

ROADWAY PLANS PREPARATION MANUAL

PLANS PREPARATION AND ASSEMBLY

State of Alabama
Department of Transportation



Alabama Department of Transportation
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INTRODUCTION

The *Roadway Plans Preparation Manual* is intended to be used as a technical guide for the preparation of ALDOT plans. It is to be used as a supplement to various American Association of State Highway and Transportation Officials (AASHTO) manuals, *Alabama Department of Transportation (ALDOT) Special and Standard Highway Drawings* and the current policies of ALDOT. *The Roadway Plans Preparation Manual* is not a design guide and any design values shown are merely examples.

This Manual is written to provide assistance to the designer by establishing the content, assembly, and format of roadway plans. The *Roadway Plans Preparation Manual* shall be used to provide uniformity, clarity, and accuracy to the plans developed by, and for, ALDOT. Every effort has been made to make the documentation complete and accurate in order to address the most common plan presentation situations; however, the Department makes no guarantee to the accuracy or relevancy of the information. Engineers and technicians should follow these guidelines and use judgment in unique circumstances or situations not addressed by these guidelines. Additionally, all engineers and technicians are responsible for ensuring that these guidelines are implemented accurately and that the drawings show the necessary information completely, clearly, and legibly.

This information is provided on an “as is” basis. Updates to these guidelines will be made as needed. The most current Manual with revisions and updates can be viewed on the ALDOT intranet site located on the Design Bureau home page at the *ALDOT Roadway Plans Preparation Manual* hotlink (see below for intranet address). The most current Manual can also be viewed on the ALDOT internet site on the Design Bureau home page at the *ALDOT Roadway Plans Preparation Manual* hotlink.

- Intranet address: <http://csiis5/C11/Design/default.aspx>
- Internet address: <http://www.dot.state.al.us/Docs/Bureaus/Design/Design+Index.htm>

As with any documentation or guidelines, additional information may be needed and can be added. Any clarifications or additions that would be beneficial should be brought to the attention of the Department at the following address:

**Alabama Department of Transportation
Design Bureau – Plan Presentation Committee
1409 Coliseum Blvd.
Montgomery, AL 36110**

New computer aided drafting and design (CADD) standards have been developed to unify the way that *MicroStation* and *InRoads* software is used at ALDOT. Compliance with these standards is required. The CADD standards can be found at the ALDOT website.

- <http://www.dot.state.al.us/Docs/Bureaus/Design/Roadway/Engineer+Support/EngSupp.htm>

***Disclaimer:** The use of the *Roadway Plan Preparation Manual* does not relieve the engineer from their professional responsibility for ensuring the accuracy and completeness of the contract plan assembly. This manual is for example only and does not reflect the Department’s design criteria.

CHAPTER 1 – TITLE SHEET

The “Title Sheet” is the first sheet of the plan set. It describes the type of project, the project location within the State, design designation, project location map, responsible individuals, and other general project information.

Title Sheet General Guidelines

(Refer to Figure 1.1)

1. Show State of Alabama map with a callout leader identifying the project location at the upper left hand corner of the Title Sheet.
2. Show project number that identifies funding type, control section, and agreement number centered in the middle of the Title Sheet.
3. Describe the location (mile post shall be included, when possible) and the work description of the project centered directly below the project number. Include in the description any major items that should be included as part of the project such as grade, drain, base, pave, bridge(s), bridge culvert(s), bridge widening, bridge replacement, bridge raising, bridge deck replacement, signing (do not list signing for bridge projects), lighting, signals, planing and resurfacing, concrete rehabilitation, etc. The county(s) in which the project is to be built shall be labeled directly underneath the project description.
4. Complete the project identification box as well as the preliminary project and code numbers. The fiscal year is the letting fiscal year. The preliminary project number will often be similar to the Project Number described above. The code number is the project charge number for the PE project. The contract ID number will be completed by the Office Engineer Bureau.
5. The project vicinity map must include the following:
 - The stations of the begin and end work and the begin and end of the project (to two decimal places).
 - The Section, Township, Range, and County lines together with Section, Township, and Range numbers to make the location clear. The size of the map should be chosen so that it will not interfere with other features on the Title Sheet. Other boundaries that should be shown are national forests, city limits, military bases, etc. County maps typically should be used for rural projects, whereas, city maps may be appropriate for municipal projects. The latest census year population data for incorporated municipalities shall be labeled and the census year listed below (this information is listed on ALDOT county maps).
 - The location of existing and required bridge structures and bridge culverts shall be identified on the map and also labeled on the left side of the title sheet. The bridge structures will be numbered / lettered consecutively from the beginning of the project to the end. The symbols used (using letters for existing and numbers for required) for bridge structures will be placed inside inverted triangles.
 - The location of station equations and exceptions shall be identified on the map and also labeled on the left side of the title sheet. The station equations and exceptions will be numbered consecutively from the beginning of the project to the end. The symbol used shall be a circle and the station equation and exception number shall be placed inside the circle.
 - The project location map must be orientated with a displayed north arrow pointing up.
 - Show the destination and location of major roads.
 - The proposed construction route shall be shown (a reasonable amount of exaggeration is permissible for clarity) with a bold line.

6. Use the bridge identification symbols placed on the project map to provide the following bridge information on the left side of the title sheet.
- State the roadway, begin and end stations, length, and the Bridge Identification Number (BIN) provided by ALDOT. Any new structure requires a new BIN. For existing bridge structures the BIN must also be provided and the disposition of the existing bridge structure, i.e. “retain”, “remove”, “partial removal”, etc. In addition to these items, all existing and required bridge culverts must also include the culvert size, i.e. CD-9’ x 9’, CT-14’ x16’.
 - Some of the headings required may include Required Bridge, Required Bridge Widening, Existing Bridge (Retain), Existing Bridge (Remove), Existing Bridge (Raise), Required Bridge Culvert, Required Bridge Culvert Extension, Existing Bridge Culvert (Retain), Existing Bridge Culvert (Remove), etc. Under each heading the total length should be provided. If the bridge length is not accounted for in the centerline stationing, then the total = 0. NOTE: Not all bridges will have an effect on the stationing of the project. Only those bridges or bridge culverts located on the mainline will be accounted for in the stationing box. Bridges crossing over the mainline on a cross road or ramp should be shown with the length total being “no effect”.
 - Classify the bridges as a bridge or bridge culvert. When a box culvert length, measured along the roadway centerline is 20 feet total span or more, (measured from the extreme ends of openings along the centerline) the culvert is classified as a bridge culvert.
 - Note which bridges and bridge culverts are not part of the contract.
 - Include the statement “Pave Over” for existing bridge culverts.
 - When there are no existing and/or required bridges within the project limits, it should be noted by inserting “N/A” next to the applicable heading.
7. List the station location of equations and exceptions. Station equations are required whenever a re-alignment to the existing roadway will result in changes to the existing stationing, when stationing errors occur, and/or when alignments with different stationing are connected. In such cases, the station back is shown first and the station ahead next. For example the example title sheet shown as Figure 1.1 displays the old alignment station notation as Sta 306+73.80. This is noted as the ahead stationing (AH) and is what will be used to denote the stationing from this point to the end of project (EOP). The actual work done to arrive at this station, however, was performed from the begin project station of 273+17.87 to Sta 315+86.17. At Sta 315+86.17 the station notation will be changed to 306+73.80 resulting in +912.37 ft of work ($31586.17 - 30673.80 = 912.37$) that is not apparent from inspecting the begin and end project stations. The lengths of roadways, bridges, bridge culverts, and the gross length of the project are to be placed in the lower left corner. Provide the lengths as feet and miles. Provide the mileage to 3 decimal places with no rounding. The lengths displayed on the example title sheet shown as Figure 1.1 were computed as follows:
- Total Stationing of Project:

End project	38507.00	
Begin project	<u>-27317.87</u>	
Total Stationing	11189.13 ft	
 - Equations and Exceptions(from item 7): +912.37
 - Net Length of Project: 12101.50 ft 2.291 mi
 - Net length of bridges

Sum of bridge lengths	520.00 ft	0.098 mi
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 NOTE: Use the centerline length in the mileage box for bridge culvert extensions.
 - Net length of Roadway (not including bridges and bridge culverts) adjusted for Equations.

Net length of Project	12101.50	
Net length of bridges	- <u>520.00</u>	
Net length of roadway	11581.50 ft	2.193 mi
 - The net length of the project must equal the sum of the roadway and the bridge net lengths. Length of bridge culverts (culverts exceeding 20 ft of length measured along the centerline) are added to the bridge length.
 - When there is not a station equation within the project limits, it should be noted by inserting “N/A” next to the “Equations and Exceptions” heading.
8. When a project includes different funding types and/or is located within multiple counties, provide the funding ratios as a percentage. A length is also required when a project is within multiple counties.
9. The Design Designation includes the information obtained from the Transportation Planning Bureau. The information to be provided and the order of presentation is as follows:
- ADT (Calendar Year) - the highest two-way direction average daily traffic volume for the calendar letting year on the mainline. The year shall be labeled within the parenthesis.
 - ADT (Design Year) – the highest two-way direction average daily traffic volume for the design year on the mainline. This is usually 20 years beyond the calendar letting year of the mainline. The year shall be labeled within the parenthesis.
 - K Factor – the percentage of the ADT that is estimated to occur in the peak hour.
 - D Factor – the percentage of the hourly traffic that is estimated to travel in one direction.
 - TDHV – the percentage of truck traffic that will be traveling during the peak hour.
 - TADT – the percentage of the average daily traffic that is estimated to be heavy truck traffic.
 - V (Design Speed) – the speed of the roadway that will govern the degree of curvature, superelevation, stopping sight distance, and other design parameters.
 - Min Stopping Sight Dist. – the minimum stopping sight distance required for the design speed. If the minimum stopping sight distance for the design speed of any roadway within project limits is not met a design exception should be processed.
10. The statement below the Design Designation box shall include the most current ALDOT Standard Specifications for Highway Construction: “These plans have been prepared to conform to the Alabama Department of Transportation Standard Specifications for Highway Construction, 20__ Edition.”
11. **For plans prepared by consultants and submitted to Office Engineer for letting:** The Title Sheet shall be signed, dated, and stamped by the responsible Professional Engineer that supervised the design and plans preparation. The consultant’s responsible Professional Engineer is not required to sign, date, and stamp every plan sheet. The primary consultant’s responsible Professional Engineer is **only** required to sign, date, and stamp the Title Sheet unless the “Alabama State Board of Licensure for Professional

Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to sign, stamp, and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. The responsible Professional Engineer(s) signature, date, and stamp are generally just required on final plans; i.e. plans submitted to Office Engineer for letting, final plans submitted to ALDOT to close out a contract, etc. A consultant logo adjacent to the signature area for the Professional Engineer is optional.

12. Display a north arrow oriented upward, located preferably on the right side of the Title Sheet below the Design Designation box.
13. The ALDOT seal should appear on the right-hand side of the title sheet, preferable directly above the signature block.
14. If required, the metric symbol should appear near the ALDOT seal. Also, this symbol shall appear on every sheet of the plan assembly in the lower right corner of all other sheets, with the exception of bridge sheets and/or culvert standard sheets. These sheets are currently drawn using only U.S. customary units of measure.
15. Sometimes the project number changes at the last minute before letting and there is limited time to make this change throughout the plan set. If this occurs, the designer has the option to change the project number throughout the plan set (provided there is time) or just change the project number on the title sheet to the correct project number and add the following note on the title sheet: “NOTE: THE PROJECT NO _____ AS INDICATED ON THIS TITLE SHEET IS THE CORRECT IDENTIFICATION FOR THESE PLANS. IT SHALL BE UNDERSTOOD THAT THIS PROJECT NUMBER SHALL SUPERCEDE ANY OTHER PROJECT NUMBER WHICH MAY APPEAR ON SHEET 1A THROUGH SHEET _____.”
16. Sometimes the project gets bumped in the letting and the fiscal year changes. If this occurs, the designer has the option to change the fiscal year throughout the plan set or just change the fiscal year on the title sheet to the correct fiscal year and add the following note on the title sheet: “NOTE: THE FISCAL YEAR _____ AS INDICATED ON THIS TITLE SHEET IS THE CORRECT FISCAL YEAR FOR THESE PLANS. IT SHALL BE UNDERSTOOD THAT THIS FISCAL YEAR SHALL SUPERCEDE ANY OTHER FISCAL YEAR WHICH MAY APPEAR ON SHEET 1A THROUGH SHEET _____.”
17. The ALDOT signature box in the lower right-hand corner shall be completed by the State Design Engineer or Division Engineer. The person that signs in the signature box depends on who is the lead on the project. If the Division is the lead, the Division Engineer should sign and the title shown above his signature shall be labeled “Division Engineer.” If the Design Bureau is the lead, the State Design Engineer shall sign the title sheet and the title shown above his signature shall be labeled “State Design Engineer.”
18. If there is a design exception for the project, the design exception shall be noted and described on the right side of the plan sheet above the ALDOT seal.

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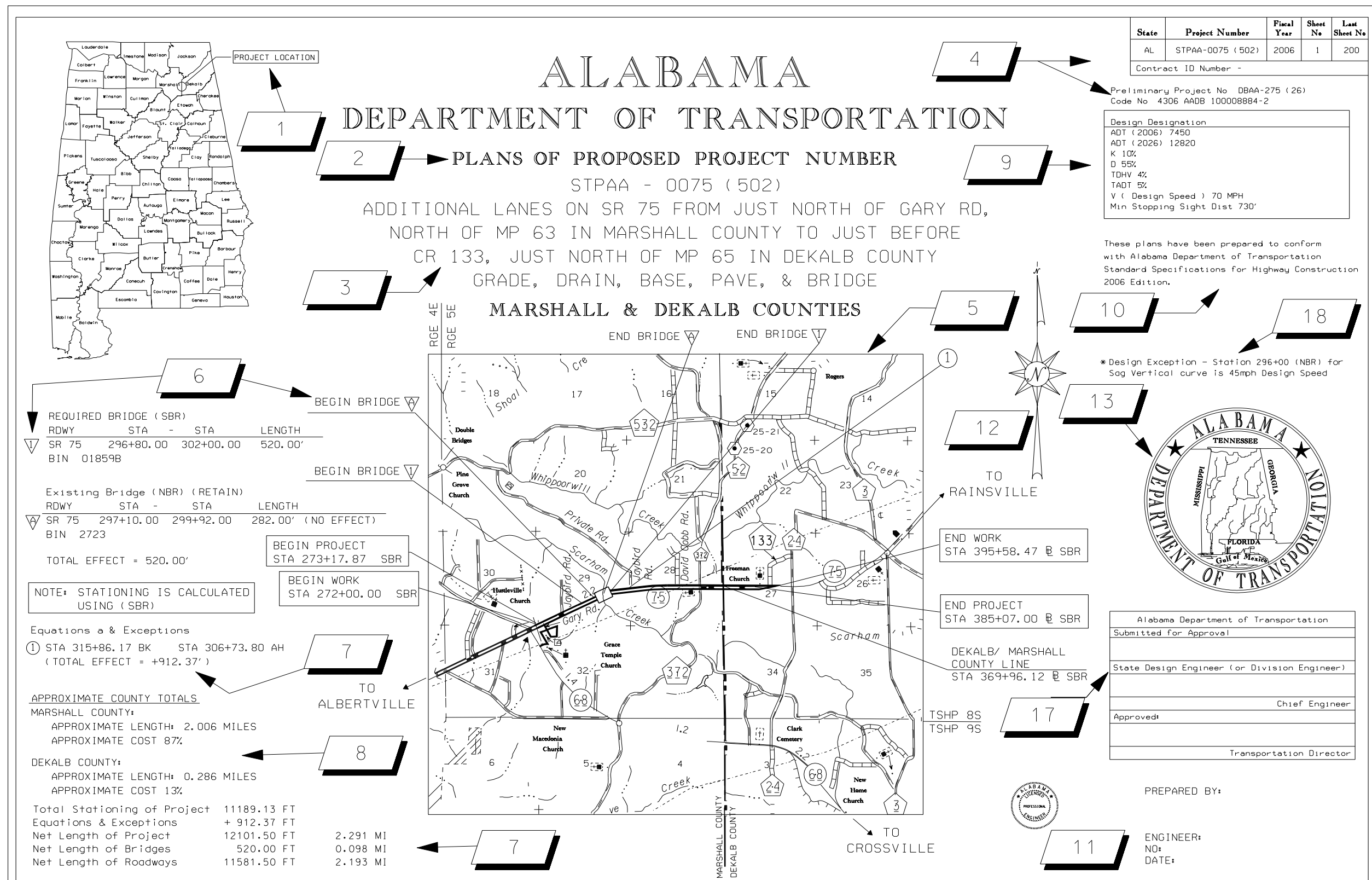


FIGURE 1.1_TITLE SHEET_12.15.08.dgn 1/8/2009 9:23:55 AM

Note: Callouts for #14, #15, and #16 are intentionally not shown.

Figure 1.1 Title Sheet With Bridge Notation

CHAPTER 1A – INDEX TO SHEETS

The “Index To Sheets” provides a complete organizational system for the plan assembly, outlining the order of sheets within the plan assembly. An “Index to Sheets” is required for all project plans. The assembly and numbering system used for all plan sheets found in the plan assembly shall follow the format provided in Table 1 below:

Table 1 Assembly and Numbering of Plan Sheets in Contract Drawings

Plan Sheet Number	Plan Sheet Type
1	Title Sheet
1A	Index to Sheets
1' _ ¹	Index to Special and Standard Drawings
1' _	Plans Legend
1' _	Plans Abbreviations Sheet
1' _	Primary Survey Control Sheet
1' _	Geometric Layout Sheet
2 thru 2' _	Typical Sections
2' _	Project Notes
3 thru 3' _	Summary of Quantities
4 then sequential numbering ²	Plan and Profile Sheets
	Paving/Striping/Signing Layout Sheets
	Sign Layouts
	Sign Cross Sections
	Utility Sheets
	Specialty Sheets ³
	Signal Plans
	Sequence of Construction
	Traffic Control Plan Project Notes
	Traffic Control Plans
	Traffic Control Details
	Erosion Control Plans
	Bridge Plans
	Special Project Details
	Hydraulic Data Sheet
	Drainage Sections
	Soil Boring Logs
	Mainline Cross Sections
	Side Road Cross Sections
	Earthwork Summary ⁴

Notes:

- ' _' indicates a suffix of the sequential capital letter (e.g. 1A, 1B, ..., 1-O, etc.)
- Profile sheets on separate pages have the same prefix as the plan sheet followed by the suffix 'A'
- Specialty sheets can include project information for hazardous materials, retaining walls, streambed mitigation, lighting, site grading, ramp gore profiles, etc., and shall be labeled “Special Project Detail”.
- The last sheet in the plan assembly shall end in a whole number and shall not be an omitted sheet.

Index to Sheets General Guidelines

(Refer to Figure 1A.1)

- The title “INDEX TO SHEETS” shall be placed at the top center of each individual Index Sheet.
- A minimum of two columns shall be created as to provide a proper and adequate description of each individual sheet in the plan set. The first column should be titled “SHEET NO” followed by a second column titled “DESCRIPTION”.
- A complete list of all plan assembly sheet titles should be provided exactly as they appear on each of the individual plan sheets in the plan set.
- Provide name of roadway in sheet description for relevant sheets. Possible sheet types may be plan / profile sheets, cross-section sheets, etc.
- The word “OMITTED” shall be included in the numbering system to identify sheets that are not included in the plan assembly. Several “omitted” sheet ranges shall be included. This allows a place for additional sheets that may be required as the plans are advanced. Including “omitted” sheet ranges often eliminates the necessity of having to renumber the plan assembly when additional plan sheets are required as plan development progresses. When using a numeric / alpha format to identify plan sheets, there should be no “OMITTED” sheets within the letter range listed. For example, if you are using the plan sheet designation “4 through 4E”, this plan sheet group shall include 4, 4A, 4B, 4C, 4D, and 4E. Renumber plan sheets, if needed, to eliminate any skipped letters. Also, if sheet “4E” is the last sheet in the sheet group, and the numeric / alpha sheets 4F through 4Z are not within the plan assembly, 4F through 4Z shall not be shown as “OMITTED”. Only numeric / alpha sheets that are actually in the plan set shall be listed on the Index Sheet. The page reference for all plan sheets shall begin with a number. When a numeric / alpha sheet designation is used, the alpha part of the sheet number shall immediately follow the number; however, there are two exceptions to this rule. When the alpha character is an “O” or “I” a dash shall be inserted between the number and letter, i.e. 30-O, 32-I, etc.
- When identifying plan sheets and a numeric / alpha format is used, a consistent alpha lettering format shall be used throughout the plan set. For example, do not use AA, BB, CC, DD for one group of sheets and then use AA, AB, AC, AD for another group of sheets within the same plan set.
- There is no need to list each plan sheet within the plans separately. It is preferred that similar plan sheets be shown on the Index Sheet as a plan sheet group. Utility Sheets, Erosion and Sediment Control Plan Sheets, Paving Layouts, and Plan/Profile Sheets are some examples of index sheet groups.
- Each special project detail sheet should be listed separately with the appropriate description.
- Every plan sheet shall be accounted for in the index listing and each shall have a unique numeric or numeric / alpha identification.

10. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the “Alabama State Board of Licensure for Professional Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled “PLAN SUBMITTAL”. The consultant shall also replace “DESIGN BUREAU SECTION D-?” located in the block containing the State Seal with their company name.

11. The order of plan/profile sheets by type of roadway should be the following:
- a. Mainline
 - b. Side roads
 - c. Ramps
 - d. Driveways
 - e. other

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INDEX TO SHEETS		REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
		STPAA-0L81(500)	2007	1A

SHEET NO	DESCRIPTION	SHEET NO	DESCRIPTION
1	TITLE SHEET	170-188	OMITTED
1A	INDEX TO SHEETS	189-192	SPECIAL PROJECT DETAIL - RIPRAP BASIN
1B	INDEX TO SPECIAL AND STANDARD DRAWINGS	193	HYDRAULIC DATA SHEET
1C-1D	PLANS LEGEND SHEET	194-222	DRAINAGE CROSS SECTIONS
1E-1F	PRIMARY SURVEY CONTROL SHEET	223-262	OMITTED
1G-1-I	GEOMETRIC LAYOUT SHEET	263-264	CROSS SECTION LAYOUT
2-2B	TYPICAL SECTIONS - STA 101+00 to STA 201+00 (MAINLINE US 231)	265-270	OMITTED
2C-2D	TYPICAL SECTIONS - (SIDE ROADS)	271-293	CORE BORING
2E-2F	TYPICAL SECTIONS - (MISCELLANEOUS)	294-297	OMITTED
2G	PROJECT NOTES	298-372	CROSS-SECTIONS - MAINLINE (INCLUDES SHEET 330A)
2H	TRAFFIC CONTROL PLAN PROJECT NOTES	373-381	CROSS-SECTIONS - REED ROAD
3-3L	SUMMARY OF QUANTITIES	382-386	CROSS-SECTIONS - PEA RIDGE
4-16	PLAN/PROFILE SHEETS MAINLINE	387-401	CROSS-SECTIONS - GRANNY HYPHE ROAD
17-18	PLAN/PROFILE SHEETS REED ROAD	402-407	CROSS-SECTIONS - NW ACCESS ROAD
19	PLAN/PROFILE SHEET REED ROAD STA 25+00 - 35+82 & PEA RIDGE ROAD STA 9+95 - 19+25	408-417	CROSS-SECTIONS - ACCESS ROAD 2
20-21	PLAN/PROFILE SHEETS GRANNY HYPHE ROAD	418-477	CROSS-SECTIONS - RIVEROAKS DRIVE
22-23	PLAN/PROFILE SHEETS NW ACCESS ROAD	478-480	CROSS-SECTIONS - RIVERVIEW ROAD
24-29	PLAN/PROFILE SHEETS RIVEROAKS DRIVE	481	CROSS-SECTIONS - HOOVER ROAD
30	OMITTED	482-487	CROSS-SECTIONS - RIVER ROAD
31	PLAN/PROFILE SHEET RIVERVIEW ROAD	488-493	CROSS-SECTIONS - RIVER ROAD DETOUR
32	PLAN/PROFILE SHEET RIVER ROAD STA 22+06 - 30+00 & HOOVER ROAD	494-498	EARTHWORK SUMMARY
33	PLAN/PROFILE SHEET RIVER ROAD STA 30+00 - 38+50		
34	PLAN/PROFILE SHEET RIVER ROAD DETOUR		
35	OMITTED		
36-44	PAVING LAYOUT		
45-49	OMITTED		
50-62	UTILITY SHEETS MAINLINE		
63-65	UTILITY SHEETS REED ROAD		
66-67	UTILITY SHEETS GRANNY HYPHE ROAD		
68-69	UTILITY SHEETS NW ACCESS ROAD		
70-75	UTILITY SHEET RIVEROAKS DRIVE STA 5+02 - 20+00		
76	OMITTED		
77	UTILITY SHEET RIVERVIEW ROAD		
78	UTILITY SHEET RIVER ROAD STA 22+06 - 30+00 & HOOVER ROAD		
79	UTILITY SHEET RIVER ROAD STA 30+00 - 38+50		
80	UTILITY SHEET RIVER ROAD DETOUR		
81-84	UTILITY SHEET - CITY OF CORDOVA		
85	UTILITY SHEET - CITY OF DORA		
86-98	TRAFFIC CONTROL PLAN		
99	OMITTED		
100-106	EROSION CONTROL PLAN		
107-127	REED ROAD BRIDGE		
128-143	RIVER ROAD BRIDGE		
144-152	OMITTED		
153	SPECIAL PROJECT DETAIL - FLOATING BASIN BOOM		
154	SPECIAL PROJECT DETAIL - REINFORCED CONCRETE BOX CULVERT OPENING TRIPLE 8' X 10', FILL 0-72' - ANY SKEW		
155	SPECIAL PROJECT DETAIL - REINFORCED CONCRETE BOX CULVERT WINGS - OPENING 10' HEIGHT, 3' TO 1' SLOPE - 30° SKEW		
156	SPECIAL PROJECT DETAIL - STILLING BASIN (BAFFLE WALL ENERGY DISSIPATOR) TYPE "00" SHEET 1 OF 3		
157	SPECIAL PROJECT DETAIL - STILLING BASIN (BAFFLE WALL ENERGY DISSIPATOR) TYPE "00" SHEET 2 OF 3		
158	SPECIAL PROJECT DETAIL - STILLING BASIN (BAFFLE WALL ENERGY DISSIPATOR) TYPE "00" SHEET 3 OF 3		
159	SPECIAL PROJECT DETAIL - REINFORCED CONCRETE BRIDGE END SLAB (WITH 4.51" BITUMINOUS PAV'T OVERLAY) FOR USE WITH BARRIER RAIL & EXPANSION JOINTS WITHIN ABUTMENTWALL LIMITS		
160	SPECIAL PROJECT DETAIL - JUNCTION BOX, TYPE 3 (MODIFIED)		
161	SPECIAL PROJECT DETAIL - STANDARD DETAILS FOR TRAFFIC CONTROL PLANS		
162-168	OMITTED		
169	SPECIAL PROJECT DETAIL - DRAINAGE DETAILS		

RESPONSIBLE P. E.	DATE	SUPERVISOR	DATE	DESIGNER	DATE	PLAN SUBMITTAL	PLAN-IN-HAND

ALABAMA DEPARTMENT OF TRANSPORTATION	ROUTE
DESIGN BUREAU SECTION D-3	SR-181

Note: Callouts for #9 and #11 are intentionally not shown.

Figure 1A.1 Typical Index of Sheets

CHAPTER 1B – SPECIAL & STANDARD HIGHWAY DRAWINGS

The ALDOT publishes a set of drawings containing special and standard drawings to be utilized in ALDOT plan assemblies. The “Index to Special and Standard Drawings” sheet within a plan set shall list all standard special and standard drawings applicable to the work required by that specific set of plans. The listed drawings can be found in the current ALDOT book of Special and Standard Drawings and on the ALDOT website.

Index to Special and Standard Drawings sheet General Guidelines

(Refer to Figure 1B.1)

1. The title “INDEX TO SPECIAL AND STANDARD DRAWINGS” shall be placed at the top center of each individual index sheet.
2. Three columns shall be used to provide a full description of each special and standard drawing in the plan set. The 1st column shall be titled “INDEX NO” followed by a 2nd column titled “DRAWING NO” followed by a 3rd column titled “DESCRIPTION.”
3. A note stating “THE FOLLOWING ARE SPECIAL OR STANDARD DRAWINGS CONTAINED IN THE ALABAMA DEPARTMENT OF TRANSPORTATION SPECIAL and STANDARD HIGHWAY DRAWING BOOK (U.S. CUSTOMARY UNITS (or metric when appropriate) OF MEASUREMENT) DATED (Year of Current Edition) WHICH APPLY TO THIS PROJECT” shall be inserted at the top of the page adjacent to the title described above in item 2.
4. **ALDOT Standard Plan Sheet Border and Required Signatures**

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the “Alabama State Board of Licensure for Professional Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled “PLAN SUBMITTAL”. The consultant shall also replace “DESIGN BUREAU SECTION D-?” located in the block containing the State Seal with their company name.

1 → INDEX TO SPECIAL AND STANDARD DRAWINGS			REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO																																																																																																																																																																																																																																															
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THE FOLLOWING ARE SPECIAL OR STANDARD DRAWINGS CONTAINED IN THE ALABAMA DEPARTMENT OF TRANSPORTATION SPECIAL & STANDARD HIGHWAY DRAWING BOOK (U.S. CUSTOMARY UNITS OF MEASUREMENT) DATED 2008, WHICH APPLY TO THIS PROJECT:																																																																																																																																																																																																																																																				
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661	MIG-621-I	DETAILS OF DUCTILE OR MALLEABLE IRON GRATE CASTINGS FOR USE ON SAFETY MEDIAN DRAIN INLETS, TYPE-"Y", TYPE-"X" AND TYPE-"Z"																																																																																																																																																																																																																																																		
665	MIG-621-S	DETAILS OF WELDED STEELGRATES FOR USE ON SAFETY MEDIAN DRAIN INLETS, TYPE-X, TYPE-Y AND TYPE-Z																																																																																																																																																																																																																																																		
738	TO-107	DETAILS OF INTERSECTIONS & TURNOUTS																																																																																																																																																																																																																																																		
801	GN2	STANDARD DESIGN NOTES FOR PLAN ASSEMBLIES																																																																																																																																																																																																																																																		
803	197-4L-M	SUPERELEVATION OF CURVES FOR FOUR (4) LANE HIGHWAYS WITH MEDIANS																																																																																																																																																																																																																																																		
1027	PM-705-1	DETAIL OF PAVEMENT MARKERS, CLASS A, A-H & B																																																																																																																																																																																																																																																		
1028	PM-705-2	DETAILS SHOWING APPLICATION OF PAVEMENT MARKERS																																																																																																																																																																																																																																																		
1037	PS-701-6	DETAILS OF TRAFFIC STRIPING FOR 2-LANE HIGHWAYS																																																																																																																																																																																																																																																		
1049	TCM-703	PAVEMENT LEGENDS AND MARKINGS DETAILS																																																																																																																																																																																																																																																		
1102	B-614	PLAIN CONCRETE SLOPE PAVING ON SLOPES UNDER SEPARATION BRIDGES																																																																																																																																																																																																																																																		
1106	BUD-210	SPECIAL DETAILS FOR LONGITUDINAL AND TRANSVERSE BENCHES AND UNDERDRAIN UNDER HEAVY EMBANKMENTS																																																																																																																																																																																																																																																		
1110	D-614	DETAIL OF PAVED DITCHES AND FLUMES																																																																																																																																																																																																																																																		
1114	EC-665-B	SUGGESTED TEMPORARY EROSION AND SEDIMENTATION CONTROL METHODS																																																																																																																																																																																																																																																		
1116	EC-665-E	TEMPORARY DITCH CHECK APPLICATIONS																																																																																																																																																																																																																																																		
INDEX NO	DRAWING NO	DESCRIPTION																																																																																																																																																																																																																																																		
1117	EC-665-F	DETAIL OF SILT FENCE																																																																																																																																																																																																																																																		
1118	EC-665-G	DETAIL OF SILT FENCE APPLICATIONS																																																																																																																																																																																																																																																		
1119	ECN-659	DETAILS FOR INSTALLATION OF EROSION CONTROL NETTING																																																																																																																																																																																																																																																		
1214	IHS-710-12	DETAILS OF ROADWAY SIGN POST (SMALL CHANNEL AND TUBULAR SECTION)																																																																																																																																																																																																																																																		
1225	IHS-710-21	DETAIL FOR LOCATION AND MOUNTING STANDARD FLAT PANEL SIGNS ON U-CHANNEL AND TUBULAR POSTS																																																																																																																																																																																																																																																		
1301	SHS-1	STANDARD HIGHWAY SIGNS																																																																																																																																																																																																																																																		
1303	SHS-3	STANDARD HIGHWAY SIGNS																																																																																																																																																																																																																																																		
1307	SHS-7	STANDARD HIGHWAY SIGNS																																																																																																																																																																																																																																																		
1401	BGN-1	BRIDGE GENERAL NOTES																																																																																																																																																																																																																																																		
1406	I-131	STANDARD FOR STANDARD DETAILS																																																																																																																																																																																																																																																		
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1509	CS-3-1	GENERAL NOTES AND MISCELLANEOUS DETAILS																																																																																																																																																																																																																																																		
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			INDEX TO SPECIAL AND STANDARD DRAWINGS		SR-181																																																																																																																																																																																																																																															

Figure 1B.1 Typical Index to Special and Standard Drawing Sheet

CHAPTER 1C – PLANS LEGEND SHEET

The “Plans Legend Sheet” within a project plan set illustrates the conventions and meaning of different lines, symbols, and common abbreviations, helping readers to interpret the project drawings. The “Plans Legend Sheet” will need to be updated on a project specific basis as to incorporate special symbols and abbreviations pertaining to the project. The “Plans Legend Sheet” changes periodically, so designers need to ensure all symbols and abbreviations used throughout the plan set agree with the “Plans Legend”. If a symbol is not on the current “Plans Legend Sheet” standard and used in the plan set it needs to be added to the legend sheet for that particular plan set. If an abbreviation is not listed on the “Plans Legend Sheet (abbreviations)” it should not be abbreviated in the plan set and spelled out.

Plans Legend Sheet General Guidelines

(Refer to Figures 1C.1 and 1C.2)

1. The title “PLANS LEGEND SHEET” shall be placed at the top center of each individual “Plans Legend Sheet” (there are two sheets containing all the standard symbols and abbreviations required for ALDOT projects).
2. The first page of the “Plans Legend Sheet” contains a section titled “ROADWAY”. This section contains all symbols and line types applicable to ALDOT projects.
3. Also, on the first page of the “Plans Legend Sheet”, a second section titled “UTILITIES” shall contain all line types and symbols used within an ALDOT plan set to illustrate utility items.
4. One additional item shown on the first page of the “Plans Legend Sheet” is a section titled “DRAINAGE STRUCTURE INDEX NUMBERS”. This section describes and illustrates the proper notation that shall be used throughout the plan set to reference and display drainage structures encountered within a project. Refer to Figure 1C.1 for all items described on the first “Plans Legend Sheet”.
5. The second page of the “Plans Legend Sheet” lists all the applicable abbreviations for common items labeled within an ALDOT plan set. Refer to Figure 1C.2.
6. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the “Alabama State Board of Licensure for Professional Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled “PLAN SUBMITTAL”. The consultant shall also replace “DESIGN BUREAU SECTION D-?” located in the block containing the State Seal with their company name.

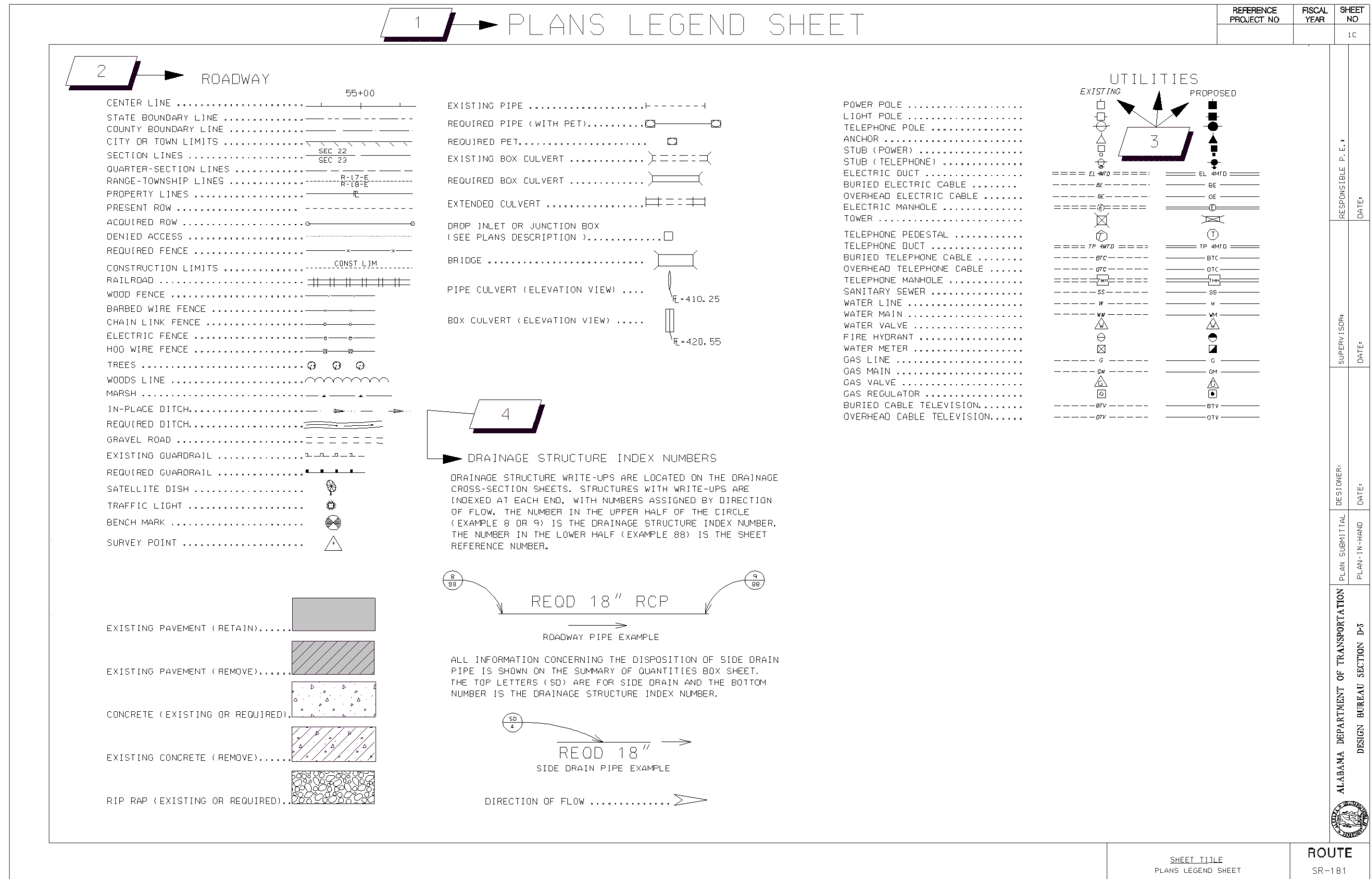



Figure 1C.1 Typical Plans Legend Sheet

1		PLANS LEGEND SHEET		REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO	
		5				10	
		ABBREVIATIONS					
ABANDON(ED)..... ABAN ABUTMENT..... ABUT ACCELERATION..... ACCL ACQUIRED..... ACCD ACRE..... AC AHEAD..... AH ALABAMA DEPARTMENT OF TRANSPORTATION..... ALDOT ALTERNATE..... ALI APPROXIMATE(LY)..... APP AREA..... A ASPHALT..... ASP AVERAGE ANNUAL DAILY TRAFFIC..... AADT BACK..... BK BACK OF GUARDRAIL..... BK-GR BACKSIGHT..... BS BARBED WIRE..... B/W BARRER..... BMR BARRIER..... BAR BASE LINE..... BL or B BEARING..... BRNG BEGIN..... BEG BEGINNING OF PROJECT..... BOP BETWEEN..... BTW BILLBOARD..... BBD BENCH MARK..... BM BITUMINOUS..... BIT BITUMINOUS COATED CORRUGATED METAL PIPE..... BCMP BOUNDARY..... BDY BRIDGE..... BRG CAPACITY..... CAPY CAST IRON..... CI CAST IN PLACE..... CIP CATCH BASIN..... CB COUNTY..... CO CENTER LINE..... CL CHAIN LINK..... C/L CLASS..... CLS CONCRETE..... CONC CONCRETE MONUMENT..... CCM CONNECTION..... CONN CONSTRUCTION LIMITS..... CONST LIM CORNER..... COR CORRECTION..... CORR CORRUGATED IRON..... CORI CORRUGATED METAL..... CM CORRUGATED METAL PIPE..... CMP CORRUGATED PLASTIC PIPE..... CPP COUNTY..... CO COUNTY ROAD..... CO-RD CREEK..... CK CROSS SECTION..... X-SECT CROWN REMOVED..... CR CUBIC FEET..... FT3 CUBIC FEET PER SECOND..... CFS CUBIC YARD..... YD3 or CU YD CUBIC METERS..... M3 CULVERT..... CULV CULTIVATED..... CVT CURB FACE..... CF CURB AND GUTTER..... C&G CUT..... C CURVE TO SPIRAL..... CS DECELERATION..... DECEL DECLINATION..... DECL DEGREE OF CURVE..... D DENIED ACCESS..... D/A DEPARTMENT..... DEP DIAMETER..... DIA DIRECTION..... DIR DISTANCE..... DIST DOUBLE..... DBL DOUBLE BARREL CULVERT..... CD DRAINAGE AREA..... DA DRIVE..... DR DROP INLET..... DI EACH..... EA EASEMENT..... ESMT EAST BOUND ROADWAY..... EBR EDGE OF PAVEMENT..... EPD ELEVATION..... EL or ELEV END OF RETURN..... ER END ANCHOR..... E/A END OF PROJECT..... EOP EQUATION..... EQ EXCAVATION..... EXCAV EXISTING..... EX EXPANSION..... EXP EXTENSION..... EXT EXTERNAL..... E EXTRA STRENGTH..... EXT STR FEET..... FT FILTER BLANKET..... FLT BLNK FINISHED GRADE..... FG FINISHED SURFACE..... FS FISCAL YEAR..... FY FISCAL YEAR..... FYX FLAT..... FL FLAT BOTTOM..... FLB FLOW LINE..... FL or FL	FORESIGHT OR FRONTSIGHT..... FST FRACTIONAL..... FRAC FULL SUPERELEVATION..... FS GALLON..... GAL GASOLINE PUMPS..... GPP GARAGE..... GAR GRADE..... GRD GIRDER..... GDR GOVERNMENT..... GOV GRASS..... GRS GRADE CHANGE..... GC GRADE POINT..... GP GRADE ROD..... GRD GRAVEL..... GRV GUARDRAIL..... GR HEADWALL..... HDWL HEAT TARE..... HA HIGH WATER MARK..... HWM HEIGHT..... HT HEIGHT OF INSTRUMENT..... HI HIGH WATER..... HW HIGHWAY..... HWY HORIZONTAL..... HOR HUB & TACK..... H&T HYDRANT..... HYD IMPACT ATTENUATOR..... IAT IN ACCORDANCE WITH..... IAW IN PLACE..... IN-PL INCHES..... IN INCLUDING..... INCL INSTRUMENT..... INST ISLAND..... ISL JOINT..... JT JUNCTION..... JCT JUNCTION BOX..... JB KILOMETER..... KM KILOMETER POST..... KMP KILOMETERS PER HOUR..... KPH LANE..... LN LATITUDE..... LAT LEFT..... LT LEFT AHEAD..... LA LEFT BACK..... LB LENGTH OF CURVE..... LK LINK..... LK LIMIT..... LIM LINEAR..... LIN LINEAR FEET..... LIN FT LONGITUDE..... LONG MANHOLE..... MH MARKER..... MRK MAXIMUM..... MAX MEAN HIGH WATER..... MHW MEAN LOW WATER..... MLW MEASUREMENT..... MEAS METER..... M MERIDIAN..... MER MILE POST..... MP MILES..... MI MILES PER HOUR..... MPH MILLIMETER..... MM MINIMUM..... MIN MONUMENT..... MON MULTIPLE..... MULT NORMAL..... NORM NORMAL CROWN..... NC NORMAL CROWN SLOPE..... NCS NORTH..... N NORTH BOUND ROADWAY..... NBR NORTHING-EASTING..... NE NOT IN CONTRACT..... NIC NOT TO SCALE..... NTS NUMBER..... NO OBSERVATION..... OBS ON CENTER..... OC ORIGINAL..... ORIG OVERHEAD..... OHD OVERHAUL..... OH OUT TO OUT..... OO PAINT..... PNT PAVED..... PVD PAVED SHOULDER..... PVD SH PAVEMENT..... PVMT PIPE END TREATMENT..... PET PIPE ENTERING CULVERT..... PEC PLATE GIRDER..... PLGDR POINT OF BEGINNING..... POB POINT OF COMPOUND CURVE..... PCC POINT OF CURVATURE..... PC POINT OF REVERSE CURVATURE..... PRC POINT OF ENDING..... POE POINT OF INTERSECTION..... POI POINT OF TANGENCY..... PT POINT ON CURVE..... POC POUND..... LB PRESENT..... PRES PROFILE GRADE..... PG	PROJECT CONTROL..... PROJ PROPERTY LINE..... PJC PROPOSED..... PROP QUADRUPE..... QUAD QUADRUPE BARREL CULVERT..... CO QUANTITY..... QUANT RADIUS..... R RAILROAD..... RR RANGE..... RGE RECORD..... REC REDUCTION..... RED REFERENCE..... REF REFERENCE POINT..... RP REFERENCE POINT FOR POINT ON TANGENT..... RPPOT REINFORCED..... REINF REINFORCED CONCRETE..... RC REINFORCED CONCRETE DECK GIRDER..... RCDG REINFORCED CONCRETE PIPE..... RCP REINFORCING STEEL..... REINF STL RELOCATE..... RELC REMOVE..... REM REPAIR..... REPD RETAINING..... RET REVERSE CROWN..... RC REVISION..... REV RIGHT..... RT RIGHT AHEAD..... RA RIGHT BACK..... RB RIGHT OF WAY..... ROW RIGHT OF WAY MARKER..... ROWM RIVER..... RIV ROAD..... RD ROADWAY..... RDWY ROLLED EROSION CONTROL PRODUCT..... RECP SECTION..... SEC SERVICE ROAD..... SER RD SHEET..... SHT SHEET PILING..... SHT PILE SHOULDER..... SHLD SIDE DRAIN..... SD SIDEWALK..... SW SIGHT DISTANCE..... S/DIST SINGLE BARREL CULVERT..... CS SKEW..... SK SLOPE STAKE..... SST SOLID SODDING..... SOL SOD SOUTH..... S SOUTH BOUND ROADWAY..... SBR SPECIAL..... SP SPECIAL DITCH..... SP-DT SPECIAL DITCH LEFT..... SLD SPECIAL DITCH MEDIUM..... SDM SPECIAL DITCH RIGHT..... SDR SPECIAL DRAWING..... SP-DWG SPECIFICATIONS..... SPEC SPRING LINE..... SL SPIRAL TO CURVE..... SPI SPIRAL POINT OF INTERSECTION..... SPI SPIRAL TO TANGENT..... ST SQUARE..... SQ SQUARE FEET..... FT2 or SO FT SQUARE METERS..... M2 SQUARE YARD..... YD2 or SO YD STAKE..... STK STANDARD..... STD STANDARD DRAWING..... STD-DWG STANDARD STRENGTH..... STD STR STATION..... STA STATION & ELEVATION..... S/E STATION & OFFSET..... SO STOPPING SIGHT DISTANCE..... SSD STREET..... ST STRUCTURE..... STR SUB-GRADE..... SG SUPERELEVATION..... SE, se or e SURVEY..... SRV SYMMETRICAL..... SYM TANGENT..... TAN TANGENT LENGTH (CURVE DATA)..... T TANGENT TO SPIRAL..... TS TEMPORARY..... TEMP TEMPORARY BENCH MARK..... TBM THROAT..... TH TOWNSHIP..... TSHP TRIPLE..... TR TRIPLE BARREL CULVERT..... CT TURN OUT..... TO TURNING POINT..... TP TYPE..... TY UNIT..... U UNPAVED..... UNPVD VALLEY CUTTER..... VAC VARIABLE..... VAR VERTICAL..... VERT VERTICAL CURVE..... VC VERTICAL POINT OF CURVATURE..... PVC VERTICAL POINT OF INTERSECTION..... PVI VERTICAL POINT OF TANGENCY..... PVT VITRIFIED..... VIT	VOLUME..... VOL WEST..... W WEST BOUND ROADWAY..... WBR WING WALL..... WW WITNESS CORNER..... WC WOOD..... WD WORKING POINT..... WP WOVEN WIRE..... W/W YARD..... YD	STRUCTURES NUMBER OF STORIES..... 1, 2, 3, 4 FRAME..... FR BUILDING..... BLDG BLOCK..... BLK BRICK..... BR STUCCO..... STU METAL..... MET RESIDENCE..... RES BUSINESS..... BUS WAREHOUSE..... WHSE CHICKEN HOUSE..... CH HSE CHURCH..... CH SCHOOL..... SCH DOUBLE WIDE MOBILE HOME..... DW MH MOBILE HOME..... MH	UTILITIES ANCHOR WIRE..... AW BURIED ELECTRIC..... BE BURIED FIBER OPTIC..... BFO BURIED TELEPHONE CABLE..... BTC BURIED CABLE TELEVISION..... BCTV CAST IRON..... CKT CIRCUIT..... CKT DUCTILE IRON..... DUC IRON EASEMENT..... ESMT FIBER OPTIC..... FO FIBER OPTIC..... FIB FORCED MAIN (SANITARY SEWER)..... FM GAS MAIN..... GM GAS METER..... GMET GAS VALVE..... GV GUY WIRE..... GUY KILOVOLT AMPS..... KVA MANHOLE..... MH MERCURY VAPOR LIGHT..... MVL OVERHEAD FIBER OPTIC..... OFO OVERHEAD TELEPHONE CABLE..... OTC OVERHEAD ELECTRIC CABLE..... OE OVERHEAD CABLE TELEVISION..... OTV PAIR..... PR PEDESTAL..... PED POLY-VINYL CHLORIDE PIPE..... PVC POWER POLE..... PP SANITARY SEWER..... SS SERVICE..... SERV STEEL..... STL STORM DRAIN..... STM STORM SEWER..... STMS SWITCH..... SW TELEPHONE..... TEL TELEPHONE MANHOLE..... TMH TRANSFORMER..... TRN TRANSMISSION LINE..... TR LN TRIAXIAL CABLE (SERVICE)..... TRIX VITRIFIED CLAY PIPE..... VCP WATER MAIN..... WM WATER METER..... WMET WATER VALVE..... WV	PROPERTY DEED BOOK..... DB REAL PROPERTY BOOK..... RPB PLAT BOOK..... MB MAP BOOK..... MB PAGE..... PG CAPPED (TYPICAL PLASTIC SURVEYORS CAP)..... CAP ALUMINUM CAP..... ALUM CAP BRASS CAP..... BR CAP IRON PIPE..... IP CRIMPED..... CR REINFORCING STEEL..... REBAR CONCRETE MARKER..... CM DAMAGED..... DAM CHISELED X..... CH'X' HUB AND TACK..... H&T NAIL AND BOTTLE TOP..... N&BT PACKER-KALON (MASONARY NAILS)..... PK-NAIL FENCE POST..... F-POST RAILROAD IRON..... RR IRON COTTON SPINDLE..... COT SP ANGLE IRON..... ANGLE IRON	RESPONSIBLE P. E. DATE: SUPERVISOR: DATE: DESIGNER: DATE: PLAN SUBMITTAL PLAN IN-HAND ALABAMA DEPARTMENT OF TRANSPORTATION DESIGN BUREAU SECTION D-3 
SHEET TITLE PLANS LEGEND SHEET						ROUTE SR-181	

Figure_1C2_1_C2_Legend Abbreviations_12.15.08.dgn 1/20/2009 7:53:04 PM

Figure 1C.2 Standard ALDOT Plans Legend Abbreviations

CHAPTER 1D – PRIMARY SURVEY CONTROL SHEET

The Primary Survey Control Sheet illustrates the locations of all horizontal and vertical control points that have been established on a project. Information within the plans depends on horizontal and vertical control points to determine accurate distances and elevations. This information is obtained from route location surveys and is labeled on the Primary Survey Control Sheet. This survey data will come from ground surveys. Knowledge of surveying concepts and definitions is necessary to understand this type of information within the plans.

Horizontal Control Point

A horizontal control point is a survey established monumented control point defined by northing and easting coordinates with approximate elevation data. These northing and easting coordinate values are established using North American Datum (NAD) 83/92 and the approximate elevation is established using North American Vertical Datum (NAVD) 88.

Vertical Control Point

A vertical control point is a survey established monumented control point defined by elevations with approximate northing and easting coordinates. The elevation and coordinate values are currently established using North American Datum (NAD) 83/92 and North American Vertical Datum (NAVD) 88. A bench mark is one of the main types of vertical control point types. Bench marks are relatively permanent objects, natural or artificial, having a marked point whose elevation is established by ALDOT and/or National Geodetic Surveys (NGS). Common examples are metal disks set in concrete, reference marks chiseled on large rocks, non-movable parts of fire hydrants, curbs, etc. Bench marks are established approximately every 1,000 feet along the project. Bench marks are used during construction to establish accurate elevations.

Primary Survey Control Sheet General Guidelines

(Refer to Figures 1D.1 and 1D.2)

1. The title "Primary Survey Control Sheet" shall be placed at the top center of each individual Primary Survey Control Sheet. The subtitle "Horizontal and Vertical Control Points" shall be centered and placed directly underneath this sheet title.
2. Include the following sheet note: "Point coordinates are based on the Horizontal Datum-NAD 83/92 (HPGN) Alabama State Plane, _____ (insert East or West) Zone, Vertical Datum-NAVD 88, and US Survey Foot unit of measure. A combined average scale factor of _____ (insert value) has been calculated using this datum."
3. Show the centerline of construction alignment for mainline and side roads and the location of primary survey control points. The designer is to determine what scale should be used to clearly show the required information on this sheet. The scale of the Primary Survey Control Sheet does not have to be the same scale used on the Plan/Profile sheets. In most cases, a smaller scale should be used to reduce the number of plan sheets. Generally, the designer should choose the largest scale possible that will show the required survey control data in a legible form without cluttering the sheet excessively.
4. A horizontal control point table shall be provided on this sheet for all horizontal control points within the station limits shown on this sheet. The horizontal control point table shall describe the point number used to identify each horizontal control point shown, northing and easting coordinates (labeled to the nearest thousandth), elevation (labeled to the nearest hundredth), and the type of monument marker used to identify the point in the field. Although the elevations for these points are established utilizing conventional survey leveling techniques, the type monument used is not adequate to maintain a reliable elevation.
5. A vertical control point table shall be provided on this sheet for all vertical control points within the stationing limits shown on this sheet. The vertical control point table shall describe the point number used to identify each vertical control point shown, northing and easting coordinates (labeled to the nearest thousandth), elevation (labeled to the nearest hundredth), and a general description to identify the point in the field.
6. A correctly oriented north arrow shall be shown on this sheet.
7. Each roadway alignment shall be labeled with bearing information, curve identifier, PC station, PI station, PT station, alignment type, route type, route number, angle of intersection between mainline and side roads, beginning and ending project stations (only on mainline), beginning and ending work stations for mainline, and end work stations for sideroads.
8. Show tie stations of intersecting centerlines for dedicated roadways.
9. Label Northing and Easting horizontal control point data to the nearest thousandth.
10. Label Northing and Easting vertical control point data to the nearest tenth.
11. The beginning and ending stations on the plan sheet shall be labeled vertically at each end of the alignment outside the plan view area and within the sheet border.
12. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.

13. A bar scale shall be used to denote the plan sheet scale and shall be located in the bottom right corner.

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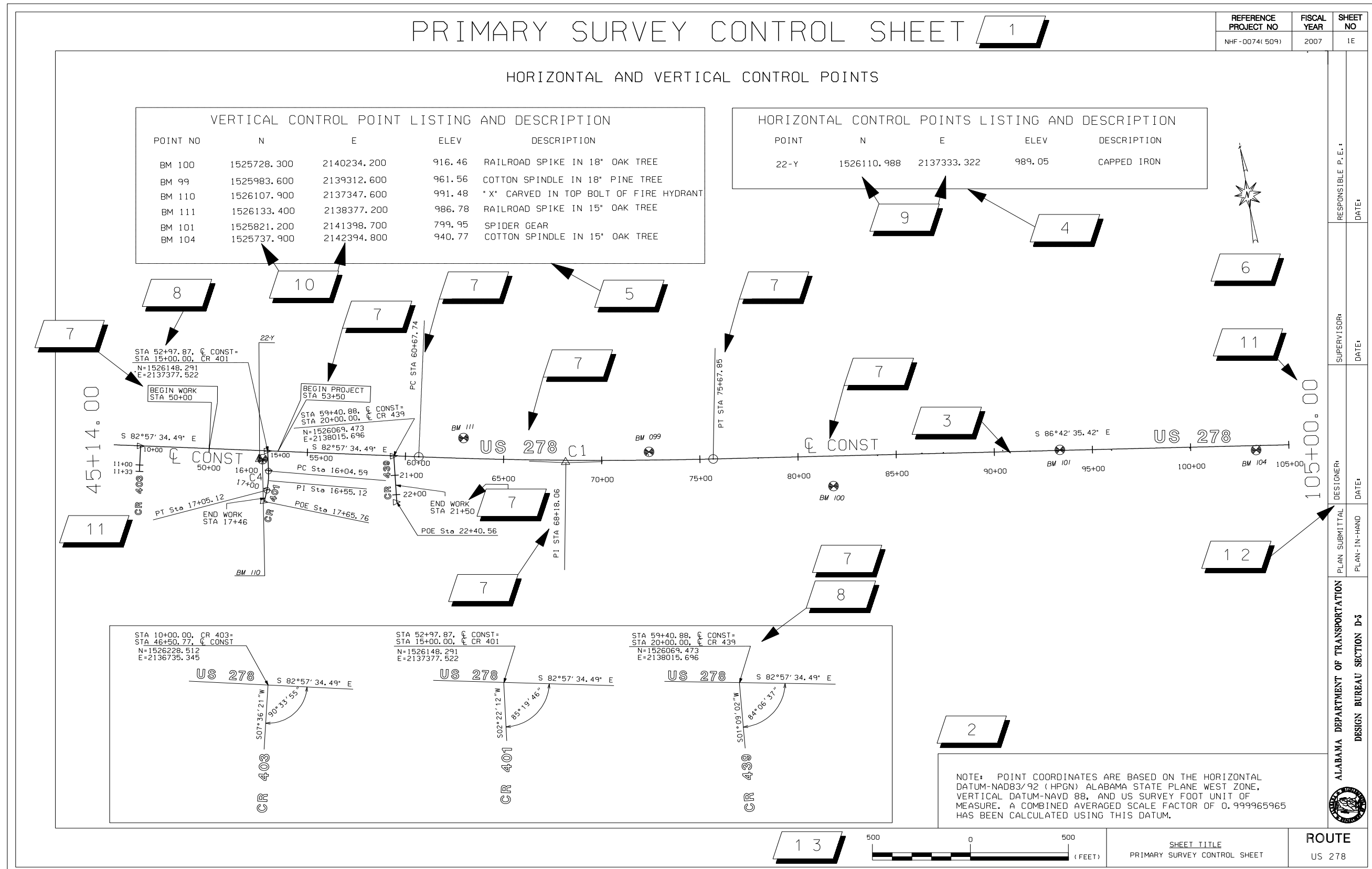
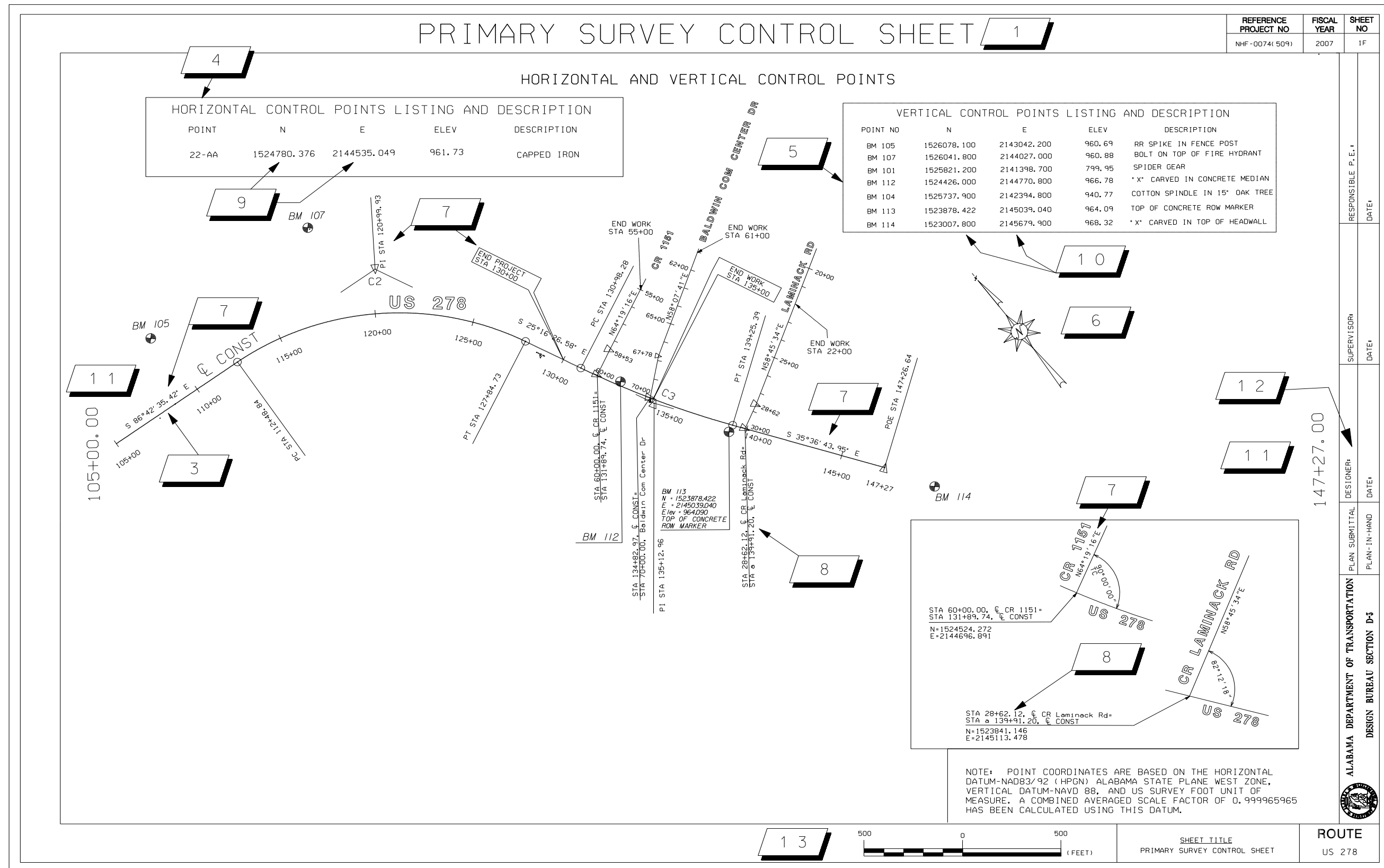


FIGURE 1D.1 PRIMARY SURVEY CONTROL SHEET_12.15.08.dgn 1/22/2009 10:17:12 AM

Figure 1D.1 Begin Station of Primary Survey Control Sheet



CHAPTER 1E – GEOMETRIC LAYOUT SHEET

The Geometric Layout Sheet provides an overall layout of the horizontal alignment for the entire project in greater detail than that provided on the title sheet. The centerline of construction alignment for the mainline and side roads shall be shown. The project layout contained on this sheet can prove to be resourceful for large or complicated projects involving interchanges with a number of diverging routes. For large, complicated projects, more than one sheet may be required to clearly depict all required information. Appropriate match lines shall be shown if more than one sheet is required.

Geometric Layout General Guidelines

Subtype Sheet - Horizontal Alignment Data Illustrated Plan Sheets

(Refer to Figures 1E.1 and 1E.2)

1. The title "GEOMETRIC LAYOUT SHEET" shall be placed at the top center of each "Geometric Layout Sheet." The subtitle "Horizontal Alignment Data Plan View Sheet" shall be centered and placed directly underneath this sheet title.
2. The geometric layout must have a north arrow.
3. All horizontal curves on the geometric layout must be labeled with an identifier.
4. Beginning and Ending stations for the project and work shall be flagged and labeled for mainline alignment. Ending work stations for ramps, side roads, etc. shall be flagged and labeled. Point of Beginning (POB) and Point of Ending (POE) shall be labeled.
5. The centerline of the construction mainline along the geometric layout must be labeled.
6. A bar scale shall be used to denote the plan sheet scale and it shall be located in the bottom right corner. The scale of the Geometric Layout Sheet does not have to be the same scale used on the Plan/Profile sheets. In most cases, a smaller scale should be used to reduce the number of plan sheets. Generally, the designer should choose the largest scale possible that will show the required geometric data in a legible form without cluttering the sheet excessively.
7. Label tie stations for all ties, dimension values, etc. to the nearest hundredth. Label northing and easting coordinates for all ties to the nearest thousandth.
8. Label tie stations of intersecting centerlines for dedicated roadways along with the angle of intersection.
9. Show bearings for all tangent alignment sections.
10. Include the following sheet note: "Point coordinates are based on the Horizontal Datum-NAD 83/92 (HPGN) Alabama State Plane _____ (insert East or West) Zone, Vertical Datum-NAVD 88, and US Survey Foot unit of measure. A combined average scale factor of _____ (insert value) has been calculated using this datum.
11. For each Geometric Layout Sheet illustrating the mainline centerline of construction alignment, the beginning and ending stations of the plan sheet shall be labeled vertically at each end of the alignment outside of the plan view area and within the sheet border.
12. Label equation stations.
13. The information required on the Geometric Layout Sheet may be added to the Primary Survey Control Sheet to eliminate the need for separate Geometric Layout Sheets, as long as legibility is maintained. If this is done, the title of the plan sheet containing both survey control point data and geometric data shall be "Primary Survey Control and Geometric Layout Sheet. However, the Horizontal Alignment Data Sheet (Figure 1E.3) will still be required.

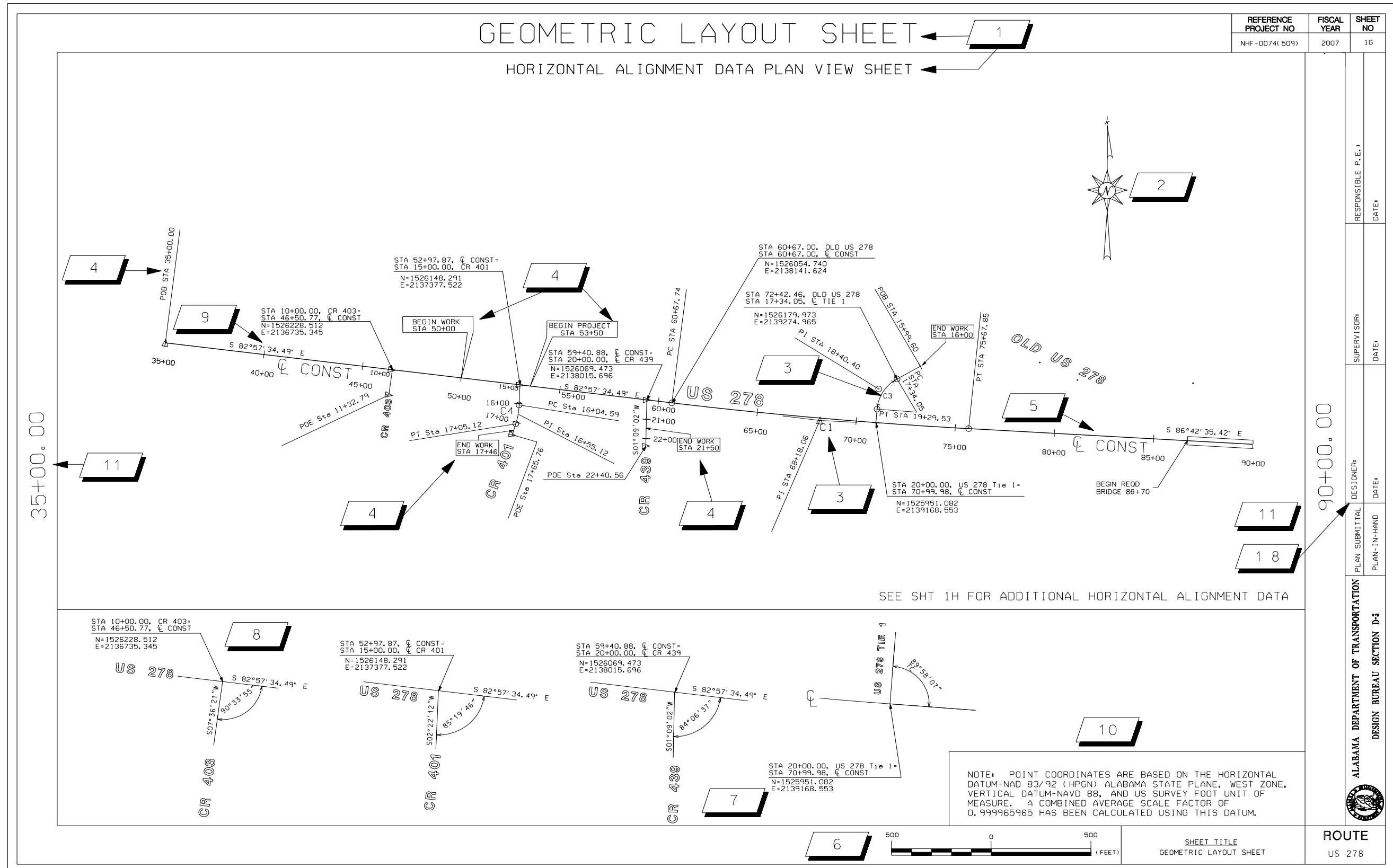
Subtype Sheet - Horizontal Alignment Data Sheet
(Refer to Figure 1E.3)

14. The sheet shall be divided by a dashed vertical line when horizontal alignment data continues to the next column for the same roadway centerline. When there is horizontal alignment data for two or more roadway centerlines listed on the same sheet, solid horizontal and vertical lines shall be used to separate different roadways.
15. The project name, description and the centerline of the horizontal alignment being described on the appropriate section of the "Geometric Layout Sheet" shall be identified.
16. Horizontal alignment elements shall be labeled downward from the top of the sheet in sequence as they are encountered from the beginning of the project to the end of the project, i.e. back tangent, circular element, and ahead tangent. The first horizontal element entry shall be the ELEMENT LINEAR from the POB to the point of curvature (PC). Include the station and coordinates of the POB and PC points and the direction and length of the back tangent. The back tangent ends at the PC and the next data group pertains to the circular curve data. Include station and coordinate data for the curve cardinal points. Include data on the radius, deflection angle, degree of curvature (for U. S. Customary unit projects) and the other data elements shown on Figure 1E.3. The ahead tangent of the previous curve will be the back tangent of the next curve. The next LINEAR ELEMENT will therefore have a point of beginning equal to the coordinates of the previous PT and end at the PC of the next circular curve. The tangent bearing should be the same as the tangent direction of the previous curve and the length of tangent should be the distance from the previous curve PT to the current PC. Continue with LINEAR ELEMENT and ELEMENT CIRCULAR until all of the curves have been described along the centerline of the project mainline.
17. Repeat item 15 for all of the horizontal elements being constructed on the different alignments that are part of the project.
18. Horizontal alignment curve data shall be cross-referenced to the curve identifier labeled on the "Geometric Layout Sheet – Horizontal Alignment Data Plan View Sheet".
Note: The curve identifier listed for each horizontal curve shall be consistently labeled throughout the plans.
19. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional

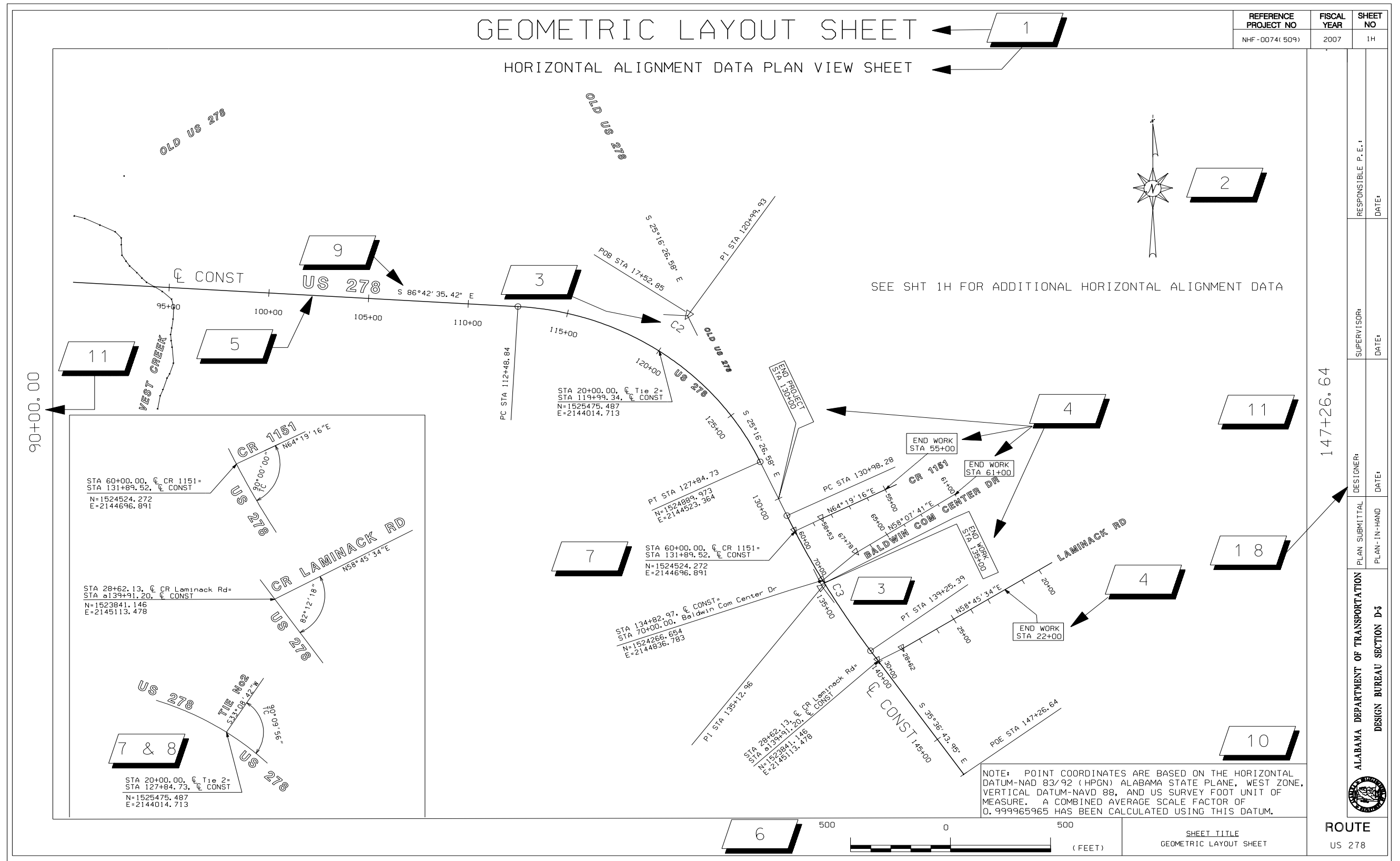
Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.



FIGURE_1E.1_GEOMETRIC_LAYOUT_SHEET_12.15.08.dgn 1/22/2009 10:49:05 AM

Note: Callouts for #12 is intentionally not shown.

Figure 1E.1 Begin Project Geometric Layout Sheet



FIGURE_1E2_GEOMETRIC_LAYOUT_SHEET_12.15.08.dgn 1/22/2009 11:13:25 AM

Figure 1E.2 End Project Geometric Layout Sheet

GEOMETRIC LAYOUT SHEET

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
NHF-0074(509)	2007	1-1

HORIZONTAL ALIGNMENT DATA

PROJECT NAME: 100046480
 DESCRIPTION: US 278 OVER KUGLER(VEST) CREEK; CULLMAN CO.
 HORIZONTAL ALIGNMENT NAME: ϕ CONST
 DESCRIPTION: RELOCATED US 278
 STYLE: ϕ CONSTRUCTION

16

ELEMENT: LINEAR	STATION	NORTHING	EASTING
POB ()	35+00.00	1526369.464	2135593.236
PC ()	60+67.74	1526054.737	2138141.618
TANGENT DIRECTION:	S 82°57' 34.49" E		
TANGENT LENGTH:	2567.74		

C1

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC ()	60+67.74	1526054.737	2138141.618
PI ()	68+18.06	1525962.771	2138886.280
CC ()	1548800.252	2140950.706	
PT ()	75+67.85	1525919.708	2139635.364
RADIUS:	22918.32		
DELTA:	3°45' 00.93" LEFT		
DEGREE OF CURVATURE(ARC):	0°15' 00.00"		
LENGTH:	1500.10		
TANGENT:	750.32		
CHORD:	1499.84		
MIDDLE ORDINATE:	12.27		
EXTERNAL:	12.28		
TANGENT DIRECTION:	S 82°57' 34.49" E		
RADIAL DIRECTION:	S 7°02' 25.51" W		
CHORD DIRECTION:	S 84°50' 04.95" E		
RADIAL DIRECTION:	S 3°17' 24.58" W		
TANGENT DIRECTION:	S 86°42' 35.42" E		

ELEMENT: LINEAR

STATION	NORTHING	EASTING	
PT ()	75+67.85	1525919.708	2139635.364
PC ()	112+48.84	1525708.447	2143310.285
TANGENT DIRECTION:	S 86°42' 35.42" E		
TANGENT LENGTH:	3680.99		

C2

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC ()	112+48.84	1525708.447	2143310.285
PI ()	120+99.93	1525659.600	2144159.981
CC ()	1524278.413	2143228.076	
PT ()	127+84.73	1524889.972	2144523.356
RADIUS:	1432.39		
DELTA:	61°26' 08.84" RIGHT		
DEGREE OF CURVATURE(ARC):	4°00' 00.00"		
LENGTH:	1535.89		
TANGENT:	851.10		
CHORD:	1463.37		
MIDDLE ORDINATE:	200.98		
EXTERNAL:	233.78		
TANGENT DIRECTION:	S 86°42' 35.42" E		
RADIAL DIRECTION:	S 3°17' 24.58" W		
CHORD DIRECTION:	S 55°59' 31.00" E		
RADIAL DIRECTION:	S 64°43' 33.42" W		
TANGENT DIRECTION:	S 25°16' 26.58" E		

15

ELEMENT: LINEAR	STATION	NORTHING	EASTING
PT ()	127+84.73	1524889.972	2144523.356
PC ()	130+98.28	1524606.438	2144657.225
TANGENT DIRECTION:	S 25°16' 26.58" E		
TANGENT LENGTH:	313.55		

C3

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC ()	130+98.28	1524606.438	2144657.225
PI ()	135+12.96	1524231.450	2144834.273
CC ()	1526563.569	2148802.426	
PT ()	139+25.39	1523894.323	2145075.741
RADIUS:	4584.00		
DELTA:	10°20' 17.37" LEFT		
DEGREE OF CURVATURE(ARC):	1°14' 59.67"		
LENGTH:	827.11		
TANGENT:	414.68		
CHORD:	825.99		
MIDDLE ORDINATE:	18.64		
EXTERNAL:	18.72		
TANGENT DIRECTION:	S 25°16' 26.58" E		
RADIAL DIRECTION:	S 64°43' 33.42" W		
CHORD DIRECTION:	S 30°26' 35.26" E		
RADIAL DIRECTION:	S 54°23' 16.05" W		
TANGENT DIRECTION:	S 35°36' 43.95" E		

ELEMENT: LINEAR

STATION	NORTHING	EASTING	
PT ()	139+25.39	1523894.323	2145075.741
POE ()	147+26.64	1523242.923	2145542.308
TANGENT DIRECTION:	S 35°36' 43.95" E		
TANGENT LENGTH:	801.25		

PROJECT NAME: 100046480
 DESCRIPTION: US 278 OVER KUGLER(VEST) CREEK; CULLMAN CO.
 HORIZONTAL ALIGNMENT NAME: CR 403
 DESCRIPTION:
 STYLE: ϕ CROSSROAD

ELEMENT: LINEAR	STATION	NORTHING	EASTING
POB ()	10+00.00	1526228.415	2136735.327
POE ()	11+33.60	1526095.990	2136717.644
TANGENT DIRECTION:	S 7°36' 20.51" W		
TANGENT LENGTH:	133.60		

PROJECT NAME: 100046480
 DESCRIPTION: US 278 OVER KUGLER(VEST) CREEK; CULLMAN CO
 HORIZONTAL ALIGNMENT NAME: CR 401
 DESCRIPTION:
 STYLE: ϕ CROSSROAD

16

ELEMENT: LINEAR	STATION	NORTHING	EASTING
POB ()	15+00.00	1526149.100	2137377.552
PC ()	16+05.40	1526043.789	2137373.194
TANGENT DIRECTION:	S 2°22' 11.82" W		
TANGENT LENGTH:	105.40		

C4

ELEMENT: CIRCULAR	STATION	NORTHING	EASTING
PC ()	16+05.40	1526043.789	2137373.194
PI ()	16+55.93	1525993.299	2137371.104
CC ()	1526060.330	2136973.536	
PT ()	17+05.94	1525944.914	2137356.523
RADIUS:	400.00		
DELTA:	14°24' 01.77" RIGHT		
DEGREE OF CURVATURE(ARC):	14°19' 26.20"		
LENGTH:	100.53		
TANGENT:	50.53		
CHORD:	100.27		
MIDDLE ORDINATE:	3.15		
EXTERNAL:	3.18		
TANGENT DIRECTION:	S 2°22' 11.82" W		
RADIAL DIRECTION:	N 87°37' 48.18" W		
CHORD DIRECTION:	S 9°34' 12.71" W		
RADIAL DIRECTION:	N 73°13' 46.41" W		
TANGENT DIRECTION:	S 16°46' 13.59" W		

19

ELEMENT: LINEAR	STATION	NORTHING	EASTING
PT ()	17+05.94	1525944.914	2137356.523
POE ()	17+66.57	1525886.857	2137339.027
TANGENT DIRECTION:	S 16°46' 13.59" W		
TANGENT LENGTH:	60.64		

(SEE NEXT PAGE FOR THE REST OF HORIZONTAL LAYOUT DATA)

NOTE: POINT COORDINATES ARE BASED ON THE HORIZONTAL DATUM-NAD 83/92 (HPGN) ALABAMA STATE PLANE, WEST ZONE, VERTICAL DATUM-NAVD 88, AND US SURVEY FOOT UNIT OF MEASURE WITH AN AVERAGED COMBINED SCALE FACTOR OF 0.999965965 HAS BEEN CALCULATED USING THIS DATUM.

RESPONSIBLE P. E.:	DATE:
SUPERVISOR:	DATE:
DESIGNER:	DATE:
PLAN SUBMITTAL:	DATE:
PLAN-IN-HAND:	DATE:

ALABAMA DEPARTMENT OF TRANSPORTATION
 DESIGN BUREAU SECTION D-3



SHEET TITLE
 GEOMETRIC LAYOUT SHEET

ROUTE
 US 278

Figure 1E.3 End Project Geometric Layout Sheet

CHAPTER 2 – TYPICAL SECTIONS

Typical sections are detailed cross section sheets depicting the roadway's principal elements that are standard between certain station or milepost limits. Since these drawings are the basis for construction details they are among the most important steps in developing construction plans. Typical sections should show typical conditions only. Non-standard construction details that exist only for short distances should not be shown as a typical section, except when special conditions exist. Super elevated sections are not normally shown unless the super elevated condition causes a material component change. A new typical section should be provided if a slope or material component changes. Varying roadway widths do not require a new typical section. Dimensions and slopes of the material layers, front slope, ditch bottom, and back slope are measured at right angles to the centerline of construction. The required width of a roadway at any particular location should be determined by the plan sheet or paving layout sheet, not the typical section.

Typical Sections General Guidelines

(Refer to Figures 2.1 - 2.6)

Since typical cross sections may be one of the most important steps in developing construction plans, and as such, should be developed as complete as possible.

1. The title "Typical Section" shall be placed at the top center of each individual "Typical Sheet."
2. For base and pave templates show the required build up by material layer. All layers of all materials should be shown as stated in the approved materials report. Identification numbers for required materials shall be displayed within a circle and progress sequentially from top to bottom with the top layer typically identified as 1. Also show the natural ground as a dashed line.
3. For each item the Legend shall include the complete item number (unique number), the complete item description as shown on the Summary of Quantities Sheet, the description of each layer of the materials buildup, and the width for all items paid for by the square yard. Use consistent legend numbers for the same item number throughout all typicals shown in the plan set. Numerical legend numbers (1, 2, 3, 4, ...) are to be used for required items and alphabetical letters (A, B, C, D, ...) for in place items. For in place items, the alpha character shall be within a square. The same material item may be required to be placed at different rates on separate typicals or on the same typical. If this occurs the first reference to this material item shall be a number and subsequent references to this same material item to be applied at different rates shall be referred to using a sequencing numeric / alpha character (1, 1A, 1B, 1C, ...). List only those material items within the "Required Materials Legend" for those material items shown on that plan sheet.
4. Use continuous stationing with no station overlap or gap. When more than one project typical is required, list the station to station that applies to each typical. Ensure the entire project has a designated typical cross section. Show equations and a note stating transition requirements, if needed. Note any bridge exceptions.
5. Show cross slopes as a percent or "e" and display a small circle (O) at slope breaks for each required material layer. **NOTE:** Ensure that clear zone requirements are met or provide guardrail.
6. Display maximum cut and fill slopes as per Special Drawing GN-2 (Index No. 801) or according to the project slope study.
7. Identify the profile grade line (PG) on each typical. Where more than one profile grade line exists, such as for a bifurcated roadway, identify the profile grade line for each roadway direction.
8. Symbols can be used when required to relate features with project or general notes.
9. Typical sections are not scaled drawings but it is beneficial to provide a drawing scaled horizontal; with an exaggerated vertical scale. "NTS" or "Not to Scale" shall be labeled within the sheet border at the bottom right of the plan sheet (this is where the bar scale is located on a plan view sheet).
10. List only applicable GN-2 notes and Project Notes on a plan sheet that is relevant to the typical(s) on that particular plan sheet. For turn lanes and/or median cross-overs with a materials buildup the same as the mainline, add a note to see paving layout sheets for

dimensions, tapers, etc. For turn lanes and/or median cross-overs with a different materials build-up than the mainline, a turn lane typical section is required.

11. Provide normal roadway ditch depth and width. If the roadway contains any curb and gutter sections, provide a curb and gutter detail showing material placement and thickness as per Special Drawing 623-XY (Index No. 703); minimum 6"; maximum 10" @ face of gutter are allowable dimensions for a standard curb. A modified curb is defined as a curb with dimensions outside these standard dimension limits.
12. Display normal cut and normal fill sections as a solid line on each typical. For example; left side cut and right side fill.
13. Note all dimensions of roadbed, lanes, and shoulder widths and provide a dimension from the roadway centerline or base line. Decimals should be used when incremental horizontal dimensions need to be denoted, not inches. Examples of proper horizontal dimensioning are 12' not 12.00'; 2.5' not 2' - 6"; 2.67' not 2' - 8". Vertical dimensions are typically in inches (18" not 1' - 6"; or 1.5').
14. As was previously mentioned, the normal procedure for labeling the cross-slope on a typical section that contains both tangent sections and horizontal curves that require super elevation is to label the slope as a percent and "or e" and that super elevated sections are not normally shown as separate typical sections. However, any roadway component changes that necessitate a separate typical section and the section is entirely within the limits of a fully super elevated curve, then only the super elevation rate should be shown for the roadway cross-slope. Similarly, if a typical section coverage contains no super elevation sections only the normal roadway cross-slope should be shown and "or e" does not apply.

NOTE: Sometimes the super elevation itself will cause a roadway component to change in a manner that necessitates a separate typical section such as is in the case of median barrier in a super elevated section.)

15. Label the approximate pavement thickness of in-place roadway pavement and shoulder pavement that will be removed or retained. This should be done within the "Required Materials Legend" table and to the right of the item description.
16. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working

with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.

17. The order of typical section sheets by roadway type should be the following:
 - a. Mainline
 - b. Side roads
 - c. Ramps
 - d. Driveways
 - e. other

NOTE: Examples of typical sections for mainline, minor side roads, ramps and service roads, driveways, and widening a state route are presented as Figures 2.1, 2.2, 2.3, 2.4, 2.5, and 2.6 respectively.

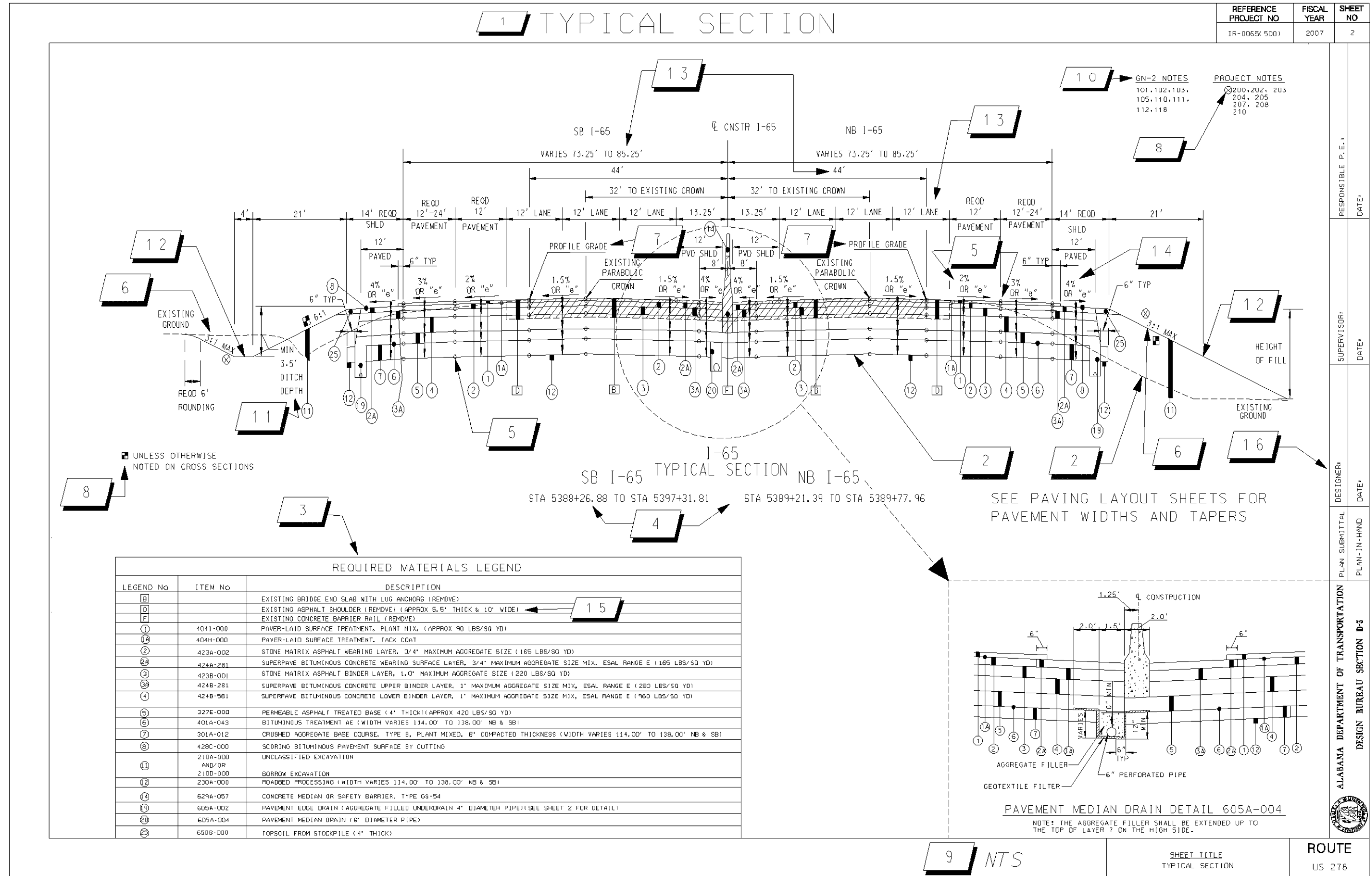
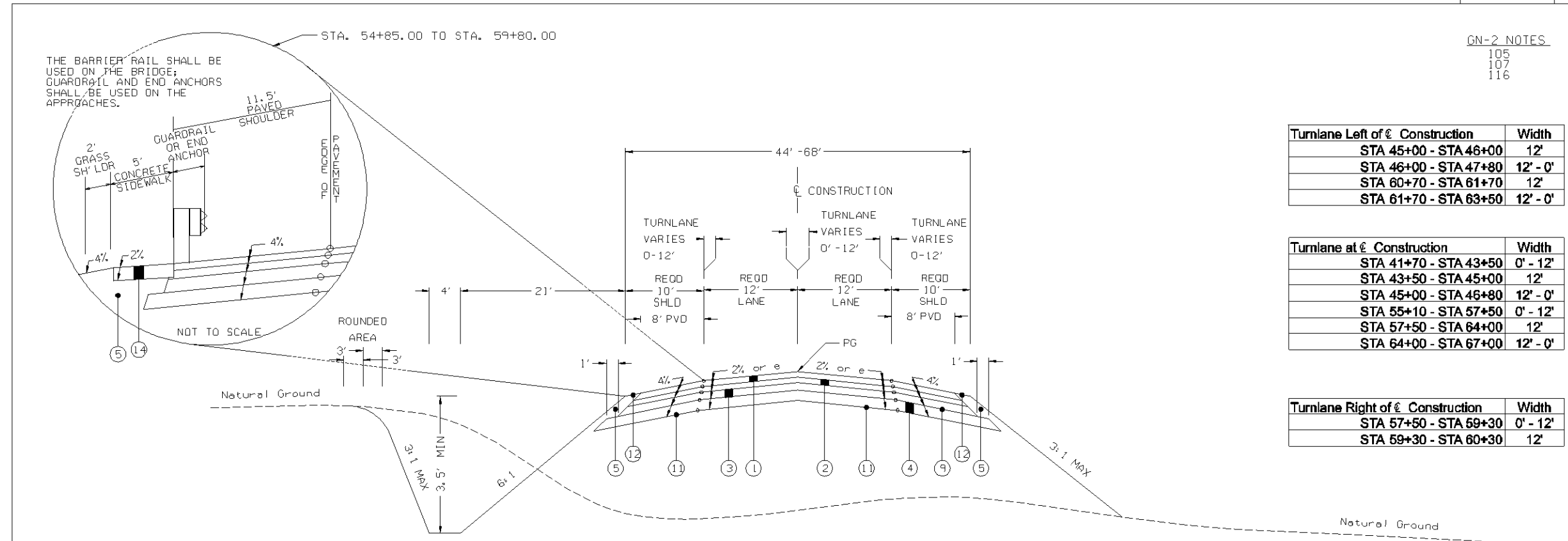


Figure 2.1 Project Mainline

TYPICAL SECTION

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
BRDF-0035(501)	2008	2A



GN-2 NOTES
105
107
116

Turnlane Left of @ Construction	Width
STA 45+00 - STA 46+00	12'
STA 46+00 - STA 47+80	12' - 0'
STA 60+70 - STA 61+70	12'
STA 61+70 - STA 63+50	12' - 0'

Turnlane at @ Construction	Width
STA 41+70 - STA 43+50	0' - 12'
STA 43+50 - STA 45+00	12'
STA 45+00 - STA 46+80	12' - 0'
STA 55+10 - STA 57+50	0' - 12'
STA 57+50 - STA 64+00	12'
STA 64+00 - STA 67+00	12' - 0'

Turnlane Right of @ Construction	Width
STA 57+50 - STA 59+30	0' - 12'
STA 59+30 - STA 60+30	12'

TYPICAL SECTION TO BE USED FROM
STA 39+35.00 TO STA 49+80.00
AND STA 54+85.00 TO STA 60+00.00

REQUIRED MATERIALS LEGEND

LEGEND NO	ITEM NO	DESCRIPTION
①	424A-360	REQD SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1" MAX. AGG. SIZE, ESAL RANGE C/D (155 LBS/SY) (VARIES 40' - 41.5' WIDE)
②	424B-651	REQD SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER, 1" MAX. AGG. SIZE, ESAL RANGE C/D (325 LBS/SY) (VARIES 40.2' - 41.7' WIDE)
③	424C-360	REQD SUPERPAVE BITUMINOUS CONCRETE BASE LAYER, 1" MAX. AGG. SIZE, ESAL RANGE C/D (350 LBS/SY) (VARIES 40.7' - 42.2' WIDE)
④	301A-012	REQD CRUSHED AGGREGATE BASE COURSE, TYPE B, PLANT MIXED, 6" THICK (VARIES 43.3 - 44.8' WIDE)
⑤	210A-00 AND/OR 210D-000	REQD UNCLASSIFIED EXCAVATION AND/OR BORROW EXCAVATION
⑨	401A-000	REQD BITUMINOUS TREATMENT "A" (VARIES 43.3 - 44.8' WIDE)
⑪	230A-000	REQD ROADBED PROCESSING
⑫	650B-000	REQD TOPSOIL FROM STOCKPILES (APPROX. 4" THICK)
⑭	618A-000	REQD CONCRETE SIDEWALK, 4" THICK (5' WIDE)

RESPONSIBLE P. E.:
 SUPERVISOR:
 DESIGNER:
 PLAN SUBMITTAL:
 PLAN-IN-HAND:
 ALABAMA DEPARTMENT OF TRANSPORTATION
 DESIGN BUREAU SECTION D-4

NTS

SHEET TITLE
TYPICAL SECTION

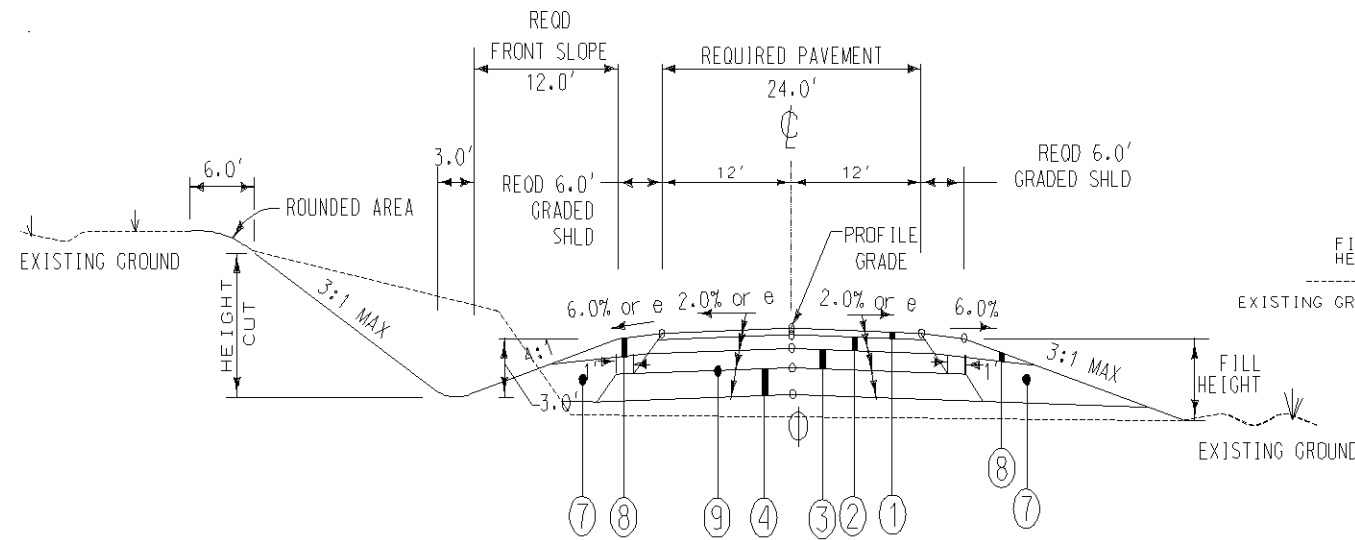
ROUTE
SR-35

Figure 2.2 Project Mainline

TYPICAL SECTION

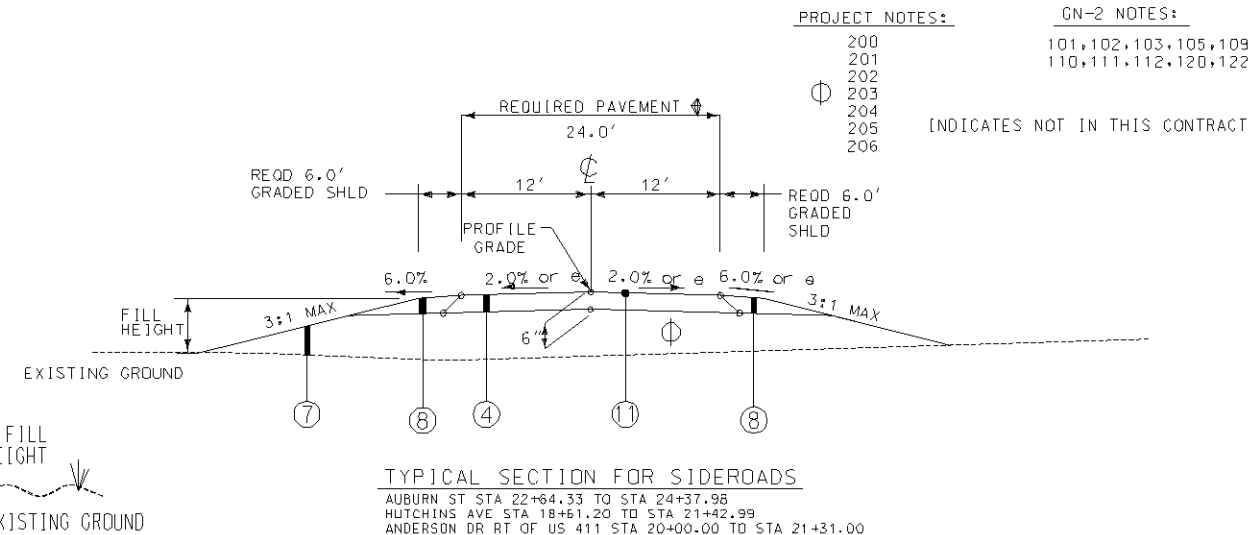
REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
STPAA-1371(13)	2009	2B

SEE PAVING LAYOUT SHEETS FOR PAVEMENT WIDTHS AND TAPERS



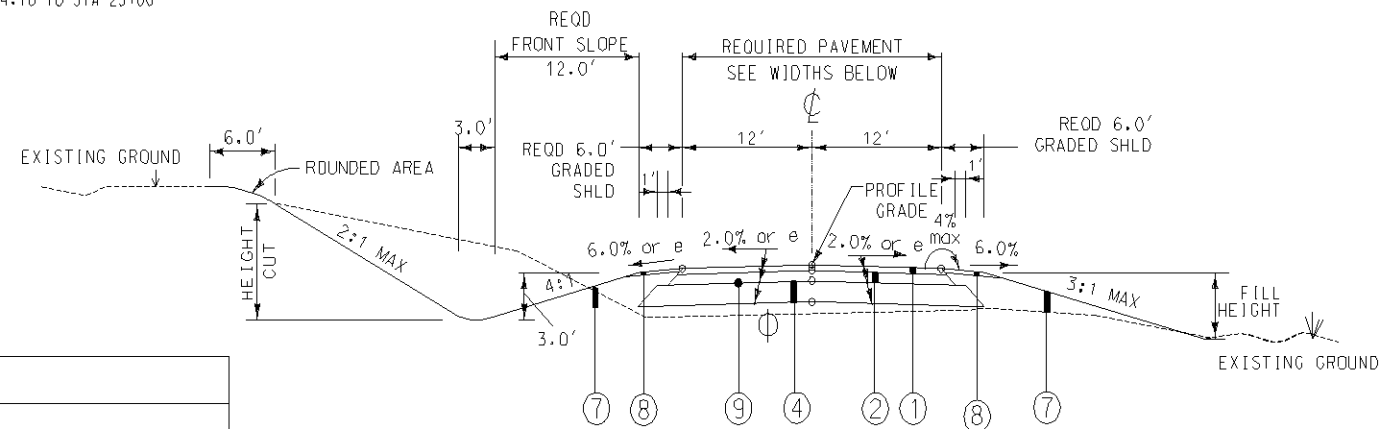
TYPICAL SECTION FOR SIDEROADS

HOKES BLUFF ROAD STA 16+50.00 TO STA 18+74.35 & STA 21+24.16 TO STA 25+00
 SR 25 CONNECTOR No 1 STA 14+00 TO STA 18+98.43
 SR 25 CONNECTOR No 1 STA 21+18.09 TO STA 24+00.00
 SR 25 CONNECTOR NO 2 STA 14+50 TO STA 18+36.54



TYPICAL SECTION FOR SIDEROADS

AUBURN ST STA 22+64.33 TO STA 24+37.98
 HUTCHINS AVE STA 18+61.20 TO STA 21+42.99
 ANDERSON DR RT OF US 411 STA 20+00.00 TO STA 21+31.00
 US 411 SBR STA 25+450.00 TO STA 262+00.00
 ANDERSON DR LT OF US 411 STA 18+69.00 TO STA 20+00.00
 TARPLEY DR. STA 18+07.03 TO STA 21+56.00
 FITTS FERRY RD STA 21+60.25 TO STA 25+34.05
 WHITE CHAPEL RD STA 17+96.20 TO STA 21+96.86
 COATS BEND RD STA 18+24.99 TO STA 21+79.46
 ROSS DRIVE STA 21+84.73 TO STA 25+01.60
 SATTERFIELD LANE STA 25+09.41 TO STA 27+94+00
 HODKS LANE RD STA 24+63.1 TO STA 26+76.7



TYPICAL SECTION FOR SIDEROADS

	WIDTH
ELMER ST STA 20+88.85 TO STA 23+50.00	24 FT
AUBURN ST STA 20+00 TO STA 22+64.33 & STA 24+37.98 TO STA 26+10.00	24 FT
HUTCHINS AVE STA 16+00.00 TO STA 18+61.20 & STA 21+42.50 TO STA 28+50.00	24 FT
ANDERSON DR RT OF US 411 STA 21+31.00 TO STA 26+30.00	24 FT
MCLAIN AVE STA 0+50.00 TO STA 5+40.00	24 FT
ANDERSON DR LT OF US 411 STA 14+00.00 TO STA 18+69.00	24 FT
TARPLEY DR. STA 16+00.00 TO STA 18+07.03 & STA 21+56.00 TO STA 26+00.00	24 FT
FITTS FERRY RD STA 19+00 TO STA 21+60.25 & STA 25+34.05 TO STA 35+50.00	24 FT
CHARLIE ST STA 0+60.23 TO STA 5+00	24 FT
ELBERT ST STA 0+85.54 TO STA 1+75.00	24 FT
WHITE CHAPEL RD STA 10+00.00 TO STA 17+96.20 & STA 21+96.86 TO STA 30+00.00	24 FT
COATS BEND RD STA 10+50.00 TO STA 18+24.99 & STA 21+79.46 TO STA 28+00.00	24 FT
ROSS DRIVE STA 19+75.00 TO STA 21+84.73 & STA 25+01.60 TO STA 29+00	24 FT
SATTERFIELD LANE STA 23+00 TO STA 25+09.41 & STA 27+94+00 TO STA 31+00	24 FT
LITTLE TURKEY DRIVE 0+50.00 TO STA 2+88.00	24 FT
CUL DE SAC RT OF STA 496+00.00	0-60 FT
CUL DE SAC RT OF STA 506+00.00	0-94 FT

REQUIRED MATERIALS LEGEND		
LEGEND	ITEM No	DESCRIPTION
①	424A-340	SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE A/B (APPROX 125 #/SQ YD)
②	424B-636	SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE A/B (APPROX 250 #/SQ YD)
③	424C-340	SUPERPAVE BITUMINOUS CONCRETE BASE LAYER, 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE A/B (APPROX 250 #/SQ YD)
④	301A-008	CRUSHED AGGREGATE BASE COURSE, TYPE B, PLANT MIXED, 5" COMPACTED THICKNESS
⑦	210A/0-000	UNCLASSIFIED EXCAVATION AND/OR BORROW EXCAVATION
⑧	650A/B-000	TOPSOIL/TOPSOIL FROM STOCKPILES (4" THICK)
⑨	401A-000	BITUMINOUS TREATMENT A
⑩	401A-011	BITUMINOUS TREATMENT AKG

NTS

SHEET TITLE
TYPICAL SECTION

ROUTE
SR-197



Figure 2.3 Minor Side Roads

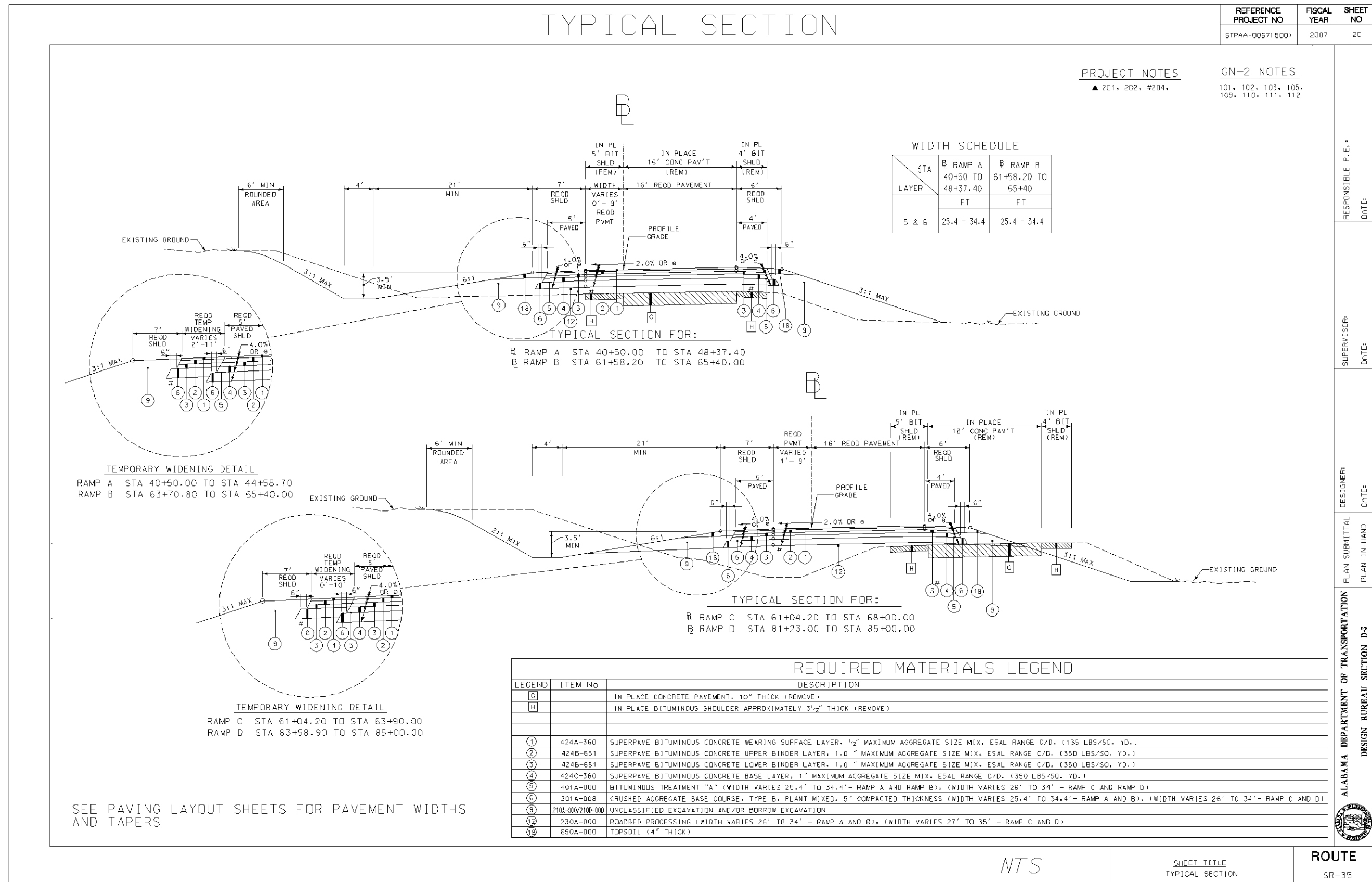
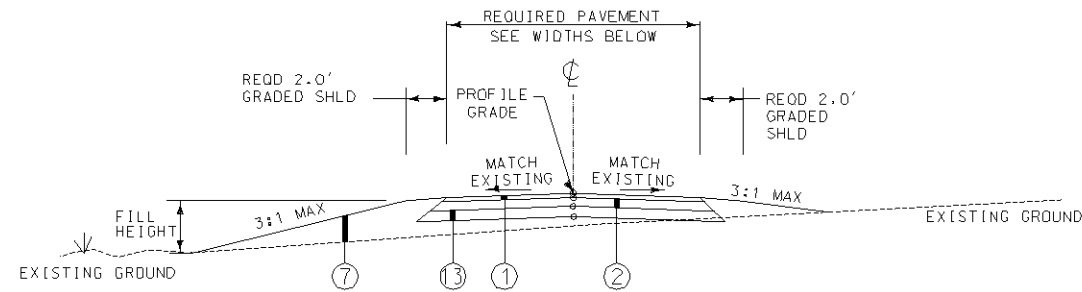


Figure 2.4 Ramps and Service Roads

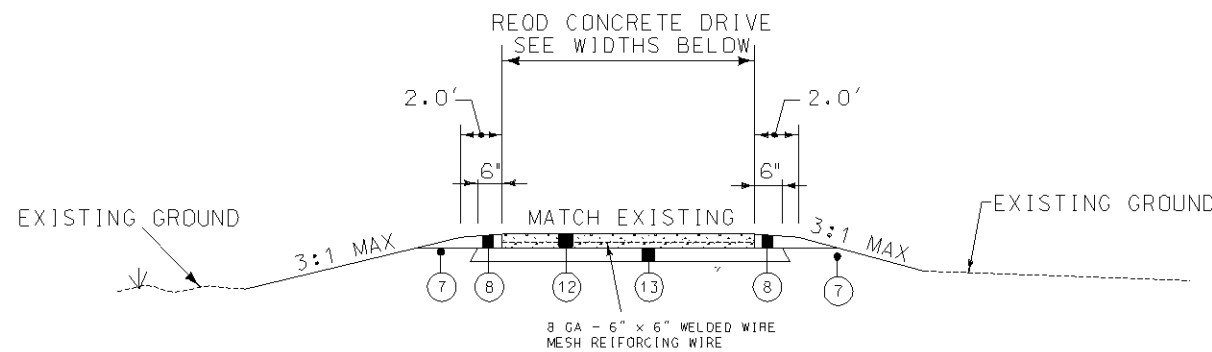
TYPICAL SECTION

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
STPAA-1371 131	2009	20

SEE PAVING LAYOUT SHEETS FOR PAVEMENT WIDTHS AND TAPERS



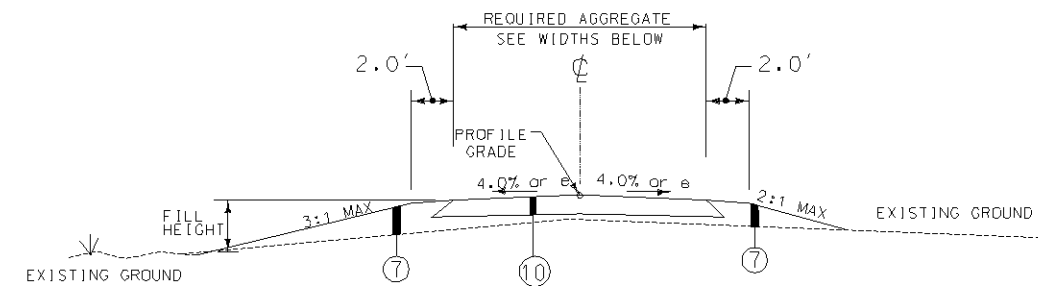
TYPICAL SECTION FOR BITUMINOUS TREATMENT DRIVEWAY LENGTH & WIDTH
RT STA 275+65 @ US 411 90' x 12'



TYPICAL SECTION FOR CONCRETE DRIVES LENGTH & WIDTH

LT STA 20+80 @ AUBURN ST	38' x 18'
LT STA 23+50 @ ANDERSON DR	51' x 25'
LT STA 24+87 @ ANDERSON DR	49' x 10'
LT STA 22+60 @ TAPLEY DR.	116' x 12'
LT STA 2+85 @ CHARLIE ST	42' x 18'
RT STA 3+50 @ CHARLIE ST	57' x 20'

NOTE: ALL CONCRETE DRIVEWAYS SHALL BE CONSTRUCTED USING 8 GA - 6" x 6" WELDED WIRE MESH REINFORCING WIRE AND PLACED IN THE MIDDLE OF THE CONCRETE LAYER.



TYPICAL SECTION FOR GRAVEL DRIVES LENGTH & WIDTH
GRAVEL DR STA 0+70.00 TO STA 7+25.00

RT STA 20+40 @ AUBURN ST.	10' x 25'
RT STA 2+40 @ MCCLAIN AVE	60' x 10'
RT STA 305+00 @ US 411	94' x 10'
LT STA 21+50 FITTS FERRY RD	56' x 10'
RT STA 33+00 FITTS FERRY RD	48' x 10'
RT STA 34+15 FITTS FERRY RD	48' x 13'
LT STA 11+00 WHITE CHAPEL RD	58' x 10'
RT STA 12+08 COATS BEND RD	62' x 10'
RT STA 14+22 COATS BEND RD	68' x 10'
RT STA 15+68 COATS BEND	80' x 21'
LT STA 470+85 @ US 411	84' x 12'
LT STA 24+30 @ HOKES BLUFF RD	112' x 12'
LT STA 24+25 @ HOKES BLUFF RD	138' x 10'
LT STA 461+00 - 466+50 @ US 411	

REQUIRED MATERIALS LEGEND		
LEGEND	ITEM No	DESCRIPTION
(1)	424A-340	SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 1/2" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE A/B (APPROX 125 #/SQ YD)
(2)	424B-636	SUPERPAVE BITUMINOUS CONCRETE UPPER BINDER LAYER 1" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE A/B (APPROX 250 #/SQ YD)
(7)	210A/D-000	UNCLASSIFIED EXCAVATION AND/OR BORROW EXCAVATION
(8)	650A/B-000	TOPSOIL/TOPSOIL FROM STOCKPILES (4" THICK)
(10)	430B-014	AGGREGATE SURFACING (ALDOT #10 MODIFIED) (APPROX. 3" THICK)
(12)	618B-003	CONCRETE DRIVEWAY, 6" THICK (INCLUDES WIRE MESH - 6" X 6") (TO BE PLACED HORIZONTALLY 3" DEEP)
(13)	305B-060	CRUSHED AGGREGATE, SECTION 825, TYPE B, FOR MISC. USE (4" THICK)

PROJECT NOTES:
200
201
202
203
204
205
206

GN-2 NOTES:
101, 102, 103, 105, 109,
110, 111, 112, 120, 122,
INDICATES NOT IN THIS CONTRACT

RESPONSIBLE P.E.
DATE:
SUPERVISOR
DATE:
DESIGNER
DATE:
PLAN SUBMITTAL
DATE:
PLAN-IN-HAND
DATE:
ALABAMA DEPARTMENT OF TRANSPORTATION
DESIGN BUREAU SECTION D-3



NTS

SHEET TITLE
TYPICAL SECTION

ROUTE
SR-197

Figure 2.5 Driveways

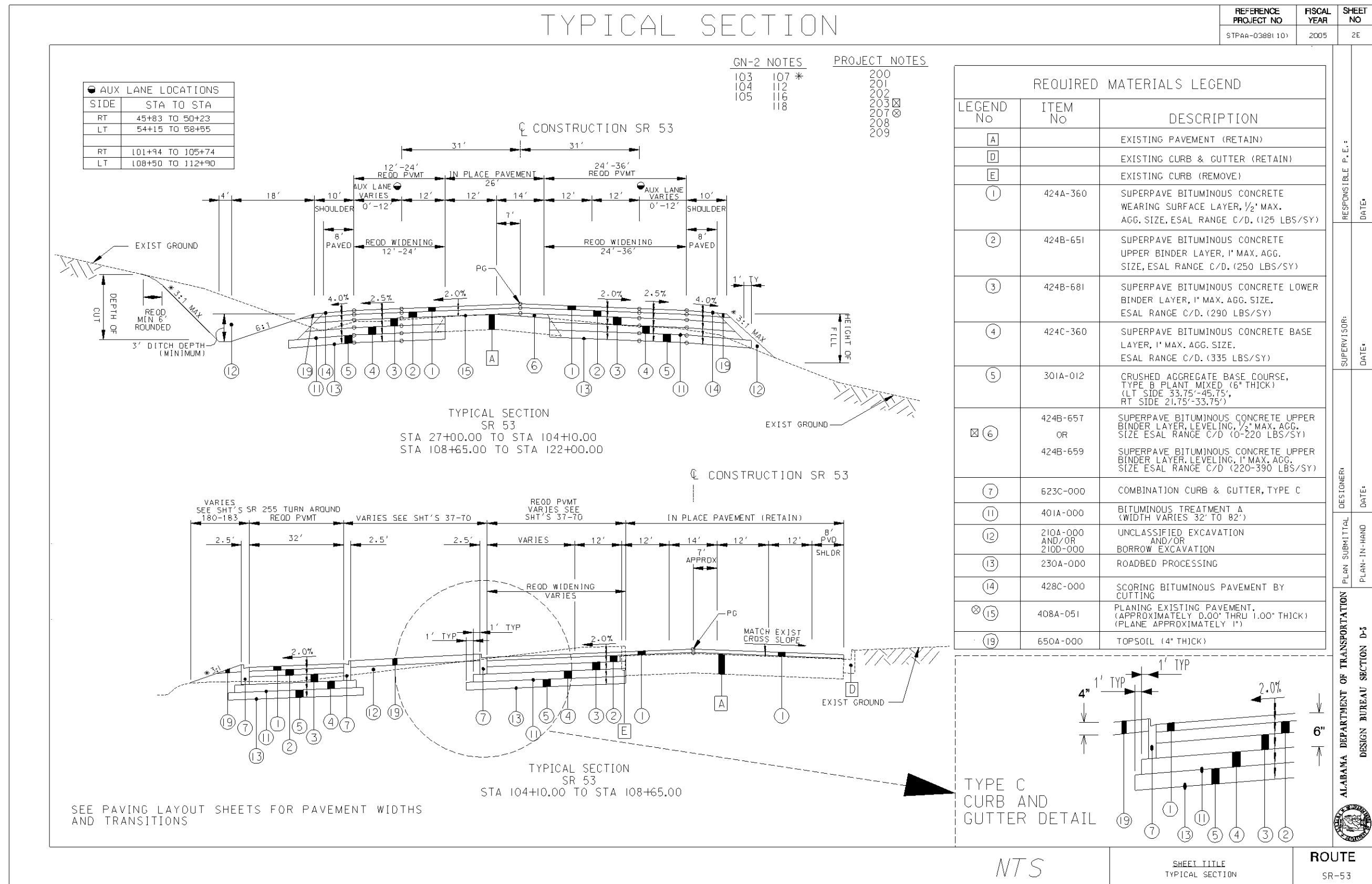


Figure 2.6 Widening State Route

CHAPTER 2A – PROJECT NOTES SHEET

The “Project Notes Sheet” provides a summary of instructions for constructing highways and bridges that are too long or complicated to fit on an individual plan sheets. Under these circumstances, note numbers (e.g. “Note 203”) or symbols (e.g. ●, □, Δ) are placed on the plan sheet and the corresponding notes are detailed on the Project Notes Sheet.

In addition, reference may also be made to GN-2 notes. These GN-2 notes are detailed on Index No. 801 in the ALDOT *Index to Special and Standard Highway Drawings* book. Each plan sheet may reference a multitude of both “project” and GN-2 notes. When the notes are present on a sheet, it is necessary to identify the correct project notes from the “Project Notes Sheet” and/or the corresponding GN-2 notes from the *Standard Drawings Book*. The appropriate instructions provided in these notes shall be followed while constructing the project.

Project notes are often used to state how a required work function will be paid if a pay item is not set up for that function or if the specifications and/or special provisions do not address the payment of the particular work function in a pay item. If a note states that a certain work function is a “subsidiary obligation” of a pay item, there is no additional measurement added to the quantity of the pay item. If a note states that a certain work function is “paid as” a pay item there will be measurement added to the pay item. All work must be clearly addressed for payment.

Generally, project notes should not repeat specifications but can be used to draw attention to a specification article if particular emphasis is needed.

Sometimes by mistake, a project note in the plans may contradict a specification and/or a special provision. When this occurs it is important to know the hierarchy of the contract and what note or document should be followed. The hierarchy of the contract is the plans overrule the specifications and a special provision overrides the plans.

Table 1 below provides a schedule outline for project notes types and the note series range that should be used. All notes should be numbered according to the schedule below.

Table 1 Schedule Outline of Project Notes, GN-2 Notes, and Plan Placement

NOTE SERIES	NOTE TYPE
100-199	see Special Drawing No. GN-2 (Index No. 801)
200-299	Typical Section Notes
300-399	Summary of Quantity Sheet Notes
400-499	Plan Sheet Notes
500-599	Signal Sheet Notes
600-699	Electrical Sheet Notes
700-799	Traffic Control Sheet Notes
800-899	Utility Sheet Notes
900-999	Any Notes that apply to other specific sheets
1000 Series	Sign Notes

Project Notes Sheet General Guidelines

(Refer to Figure 2A.1):

1. The title “PROJECT NOTES SHEET” shall be placed at the top center of each individual Project Notes Sheet.
2. The title “NOTE NO” and “NOTES” shall be underlined and placed at the top of each project notes section.
3. The project number note sequence shall be numbered consecutively with no skip(s) in sequence within a project note series. For example, the 200 series project notes, 300 series project notes, 400 series project notes, etc. are all considered separate project series. The beginning number of a separate project note series is divisible by 100.
4. An “OMITTED” designation can be used for project note numbers that are used solely to maintain a consecutive number sequence when a project note has been eliminated due to last minute changes just before letting to the plan set. Otherwise, when there is adequate time, a project note series should be consecutively numbered with no “OMITTED” references used.
5. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date plan sheets with the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the “Alabama State Board of Licensure for Professional Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled “PLAN SUBMITTAL”. The consultant shall also replace “DESIGN BUREAU SECTION D-?” located in the block containing the State Seal with their company name.

NOTE: Designated symbols used to key notes to specific items in the plan assembly shall be placed on the left side of the corresponding project number note.


1 PROJECT NOTES SHEET		REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
		APD-0395(505)	2007	2F
NOTE NO	NOTES	NOTE NO	NOTES	
200	WHERE EXISTING ASPHALT PAVEMENT IS TO BE WIDENED OR PARTIALLY REMOVED, THE EDGES SHALL BE TRIMMED BY A CUTTING METHOD APPROVED BY THE ENGINEER TO PROVIDE A UNIFORM AND STRUCTURALLY SOUND CONSTRUCTION JOINT. THE COST OF THIS WORK SHALL BE A SUBSIDIARY OBLIGATION OF ITEM 210A, UNCLASSIFIED EXCAVATION.	306	IN WETLAND AREAS HATCHED ON THE PLAN & PROFILE SHEETS, THE CLEARING LIMITS FOR THE ACQUIRED ROW WILL BE FROM THE CONSTRUCTION LIMITS PLUS 10 FEET. IN THESE AREAS, CLEARING SHALL NOT GO TO THE ACQUIRED ROW. THESE AREAS ARE FROM: STA. 776+00 TO 779+00 +/- RT STA. 813+00 TO 855+00 +/- RT STA. 901+00 TO 916+00 +/- LT/RT STA. 955+00 TO 965+00 +/- RT STA. 958+00 TO 962+00 +/- LT STA. 1013+00 TO 1015+00 +/- LT STA. 1020+00 TO 1025+00 +/- LT STA. 1040+00 TO 1041+00 +/- LT SEE PLAN & PROFILE SHEETS FOR REQUIRED LOCATIONS.	RESPONSIBLE P. E. 1 DATE:
201	IN AREAS LESS THAN 6' IN WIDTH, THE SUBGRADE SHALL BE SHAPED AND COMPACTED TO THE SATISFACTION OF THE ENGINEER. THE COST FOR THIS WORK SHALL BE A SUBSIDIARY OBLIGATION OF ITEM 210D.	307	FROM STA 856+00 TO 877+00 LT, THE CLEARING LIMITS WILL BE FROM THE CONSTRUCTION LIMITS PLUS 10 FEET. IN THIS AREA, CLEARING SHALL NOT GO TO THE EXISTING ROW.	SUPERVISOR DATE:
202	TO OBTAIN PROPER WIDTHS, TRANSITIONS, AND TAPERS, PLAN/PAVING LAYOUT SHEETS MUST BE USED IN CONJUNCTION WITH TYPICAL SECTIONS.	400	NEW GUARDRAIL AT EBR STA. 901+82 TO STA. 903+82, EBR STA. 916+30 TO STA. 918+30, EBR STA. 953+45 TO STA. 955+45, AND WBR STA. 1019+88 TO STA. 1022+81 SHALL BE REQUIRED TO BE CORRECTLY LAPPED TO PROTECT DIRECTION OF TRAFFIC FOR PHASE III. WHEN TRAFFIC IS MOVED TO ITS PERMANENT LOCATION, THE GUARDRAIL WILL BE RE-LAPPED TO ITS PROPER INSTALLATION. PAYMENT FOR THIS WORK SHALL BE A SUBSIDIARY OBLIGATION OF ITEM 630-A.	DESIGNER DATE:
203	FILLS SHALL BE WIDENED TO ACCOMMODATE GUARDRAIL AND END ANCHORS. SEE SPECIAL DRAWING GR-630-FD AND APPROPRIATE END ANCHOR DRAWINGS.	800	THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.	PLAN SUBMITTAL PLAN-IN-HAND
204	THE MAINLINE BUILD-UP WILL EXTEND TO THE BACK OF RADIUS OF SIDE ROADS.	801	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY OWNERS AND DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES ON THIS PROJECT WHETHER SHOWN ON THE PLANS OR NOT. THE LOCATION OF ANY REQUIRED GUARDRAIL, SIGNS, FOOTINGS OF ANY NATURE AND/OR ELECTRICAL/COMMUNICATIONS CONDUITS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO PREVENT ANY CONFLICTS WITH THESE UTILITIES. UTILITY LINE LOCATE REQUESTS WILL BE LIMITED TO INCREMENTS NOT TO EXCEED 2000 LINEAR FEET PER WORKING DAY OPERATION. MULTIPLE LOCATE REQUESTS WILL BE REQUIRED FOR PROJECTS GREATER THAN 2000 LINEAR FEET IN LENGTH.	ALABAMA DEPARTMENT OF TRANSPORTATION DESIGN BUREAU SECTION D-3
205	ITEM No 430B-000, AGGREGATE SURFACING (ALDOT #57 AND/OR #467 STONE, APPROXIMATELY 3" THICK), SHALL BE USED ON UNPAVED TURNOUTS, DRIVE CONNECTIONS, TEMPORARY CONNECTIONS, AND AS NEEDED DURING THE CONSTRUCTION OF THE PROJECT.	900	A NOTICE OF REGISTRATION FOR NPOES PERMIT COVERAGE HAS BEEN FILED WITH ADEM FOR THIS PROJECT.	
206	OMITTED	901	DURING BRIDGE REMOVAL, MAJOR BRIDGE COMPONENTS SHALL BE KEPT FROM ENTERING THE RIVER. DEBRIS SHALL BE REMOVED FROM THE RIVER IMMEDIATELY WITH MINIMAL RIVER BED DISTURBANCE.	
207	COMPACTION OF UNCLASSIFIED AND/OR BORROW EXCAVATION TO 100% OF AASHTO T-99 WILL BE A SUBSIDIARY OBLIGATION OF ITEM 210D.	902	NO CONSIDERATION WILL BE GIVEN TO REQUESTS FOR STREAM CROSSINGS INSTALLATIONS, INSTREAM WORK OUTSIDE OF THAT REQUIRED AS A PART OF THIS CONTRACT OR AS PART OF THE CORPS OF ENGINEERS SECTION 404 PERMIT WILL NOT BE ALLOWED.	
208	OMITTED	903	NO BLASTING IS TO OCCUR BELOW THE WATER SURFACE.	
210	PLANING FOR TIE-INS, PLANING TO REMOVE THE WEARING SURFACE OF THE TEMPORARY CONNECTIONS, AND ANY SPOT PLANING WILL BE A SUBSIDIARY OBLIGATION OF ITEM 424A.	904	FUEL TANKS SHALL NOT BE LEFT ON THE RIGHT-OF-WAY OVERNIGHT. TRUCKS HAULING CHEMICALS, FERTILIZERS, ETC. SHALL NOT BE LEFT UNATTENDED.	
300	SEE SHEET 310 FOR UNCLASSIFIED EXCAVATION NOTES.			
301	TEMPORARY PAVEMENT MARKERS SHALL BE OF THE PERMANENT TYPE MEETING THE REQUIREMENTS OF SUBARTICLE 802.02(d) OF THE STANDARD SPECIFICATIONS.			
302	OMITTED			
303	IF THE SHEET PILE ALTERNATE IS CHOSEN BY THE CONTRACTOR FOR THE CONSTRUCTION OF THE 5 FT. TOEWALL, PAYMENT WILL BE MADE AS CUBIC YARDS OF CULVERT CONCRETE AND POUNDS OF STEEL REINFORCEMENT BASED ON THE THEORETICAL QUANTITIES OF THE ITEMS REQUIRED FOR THE CONCRETE TOEWALL ALTERNATE.			
304	OMITTED			
305	ITEMS TO BE REMOVED THAT ARE NOT PROVIDED FOR BY A PAY ITEM OR SPECIFICALLY MENTIONED BY NOTE TO BE INCLUDED IN OTHER ITEMS OF WORK SHALL BE REMOVED IN ACCORDANCE WITH THE REQUIREMENTS FOR EXTRA WORK GIVEN IN ARTICLE 104.13 OF THE STANDARD SPECIFICATIONS.			
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">3</div> <div style="border: 1px solid black; padding: 5px;">2</div> <div style="border: 1px solid black; padding: 5px;">4</div> </div>		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">5</div>		
SHEET TITLE PROJECT NOTE SHEET		ROUTE CORRIDOR "V"		

Figure 2A.1 Project Notes Sheet

CHAPTER 3 – SUMMARY OF QUANTITIES

Quantity summaries shall be included in the project plans to aid in determining the location and quantities for pay items which are located throughout the plans. Quantities must be calculated for all work that requires a pay item. Summary of quantities shall include three different types of sheets; the Summary of Quantities sheet, Box Sheets, and Earthwork Summary sheets (shown as the final chapter in this manual).

Pay items and quantities listed on the “Summary of Quantities Sheet” are intended to be representative of the work to be performed and are used by the prospective contractor to bid each item of work.

“Summary of Quantities” Summary Sheet(s)

(Refer to Figure 3.1)

1. The title “SUMMARY OF QUANTITIES” shall be placed at the top center of each individual Summary of Quantities sheet.
2. A bridge column is necessary when bridges and/or bridge culverts are required to identify quantities required for bridge construction.
3. A roadway column is necessary for items not associated with bridge construction.
4. For federally funded projects, add another column to identify the quantities for non-federal participating items, if needed. This column shall be inserted between the “Roadway” and “Total” columns.
5. Add the quantities from the bridge, roadway, and any other quantity columns to provide the total project quantity amount in the “Total” column.
6. All pay items have a unique ALDOT item number assigned to them. The unit of measure and description correspond exactly to the current ALDOT Standard Specifications and ALDOT Unique Item Number List.
NOTE: Just because there is a unique item number does not always mean there has already been a specification/special provision created for the item. A specification/special provision describing the defined unique work item is required and the designer must check that there is a specification/special provision for the unique item number.
7. A table with grid lines shall be used to separate columns and pay items.
8. A column titled “Project Notes” shall be on the right side of the “Item Description.” In this column list the relevant project note number from the Project Note Sheet for the pay items a project note has been specified for.
9. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the “Alabama State Board of Licensure for Professional Engineers & Land Surveyors” requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a

consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.

"Summary of Quantities" Box Sheets

The arrangement of the boxes on the plan sheets is dependent on the size required for each box to contain all of the information. Figures 3.2 and 3.3 are examples of box sheets used to present information regarding roadway pipe and other drainage structures. Figure 3.4 is a box sheet example of information on ditch linings. The example on Figure 3.5 demonstrates fitting box quantities of several items on one sheet. Examples of other box sheets that may be required in the plan assembly are illustrated on Figures 3.6 and 3.7.

Additional Notes:

- Clearing and grubbing, base and pavement, mobilization, grassing, engineering controls, and trainee hours do not require a box schedule.
- Do not place zeros (0) in any column on the box sheets. Decimals may be placed in certain quantity columns, such as minor structure concrete but all total columns shall be whole numbers that have been rounded up. Commas shall not be used to separate numerical digits.
- Provide total in total columns for items that transfer to the summary of quantities sheet (not columns such as concrete collars – this item is paid for using the pay item "minor structure concrete"). There shall not be any columns shown with a total of 0.
- When quantities for an item appear in two or more places throughout the plans, a cross-referencing statement, such as "FOR ADDITIONAL QUANTITIES - SEE SHEETS ___ and ___", shall be included.
- Box sheets are required for bridges when more than one bridge is required within the project limits.
- The cumulative item total shown on all box sheets throughout the plans for a pay item shall be transferred to the Summary of Quantities sheet(s).
- ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

- **For plans prepared by consultants and submitted to Office Engineer for letting:** Neither the consultant or any of his personnel are required to sign and/or date plan sheets

with the standard ALDOT sheet border blocks. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.

- Ensure a unique number is listed for each pay item. It is preferred that unique numbers be oriented horizontally on the sheet, however if sheet space is limited, the unique numbers may be oriented vertically.

Reminders:

- Place Bridge and Bridge Culvert items in the BRIDGE Column (include structure excavation, foundation backfill, concrete, and steel for bridge culverts).
- Removal of old Bridge is always listed in the Bridge Column on the pay sheet.
- Removal of old Bridge Culvert is always listed in the Bridge Column on the pay sheet.
- Do not set up structure excavation and foundation backfill for sidedrain pipe. It is included in the bid price for sidedrain pipe. This applies to reinforced concrete sidedrain pipe as well.
- Always set up alternates for junction boxes, inlets, manholes, pipe end treatments, and certain culverts unless documented properly.
- If temporary pipe is used under Item 530A, be sure to provide for the removal & disposal of the pipe in the summary box. Structure excavation, foundation backfill quantities, and applicable standard/special drawings shall be included in the box.
- On the "Summary of Quantities" sheet NEVER SHOW DECIMALS OR COMMAS in the columns.
- List required items in numeric / alpha order by ALDOT pay item and unique number (e.g. 210A-000, 210A-002, 210B-001, 610A-010, etc.)

NOTE: Figures 3.6 and 3.7 are examples of standard quantity boxes used by ALDOT. These tables are not shown on completed plan sheets; therefore, a Standard Drawing Legend has not been provided.

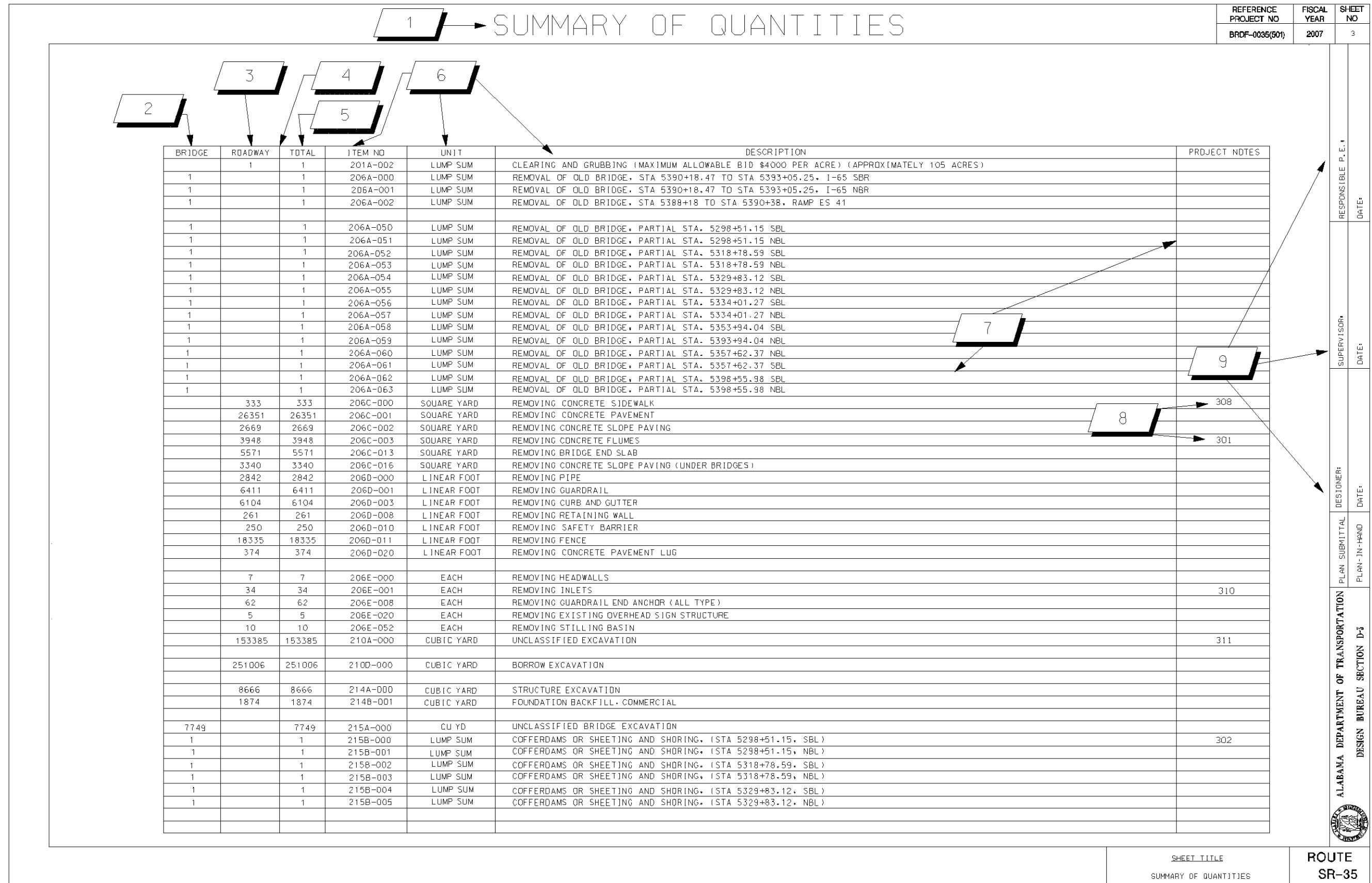


Figure 3.1 Summary of Quantities Sheet

SUMMARY OF QUANTITIES

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
APD-471(46)	2001	3C

ROADWAY	STATION - STATION	SIDE	REQUIRED DITCH LININGS										REMARKS						
			LENGTH (LIN FT)				DEPTH (FT)	BOTTOM WIDTH (FT)	SIDE SLOPE		654A-001 SOLID SODDING (BERMUDA) (50 YD)	614A-000 SLOPE PAVING (CU YD)		610C-001 LOOSE RIPRAP, CLASS 2 (TON)	610D-000 FILTER BLANKET (50 YD)	659A-000 EROSION CONTROL NETTING, CLASS A (50 YD)			
			GRASS	SLOPE PAVING	RIPRAP	SLOPE PAVED WITH ENERGY DISSIPATORS			LT	RT									
CORRIDOR X	81+50 - 83+00	LT	150				1.0	4.0	4:1	4:1				200	B				
CORRIDOR X	83+00 - 85+00	LT	200				1.0	4.0	3:1	4:1				245	B				
CORRIDOR X	85+00 - 87+00	LT		200			1.0	4.0	3:1	6:1	60		32.7		A				
CORRIDOR X	87+00 - 90+00	LT		300			1.0	4.0	3:1	4:1	89		41.8		A				
CORRIDOR X	90+00 - 91+00	LT		100			1.0	4.0	3:1	3:1	30		12.8		A				
CORRIDOR X	91+00 - 93+00	LT				200	1.0	4.0	2:1	2:1	60		20.9						
CORRIDOR X	93+00 - 94+75	LT			175		2.0	6.0	2:1	2:1				345	350				
CORRIDOR X	95+00 - 99+00	LT			400		2.6	6.0	2:1	2:1				924	907				
CORRIDOR X	99+00 - 103+00	LT		400			1.0	4.0	2:1	2:1	119		41.8		A				
CORRIDOR X	103+00 - 104+00	LT		100			1.0	4.0	3:1	6:1	30		16.4		A				
CORRIDOR X	104+00 - 106+00	LT		200			1.0	4.0	3:1	4:1	60		27.9		A				
CORRIDOR X	106+00 - 109+00	LT		300			1.0	4.0	2:1	6:1	89		45.6		A				
CORRIDOR X	109+00 - 110+85	LT		185			1.0	4.0	2:1	2:1	55		19.4		A				
CORRIDOR X	110+85 - 117+00	LT			615		2.5	4.0	2:1	2:1		1212	1230						
CORRIDOR X	117+00 - 118+00	LT				100	1.0	4.0	2:1	2:1	30		10.5						
CORRIDOR X	118+00 - 119+50	LT		150			1.0	4.0	3:1	6:1	45		24.5		A				
CORRIDOR X	119+50 - 121+50	LT	200				1.0	4.0	3:1	6:1				289	B				
CORRIDOR X	121+50 - 122+85	LT		135			1.0	4.0	3:1	6:1	40		22.1		A				
CORRIDOR X	122+85 - 124+00	LT		105			1.0	4.0	2:1	2:1	32		11.0		A				
CORRIDOR X	124+00 - 124+50	LT		50			1.0	4.0	3:1	6:1	15		8.2		A				
CORRIDOR X	124+50 - 133+50	LT	900				1.0	4.0	3:1	6:1				1300	B				
CORRIDOR X	133+50 - 135+00	LT		150			1.0	4.0	3:1	6:1	45		24.5		A				
CORRIDOR X	135+00 - 135+50	LT				50	1.0	4.0	2:1	4:1	15		6.4		A				
CORRIDOR X	135+50 - 139+00	LT			350		2.0	4.0	2:1	2:1		592	623						
CORRIDOR X	139+00 - 141+00	LT		200			1.0	4.0	2:1	2:1	60		20.9		A				
CORRIDOR X	141+00 - 142+00	LT	100				1.0	4.0	2:1	6:1				134	B				
CORRIDOR X	142+00 - 145+00	LT		300			1.0	4.0	2:1	6:1	89		45.6		A				
CORRIDOR X	145+00 - 146+50	LT		150			1.0	4.0	2:1	4:1	45		19.2		A				
CORRIDOR X	146+50 - 150+00	LT		350			1.0	4.0	3:1	6:1	104		57.2		A				
CORRIDOR X	150+00 - 151+50	LT		150			1.0	4.0	3:1	4:1	45		20.9		A				
CORRIDOR X	151+50 - 153+00	LT		150			1.0	4.0	3:1	6:1	45		24.5		A				
CORRIDOR X	153+00 - 155+00	LT		200			1.0	4.0	2:1	6:1	60		30.4		A				
CORRIDOR X	155+00 - 156+50	LT		150			1.0	4.0	2:1	4:1	45		19.2		A				
CORRIDOR X	156+50 - 159+50	LT		300			1.0	4.0	2:1	6:1	89		45.6		A				
CORRIDOR X	159+50 - 161+80	LT		230			1.0	4.0	2:1	4:1	69		29.4		A				
CORRIDOR X	174+40 - 175+00	LT		60			1.0	4.0	2:1	6:1	18		9.1		A				
CORRIDOR X	175+00 - 180+00	LT		500			1.0	4.0	1/2:1	6:1	75		69.2		A				
CORRIDOR X	180+00 - 181+00	LT		100			1.0	4.0	2:1	6:1	30		15.2		A				
CORRIDOR X	181+00 - 182+40	LT				140	1.0	4.0	2:1	2:1	42		14.7						
CORRIDOR X	182+40 - 184+00	LT				150	1.0	4.0	2:1	2:1	45		15.7						
CORRIDOR X	184+00 - 186+00	LT				200	1.0	4.0	3:1	4:1	60		27.9						
CORRIDOR X	186+00 - 189+00	LT		300			1.0	4.0	3:1	6:1	89		49.1		A				
CORRIDOR X	189+00 - 190+00	LT		100			1.0	4.0	2:1	6:1	30		15.2		A				
CORRIDOR X	190+00 - 198+00	LT		800			1.0	4.0	1/2:1	6:1	119		110.6		A				
CORRIDOR X	198+00 - 199+00	LT		100			1.0	4.0	2:1	6:1	30		15.2		A				
CORRIDOR X	199+00 - 201+00	LT		200			1.0	4.0	2:1	2:1	60		20.9		A				
CORRIDOR X	201+00 - 207+00	LT		600			1.0	4.0	3:1	6:1	178		98.1		A				
CORRIDOR X	207+00 - 212+00	LT	500				1.0	4.0	3:1	6:1				723	B				
CORRIDOR X	212+00 - 213+00	LT	100				1.0	4.0	4:1	6:1				156	B				
CORRIDOR X	214+00 - 216+00	LT			200		2.0	6.0	2:1	2:1									
CORRIDOR X	216+00 - 220+00	LT		400			2.0	4.0	2:1	2:1	119		63.9		A				
CORRIDOR X	220+00 - 220+50	LT		50			1.0	4.0	3:1	6:1	15		8.2		A				
CORRIDOR X	220+50 - 222+50	LT	200				1.0	4.0	3:1	6:1				289	B				
CORRIDOR X	222+50 - 226+50	LT		400			1.0	4.0	3:1	6:1	119		65.4		A				
CORRIDOR X	226+50 - 235+00	LT		850			1.0	4.0	3:1	6:1				1228	B				
CORRIDOR X	242+00 - 243+00	LT		100			1.0	4.0	3:1	6:1				145	B				
CORRIDOR X	243+00 - 253+00	LT	1000				1.0	4.0	1/2:1	6:1				1167	B				
CORRIDOR X	253+00 - 254+35	LT	135				1.0	4.0	3:1	6:1				195	B				
CORRIDOR X	80+00 - 83+00	RT		300			1.0	4.0	6:1	2:1	89		45.6		A				
CORRIDOR X	83+00 - 85+00	RT		200			1.0	4.0	6:1	3:1	60		32.7		A				
CORRIDOR X	85+00 - 93+00	RT		800			1.0	4.0	6:1	2:1	238		121.7		A				
CORRIDOR X	93+00 - 94+00	RT		100			1.0	4.0	2:1	2:1	30		10.5		A				
CORRIDOR X	94+00 - 96+00	RT				200	1.0	4.0	2:1	2:1	60		20.9						
CORRIDOR X	96+00 - 98+00	RT					2.5	6.0	2:1	2:1				445					
CORRIDOR X	114+00 - 117+00	RT		300			1.0	4.0	2:1	2:1	89		31.4		A				
CORRIDOR X	117+00 - 118+00	RT		100			1.0	4.0	6:1	3:1	30		16.4		A				
CORRIDOR X	118+00 - 120+00	RT	200				1.0	4.0	6:1	3:1				289	B				
CORRIDOR X	121+00 - 126+40	RT			540		2.0	4.0	2:1	2:1		912	960						
CORRIDOR X	130+00 - 131+00	RT		100			1.0	4.0	6:1	4:1				156	B				
CORRIDOR X	131+00 - 133+50	RT		250			1.0	4.0	6:1	3:1				362	B				
TOTAL				4985	9965	2480	1040							3090	1557	4831	4915	6878	

STANDARD DRAWINGS
A. D-614
B. ECN-659

RESPONSIBLE P. E. : _____ DATE: _____
SUPERVISOR: _____ DATE: _____
DESIGNER: _____ DATE: _____
PLAN SUBMITTAL: _____
PLAN - IN-HAND: _____
ALABAMA DEPARTMENT OF TRANSPORTATION DESIGN BUREAU SECTION D-3



SHEET TITLE
SUMMARY OF QUANTITIES

ROUTE
CORRIDOR X

Figure 3.4 Summary of Quantities Box Sheet

SUMMARY OF QUANTITIES

REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO
APD-471(46)	2001	30

STANDARD DRAWINGS

- A. B-713
- B. GA-630-10
- C. GA-630-13
- D. GA-630-20
- E. GR-630-FD
- F. GR-630-S
- G. JF-635
- H. JF-635-W
- I. HW-614-SP
- J. RPC-530
- K. SB-620
- L. HW-614-B

REQUIRED SEEDING & MULCHING								
ROADWAY	652A-053 SEEDING (MIX I-E) (ACRE)	652B-050 TEMPORARY SEEDING (MIX IAT) (ACRE)	652C-000 MOWING (ACRE)	652D-050 SEEDING IN STUBBLE (MIX IAT) (ACRE)	656A-000 MULCHING, CLASS A, TYPE 1 (ACRE)	656A-001 MULCHING, CLASS A, TYPE 2 (ACRE)	666A-001 PEST CONTROL TREATMENT (ACRE)	REMARKS
MAINLINE	75.06	37.20	112.26	37.20	37.20	75.06	112.26	
REED RD	1.95	1.75	3.70	1.75	1.75	1.95	3.70	
GRANNY HYCHE RD	6.57	2.42	8.99	2.42	2.42	6.57	8.99	
PEA RIDGE RD	1.46		1.46			1.46	1.46	
RIVERDAKS DR	17.00	8.25	25.25	8.25	8.25	17.00	25.25	
RIVERVIEW RD		0.87	0.87	0.87	0.87		0.87	
RIVER RD	1.20	1.26	2.46	1.26		1.20	2.46	
TOTAL	104	52	155	52	52	104	155	

REQUIRED FENCE						
STA - STA	ROADWAY	SIDE	635A-000 WOVEN WIRE FENCE (LIN FT)	635B-001 GATE 14' WIDE (EACH)	STANDARD DRAWINGS	REMARKS
80+00 - 127+75	MAINLINE	RT	4910	3	G,H	
80+00 - 126+75	MAINLINE	LT	4780	3	G,H	
128+10 - 161+80	MAINLINE	RT	3520	1	G,H	
127+05 - 161+80	MAINLINE	LT	3825		G,H	
174+20 - 251+75	MAINLINE	RT	8205	5	G,H	
174+20 - 251+75	MAINLINE	LT	8155	2	G,H	
252+10 - 253+95	MAINLINE	RT	205		G,H	
252+10 - 253+35	MAINLINE	LT	240		G,H	
TOTAL			33840	14		

REQUIRED SIDE DRAIN PIPE							
ROADWAY	STATION	SIDE	INDEX No	535A-002 24' SIDE DRAIN PIPE (LIN FT)	619A-102 24' SIDE DRAIN PIPE END TREATMENT, CLASS 1 (EACH)	STANDARD DRAWINGS	REMARKS
REED ROAD	26+50	LT	1	48	2	I,J	
REED ROAD	32+75	LT	2	32	2	I,J	
GRANNY HYCHE ROAD	11+25	RT	3	48	2	I,J	
GRANNY HYCHE ROAD	12+75	RT	4	48	2	I,J	
GRANNY HYCHE ROAD	16+50	RT	5	48	2	I,J	
GRANNY HYCHE ROAD	26+10	RT	6	40	2	I,J	
RIVERVIEW ROAD	12+50	LT	7	56	2	I,J	
RIVER ROAD	29+40	LT	8	56	2	I,J	
TOTAL				376	16		

REQUIRED GUARDRAIL AND GUARDRAIL END ANCHOR									
STA TO STA	ROADWAY	SIDE	630A-000 STEELBEAM GUARDRAIL CLASS A TYPE 1 (LIN FT)	630C-070 GUARDRAIL END ANCHOR TYPE 10 SERIES (EACH)	630C-003 GUARDRAIL END ANCHOR TYPE 13 (EACH)	630C-050 GUARDRAIL END ANCHOR TYPE 20 SERIES (EACH)	713A-000 PERMANENT BARRICADES (LIN FT)	SPECIAL DRAWING No	REMARKS
190+60	MAINLINE	LT					25	A	
130+50	MAINLINE	RT					25	A	
14+90.63 - 19+53.13	REED ROAD	RT	400.0	1	1			B,C,E,F	
18+98.28 - 19+60.78	REED ROAD	LT		1	1			B,C,E,F	
22+80	REED ROAD	RT					25	A	
23+43.11 - 24+05.61	REED ROAD	RT		1	1			B,C,E,F	
23+50.79 - 24+13.29	REED ROAD	LT		1	1			B,C,E,F	
25+80.42 - 30+41.45	REED ROAD	RT	462.5			1		D,E,F	
28+55	REED ROAD	RT					25	A	
30+65.77 - 31+74.13	REED ROAD	RT	112.5	1				B,E,F	
10+72.85 - 12+97.85	PEA RIDGE ROAD	RT	87.5	1				B,E,F	
10+75.00 - 14+62.50	PEA RIDGE ROAD	LT	350.0	1				B,E,F	
22+39.06 - 23+64.06	RIVER ROAD	LT	62.5	1	1			B,C,E,F	
22+39.07 - 23+64.07	RIVER ROAD	RT	62.5	1	1			B,C,E,F	
26+44.05 - 27+19.05	RIVER ROAD	RT				1		C,D,E,F	
26+44.06 - 27+19.06	RIVER ROAD	LT				1		C,D,E,F	
31+07.00 - 34+57.00	RIVER ROAD	LT	312.5	1		1		B,E,F	
19+00.00 - 23+50.00	ACCESS ROAD 2	LT	362.5	1		1		B,E,F	
TOTAL			2213	11	8	5	100		

REQUIRED SPRING BOX								
ROADWAY	STA - STA	SPRING BOX	502A-000 STEEL REINFORCEMENT (LBS)	530A-000 15' ROADWAY PIPE (CLASS J RC) (LIN FT)	619A-001 15' ROADWAY PIPE END TREATMENT (CLASS 1) (EACH)	620A-000 MINOR STRUCTURE CONCRETE (CU YD)	STANDARD DRAWINGS	REMARKS
MAINLINE	80+00 - 254+35	2	144	200	2	1.59	J,K,L	
TOTAL			144	200	2	2		

RESPONSIBLE P.E. DATE
 SUPERVISOR DATE
 DESIGNER DATE
 PLAN SUBMITTAL DATE
 PLAN IN-HAND DATE
 ALABAMA DEPARTMENT OF TRANSPORTATION
 DESIGN BUREAU SECTION D-3



SHEET TITLE
SUMMARY OF QUANTITIES

ROUTE
CORRIDOR X

Figure 3.5 Summary of Quantities Box Sheet

REQUIRED ROADWAY SIGNS									
ID	SHEET NUMBER	ROADWAY	STATION	SIDE	NO POST	710B-001 ROADWAY SIGN POST (#3 "U" CHANNEL GALVANIZED STEEL) (LIN FT)	710A-115 CLASS 4, ALUMINUM FLAT SIGN PANELS 0.08" THICK OR STEEL FLAT SIGN PANELS 14 GAUGE (TYPE 111 OR TYPE 1V BACKGROUND) (SQ FT)	SPECIAL OR STANDARD DRAWING NUMBER	
1	36	DRIVEWAY #1	10+16	LT	1	14	R1-1	7.46	E.F.G.H.I
2	36	GRANNY HYCHE RD	37+00	RT	1	14	R1-1	7.46	E.F.G.H.I
3	37	PEA RIDGE RD	10+60	LT	1	14	R1-1	7.46	E.F.G.H.I
4	42	DRIVEWAY #2	0+25	RT	1	14	R1-1	7.46	E.F.G.H.I
5	42	RIVERVIEW RD	22+75	RT	1	14	R1-1	7.46	E.F.G.H.I
6	43	RIVER RD	22+85	LT	1	14	R1-1	7.46	E.F.G.H.I
7	42	HOOVER RD	12+50	LT	1	14	R1-1	7.46	E.F.G.H.I
TOTAL						98		52	

REQUIRED REMOVAL OF STRUCTURES						
STA	STRUCTURE No	ROADWAY	SIDE	REMOVAL OF STRUCTURES (EACH)	PAY ITEM	DESCRIPTION
12+20	1	GRANNY HYCHE ROAD	RT	1	205A-001	FRAME RES
106+00	2	MAINLINE	RT	1	205A-002	FRAME RES
109+50	3	MAINLINE	RT	1	205A-003	FRAME RES
118+90	4	MAINLINE	RT	1	205A-004	FRAME RES
120+80	5	MAINLINE	LT	1	205A-005	FRAME RES
121+10	6	MAINLINE	LT	1	205A-006	MOBILE HOME
125+80	7	MAINLINE	LT	1	205A-007	DOUBLE WIDE MOBILE HOME
26+15	8	REED ROAD	LT	1	205A-008	BLOCK GARAGE
16+20	9	REED ROAD	RT	1	205A-009	FRAME RES
132+30	10	MAINLINE	RT	1	205A-010	CHICKEN COOP
145+40	11	MAINLINE	RT	1	205A-011	FRAME RES
144+20	12	MAINLINE	LT	1	205A-012	BLOCK & FRAME RES
144+60	13	MAINLINE	LT	1	205A-013	GARAGE
150+40	14	MAINLINE	RT	1	205A-014	FRAME RES
151+00	15	MAINLINE	RT	1	205A-015	FRAME SHED
151+00	16	MAINLINE	RT	1	205A-016	FRAME SHED
152+40	17	MAINLINE	RT	1	205A-017	METAL GARAGE
153+00	18	MAINLINE	RT	1	205A-018	FRAME RES
154+30	19	MAINLINE	LT	1	205A-019	FRAME RES
155+00	20	MAINLINE	RT	1	205A-020	FRAME BARN
155+80	21	MAINLINE	RT	1	205A-021	MOBILE HOME
156+50	22	MAINLINE	LT	1	205A-022	FRAME RES
156+45	23	MAINLINE	LT	1	205A-023	SHED
TOTAL				23		

REQUIRED TRAFFIC STRIPE, TRAFFIC CONTROL MARKINGS									
ROADWAY	701A-004 SOLID WHITE CLASS 1, TYPE A TRAFFIC STRIPE (MILE)	701A-012 SOLID YELLOW, CLASS 1, TYPE A TRAFFIC STRIPE (MILE)	701C-001 SOLID TEMPORARY TRAFFIC STRIPE (MILE)	701G-124 SOLID WHITE, CLASS 3W, TYPE A TRAFFIC STRIPE (LIN FT)	701G-132 SOLID YELLOW, CLASS 3W, TYPE A TRAFFIC STRIPE (LIN FT)	703A-000 TRAFFIC CONTROL MARKINGS, CLASS 1, TYPE A (SQ. FT.)	705A-037 PAVEMENT MARKERS, CLASS A-H, TYPE 2-D (EACH)	STANDARD DRAWINGS	REMARKS
REED ROAD	0.78	0.78	0.78	780	780		62	A,B,C	
PEA RIDGE ROAD	0.25	0.25	0.25			30	18	A,B,C,D	
GRANNY HYCHE ROAD	1.02	1.02	1.02			30	68	A,B,C,D	
RIVERDAKS DRIVE	2.04	2.04	2.04			30	135	A,B,C	
RIVERVIEW ROAD	0.49	0.49	0.49			30	33	A,B,C,D	
RIVER ROAD	0.60	0.60	0.60	560	560	30	40	A,B,C,D	
HOOVER ROAD						30		D	
ACCESS ROAD 2	0.72	0.72	0.72				48	A,B,C	
TOTAL	6	6	6	1340	1340	150	404		

REQUIRED SLOPE PROTECTION UNDER BRIDGES				
LOCATION	614A-001 SLOPE PAVING (UNDER BRIDGES) (CU YD)	654A-001 SOLID SODDING, (BERMUDA) (SQ YD)	SPECIAL DRAWINGS	REMARKS
REED ROAD OVER MAINLINE	41	95	A	
TOTAL	41	95		

REQUIRED EROSION AND SEDIMENT CONTROL DEVICES										
STA. - STA.	ROADWAY	SIDE	665C-000 15" TEMPORARY PIPE (LIN. FT.)	665F-000 HAY BALES (EACH)	210A-000 UNCLASSIFIED EXCAVATION (CU YD)	665J-000 SILT FENCE, TYPE A (LIN. FT.)	665K-000 DRAINAGE SUMP EXCAVATION (CU. YD.)	665L-000 FLOATING BASIN BOOM (LIN. FT.)	STANDARD DRAWING	REMARKS
80+00-254+35	MAINLINE	LT	305	208	285	5050	1092		J,K,L,M	
80+00-254+35	MAINLINE	RT	175	232	347	5350	1300		J,K,L,M	
80+00-254+35	MAINLINE	MED		476		3096			J,K,L,M	
161+80-218+20	MAINLINE				2170	2700		1600	K,L,M,N	
10+00-16+50	GRANNY HYCHE ROAD	LT		16	32	500	70		K,L,M	
10+00-38+00	GRANNY HYCHE ROAD	RT		24	64	1700	132		K,L,M	
10+00-34+00	REED ROAD	LT				3000			L,M	
10+00-34+00	REED ROAD	RT		48		1750	14		K,L,M	
10+00-17+00	PEA RIDGE ROAD	LT				1800			L,M	
10+00-17+00	PEA RIDGE ROAD	RT		8		750	28		K,L,M	
0+00-16+50	NW ACCESS ROAD	LT				3300			L,M	
0+00-16+51	NW ACCESS ROAD	RT				3300			L,M	
7+50-20+00	RIVERDAKS DRIVE	LT		56	64		98		J,K,M	
7+50-71+00	RIVERDAKS DRIVE	RT		40	190	6400	268		J,K,L,M	
10+00-17+00	RIVERVIEW ROAD	LT		8		200			K,L,M	
10+00-17+00	RIVERVIEW ROAD	RT		8		200			K,L,M	
27+00-37+00	RIVER ROAD	LT		16					K	
27+00-37+00	RIVER ROAD	RT		16					K	
15+00-21+00	RIVER ROAD DETOUR	RT				1300			L,M	
5+00-24+00	ACCESS ROAD 2	LT		16		1800			K,L,M	
5+00-24+01	ACCESS ROAD 2	RT		56		200	14		K,L,M	
TOTAL			480	1228	3152	42396	3016	1600		

REQUIRED TEMPORARY PIPE					
ROADWAY	STA	530A-495 24" ROADWAY PIPE (14 GAUGE C.M.) (TEMPORARY) (LIN FT)	530A-662 24" ROADWAY PIPE (CLASS 3 R.C.) (TEMPORARY) (LIN FT)	STANDARD DRAWINGS	REMARKS
RIVER ROAD DETOUR	13+31	40			
RIVER ROAD DETOUR	18+60	100			
RIVER ROAD	34+70		128		
TOTAL		140	128		

REQUIRED CLOSING WATER WELL				
STA - STA	ROADWAY	SIDE	204A-000 CLOSING WATER WELL (EACH)	REMARKS
107+30	MAINLINE	RT	1	
146+08	MAINLINE	RT	1	
150+80	MAINLINE	RT	1	
152+42	MAINLINE	RT	1	
TOTAL			4	

Figure 3.6 Summary of Quantity Box Examples

REQUIRED BRIDGES																					
DESCRIPTION	STEEL REINFORCEMENT	STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE, STA. 19+56.95 APPROX. 105000 LBS.	STEEL REINFORCEMENT FOR BRIDGE SUPERSTRUCTURE, STA. 23+44.06 APPROX. 68800 LBS.	DRILLED SHAFT EXCAVATION 3'-6" DIAMETER	DRILLED SHAFT EXCAVATION 5'-6" DIAMETER	SPECIAL DRILL SHAFT EXCAVATION 3'-6" DIAMETER	SPECIAL DRILL SHAFT EXCAVATION 5'-6" DIAMETER	DRILL SHAFT CONSTRUCTION 3'-6" DIAMETER, CLASS DS1 CONCRETE	DRILL SHAFT CONSTRUCTION 5'-6" DIAMETER, CLASS DS1 CONCRETE	CROSSHOLE SONIC LOGGING 3'-6" DIAMETER	CROSSHOLE SONIC LOGGING 5'-6" DIAMETER	STRUCTURAL STEEL	BRIDGE SUBSTRUCTURE CONCRETE, CLASS 'A'	BRIDGE CONCRETE SUPERSTRUCTURE, STA. 19+56.95 APPROX. 478 CU. YDS.	BRIDGE CONCRETE SUPERSTRUCTURE, STA. 23+44.06 APPROX. 364 CU. YDS.	GROOVING CONCRETE BRIDGE DECKS	ELASTOMERIC BEARINGS, TYPE 2	ELASTOMERIC BEARINGS, TYPE 4	PRETENSIONED-PRESTRESSED CONCRETE GIRDBEAMS, TYPE III (SPECIALTY ITEM)	PRETENSIONED-PRESTRESSED CONCRETE GIRDBEAMS, TYPE BTZ (SPECIALTY ITEM)	STANDARD DRAWINGS
ITEM No	502A-000	502B-000	502B-001	506A-005	506A-006	506B-002	506B-006	506C-041	506C-045	506G-001	506G-005	508A-000	510A-000	510C-051	510C-052	510E-000	511A-001	511A-004	513B-005	513B-017	
UNIT	LB	LUMP SUM	LUMP SUM	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	LB	CU YD	LUMP SUM	LUMP SUM	SO YD	EACH	EACH	LIN FT	LIN FT	
REED ROAD	124900	1		278	92	81	83	359	151	1	1	6615	373	1		1300	40				B.C
RIVER ROAD	39600		1	25		27		52				3175	217		1	930		24		1662	B.C
TOTAL	164500	1	1	303	92	108	83	411	151	1	1	9790	590	1	1	2230	40	24	736	2858	

REQUIRED RIGHT OF WAY MARKERS						
ROADWAY	STATION	OFFSET	SIDE	602A-000 RIGHT OF WAY MARKERS (EACH)	STANDARD DRAWINGS	REMARKS
MAINLINE	80+00	250	LT	1	A	
MAINLINE	80+00	345	RT	1	A	
MAINLINE	88+00	260	LT	1	A	
MAINLINE	92+00	320	RT	1	A	
MAINLINE	93+00	375	LT	1	A	
MAINLINE	98+50	360	RT	1	A	
MAINLINE	99+00	310	LT	1	A	
MAINLINE	103+00	190	LT	1	A	
MAINLINE	106+50	282	RT	1	A	
MAINLINE	107+00	300	LT	1	A	
MAINLINE	108+00	400	RT	1	A	
MAINLINE	109+51.80	300	LT	1	A	
MAINLINE	109+83.68	300	LT	1	A	
MAINLINE	110+00	425	RT	1	A	
MAINLINE	117+00	270	LT	1	A	
MAINLINE	119+00	370	RT	1	A	
MAINLINE	121+00	570	RT	1	A	
MAINLINE	123+50	635	RT	1	A	
MAINLINE	125+00	210	LT	1	A	
MAINLINE	128+50	190	LT	1	A	
MAINLINE	129+50	210	RT	1	A	
MAINLINE	130+42.88	230	RT	1	A	
MAINLINE	130+74.74	230	RT	1	A	
MAINLINE	131+50	190	LT	1	A	
MAINLINE	135+50	320	LT	1	A	
MAINLINE	141+50	450	RT	1	A	
MAINLINE	141+26.51	280	LT	1	A	
MAINLINE	141+26.51	331.69	LT	1	A	
MAINLINE	141+26.51	370	LT	1	A	
MAINLINE	141+50	350	RT	1	A	
MAINLINE	143+20	294.59	LT	1	A	
MAINLINE	145+00	260	RT	1	A	
MAINLINE	150+00	310	LT	1	A	
MAINLINE	153+00	380	RT	1	A	
MAINLINE	154+00	315	LT	1	A	
MAINLINE	154+70	400	LT	1	A	
MAINLINE	156+50	370	LT	1	A	
MAINLINE	156+70	470	LT	1	A	
MAINLINE	157+30	485	LT	1	A	
MAINLINE	157+50	335	LT	1	A	
MAINLINE	160+18.53	420	RT	1	A	
MAINLINE	160+18.53	375	LT	1	A	
MAINLINE	160+18.53	420	RT	1	A	
MAINLINE	162+00	200	LT	1	A	
MAINLINE	162+00	200	RT	1	A	
MAINLINE	172+50	200	RT	1	A	
MAINLINE	173+00	435	RT	1	A	
MAINLINE	173+50	200	LT	1	A	
MAINLINE	177+00	440	LT	1	A	
MAINLINE	181+50	250	RT	1	A	
MAINLINE	184+00	380	RT	1	A	
MAINLINE	187+90.73	440	RT	1	A	
MAINLINE	190+85	570	RT	1	A	
MAINLINE	194+50	625	RT	1	A	
MAINLINE	194+76.27	440	LT	1	A	
MAINLINE	195+09.24	440	LT	1	A	
MAINLINE	197+00	440	LT	1	A	
MAINLINE	199+00	525	RT	1	A	
MAINLINE	201+50	405	RT	1	A	
MAINLINE	203+10.81	430	RT	1	A	
MAINLINE	203+48.74	430	RT	1	A	
MAINLINE	205+18.08	340	LT	1	A	
MAINLINE	205+50	430	RT	1	A	
MAINLINE	208+45.16	350	LT	1	A	
MAINLINE	209+00	465	RT	1	A	
MAINLINE	210+50	465	RT	1	A	
MAINLINE	213+50	420	RT	1	A	
MAINLINE	216+00	370	LT	1	A	
MAINLINE	217+50	640	RT	1	A	
MAINLINE	221+00	230	LT	1	A	
MAINLINE	221+50	590	RT	1	A	
MAINLINE	223+50	430	RT	1	A	
MAINLINE	228+47.73	250	LT	1	A	
MAINLINE	229+56.06	250	LT	1	A	
MAINLINE	213+50	390	RT	1	A	
MAINLINE	232+50	505	RT	1	A	
TOTAL				76		

REQUIRED REINFORCED CONCRETE BOX CULVERTS														
ITEM NUMBER	524A-011		502A-000		214A-000		214B-001		620A-000					
STATION	INDEX NUMBER	DRAINAGE SECTION SHEET No	CULVERT		SKEW	FILL HEIGHT	CULVERT CONCRETE (CIP)	STEEL REINFORCEMENT	STRUCTURE EXCAVATION	FOUNDATION BACKFILL (COMMERCIAL)	SPECIAL CONCRETE COLLAR	MINOR STRUCTURE CONCRETE	STANDARD DRAWINGS	REMARKS
			SIZE	LENGTH			(CU YD)	(LB)	(CU YD)	(CU YD)		(CU YD)		
42+226 SR 157 NB	17-20	82	CS 4' x 6'	96'	3°30' RT AH	5.5'	63	7869	54	38			A, D, G, K, Q	*REOD 5 FT TOEWALL
233+81.5 SR 157 NB	108-109-112	85	CS 4' x 4'	109'	30°00' RT AH	4.1'	56	5657	102	43	1	10	A, B, C, D, F, J, P, D	*REOD 5 FT TOEWALL, CONNECT TO CATTLE PASS WITH SPECIAL CONCRETE COLLAR
4+623 CR 16	116-117	91	CS 8' x 4'	54'	2°00' RT BK	3.8'	50	8484	110	55			A, I, U	*REOD 5 FT TOEWALL
TOTAL							169	22010	266	136		10		

REQUIRED CONCRETE REINFORCED BRIDGE CULVERT (CIP)												
STA - STA	ROADWAY	SIZE	SKEW	FILL HEIGHT	214A-000 STRUCTURE EXCAVATION (CU YD)	214B-001 FOUNDATION BACKFILL, COMMERCIAL (CU YD)	502A-000 STEEL REINFORCEMENT (LB)	524A-011 CULVERT CONCRETE (CIP) (CU YD)	610C-001 LOOSE RIPRAP, CLASS 2 (TON)	610D-000 FILTER BLANKET (SQ YD)	STANDARD DRAWINGS	REMARKS
96+36.17 - 96+67.83	MAINLINE	CT 8' X 10'	30° RT AH	50'	2863.52	1044	511143.75	2470.37	1044	1030	B, C, D	
TOTAL					2864	1044	511144	2471	1044	1030		

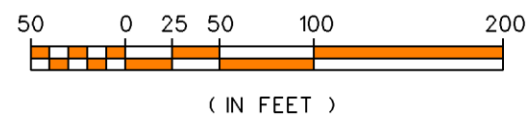
REQUIRED REINFORCED CONCRETE BOX CULVERTS EXTENSION (CIP)													
ITEM NUMBER	524B-011		502A-000		214A-000		214B-001		620A-000				
STATION	INDEX NUMBER	DRAINAGE SECTION SHEET No	CULVERT		SKEW	FILL HEIGHT	CULVERT CONCRETE EXTENSION (CIP)	STEEL REINFORCEMENT	STRUCTURE EXCAVATION	FOUNDATION BACKFILL (COMMERCIAL)	MINOR STRUCTURE CONCRETE	STANDARD DRAWINGS	REMARKS
			SIZE	LENGTH			(CU YD)	(LB)	(CU YD)	(CU YD)	(CU YD)		
49+48.9 SR 157 NB	24-25-28	82	CD 4-FT x 4-FT	132-FT	7°00' RT BK	18.0-FT	106	13089	179	75	0.4	A, B, C, D, I, N, T	*REOD 5-FT TOEWALL, CONNECT TO IN-PL CS 4-FT X 4-FTW/ TEMPORARY CONC PLUG AT STR NO 24
TOTAL							106	13089	179	75	1		

Figure 3.7 Summary of Quantity Box Examples

CHAPTER 4 – PLAN AND PROFILE

The plan/profile sheet displays the project's horizontal and vertical alignments in reference to existing elements and illustrates a majority of the required items of work. The first roadway plan sheet starts with sheet number 4 and, when possible, displays the plan view along the top of the page and the profile view with corresponding station numbers as the plan view on the bottom portion of the same page, as presented in Figure 4.1. When the required scales result in a plan view or profile view that is too big to fit both on the same page, then the sheet number of the profile view will be the plan view sheet number with the suffix of 'A'. For example, if the plan view of sheet 5 displays the horizontal alignment from 120+00 through station 135+00 then sheet 5A will display the profile view from station 120+00 through station 135+00.

Plotting should typically be performed at a horizontal scale of 1" = 50' on a full size plan sheet (24" x 36"). A scale of 1" = 100' can be used on a full size plan sheet if there is little information to display. Place a bar scale, such as that shown below, to enable the estimate of distance in case the scale of the plans has been altered by electronic copying.



Note: Full size plan sheets (24" x 36") are often reduced and copied to half size plan sheets (12" x 18"). Therefore, all elements shown and labeled on a full size plan sheet must be legible when reduced to half size.

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Plan View General Guidelines

(Refer to Figures 4.1 and Figure 4.2)

The preferred method of assembling the plan/profile sheets is on a single sheet with the plan view on the top portion and the profile view, aligned with the stations of the plan view, on the bottom portion of the sheet, as presented in Figure 4.1. If needed plan and profile views may be shown on separate plan sheets to improve legibility (see Figures 4.2 and 4.3). The order of assembling the plan/profile sheets in the plans set shall be: Mainline, Side roads, Ramps.

1. The title "Plan/Profile Sheet" shall be placed at the top center of each individual plan/profile sheet. When the plan view and profile views are broken on two different sheets the title "Plan Sheet" and "Profile Sheet" shall be used as the title on the respective sheet.
2. The baseline survey and/or centerline of construction should be centered in the plan portion of the sheet. For North/South roadways, the roadway shall be stationed from south to north, with the southernmost station beginning on the left side of the plan sheet. For East/West roadways, the roadway shall be stationed from west to east, with the western most station beginning on the left side of the plan sheet. For resurfacing projects, simple projects, or sections of a project without a profile view, "stacking" multiple plan views on one sheet is generally permitted if clarity and legibility are maintained. When multiple plan views are shown on a plan sheet, they shall be stacked from top to bottom.
3. A "major tick" mark shall be placed perpendicular and across the centerline at every 500' station. In addition, intermediate ticks shall be placed at 100' stations. Intermediate ticks shall begin at the centerline and be placed perpendicular to it. The intermediate tick marks should be half the length of major tick marks placed at 500' stations.
4. Station numbers should be placed close to tick marks for scales up to and including 1" = 50' and outside the R.O.W. lines for smaller scales. Place station numbers at 500' stations. The letter 'a' or 'b' preceding a station number usually indicates the project contains a station equation.
5. A north arrow shall be shown at a point of maximum visibility, preferably in the upper right portion of the plan view.
6. PC and PT points of horizontal curves shall be indicated by small circles with short radial lines drawn from these points and identified. Curve data shall be displayed for each horizontal curve using the following format:
 - PI (Station)
 - D (Degree of Curve)
 - Delta (Delta Angle Including LT or RT)
 - R (Radius Length)
 - T (Tangent)
 - L (Length of Curve)
 - e (Superelevation)

Care must be taken in the clipping of plan sheets to properly orient the horizontal curves within the plan view. In cases where the curve extends over more than one sheet, the curve data shall be repeated on each sheet showing the curve.
7. The project construction limits shall be shown and labeled.

8. Label and flag the beginning and ending of the project on the mainline, the beginning and ending of work on mainline, and the end of work on side roads, ramps, etc.
9. The limits of the R.O.W. shall be displayed with notation of the incremental station distance and offset distance from the project centerline when changes to the present ROW and/or acquired ROW transition distances occur. If the R.O.W. distance remains constant for a distance greater than one plan sheet station range, then the R.O.W. distance shall always be shown on each plan/profile sheet regardless if a R.O.W. distance transition occurs or not. When the acquired R.O.W. connects with the present R.O.W. do not label the R.O.W. point as "tie to present R.O.W.". Always use a station and offset distance to describe an acquired R.O.W. point and/or when tying to the existing R.O.W. Except in unusual situations R.O.W. shall be shown as whole station (i.e. 12+32) and offsets in whole feet (+52). When not shown as above, the degree of accuracy shall not exceed 1/100.
10. Show property lines and property owners.
11. Show and label construction easements.
12. All existing topography shall be shown. Existing roads, streets, drives, buildings, walls, curbs, pavements, fences, railroads, bridges, drainage structures, control points, and similar items shall be plotted and labeled. Existing topography within the R.O.W. shall be labeled as "existing" or "in place". Label the disposition of existing topography, such as "retain", "remove", "partially remove", etc. Label structures to be removed with appropriate symbol and structure number. Streams, wetlands, ponds, lakes, wooded areas, ditches, and all other physical features shall also be shown. Existing gasoline storage tanks within limits of topographical survey shall be located and illustrated. Hazardous material site(s) shall be shown and labeled. Existing topographic survey data may be shaded so that required elements are easier to view. Existing pavement shall be shaded appropriately as designated on the "Plans Legend Sheet".
13. Required items shall be shown and labeled as "required".
14. Bearings, in the direction of stationing, shall be shown for all tangent sections.
15. Station equivalencies, angles with mainline centerline and/or bearings in the direction of stationing of the crossroad shall be shown for all roads and streets intersecting or crossing the project.
16. All the survey control points shall be shown.
17. If section lines or city limits are encountered within the limits of the project, the lines or limits shall be tied by station, bearing, and angle of intersection with the centerline.
18. Label the beginning and ending of exceptions and equations.
19. Proposed roadway cross drain pipes, sidedrain pipes, inlets, manholes, junction boxes, etc, shall be shown. Roadway cross drain pipe sizes and type shall be shown. All required roadway cross drain pipe and storm sewer pipe shall be flagged at each end by a circle with the index number in the top half of the circle and the drainage sheet number that contains the detailed drainage section within the lower half of the circle. The index numbers shall be assigned with the lower number at the inlet and the larger number at the outlet. Side drains pipes shall have the letters SD in the top half of the identification circle with the drainage structure index number in the lower half of the circle.

20. Box culvert size and length shall be shown. Box culverts (single or multiple) of 20 feet total span or more (measured from the extreme ends of openings along the centerline) shall be designated as bridge culverts and shall be identified by both a Bridge Identification Number (BIN) and a drainage structure number. The beginning and ending stations (inside wall to inside wall) shall be flagged and labeled.
21. Proposed bridges and approach bridge end slabs shall be shown by simple outline. Bridges shall be identified by BIN, length of bridge, and the beginning and ending stations noted by station flags. The beginning and ending stations of bridge end slabs shall be labeled.
22. Required special ditches, ditches that deviate geometrically from the typical sections, shall be shown on the plan view. The special ditch shall be shown using the appropriate lining legend that will be presented on the "Erosion and Sediment Control Plans Legend" located within the plan assembly.
23. The begin/end stations and class and type of required guardrail in addition to the required type of end anchor and end treatment can be shown on this sheet. If this information is not shown on this sheet, they shall be shown on the Paving Layout Sheet.
24. Limits of wetlands shall be shown based on permit or regulatory requirements.
25. Bench mark data shall be shown on the plan sheet for all bench marks within the station limits shown on the plan sheet. Bench mark data is normally shown in the top-left corner of the plan sheet.
26. List all of the GN2 and Project Notes that apply to the roadway items that appear on the plan sheet.
27. Every known roadway name shall be labeled. Label the roadway as "unnamed" if it does not have a designated name or road number.
28. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for

underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name. For plans prepared by ALDOT personnel; the Professional Engineer and Design Manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet in the appropriate spaces to acknowledge they physically checked the printed sheet. If the Professional Engineer in charge and the Design Manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the border. Plan sheets shall be signed and dated as discussed above for the 30% Inspection, Plan-In-Hand Inspection, PS&E Inspection, Final Backcheck Review, Construction Review, and the final plan submittal to Office Engineer.

29. It is preferred that roadway laneage dots and directional traffic flow arrows be shown when possible. Showing this information may sometimes make the drawing to cluttered and difficult to read. If this is the case, this information should not be shown.
30. The order of plan/profile sheets by roadway type should be the following:
 - a. Mainline
 - b. Side roads
 - c. Ramps
 - d. Driveways
 - e. Other
31. A bar scale shall be used to denote the plan sheet scale and located in the bottom right corner.
32. Provide a vertical bar scale.

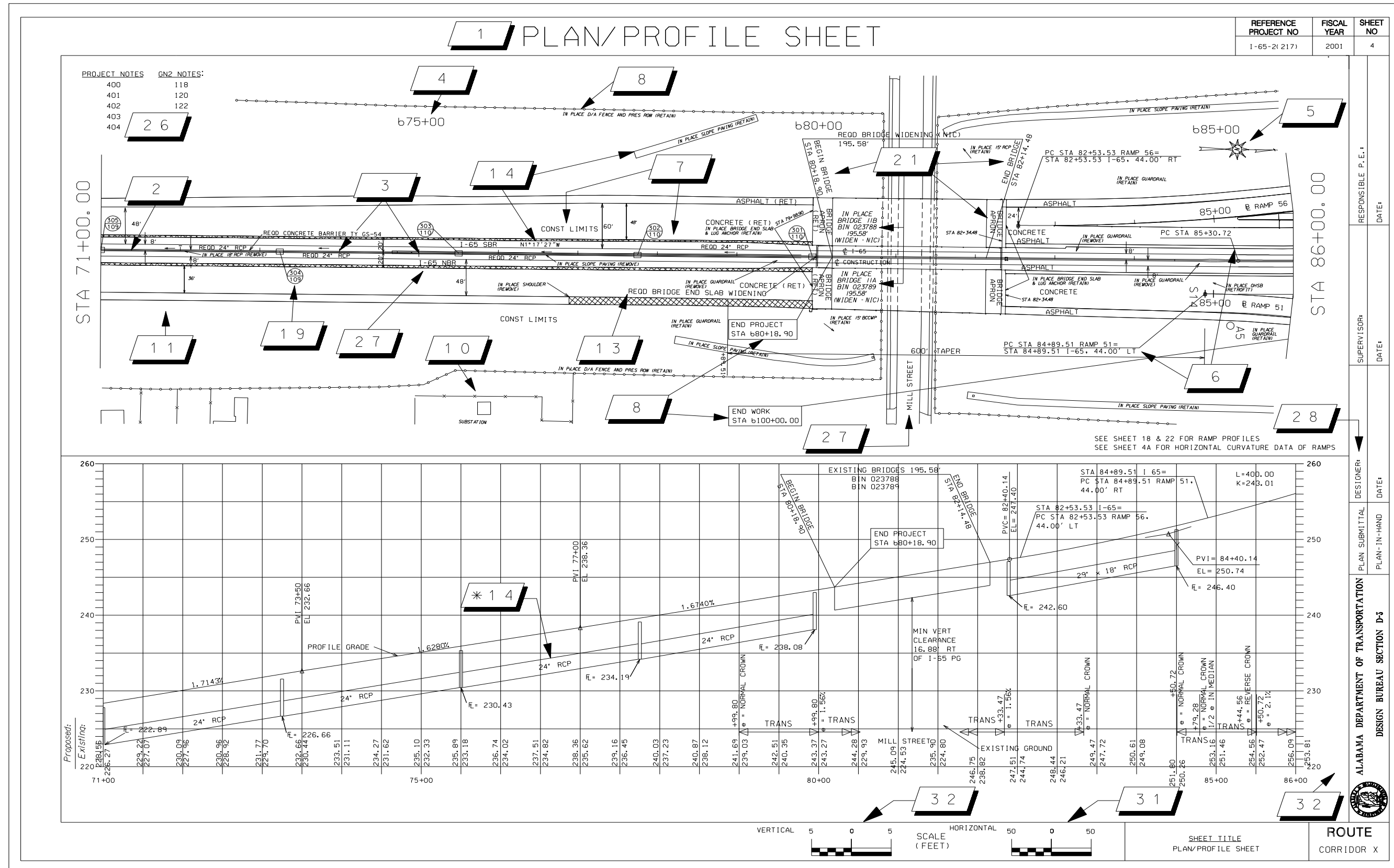


FIGURE 4.1 PLAN/PROFILE SHEET_12.15.08.dgn 1/22/2009 1:59:35 PM

Note: * See page 4-6 for callout description

Figure 4.1 Preferred Representation Of Plan And Profile Views On A Single Page.

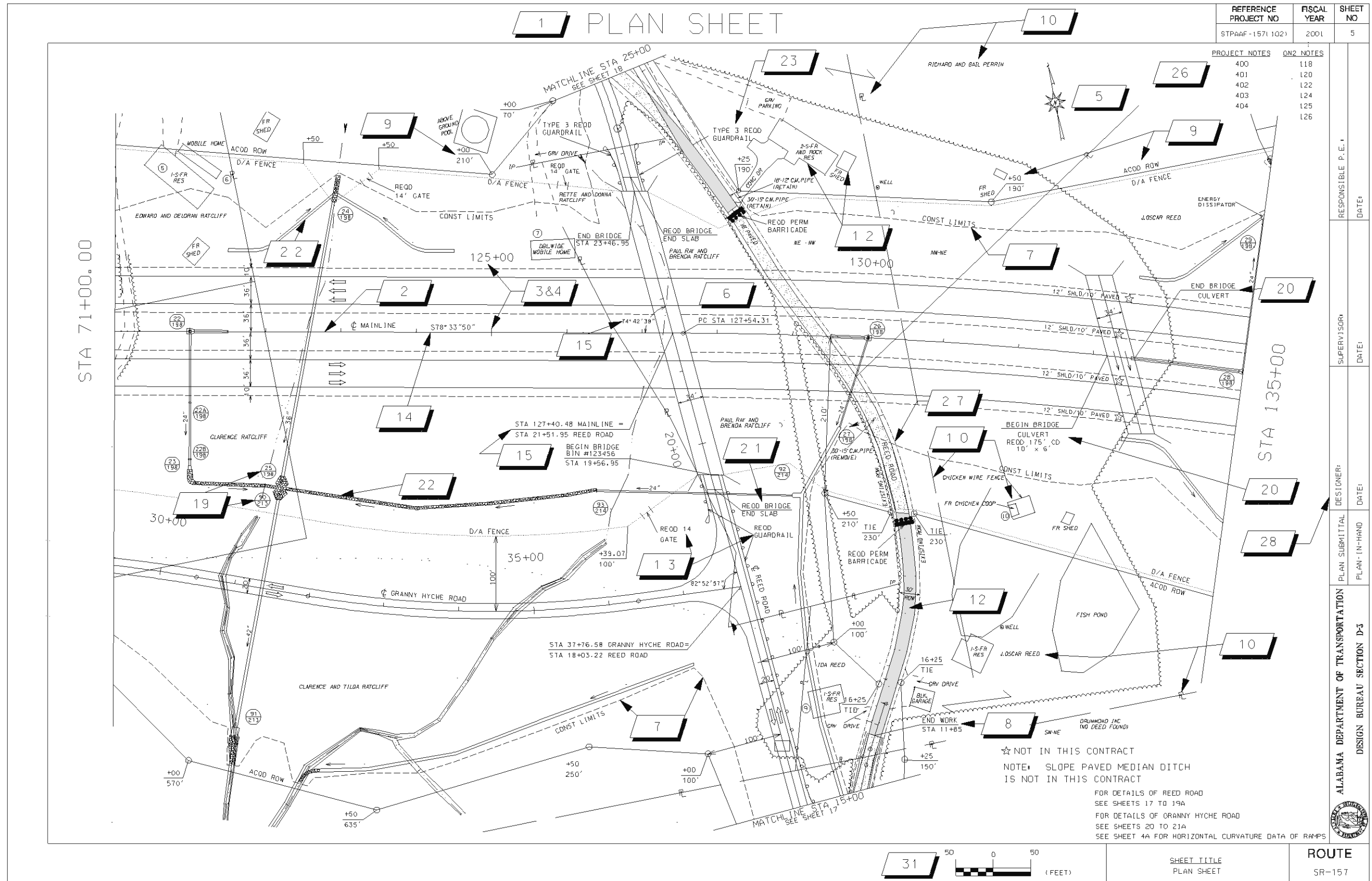


Figure 4.2 Plan View Presented On a Single Sheet

Profile View General Guidelines

(Refer to Figure 4.3)

1. Provide a horizontal bar scale for the profile portion of the sheet. The scale shall be the same as that used for the plan portion. Station limits of the profile shall correspond to those of the plan portion of each sheet. Station numbers shall be placed across the bottom of the sheet just above the inside sheet border. Intervals for profile stations shall be the same as those in the plan view.
2. Provide a vertical bar scale.
3. Vertical elevation datum selected shall be such that the profile will not crowd either the upper or lower limits of the profile format and allow for labeling of the profile. A general guideline is the vertical scale should be exaggerated using a 10:1 ratio. A vertical scale of 1"=10' should normally be used if the horizontal scale is 1"=100' and a 1"=5' vertical scale should be used if the horizontal scale is 1"=50'. Elevation data shall be shown on both the left and right sides of the profile grid
4. The existing ground line profile shall be shown and labeled "Existing Ground".
5. All high water elevations affecting base clearance or roadway grades shall be shown and labeled. Show the most critical minimum distance of bridge girders below and/or above roadway, railroad tracks, vehicle passage way, etc. Label offset distance of minimum vertical clearance from the horizontal grade line from which the profile grade was taken.
6. Station equations and exceptions shall be labeled and flagged.
7. Bridges, bridge culverts, the station of overhead bridge structures, the beginning and ending work stations for the mainline, and the beginning and ending project stations for the mainline shall be labeled and flagged. End work stations for side roads shall also be labeled and flagged.
8. The profile grade line identified on the typical sections shall be drawn with a solid line to represent the elevation of the roadway on the profile grade. The roadway profile grade shall be labeled "Profile Grade". When 1/2 median superelevation is required, the differing pivot point grade lines for each of the effected roadways shall be labeled and each shown with an unique line symbology. Also, when a bifurcated roadway is in place and/or will be constructed the profile grade of each roadway shall be shown and labeled by the direction (e.g. EBR Profile Grade).
9. Vertical curve PVC's and PVT's shall be indicated by small circles and PVI's by a small triangle with short sections of tangent shown on each side of the PVI.
10. Percents of grade to 4 significant digits shall be shown on the tangent line (trailing zeros need not be shown).
11. Vertical lines shall be extended from the PVC and PVT points and a dimension line placed between these lines indicating the length of the vertical curve and the K factor that is a measure of the available sight distance. Normally, the curve length with dimension lines and also profile grade elevations shall be placed and labeled above the grade line for sag vertical curves and below the grade line for crest vertical curves. The PVC and PVT stations and elevations shall be indicated on the vertical lines.
12. The super elevation application stations (NC, RC, "1/2 median super", "e" at full super elevation station, etc.) should be placed within the profile grid using a short vertical line perpendicular to the profile grid and directly above the location they occur. The appropriate designation, NC, RC, "1/2 median super", full super elevation percentage, etc, shall be placed vertically adjacent to these short vertical lines and the application station shall be labeled after. Cross-slope transitions and the full super elevation percentage should be placed horizontally above the station or station range they occur.
13. Ditches (special ditches) that deviate geometrically (either horizontally, vertically and/or both) from the ditches represented on the typical section sheets shall be placed on the profile view. These ditches shall be labeled appropriately. The percent grade shall be noted, to 2 significant decimal places, whenever the grade of the special ditch changes. Special ditch PI's shall be labeled with station and elevation information.
14. The location of existing and required bridges, bridge culverts, culverts, and roadway cross drain pipes shall be shown to scale on the profile view. The proper symbol shall be used. The flow line elevation at the centerline shall be calculated (if not provided in survey) and the size and type of drainage structure labeled. Where critical pipe clearance issues exist, label direction (LT or RT) from the horizontal alignment from which the profile grade was taken, the drainage structure invert elevation, and the critical distance(s) from the profile grade (Refer to Figure 4.1 for example).
15. Show PI's for intersecting roadways.
16. Vertically label existing ground and profile grade elevations at least every 100' station. This is normally done at the bottom of the profile grid. Label the profile grade elevation to the left of station grid line and the existing ground elevation to the right of station grid line.
17. For a 2 lane to 4 lane conversion show the profile of the existing roadway to be retained.
18. ALDOT Standard Plan Sheet Border and Required Signatures

For plans prepared by ALDOT personnel and submitted to the Office Engineer for letting: The ALDOT supervising Professional Engineer and design manager responsible for checking the plan sheet, as well as the last designer to work on the plan sheet shall sign and date each sheet, except the Title Sheet, in the appropriate space to acknowledge they physically checked the printed sheet. If the supervising Professional Engineer in charge and the design manager is the same person, then that person shall sign and date the sheet in both areas. Also, the plan inspection and/or review description shall be labeled in the space provided within the standard ALDOT sheet border for all inspections and reviews. The plans do not have to be signed and dated until final plans are submitted to the Office Engineer for letting.

For plans prepared by consultants and submitted to Office Engineer for letting: Neither the consultant or any of his personnel are required to sign and/or date the standard ALDOT sheet border. The consultant is **only** required to sign, date, and stamp the title sheet of ALDOT plans unless the "Alabama State Board of Licensure for Professional Engineers & Land Surveyors" requires otherwise. Other Professional Engineers working

with the primary consultant may be required to stamp and date subsections of the plans to meet ALDOT guidelines and/or professional licensure requirements. If desired, consultants may provide signatures and dates on the standard plan sheet border and/or provide a consultant information box at the bottom right corner of the plan sheet. However, it is mandatory that consultants label the plan inspection the plans are being submitted for underneath the border block titled "PLAN SUBMITTAL". The consultant shall also replace "DESIGN BUREAU SECTION D-?" located in the block containing the State Seal with their company name.

19. Label and flag the name and station of all intersecting roadways.

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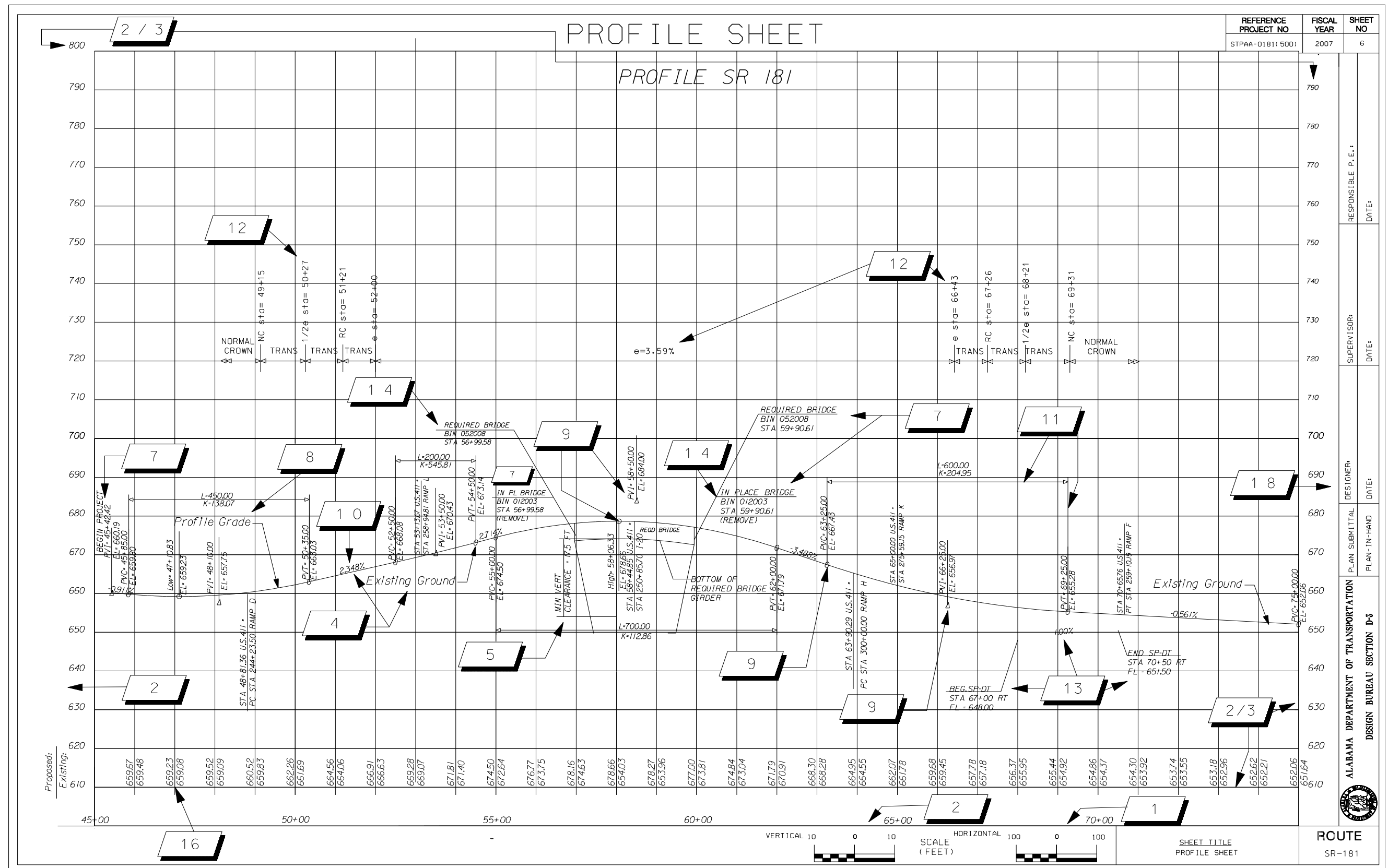


FIGURE 4.3 PROFILE SHEET_12.15.08.dgn 1/22/2009 11:58:52 AM

Figure 4.3 Profile View Presented On a Single Sheet