|  |  |
| --- | --- |
| **County:** |  |
| **Federal Project NO.:** |  |
| **P.E. NO.:** |  |
| **PIN:** |  |
| **Description:** |  |
| **Submitted by Designer:**  **(TDOT or Consultant)**  **And Date:** |  |
| **ALL ITEMS HAVE BEEN REVIEWED AND DETERMINED TO BE READY FOR FIELD REVIEW BY:** | |
| **Name of TDOT Supervisor/Manager**  **Date** |  |
| **Comments**:  Note: If components of the plans were designed based off the AASHTO 2018 Green Book that would normally require a Design Exception if designed based off the AASHTO 2011 Green Book, it shall be noted on this sheet.  If the posted speed is different than the design speed, note it here. This is important to include so that the standard drawings, particularly for multimodal designs, can be checked accordingly. | |

**PRELIMINARY INDEX OF SHEETS**

TITLE SHEET 1

TYPICAL SECTIONS……………………………………………………………………… 2B, 2B1, 2B2

DETAIL SHEETS…………………………………………………………………………….. 2F, 2F1, 2F2

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RAMP PROFILE(S) 11 - 12

**①** SIDE ROADS PROFILE(S) 13 - 14

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CULVERT SECTION(S) 21 - 22

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**Footnotes:**

**①** Haul Road profiles follow Side Road profiles in the sheet numbering sequence

**See Roadway Design Guidelines *Chapter 1-204.09, Preliminary Index of Sheets* for proper sequencing and numbering of sheets. Unless otherwise stated in the checklist, the sheet names in the index should match the sheet title.**

**The checklist is written to clearly define features and text that shall be shown on Preliminary sheets to ensure there is consistency throughout the state. Information can be found in the CADDV8 document.** **If any of the items are not applicable to your project, then do NOT include and mark N/A. If there are questions, contact your Design Manager.**

**For further explanation of defined features, see** [**CADDV8.pdf**](https://www.tdot.tn.gov/PublicDocuments/%5CDesignDivision%5Cassistant_engineer_design%5Cdesign%5Cv8%5CCADDV8.pdf)**.**

**To aid Designers in the creation of the Title Sheet and to ensure the correct features are shown, a sheet level filter has been provided in MicroStation. The Designer shall not turn on levels for features at the request of others.**

**Information for each sheet shall be filled in correctly in the upper right corner including TYPE (PRELIM.), CURRENT YEAR, FEDERAL PROJECT NUMBER, STATE PROJECT NUMBER (S), and SHEET NUMBER. PPRM shall be checked for possible changes to project numbers prior to preliminary field review and construction submittal.**

**Sheet scales** for all sheets is set by the seed file used to create that sheet

* Seed2d or 3D yields an active scale of 1” = 50’. This is used for Present, R.O.W. Details, Proposed, and other similar sheets
* Property map scales shall be within the range of 1:50 to 1:200.
* Drainage map scales shall be within the range of 1:50 to 1:200.
* SeedXS yields an active scale of 1” = 10’

Some 2nd sheets like Ditch Details or Typical Section sheets are not drawn to scale but shall still use an approved sheet border.

***SHEET 1 SERIES***

**1. TITLE SHEET**

**A MicroStation title sheet template is provided in both a seed file and a sheet file. All items listed below are in a data field or in a box with levels that can be turned on or off as needed.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Adjacent projects labeled |
|  |  | Add Phase Stamp (Preliminary Field Review or Preliminary Plans) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” or “PRELIM.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Bridge I.D. (s) identified above or below state map |
|  |  | Chapter 86 toggled, Yes or No |
|  |  | County or Counties shaded on the state map |
|  |  | Coverage of each present layout sheet on map with Preliminary sheet number identified |
|  |  | Design exception data table filled in |
|  |  | Design traffic data table filled in/updated to current year and projected volumes |
|  |  | Geoid note, check with regional survey for correct Geoid date/version |
|  |  | Identification block in lower left-hand corner completed with PE-D project number and label (NEPA) and PIN for project, fill in Transportation Project Specialist Supervisor 2 (or Manager Title), Designer, and Checked by data fields. For consultant projects, fill in CE Manager 1 or Transportation Manager, Designed by Consultant Firm, Designer, and Checked By data fields |
|  |  | Location map showing route to be improved, local roads, streams, railroads with railroad entity name shown, and towns |
|  |  | Map Scale |
|  |  | No Exclusions block or Exclusions block with station ranges identified |
|  |  | North arrow |
|  |  | Preliminary Index of Sheets included in upper left-hand corner |
|  |  | Project Description filled in under County/Counties. Description shall match PPRM including interstate, state route, or local road name and project limits with log mile(s). Type of work shall be PRELIMINARY and additional type of work identified (i.e. grade, drain, bridge, pave, sign, lighting, construction, etc.). Identify State Route and US Route numbers |
|  |  | R.O.W. project length, roadway length, bridge length, box bridge length, and project length (truncate to three (3) decimals - no rounding) |
|  |  | Road closure note for traffic control |
|  |  | Sheet title block in upper right corner filled in with current year, sheet number “1” Federal Project Number, and State Preliminary Project Number |
|  |  | Signatures of Commissioner and Chief Engineer in signature block |
|  |  | Survey date/update (mm/dd/yy format) |

***SHEET 2 SERIES***

**2B TYPICAL SECTIONS**

**(2B1-2B2, if needed)**

**The following checks apply to tangent and superelevated sections for the mainline and all side roads. Each typical section shall reference appropriate Standard Drawings and be defined by name and station limits for tangent or superelevated sections. Names and station ranges shall match names and curve data shown in present layout and cross section sheets.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge typical section (if bridge typical differs from roadway such as additional width for future widening and/or contains sidewalks, then it shall be shown and labeled to match the bridge typical. If not, begin and end stations for bridge shall be listed as shown on the proposed layout sheets) |
|  |  | Curb and Gutter details and transition details |
|  |  | Finished Grade labeled on all typical sections |
|  |  | Haul road and/or any temporary road typical sections |
|  |  | Mainline and side roads typical sections: label cross-slopes and widths for applicable elements (travel lanes, turn lanes, shoulders, bike paths, shared use paths, sidewalks, and benches); label subgrade slope according to appropriate standard drawing; label side slope for cut and fill slopes with variable slopes labeled as “Varies (list station range)-See Cross Sections” and with final stabilization application defined (seed, sod) |
|  |  | Median Barrier shown on typical sections |
|  |  | Private drive, business entrance, and field entrance typical sections with type and depth of material identified, and with final application defined (seed, sod) |
|  |  | Proposed R.O.W. labeled on each typical section for mainline and side roads (label exact proposed width in feet. For varying proposed rural R.O.W. widths, label “R.O.W. Varies - Minimum R.O.W. Width *XXX.XX’*” |
|  |  | Retaining wall shown on typical sections |
|  |  | Show guardrail location on typical sections and label “as required” |
|  |  | Special ditch details if adequate space or shown on Detail Sheets. Details shall include station range, left or right of centerline, bottom width, top width, material, and minimum depth |
|  |  | Superelevation roll-over note |
|  |  | Transitions for lane and/or shoulder tapers/transitions clearly defined on typical section or in table format including station limits, offsets from centerline, and width. Shall coincide with tapers/transitions labeled on proposed layout sheets |
|  |  | Typical Sections clearly identified by name and station limits |

**2F. DETAIL SHEETS**

**(2F1 and 2F2 if needed)**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Detail of ditch modifications (special, independent, anything varying from ditch placed by GEOPAK). Details shall include station range, left or right of centerline, bottom width, top width, material, and minimum depth. (Show on this sheet if not shown on typical sections) |

***SHEET 3 SERIES***

**3. RIGHT-OF-WAY NOTES, UTILITY NOTES, AND UTILITY OWNERS**

**If the project is small and there is adequate room on the R.O.W. Notes, Utility Notes, and Utility Owners sheet, the R.O.W. acquisition table and disturbed area block can be added to this sheet**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | R.O.W. notes, utility notes and utility owner names with contact information confirmed by Project Development Utility personnel |

**3A-3B. RIGHT-OF-WAY ACQUISITION TABLE(S) AND PROPERTY MAP(S)**

**Property map(s) and R.O.W. acquisition table shall be shown for all projects that contain an acquisition table and property map in the survey file. Exclusions would be resurfacing, ramp queue, or other similar projects.**

**Note to Designer: Sheet Level Filter for all Property Map layout sheets shall be set to *Sheets-Property Map*- for the design sheet file and all referenced files.**

1. **R.O.W. Acquisition Table**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Acquisition table for all surveyed tracts complete with areas to be acquired, areas remaining, and easements to be acquired. The entire R.O.W. for tracts not affected shall be lined through and checked against the Property Map Sheet and Present Layout Sheet for consistency |
|  |  | Acquisition table shall be shown on sheets prior to property maps. The Disturbed Area table shall be shown under the acquisition table on this sheet |
|  |  | Disturbed Area table shall be shown under acquisition table; however, if there is not sufficient room, the table can be shown on the ROW Notes, Utility Notes, and Utility Owners sheet. The Disturbed Area table includes the Area Between Slope Lines, Area Outside Slope lines (10’ min width), Total Disturbed Area, and Total Project Area calculations shown in Acres |
|  |  | Footnote easement areas as needed. Example footnote: Easement is needed for EPSC measures |

1. **Property Map**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places). These stations are where your construction begins and ends |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” or “PRELIM” and be labeled with station and North/East coordinates (4 decimal places). These stations are where your R.O.W. begins and ends |
|  |  | Boundary lines shall be shown for all properties. If boundary will not fit on sheet, a closed tract detail showing the reduced size boundary shape shall be shown and labeled Not to Scale (N.T.S.) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing control-access fence shown with areas labeled to be removed |
|  |  | Existing easement linework and patterning shown and labeled according to type. A legend can be included showing the different hatchings and their respective easement types. |
|  |  | Existing natural features shown and labeled |
|  |  | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side R.O.W. boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown |
|  |  | Existing survey R.O.W. linework and text without labeling stations/offsets and bearing/distances. Include “Present ROW” label. |
|  |  | Existing survey tract numbers only (no names). For tracts not affected, the number shall be lined through and checked against the Acquisition Table and Present Layout Sheet for consistency |
|  |  | If the railroad corridor is held as Easement by the Railroad, the following note shall be placed: *“The Agreement required for the Railroad crossing will be obtained by the ROW Division’s Utility Office Railroad Coordinator through negotiations and Special Provisions with the Railroad.”* |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline of railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Loss of access or impaired access shown with patterning and notes if needed |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station ranges and scale. Scale of this sheet may not match scales of layout sheets resulting in station ranges not matching |
|  |  | North arrow |
|  |  | Proposed control access fence linework and text. Label tie-ins to existing proposed control access fence |
|  |  | Proposed easement linework and patterning shown and labeled. A legend should be included showing the different hatchings and their respective easement types |
|  |  | Proposed roadway centerline linework and labeled |
|  |  | Proposed R.O.W. linework shown and labeled |

***PLAN AND PROFILE SHEET SERIES***

**Note to Designer: Limit of Preliminary stations shall be checked on all sheets for consistency. Verify that limits match typical section and layout sheets. For clarity purposes in checklist, sheets will be numbered through 10 for the mainline plan and profile series)**

**4-10. PRESENT LAYOUT(S)**

**Note to Designer: Sheet Level Filter for all Present Layout sheets shall be set to *Sheets-Present Layout no R.O.W. PL Text*- for the design files and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” or “PRELIM” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Bridge I.D. (s) identified and labeled (can be added to survey bridge information) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing areas where abandoned roadways are to be obliterated and scarified are shown on the plan |
|  |  | Existing buildings and text |
|  |  | Existing concrete channels located in environmental features shall be shown and labeled including lengths |
|  |  | Existing drainage (bridges, culverts, pipes, storm sewer) with text (including structure size, type, and length) and natural features, this shall include structures on environmental features (caves, creeks, rivers, streams, seeps, sinkholes) |
|  |  | Existing easement linework (**no** text) |
|  |  | Existing pavement marking with text |
|  |  | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side right of way boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown |
|  |  | Existing roads, edge of pavements, medians, shoulders, etc., linework and widths labeled |
|  |  | Existing roadside barriers shown and labeled (impact attenuators, cable barrier, guardrail, noise walls, retaining walls, etc.) |
|  |  | Existing signs and devices with text |
|  |  | Existing survey grid points with state plane coordinate text |
|  |  | Existing survey control point table showing coordinates or location diagrams for all GPS points, Benchmarks, and Horizontal Control Points |
|  |  | Existing survey political boundaries linework and text |
|  |  | Existing survey property lines |
|  |  | Existing survey property markers with text |
|  |  | Existing survey property owners with tract numbers. For tracts not affected, the name and number shall be lined through |
|  |  | Existing survey R.O.W. linework **without** labeling stations/offsets and bearings/distances. |
|  |  | Existing survey R.O.W. markers with text |
|  |  | Existing underground and overhead utilities and text (cable, electric, fiber optic, gas, lighting, sanitary sewer, storm sewer, telephone, and water) |
|  |  | If the railroad corridor is held as Easement by the Railroad, the following note shall be placed: *“The Agreement required for the Railroad crossing will be obtained by the ROW Division’s Utility Office Railroad Coordinator through negotiations and Special Provisions with the Railroad.”* |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Existing items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Line of sight linework for intersections shall be shown **only** when R.O.W. is required for the purpose of establishing or maintaining intersection sight distance. |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on R.O.W. Detail sheet and Proposed Layout sheet |
|  |  | North arrow |
|  |  | Permanent railroad easements shall be shown with no hatching, with a leader line, and a Permanent Easement label |
|  |  | Proposed areas to be scarified are patterned and labeled to be scarified and obliterated |
|  |  | Proposed bridges, cross drains, and text and associated rip-rap (Begin and End Bridge stations, pipe diameter and length, inlet and outlet elevations) (if available) |
|  |  | Proposed easement linework and patterning shown and labeled according to type. A legend should be included showing the different hatchings and their respective easement types. |
|  |  | Proposed loss of access or impaired access shown with patterning and notes if needed |
|  |  | Proposed private drives, business entrances, and field entrances with edges of pavement shape shown and shaded |
|  |  | Proposed railroad linework and text (centerlines). No bearing/distance and station/offset shall be shown |
|  |  | Proposed retaining wall linework with station and offset for begin limits, end limits, and all breakpoints labeled |
|  |  | Proposed roads centerline (mainline, side roads, haul roads, construction run-arounds) linework with text and curve data. Label road name, full station ticks every 500’, half station ticks every 100’, and bearings |
|  |  | Proposed R.O.W. linework (including controlled access fence) **without** stations/offsets and bearings/distances labeled. Include “Prop. ROW” label. |
|  |  | Proposed R.O.W. markers with text |
|  |  | Proposed R.O.W. slope lines and text (cut or fill) |
|  |  | Wetland pattern(s) shown and labeled and include wetland impact table (if project has wetland mitigation sheets, this information is not needed on this sheet) |

**4A-10A. RIGHT-OF-WAY DETAILS**

**Note to Designer: Sheet Level Filter for all R.O.W. Detail sheets shall be set to *Sheets- R.O.W. Details*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” and “PRELIM” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing easement linework and patterning shown and labeled according to type. A legend can be included showing the different hatchings and their respective easement types |
|  |  | Existing railroad centerline shall be shown with dimensions of the overall width of the railroad corridor and both widths from the centerline of rail to each field side R.O.W. boundary. When the railroad property is not consistent, the maximum and minimum distance from the right of way line to the closest centerline of rail shall be shown |
|  |  | Existing survey control point table showing coordinates or location diagrams for all GPS points, Benchmarks, and Horizontal Control Points |
|  |  | Existing survey grid points with state plane coordinate text |
|  |  | Existing survey property lines with bearings/distances labeled |
|  |  | Existing survey property markers with text |
|  |  | Existing survey property owners with tract numbers. For tracts not affected, the name and number shall be lined through |
|  |  | Existing survey R.O.W. linework with stations/offsets and bearings/distances labeled. Include “Present ROW” label. |
|  |  | Existing survey R.O.W. markers with text |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Line of sight linework for intersections shall be shown **only** when R.O.W. is required for the purpose of establishing or maintaining intersection sight distance. |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on Present and Proposed Layout sheets |
|  |  | North arrow |
|  |  | Proposed easement linework and patterning shown and labeled according to type. A legend should be included showing the different hatchings and their respective easement types |
|  |  | Proposed loss of access or impaired access shown with patterning and notes if needed |
|  |  | Proposed private drives, business entrances, and field entrances with edges of pavement shape shown and shaded |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed R.O.W. linework with stations/offsets and bearings/distances labeled. Include “Prop. ROW” label. |
|  |  | Proposed R.O.W. markers with text |
|  |  | Proposed slope lines and text (cut or fill) |

**4B-10B. PROPOSED LAYOUT(S)**

**Note to Designer: Sheet Level Filter for all Proposed Layout sheets shall be set to *Sheets- Proposed Layout*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” OR “PRELIM.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Existing/Proposed Railroad entity identified |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Line of sight linework for intersections shall be shown **only** when R.O.W. is required for the purpose of establishing or maintaining intersection sight distance. |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in to coincide with ranges shown on Present layout and ROW Detail sheets |
|  |  | North arrow |
|  |  | Proposed bridges and bridge end drains with text (Begin and End Bridge stations) and rip-rap apron shapes shown and labeled |
|  |  | Proposed cattle passes and label |
|  |  | Proposed channel changes with begin and end roadway station labeled, and stream buffer shown. The relocated stream channel detail including typical cross section of existing and proposed channel shall be shown to scale. The length, width, and class of any riprap needed along the stream location shall be shown. Where necessary, notes specific to the mitigation or vegetative plantings (trees, etc.) and to the sequence of construction shall be noted |
|  |  | Proposed cross drains and endwalls with appropriate labels (station, inlet and outlet elevations, pipe culvert type, length, diameter, endwall type and treatment (rip-rap, turf reinforcement mat, dissipater, etc.)) |
|  |  | Proposed curb and gutter linework and text including begin and end stations with offset from centerline |
|  |  | Proposed curb ramps with standard drawing type labeled |
|  |  | Proposed drainage systems (catch basins, pipes, manholes, junction boxes, endwalls, dissipators, etc.) shall be labeled with:   * Appropriate text (structure code and type, grate/inlet/outlet elevations, flow direction of pipe, pipe diameter, endwall type and treatment (rip-rap, etc.)) * For those structures conveying environmental features, the length of the structure along the stream shall be shown * Information can be placed in table format on each sheet if needed |
|  |  | Proposed edge of pavement and shoulder lines shown. All transition lengths and widths for proposed edge of pavements and shoulders shall be labeled by station and offset for beginning and ending stations |
|  |  | Proposed guardrail with type of anchors and/or tie-in stations/offsets labeled. Standard Drawing S-PL-1 shall be used to find length of need in concurrence with cutting cross sections at 5’ increments to study proposed guardrail location |
|  |  | Proposed independent ditch flow line, width, type of lining, and begin, end, and breakpoints labeled by station and offset (regular roadside ditches shall **not** be shown) |
|  |  | Proposed limit of construction for side roads |
|  |  | Proposed median opening linework and width labeled |
|  |  | Proposed pavement lines shown at intersections representing the lane taper, bay taper, storage length, and radii. All tapers shall be labeled by begin and end stations. Radii shall be labeled |
|  |  | Proposed pavement markings including channelization, stop bars, crosswalks, pavement arrows, linework, and text. Pavement markings will be provided by appropriate regional Designer. (Proposed pavement markings will be shown on Proposed Layout Sheets if not shown on separate sheets as shown in Signing and Pavement Marking Plan(s) section of the checklist) |
|  |  | Proposed private drives, business entrances, and field entrances with centerlines, edges of pavement, and radii shown and labeled with mainline station, station for driveway limit of construction, and radius length of driveway centerline. Label width and type of drive, side drain length, diameter, and endwall. All elements shall match profiles for each. (**no** shading) |
|  |  | Proposed retaining wall linework with station and offset for begin limits, end limits, and all breakpoints labeled |
|  |  | Proposed rip-rap locations, dimensions, and types labeled |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, and bearings **(no curve data)** |
|  |  | Proposed sidewalk linework |
|  |  | Proposed special ditch flow line, width, type of lining, and begin and end stations labeled by station and offset (no breakpoints labeled). Regular roadside ditches shall **not** be shown |
|  |  | Reference Profile sheet number in plans for side road |
|  |  | Traffic diagrams (provided by Strategic Transportation Investment Division) |
|  |  | **\***Transitions or tie-in points for proposed transportation features (guardrail, median openings) or drainage systems (curb and gutter, extensions of existing pipes, boxes, etc.) shall be labeled by station and offset. The existing features shall be copied to the appropriate proposed level at the tie-in point and labeled to remain in place |

**\*Some existing elements may need to be shown to provide clarity on the plans. These elements will have to be copied from the survey file and changed to the appropriate proposed level to display in the sheets.**

**4C-10C. PROPOSED PROFILE(S)**

**Note to Designer: For all profile sheet checks (N through Q), the Sheet Level Filter shall be set to *Sheets- Profiles*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” or “PRELIM.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Bridge I.D. (s) identified and labeled (can be added to survey bridge information) |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Earthwork balances and volumes block including mainline, side roads, private drive, field entrances, haul roads, topsoil, and any acid producing rock shown on the first mainline profile sheet. Shall match quantities generated from GEOPAK earthwork log and quantities shown on Grading Quantity Block and Estimated Roadway Quantities Sheet(s) |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text |
|  |  | Existing items/structures to be plugged and abandoned (culverts, catch basins, manholes, pipes, etc.) shall be clearly labeled Plugged/Abandoned |
|  |  | Existing overhead utilities with text |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground for mainline and railroad labeled “Existing Ground” |
|  |  | Existing underground utilities including type and size |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections of mainlines with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and North/East coordinates |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Proposed bridge linework with begin and end stations labeled, hydraulic data, and rip-rap shapes shown and labeled |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and type, pipe diameter, pipe grade, and hydraulic data and/or text |
|  |  | Proposed retaining wall linework with station and offset for begin limits, end limits, and all breakpoints labeled |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block with and horizontal and vertical scale and station range for each sheet correctly filled in to coincide with ranges shown on Present Layout, R.O.W. Detail, and Present Layout sheets |
|  |  | Superelevation rate diagram with stations and rates labeled |

**Note to Designer: The numbering of the following sheets will depend on the number of plan and profile sheets needed for the mainline. For clarity purposes in checklist, the sheets will continue the sequence and coincide with the PRELIMINARY Index Word document.**

**11-12. RAMP PROFILE**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge I.D. (s) identified and labeled (can be added to survey bridge information) |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text provided in survey file |
|  |  | Existing drainage structures shown with hydraulic data |
|  |  | Existing overhead utilities with type, station, and elevation labeled |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground labeled “Existing Ground” on each sheet |
|  |  | Existing underground utilities including type and size |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections of mainline with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and elevations |
|  |  | Intersections with the centerline of railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Proposed bridge linework with begin and end stations labeled and hydraulic data |
|  |  | Proposed drainage structures shown with hydraulic data |
|  |  | Proposed finished grade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and culvert type, pipe diameter, pipe grade, and hydraulic data and/or text |
|  |  | Proposed retaining wall linework with station and offset for begin limits, end limits, and all breakpoints labeled |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Superelevation rate diagram with stations and rates labeled |

**13-14. SIDE ROAD PROFILE(S)**

**Note to Designer: Haul Roads** **and/or construction run-around** **shall follow the same checklist as side roads and will also follow side roads in the sheet numbering sequence. A separate sheet is not required for the Haul Road, but the sheet name shall be modified to include the Haul Roads.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge I.D. (s) identified and labeled (can be added to survey bridge information) |
|  |  | Channel Changes, Independent Ditches, and Special Ditches shall be labeled with the following:   * Begin Limits * End limits * Breakpoints (labeled with station and elevation) * Grades * Ditch Types (V and trapezoidal) |
|  |  | Existing bridges, pipes, culverts, and storm sewers with hydraulic data and/or text provided in Survey file |
|  |  | Existing drainage structures shown with hydraulic data |
|  |  | Existing overhead utilities with type, station, and elevation labeled |
|  |  | Existing survey control points (GPS points, Benchmarks) and text |
|  |  | Existing top of ground labeled “Existing Ground” on each sheet |
|  |  | Existing underground utilities including type and size |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections of mainline with side roads, haul road, and/or construction run-around flagged and labeled with both road names, stations at intersection, and elevations |
|  |  | Intersections of the centerline with railroad and the centerline of the Route/Interstate that includes the DOT crossing number and the railroad milepost along with the corresponding station of the Route/Interstate. If the Railroad information is needed, please contact the State Railroad Coordinator at [HQRailroadCoordinator@tn.gov](mailto:TDOT.HQ.ROW@tn.gov) |
|  |  | Profiles shall be shown in order as shown in plans. Reference Present Layout sheet number in plans where side road is located |
|  |  | Proposed bridge linework with begin and end stations labeled and hydraulic data |
|  |  | Proposed drainage structures shown with hydraulic data |
|  |  | Proposed finished grade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed pipes (not including side drains), culverts, and storm sewer features shown and labeled with structure code and type, pipe diameter, pipe grade, and hydraulic data and/or text |
|  |  | Proposed retaining wall linework with station and offset for begin limits, end limits, and all breakpoints labeled |
|  |  | Proposed vertical alignment and curve text labeled including K Values (no speeds listed), stations and elevations for PI, PC, and PT, and grades with areas of proposed graphical grade labeled with station and elevation every 50’ or as needed. When a tangent grade covers two layout sheets, the grade shall be copied and shown on both sheets |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Superelevation rate diagram with stations and rates labeled |

**15-18. PRIVATE DRIVE, BUSINESS ENTRANCES, AND FIELD ENTRANCE PROFILE(S)**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Check to ensure all profiles are shown that are in Proposed Layout sheets |
|  |  | Grid shown with stations along the bottom and elevations along the side |
|  |  | Intersections with mainline and private drive or field entrance labeled with each road name, station, and elevation |
|  |  | Profiles shall be shown in order as shown in plans. Reference corresponding tract owner number on each profile as shown on Present Layout sheet |
|  |  | Proposed finished grade and subgrade linework and text |
|  |  | Proposed limit of construction labeled with station and elevation |
|  |  | Proposed side drain pipes shown with text |
|  |  | Proposed vertical alignment and curve text (no speeds listed), including stations and elevations for PI, PC, and PT |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |

**19-20. DRAINAGE MAP(S)**

**Note to Designer: Sheet Level Filter for all Drainage Map sheets shall be set to *Sheets*- *Drainage Map*- for the design sheet file and all referenced files.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin/End **Construction** project limits labeled. Project limits must contain the word “CONSTRUCTION” or “CONST.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Begin/End **Preliminary** project limits labeled with preliminary project numbers for federal and state project(s). Project limits must contain the word “PRELIMINARY” or “PRELIM.” and be labeled with station and North/East coordinates (4 decimal places) |
|  |  | Coordinate Notation (datum adjustment note above sheet title) |
|  |  | Drainage flow arrows from existing TIN file |
|  |  | Existing drainage areas and shapes |
|  |  | Existing drainage structures including drainage cell (Drainage Data for Drainage Map cell or Excel file) with all text complete (Station, structure, skew, drainage area, discharge, terrain, velocity, etc.) |
|  |  | Existing natural features such as streams or WWC labeled |
|  |  | Existing roads edge of pavement |
|  |  | Inset of total drainage area labeled “not to scale” (necessary only when drainage area boundaries are outside of sheet coverage) |
|  |  | Match lines with station and sheet number filled in, and sheet title block with station range and scale for each sheet correctly filled in |
|  |  | North arrow |
|  |  | Proposed roads centerlines (mainline, side roads, haul roads, construction run-arounds and text). Label road name, full station ticks every 500’, half station ticks every 100’, bearings **(no curve data)** |

**21-22. CULVERT SECTION(S)**

**Note to Designer: All cross drains in the proposed layout sheets shall have a culvert section. Sheet Level Filter for all Culvert Section sheets shall be set to *Sheets- Culvert Cross Sections*- for the design sheet file and all referenced files.**

**Culvert sections shall be cut using the GEOPAK “Run” used for the associated road. This will ensure the cross section depicts the accurate finished grade, cross slope, superelevation, roadway width, shoulder width, guardrail placement (including earthwork pad), special ditch, benches, and side slopes including any variable slopes defined in cross sections variable files. Additional runs may be needed to include independent ditches.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Bridge parapet shown |
|  |  | Culvert Sections for all existing cross drains that are to remain in place but are being extended. Linework for existing portion of pipe to remain in place shall be shown as dashed. Proposed pipe extension shall be shown with proposed endwall and end treatment. All hydraulic data from the MicroStation cell “*Pipe Culvert Profile Data*” shall be completed. Connections to existing or proposed drainage structures shall be shown including structure name and type and (catch basin, junction box, or manhole, etc.) inlet and outlet elevations |
|  |  | Culvert Sections for all proposed box bridges created by using Seed File BoxCulvertSection.dgn. All hydraulic data shall be completed in the box/slab tabulation which will calculate quantities including wingwalls. Quantities shall be checked against information in Standard Roadway Drawings, Estimated and Tabulated Quantity blocks, Proposed Layout sheets, and Profile sheets |
|  |  | Culvert Sections for all proposed cross-drains shall be shown with proposed pipe, endwall, and end treatment. Pipe diameter and type, flow direction, and grade shall be labeled. All hydraulic data from the MicroStation cell “*Pipe Culvert Profile Data*” shall be completed. Connections to existing or proposed drainage structures shall be shown including existing structure name and type and (catch basin, junction box, or manhole, etc.) inlet and outlet elevations |
|  |  | Endwall and/or ditch treatments (rip-rap, turf reinforcement mat, dissipater, etc.) labeled with type, length, and width/thickness |
|  |  | Existing R.O.W. line projected onto cross section (For Rural Typicals only) |
|  |  | Guardrail |
|  |  | Median barrier shown |
|  |  | Proposed centerline shown |
|  |  | Proposed R.O.W. line shown (For Rural Typicals only) |
|  |  | Retaining walls shown |
|  |  | Sheet title block correctly filled in and horizontal and vertical scales added |
|  |  | Stream name |

***CROSS SECTION SHEET SERIES***

**23-83. ROADWAY (MAINLINE) CROSS SECTIONS**

**Note to Designer: Designer shall follow exercises in GEOPAK Road Manual to cut cross sections and make sheets. If exercises are followed correctly, each cross-section sheet will show:**

* **Cross Section**
  + Existing Ground Line
  + Proposed Template
  + Pavement Subgrade Layer
  + Text for the Finished Grade
  + Cross Slopes
  + Side Slopes
  + Right and Left offsets/elevations for Subgrade Limits
  + Point where Proposed Template meets Existing Ground
  + Station
* **Right Corner of Sheet**
  + Begin and End Station limits of all Cross Sections on sheet
  + Horizontal and Vertical Scale
  + Name of Roadway

**The roadway shall match the name shown on the typical section and all plan sheets. All text will be shown in the correct location and on the correct level. The text for the XSCELL shall not be shown on the cross section sheets.**

**Cross sections cut at 50’ increments are shown in the plans. However, when designing drainage or analyzing the need for guardrail or retaining walls, it is recommended that cross sections are cut at 5’ increments. The slopes from the 5’ increments can be compared to those projected from the 50’ cross section run to ensure sufficient R.O.W. is acquired.**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin and end of bridge sections shall be shown and labeled “Begin Bridge” and “End Bridge”. When running earthwork in GEOPAK, ensure that bridge sections are skipped and do not have fill quantities unless there is solid rock or similar material added under or around bridge section |
|  |  | Check end area totals on each cross section against grading quantity file produced by GEOPAK. Ensure end areas are shown for all types of material including rock |
|  |  | Check slope lines in plans after cross sections run. If there are areas where the slope line makes a significant change for only a short segment, look at the cross sections to see if a steeper slope can be used that is acceptable by Geotechnical Engineering Section. This shall also be checked in areas that will require only a small amount of R.O.W. to see if a change can avoid small amounts of R.O.W. acquisition |
|  |  | Cross sections shall be cut at 50’ increments. If the proposed horizontal and/or vertical alignment changes start or end at an increment other than 50’, a cross section at that station shall be shown. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+30.00 and end at 105+62.00. A cross section shall be cut for each of these stations). Slope lines shall be projected into the present layout sheets |
|  |  | Cross sections shall be cut at a 50’ increment station before and after the station where proposed horizontal and/or vertical alignment changes begin and end. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+35.00 and end at 105+62.00. For accurate end area volumes, a cross section shall be cut at 100+00.00 and 106+00.00. There will not be any proposed elements shown on these cross sections) |
|  |  | Cross sections shall be cut at the beginning and end of a superelevated section and include a cross section at the PC, PT, fully superelevated, reverse crown, and zero percent cross slope stations. The Designer shall check proposed drainage to ensure zero percent cross slope area is draining properly |
|  |  | Cross sections shall be cut at beginning and end of each proposed noise and/or retaining wall |
|  |  | Existing and Proposed R.O.W. lines shall be projected onto the sheets (For Rural Typicals only) |
|  |  | Finished grade, cross slopes, side slopes, station and offset at the tie-in point with existing ground properly labeled |
|  |  | Guardrail shown to match limits on proposed layout sheets including limits for guardrail earth pad |
|  |  | Independent ditches, and/or special ditches shall be shown and labeled and included in end area quantities |
|  |  | Intersecting roads shall be shown at the edge of pavement and labeled |
|  |  | Median barrier shown |
|  |  | Road names on each sheet shall match names shown on Present Layout Sheets |

**84-94. SIDE ROAD CROSS SECTIONS**

|  |  |  |
| --- | --- | --- |
| **YES** | **N/A** |  |
|  |  | Begin and end of bridge sections shall be shown and labeled “Begin Bridge” and “End Bridge”. When running earthwork in GEOPAK, ensure that bridge sections are skipped and do not have fill quantities unless there is solid rock or similar material added under or around bridge section |
|  |  | Check end area totals on each cross section against grading quantity file produced by GEOPAK |
|  |  | Check slope lines in plans after cross sections run. If there are areas where the slope line makes a significant change for only a short segment, look at the cross sections to see if a steeper slope can be used that is acceptable by Geotechnical Engineering Section. This shall also be checked in areas that will require only a small amount of R.O.W.to see if a change can avoid small amounts of R.O.W. acquisition |
|  |  | Cross sections shall be cut at 50’ increments. If the proposed changes start or end at an increment other than 50’, a cross section at that station shall be shown. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+30.00 and end at 105+62.00. A cross section shall be cut for each of these stations). Slope lines shall be projected into the proposed layout sheets |
|  |  | Cross sections shall be cut at a 50’ increment station before and after the station where proposed horizontal and/or vertical alignment changes begin and end. (Example: Proposed horizontal and/or vertical alignment changes start at Sta. 100+35.00 and end at 105+62.00. For accurate end area volumes, a cross section shall be cut at 100+00.00 and 106+00.00. There will not be any proposed elements shown on these cross sections) |
|  |  | Cross sections shall be cut at the beginning and end of a superelevated section and include a cross section at the PC, PT, fully superelevated, reverse crown, and zero percent cross slope stations. The Designer shall check proposed drainage to ensure zero percent cross slope area is draining properly |
|  |  | Cross sections shall be cut at beginning and end of each proposed noise and/or retaining wall |
|  |  | Existing and Proposed R.O.W. lines shall be projected onto the sheet (For Rural Typicals only) |
|  |  | Finished grade, cross slopes, side slopes, station and offset at the tie-in point with existing ground properly labeled |
|  |  | Guardrail shown to match limits on proposed layout sheets including limits for guardrail earth pad |
|  |  | Independent ditches, and/or Special Ditches shall be shown and labeled and included in end area quantities |
|  |  | Intersecting roads shall be shown at the edge of pavement and labeled |
|  |  | Median Barrier shown |
|  |  | Road names on each sheet shall match names shown on Present Layout sheets |

**FINAL PREPARATION OF PRELIMINARY PLANS**

|  |  |  |
| --- | --- | --- |
| **Yes** | **N/A** |  |
|  |  | Check PPRM for any changes to the Preliminary project number on all Preliminary plan sheets and project commitments |
|  |  | Final Preliminary plans shall address all comments received at the Preliminary Field Review and Quality Assurance/Quality Control Section of the Roadway Design Division |
|  |  | FileNet – Files defined in Chapter 1 of the Roadway Design Guidelines shall be placed on FileNet   * Plan set *nnnnnn-nn-PreliminaryFieldReviewPlans.*pdf * Zip file *nnnnnn-nn-PreliminaryFieldReview*.zip |

*Note to Designer: Generally,* ***Interchange/Intersection*** *details are shown within the station range of the mainline in the plans. However, if additional sheets are needed because of the complexity of the interchange, intersection, or it is a roundabout, the same checks used for R.O.W. Details, Present Layout, Proposed Layout, and Profiles shall be used. The proposed contour sheets for these sections shall also be addressed to ensure that the grades between the interchange/intersection and mainline tie together with no ponding in the radius returns etc.*