PROJECT ENGINEERING RECORD (3R)

FEDERAL/STATE PROJECT NO.: _____
SPONSOR PROJECT NO.: _____
SPONSOR: _____

In accordance with the *Design Criteria for 3R Projects* found in the ALDOT *LPA Road Design Policy*, the following information is submitted:

Guideline 1: Current Conditions

Functional Classification: Local Road ☐ Collector ☐ Arterial ☐
Setting: Rural ☐ Urban ☐
Terrain: Level ☐ Rolling ☐ Mountainous ☐
Route Type: NHS ☐ Non-NHS ☐

Project Description: _____
_____
_____

Begin Station: _____ End Station: _____
Equations and Exceptions: _____
Project/Work (Multiple Sites) Length: Feet _____ Miles _____
Existing ROW Width: _____ Additional ROW Required? Yes ☐ No ☐
If yes, Acquired ROW Width: _____ Acres of ROW Needed: _____
Are any temporary or permanent easement(s) required? Yes ☐ No ☐
If yes, list type of easement(s) and how many acres are needed: _____
_____
Design Speed _____ MPH
Present Traffic Count/ Year: _____
Design Traffic Count/ Year (10 Year): _____
Percentage of Trucks: _____
Estimated Cost of Improvements: $ _____

The crash data for the period of _____ to _____ is listed below:

____ Total Crashes

____ Single Vehicle
____ Multi-Vehicle
____ Intersection Related
____ Segmental
____ Fatalities
____ Class A (Serious) Injuries
____ Class B (Minor) Injuries
____ Class C (Possible) Injuries
____ Dawn Crashes
____ Daylight Crashes
____ Dusk Crashes
____ Night Unlighted Crashes
____ Night Lighted Crashes
____ Unknown Surface Crashes
____ Wet Condition Crashes
____ Dry Condition Crashes
____ Other _____

Were there any road defects reported in any of the crashes? Yes ☐ No ☐
If yes, what was reported? _____
_____

Do any of the crashes show the primary cause as road related? Yes ☐ No ☐
If yes, what was the cause? _____
_____

List the location (node or between nodes) and primary cause for any crash that resulted in a fatality or Class A (incapacitating or suspected serious) injury: _____
_____
_____
_____
_____

Does the crash data reveal any site-specific areas that pose safety concerns that need to be addressed? Yes ☐ No ☐

If yes, state the location, safety concern, and proposed countermeasure to enhance safety in the area: _____
_____
_____
_____
_____
_____

Guideline 2: Project Scope

Are there any utilities in conflict with this project? Yes ☐ No ☐
If yes, refer to the Utilities Section of the current edition of the ALDOT's "*Procedural Guidelines for Local Public Agency Projects" (PGLPAP)*, for further information. Please comment below concerning how utilities will be coordinated.

Is there a railroad crossing within the project limits or adjacent to the project?
Yes ☐ No ☐
If yes, refer to the Railroad Involvement Section of the current edition of the ALDOT's "*Procedural Guidelines for Local Public Agency Projects" (PGLPAP)*, for railroad involvement procedures. Please comment below concerning what railroad coordination will take place.

Comments Concerning Project Scope: _____
_____
_____
_____
_____
_____
_____

Guidelines 3&5: Lane Widths, Shoulder Widths, and Shoulder Types

Existing Traveled Way Width(s) (ft): _____
Existing Number of Lanes: _____
Existing Lane Width(s) (ft): _____
Existing Shoulder Width(s) & Type(s) (ft): _____
_____ (C&G, graded, paved)

*Note: Figures **3-2 through 3-4** in the LPA Road Design Policy may aid the designer with definitions of widths. All shoulders shall be flushed and maintained at the width(s) determined from these guidelines. If improvements are proposed for the lanes and/or shoulders, please comment below.*

Comments Concerning Lane Widths, Shoulder Widths, and Shoulder Types: _____
_____
_____
_____
_____
_____
_____
_____
_____

Guideline 4: Cross Slopes

Will planing, leveling, or patching be required? Yes ☐ No ☐
If yes, specify item no., description, and the reason: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Note: State in the section above what the required cross slope will be for the project ("match existing" or "2.0 % or e" for example).

Guideline 6: Horizontal Curvature and Superelevation

Number of Horizontal Curves that do not meet the design speed: _____

For the curves mentioned above (if any), provide the following information:

Curve #	Recommended Advisory Speed	Length of Curve (ft)	Radius (ft)	Existing "e" (%)	Required "e" (%)

Does a benefit/cost analysis indicate that increasing the superelevation to meet new roadway standards will be cost beneficial for the curves above? Yes ☐ No ☐ N/A ☐

*Note: Utilize the "Procedure for Performing Benefit/Cost Analysis" in **Guideline 6** of the LPA Road Design Policy. Please document the design decision-making process below, stating what the results of the analysis were (B/C = 0.554 for example) and what improvements will be made based upon the results.*

Comments Concerning Horizontal Curvature and Superelevation: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Guideline 7: Vertical Curvature and Stopping Sight Distance

Number of vertical curves that do not meet the design speed: _____

For the curves mentioned above,
(if any) what speed will they meet?

_____ at ____ MPH Sag ☐ Crest ☐
_____ at ____ MPH Sag ☐ Crest ☐
_____ at ____ MPH Sag ☐ Crest ☐
_____ at ____ MPH Sag ☐ Crest ☐
_____ at ____ MPH Sag ☐ Crest ☐

Will any of the vertical curves listed above receive improvement(s) or countermeasure(s) to enhance safety in the area? Yes ☐ No ☐ N/A ☐
If yes, please provide details below.

Comments Concerning Vertical Curvature and Stopping Sight Distance: _____
_____
_____
_____
_____
_____
_____
_____

Guideline 8: Bridges and Culverts

Are there any existing bridges within the project limits? Yes ☐ No ☐
If yes, provide the following information:

BIN	Suff. Rating	Begin Station	End Station	Bridge Length	Curb to Curb Width	Is Structure Weight Restricted? (Yes/No)	Are Posted Signs In Place? (Yes/No)	● Is Bridge Considered To Be Narrow? (Yes/No)	⁎ Adequate Guardrail System In Place? (Yes/No)

● If yes, "narrow bridge" signs should be placed by contract or LPA forces.
⁎ If no, list what guardrail improvements are needed (see **Guidelines 10-14**).

Are there any existing **box or bridge** culverts within the project limits? Yes ☐ No ☐
If yes, provide the following information, as applicable:

BIN	Suff. Rating	✧ Begin Station	✧ End Station	Skew Angle	△ Culvert Width	Is Structure Weight Restricted? (Yes/No)	Are Posted Signs In Place? (Yes/No)	Guardrail In Place? (Yes/No)	☐ Guardrail Required? (Yes/No)

✧ The difference in stations here should reflect the centerline length of the structure, which does not include the outer walls (opening to opening).
△ Measured from inside of parapets 90 degrees to centerline
☐ If yes, list what guardrail improvements are needed (see **Guidelines 10-14**).

Comments Concerning Bridge, Culvert, and Guardrail Items: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Guideline 9: Side Slopes and Clear Zones:

Are there currently any existing side slopes that are steeper than 3:1 or any isolated roadside objects (not breakaway) within the desirable clear zone? Yes ☐ No ☐

Minimum clear zone or lateral offset width proposed in project limits (ft): _____
Maximum (steepest) front slope proposed (3:1, 2:1, slope to fit, etc.) _____

Note: It may be helpful to comment below as to the location(s) for the items above and/or provide the associated cross section sheet(s) or sketches, if available.

Are there any pipes within the project limits? Yes ☐ No ☐
If yes, are they of sufficient length and construction to cause no obstruction to traffic? Yes ☐ No ☐
If no, provide details of required repairs and/or extensions.

*Note: If there are slopes steeper than 3:1 within the project limits, a benefit/cost analysis should be performed for slope flattening based upon **Guideline 9** in the LPA Road Design Policy. The designer should refer to **Guideline 14** for proposed slopes steeper than 3:1. If no widening occurs in the project, "slope to fit" may be most appropriate. Roadway pipes should be long enough to accommodate the full required roadway width with appropriate side slopes. Storm sewer/sidedrain pipes should be relocated as necessary if widening occurs.*

Comments Concerning Side Slopes and Clear Zones: _____
_____
_____
_____
_____
_____
_____
_____
_____

Guideline 15: Right-of-Way Encroachments

Were any encroachments identified during the scope of work review that need to be removed prior to project authorization? Yes ☐ No ☐

Comments Concerning Right-of-Way Encroachments: _____
_____
_____
_____
_____
_____
_____
_____

Guideline 16: Bicycle/Pedestrian Facilities:

Are there any existing pedestrian crossings within the project limits that require upgrades to be American with Disabilities Act (ADA) compliant? Yes ☐ No ☐

If yes, identify the crossing location(s) and required upgrades: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Is there any evidence of any bicycle/pedestrian activities in the project area that would warrant the addition of new facilities? Yes ☐ No ☐

If yes, describe the type and location of facilities that will be added: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Guideline 17: Intersection Improvements:

Will there be any intersection improvements performed in this project? Yes ☐ No ☐

If yes, please complete the applicable section(s) below:

17.1 - The Addition of New Turn Lane(s) or Improvements to Existing Turn Lane(s)

Design Speed (Side Roads): _____ MPH
Present Traffic Count/ Year (Side Roads): _____
_____
_____

Design Traffic Count/ Year (10 Year) (Side Roads): _____
_____
_____

Percentage of Trucks (Side Roads): _____
Existing Pavement Widths (Side Roads) (ft): _____

Existing Shoulder Widths & Type(s) (Side Roads) (ft): _____
_____ (C&G, graded, paved)
Design Vehicle: _____

What Road is New/Improved Turn Lane Located On?	Location (Intersecting Side Road)	Lane Width (ft)	Taper Length (ft)	Full Width Length (ft)	Total Length (ft)

Will the turn lanes above provide desirable deceleration, storage, and taper lengths based on the guidance shown in the 2018 AASHTO Green Book (pages 9-95 through 9-104)? Yes ☐ No ☐

If no, please document the decision-making process on the following page for the proposed lengths. The designer should strive to provide as much deceleration distance as practical and the 50th queue storage length for the design year at minimum.

Comments Concerning Turn Lane(s): _____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Note: Please attach "Autoturn" and "Synchro 95th/50th Queue Summary" Analyses (signalized intersections only) or provide similar information to demonstrate design radii and capacity.

17.2 - The Installation of Roundabout(s)

What is the main (through road) at this intersection? _____
Posted Speed (Main Road): _____ MPH
Posted Speed (Side Roads): _____ MPH
Design Speed (Approaches) _____ MPH
Design Speed (Circulatory Roadway) _____ MPH
Does the speed limit need to be incrementally reduced to reduce speed approaching the circulatory roadway? Yes ☐ No ☐
If no, how will the speed reduction be accomplished? _____
_____
_____

Present Traffic Count/ Year (Side Roads): _____
_____
_____

Design Traffic Count/ Year (10 Year) (Side Roads): _____
_____
_____

Percentage of Trucks (Side Roads): _____

Existing Pavement Widths (Side Roads) (ft): _____
Existing Shoulder Width & Type(s) (Side Roads) (ft): _____
_____(C&G, graded, paved)

Maximum speed differential between conflicting traffic streams (MPH): _____
Approach alignment at entry points: Offset Left ☐ Radial ☐ Offset Right ☐
Inscribed Circle Diameter (ft): _____
Circulatory Roadway Width (ft): _____
Truck Apron Width (ft): _____ Design Vehicle: _____

If pedestrians and/or cyclists require accommodation, please provide the following as applicable:

Minimum Sidewalk Set Back Distance from Circulatory Roadway (ft): _____
Minimum Crosswalk Set Back Distance from Yield Line (ft): _____
Minimum Pedestrian Refuge Width (ft): _____
Bike Lane Type: Shared Lane ☐ Bike Lane ☐ Separated Bike Lane ☐ N/A ☐
Will cyclists traverse the roundabout with motorists? Yes ☐ No ☐ N/A ☐
If yes above, how far from the yield line will the bicycle lane be terminated? ____ ft

Will the recommended minimum leveling of lighting be provided at the roundabout per Table 5.1 (page 5-2) of the ALDOT *Roundabout Planning, Design, and Operations Manual*? Yes ☐ No ☐
If no, please provide justification for not providing the recommended lighting.

Will landscaping be provided at the roundabout per guidance found in Chapter 6 of the ALDOT *Roundabout Planning, Design, and Operations Manual*? Yes ☐ No ☐
If no, please provide justification for not providing the recommended landscaping.

Comments Concerning Roundabout(s): _____
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Note: Please attach the "Autoturn", Capacity, and "Fastest Path" Analyses.

Proposed Improvements to Enhance Safety and Reduce Crashes:

Note: These items should include work such as patching, leveling, widening, resurfacing, flushing shoulders, striping, traffic control markings, pavement markers, guardrail improvements, pipe extensions and/or repairs, intersection improvement(s) installing signs as required by the MUTCD, posting the road at the design speed and posting advisory signs as necessary, spot clearing or slope flattening to eliminate any unusual or hazardous conditions, and replacing improper mailbox supports and removing encroachments. **Please provide these "scope" items in sentence form. Multiple items may be listed under one number, as space permits.**

1)_____
2)_____
3)_____
4)_____
5)_____
6)_____
7)_____
8)_____
9)_____
10)_____
11)_____
12)_____
13)_____
14)_____
15)_____

Items ___ thru___ will be performed by_____ at no cost to the project, prior to project authorization. *(Note: This is for items to be performed by the project sponsor. List these after items to be performed by contract.)*

Additional Comments: _____
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_____

SUBMITTED FOR APPROVAL: _____ Date: _____
LPA Representative

Attachments:

Location Map (Required)	☐
Autoturn Analysis (Required when app.)	☐
Synchro Analysis (Required when app.)	☐
Roundabout Capacity Analysis (Req. when app.)	☐
Fastest Path Analysis (Required when app.)	☐
Right-of-Way Map	☐
Other	☐_____

APPROVED: _____ Date: _____
State Local Transportation Engineer