

# BRIDGE DESIGN PRELIMINARY PLAN CHECKLIST



| <b>PROJECT INFORMATION</b>   |                   |
|--|-------------------|
| ♦ Project Name: _____  | ♦ Designer: _____ |
| ♦ Project No: _____  | ♦ Checker: _____  |
| ♦ Bridge No.: _____  | ♦ Drafter: _____  |
| ♦ Location: _____  | ♦ Reviewer: _____ |
| ♦ <b>NOTE:</b> Each Task, when applicable & completed, is <u>Checked</u> (Y, N, N/A), <u>Dated</u> and <u>Initialed</u> by the Designer, Checker and Reviewer. |                   |

| <b>Preliminary Plan Tasks</b>  | Y | N | N/A | Designer<br>Checker<br>Reviewer | DATE |
|--|---|---|-----|---------------------------------|------|
| <b>Preliminary Data Collection</b>   |   |   |     |                                 |      |
| <ul style="list-style-type: none"> <li>• <a href="#">Wetland and Shoreland Permit Plans</a></li> <li>• <a href="#">Final Line and Grade</a></li> <li>• <a href="#">ROW Purchase Plans</a></li> <li>• <a href="#">Draft POW and TCP</a></li> <li>• <a href="#">Preliminary Geotechnical Report</a></li> </ul>   |   |   |     | Comments:                       |      |
| <b>Front Sheet Plan</b>  |   |   |     |                                 |      |
| <ul style="list-style-type: none"> <li>• <a href="#">Project Titles</a></li> <li>• <a href="#">Location Map</a></li> <li>• <a href="#">Approval Signature Box</a></li> <li>• <a href="#">Traffic Data</a></li> <li>• <a href="#">Project Layout with bridge number</a></li> </ul>  |   |   |     | Comments:                       |      |
| <b>Preliminary General Plan and Elevation</b>  |   |   |     |                                 |      |
| <ul style="list-style-type: none"> <li>• <a href="#">Design Loads, Materials and Specifications</a></li> <li>• <a href="#">Hydraulic Data</a></li> <li>• <a href="#">Summary of Prelim. Bridge Quantities Table</a></li> <li>• <a href="#">Bridge General Plan</a> <ul style="list-style-type: none"> <li>◦ Oriented with over-road upstation to the right and centerline at horizontal, if possible</li> <li>◦ Proposed Alignment and Stations</li> <li>◦ Alignment Data</li> <li>◦ Intersection Stations and Angles</li> <li>◦ Begin and End Bridge Stations &amp; FG Elev</li> <li>◦ Expansion and Fixed Joints</li> <li>◦ Traffic Arrows</li> <li>◦ Span Lengths and Numbers</li> <li>◦ Angles between Bents and Centerline</li> <li>◦ Proposed Utilities</li> </ul> </li> </ul> |   |   |     | Comments:                       |      |

| Preliminary Plan Tasks Cont.   | Y | N | N/A | Designer<br>Checker<br>Reviewer |           | DATE      |      |  |
|--|---|---|-----|---------------------------------|-----------|-----------|------|--|
| <b>Prelim. General Plan and Elevation Cont.</b>  |   |   |     |                                 |           |           |      |  |
| <ul style="list-style-type: none"> <li>o Right-of-way Lines</li> <li>o North Arrow</li> <li>o Proposed Slopes and Limits of Toe of Slopes</li> <li>o Proposed Channel Protection</li> <li>o Stream Name and Flow Arrow</li> <li>o Proposed Drainage</li> <li>o Label Point of Min. Vertical Clearance</li> <li>o Outline of Bridge, Approach Slab, Piers, and Wingwalls</li> <li>o Working Line/ Construction Line</li> <li>o Proposed Bridge and Approach Rail</li> <li>o Label Roadways</li> <li>o Dimension Out to Out of Bridge Width</li> <li>o Dimension Rail to Rail and Coping Width</li> <li>o Length of approach slab</li> </ul>   |   |   |     |                                 | Comments: |           |      |  |
| <ul style="list-style-type: none"> <li>• <i>Bridge Elevation</i> <ul style="list-style-type: none"> <li>o Proposed Bridge Projected from Plan</li> <li>o Proposed Channel Protection</li> <li>o OHW and 100 yr Flood Call-out w/ Elev</li> <li>o Proposed Bridge and Approach Rail</li> </ul> </li> </ul>  |   |   |     |                                 |           |           |      |  |
| <b>Preliminary Site Plan and Profile</b>   |   |   |     |                                 |           |           | DATE |  |
| <ul style="list-style-type: none"> <li>• <i>Profiles of upper and lower roadways or railroad</i></li> <li>• <i>Typical approach cross sections for upper and/or lower roadways and channel</i> <ul style="list-style-type: none"> <li>o Excavation and Fill Limits</li> <li>o Item numbers</li> <li>o Elevations</li> </ul> </li> <li>• <i>Bridge Site Plan</i> <ul style="list-style-type: none"> <li>o Oriented with over road upstation to the right and centerline at horizontal, if possible</li> <li>o Deck not shown. Show channel or roadway below deck</li> <li>o Outline of Proposed Substructures, Footings, Approach Slab, Wingwalls</li> <li>o Outline of Existing Bridge</li> <li>o Proposed Alignment and Stations</li> <li>o Alignment Data</li> <li>o Intersection Stations and Angles</li> <li>o Begin and End Bridge Stations &amp; FG Elev</li> <li>o Expansion and Fixed Joints</li> <li>o Traffic Arrows</li> <li>o Angles between Bents and Centerline</li> <li>o Proposed Utilities</li> <li>o Right-of-way Lines/ Easements</li> <li>o North Arrow</li> <li>o Proposed Slopes</li> <li>o Proposed Channel Protection</li> <li>o Stream Name and Flow Arrow</li> </ul> </li> </ul> |   |   |     |                                 |           | Comments: |      |  |
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| Preliminary Plan Tasks Cont.   | Y | N | N/A | Designer<br>Checker<br>Reviewer | DATE      |             |
|--|---|---|-----|---------------------------------|-----------|-------------|
| <b>Prelim. Site Plan and Profile Cont.</b>   |   |   |     |                                 |           |             |
| <ul style="list-style-type: none"> <li>◦ O.H.W., T.O.B., Shoreland, and 500 yr. Scour Line</li> <li>◦ Proposed Drainage</li> <li>◦ Existing Detail</li> <li>◦ Existing Contours</li> <li>◦ Detour bridge/ Temporary Diversion</li> <li>◦ Proposed Approach Rail</li> <li>◦ Limits of all toe of slopes</li> </ul>  |   |   |     | Comments:                       |           |             |
| <ul style="list-style-type: none"> <li>• <i>Bridge Profile</i> <ul style="list-style-type: none"> <li>◦ Grade/ Vertical Curvature/ Profile Grade</li> <li>◦ Profile of Bridge, Substructures and Approach Slabs</li> <li>◦ Approximate Existing Ground Line</li> <li>◦ Approximate Existing Bottom of Channel</li> <li>◦ Datum Elevation Line</li> <li>◦ Slopes of embankments, type and thickness of slope protection</li> <li>◦ Berm location. elevation and width</li> <li>◦ Finished and Existing Grade Elevations</li> <li>◦ Railroad/ Cross Road</li> <li>◦ High Water, O.H.W., Scour Elevations</li> <li>◦ Minimum Vertical Clearances</li> <li>◦ Bottom of Footing, Piles, and/or Drilled Shafts Elevations</li> <li>◦ Foundation Types</li> <li>◦ Vertical Curve Data</li> <li>◦ Track dimensions, centerline and ditches if railroad is involved</li> <li>◦ Length of each span measured along profile grade line</li> <li>◦ Expansion and Fixed Bearing Locations</li> <li>◦ Begin, End and Pier Bridge Stations &amp; FG Elevations</li> </ul> </li> </ul> |   |   |     |                                 |           |             |
| <b>Preliminary Boring Log</b>  |   |   |     |                                 |           | <b>DATE</b> |
| <ul style="list-style-type: none"> <li>• <i>Boring Logs</i> <ul style="list-style-type: none"> <li>◦ Label Bottom of Footing and Water Level</li> </ul> </li> <li>• <i>Boring Notes</i></li> <li>• <i>Boring Layout Plan and Locations</i> <ul style="list-style-type: none"> <li>◦ Proposed Alignment and Stations</li> <li>◦ Alignment Data</li> <li>◦ North Arrow</li> <li>◦ Outline of Existing Bridge</li> <li>◦ Existing Detail</li> <li>◦ Outline of Proposed Bridge Substructures, Footings and Wingwalls</li> <li>◦ Boring Location Symbols and Label</li> </ul> </li> </ul>  |   |   |     |                                 | Comments: |             |
|  |   |   |     |                                 |           |             |
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| <b>Abutment and Pier Developed View</b>  |   |   |     |                                 |           | <b>DATE</b> |
| <ul style="list-style-type: none"> <li>• <i>Developed abutment, wingwalls, and pier elevations and sections</i></li> </ul>   |   |   |     |                                 |           |             |

| Preliminary Plan Tasks - Cont.  | Y | N | N/A | Designer<br>Checker<br>Reviewer | DATE |
|---|---|---|-----|---------------------------------|------|
| <b>Abut. and Pier Developed View Cont.</b>  |   |   |     |                                 |      |
| o Proposed Ground   |   |   |     | Comments:                       |      |
| o Existing Ground   |   |   |     |                                 |      |
| o Outline of new and existing substructures                                       |   |   |     |                                 |      |
| o Excavation and Backfill Limits  |   |   |     |                                 |      |
| o Elevations  |   |   |     |                                 |      |
| o Structural Fill   |   |   |     |                                 |      |
| o Wingwall Lengths  |   |   |     |                                 |      |
| o Weepers   |   |   |     |                                 |      |
| o Section of each substructure  |   |   |     |                                 |      |
| o Footing dimensions  |   |   |     |                                 |      |
| o Phase Construction Location   |   |   |     |                                 |      |
| o Working Line/ Construction Line Location  |   |   |     |                                 |      |
| o Piles/ Drilled Shafts   |   |   |     |                                 |      |
| o Existing and Proposed Utilities   |   |   |     |                                 |      |
|   |   |   |     |                                 |      |
| <b>Deck Section (Looking Up station)</b>  |   |   |     |                                 | DATE |
| o Bridge, lane, shoulder, and curb width  |   |   |     | Comments:                       |      |
| o Cross Slope in Percent  |   |   |     |                                 |      |
| o Superelevation Rate   |   |   |     |                                 |      |
| o Centerline of Construction/ Working Line  |   |   |     |                                 |      |
| o Proposed Bridge Rail  |   |   |     |                                 |      |
| o Limits of Sealer  |   |   |     |                                 |      |
| o Conduits/ Utilities on Bridges  |   |   |     |                                 |      |
| o Girder Type, Number and Spacing   |   |   |     |                                 |      |
| o Closure Pour  |   |   |     |                                 |      |
| o Phase Construction  |   |   |     |                                 |      |
| o Temporary Barrier Locations   |   |   |     |                                 |      |
| o Overlay Type and Depth  |   |   |     |                                 |      |
| o Deck Depth  |   |   |     |                                 |      |
| o Curb Reveal   |   |   |     |                                 |      |
| o Outside Curb Depth  |   |   |     |                                 |      |
| o Item Numbers  |   |   |     |                                 |      |
|   |   |   |     |                                 |      |
| <b>Preliminary Estimate</b>   |   |   |     |                                 | DATE |
| • <i>Title Block w/ project name, number, location, bridge number, &amp; date</i> |   |   |     | Comments:                       |      |
| • <i>Based on preliminary quantities and construction costs</i>                   |   |   |     |                                 |      |
| • <i>Include contingencies</i>  |   |   |     |                                 |      |
|   |   |   |     |                                 |      |
|   |   |   |     |                                 |      |