

Checklists for Grading Projects

1. Download the checklist from the Road Design Web page to the documents folder for your project.
2. Open the checklist in Adobe Acrobat

Project Checklist

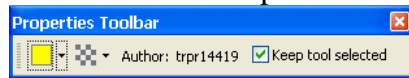
1. Input the PCN
 - Select the form field for PCN
 - Fill in the appropriate number. This will add the PCN to all pages.
2. Input dates in checklist
 - Select the form field for date
 - Fill in the appropriate dates in the form field.

Plans Checklist & Design Checklist

After checking items for specific milestones highlight the appropriate abbreviation. Use green for completed, red for incomplete and cross-out for not applicable. Each item needs to be highlighted separately.

To Select the Highlight Text Tool - **Comments > Commenting Tools > Highlighting > Highlight Text Tool**

Set desired color in the Properties Bar



(Note: To open/close Ctrl+E)

To Select the Cross-Out Text Tool - **Comments > Commenting Tools > Highlighting > Cross-Out Text Tool**

~~PDI~~
~~PDI~~

PH
~~PH~~

LO
~~LO~~

FDI
~~FDI~~

.....
Pipe Sizes & Locations (
~~Curb & Gutter Locations~~

To add a comment to an incomplete item:

- Double click the highlight.
- Type your comment in the comment box that pops up.

To mark an incomplete item as completed:

Double click the highlight and select **Options > Set Status > Review > Completed**.

PROJECT CHECKLIST

PCN

ACTIVITY (Milestones in Bold)	Date Requested	Date Completed
1. Review & Update Scope (if necessary)	_____	_____
2. Request / Receive Traffic Census Data from Data Inventory	_____	_____
3. Request / Receive Surfacing Letter from Materials and Surfacing	_____	_____
4. Request / Receive Traffic Analysis Recommendations from Road Design Traffic Squad	_____	_____
5. Request Land Ownerships with Strip Map from Right of Way Office	_____	_____
6. Order Aerial (ROW) Photos by Photogrammetry	_____	_____
7. Receive Survey	_____	_____
8. Receive Aerial (ROW) Photos	_____	_____
9. Conduct Pre-Design Inspection (if necessary)	_____	_____
10. Receive Land Ownerships by Right of Way Office	_____	_____
11. Establish Existing ROW	_____	_____
12. Send Preliminary Gradeline to Railroads or Aeronautics (if necessary)	_____	_____
13. Send Preliminary Gradeline to Bridge Design and Geotechnical Office	_____	_____
14. Request Preliminary Traffic Control from Region / Area Office	_____	_____
15. Receive Drainage Report from Hydraulics Office	_____	_____
16. Receive Soils Letter from Geotechnical Office	_____	_____
17. Receive Geology Letter from Geotechnical Office	_____	_____
18. Receive Preliminary Bridge Layouts	_____	_____
19. Perform Preliminary Design	_____	_____
20. Check Preliminary Design	_____	_____
21. Schedule Preliminary Design Inspection	_____	_____
22. Request Certificates of Title from Right of Way Office	_____	_____
23. Conduct Preliminary Design Inspection and Provide Summary Letter	_____	_____
24. Request Additional Survey (if necessary)	_____	_____
25. Perform Preliminary Design Inspection Revisions	_____	_____
26. Conduct Public Hearing (if required)	_____	_____
27. Perform Public Hearing Revisions	_____	_____
28. Send Final Gradeline to Bridge Design and Geotechnical Office	_____	_____
29. Request Preliminary Borrow	_____	_____
30. Receive Certificates of Title by Right of Way Office	_____	_____
31. Complete Cut and Fill Limits on Photos by Design Squad	_____	_____
32. Schedule Landowner Meeting	_____	_____
33. Conduct Landowner Meeting and Provide Summary Letter/Notes	_____	_____
34. Request Footing Data for Signal/Lighting Pole	_____	_____
35. Request Review of Erosion Control from Roadside Development (if required)	_____	_____
36. Receive Final Bridge Layout & Hydraulics Recommendations from Bridge / Hydraulics Office	_____	_____
37. Perform Final Design from Landowner Meeting Revisions	_____	_____
38. Check Final Design	_____	_____
39. Schedule Final Design Inspection	_____	_____
40. Request Updated Certificates of Title from Right of Way Office (if necessary)	_____	_____
41. Conduct Final Design Inspection and Provide Summary Letter	_____	_____
42. Perform Final Design Inspection Revisions	_____	_____
43. Send Updated Final Gradeline to Bridge Design and Geotechnical Office (if necessary)	_____	_____
44. Request Final Borrow	_____	_____
45. Receive Borrow from Materials & Surfacing	_____	_____
46. Receive Updated Certificates of Title by Right of Way Office (if necessary)	_____	_____
47. Complete ROW Plats/Plans (includes review and revisions)	_____	_____
48. Submit Plans to ROW / Utilities	_____	_____
49. Submit Revised Plans to ROW / Utilities (if necessary)	_____	_____
50. Request Final Plans	_____	_____
51. Receive Final Plans	_____	_____
52. Prepare Special Provision Checklist	_____	_____
53. Request Maintenance Agreement	_____	_____
54. Send Final Plans to DOT Review (FHWA if required)	_____	_____
55. Receive Review Comments	_____	_____
56. Revise Final Plans and Special Provision Checklist (as required)	_____	_____
57. Respond to DOT Comments (FHWA if required)	_____	_____
58. Submit Plans to Bid Letting	_____	_____
59. Receive Certification Letter from Right of Way Office	_____	_____
60. Send out Staking Reports to Area Office	_____	_____
61. Send out Plan Revisions for Addendum (if necessary)	_____	_____
62. Send out Plan Revisions for Construction Change Order (if necessary)	_____	_____
63. Respond to Shop Drawing Review (if necessary)	_____	_____

PLAN CHECKLIST

PCN

The following checklist should be completed prior to submitting the Preliminary Gradeline (PG) and scheduling the Preliminary Design Inspection (PDI), Public Hearing (PH), Landowner Meeting (LO) and Final Design Inspection (FDI).

The information needed for a Public Hearing is based on this meeting being conducted after a Preliminary Design Inspection. If a Public Hearing is conducted prior to design being started the only information required at the Public Hearing for ROW PLANS is noted with an asterisk (*).

CONSTRUCTION PLANS

					<u>Title Sheet</u>
PG	PDI	PH	LO	FDI	Project Number
PG	PDI	PH	LO	FDI	Type of Project
PG	PDI	PH	LO	FDI	Location Map
PG	PDI	PH	LO	FDI	Begin and End of Project Limits
PG	PDI	PH	LO	FDI	"Not For Construction" Background
					<u>Typical Sections</u>
PG	PDI	PH	LO	FDI	Per Roadway
PG	PDI	PH	LO	FDI	"Not For Construction" Background
					<u>Plan Sheets</u>
PG	PDI	PH	LO	FDI	Horizontal Alignment Data
PG	PDI	PH	LO	FDI	Cut and Fill Limits Drawn
PG	PDI	PH	LO	FDI	Take Out Notes (Pipe only for PG)
PG	PDI	PH	LO	FDI	Entrances Drawn
	PDI	PH	LO	FDI	Pipe Sizes & Locations (Include Length for FDI)
	PDI	PH	LO	FDI	Drop Inlet Types & Locations
				FDI	Structure and Box Culvert Size & Locations
	PDI	PH	LO	FDI	Curb & Gutter Locations
	PDI	PH	LO	FDI	Drainage Arrows Drawn
PG	PDI	PH	LO	FDI	Existing and Proposed ROW Drawn and Dimensioned
PG	PDI	PH	LO	FDI	ROW Data Labeled (Sec. Lines, 1/4 lines, Sec. T & R, etc.)
	PDI	PH	LO	FDI	Widening provided for Turning lanes, Acceleration, Climbing, etc.
	PDI	PH	LO	FDI	Detours (On-site or Local Road)
	PDI	PH	LO	FDI	Landowner Information (If available show for PDI)
				FDI	Storm Sewer Pipe Sizes and Locations
				FDI	Temporary Easements Drawn and Labeled
				FDI	Fence Drawn and Labeled
				FDI	Other Plan Notes needed (Guardrail, etc.)
PG	PDI	PH	LO	FDI	"Not For Construction" Background

PLAN CHECKLIST (continued)

PCN _____

<u>Profile Sheets</u>					
PG	PDI	PH	LO	FDI	Vertical Curve Data (with K values)
PG	PDI	PH	LO	FDI	Grades
PG	PDI	PH	LO	FDI	Entrances Size and Location Labeled
PG	PDI	PH	LO	FDI	Elevations Drawn at each Station Interval
				FDI	Earthwork Balance Locations
				FDI	Special Ditch Grade, PI Station and Elevations
				FDI	Pipe Drawn with Inlet and Outlet Elevations
				FDI	Structure and Box Culvert Drawn with Inlet and Outlet Elevations
				FDI	Hydraulic Data and Overtopping Data
PG	PDI	PH	LO	FDI	"Not For Construction" Background
 <u>Cross Sections</u>					
	PDI	PH	LO	FDI	Curb & Gutter Sections Drawn (Label Top of Curb Elev. for FDI)
	PDI	PH	LO	FDI	Elevations Label at Key Locations
	PDI	PH	LO	FDI	Entrances Drawn and Labeled
				FDI	Special Ditch PI Station and Elevations
				FDI	Final Drop Inlet Types and Locations with Storm Sewer
				FDI	Final Pipe Sizes and Locations
PG	PDI	PH	LO	FDI	"Not For Construction" Background

ROW PLANS

<u>Aerial Photos</u>					
	PDI	PH	LO	FDI	* Horizontal Alignment
	PDI	PH	LO	FDI	* Existing and Proposed ROW Drawn and Dimensioned
	PDI	PH	LO	FDI	* Cut and Fill Limits Drawn
	PDI	PH	LO	FDI	* ROW Data Labeled (Street Names, Sec. Lines, Sec. T & R, etc.)
	PDI	PH	LO	FDI	* Landowner Information (If available show for PDI)
	PDI	PH	LO	FDI	Curb & Gutter Locations
	PDI	PH	LO	FDI	Entrances Drawn (Show when there is an access management issue. May not include for Hearing purposes since highway location, number of lanes, etc. may be more important issue)
		PH	LO	FDI	Lanes (i.e. If other than 2 lane, turn lanes, climbing lanes, etc.)
		PH	LO	FDI	Sidewalk (As needed to show ROW impacts to property, buildings, etc.)
	PDI	PH	LO	FDI	"Preliminary" Background

ITEMS or INFORMATION NEEDED AT INSPECTIONS

	PDI	PH	LO	FD	Central Project File, Surfacing Recommendation, Field Notes
	PDI	PH	LO	FD	Table of K Values for Minimum Stopping/Passing
	PDI	PH	LO	FD	Current PCN Schedule w/ Letting Date
	PDI	PH	LO	FD	Designers List of Unanswered Questions
	PDI	PH	LO	FD	Aerial Photos
	PDI	PH	LO	FD	Camera, Scale, Calculator, Drainage and Earthwork Comps, Note Pad, Tape Measure
		PH	LO		ROW Certificates and Landowner Meeting Forms
			LO	FD	Bridge/RCBC Structure Sizes & Locations with Layouts

DESIGN CHECKLIST

PCN _____

A design check is necessary to make sure the design criteria is met and computer design files match the typical section, plan/profile sheets and cross sections.

The 13 geometric elements established by FHWA as controlling factors during design are as follows. The desire or need for a design exception will typically be determined during the scoping process. If during review of design that any of the 13 controlling factors are not met and a design exception has not already been approved, the design shall be updated to meet the controlling criteria or a design exception shall be provided with proper justification as outlined on the Design Exception form. The criteria highlighted are part of the Design Checklist on the following pages.

1. Design Speed	8. Stopping sight distance
2. Lane width	9. Grade
3. Shoulder width	10. Cross slope
4. Bridge width	11. Superelevation
5. Structural capacity	12. Lateral offset
6. Horizontal alignment	13. Vertical clearance
7. Vertical alignment	

The following checklist should be completed prior to scheduling the Preliminary Design Inspection (PDI) and prior to scheduling the Final Design Inspection (FDI). Another design check might be necessary if there are significant changes on the Final Design Inspection.

When a design element is not part of the project design the reviewer shall cross-out that item. The reviewer shall check the PDI and FDI boxes noting each element of design has been reviewed when that element is part of a project. As needed the reviewer shall provide written comments on the Design Checklist with respect to the design criteria. Communication between the designer and reviewer is essential to ensure a quality design and plans are provided. For those elements that don't meet criteria appropriate justification shall be provided in the project file and/or a design exception submitted for approval if the design element is one of the 13 controlling factors listed.

DESIGN CHECKLIST

PCN _____

HORIZONTAL ALIGNMENT

PDI	FDI	Curves meet Design Speed Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	15 minute Deflection Guideline
PDI	FDI	Superelevation: Rate and Transition Length Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Length of Curve for "flat" curves

VERTICAL ALIGNMENT

PDI	FDI	K Factors & Stopping/Passing Sight Distance Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Maximum Grades Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Minimum Grades for Urban (Drainage concerns)
PDI	FDI	Minimum Grades for Rural (Superelevation Transition concerns)
PDI	FDI	Meets Vertical Clearance Requirement (Structure, Utilities) Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
	FDI	Ditch Grades
	FDI	Special Ditches

DRAINAGE (RURAL)

PDI		Does drainage area & existing size versus proposed size seem reasonable?
PDI		Pipe eliminated: Check where the drainage used to go and where it is going now.
PDI		Can the needed Head actually be obtained for pipe designed?
PDI		Drainage arrows (compare existing versus proposed)
PDI		Review computer input/output (Design Discharge & Structure size)
	FDI	Ditch Block Elevations (required Head)
	FDI	Correct Class/Gauge of pipe
	FDI	Gabion Need (10fps)
	FDI	36" & Greater extended to Clear Zone
	FDI	Proper End Treatments
	FDI	Possible Erosion Areas (cut sections to high fills, downspouts, etc.)

DRAINAGE (URBAN)

PDI		Drop Inlet locations (assuming Q is correct, verify the spread)
PDI		Sag Vertical Curves (Low enough K for drainage purposes)
	FDI	Drop Inlet/Junction Box Elevations
	FDI	Manhole/Drop Inlet large enough for pipe sizes
	FDI	Behind curb drainage: Are we creating any pond areas?
	FDI	General Storm Sewer review (drop inlet locations-low point check, spread, pipe size, grades, cover)

DESIGN CHECKLIST (continued)

PCN _____

TYPICAL SECTION

PDI	FDI	Driving Lane (width) Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Cross Slope Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Shoulder (width) Design Exception <input type="checkbox"/> Not Needed <input type="checkbox"/> Approved
PDI	FDI	Sluff
PDI	FDI	Inslopes
PDI	FDI	Backslopes
PDI	FDI	Transition Lengths
PDI	FDI	Check for Typical 30' Clearzone
	FDI	Fence Berm
	FDI	Guardrail Widening
	FDI	Additional Lanes
	FDI	Undercut Depth coded in
	FDI	Does Urban have the correct C&G and Surfacing height coded in?

INTERSECTIONS

PDI	FDI	Truck Turning Movements
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GUARDRAIL

	FDI	Length of need correct
	FDI	Check overall design

ADA

PDI	FDI	Ramp locations
PDI	FDI	Sidewalk slopes

EARTHWORK

PDI		Assumed Shrinkage Factor coded in
PDI		Assumed Salvage/ Concrete Pavement removal coded in
	FDI	Shrink Factor check
	FDI	Muck/Unstable coded in
	FDI	Salvage/Concrete Pavement removal coded in
	FDI	Are all added quantities coded in actually included in the run?