipes to be plugged |  |  |  |
| AA | Ensure baseline data is shown with point symbol and point name/number. Remove Baseline and Baseline stations |  |  |  |
| BB | Label wells to be sealed and abandoned |  |  |  |
| CC | Approved Design Exception note, as needed |  |  |  |
|  | **Interchange Sheets** | | | |
| 1 | Interchange sheets properly matched with adjacent plan sheet with no overlapping coverage |  |  |  |
| 2 | Show traffic data, bar scale, and additional items as listed under plan sheets |  |  |  |
| 3 | Proposed contour grading detail shown, if requested by the Division |  |  |  |
| 4 | Cross section layout detail/shear point diagram included if part of project scope |  |  |  |
| 5 | Approved Design Exception note, as needed |  |  |  |

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|  | **Intersection Sheets (2-B series)** | | | |
| 1 | The detailed information shown on the intersection detail sheets should be restricted to design data only and should not be duplicated on the plan sheets. |  |  |  |
| 2 | The following items should be shown unless they do not apply: |  | | |
| A | Information for constructing three centered curves |  |  |  |
| B | Island dimensions and details |  |  |  |
| C | Legend for islands, sidewalks, and curb ramps as needed |  |  |  |
| D | Alignments |  |  |  |
| E | Lane markings |  |  |  |
| F | Bar scale |  |  |  |
| G | Proposed edges of pavement |  |  |  |
| H | North arrow |  |  |  |
| I | Paved shoulder widths |  |  |  |
| J | Superelevation rates |  |  |  |
| K | Sufficient dimensions and tie points for construction layout of all items being detailed |  |  |  |
|  | **Profile Sheets** | | | |
| 1 | Beginning and ending stations are shown on the first and last plan sheet and agree with title sheet and typical sections |  |  |  |
| 2 | The following are shown on each profile sheet: |  | | |
| A | Vertical grade lines and design. Design speed is shown only for vertical curves which do not meet proposed design speed, if applicable. |  |  |  |
| B | Undercut excavation |  |  |  |
| C | Hydraulic Data (drainage area, frequency, etc.) for bridges, culverts, and cross pipes |  |  |  |
| D | Axes labeled with Stations and Elevations |  |  |  |
| E | Proposed grade and existing ground line labeled |  |  |  |
| F | Ditch profiles with PI and elevation included, as needed |  |  |  |
| G | Approved Design Exception note, as needed |  |  |  |
|  | **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 | Geotechnical Recommendations for Design and Construction and Geotechnical Recommendations for Pavement and Subgrade reviewed to assure conformity with the plans |  |  |  |
| 4 | Undercut Excavation or Shallow Undercut symbology and legend are shown |  |  |  |
| 5 | Note on cross section summary sheet should indicate whether or not the embankment column includes backfill for undercut |  |  |  |
| 6 | Lump Sum note on cross section summary sheet contains the items that are included in the lump sum grading |  |  |  |
| 7 | Confirm the cross section summary, earthwork logs and earthwork balance sheet match |  |  |  |
| 8 | Cross section checked to assure adequate sight distances at bridges and intersections |  |  |  |
| 9 | Scale shown on each sheet |  |  |  |
| 10 | If an alternative pavement design is included, add a note in the cross section summary sheet indicating which alternative is included in the cross sections |  |  |  |
|  | **Guardrail/Guiderail 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/guiderail for median and guardrail for underpass pier, wall, and side slope protection as warranted |  |  |  |
| 4 | Special details provided as needed for non-standard connections |  |  |  |
| 5 | Ensure the appropriate guardrail anchor is proposed for the specific bridge rail/barrier proposed at each location |  |  |  |
| 6 | Ensure adequate space is provided behind guardrail/guiderail |  |  |  |
| 7 | Ensure required slopes are utilized in conjunction with guardrail/guiderail |  |  |  |
| 8 | Ensure non-gating attenuators are labeled accordingly |  |  |  |
| 9 | Ensure the appropriate end units are proposed for the design speed(s) of the roadway |  |  |  |
|  | **Summary of Quantities** | | | |
| 1 | Computation/Calculation of Quantity sheet totals for each pay item checked against estimate |  |  |  |
| 2 | Summary sheets initialed by the person who created them and the person who checked them |  |  |  |
| 3 | Earthwork Summary |  |  |  |
| A | Complete and provide the Earthwork Balance Sheet to inform the earthwork summary |  |  |  |
| B | Reference pavement structure volume, when applicable, below earthwork summary |  |  |  |
| C | Show note related to Geotech data |  |  |  |
| 4 | Drainage Summary included (starts at Sheet 3D-1), if applicable. Verify the summary matches items included in the plan sheets. |  |  |  |
| 5 | Guardrail and temporary guardrail summaries checked against plan sheet and/or detail sheet |  |  |  |
| 6 | Concrete Barrier Summary included, if applicable |  |  |  |
| 7 | Shoulder Drain Summary included, if applicable |  |  |  |
| 8 | Pavement Removal and Pavement Breaking summaries include all pavement removed or broken up inside and outside of the slope stake lines on the project |  |  |  |
| 9 | Fence Summary included, if applicable |  |  |  |
| 10 | Geotechnical Summaries (starts at Sheet 3G-1) included, if applicable. Verify the summary matches the Geotechnical Recommendations Report(s) |  |  |  |
| 11 | Miscellaneous summaries included as necessary |  |  |  |
|  | **Estimates** | | | |
| 1 | Estimate made for each WBS element, Federal project number and other parts as necessary |  |  |  |
| 2 | Final construction estimate for PS&E entered into PIQ or AWP is checked against the calculation of quantity sheets and summary of quantities |  |  |  |
| 3 | Item number, section, and item description checked against master pay item list |  |  |  |
| 4 | Force account items incorporated into the estimate on Federal Aid projects only |  |  |  |
| 5 | PDF copy of roadway final construction estimate quantities placed on SharePoint according to PS&E checklist |  |  |  |
| 6 | Estimate for the drainage pay items matches the totals on the drainage summary sheet along with drainage items shown in the plan sheets |  |  |  |
| 7 | Project roadway length (mainline only) shown on roadway estimate agrees with title sheet. Do not include structure length |  |  |  |
| 8 | Cost based estimate quantity breakdown summary sheet completed |  |  |  |
| 9 | Include on roadway estimate any structure removal pay items not included on the structure estimate |  |  |  |
|  | **Special Provisions** | | | |
| 1 | Special provisions written for all pay items and contract implementation items not covered by the current “Standard Specification for Roads and Structures”, project provisions, or standard special provisions |  |  |  |
|  | **Items to be completed after initial plan review comments have been addressed** | | | |
| 1 | Ensure plans have been electronically signed through the DocuSign process |  |  |  |

*For items marked* ***No*** *that require further explanation, provide comments or action items in the table below.*

| **Item #** | **Comments and Action Items** |
| --- | --- |
| Click to edit. | Click to edit. |

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| --- | --- | --- | --- |
| ***This checklist may not be comprehensive for every project. It is the responsibility of the designer submitting the plans to ensure all information is included and complete.*** | | | |
| **Plans Prepared by:** | | Click to edit. | **Date:** | Click to edit. | |
| **(Signature):** | |  |  |  | |