



CITY OF LEEDS, ALABAMA

COUNCIL WORK SESSION AGENDA

**DUE TO A LACK OF QUORUM, THIS MEETING IS
CANCELLED AND WILL BE RESCHEDULED TO A FUTURE
DATE.**

City Hall Annex - Meeting Room - 1412 9th St, Leeds, AL 35094

September 09, 2025 @ 4:00 PM

To view this meeting online:

<https://meet.goto.com/CityofLeeds>

[Public Participation Sign-up](#)

CALL COUNCIL MEETING TO ORDER

NEW BUSINESS:

1. WS25-09-01 - Apple Study - Lane Dr.

PUBLIC COMMENTS

All comments are to be limited to 2 minutes

ADJOURNMENT

In compliance with the Americans with Disabilities Act, those requiring accommodation for Council meetings should notify the City Clerk's Office at least 24 hours prior to the meeting at 205-699-2585.

If you wish to speak at this meeting, please use the following web address:

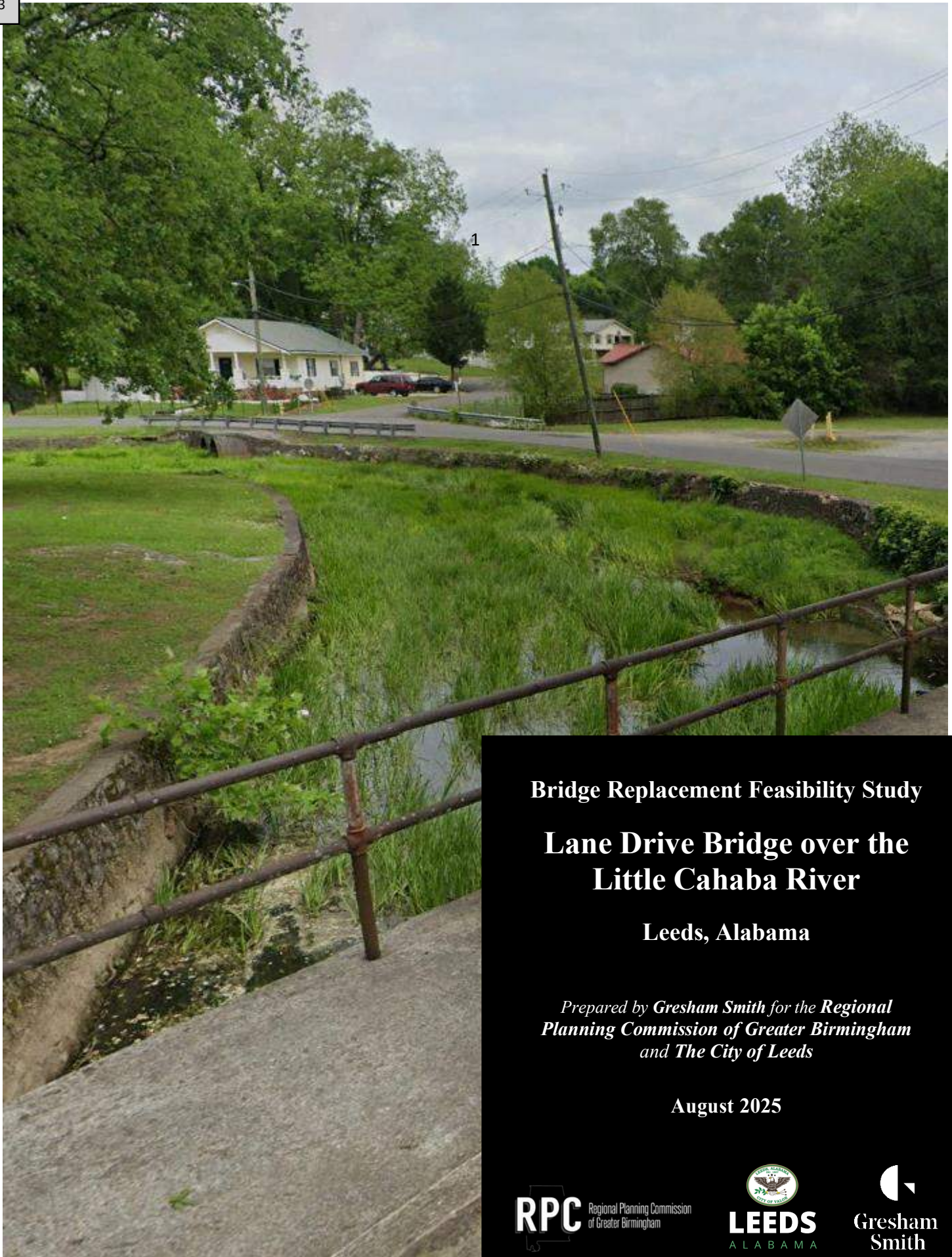
[Public Participation Sign-Up](#)

QR code to sign up



File Attachments for Item:

1. WS25-09-01 - Apple Study - Lane Dr.



Bridge Replacement Feasibility Study

Lane Drive Bridge over the Little Cahaba River

Leeds, Alabama

*Prepared by Gresham Smith for the Regional
Planning Commission of Greater Birmingham
and The City of Leeds*

August 2025

EXECUTIVE SUMMARY

The purpose of this feasibility study is to develop, study, and prepare preliminary project cost estimate alternatives for the replacement of the Lane Drive bridge over the Little Cahaba River in Leeds, Alabama. The existing Lane Drive Bridge has exceeded its original design life expectancy and is showing significant signs of deterioration. The existing structure also has a substandard hydraulic capacity which we understand causes Lane Drive to be overtopped and closed once or twice a year. This feasibility study will look at alternatives to replace the existing bridge and improve the hydraulic capacity.

In an effort to reduce impacts to surrounding properties, we have developed and studied two alternatives that will replace the existing bridge without relocating or realigning Lane Drive. Alternative 1 proposes to raise the existing elevation of the bridge by approximately 6 inches to improve hydraulic capacity. Alternative 2 proposes to raise the existing elevation of the bridge by approximately 2 feet to improve hydraulic capacity. This feasibility study analyzes the advantages and disadvantages of both alternatives including estimated construction costs, right-of-way impacts, utility relocation requirements, and environmental impacts.

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1.0 EXISTING CONDITIONS

1.1 PROJECT BACKGROUND

The existing Lane Drive bridge over the Little Cahaba River is an old and deteriorating structure. Based on history provided by the City of Leeds, we understand that Lane Drive overtops and floods, requiring closure of the road and bridge, once or twice a year. Based on FEMA flood zone maps, the top of the existing bridge is approximately 2 feet below the 10-year flood elevation. As observed during a site visit, the existing bridge is located in a bend in the Little Cahaba River and the existing piers have several bends in them that may have originally been intended to prevent erosion by “turning” the water under the bridge. However, these bends may have the unintended consequence of contributing to the increased flooding upstream by creating a hydraulic obstruction within the stream.

1.2 PROJECT LOCATION AND DESCRIPTION OF THE STUDY AREA

The Lane Drive bridge is located in Leeds, Alabama, just north of the intersection of Lane Drive and Ashville Road NE. Lane Drive is a two-lane, local rural collector route. Lane Drive is approximately 22 feet to 24 feet wide with curb and gutter and sidewalks on both sides of the roadway. Based on traffic counts provided by RPCGB taken on November 5 and 6, 2024, the average daily traffic that crosses the bridge is 3,431 vehicles per day, consisting of approximately 99%. The intersection of Allen Drive is approximately 35 feet from the North edge of the existing bridge. Leeds City Park is located at the intersection of Ashville Road and Lane Drive on the southwest side of the bridge. There is also City-owned property on the southeast side of the bridge. Lane Drive provides primary access to residences and neighborhoods between Ashville Road and I-20. It also provides secondary access to Hubbell Power Systems, located just west of Lane Drive. There are two homes on Lane Drive on the northeast side of the bridge, one of which has a driveway approximately 20 feet to 25 feet from the end of the existing bridge. There is also a business, which appears to be currently closed, at the corner of Lane Drive and Allen Street that is approximately 100 feet north of the existing bridge.

The Lane Drive existing bridge length varies from 47 feet – 7 inches (east side) to 62 feet – 0 inches (west side) and is 37 feet – 9 inches wide. It is a 3 span steel girder bridge with a concrete deck. The maximum span length is 21 feet at the longer length, while the shorter span is approximately 16 feet. The measurements provided are field-measured taking into account the skew of the bridge. According to the FHWA National Bridge Inventory, the bridge is 45.9 feet in length and 38.7 feet wide, which is measured on the centerline of the bridge. The bridge is rated in Fair condition. The Superstructure and Substructure of the bridge are rated a 6 (9 being the highest and best). From visual inspection of the bridge, the Bridge Engineer did not notice any unusual deterioration at any location. If deficiencies were present, they were normal for the age of the bridge (light corrosion, paint flaking, minor concrete spalling, deck pavement cracking, etc.). According to the FHWA National Bridge Inventory, the bridge is currently posted at 20 Tons for a H-design truck. A sign posted near the bridge shows an H-design truck at 20 Tons, 2-axle at 29.5 Tons, 3-axle at 37.5 Tons, cement truck at 33 Tons, tractor trailer at 42 Tons, and school bus at 12.5 Tons.

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1.3 PURPOSE AND NEED

Due to the deteriorating condition of the existing bridge and the frequency of overtopping during heavy rain events, the City of Leeds desires to assess the feasibility of replacing and raising the existing bridge by analyzing multiple alternatives. These alternatives will analyze design considerations such as raising the elevation of the proposed bridge, reducing the number of bridge spans (and piers in the stream), and increasing the hydraulic opening to reduce overtopping. The analysis of these alternatives will also consider total project costs, right of way impacts, utility relocations, and environmental impacts to provide the City with the necessary information to decide on a path forward for improving this crossing.

2.0 BRIDGE REPLACEMENT ALTERNATIVES

2.1 ALTERNATIVE 1

Alternative 1 proposes the replacement of the existing three-span bridge with a two-span bridge, 47 feet – 9 inches in length and 45 feet – 5 inches in width, constructed with 12 inch (H) x 36 inch (W) concrete Box beams. The profile of Lane Drive and the bridge will be raised approximately 6 inches (minimum) at the bridge location. **Figure 2-1** shows the proposed vertical profile/elevation change. **Figure 2-2** and **Figure 2-3** show the proposed layout and typical section of the proposed bridge replacement. This alternative helps achieve the goal of improving the hydraulic opening and reducing overtopping. The bottom of bridge elevation would be raised by 6 inches and have a single pier at the midspan of the bridge, while total structure depth would increase by 4 inches.. This alternative increases the hydraulic opening from approximately 223 square feet to approximately 332 square feet (49% improvement). The existing rock walls at each abutment should be preserved during construction and new abutments would be built behind the existing rock walls. We would add a note to the plans that the Contractor would make every effort to preserve the walls and restore damaged areas. This alternative will require approximately 227 feet of roadway reconstruction along Lane Drive in order to tie the new, higher bridge back into the existing road. Additionally, an estimated 70 feet of roadway reconstruction along Allen Street will be necessary. See **Figure 2-4** for the roadway typical section. The proposed approach roadway cross section is 43 feet wide, which consists of 2-12 foot lanes with curb and gutter. Five (5) foot wide sidewalks are proposed on both sides of the roadway section and would be offset from the back of the curb and gutter by 2 feet. Drainage modifications will likely include the replacement of an existing single-wing curb inlet, an additional single-wing curb inlet on the west side of the roadway, a pipe end treatment, and approximately 70 feet of 24 inch storm sewer pipe. The conceptual layout in **Figure 2-5** shows the proposed construction limits and limits of impact for Alternative 1. Additional information on the conceptual design can be found in **Appendix A**. The total cost to construct this alternative is estimated to be \$1,210,700.

The bridge box beams can be fabricated at any PCI facility with a rating of B3 or higher. Alabama has one B4 facility located in Pelham, Alabama. They have the capabilities required to fabricate and deliver the box beams proposed above. The largest constraints would be planning an appropriate route and getting permits, if necessary.

It is estimated that 0.157 acres of Acquired ROW (Right-of-Way) will be required for this alternative. This estimated area is based on an assumed Present ROW width of 40 feet in the bridge area and 30 feet ROW near the storefront. Acquired ROW to be set at 60 feet in the bridge area and north of the bridge 2 foot behind the back of the proposed sidewalk (left side, near storefront) and 30 foot Acquired ROW (right side, near residence). Additionally, it is estimated that 0.051 acres of Permanent Utility Easement and 0.086 acres of Temporary Construction Easement will be required. This acreage accounts for the area needed to tie down the proposed

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grading, plus additional for construction area. The additional ROW and easements takes will affect 4 properties (3 owners). Additional property impacts include approximately 306 square feet of driveway placement on the north side of the bridge, 26 square feet of replacement sidewalk at private property, and 187 square feet of driveway replacement on the south side of the bridge.

FIGURE 2-1: VERTICAL PROFILE/ELEVATION CHANGES (ALTERNATIVE 1 AND 2)

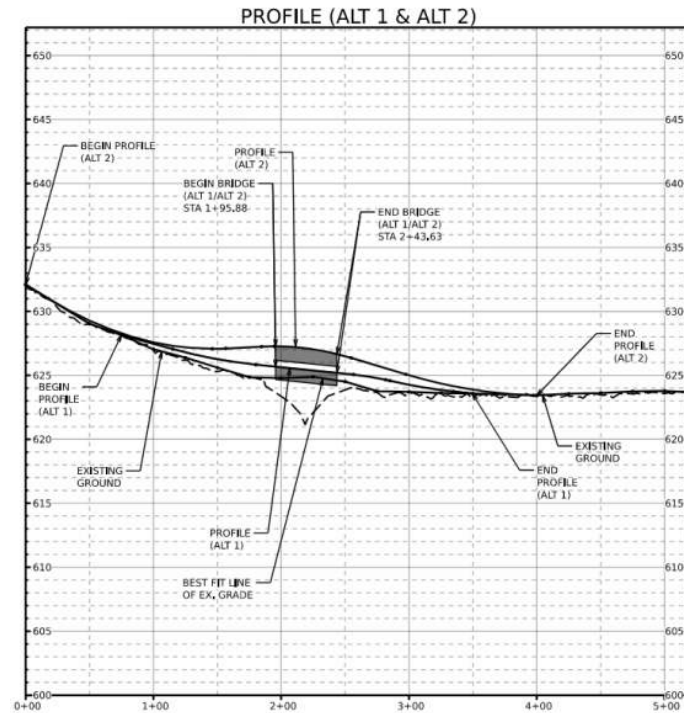
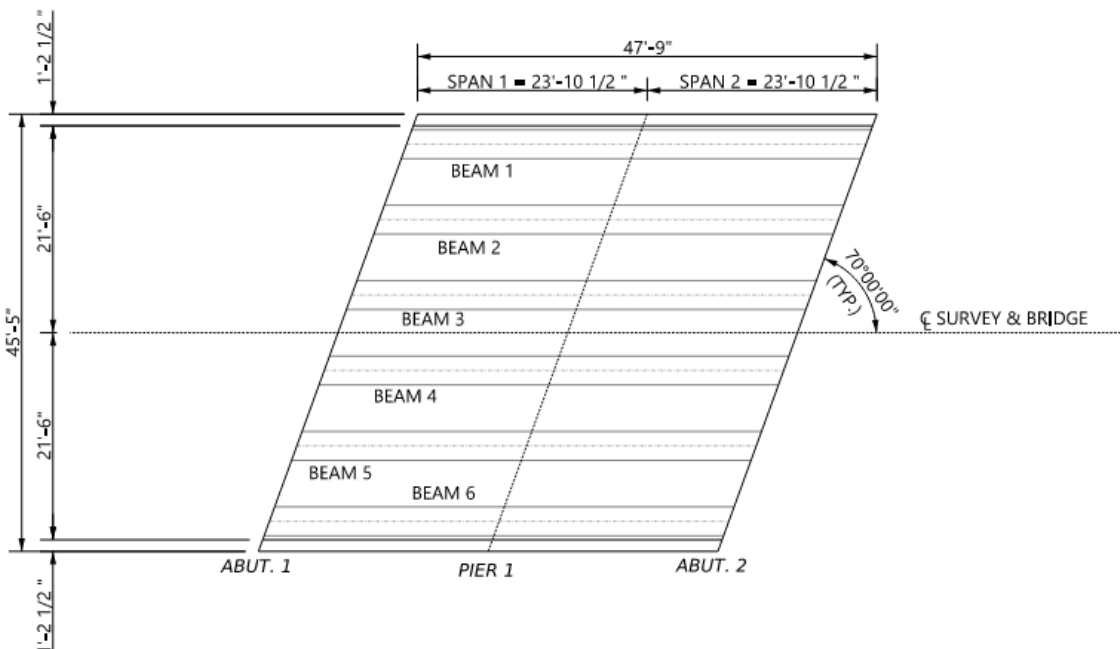


FIGURE 2-2: ALTERNATIVE 1 BRIDGE LAYOUT



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FIGURE 2-3: ALTERNATIVE 1 BRIDGE TYPICAL SECTION

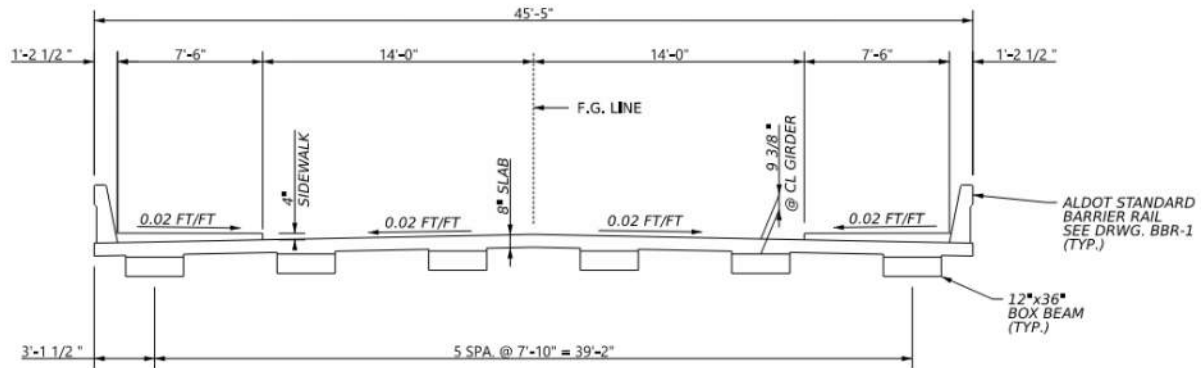
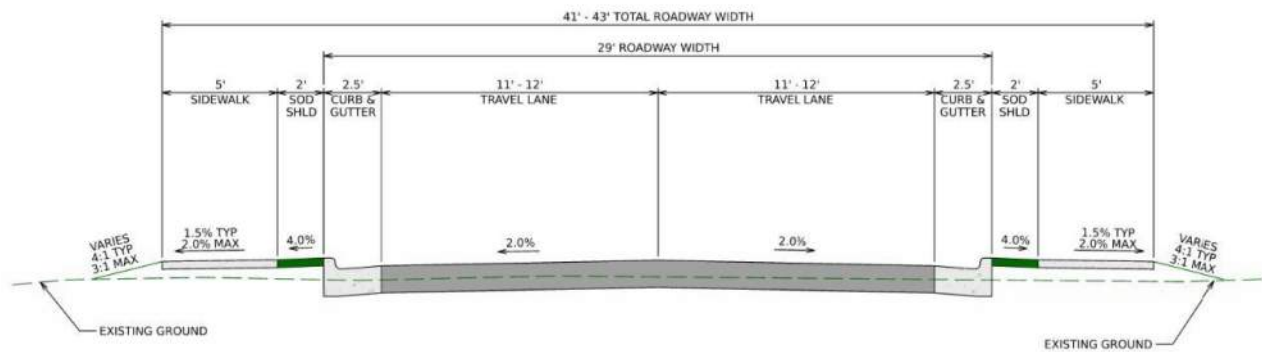
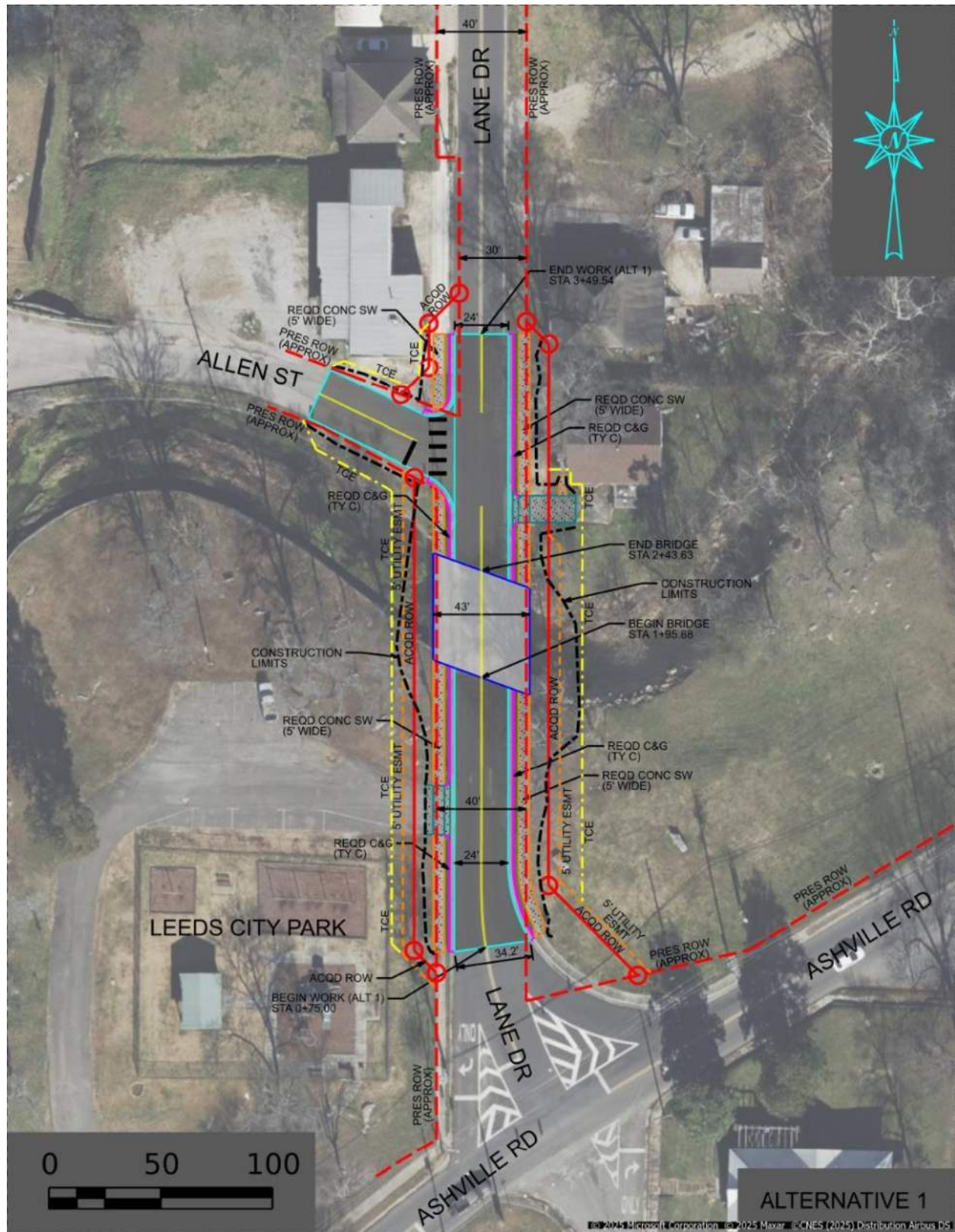


FIGURE 2-4: ALTERNATIVE 1 ROADWAY TYPICAL SECTION



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FIGURE 2-5: ALTERNATIVE 1 CONCEPTUAL LAYOUT EXHIBIT



2.2 ALTERNATIVE 2

Alternative 2 proposes the replacement of the existing three-span bridge with a single-span bridge, 47 feet -9 inches in length and 45 feet – 5 inches in width, constructed with 24 inch (H) x 36 inch (W) concrete Box beams. The profile of Lane Drive would be revised to raise the bridge approximately two feet. **Figure 2-6** shows the proposed vertical profile/elevation change. **Figure 2-7** and **Figure 2-8** show the proposed layout and typical section of the proposed bridge replacement. This alternative helps achieve the goal of improving the hydraulic opening and reducing overtopping. The bottom of bridge elevation would be raised by 2 feet and have a single span. This alternative increases the hydraulic opening from approximately 223 square feet to approximately 426 square feet (91% improvement). The existing rock walls at each abutment should be preserved during construction and new abutments would be built behind the existing walls. We would add a note to the plans that the Contractor would make every effort to preserve the walls and restore damaged areas. This alternative will require approximately 352 feet of roadway reconstruction along Lane Drive in order to tie the new, higher bridge back into the existing road. Additionally, an estimated 90 feet of roadway reconstruction along Allen Street will be necessary. The proposed approach roadway cross section is 43 feet wide, which consists of 2-12 foot lanes with curb and gutter. Five (5) foot wide sidewalks are proposed on both sides of the roadway and would be offset from the back of the curb and gutter by 2 feet. See **Figure 2-9** for the proposed roadway typical section. Drainage design modifications will likely include the installation of six double-wing curb inlets, six single-wing flanking curb inlets, a pipe end treatment, and approximately 315 feet of 24 inch storm sewer pipe. The revised road and bridge profile for this alternative creates two sag locations beyond what is currently present that will necessitate additional storm sewer infrastructure. The conceptual layout in **Figure 2-10** shows the proposed construction limits and limits of impact for Alternative 2. Additional information on the conceptual design can be found in **Appendix A**. The total cost to construct this alternative is estimated to be \$1,506,400.

The proposed bridge concrete box beams can be fabricated at any PCI facility with a rating of B3 or higher. Alabama has one B4 facility located in Pelham, Alabama. They have the capabilities required to fabricate and deliver the box beams that were designed for the bridge. The largest constraints would be planning an appropriate route and getting permits, if necessary.

It is estimated that 0.211 acres of Acquired ROW will be required for this alternative. This estimated area is based on an assumed Present ROW width of 40 feet in the bridge area and 30 feet ROW near the storefront. Acquired ROW to be set at 60 feet in the bridge area and north of the bridge 2 foot behind the back of the proposed sidewalk (left side, near storefront) and 30 foot Acquired ROW (right side, near residence). Additionally, it is estimated that 0.057 acres of Permanent Utility Easement and 0.142 acres of Temporary Construction Easement will be required. This acreage accounts for the area needed to tie down the proposed grading, plus additional for construction area. These ROW and Easement takes will affect 4 properties (3 owners). Additional property impacts include approximately 348.3 square feet of driveway replacement on the north side of the bridge, 82.0 square feet of replacement sidewalk at private property, and 450.3 square feet of driveway replacement on the south side of the bridge.

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FIGURE 2-6: VERTICAL PROFILE/ELEVATION CHANGES (ALTERNATIVE 1 AND 2)

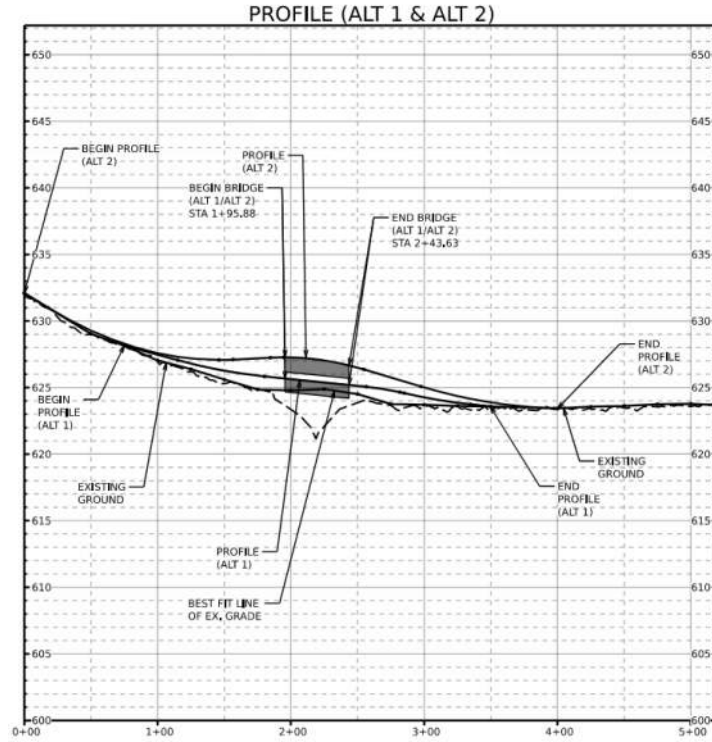
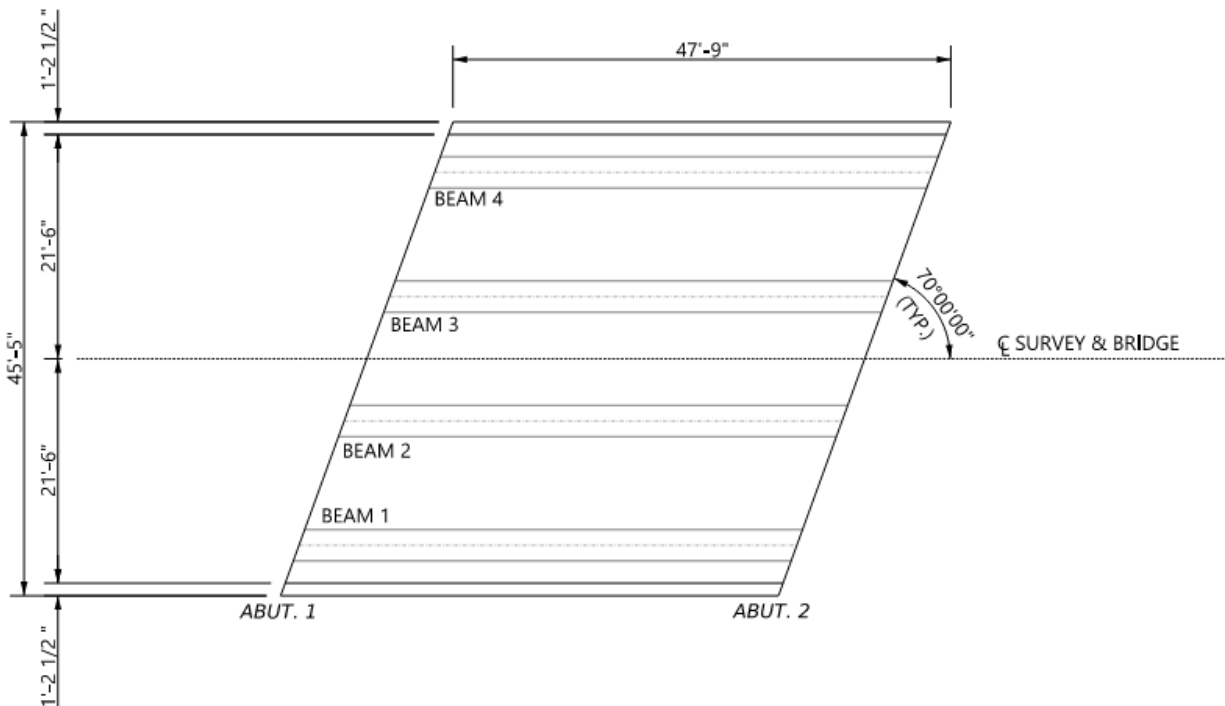


FIGURE 2-7: ALTERNATIVE 2 BRIDGE LAYOUT



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FIGURE 2-8: ALTERNATIVE 2 BRIDGE TYPICAL SECTION

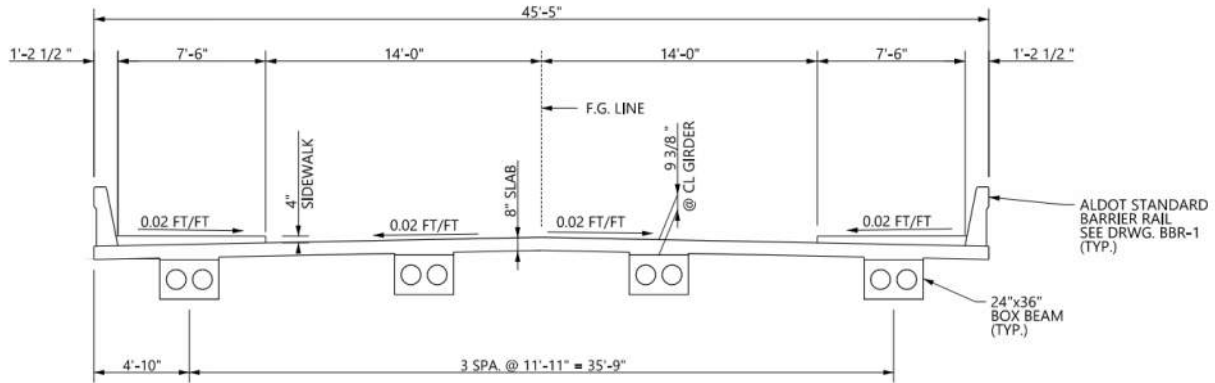
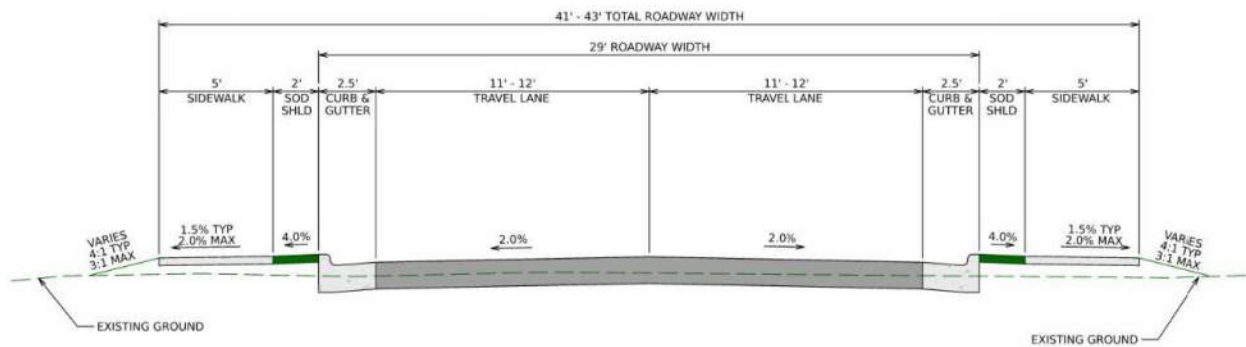
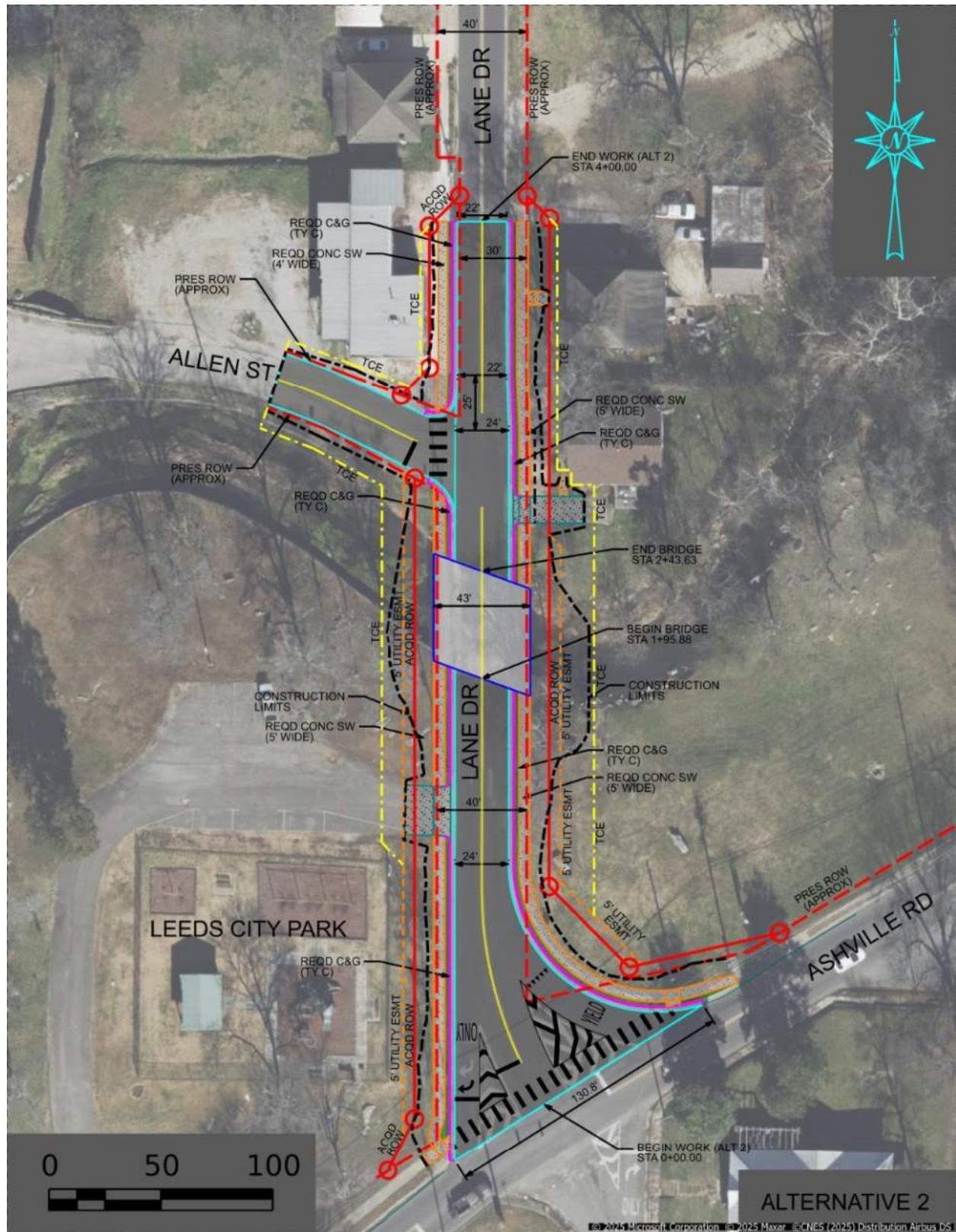


FIGURE 2-9: ALTERNATIVE 2 ROADWAY TYPICAL SECTION



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FIGURE 2-10: ALTERNATIVE 2 CONCEPTUAL LAYOUT EXHIBIT



3.0 UTILITY IMPACTS

Several utilities have been identified within the project limits. During a field visit it was observed that three unknown utility lines are attached to the existing bridge. Based on the presence of a gas meter, fire hydrant, and a fiber optic junction box in the vicinity of the bridge, it is anticipated that there will be impacts to water, gas, and fiber optic utilities. Additionally, there are utility poles present that appear to carry overhead power and several telecommunication lines along the west side of Lane Drive. There is a sanitary sewer manhole near the intersection of Lane Drive and Allen Street. This manhole would need to be raised to match the new (higher) profile of Lane Drive.

It is expected that both alternatives will require two existing utility poles on the west side of Lane Drive to be reset, as well as a smaller utility pole used for guying on the east side of Lane Drive. For Alternative 2, there is an additional service line pole on the north side of the bridge that may be impacted. The assumed underground utilities (water, gas, and fiber) are all anticipated to require relocation and either reattachment to the new bridge or boring under the Little Cahaba River. The existing fiber junction box located approximately 15' past the north end of the bridge is expected to require relocation as well.

4.0 ENVIRONMENTAL IMPACTS

A high level environmental impact screening was performed for the project vicinity with determinations shown below in **Table 4-1**.

TABLE 4-1 ENVIRONMENTAL IMPACTS

ENVIRONMENTAL FEATURE	RESOURCE DETERMINATION	LOCATED ON PROJECT?	
		YES	NO
IMPAIRED STREAM	ARCGIS IMPAIRED WATERWAYS OF ALABAMA	X	
BROWNFIELD SITES	ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT		X
UNDERGROUND STORAGE TANK (UST) REGULATORY SITES	ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT		X
UST INCIDENTS	ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT		X
HISTORIC SITES	NATIONAL PARKS SERVICE NATIONAL REGISTER OF HISTORIC PLACES		X
SUPERFUND SITES	ENVIRONMENTAL PROTECTION AGENCY NATIONAL PRIORITIES LIST		X

Since the Little Cahaba River is listed as an impaired stream, this construction project would be classified as a Priority Construction site. Priority Construction sites require additional monitoring and testing to make sure that erosion runoff does not negatively impact the impaired stream.

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Additionally, an IPaC (Information for Planning and Consultation) resource list report was generated for the defined project area, and the following threatened or endangered species are potentially affected by activities in this location:

- Gray Bat – Endangered
- Indiana Bat – Endangered
- Tricolored Bat – Endangered
- Alligator Snapping Turtle – Proposed Threatened
- Coal Darter – Proposed Threatened
- Alabama Moccasinshell – Threatened
- Finelined Pocketbook – Threatened
- Orangenacre Mucket – Threatened
- Ovate Clubshell – Endangered
- Southern Clubshell – Endangered
- Southern Pigtoe – Endangered
- Triangular Kidneyshell – Endangered
- Monarch Butterfly – Proposed Threatened
- Georgia Rockcress – Threatened
- Tennessee Yellow-eyed Grass – Endangered

There are no critically threatened or endangered species habitats known in this location. However, in the environmental planning portion of the design project, Environmental Planners will conduct studies to see if any endangered or threatened species are located on the project site. If endangered or threatened species are found, there will be remediation as part of the project. For instance, in some cases, endangered bats have been found roosting in and around bridges. Project notes would be added to the project plans to specify how the Contractor would deal with this, such as avoiding active construction during roosting times. See **Appendix B** for more information on the IPaC resource list from the U.S. Fish and Wildlife Service.

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5.0 PRELIMINARY PROJECT COST ESTIMATES

5.1 ALTERNATIVE 1

Table 5-1 shows the total preliminary cost estimate to design and construct Alternative 1.

TABLE 5-1 ALTERNATIVE 1 COST ESTIMATE

PRELIMINARY PRE-DESIGN PROJECT COST ESTIMATES

Lane Drive Bridge over the Little Cahaba River

Leeds, Alabama

Bridge Replacement Alternative 1

Item Description	Unit	Unit Cost	Quantity	Cost
Grading (Unclassified Excavation)	CU YD	\$ 35.00	120	\$ 4,200.00
Grading (Borrow Excavation)	CU YD	\$ 55.00	70	\$ 3,850.00
6" Crushed Aggregate Base ²	SQ YD	\$ 20.00	825	\$ 16,500.00
New Pavement ²	SQ YD	\$ 35.00	810	\$ 28,350.00
Storm Drain Pipe	LIN FT	\$ 95.00	70	\$ 6,650.00
Concrete Sidewalk	SQ YD	\$ 100.00	220	\$ 22,000.00
Concrete Driveway	SQ YD	\$ 100.00	55	\$ 5,500.00
Detectable Warning Surface	SQ FT	\$ 50.00	35.00	\$ 1,750.00
Curb Ramp	SQ YD	\$ 235.00	10	\$ 2,350.00
End Treatment	Each	\$ 1,600.00	1	\$ 1,600.00
Inlets, Type S1 or S3 (1 Wing)	Each	\$ 5,250.00	2	\$ 10,500.00
Curb & Gutter	LIN FT	\$ 40.00	410	\$ 16,400.00
Bridge	SQ FT	\$ 250.00	2054	\$ 513,500.00
Removal of Existing Bridge Structure	Lump Sum	\$ 50,000.00	1	\$ 50,000.00
Construction Fuel	Lump Sum	\$ 34,157.50	1	\$ 34,157.50
Traffic Control Items	Lump Sum	\$ 51,236.25	1	\$ 51,236.25
Erosion Control Items	Lump Sum	\$ 51,236.25	1	\$ 51,236.25
				\$ -
				\$ -
SUBTOTAL				\$ 819,780.00
	Incidentals/Contingency		20.00%	\$ 163,956.00
CONSTRUCTION COST				\$ 983,800.00
+ Engineering Controls		2.00%		\$ 19,700.00
+ Mobilization		5.00%		\$ 49,200.00
+ Construction Engineering & Inspection (CE&I)		15.00%		\$ 158,000.00
CONSTRUCTION SUBTOTAL				\$ 1,210,700.00
+ Preliminary Engineering (Environmental Study, Survey, Design)	Lump Sum	\$ 277,000.00	1	\$ 277,000.00
+ Utility Relocation Cost	Lump Sum	\$ 175,000.00	1	\$ 175,000.00
+ ROW Cost	Lump Sum	\$ 45,000.00	1	\$ 45,000.00
TOTAL				\$ 1,707,700.00

Note: Incidentals & Contingency cost includes miscellaneous/unknown items not quantified at this time.

Note: R.O.W. costs based on Jefferson County Parcel Look-up appraisals for 2024

² Cost based on pavement designs from similar ALDOT projects and unit costs in ALDOT Items Bid History

If the project receives federal funding through ALDOT or the Birmingham MPO, ALDOT's Indirect Cost would be added to the project. The ALDOT Indirect Cost is the cost to administer the project and is estimated as 13.63% of the project cost, which would bring the project total cost to \$1,940,500.00.

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5.2 ALTERNATIVE 2

Table 5-2 shows the total preliminary cost estimate to design and construct Alternative 2.

TABLE 5-2 ALTERNATIVE 2 COST ESTIMATE

PRELIMINARY PRE-DESIGN PROJECT COST ESTIMATES

Lane Drive Bridge over the Little Cahaba River

Leeds, Alabama

Bridge Replacement Alternative 2

Item Description	Unit	Unit Cost	Quantity	Cost
Grading (Unclassified Excavation)	CU YD	\$ 35.00	290	\$ 10,150.00
Grading (Borrow Excavation)	CU YD	\$ 55.00	210	\$ 11,550.00
6" Crushed Aggregate Base ²	SQ YD	\$ 20.00	1560	\$ 31,200.00
New Pavement ²	SQ YD	\$ 35.00	1540	\$ 53,900.00
Storm Drain Pipe	LIN FT	\$ 95.00	315	\$ 29,925.00
Concrete Sidewalk	SQ YD	\$ 100.00	380	\$ 38,000.00
Concrete Driveway	SQ YD	\$ 100.00	90	\$ 9,000.00
Detectable Warning Surface	SQ FT	\$ 50.00	50.00	\$ 2,500.00
Curb Ramp	SQ YD	\$ 235.00	20	\$ 4,700.00
End Treatment	Each	\$ 1,600.00	1	\$ 1,600.00
Inlets, Type S1 or S3 (1 Wing)	Each	\$ 5,250.00	6	\$ 31,500.00
Inlets, Type S1 or S3 (2 Wing)	LIN FT	\$ 5,850.00	6	\$ 35,100.00
Curb & Gutter	LIN FT	\$ 40.00	685	\$ 27,400.00
Bridge	SQ FT	\$ 250.00	2054	\$ 513,500.00
Removal of Existing Bridge Structure	Lump Sum	\$ 50,000.00	1	\$ 50,000.00
Construction Fuel	Lump Sum	\$ 42,501.25	1	\$ 42,501.25
Traffic Control Items	Lump Sum	\$ 63,751.88	1	\$ 63,751.88
Erosion Control Items	Lump Sum	\$ 63,751.88	1	\$ 63,751.88
				\$ -
SUBTOTAL				\$ 1,020,030.00
	Incidentals/Contingency		20.00%	\$ 204,006.00
CONSTRUCTION COST				\$ 1,224,100.00
+ Engineering Controls		2.00%		\$ 24,500.00
+ Mobilization		5.00%		\$ 61,300.00
+ Construction Engineering & Inspection (CE&I)		15.00%		\$ 196,500.00
CONSTRUCTION SUBTOTAL				\$ 1,506,400.00
+ Preliminary Engineering (Environmental Study, Survey, Design)	Lump Sum	\$ 325,000.00	1	\$ 325,000.00
+ Utility Relocation Cost	Lump Sum	\$ 175,000.00	1	\$ 175,000.00
+ ROW Cost	Lump Sum	\$ 65,000.00	1	\$ 65,000.00
SUBTOTAL				\$ 2,071,400.00

Note: Incidental & Contingency cost includes miscellaneous/unknown items not quantified at this time.

Note: R.O.W. costs based on Jefferson County Parcel Look-up appraisals for 2024

² Cost based on pavement designs from similar ALDOT projects and unit costs in ALDOT Items Bid History

If the project receives federal funding through ALDOT or the Birmingham MPO, ALDOT's Indirect Cost would be added to the project. The ALDOT Indirect Cost is the cost to administer the project and is estimated as 13.63% of the project cost, which would bring the project total cost to \$2,353,800.00.

5.3 PROJECT FUNDING

There are several funding options available to the City.

1. City Funded
2. Federal Funding through Birmingham MPO (STPBH or other funding). This type of funding would typically be 80% federal funding with a 20% local match. This would also include the ALDOT Indirect Cost. See **Figure 5-3** and **Figure 5-4** for funding amounts for Alternative 1 and Alternative 2.
3. Another option is the USDOT Bridge Investment Grant Program. This competitive, discretionary grant program has 3 award categories: 1) Planning Level, 2) Bridge projects less than \$100 million, and 3) Large bridge projects greater than \$100 million. For small projects, the minimum grant award is \$2.5 million, which only pays for the 80% Federal Funding amount. The 20% local match would still be required, which would bring the project total to \$3.125 million. Since the estimated project cost for both alternatives is less than the minimum grant amount, the City would need to bundle this project with another bridge project in the City or one in the Birmingham area.

TABLE 5-3 ALTERNATIVE 1 FEDERAL FUNDING

Bridge Replacement Alternative 1

TOTAL		\$ 1,707,700.00
+ ALDOT Indirect Cost	13.63%	
TOTAL ESTIMATED PROJECT COST (2025)		\$ 1,940,500.00
Federal Funding	80.00%	\$ 1,552,400.00
Local City Match	20.00%	\$ 388,100.00

TABLE 5-4 ALTERNATIVE 2 FEDERAL FUNDING

Bridge Replacement Alternative 2

TOTAL		\$ 2,071,400.00
+ ALDOT Indirect Cost	13.63%	
TOTAL ESTIMATED PROJECT COST (2025)		\$ 2,353,800.00
Federal Funding	80.00%	\$ 1,883,040.00
Local City Match	20.00%	\$ 470,760.00

As shown in **Table 5-3** and **Table 5-4**, the City would need to apply \$388,100 for the project match for Alternative 1 and \$470,760 for the City match for Alternative 2.

6.0 SUMMARY

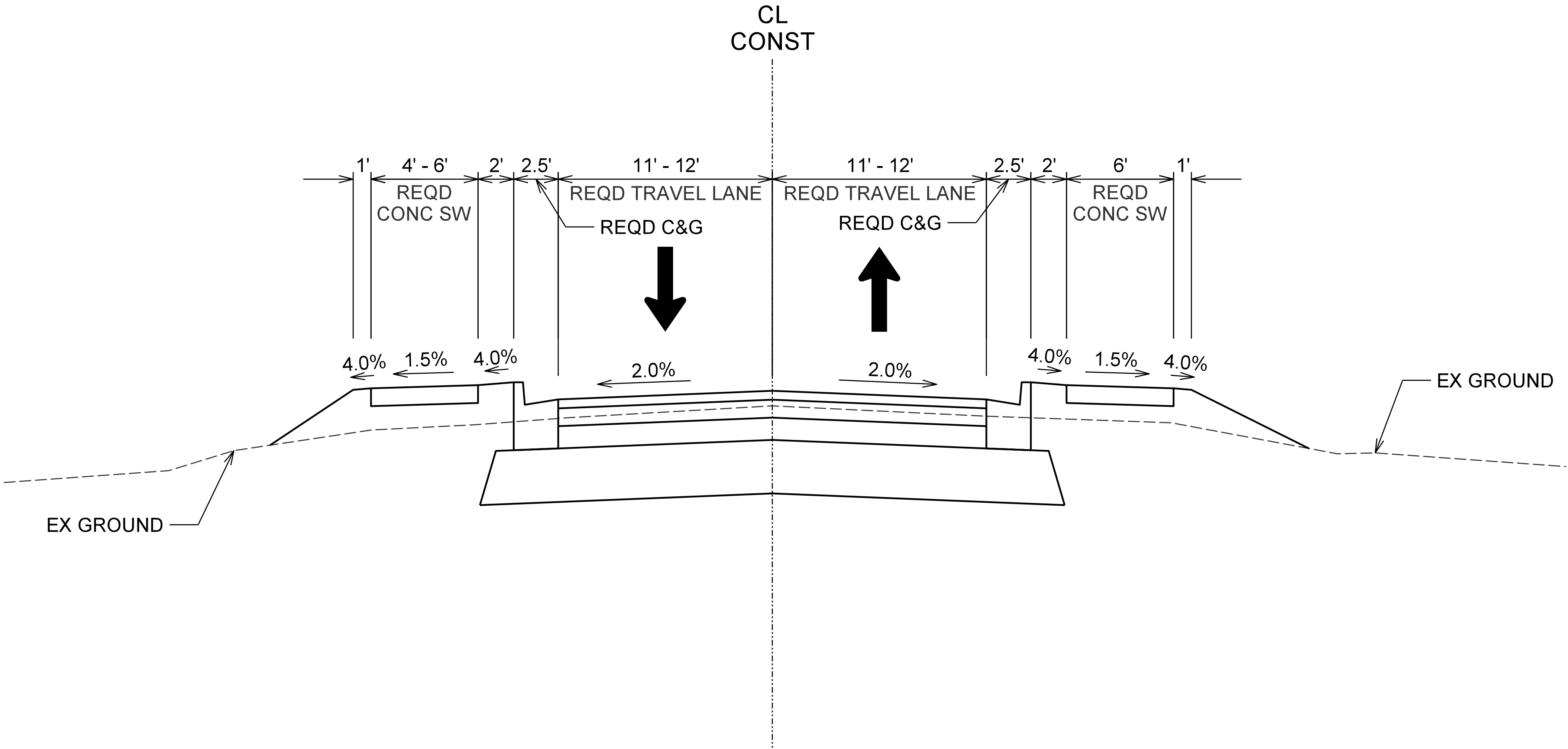
6.1 CONCLUSIONS

While both alternatives improve the hydraulic capacity by replacing the deteriorating existing bridge and raising the elevation of the new bridge, there are advantages and disadvantages to both. The disadvantage of Alternative 1 is that it only raises the existing elevation of the bridge by approximately 6 inches, whereas the advantage of Alternative 2 is that the elevation is proposed to be raised by approximately 2 feet. However, Alternative 2 has a greater length of impact including, an increased Right-of-Way impact and utility relocation requirements. Alternative 1 also has the advantage of a lower overall project cost estimate to complete. Both projects are anticipated to have similar environmental impacts. It should be noted that a hydraulic analysis was not performed as part of this feasibility study to determine whether the design year met or a reduction in flood frequency was achieved by either design.

APPENDIX A:

LANE DRIVE BRIDGE REPLACEMENT CONCEPTUAL PLANS

TYPICAL SECTIONS



TYPICAL SECTION
STA 0+75.00 - STA 3+49.54 LANE DR (ALT 1)
STA 0+00.00 - STA 4+00.00 LANE DR (ALT 2)



GreshamSmith.com

2222 Arlington Ave South
Suite 202
Birmingham, AL 35205
205.298.9200

LANE DRIVE BRIDGE REPLACEMENT



City of Leeds
1400 9th Street
Leeds, Alabama 35094

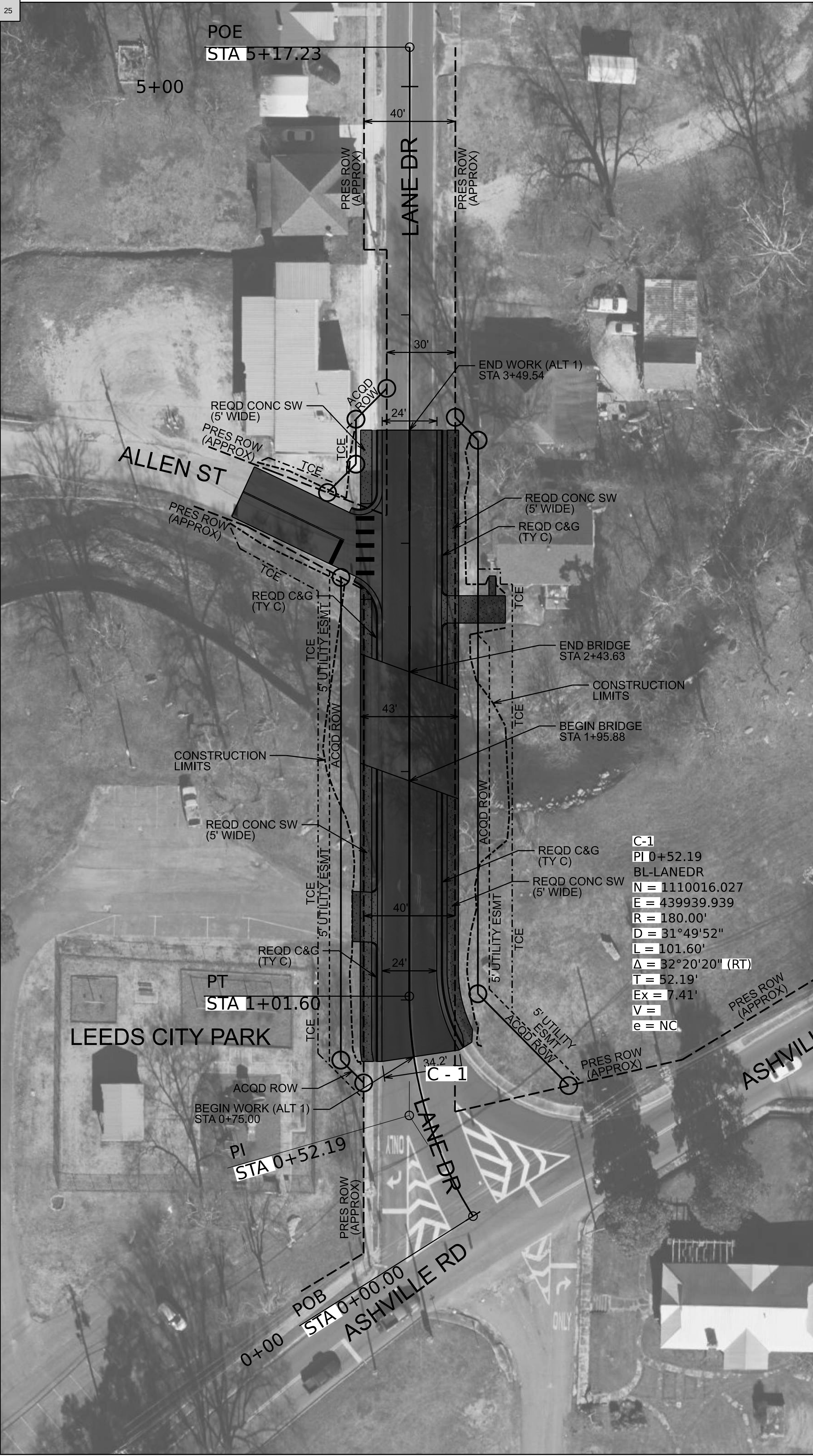
NOT FOR
CONSTRUCTION

Revision		
No.	Date	Description

NOT TO SCALE

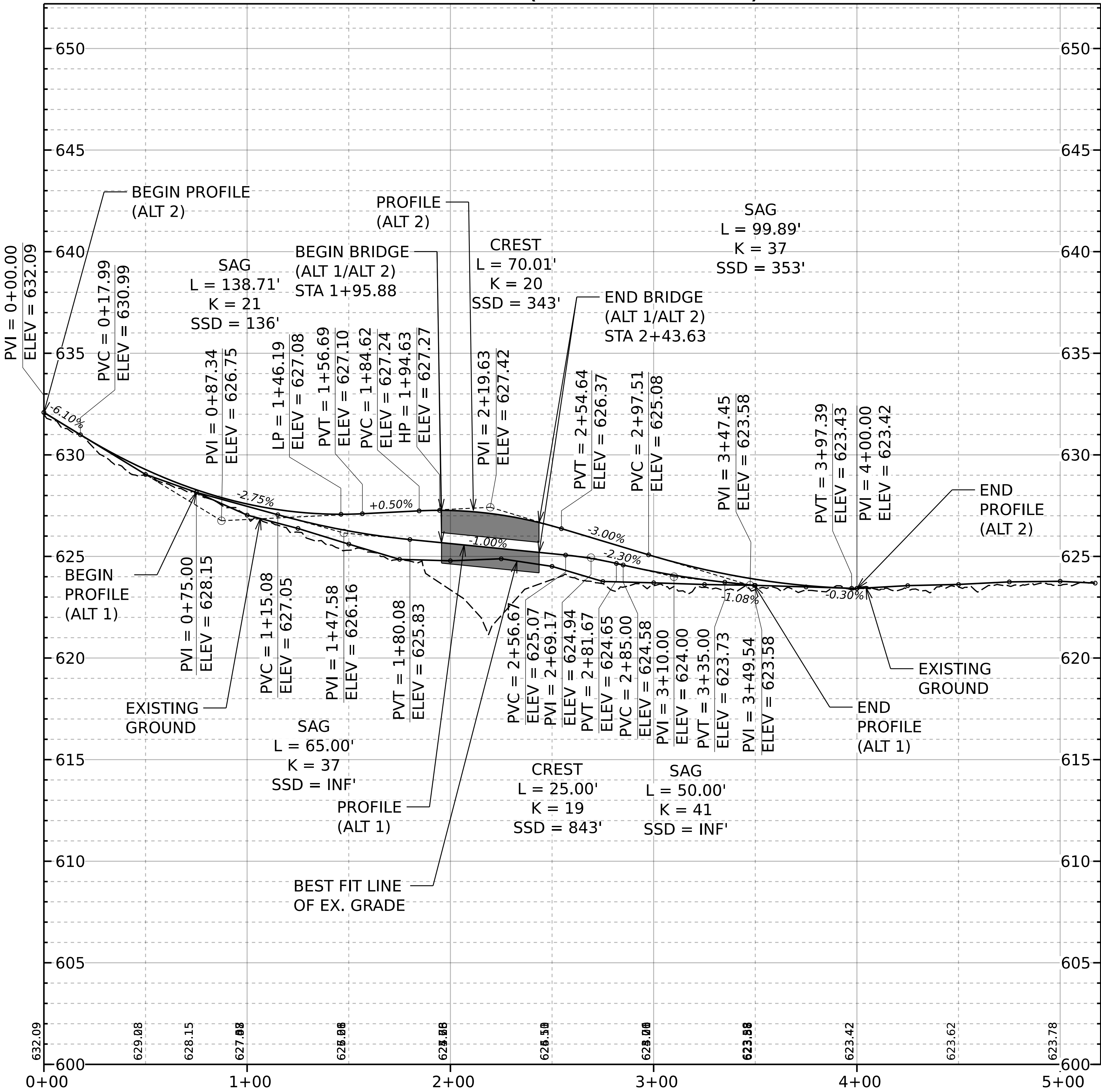
TYPICAL SECTIONS

SHEET NO.	TOTAL SHEETS
1	3



PLAN SHEET (ALT 1)

PROFILE (ALT 1 & ALT 2)



Gresham Smith

GreshamSmith.com

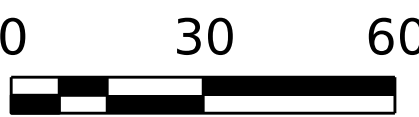
2222 Arlington Ave South
Suite 202
Birmingham, AL 35205
205.298.9200

LANE DRIVE BRIDGE REPLACEMENT



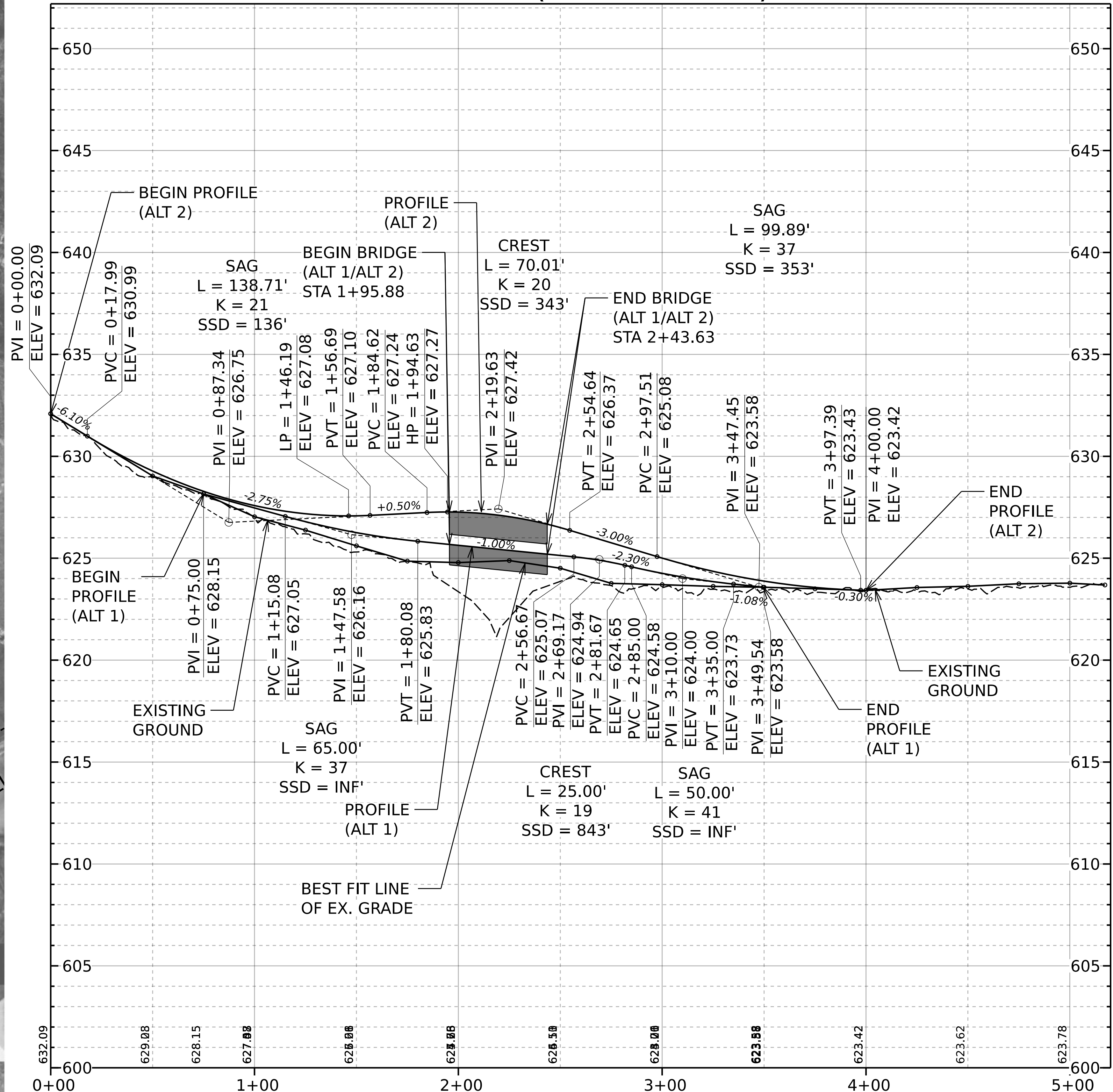
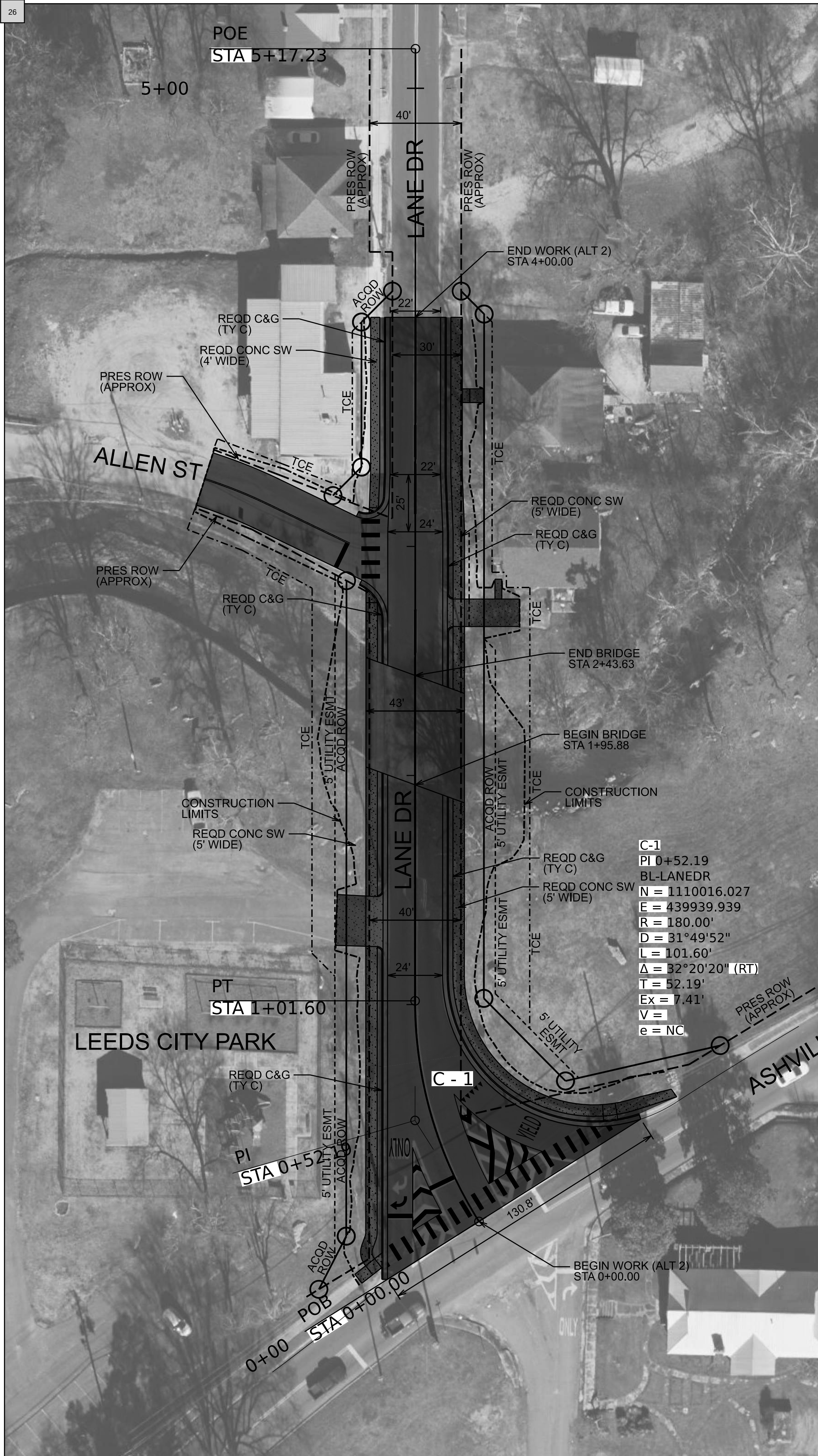
City of Leeds
1400 9th Street
Leeds, Alabama 35094

NOT FOR
CONSTRUCTION

[illegible]

PLAN SHEET (ALT 1)

SHEET NO.	TOTAL SHEETS
2	3



Gresham Smith

GreshamSmith.com

2222 Arlington Ave South
Suite 202
Birmingham, AL 35205
205.298.9200

LANE DRIVE BRIDGE REPLACEMENT



City of Leeds
1400 9th Street
Leeds, Alabama 35094

NOT FOR
CONSTRUCTION

[illegible]

PLAN SHEET (ALT 2)

SHEET NO.	TOTAL SHEETS
3	3

**APPENDIX B:
IPAC RESOURCE LIST**

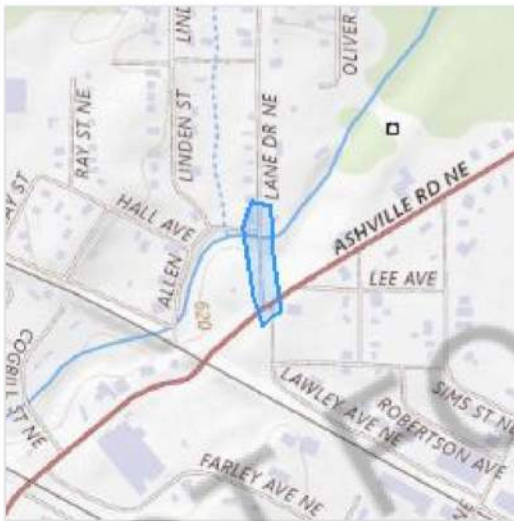
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Jefferson County, Alabama



Local office

Alabama Ecological Services Field Office

☎ (251) 441-5181

📅 (251) 441-6222

✉ alabama@fws.gov

1208 B Main Street

Daphne, AL 36526-4419

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Reptiles

NAME	STATUS
------	--------

Alligator Snapping Turtle *Macrochelys temminckii*

Proposed Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4658>

Fishes

NAME

STATUS

Coal Darter *Percina brevicauda*

Proposed Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9959>

Clams

NAME

STATUS

Alabama Moccasinshell *Medionidus acutissimus*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/7287>Fineline Pocketbook *Hamiota altilis*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1393>

Drangenacre Mucket *Hamiota perovalis*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1980>

Ovate Clubshell *Pleurobema perovatum*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/5430>

Southern Clubshell *Pleurobema decisum*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/6113>

Southern Pigtoe *Pleurobema georgianum*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1520>

Triangular Kidneyshell *Ptychobranhus greenii*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/4396>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/9743>

Flowering Plants

NAME

STATUS

Georgia Rockcress *Arabis georgiana*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/4535>

Tennessee Yellow-eyed Grass *Xyris tennesseensis*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6010>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The [data](#) in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the [Supplemental Information on Migratory Birds and Eagles document](#) to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

In the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

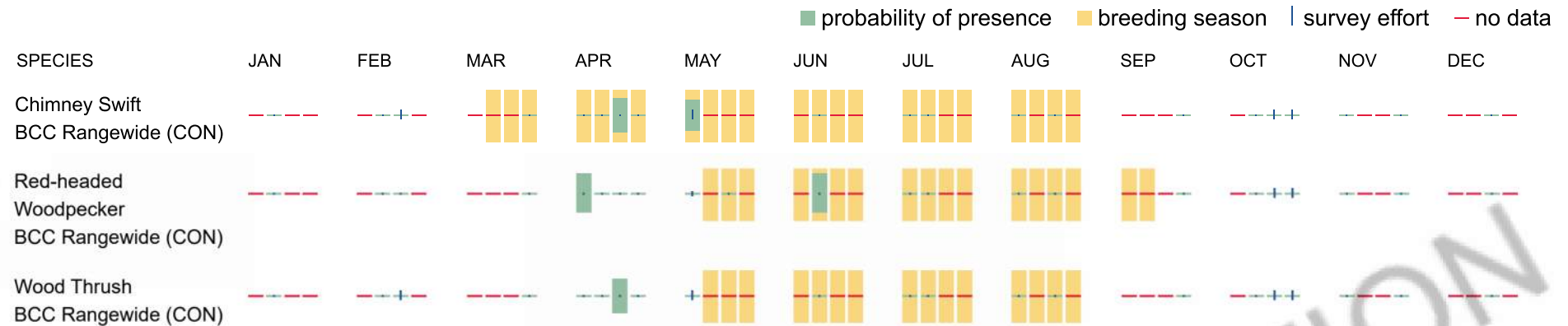
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary.

[Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

though it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1C](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.