# 

**County**

**Route**

**Job Number**

**Core Team Member**

(Updated 04-17-17)

## BRIDGE

## SCOPING CHECKLIST

(Add additional notes as required)

*A project’s scope can be defined as the set of design parameters that precisely satisfy the purpose and need of the project. A poorly identified scope that is broader than the purpose and need will result in an unnecessarily high project budget and schedule, while a scope which falls short will yield a project that accomplishes little of significance. While an accurate project scope is difficult to identify early in development, a careful, multidisciplinary examination of the purpose and need will produce a solid foundation upon which project development can occur.*

*This checklist is designed to stimulate thought on those project parameters that are sometimes overlooked and whose omission can jeopardize the integrity of the scope. At the initial scoping meeting, the appropriate core team member should fill out the checklist as completely as possible. As project development progresses, the core team member should continue to update the checklist and coordinate with the project manager. In this manner, potential changes to the project scope can be dealt with as they emerge and the scope represented by the preliminary plan will be as accurate as possible.*

# MINOR BRIDGE

# Existing Bridges

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|  | Review Bridge Maintenance Reports and Structure Inventory & Appraisal sheets (SI&A). |
|  | Check with Historical Bridge Coordinator when replacing a bridge. |
|  | Review existing bridge plans (existing bridge foundation considered in anticipating new foundation type). |
|  | Review existing geotechnical soundings. |
|  | Review seismic design of existing bridge. |
|  | Do bridge curbs, guardrail transitions, and shoulder widths meet current safety standards? |
|  | Consider bridge rehabilitation, deck replacement and bridge replacement. |
|  | Obtain Bridge Rehab checklist from District. |
|  | Check FEMA maps for flood insurance status. |
|  | Consider possible hydraulic concerns (drift accumulation, erosion at bridge site, flooding of bridge deck or bridge approach). |
|  | Review existing vertical and horizontal clearances. |
|  | Consider overlay and deck repair strategies. Is a deck test needed? |
|  | Request proper survey data for widenings (deck elevations, beam cap elevations, valley sections, etc.). |
|  | Investigate load carrying capacity of existing bridge when adding overlays, curbs, widening, etc. |

**Setting the Profile Grade – Grade Separations**

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|  | Consider bridge deck drainage (flat grades on bridges over railroads and other roadways create drainage problems). |
|  | Review District field elevations of existing roadway below bridge and consider overlay thickness on existing roadway for vertical clearance. |
|  | Consider clear zones when estimating span lengths and superstructure depths. |
|  | Provide standard vertical and horizontal clearances. |
|  | Review Preliminary Geotechnical Report (spill slope recommendation for end fills, preliminary soundings for anticipating foundation type, and special geotechnical considerations such as caves, mines, springs, etc.) prior to determining bridge length. |
|  | If bridge is over a railroad, review railroad requirements including possible future tracks, maintenance roads and special curbs and/or fencing on the bridge and include ample timeline for railroad review and approvals. |

Setting the Profile Grade – Stream Crossings

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|  | District obtains overtopping information from local maintenance shed records. |
|  | Check FEMA maps for Flood Insurance Status. |
|  | Meet standard hydraulic criteria. |
|  | Consider drift and scour problems when determining span lengths. |
|  | Consider relationship of profile grade to flooding problems and/or possible backwater and bridge opening. |
|  | Include freeboard and superstructure depth when setting the profile grade. |
|  | Review Preliminary Geotechnical Report (spill slope recommendation for end fills, preliminary soundings for anticipating foundation type, and special geotechnical considerations such as caves, mines, springs, etc.) prior to determining bridge length. |

# Miscellaneous Items

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|  | Review traffic handling issues (temporary bridge, close road, new alignment, staging, companion structure, school route). |
|  | Consider Design Exceptions as soon as possible. |
|  | Review current and projected traffic data. |
|  | Consider stream mitigation and bank stabilization. |
|  | Determine appropriate superstructure type for required main span. |
|  | Include seismic performance category, bridge removal, bridge approach slab, tight construction site, large skews and horizontal curvature in cost estimating. |
|  | Consider environmental impacts (endangered species, lead paint, 404 issues, etc.). |
|  | Consider context sensitive design needs (aesthetic considerations, etc.). |
|  | Check for utilities (existing and proposed) and improvements in the area. |
|  | Evaluate necessity of horizontal curves and superelevation transition bridges. |
|  | Consider sidewalks and/or bike paths. |
|  | Consider retaining wall/right of way issues. |

# MAJOR BRIDGES

# New Construction

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|  | Review Environmental Impact Statement and Location Study. |
|  | Review District field elevations of existing roadway below bridge and consider overlay thickness on existing roadway for vertical clearance. |
|  | Consider clear zones when estimating span lengths and superstructure depths. |
|  | Review Preliminary Geotechnical Report (spill slope recommendation for end fills). |
|  | Evaluate necessity for additional borings. |
|  | If bridge is over a railroad, review railroad requirements including possible future tracks, maintenance roads and special curbs and/or fencing on the bridge and include ample timeline for railroad review and approvals. |
|  | Check FEMA maps for Flood Insurance Status. |
|  | Evaluate hydraulic requirements. |
|  | Review river hydrographs and streambed profiles. |
|  | Consider barge impact. |
|  | Review current and projected traffic data and traffic handling issues (consider substructures capable of handling future superstructure widenings, such as 4-lane substructure with 2-lane superstructure for future traffic needs). |
|  | Coordinate with United States Coast Guard for navigational requirements. |
|  | Determine appropriate superstructure type for required main span. |
|  | Consider environmental impacts (endangered species, 404 issues, etc.). |
|  | Consider context sensitive design needs (aesthetic considerations, bridge lighting, etc.). |
|  | Check for utilities (existing and proposed) and improvements in the area. |
|  | Consider sidewalks and/or bike paths. |
|  | Review deck drainage options (contained or free fall from structure). |
|  | Consider retaining wall/right of way issues. |
|  | Address new bridge instrumentation. |
|  | Consider ITS applications. |
|  | Coordinate with Federal Aviation Administration for aerial lighting requirements. |
|  | Consider disposition of existing bridge. |

# Seismic Rehabs

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|  | Review Bridge Maintenance Reports and Structure Inventory & Appraisal sheets (SI&A). |
|  | Review existing bridge plans. |
|  | Review seismic design of existing bridge. |
|  | Determine Seismic Importance Category. |
|  | Review existing vertical and horizontal clearances. |
|  | Obtain proper survey data (deck elevations, beam cap elevations, etc.). |
|  | Investigate load carrying capacity of existing bridge. |
|  | Investigate seismic instrumentation. |
|  | Investigate and determine scope or extent of seismic retrofit (also investigate seismic retrofit versus bridge replacement). |

# Both Minor and Major Bridges

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|  | For stream crossing, prepare “Bridge Survey Location Request” for locating valley sections for districts. |
|  | Asbestos removals for new construction or rehabs. |
|  | Conduit for utilities or drainage. |
|  | Bridge and roadway drainage near bridge ends. |
|  | Use of vibratory screeds (EPG 751.10.1.15). |
|  | Obstruction Evaluation / Airport Airspace Analysis (OE/AAA), FAA project clearance. |
|  | Presence of heavy metals (e.g. lead paint). |
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### For questions, comments, or suggested revisions to this checklist, please contact the State Bridge Engineer