SH 144 FEASIBILITY STUDY REPORT

SOMERVELL COUNTY, TEXAS
CSJ 0386-01-028
TxDOT Contract No. 36-6IDP5168/PS No. 4727/PO No. 13697

PREPARED FOR

Texas Department of Transportation

FORT WORTH DISTRICT

PREPARED BY

PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
TBPE FIRM REG. # 470 | TBPLS FIRM REG. #10193974
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Exhibit 8. Diagrammatic Layout Viable Alternatives

Exhibit 9. Diagrammatic Layout Recommended Alternative

Exhibit 10. Diagrammatic Layout Revised Recommended Alternative

ATTACHMENTS

Attachment 1. Documentation of Stakeholder Meeting No. 1

Attachment 2. Documentation of Stakeholder Meeting No. 2

Attachment 3. Documentation of Public Meeting No. 1

Attachment 4. Documentation of Stakeholder Meeting No. 3

Attachment 5. Documentation of Public Meeting No. 2

1.0 INTRODUCTION

The Texas Department of Transportation (TxDOT) Fort Worth District contracted Walter P Moore and Associates, Inc (WPM) to conduct a feasibility study to determine the need for and viability of a second bridge crossing over the Paluxy River along SH 144 in Somervell County, Texas. The objective of the proposed second crossing is to provide a relief route in case of emergency and reduce congestion. The study includes the preparation of conceptual schematic layouts, environmental constraints, public involvement, data collection analysis, and traffic engineering and operations analysis.

The feasibility study includes an iterative development and evaluation of preliminary and refined alternatives for the proposed second crossing of SH 144 over the Paluxy River to provide a relief route and reduce congestion. The study scope includes a detailed evaluation of traffic operations and accident analysis, review of environmental constraints, and an evaluation of alternatives through a comprehensive set of evaluation criteria, including assessment of public input received at two public meetings and at workshops with representatives of TxDOT, Somerville County, the City of Glen Rose, and other local stakeholders. The summary reports of the meetings are included in **Attachments 1 - 5**.

The feasibility study scope and current status are summarized in **Figure 1.**

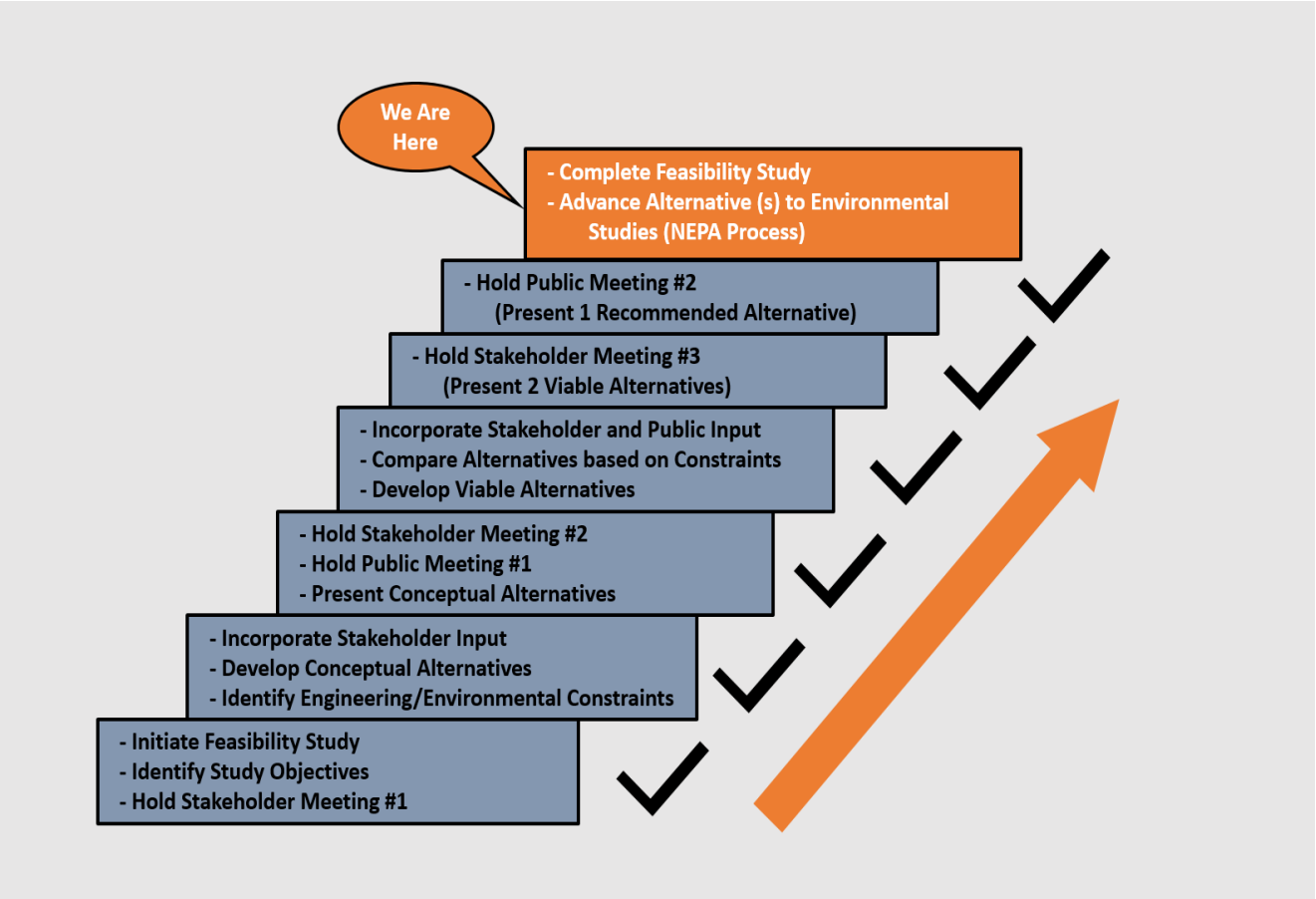


Figure 1. Study Scope and Major Tasks

2.0 STUDY BACKGROUND

2.1 Study Description

SH 144 is a primary route for residents in Glen Rose, Somervell County, Texas. The City of Glen Rose is divided by the Paluxy River and SH 144 is the only connection across the river within the City limits. It connects residents south of the river to schools, medical facilities, and government offices on the north side, as well as US 67 which is a commuter and freight route to Fort Worth.

While typical daily traffic on SH 144 does not experience an unacceptable level of delay, there is potential for severe traffic disruption during incidents near the existing Paluxy River crossing. The route also does not accommodate turning radii for heavy vehicles. If the bridge is closed for an incident, the nearest river crossing includes a 15-minute detour via US 67 and FM 203 for through traffic or nearly 35 minutes for local traffic which must return to Glen Rose via SH 144. There is a concern about maintaining traffic flow as future growth adds vehicles to the area. The residents of Glen Rose are also concerned about the existence of a nuclear power plant at the nearby Squaw Valley Reservoir and desire a second evacuation route in an emergency.

The study objectives are to determine the best location for a second bridge crossing over the Paluxy River and analyze the need for re-alignment of SH 144 in Glen Rose, Somervell County, Texas.

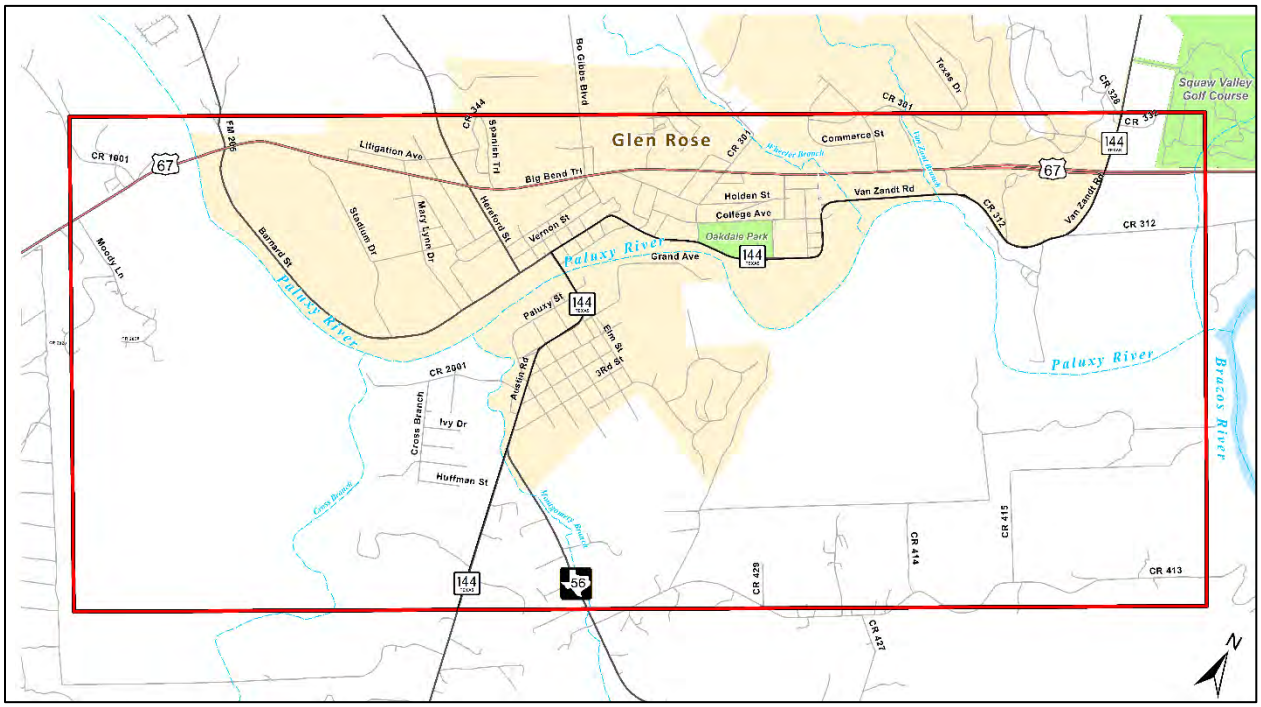


Figure 2. Study Area Map

2.2 Study Area

The study area encompasses approximately 4,500 acres within and surrounding the city of Glen Rose in Somervell County, Texas. The limits of the study area encompass the potential alternatives to provide a second crossing of the Paluxy River within the City of Glen Rose and are shown in **Figure 2**. The study area begins west of the US 67 crossing of the Paluxy River and extends east to the confluence of the Paluxy and Brazos Rivers. It extends from south of CR 413 to north of US 67 and includes a portion of the City of Glen Rose.

2.3 Existing Conditions

The existing Paluxy River bridge is located on SH 144 between Paluxy Street and SW Barnard Street. SH 144 is a two-lane undivided roadway with 12-foot lanes and 10-foot shoulders. The bridge typical section includes 14-foot lanes with curb and gutter and sidewalk, as shown on **Figures 3** and **4** below for details.

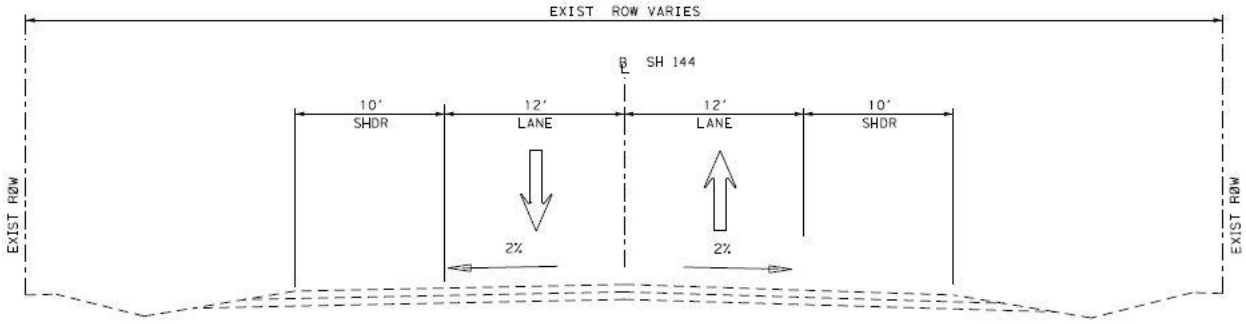


Figure 3. Existing SH 144 Roadway Typical Section

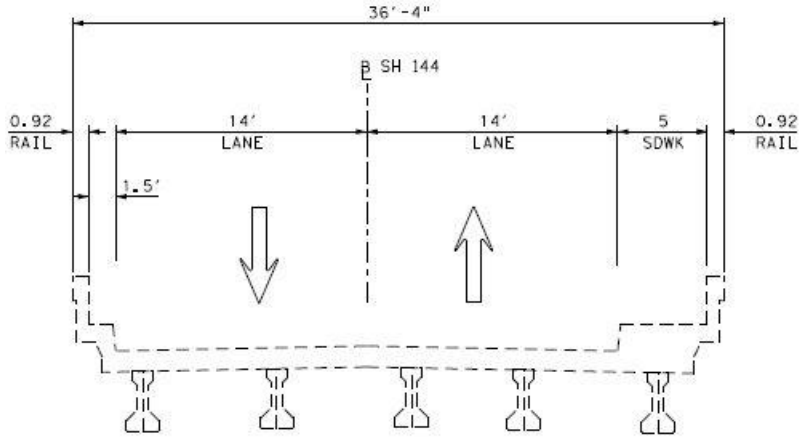


Figure 4. Existing SH 144 Bridge Typical Section

Other primary roadways in the vicinity of the SH 144 crossing over the Paluxy River include US 67, FM 56, and FM 205, as shown on **Figure 2**.

- Within the study limits, US 67 is an east-west five-lane undivided urban principal arterial located north of and through the City of Glen Rose until it crosses the Paluxy River. It provides connections to Cleburne and the Dallas/Fort Worth area and is the primary route for commuter and freight traffic.
- FM 56 is a north-south 2-lane rural major collector. It provides connections north to the Squaw Valley Reservoir and Granbury and south to Lake Whitney.
- FM 205 is a north-south 2-lane rural minor collector that originates in Glen Rose at the intersection of SH 144 and FM 56 and continues to Dinosaur Valley State Park.

SH 144 and FM 56 are co-located from the Glen Rose southern city limits across the Paluxy River to the intersection with FM 205, where SH 144 continues east towards US 67 and FM 56 turns briefly west along FM 205 before turning north and leaving Glen Rose. SH 144 is also co-located with US 67 from the east end of downtown Glen Rose to the eastern city limits.

2.4 Traffic Analysis

Intersection counts, 24-hour counts, and bluetooth-based origin/destination data were collected for this study in spring 2017. **Figures 5** and **6** show the location, volumes, and existing level of service for these 24-hr counts on SH 144 and US 67.

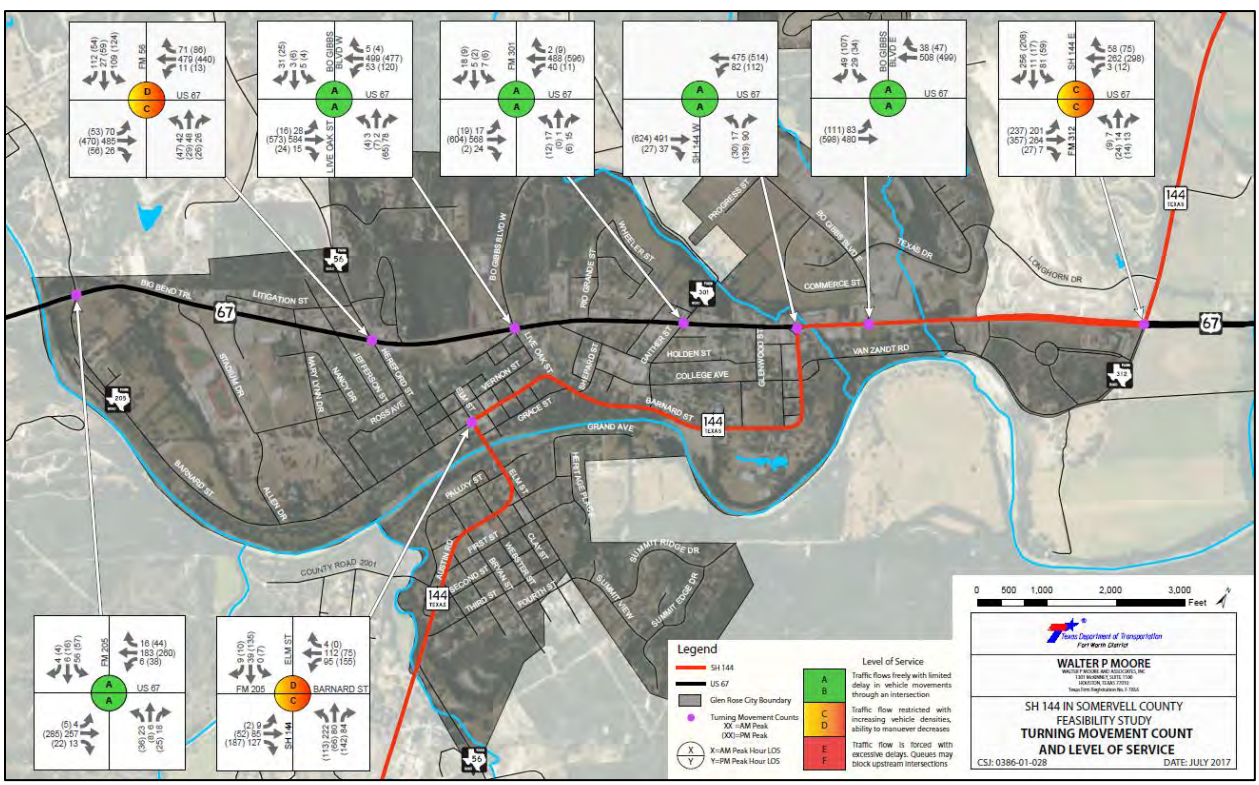


Figure 5. Turning Movement Counts and Level of Service

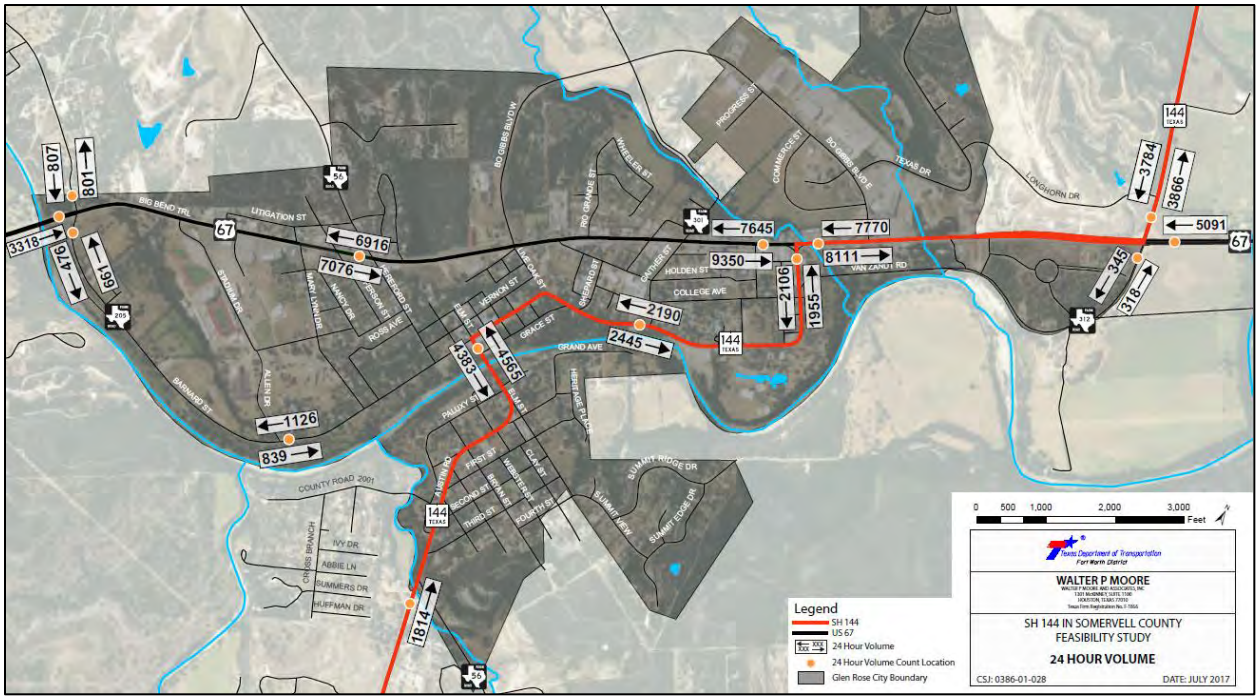


Figure 6. 24-Hour Traffic Volumes

Percentage of trips traveling through Glen Rose from north / south SH 144 origins, from west US 67 origin and to east US 67 destination were determined from the Bluetooth-based origin-destination study (see **Figures 7** and **8**). The largest percentage of traffic on SH 144 has a destination within downtown Glen Rose or east on US 67 towards Cleburne and the Dallas / Fort Worth metroplex. Most eastbound traffic on US 67 continues through Glen Rose on US 67 without stopping; however, a significant amount of traffic is added to US 67 in Glen Rose, primarily from SH 144.

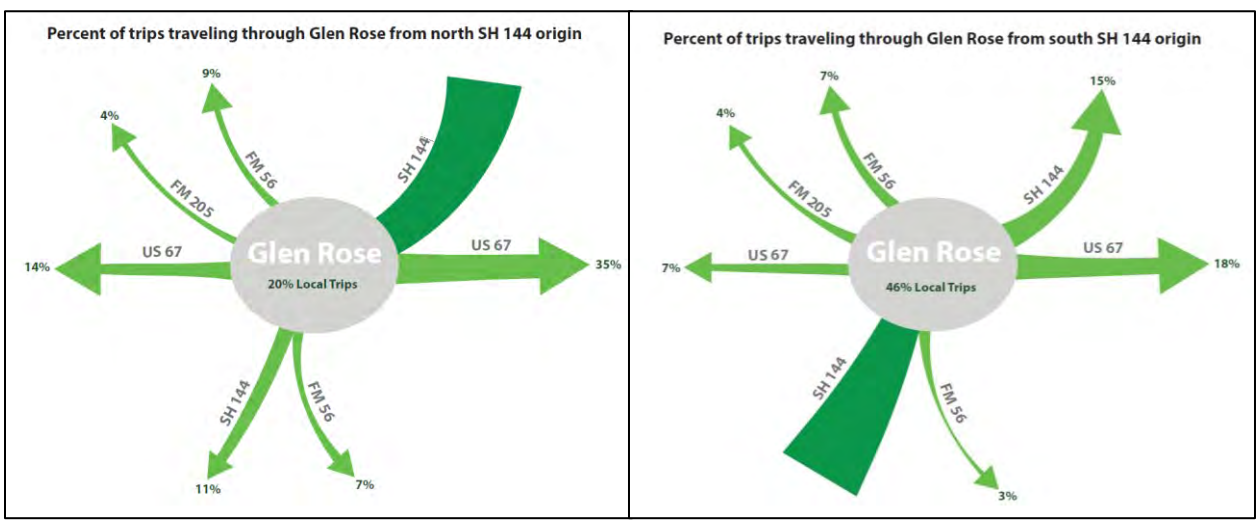


Figure 7. Percent of Trips from North / South Origin

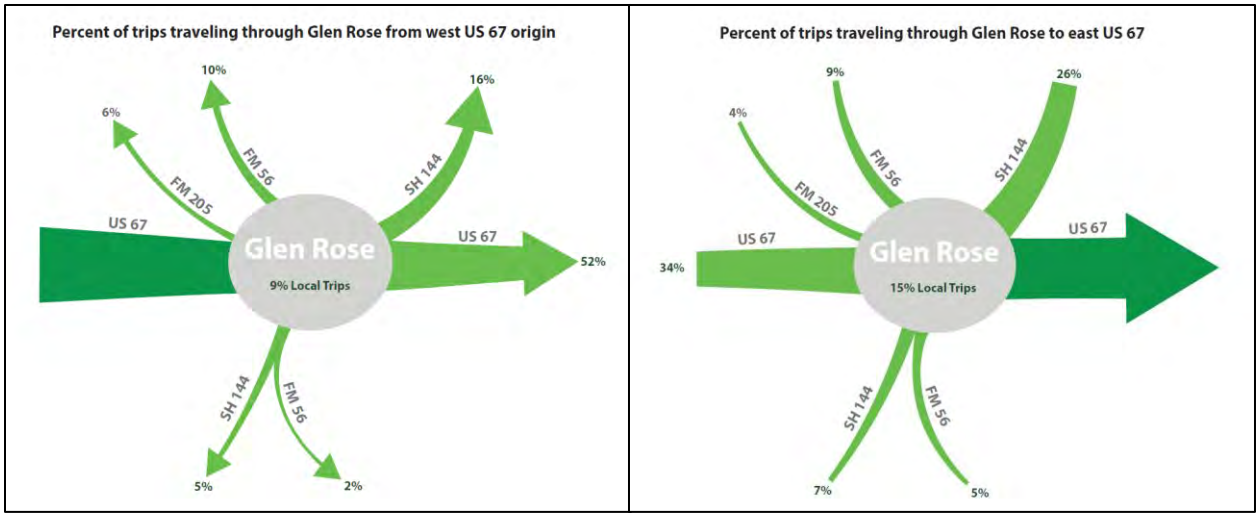


Figure 8. Percent of Trips from West Origin / to East Destination

The following table shows both the existing and design year ADT for SH 144:

Street	Existing ADT	ADT (design year)
SH 144 (South of FM 56 includes bridge)	2015 - (6,742)	2040 - (8,428)
SH 144 (East of FM 56)	2015 - (3,867)	2040 - (4,835)

Table 1. Existing and Future ADT

2.5 Crash Analysis

Crash data for the major roadways of concern during the years 2015 through 2017 (SH 144 and US 67) is presented in **Figures 9** and **10**. The crashes are presented by crash severity including: a) unknown, b) incapacitating injury, non-incapacitating injury, c) possible injury, d) fatality and e) not injured. Sixty-two percent of the crashes are classified as "not injured", while 1% represents fatalities and "unknown" combined. Although fatalities are very few, a total of (162) crashes are registered during the span mentioned above.

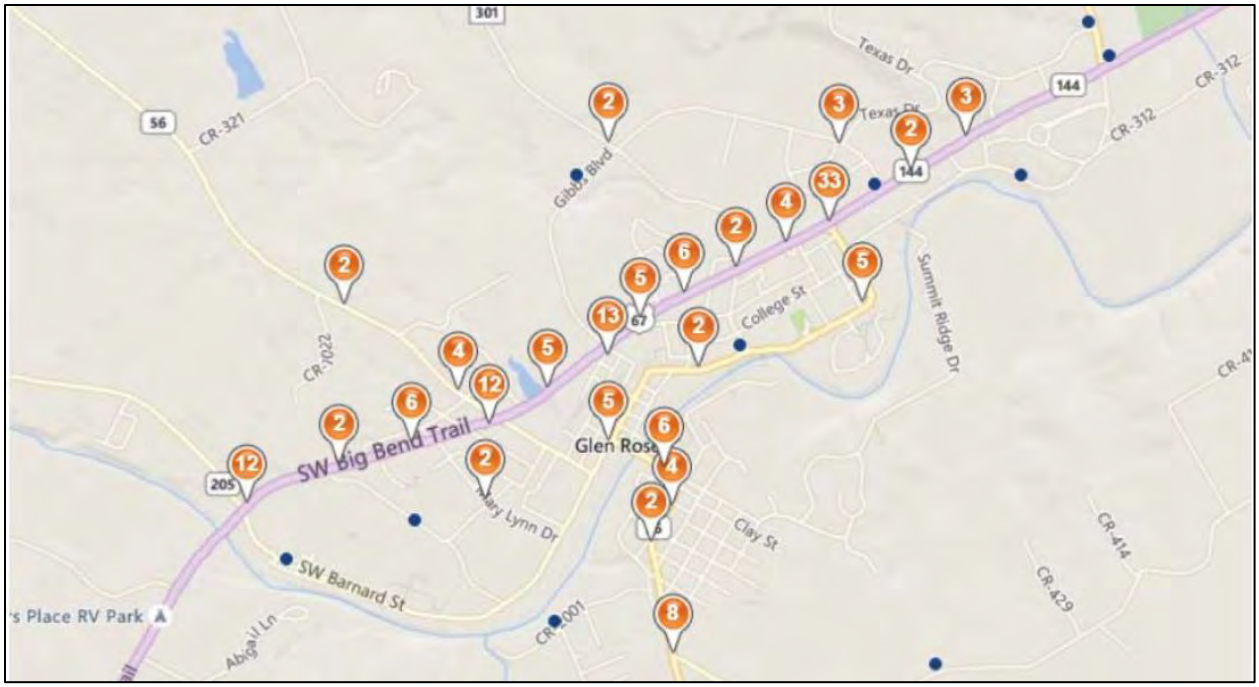


Figure 9. Crash Locations (2015 – 2017) (Source: Attachment #6)

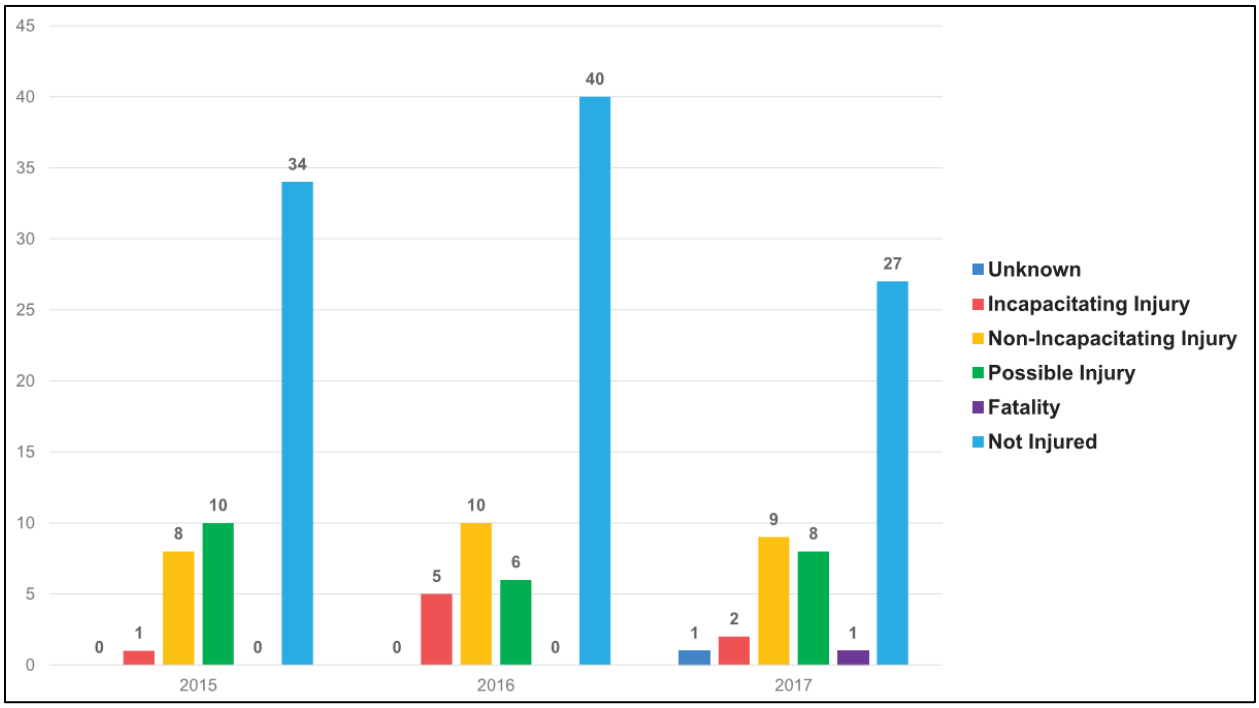


Figure 10. Crashes by Crash Year and Crash Severity (2015 – 2017) (Source: Attachment #6)

2.6 Corridor Constraints

Within the study area, land use is comprised of agricultural, commercial, and residential properties. Agricultural areas comprise the largest percentage of land use within the study area and, where they have been cleared, are primarily used for livestock grazing. Environmentally sensitive features include, but are not limited to, the Glen Rose ISD complex, Somervell County Historic Courthouse Square, Somervell County Citizen's Center, Heritage Public Library, Spirit Wind Church, Grace Baptist Church, Paluxy Heritage Park, Big Rocks Park, and Glen Lake Methodist Camp and Retreat Center. See **Figure 11** for existing land use / land cover within the study area.

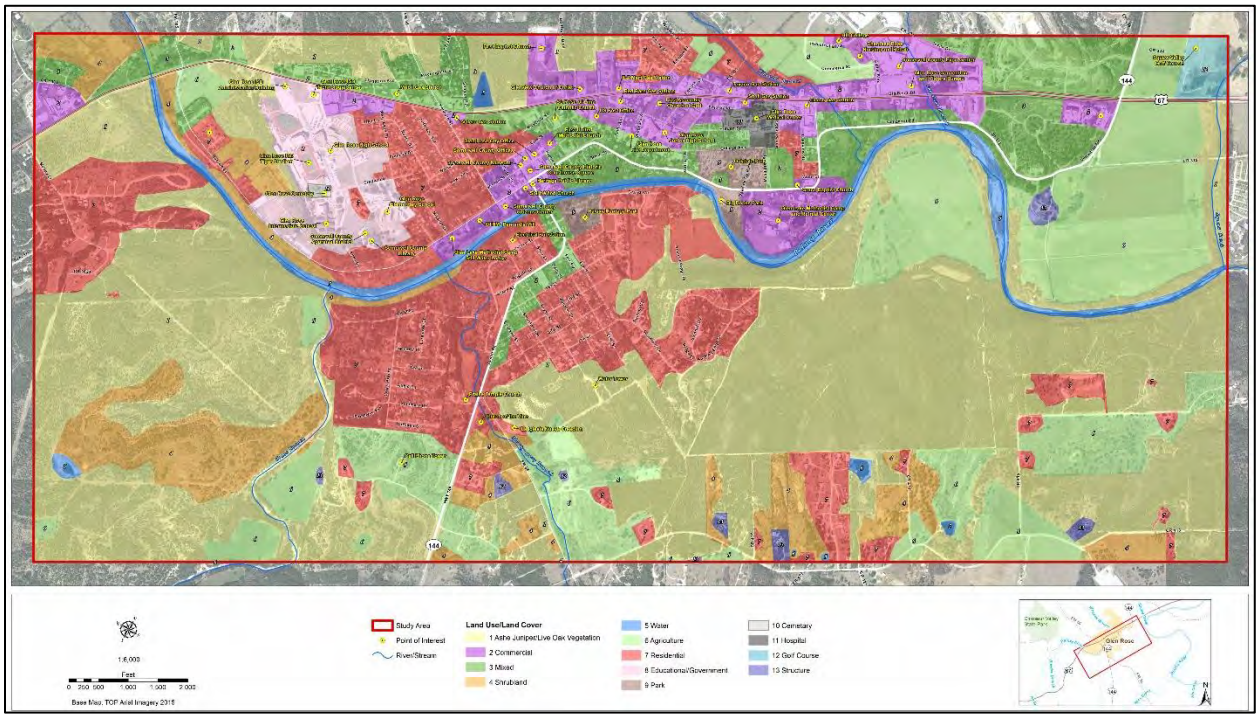


Figure 11. Land Use / Land Cover (Source: Attachment #3)

Aquatic and historic resources also present environmental constraints for the corridor. The Paluxy River floodplain ranges from 800 – 2000 feet wide within the corridor limits. Much of the developed area of Glen Rose north of the river is either within a National Register of Historic Places (NRHP) Listed Historic District or NRHP Eligible Historic District. See **Figure 12** for aquatic and historic corridor constraints.

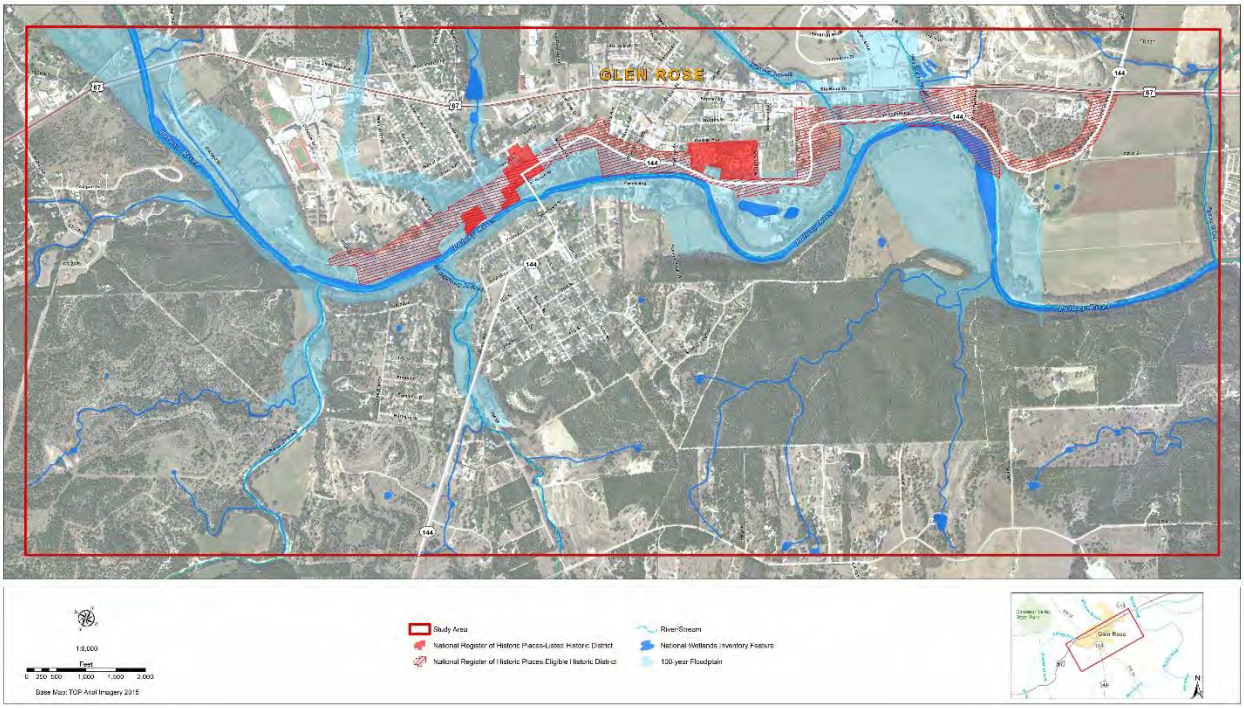


Figure 12. Historic and Aquatic Constraints (Source: Attachment #3)

2.7 Objectives

Based on feedback from the residents of Glen Rose at the stakeholder and public meetings, one of the major topics for this study is the limitations of the current SH 144 bridge across the Paluxy River, which is the only connection within the Glen Rose city limits. As it is, the bridge is narrow and will not be able to provide for traffic growth, alleviate congestion while also serving as part of the evacuation route for the residents. It also has significant geometric restrictions from the northern bridge end through downtown Glen Rose which do not accommodate larger vehicles.

Additional important identified issues to be addressed through this study are presented below:

1. Truck and automobile traffic through town
2. Only one river crossing
3. Emergency evacuation in case of a nuclear breach
4. Morning school traffic queueing
5. Growth of county – increase in traffic
6. Future 4-lane divided highway
7. Congestion

The major objectives of this study are:

1. Reduced truck and automobile traffic through town
2. Creation of an alternate emergency/evacuation route
3. Reduced congestion
4. Improved safety
5. Reduced school traffic queueing
6. Improved EMS and law enforcement access

3.0 PROPOSED DESIGN CRITERIA

3.1 Geometric Design Criteria

Geometric design criteria were identified as the basis for development and evaluation of conceptual and viable build alternatives for addressing the issues identified in this study. Elements included in the geometric criteria tables include: Design Guidelines, Roadway Surface Features, and Roadside Features. Figure and Table references listed below are from the "Roadway Design Manual" (Chapter 2 – Basic Design Criteria and Chapter 3 – New Location and Reconstruction (4R) Design Criteria) from the Texas Department of Transportation as revised on April 2018.

	Design Guidelines			Existing Value	Proposed Value
Design Elements	**Minimum**	**Desirable**	**Figure/Table**		
Design Speed	30 mph	60 mph	Table 3-1	posted = 35 & 40	45 - low speed
Maximum horizontal curvature	min R=250 @4%	min R=711 @ 4%	Table 2-5		min R=711 @ 4%
Maximum superelevation rate	min R=333 @ NC	min R=1039 @ NC	Table 2-5		min R=1039 @ NC
K value - sag	K=37 @ V=30	K=79 @ V=45	Figure 2-6		K=79 @ V=45
K value - crest	K=19 @ V=30	K=61 @ V=45	Figure 2-5		K=61 @ V=45
Maximum grade	11% max @ 30 mph	9% max @ 45 mph	Table 2-11		9% max @ 45 mph
Minimum grade	0.35% or 0.5%		Table 2-11 note		0.35%
Other: Grade change w/o Vert Curvature	Grade diff < 1%				Grade diff < 1%

Table 2. Design Guidelines

Roadway Feature		Dimension	Comments
Thru Lanes	Proposed	12' des	Table 3-1
Other Longitudinal Elements	Parking	7' min / 10' des	(8' min if commercial) Table 3-1
	Bridge width	65'	
	Curb offset	1' min / 2' des	Table 3-1
Shoulders (ML)	Outside	3' min / 8' des	Table 3-1
Median	Flush	16'	Chapter 3 - Section 2 (Urban Streets/Medians)
Speed Change Lanes	Lane width	12' des	Table 3-1
	Storage length	100' min	Table 3-1
	Taper length	50' @ 35 mph	Table 3-3 (100' @ 45 mph)
Cross Slopes	Thru Lanes	2%	Typ
	Shoulders	2%	Typ

Table 3. Roadway Surface Features

Roadside Feature	Unit	Value	Comments
Border	width	varies	Table 3-1
Sidewalk location	width	5' min	Table 3-1
Cross slope - sidewalk	%	2% max	TAS
Ditch front slope - usual	ratio	1V:6H des	Chapter 2 - Section 6 (Slopes and Ditches)
Ditch front slope - maximum	ratio	1V:6H min	Chapter 2 - Section 6 (Slopes and Ditches)
Ditch back slope - usual	ratio	1V:4H des	Chapter 2 - Section 6 (Slopes and Ditches)
Ditch back slope - maximum	ratio	1V:4H min	Chapter 2 - Section 6 (Slopes and Ditches)
Clear zone	width	10' uncurbed	6' des / 4' min from FOC if curbed (Table 2-12)

Table 4. Roadside Features

3.2 Proposed Typical Sections

Based on the selected geometric design criteria, proposed typical sections were developed for use in preparing alternatives for new roadway alignments and the second crossing over the Paluxy River. **Figures 13** and **14** show the proposed typical sections established for development of new roadway and bridge sections on SH 144.

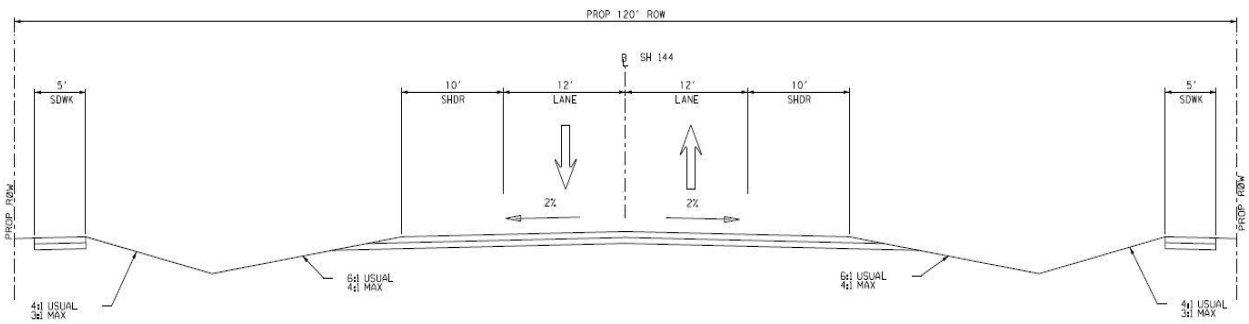


Figure 13. SH 144 Proposed Roadway Typical Section

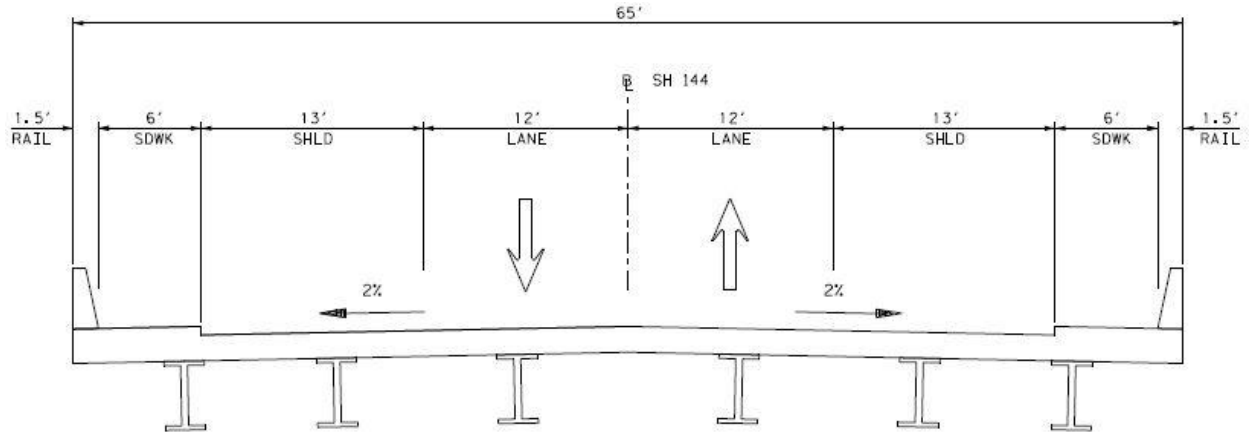


Figure 14. SH 144 Proposed Bridge Typical Section

4.0 ALTERNATIVE ANALYSIS

4.1 Universe of Alternatives

The team presented the objectives for the study at a Stakeholders meeting held in October 2017. Based on the comments and suggested alignments drawn on maps of the study area at that meeting, 27 initial alternatives were developed as the starting point for this study. These 27 alternatives were known as the Universe of Alternatives (UOA) as shown on **Figure 15**. Each preliminary route was given a letter designation from A to AA to identify them during the preliminary analysis phase.

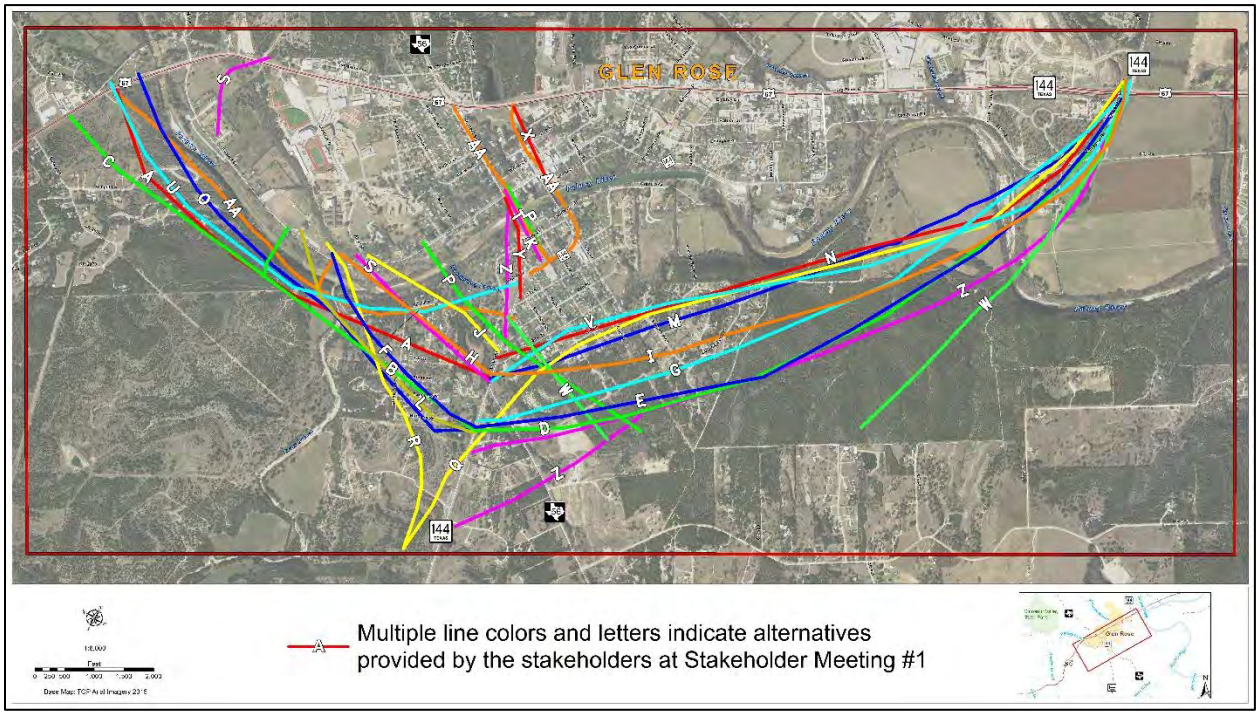


Figure 15. SH 144 Universe of Alternatives (Source: Attachment #1)

4.2 Preliminary Alternative Analysis

A preliminary decision matrix, as shown on **Table 5**, was used to narrow the UOA into six Conceptual Alternatives (CA), which were developed by the study team in order to preserve the goals of the original UOA concepts in a smaller set of alignments which could be investigated in detail. The decision criteria used to evaluate which UOA alignments continued as CA alignments were based on the study objectives, engineering and environmental constraints, and design criteria presented earlier in this report. Some CA alignments represent a combination of one or more original UOA alignment locations while others match a single UOA alignment.

SH 144 Feasibility Study											
Evaluation Criteria - Reason Alternative was Dismissed from Further Study	Did not provide evacuation route	Did not provide second crossing of river	Did not provide connectivity	Did not improve mobility	Did not improve or reduce conflict points	Was not constructible (why?)	Length of alternative/ bridge was cost prohibitive	Potential impacts to structures (houses, airport, etc.)	Proximity to existing bridge not acceptable (e.g. too far or too close)	High Floodplain Impacts	Which Conceptual Alternative (1-6) incorporates this alternative concept?
ALT A		X						X			1
ALT B			X	X				X			1
ALT C		X						X			1
ALT D											5 and 6
ALT E											5 and 6
ALT F			X	X			X	X			2
ALT G											5 and 6
ALT H								X			2
ALT I								X			6
ALT J								X			2
ALT K								X	X	X	3
ALT L			X	X			X	X			1
ALT M								X			6
ALT N								X			6
ALT O		X								X	1
ALT P								X			6
ALT Q							X	X	X	X	4
ALT R			X	X			X	X			1
ALT S								X			2
ALT T								X	X	X	3
ALT U		X								X	1
ALT V								X			6
ALT W				X			X	X		X	6
ALT X								X	X	X	3
ALT Y								X	X	X	3
ALT Z							X	X		X	5 and 6
ALT AA										X	1

Table 5. Preliminary Decision Matrix (Universe of Alternatives) (Source: Attachment #1)

4.3 Conceptual Alternatives

The study team developed six (6) CA alignments for further consideration and evaluation as shown on **Figure 16**. Each CA alignment incorporates the goals of one or more UOA alignment and conforms to the geometric criteria and typical sections presented in **Section 3.0** of this report.

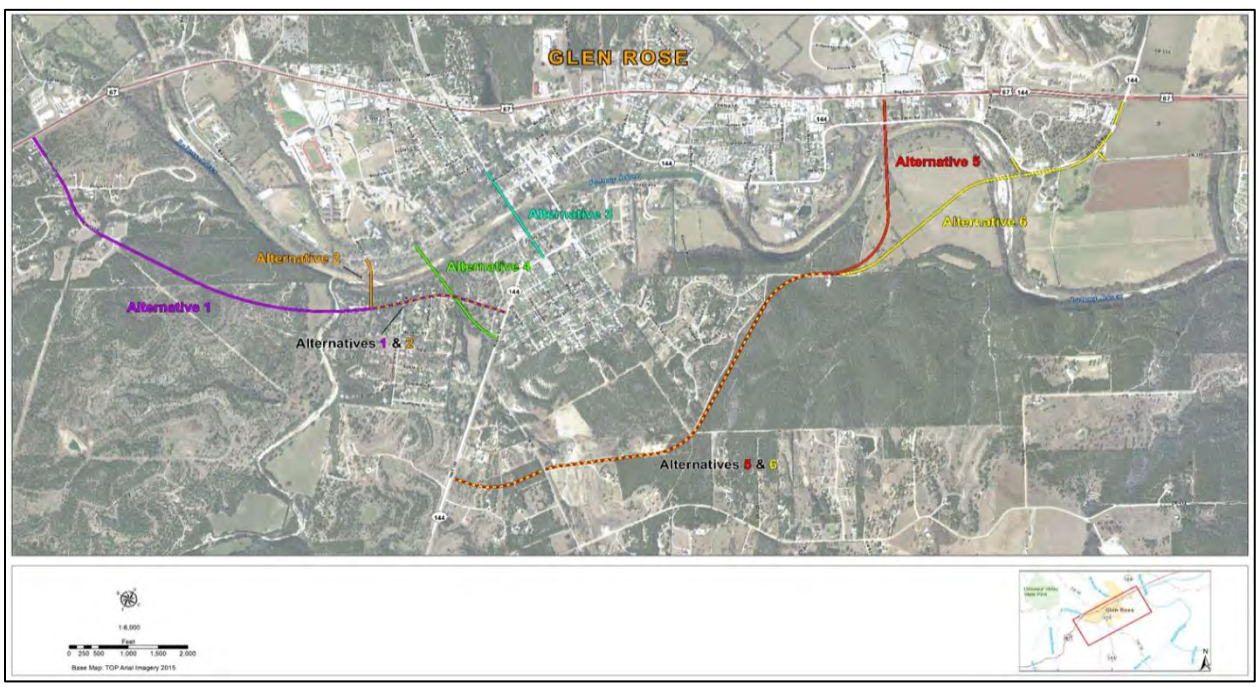


Figure 16. SH 144 Conceptual Alternatives (Source: Attachment #2)

The six (6) proposed Conceptual Alternatives are explained in detail in this following section. See **Exhibit 1** for an overall layout of the proposed CA alignments.

- **Alternative #1** proposes a new roadway between US 67 and Austin Rd (SH 144 / FM 56). This alignment follows the Paluxy River on the south side and proposes a bridge over Cross Branch. (see **Exhibit 2** and **Table 6**)

New Roadway Length	4,392 ft	0.832 mi
Widened Roadway Length	4,770 ft	0.903 mi
Bridge Length	150 ft	0.028 mi
Total Alignment Length	9,312 ft	1.763 mi
Est. ROW & Construction Cost		$7,103,123

Table 6. Conceptual Alternative #1

- **Alternative #2** proposes an extension of Allen Dr south of FM 205, creating a new intersection followed by a bridge crossing the Paluxy River and widening Paluxy Estates to Austin Rd (SH 144 / FM 56). (see **Exhibit 3** and **Table 7**)

New Roadway Length	886 ft	0.168 mi
Widened Roadway Length	2,444 ft	0.463 mi
Bridge Length	250 ft	0.047 mi
Total Alignment Length	3,580 ft	0.678 mi
Est. ROW & Construction Cost		$4,257,944

Table 7. Conceptual Alternative #2

- **Alternative #3** proposes an extension of Hereford St, east of SW Barnard St, creating a new intersection followed by a bridge crossing Paluxy River south of the existing bridge. The alignment continues along Paluxy St and ends at Austin Rd. (see **Exhibit 4** and **Table 8**)

New Roadway Length	597 ft	0.113 mi
Widened Roadway Length	0 ft	0.000 mi
Bridge Length	735 ft	0.139 mi
Total Alignment Length	1,332 ft	0.252 mi
Est. ROW & Construction Cost		$7,258,485

Table 8. Conceptual Alternative #3

- **Alternative #4** proposes a new roadway between SW Barnard Street and Austin Rd (SH 144 / FM 56). This alignment includes a bridge parallel to the existing one located south along the Paluxy River between Alternatives 2 and 3. The roadway goes through Paluxy Estates and ends at the existing intersection of Paluxy St. and Austin Rd. (see **Exhibit 5** and **Table 9**)

New Roadway Length	597 ft	0.113 mi
Widened Roadway Length	0 ft	0.000 mi
Bridge Length	735 ft	0.139 mi
Total Alignment Length	1,332 ft	0.252 mi
Est. ROW & Construction Cost		$7,258,485

Table 9. Conceptual Alternative #4

- **Alternative #5** proposes a new roadway between SH 144 and US 67 on the southeast side of Glen Rose. The alignment begins southwest of the SH 144 / FM 56 intersection and connects to US 67 at Bo Gibbs Blvd. The alignment includes a bridge over Paluxy River between Wheeler Branch and Van Zandt Branch. (see **Exhibit 6** and **Table 10**)

New Roadway Length	11,145 ft	2.111 mi
Widened Roadway Length	0 ft	0.000 mi
Bridge Length	200 ft	0.038 mi
Total Alignment Length	11,345 ft	2.149 mi
Est. ROW & Construction Cost	$11,645,809	

Table 10. Conceptual Alternative #5

- **Alternative #6** proposes a new roadway between SH 144 and US 67 on the southeast side of Glen Roase. This alignment begins southwest of the SH 144 / FM 56 intersection and is longer than the proposed Alternative #5, connecting to US 67 at the existing US 67 / SH 144 intersection. The alignment includes a longer bridge over Paluxy River between Van Zandt Branch and Squaw Creek. (see **Exhibit 7** and **Table 11**)

New Roadway Length	14,231 ft	2.695 mi
Widened Roadway Length	0 ft	0.000 mi
Bridge Length	450 ft	0.085 mi
Total Alignment Length	14,681 ft	2.780 mi
Est. ROW & Construction Cost	$16,491,712	

Table 11. Conceptual Alternative #6

The CA alignments were presented at a second Stakeholders meeting in February 2018 from which additional comments and concerns were included to the analysis to help refine the routes. Main concerns at this stage were ROW requirements, the need for the new crossing for safety and to reduce congestion, and the need to reduce congestion. Major comments are based on the timing of construction and the specific location of the second bridge crossing. The concept of a second crossing of the Paluxy River is supported by a majority of stakeholders.

The conceptual routes were also presented at the first Public Meeting in March 2018 which provided the public with the opportunity to comment and give their input.

Of the alternatives that were mentioned by the public as preferred in Public Meeting #1, Alternative 6 ranked the highest (110 in favor of the alternative), Alternative 5 ranked second (77 in favor of the alternative), and Alternative 3 ranked third (35 in favor of the alternative). A Conceptual Alternatives Ranking Matrix as shown on **Table 12** was created and it shows that the lowest number was given to Alternative #6, making this one the preferred alternative. This matrix also includes the public input from comments received on the first public meeting.

SH 144 Feasibility Study
Conceptual Alternatives Ranking Matrix

Evaluation Criteria	Units	No-Build*	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Transportation Performance								
Alternate Evacuation Route	1 is best; 6 is worst		3	6	6	6	1	1
Conflict Points (High is worst)	1 is best; 6 is worst		1	6	3	6	1	1
Parcels Impacted	1 is best; 6 is worst		6	4	2	1	3	4
Human Environment Impacts								
Community Facility	1 is best; 6 is worst		1	1	3	1	1	1
Utility	1 is best; 6 is worst		1	1	3	1	1	1
Residential Structures	1 is best; 6 is worst		1	3	6	4	2	1
Socioeconomic Impacts								
Neighborhood Cohesion	1 is best; 6 is worst		3	3	3	1	1	1
Environmental Justice	1 is best; 6 is worst		1	3	3	3	1	1
Known Historic Resources**	1 is best; 6 is worst		1	2	4	3	4	3
Natural Environment Impacts								
Potential Water Resources Impacts	1 is best; 6 is worst							
100-Year Floodplains	1 is best; 6 is worst		1	2	3	4	5	6
Stream/Creek Crossings	1 is best; 6 is worst		4	3	1	2	4	4
Threatened/Endangered Species Habitat Potential	1 is best; 6 is worst		3	1	1	1	3	3
Public Input From Comments Received (Public Meeting #1)								
Prefer Alternative	1 is best; 6 is worst		4	5	3	6	2	1
Ranking Totals	Lower # is better		30	40	41	39	29	28

*Grey highlight indicates alternative did not meet goals and objectives, and therefore was not evaluated further

Table 12. Conceptual Alternatives Ranking Matrix (Source: Attachment #3)

Some key factors that make Alternative #6 the preferred alternative:

1. Effectiveness as Evacuation Route
2. Level of Safety Improvements (based on conflict points)
3. Potential Impacts to parcels, community facilities, utilities, residential structures, neighborhoods, historic resources, floodplains and creeks.

With Alternative #6 being carried forward as the highest-ranking alternative, the other alternatives were removed from further study.

5.0 VIABLE ALTERNATIVES

5.1 Alternative Development

As a result of comments from the first Public Meeting and the second Stakeholder Meeting, two Viable Alternatives (named Eastern Alternative A and Eastern Alternative B) were developed based on Conceptual Alternative #6 as shown on **Figure 17**.

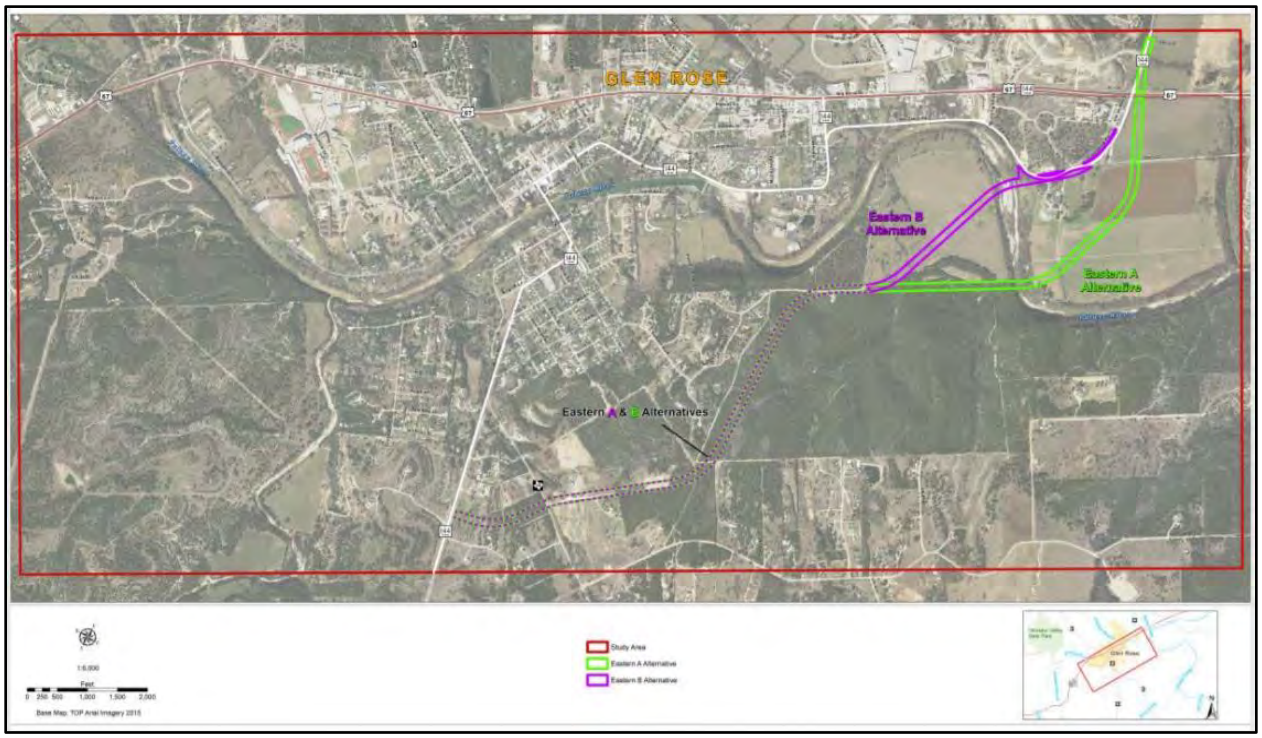


Figure 17. SH 144 Viable Alternatives (Source: Attachment #4)

Both Viable Alternatives share a common alignment from existing SH 144 heading northeast towards the Paluxy River, where they diverge and cross the river at different locations. Below are characteristics of the Viable Alignments:

Common Alignment:

- Unsignalized intersections with existing SH 144 and SH 56 approximately 0.35 miles south of the SH 144 / SH 56 intersection.
- Continuous northbound SH 144 movement at design speed onto the new alignment
- Crosses 70’ tall hill on Bryan Whitlock / Mark Simons parcels between existing SH 144 and SH 56
- Parallel and adjacent to the southern Equity Trust Fund property line, avoids stock pond on this parcel
- 200’ +/- buffer on the east side of Summit Ridge neighborhood
- Potential impacts to natural resources east of Summit Ridge
- Matches existing ROW for Summit Ridge Dr extension

Eastern Alternative A

- Crosses Wyatt family ranch between ranch house and Wyatt 3 Rivers Airport
- 950' long tangent bridge over Paluxy River
- Crossing location approximately 0.9 miles upstream of confluence with Brazos River
- Realigns Van Zandt Rd and relocates signalized intersection with US 67

Eastern Alternative B

- Crosses mostly undeveloped western side of Wyatt family ranch
- 1300' long curved bridge over Paluxy River
- Crossing location approximately 1.2 miles upstream of confluence with Brazos River
- Utilizes existing Van Zandt Rd ROW between Paluxy River and US 67
- Ties into existing skewed US 67 / SH 144 intersection

5.2 Alternative Analysis

These viable alternatives were evaluated against the following objectives and goals:

1. Transportation Performance
   a. Alternate Evacuation Route
   b. Conflict Points
   c. Parcels impacted

2. Human Environment Impacts
   a. Commercial Properties
   b. Residential (number of parcels)
   c. Prime/Unique Farmland soils
   d. Historic Properties and Districts (NRHP listed and eligible)
   e. Meridian highway (NRHP eligible segments)

3. Natural Environment Impacts
   a. 100-Year Floodplains
   b. Stream/Creek Crossings

4. Public Support
   a. Level of Stakeholder Support

Both viable alternatives would address the objectives and goals referenced. The analysis and results are shown on **Table 13**.

Evaluation Criteria	Units	No-Build	Eastern A Alternative	Eastern B Alternative
Addresses Goals and Objectives*	**Yes/No**	**No***		
Transportation Performance				
Alternate Evacuation Route	1 or 2 (1 is best)		1	1
Conflict Points	1 or 2 (1 is best)		1	1
Parcels Impacted	1 or 2 (1 is best)		2	1
Human Environment Impacts				
Commercial Properties	1 or 2 (1 is best)		1	2
Residential (# of Parcels)	1 or 2 (1 is best)		1	1
Prime/Unique Farmland Soils	1 or 2 (1 is best)		1	2
Historic Properties and Districts - NRHP Listed and Eligible	1 or 2 (1 is best)		1	2
Meridian Highway - NRHP-eligible segments	1 or 2 (1 is best)		1	2
Natural Environment Impacts				
100-Year Floodplains	1 or 2 (1 is best)		2	1
Stream/Creek Crossings	1 or 2 (1 is best)		1	2
Public Support				
Level of Stakeholder Support	1 or 2 (1 is best)		1	1
* Green highlight indicates alternative did not meet goals and objectives, and therefore was not				

Table 13. Evaluation Criteria for Viable Alternatives (Source: Attachment #4)

Based on comments and feedback from the Stakeholder Meeting # 3, revisions were made resulting in a Recommended Alternative which was carried forward for public comment. One of the major concerns at this stage was related to the intersection with US 67 which is the tie-in point of the alternatives. Eastern Alternative A was chosen as the preferred alternative.

6.0 RECOMMENDED ALTERNATIVE

6.1 Alternative Development

The Recommended Alternative was based on Viable Eastern Alternative A and shows the alignment of the proposed SH 144 passing through mostly undeveloped land while avoiding conflicts with residential parcels at Summit Ridge, as well as minimizing impacts to potential natural and historic resources. The Recommended Alternative locates new intersections on existing SH 144 and SH 56 approximately 0.35 miles south of the intersection between existing SH 144 and SH 56. It continues in a northeasterly direction until passing the Summit Ridge neighborhood and then turns north, maintaining a minimum 200' buffer from the neighborhood. The new Paluxy River crossing is located approximately 0.9 miles upstream of confluence with Brazos River. Existing Van Zandt Rd ROW is utilized for the southern approach to the intersection with US 67 and existing SH 144. The Recommended Alternative is shown on **Figure 18**.

Figure 18. SH 144 Recommended Alternative (Source: Attachment #5)

Information related to estimated construction cost, impacted parcels and potential impacts of the Recommended Alternative is shown on **Table 14** below:

SH 144 Feasibility Study Recommended Alternatives Information			
Evaluation Criteria	**Units**	**No-Build**	**Recommended Alternative**
Addresses Goals and Objectives*	**Yes/No**	**No***	
Alternate Evacuation Route	Yes/No		Yes
Construction Cost	Estimated Cost		$24,949,932
Estimated ROW Cost	Estimated Cost		$760,718
Parcels Impacted	Estimated Number		17
Impacts to Historic Properties and Districts	Low/Medium/High		Low
Known Historic Resources	Low/Medium/High		Low
Impacts to 100-Year Floodplains	Approximate Acres		5.7
Level of Public Support	Low/Med/High		TBD

* Green highlight indicates alternative did not meet goals and objectives

Table 14. Recommended Alternatives Information (Source: Attachment #5)

6.2 Public Feedback on Recommended Alternative

The Recommended Alternative was presented at Public Meeting #2 on November 21, 2019 (See Attachment #5). The study team received public comments and concerns at the meeting which are summarized below:

1. Requests to change the location of the terminus of SH 144 at the western end of the alternative.
2. Concerns regarding truck traffic routed to homes east of the eastern end of the alternative.
3. Potential proposed right-of-way impacts to property owners (including the Wyatt family).
4. Potential indirect impacts to Summit Ridge Estate property owners.
5. Questions on why some of the six Conceptual Alternatives dropped out of consideration.
6. Potential environmental impacts including noise, wildlife, historic structures, waters of the US, and impacts to property owners.
7. Comments on objectives of the study including emergency response issues congestion near the High School under the Recommended Alternative.

6.3 Recommended Alternative Alignments

The bridge location shown on Viable Eastern Alternative B appeared to address the public comments and two new Recommended Alternatives based on Viable Eastern Alternative B were developed.

The Recommended Alternative Alignments were developed to address or maintain solutions to alignment issues throughout the corridor, including those listed below:

SH 144 Revised Recommended Alternative Alignment Issues and Solutions

1. Existing SH 144 to Wyatt property line
   - Issues
     - Specific location of western terminus along existing SH 144
     - Continuous NB route along SH 144
     - Proximity to SH 144 / SH 56 intersection
   - Solutions
     - Display one option for continuous route geometry
     - Add "cone" to show possible locations of SH 144 intersection for further development on schematic phase.

2. Wyatt property line to Summit Ridge Dr ROW
   - Issues
     - Proximity to Summit Ridge
     - Potential impacts to natural resources
     - Terrain – rugged
   - Solutions
     - Increase buffer along Summit Ridge from 200' to 400'
     - Schematic phase should address potential impact to natural resources and terrain issues through detailed field work.

3. Summit Ridge Dr ROW to US 67
   - Issues
     - Impacts to specific areas of Wyatt family property
       - Boy Scout campground
       - Future Glen Lake Methodist Camp expansion
       - Working ranch connectivity
     - Avoid historic parcels
   - Solutions
     - Provide two alignment options
     - Schematic team should coordinate with the Wyatt family.

The Recommended Alternative Alignments are shown in **Figure 19**:

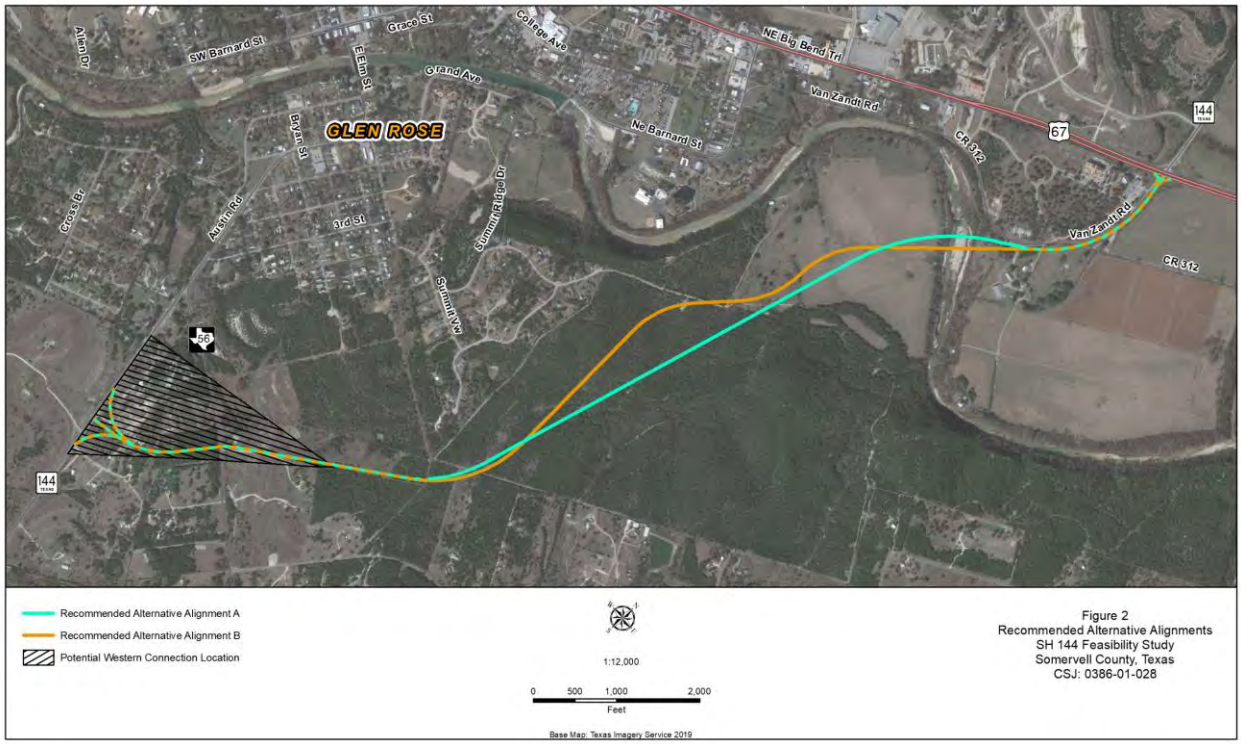


Figure 19. Recommended Alternative Alignments (Source: Attachment 5)

The preliminary cost estimate based on these preferred alternatives is shown in **Table 15**.

Preliminary Cost Estimate		
	Revised Recommended Alt A	**Revised Recommended Alt B**
ROW Acquisition Cost	$ 741,070	$ 767,543
Utility Relocation Cost	$ 121,184	$ 123,750
Roadway Cost	$ 8,904,248	$ 8,842,755
Bridge Cost	$ 8,838,375	$ 8,562,975
Signing & Striping Cost	$ 130,878	$ 133,650
Signals Cost	$ 260,000	$ 260,000
Barricades & Traffic Handling Cost	$ 90,000	$ 90,000
SW3P Cost	$ 187,689	$ 191,664
SUBTOTAL	**$ 19,273,444**	**$ 18,972,336**
Landscaping (1%)	$ 192,734	$ 189,723
Contingency (30%)	$ 5,782,033	$ 5,691,701
Mobilization (10%)	$ 1,927,344	$ 1,897,234
TOTAL	**$ 27,175,556**	**$ 26,750,994**

Table 15. Recommended Alternatives Preliminary Cost Estimate

7.0 CONSIDERATIONS FOR SCHEMATIC DEVELOPMENT

7.1 Commitments

During the process of developing alternatives, revising to incorporate comments from the public and stakeholders and ultimately defining preferred alternatives, the feasibility study team identified the following commitments which should be preserved in future schematic studies:

- Provide and maintain a continuous route along the new SH 144 alignment
- Avoid or minimize impacts to the following areas or parcels:
    - Possible historic structure on Van Zandt Rd close to the intersection with CR 312
    - Picnic and open area at the intersection of Van Zandt Rd and CR 312
    - Boy Scout campground area on the Wyatt property
    - Future expansion of the Glen Lake Methodist Camp on the Wyatt property
    - Working ranch on the Wyatt property
- Provide a minimum 400’ buffer along Summit Ridge neighborhood

7.2 Investigations

As part of the schematic development, information that was not available at the time this report was concluded should be obtained, including the following investigations:

- Obtain aerial or field survey data to consider the existing terrain within the corridor. A large hill is predominant between existing SH 144 and SH 56 while rugged rocky terrain is prevalent in the central portion of the corridor.
- Identify the specific location of the intersection with existing SH 144.
- Investigate impacts to potential historic structures and protected natural resource areas that have not been fully defined as part of this study.
- Hydrologic / hydraulic modeling to optimize the Paluxy River bridge type, size, and location.

APPENDIX 1 - PUBLIC INVOLVEMENT SUMMARY

Stakeholder Meeting #1
A stakeholder meeting was coordinated to present the study objectives as well as gathering comments and concerns. The meeting was held at the Glen Rose ISD Technology Center on Tuesday October 3, 2017 with Sarah Horner (TxDOT), Roger Gonzalez (Walter P. Moore) and Kim Johnson (Blanton & Associates, Inc.) as the presenters.

The environmental constraints were presented as a map for Land Use/Land Cover and another for Aquatic/Historic Resources. Also, the presentation included the feasibility study objectives, traffic analysis and bike/pedestrian facilities.

At this meeting, a total of 23 comments were received from approximately 39 attendees. The Universe of Alternatives was created with 27 possible routes.

The report for the Stakeholder Meeting #1 is included as part of this report as **Attachment No. 1.**

Stakeholder Meeting #2
A second stakeholder meeting was organized with the purpose of presenting the six conceptual alternatives as a product of the first stakeholders meeting. The meeting was held at the Glen Rose High School Cafeteria on February 15, 2018.

The study overview, the results from the Stakeholder Meeting #1, and the six Conceptual Alternatives were presented at the meeting.

At this meeting, a total of 17 comments were received from 26 attendees.

The report for the Stakeholder Meeting #2 is included as part of this report as **Attachment No. 2.**

Public Meeting #1
An Open House format Public Meeting was held at the Glen Rose ISD Technology Center on March 22, 2018.

The study overview, the environmental constraint maps, and six Conceptual Alternatives were presented at the meeting.

At this meeting, a total of 198 comments were received from approximately 186 attendees. From those comments, 91 are a result of comments forms and 107 from survey forms.

The report for the Public Meeting #1 is included as part of this report as **Attachment No. 3.**

Stakeholder Meeting #3
A third stakeholder meeting was organized with the purpose of presenting the two viable alternatives as a product of the comments gathered at the first public meeting. The meeting was held at Glen Rose ISD Technology Center on September 4, 2019.

At this meeting, a total of four comments were received from 14 attendees.

The report for the Stakeholder Meeting #2 is included as part of this report as **Attachment No. 4.**

Public Meeting #2
A second public meeting was organized with the purpose of presenting the recommended alternative as a product of the comments and concerns gathered at the third stakeholder meeting. The meeting was held at the Glen Rose high School Cafeteria on November 21, 2019.

At this meeting, a total of 44 comments were received from 129 attendees.

The report for the Public Meeting #2 is included as part of this report as **Attachment No. 5.**

EXHIBIT 1

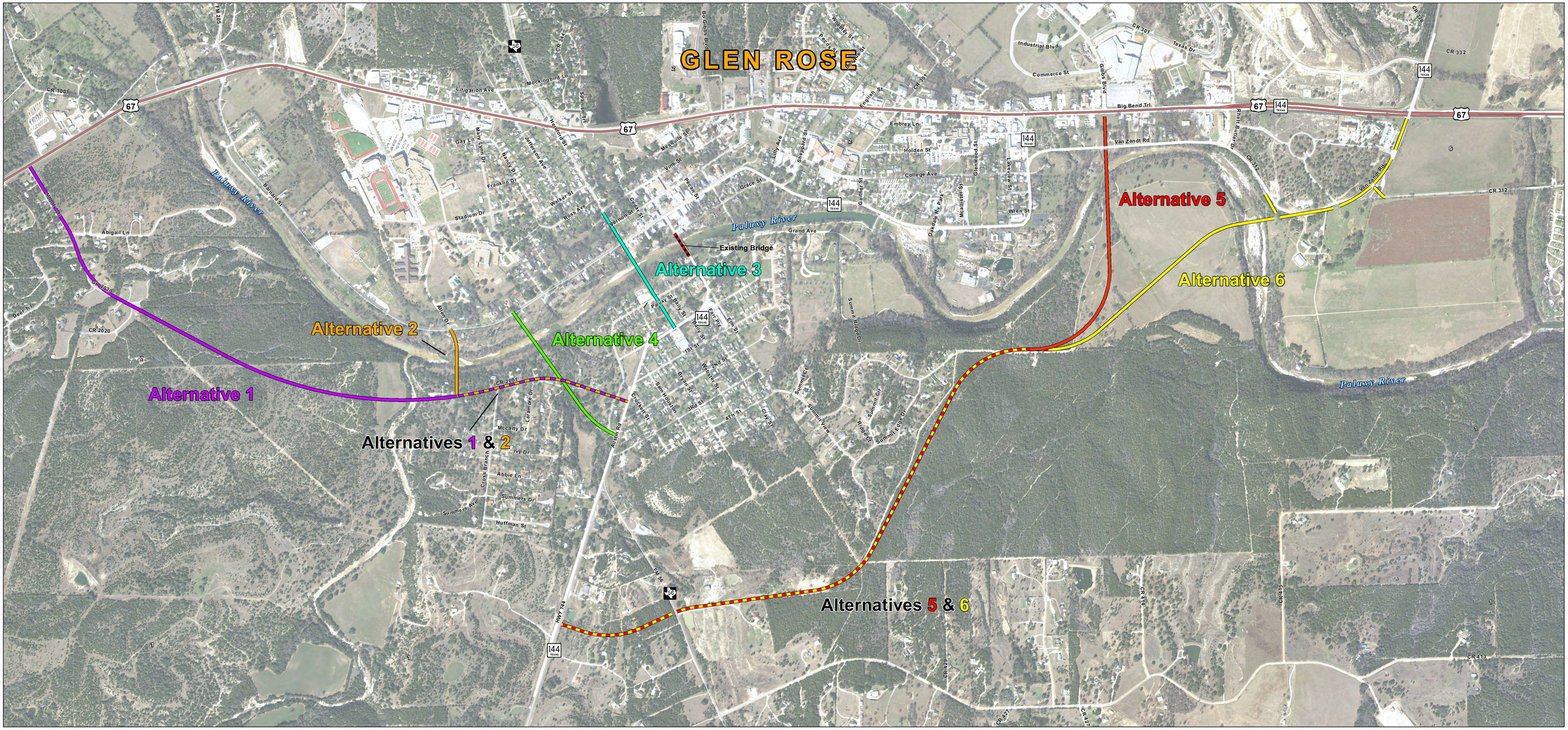
Conceptual Alternative Map

Texas Department of Transportation

Conceptual Alternatives Index Map

SH 144 Feasibility Study

Somervell County, Texas



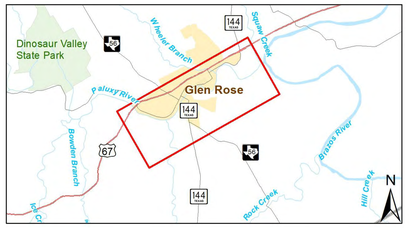
1:6,000

Feet

0 250 500 1,000 1,500 2,000

Base Map: TOP Arial Imagery 2015

- Existing Bridge
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5
- Alternative 6



Public Meeting Display - March 22, 2018

EXHIBIT 2

Diagrammatic Layout Alternative 1

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY

PROJECT LOCATION MAP
NOT TO SCALE

FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

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SCALE: 1"=200'

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Texas Department of Transportation
Fort Worth District

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WALTER P MOORE
WALTER P MOORE AND ASSOCIATES INC
1301 McKINNEY SUITE 1100
HOUSTON, TEXAS 77010
Texas Firm Registration No. F-2008

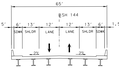
R. G. MILLER
R. G. Miller Engineers, Inc.
16340 Park Ten Place, SUITE 300
HOUSTON, TEXAS 77084
Texas Firm Registration No. F-1837

SH 144 IN SOMERVELL COUNTY
MARCH 22,2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT #1
NEW BRIDGE CROSSING
CROSS BRANCH

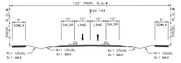
DATE: MARCH 2018 ROLL 1 OF 6

ALTERNATIVE #1

EXISTING SH 144 BRIDGE OVER PALUXY RIVER



PROPOSED BRIDGE TYPICAL SECTION



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DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL

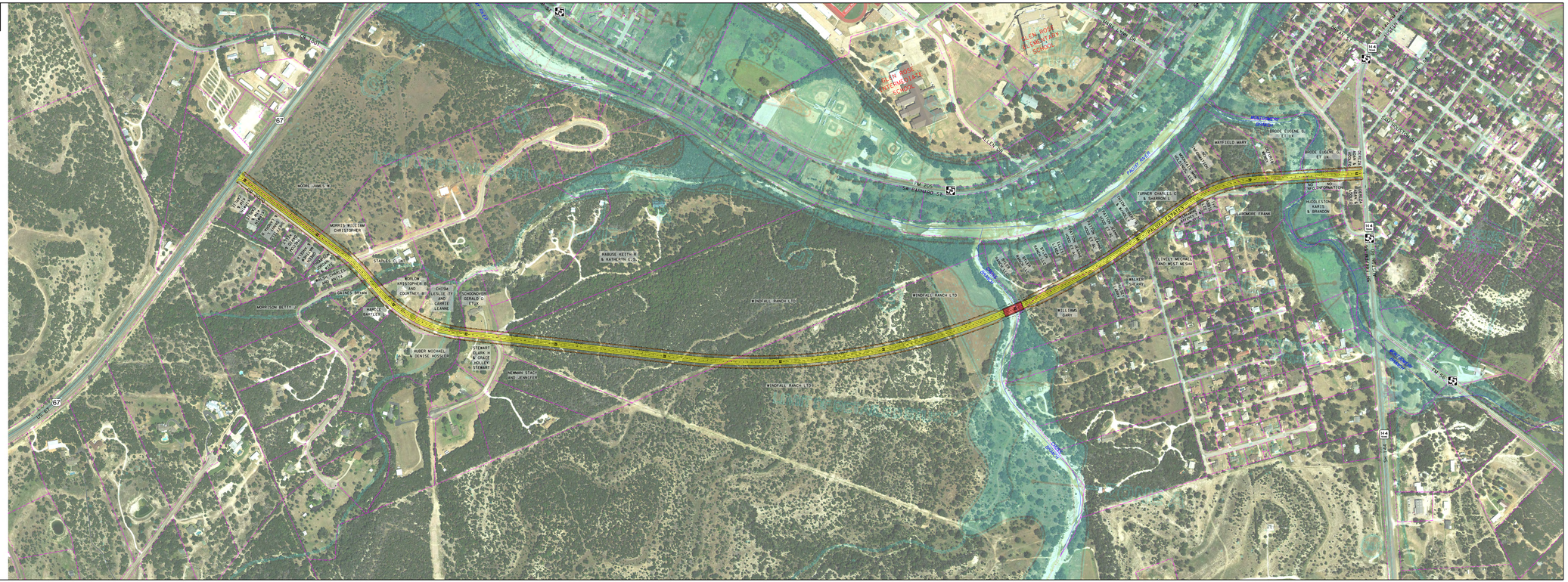

EXHIBIT 3

Diagrammatic Layout Alternative 2

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY

PROJECT LOCATION MAP
NOT TO SCALE

FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....35

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

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SCALE: 1"=200'

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Fort Worth District

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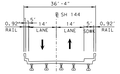
WALTER P MOORE AND ASSOCIATES, INC
1301 McKINNEY, SUITE 1100
HOUSTON, TEXAS 77010
Texas Firm Registration No. F-1856

R. G. MILLER
R. G. Miller Engineers, INC
16340 Park Ten Place, SUITE 350
HOUSTON, TEXAS 77084
Texas Firm Registration No. F-487

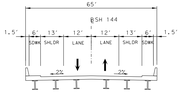
SH 144 IN SOMERVELL COUNTY
MARCH 22, 2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT #2
NEW BRIDGE CROSSING
PALUXY RIVER

DATE: MARCH 2018 ROLL 2 OF 6

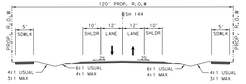
ALTERNATIVE #2



EXISTING SH 144 BRIDGE OVER PALUXY RIVER



PROPOSED BRIDGE TYPICAL SECTION



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DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL

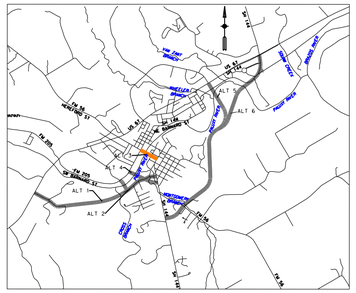
EXHIBIT 4

Diagrammatic Layout Alternative 3

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
NOT TO SCALE

FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

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WALTER P MOORE
WALTER P MOORE AND ASSOCIATES, INC
1301 McKINNEY, SUITE 1100
HOUSTON, TEXAS 77010
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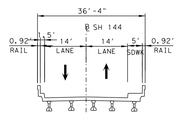
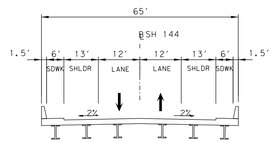
SH 144 IN SOMERVELL COUNTY
MARCH 22, 2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT ALT #3
NEW BRIDGE CROSSING
THE PALUXY RIVER

DATE: MARCH 2018 ROLL 3 OF 6

ALTERNATIVE #3



EXISTING SH 144 BRIDGE OVER PALUXY RIVER



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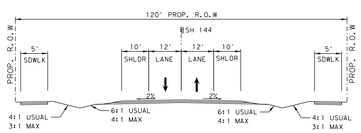


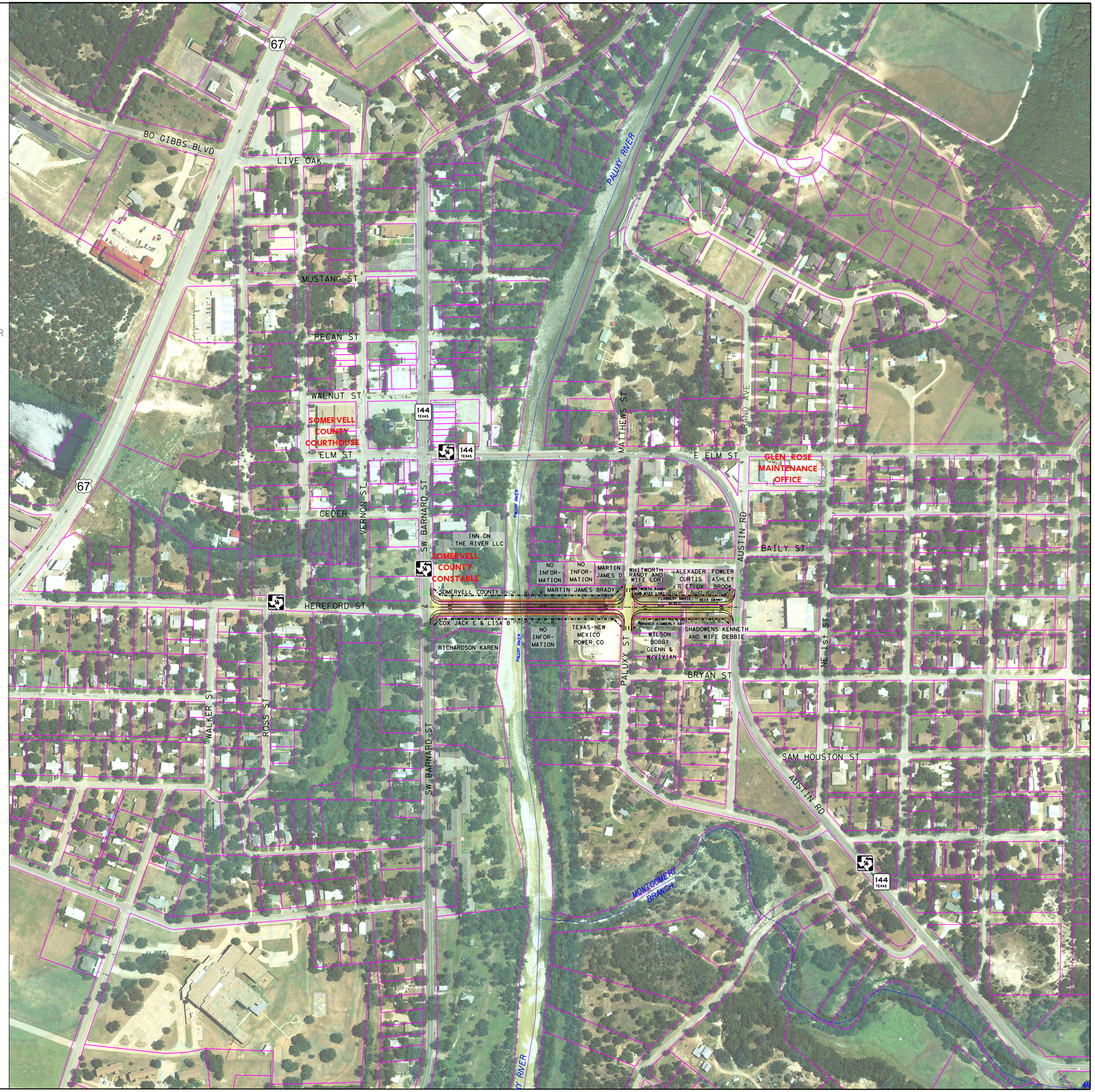
PROPOSED TYPICAL SECTION

NOTE:

R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL



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DATE: 3/20/2018 12:26:25 PM MODEL: Conceptual Alt1 SH 144 Feasibility Study In Glen Rose, TX

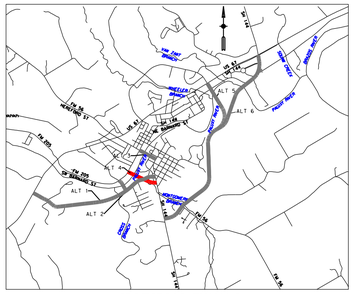
EXHIBIT 5

Diagrammatic Layout Alternative 4

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
NOT TO SCALE

FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800
SCALE: 1"=200'

NOT FOR CONSTRUCTION

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Texas Department of Transportation
Fort Worth District

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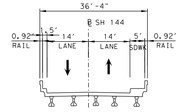
WALTER P MOORE
WALTER P MOORE AND ASSOCIATES, INC
1301 McKINNEY, SUITE 1100
HOUSTON, TEXAS 77010
Texas Firm Registration No. F-1856

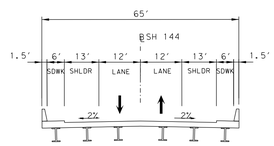
SH 144 IN SOMERVELL COUNTY
MARCH 22, 2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT #4
NEW BRIDGE CROSSING
THE PALUXY RIVER

DATE: MARCH 2018 ROLL 4 OF 6

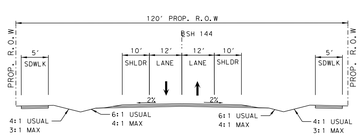
ALTERNATIVE #4



EXISTING SH 144 BRIDGE OVER PALUXY RIVER



PROPOSED BRIDGE TYPICAL SECTION



PROPOSED TYPICAL SECTION

NOTE:

R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL

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DATE: 3/12/2018 2:33:44 PM SH 144 Feasibility Study in Glen Rose, TX MODEL: Conceptual Alt2

EXHIBIT 6

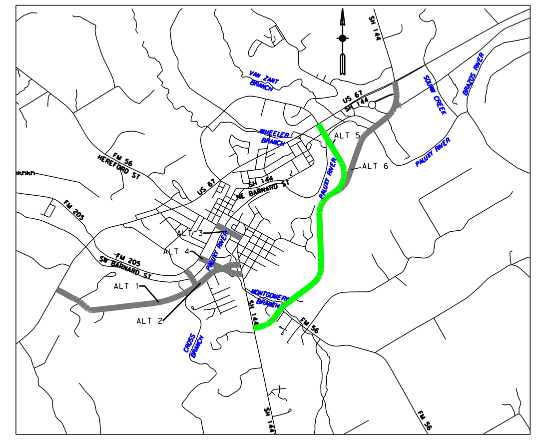
Diagrammatic Layout Alternative 5

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

ALTERNATIVE #5

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
NOT TO SCALE

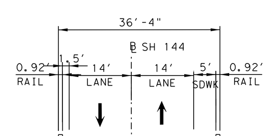
FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

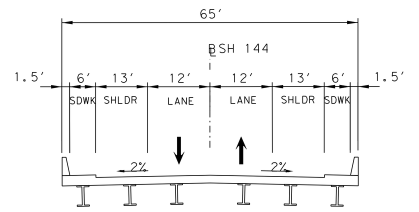
LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

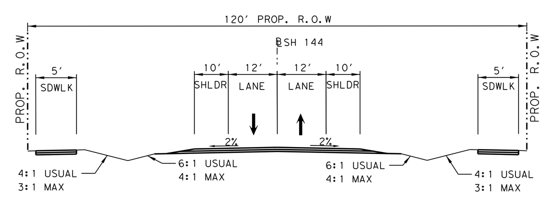
0 100 200 400 600 800
SCALE: 1"=200'



EXISTING SH 144 BRIDGE OVER PALUXY RIVER



PROPOSED BRIDGE TYPICAL SECTION



PROPOSED TYPICAL SECTION

NOT FOR CONSTRUCTION

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PAPE-DAWSON ENGINEERS
PAPE-DAWSON ENGINEERS
10333 RICHMOND AVE, SUITE 900
HOUSTON, TEXAS 77042
Texas Firm Registration No. F-470

SH 144 IN SOMERVELL COUNTY
MARCH 22, 2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT #5
FROM: SAM HOUSTON ST
TO: US 67

DATE: MARCH 2018 ROLL 5 OF 6

NOTE:

R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL

EXHIBIT 7

Diagrammatic Layout Alternative 6

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0186-01-028
SOMERVELL COUNTY

PROJECT LOCATION MAP
NOT TO SCALE

FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- PAVEMENT REMOVAL
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- AIRPORT
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800
SCALE: 1"=200'

NOT FOR CONSTRUCTION

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Fort Worth District

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HOUSTON, TEXAS 77027
Texas Firm Registration No. F-1082

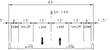
PAPE-DAWSON ENGINEERS
PAPE-DAWSON ENGINEERS
10101 REUNION PLACE, SUITE 800
SAN ANTONIO, TX 78216
Texas Firm Registration No. F-470

SH 144 IN SOMERVELL COUNTY
MARCH 22, 2018
PUBLIC MEETING LAYOUT
ALTERNATIVE LAYOUT #6
FROM: SAM HOUSTON ST
TO: US 67

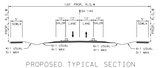
DATE: MARCH 2018 ROLL 6 OF 6

ALTERNATIVE #6

EXISTING SH 144 BRIDGE OVER PALUXY RIVER



PROPOSED BRIDGE TYPICAL SECTION



PROPOSED TYPICAL SECTION

NOTE:
R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

DIMENSIONS ARE NOT TO SCALE.

NOTE: 2014 AERIAL

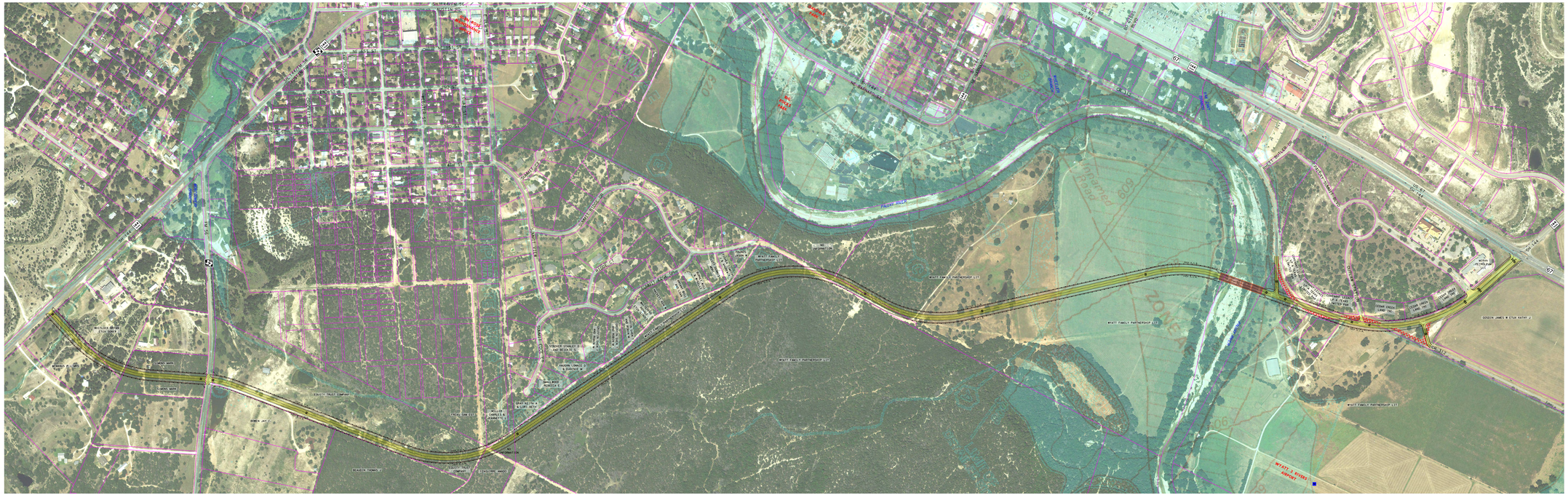


EXHIBIT 8

Diagrammatic Layout Viable Alternatives

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ 0180-05-020
SOMERVELL COUNTY

PROJECT LOCATION MAP
N.T.S.

FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

PRELIMINARY SUBJECT TO CHANGE

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- PAVEMENT REMOVAL
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- AIRPORT
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800

SCALE: 1"=200'

NOT A BIDDING DOCUMENT

Maynood A. Shah, P.E.

RUSSO
TBPE NO.

CALCULATED
DATE

Texas Department of Transportation
Fort Worth District

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WALTER P MOORE AND ASSOCIATES, INC.
2555 WEST DRAW, SUITE 100
HOUSTON, TEXAS 77027
Texas Firm Registration No. F-1066

PAPE-DAWSON ENGINEERS
PAPE-DAWSON ENGINEERS
10801 NORTH MOPAC EXPY
HOUSTON, TEXAS 77037
Texas Firm Registration No. F-470

SH 144 IN SOMERVELL COUNTY

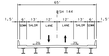
ALTERNATIVE LAYOUT EASTERN A

FROM: SAM HOUSTON ST
TO: US 67

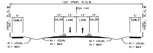
DATE: SEPTEMBER 20, 2019 ROLL 3 OF 4

EASTERN ALT. A

EXISTING SH 144 BRIDGE OVER PALUXY RIVER
N.T.S.



PROPOSED TYPICAL SECTION A-A
N.T.S.



PROPOSED TYPICAL SECTION B-B
N.T.S.

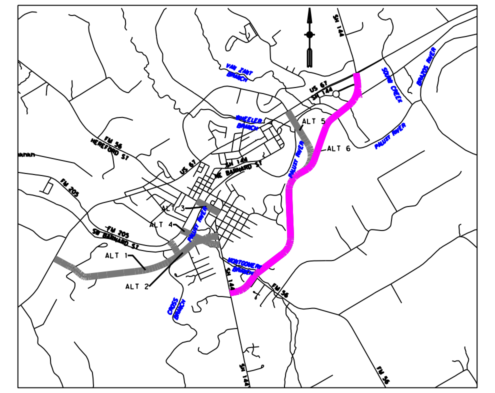
NOTES:

R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
RE-ALIGN SH 144
AND NEW BRIDGE OVER PALUXY RIVER

CSJ: 0386-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
N.T.S.

FUNTIONAL CLASSIFICATION
MAJOR COLLECTOR

DESIGN SPEED.....45

PRELIMINARY SUBJECT TO CHANGE

LEGEND
- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING PAVEMENT
- PAVEMENT REMOVAL
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- AIRPORT
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800
SCALE: 1"=200'

NOT A BIDDING DOCUMENT

Mashhood A. Shah, P.E.

82080
TBPE NO.

09/20/2019
DATE

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Fort Worth District
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HOUSTON, TEXAS 77010
Texas Firm Registration No. F-1856

PAPE-DAWSON ENGINEERS
PAPE-DAWSON ENGINEERS
10333 RICHMOND AVE, SUITE 900
HOUSTON, TEXAS 77042
Texas Firm Registration No. F-470

SH 144 IN SOMERVELL COUNTY
ALTERNATIVE LAYOUT EASTERN B
FROM: SAM HOUSTON ST
TO: US 67

DATE: SEPTEMBER 20, 2019 ROLL 1 OF 1

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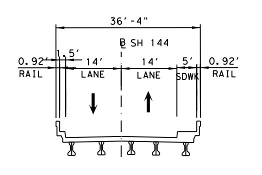
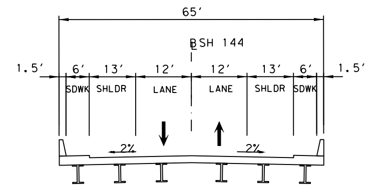
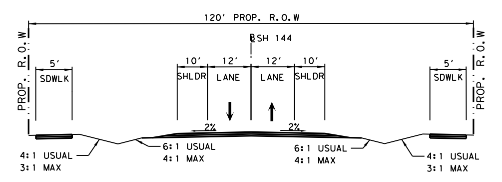
EASTERN ALT. B



EXISTING SH 144 BRIDGE OVER PALUXY RIVER
N.T.S.



PROPOSED TYPICAL SECTION A-A
N.T.S.



PROPOSED TYPICAL SECTION B-B
N.T.S.

NOTE:

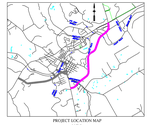
R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

EXHIBIT 9

Diagrammatic Layout Recommended Alternative

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
SH 144
NEW BRIDGE OVER PALUXY RIVER
CSJ: 0500-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
N.T.S.
FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR

PRELIMINARY SUBJECT TO CHANGE

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- AIRPORT
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800
SCALE: 1"=200'

NOT A BIDDING DOCUMENT

MARWOOD A. SPIVY, P.E.
SIGNED:
TBPE NO.:
LICENSED FOR
LIFE

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Fort Worth District
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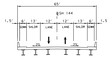
SH 144 IN SOMERVELL COUNTY
NOVEMBER 21, 2019
PUBLIC MEETING #2 LAYOUT
RECOMMENDED ALTERNATIVE
FROM: SAM HOUSTON ST
TO: US 67

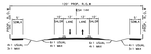
DATE: NOVEMBER 2019 ROLL 1 OF 1

RECOMMENDED ALTERNATIVE

EXISTING SH 144 BRIDGE OVER PALUXY RIVER
N.T.S.



PROPOSED BRIDGE A-A
N.T.S.



PROPOSED ROADWAY B-B
N.T.S.

NOTE:
R.O.W. SHOWN IS PRELIMINARY FOR THIS PHASE OF PROJECT DEVELOPMENT ONLY AND UPON GEOMETRIC SCHEMATIC DEVELOPMENT R.O.W. WILL BE FINALIZED.

SH 144

PUBLIC MEETING #2 NOVEMBER 21, 2019
RECOMMENDED ALTERNATIVE ALIGNMENT

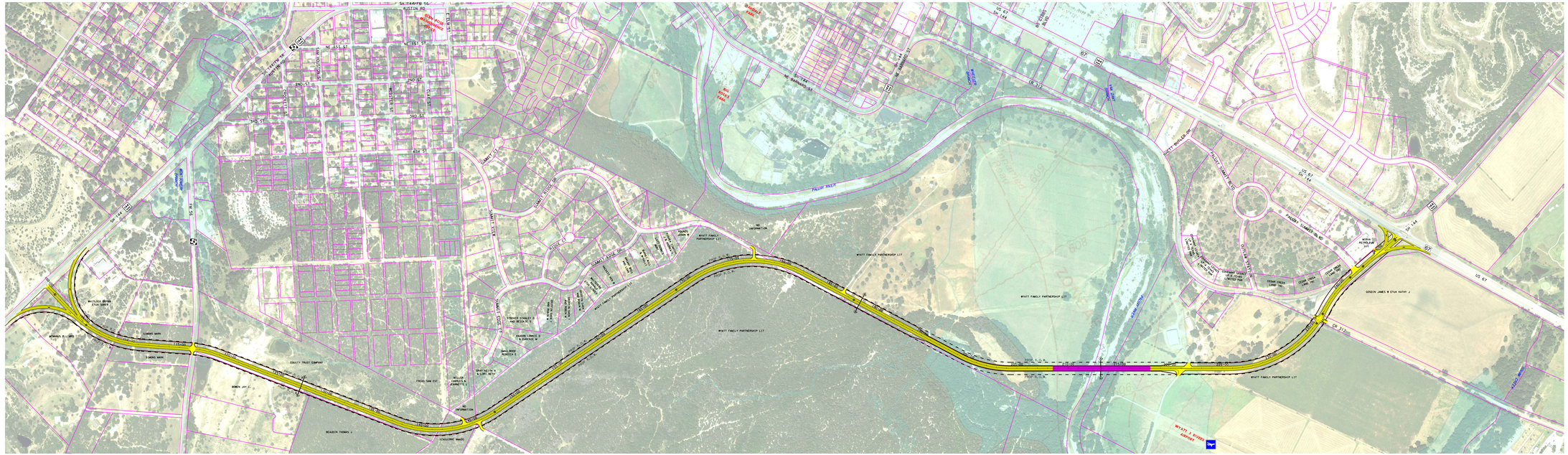
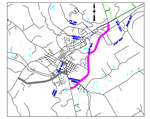


EXHIBIT 10

Diagrammatic Layout Revised Recommended Alternative

TEXAS DEPARTMENT OF TRANSPORTATION
FORT WORTH DISTRICT
LOYL C. BUSSELL, P.E. - DISTRICT ENGINEER

FEASIBILITY STUDY
SH 144
NEW BRIDGE OVER PALUXY RIVER
CSJ: 0500-01-028
SOMERVELL COUNTY



PROJECT LOCATION MAP
N.T.S.

FUNCTIONAL CLASSIFICATION:
MAJOR COLLECTOR

PRELIMINARY
SUBJECT
TO CHANGE

LEGEND

- COLLECTOR
- SIDEWALK
- BRIDGE STRUCTURE
- EXISTING ROW
- PROPOSED ROW
- PROPOSED CENTERLINE / BASELINE
- PARCEL BOUNDARIES
- AIRPORT
- FEMA ZONE AE
- STREAMS AND PONDS
- DIRECTION OF TRAFFIC

0 100 200 400 600 800
SCALE: 1"=200'

NOT A BIDDING DOCUMENT

MAXWOOD A. SPARK, P.E.
NAME:
TBPE NO.:
REVISED:
DATE:

Texas Department of Transportation
Fort Worth District
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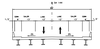
SH 144 IN SOMERVELL COUNTY
APRIL 2, 2020
REVISED ALTERNATIVE
FROM: SAM HOUSTON ST
TO: US 67

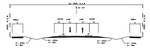
DATE: MARCH 2020 ROLL 1 OF 1

RECOMMENDED ALTERNATIVE

EXISTING SH 144 BRIDGE OVER PALUXY RIVER
N.T.S.

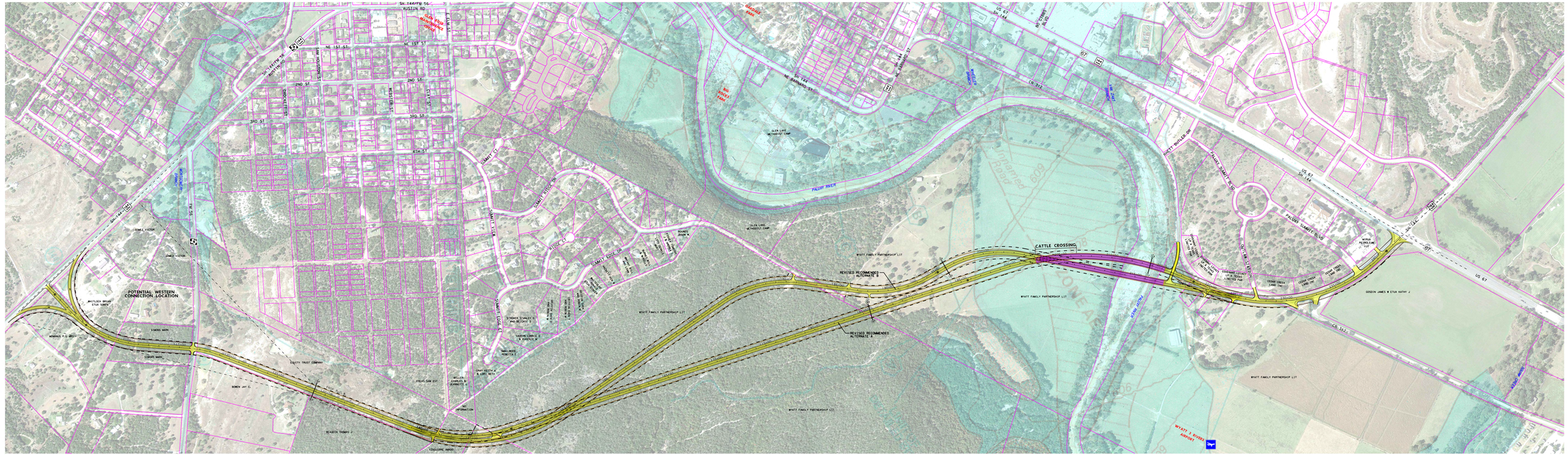


PROPOSED BRIDGE A-A
N.T.S.



PROPOSED ROADWAY B-B
N.T.S.

NOTES:
1. U.S.W. SHOWN IS FREE-WATERS FOR THIS PHASE OF PROJECT
2. DEVELOPMENT OF U.S.W. AND OPEN SCENIC TRANSITIONS DEVELOPMENT N.S.W. WILL BE FINALIZED.

SH 144

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