ALDOT
GUIDE FOR DEVELOPING CONSTRUCTION PLANS
2022

REVISIONS TO THE GDCP

DATE OF REVISION	GDCP NUMBER	REVISION TYPE
4/10/18	Table of Contents	minor
4/18/18	Added Milestone Bookmarks	minor
9/12/18	Revised Miscellaneous Note 6	minor
9/12/18	Revised Construction submittal lead time to 13 weeks	minor
9/12/18	Revised Office Engineer submittal lead time to 9 weeks	minor
10/5/18	Revised Const. submittal to include env. commitments in CBMPP	minor
7/24/19	Revised Table of Contents	minor
7/24/19	Revised/added/deleted Railroad Submittal items, 11.00, 11.04, 16.01, 16.02, 16.03, 16.04, 39.02, 39.03, 39.04, 39.05, 62.02, 67.06, 75.00, 75.01, 86.05, 91.03, 99.03	major
7/24/19	Revised Structural Design Manual reference, 18.01	minor
12/17/21	Revised Utility Submittal Information	minor
12/17/21	Revised Airport Submittal Information	minor
12/17/21	Revised Traffic Submittal Information	minor
7/15/22	The following revisions has been made: 5.06, 11.0, 11.04, 13.0, 14.0, 14.06, 16.0, 16.01, 16.02, 18.04, 23.0, 26.0, 27.0, 28.02, 29.0, 36.0, 39.01, 39.02, 39.03, 44.0, 46.05, 53.01, 58.0, 60.0, 63.0, 63.01, 64.0, 65.01, 66.03, 67.06, 70.0, 75.0, 75.01, 76.0, 82.0, 82.03, 82.06, 84.0, 85.03, 86.03, 86.05, 86.07, 86.13, 90.0, 91.02, 91.03, 92.01, 92.02, 92.03, 93.01, 93.06, 95.0, 99.03, 99.07, 99.08, Attachment #4, Attachment #9	major

Alabama Department of Transportation
Guide for Developing Construction Plans

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Milestones **–**noted by italics and bold print

MISCELLANEOUS NOTES

1. This Guide is written from a Design Bureau perspective and should address the major steps that should be followed for developing plans by ALDOT personnel. However, it is understandable that other entities outside of the Design Bureau will use slightly different internal procedures for making submittals and developing contract plans.

2. Submittals shall include project number, CPMS 9 digit Preliminary (PE) project number, project description, county location, submittal description, GDCP number, and the current letting date.

3. At the completion of a GDCP step, the date completed shall be entered into CPMS under the CPMS nine-digit Preliminary Engineering (PE) project number.

4. Major inspection review submittals should be done by letter. However, other submittals may be done electronically, provided, the receiving party agrees to accept submittal(s) electronically. All submittals shall be maintained, either in a hardcopy project folder or within the electronic project directory. All incoming and outgoing project letters, memorandums, and other significant correspondence should be sent to the official Design Bureau files in the Design Bureau Administration Section for filing.

5. Plan-In-Hand Inspection must be held a minimum of 10 weeks prior to ROW Authorization for all other sections and bureaus to be able to complete authorization process.

6. Plans must be transmitted to the Construction Bureau **14** weeks and to the Office Engineer **9** weeks prior to the letting date and other submittal dates adjusted accordingly if a project is scheduled to be let in January.

7. Plans must be transmitted to the Construction Bureau **16**weeks and to the Office Engineer **13** weeks prior to the letting date and other submittal dates adjusted accordingly if the total earthwork (borrow +unclassified excavation) is 1 million or more cubic yards.

8. This Guide is a fluid product that will change from time to time. Users should routinely check for revisions to this Guide. Refer to the "Revisions Page" at the beginning of the GDCP.

ALABAMA DEPARTMENT OF TRANSPORTATION
GUIDE FOR DEVELOPING CONSTRUCTION PLANS

0.0 **MILESTONE: FINAL DESIGN PE AUTHORIZATION AND BEGINNING OF THE FINAL SURVEY**

1.0 **MILESTONE: LOCATION SECTION/REGION SHALL TRANSMIT SURVEY INFORMATION AND LOCATION MEMORANDUM TO PROJECT LEAD**

2.0 **Organization of Project Data**

2.01 Designer shall organize survey information in accordance with ALDOT CAD Standards.

2.02 Review Location Memorandum, Department commitments, and environmental document (if complete). Check for special problems, commitments, and major utility problems that may influence design. Special attention should be given to avoiding costly structures such as water tanks, cellular telephone towers, electric transmission facilities, other types of towers, etc.

2.03 Design Lead contacts Region ROW personnel to begin Right-of-Entry (ROE) process using unified ROE access form.

3.0 **Initial Requests**

3.01 INITIAL SUBMITTAL TO REGION / AREA MATERIALS ENGINEER FOR INITIAL ESTIMATED BUILDUP WHEN PERTINENT INFORMATION IS AVAILABLE (very preliminary)

NOTE: This step in the GDCP process should be made as early as possible and is applicable for those projects in which the project lead has been provided a preliminary mainline horizontal alignment, mainline profile, Location Memorandum, and/or other pertinent information that would make this submittal useful. In some cases, the project lead may have an understanding of the main elements of the project and be able to make a relevant submittal without the mainline horizontal alignment, mainline profile, and the Location Memorandum, i.e., widening, bridge replacement, resurfacing, etc. When the project lead

does not have enough information for this to be a useful submittal, this GDCP step should be skipped.

Submittal requirements for initial estimated buildup

Submit to the Region / Area Materials Engineer (2) roll plots showing the information listed in 1(a) below, and (if available) (2) aerial photo roll plots showing the same information, (1) CD (see below for required items), (1) copy of the Location Memorandum. Copy the transmittal letter to M&T.

1. Information required on each CD:
    a. *Microstation* file and PDF showing property information, existing topographic information, utilities, (this file should not contain any reference file attachments) and mainline horizontal alignment with stationing.
    b. CAD file containing a topographic map with the following information shown and labeled legibly when printed at a scale of 1:24000:
        i. Project mainline centerline with stationing
        ii. Existing bridge culverts/structures
    c. Other *Microstation* files - Property file (prp.dgn), utility file (u100.dgn), topographic file (f100.dgn), and horizontal alignment file(s) (hal.dgn) with proposed profile.
    d. *Inroads* files (if available) – existing surface (existing.dtm)
    e. Aerial photography with the items listed above in 1.a. shown.

3.02 For **Rest Area** / **Welcome Center** projects, transmit (1) partial plan set (Title Sheet and Utility Sheets) or (1) roll plot with utilities shown to the Right of Way Bureau Utilities Engineer with a request that the availability of utility services be investigated.

4.0 Obtain Project Data

4.01 The designer shall retrieve the latest accident data for the area within the project limits, to include side roads (The *CARE* software can be used to do this). The design section supervisor and lead designer shall review accident data and identify any accident trends that should be addressed. A copy of the data shall be sent to the Traffic and Safety Section of the Design Bureau, the Region Highway Safety Engineer and to the Region / Area Traffic Engineer so that they are aware of possible adverse traffic issues and have the opportunity to make improvement suggestions. The design section supervisor should be ready to discuss this at the Project Scope Meeting.

4.02 Retrieve electronic FEMA Flood Insurance Rate Map (FIRM) for the project location from the internet.

5.0 Project Coordination

5.01 Determine if project has to go through the Value Engineering Process. Allow **8** weeks to Value Engineer project.

5.02 Coordinate with the Environmental Technical Section to determine if a Public Involvement meeting/ Design Hearing will be required and adjust schedule accordingly.

5.03 Contact the local floodplain administrator to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected watershed(s) (refer to GFO **3-60**).

5.04 Coordinate with the Design Bureau and Region Stormwater personnel to determine any stormwater/water quality requirements that must be adhered to and if coordination is required with other agencies, municipalities, county governments, etc. Requirements may deal with impaired streams, turbidity, TMDL's, priority construction sites, etc.

5.05 If there are bridge structures within the project limits, coordinate with the Bridge Bureau and determine if bridge structures will be replaced, rehabilitated, widened, and/or no work required.

5.06 If an airport is within 1 mile of project, then the lead shall coordinate with the Aeronautics Bureau during scoping of the project.

6.0 CPMS Coordination

6.01 The design section supervisor shall review CPMS and determine if all relevant projects have been created in CPMS, i.e. preliminary engineering, right-of-way, construction, utility, etc. If required project(s) are not set up in CPMS, the design section supervisor should coordinate with the relevant party to establish an estimated dollar amount to initiate the project in CPMS. If the relevant party is unable to make an educated approximation, the Location Section's preliminary estimate cost form can be used to establish the preliminary estimate. It is the responsibility of the project lead to coordinate with the appropriate persons to create projects in CPMS that have not already been set up during the preliminary design phase of the project.

6.02 The design section supervisor shall determine if project has adequate PE funding remaining. If not, take steps to request additional PE project funding. The project lead shall consult with other entities that also charge to the PE budget and request they provide an estimated cost for completing their work, i.e. Location Section, ETS, Materials and Tests Bureau, Bridge Bureau, etc. Design section supervisor shall periodically review the balance of PE project funds and request additional funding if necessary.

8.0 Review CPMS for scheduled Construction Letting Date and Right-of-Way Authorization date and establish project schedule. Check these dates routinely.

9.0 **Initial Project Development**

9.01 Begin work on plans by preparing Title Sheet.

9.02 Transmit Title Sheet to the Office Engineer Bureau and request a construction project number.

9.03 Project lead to create preliminary backbone typical sections. The appropriate GN2 notes should be applied to typical sections. Update typical as the project design is refined.

10.0 **Traffic Request -** Transmit Title Sheet showing beginning and ending project stations to the Maintenance Bureau-Traffic Section and request required traffic information. Traffic data should be requested for the proposed calendar year letting date, and 20-year future traffic. See GDCP 37.0 for traffic signal study request. Determine if turning movement counts will be needed and make a request for specific locations and circle locations on the Title Sheet where turning movement counts are required. Additional sketches may be included in this submittal for further clarification. Request traffic counting equipment installation details be provided if permanent traffic counting equipment will be included in the project (determined by the Maintenance Bureau-Traffic Section). Use standard traffic request form (see **attachment #1**).

10.01 Maintenance Bureau-Traffic Section to submit traffic data to project lead, Design Bureau Traffic Design Section, Bureau of Materials and Tests – Materials Division, and Region.

11.0 **PROJECT SCOPE DEVELOPMENT**

An on-site meeting should be held for development of project scope. Design section supervisor shall coordinate with the Region, responsible design engineer superior(s), Design Bureau Environmental Technical Section, Location Section, Bridge Bureau, Bureau of Materials and Tests, Aeronautics Bureau (if applicable per 5.06) and FHWA (if full federal oversight is required), etc. for development of project scope. See **attachment #2** to determine when FHWA oversight is required during the entire project design / plans preparation process – see page **2** of the attachment).

11.01 The design section supervisor shall formally document the project scope and submit it to the responsible design engineer superior(s) for review and initial approval.

11.02 The design section supervisor should have a good understanding of the project at this point and be able to identify major components / purpose of the project, i.e., bridge project, pavement widening, additional lanes, new construction, grade/drain and/or base and pave, etc. If this information is unknown, the design section supervisor shall take the necessary steps to acquire this information. It may be helpful to gather information from the Location Section and/or examine any design files provided as part of the survey submittal package. ROW Limits

provided by the Location Section are equivalent to the environmentally cleared limits. Any changes to these should be brought to the attention of ETS.

11.03 Submit final project scope document to the State Design Engineer, Region, and FHWA (if full federal oversight is required) and ask them to acknowledge their approval by signing the document and returning it. A copy of the scope shall be sent to the Traffic Design Section of the Design Bureau.

11.04 Projects with railroad involvement shall be coordinated through the Rail-Highway Program. If there is railroad involvement, all projects involving at-grade crossings will require a **Warning Device Checklist** to be submitted to the Rail-Highway Program. The Rail-Highway Program will determine if a diagnostic review is needed. If determined a diagnostic review is needed, the Rail-Highway Program will schedule and coordinate a review with the Project Lead, Region Rail Coordinator, Railroad Company, and if applicable local road authority. The diagnostic review will determine if any potential upgrades are required for the facilities for which the railroad has maintenance and operational responsibilities in accordance with the latest standards and MUTCD (see Attachment #9).

12.0 **Off-site Detours (refer to GFO 3-43) –** Design section supervisor shall determine if an off-site detour is required. If an off-site detour is needed and it has not already been approved by the Chief Engineer during the corridor study/preliminary design phase of a project, the proposed detour shall be coordinated with the Region and submitted to the State Design Engineer/Region Engineer for their approval; along with a signature sheet. After concurrence is given, the proposed detour shall then be submitted to the Assistant Chief Engineer of Pre-Construction for concurrence, and then to the Chief Engineer for final approval. Coordinate with the Location Section and Region for further submittal details.

13.0 **Initial Hydraulic Investigation** - The design section supervisor and lead designer shall make a site inspection of project site to verify, determine, and complete the following:

- Fill out HYD 100 and HYD 101 forms (see *ALDOT Hydraulics Manual*) to meet hydraulic design and review requirements.
- Make photographs of all existing drainage structures.
- Verify the relative accuracy of quad maps and/or existing surface models.
- Check topography for accuracy. If additional survey information is needed, provide electronic file(s) and (1) roll plot of the affected area to the Location Section and clearly state reasons for the request. Roll plot shall show where additional survey is requested by outlining the area(s) in red, any horizontal and vertical control information needed, and relationship of the construction alignment to the survey alignment.

NOTE: If possible, do this during the initial site visit. (See GDCP Step **8.0**)

13.01 The designer should create a **project hydraulics notebook** for organizing and keeping hardcopies of hydraulic design final output. Create a PDF of the project hydraulics notebook after hydraulics design is complete and before the project is

archived. Hardcopies are important because old file versions may not be accessible using up-dated software.

14.0 **DESIGN CRITERIA DEVELOPMENT**

Develop design criteria by reviewing final project scope, using the current ALDOT adopted *AASHTO Roadside Design Guide, A Policy on Geometric Design of Highway and Streets*, ALDOT Practical Design Guide, ALDOT Standard Drawings, etc. The design criteria shall include typical sections.

14.01 The design section supervisor shall formally document the design criteria with illustrated typical sections and submit it to the responsible design engineer superior(s) for review and approval. Any known and/or potential request(s) for a design exception should be brought to the attention of the responsible design engineer superior(s) as soon as possible.

14.02 After the responsible design engineer superior(s) approves the design criteria, the criteria shall be submitted to the State Design Engineer for Central Office lead projects or to the Region Engineer for Region lead projects, for review and approval to disseminate criteria to the appropriate entities.

14.03 After receiving approval, send criteria to appropriate parties. Ask all parties to review the design criteria and transmit review comments or acknowledge their approval by signing the document and resubmitting it. Submittal letter should respectfully request review comments or concurrence be resubmitted within **2** weeks.

14.04 When review comments are received, the responsible design engineer superior and design section supervisor shall review them and coordinate with relevant parties to resolve comments. Make revisions as needed and finalize design criteria.

14.05 Submit final design criteria document to the appropriate entities for final approval signatures and ask that the document be returned.

14.06 After getting final design criteria approval signatures, the responsible design engineer superior will submit the document to the State Design Engineer and Region Engineer for their approval.

15.0 **Project Development**

15.01 **Horizontal Alignment** – Develop and/or refine horizontal alignment as required to meet design criteria.

15.02 Complete the Primary Survey Control / Geometric Layout Sheet(s). Make sure all alignments are tied.

15.03 Begin creating Paving Layout plan sheets. These sheets are needed for the 30% Inspection so that reviewers will understand the intent of the project and what the project is planned to look like after construction.

15.04 **Preliminary Drainage Design -** Place horizontal alignment on a topographic map and begin looking at major stream crossings and drainage areas. Determine preliminary drainage areas and place drainage structures on plan sheets that are anticipated to have an equivalent conveyance opening of 48" diameter and larger. Identify impaired waters and other special water resources to begin preparation of the phased Erosion and Sediment Control Plan and stormwater permit. If the project is an ADEM Priority Construction Site, notify the Design Bureau Stormwater Engineer as soon as possible so that it can be determined what countermeasures should be taken to reduce potential impacts to the impaired water resource. Coordinate with the Stormwater Section of the Design Bureau to acquire the latest data for water resources.

15.05 Begin preliminary drainage design to insure workability of design(s) and to arrive at approximate cost estimates and preliminary right-of-way requirements.

15.06 For new locations and added roadways, make a preliminary profile grade and cut preliminary cross sections. Coordinate the proposed profile grade with the preliminary cross sections to make sure the profile does not undercut any cross drains that show up at any point on the cross-sections and will have adequate cover over the preliminary cross drain structures. Make sure all median drains can drain to the outside ditches.

15.07 Determine preliminary right-of-way requirements with respect to erosion and sediment control features and post-construction BMPs required by GFO 3-73, i.e., LID features, detention ponds, retention ponds, sedimentation basins, and energy dissipation drainage structures. The designer shall coordinate with the Stormwater Section of the Design Bureau to determine stormwater requirements that may affect the hydraulic design.

16.0 **Preliminary Railroad Coordination**

16.01 A **Certification of Railroad Involvement** (Form RR1) is required on all construction projects prior to FHWA authorization (see Attachment # 9). **This includes projects that have no railroad conflict.** The project lead shall coordinate with the Region and/or local road authority to obtain all proper information and signatures for the Railroad Certificate. This form is to be provide to Office Engineer. Refer to GDCP 11.04 determine railroad involvement.

Note: Railroad submittal should be made at least 30 weeks prior to the project letting date for agreement execution or railroad coordination. Submittal must include FA Project number with paren number on all applicable sheets and documents. Contact Rail-Highway Program for a railroads latest railroad Public Project Manuals.

16.02 **Track Expansion Request:** If a structure is to be constructed/replaced on, over, under, or adjacent to the railroad right-of-way, the project lead shall coordinate with the Rail-Highway Program to determine the number of tracks to be spanned. The Rail-Highway Program will notify the project lead the number of tracks to be spanned and other railroad requirements.

a. The preliminary plans of structure(s) to be constructed/replaced on, over, under, or adjacent to the railroad right-of-way shall be submitted by the project lead to the Rail-Highway Program. Refer to GDCP 39.03 for required plan sheets.

b. Upon receipt of submittal, the Rail-Highway Program will review and submit layout to the Railroad requesting acceptance of the design. If the railroad requires a design change to lengthen bridge spans due to the anticipation of future tracks, addition of crash walls, fencing, and other railroad requests for non-standard items or require the structure to span the entire railroad ROW, requests by the railroad must be submitted to the Rail-Highway Program.

a. The railroad must provide:

i. A copy of its business plan which clearly addresses the expansion of tracks at this location.

ii. A timeline for implementation for the expansion.

iii. A layout plotting the location and identification of these future tracks/ lines, in relationship to existing rail line, superimposed on ALDOT proposed bridge layout.

The Rail-Highway Program will process railroad request to the project lead for review, acceptance, and approval by the Chief Engineer.

17.0 Materials Requests

17.01 Request preliminary shrink/swell factors from Region / Area Materials Engineer.

It should be understood that these factors are the best reasonable estimate based on the Region / Area Materials Engineer's knowledge but is still a rough engineering estimate and these factors are likely to change later during the design process.

17.02 **Request for preliminary materials buildup for existing pavement**

For lane addition projects, resurfacing projects, and/or other projects that include the resurfacing of existing pavements, the project lead shall transmit design traffic data and (2) plan sets to the Region / Area Materials Engineer and request an estimated materials buildup and milling depth for areas where any existing pavement will remain in place. Current policies/procedures set by the Materials and Tests Bureau must be followed (coring existing pavement, FWD analysis, etc.) so that the best estimated buildup can be provided to the project lead. It is the intent this information be determined and transmitted to the project lead prior to the final approved Materials Report so design work can continue.

18.0 Continued Project Development

18.01 **Develop and/or Refine Roadway Vertical Alignment -** Give consideration to

the following:

- Provide adequate fill over drainage structures
- Provide required bridge clearance over/under roadways, waterways, and railroads in accordance with ALDOT Structural Design Manual, and/or the approved Design Criteria. An intranet link to this document is provided below:

  https://www.dot.state.al.us/brweb/pdf/ALDOTStructuresDesignDetailManual.pdf

- Consider constructability and balancing earthwork.
- Try to set crests of vertical curves to approximate existing watershed divides and do not undercut existing drainage features unless there are special conditions that warrant it.
- Provide required clearances and necessary protection above and below drainage structures, overhead sign structures, and utilities. Coordinate these requirements with the Utilities Engineer.
- After soil borings are received, review vertical alignment to make sure alignment is not below the natural water table and also for other geotechnical issues that may adversely affect design.

18.02 Review geometric design for conformance with the approved design criteria, the current ALDOT adopted edition of the *AASHTO Geometric Design Guide, Roadside Design Guide, design memorandums, GFO's* and any other appropriate documents.

18.03 Download the standard Plans Legend Sheets from the network server into the project directory. If items and/or abbreviations are used in the plans that are not listed on these sheets, add additional items and abbreviations to the Plans Legend Sheets. Notify the Engineering Support Section so that they can evaluate if additional items should be added to these standard sheets.

NOTE: The standard Plans Legend Sheets may have been revised after the project survey and/or design were completed. The designer shall confirm that all items and abbreviations shown on these sheets agree with the plans. Previous versions of the Plans Legend and Abbreviations Sheets may be used to resolve conflicts.

18.04 Generate remaining design view sheets using *Open Roads* Plan and Profile Generator. Sheets that should be created are plan/profile, sequence of construction, and cross sections.

18.05 Determine if "FHWA Order No. 5520.1, Preliminary Plan Review and Approval – Required Hydraulic Report Format" (March 5, 1992) is applicable (see **attachment #3**). A brief overview of issues within "FHWA Order No. 5520.1" are as follows:

- Storm sewer systems discharging 200 cubic feet per second or more
- Permanent stormwater detention of 5 acre-feet or more
- Stormwater pumping systems discharging 20 cubic feet per second or

more

- Levees formed by highway fills to prevent flooding
- Impoundments formed by dams at least 25 feet deep or being 50 acre-feet or more in volume, and which will be affected by highway fills.

If "FHWA Order No. 5520.1 is applicable, notify the responsible design engineer superior. The responsible design engineer superior will provide direction on how to proceed. All viable attempts should be made to avoid issues in "FHWA Order No. 5520.1."

19.0 **MILESTONE: BRIDGE HYDRAULIC SUBMITTAL AND REQUEST FOR BIN**

Make a submittal to the Bridge Hydraulic Engineer and request a hydraulic study for required bridge structures and for existing bridge structures if the Design Bureau Location Section has not already made this submittal. See **attachment #4** and GFO **3-60** for items that shall be submitted to the Bridge Hydraulic Engineer for the hydraulic study. Also, request in-place and required BIN's.

19.01 If applicable, the designer shall coordinate with the Bridge Bureau to determine bridge length(s), type of girders, grade, and construction estimate. This information should be incorporated into the 30% Inspection plans.

19.02 Bridge Hydraulic Engineer will make a site visit to the project and may require the design section supervisor and lead designer to be in attendance during the site visit.

19.03 Obtain bridge identification number(s) (BIN) for existing bridge(s) structures if BIN(s) has not already been provided. Request BIN(s) for proposed bridge structure(s). Coordinate with the Bridge Hydraulic Engineer and Maintenance Bureau if necessary.

20.0 **Post Bridge Hydraulic Submittal Project Development**

20.01 If necessary, revise backbone typical sections and typical section plan assembly sheet(s). Check roadway typicals for conformance to design criteria.

20.02 After the designer has received high water elevations, adjust the vertical alignment if necessary. Remember earthwork balance will be a requirement as the overall geometric design is refined. Check vertical alignment for conformance with design criteria.

20.03 Create superelevation requirements in *Inroads*. Check the critical points to ensure that they are consistent with ALDOT's Standard Drawings, i.e. NC, CR, RC, FS.

20.04 Generate preliminary cross-sections based on GN 2 notes and superelevation requirements.

20.05 Balance earthwork. If necessary, adjust vertical alignment and remodel roadway

until earthwork balance parameters are met or when it is determined normal earthwork balance parameters cannot be feasibly met. It is preferred that the earthwork is within a margin of 5%. Be mindful of earthwork hauling constraints, staged construction, and construction sequence.

20.06 Regenerate cross-sections based on the latest design surface and at this time determine preliminary construction limits based on earthwork limits of the design surface. Show existing ground, design surface, present right-of-way, and construction limits on cross-sections. Annotate main feature points on cross-sections, i.e. centerline, edge of travel way, superelevation break points, roadway cross-slope, shoulder break points (paved and graded), ditch bottom point, benching points, tie points, etc. Annotations should be legible with no overlapping text.

NOTE: Construction limits have historically been shown on the plans to primarily represent required earthwork limits of roadways with some modifications to eliminate jagged/sawtooth lines and incorporate other work such as the construction of drainage structures, channel diversions, sedimentation/detention basins, energy dissipation structures/devices, ditches, etc.

20.07 Show preliminary construction limits in appropriate files.

20.08 Project lead should begin setting preliminary right-of-way limits using 4H:1V fill slopes and cut slopes. Liberal buffers should be used to establish preliminary right-of-way. Preliminary limits should be based on preliminary construction limits, accepted buffers, and experience. Generally, preliminary buffers (area between the construction limit and required right-of-way) are set at 20' for local roads, 30'- 40' for arterials and collectors, and 40'- 50' for limited access facilities beyond cut/fill limits. The designer should use larger buffer distances when necessary to account for design elements not yet completed such as drainage design, bridge construction, erosion/sediment control design, absence of slope study, etc. Refer to ALDOT Right-of-Way Bureau website – "Right-of-Way Mapping Manual" and "Right-of-Way Design Rules of Thumb" for the guidance.

20.09 Show preliminary right-of-way limits on cross-sections and in appropriate files.

20.10 Check cross-sections to make sure proposed ground and design elements are not beyond preliminary right-of-way limits.

20.11 Recalculate earthwork quantities when necessary and revise preliminary right-of-way.

21.0 **Clear Zone Review**

Determine clear zone distance per the Roadside Design Guide, and review preliminary right-of-way limits to determine if limits should be revised. Provide barrier protection where warranted. Make revisions to cross-sections and appropriate files when shoulders widths have to be increased for placement of

barrier protection and/or right-of-way limits are adjusted.

22.0 **MILESTONE: PRELIMINARY RIGHT-OF-WAY LIMITS SET**

23.0 The designer should submit *Microstation* CAD files to the Design Bureau Environmental Technical Section (ETS) for their use.

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The ROW files submitted to ETS at this point will become the new cleared environmental limits once the environmental document is approved. The project note indicating that the ROW/ TCE Limits are equivalent to the Environmentally Cleared Limits should be used in most cases. It is strongly recommended in setting the ROW Limits provided to ETS that an additional buffer be added beyond the typical ROW Rule of Thumb based on this. If the environmental document is already approved, then ROW/TCE limits should be within those Environmentally Cleared Limits.

If the environmental document is being done by consultant, the consultant must contact ETS to set the environmental limits prior to any studies.

24.0 For early utility coordination, the designer shall submit (2) partial plan sets containing Title Sheet, Plan/Profile Sheets, and cross-sections to the Region / Area Utilities Section so that utility conflicts can be identified and the process to relocate them beyond the limits of construction can begin. Copy the Right-of-Way Bureau on the submittal letter.

25.0 **Pre-30% Project Development**

25.01 Begin creating the Index Sheet. This sheet cannot be completed until later on in the plan development process.

26.0 Make an initial determination whether or not a design exception may be needed. If so, this should be properly noted on the title sheet and discussed at the 30% Inspection. Reference Design Exception letter and Design Criteria when required. See Attachment #5.

27.0 **Preliminary Construction Estimate –** Calculate the **preliminary** construction cost estimate in accordance with the final project scope using the latest "Preliminary Construction Estimate File" (*Excel* file) located on ALDOT's intranet and internet site (see below for location). The designer shall ensure engineering and inspection (E&I-**15**%) and indirect cost (varies annually) percentages are included in the estimate and agree with the latest percentages disseminated by ALDOT. This preliminary estimate shall be based on **current** costs. CPMS will automatically adjust the estimate using the letting date in CPMS using a compounded inflation/growth factor. However, the preliminary construction estimate shall be reviewed periodically to ensure the estimate in CPMS is accurate. The "Preliminary Construction Estimate File" can be found at

the following location:

- ALDOT intranet site:
  Go to the Design Bureau intranet home page, click on "Engineering Support" and go to the "CADD Support Section", look below the section titled "Resource Library" and then click on the item "Preliminary Construction Cost Estimate File".

- ALDOT internet site:
  Go to the Design Bureau internet home page, click on "Engineering Support" and go to the "CADD Support Section", look below the section titled "Resource Library" and then click on the item "Preliminary Construction Cost Estimate File".

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NOTE: The designer will not have detailed construction quantities computed at this time. Detailed construction quantities will be computed after the Plan-In-Hand Inspection and a detailed construction cost estimate will be determined at that time using *Web Transport*. (See GDCP 81.0)

27.01 Enter the Preliminary Construction Estimate amount in CPMS.

28.0 The design section supervisor and the responsible design engineer superior shall determine if a 30% Inspection is necessary. If a 30% Inspection is necessary, the designer shall use the 30% Checklist (see **Attachment #6**) to develop and check plans.

28.01 If applicable, the design section supervisor shall conduct an in-house review of plans to be submitted for 30% Inspection.

28.02 If applicable, submit (1) half-size sets of 30% plans, (1) preliminary construction estimate, and project scope, to the responsible design engineer superior. This information should be submitted at least **3** weeks prior to the 30% Inspection submittal deadline. Any necessary plan revisions will be communicated to the design section supervisor. The design section supervisor must get the responsible design engineer superior's approval before making the 30% Inspection submittal.

29.0 30% INSPECTION SUBMITTAL

If an inspection is necessary, the plan set submittal shall include all plan assembly sheets created to date, (1) preliminary construction cost estimate, and scope for each plan set submitted. If an off-site detour and/or on-site diversion is required, the designer shall show the detour in the plan assembly and/or provide a roll plot of the detour for review. The design section supervisor will be responsible for scheduling and conducting the 30% Inspection. If desired, designer should coordinate with the Office of Quality Control to schedule review. For projects that require a 30% Inspection, transmit the required number of plan sets at least **2** weeks prior to the Inspection. Submit plans to the following entities or individuals:

- Region – 8 sets
- Coordinate with Region about other parties that should be aware of 30% Inspection and receive plans; i.e. Corps of Engineers, National Parks Service, Fish and Wildlife Service, railroad(s), power company(s), etc.
- Right-of-Way Bureau – 1 plan set; CAD files or electronic link to CAD files, PDF's (Adobe Acrobat file) or paper copies of the source deeds
- Right-of-Way Bureau Utilities Section– 1 plan set; CAD files or electronic link to CAD files
- Bureau of Materials and Tests – 1 set
- Bridge Engineer (if bridge work is a part of project) – 1 set
- Design Bureau Environmental Technical Section – 1 plan set and CD of CAD files or electronic link to pdf's and CAD files
- FHWA (for projects that require full federal oversight) – 1 set for projects that do not have bridge work within project limits and 2 sets if the project does have bridge work within limits.
- Maintenance Bureau - submit 1 set for interstate projects, 1 set for Welcome Center and Rest Area projects, 1 set for projects involving landscaping. Otherwise, the Maintenance Bureau does not want a set of plans unless communicated otherwise.
- Office of Quality Control – (2) plan sets, (1) PDF, design criteria, scope, and other supporting documentation
- Construction Bureau (coordinate with Construction Bureau to determine if they want plans) – the number of plan sets submitted should be coordinated with the Construction Bureau
- Aeronautics Bureau (if within 1 mile of project)
- ITS (if ITS involved; existing or required) – 1 plan set and copy of Project Scope to Traffic Design ITS Group and FHWA ITS Engineer
- Design Bureau – Traffic & Safety Operations Section
  - 1 electronic plan set if the project utilizes any amount of HSIP funds

PROJECTS DESIGNED BY A CONSULTANT

- Design Bureau Design Services Section – For projects designed by a consultant, the consultant to submit the following:
  - 2 plan sets
  - 1 CD containing CAD files and PDF of the plans

30.0 **MILESTONE: 30% INSPECTION (Geometric design review)**

The design section supervisor will be responsible for scheduling and conducting the inspection (if the inspection is required), documenting comments, and submitting comments to relevant parties. Give consideration to utility conflict avoidance. Potential design exceptions and staged construction should be specifically discussed at the 30% Inspection and evaluated by the Inspection team. This inspection does not have to be a formal meeting if approved by the responsible design engineer superior. Comments will be written by the design supervisor and transmitted to the responsible design engineer superior for his approval.

31.0 **Post 30% Project Coordination**

31.01 The State Right-of-Way Bureau Chief should assign right-of-way map preparation responsibilities and coordinate with appropriate parties.

31.02 The design section supervisor shall provide a summary of 30% Inspection comments to entities that received 30% Inspection plans. If bridge construction is a part of the project, the Inspection comments shall address the necessity of staged bridge construction. Specifically state, "staged bridge construction will be required," staged bridge construction may be needed," or "the necessity for stage bridge construction is not known at this time." It is imperative that the Bridge Bureau get 30% comments when there is bridge construction. **Note**: Staged bridge demolition may also need to be addressed.

31.03 **Hazardous Materials Coordination --** Designer shall send (2) sets of plans to the Materials and Tests Engineer to the attention of the Hazardous Materials Coordinator and (1) set of plans to the Design Bureau Environmental Technical Section (ETS), for any potential hazardous material sites that were not previously identified in the preliminary design / survey phase of the project. For each plan set submitted, the designer shall include completed "Hazardous Materials Notification Forms" for each potential hazardous materials site. Locate potential hazardous material sites on plans by cross-hatching. If hazardous material sites impacts are not anticipated, the design section supervisor shall communicate in writing to the above persons stating there are no obvious signs of hazardous materials located within the proposed right-of-way of the project.

31.04 The designer shall send (2) sets of plans to the Region for obtaining right-of-entry for Materials and Tests Hazardous Materials and Geotechnical Investigations.

31.05 The Region should begin obtaining right-of-entry for M&T Hazardous Materials and Geotechnical investigations. The Region should also begin actively identifying utility conflicts.

31.06 For Welcome Centers and Rest Areas, the Architect is to make a submittal directly to the Alabama Building Commission (ABC) for the first of three plan submittals required by the ABC. It is the Architect's responsibility to make sure the submittal contains all required items. The Architect will indicate to the ABC and the project lead that the ABC should bill ALDOT for the cost of the review.

32.0 The designer shall address 30% Inspection comments and refine geometric design. If necessary, revise the Primary Survey Control/Geometric Layout Sheet. Designer to make sure entire design, all illustrations, etc. reflect the required changes resulting from the 30% Inspection.

33.0 After the 30% Inspection, the design section supervisor shall determine if a design exception should be requested. A design exception must be requested if AASHTO Standards cannot be practically met for one or more of the 10 controlling criteria. The 10 controlling criteria for which a design exception is

required are: design speed, lane width, shoulder width, horizontal curve radius, superelevation rate, stopping sight distance, maximum grade, cross slope, vertical clearance, and design loading structural capacity, (see **attachment #5**). Stopping sight distance (SSD) applies to horizontal alignments and vertical alignments except for sag vertical curves. If a design exception is necessary, the design section supervisor shall coordinate with the responsible design engineer superior as to the justification of a design exception. If the responsible design engineer superior agrees that a design exception should be requested, the design section supervisor shall write a letter on behalf of the responsible design engineer superior to the State Design Engineer requesting review and approval of the design exception proposal. If the State Design Engineer concurs, he will forward the request to the appropriate person(s) and ask for their approval. The design exception should be approved by the Chief Engineer prior to the Plan-In-Hand Inspection.

NOTE: The design exception letter should document the factors that justify the exception(s) (see **attachment #5**).

34.0 **Hydraulic Design Continuation -** Continue hydraulic design by creating preliminary drainage sections for existing bridge culverts, anticipated required bridge culverts, box culverts with fill heights over 35', roadway pipes with fill heights over 60', and pipes anticipated to have a conveyance opening of 36" and larger.

35.0 **ENVIRONMENTAL PERMIT COORDINATION**

After 30% Plans are revised, send (1) plan set and CD of CAD files or electronic link to pdf's and CAD files to the Design Bureau Environmental Technical Section (ETS) and (1) set to the Region Environmental Section, so that appropriate environmental documentation and permit applications can begin and/or be reviewed for conformance with approved environmental document/permit; (if permits have already been obtained). All future plan changes dealing with environmental issues shall be forwarded to the Design Bureau Environmental Technical Section and Region Environmental Section to insure accuracy of environmental write up. Designer should make a preliminary check to see if tail ditching or channel changes may be needed. Transmittal shall clearly state that tail ditches and/or channel changes are required, not anticipated, or not known at this time.

36.0 MILESTONE: MATERIALS AND TESTS SUBMITTAL FOR SOIL SURVEY, SOILS PROFILE, SLOPE STUDY INFORMATION, AND/OR MATERIALS BUILDUP

This submittal must be made as soon as possible since there is usually a considerable amount of work that has to be done from the time this submittal is made until the project lead receives the requested information back.

Transmit the latest design information and plan sheets to the Bureau of Materials and Tests. Submit (5) half-size sets of 30% plans, (1) CD, (1) Location Memorandum, and (1) copy of the project scope to the Bureau of

Materials and Tests. Submit (2) half-size sets of 30% plans, (1) CD, (1) Location Memorandum, and (1) copy of project scope to the Region / Area Materials Engineer.

1. Information that should be included within the partial plan set:
   a. Title sheet, Primary Survey Control Layout and Geometric Layout, Typical Section Sheet(s) with only backbone templates provided, Plan/Profile Sheets, Drainage Section Sheets for structure types listed below within 2b.ii – 2b.v, Cross-Section Sheets, and any other relevant sheets.
2. Information required on each CD:
   a. *Open Roads* files and PDF's for plan assembly sheets listed above.
   b. CAD file containing a topographic map with the following information shown and labeled legibly when printed at a scale of 1:24000:
      i. Project mainline centerline with stationing. Also, show side road alignments if necessary
      ii. Existing and required bridge culverts/structures with station location labeled.
      iii. Existing and required roadway culverts with a fill height of 35' and greater with station location labeled.
      iv. Other existing and required conveyance structures, such as pipes, with a fill height of 60' and greater with station location labeled.
      v. Existing and required conveyance structures with an equivalent opening size of 48" and greater.

Deleted file types

<u>The above information shall be distributed by the Materials and Tests Bureau Materials Engineer as follows:</u>

- (4) 30% plan sets and (1) CD to be sent to the Bureau of Materials and Tests Geotechnical Division.

The Region / Area Materials Engineer should determine if assistance is required by a Consultant in completing the materials report. If assistance is required, the Region / Area Materials Engineer should contact the Bureau of Materials and Tests- Geotechnical Engineer requesting that a Consultant be assigned to complete the materials report.

NOTES:

1. The time it takes for Materials and Tests to complete their work depends greatly on the following factors: length of project, number of drainage structures, the amount of earthwork cut, number of bridges and lengths, soil type, geographic location, topographic conditions, type of

roadway, and many of project specific criteria and conditions. Generally, it takes at least **6 to 9** months to get materials information depending on when Materials and Tests Geotechnical Division receives the request from the Region / Area Materials Engineer, when Right-Of-Entry has been obtained by the Region, and if Hazardous Materials Sites have been cleared. Therefore, it is imperative that this step in the design process be done as soon as possible and Materials and Tests be notified as soon as possible when changes are made that will affect their work.

2. Approved geotechnical and material reports must be transmitted to the project lead at least **25** weeks prior to the Right-of-Way Authorization date; therefore, the geotechnical and materials reports must be approved **62** weeks prior to the Construction Authorization Date.

3. The designer should coordinate with the party responsible for preparing the materials report if revisions are made to any part of the project design (horizontal alignment, vertical alignment, hydraulics, fill heights, etc.) and/or plans that may affect the geotechnical and materials report preparation process. A detailed narrative of revisions and a revised submittal showing revisions circled in red shall be submitted to the Materials and Tests Materials Engineer. Request the revisions be evaluated for the necessity of soil borings. For more information, see ALDOT 390, "Procedure for Conducting Soil Surveys and Preparing Materials Reports" located in the Materials and Tests "Testing Manual".

4. If a materials addendum is required, the party responsible for preparing the materials report should begin preparation of an addendum from comments received at a plan review before any information is received from the project lead and/or official comments submitted from the plan review. **A revised submittal by the designer is not required for the party responsible for preparing the materials report to begin their work**. The party responsible for preparing the materials report shall coordinate with the designer prior to submitting a preliminary materials addendum to the Bureau of Materials and Tests.

37.0 **Projects Involving Traffic Signals**

When necessary, the project lead shall make available traffic data and CAD files for the title sheet, plan/profile sheets, utility sheets, and paving layout sheets to the Design Bureau Traffic Design Section and request a traffic signal review.

37.01 The Traffic Design Section will review information submitted at GDCP **37.0** and

determine how to proceed.

37.02 The traffic signal designer responsible for preparing the traffic signal plans shall request current 12 hour traffic counts with turning movements and prepare a warrant analysis for intersections with existing traffic signals and for potential installations. Use standard traffic form (see **attachment #1**). ADT's shall only be used to warrant a traffic signal when no intersection currently exists. A Removal Warrant Analysis shall be performed for existing traffic signal installations that do not meet a warrant analysis. A copy of the counts and warrant analysis shall be sent to the Traffic Design Section of the Design Bureau. The Traffic Design Section shall forward warrants to the Maintenance Bureau.

38.0 Maintenance Bureau-Traffic Section to transmit current 12 hour traffic counts with turning movements to the Design Bureau Traffic Design Section.

39.0 **Initial Railroad Submittal (Post 30%)**

39.01 **Preliminary Engineering funding shall be authorized in CPMS and tied to the project prior to making a submittal to initiate a review.** Note: Prior PE No. tied to a project is acceptable if project is active with sufficient funds.

39.02 **Railroad Involvement: Surveying and Drilling within Railroad ROW:** A request for a Right of Entry agreement must be sent to the Rail-Highway Program for coordination with the railroad when drilling and/or survey work is required within railroad right-of-way. A plan sheet or map indicating the location of the drilling and/ or survey work and a written summary indicating the name of the railroad, the US DOT Crossing Inventory Number, the railroad milepost, and a complete description of the work to be performed within the railroad's right-of-way must be transmitted. Include to the best of your ability an estimate for the number of workdays required for completing this work.

39.03 **Railroad Submittal:** The project lead is responsible for transmitting the following information, along with electronic files to the Rail-Highway Program for their use in securing the railroad's approval of the plans (See Attachment #9). Note: Refer to GDCP 75.0 for additional information needed for railroad agreement submittal.

a. **Deleted**

b. **Deleted**

1. **Written Summary** (All Projects) shall include the following:

- FA Project Number (must have paren number), project location
- Name of the railroad
- US DOT Crossing Inventory Number

- Railroad milepost
- A complete description of all work to be performed on, over, within or impacting the railroad right-of-way and the estimated number of days it will take to perform work impacting the railroad right-of-way.

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2. **Required plan sheets (one electronic pdf file containing all required sheets)** (All Projects):
   a. 11" x 17" set of plans or standard letter size plans are required. All plan sheets showing work on, over, under, or adjacent to the railroad right-of-way including any other information related to the railroad involvement are required
   b. **Title Sheet** - be sure to include the name of the railroad in the project description
   c. **Typical Section** - show a typical section for the railway (tie-ins, details, etc.), the name of the railroad, railroad milepost, railroad right-of-way limits, paving limits, and US DOT Crossing Inventory Number.
   d. **Railroad Plan View Sheet** -include the name of railroad, railroad right-of- way limits, paving limits, US DOT Crossing Inventory Number, railroad mile post, a clear statement of the work to be performed within the railroad right-of-way limits, existing and required rail passive and active warning devices, the required markings, legends (if Standard Drawings are referenced in the plans, legends are not required to be shown)
3. **Bridge Plan/Layout Sheets** (Bridge Projects Only)- show plans for bridge work, including bridge barrier rail projects, bridge approaches, and drainage structures on, over, under, or adjacent to the railroad right-of-way. Include the name of railroad, railroad right-of-way limits, US DOT Crossing Inventory Number, railroad mile post, locations and type of proposed foundations (if known), and horizontal and vertical clearances from the centerline of the tracks to the bridge. **Preliminary Bridge Layout should be transmitted to the Rail-Highway Program for use in requesting the railroads approval of the proposed bridge layout, refer to GDCP 16.02 for Track Expansion Requests.**

   - **Horizontal Clearance:**
     i. Horizontal clearance form centerline of tracks to the face of pier or abutment, measured perpendicular to the tracks.
     ii. Provisions for future tracks, access roads, other railroad facilities, etc.
     iii. The distance the toe of footing shall be from the centerline of track, measured perpendicular to the tracks.
     iv. Requirements for Crash Walls and design criteria.
   - **Vertical Clearance:**
     i. Vertical, measured from top of high rail to lowest point of structure in the horizontal clearance area which extends 6' - 0" either side of the centerline of track.

40.0 If project crosses a navigable waterway as currently defined by the USACOE and EPA (streams, wetlands, lakes, etc.), transmit (1) set of plans to ETS for initiation of Section 404 permits at least **6** to **8** months prior to the letting date.

41.0 If any part of project is within the backwater of an Alabama Power Company impoundment or Tennessee Valley Authority impoundment, check with the Environmental Technical Section for coordinating the application for Federal Energy Regulatory Commission permit.

42.0 **Design Refinement** - Create preliminary plan view elements, i.e. edge of pavements, roadway lane dots or striping, lane arrows, striping, hatching and shading elements, disposition of in-place items, labeling of required items, pavement layout dimensions, etc.

43.0 The Region / Area Materials Engineer responsible for preparing the Materials Report shall submit the unapproved Materials Report to the Bureau of Materials and Tests to the attention of the State Materials Engineer for review and approval. Submitting party shall supply (**5**) copies of the materials report for all projects. Distribution of Materials Reports is given in ALDOT 390**.**

44.0 MILESTONE: APPROVED GEOTECHNICAL AND MATERIALS INFORMATION RECEIVED FROM THE MATERIALS AND TESTS BUREAU

The Bureau of Materials and Tests to distribute copies of the Approved Materials Report and Approved Slope Study Report to the following parties as specified below:

- Project lead – (1) electronic copy
- Region / Area Materials Engineer – (1) electronic copy
- Construction Bureau – (1) electronic copy
- FHWA – (1) electronic copy
- Office of Quality Control - (1) electronic copy
- Materials and Tests project file – (1) hardcopy
- Materials and Tests Geotechnical file – (1) hardcopy
- State Materials Engineer's file – (1) hardcopy
- Maintenance Bureau (submittal only required when the project is an interstate maintenance (IM) project) – (1) hardcopy

If any parties need an additional hard and/or electronic copy of the Approved Materials Report and/or Approved Slope Study Report, contact the project lead.

If the project lead has not received the geotechnical information and the Approved Materials Report within 6 months from the time the submittal at GDCP # **36.0** was made, the project lead shall coordinate with the Region / Area Materials Engineer and State Materials Engineer to determine the status of the materials

report. The project lead shall explain that the advancement of plan development will be limited until this information is received.

NOTE: An approved Slope Study is required prior to the Design Hearing for Grade, Drain, Base, and Pave Projects. An approved Slope Study and Materials Report is required prior to the Plan-In-Hand Inspection.

45.0 Post Materials and Geotech Plan Development

45.01 Upon receipt of the approved Materials Report, the designer shall revise/complete the following:

- Typical sections in accordance with the soils and materials write-up. Completion of the typical sections is required for Base and Pave projects before going to the Plan-In-Hand Inspection.
- Create materials build-up components on *Inroads* template(s)
- Review vertical alignment in order to reduce leveling
- Raise grade where buildup intrudes on preliminary subgrade and/or drainage structures.

NOTE: If addendums are required, they shall be submitted and approved before the Final Back Check submittal (GDCP 90) is made. Traffic updates may also require addendums.

45.02 Complete earthwork balance based on firm shrinkage/swell values received from the Materials and Tests Bureau after soil boring information has been provided.

45.03 Incorporate soil profile and boring sheets into the plan assembly (some projects do not require soil profiles).

46.0 Public Involvement / Design Hearing Process

46.01 DETERMINATION OF PUBLIC INVOLVEMENT/DESIGN HEARING NECESSITY

If the project design is at the stage that a Public Involvement Meeting and/or Design Hearing can be held, transmit (1) partial plan set (title sheet, primary plan sheets) to the Environmental Technical Section and request they give notification if a Public Involvement Meeting and/or Design Hearing is required or if the project is exempt.

46.02 If applicable, the designer shall complete preliminary Public Involvement Meeting and/or Design Hearing Map. Map shall be examined to determine if all items are easily visible (color plots of some colors are not easily visible, i.e. yellow, light colors, etc.). Refer to the Design Bureau / Roadway Design / Engineering Support internet site for the minimum items that shall be shown and the required symbology.

46.03 Transmit preliminary Public Involvement Meeting and/or Public Hearing Map to the Region / Area Environmental Section and possibly FHWA (if full federal oversight is required). Request the Region and FHWA to review the map and provide written review comments.

46.04 Complete the Public Involvement Meeting and/or Design Hearing Map.

46.05 Transmit (2) roll plot maps for Public Involvement Meeting and/or Design Hearing to the Region and request coordination/notification of the meeting. Region is responsible for conducting, scheduling and delivering roll plots, plans, documents, etc., to the location of the Public Involvement Meeting and/or Design Hearing.

46.06 MILESTONE: PUBLIC INVOLVEMENT / DESIGN HEARING
If required, the designer shall bring (3) roll maps and (1) set of plans for possible use at the hearing. The design supervisor and designer will be responsible for answering design related questions during the meeting. Designer should coordinate with the Region and the Design Bureau Environmental Technical Section on whether the Public Involvement Meeting will be on-line.

46.07 The Region / Area Environmental Section shall review Public Involvement Meeting / Design Hearing comments and summarize the responses from the meeting. The original comment forms with the summary shall be sent to the Design Bureau Environmental Technical Section. The Region shall keep a copy on file and send (1) copy with summary to FHWA. The Design Bureau Environmental Technical Section shall coordinate with the project lead to address the comments and any design changes to be considered.

46.08 If required, the Region / Area Environmental Section shall submit to the Design Bureau Environmental Technical Section the required documents for review and preparation of the environmental document.

46.09 Design section supervisor shall address Public Involvement Meeting / Design Hearing comments and make approved design changes where necessary.

46.10 The Designer needs to begin the Public Information component of GFO 3-61 (Work Zone Safety and Mobility) if required for the project.

47.0 **DESIGN APPROVAL**
Submit plans to Chief Engineer and FHWA (if full federal oversight is required) for Design Approval.

48.0 Omitted

49.0 **County / City Municipal Agreements -** If any section of the in-place roadway is on the State Highway System is being bypassed by the project, transmit to the Region (2) plan sets per county or municipality involved for agreement process

concerning the maintenance of the in-place roadway. Transmit (1) plan set to Maintenance Bureau (Management and Training).

50.0 Omitted

51.0 Transmit CAD files showing title sheet, plan/profile sheets, existing and proposed right-of-way, construction limits, horizontal alignment, edge of pavements, existing and required drainage, easements, and any other pertinent environmental files or communicate the electronic link location of CAD files to the Right-of-Way Bureau for preliminary preparation of Right-of-Way Map and initiation of a preliminary project relocation analysis. **Specifically state that "this partial plan assembly is preliminary and should not be used for Right-of-Way Authorization".**

52.0 The design section supervisor should contact the Region / Area Utilities Engineer to discuss project status, anticipated construction sequencing, and the status of utilities. The design section supervisor should transmit any requested information.

53.0 **Traffic Design Coordination**

53.01 Coordinate with the Traffic Design Engineer to determine if lighting, traffic signals and/or ITS items are involved. If lighting and/or traffic signals are involved, transmit electronic files. Transmit (1) plan set if lighting and transmit (1) Electronic plan set if signals are to be designed by the Traffic Design Section. Plan set shall contain all plan assembly sheets prepared to date. Traffic Design Engineer will coordinate required boring locations with Materials and Tests Bureau if the Traffic Design Section designs the traffic signals or lighting; otherwise the responsibility is that of the project lead. For projects which are strictly lighting and/or signs, the borings shall be in the plans before the PS&E.

53.02 **Signals / ITS** (if applicable) - The designer shall submit to the Materials and Tests Bureau (4) plan sets including – title sheet, traffic signal layout sheet(s) (showing pole #, station, & offset) & box sheets if necessary. The transmittal letter shall request soil borings & per GFO 6-5 for all new poles and shall denote any poles that will be located on fill areas of 3' or more. The Region and the Traffic Design Section should be copied on the transmittal letter.

53.03 **Lighting** (if applicable) - The designer shall submit to the Materials and Tests Bureau (4) plan sets (11"x17") including – title sheet, lighting layout sheet(s) (showing pole #, station, & offset) & box sheets if necessary. The transmittal letter shall request soil borings per GFO 6-5 for all new poles and shall denote any poles that will be located on fill areas of 3' or more. The Region and Traffic Design Section should be copied on the transmittal letter.

53.04 **Overhead & Cantilever Sign Structures** (if applicable) - The designer shall submit to the Materials and Tests Bureau (4) ½ size plan sets including title sheet, sign layout sheet(s) (showing structure #, station, & offset) & box sheets if necessary. The transmittal letter shall request soil borings & per GFO 6-5 for all new overhead & cantilevered sign structures and shall denote any locations that will be located on fill areas of 3' or more. The Region and Traffic Design Section should be copied on the transmittal letter.

54.0 Omitted

55.0 Continue to advance hydraulic design as much as possible. Create drainage sections and design the drainage structures. Attention should be given to drainage structures requiring energy dissipation basins, stormwater detention basins, sedimentation basins, and ditches since these items sometimes take more proposed right-of-way than initially anticipated. **Plans for Right-of-Way Authorization should not be submitted until after Plan-In-Hand comments affecting right-of-way are resolved.** Remember to investigate the need for special ditching. Show special ditches on plan/profile sheets, profile sheets, and/or special ditch sheets. If bridge structures are required, show bridge hydraulic data on required sheets, i.e. elevation of high water, elevation of underwater backfill, etc. Note: HYD 102, HYD 103 forms, and the hydraulic data plan sheet(s) must be completed prior to the Plan-In-Hand Inspection for the hydraulic design to be complete and to meet hydraulic design reporting and Plan-In-Hand requirements.

56.0 Determine in conjunction with the Region whether right-of-way or permanent/temporary drainage easements will be required for drainage outfalls, erosion and sediment control structures, other construction work, etc.

57.0 **Channel Changes** - Check for "tail ditching" and/or required "channel changes." If either of these are required, transmit (1) plan set to the Environmental Technical Section and notify them that required "tail ditching" and/or "channel changes" are needed. When this type of work is required, additional environmental issues arise that may cause more extensive environmental documents/permits to be completed and the project to be delayed. Therefore, this information should be conveyed as early in the design process as possible.

58.0 **Preliminary - Sequence of Construction Traffic Control Plan Development –** The designer shall develop a preliminary sequence of construction and Traffic Control Plan. Coordinate sequence and preliminary plan with the Bridge Bureau, if a bridge design submittal (GDCP **60.0**) is required. It is very important that the Bridge Bureau know as early as possible if staged bridge construction is anticipated. The Designer should refer to the Standard Operating Procedure for Determining Speed Limits in a Work Zone in developing the TCP.

59.0 Non-Standard Drainage Structures
The Bridge Bureau needs to be notified if:

a) Cast-in-place box culverts or culvert extensions have any of the following conditions:
   - Bend greater than 15°
   - Skew greater than 30°
   - Any modification to the culvert that cannot be handled with Standard Drawings,
   - Any kind of concrete structure is going over a culvert,
   - The culvert goes thru or ends at any kind of wall (MSE, retaining, etc.),
   - Non-typical end treatment (i.e. wing walls at other than prescribed angles, substituting in retaining walls, depressed apron, etc.)

b) A drainage or other miscellaneous structure cannot be handled with Standard Drawings.

60.0 MILESTONE: BRIDGE DESIGN SUBMITTAL

Transmit (3) copies of the preliminary sequence of construction and traffic control plan. Also, provide a shared link via transfer folder / shared drive that has a .pdf of the plan assembly. Indicate whether or not staged bridge construction will be necessary. Also, submit (3) sets of 30% complete preliminary roadway plans to the Bridge Engineer for design of walls, bridges, other structures that require a structure design, and for bridge clearance review. Upon receipt of this information, the assigned design section of the Bridge Bureau will contact appropriate personnel in the Design Bureau and to request an electronic copy of the 30% roadway submittal for use in developing structure layout. The 30% plan submittal should identify all existing and proposed utilities such as sewer lines, gas lines, water lines, power lines, cable lines, phone lines, etc. that (1) could potentially interfere with layout or construction of the proposed structure or (2) may require consideration for attachment to the proposed bridge structure. Request updated preliminary bridge length(s), grade, and construction estimate from the Bridge Bureau **6** weeks after making the preliminary bridge design submittal.

As a minimum, the 30% roadway plan submittal should include the following:

- Title sheet
- Typical section sheets
- Plan / Profile sheets
- Ground line (3-line profile) data, if the project includes bridge work. Location/offsets for collecting ground line profile data should be coordinated with the Bridge Bureau.
- Cross-sections in the vicinity of the bridge(s)
- Profile of the feature to be crossed (roadway, waterway, railroad, valley, etc.)
- Utilities sheets with existing utilities shown.
- For grade separation structures, provide intersecting station for each alignment and the angle of intersection between the alignments

It is important that the roadway designer keep the Bridge Bureau informed of all roadway design changes throughout plan development that could affect the bridge design and ultimately the letting date.

NOTE: A preliminary bridge layout is needed for the Plan-In-Hand Inspection. For standard bridge designs, the Bridge Bureau should submit a preliminary bridge layout within **6** weeks of receiving the initial bridge design submittal.

60.01 The Bridge Bureau shall submit TS&L (Type, size, and location) drawings and request the Materials and Tests Engineer perform a foundation investigation and foundation report for all projects involving bridges, excluding bridge culverts. A copy of the request letter shall also be sent to the project lead and Region Engineer. For roadway and bridge culverts the **project lead** is responsible for requesting a foundation investigation.

60.02 omitted

60.03 For bridges that are to be constructed over navigable waterway, the Bridge Bureau is responsible for applying for a US Coast Guard construction permit. Guidance for preparing the bridge permit drawings and applying for the USCG construction permit is provided in the ALDOT Bridge Bureau's Structures Design and Detail Manual. Coordination between the Bridge Bureau and Design Bureau's Environmental Technical Section will be necessary in order to complete and provide all of the information needed to satisfy the Coast Guard's permit application process. This information may include but is not limited to copies of the EIS, FONSI, or CE as applicable, certification statements such as Air Quality, Water Quality, 4(f), etc.

60.04 No more than **6** weeks after receiving the GDCP Step 60.0 submittal, the Bridge Bureau shall furnish the project lead a copy of the completed preliminary bridge layout. For bridges on the National Highway System (NHS), the preliminary bridge layout shall be submitted to FHWA for review and approval. A map of the NHS routes for the State of Alabama at the following web address: **https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/alabama/**

61.0 **Pre-Plan-In-Hand Plan Development**

61.01 Plot special ditches on profile views and cross-sections.

61.02 If applicable, complete HYD 102 and HYD 103 forms.

61.03 Complete hydraulic design and Hydraulic Data Sheets to include a Pre/Post design requirements of GFO 3-73. The hydraulic design and Data Sheets shall be completed and incorporated into the plans before the Plan-In-Hand Inspection submittal.

61.04 Check all design elements for conformance with design standards, i.e. design criteria, *AASHTO Geometric Design Guide*, *Roadside Design Guide*, *Hydraulics*

Manual, ALDOT Guidelines for Operation, etc.

61.05 Create Drainage Section Sheets.

61.06 Index drainage structures.

61.07 **Phased Erosion and Sediment Control Plan Development** – The designer shall develop the phased Erosion and Sediment Control Plan. Coordinate with the Stormwater Section of the Design Bureau to determine the latest requirements.

61.08 Develop preliminary sequence of construction and include in plan assembly for review at the Plan-In-Hand Inspection. Construction sequence should not unnecessarily restrict and/or limit contractor work and/or sequence. Consider utility conflicts, clearing acreage limitations, and other potential conflicts during the development of the preliminary sequence of construction.

61.09 **Traffic Control Plan Development –** The designer shall further refine the sequence of construction and Traffic Control Plan.

61.10 Complete preliminary earthwork calculations.

61.11 Create Earthwork Summary Sheets using preliminary earthwork quantities.

61.12 Designer to complete design of roadway signs and pavement markings.

61.13 The designer shall firm up all preliminary easements and right-of-way limits.

61.14 The designer shall verify that all project limits are within the environmental cleared limits and items discussed in the environmental document, i.e. potential impacts, known commitments, etc. have been satisfactorily addressed. ETS will verify that the plans meet environmental requirements when Plan-In-Hand plans are submitted to them.

NOTE: A partial plan submittal (Title, Project Notes, and Plan/Profile sheets) along with updated CAD files must be made to ETS any time revisions are made to the required right-of-way, required easements, or project limits so that ETS can verify that they are within the environmental cleared limits, determine if further study is needed, and if the environmental document needs be reevaluated. These changes should be circled in red on the pdf's and an explanation provided as to why the design was changed (slope changes from 3:1 to 4:1, adding sediment basins, detention basins, driveway improvements, required property negotiations, etc.

61.15 Complete the Index to Special and Standard Drawings Sheet and list all required special and standard drawings relevant to the project.

62.0 **Pre-Plan-In-Hand Project Coordination**

62.01 Submit Primary Survey Control and Geometric Layout Sheet(s) to the Design Bureau Location Section for their review.

62.02 The designer shall transmit to the Region / Area Utilities Engineer (2) plan sets for review. Copy the Right-of-Way Bureau Utilities Engineer on transmittal letter. If there are any changes effecting utilities since the last submittal, the changes shall be noted and circled in red on the plan sheets.

62.03 The Utilities Engineer shall notify the design section supervisor if there are any utility conflicts that might influence the design. The Utilities Engineer shall respond in writing of any or no concerns anticipated.

62.04 If plans were initially sent to the Traffic Design Engineer for design of lighting, signs, marking and striping, traffic signals, and/or ITS and the project design has changed, resubmit the electronic files and plan sheets that reflect the design change.

62.05 The designer should begin preparing the Construction Best Management Practices Plan (CBMPP) and the Notice of Intent (NOI) for NPDES permit coverage. The final CBMPP and NOI should be submitted to the Stormwater Engineer for processing a minimum **12** weeks prior to the letting date. Coordinate with the Stormwater Section of the Design Bureau to determine the latest requirements.

62.06 The designer should submit project CAD files and (1) plan set to the Region and request the project centerline be staked out prior to the Plan-In-Hand Inspection. Coordinate with the Region to determine when they will need design information in order to have adequate time to stake out the centerline.

63.0 The design section supervisor shall conduct an in-house review of the Plan-In-Hand plan assembly. Unless communicated differently by the design section supervisor, the designer shall submit (1) half-size set of plans ready for a Plan-In-Hand, (1) disposition of 30% Inspection comments, (1) preliminary construction estimate, (1) Environmental Certification documentation, (1) materials report with all addendums, (1) Hydraulics Notebook, Project Scope, and (1) Plan-In-Hand Inspection Checklist (see **Attachment #7**) to the design section supervisor for review.

63.01 Submit (2) half-size set of Plan-In-Hand plans, (2) disposition of 30% Inspection comments, (2) preliminary construction estimates, (2) Environmental Certification documentation, (2) materials reports with any addendums, Hydraulics Notebook, Project Scope, and (2) Plan-In-Hand Inspection Checklist (see **attachment #7**) to the responsible design engineer superior. This information should be submitted at least **3** weeks prior to the Plan-In-Hand submittal deadline. Any necessary plan revisions will be communicated to the design section supervisor. The design section supervisor must get the responsible design engineer superior's approval before making the Plan-In-Hand submittal.

64.0 PLAN-IN-HAND SUBMITTAL

This submittal should be made at least **2** weeks prior to the Inspection. Plan set

should be complete except for the calculation of quantities. See below to determine required submittal items for each entity:

- Region – (8) plan sets, (1) preliminary construction estimate, and (2) copies of draft design exception letter, if applicable
- Coordinate with Region and ETS about other parties that should be aware of the Plan-In-Hand Inspection and receive plans; i.e. Corps of Engineers, National Parks Service, Fish and Wildlife Service, railroad(s), power company(s), cities, counties, etc.
- Right-of-Way Bureau (Right-of-Way Section) – Only submit CAD files or electronic link to CAD files.
- Right-of-Way Bureau (Utilities Section) – 1 plan set and CAD files or electronic link to CAD files.
- Materials and Tests Bureau – 1 plan set and 1 PDF copy
- Design Bureau Traffic Design Section (electronic only)
  - Lighting – 1 plan set
  - ITS – 1 plan set
  - Traffic signals – 1 plan set
  - Traffic Control – 1 plan set
  - Signs/Overhead Structures/Striping and Markings – 1 plan set
- Bridge Bureau (if bridge work is a part of project) – 1 partial set (Title sheet, typical sections, and plan/profile sheets)
- Design Bureau Environmental Technical Section – 1 partial set (Title sheet, Project Note sheet, and Plan/Profile sheets) and CAD files if changes to ROW or TCE's. An electronic link for the pdf and CAD files can be provided instead.
- Design Bureau Stormwater Section – 1 CD containing CAD files and PDF of the plans
- FHWA (for projects that require full federal oversight) – 1 plan set for projects that do not have bridge work within project limits and 2 sets if the project does have bridge work within limits. Send 1 additional set to FHWA ITS Engineer if ITS work is involved. Also, submit (1) preliminary construction cost estimate. If applicable, submit (1) copy of the draft design exception letter.
- Office of Quality Control – (3) plan sets, (1) PDF copy, (1) preliminary construction cost estimate, (1) disposition of 30% comments, (1) Plan-In-Hand Checklist, and draft design exception letter, if applicable.
- Construction Bureau – 1 plan set
- Maintenance Bureau – submit (1) plan set for interstate projects, (1) plan set for Welcome Center and Rest Area projects, (1) plan set for projects involving landscaping. Otherwise, the Maintenance Bureau does not want a set of plans unless communicated differently.
- Design Bureau Traffic & Safety Operations Section (normally, a submittal is only needed when loop detectors are installed within a project, 1 or 2 plan sets
  - 1 plan set if the project utilizes any amount of HSIP funds
- Design Bureau Rail-Highway Program (only for rial involved projects/coordination)
  - 1 electronic copy of plan set to the Rail-Highway program

- Adjacent Project Coordination – 1 plan set

PROJECTS DESIGNED BY A CONSULTANT

- Design Bureau Design Services Section – For projects designed by a consultant, the consultant to submit the following:
  - 2 plan sets
  - 1 CD containing CAD files and PDF of the plans

The Office of Quality Control will be responsible for coordinating and notifying relevant parties of the time of the inspection, conducting the inspection, documenting and submitting inspection comments to relevant parties

65.0 **MILESTONE: PLAN-IN-HAND INSPECTION**

Designer shall check topographic and survey information during the field review for accuracy and update as necessary. Review hydraulic design in field. Review and concur that the details shown in the plans adequately depict the geotechnical recommendations. If additional survey information is needed, provide electronic file with shapes designating additional survey limits and (1) hard copy with additional areas red-lined, any horizontal and vertical control information needed, and relationship of construction alignment to survey alignment.

65.01 All plan reviewers with written comments shall formally disseminate their comments by providing a summary of final Plan-In-Hand Inspection comments to the Office of Quality Control, project lead, Region Engineer and their design assistant, etc. Also, FHWA should transmit any written comments to the Office of Quality Control. The Office of Quality Control shall formally disseminate comments according to GDCP No. **65.02**.

65.02 The Office of Quality Control will mail their comments and comments received from FHWA and other bureaus to the project lead and other relevant parties. Other bureaus are responsible for compiling their final review comments and submitting them to the Office of Quality Control within **3** weeks of the Inspection.

66.0 **Plan Development**

66.01 Designer to begin making changes by reviewing notes taken at the Inspection.

66.02 The designer shall study and resolve the Plan-In-Hand comments and make revisions and additions where necessary. A disposition of the Plan-In-Hand comments shall be done and submitted with the PS&E plans. If Plan-In-Hand Inspection comments call for special studies, the designer shall transmit prints to the appropriate office(s) for this study. For Design Bureau lead projects, major design changes after this point will be at the discretion of the State Design Engineer. For Region lead projects, major design changes after this point will be at the discretion of the Region Engineer. Special consideration should be given for right-of-way activities already in progress.

NOTE: Request for major design changes will require a written letter of justification by the parties requesting the change in design.

66.03 If applicable, the Materials and Tests Bureau to transmit approved materials addendum to project lead, Region, Office of Quality Control, Construction Bureau, etc.

66.04 If there has been an approved addendum to the Materials Report and/or Geotechnical Report, the project lead shall complete the typical sections in accordance with the approved addendum, revise plans to reflect changes, balance earthwork, and recalculate material quantities.

66.05 If special soil studies are required for traffic signals, ITS, signs, lighting, etc., the project lead shall coordinate with the Region and Geotechnical Engineer about special soil study requirements. The Bureau of Materials and Tests shall complete all special soil studies and submit copies of results to the project lead and to the Traffic Design Section of the Design Bureau.

67.0 Post Plan-In-Hand Project Coordination

67.01 Determine if a materials addendum is necessary; if so submit to the Materials and Tests Engineer and state why a materials addendum is needed (Region usually does this since they are responsible for preparing and submitting the Materials Addendum to the Materials and Tests Bureau; therefore, coordinate this with the Region). Submittal should include (2) plan sets containing title sheet, typical section sheets, and main plan/profile sheets. If not previously set up and needed, ask that underdrain, aggregate surfacing, etc., be set up. Also, if not previously provided, request project notes regarding materials, compaction notes, gradation requirements, LA abrasion values for in-place pavement being planed, etc.

67.02 Transmit electronic files of revised plan sheets for items the Traffic Design Engineer is responsible for (interstate signing, overhead signs, roadway lighting, signals, ITS, and striping and markings). Notify them that your Plan-In-Hand comments have been addressed and request them to resolve their Plan-In-Hand comments and make plan revisions where necessary.

67.03 The Traffic Design Section should transmit electronic files with corrections made to the project lead. The Traffic Design Section should also submit plan sheets or electronic files showing the location(s) of required lighting, signals, and ITS elements to the Design Bureau Location Section and to the Region so that these elements can be staked out prior to the PS&E Inspection.

67.04 If a Signal, ITS, and/or Lighting Maintenance Agreement is required with the city/county, the designer shall transmit (1) plan set for each municipality to the Region / Area Traffic Engineer and copy the Design Bureau Traffic Design Section.

67.05 After completion of the Plan-In-Hand Inspection, the designer shall submit a copy

of the title sheet, typical section(s), plan/profile sheet(s), and applicable project CAD files to the Bridge Bureau as confirmation that no changes were made during the Plan-In-Hand Inspection that will affect the bridge design. If changes were made during the Plan-In-Hand Inspection that will affect the bridge design, then these changes should be noted accordingly in writing with the submittal of this information to the Bridge Bureau.

67.06 The project lead shall coordinate with the Rail-Highway Program to determine if any additional coordination of information is needed prior to railroad agreement submittal.

67.07 If bridge paint removal, bridge demolition, and/or other possible hazardous materials are a part of the project, plans shall be submitted to the Bureau of Materials and Tests – Hazardous Materials Coordinator to determine if materials are known to be hazardous. Plans shall be submitted at least **3** months prior to the PS&E submittal. If necessary, Materials and Tests will provide the designer with results of testing for inclusion in a plan note.

67.08 Get updated traffic from the Maintenance Bureau-Traffic Monitoring Section as the calendar year changes. The designer shall be aware that updated traffic information may affect pavement design and typical sections.

67.09 For Welcome Centers and Rest Areas, the Architect is to make a submittal directly to the Alabama Building Commission for the second of three plan submittals required by the ABC. It is the Architect's responsibility to make sure the submittal contains all required items. The Architect will indicate to the ABC and the project lead that the ABC should bill ALDOT for the cost of the review.

67.10 After Plan-In-Hand Inspection comments that affect ROW limits have been resolved, transmit a CAD file link to ROW Bureau for preparation of the ROW map.

67.11 The Right-of-Way Bureau, after preparation and/or review of the Right-of-Way Map, will request a tract by tract cost estimate be calculated.

68.0 Utility Process

68.01 **Utility Coordination** - After the Plan-In-Hand Inspection comments have been resolved, transmit (2) partial plan sets and (1) CD to the Right-of-Way Bureau Utilities Engineer for coordination with utility companies. Plan sets and CD shall include title sheet, typical section sheets, main plan/profile sheets, utility sheets, construction sequence, traffic control plan, drainage sections, and cross-sections. Utility sheets shall show all existing and known utility locations. A letter from ETS is required before any utilities can be relocated whether under ALDOT supervision or otherwise. This is to avoid impacts to environmental resources in the field prior to authorizations.

68.02 The ROW Utilities Engineer shall submit plans to the Region / Area Utilities

Engineer for disbursement and final design coordination with utility owners.

68.03 The ROW Utilities Engineer shall ascertain if any special utility requirements are needed. The ROW Utilities Engineer will coordinate these changes with the project lead.

68.04 Coordinate with the Right-of-Way Bureau Utilities Engineer and Region / Area Utilities Engineer to ascertain if utility relocation and/or adjustment discussed and established at Plan-In-Hand will precede, coincide, or follow the project construction. If the utility work cannot practically precede the highway construction, determine if the utility work should be included in the construction project and if utility work conflicts with the sequence of construction. If necessary, revise sequence of construction to eliminate Stormwater conflicts.

69.0 Project lead to review project/environmental commitments to make sure they have been addressed. Commitment requirements must be in plans before GDCP **71.0** can be made.

69.01 If the utility work is to be included in the construction project, request the Right-of-Way Bureau Utilities Engineer provide quantities for utility work. Ask the Utilities Engineer if electronic utility sheet files are needed at this time.

70.0 **INTELLIGENT TRANSPORTATION SYSTEMS (ITS) – SYSTEMS ENGINEERING ANALYSIS**

Systems Engineering Analysis (SEA) for ITS (per 23 CFR 940.11) – The designer shall hold an ITS Stakeholders Meeting and start preparing the SEA report. ITS Designer is to coordinate with the project lead for scheduling this meeting. (Notify Traffic Design ITS Group with meeting schedule details.) Refer to the Standard Operating Procedure on Traffic Interruption Reporting and coordinate accordingly.

71.0 **Request ETS Approval for Right-of-Way/Easements, Cleared Environmental Limits, and Environmental Compliance** – The Environmental Document must be approved prior to this submittal to ETS. Using the standard ALDOT submittal letter (see **Attachment #10**), the project lead shall provide an electronic link to submittal files (see below), with a copy of the letter to ETS for their review of cleared environmental limits, right-of-way/easements, and environmental commitments for environmental compliance. This submittal must be made at least **8 ½** weeks prior to the Right-of-Way Authorization date. If there have been revisions to the plans that ETS has not already been made aware of, has not approved, and/or will affect the validity of environmental permits/documents, make this submittal as soon as possible in hopes of resolving issues prior to Right-of-Way Authorization. Provide an explanation and a detailed description of revisions along with circling in red the areas that have changed on the plans. Examples would include adjustments to the right-of-way, addition/revision of easements, proposed modifications to environmental cleared limits, increased/decreased impact to wetlands, change in people being displaced, change in structure takings, etc.

The designer must make ETS aware of all changes as soon as they are known. Changes presented at the **8 ½** week deadline affecting ETS approval will most likely not allow enough time for ETS to perform additional environmental work; therefore, the Right-of-Authorization date may be jeopardized. ETS is required to provide a response (see **Attachment #11** and **#12**) within **2** calendar weeks after receiving this submittal, whichever is sooner. If approval is denied, ETS shall communicate the estimated amount of time required to complete additional work. Project lead to determine if the Right-of-Way Authorization date should be moved.

- *Microstation* files showing existing and proposed right-of-way, construction limits, horizontal alignment, edge of pavements, existing and required drainage, easements, and any other pertinent environmental files
- PDF of plan assembly

71.01 Once ETS is in agreement with the GDCP **71.0** submittal, a concurrence will be provided to the design lead (see **Attachment #11**).

Note: The project lead must make the Right-of-Way Authorization submittal **6** weeks prior to the authorization date.

72.0 **MILESTONE: FINAL SUBMISSION FOR RIGHT-OF-WAY AUTHORIZATION**

A submittal to the Right-of-Way Bureau Chief for acquisition of property should be made as soon after Plan-In-Hand comments affecting right-of-way are resolved and ETS written approval is obtained (see GDCP **71.01**). ETS approval letter shall be attached to the transmittal letter. **This submittal shall be made at least 6 weeks prior to the Right-of-Way Authorization date.** Transmittal letter shall indicate the electronic link to relevant files.

NOTE: Any revisions that were previously submitted to the Right-of-Way Bureau as final shall be coordinated with the Right-of-Way Bureau and ETS and a revised submittal made to both offices as soon as possible. Provide an explanation and a detailed description of revisions along with circling in red the areas that have changed on the plans. ETS shall review the revisions to determine if the project remains in compliance with environmental documents/permits. This submittal shall be done by formal letter and the electronic link to required submittal files specified. Letter shall indicate what revisions have been made, if the revisions are within the environmental cleared limits, and the reason for the revision. All revisions shall be circled in red. The design section supervisor, Right-of-Way Bureau, and ETS shall collectively discuss the impact of these revisions and any alternatives that can be considered, if necessary. Approval documentation shall be submitted to the project lead by ETS after confirming that all environmental requirements have been met.

Designer shall attach ETS approval letter to Right-of-Way Bureau submittal letter.

72.01 The Right-of-Way Bureau will overlay the CAD files provided in Steps 71.0 and 72.0 to confirm there are no issues with the ROW map and the tract by tract estimate is complete. They will transmit the ROW Authorization package to OE for funding approval. For Design Bureau lead projects, right-of-way changes after this point will be at the discretion of the State Design Engineer. For Region lead projects, right-of-way changes after this point will be at the discretion of the Region Engineer. Special consideration should be given for right-of-way activities already in progress.

NOTE: Request for right-of-way changes will require a written letter of justification by the parties requesting the change. Letter will be submitted to Design Bureau for review and recommendation to Chief Engineer.

73.0 **Alabama Power Impoundment -** If any part of the project is within the backwater of an Alabama Power Company impoundment, the designer shallsubmit (1) set of plans to ETS for preparing the Federal Energy Regulatory Commission permit.

74.0 **TVA Impoundment -** If any drainage structures lie within the Tennessee River Watershed, the project lead shall notify ETS, to see if TVA needs to make further review of the project. If further review by TVA is required, the project lead shall submit (1) set of plans to ETS for handling 26A committee review with TVA.

75.0 Railroad Agreement Submittal Package

The project lead shall electronically submit a pdf file containing a written summary and a copy of a partial plan set which will include the plan sheets affecting the railroad as described below to the Rail-Highway Program. The Rail-Highway Program will coordinate with the railroad as needed for the acceptance of the design and items shown on the plan sheets related to railroad involvement; including the submittal for the railroad construction agreement review, approval, and execution. Cross-sections and hydraulic calculations will be required for new construction of a roadway and/or bridge when drainage is conveyed on, over, or adjacent to the railroad right-of-way (see Attachment #9).

***Railroad submittal should be made **at least 30 weeks prior to the project letting date for agreement execution or railroad coordination. Submittal must include FA Project number with paren number on all applicable sheets and documents.** Contact Rail-Highway Program for a railroads latest railroad Public Project Manuals.*

- **Non-Bridge Projects:** Resurfacing, Resurfacing and Widening, Additional Lanes Widening, New Alignment, Pedestrian/Railroad Bicycle Improvements, Railroad Overpass work, etc.
- **Bridge Projects:** Bridge Removal and/or Replacement, Bridge Painting, Bridge Barrier Rail Retrofit, and Bridge Widening, etc.

1. Utility Projects- Pipe/conduit installation, fiber optic cable, boring, ITS installation, other utility installation/removal on, over, within or impacting the railroads right-of way, etc.

2. **Written summary**- (All Projects) – shall include:
    a. FA Project Number (must have paren number), Project Location , County
    b. Name of the railroad
    c. US DOT Crossing Inventory Number
    d. Railroad Milepost
    e. A complete description of all work to be performed on, over, within or impacting the railroads right-of way, and the estimated number of days it will take to perform work impacting railroads right-of way.
    f. Any other relevant information.
3. **Required plan sheets** - (one electronic pdf file containing all required sheets):
    a. 11" x 17" set of plans or standard letter size plans are required. All plan sheets showing work on, over, under, or adjacent to the railroad right-of-way including any other information related to the railroad involvement are required
    b. **Title Sheet** - include the name of the railroad in the project description
    c. **Typical Sheet(s)** - show typical section of railroad (tie-ins, details, etc.), show the name of the railroad, US DOT Crossing Inventory Number, railroad milepost, paving limits, and railroad right-of-way limits
    d. **Project Note Sheet(s)** - include any applicable railroad project notes on the Project Note Sheet, refer to Attachment # 9
4. All plan sheets showing work on, over, under or adjacent to the railroad right-of-way shall include but is not limited to:
    a. **Any Plan & Profile sheet(s) or Rail Plan Layout sheet(s)** - show the name of the railroad, US DOT Crossing Inventory Number, railroad milepost, railroad right-of-way limits, paving limits, a clear statement of work being performed within the railroad right-of-way limits, existing and required rail passive and active warning devices, required markings, legends, etc.
    b. **Any applicable special project details** (related to or impacting railroad)
    c. **Utility sheet(s)** (related to or impacting railroad)
    d. **Drainage sheet(s)** and calculations (related to or impacting railroad)
    e. **Erosion and Sediment Control sheet(s)** (related to or impacting railroad)
    f. **Traffic Control and Construction Staging sheet(s)** (related to or impacting railroad)
    g. **Traffic Detour sheet(s)** (related to or impacting railroad)
    h. **Bridge Title sheet**- include the name of the railroad in the title box
    i. **Bridge General Plan and Elevation sheet(s)** – include the name of the railroad on the plan and elevation sheet, centerline of the railroad tracks, railroad right-of- way limits, US DOT Crossing Inventory Number, railroad milepost, locations and type of foundations and all horizontal and vertical clearances required by the railroad for review. If applicable, show the existing railroad location/layout and, the required roadway/ bridge location/layout as it relates to the railroad's right-of-way
        i. Available Bridge Structure and Details
        ii. Geotechnical sheet(s) for bridge area
    j. **Cross-section sheet(s)** - at least 300 feet on each side of the railroad right-of-way

k. **Earthwork Details sheet(s)** (related to or impacting railroad)

75.01 Railroad and Right-of Way Coordination

The Designer or project lead shall coordinate with Region/Area Offices Right-of Way Sections and/or the Right-of Way Bureau for projects requiring easement or property acquisitions for guidance and direction of acquiring easement.

1. Temporary Construction easement language is included in most railroad agreements.
2. For railroads that do not have proper documentation of permanent easement rights conveyed to the state/city/county for a project, railroads will require easement acquisition.
3. Norfolk Southern and CSX Railroads have certain procedures that should be followed when requesting permanent easement, see Attachment #9.

76.0 The designer shall request the Bridge Bureau to submit Bridge General Plan and Elevation Drawing(s), preliminary quantities, and a draft bridge construction cost estimate that includes pay items numbers. Request this information **34** weeks prior to the letting date or **38** weeks prior to the letting date if project has **1** million or more cubic yards of earthwork (borrow + unclassified excavation). The designer should also request the Bridge Bureau communicate the design method (ASD or LRFD) used to design the bridge.

Note: If required, the designer should submit to Bridge Bureau to identify the type of retrofit for the bridge rail on existing bridges.

77.0 **Continued Plan Development**

77.01 The designer shall revise the Traffic Control Plan (with quantities) and the phased Erosion and Sediment Control Plan (with quantities) for inclusion into the PS&E plan set.

77.02 Calculate detailed project quantities.

77.03 Create “Summary of Quantities” boxes and “box sheets”.

77.04 Make revisions to the Index Sheet if necessary. The designer shall check Index Sheet against the latest standard and special drawing list.

77.05 Complete “Summary of Quantities” pay sheet.

77.06 Designer shall develop any remaining plan sheets and complete plan assembly.

78.0 Omitted

79.0 Notify the Environmental Technical Section if any environmental conflicts exist. ETS will notify Hazmat if necessary.

79.01 Coordinate with the Environmental Technical Section to determine if there are any other known commitments and/or project notes that have not already been added to the plans.

80.0 If applicable, finalize design exception letter and request approval in accordance with Department policy. Approved Design Exception to be transmitted with the PS&E submittal.

81.0 Create detailed construction estimate for PS&E Inspection / Value Engineering submittal using Web Transport. If bridge(s) are involved with the project and an item breakout estimate is not available, the designer will add the cost of the bridge(s) based on SF of bridge deck per the preliminary design cost estimate. The designer will also ensure that CE&I and indirect additives are included in the detailed estimate.

81.01 Update construction estimate in CPMS.

82.0 **VALUE ENGINEERING** (see Attachment #8)
Design section supervisor shall notify the responsible design engineer superior that a Value Engineering study is warranted for the project. Requirements can be found at FHWA document 23CFR Part 627 – Value Engineering.

82.01 The design section supervisor shall conduct an in-house review of the Value Engineering plan assembly.

82.02 Submit (2) half-size set of Value Engineering plans, (2) disposition of Plan-In-Hand comments, (2) construction estimates, (2) materials reports with any addendums to the responsible design engineer superior. This information should be submitted at least **3** weeks before the Value Engineering Review submittal deadline. Any necessary plan revisions will be communicated to the design section supervisor. The design section supervisor must get the responsible design engineer superior's approval before making the Value Engineering submittal.

82.03 Design section supervisor shall request approval to contact ALDOT's Value Engineering coordinator of the Office of Quality Control to schedule a Value Engineering Study (see attachment #8 for "Alabama Department of Transportation Value Engineering Program").

82.04 **Value Engineering Submittal -** Transmit the following items to the Value Engineering coordinator of the Quality Control Bureau:

- (8) plan sets
- (8) construction estimates
- (8) disposition of 30% Inspection comments
- (8) disposition of Plan-In-Hand comments
- (2) Approved Materials Reports with any approved materials addendums, slope study, and foundation investigation reports (if available)

82.05 **Value Engineering Inspection** - Value Engineering team to review plans and submit recommendations in writing to the Design Bureau, Materials and Tests

Bureau, Construction Bureau, Maintenance Bureau, (and Bridge Bureau whenever bridges or bridge culverts are included in the Value Engineering Inspection).

82.06 The VE Implementation Committee will determine what recommendations to implement. A formal report shall be written to the State Design Engineer and disseminated in accordance with ALDOT's Value Engineering guidelines indicating the disposition of Value Engineering recommendations. The State Design Engineer will investigate the feasibility of implementation recommendations and respond to the Office of Quality Control those recommendations that he/she is in agreement, provide an explanation for the recommendations he/she is not in agreement with, and those that require further study. The Value Engineering recommendations that will be implemented shall be incorporated into the plan assembly before the PS&E submittal.

82.07 Designer to make Value Engineering implementation revisions approved by ALDOT.

82.08 Project lead to notify relevant parties of the design changes as a result of the Value Engineering implemented changes/additions and make submittals as necessary. Notify the relevant parties when you need for them to resubmit their plan set information back to you so that a PS&E submittal can be made by the deadline.

83.0 Incorporate all sheets into the plan assembly.

83.01 The design section supervisor shall conduct an in-house review of PS&E plan assembly. Unless communicated differently by the design section supervisor, the designer shall submit (1) half-size set of plans ready for a PS&E, (1) disposition of Plan-In-Hand Inspection comments, (1) construction estimate, (1) Environmental Certification documentation, (1) Hydraulics Notebook, (1) approved materials report with addendums, and (1) Plan-In-Hand Inspection Checklist (see **attachment #14**) to the design section supervisor for review.

83.02 Submit (1) half-size set of PS&E plans, (1) disposition of Plan-In-Hand comments, (1) construction estimates, (1) Environmental Certification documentation, (1) approved materials reports with any addendums, Hydraulics Notebook, and (1) PS&E Checklists (see **attachment #14**) to the responsible design engineer superior. This information should be submitted at least **3** weeks before the PS&E submittal deadline. Any necessary plan revisions will be communicated to the design section supervisor. The design section supervisor must get the responsible design engineer superior's approval before making the PS&E submittal.

84.0 PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) SUBMITTAL
This submittal should be made at least **2** weeks prior to the PS&E Inspection. Plan set should be complete. See below to determine required submittal items for each entity.

- Region – 8 plan sets each including a construction estimate, disposition of Plan-In-Hand comments, and approved design exception letter, if applicable.
- Coordinate with Region and ETS about other parties that should be aware of the PS&E Inspection and receive plans; i.e. Corps of Engineers, National Parks Service, Fish and Wildlife Service, railroad(s), power company(s), cities, counties, etc.
- Right-of-Way Bureau (Right-of-Way Section) – Only submit CAD files or electronic link to CAD files.
- Right-of-Way Bureau (Utilities Section) – 1 plan set and CAD files or electronic link to CAD files.
- Materials and Tests Bureau – 1 plan set
- Design Bureau Traffic Design Section (electronic only)
    - Lighting – 1 plan set and disposition of Plan-In-Hand comments
    - ITS –1 plan set, disposition of Plan-In-Hand comments, and SEA Final Report
    - Traffic signals – 1 plan set and disposition of Plan-In-Hand comments
    - Signs/Overhead Structures/TCP/Striping and Markings – 1 plan set and disposition of Plan-In-Hand comments
- Bridge Bureau (if bridge work is a part of project) – 1 partial set (Title sheet, typical sections, and plan/profile sheets)
    - A transmittal to the Bridge Bureau is not required unless a culvert and/or bridge culvert, retaining wall, or junction box is a special design, i.e. cannot be constructed from Standard Drawings.
- Design Bureau Environmental Technical Section – 1 partial set (Title sheet, Project Note sheet, and Plan/Profile sheets) and CAD files if changes to ROW/TCE's (a link for pdf and CAD files could be provided instead).
- Design Bureau Stormwater Section – 1 CD containing CAD files and PDF of the plans and disposition of Plan-In-Hand comments.
- FHWA (for projects that require full federal oversight) – 1 plan set for projects that do not have bridge work within project limits and 2 sets if the project does have bridge work within limits. If ITS is involved, submit 1 additional plan set and SEA Final Report for FHWA ITS Engineer. Also, submit (1) construction cost estimate, disposition of Plan-In-Hand comments, and approved design exception letter, if applicable.
- Office of Quality Control – (3) plan sets, 1 PDF copy, (1) construction cost estimate, (4) disposition of Plan-In-Hand comments, and approved design exception letter, if applicable. If the materials report or any addendums were approved prior to April 1, 2012, that information should also be submitted.
- Construction Bureau – 1 plan set
- Maintenance Bureau – submit (1) plan set for interstate projects, (1) plan set for Welcome Center and Rest Area projects, (1) plan set for projects involving landscaping. Otherwise, the Maintenance Bureau does not want

a set of plans unless communicated differently.

- Design Bureau Traffic & Safety Operations Section (normally, a submittal is only needed when loop detectors are installed within a project and/or if project involves a railroad) – 1 or 2 plan sets
  - 1 plan set if the project utilizes any amount of HSIP funds
- Design Bureau Rail-Highway Program (**only for rail involved projects/coordination**)
  - 1 electronic copy of plan set to the Rail-Highway Program
- Adjacent Project Coordination – 1 plan set

PROJECTS DESIGNED BY A CONSULTANT

- Design Bureau Design Services Section – For projects designed by a consultant, the consultant to submit the following:
  - 2 plan sets
  - 1 CD containing CAD files and PDF of the plans

NOTE:
The Office of Quality Control will be responsible for coordinating and notifying relevant parties of the time of the inspection, conducting the inspection, documenting and submitting inspection comments to relevant parties.

85.0 **MILESTONE - PS&E INSPECTION**

NOTE: All major design and / or right-of-way changes to high priority projects after the PS&E will require a written letter of justification to the State Design Engineer originating from the parties requesting the changes. The State Design Engineer must concur with these changes before any changes and revised submittals are made.

85.01 Designer to begin making changes by reviewing notes taken at the Inspection.

85.02 If FHWA has any comments they would like specifically documented in Quality Control Bureau's formal report, they should submit them in writing no later than **1** week after the Inspection. If FHWA attends the Inspection, their verbal comments/concerns are generally documented indirectly as part of the general discussion at the Inspection.

85.03 Bureaus that have review comments are responsible for compiling all PS&E review comments and submitting them to the project lead, Office of Quality Control, Region Engineer, Region Pre-construction Engineer, and other relevant parties no later than **1** week after the Inspection. Bureau comments shall be emailed to the project lead and the Office of Quality Control so that the compiled PS&E Report can be electronically distributed and the disposition of comments can be prepared by the project lead.

85.04 Determine if a materials addendum is necessary; if so submit to the Materials and Tests Engineer and state why a materials addendum is needed (Region usually

does this since they are responsible for preparing and submitting the Materials Addendum to the Materials and Tests Bureau; therefore, coordinate this with the Region). Submittal should include (2) plan sets containing title sheet, typical section sheets, and main plan/profile sheets. If not previously set up and needed, ask that underdrain, aggregate surfacing, etc., be set up. Also, if not previously provided, request project notes regarding materials, compaction notes, gradation requirements, LA abrasion values for in-place pavement being planed, etc.

85.05 The Office of Quality Control shall mail the compiled PS&E Report to the project lead, Region Engineer, Region Pre-construction Engineer, and other relevant parties no later than **2** weeks after the Inspection. The formal report shall be emailed to the project lead so that the disposition of comments can be prepared.

86.0 **Post PS&E Inspection Coordination**

86.01 With the exception of the Right-of-Way Bureau, the project lead shall transmit revised plan sheets to other relevant parties, if any changes were made that affect and/or require their attention. Request corrections be made and returned **1** week from the time the submittal is made. If right-of-way and/or utilities are affected by these revisions, a revised submittal to the Right-of-Way Bureau is required (see GDCP 86.**02** and 87.**0**).

86.02 **90% Right-of-Way Submittal-** As soon as possible after the PS&E and all comments effecting right-of-way have been addressed**,** the project lead shall transmit to the Right-of-Way Bureau Chief, the latest Right-of-Way Plans. Any right-of-way changes made since the last right-of-way submittal shall be circled in red and explained. This submittal must be made even if no changes have been made since the last right-of-way submittal. Also, the designer with coordination from the Region shall identify in transmittal letter any portion of the project still unresolved. **If any changes are made after this point that affects right-of-way, the designer will again circle changes in red and make another submittal requesting review and approval. Request for major design changes and/or to required right-of-way limits after this point will require approval from the State Design Engineer.**

Note: Any time right-of-way limits are revised, the designer should always make sure revised right-of-way limits are not outside the environmental cleared limits and environmental permits/documents remain valid by coordinating these type of revisions with the Design Bureau Environmental Technical Section. If a submittal to ETS is required, it is imperative, that a new approval letter be obtained from the Environmental Technical Section before making the 90% Right-of-Way Submittal. Approval letter must be transmitted with revised right-of-way submittal.

86.03 **Final Utility Submittal** - Transmit CAD files to the Right-of-Way Bureau Utilities Engineer as soon as possible after PS&E revisions are made. Provide detailed description of any changes that have been made that could possibly effect

utilities since the submittal at 62**.02**. At this point, all utility agreements, relocation sheets, quantities, and Utility Certificate information should be submitted to the Right of Way Bureau Utilities Engineer for finalization. (See GDSP 86.13).

86.04 If GDCP 86**.03** is required, the Utilities Engineer shall determine if a revised submittal should be made to the utility companies and coordinate with the project lead if additional information is needed.

86.05 The project lead shall coordinate any revisions made to the plans or scope of work, including any revisions made to the bridge sheets, as it relates to the railroad to the Rail-Highway Program for coordination and acceptance by the railroad.

86.06 If applicable, the project lead shall request the Bridge Bureau submit Bridge General Plan and Elevation drawings and pay items for the Final Back Check review. If a unique number needs to be created for the bridge work, the Bridge Bureau shall give notification to the project lead and the Quality Control Bureau that a new unique number will be needed. The Bridge Bureau is responsible for coordinating with the appropriate individuals to get a new unique number created. The project lead shall request this information at least **18** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes Page). Request letter shall request bridge information be transmitted at least **19** weeks before letting or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Specify in request letter the date plans will be submitted for Final Back Check.

86.07 Bridge Bureau to submit Bridge General Plan and Elevation drawings, pay items, and if necessary, give notification to the project lead and the Office of Quality Control that a new bridge unique number will be needed. The Bridge Bureau is responsible for coordinating with the appropriate individuals to get a new bridge unique number created. The Bridge Bureau shall make this submittal to the project lead at least **19** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Project lead shall also notify the Office of Quality Control whenever a new unique number is needed in the Final Back Check submittal letter.

86.08 If the Traffic Design Section is responsible for supplying plan sheets for signals, lighting, and/or ITS work the project lead should request unique numbers, quantities, Microstation model and sheet files (if available), and a PDF of plan sheets when Microstation files are not available at least **20** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Letter shall request said information be transmitted at least **19** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Specify in request letter the date plans will be submitted for Final Back Check.

86.09 The project lead should request updated traffic information in order to update the Title sheet. This updated traffic information is needed when the project will be let

in the following calendar year.

86.10 The project lead should request the Right-of-Way Bureau Utilities Engineer transmit final utility quantities, Microstation model and sheet files (if available), and a PDF of plan sheets when Microstation files are not available, at least **21** weeks prior to letting. This information must be submitted to the project lead at least **19** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

86.11 Transportation Planning to transmit updated traffic design information for updating the Title sheet.

86.12 If the Traffic Design Section is responsible for supplying plan sheets for signals, lighting, and/or ITS work the Traffic Design Section shall submit unique numbers, quantities, Microstation model and sheet files (if available), and a PDF of plan sheets when Microstation files are not to the project lead **19** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

86.13 Right-of-Way Bureau Utilities Engineer to transmit to the project lead final utility quantities, digital Microstation model and relocation sheet files (if available), or a PDF of relocation plan sheets when Microstation files are not available. This information must be submitted at least **19** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

86.14 The designer should complete GFO **3-61** (**Work Zone Safety and Mobility**) if required. This must be finalized, documented, and sent to all required parties at least **14** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

86.15 **City and/or County Resolutions** – If applicable, notify the Region that the project has progressed to a point that the Region should obtain City and County Resolutions. (1) Set of plans shall be submitted for each City and County Resolution required. The designer shall coordinate with the Region for the total number of plan sets required. Plans shall accompany notification letter. City and/or County Resolutions shall be submitted to Office Engineer by the Region at least **8** weeks prior to letting.

86.16 If applicable, the Region shall send completed City and/or County Resolutions to the Office Engineer for processing.

86.17 If **Rest Area / Welcome Center** work is included in plans, transmit (2) plan sets as soon as possible to the Maintenance Bureau for final review. The Maintenance Bureau will determine if a plan set needs be submitted to the Building Commission.

86.18 **Hazardous Materials Coordination -** If required, the designer shall transmit (1) partial set of plans (title sheet, typical sections, summary sheets, and plan/profile

sheets) to the Materials and Tests Engineer, to the attention of the Hazardous Materials Coordinator for review of projects where hazardous materials are involved. Transmittal should clearly define hazardous area to be reviewed.

86.19 **Airport Clearance** (If required) – The designer shall submit (1) partial set of plans (title sheet, plan/profile, signals, lighting, overhead signing) and the link to CAD files to the Design Bureau Location Section for Airport Clearance review. Also required, is the Latitude, Longitude, ground elevation, and structure height for any overhead signs, light poles, signal poles, etc., and highpoints of the roadway. Any use of cranes should also be documented and explained.

86.20 Design Bureau Location Section shall submit the information listed in **86.17** to the FAA and other relevant parties and request airport clearance approval.

86.21 If applicable, the Location Section shall notify the project lead in writing acknowledging Airport Clearance approval or disapproval.

86.22 Coordinate with the Design Bureau Environmental Technical Section to determine if additional information is required for their review and/or to obtain any other permits not yet acquired.

86.23 Be sure all Material Report Addendums have been approved and furnished to the appropriate parties.

87.0 **Post PS&E Project Tasks**

87.01 Update detailed cost estimate, including bridge costs, CE&I, and indirect additives for Final Back Check submittal. Revise Summary of Quantities sheets. Update construction estimate in CPMS.

87.02 Check Index Sheet and renumber plan assembly sheets as needed.

87.03 Incorporate all sheets into the plan assembly, with one exception. Complete bridge plans are not required to be in the plan assembly until after the Final Back Check Review. The only bridge drawings(s) required to be in the plan assembly for the Final Back Check Review is the **Bridge General Plan and Elevation drawing(s). Bridge drawings/bridge information does not have to be signed or stamped at this time.**

88.0 The design section supervisor shall conduct an in-house review of Final Back Check Plans. Unless communicated differently by the design section supervisor, the designer shall submit (1) half-size set of plans ready for Final Back Check, (1) disposition of PS&E Inspection comments, (1) construction cost estimate, (1) Environmental Certification documentation, (1) materials report with all addendums, (1) Hydraulics Notebook, and (1) Final Back Check Checklist (see **attachment #14**) to the design section supervisor for review.

89.0 Submit (2) half-size set of Final Back Check Plans, (2) disposition of PS&E comments, (1) construction estimate, (2) Environmental Certification

documentation, (2) materials reports with ~~any~~ all addendums and (2) Final Back Check Checklists **(**see **attachment #14**) to the responsible engineer superior. This information should be submitted at least **3** weeks before the Final Back Check submittal deadline. Any necessary plan revisions will be communicated to the design section manager. The design section supervisor must get the responsible design engineer superior's approval before making Final Back Check submittal.

90.0 MILESTONE - FINAL BACK CHECK

The designer shall transmit plan sets and other items as noted below. This plan submittal shall be made no later than **19** weeks (20weeks for January letting) prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). If bridge work is a part of the project**, only the Bridge General Plan and Elevation drawings are required to be in the plan assembly for the Final Back Check submittal. Bridge drawings/bridge information does not have to be signed or stamped at this time.** Therefore, **complete bridge plans are not required for the Final Back Check submittal.** All other plan assembly sheets are required to be in the plan assembly to constitute a complete Final Back Check plan submittal, i.e., signing design, lighting design, ITS design, in-place utility sheets, utility relocation sheets, drainage sheets, all soil borings, cross sections, etc. Incomplete Final Back Check plan submittals will be returned unless accompanied by written approval from the State Design Engineer, Assistant Chief Engineer-Preconstruction, or Chief Engineer for the incomplete submittal.

- Office of Quality Control– (3) plan sets, (1) PDF copy, (1) disposition of PS&E comments, (1) construction estimate, and (1) Draft Utility Certificate. If the materials report or any addendums were approved prior to April 1, 2012, that information should also be submitted. A draft of the Utility Certificate should be submitted to assure that the design and relocations are adequate for the plans to be able to be submitted to the Construction Bureau (see GDCP 95.0).

  NOTE: The Draft Utility Certificate shall clarify the status of each utility involved. It shall contain the following information:
  1. The date the utility agreement was submitted to the ROW Bureau – Utility Section.
  2. The status of the utility agreement (Processing or Approved).
  3. The estimated date the utility will be issued Notice to Proceed.
  4. The utility construction time durations (From NTP and actual work time).
- Bridge Bureau (If required) - 1 plan set
- FHWA (If required) – (1) plan set, (1) additional plan set if ITS involved, (1) construction estimate, and (1) disposition of PS&E comments
- Maintenance Bureau (if required) – (1) plan set
- Design Bureau Traffic Design Section (electronic only)
  - Signals (if required) – (1) plan set and (1) disposition of PS&E comments

- Lighting (if required) – (1) plan set and (1) disposition of PS&E comments
- ITS (if required) – (1) plan set and (1) disposition of PS&E comments
- Signs and striping and markings – (1) plan set and (1) disposition of PS&E comments

- Design Bureau Stormwater Section – 1 CD containing CAD files and PDF of the plans and disposition of PS&E comments.

PROJECTS DESIGNED BY A CONSULTANT

- Design Bureau Design Services Section – For projects designed by a consultant, the consultant to submit the following:
  - 2 plan sets
  - 1 CD containing CAD files and PDF of the plans

IMPORTANT: The Office of Quality Control should make their best effort to review the plans and return Final Back Check review comments within **2** weeks of receiving plans. The project schedule could be jeopardized if review comments are not sent to the project lead within this timeframe because plans for the Construction Review must be submitted by the project lead **5** weeks from the time Final Back Check plans are submitted, which is normally **14** weeks (15 weeks for January letting) prior to letting (refer to the GDCP Miscellaneous Notes page for times when plans must be submitted sooner).

91.0 Post FBC Coordination

91.01 **Traffic Signal, ITS, and Street Lighting Maintenance Agreements** - If required, the Region shall provide completed Traffic Signal, ITS, and Street Lighting Maintenance Agreements to the Maintenance Bureau and provide a copy to the Design Bureau Traffic Design Section.

91.02 For those projects requiring railroad coordination, the designer shall request a copy of the Railroad Agreement(s) from the Rail-Highway Program. This agreement must be obtained before plans can be submitted for Construction Bureau review.

91.03 The Rail-Highway Program shall transmit an electronic copy of the fully executed Railroad Agreement to the project lead, Construction Bureau and Right-of-Way Bureau; and to Office Engineer two (2) original Railroad Agreements and five (5) copies for those projects requiring railroad coordination.

91.04 Submit Title Sheet, Primary Survey Control and Geometric Layout Sheets, and Plan/Profile Sheets to the Location Section for their review of control points and other survey information.

91.05 The designer shall submit revised plans to other parties that need to make revisions. Request revisions be made and returned within **1** week from the time

the submittal is made.

91.06 Revised plans sent to other parties at GDCP 91.**06** shall submit updated plan sheets to the project lead within **1** week of receiving revised plans from the project lead.

91.07 Prior to the Construction Review submittal, the designer shall submit (1) partial set of plans (Title, Typicals, Project Notes and Plan/Profile sheets) to ETS so that they can review/verify Environmental Cleared Limits are accurately displayed, project limits are within the cleared limits, and items discussed in the environmental document, i.e. potential impacts, known commitments, etc. have been satisfactorily addressed. The plan submittal shall include a list of understood environmental commitments and a statement clearly indicating the environmental commitments that have been addressed and the ones that have not. An explanation must be given for any environmental commitments not addressed.

NOTE: If the proposed right-of-way limits or temporary construction limits have changed since the last submittal to ETS are outside the environmental cleared limits, these areas shall be circled in red, CAD files provided, and an explanation given as to why. It is critical that a reasonable effort be made to stay within the environmental cleared limits. At a minimum, the areas beyond the cleared limits must be studied again and the environmental document may have to be reevaluated.

91.08 The project lead to request bridge plans ready for Construction Review at least 13 ½ weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

91.09 **Stormwater Permit** - The designer shall enter NPDES Permit data in the Stormwater Permit Tracking System of CPMS and submit for verification.

91.10 Upon verification of data in the Stormwater Tracking Permit System, transmit (2) color stormwater quad maps showing project limits and all stormwater points, (1) CD containing – CAD files, (1) PDF file that includes all sheets of the plan assembly, and (1) PDF file containing the completed CBMPP, Draft Notice of Intent (NOI), and any other required information to the Stormwater Engineer for preparation of the Stormwater Permit. Complete permit submittal shall be made when plans are complete and must be submitted no later than **12** weeks prior to the letting date.

91.11 The Design Bureau Stormwater Section shall coordinate any required changes to the project lead and communicate approval of the CBMPP when the document has been completed to their satisfaction. Upon Approval, a draft NOI will be supplied to the project lead to accompany the CBMPP for signatures.

92.0 **FBC Comments**

92.01 FHWA should transmit any review comments to the Office of Quality Control within **1** week of receiving plans, so their comments can be included into Quality Control's final report and the project remain on schedule.

92.02 Bureaus that have Final Back Check review comments are responsible for submitting them to the project lead, Office of Quality Control, Region Engineer, Region / Area Preconstruction Engineer, and other relevant parties no later than **1** week after the Inspection. Bureau comments shall be emailed to the project lead and the Office of Quality Control so that the compiled Final Back Check Report can be electronically distributed and the disposition of comments can be prepared by the project lead.

92.03 The Office of Quality Control shall mail the compiled Final Back Check Report to the project lead, Region Engineer, Region Pre-construction Engineer, and other relevant parties no later than **2** weeks after the Inspection. The compiled Final Back Check Report shall be emailed to the project lead so that the disposition of comments can be prepared.

93.0 Post FBC Plan Tasks

93.01 The designer shall make corrections to the plans resulting from review comments received from the Office of Quality Control and others.

93.02 Incorporate all sheets into the plan assembly.

93.03 Update construction estimate, including bridge costs, CE&I, and indirect additives using Web Trns*port. Revise"Summary of Quantities" sheets. Update construction estimate in CPMS.

93.04 Designer to check plans using checklist (see **Attachment #14**).

93.05 The design section supervisor shall conduct an in-house review of plans to be submitted for Construction Bureau review.

93.06 Submit (2) half-size set of plans, (2) disposition of Office of Quality Control Final Back Check comments, (2) construction estimates (2) documentation for environmental cleared limits approval, (2) materials reports with all addendums and (2) checklists (see **Attachment #14**) to the responsible design engineer superior **2** weeks prior to submitting plans for Construction Review. Any necessary plan revisions will be communicated to the design section supervisor. The design section supervisor must get the responsible design engineer superior's approval before making submittal to the Construction Bureau.

94.0 Post FBC Approvals

94.01 **Environmental Approval -** The Environmental Technical Section should provide approval documentation (see **Attachment #11**) verifying the Environmental Cleared Limits are accurately displayed, project limits are within the cleared

limits, and items discussed in the environmental document, i.e. potential impacts, known commitments, etc. have been satisfactorily addressed. Or, if approval cannot be given, the Environmental Technical Section will coordinate with the project lead to resolve any issues preventing approval.

94.02 If applicable, the Bridge Bureau to submit complete bridge plans ready for Construction Review to the project lead **14** weeks (15 weeks for January letting) prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Bridge plans will not be signed; however, plans will be stamped "For Construction Review."

94.03 The project lead shall submit the approved NOI and CBMPP to the Region for required signatures.

94.04 The Region shall return the approved NOI and CBMPP with required signatures to the project lead.

95.0 **MILESTONE - CONSTRUCTION REVIEW SUBMITTAL**

Construction Review submittal must be made at least **15** weeks (15 weeks for January letting) prior to the letting date or sooner if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Incomplete plan submittals will be returned unless unaccompanied by written approval from the Assistant Chief Engineer, Pre-Construction or the Chief Engineer allowing an incomplete submittal.

Project lead shall make the following submittals as noted below. Plans must be complete unless otherwise noted.

- *Construction Bureau*
  - **a)** (1) plan set, (1) construction estimate, and (1) Disposition of Final Back Check comments
  - **b)** For federally funded projects submit (1) partial plan set containing only the Title sheet and main Summary of Quantities sheet(s) for DBE participation
  - **c)** Excluding bridge culvert work, (1) additional plan set and (1) additional cost estimate shall be submitted if bridge work is a part of the project.
  - **d)** All Railroad Agreements if railroad coordination is required.
  - **e)** Utility Certificates (Plans cannot be submitted to the Construction Bureau without a signed Utility Certificate)
  - **f)** (1) plan set and required sections of the CBMPP. **Sections of the CBMPP that must be submitted are Section I - "Project Information", Section II - "Environmental Concerns and Commitments", and Section III.c. - "Project Specific and Enhanced Best Management Practices." CBMPP sections may be submitted electronically.**

- *FHWA*
  - **a)** When full federal oversight is required, submit (1) plan set, (1) construction estimate, and (1) Disposition of Final Back Check comments
  - **b)** For all federally funded projects submit (1) partial plan set containing only the Title sheet and main Summary of Quantities sheet(s) for DBE participation; although, full federal oversight is not required
  - **c)** Excluding bridge culvert work, (1) additional plan set and (1) additional cost estimate shall be transmitted if bridge work is a part of the project.
- *Design Bureau Traffic Design Section* – An electronic submittal is only required if Intelligent Transportation Systems (ITS), traffic signals and/or roadway lighting are included in the plans. Transmit (1) plan set, (1) construction estimate, and (1) Disposition of Final Back Check comments for each aforementioned item
- *Maintenance Bureau* - If bridge work is included in the project, copy the Assistant Maintenance Engineer-Bridges, on transmittal letter to the Construction Bureau. (1) plan set to Maintenance Bureau (Management and Training).
- *Region* - (1) plan set, (1) construction estimate, and (1) Disposition of Final Back Check comments

PROJECTS DESIGNED BY A CONSULTANT

- Design Bureau Design Services Section – For projects designed by a consultant, the consultant to submit the following:
  - 2 plan sets
  - 1 CD containing CAD files and PDF of the plans

95.01 Depending on the amount of earthwork and/or when the project is scheduled to be let all review comments from those listed in 95**.0** are to be provided to the project

lead at least **11** weeks prior to the letting date or sooner if special circumstances exist (refer to the GDCP Miscellaneous Notes page). If the project has **1** million or more cubic yards of earthwork (borrow + unclassified excavation), review comments must be submitted to the project lead **14** weeks prior to the letting date. If the project is scheduled to be let in January, review comments must be submitted to the project lead **12** weeks prior to the letting date. If neither of these two conditions are applicable, review comments shall be submitted to the project lead at least **11** weeks prior to the letting date. The project lead is responsible for coordinating with other parties to address review comments.

95.02 The designer shall submit revised plans as soon as possible to other parties that need to make changes to items they are responsible for correcting. Request corrections be made and submitted back as soon as possible but no later than **1** week.

> **Note:** Project lead is required to submit final plans to the Office Engineer normally **9** weeks prior to letting date; **13** weeks prior to the letting date if project has **1** million or more cubic yards of earthwork (borrow + unclassified excavation); **10** weeks prior to the letting date if the project is scheduled to be let in January.

95.03 Designer to remove shrinkage and swell factors from Earthwork Summary (refer to GFO **3-11**). Also, remove any tables, charts, phased cross-sections, diagrams, etc., that reference phased earthwork. At this point, earthwork quantities shall be shown as specified in GFO **3-11**.

95.04 The project lead shall request final full size paper plan sheets for Bridge Plans, Signal Plans, Lighting Plans, Utility Plans, etc., if they have not been received at least **9 ½** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). Plan sheets shall be signed. Bridge Plans will be submitted to the project lead on paper. Other plan sheets may be submitted on either mylar or paper; however, paper prints are preferred.

NOTES:

1) Official bridge plan sheets will be submitted to the Office Engineer by the Bridge Bureau when requested by the Office Engineer.
2) Utility plans prepared by utility companies are often directly inserted into a plan assembly and may not be on standard ALDOT sheet borders and may not conform to ALDOT plan standards. When this is the case, the Right-of-Way Bureau Utilities Engineer's signature is not required on these plan sheets.

96.0 Post CN Bureau Submittal Coordination

96.01 Bridge Bureau to submit completed full size paper bridge plans to the project lead at least **10** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page).

96.02 Incorporate all sheets into the plan assembly and check plans using checklist (see **Attachment #14**).

96.03 The Right-of-Way Bureau Utilities Engineer shall send the Utility Certification to the Construction Bureau and Office Engineer.

96.04 Region to send City and/or County Resolutions to the Office Engineer at least 9 weeks prior to letting.

96.05 Update detailed estimate of cost, including bridge costs, CE&I, and indirect additives using Web Trns*port. Update construction estimate in CPMS.

96.06 Designer to submit (1) set of plans to the design section supervisor for review.

96.07 After the preceding step is completed, the design section supervisor shall submit (2) half-size sets of paper plans, (2) disposition of Construction Bureau comments, (2) final construction estimates, (2) copies of the Materials Report with addendums, and (2) checklists (see **Attachment #14**) to the responsible design engineer superior. This information should be submitted at least **3** days before the Office Engineer submittal deadline. Any necessary plan revisions will be communicated to the design section engineer. The design section supervisor must get the responsible design engineer superior's approval before making a submittal to the Office Engineer.

96.08 The project lead shall transmit (1) electronic copy of the approved CBMPP with all required signatures and a disposition of the construction review comments to the Design Bureau Stormwater Section.

96.09 For Welcome Centers and Rest Areas, the Architect is to make a submittal directly to the Alabama Building Commission for the final of three plan submittals required by the ABC. It is the Architect's responsibility to make sure the submittal contains all required items. The Architect will indicate to the ABC and the project lead that the ABC should bill ALDOT for the cost of the review.

97.0 After all plan revisions are made, the designer shall print (1) full-size final plan set. The final plan set shall be thoroughly checked by the design section supervisor and lead designer. The design section supervisor and lead designer shall date and personally sign their first and last name on each plan sheet; verifying they have personally checked the sheet.

98.0 After the preceding step is completed, the final plan assembly shall be submitted to the responsible design engineer superior (assuming the responsible design

engineer superior and the design section supervisor is not the same person) at least **2** days prior to submitting final plans to the Office Engineer. The responsible design engineer superior shall make a final review of the plan sheets. Plan sheets shall be dated and signed by the responsible design engineer superior, verifying the plan sheets have been personally reviewed and plans are ready to be submitted to the Office Engineer for letting. A signature stamp may be used.

99.0 MILESTONE - FINAL PLANS TO OFFICE ENGINEER

Transmit (1) full-size plan set with required signatures, (1) disposition of Construction Bureau Review comments, (1) CD containing a PDF file of the CBMPP, and (1) hard copy of the Web Trns*port estimate to the Office Engineer for preparation of contract proposal and securing FHWA construction authorization. All plans shall be submitted to the Office Engineer no later than **9** weeks prior to the letting date or earlier if special circumstances exist (refer to the GDCP Miscellaneous Notes page). If the project is scheduled to be let in January, transmittal shall be made **10** weeks prior to the letting date. If the project has **1** million or more cubic yards of earthwork (borrow + unclassified excavation), transmittal shall be made **13** weeks prior to the letting date. The designer shall transfer control of the Web Trns*port estimate to the Office Engineer. The designer shall also provide electronic design data for grading projects in accordance with current policies regarding dissemination to contractors. A copy of the OGFC approval, if applicable, and the Railroad Certification is required. Also, if bridge work is included in the project, copy the Assistant Maintenance Engineer-Bridges on the transmittal letter to Office Engineer.

NOTES:

a. Projects having more than **1** million cubic yards of earthwork (borrow + unclassified) must be advertised for two months.

b. Provide (1) CD containing a cross-section text file (.txt) for projects where earthwork (borrow + unclassified) is equal to or greater than **200,000** cubic yards or longer than **2** miles that will require moving earthwork over the length of the project.

99.01 The project lead shall submit (1) electronic copy and (1) hard copy of the CBMPP with all required signatures to the Region / Area Stormwater Coordinator. The Region Engineer and Region / Area Construction Engineer shall be copied on the submittal.

99.02 The Region / Area Stormwater Coordinator shall transmit approved CBMPP according to policy.

99.03 If corrections are required to final plans, Office Engineer will coordinate with the project lead. Any required plan revisions will be submitted in writing (marked up plan sheet and/or email is acceptable) by the Office Engineer.

NOTE: for railroad involved projects – The project lead shall provide any plan revisions affecting the railroad to the Rail-Highway Program for coordination with the railroad. **Any delay in providing revisions and obtaining the railroad's approval after the project is let to contract can adversely affect the project completion including the contractor gaining access to begin work within or near the railroad's right-of-way.**

99.04 The designer shall coordinate with the appropriate parties to resolve Office Engineer Bureau comments.

NOTE: See Guidelines for Operations **3-5** and **3-5.1** for handling of revisions made to plan assembly following step 99**.0**.

99.05 MILESTONE – PROJECT LETTING

99.06 If needed, the project lead should request hard copies and a PDF of the as-let plan assembly.

99.07 If the project lead submits a request for a PDF and/or hard copy(s) of the as-let plan assembly, the Office Engineer Bureau shall transmit this information as requested.

99.08 If applicable, the designer shall provide the design files to the GIS//LRS Data Management Section as per Standard Operation Procedure on Route Change Reporting.

100.0 The designer shall archive the project after the project has been awarded for construction in accordance with project lead guidelines. This shall include the complete project folder, hydraulics notebook, any other project information, and a PDF file of the as-let plan set.

ATTACHMENT #1

ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard, Montgomery, Alabama 36130-3050

Kay Ivey
Governor

John Cooper
Transportation Director

Mr. Stacey N. Glass, P.E.
Maintenance Bureau
Alabama Department of Transportation
1409 Coliseum Boulevard
Montgomery, AL 36130-3050

Date _____

ATTN: Mr. Roby Blankenship

Dear Sir:

Please furnish traffic data on the project listed below to this office:

Project Identification
Preliminary Project Number: _____

Location: County: _____ Proposed Letting Date: _____

Description: _____

_____

Charge Number:

A/C No. _____ PMS No. _____ Part Code _____

Design Designation Traffic:

_____ Annual Average Daily Traffic _____

_____ Annual Average Daily Traffic _____

_____ Annual Average Daily Traffic _____

K (%) _____ Are turning movements required?

D (%) _____ Yes _____ No _____

TDHV (%) _____ GROWTH RATE _____

TADT (%) _____ COMPOUND _____ SIMPLE _____

MED (%) _____ HVY(%) _____

If further information is required, please contact:
Name: _____ ATTNET or Phone No. _____
(Designate which)

Very truly yours,

Return to:

Attach map showing project location

ATTACHMENT #2

Attachment A: Project Action Responsibility Matrix (as of January 30, 2015)

PROJECT ACTION RESPONSIBILITIES

The following matrix identifies Federal-aid highway program (FAHP) project approvals and related responsibilities on a program-wide basis. The matrix specifies which actions are assumed by the State under the provisions of 23 U.S.C. 106(c) or other statutory or regulatory authority, as well as those which are reserved to FHWA. Projects classified as PoDI projects are not covered by the matrix, as those projects will be governed by a separate PoDI plan that specifies FHWA and State responsibilities for the project.

The State DOT is responsible for ensuring all individual elements of the project are eligible for FAHP funding, but all final eligibility and participation determinations are retained by FHWA.

PROJECT ACTION RESPONSIBILITY MATRIX (as of January 30, 2015) Excluding PoDIs, which are subject to separate PoDI plans		
ACTION	AGENCY RESPONSIBLE	
	PROJECTS ON THE NHS	PROJECTS OFF THE NHS
PROGRAMMING (All phases)		
Ensure project in Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP)	ALDOT	ALDOT
Identify proposed funding category	ALDOT[1]	ALDOT[1]
FINANCIAL MANAGEMENT (All phases)		
Obligate funds/approve Federal-aid project agreement, modifications, and project closures (project authorizations) (Note: this action cannot be assumed by State)	FHWA	FHWA
Authorize current bill (Note: this action cannot be assumed by State)	FHWA	FHWA
Review and Accept Financial Plan and Annual Updates for Federal Major Projects over $500 million [23 U.S.C. 106(h)] (Note: this action cannot be assumed by State)	FHWA	FHWA
Review Cost Estimates for Federal Major Projects over $500 million [23 U.S.C. 106(h)] (Note: this action cannot be assumed by State)	FHWA	FHWA
Develop Financial Plan for Federal Projects between $100 million and $500 million. [23 U.S.C. 106(i)]	ALDOT	ALDOT
ENVIRONMENT (All phases)		
All EA/FONSI, EIS/ROD, 4(f), 106, 6(f) and other approval actions required by Federal laws and regulations. (note: this action cannot be assumed by ALDOT)	FHWA[2]	FHWA[2]
Categorical Exclusion approval actions (Note this action cannot be assumed by the State except through an assignment under 23 U.S.C. 326 or 327, or through a programmatic agreement pursuant to Section 1318(d) of MAP-21 and 23 CFR 771.117(g))	FHWA[2]	FHWA[2]
PRELIMINARY DESIGN (Design Phase)		
Consultant Contract Selection	ALDOT[3]	ALDOT[3]
Sole source Consultant Contract Selection	ALDOT[3]	ALDOT[3]
Approve hiring of consultant to serve in a "management" role [23 CFR 172.9] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Approve consultant agreements (Federal non-Major Projects) [23 CFR 172.9]	ALDOT	ALDOT

PROJECT ACTION RESPONSIBILITY MATRIX (as of January 30, 2015) Excluding PoDIs, which are subject to separate PoDI plans		
ACTION	AGENCY RESPONSIBLE	
	PROJECTS ON THE NHS	PROJECTS OFF THE NHS
Approve consultant agreements and agreement revisions on Federal Major Projects [23 CFR 172.9] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Approve exceptions to design standards [23 CFR 625.3(f)]	ALDOT	ALDOT
Interstate System Access Change [23 USC 111] (note: this action cannot be assumed by ALDOT)	FHWA	N/A
Interstate System Access Justification Report [23 USC 111] (note: action may be assumed by ALDOT pursuant to 23 USC 111(e))	FHWA	N/A
Airport highway clearance coordination and respective public interest finding (if required) [23 CFR 620.104]	ALDOT	ALDOT
Approve Project Management Plan for Federal Major Projects over $500 million [23 US C 106(h)] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Approve innovative and Public-Private Partnership projects in accordance with SEP-14 and SEP-15 (except those Design-Build projects that conform with 23 CFR 636) (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Provide pre-approval for preventive maintenance project (until FHWA concurs with ALDOT procedures) (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
DETAILED / FINAL DESIGN (Design Phase)		
Provide approval of preliminary plans for unusual/complex bridges or structures on the Interstate. [23 USC 109(a) and FHWA Policy]	FHWA[(4)]	N/A
Provide approval of preliminary plans for unusual/complex bridges or structures (non-Interstate) [23 USC 109(a) and FHWA Policy]	FHWA[(4)]	ALDOT
Approve retaining right-of-way encroachments [23 CFR 1.23 (b) & (c)]	ALDOT	ALDOT
Approve use of local force account agreements [23 CFR 635.104 & 204]	FHWA	ALDOT
Approve use of publicly owned equipment [23 CFR 635.106]	ALDOT	ALDOT
Approve the use of proprietary products, processes [23 CFR 635.411]	ALDOT	ALDOT
Concur in use of publicly furnished materials [23 CFR 635.407]	ALDOT	ALDOT
RIGHT-OF-WAY (Design Phase)		
Make feasibility/practicability determination for allowing authorization of construction prior to completion of ROW clearance, utility and railroad work [23 CFR 635.309(b)]	ALDOT	ALDOT
Make public interest finding on whether ALDOT may proceed with bid advertisement even though ROW acquisition/relocation activities are not complete for some parcels [23 CFR 635.309(c)(3)]	FHWA	ALDOT
Ensure compliant ROW certificates 1 and 2 are in place [23 CFR 635.309(c)(1)&(2)]	ALDOT	ALDOT
Ensure compliant ROW certificate 3 is in place [23 CFR 635.309)(c)(3)]	FHWA	FHWA
Approve Hardship and Protective Buying [23 CFR 710.503] (If a Federal-aid project) (Note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Approve Interstate Real Property Interest Use Agreements [23 CFR 710.405] (note: this action cannot be assumed by ALDOT)	FHWA	N/A

PROJECT ACTION RESPONSIBILITY MATRIX (as of January 30, 2015) Excluding PoDIs, which are subject to separate PoDI plans		
ACTION	AGENCY RESPONSIBLE	
	PROJECTS ON THE NHS	PROJECTS OFF THE NHS
Approve non-highway use and occupancy [23 CFR 1.23(c)]	FHWA	ALDOT[3]
Approve disposal at less than fair market value of federally funded right-of-way, including disposals of access control [23 U.S.C. 156] (Note: this action cannot be assumed by State)	FHWA	FHWA
Approve disposal at fair market value of federally funded right-of-way, including disposals of access control [23 CFR 710.409] (note: 23 CFR 710.201(i) authorizes FHWA and ALDOT to agree to scope of oversight and approvals for all actions except those on the Interstate System)	FHWA	ALDOT[3]
Requests for credits toward the non-Federal share of construction costs for early acquisitions, donations or other contributions applied to a project (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Federal land transfers [23 CFR 710, Subpart F] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Functional replacement of property [23 CFR 710.509] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
SYSTEM OPERATIONS AND PRESERVATION (Design Phase)		
Accept Transportation Management Plans [23 CFR 630.1012(b)]	ALDOT	ALDOT
Approval of System Engineering Analysis (for ITS) [CFR 940.11]	ALDOT	ALDOT
PS&E AND ADVERTISING (Design Phase)		
Approve PS&E [23 CFR 630.20]	ALDOT	ALDOT
Authorize advance construction and conversions [23 CFR 630.703 & 709] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Approve utility or railroad force account work [23 CFR 645.113 & 646.216]	ALDOT	ALDOT
Approve utility and railroad agreements [23 CFR 645.113 & 646.216]	ALDOT	ALDOT
Approve use of consultants by utility companies [23 CFR 645.109(b)]	ALDOT	ALDOT
Approve exceptions to maximum railroad protective insurance limits [23 CFR 646.111]	FHWA	ALDOT
Authorize (approve) advertising for bids [23 CFR 635.112, 309]	FHWA	ALDOT
CONTRACT ADVERTISEMENT AND AWARD (Design Phase)		
Approve cost-effectiveness determinations for construction work performed by force account or by contract awarded by other than competitive bidding [23 CFR 635.104 &.204]	FHWA	ALDOT
Approve emergency determinations for contracts awarded by other than competitive bidding [23 CFR 635.104 & .204]	FHWA	ALDOT
Approve construction engineering by local agency [23 CFR 635.105]	ALDOT	ALDOT
Approve advertising period less than 3 weeks [23 CFR 635.112]	FHWA	FHWA
Approve addenda during advertising period [23 CFR 635.112]	ALDOT	ALDOT
Concur in award of contract [23 CFR 635.114]	ALDOT	ALDOT
Concur in rejection of all bids [23 CFR 635.114]	ALDOT	ALDOT
Approval of Design-Build Requests-for-Proposals and Addenda [23 CFR 635.112]	ALDOT	ALDOT
CONSTRUCTION (Construction Phase)		
Approve changes and extra work [23 CFR 635.120]	ALDOT	ALDOT
Approve contract time extensions [23 CFR 635.120]	ALDOT	ALDOT
Concur in use of mandatory borrow/disposal sites [23 CFR 635.407]	ALDOT	ALDOT
Accept materials certification [23 CFR 637.207]	ALDOT	ALDOT
Concur in settlement of contract claims [23 CFR 635.124]	ALDOT	ALDOT

PROJECT ACTION RESPONSIBILITY MATRIX (as of January 30, 2015) Excluding PoDIs, which are subject to separate PoDI plans		
ACTION	AGENCY RESPONSIBLE	
	PROJECTS ON THE NHS	PROJECTS OFF THE NHS
Concur in termination of construction contracts [23 CFR 635.125]	ALDOT	ALDOT
Waive Buy America provisions [23 CFR 635.410] (note: this action cannot be assumed by ALDOT)	FHWA	FHWA
Final inspection/acceptance of completed work [23 USC 114(a)]	ALDOT	ALDOT
CIVIL RIGHTS (All phases)		
Approval of Disadvantaged Business Enterprise (DBE) Project Contract Goal set by the DOT under 49 CFR 26.51(d). [49 CFR 26.51(e)(3)]	ALDOT	ALDOT
Acceptance of Bidder's Good Faith Efforts to Meet Contract Goal [49 CFR 26.53] or of Prime Contractor's Good Faith Efforts to Find Another DBE Subcontractor When a DBE Subcontractor is Terminated or Fails to Complete Its Work [49 CFR 26.53(g)] (Note: this action cannot be performed by the FHWA)	ALDOT	ALDOT
Equal Employment Opportunity (EEO) Contract Compliance Review [23 CFR Part 230, Subpart D]).	FHWA	ALDOT
Training Special Provision – Approval of Project Goal for training slots or hours [23 CFR Part 230, Subpart A]	ALDOT	ALDOT
Training Special Provision – Approval of New Project Training Programs (Note: this action cannot be assumed by ALDOT) [23 CFR 230.111(d), (e)]	FHWA	FHWA

Footnotes:

(1) ALDOT is responsible for ensuring that all individual elements of the project are eligible. FHWA will check that the scope of the project as described in submitted project agreement is eligible for the category of funding sought. All final eligibility and participation determinations are retained by FHWA.

(2) If there is a 23 U.S.C. 326 or 325 assignment or PCE agreement, decisions are handled in accordance with those assignments or agreements.

(3) ALDOT's process and modifications to, or variation in process, require FHWA approval.

(4) Unusual/Complex bridges and structures are those that the Division determines to have unique foundation problems, new or complex designs, exceptionally long spans, exceptionally large foundations, complex hydrologic (including climate change and extreme weather events) aspects, complex hydraulic elements or scour related elements, or that are designed with procedures that depart from currently recognized acceptable practices (i.e., cable-stay, suspension, arch, segmental concrete, moveable, truss, tunnels, or complex geotechnical walls or ground improvement systems).

ATTACHMENT #3

ATTACHMENT #3

U.S. Department of Transportation
Federal Highway Administration

Alabama Division

500 Eastern Boulevard, Suite 200
Montgomery, Alabama 36117-2018

March 5, 1992

IN REPLY REFER TO:

HBR-AL

Mr. Perry A. Hand
Highway Director
State of Alabama Highway Department
Montgomery, Alabama

Dear Mr. Hand:

Subject: FHWA Order 5520.1, Preliminary Plan Review and Approval - Required Hydraulic Report Format

Enclosed is a copy of Mr. Richard W. Crane's February 3, 1992, memorandum and attachment and FHWA Order 5520.1. The enclosed guidance summarizes the basic hydraulic information needed for a prompt FHWA review of unusual and major bridges and hydraulic structures.

Please include the hydraulic information requested in Mr. Crane's memorandum in the submission of preliminary plans of the above-mentioned Federal-aid projects.

Sincerely yours,

/s/Robert King

For Joe D. Wilkerson
Division Administrator

Enclosures

ATTACHMENT #3

epartment
ransportation
deral Highway
dministration

Memorandum

FHWA Order 5520.1, Preliminary Plan Review and Approval - Required Hydraulic Report Format

Date: February 3, 1992

Director, Office of Structures
Atlanta, Georgia

Reply to
Attn. of: HST-04

Division Administrators
Region Four

FHWA Order 5520.1 requires that preliminary plans for tunnels, unusual and major bridges, unusual and major hydraulic structures, etc. be submitted to the Region and Washington Offices for review and approval. The attached guidance summarizes the information that is needed in the hydraulic studies that must accompany these structures. It is not inclusive, but indicates the basic information needed for a prompt and effective review.

Implementation of the guidance is effective immediately.

Richard W. Crane

Richard W. Crane

Attachment

		SERVICAL
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		DIST. 0
	✓	HOW
✓		BR
		PAR
		MCS
		ADM
		FISCAL

ATTACHMENT #3

HYDRAULIC REPORT GUIDANCE

February 1992

FHWA Order 5520.1 requires that preliminary plans be submitted for review and approval for tunnels, unusual and major bridges, unusual and major hydraulic structures, etc. This guidance discusses what should be included in the hydraulic study for the appropriate structures that are submitted to the Region Office and Washington for review and approval. The guidance is not all inclusive but indicates the basic material needed for a prompt and effective review.

A summary of the design should be given at the start of each report.

Bridges over Water

For structures over water, particularly over streams, the designer should evaluate the location as discussed in FHWA's Hydraulic Engineering Circular Number 20 (HEC-20) "Stream Stability at Highway Structures" and Chapter Five of the "AASHTO Model Drainage Manual." As noted in Chapter Four of HEC-20, the analysis process should be broken into three levels.

Level 1 is a qualitative analysis of the geomorphic concepts. It includes defining the stream characteristics, land use changes, overall stream stability, lateral stability, vertical stability, and channel response to change.

Level 2 covers the usual basic engineering analysis of the crossing. The following items should be included in this phase.

- Site data should include a vicinity map, a topographic map showing the stream reach, aerial photographs, ground photographs looking both upstream and downstream of the crossing, a description of channel and floodplain in order to establish proper Manning's "n" values, appropriate national flood insurance maps, controls upstream and downstream such as other bridges or dams, a streambed profile of the thalweg at least 150 m (500 ft) upstream and downstream of the crossing (or one bridge length if greater), and a history of the existing structure including its hydraulic and scour history if one is present. Soil data for use in scour estimates should be included.

- Hydrologic data should cover the size of watershed, the procedure(s) used in estimating the discharges (design, overtopping, Q_{100}, and Q_{500}), historical flood events, and a justification of the choice of procedure used when more than one is reviewed. Calculations supporting the conclusions should be included.

- The Hydraulic analysis should use the WSPRO (HY-7) Bridge Waterway Analysis model. The program should be run with

ATTACHMENT #3

the "HP" card in order to establish velocities to be used in estimating scour. The report should include a copy of the input and output of the final computer runs for the appropriate discharges. As required by the 23 CFR, Part 650, Subpart A and the Federal Aid Policy Guide Part 650, Subpart A (formally FHPM 6-7-3-2 and referenced as the "Policy Guide"), the backwater caused by the encroachment is to included in the elevations shown on the plans for the appropriate discharges. The analysis must cover the entire floodplain including all relief structures. This analysis could be supplemented by existing studies by other agencies such as the Corps of Engineers, etc.

The scour analysis should be performed as described in FHWA's Hydraulic Engineering Circular Number 18 (HEC-18) "Evaluating Scour at Bridges." Example scour calculations should be included to insure that the procedures used are correct. A plot of the total scour depth should be made on the plans.

Document the method and give the calculations supporting the design of the abutment protection (riprap, etc.) and any channel or bank protection used.

Bridge deck drainage calculations justifying the type and location of deck drainage should be provided.

Risk assessment/analysis as required in the Policy Guide should be part of the report.

Level 3 analysis is for the unusual case when a more detailed analysis (such as two dimensional computer models or physical models) are required. In these cases, additional information relating to such an analysis should be submitted with the hydraulic report.

Storm Drainage Systems and Surface Detention Basins

For storm drainage systems designed to carry more than 5.7 cms (200 cfs) or, regardless of discharge, which have a surface detention storage system with an accumulated volume greater than five-acre feet, the following information is to be provided.

Site Data should show the vicinity map and a map of the complete storm drainage system involved showing the sizes and locations of the contributing watersheds. Aerial photographs as well as ground level photographs of critical locations would be helpful. Current and future watershed developments should be discussed as well as participating and non-participating contributions.

Hydrologic analysis documentation should include:

The procedure used in estimating the discharges and hydrographs, if used, with appropriate calculations

ATTACHMENT #3

Dams Formed by Highway Fills

For dams formed by highway fills with a permanent impoundment of water more than 7.6 meters (25 feet) deep or 61,700 cubic meters (50 acre feet) in volume, the following information should be covered in the hydraulic study.

A copy of the approval of the dam by the appropriate State or Federal agency responsible for the safety of dams at this location.

As discussed in the section on bridges over water, the report should closely follow the three level process given in HEC-20 with appropriate changes.

Level 1 should be a qualitative analysis of the geomorphic concepts which includes defining the stream characteristics, land use changes, overall stream stability, lateral stability, vertical stability, and channel response to change.

Level 2 covers the usual basic engineering analysis of the crossing. The following items must be included in this phase.

Site data should include a vicinity map, a topographic map showing the stream reach, aerial photographs, ground photographs looking both upstream and downstream of the crossing, a description of channel and floodplain in order to establish proper Manning's "n" values to use in developing a water surface profile to determine the upstream and downstream effects of the dam, appropriate national flood insurance maps, controls upstream and downstream such as bridges or other dams, a streambed profile of the thalweg at least 150 m (500 ft) upstream and downstream of the crossing, and a history of the existing structure if one is present. Soil data for use in estimating scour at the outlet works.

Hydrologic data should cover the size of the watershed, the procedure(s) used in estimating the hydrographs associated with the discharges used in design (design, overtopping, Q_{100}, and Q_{500}, probable maximum discharge), historical flood events, and a justification of the choice of procedure used when more than one is reviewed.

Hydraulic analysis must include the stage-discharge and stage-storage relationships used in routing the hydrographs through the reservoir; the design calculations for the outlet structure including the energy dissipator, calculations, establishing stream stabilization measures such as riprap, and the design.

ATTACHMENT #3

Stream Levees Formed by Highway Fills

With exceptions to references to scour and bridge deck drainage, follow the outline for the bridges over waterways. Plot the water surface profile before and after the levee placement in order to be assured that the levees do not cause flooding problems in other locations. Provide evidence of coordination with the appropriate local, State, or Federal Agencies.

ATTACHMENT #3

U.S. Department of Transportation
Federal Highway Administration

PRELIMINARY PLAN REVIEW AND APPROVAL

5520.1
December 24, 1990

Par.

1. PURPOSE. To prescribe policy and procedures for preliminary plan submissions and approvals for bridges, tunnels, geotechnical features, and hydraulic structures.

2. SUPERSEDED ISSUANCE. Federal Highway Administration (FHWA) Federal-aid Highway Program Manual (FHPM) Volume 6, Chapter 1, Section 2, Subsection 1 dated October 16, 1975, is superseded by this Order and will be canceled by an FHPM Transmittal.

3. AUTHORITY. This Order is issued under the authority of 23 U.S.C. 109(a), 117, 135; 23 CFR 1.32; 49 CFR 1.48(b)(8); Executive Order 11988 dated May 24, 1977, (42 FR 26951); and FHWA Order M1100.1, FHWA Delegations and Organization Manual, Chapter 5, paragraph 34j.

4. SCOPE. The provisions of this Order shall apply to all highway projects constructed with Federal-aid funds and projects under the direct supervision of the FHWA.

5. POLICY. It is the policy of the FHWA that preliminary plans shall be submitted to the FHWA for review and approval as follows:

   a. Washington Headquarters shall approve all tunnels, unusual and movable bridges, unusual hydraulic structures and unusual geotechnical structures.

   b. Regional Federal Highway Administrators shall approve all other bridges not included in paragraph 5a which have estimated total deck areas greater than 125,000 square feet, major

hydraulic structures and major geotechnical features.

c. When FHWA bridge, hydraulic or geotechnical engineers in a particular region have substantial recent experience with a particular design, review and approval authority for the preliminary plans may, upon agreement between the Regional Administrator and the Chief of the FHWA Bridge Division, be delegated to the Regional Administrator. Any request for waiver of alternate design requirements (as described in the June 9, 1988, Federal Register) shall be transmitted through organiza- tional channels to the Washington Headquarters for review and approval.

6. DEFINITIONS

a. Unusual bridge, hydraulic or geotechnical structures include any of the following:

(1) An unusual bridge involves difficult or unique foundation problems, new foundation types, new or complex designs involving unique design or operational features, longer than normal spans or bridges for which the design procedures depart from current acceptable practice. Examples include cable stayed, suspension, arch, segmental concrete bridges, trusses and other bridges which deviate from AASHTO Standard Specifications or Guide Specifications for Highway Bridges, bridges requiring abnormal dynamic analysis for seismic design, bridges designed using a three-dimensional computer analysis, bridges with spans exceeding 500 feet, and bridges which include ultra high strength concrete or steel.

(2) An unusual geotechnical feature involves new or complex retaining wall systems or ground improvement systems.

(3) An unusual hydraulic structure involves unusual stream stability countermeasures, an atypical or unique design technique; or a complex or unique design which may include hydraulic structures covered in paragraph 6b.

b. Major hydraulic structures include but are not limited to:

(1) storm drainage systems designed to carry more than 200 cfs or, regardless of quantity of discharge, which have a surface detention storage system with an accumulated volume greater than five-acre feet,

(2) storm water pumping facilities designed to discharge more than 20 cfs,

(3) dams formed by highway fills which will affect permanent impoundment of water more than 25 feet deep or 50 acre-feet in volume; and,

(4) stream levees formed by highway fills which are constructed along a stream or body of water to reduce flooding in adjacent areas.

c Major geotechnical features include unusually deep cuts or high fills where the site geology is potentially unstable, landslide corrections, and large retaining walls (cantilever, permanent ground anchor, and soil reinforcement). (See Table 1, Section A of FHWA's October 25, 1985, "Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications," for additional guidance.)

d. Uncertainties as to whether a project fits these definitions shall be referred to the Regional Administrator for resolution.

7. PROCEDURES

a. Preliminary plans and supporting data for structuresdescribed in paragraph 5a shall be reviewed by the Division Administrator and submitted to the Washington Headquarters through the regional office with review comments and recommendations for approval as appropriate.

b. Supporting information submitted with the initial request for review and approval shall include environmental concerns and suggested mitigation measures, studies of alternate span arrangements and bridge types, approach layouts, plan and profile sheets, controlling clearance requirements, roadway geometry, design specifications, design criteria, special provisions and construction cost estimates. Supporting data should also include hydraulic and scour design studies and reports including scour prediction and mitigation measures, geotechnical reports and studies and substructure and foundation type. Early and complete submission of hydraulic and geotechnical studies and recommendations is essential to expedite approval.

c. Preliminary plans and supporting data for structures described in paragraph 5b shall be reviewed by the Division Administrator and submitted to the Regional Administrator with review comments and recommendations for approval.

(1) Supporting data shall include information as listed in paragraph 7b, and in the case of dams and levees, evidence of coordination with the State or Federal agency responsible for the safety of dams within the State.

(2) The Regional Administrator may seek Washington Headquarters advice and guidance before taking approval action.

ATTACHMENT #3

ATTACHMENT #4

ATTACHMENT 4

BRIDGE HYDRAULIC SUBMITTAL

Data may be submitted electronically or in paper format along with the corresponding Microstation files to the State Bridge Engineer.

Plan sets are to include the following information:

1. **Title sheet**
    a. A cover/title sheet with the project number, PE number, route number, traffic data, and location map.

2. **Typical sheet(s)**
    a. Typical sections of bridge(s) and roadway

3. **Plan and Profile Sheet(s)**
    a. Plan and profile sheets scale should be:
        i. 1 in. = 50 ft. horizontal, 1 in. = 5 ft. vertical, or
        1 in. = 100 ft. horizontal, 1 in. = 10 ft. vertical
        A larger sheet (an extended roll) may be used if required for a wide floodplain. All plans sent in paper format should be verified they are printed to scale before being submitted.

    b. Plan view should include:
        i. The existing and proposed horizontal alignments along with all geometric data.
        ii. The location of the downstream floodplain cross-section (distance downstream, angle(s), stations, etc. as related to roadway alignment using roadway stationing, if possible).
        iii. All topography including the top and bottom of the stream banks, scour holes, etc.
        iv. Plot of the streambed alignment/traverse. Include stations for the streambed profile as well as the direction of flow for the stream. The stations should progress in the direction of the streamflow.

    c. Profile view for proposed bridge(s) on existing or new alignments should include:
        i. The existing and proposed vertical alignments (profile grade line) along with all geometric data (where applicable).
        ii. Water surface elevation at the time of survey.
        iii. A profile of the ground at the centerline along the existing and/or new alignment. The existing bridge opening should be defined showing low chord and support locations (where applicable).

iv. Additional groundline profiles for proposed bridge(s) on existing or new alignments.
    a. These groundline profiles (referred to as “three-line profile”) include a profile of the ground at the centerline under the proposed bridge and at the natural ground just beyond the left and right toe of the roadway fill slopes.
    b. For bridge(s) on new alignments, a three-line profile may be necessary to better ascertain site conditions, depending on the topography at the site.

v. Streambed profile 500 feet upstream and 500 feet downstream of the proposed bridge following the thalweg (lowest elevation of the streambed). Include stations for the streambed profile. The stations should progress in the direction of the streamflow. (Streambed profiles are only needed for sites having a drainage area of 30 square miles or less). An additional profile sheet may be used for the streambed profile.

vi. The floodplain cross-section taken downstream of the proposed bridge using roadway stationing, if possible. (Note: The term “cross-section” is used but should be shown within the profile view of the roadway.)
The following outlines data requirements for floodplain cross-sections:
    1. The floodplain cross-section should be taken far enough downstream to ensure it is on natural ground (not in roadway side ditches, on the roadway embankment or in scour holes).
    2. The floodplain cross-section should be taken from high ground on one side of the floodplain to high ground on the other side of the floodplain. This cross-section should define the channel (perpendicular to the flow of the stream) and all other abrupt breaks/inflection points. The ends of the floodplain cross-section should be at least ten feet (10’) above the channel bank elevations (this is a rule-of -thumb and may or may not apply at every site).
    3. If the floodplain cross-section is not within close proximity of the bridge, a profile of the natural ground just beyond the roadway side ditches is required or cross sections of the road in the vicinity of the bridge.

    Contact the Bridge Bureau Hydraulic Section for guidance with the selection of a floodplain cross-section location.

4. Topographic map

a. A topographic (quad) map showing the location of the bridge site, especially for projects at a new location/alignment. Projects at a new location should have the alignment accurately plotted on the topo/quad map. This diminishes errors that have been associated with the location map on the title sheet.

5. **Pictures**
    a. A minimum of five color pictures of the site showing:
        i. Upstream channel
        ii. Downstream channel
        iii. Downstream floodplain cross-section (channel, left & right overbank areas)
        iv. Side view of the existing bridge and/or the location of the proposed bridge

    Pictures help in the estimation of roughness coefficients used in the hydraulic model and in the documentation of the project.

6. **HYD Forms**
    a. Please submit the applicable HYD Forms. The HYD-100, HYD-101, HYD-102 and HYD-103 Forms can be found in Appendix F of the ALDOT Hydraulic Manual.

ATTACHMENT #5

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334/242-6311 • Fax No.: 334/262-8041

Robert Bentley
Governor

John R. Cooper
Transportation Director

MEMORANDUM

DATE: June 2, 2016

TO: Region Engineers

FROM: Don Arkle, PE
Chief Engineer

RE: Design Exceptions

A design exception is required when a proposed project element does not meet the minimum design criteria for that element. The minimum criteria may be obtained from the AASHTO Green Book or another approved ALDOT guide such as the 3R Guide, whatever is applicable for the project.

On May 5, 2016, FHWA published a final notice in the Federal Register clarifying when design exceptions are required. Previously, there were 13 controlling criteria. The 13 controlling criteria have been reduced to 10. The following 10 criteria are considered controlling for the design of projects on the National Highway System (NHS): design speed, lane width, shoulder width, horizontal curve radius, superelevation rate, stopping sight distance, maximum grade, cross slope, vertical clearance and design loading structural capacity. Stopping site distance (SSD) applies to horizontal alignments and vertical alignments except for sag vertical curves. Of the 10 controlling criteria, only design loading structural capacity and design speed apply to all NHS facility types. The remaining 8 criteria are applicable only to high-speed NHS roadways, defined as interstate highways, other freeways and roadways with a design speed greater than or equal to 50 mph.

Design exceptions should be approved early in the design process so that options providing the minimum design value can be fully considered. Therefore, a design exception should be approved by the Chief Engineer prior to the plan-in-hand inspection.

A design exception should document the factors that justify the exception. This should typically include an analysis of the following. The level of analysis should be commensurate with the complexity of the project.

- specific design criteria that will not be met
- existing roadway characteristics
- alternatives considered
- comparison of the safety and operational performance of the roadway
- impacts such as right of way, community, environmental, cost and usability by all modes of transportation related to obtaining the minimum criteria
- proposed mitigation measures
- compatibility with adjacent sections of roadway

A design exception should be sent to the Design Engineer for review and recommendation for approval. The Design Engineer will transmit the design exception to the Chief Engineer for approval.

DTA:sfw
copy: Mark Bartlett
Rex Bush
William Adams
Stacey Glass
Robert Jilla
Ed Phillips
Steve Walker
Design Bureau Sections
File

ATTACHMENT #6

30% REVIEW CHECK LIST

Revised: May 18, 2011

A: GENERAL ITEMS

Y	N	N/A	By Others			Comments:
				1	Is Right of Way required for the project? Who will prepare the necessary documents?	
				2	Is the environmental document being worked on, or is it approved?	
				3	Have any hazardous materials sites been identified?	
				4	Are in-place utilities shown?	
				5	Is updated traffic included?	
				6	Is coordination with an adjacent State required?	
				7	Is a signal warrant analysis required?	
				8	Is the topographical information complete?	
				9	Is a value engineering study required?	
				10	Is a design exception(s) required?	
				11	Are there any issues with access to the construction site?	
				12	Is maintenance bureau involvement required? (rest areas and interstates)	
				13	Has an estimate been provided? (CMS Excel spreadsheet)	
				14	Have CADD files been provided? (including InRoads files)	
				15	Have the plans been prepared in accordance with the ALDOT plan preparation manual?	

B: TITLE SHEET

Y	N	N/A	By Others			Comments:
				1	Are the project construction number, preliminary number, charge number and description matching the CPMS information?	
				2	Is the traffic data and design information box complete?	

				3	Is the mileage and stationing box complete?	
				4	Are the bridges and bridge culverts descriptions, BINs, lengths, stationing, effect, and dispositions complete?	
				5	Are the equations and exceptions complete?	
				6	Is the vicinity map complete to include:	
					North arrow	
					Project location with begin / end work and project stations identified?	
					Bridges shown and identified?	
					Are destinations of major routes labeled?	
					Are populations shown with the current census year?	
				10	Is the signature block complete?	

C: GEOMETRIC LAYOUTS

Y	N	N/A	By Others			Comments:
				1	Are all alignments shown and labeled, including temporary crossovers, temporary on-site detours, etc?	
				2	Are all tangents labeled with bearings?	
				3	Are all PC, PT, and PI stations shown and labeled?	
				4	Are all intersection angles shown and labeled?	
				5	Are all alignment begin / end stations shown and labeled?	
				6	Are all alignments tied to the centerline of construction?	
				7	Are all curves indentified with all pertinent information provided (length, delta, speed, superelevation, etc.?	
				8	Are all benchmarks and reference points shown, labeled, and in a box with complete descriptions?	
				9	Is the stationing on all alignments shown and clearly labeled?	
				10	Are a scale and north arrows present?	

D: TYPICAL SECTIONS

Y	N	N/A	By Others			Comments:
				1	Do typical sections, details, etc. match the appropriate stations on the plans?	
				2	Do the typicals cover all stations of mainline and cross roads?	
				3	Are all dimensions shown for lanes, shoulders, medians, etc.?	
				4	Are varying widths shown with minimum and maximum values?	
				5	Are all slopes labeled?	
				6	Are pavement breaks points identified?	
				7	Is the profile grade identified and labeled?	
				8	Are the typicals tied down to the centerline or baseline?	

E: Project Note and Other Note Sheets

Y	N	N/A	By Others			Comments:
				1	Does the project note sheet include potential materials notes?	
				2	Does the project note sheet include the "standard" utility notes?	
				3	Does the project note sheet include the "standard" erosion / sediment control notes?	
				4	Are the notes in the correct series for their content?	
				5	Is the Traffic Control Plan notes sheet included and marked as necessary?	

F: Plan / Profile Sheets

Y	N	N/A	By Others			Comments:
				1	Is a graphic scale shown and is it correct?	
				2	Has the design been checked for compatibility with the approved Design Criteria?	
				3	Is the design compatible with the design speed listed on the title sheet?	
				4	Do the horizontal and vertical alignments meet the Green Book criteria?	
				5	Are the horizontal and vertical control points shown (benchmarks and reference points)?	

				6	Is a north arrow shown in the plan view and is it in the correct orientation?	
				7	Are Right of Way limits shown, both present / existing and required / acquired and do they tie back to present ROW?	
				8	Are required Right of Way markers shown with station and offset information?	
				9	Do the right of way limits (existing or acquired) encompass all of the required work?	
				11	Are the environmental clearance limits shown and labeled?	
				12	Are the construction limits shown and are they within the right of way?	
				13	Are the Begin/End Project and Work limits shown as applicable with stations?	
				14	Is the topographical information accurate and complete?	
				15	Is a disposition provided for all applicable topographical items?	
				16	Are bridge callouts present, complete with BIN, begin/end stations, length, disposition, etc.?	
				17	Are all paving / grading situations covered by typical section?	

G: Paving Layouts

Y	N	N/A	By Others			Comments:
				1	Do the sheets show the finished product only? (No topo, removals, etc.)	
				2	Are pavement and shoulder widths shown periodically, especially around transitions, tapers, etc.?	
				3	Are tapers, transitions, etc. shown and labeled, inlcuding lengths of such?	
				4	Are acceleration / deceleration lanes, turn lanes, etc. shown and labeled (including lengths)	
				5	Are all radii shown for left and right turns, turnouts, etc.?	
				6	Is the north arrow shown?	

				7	Is a scale provided?	
				8	Some finished items can be shown on these sheets to aid in clarity on the plan sheets (such as guardrail, end anchors, etc.)?	
				9	Are all curb and gutter begin/end stations labeled?	

H: Utility Sheets

Y	N	N/A	By Others			Comments:
				1	Do these sheets match the views shown in the plan sheets?	
				2	Are all pertinent utility owners and contact information listed on the first utility sheet?	
				3	Are clearances provided for above ground and underground utilities?	

I: Traffic Control Plan

Y	N	N/A	By Others			Comments:
				1	Is the sequence of construction present?	
				2	Does the sequence cover all major phases and items of work?	
				3	Is the sequence of construction feasible?	
				4	Are the traffic control notes referenced?	
				5	Is a detour plan, complete with signing and changeable message signs present and complete, where required?	
				6	Has any off-site detour been approved by the Chief Engineer?	

J: Cross Sections

Y	N	N/A	By Others			Comments:
				1	Do the cross sections match the typical sections and plan sheets?	
				2	Are the cross sections annotated with slopes and offset distances?	
				3	Does the Acquired and Present Right of Way appear where appropriate?	
				4	Does guardrail appear where appropriate?	

ATTACHMENT #7

PLAN-IN-HAND CHECK LIST

Revised: May 19, 2011

A: GENERAL ITEMS

Y	N	N/A	By Others			Comments:
				1	Are the Right of Way map, tract sketches, and deeds complete and submitted?	
				2	Is the environmental document approved?	
				3	Have the environmental commitments been identified and are they included?	
				4	Is the slope study approved?	
				5	Is the materials report approved?	
				6	Are there any approved addendums to the materials report?	
				7	Have any hazardous materials sites been identified?	
				8	Has the preliminary bridge submittal been made?	
				9	Is the bridge layout(s) included?	
				10	Have soil borings been received and put in the plans?	
				11	Has the preliminary utility submittal been made?	
				12	Are in-place utilities shown?	
				13	Has the hydraulic submittal been reviewed?	
				14	Have the hydraulic comments been addressed?	
				15	Is the erosion and sediment control plan included?	
				16	Is a stormwater permit required?	
				17	Is a construction best management practices plan (CBMPP) required?	
				18	Are retention, detention, and/or sediment basins required and are they included?	
				19	Is updated traffic included?	
				20	Are municipal and/or county agreements required?	

				21	Is coordination with an adjacent State required?	
				22	Is a railroad agreement required?	
				23	Is an airport clearance required?	
				24	Is a signal warrant analysis required?	
				25	Have the signal, lighting, and/or ITS submittals been made?	
				26	Is the traffic control plan (TCP) completed and included?	
				27	Is the topographical information complete?	
				28	Is a value engineering study required?	
				29	Has salvage credit been addressed?	
				30	Is a design exception(s) required?	
				31	Is adjacent / associated project coordination required?	
				32	Is an incentive / disincentive special provision required?	
				33	Are there any issues with access to the construction site?	
				34	Is a retaining wall(s) required?	
				35	Has a retaining wall(s) submittal been made?	
				36	Is maintenance bureau involvement required? (rest areas and interstates)	
				37	Has an estimate been provided? (CMS Excel spreadsheet)	
				38	Have CADD files been provided? (including InRoads files)	
				39	Have the plans been prepared in accordance with the ALDOT plan preparation manual?	

B: TITLE SHEET

Y	N	N/A	By Others			Comments:
				1	Are the project construction number, preliminary number, charge number and description matching the CPMS information?	

				2	Is the traffic data and design information box complete?	
				3	Is the mileage and stationing box complete?	
				4	Are the bridges and bridge culverts descriptions, BINs, lengths, stationing, effect, and dispositions complete?	
				5	Are the equations and exceptions complete?	
				6	Is the vicinity map complete to include:	
					North arrow	
					Project location with begin / end work and project stations identified?	
					Bridges shown and identified?	
					Are destinations of major routes labeled?	
					Are populations shown with the current census year?	
				7	Is the percent urban / rural complete?	
				8	Is the project funding split complete?	
				9	Is the county split complete?	
				10	Is the signature block complete?	

C: INDEX TO SHEETS AND INDEX TO STANDARD AND SPECIAL DRAWINGS

Y	N	N/A	By Others			Comments:
				1	Are all sheets in the plan assembly covered in the index?	
				2	Are all required types and series of sheets in the plans?	
				3	Are all standard and special drawings shown with correct index and descriptions?	
				4	Are all standard and special drawings called for present in the current book?	

C: GEOMETRIC LAYOUTS

Y	N	N/A	By Others			Comments:
				1	Are all alignments shown and labeled, including temporary crossovers, temporary on-site detours, etc?	

				2	Are all tangents labeled with bearings?	
				3	Are all PC, PT, and PI stations shown and labeled?	
				4	Are all intersection angles shown and labeled?	
				5	Are all alignment begin / end stations shown and labeled?	
				6	Are all alignments tied to the centerline of construction?	
				7	Are all curves indentified with all pertinent information provided (length, delta, speed, superelevation, etc.?	
				8	Are all benchmarks and reference points shown, labeled, and in a box with complete descriptions?	
				9	Is the stationing on all alignments shown and clearly labeled?	
				10	Are a scale and north arrows present?	

D: TYPICAL SECTIONS

Y	N	N/A	By Others			Comments:
				1	Do typical sections, details, etc. match the approved materials report?	
				2	Is there a materials report addendum and is it addressed in the plans?	
				3	Have the geotechnical recommendations (i.e. slopes, benching) been addressed?	
				4	Are 2:1 slopes used? If so, has chief engineer approval been obtained?	
				5	Do the typicals cover all stations of mainline and cross roads?	
				6	Are all dimensions shown for lanes, shoulders, medians, etc.?	
				7	Are varying widths shown with minimum and maximum values?	
				8	Are cross slopes on every pavement layer labeled?	
				9	Are all slopes labeled?	
				10	Are pavement breaks points identified?	
				11	Is the profile grade identified and labeled?	

				12	Are minimum ditch depths shown and labeled?	
				13	Are the typicals tied down to the centerline or baseline?	
				14	Is the pavement thickness shown and labeled from profile grade to subgrade?	
				15	Typical section legend:	
					Are letters used for in-place items?	
					Are numbers used for required items?	
					Does each legend item have the correct item number and description?	
					Is every legend item used in the typicals?	
					Is every number / letter used In the typicals covered In the legend?	
					Are the same legend items and designations used on all sheets (including placement rates, dispositions, etc.)?	
					Are widths (or ranges) provided In legend items that require them?	
				16	Can the typical sections be built as shown or are their construction issues with the typicals?	
				17	Are all required special details present?	
					Bridge end slab typicals	
					Pavement transition details	
					Curb and gutter details	
					Open cut details	
					Ditch typicals	
					Driveway typicals	
					Superelevation correction details	

E: Project Note and Other Note Sheets

Y	N	N/A	By Others			Comments:
				1	Does the project note sheet include all required notes from the materials report and addendums?	

				2	Does the project note sheet include the "standard" utility notes?	
				3	Does the project note sheet include the "standard" erosion / sediment control notes?	
				4	Are the notes in the correct series for their content?	
				5	Is the Traffic Control Plan notes sheet included and marked as necessary?	
				6	Is the traffic signal notes sheet included?	
				7	Is the lighting notes sheet included?	
				8	Is the ITS notes sheet included?	
				9	Is the sign notes sheet included?	
				10	Is the vehicle counting loop notes sheet included?	

F: Plan / Profile Sheets

Y	N	N/A	By Others			Comments:
				1	Is a graphic scale shown and is it correct?	
				2	Has the design been checked for compatibility with the approved Design Criteria?	
				3	Is the design compatible with the design speed listed on the title sheet?	
				4	Do the horizontal and vertical alignments meet the Green Book criteria?	
				5	Are the horizontal and vertical control points shown (benchmarks and reference points)?	
				6	Is a north arrow shown in the plan view and is it in the correct orientation?	
				7	Are drainage structures shown, complete with index numbers, size, flow direction, and disposition (existing retain, required, or remove; required; etc.)?	
				8	Are Right of Way limits shown, both present / existing and required / acquired and do they tie back to present ROW?	

				9	Are required Right of Way markers shown with station and offset information?	
				10	Do the right of way limits (existing or acquired) encompass all of the required work?	
				11	Are all required easements shown and labeled (construction, drainage, etc.)?	
				12	Are the environmental clearance limits shown and labeled?	
				13	Are the construction limits shown and are they within the right of way?	
				14	Are special ditches shown and labeled in both the plan and profiles?	
				15	Are the special ditch grades labeled in the profiles?	
				16	Are the Begin/End Project and Work limits shown as applicable with stations?	
				17	Is the topographical information accurate and complete?	
				18	Is a disposition provided for all applicable topographical items?	
				19	Are the applicable GN-2 Notes and Project Notes listed?	
				20	Are bridge callouts present, complete with BIN, begin/end stations, length, disposition, etc.?	
				21	Are all paving / grading situations covered by typical section?	

G: Paving Layouts

Y	N	N/A	By Others			Comments:
				1	Do the sheets show the finished product only? (No topo, removals, etc.)	
				2	Are pavement and shoulder widths shown periodically, especially around transitions, tapers, etc.?	
				3	Are tapers, transitions, etc. shown and labeled, inlcuding lengths of such?	
				4	Are acceleration / deceleration lanes, turn lanes, etc. shown and labeled (including lengths)	
				5	Are all radii shown for left and right turns, turnouts, etc.?	

				6	Is the north arrow shown?	
				7	Is a scale provided?	
				8	Some finished items can be shown on these sheets to aid in clarity on the plan sheets (such as guardrail, end anchors, etc.)?	
				9	Are all curb and gutter begin/end stations labeled?	
				10	Are the applicable GN-2 Notes and Project Notes listed?	

H: Signing and Striping Sheets

Y	N	N/A	By Others			Comments:
				1	Does the setup of the Signing / Striping sheets match the paving layout sheets?	
				2	Are all required signs present, labeled, and indexed?	
				3	Are overhead structures referenced to appropriate overhead sign cross sections?	
				4	Are required sign face details referenced and provided?	
				5	Are special sign details provided?	
				6	Is the striping complete?	
				7	Are adequate details present for special striping situations (i.e. islands, hatching, etc.)?	
				8	Are the proper project and GN-2 notes referenced?	
				9	Is the correct stripe called for on concrete / asphalt surfaces?	

I: Utility Sheets

Y	N	N/A	By Others			Comments:
				1	Do these sheets match the views shown in the plan sheets?	
				2	Are all required utility items and relocations easy to locate and identify?	
				3	Are all pertinent utility owners and contact information listed on the first utility sheet?	

				4	Are clearances provided for above ground and underground utilities?	
				5	Has the preliminary utility submittal been made?	

J: Drainage Sections

Y	N	N/A	By Others			Comments:
				1	Do the sections match the plan sheets? (location, structure numbers, skew, work required, existing items, etc.)	
				2	Is a scale or grid provided?	
				3	Are all required items listed below the drainage section? (pipe, end treatment, inlet, junction box, etc.)	
				4	Are all required basins, tail ditches, etc. properly detailed?	
				5	Are the sections constructible?	
				6	If required, are temporary TCP slopes shown?	
				7	Is guardrail shown where required?	
				8	Do end treatments meet clear zone criteria?	
				9	Is the hydraulic manual being followed?	
				10	Is the depth of pipes/culverts shown, and is the class pipe appropriate to the depth?	
				11	Has the Hydraulic Data Sheet been completed?	
				12	Are the proper culvert and wing standards referenced?	
				13	Are special project details drawn and referenced where required?	

K: Traffic Control Plan

Y	N	N/A	By Others			Comments:
				1	Is the sequence of construction present?	
				2	Does the sequence cover all major phases and items of work?	
				3	Is the sequence of construction feasible?	
				4	Are traffic control phasing details present and complete?	

				5	Are the traffic control notes referenced?	
				6	Are Traffic Control Plan summary boxes provided for construction signs and other items?	
				7	Are the Standard and Special Drawings called for and referenced as appropriate?	
				8	Are adequate phase details present for the traffic control construction activities presented in the sequence?	
				9	Is a detour plan, complete with signing and changeable message signs present and complete, where required?	
				10	Has any off-site detour been approved by the Chief Engineer?	

L: Erosion and Sediment Control Plan

Y	N	N/A	By Others			Comments:
				1	Is the Erosion and Sediment Control Legend sheet included in the plans?	
				2	Does the Erosion and Sediment Control Plan match the plan sheets?	
				3	Are Right of Way and Construction Limits shown?	
				4	Are State Waters (USGS "Blue Line" Streams) shown and identified?	
				5	Are the erosion and sediment control items easy to locate on the sheets?	
				6	Do the erosion and sediment control items shown in the sheets match the appropriate legend, or is a legend set up to cover them?	
				7	Are drainage features (pipes, ditches, etc.) shown and flow direction labeled?	
				8	Are all drainage outfalls identified and numbered?	
				9	Are all required special project details provided?	
				10	Is the topo "greyed-out" to make the erosion items easiier to identify?	

M: Cross Sections

Y	N	N/A	By Others			Comments:

				1	Do the cross sections match the typical sections and plan sheets?	
				2	Are the cross sections annotated with slopes and offset distances?	
				3	Is the subgrade shown?	
				4	Does the Acquired and Present Right of Way appear where appropriate?	
				5	Does guardrail appear where appropriate?	
				6	If required, has a 2:1 slope waiver been requested?	
				7	Do the plans show special grading required for temporary slopes, sedimentation ponds, etc.?	

N: Earthwork Summary

Y	N	N/A	By Others			Comments:
				1	Is the Earthwork Summary provided by traffic control phases?	
				2	Are the proper GN-2 and project notes referenced?	
				3	Does the calculation method match that required in the ALDOT GFO?	
				4	Do the shrink / swell factor(s) match the materials report?	
				5	Is the earthwork balanced for each traffic control phase?	
				6	Is top soil and stockpiling adequately addressed?	
				7	Are special soil conditions addressed? (muck, underwater embankment, surcharge, etc.)	

ATTACHMENT #8

ALABAMA DEPARTMENT OF TRANSPORTATION
Quality Control Bureau

Robert Bentley
Governor

John R. Cooper
Transportation Director

June 10, 2013

Alabama Department of Transportation
Value Engineering Program

Background

The Federal Highway Administration (FHWA) has revised 23 CFR Part 627 – Value Engineering. This regulation requires the application of value engineering (VE) to all federal aid highway projects on the National Highway System (NHS) with estimated costs as follows:

A. *Projects on the National Highway System (NHS) receiving Federal assistance with an estimated total cost of $50,000,000 or more; and*

B. *Bridge projects on the* NHS *receiving Federal assistance with an estimated total cost of $40,000,000 or more.*

The project is defined as "a portion of a highway that a state proposes to construct, reconstruct, or improve as described in the preliminary design report or applicable environmental documents. A project may consist of several contracts or phases over several years."

Value engineering is defined as "the systematic application of recognized techniques by a multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project, reliably and at the lowest life-cycle cost without sacrificing safety, necessary quality and environmental attributes of the project."

The costs to be included in the $40 or $50 million limit are all costs associated with environmental studies, preliminary engineering, final design, right-of-way and construction. The study should be performed during the final design phase to address design issues such as geometrics, vertical and horizontal alignments, drainage, construction staging, traffic control, pavement and structure details, etc, A VE study may be performed during location or preliminary design; however, according to FHWA, a VE study must be performed during final design regardless of whether a VE study was performed during earlier phases of project development.

ALDOT Value Engineering Process

1. The lead bureau will be responsible for conducting the VE study on projects over $40 million on the NHS as described above.

2. The VE study should be conducted during final design at GDCP #207 or using the Plan-in-Hand submittal.

3. The VE study should include a multi-disciplined team lead by a trained VE team leader. Depending on the nature of the project, the team may include representatives from Construction, Materials and Tests, Right-of-Way, Maintenance, Design, Bridge, FHWA, Hydraulics, or other disciplines as deemed appropriate. The VE team should always include the project designer as a resource person. The teams may be composed of a combination of Central Office and Division personnel.

4. The team will review high cost items such as earthwork, base and pavement, bridges, major drainage structures, etc. VE studies should be limited to items that have the potential of significant savings. The feasibility of implementing the VE changes should consider the impact on project schedule and previous environmental clearances and/or agreements.

5. The reviews may be conducted within any timeframe as deemed appropriate. For example, the team can work continuously for several days or information can be submitted for the independent review of team members with a meeting convened to develop a consensus (similar to Plan-in-Hand or PS&E inspection).

6. The VE reviews are to follow the general principles of value engineering,

7. A written report shall be prepared documenting the findings and recommendations of the VE team.

8. Implementation of the VE recommendations will be the decision of the Implementation Committee and will consider the projected cost savings and impact on project advancement at the time.

Submitted for approval:

Terry McDuffie, P.E.
Quality Control Bureau Chief

6-10-2013
Date

APPROVED:

Ronald L. Baldwin, P.E.
Chief Engineer

6-11-13
Date

CONCURRENCE:

For Mark Bartlett, P.E.
Division Administrator
FHWA

7-30-13
Date

ATTACHMENT # 9

Included Documents:

1. 2016 MEMO: CPMS Modification, Railroad Indicator
2. 2015 MEMO: Railroad Crossing Guidance (no attachments)
3. 2016 MEMO: Railroad Crossing Guidance, Revision One (w/ revised attachments)
4. USC Title 23 CFR 646.214
5. Certification of Railroad Involvement, RR Form 1
6. Railroad Crossing Warning Device Checklist
7. Railroad Project Notes
8. Sample Written Summary

ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334/242-6311 • Fax No.: 334/262-8041

Robert Bentley
Governor

John R. Cooper
Transportation Director

August 18, 2016

MEMORANDUM

TO: All Bureau Chiefs
All Regional Engineers

FROM : Clay P. McBrien, P. E.
State Office Engineer

RE: CPMS Modification, Railroad Indicator

There has been an adjustment made to the Railroad Indicator in CPMS, which includes four options. They are listed below:

1. NOT INVOLVED – Railroad is not applicable to the project.
   This is the default setting on all new project scopes entered into CPMS.

2. TBD – Diagnostic review is needed.
   New projects initiated into CPMS where project locations enter into the vicinity of a railroad right-of- way will receive this code (Unless otherwise coded by the initiator).

The next two items refer to the results of the diagnostic review that is performed.

3. AGREEMENT – A railroad agreement is required and must be signed before the project can be authorized.

4. NO AGREEMENT –A railroad agreement is not required, but there is railroad involvement.

If you have any questions or need any additional information please contact Jimmy Carroll at 242-6423, or email him: carrollj@dot.state.al.us

CPM: /JWC/jsc
cc: Mr. Don Arkle, P.E.
Mr. Ed Austin, P.E.
Mr. Rex Bush, P.E.
Mr. Joe Lister, P.E.
File

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334/242-6311 • Fax No.: 334/262-8041

Robert Bentley
Governor

John R. Cooper
Transportation Director

November 4, 2015

MEMORANDUM

To: Mr. D.E. (Ed) Phillips, Jr., P. E.
State County Transportation Engineer
Mr. Edward N. Austin, P. E.
State Innovative Programs Engineer
Region Engineers

From: Ronald L. Baldwin, P.E.
Chief Engineer

RE: Railroad Crossing Guidance

The purpose of this memorandum is to provide guidance when developing Federal-aid projects with railroad involvement.

In accordance with Title 23 CFR 635.309(b), all Federal-aid projects require a statement of railroad coordination verifying all relevant work has been completed or that necessary arrangements have been made to complete the work. The first step in this process is to determine if railroad work is involved in the project. Consideration should be given to rail-highway crossings that are *"located within or near the terminus of a Federal-aid project"*, as stated in Title 23 CFR 646.214(b) (2). For the purpose of this guidance, "located within or near" is defined as; a rail-highway crossing within or immediately adjacent to the construction limits and within ALDOT right-of-way. The attached forms, *RR FORM 1* and *RR FORM 1A* are provided to comply with this requirement. One of the attached forms must be completed and submitted for all Federal-aid construction projects even if there is no railroad involvement on the project. This form should be submitted to the ALDOT State Office Engineer with the final plan assembly submittal.

If there is no railroad involvement, the process is limited to the completion and submission of form RR 1 or RR 1A.

When there is railroad involvement on a Federal-aid project, additional information is required. The condition of existing traffic control devices that are the responsibility of the highway owner for maintenance must be determined as follows:

1. Are the current warning devices adequate for the rail-highway crossing? and,

2. Do the devices meet the current requirements in the Manual on Uniform Traffic Control Devices (MUTCD)?

Attached for your use in determining the adequacy of the existing devices is *Title 23 CFR 646.214(b)* and *Railroad Crossing Warning Device Checklist.* This review and determination should be included in the **project scope review**. All work to be undertaken as part of the project to comply with Title 23 CFR 646.214(b) will be included in the project cost unless the work is being done on a separate project or by the railroad at no cost to the project. If assistance is needed to determine whether active or passive warning devices are warranted, the Region Railroad Coordinator should be consulted.

Modal Programs personnel will work with the railroad to secure a statement for the devices that are the responsibility of the railroad for maintenance and operation.

We anticipate that the vast majority of at grade railroad crossings will warrant passive warning devices only.

Please distribute this memorandum and attachments to all persons having responsibilities for Federal-aid project development and acceptance at both the state and local levels, as it is imperative that ALDOT comply with this guidance.

Your cooperation in this effort is greatly appreciated.

RLB/RRS:ep

Attachments (4)

cc: Mr. John R. Cooper
Mr. Don Arkle
Mr. Clay McBrien
Region Railroad Coordinators
FHWA
File

NOTE 6/26/19: For documentation purpose, forms RR Form 1 and RR Form 1A have been combined and revised as of June 25, 2019. The Railroad Crossing Warning Device Checklist has been revised as of April 24, 2019. Revised documents proceed 2016 MEMO Railroad Crossing Guidance, Revision One.

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334/242-6311 • Fax No.: 334/262-8041

Robert Bentley
Governor

John R. Cooper
Transportation Director

July 13, 2016

MEMORANDUM

TO: Ed Phillips
County Transportation Engineer

Steve Walker
Bureau Chief, Innovative Programs

Region Engineers

FROM: Don Arkle
Chief Engineer

RE: Railroad Crossing Guidance, Revision One

The purpose of this memorandum is to supplement the previous memorandum dated November 4, 2015, and to provide additional guidance when developing federal-aid construction projects. The supplemental guidance is issued due to a request by several railroads operating in Alabama to conduct construction diagnostic reviews in lieu of completing the railroad survey form. The supplemental guidance is as follows:

In accordance with Title 23 CFR 635.309(b), all federal-aid projects require a statement of railroad coordination verifying all relevant work has been completed or that necessary arrangements have been made to complete the work. The first step in this process is to determine if railroad work is involved in the project. Consideration should be given to rail-highway crossings that are "located within or near the terminus of a federal-aid project," as stated in Title 23 CFR 646.214(b)(2). For the purpose of this guidance, "located within or near" is defined as a rail-highway crossing within or immediately adjacent to the project limits and within the projected limits of the public right of way. When setting the project limits, the railroad right-of-way boundary should not be considered a logical termini to avoid work related to a rail-highway crossing. The attached forms, RR FORM 1 and RR FORM 1A, are provided to comply with this requirement. One of the attached forms must be completed and submitted for all federal-aid construction projects even if there is no railroad involvement on the project. This form should be submitted to the ALDOT State Office Engineer with the final plan assembly submittal.

If there are no rail-highway crossings located within or near the project terminus, the process is limited to the completion and submission of RR Form 1 or RR Form 1A.

Where the roadway and railroad are parallel, if there is work in the railroad right of way (such as resurfacing on the side road or drainage improvements), then there will be railroad involvement. If there is no work within the railroad right of way, there is no railroad involvement. When there is/are rail-highway crossing(s) located within or near the terminus of a federal-aid project causing railroad involvement, additional information is required. The adequacy and condition of existing traffic control devices must be determined as follows:

1. Are the current warning devices owned and maintained by the rail owner adequate for the rail-highway crossing?

2. Do the signing and markings meet the current requirements in the Manual on Uniform Traffic Control Devices (MUTCD)? Please note there are MUTCD requirements for the devices such as the horizontal offset from the travelway. If the project improvements or a previous project by the road owner do not create a situation with less than MUTCD minimums, and if no operational problems are known, the project will not address the deficiency. The deficiency will be noted and Modal Programs Bureau personnel will be informed for communication to the rail owner.

The next step in the process is to send the GDCP Step 3.1 transmittal to the Modal Programs Bureau for determination of how to coordinate with the particular railroad on the project. If the railroad does not require a diagnostic team review, the Engineer of Record will complete the scope checklist for adequacy of the warning devices. If the warning devices are adequate the railroad will be sent the survey form for their signature. If the warning devices are not adequate a diagnostic team review will be coordinated through the Modal Programs Bureau. For those railroads requiring a diagnostic team review for all crossings, that review will be coordinated through the Modal Programs Bureau also.

Title 23 CFR 646.214(b) and the ALDOT Rail-Highway Construction Diagnostic Review Form are attached and should be utilized when performing the construction diagnostic review. These documents will aid the diagnostic team review in determining the adequacy and condition of the existing traffic control devices. All work to be undertaken as part of the project to comply with Title 23 CFR 646.214(b) shall be included in the project cost unless the work is being completed on a separate project by the railroad or by others at no cost to the project. If assistance is needed to determine whether active or passive warning devices are warranted, the Region Railroad Coordinator should be consulted.

When scheduling the construction diagnostic review, the design lead should notify Modal Programs Bureau personnel of the need to schedule the railroad representative as early as possible, preferably a minimum of two years prior to the project letting date. Early coordination is key to developing a successful federal-aid project with railroad involvement.

Upon completion of the project scope review, the design lead will submit a scope of work to Modal Programs Bureau personnel for any work to be undertaken by the railroad. Modal Programs Bureau personnel will incorporate the scope of work into the railroad agreement.

We anticipate that the vast majority of at-grade railroad crossings will warrant passive warning devices only.

Please distribute this memorandum and attachments to all personnel having responsibilities for federal-aid project development and acceptance at both the state and local levels as it is imperative that ALDOT comply with this guidance.

Your cooperation in this effort is greatly appreciated.

DTA:sfw
Attachments - 4
copy: John Cooper
Ed Austin
Clay McBrien
Region Railroad Coordinators
FHWA
File

NOTE 6/26/19: For documentation purpose, forms RR Form 1 and RR Form 1A have been combined and revised as of June 25, 2019. The Railroad Crossing Warning Device Checklist has been revised as of April 24, 2019. Revised documents proceed 2016 MEMO Railroad Crossing Guidance, Revision One.

vertical clearances used by the railroad in its normal practice subject to limitations as shown in the appendix or as required by a State regulatory agency.

(b) The Federal share of railroad/highway crossing projects may be:

(1) Regular pro rata sharing as provided by 23 U.S.C. 120(a) and 120(b).

(2) One hundred percent Federal share, as provided by 23 U.S.C. 120(c).

(3) Ninety percent Federal share for funds made available through 23 U.S.C. 133(d)(1).

[40 FR 16059, Apr. 9, 1975, as amended at 47 FR 33955, Aug. 5, 1982; 53 FR 32218, Aug. 24, 1988; 62 FR 45328, Aug. 27, 1997]

§ 646.214 Design.

(a) *General.* (1) Facilities that are the responsibility of the railroad for maintenance and operation shall conform to the specifications and design standards used by the railroad in its normal practice, subject to approval by the State highway agency and FHWA.

(2) Facilities that are the responsibility of the highway agency for maintenance and operation shall conform to the specifications and design standards and guides used by the highway agency in its normal practice for Federal-aid projects.

(b) *Grade crossing improvements.* (1) All traffic control devices proposed shall comply with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways supplemented to the extent applicable by State standards.

(2) Pursuant to 23 U.S.C. 109(e), where a railroad-highway grade crossing is located within the limits of or near the terminus of a Federal-aid highway project for construction of a new highway or improvement of the existing roadway, the crossing shall not be opened for unrestricted use by traffic or the project accepted by FHWA until adequate warning devices for the crossing are installed and functioning properly.

(3)(i) *Adequate warning devices,* under §646.214(b)(2) or on any project where Federal-aid funds participate in the installation of the devices are to include automatic gates with flashing light signals when one or more of the following conditions exist:

(A) Multiple main line railroad tracks.

(B) Multiple tracks at or in the vicinity of the crossing which may be occupied by a train or locomotive so as to obscure the movement of another train approaching the crossing.

(C) High Speed train operation combined with limited sight distance at either single or multiple track crossings.

(D) A combination of high speeds and moderately high volumes of highway and railroad traffic.

(E) Either a high volume of vehicular traffic, high number of train movements, substantial numbers of schoolbuses or trucks carrying hazardous materials, unusually restricted sight distance, continuing accident occurrences, or any combination of these conditions.

(F) A diagnostic team recommends them.

(ii) In individual cases where a diagnostic team justifies that gates are not appropriate, FHWA may find that the above requirements are not applicable.

(4) For crossings where the requirements of §646.214(b)(3) are not applicable, the type of warning device to be installed, whether the determination is made by a State regulatory agency, State highway agency, and/or the railroad, is subject to the approval of FHWA.

(c) *Grade crossing elimination.* All crossings of railroads and highways at grade shall be eliminated where there is full control of access on the highway (a freeway) regardless of the volume of railroad or highway traffic.

[40 FR 16059, Apr. 9, 1975, as amended at 47 FR 33955, Aug. 5, 1982; 62 FR 45328, Aug. 27, 1997]

§ 646.216 General procedures.

(a) *General.* Unless specifically modified herein, applicable Federal-aid procedures govern projects undertaken pursuant to this subpart.

(b) *Preliminary engineering and engineering services.* (1) As mutually agreed to by the State highway agency and railroad, and subject to the provisions of §646.216(b)(2), preliminary engineering work on railroad-highway projects may be accomplished by one of the following methods:

ALABAMA DEPARTMENT OF TRANSPORTATION
CERTIFICATION OF RAILROAD INVOLVEMENT

RR FORM 1
Revised: 04/26/19

CPMS NUMBER	**DATE**
PROJECT NUMBER	**CROSSING INVENTORY NUMBER (i.e. 123456A)**
STREET/ROAD NAME (INCLUDE COUNTY/STATE/U.S. ROUTE)	
COUNTY	
PROJECT DESCRIPTION/SCOPE OF WORK AT CROSSING:	

SELECT THE APPLICABLE STATEMENT:

In accordance with the provisions of 23 CFR Part 635.309(b), this is to certify that:

☐ The above referenced project has **NO** railroad involvement or railroad coordination required that would need to be undertaken and completed with the physical construction.

☐ All railroad arrangements and/or coordination have been made for the above referenced project to be undertaken and completed within the project as part of the project cost.

☐ All railroad arrangements and/or coordination have been made for the above referenced project to be undertaken and completed prior to project completion at no cost to the project.

BY: _____
Authorized Signature

_____
Print Name of Authorized Signature and Title

NOTE: Forms RR Form 1 and RR Form 1A are now combined for signature by the Local Authorized Agency, Region Engineer, or project lead engineer.

ALABAMA DEPARTMENT OF TRANSPORTATION
Design Bureau Traffic & Safety Operations

Rail-Highway Safety Programs Group
1409 Coliseum Boulevard, Montgomery, Alabama 36110

Railroad Crossing Warning Device Checklist for Construction Projects with Railroad Involvement

The following checklist is a guide to determine the condition and compliance of existing rail-highway traffic control devices or crossings when a crossing is located within or near the terminus of a project. This checklist is developed in accordance to the regulations listed in Title 23 CFR 646.214 (b)(3)(i), MUTCD, other Federal and State guidelines. The included MUTCD references are provided in this checklist for quick reference, reference Part 8 of the current MUTCD guide for additional information, detail, and options.

*REQUIRED

***PROJECT NUMBER**		***DATE SUBMITTED** Click or tap to enter a date.	
***STREET/ROAD NAME (INCLUDE COUNTY/STATE/U.S. ROUTE)**		***CROSSING INVENTORY NUMBER (i.e. 123456A)**	
***COUNTY**	**CITY/TOWN (IN OR NEAR)**	**LETTING DATE** Click or tap to enter a date.	
	POSTED HIGHWAY SPEED (MPH)	***ANNUAL AVERAGE DAILY TRAFFIC (AADT) & YEAR**	
***SCOPE OF WORK AT CROSSING:**			
KNOWN IMAPCTS TO COMMUNITY i.e. RESIDENTIAL OR COMMERCIAL DEVELOPMENT, EMERGENCY VEHICLE ACCESS ROUTE, HAZARD MATERIAL ROUTE, SCHOOL BUS ROUTE, BLOCKED CROSSING, HUMPED CROSSING, ETC. (IF APPLICABLE, PROVIDE DOCUMENTATION):			
CLASSIFICATION INFORMATION			
***CROSSING TYPE** Choose an item.	***CROSSING PURPOSE** Choose an item.	***CROSING POSITION** Choose an item.	**TYPE OF LAND USED** Choose an item.
***NUMBER OF TRAFFIC LANES CROSSING RAILROAD ___** Choose an item.	***HIGHWAY SYSTEM** Choose an item.	***FUNCTIONAL CLASSIFICATION OF ROAD AT CROSSING** Choose an item. Choose an item.	
***EMERGENCY SERVICE ROUTE** Choose an item.	***SCHOOL BUS ROUTE** Choose an item.	***TRANSIT BUS ROUTE** Choose an item.	***ESTIMATED PERCENT TRUCKS ___%**
SMALLEST CROSSING ANGLE Choose an item.	1. Is Roadway/Pathway Paved? Choose an item. 2. Does Track Run Down a Street? Choose an item. 3. Is Crossing Illuminated? (*Lights within approx. 50 feet from nearest rail*) Choose an item. 4. Intersecting Roadway within 500 feet? Approx. distance (feet) _____ 5. Is there an adjacent crossing with a separate number? DOT No(s). _____		

Railroad Crossing Warning Device Checklist for
Construction Projects with Railroad Involvement

EXISTING CROSSING EQUIPMENT AND SITE CONDITIONS (PASSIVE WARNING DEVICES) *(Specify the count of each device for all that apply i.e. Count or ____)*		
***ADVANCE WARNING SIGNS**		
APPROACH	**SIGN**	**CONDITION**
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
***PAVEMENT MARKINGS**		
APPROACH	**TYPE**	**CONDITION**
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
CHANNELIZATION DEVICES/MEDIANS		
APPROACH	**DEVICE**	**CONDITION**
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
***PASSIVE TRAFFIC CONTROL DEVICES**		
APPROACH	**DEVICE**	**CONDITION**
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.

EXISTING CROSSING EQUIPMENT AND SITE CONDITIONS (ACTIVE WARNING DEVICES)		
APPROACH	**DEVICE**	**CONDITION**
Choose an item. Choose an item.	**Gate Arms:** Choose an item. **Gate Arms:** Choose an item.	Choose an item. Choose an item.
Choose an item.	**Gate Configuration:** Choose an item.	Choose an item.
Choose an item. Choose an item.	**Mast Mounted Flashing Lights**_____ Choose an item. Choose an item. **Mast Mounted Flashing Lights**_____ Choose an item. Choose an item.	Choose an item. Choose an item.

Railroad Crossing Warning Device Checklist for Construction Projects with Railroad Involvement

Choose an item.	**Cantilevered (or Bridged) Flashing Light Structures** Choose an item.	Choose an item.
Choose an item.	**Non-Train Active Warning** Choose an item.	Choose an item.
Choose an item.	**Highway Traffic Signal Interconnection** Choose an item.	Choose an item.
Choose an item.	**Audio Devices** Choose an item.	Choose an item.
	Highway Traffic Signal Preemption Choose an item.	Choose an item.
	Other Flashing Lights or Warning Devices Specify Type _____ Count_____ Specify Type _____ Count_____ Total Count of Flashing Light Pairs _____	Choose an item. Choose an item.
ADDITIONAL INFORMATION (*Provide any additional information or concerns relevant to project's impact on the crossing i.e. include any other conditions otherwise not noted above such as drainage issues, equipment placement, guardrail condition near devices, etc.*)		

***SELECT STATEMENTS THAT APPLY:**

☐ The existing active and passive warning devices located at this crossing are adequate and comply with the requirements of current MUTCD standards.

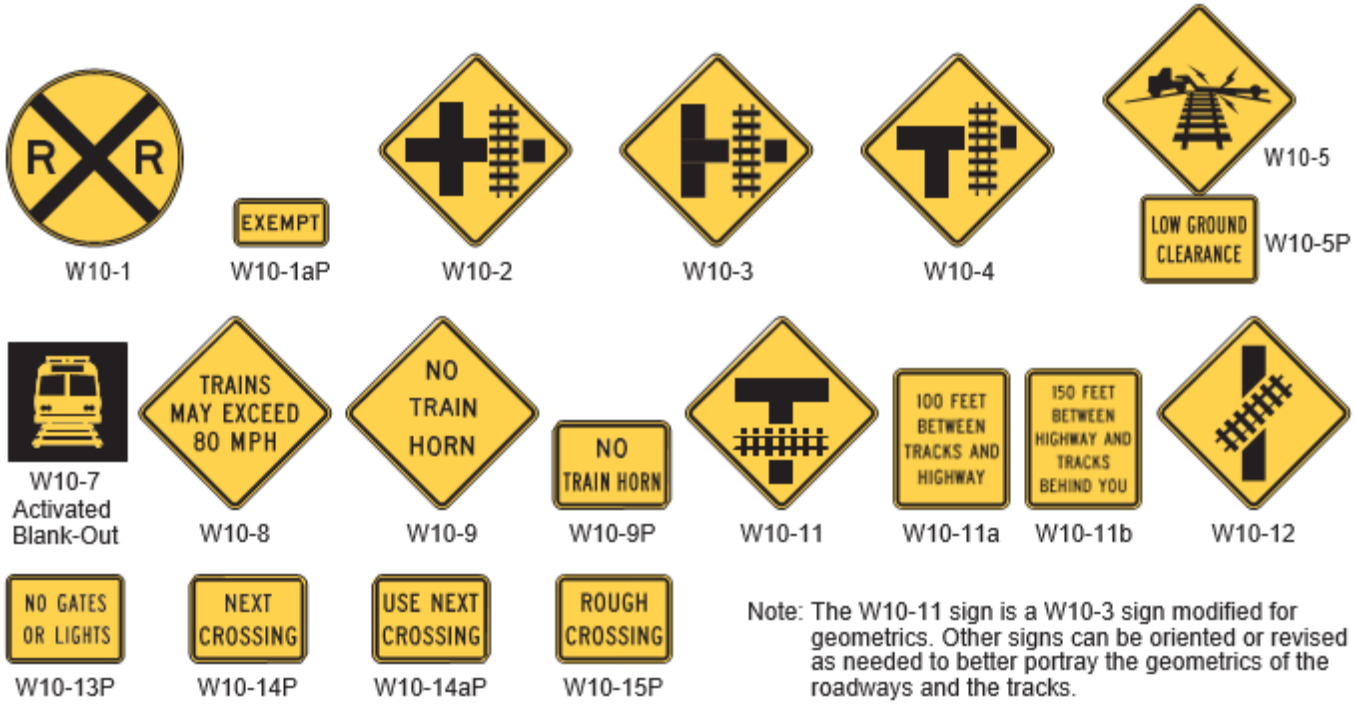
☐ The existing active warning devices located at this crossing **DO NOT** comply with the requirements of the current MUTCD standards and need to be Choose an item. a Choose an item. is requested for further review and recommendation of improvements.

☐ The existing condition of signs, markings, striping, and legends located at this crossing or located within or near the terminus of a Federal-aid project **DO NOT MEET** current MUTCD standards. Updates are required and will be completed prior to or during the construction of the subject project.

BY: _____
*Authorized Signature

_____
*Type name of Authorized Signature and Title

WARNING SIGNS AND PLAQUES FOR GRADE CROSSINGS



Source: Figure 8B-4. Warning Signs and Plaques for Grade Crossings, MUTCD 2009 edition.

Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.

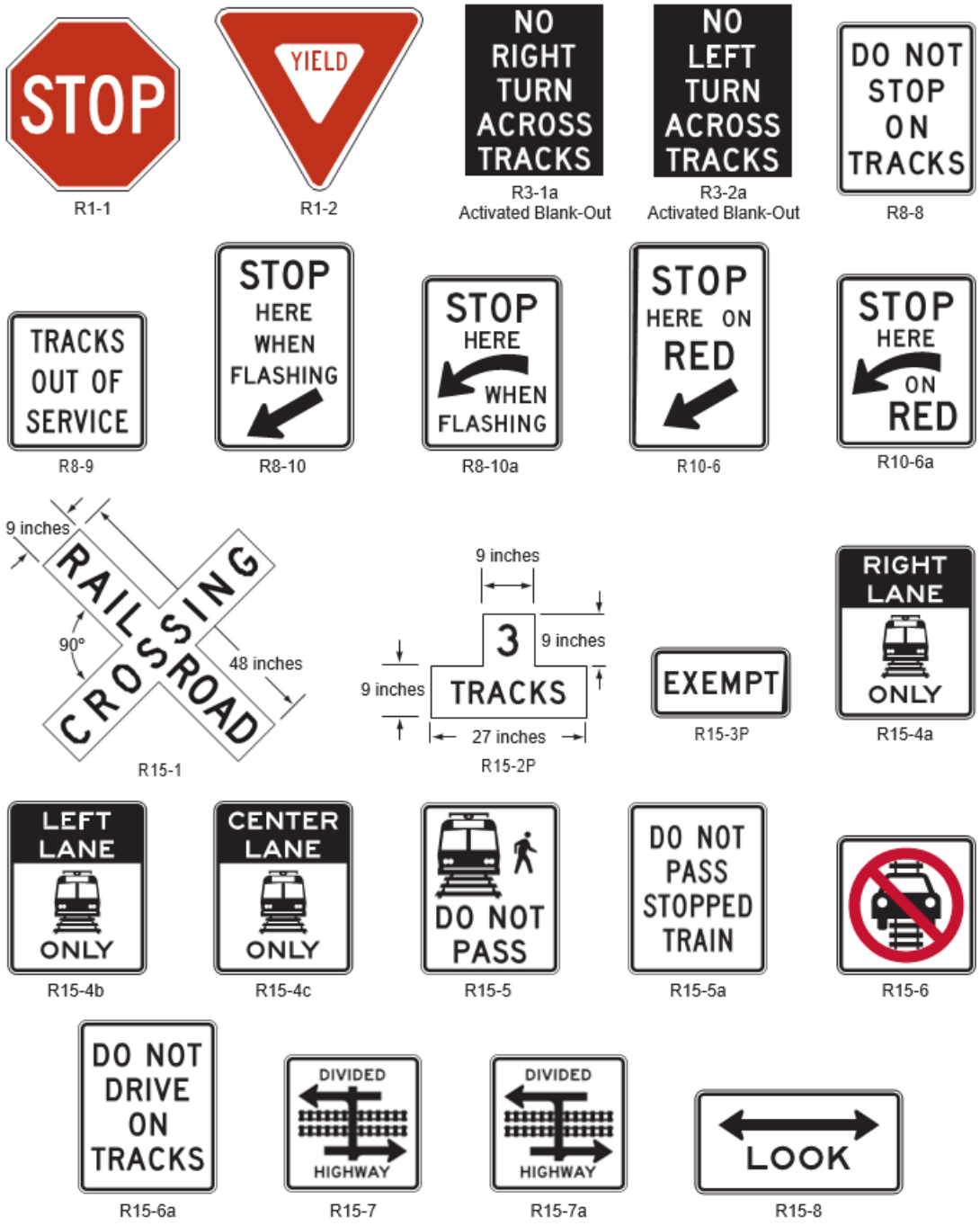
OTHER SIGNS, PLAQUES, AND DEVICES FOR GRADE CROSSINGS

Figure 8B-5. Example of an Emergency Notification Sign

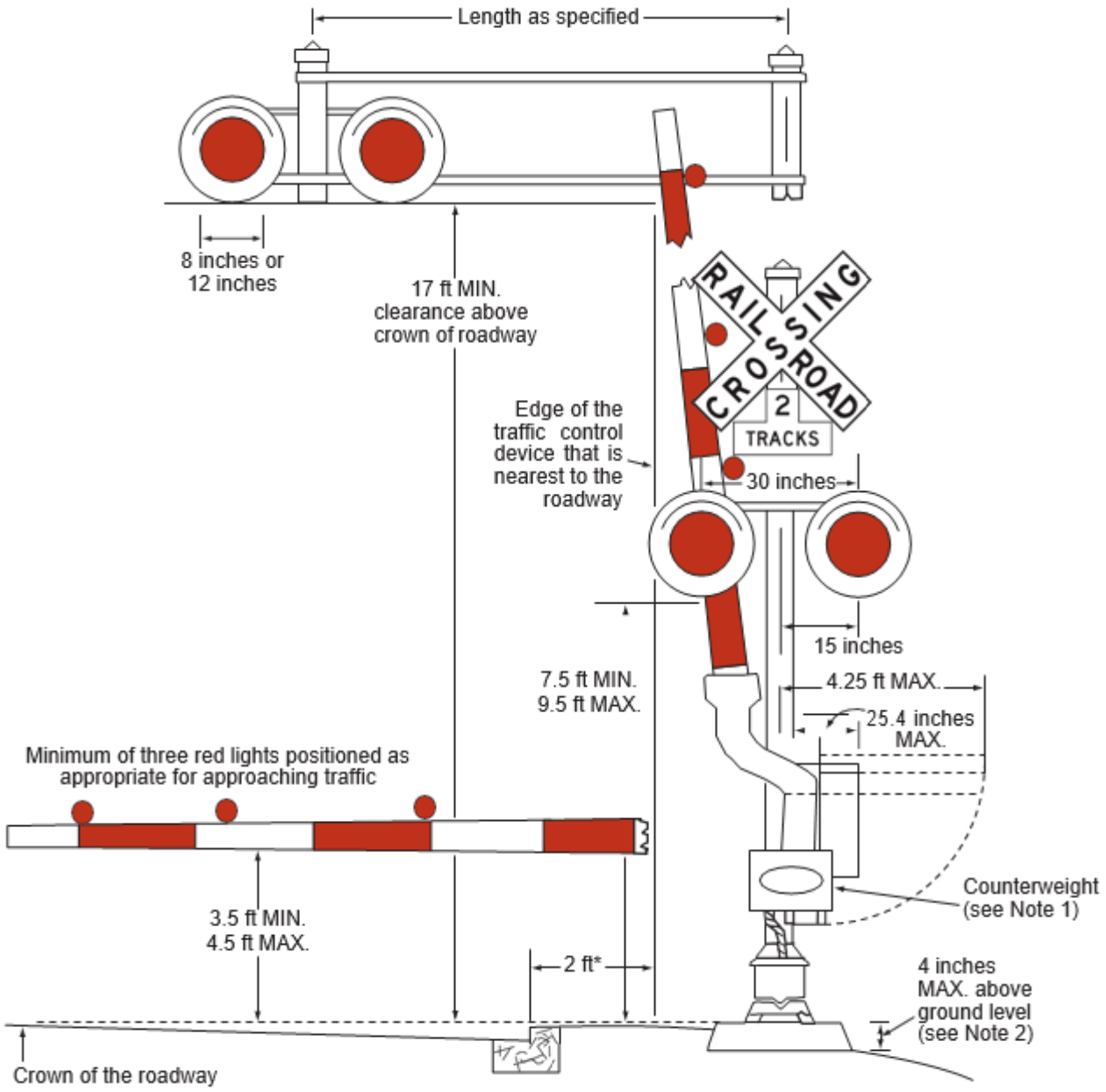
I-13

Emergency Notification signs should be installed at all highway-rail grade crossings. A minimum of USDOT grade crossing inventory number and the emergency contact telephone number should be included.

REGULATORY SIGNS AND PLAQUES FOR GRADE CROSSINGS



Source: Figure 8B-1. Regulatory Signs and Plaques for Grade Crossings, MUTCD 2009 edition.
Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.



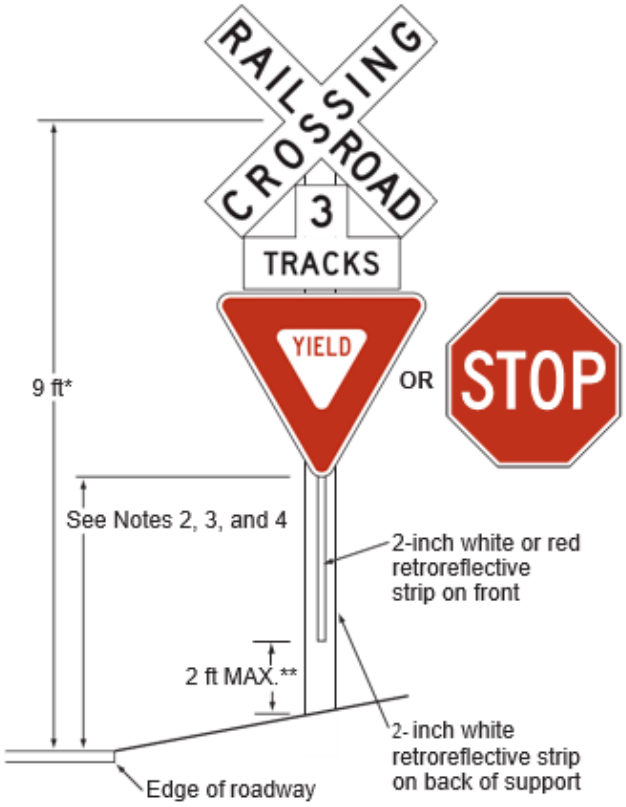
*For locating this reference line on an approach that does not have a curb, see Section 8C.01.

Notes:

1. Where gates are located in the median, additional median width may be required to provide the minimum clearance for the counterweight supports.
2. The top of the signal foundation should be no more than 4 inches above the surface of the ground and should be at the same elevation as the crown of the roadway. Where site conditions would not allow this to be achieved, the shoulder side slope should be re-graded or the height of the signal post should be adjusted to meet the 17-foot vertical clearance requirement.

Source: Figure 8C-1. Composite Drawing of Active Traffic Control Devices, MUTCD 2009 edition.

Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.



* Height may be varied as required by local conditions and may be increased to accommodate signs mounted below the Crossbuck sign

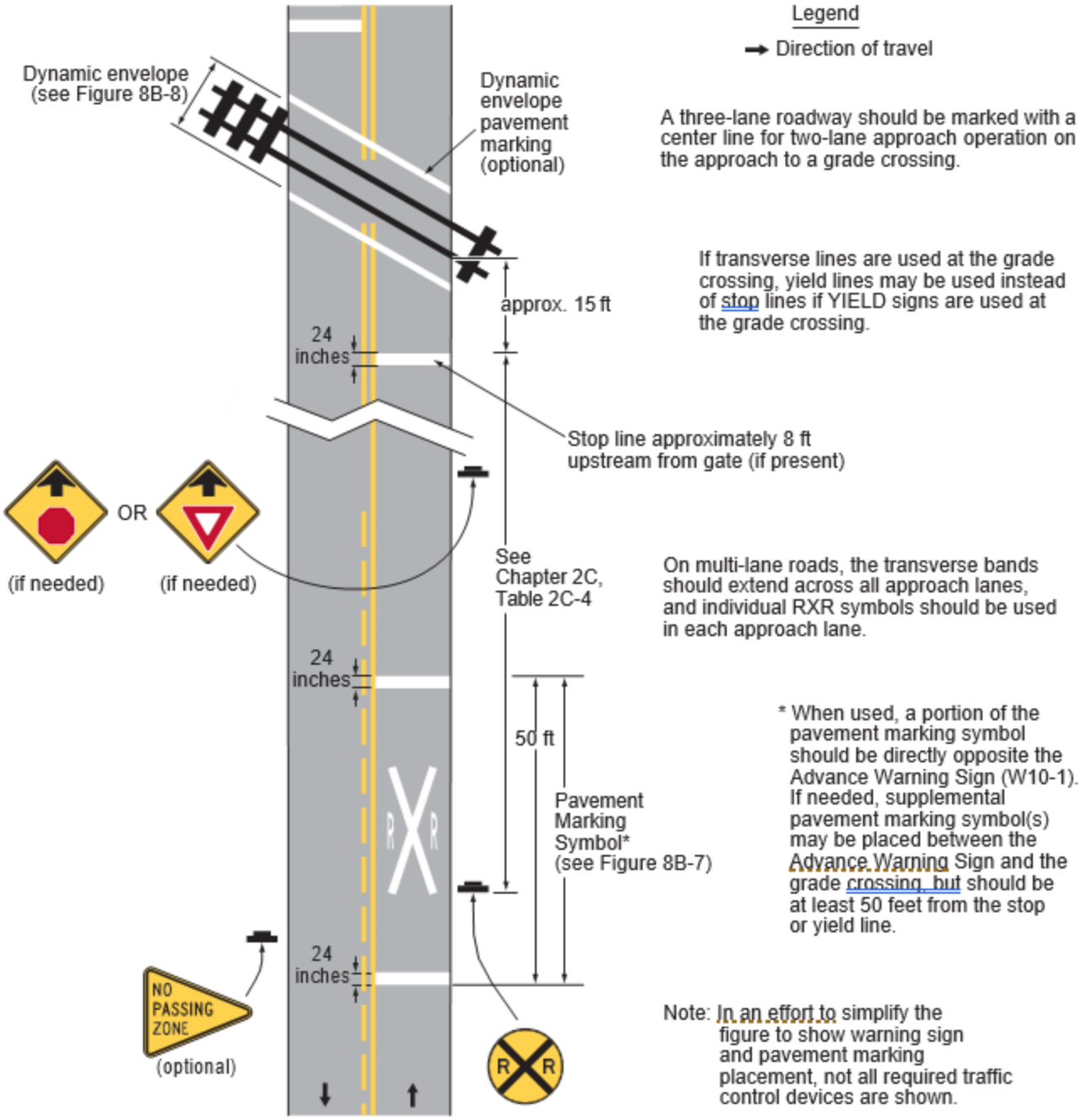
** Measured to the ground level at the base of the support

Notes:

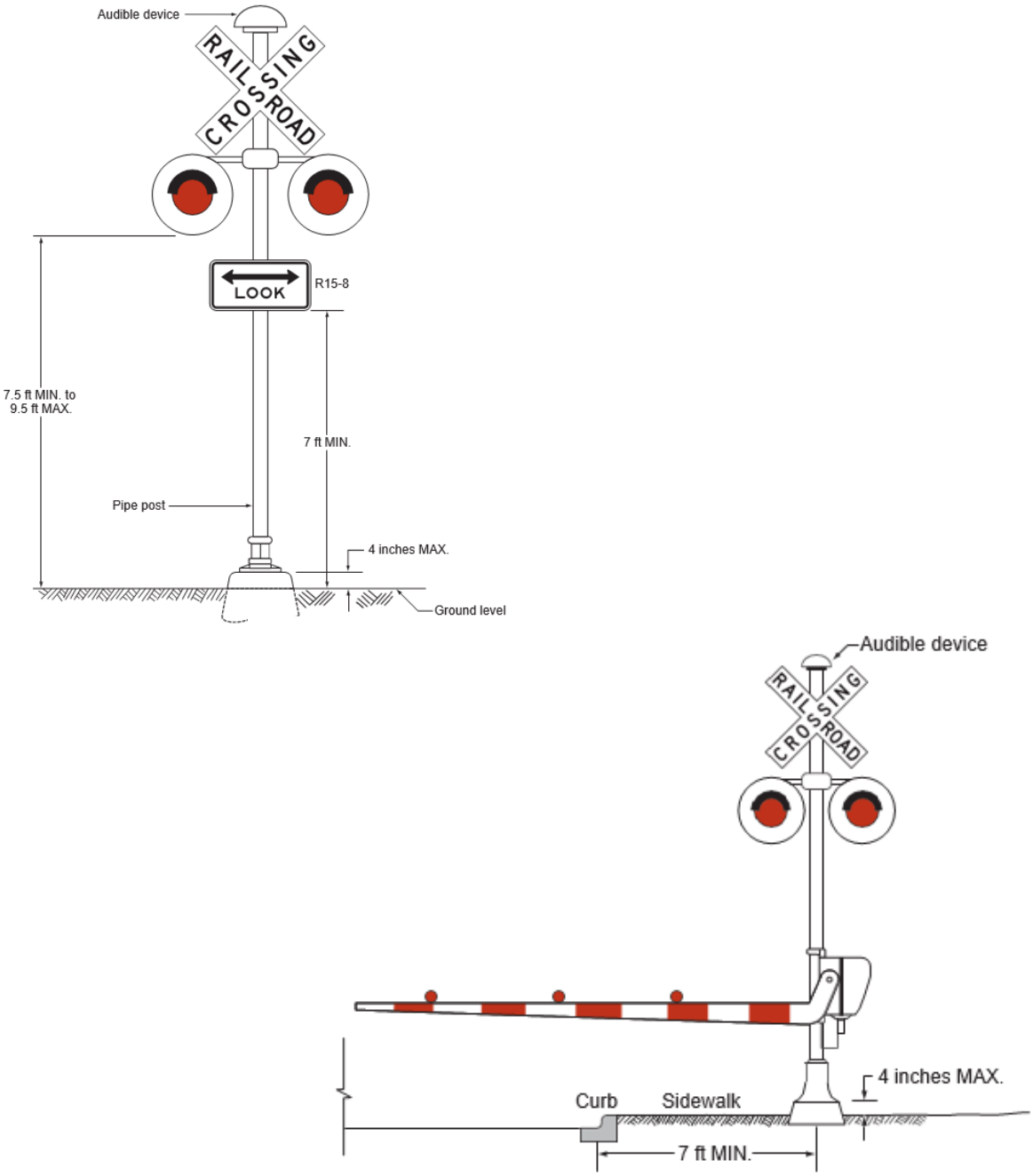
1. YIELD or STOP signs are used only at passive crossings. A STOP sign is used only if an engineering study determines that it is appropriate for that particular approach.
2. Mounting height shall be at least 4 feet for installations of YIELD or STOP signs on existing Crossbuck sign supports.
3. Mounting height shall be at least 7 feet for new installations in areas with pedestrian movements or parking.

Source: Figure 8B-2. Crossbuck Assembly with Yield or Stop Sign on Crossbuck Sign Support, MUTCD 2009 edition.

Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.



Source: Figure 8B-6. Example of Placement of Warning Signs and Pavement Markings at Grade Crossings, MUTCD 2009 edition.
Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.



Source: Figure 8C-4 and 8C-5. Example of Flashing-Light Signal Assembly for Ped. Crossings and Shared Ped. Roadway Gate, MUTCD 2009 edition.

Reference the current edition of the MUTCD, Part 8 for additional information, detail, and options.

ALABAMA DEPARTMENT OF TRANSPORTATION

Design Bureau Traffic & Safety Operations

Rail-Highway Safety Programs Group
1409 Coliseum Boulevard, Montgomery, Alabama 36110

RAILROAD PROJECT NOTES

NOTE: Notes are applicable in 900 series Project Notes. Where applicable, the general project notes are for all project plans. Any note listed under the individual railroad company below are subsidiary to the standard general notes and should be applied as needed.

LEGEND: √ Applicable for bridge replacement projects.

☐ Applicable for any resurfacing and minor widening projects or for new and/or reconstructed roadway projects.

∅ Applicable, as needed, for projects where work is being performed by the Railroad

GENERAL PROJECT NOTES

√ ☐ ∅ THE CONTRACTOR SHALLL REVIEW THE RAILROAD PROJECT SPECAIL PROVISION FOR ADDITIONAL INFORMATION, PROCEDURES, AND COMPLIANCE.

√ ☐ THE CONTRACTOR FOR THE STATE SHALL NOTIFY THE RAILROAD COMPANY IN WRITING A MINIMUM OF 10* DAYS BEFORE WORK IS TO BE STARTED ON OR NEAR THE RAILROAD'S RIGHT-OF- WAY.
THE CONTACT INFORMATION IS AS FOLLOWS:

[RAILROAD CONTACT NAME]
[RAILROAD CONTACT NUMBER]
[RAILROAD CONTACT EMAIL ADDRESS]

Or

THE CONTRACTOR FOR THE STATE SHALL NOTIFY THE RAILROAD COMPANY IN WRITING A MINIMUM OF 10* DAYS BEFORE WORK IS TO BE STARTED ON OR NEAR THE RAILROAD'S RIGHT-OF- WAY.
REFERENCE THE RAILROAD PROJECT SPECIAL PROVISION FOR CONTACT INFORMATION.

[*For BNSF and CSX Railroad projects change 10 days to 30 days.]

√ ☐ THE CONTRACTOR SHALL CONTACT THE RAILROAD FOR INFORMATION ON RAILROAD SAFETY TRAINING AND ALL PERSONS WORKING ON OR OVER THE RAILROAD'S RIGHT-OF-WAY MUST COMPLY WITH RAILROAD SAFETY RULES.

∅ THE RAILROAD SHALL FURNISH AND INSTALL ALL MATERIALS FOR 2-30' CANTILEVER SIGNALS, 2-35' GATES, BELLS, THE 81' OF CROSSING SURFACE AND MOTION DETECTORS AND INVOICE THE STATE FOR THE ACTUAL COST THEREOF.

∅ THE RAILROAD COMPANY SHALL NOTIFY THE STATE IN WRITING A MINIMUM OF 10 DAYS BEFORE WORK IS TO BE STARTED ON THIS PROJECT.

∅ THE RAILROAD SHALL FURNISH AND INSTALL ALL MATERALS FOR RAILROAD SIGNALS AND CROSSING SURFACES AND INVOICE THE STATE FOR THE ACTUAL COST THEREOF.

∅ ALL NECESSARY TRAFFIC CONTROL DEVICES (SIGNS, CONES, FLAGGERS, ETC.) WHICH ARE REQUIRED WHEN WORK IS BEING PERFORMED BY THE RAILROAD SHALL BE FURNISHED BY THE CONTRACTOR AND PAID FOR UNDER THE APPROPRIATE ITEMS OF WORK.

ALABAMA DEPARTMENT OF TRANSPORTATION
Design Bureau Traffic & Safety Operations

Rail-Highway Safety Programs Group
1409 Coliseum Boulevard, Montgomery, Alabama 36110

RAILROAD PROJECT NOTES

NORFOLK SOUTHERN RAILROAD PROJECT NOTES

☐ THE FINAL PLANS SHOULD INCLUDE A NOTE STATING THAT ALL WORK ON, OVER, UNDER, OR ADJACENT TO NORFOLK SOUTHERN (NS) RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS" (NS SPECIAL PROVISIONS)

☐ THE FINAL PLANS SHOULD INCLUDE A NOTE STATING THAT "ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE TWO (2) DAYS IN ADVANCE OF THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE RAILROAD UNDERGROUND LINES ON RAILROAD PROPERTY. UPON REQUEST FROM THE CONTRACTOR OR AGENCY, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG RAILROAD UNDERGROUND SIGNAL, COMMUNICATION, AND POWER LINES IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD SIGNAL, COMMUNICATION, OR POWER LINE, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF A RAILROAD SIGNAL REPRESENTATIVE.

✓ THE FINAL PLANS SHOULD INCLUDE A NOTE STATING THAT "NORFOLK SOUTHERN WILL BE PROVIDED AS-BUILT DRAWINGS SHOWING THE ACTUAL CLEARANCES AS CONSTRUCTED. DEPTH, SIZE, AND LOCATION OF ALL FOUNDATION COMPONENTS SHALL BE SHOWN ON THE DRAWINGS."

BURLINGTON NORTHERTN SANTA FE RAILROAD SPECIFIC NOTES

☐ THE CONTRACTOR FOR THE STATE SHALL EXECUTE BNSF RAILWAY'S EXHIBIT C AND C1 AGREEMENT IDENTIFYING CONTRACTOR REQUIREMENTS.

✓ THE CONTRACTOR WILLL BE REQUIRED TO SUBMIT PLANS ACCORDING TO BNSF GUIDELINES FOR APPROVAL. THESE PLANS INCLUDE, BUT ARE NOT LIMITED TO, SHORING, FALSEWORK, DEMOLITION, ERECTION, AND DRILLING SHAFT PLANS.

ILLINOIS CENTRAL RAILROAD SPECIFIC NOTES

☐ THE CONTRACTOR SHALL INSTALL THE NECESSARY EROSION CONTROL ITEMS TO PREVENT THE FILL SLOPES FROM CONTAMINATING THE RAILROAD BALLAST.

ALABAMA DEPARTMENT OF TRANSPORTATION
WEST CENTRAL REGION
OFFICE OF THE REGION ENGINEER
204 Marina Drive, Suite 100
Tuscaloosa, Alabama 35406
Telephone: 205-562-3099
Fax: 205-349-3487

Kay Ivey
Governor

John R. Cooper
Transportation Director

WRITTEN SUMMARY

MEMORANDUM

DATE: July 6, 2017

TO: Steven E. Walker, P.E.
State Design Engineer
Design Bureau

ATTN: Oretta D. Clemons
Rail-Highway Programs Manager

FROM: Nick Taylor, P.E.
Design Section Engineer

RE: STPAA-0017(571)
CPMS # 100066424
Resurfacing SR-17 from just south of SR-8 (US-80) Interchange at MP 136.438 to the Intersection of SR-7 at MP 140.427
Alabama Great Southern Railroad (AGS); DOT No. 726143F; RR MP 268.28
Sumter County

The referenced project crosses Alabama Great Southern Railroad, at approximately AGS railroad MP 268.28.

The proposed work, to be performed within the railroad's ROW, is planing 1.6 inches, placing approximately 180 lbs./sq. yd. of asphalt, and replacing existing striping/pavement markings. The work being performed on the railroad's ROW will take approximately 5 working days.

Please note that AGS Railroad is to add 2" reflective striping on cross bucks, per MUTCD standards.

Project notes will be provided as needed to ensure proper coordination between the project office, the contractor, and AGS Railroad.

This summary is provided for your use in submitting to the Railroad along with the plans. If additional information is needed, please don't hesitate to call this office.

NT/lkb
Cc: file

ATTACHMENT #10

ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334.242.6311

Kay Ivey
Governor

John R. Cooper
Transportation Director

February 20, 2017

MEMORANDUM

TO: Natasha Clay
State Environmental Administrator

ATTN: Brittany Israel

FROM: Gregory K. Wells, P.E.
Roadway Design Engineer

RE: PE Project No. , Ref. # 1000
ROW Project No. , Ref. # 1000
Description
County

The following link contains the CAD files and one (1) set of pdf plans for the above referenced project to be used in accordance with GDCP #71.0.

\\DSVMSDATA\d2\100038044\ETS

The comments from the Plan-In-Hand Inspection that affected the required temporary construction easements/right-of-way have been addressed. These changes are circled in red in the attached pdf plans. These changes were necessary based on sediment basin requirements at Stations 125+00 LT, flattening slopes from Station 142+00 to 156+00 RT, raising the profile, etc. {Also call out any design changes that may not have affected ROW/TCEs but could potentially affect the environmental document like changing a bridge to a culvert.) The Right-of-Way is currently scheduled for a November 1, 2014 authorization, with a letting date of May 30, 2015.

Upon completion of your review, please provide this office with your concurrence for the proposed right of way/temporary construction easements and environmental commitments as shown in the plans provided so that GDCP #72.0 submittal can be made to the Right-of-Way Bureau.

If further information is needed, please contact Tyler Barton at 242-6913 or Earnest Colvin at 242-6462.

SCB

C: Division Engineer/Region Engineer, P.E.
Mr. Phillip Shamburger
Mr. Steve Walker, P.E./DB File
PEMs.

Heather Dunn, P.E.
File

ATTACHMENT #11

INTERDEPARTMENTAL MEMORANDUM

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 Coliseum Boulevard, Montgomery, Alabama 36110

February 26, 2017

TO: Designer
Title

FROM: Natasha Clay
State Environmental Administrator

BY: Jesse Chambless
ETS Project Manager

RE: PE Project No. ___ Ref # 1000___
ROW Project No. ___ Ref # 1000___
Description
_____ County

The Environmental Technical Section of the Design Bureau has reviewed the GDCP #71.0 submittal made on February 20, 2014 and is in concurrence that the Temporary Construction Easements (TCE)/Right-of-Way (ROW) limits shown on the plans are within the project's environmental study limits and the environmental commitments have been adequately addressed. Your office may now submit the GDCP #72.0 submittal to Right of Way Bureau for federal authorization.

Note that if any changes are made to the TCE/ROW limits after the date submitted to this office, those changes should be submitted as soon as possible so as to not hold up the GDCP #72.0 process.

If you have any questions, please contact me at phone number or email address.

C:\ Mr. Phillip Shamburger
Mrs. Brittany Israel
Ms. Heather Dunn, PE
Mrs. Leanne Waller-Trupp
Mr. Steve Walker/DB File
ETS File

ATTACHMENT #11

ATTACHMENT #12

INTERDEPARTMENTAL MEMORANDUM

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 Coliseum Boulevard, Montgomery, Alabama 36110

February 26, 2017

TO: Designer
Title

FROM: Natasha Clay
State Environmental Administrator

BY: Jesse Chambless
ETS Project Manager

RE: PE Project No. ___ Ref # 1000___
ROW Project No. ___ Ref # 1000___
Description
_____ County

The Environmental Technical Section of the Design Bureau has reviewed the GDCP #71.0 submittal made on February 20, 2014 and has determined that the Temporary Construction Limits/Right-of-Way limits shown on the plans **are not** within the environmental study limits. It is understood based on your letter dated February 20th that these changes are necessary for flattening slopes, sediment basin requirements, etc. Based on this, additional studies are required before the project can be submitted to the Right of Way Bureau for federal authorization. It is estimated that it will take 2 months to complete these studies and reevaluate the environmental document to include the changes made. Once this has been accomplished, ETS will inform you in writing that GDCP#71.0 is approved so that step #72.0 can be submitted to the Right of Way Bureau.

If you have any questions, please contact me at phone number or email address.

CC: Mr. Steve Walker, PE
Mrs. Brittany Israel
Ms. Heather Dunn, PE
DB File
ETS File

ATTACHMENT #13

ALABAMA DEPARTMENT OF TRANSPORTATION

1409 Coliseum Boulevard
Montgomery, Alabama 36110

Telephone: 334.242.6311

Kay Ivey
Governor

John R. Cooper
Transportation Director

February 26, 2017

MEMORANDUM

TO: Mr. Phillip Shamburger
Bureau Chief, Right of Way

FROM: Mr. Steven E. Walker, P.E.
State Design Engineer

BY: Mr. Gregory K. Wells, P.E.
Roadway Design Engineer

RE: PE Project No. , Ref. # 1000
ROW Project No. , Ref. # 1000
County
Description

The following link contains the CAD files and a copy of Environmental Technical Sections' approval for the above referenced project to be used in accordance with GDCP #182.0, Final Submission for Right of Way Authorization.

\\DSVMSDATA\d2\100038044\ROW

The comments from the Plan-In-Hand Inspection that affected the required construction easements/right of way have been addressed. The Right of Way is currently scheduled for a November 1, 2017 authorization, with a letting date of May 30, 2018.

If further information is needed, please contact Tyler Barton at 242-6913 or Earnest Colvin at 242-6462.

GKW/

c: Region Engineer, P.E.
Mr. Steven E. Walker, P.E./DB File
File

ATTACHMENT #14

PS&E Checklist

Revised: May 19, 2011

A: GENERAL ITEMS

Y	N	N/A	By Others			Comments:
				1	Have the Plan in Hand comments been addressed and is a disposition of such provided?	
				2	Are the Right of Way map, tract sketches, and deeds complete and have they been submitted?	
				3	Has Right of Way acquisition been authroized and what is the status?	
				4	Is the environmental document approved?	
				5	Have the environmental commitments been identified and are they included?	
				6	Is the slope study approved?	
				7	Is the materials report approved?	
				8	Is an addendum to the materials report required?	
				9	Have any hazardous materials sites been identified?	
				10	Are HAZMAT remediation plans included in the plan assembly (i.e. UST removals)?	
				11	Has the 60% bridge submittal been made?	
				12	Is the bridge layout(s) included?	
				13	Have soil borings been received and put in the plans?	
				14	Has the utility coordination submittal been made?	
				15	Are in-place utilities shown?	
				16	Has the hydraulic submittal been reviewed?	
				17	Have the hydraulic comments been addressed?	
				18	Has the drainage risk assessment been performed?	
				19	Is the erosion and sediment control plan included?	

				20	Is a stormwater permit required?	
				21	Has the stormwater permit been submitted?	
				22	Is a construction best management practices plan (CBMPP) required?	
				23	Has the CBMPP been submitted?	
				24	Are retention, detention, and/or sediment basins required and are they included?	
				25	Is updated traffic included?	
				26	Are municipal and/or county agreements required?	
				27	Is coordination with an adjacent State required?	
				28	Is a railroad agreement required?	
				29	Have plans been sent to Multimodal for railroad coordination?	
				30	Is an airport clearance required?	
				31	Have plans been sent to the Location Section of the Design Bureau for the Airport Clearance?	
				32	Is a signal warrant analysis required?	
				33	Is a roadway lighting warrant analysis required?	
				34	Have the signal, lighting, and/or ITS submittals been made and/or is the design(s) included in the plans?	
				35	Is the traffic control plan (TCP) completed and included?	
				36	Is the topographical information complete?	
				37	Is a value engineering study required?	
				38	Has the VE Study been held, and have the comments been addressed in the plans?	
				39	Has salvage credit been addressed?	
				40	Is a design exception(s) required?	

				41	Is adjacent / associated project coordination required?	
				42	Is an incentive / disincentive special provision required?	
				43	Are there any issues with access to the construction site?	
				44	Is a retaining wall(s) required?	
				45	Has a retaining wall(s) submittal been made?	
				46	Is maintenance bureau involvement required? (rest areas and interstates)	
				47	Has an estimate been provided? (Estimator)	
				48	Have CADD files been provided? (including InRoads files)	
				49	Have the plans been prepared in accordance with the ALDOT plan preparation manual?	

B: TITLE SHEET

Y	N	N/A	By Others			Comments:
				1	Are the project construction number, preliminary number, charge number and description matching the CPMS information?	
				2	Is the traffic data and design information box complete?	
				3	Is the mileage and stationing box complete?	
				4	Are the bridges and bridge culverts descriptions, BINs, lengths, stationing, effect, and dispositions complete?	
				5	Are the equations and exceptions complete?	
				6	Is the vicinity map complete to include:	
					North arrow	
					Project location with begin / end work and project stations identified?	
					Bridges shown and identified?	
					Are destinations of major routes labeled?	
					Are populations shown with the current census year?	

				7	Is the percent urban / rural complete?	
				8	Is the project funding split complete?	
				9	Is the county split complete?	
				10	Is the city split complete?	
				11	Is the signature block complete?	

C: INDEX TO SHEETS AND INDEX TO STANDARD AND SPECIAL DRAWINGS

Y	N	N/A	By Others			Comments:
				1	Are all sheets in the plan assembly covered in the index?	
				2	Are all required types and series of sheets in the plans?	
				3	Are all standard and special drawings shown with correct index and descriptions?	
				4	Are all standard and special drawings called for present in the current book?	
				5	Are all standard drawings called for in the box sheets listed?	

C: GEOMETRIC LAYOUTS

Y	N	N/A	By Others			Comments:
				1	Are all alignments shown and labeled, including temporary crossovers, temporary on-site detours, etc?	
				2	Are all tangents labeled with bearings?	
				3	Are all PC, PT, and PI stations shown and labeled?	
				4	Are all intersection angles shown and labeled?	
				5	Are all alignment begin / end stations shown and labeled?	
				6	Are all alignments tied to the centerline of construction?	
				7	Are all curves indentified with all pertinent information provided (length, delta, speed, superelevation, etc.?	
				8	Are all benchmarks and reference points shown, labeled, and in a box with complete descriptions?	

				9	Is the stationing on all alignments shown and clearly labeled?	
				10	Are a scale and north arrows present?	

D: TYPICAL SECTIONS

Y	N	N/A	By Others			Comments:
				1	Do typical sections, details, etc. match the approved materials report?	
				2	Is there a materials report addendum and is it addressed in the plans?	
				3	Have the geotechnical recommendations (i.e. slopes, benching) been addressed?	
				4	Are 2:1 slopes used? If so, has chief engineer approval been obtained?	
				5	Do the typicals cover all stations of mainline and cross roads?	
				6	Are all dimensions shown for lanes, shoulders, medians, etc.?	
				7	Are varying widths shown with minimum and maximum values?	
				8	Are cross slopes on every pavement layer labeled?	
				9	Are all slopes labeled?	
				10	Are pavement breaks points identified?	
				11	Is the profile grade identified and labeled?	
				12	Are minimum ditch depths shown and labeled?	
				13	Are the typicals tied down to the centerline or baseline?	
				14	Is the pavement thickness shown and labeled from profile grade to subgrade?	
				15	Typical section legend:	
					Are letters used for in-place items?	
					Are numbers used for required items?	
					Does each legend item have the correct item number and description?	

					Is every legend item used in the typicals?	
					Is every number / letter used In the typicals covered In the legend?	
					Are the same legend items and designations used on all sheets (including placement rates, dispositions, etc.)?	
					Are widths (or ranges) provided In legend items that require them?	
				16	Can the typical sections be built as shown or are their construction issues with the typicals?	
				17	Are all required special details present?	
					Bridge end slab typicals	
					Pavement transition details	
					Curb and gutter details	
					Open cut details	
					Ditch typicals	
					Driveway typicals	
					Superelevation correction details	

E: Project Note and Other Note Sheets

Y	N	N/A	By Others			Comments:
				1	Does the project note sheet include all required notes from the materials report and addendums?	
				2	Does the project note sheet include the "standard" utility notes?	
				3	Does the project note sheet include the "standard" erosion / sediment control notes?	
				4	Are the notes in the correct series for their content?	
				5	Is the Traffic Control Plan notes sheet included and marked as necessary?	
				6	Is the traffic signal notes sheet included?	
				7	Is the lighting notes sheet included?	
				8	Is the ITS notes sheet included?	
				9	Is the sign notes sheet included?	

				10	Is the vehicle counting loop notes sheet included?	

F: Summary of Quantities Sheets

Y	N	N/A	By Others			Comments:
				1	Are the correct columns set up? (minimum of roadway and total)	
				2	Do the quantities shown match the box sheets?	
				3	Are project notes correctly tied to specific items when required?	
				4	Are all specific items in the materials report in the summary (i.e. soils lab, remixing device, etc.)?	
				5	Are the items listed in numerical order?	
				6	Are alternate columns provided with appropriate totals?	
				7	Do the item descriptions match the unique pay item numbers?	

G: Box Sheets

Y	N	N/A	By Others			Comments:
				1	Are all required box sheets set up?	
				2	Does each box have enough information for the items included?	
				3	Are project notes and GN-2 notes called for where appropriate?	
				4	Are special drawings called for where appropriate?	
				5	Are the totals in the boxes in whole numbers only (no decimals)?	
				6	Are lump sum items listed without a total?	
				7	Is a bridge box provided (required when there are more than one bridge in a plan assembly)?	

H: Plan / Profile Sheets

Y	N	N/A	By Others			Comments:
				1	Is a graphic scale shown and is it correct?	
				2	Has the design been checked for compatibility with the approved Design Criteria?	

				3	Is the design compatible with the design speed listed on the title sheet?	
				4	Do the horizontal and vertical alignments meet the Green Book criteria?	
				5	Are the horizontal and vertical control points shown (benchmarks and reference points)?	
				6	Is a north arrow shown in the plan view and is it in the correct orientation?	
				7	Are drainage structures shown, complete with index numbers, size, flow direction, and disposition (existing retain, required, or remove; required; etc.)?	
				8	Are Right of Way limits shown, both present / existing and required / acquired and do they tie back to present ROW?	
				9	Are required Right of Way markers shown with station and offset information?	
				10	Do the right of way limits (existing or acquired) encompass all of the required work?	
				11	Are all required easements shown and labeled (construction, drainage, etc.)?	
				12	Are the environmental clearance limits shown and labeled?	
				13	Are the construction limits shown and are they within the right of way?	
				14	Are special ditches shown and labeled in both the plan and profiles?	
				15	Are the special ditch grades labeled in the profiles?	
				16	Are the Begin/End Project and Work limits shown as applicable with stations?	
				17	Is the topographical information accurate and complete?	
				18	Is a disposition provided for all applicable topographical items?	
				19	Are the applicable GN-2 Notes and Project Notes listed?	

				20	Are bridge callouts present, complete with BIN, begin/end stations, length, disposition, etc.?	
				21	Are all paving / grading situations covered by typical section?	

I: Paving Layouts

Y	N	N/A	By Others			Comments:
				1	Do the sheets show the finished product only? (No topo, removals, etc.)	
				2	Are pavement and shoulder widths shown periodically, especially around transitions, tapers, etc.?	
				3	Are tapers, transitions, etc. shown and labeled, inlcuding lengths of such?	
				4	Are acceleration / deceleration lanes, turn lanes, etc. shown and labeled (including lengths)	
				5	Are all radii shown for left and right turns, turnouts, etc.?	
				6	Is the north arrow shown?	
				7	Is a scale provided?	
				8	Some finished items can be shown on these sheets to aid in clarity on the plan sheets (such as guardrail, end anchors, etc.)?	
				9	Are all curb and gutter begin/end stations labeled?	
				10	Are the applicable GN-2 Notes and Project Notes listed?	

J: Signing and Striping Sheets

Y	N	N/A	By Others			Comments:
				1	Does the setup of the Signing / Striping sheets match the paving layout sheets?	
				2	Are all required signs present, labeled, and indexed?	
				3	Are overhead structures referenced to appropriate overhead sign cross sections?	
				4	Are required sign face details referenced and provided?	

				5	Are special sign details provided?	
				6	Is the striping complete?	
				7	Are adequate details present for special striping situations (i.e. islands, hatching, etc.)?	
				8	Are the proper project and GN-2 notes referenced?	
				9	Is the correct stripe called for on concrete / asphalt surfaces?	

K: Utility Sheets

Y	N	N/A	By Others			Comments:
				1	Do these sheets match the views shown in the plan sheets?	
				2	Are all required utility items and relocations easy to locate and identify?	
				3	Are all pertinent utility owners and contact information listed on the first utility sheet?	
				4	Are clearances provided for above ground and underground utilities?	
				5	Has the detailed utility submittal been made to the division?	
				6	Have updated sheets been provided to the Utility Engineer for dispercement (including mylar prints)?	

L: Drainage Sections

Y	N	N/A	By Others			Comments:
				1	Do the sections match the plan sheets? (location, structure numbers, skew, work required, existing items, etc.)	
				2	Is a scale or grid provided?	
				3	Are all required items listed below the drainage section? (pipe, end treatment, inlet, junction box, etc.)	
				4	Are all required basins, tail ditches, etc. properly detailed?	
				5	Are the sections constructible?	

				6	If required, are temporary TCP slopes shown?	
				7	Is guardrail shown where required?	
				8	Do end treatments meet clear zone criteria?	
				9	Is the hydraulic manual being followed?	
				10	Is the depth of pipes/culverts shown, and is the class pipe appropriate to the depth?	
				11	Has the Hydraulic Data Sheet been completed?	
				12	Are the proper culvert and wing standards referenced?	
				13	Are special project details drawn and referenced where required?	

M: Traffic Control Plan

Y	N	N/A	By Others			Comments:
				1	Is the sequence of construction present?	
				2	Does the sequence cover all major phases and items of work?	
				3	Is the sequence of construction feasible?	
				4	Are traffic control phasing details present and complete?	
				5	Are the traffic control notes referenced?	
				6	Are Traffic Control Plan summary boxes provided for construction signs and other items?	
				7	Are quantities provided for the TCP items and have they been carried forward correctly to the summary of quantities sheets?	
				8	Are the Standard and Special Drawings called for and referenced as appropriate?	
				9	Are adequate phase details present for the traffic control construction activities presented in the sequence?	
				10	Is a detour plan, complete with signing and changeable message signs present and complete, where required?	

N: Erosion and Sediment Control Plan

Y	N	N/A	By Others			Comments:
				1	Is the Erosion and Sediment Control Legend sheet included in the plans?	
				2	Does the Erosion and Sediment Control Plan match the plan sheets?	
				3	Are Right of Way and Construction Limits shown?	
				4	Are State Waters (USGS "Blue Line" Streams) shown and identified?	
				5	Are the erosion and sediment control items easy to locate on the sheets?	
				6	Do the erosion and sediment control items shown in the sheets match the appropriate legend, or is a legend set up to cover them?	
				7	Are drainage features (pipes, ditches, etc.) shown and flow direction labeled?	
				8	Are all drainage outfalls identified and numbered?	
				9	Are all required special project details provided?	
				10	Is the topo "greyed-out" to make the erosion items easiier to identify?	

O: Cross Sections

Y	N	N/A	By Others			Comments:
				1	Do the cross sections match the typical sections and plan sheets?	
				2	Are the cross sections annotated with slopes and offset distances?	
				3	Is the subgrade shown?	
				4	Does the Acquired and Present Right of Way appear where appropriate?	
				5	Does guardrail appear where appropriate?	
				6	If required, has a 2:1 slope waiver been requested?	
				7	Do the plans show special grading required for temporary slopes, sedimentation ponds, etc.?	

P: Earthwork Summary

Y	N	N/A	By Others			Comments:

				1	Is the Earthwork Summary provided by traffic control phases?	
				2	Are the proper GN-2 and project notes referenced?	
				3	Does the calculation method match that required in the ALDOT GFO?	
				4	Do the shrink / swell factor(s) match the materials report?	
				5	Is the earthwork balanced for each traffic control phase?	
				6	Is top soil and stockpiling adequately addressed?	
				7	Are special soil conditions addressed? (muck, underwater embankment, surcharge, etc.)	