Scoping Checklist
Project Management

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

	Project Manager Quality Control		
GENERAL:	**N/A**	**Yes**	**No**
Design and construction references have been checked, are appropriate and specifically identified by date and/or edition number.	❑	❑	❑
Issues raised and errors found in the review processes (15%, 25%, 30%) are reconciled and/or corrected in the final documents. Consensus has been reached. Comment Resolution sheets have final dispositions.	❑	❑	❑
Drainage analysis has been completed and reviewed.	❑	❑	❑
Bridge Selection Report has been completed and reviewed.	❑	❑	❑
The spatial datum (benchmark) has been identified, properly referenced and located in the field, and adjacent existing improvements are referenced to the same datum.	❑	❑	❑
Geotechnical Report and Pavement design has been reviewed and approved.	❑	❑	❑
The 30% plans have been reviewed for constructability.	❑	❑	❑
Cost Estimate is current and accurate.	❑	❑	❑
The IGA requirements have been identified.	❑	❑	❑
ADOT/FHWA coordination has been conducted.	❑	❑	❑
Need for public involvement has been evaluated.	❑	❑	❑
30% quality has been verified and 30% Plan assembly has been reviewed.	❑	❑	❑
ROW footprint identified.	❑	❑	❑
Utility conflicts identified and relocation costs estimated	❑	❑	❑
Field review completed by the design team.	❑	❑	❑
Final Design and Construction durations identified.	❑	❑	❑
Utility prior rights identified and verified.	❑	❑	❑
Quality expectations have been met in the SDR and 30% plans.	❑	❑	❑
All Scoping goals and objectives have been met.	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Right-of-way

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
TYPICAL SECTIONS:	**N/A**	**Yes**	**No**
Develop a new typical section for significant changes in roadway width	❑	❑	❑
Develop a new typical section for significant changes in drainage design	❑	❑	❑
Develop a new typical section for significant changes in right-of-way width	❑	❑	❑
Show cut and fill sections	❑	❑	❑
Show guardrail and barriers	❑	❑	❑
Dimension existing and proposed right-of-way widths	❑	❑	❑
Dimension total width of the traveled way.	❑	❑	❑
GEOMETRIC CONTROL:	**N/A**	**Yes**	**No**
Show existing and proposed right-of-way with callouts; Dimensions are not needed.	❑	❑	❑
PLAN SHEETS:	**N/A**	**Yes**	**No**
Show existing right-of-way and easements	❑	❑	❑
Show city and county limits	❑	❑	❑
Show existing parcel boundaries and ownership	❑	❑	❑
Show proposed right-of-way and easements	❑	❑	❑
NOTES AND QUANTITIES:	**N/A**	**Yes**	**No**
List item notes in a sequential order	❑	❑	❑
Use same item note numbers for a particular item throughout the plan set	❑	❑	❑
Provide location and quantity of the removal items in the removal section	❑	❑	❑
Provide location and quantity of the new construction items in construction section	❑	❑	❑
Provide legend for symbols used on the plan sheets in the notes section	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Signal Design

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
GENERAL:	**N/A**	**Yes**	**No**
Use standard MCDOT sheet border	❑	❑	❑
Is the signal new or an upgrade?	❑	❑	❑
Accurately display existing R/W, county/city jurisdictional limits	❑	❑	❑
Dimension existing and any new R/W limits	❑	❑	❑
Accurately display existing utility features such as poles, OH power lines, etc.	❑	❑	❑
Accurately display existing edge of pavement and all driveways near the intersection	❑	❑	❑
Accurately display all existing and proposed striping	❑	❑	❑
Signal pole locations are checked against pothole data	❑	❑	❑
FOR SIGNAL UPGRADE PLANS :	**N/A**	**Yes**	**No**
Accurately display existing signal poles, mast arms and cabinet	❑	❑	❑
Accurately display existing detection loops and advance loops	❑	❑	❑
Accurately display location of existing pull boxes and conduit runs	❑	❑	❑
Indicate any removals for existing signal	❑	❑	❑
FOR NEW SIGNAL PLANS:	**N/A**	**Yes**	**No**
Accurately display station and offset location of new signal poles	❑	❑	❑
Identify power source	❑	❑	❑
Accurately display alignment of new signal and pedestrian heads	❑	❑	❑
Provide callout for quantification purposes for new signal items	❑	❑	❑
Accurately display location of proposed new pullboxes and conduit runs (if known)	❑	❑	❑
SIGNAL PLAN INTERSECTION AND OPERATIONAL ISSUES:	**N/A**	**Yes**	**No**
Will special phasing such as split-phasing be required?	❑	❑	❑
Does the signal head type and alignment match the signal phasing and operation	❑	❑	❑
Check pavement elevations for rideability through the intersection	❑	❑	❑
If rural intersection, evaluate need for ramps at corners	❑	❑	❑
Check corner radii for design vehicle right turning movements	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist Survey

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
FACE SHEET:	**N/A**	**Yes**	**No**
Include as built table with township range and section	❑	❑	❑
GEOMECTRIC CONTROL:	**N/A**	**Yes**	**No**
All secondary control shown	❑	❑	❑
Stations and Offset to all monuments and alignments.	❑	❑	❑
Clear designation between construction centerline and monument line when different.	❑	❑	❑
If the construction centerline and monument centerline differ at the beginning or end of the project, dimension bearding and distance tie to each other.	❑	❑	❑
Provide coordinates of the beginning and ending of the project on construction centerline if not on a physical monument.	❑	❑	❑
Annotate all monuments with point numbers.	❑	❑	❑
(GC11) The coordinate table should include and Point Name/Number, Northing, Easting, Elevation and Station and Offset	❑	❑	❑
Include the PLSS corner diagram at point appropriate point.	❑	❑	❑
The Right of Way shall be on the same station and offset as the construction centerline.	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Utility

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
GENERAL:	**N/A**	**Yes**	**No**
Utility list and contacts documented	❑	❑	❑
Utility mapping aquired and reflected in design	❑	❑	❑
Potential utility and railroad conflicts identified	❑	❑	❑
Utility company conflict review completed	❑	❑	❑
Utility pothole data incorporated into design	❑	❑	❑
Utility prior rights identified	❑	❑	❑
Utility relocation costs estimated	❑	❑	❑
Utility agreement needs identified	❑	❑	❑
Utility Technical Memorandum complete	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Bridge Plan & Elevation Sheets

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
GENERAL INFORMATION:	**N/A**	**Yes**	**No**
Use standard MCDOT plan and profile border	❑	❑	❑
Compile plan and elevation on the same sheet (exceptions may be granted by MCDOT)	❑	❑	❑
Follow MCDOT CADD and Drafting Guidelines	❑	❑	❑
EXISTING PLAN REFERENCES:	**N/A**	**Yes**	**No**
Show existing control information such as section lines, corners, monuments and benchmarks	❑	❑	❑
Show existing right-of-way and easements	❑	❑	❑
Show existing features pertaining to pavement, drainage and vegetative	❑	❑	❑
Show existing roadway features such as pavement, driveways, guardrail, signs and signals	❑	❑	❑
Show existing drainage features such as riprap, streams, pipes, culverts and structures	❑	❑	❑
Show existing utility features such as poles, lines, utility boxes and structures	❑	❑	❑
Show existing contours (at 1' interval) (exceptions may be granted by MCDOT)	❑	❑	❑
PROPOSED PLAN DETAILS:	**N/A**	**Yes**	**No**
Show proposed alignments such as mainline and crossroads	❑	❑	❑
Show important points such as POB, PC, PI, PT, POE, and station equations	❑	❑	❑
Show proposed right-of-way and easements	❑	❑	❑
Show proposed design features pertaining to bridge design	❑	❑	❑
Show proposed roadway design features such as pavement, driveways, guardrail and cut/fill limits	❑	❑	❑
Show proposed drainage design features such as riprap, pipes, culverts, ditches and structures	❑	❑	❑

Scoping Checklist
Bridge Plan & Elevation Sheets

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
PLAN ANNOTATION AND DIMENSIONING:	**N/A**	**Yes**	**No**
Annotate proposed alignments such as mainline and crossroads	❑	❑	❑
Annotate important points such as POB, PC, PI, PT and POE	❑	❑	❑
Provide taper rates, begin and end project callouts, tangent length, bearings and station equations	❑	❑	❑
Show curve data (PI, Δ, D, T, L and R)	❑	❑	❑
Dimension bridge, pavement and right-of-way widths	❑	❑	❑
Annotate existing and proposed features such as pavement, drainage, driveways, medians and barriers	❑	❑	❑
Provide match lines with matching station and sheet number	❑	❑	❑
Include North arrow and scale	❑	❑	❑
ELEVATION DETAILS:	**N/A**	**Yes**	**No**
Show existing ground along the roadway centerline	❑	❑	❑
Show proposed bridge superstructure	❑	❑	❑
Show proposed bridge substructure	❑	❑	❑
ELEVATION ANNOTATION AND DIMENSIONING:	**N/A**	**Yes**	**No**
Annotate existing ground and proposed deck elevation	❑	❑	❑
Show station and elevation at key points, such as begin bridge, pier center line, and end bridge	❑	❑	❑
Show wingwalls or other similar features	❑	❑	❑
Denote joint types	❑	❑	❑
NOTES:	**N/A**	**Yes**	**No**
Note design flow and water surface elevations	❑	❑	❑
Note bridge length	❑	❑	❑
Note skew	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Bridge Typical Section Sheet

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
GENERAL INFORMATION:	**N/A**	**Yes**	**No**
Use standard MCDOT plan and profile border	❑	❑	❑
Follow MCDOT CADD and Drafting Guidelines	❑	❑	❑
Show bridge typical sections. Include annotation and dimensions of clear roadway, out of bridge, lane configuration, and roadway slope. Sections will include superstructure and substructure (i.e. barriers, deck, girders, piers, columns, drilled shafts, etc.). Annotation must specify type of material and size of individual structures in the typical sections. Must provide control points (alignment locations, etc.) within the typical sections	❑	❑	❑
Provide general notes that includes but not limited to a general description of construction and design specifications, loads, stresses, and materials. Provide list or table of quantities.	❑	❑	❑
Provide list or table of quantities.	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Design Criteria

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
GENERAL:	**N/A**	**Yes**	**No**
Agency Design Standards Confirmed	❑	❑	❑
Design year	❑	❑	❑
Design speed	❑	❑	❑
Design vehicle	❑	❑	❑
Existing and Design year ADT	❑	❑	❑
Type of terrain	❑	❑	❑
Average project elevation	❑	❑	❑
Standard typical section	❑	❑	❑
Number of travel lanes	❑	❑	❑
ROADWAY DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Roadway width	❑	❑	❑
Lane widths	❑	❑	❑
Shoulder widths	❑	❑	❑
Clear zone	❑	❑	❑
Maximum and minimum slope rates	❑	❑	❑
Median configuration	❑	❑	❑
Maximum allowable superelevation	❑	❑	❑
Maximum and minimum allowable grade	❑	❑	❑
Minimum allowable horizontal curve radius and length	❑	❑	❑
Maximum allowable horizontal deflection without a curve	❑	❑	❑
Minimum allowable vertical curve length and rates of vertical curvature	❑	❑	❑
Maximum allowable vertical grade break without a curve	❑	❑	❑
Minimum stopping sight distance	❑	❑	❑
Intersection stopping sight distances	❑	❑	❑
Barrier runout information	❑	❑	❑
PAVEMENT DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Pavement design life	❑	❑	❑

Scoping Checklist
Design Criteria

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
DRAINAGE DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Design storm for roadways, culverts and roadside design	❑	❑	❑
Pavement drainage design event	❑	❑	❑
Applicable method for hydrology	❑	❑	❑
Minimum pipe sizes for roadways and driveways	❑	❑	❑
Minimum and maximum fill cover for pipes and box culverts	❑	❑	❑
Maximum and minimum allowable velocities for the culverts and channels	❑	❑	❑
Erosion and scour protection requirements	❑	❑	❑
Allowable side slopes for channels	❑	❑	❑
Requirements for retention and/or detention basins	❑	❑	❑
Requirements for storm drain systems design	❑	❑	❑
Scour criteria for bridge foundation design	❑	❑	❑
TRAFFIC DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Pavement marking requirements	❑	❑	❑
Signing requirements	❑	❑	❑
Signal requirements	❑	❑	❑
ITS requirements	❑	❑	❑
Access requirements (driveways and intersections)	❑	❑	❑
Traffic Operations requirements	❑	❑	❑
STRUCTURES DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Design method and requirements	❑	❑	❑
Material Properties for steel (tensile strength, yield strength, modulus of elasticity, etc.)	❑	❑	❑
Material Properties for concrete (compressive strength, unit weight, modulus of elasticity, etc.)	❑	❑	❑

Scoping Checklist
Design Criteria

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
RIGHT-OF-WAY DESIGN CRITERIA:	**N/A**	**Yes**	**No**
Minimum R/W requirement	❑	❑	❑
Increments for R/W acquisition dimensions	❑	❑	❑
Minimum distance required from cut/fill line to R/W line	❑	❑	❑
Stationing requirements for R/W breaks (e.g. only at even stations, etc.)	❑	❑	❑
Correct centerline for R/W dimensioning	❑	❑	❑
Preferences for Drainage Easement or Slope Easement over new R/W	❑	❑	❑
Maintenance requirements around culverts for new R/W	❑	❑	❑
R/W requirements to account for ponding areas	❑	❑	❑
APPENDICES:	**N/A**	**Yes**	**No**
Summary of the Technical Memorandum that will become part of the SDR section detailing the design criteria. The contents are defined in the SDR guidelines under the design criteria section.	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑

Scoping Checklist
Drainage

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer / Quality Control		
EXISTING DRAINAGE CONDITIONS:	**N/A**	**Yes**	**No**
Discuss existing drainage conditions	❑	❑	❑
Identify the project watershed	❑	❑	❑
Identify existing drainage structures	❑	❑	❑
Field verify and document existing drainage structure information	❑	❑	❑
Describe the existing drainage patterns	❑	❑	❑
Detail all data sources	❑	❑	❑
FLOOD ZONE CLASSIFICATION:	**N/A**	**Yes**	**No**
Describe relevant flood zones	❑	❑	❑
Include a map showing relevant flood zones and their classifications	❑	❑	❑
Discuss impacts, improvement limitations and required mitigation measures, and application processing	❑	❑	❑
Detail data sources	❑	❑	❑
DESIGN FLOWS:	**N/A**	**Yes**	**No**
Identify any off-site flows estimated in previous studies	❑	❑	❑
Confirm current applicable hydraulic design criteria including rainfall source and analytical methods	❑	❑	❑
Calculate and discuss off-site flows using applicable analytical method	❑	❑	❑
Delineate onsite drainage areas and quantify design peak flows using applicable analytical method	❑	❑	❑
Detail all data sources	❑	❑	❑

Scoping Checklist
Drainage

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer / Quality Control		
PROPOSED DRAINAGE CONCEPT:	**N/A**	**Yes**	**No**
Present a proposed drainage concept based on the applicable design criteria	❑	❑	❑
Identify and address all assumption and limitation associated with the proposed drainage concept	❑	❑	❑
Identify water quality regulations and the need for corresponding mitigation measures	❑	❑	❑
ADJACENT IMPACTS:	**N/A**	**Yes**	**No**
Describe all upstream and downstream impacts caused by the proposed drainage improvements and mitigation measures	❑	❑	❑
DRAINAGE INLETS AND STORM DRAINS:	**N/A**	**Yes**	**No**
Identify the location and sizes of inlets and storm drains	❑	❑	❑
Document inlets per maximum allowable street flows, collection structure locations, allowable flow spread criteria, and at other critical areas such as roadway intersections	❑	❑	❑
State allowable types of drainage inlets and grates	❑	❑	❑
State the applicable clogging factors when sizing drainage inlets	❑	❑	❑
At on-grade inlets, ensure that bypass flows from larger storms discharge at the designated collection point; otherwise, size the structure to capture the maximum design storm	❑	❑	❑
For sump locations, ensure that the elevation difference to the nearest grade break is not less than the water depth used in the inlet analysis	❑	❑	❑
Document the allowable sizes, cover and material of storm drains	❑	❑	❑
Provide discussion related to the hydraulic grade line	❑	❑	❑
Ensure hydraulic grade line at inlet location is sufficiently below the lip of the gutter for the design storm	❑	❑	❑
Provide the flow velocities and ensure that storm drain flow velocity is within acceptable limits	❑	❑	❑
Provide details of any utility conflict and mitigating design.	❑	❑	❑
Document all design procedures	❑	❑	❑
CULVERT AND CHANNEL DESIGN:	**N/A**	**Yes**	**No**
Describe the proposed culvert and channel improvements with regard to the pavement drainage, off-site drainage, and roadside ditch configuration	❑	❑	❑

Scoping Checklist
Drainage

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
CULVERTS:	**N/A**	**Yes**	**No**
Discuss the design procedure and any deviation from the existing flow paths	❑	❑	❑
Document the allowable culvert sizes and material	❑	❑	❑
Provide the minimum cover requirements	❑	❑	❑
Provide evaluation of the applicable starting conditions	❑	❑	❑
Document water head details	❑	❑	❑
Document culvert design impacts and mitigations	❑	❑	❑
Document the backwater impact from the water head at the upstream side of the culvert and ensure that it is properly incorporated in any upstream conveyance element, such as a wash or a side ditch	❑	❑	❑
Provide the outlet velocities and ensure that they are within allowable limits	❑	❑	❑
Document the need for and provide adequate scour protection measures at the culvert outlet	❑	❑	❑
Document that the culvert length, end treatment, and scour protection measures accommodate clear zone requirements	❑	❑	❑
CHANNELS/ROADSIDE DITCHES:	**N/A**	**Yes**	**No**
Document the roadside design approach	❑	❑	❑
Detail the side slopes used in design	❑	❑	❑
Document channel velocities and check against the need for appropriate channel lining for scour protection	❑	❑	❑
The applied Manning's roughness coefficient are documented and correspond to the type of channel surface	❑	❑	❑
Document and ensure that the water surface profile meets the design requirements	❑	❑	❑
State that any applicable lining material accommodates the applicable clear zone requirements	❑	❑	❑

Scoping Checklist
Drainage

Project Name: _____ Project No.: _____

Designer: _____

Project Manager: _____ Submittal Date: _____

Reviewer: _____ Review Date: _____

	Designer Quality Control		
STORMWATER STORAGE REQUIREMENTS:	**N/A**	**Yes**	**No**
Identify stormwater storage requirements for retention, detention or water quality/first flush applications	❑	❑	❑
Document design decisions related to R/W and clear zone	❑	❑	❑
Detail and ensure the maximum water depth in the basins meets design requirements	❑	❑	❑
Ensure retention basins are drained within specified time through surface percolation or dry wells, if necessary. Conduct percolation tests to identify applicable discharge rates	❑	❑	❑
State the design parameters of the basin and provide related data	❑	❑	❑
SCOUR ANALYSIS:	**N/A**	**Yes**	**No**
Evaluate and document whether drainage structures require scour protection	❑	❑	❑
Discuss scour protection locations and methods	❑	❑	❑
Provide supporting documentation and calculations	❑	❑	❑
CONCLUSIONS	**N/A**	**Yes**	**No**
List the report's conclusions	❑	❑	❑
REFERENCES	**N/A**	**Yes**	**No**
List the report's references	❑	❑	❑
APPENDICES:	**N/A**	**Yes**	**No**
All supporting caclulations and technical data used in the design.	❑	❑	❑
Excerpts from previous studies	❑	❑	❑
Reduced copies of plans	❑	❑	❑
All Electronic Data used in the report	❑	❑	❑
System plan view sheet summarizing the most important drainage calculations	❑	❑	❑
OTHERS:	**N/A**	**Yes**	**No**
	❑	❑	❑
	❑	❑	❑
	❑	❑	❑