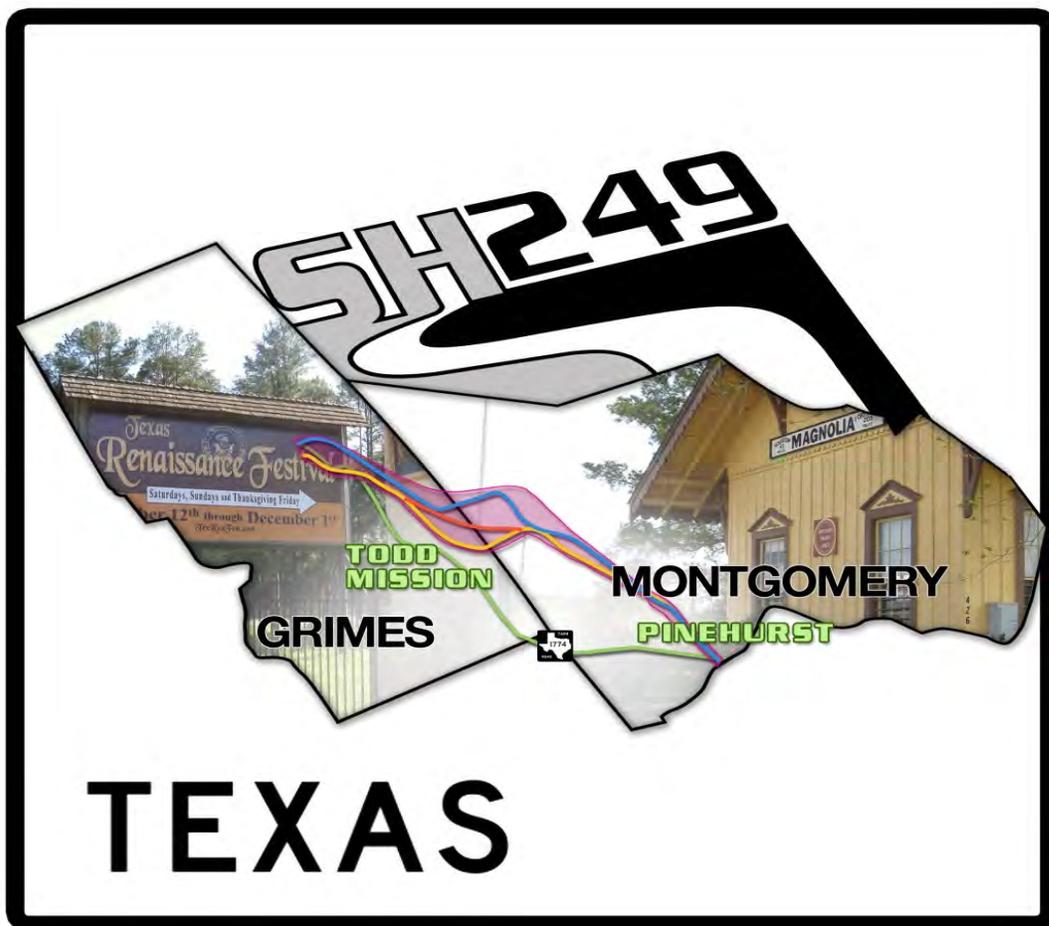


SH 249 Extension – Volume I

From South of FM 1774/FM 149 in Pinehurst
To FM 1774 North of Todd Mission
Montgomery and Grimes Counties, Texas
CSJ: 3635-01-001 and 3635-02-001

Final Environmental Impact Statement/ Record of Decision



Texas Department of Transportation
Houston District
January 2016



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

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FHWA-TX-EIS-06-01-F

COMBINED FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

STATE HIGHWAY (SH) 249
FROM SOUTH OF FM 1774/FM 149 IN PINEHURST
TO FM 1774 NORTH OF TODD MISSION
MONTGOMERY AND GRIMES COUNTIES, TEXAS

CSJs 3635-01-001 and 3635-02-001

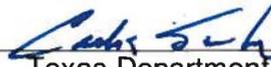
Submitted Pursuant to 42 U.S.C. 4332(2)(c)
and 49 U.S.C. 303 by the

Texas Department of Transportation

Cooperating Agencies
U.S. Army Corps of Engineers
U.S. Department of the Interior
U.S. Environmental Protection Agency

1/12/16

Date of Approval



Texas Department of Transportation

January 2016

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by Texas Department of Transportation (TxDOT) pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by Federal Highway Administration (FHWA) and TxDOT.

Under MAP-21 section 1319, TxDOT has issued a combined FEIS and ROD. Therefore, the 30-day wait/review period under NEPA does not apply to this action.

The following persons may be contacted for additional information concerning the Final EIS:

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ABSTRACT: The State Highway (SH) 249 Controlled-Access Tollway Extension project (SH 249 Extension) will extend from just south of the Farm-to-Market (FM) 1774/FM 149 interchange in the City of Pinehurst to a new SH 249/FM 1774 interchange north of the City of Todd Mission. The SH 249 Extension Selected Alternative will be developed on a new location and will be approximately 15 miles in length. In crossing the southwest portion of Montgomery County and extending into the southeast portion of Grimes County, the SH 249 Extension will be constructed as a four-mainlane, controlled-access tollway with intermittent frontage roads within a typical 400-foot-wide right-of-way (ROW). The Final EIS evaluates the social, economic, and environmental effects of the tollway and includes an assessment of resources such as land use, farmlands, social, economics, air quality, noise, wetlands, floodplains, water quality, biological resources, cultural resources, hazardous/regulated materials, and visual aesthetics.

Under MAP-21 section 1319, TxDOT has issued a combined FEIS and ROD. Therefore, the 30-day wait/review period under NEPA does not apply to this action.

Record of Decision

1.0 INTRODUCTION

Pursuant to 23 United States Code (U.S.C.) 327 and the Memorandum of Understanding (MOU) executed by the Federal Highway Administration (FHWA) and the Texas Department of Transportation (TxDOT) (dated December 16, 2014), TxDOT has established a Selected Alternative Alignment for the State Highway 249 Controlled-Access Tollway Extension project (SH 249 Extension) that would extend from south of Farm-to-Market (FM) 1774/FM 149 in the City of Pinehurst (Pinehurst) to FM 1774 north of the City of Todd Mission (Todd Mission). As shown on *Exhibit ROD-1*, Alternative Alignment B/C has been identified as the Selected Alternative Alignment for the Final Environmental Impact Statement (Final EIS) and is referred to as such throughout this document.

Based on the *Regional Transportation Plan (RTP)*, the total project cost is \$271.31 million. The estimated construction cost is \$250 million. The project is classified as Category 12 and would be 80 percent federally funded and 20 percent State funded. The project would be tolled (see *Appendix A* of the Final EIS). It should be noted that the original CSJ's identified in the Draft EIS for the SH 249 Extension project were 072-02-073 and 0720-02-072; however, since the approval of the Draft EIS, the current CSJ's are 3635-01-001 and 3635-02-001, respectively.

The Final EIS discusses the need and purpose for the tollway (*Section 2*), the alternatives considered throughout the environmental analysis process (*Section 3*), notable environmental resources and consequences and indirect and cumulative effects of the tollway (*Section 4*), and public and agency coordination (*Section 5*). The Final EIS also documents TxDOT's response to comments on the Draft EIS from the participating agencies, cooperating agencies, and the public (see *Appendix B and C* of the Final EIS).

Identifying Alternative Alignment B/C as the Selected Alternative Alignment is based upon its ability to best meet the need and purpose of the project. The Selected Alternative Alignment has been refined through public and agency input in an effort to minimize and avoid impacts to the natural and human environment, including indirect and cumulative impacts.

The basis for this Record of Decision (ROD) is supported by the information provided in the following documents:

- The SH 249 Major Investment Study (MIS),
- The SH 249 Extension Draft EIS (January 2015),
- The SH 249 Extension Final EIS (January 2016),
- All technical reports and supporting documentation incorporated by reference into the Draft and Final EIS,
- The associated administrative record, and

- Public Hearing Summary Report which includes input received from the public, local, state, and federal agencies.

TxDOT has determined that a combined FEIS/ROD is appropriate for this project because the FEIS neither (1) makes substantial changes to the proposed action that are relevant to environmental or safety concerns; nor does the FEIS (2) include significant new circumstances or information relevant to environmental concerns and that bear on the proposed action or the impacts of the proposed action.

In combining the Final EIS and ROD to meet the statutory provisions and expedite project delivery under the Moving Ahead for Progress in the 21st Century Act (MAP-21) (Pub. L 112-141, 126 Stat 405, Section 1319[b]), TxDOT has considered the facts and circumstances relevant to the EIS process. In doing so, TxDOT has determined that (1) there are no additional coordination activities that were not already known when Draft EIS was available; (2) there are no unresolved interagency disagreements over issues that need identification in the Final EIS under 23 Code of Federal Regulations (CFR) 771.125(a)(2); (3) the Draft EIS identified a properly evaluated Preferred Alternative; and (4) there is no compliance issue with any substantive requirement that must be resolved before issuance of the ROD, or that TxDOT wants to resolve before signing the ROD, that would merit deferring issuance of the Final EIS.

In accordance with 40 CFR §1505.2(b), a Record of Decision must identify the alternative or alternatives that were considered to be environmentally preferable. As explained by the Council on Environmental Quality (CEQ), the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. (See, the definition of "environmentally preferable alternative," Question 6a, published in the CEQ's "Forty Most Asked Questions." (46 Fed. Reg. 18026, March 23, 1981).) As discussed in the Final EIS in Section 3.0, TxDOT evaluated each of the alternatives and identified the environmental impacts associated with each alternative.

Having considered the environmental record noted above, the mitigation measures as required herein, the public and agency comments on this record, and the written responses to these comments, TxDOT has determined that the SH 249 Extension Selected Alternative Alignment is also the Environmentally Preferred Alternative because it has fewer displacements than the other alternative alignments and there are fewer potential wetland and floodplain impacts than Alternative Alignments B and E. The Selected Alternative Alignment represents the best option for the SH 249 Extension. TxDOT has found that all practicable measures to minimize environmental harm have been incorporated into the design of the Selected Alternative Alignment. TxDOT will ensure that the commitments outlined herein will be implemented as part of the design, construction, and post-construction monitoring phases. TxDOT has also determined that this decision is in the best overall interest of the public.

2.0 NEED AND PURPOSE

Three substantial transportation improvements needs affect the SH 249 Extension study area. First, inefficient connections exist between suburban communities and major and minor radial and circumferential arterials. Second, projected population and employment growth in the area would likely increase demand on the current transportation infrastructure. Third, there are growing safety concerns regarding the impacts of increased congestion and emergency evacuation (notably for hurricane evacuation).

The purpose of the SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to population growth and residential development in the area. The goal of the tollway is to improve system linkage, address current and future transportation demand through expanded capacity, improve safety, and accommodate population growth and economic development.

3.0 ALTERNATIVES CONSIDERED

The preliminary range of alternatives analyzed in the MIS included transit options, options to increase roadway capacity, and options to enhance roadway operations. Based on the results of the alternatives analysis and input from public agencies and the general public, a corridor was identified in which five reasonable alternative alignments were advanced and evaluated in the Draft EIS. The No-Build Alternative was also analyzed as the baseline condition for the purpose of comparison. A detailed discussion of the alternative alignment development process is included in *Section 2* of the Draft EIS and its supporting documentation. Information on public and agency involvement is included in *Section 5* of this Final EIS with more detail given in the *Section 7* of the Draft EIS.

3.1 NO-BUILD ALTERNATIVE

The No-Build Alternative does not meet the need and purpose as discussed in *Section 2.3* of the Draft EIS because the alternative would not address the mobility, accessibility, safety, and quality of life needs of the study area and larger region.

3.2 BUILD ALTERNATIVES

The MIS identified a 1,000-foot-wide alternative corridor from which the Most Reasonable Alternative Alignments (otherwise known as Alternative Alignments A, B, C, D and E) were carried forward for further study alongside the No-Build Alternative in the Draft EIS. Of the five preliminary alternative alignments, Alternative Alignments A and D were eliminated because of the (1) high potential to cross the 100-year floodplain, (2) subsequent impacts to wetlands, (3) associated construction costs related to floodplain/water crossings, (4) high potential for displacements and relocations, and (5) high potential for impacts to community cohesion.

Through continued public and agency involvement and coordination, Alternative Alignment B was adjusted to reduce the number of displacements, and an additional alternative alignment

was developed as a hybrid between Alternative Alignment B and C. Labeled as Alternative Alignment B/C, this alternative alignment would avoid certain engineering and environmental impacts to better achieve the SH 249 Extension's purpose and further reduce impacts to property owners' plans for their tracts.

As such, the Draft EIS Reasonable Alternative Alignments carried forward for further study in the subsequent sections of the Draft EIS were Alternative Alignment B, B/C, C, and E, each of which are briefly described below.

3.2.1 Alternative Alignment B

Alternative Alignment B would be 15.3 miles long and would require approximately 741 acres of additional right-of-way (ROW). This alternative alignment would have the highest potential impacts on floodplain and stream crossings, pipeline crossings, and displacements. Impacts to wetlands are also the second highest of the alternative alignments.

3.2.2 Alternative Alignment B/C

Alternative Alignment B/C would be 15.0 miles long and would require approximately 727 acres of additional ROW. This alternative alignment would have fewer displacements than the other alternative alignments. There are fewer potential wetland and floodplain impacts than Alternative Alignments B and E.

3.2.3 Alternative Alignment C

Alternative Alignment C would be 15.3 miles long and would require approximately 741 acres of additional ROW. This alternative alignment would have fewer potential impacts to wetlands than other alternative alignments. And fewer displacement impacts and floodplain crossings than Alignment B or E. However, Alternative Alignment C would have higher potential impacts to stream and floodplain crossings than Alternative Alignment B/C.

3.2.4 Alternative Alignment E

Alternative Alignment E would be 14.2 miles long and would require approximately 688 acres of additional ROW. This alternative alignment require less ROW. However, Alternative Alignment E would have higher impacts to floodplain crossings, wetlands, and displacements than Alternative Alignment B/C.

Table ROD-1: Summary of the Draft EIS Alternative Alignments

Criteria	Unit	Alignment B	Alignment B/C	Alignment C	Alignment E
Length of SH 249 Extension	Miles	15.3	15.0	15.3	14.2
Estimated ROW needed	Acres	741	727	741	688

Table ROD-1: Summary of the Draft EIS Alternative Alignments

Criteria	Unit	Alignment B	Alignment B/C	Alignment C	Alignment E
Pipeline crossings	Number of crossings	9	8	8	8
Potential displacements/relocations of residences and businesses ^a	Number of displacements	26	7	7	18
Community cohesion impacts ^b	High/Medium/Low	Medium	Low	Low	High
NWI (potential wetlands)	Acres	11.0	5.0	2.8	11.5
Floodplain crossings	Linear feet	18,259	9,001	10,965	12,695
Stream crossing (USGS topographic map)	Number of crossings	27	21	22	19
Vegetation ^c	Acres	711	724	730	691
Previous public involvement ^d	High/Medium/Low	Low	High	Medium	Medium

Source: The SH 249 Extension Study Team.

^a A displacement happens when a structure is within the ROW of the alternative alignment.

^b Impacts to community cohesion would involve the bisecting, separating, or isolating of neighborhoods.

^c Vegetation would involve forest, upland, and habitat fragmentation.

^d The concept is determined by the public's preference of alternative alignments.

Notes: NWI = National Wetland Inventory; USGS = U.S Geological Survey.

While each of the alternative alignments would satisfy the need and purpose of the tollway, Alternative Alignment B/C would have fewer displacements and fewer impacts to wetlands, as well as stream and floodplain crossings. Additionally, based on public input, Alternative Alignment B/C is the most desirable of the four alternative alignments.

3.3 PREFERRED ALTERNATIVE

The Preferred Alternative was identified by (1) analyzing data published in the Draft EIS, (2) considering public and agency comments received through the public hearing process, and (3) meeting with the lead agencies and the general public. *Section 2* of the Draft EIS evaluated each alternative alignment in detail, ultimately identifying Alternative Alignment B/C as the Preferred Alternative. A summary of public and agency involvement is described in *Section 5* of this Final EIS. For a more detailed discussion see *Section 7* of the Draft EIS.

Of the alternatives evaluated in the Draft and Final EIS, Alternative Alignment B/C would best avoid and minimize impacts to the natural and human environment, while still meeting the transportation need and purpose for the action. As such, Alternative Alignment B/C was determined to be the Selected Alternative Alignment. The direct impacts of Alternative Alignment B/C were analyzed in *Section 4* of the Draft EIS and have been reevaluated (as

applicable) in *Section 4* of this Final EIS. An analysis of the indirect and cumulative impacts was included in *Section 5* and *Section 6* of the Draft EIS and again in *Section 4.23* of this Final EIS.

4.0 MEASURES TO MINIMIZE HARM

Efforts have been made in the planning process to avoid adverse impacts to the natural and human environment. The process included engaging the public and stakeholders in the planning and design phases of the SH 249 Extension. *Table ROD-2* summarizes the environmental impacts, commitments, and measures to minimize or avoid harm related to the SH 249 Extension Selected Alternative Alignment. The results summarized in the table are expanded upon throughout the Final EIS.

Table ROD-2: Summary of Environmental Consequences, Commitments, and Measures of Minimize or Avoid Harm for the Selected Alternative Alignment

Resource	Impact	Permits, Commitments and Mitigation
Land Use	Consistent with local planned development and land use plans.	None.
Farmland	Impacts to prime farmland in Montgomery County and Grimes County were determined to be minimal per coordination with NRCS.	None.
Relocations	Six residential and one local church with an associated daycare would be displaced.	TxDOT offers relocation counseling and financial assistance to residences and businesses that are displaced by the acquisition of highway ROW in accordance with the Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970 (Public Law 91-646).
EJ	The Selected Alternative Alignment would not result in disproportionately high and adverse impacts on low-income or minority (EJ) populations.	None.
Community Facilities and Cohesion	The Selected Alternative Alignment would not impact community facilities (police, fire or medical services) and not sever or alter community cohesion.	None.
Bicycle and Pedestrians	The Selected Alternative Alignment would not impact any existing bicycle or pedestrian network.	The Selected Alternative Alignment will accommodate all existing and future crossings for both pedestrians and bicyclists at intersections, bridges, and over/underpasses.

Table ROD-2: Summary of Environmental Consequences, Commitments, and Measures of Minimize or Avoid Harm for the Selected Alternative Alignment

Resource	Impact	Permits, Commitments and Mitigation
Air Quality	<p>The Selected Alternative Alignment would not require a traffic air quality analysis.</p> <p>While MSAT increases are anticipated in the immediate vicinity of the project, there is incomplete and unavailable information to perform a health impacts analysis; however, MSAT emissions are expected to significantly decline region wide in the future even accounting for substantial increases in VMT.</p> <p>A project level conformity determination was obtained from FHWA on December 4, 2015.</p> <p>Based on the nature of greenhouse gas (GHG) emissions and small potential GHG impacts of the project, the Selected Alternative Alignment would not result in reasonably foreseeable significant adverse impacts on the human environment.</p>	None.
Traffic Noise	Traffic noise impacts would occur in nine general locations to 85 individual receivers.	A noise wall is recommended in one area to mitigate traffic noise at 66 impacted receptors.
Water Quality	The Selected Alternative Alignment would result in a 176-acre increase in impervious surface and would cross 38 streams. The Selected Alternative Alignment would have a nominal impact to regional groundwater resources.	Per coordination with the TCEQ and in adherence to the TPDES CGP requirements, TxDOT will obtain a copy of the TCEQ CGP (TPDES Permit Number TXR150000), develop and implement a SWP3, complete and submit an NOI, and submit a Notice of Termination once the site has reached final stabilization. BMPs and approved TxDOT controls will be used during and after construction to control erosion and sediment.

Table ROD-2: Summary of Environmental Consequences, Commitments, and Measures of Minimize or Avoid Harm for the Selected Alternative Alignment

Resource	Impact	Permits, Commitments and Mitigation
Wetlands and other Waters of the U.S.	The Selected Alternative Alignment would impact 8.52 acres of wetlands and cross 38 streams for a total impact of 19,206 linear feet. The Selected Alternative Alignment would not impact any navigable waterways or waters subject to the ebb and flow of the tide.	Efforts made during the planning stages to avoid impacts to waters of the U.S would continue during final design. Larger waters of the U.S. would likely be bridged, and smaller waters of the U.S. would either be bridged or placed within culverts. An USACE individual permit application has been submitted, which included a mitigation plan to compensate for unavoidable adverse impacts to jurisdictional waters of the U.S., including wetlands. A water quality certification, as required by Section 401 of the Clean Water Act, would be assessed by the TCEQ as part of USACE’s permit review process.
Vegetation and Wildlife	The Selected Alternative Alignment would convert approximately 825 acres of vegetation to a transportation use. Construction would unavoidably impact vegetation that provides habitat for wildlife that could be displaced and moved to similar habitat outside the ROW.	Serving as Administrated Coordination with TPWD, a Tier II Site Assessment, as required by the TxDOT/TPWD 2013 MOU, has been conducted for approximately 76 percent of the ROW. During construction, areas of exposed soil will be revegetated with herbaceous species. Landscaping will be in accordance with Executive Order 13112 on invasive species and the Executive Memorandum on beneficial landscaping. Vegetation within the ROW will be maintained according to standard TxDOT practices. Impacts to wildlife and habitat resources can be minimized through the use of a combination of landscaping and preservation recommendations and BMPs.
Migratory Bird Treaty Act	The forested, wetland, and rangeland landscapes of the study area all provide potential nesting habitat for migratory birds protected under the Migratory Bird Treaty Act.	No vegetation will be removed containing nests, eggs, or young should clearing occur during the nesting season (March 1 through September 30). Any active breeding areas found during the survey will be avoided entirely during the breeding season of any identified migratory birds.
Threatened and Endangered Species	Potential habitat for state and federally threatened and endangered species could occur in or near the study area. However, according to TPWD’s TXNDD, no listed species or SGCN have been recorded as potentially occurring within 1.5 miles of the ROW. No impacts to threatened or endangered species are anticipated.	Should a listed species be identified within the ROW, coordination with the USFWS and TPWD will be initiated, and species-specific mitigation strategies will be employed to avoid, minimize, and/or compensate for potential impacts. Impacts to habitat can be minimized through the use of landscaping recommendations, preservation recommendations, and BMPs. TPWD’s review of the Final EIS serves as Administrated Coordination with TPWD.

Table ROD-2: Summary of Environmental Consequences, Commitments, and Measures of Minimize or Avoid Harm for the Selected Alternative Alignment

Resource	Impact	Permits, Commitments and Mitigation
Floodplains	The Selected Alternative Alignment would traverse areas mapped by FEMA as special flood hazard areas and would result in a 176-acre increase in impervious surface. The tollway would not, however, increase the base flood elevation to a level that would violate applicable floodplain regulations and ordinances. The hydraulic design and would be in accordance with current TxDOT and FHWA policies and standards.	Any fill placement in the floodplain will be mitigated with floodplain storage via four detention facilities. A detailed hydraulic study will be completed during final design to determine bridge, culvert, or other cross-drainage structural locations. Floodplain coordination will be completed once hydraulic studies and final design is finished.
Coastal Barriers	No impacts.	None.
CZM Plan and EFH	No impacts.	None.
CZM	No impacts.	None.
Cultural Resources	Four archeological sites were recorded during the archeological investigations via pedestrian surveys and shovel-testing. Approximately 4.7 miles of the APE did not warrant any survey based on archival background studies, and no further archeological investigations are required for the 127 acres (or 2.8 miles). The reconnaissance survey identified 41 historic-age resources that were determined not eligible for listing in the NRHP due to lack of significance and compromised integrity.	Approximately 7.4 miles of the APE would need intensive survey once the ROW has been acquired and cleared. Pursuant to the First Amended Statewide Programmatic Agreement for Cultural Resources, it has been determined that there are no historic properties in the APE, and individual project coordination with the SHPO is not required.
Hazardous Materials	A regulatory database search was conducted to identify known and potentially contaminated sites near the Selected Alternative Alignment. The tollway has the potential to impact four sites.	If any unanticipated hazardous materials and/or petroleum contaminations are encountered, contamination will be handled in accordance with applicable state and federal regulations and TxDOT standard specifications. For any structures that may have asbestos-containing materials, asbestos inspections, specification, notification, license, accreditation, abatement, and disposal will comply with state and federal regulations and will be addressed during the ROW acquisition process.
Visual and Aesthetic Qualities	Certain tollway characteristics (e.g., toll plaza areas, elevated structures/bridges, signs, and lights) could have a visual/aesthetic impact on the surrounding area.	The Selected Alternative Alignment would be designed to minimize any perceived visual intrusion and would be consistent with TxDOT design standards, including TxDOT Houston District's Green Ribbon Project.

Table ROD-2: Summary of Environmental Consequences, Commitments, and Measures of Minimize or Avoid Harm for the Selected Alternative Alignment

Resource	Impact	Permits, Commitments and Mitigation
Energy	The Selected Alternative Alignment would increase access, decrease travel times, and ease congestion in nearby areas to offset any initial construction energy use.	None.
Construction Impacts	Construction of the Selected Alternative Alignment would affect utilities in the study area, traffic on area roadways, potential unreported hazardous waste sites, and the excavation of possibly unsuitable materials, placement of embankments, and use of such materials.	The contractor will coordinate construction efforts and its schedule to avoid and minimize utility disruption and to maintain the current traffic flow through applying traffic control in accordance with the Texas Manual on Uniform Traffic Control Devices. Emergency service providers will receive notification and be provided accommodations prior to construction or ramp closings. The contractor will take measures to prevent, minimize, and control accidental spills and will remove equipment as soon as the schedule permits. If an unreported/unknown site is discovered, TCEQ regulatory procedures will be followed. The contractor will use erosion and pollution control measures on haul roads, construction exits, borrow pits, embankments, and areas designated for disposal of waste materials.
Indirect and Cumulative Effects	<p>Indirect impacts from the Selected Alternative Alignment would include altering the rate and type of development within the AOI (notably adding new access points at major intersections to favor more densely developed commercial/ retail properties, in lieu of landscaped residential parcels).</p> <p>Cumulative impacts to vegetation would result in the incremental conversion of vegetation and associated habitats to suburban or urban developed conditions. Because of the net conversion of undeveloped land to structures, impervious cover, and maintained open spaces, cumulative water resource impacts are also expected.</p>	None.

Source: The SH 249 Extension Study Team.

Notes: AOI = Area of Influence; APE = area of potential effect; BMPs = best management practices; CGP = construction general permit; CMZ = coastal management zone; EFH = essential fish habitat; EJ = environmental justice; FEMA = Federal Emergency Management Agency; NOI = Notice of Intent; NRCS = Natural Resources Conservation Service; NRHP = National Register for Historic Places; SGCN = species of greatest conservation need; SHPO = State Historic Preservation Officer; SW3P = Stormwater Pollution Prevention Plan; TCEQ = Texas Commission on Environmental Quality ; TPDES = Texas Pollutant Discharge Elimination System; TPWD = Texas Parks and Wildlife Department; TXNDD = Texas Natural Diversity Database; USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service.

5.0 MONITORING AND ENFORCEMENT

TxDOT is ultimately responsible for monitoring and enforcing mitigation measures. In addition, TxDOT and the contractor are responsible for compliance assurance of all related commitments and regulatory permit conditions made or obtained for the Selected Alternative Alignment.

6.0 CONCLUSION

The environmental record for this decision includes the following documents:

- The SH 249 Extension Draft Environmental Impact Statement FHWA-TX-DEIS-06-01-D (January 2015)
- The SH 249 Extension Final Environmental Impact Statement FHWA-TX-EIS-06-01-F (January 2016)
- All technical reports and supporting documentation incorporated by reference into the DEIS and FEIS.

These documents, incorporated here by reference, constitute the statements required by the National Environmental Protection Agency (NEPA) and Title 23 of the United States Code on:

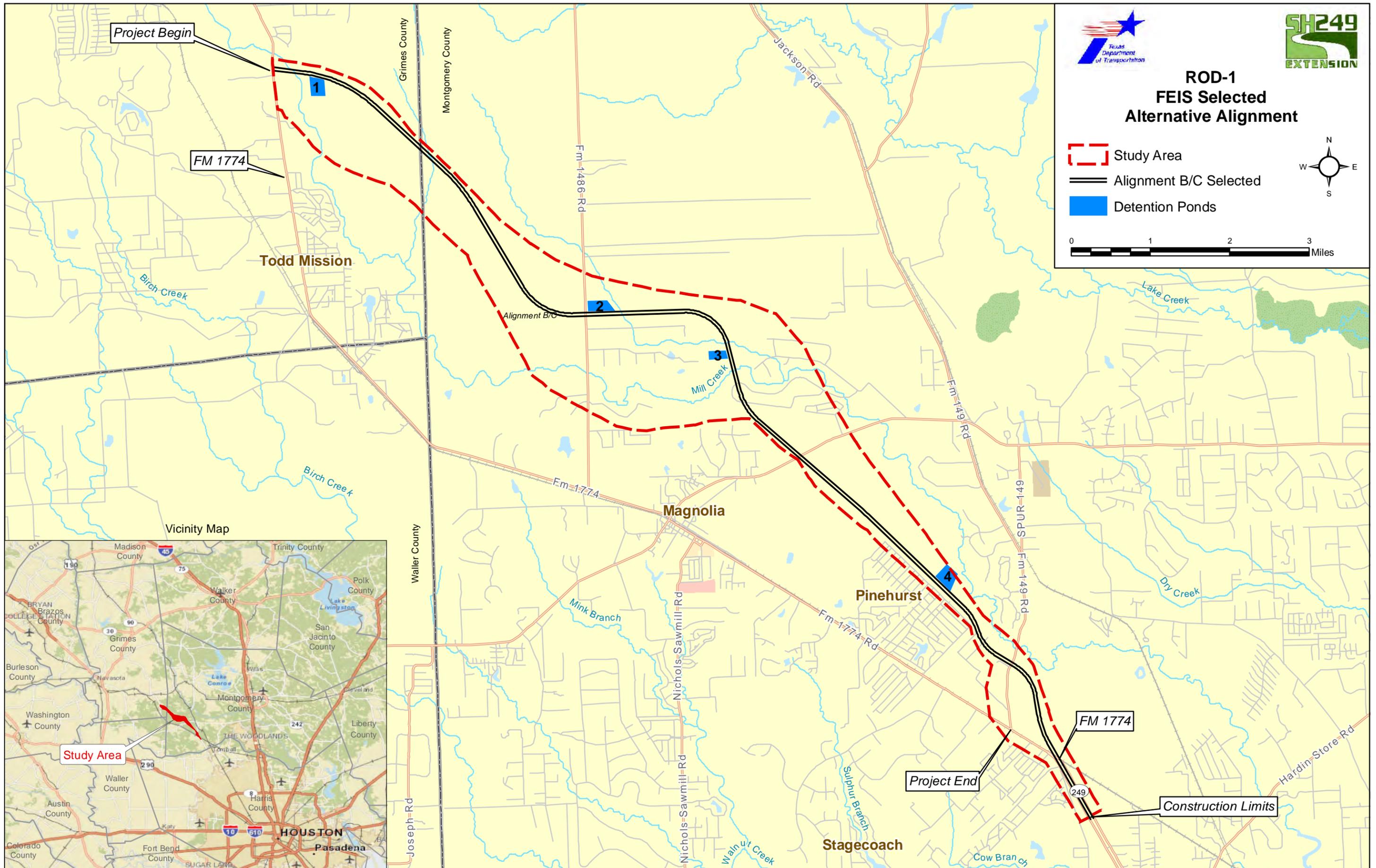
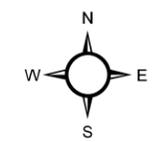
- The environmental impacts of the project;
- The adverse environmental effects that cannot be avoided should the project be implemented;
- Alternatives to the proposed project; and
- Irreversible and irretrievable impacts on the environment that may be involved with the project should it be implemented.

Having carefully considered the environmental record noted above, the mitigation measures as required herein, the written and oral comments offered by other agencies and the public on this record, and the written responses to the comments, TxDOT has determined that the preferred alternative is also the environmentally preferred alternative. The preferred alternative represents the best option for the SH 249 Extension project. TxDOT finds that all practicable measures to minimize environmental harm have been incorporated into the design of the preferred alternative. TxDOT will ensure that the commitments outlined herein will be implemented as part of final design, construction contract, and post-construction monitoring. TxDOT also determines that this decision is in the best overall public interest. A notice of availability of the SH 249 Extension FEIS/ROD will be published in the Federal Register and Texas Register.



**ROD-1
FEIS Selected
Alternative Alignment**

-  Study Area
-  Alignment B/C Selected
-  Detention Ponds



Vicinity Map

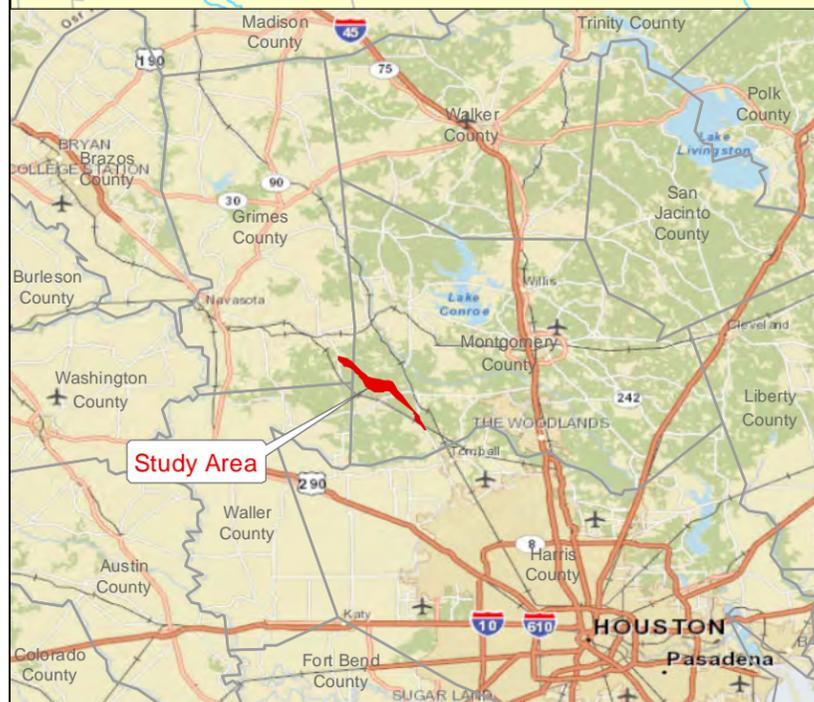


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List of Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
ACS	American Community Survey
ASTM	American Society for Testing and Materials
AOI	Area of Influence
APE	Area of Potential Effect
ATL	Average Trip Length
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CMP	Congestion Management Process
CMSA	Consolidated Metropolitan Statistical Area
CSJ	Control-Section-Job
dB(A)	A-Weighted Decibel
DHHS	Department of Health and Human Services
e.g.	exempli gratia ("for example")
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMST	Ecological Mapping Systems of Texas
EPA	U.S. Environmental Protection Agency
et al.	et alii ("and others")
etc.	et cetera ("and other things")
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM	Farm-to-Market Road
FTA	Federal Transit Administration
GIS	Geographical Information System
HBNW	Home Based Non-Work Trips
HBW	Home Based Work Trips
H-GAC	Houston-Galveston Area Council
i.e.	id est ("that is" or "in other words")
ISD	Independent School District
L _{eq}	Average or Equivalent Sound Level
LOS	Level of Service
MAP-21	Moving Ahead for Progress in the 21st Century Act
MIS	Major Investment Study
MOU	Memorandum of Understanding
mph	miles per hour
MPO	Metropolitan Planning Organization

MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PALM	Potential Archeological Liability Map
R	Receiver
ROD	Record of Decision
ROW	Right-Of-Way
RSA	Resource Study Area
RTP	Regional Transportation Plan
SAL	State Antiquities Landmarks
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SW3P	Stormwater Pollution Prevention Plan
TAZ	Traffic Analysis Zone
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
TIP	Transportation Improvement Program
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TxDOT	Texas Department of Transportation
TxNDD	Texas Natural Diversity Database
U.S.	United States
US	United States Highway
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day

SECTION 1: INTRODUCTION

1.1 WHAT IS THE PROJECT?

The proposed State Highway 249 Controlled-Access Tollway Extension project (proposed SH 249 Extension) would be located in both Montgomery County and Grimes County, Texas. The Texas Department of Transportation (TxDOT) proposes to construct, on new location, a four-mainlane, controlled-access tollway with auxiliary lanes, on-ramps and off-ramps (where appropriate), detention ponds, and intermittent frontage roads within a typical, 400-foot-wide right-of-way (ROW). The proposed SH 249 Extension would extend from just south of the Farm-to-Market (FM) 1774/FM 149 interchange in the City of Pinehurst (Pinehurst) to a new SH 249/FM 1774 interchange north of the City of Todd Mission (Todd Mission). The proposed tollway would be approximately 15 miles in length.

1.2 WHAT IS THE CURRENT STATUS OF THE PROJECT?

A Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) was published in the Federal Register and the Texas State Register in September 2003. A Draft EIS was released on January 16, 2015, to evaluate the Preferred Alternative in detail. Agencies and the public reviewed the Draft EIS and other related information, providing comments to TxDOT before March 9, 2015. A public hearing for the Draft EIS was held on February 18, 2015. The Proposed SH 249 Extension Study Team reviewed the comments received and conducted additional coordination and studies to update the impact analysis for the Preferred Alternative and to further define mitigation measures to be incorporated for the proposed tollway. The activities and minor updates that have occurred since the Draft EIS are summarized in this Final EIS.

Based on the *2040 RTP*, the total project cost is \$271.31 million. The estimated construction cost is \$250 million. The proposed project is classified as Category 12 and would be 80 percent federally funded and 20 percent State funded. The proposed project would be tolled (see *Appendix A* of the Final EIS). It should be noted that the original CSJ's identified in the Draft EIS for the SH 249 Extension project were 072-02-073 and 0720-02-072; however, since the approval of the Draft EIS, the current CSJ's are 3635-01-001 and 3635-02-001, respectively.

SECTION 2: NEED AND PURPOSE

2.1 NEED

Four substantial transportation improvement needs affect the proposed SH 249 Extension study area.

- **System linkage:** The current transportation system does not allow for efficient radial and circumferential traffic movement. The system neglects to provide efficient connections (or linkage) between major suburban communities and major roadways within the region, such as Beltway 8 (Sam Houston Toll Road), proposed SH 99 (Grand Parkway Toll Road), FM 2920, FM 1774, FM 149, FM 1488, FM 1486, SH 105, and SH 6.
- **Expanded capacity:** Transportation demand exceeds the current and future capacity of the existing transportation infrastructure.
- **Safety:** Roadways are often characterized by conditions that result in higher accident rates. Traffic movement on many roadways in the proposed SH 249 Extension study area (e.g., FM 1774, FM 149, FM 1488, and FM 1486) are controlled by intersections, traffic signals and/or stop signs, and multiple access points, all of which contribute to stop-and-go conditions and congestion during peak travel times and emergency events.
- **Economic development:** The expected growth in and around the study area would continue to strain existing transportation infrastructure and create a barrier to businesses, commuters, and economic development. The Houston-Galveston Area Council (H-GAC) predicts a 2 percent annual growth in population, adding almost 4 million people and approximately 1.5 million additional jobs will be added by 2040 for the eight-county, Houston-Galveston-Brazoria Consolidated Metropolitan Statistical Area (CMSA) (H-GAC 2015).

2.2 PURPOSE

The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to population growth and residential development in the area. The goal of the proposed tollway is to improve system linkage, address current and future transportation demand through expanded capacity, improve safety, and accommodate population growth and economic development.

- **System linkage:** The proposed SH 249 Extension would improve system linkage and connectivity within the existing transportation network. The proposed tollway would provide radial linkage between northern Harris County and Montgomery and Grimes counties. (Linkage would specifically occur among FM 1774, FM 149, FM 1488, FM 1486, and SH 105.)

- Expanded capacity: The proposed SH 249 Extension would address transportation demand, improve the level of service (LOS), reduce traffic congestion, and provide additional travel options.
- Safety: The proposed tollway would improve regional and local safety for the traveling public by minimizing instances that contribute to stop-and-go conditions, increased crash rates, and congestion during peak travel times and emergency events.
- Economic development: The proposed SH 249 Extension would accommodate population and economic growth by improving the movement of persons and goods, which would minimize barriers among businesses, consumers, and transportation infrastructure.

SECTION 3: ALTERNATIVES

The alternative alignments evaluated in the Draft EIS originated, in part, from the Most Feasible Alternative Corridor analyzed and refined by public and agency comment in the Major Investment Study (MIS), which is available for review at TxDOT Houston District.

3.1 PRELIMINARY ALTERNATIVES

Five preliminary alternative alignments (Alternative Alignment A, B, C, D and E) were initially developed and analyzed to determine the Most Reasonable Alternative Alignments to be carried forward for further study in the Draft EIS alongside the No-Build Alternative. *Exhibit 3-1* illustrates and *Table 1* further describes each of the five preliminary alternative alignments.

Table 1: Screening Summary of the Preliminary Alternative Alignments

Component	Unit	Preliminary Alternative Alignments				
		A	B	C	D	E
Alignment Length	Miles	14.4	13.9	14.3	14.8	13.5
Estimated ROW Acquisition	Acres	698	672	692	717	652
Major roadway Crossings (FM 149, FM 1488, FM 1486, and FM 1774)	Number of crossings	All preliminary alternative alignments ranked the same. As such, the components were not used in scoring the alignments.				
Railroad Crossings	Number of crossings					
Pipeline Crossings	Number of crossings	8	9	8	8	8
Potential for Displacements/ Relocations	High/Med/Low	Low	Medium	Low	High	Low
Community Cohesion	High/Medium/Low	Low	Medium	Low	High	High
Potential T/E Species Habitat	High/Medium/Low	All preliminary alternative alignments ranked the same. As such, the component was not used in scoring the alignments.				
Potential for Wetland Impacts	High/Medium/Low	High	Medium	Low	Low	Low
Floodplain Crossings	Linear feet	19,972	13,705	11,363	8,692	10,786
Stream Crossings	Number of crossings	23	27	22	18	19
Recorded Cemeteries	Number	0	0	0	0	0
Known Section 4(f) Properties	Number	0	0	0	0	0
Recorded Archeological Sites	Number of sites	0	0	0	0	0

Table 1: Screening Summary of the Preliminary Alternative Alignments

Component	Unit	Preliminary Alternative Alignments				
		A	B	C	D	E
Recorded Historic Structures	Number of sites	0	0	0	0	0
Recorded Hazardous Materials	Number of sites	0	0	0	0	0

Source: The Proposed SH 249 Extension Study Team.

Note: T/E = threatened and endangered.

When analyzed, Alternative Alignment A and D were eliminated from further consideration. Alternative Alignment A was eliminated because of the high potential for crossing the 100-year floodplain, the subsequent impacts to wetlands, and the associated construction costs related to floodplain/water crossings. Alternative Alignment D was eliminated based on the high potential for displacements and relocations and the high potential to impact community cohesion.

3.2 REASONABLE ALTERNATIVES

Through continued public and agency involvement and coordination, Alternative Alignment B was adjusted to reduce the number of displacements, and an additional alternative alignment was developed as a hybrid between Alternative Alignment B and C. Labeled as Alternative Alignment B/C, the hybrid alignment further avoided engineering and environmental impacts to better achieve the proposed SH 249 Extension's purpose and reduce impacts to property owners' plans for their tracts.

As such, the Draft EIS Reasonable Alternative Alignments carried forward for further study in the subsequent sections of the Draft EIS were Alternative Alignment B, B/C, C, E, and the No-Build Alternative. The No-Build Alternative does not meet the need and purpose as discussed in *Section 2.3* of the Draft EIS because the alternative would not address the mobility, accessibility, safety, and quality of life needs of the study area and larger region. Depicted on *Exhibit 3-2, Table 2* summarizes the modified results of the analysis, which includes the Recommended Alternative Alignment B/C.

Table 2: Summary of the Draft EIS Reasonable Alternative Alignments

Criteria	Unit	Alignment B	Alignment B/C	Alignment C	Alignment E
Length of proposed SH 249 Extension	Miles	15.3	15.0	15.3	14.2
Estimated ROW needed	Acres	741	727	741	688
Pipeline crossings	Number of crossings	9	8	8	8
Potential displacements/relocations of residences and businesses ^a	Number of displacements	26	7	7	18

Table 2: Summary of the Draft EIS Reasonable Alternative Alignments

Criteria	Unit	Alignment B	Alignment B/C	Alignment C	Alignment E
Community cohesion impacts ^b	Degree of impact	Medium	Low	Low	High
NWI (potential wetlands)	Acres	11.0	5.0	2.8	11.5
Floodplain crossings	Linear feet	18,259	9,001	10,965	12,695
Stream crossing (USGS topographic map)	Number of crossings	27	21	22	19
Vegetation ^c	Acres	711	724	730	691
Previous public involvement ^d	Number of meetings	Low	High	Medium	Medium

Source: The Proposed SH 249 Extension Study Team.

^a A displacement happens when a structure is within the ROW of the alternative alignment.

^b Community cohesion is defined as the bisecting, separating, or isolating of neighborhoods.

^c Vegetation involves forest, upland, and habitat fragmentation.

^d The concept is determined by the public's preference of alternative alignments.

Notes: NWI = National Wetland Inventory; USGS = U.S Geological Survey.

3.3 PREFERRED ALTERNATIVE

On October 3, 2013, a public meeting was held to present the new Recommended Alternative Alignment B/C. The northern terminus of the alignment was adjusted to address comments received from the public meeting to ultimately become the Preferred Alternative (see *Exhibit 3-3*). The Public Meeting Summary Report can be found on TxDOT's website at <http://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html> and in *Appendix C*.

The Preferred Alternative was evaluated along with the other three alternative alignments in the Draft EIS and was presented to the public during the public hearing conducted on February 18, 2015. There have been no changes, except for the noted detention facilities that were shown at the public hearing, to the Preferred Alternative since the Draft EIS was published or as result of any comments received during the Draft EIS comment period. Therefore, the Preferred Alternative has become the Selected Alternative Alignment.

Four detention facilities have been incorporated into the design to meet drainage needs for a total of 98.07 acres that would fall outside of the 400-foot-wide ROW evaluated in the Draft EIS. The four facilities were presented at the public hearing on February 18, 2015, and would be located at various locations along the proposed tollway as shown on *Exhibit 3-3* and described below:

- Detention Pond 1 would be located east the northern terminus of the proposed tollway and would be 26.66 acres.

- Detention Pond 2 would be located east FM 1486 and would be 25.21 acres.
- Detention Pond 3 would be located between FM 1486 and FM 1488 and would be 15.18 acres.
- Detention Pond 4 would be located west of FM 149 and would be 31.02 acres.

SECTION 4: ENVIRONMENTAL RESOURCES AND IMPACTS

Section 3 and Section 4 of the Draft EIS described the existing conditions and anticipated direct impacts to physical, biological, and socioeconomic resources within the proposed SH 249 Extension study area for Alternative Alignment B, B/C, C, E, and the No-Build Alternative. Since the publication of the Draft EIS, updates to the setting, impacts, and mitigation have occurred. The following resources were reviewed and updated to reflect impacts related to the proposed SH 249 Extension Selected Alternative Alignment including the four detention facilities. Upon reanalysis, many of the resource impacts did not change from analysis completed for the Draft EIS. This is noted in the following section where applicable.

4.1 LAND USE

The Selected Alternative Alignment would convert existing land uses to a transportation use through the acquisition of ROW. Because of the addition of the four detention facilities since the publication of the Draft EIS, an additional 98.07 acres of impacts would occur to undeveloped land. Therefore, the total impacts under the Selected Alternative Alignment would be 825.08 acres.

4.2 GEOLOGY, FARMLANDS, AND SOILS

A soil mapping unit list was obtained from the Natural Resources Conservation Service (NRCS) to identify prime farmland within Montgomery County and Grimes County. As illustrated on *Exhibit 4-1*, Detention Pond 2 would impact prime farmland not originally calculated in the Draft EIS. *Table 3* summarizes the total prime farmland impacts for the Selected Alternative Alignment.

Table 3: Prime Farmland Impacts for the Selected Alternative Alignment

Montgomery County	Grimes County	Impacts to Prime Farmland (acres)
Hockley Fine sandy loam (Ho), Kirbyville fine sandy loam (Ro), and Splendor fine sandy loam (Sp)	Splendor fine sandy loam, 0 to 3 percent (SpB)	86.1

Source: NRCS 2012a; NRCS 2012b.

As described in the Draft EIS, no farmlands of local importance are within the study area. However, farmlands of statewide importance exist within the study area. The additional detention facilities under the Selected Alternative Alignment would not impact any additional acreage of farmlands of statewide importance listed in the Draft EIS. A Farmland Conversion Impact Rating Form for Corridor Type Projects (NRCS-CPA-106) calculated the relative impact of the Selected Alternative on prime farmland and sent to NRCS for further coordination (See *Appendix B*). Land evaluation and site assessment scores estimate the values of the impacted

farmland and can add up to a maximum of 260 points. One-hundred and sixty points is a critical score, with the alternative alignments receiving scores less than 160 points being given a minimal level of consideration for protection. After coordination with the NRCS, the total score in Part VII of the Farmland Conversion Impact Rating Form for the Selected Alternative Alignment is 93, which is below the critical score of 160 points. Therefore, further coordination with the NRCS would not be required.

4.3 SOCIAL CHARACTERISTICS

Impacts to social characteristics were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that there are no additional impacts to the population characteristics, income, community cohesion, community facilities or displacements/relocations as a result of the detention ponds than what was presented in *Section 4.3* of the Draft EIS.

4.3.1 Population

Since the release of the Draft EIS, H-GAC released its *2040 RTP*. The *2040 RTP* documents the transportation needs within the Houston-Galveston-Brazoria CMSA, of which Montgomery County is a member. The eight-county geographic area covered by the *2040 RTP* includes a region of more than 7,000 square miles and 5.9 million residents in 2010. Based on H-GAC's 2040 Regional Growth Forecast and as listed in *Table 4*, the region and counties around the proposed SH 249 Extension study area are forecasted to continue to grow.

Table 4: Projected Population Growth in areas around the Study Area

Geographic Area	Population		Population Growth (Annual Average Growth)
	2010	2040	
Houston-Galveston-Brazoria CMSA	5,809,869	10,018,940	2.41%
Montgomery County	452,509	1,280,750	6.10%
Grimes County ^a	26,604	29,642	0.38%

Source: H-GAC 2015; Texas State Data Center 2014.

^a Because Grimes County is not part of the H-GAC planning area, the population forecast is sourced from the Texas State Data Center.

4.3.2 Employment

According to H-GAC, regional employment forecasts would increase 53 percent by almost 1.5 million new jobs in the CMSA between 2010 and 2040, and it is anticipated that there will be a 60 percent increase in vehicular travel (H-GAC 2015).

4.3.3 Income

On January 22, 2015, the Department of Health and Human Services (DHHS) updated its poverty guidelines, which for a family of four increased from \$23,550 in 2013 to \$24,250 in 2015. However, no additional Census block groups from those reported in the Draft EIS are now shown to be below the DHHS poverty level guidelines per the U.S. Census Bureau's *2006-2010 American Community Survey (ACS)*. Additionally, no changes to the determinations presented in the Draft EIS would occur for environmental justice (EJ) communities.

4.4 ECONOMICS

Economic impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that there are no additional economic impacts as a result of the detention ponds than what was presented in *Section 4.4* of the Draft EIS.

4.5 PEDESTRIANS AND BICYCLISTS

Pedestrian and bicyclist impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that there are no additional impacts to pedestrians and bicyclists as a result of the detention ponds than what was presented in *Section 4.5* of the Draft EIS.

4.6 AIR QUALITY

Air quality was reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that there are no additional impacts to air quality and MSATs as a result of the detention ponds than what was presented in *Section 4.4* and *4.6.5* of the *Draft EIS*. However, the *2040 RTP* has been approved and as such, information was updated accordingly to reflect the *2040 RTP*.

4.6.1 Carbon Monoxide Traffic Air Quality Analysis

Current design year (2040) traffic is estimated to be 63,348 vehicles per day (VPD) in Pinehurst and 18,803 VPD in Todd Mission. A prior TxDOT modeling study demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded from any project with average annual daily traffic (AADT) volumes below 140,000 VPD. The 2040 updated AADT projections for the proposed tollway would not exceed 140,000 VPD; therefore, a traffic air quality analysis would not be required.

4.6.2 Conformity

This project is located within Grimes and Montgomery counties. Montgomery county is part of the Houston-Galveston-Brazoria area that has been designated by EPA as a marginal nonattainment area for the 2008 ozone NAAQS; therefore, transportation conformity rules apply.

The proposed action is consistent with the area's financially constrained *2040 RTP* and the 2015-2018 *Transportation Improvement Program (TIP)*, as revised. Both the RTP and the TIP were initially found to conform to the TCEQ State Implementation Plan (SIP) by FHWA on September 11, 2015 and September 25, 2015, respectively. Copies of the RTP and TIP pages are included in *Appendix A* of the Final EIS. All projects in the 2015-2018 TIP, as revised that are proposed for federal or state funds were initiated in a manner consistent with federal guidelines in Section 450, of Title 23 CFR and Section 613.200, Subpart B, of Title 49 CFR. Energy, environment, air quality, cost, and mobility considerations are addressed in the programming of the TIP.

4.6.3 Congestion Management Process

The congestion management process (CMP) is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The project was developed from H-GAC's operational CMP, which meets all requirements of 23 CFR 500.109. The CMP was adopted, as appended in the *2040 RTP*, by H-GAC on September 11, 2015.

The region commits to operational improvements and travel demand reduction strategies at two levels of implementation: the program level and project level. Program-level commitments are inventoried in the regional CMP, which was adopted by H-GAC; they are included in the financially constrained *2040 RTP*, and future resources are reserved for their implementation.

The CMP element of the plan carries an inventory of all project commitments (including those resulting from major investment studies) that details type of strategy, implementing responsibilities, schedules, and expected costs. At the project's programming stage, travel demand reduction strategies and commitments will be added to the regional TIP or included in the construction plans. The regional TIP provides for programming of these projects at the appropriate time with respect to the single occupancy vehicle (SOV) facility implementation and project-specific elements.

As listed in *Table 5*, committed congestion reduction strategies and operational improvements within the surrounding proposed SH 249 Extension study area consist of roadway widening, new roadway construction, roadway rehabilitation, and traffic flow improvements. Since the SH 249 would be constructed as a tolled, controlled access facility, there are no travel system management or demand management activities associated with the construction of the project.

The proposed SH 249 Extension is one of the many projects in the area that are committed to congestion reduction strategies.

Table 5: CMP Strategies in and near the Proposed SH 249 Extension Study Area

Roadway Designation	Location (From)	Location (To)	Project Description	Project Status
FM 149	FM 1097	SH 105	Reconstruct roadway, widen for center lane turn land and 2-inch surface	T
FM 1774	Grimes County Line	Montgomery County Line	To widen to a four-lane, divided rural	S
	0.045 mile south of West Lost Creek Boulevard	FM 1488	To widen to a four-lane, divided rural	S
	Waller County Line	0.109 mile north of FM 1488	To widen to a four-lane, divided rural with a railroad grade separation	S
FM 2978	FM 1488	South of Dry Creek	To widen from two to four lanes	T
	South of Dry Creek	Conroe Huffsmith Road	To widen from two to four lanes	S
SH 105	LP 336 West	IH 45 North	To apply access management treatments	T
	LP 336 W	IH 45 N	Access management treatments	T
	IH 45	SH 75	To construct raised median, sidewalks, and pedestrian/transit amenities (e.g., lightening, planting, strip/buffer zone, transit stops, and bicycle racks)	T
SH 249	FM 1774/FM 149 in Pinehurst	Spring Creek/Harris County Line	To construct a six-lane tollway with grade separations at Stagecoach Road and Woodlands Parkway	S
Stagecoach	SH 249	Walnut Creek Road	To widen to four lanes	L

Source: H-GAC 2015.

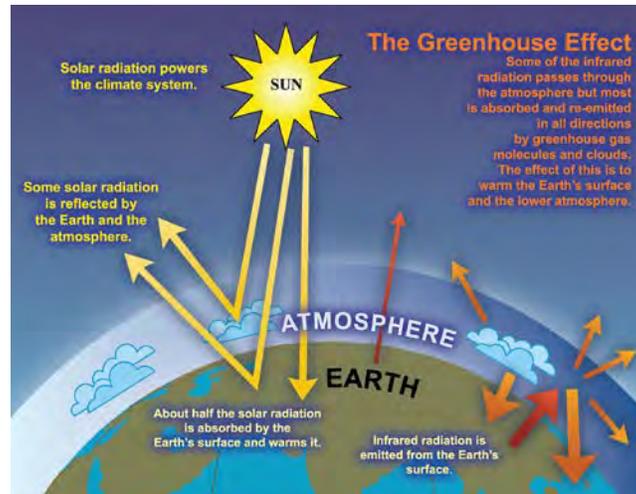
Notes: T = 2013-2016 TIP, as amended; S = short range; L = long range; IH = Interstate Highway; LP = Loop.

In an effort to reduce congestion and the need for SOV lanes in the region, TxDOT and H-GAC will continue to promote appropriate congestion reduction strategies through the CMAQ program, the CMP, and the MTP. The congestion reduction strategies considered for this project would help alleviate congestion in the SOV study boundary, but would not eliminate it.

Therefore, the proposed project is justified. The CMP analysis for added SOV capacity projects in the TMA is on file and available for review at H-GAC.

4.6.4 Climate Change, Greenhouse Gas, and Greenhouse Gas Emissions

Energy from the sun drives the Earth's weather and climate by heating the Earth's surface; in turn, the Earth radiates energy back into space. Atmospheric greenhouse gases (GHGs), including water vapor, carbon dioxide (CO₂), and other gases, trap some of the outgoing energy by retaining heat somewhat like the glass panels of a greenhouse. This warming of the Earth is called the "greenhouse gas effect,"¹ as shown in figure below². Without this natural greenhouse effect, temperatures would be much lower than they are now, and life as it is known today would not be possible.



Many GHGs occur naturally and remain in the atmosphere for periods ranging from decades to centuries. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. CO₂ occurs naturally as well as through human activities, such as fossil fuel combustion.

In its history, the Earth has gone through many natural changes in climate. Because the atmospheric concentration of GHGs continues to climb in recent history, our planet may experience climate change-related phenomena. For example, warmer global temperatures may cause changes in precipitation or sea levels.

To date, no national standards have been established regarding GHGs, nor has the EPA established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO₂ under the Clean Air Act (CAA). However, there is a considerable body of scientific literature addressing the sources of GHG emissions and their impacts on climate, including reports from the Intergovernmental Panel on Climate Change (IPCC), the National Academy of Sciences, EPA, and other federal agencies.

Given their characteristic rapid dispersion into the global atmosphere, GHGs are different from other air pollutants evaluated in federal environmental reviews because the impacts are not

¹This term is from the USDOT *Overview of Climate Change Webpage: An Introduction*.

²This is FAQ 1.3, Figure 1 from the *Intergovernmental Panel on Climate Change's (IPCC), Climate Change 2007: The Physical Science Basis*.

localized or regional. The Resource Study Area for CO₂ and other GHG emissions is the entire planet. In addition, from a quantitative perspective and in terms of both absolute numbers and types, global climate change is the cumulative result of numerous and varied natural and anthropogenic emissions sources. Each source makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad-scale actions such as those involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Presently, there is no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions.

The transportation sector is the second-largest source of total GHG emissions in the United States, behind electricity generation. The transportation sector was responsible for approximately 27 percent of all anthropogenic GHG emissions in the United States in 2009³. The majority of transportation-related GHG emissions result from fossil fuel combustion. CO₂ is the largest component of these GHG emissions. U.S. CO₂ emissions from the consumption of energy accounted for about 18 percent of worldwide energy consumption CO₂ emissions in 2009⁴. U.S. transportation CO₂ emissions accounted for about 6 percent of worldwide CO₂ emissions⁵.

While the contribution of GHG's from transportation in the U.S. as a whole is a large component of U.S. GHG emissions, the GHG contributions becomes quite small, as the scale of analysis is reduced down to an individual transportation project.

Under NEPA, detailed environmental analysis should focus on issues that are significant and meaningful to decision making [40 CFR §§ 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7]. FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, that GHG emissions from the proposed action would not result in "reasonably foreseeable significant adverse impacts on the human environment" [40 CFR § 1502.22(b)].

The GHG emissions from the action alternatives would be insignificant and would not play a meaningful role in a determination of the environmentally preferable alternative or identification of the Preferred Alternative. More detailed information on GHG emissions is not "essential to a reasoned choice among reasonable alternatives" [40 CFR § 1502.22(a)] or to making a determination in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts [23 CFR § 771.105(b)]. For these reasons, no alternatives-level GHG analysis has been performed for this project.

³ This percentage was calculated from data in U.S. Environmental Protection Agency's U.S. *Greenhouse Gas Inventory Report: 1990-2013*.

⁴ This percentage was calculated from data in U.S. Energy Information Administration's *International Energy Statistics, Total Carbon Dioxide Emissions from the Consumption of Energy*, <eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>, accessed June 29, 2015.

⁵ This percentage was calculated from data in U.S. Energy Information Administration's *Emissions of Greenhouse Gases in the United States 2009*, March 2011, and EPA's Table ES-3 (Page 9) from EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2009, Executive Summary, accessed June 29, 2015.

To put “significant and meaningful” analysis into context, consider recent National Highway Traffic Safety Administration (NHTSA) EISs⁶. The 2012-2016 EIS analyzed and disclosed the potential for environmental impacts of the proposed model years 2012-2016 Corporate Average Fuel Economy (CAFÉ) standards for the total fleet of passenger and non-passenger automobiles. These standards were estimated to reduce 61 billion gallons of fuel usage and 654.7 million metric tons of CO₂ emissions, nationwide. In the EIS, a substantial discussion of GHGs and climate change included modeling of the alternative scenarios being considered. Regarding global temperature change across the alternative scenarios, the analysis concluded that for the year 2100 the reduction in global temperature increase in relation to the No Action Alternative ranged from 0.013 ° F to 0.032 ° F. In other words, on a temporal scale of 100 years, that agency action has a potential effect on climate change measured in hundredths of a degree.

NHTSA also issued 2017-2021 CAFE standards along with an EIS⁷ (2017-2025 EIS) and a summary⁸ for these standards, and released potential standards to be implemented for 2021-2025 vehicle model years for passenger cars and light duty trucks. The 2017-2025 EIS is similar to the 2012-2016 in that it had a substantial discussion of GHGs and climate change. It also included modeling of alternative future scenarios. NHTSA estimated the set of 2017-2025 standards would reduce between 27,400 and 31,300 million metric tons of CO₂ emissions in 2017-2025.⁹ These rules also could reduce fuel consumption by 652–1,767 billion gallons in the period 2017-2025.¹⁰

For the year 2100, global temperature change was analyzed across the alternative scenarios. This analysis estimated the reduction in temperature increase in relation to the No Action Alternative ranged from 0.002 ° F to 0.027 ° F.¹¹ The 2017-2025 standards, when compared to the 2012-2016 standards, result in up to 5 times greater CO₂ emission reductions and between 10 to almost 30 times more fuel savings nationwide. Despite the emission reductions and nationwide fuel savings, the standard’s impact on global temperatures was measured in the thousandths to hundredths of a degree, depending on the alternative chosen (Refer to *Table 6*).

⁶ This refers to the *Final Environmental Impact Statement Corporate Average Fuel Economy Standards, Passenger Cars and Light Trucks, Model Years 2012-2016*, February 2010.

⁷ This refers to the *Corporate Average Fuel Economy Standards Passenger Cars and Light Trucks Model Years 2017-2025 Final Environmental Impact Statement*, July 2012, Docket No. NHTSA-2011-0056.

⁸ This refers to the *Corporate Average Fuel Economy Standards Passenger Cars and Light Trucks Model Years 2017-2025 Final Environmental Impact Statement Summary*, July 2012, Docket No. NHTSA-2011-0056.

⁹ This refers to the 2017-2025 EIS, Page S-38, S-39.

¹⁰ This refers to the 2017-2025 EIS, Page S-12.

¹¹ This refers to the 2017-2025 EIS, Page S-43.

Table 6: Estimated Climate Impacts from the NHTSA CAFÉ Standards for U.S. Passenger Vehicle Fleet

Vehicle Model Years	National GHG Reductions (million metric tons)	Fuel Reduction, now to 2060 (billion gallons)	Global Temperature Change in 2100 Compared to No Action	Global Sea Level Change in 2100, Compared to No Action (inches)
2012-2016, 2010 EIS	654.7	61	0.013 ° F to 0.032 ° F	-
2017-2025, 2012 EIS	27,400 – 31,300	652 – 1,767	0.002 ° F to 0.027 ° F	0.016 – 0.06

Source *Best Practices for Climate Change and Greenhouse Gas Emissions Statements*, TxDOT September 2015a.

To emphasize the large scale of the action (setting nationwide standards) analyzed in the 2012-2016 and 2017-2025 NHTSA EISs, both noted respectively that 19.1 and 18.8 percent of total U.S. CO₂ emissions come from passenger cars and light trucks. The proposed project alternatives are a very small subset of nationwide emissions, and its alternatives are much smaller scale than vehicle standards that nationally impact all U.S. roads. In other words, the emissions from an individual project are much less than the total emissions nationally from passenger and light duty trucks. Even with this meaningful NHTSA analysis, one could question the preciseness of the input data, the margin of error of the models, and the ability to predict anything 100 years into the future.

In December 2014, the Center for Environmental Quality (CEQ) redrafted their 2010 Draft NEPA Guidance on the Effects of Climate Change and Greenhouse Gas Emissions and mentioned “climate change is a particularly complex challenge given its global nature and inherent interrelationships among its sources, causation, mechanisms of action, and impacts.”¹² This complexity is the very reason that considering GHG impacts is not similar to considering the impacts to other environmental resources. As the EPA acknowledged in *Massachusetts v. EPA*, 549 U.S. 497, 524 (2007), predicting future climate change involves many complex global economic and physical factors. Such factors include, but are not limited to:

- The ability to predict future global anthropogenic emissions of GHGs and aerosols;
- The fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans);
- The impact of those emissions that remain in the atmosphere on the radiative, or heat trapping, properties of the atmosphere;
- The change in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation);
- The change in temperature characteristics (e.g., average temperatures and shifts in daytime and evening temperatures);
- The change in other climatic parameters (e.g. shifts in precipitation or storms);

¹² This refers to the CEQ, *Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*, 2014, page 2.

- The impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity or human health impacts);
- Future global policy decisions; and
- Future global economics.

Asking a federal agency to address such complex factors might have limited benefit when applied judiciously, but certainly has great risk and cost if misapplied. To minimize the potential for misinterpretation and misapplication, further analysis, if needed, will be determined after CEQ releases finalized guidance.

4.6.4.1 Mitigation for Global Greenhouse Gas Emissions

Because the proposed project will not cause any GHG emission with “reasonably foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)), mitigation is not required. However, to help address the global issue of climate change, USDOT is committed to reducing GHG emissions from vehicles traveling on our nation’s highways. USDOT and EPA are working together to reduce these emissions by substantially improving vehicle efficiency and shifting toward lower carbon-intensive fuels.

USDOT and EPA have jointly established new, more stringent fuel economy and the first-ever GHG emissions standards for model year 2012 to 2025 cars and light trucks. By model year 2025, the ultimate fuel economy standard is 54.5 miles per gallon for cars and light trucks. Further, on September 15, 2011, the agencies jointly published the first-ever fuel economy and GHG emissions standards for heavy-duty trucks and buses. Increasing the use of technological innovations to improve fuel economy, such as gasoline- and diesel-electric hybrid vehicles, will improve air quality and reduce CO₂ emissions in future years.

Additional, specific, project-level activities to control other air emissions also help reduce CO₂ emissions. These activities could include limiting construction equipment idling or using Texas Emissions Reduction Plan (TERP) and/or measures to keep traffic moving while under construction.

The TERP includes incentive programs to encourage the development of multi-pollutant approaches to ensure that the air in Texas is both safe to breathe and meets minimum federal standards. TxDOT encourages construction contractors to utilize the program to the fullest extent possible to minimize diesel emissions. Information about the TERP program can be found at <http://www.tceq.state.tx.us/implementation/air/terp/>.

Specific construction mitigation measures are not known at this time. However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions that can be utilized, it is not anticipated that emissions from construction of the proposed SH 249 Extension would have any significant impact on air quality in the area.

4.6.4.2 Summary of Greenhouse Gas Discussion

This document does not incorporate an analysis of the GHG emissions or climate change impacts of each of the action alternatives because the potential change in GHG emissions is very small in the context of the affected global environment. Because of the insignificance of the project-level GHG emission impacts, those impacts will not be meaningful to identification of the Preferred Alternative. FHWA is working to develop strategies to reduce transportation sector contribution to GHGs, particularly CO₂ emissions, and to assess the risks to transportation systems and services from climate change. FHWA will continue to pursue these efforts as productive steps to address this important issue.

The significant uncertainty associated with forecasting sales volumes, vehicle technologies, fuel prices, consumer demand, and other variables out to fiscal year 2025 makes it reasonable and appropriate to evaluate the impacts of the Proposed Action and alternatives using two baselines

4.7 NOISE

The Draft EIS presented predicted traffic noise levels for a design year of 2035. Since the current conforming plan is H-GAC's 2040 RTP, traffic noise was reanalyzed in accordance with TxDOT's (Federal Highway Administration [FHWA]-approved) *Guidelines for Analysis and Abatement of Roadway Traffic Noise*, dated April 2011 (TxDOT 2011).

FHWA's Traffic Noise Model 2.5 software was used to calculate predicted traffic noise levels that would occur along the Selected Alternative Alignment. Existing ambient noise levels were collected in the field at the existing ROW shown on *Exhibit 4-2*. Predicted 2040 traffic noise levels were then modeled at receiver locations that represent the land use activity areas that would be adjacent to the Selected Alternative Alignment and could be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement. The model primarily considered the number, type, and speed of vehicles; highway alignment and grade; cuts, fills, and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by traffic noise. The vehicular mix for the traffic model was defined as follows.

- Existing SH 249 (the existing freeway south of the proposed SH 249 Extension limits): 87 percent light duty, 5 percent medium duty, and 8 percent heavy duty vehicles
- Proposed SH 249 Extension (the proposed tollway on a new location): 90 percent light duty, 4 percent medium duty, and 6 percent heavy duty vehicles
- FM 149: 92 percent light duty, 3 percent medium duty, and 5 percent heavy duty vehicles
- FM 1488: 93 percent light duty, 3 percent medium duty, and 4 percent heavy duty vehicles
- FM 1486: 95 percent light duty, 2 percent medium duty, and 3 percent heavy duty vehicles

Table 7 lists the existing and predicted traffic noise levels within the proposed SH 249 Extension study area. Exhibit 4-2 marks the location of the 21 designated receivers.

Table 7: Traffic Noise Levels and Impacts with the Proposed SH 249 Study Area^a

Receiver	NAC Category ^b	NAC Level	Existing	Selected Alternative Alignment Predicted 2040 Noise Levels	Change (+/-)	Noise Impact
R-1 Residential	B	67	50	57	+7	No
R-2 Residential	B	67	63	63	0	No
R-3 Church	D	52	38	43	+5	No
R-5 Residential	B	67	60	63	+3	No
R-6 Residential	B	67	63	61	-2	No
R-7 Residential	B	67	44	66	+22	Yes
R-8 Residential	B	67	53	70	+17	Yes
R-9 Residential	B	67	57	69	+12	Yes
R-10 Residential	B	67	51	69	+18	Yes
R-11 Residential	B	67	47	47	0	No
R-12 Residential	B	67	45	49	+4	No
R-13 Residential	B	67	45	58	+13	Yes
R-14 Residential	B	67	44	65	+21	Yes
R-15 Residential	B	67	44	66	+22	Yes
R-16 Residential	B	67	70	67	-3	Yes
R-17 Residential	B	67	47	42	-5	No
R-18 Residential	B	67	68	53	-15	No
R-19 Residential	B	67	43	45	+2	No
R-20 Residential	B	67	43	44	+1	No
R-21 Residential	B	67	49	55	+6	No

Source: The Proposed SH 249 Extension Study Team.

^a All noise levels are represented in dB(A) L_{eq} .

^b Section 4.7 of the Draft EIS includes a definition of each NAC criteria and land use activity.

Notes: NAC = Noise Abatement Criteria; R = receiver.

In all, the Selected Alternative Alignment would result in a traffic noise impacts at eight receptors, which represent 84 residences.

Before any abatement measure can be proposed for incorporation into the proposed SH 249 Extension, the abatement measure must be determined both feasible and reasonable. In order to be "feasible," the abatement measure must reduce the noise level at an impacted receptor by

at least 5 a-weighted decibels (dB(A)) at more than 50 percent of first row impacted receivers, and to be "reasonable," it must not exceed the cost-effectiveness criterion of \$25,000 for each receiver that would benefit by a reduction of at least 5 dB(A), and at least one first row receiver must achieve the noise reduction design goal of at least 7 dB(A).

The following sections describe the abatement measures considered for this traffic noise analysis.

4.7.1 Traffic Management

Traffic management is defined as control devices that could be used to reduce the speed of traffic. However, the minor benefit of 1 dB(A) per a 5 mile-per-hour (mph) reduction in speed does not outweigh the associated increase in congestion and air pollution. Other measures (e.g., time or use restrictions for certain vehicles) are prohibited on state highways.

4.7.2 Alteration of Horizontal and/or Vertical Alignments

Any alteration of the existing alignment would displace existing businesses and residences, require additional ROW, and not be cost-effective/reasonable.

4.7.3 Buffer Zone

The acquisition of undeveloped property to act as a buffer zone is designed to avoid, rather than abate traffic noise impacts and, therefore, is not feasible.

4.7.4 Noise Barriers

As the most commonly used noise abatement measure, noise barriers were evaluated for each of the impacted receiver locations.

Noise barriers would not be feasible and reasonable for any of the following impacted receivers and, therefore, are not proposed for incorporation into the proposed SH 249 Extension:

- R-13 represents one residence. A noise barrier was modeled for a length of 637 feet to a height of 20 feet. The model concluded that a noise barrier would not achieve the feasible noise reduction design goal of at least 7 dB(A) at one receiver with a minimum of at least 5 dB(A) at greater than 50 percent of the first row benefitted receivers.
- R-14 through R-16 represent 17 residences. A noise barrier was modeled for a length of 7,461 feet to a height of 12 feet. The model concluded that a noise barrier would achieve the minimum feasible reduction of at least 7 dB(A) at one receiver with a minimum of at least 5 dB(A) at greater than 50 percent of the first row receivers impacted. However, the wall would exceed the reasonable cost-effectiveness criterion of \$25,000 for a total cost of \$1,611,588 or \$107,439 per each of the 15 benefitted receivers.

4.7.5 Proposed Noise Barriers

Noise barriers would be feasible and reasonable for the following impacted receivers and, therefore, are proposed for incorporation into the proposed SH 249 Extension:

- R-7 through R-10 represents 66 residences. Based on preliminary calculations presented in *Table 8*, a noise barrier of 10,242 feet in length and 8 feet in height (for a total area of 81,937 square feet) would reduce noise levels by at least 5 dB(A) for 66 benefited residences and meet the minimum reduction of at least 7 dB(A) for one receiver at a total cost of \$1,474,858, or \$22,346 for each benefited receiver.

Table 8: Proposed Barrier Calculations

Barrier	Representative Receivers	Total # of Benefited Receivers	Length	Height	Total Cost	\$ per Benefitted Receiver
1	R-7 through R-10	66	10,242 feet	8 feet	\$1,474,858	\$22,346

Source: The Proposed SH 249 Extension Study Team.

Any subsequent design changes may require a reevaluation of the preliminary noise barrier proposal. The final decision to construct the proposed noise barrier will not be made until completion of the proposed SH 249 Extension's design, utility evaluation, and polling of adjacent property owners.

Some land use activity areas in various locations throughout the length of the Selected Alternative Alignment would be Category G, undeveloped lands that are not permitted. Also, no new development is currently planned, designed, or programmed in the area. There is no NAC for undeveloped land; however, to avoid noise impacts that may result from future development of properties adjacent to the Selected Alternative Alignment, local officials responsible for land use control programs should ensure, to the maximum extent possible, that no new activities are planned or constructed along or within the following predicted (2040) noise impact contours. *Table 9* lists the noise impact contours.

Table 9: Noise Impact Contours

Geographic Area	Land Use	Impact Contour	Distance from ROW (feet)
Woodtrace Blvd to FM 1774	NAC B and C	66 dB(A)	397
Woodtrace Blvd to FM 1774	NAC E	71 dB(A)	117
FM 1774 to FM 149	NAC B and C	66 dB(A)	178
FM 1774 to FM 149	NAC E	71 dB(A)	30
FM 149 to FM 1488	NAC B and C	66 dB(A)	163
FM 149 to FM 1488	NAC E	71 dB(A)	54

Table 9: Noise Impact Contours

Geographic Area	Land Use	Impact Contour	Distance from ROW (feet)
FM 1488 to FM 1486	NAC B and C	66 dB(A)	53
FM 1488 to FM 1486	NAC E	71 dB(A)	ROW
FM 1486 to FM 1774	NAC B and C	66 dB(A)	26
FM 1486 to FM 1774	NAC E	71 dB(A)	ROW

Source: The Proposed SH 249 Extension Study Team.

Notes: dB(A) = a-weighted decibel; NAC = Noise Abatement Criteria; ROW = right-of-way.

Noise associated with the construction is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration. Therefore, any extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of the traffic noise analysis would be made available to local officials to ensure, to the maximum extent possible, future developments are planned, designed, and programmed in a manner that would avoid traffic noise impacts. On the date of approval of the Final EIS (Date of Public Knowledge), Montgomery County and Grimes County, along with TxDOT, are no longer responsible for providing noise abatement for new development adjacent to the Selected Alternative Alignment.

4.8 WATER QUALITY

Since the release of the Draft EIS, field surveys have been conducted along the Selected Alternative Alignment for the 400-foot-wide ROW and the four additional detention facilities. The Draft EIS identified 21 stream crossings using National Wetland Inventory (NWI) and U.S. Geological Survey (USGS) mapping. Right-of-entry was obtained for approximately 77 percent of the proposed ROW. Field surveys, along with mapping of areas without right-of-entry, identified a total of 38 stream crossings.

On September 14, 1998, the Regional Administrator for the EPA (Region 6) approved Texas' application to administer and enforce the National Pollutant Discharge Elimination System program for regulating discharges of pollutants into waters of the state. The authority to approve state programs is provided to EPA in Section 402(b) of the Clean Water Act. The approved state program (i.e., the Texas Pollutant Discharge Elimination System [TPDES] program) is administered by the Texas Commission on Environmental Quality (TCEQ).

The Selected Alternative Alignment will comply with the TPDES Construction General Permit (CGP) requirements because the proposed tollway would disturb more than 5 acres of land. Coordination with the TCEQ would be required per the TxDOT Memorandum of Understanding (MOU) with TCEQ. To adhere to CGP requirements, TxDOT must obtain a copy of the TCEQ CGP (TPDES Permit Number TXR150000), develop and implement a Stormwater Pollution Prevention Plan (SW3P), complete and submit an Notice of Intent to the TCEQ, and submit a Notice of Termination once the site has reached final stabilization. Guidance documents (e.g., TxDOT's *Storm Water Management Guidelines for Construction Activities*) provide discussion of stormwater controls to be implemented during construction.

The Selected Alternative Alignment will also need to comply with the Section 401 Water Quality Certification conditions. Temporary vegetation would be used for erosion control. Vegetative filter strips would be used for post-construction total suspended solids control, and silt fences would be used for sedimentation control.

Groundwater and public drinking water system impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and consideration of public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.8.2* and *Section 4.8.3* of the Draft EIS would not change under the Selected Alternative Alignment.

4.9 WETLANDS AND OTHER WATERS OF THE U.S.

The Draft EIS identified potential impacts to 5.0 acres of wetlands and 21 stream crossings using NWI and USGS mapping. Since the release of the Draft EIS, field surveys have been conducted along 77 percent of the Selected Alternative Alignment, where right of entry was received, for the 400-foot-wide ROW and the four additional detention facilities. For those areas that right of entry was not received, a desktop delineation was conducted. *Table 10* and *Exhibit 4-3* summarize all the impacts and location of all waters of the U.S., including wetlands, under the Selected Alternative Alignment.

Table 10: Impacts to Water of the U.S., including Wetlands, under the Selected Alternative Alignment

Type Of Water Of The U.S. (Name)	Area (Acres)	Length (Feet)	Referenced Sample Point
Field Survey Determinations			
Waterways			
Water 1	N/A	154	SP 35
Water 2	N/A	340	SP 38
Water 3	N/A	854	SP 37
Water 4	N/A	339	SP 53
Water 5	N/A	108	SP 9A

Table 10: Impacts to Water of the U.S., including Wetlands, under the Selected Alternative Alignment

Type Of Water Of The U.S. (Name)	Area (Acres)	Length (Feet)	Referenced Sample Point
No Water 6			
Water 7	N/A	400	SP 12/13
Water 8	N/A	323	SP 14
Water 9	N/A	541	SP 16A
Water 10	N/A	476	N/A
Water 10A	N/A	491	SP 18
Water 11	N/A	780	SP 27
Water 12	N/A	754	N/A
Water 13	N/A	468	SP 31A
Water 14	N/A	454	SP 58
Water 15	N/A	580	SP 26
Water 16	N/A	189	SP 23
Water 17	N/A	543	SP 20
No Water 18			
Water 19	N/A	401	SP 40
Water 20	N/A	434	SP 42
Water 21	N/A	435	SP 43
Water 22	N/A	203	SP 46
Water 23	N/A	563	SP2
No Water 24			
Water 25	N/A	780	SP 6
Water 26	N/A	1,214	SP 47
Water X29	N/A	180	SP63
Water X36	N/A	563	SP72
Water X37	N/A	522	SP 73
Water X38	N/A	452	SP 80
Water 39	N/A	524	SP 76
Water 40	N/A	211	SP 78
Tributary to Water 40	N/A	63	SP 77
Total	0.0	14,339	-
Wetlands			
Wetland 1	0.023	N/A	SP 17
Wetland 2	0.529	N/A	SP 18
Wetland 3	0.048	N/A	SP 29
Wetland 4	0.668	N/A	SP 30/32

Table 10: Impacts to Water of the U.S., including Wetlands, under the Selected Alternative Alignment

Type Of Water Of The U.S. (Name)	Area (Acres)	Length (Feet)	Referenced Sample Point
Wetland 6 (fringe)	1.090	N/A	N/A
Wetland 7	0.805	N/A	SP 68
Wetland 8	0.028	N/A	SP 10
Total	3.191	-	-
Open Waters (Ponds)			
Open Water 1 (Pond 1) (fringe wetlands)	0.437 (0.047)	N/A	SP 54
No Open Water 2 (Pond 2)			
Open Water 3 (Pond 3)	0.501	N/A	SP 56
Open Water 4 (Pond 4) (fringe wetlands)	0.044 (0.096)	N/A	SP 61
Open Water 5 (Pond 5)	0.166	N/A	SP 50
Open Water 6 (Pond 6)	2.896	N/A	N/A
Total	4.187	-	-
Desk Top Determinations			
Waterways			
Water 27	N/A	939	N/A
Water X28	N/A	427	N/A
Water X30	N/A	1,595	N/A
Water X32	N/A	451	N/A
Water X33	N/A	563	N/A
Water X34	N/A	244	N/A
Water X35	N/A	648	N/A
TOTAL	0.000	4,867	-
Wetlands			
Wetland 5	0.052	N/A	N/A
Wetland 6 (fringe)	1.090	N/A	N/A
Total	1.142	-	-
Total Delineation	8.52 acres	19,206 linear feet	

Source: The Proposed SH 249 Extension Study Team.

Efforts made during the planning stages to avoid impacts to waters of the U.S would continue during final design. Larger waters of the U.S. would likely be bridged, and smaller waters of the U.S. would either be bridged or placed within culverts. A USACE individual permit application has been submitted which included a mitigation plan to compensate for unavoidable adverse

impacts to jurisdictional waters of the U.S., including wetlands. See Section 6.6 for more information on the permit and mitigation.

4.10 VEGETATION AND WILDLIFE

The primary impact to vegetation would be the removal of existing vegetation to accommodate ROW, site preparation, and construction of the Selected Alternative Alignment. As described in *Section 3.11.1* of the Draft EIS, loblolly pine-oak forest, mixed hardwoods within the floodplain, upland pasture, and residential/urban areas would potentially be impacted. Since the release of the Draft EIS, the detention facilities have been added to the ROW, outside the 400-foot ROW. In addition, TPWD has developed the Ecological Mapping Systems of Texas (EMST) as a more detailed evaluation of vegetation types. *Table 11* lists the total amount of vegetation impacts by habitat type for the Selected Alternative Alignment.

Table 11: Impacts to Vegetation under the Selected Alternative Alignment

EMST Common Name	Acreage
Barren	1.98
Native Invasive: Deciduous Woodland	8.51
Pine Plantation > 3 meters tall	3.20
Pineywoods: Disturbance or Tame Grassland	13.97
Pineywoods: Hardwood Flatwoods	8.25
Pineywoods: Pine - Hardwood Forest or Plantation	113.21
Pineywoods: Pine Forest or Plantation	253.52
Pineywoods: Small Stream and Riparian Temporarily Flooded Hardwood Forest	19.33
Pineywoods: Upland Hardwood Forest	363.13
Urban High Intensity	9.32
Urban Low Intensity	29.70
TOTAL	824.12

Source: The Proposed SH 249 Extension Study Team and Elliott 2009.

Variations of the Pineywoods forest type are the most dominant vegetation communities within the proposed SH 249 Extension study area, and would also be the most impacted by the Selected Alternative Alignment.

Wildlife impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.10.2* of the Draft EIS would not change under the Selected Alternative Alignment. TPWD provided comments throughout the development of the Draft and Final EIS during early coordination in a letters dated April 21, 2006, March 20, 2006, and December 3, 2013 (See *Appendix B*).

A Tier I was submitted to TPWD on June 27, 2014 in accordance with the Memorandum of Understanding between TxDOT and TPWD. Since TPWD had previously coordinated the project through early coordination letters, they deferred comments until they were provided the opportunity to review the Draft EIS, which was provided in February 2015. TPWD submitted comments on the Draft EIS on March 3, 2015 (See *Appendix B*) and requested that TxDOT utilize the recommendations provided in the previous comment letters and provide TPWD with an opportunity to review the Final EIS. A Tier II review of the Final EIS/ROD would serve as Administrated Coordination with TPWD for the proposed SH 249 Extension.

4.11 THREATENED AND ENDANGERED SPECIES

Threatened and endangered species impacts were reevaluated for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that updated factual corrections or revisions were required. *Table 12* and *Table 13* include the state and federal-listed threatened and endangered species for Montgomery County and Grimes County (updated March 23, 2015).

Table 12: State and Federal-listed Threatened and Endangered Species (Montgomery County)

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present?	Effect/Impact*
Amphibians						
Southern crawfish frog	<i>Lithobates areolatus areolatus</i>	--		Shallow water, herbaceous wetlands, <u>riparian</u> , <u>temporary pool</u> , <u>cropland/hedgerow</u> , <u>grassland/herbaceous</u> , <u>suburban/orchard</u> , woodland-conifer	Yes	No Impact
Birds						
American peregrine falcon	<i>Falco peregrines anatum</i>	T	DL	Potential migrant; <u>year-round resident and local breeder in west Texas</u> ; <u> nests in tall cliff eyries</u>	No	No Impact

Table 12: State and Federal-listed Threatened and Endangered Species (Montgomery County)

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present?	Effect/Impact*
Arctic peregrine falcon	<i>Falco peregrines tundrius</i>	--	DL	Potential migrant: winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	No	No Impact
Bald eagle (nesting-wintering)	<i>Haliaeetus leucocephalus</i>	T	DL	<u>Primarily near rivers and large lakes; nests in tall trees or on cliffs near water</u>	No	No Effect**
Henslow's sparrow (wintering)	<i>Ammodramus henslowii</i>	--		Weedy fields, fields with bunch grass, vines, and brambles; needs bare ground	No	No Impact
Peregrine falcon	<i>Falco peregrinus</i>	T	DL	<u>Potential migrant, resident breeder in west Texas; nest in tall structures, cliffs</u>	No	No Impact
Piping plover	<i>Charadrius melodus</i>	T	LT	<u>Wintering migrant along Texas Gulf Coast; beaches and bayside mud or salt flats</u>	No	No Effect
Red knot	<i>Calidris canutus rufa</i>		T	Migrates long distances in flocks. Habitats primarily on seacoasts on tidal flats and beaches, herbaceous wetland, and tidal flat/shore	No	No Effect
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	LE	Nests in 60+ year pine and forages in 30+ year pine	No	No Effect
Sprague's pipit	<i>Anthus spragueii</i>	--	C	<u>Only in Texas during migration and winter; diurnal migrant; strongly tied to native upland prairie; common locally in coastal grasses; avoids edges</u>	No	No Effect
White-faced Ibis	<i>Plegadis chihi</i>	T		<u>Prefers freshwater marshes and irrigated rice fields; but will attend brackish and salt habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats</u>	No	No Impact
Whooping crane	<i>Grus americana</i>	E	LE	Winters in Aransas National Wildlife Refuge	No	No Effect
Wood stork	<i>Mycteria americana</i>	T		<u>Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow water, including salt water; roosts communally in tall snags; formerly nested in Texas but no breeding record since 1960</u>	No	No Impact
Fishes						

Table 12: State and Federal-listed Threatened and Endangered Species (Montgomery County)

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present?	Effect/Impact*
Creek chubsucker	<i>Erimyzon oblongus</i>	T		Tributaries of the Red, Sabine, Neches, Trinity, and San Jacinto rivers; small rivers and creeks of various types; prefers headwaters but seldom occurs in springs	Yes	No Impact
Paddlefish	<i>Polyodon spathula</i>	T		Prefers large, free-flowing rivers; spawns in fast, shallow water over gravel bars	No	No Impact
Insects						
A mayfly	<i>Tricorythodes curvatus</i>	--		Aquatic larval phase, adults in bankside vegetation	Yes	No Impact
A mayfly	<i>Plauditus gloveri</i>	--		Aquatic larval phase, adults in bankside vegetation	Yes	No Impact
Gulf Coast clubtail	<i>Gomphus odestus</i>	--		Medium river, moderate gradient, and streams; silty sand or rock bottoms	Yes	No Impact
Texas emerald dragonfly	<i>Somatochlora margarita</i>	--		Spring-fed creeks and bogs; small sandy forested streams with moderate current	Yes	No Impact
Mammals						
Louisiana black bear	<i>Ursus americanus luteolus</i>	T	LT	Bottomland hardwoods and large, undisturbed forested areas	No	No Effect
Plains spotted skunk	<i>Spilogale putorius interrupta</i>	--		Open fields, prairies, croplands, fence rows, farm yards, brushy areas, and tall grass prairies	Yes	No Impact
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>	T		Cavity trees in hardwood forest, concrete culverts, and abandon buildings	Yes	No Impact
Red wolf	<i>Canis rugus</i>	E	LE	Extirpated from Texas, brushy, forested areas and coastal prairies	No	No Effect
Southeastern myotis bat	<i>Myotis austroriparius</i>	--		Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures	Yes	No Impact

Table 12: State and Federal-listed Threatened and Endangered Species (Montgomery County)

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Habitat Present?	Effect/Impact*
Mollusks						
Louisiana pigtoe	<i>Pleurobema riddellii</i>	T		Streams and moderate-size rivers, usually flowing water on substrates of mud, sand, and gravel; not generally known from impoundments; Sabine, Neches, and Trinity (historic) River basins	No	No Impact
Sandbank pocketbook	<i>Lampsilis satura</i>	T		Small to large rivers with moderate flows and swift current on gravel, gravel-sand, and sand bottoms; East Texas, Sulfur south through San Jacinto River basins; Neches River	Yes	No Impact
Texas pigtoe	<i>Fusconaia askewi</i>	T		Rivers with mixed mud, sand, and fine gravel in protected areas associated with fallen trees or other structures; East Texas River basins, Sabine through Trinity rivers, as well as San Jacinto River	Yes	No Impact
Reptiles						
Alligator snapping turtle	<i>Macrochelys temminckii</i>	T		Deep water of rivers and canals	No	No Impact
Texas horned lizard	<i>Phrynosoma cornutum</i>	T		Open, semi-arid regions with bunch grass	No	No Impact
Timber/canebrake rattlesnake	<i>Crotalus horridus</i>	T		Swamps/floodplains of hardwood/upland pine	Yes	No Impact
Plants						
Bristle nailwort	<i>Paronychia setacea</i>	--		Flowering vascular plant endemic to eastern, south-central Texas that occurs in sandy soils	Yes	No Impact
Correll's false dragonhead	<i>Physostegia correllii</i>	--		Wet, silty clay on stream sides, creek beds, irrigation ditches, and roadside ditches	Yes	No Impact

Source: TPWD 2015.

Notes: The following federal and state status codes are presented in the table above. A "blank cell" indicates a rare species that does not have a federal regulatory listing status.

Federal codes: LE, LT = Federal Listed Endangered/Threatened; PE, PT = Federal Proposed Endangered/Threatened; SAE, SAT = Federal Listed Endangered/Threatened by Similarity of Appearance; C = Federal Candidate for Listing (formerly Category 1 Candidate); DL, PDL = Federally Delisted/Proposed for Delisting; NL = Not Federally Listed.

State codes: E, T = State-Listed Endangered/Threatened; NT = Not tracked or no longer tracked by the state; -- = Species of Greatest Conservation Need (SGCN).

* Impact call made for the 76 percent of the ROW that has been surveyed. The additional 24 percent of the ROW would be surveyed once ROW has been acquired and prior to construction activities.

** Delisted federal species that are still protected by federal laws (such as Bald and Golden Eagle Protection Act) are still listed as “no effect.”

**Table 13: State and Federal-listed Threatened and Endangered Species
(Grimes County)**

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Potential Habitat Present?	Potential Effect/Impact*
Birds						
American peregrine falcon	<i>Falco peregrines anatum</i>	T	DL	Potential migrant; <u>year-round resident and local breeder in west Texas; nests in tall cliff eyries</u>	No	No Impact
Arctic peregrine falcon	<i>Falco peregrines tundrius</i>	--	DL	Potential migrant: winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	No	No Impact
Bald eagle (nesting-wintering)	<i>Haliaeetus leucocephalus</i>	T	DL	<u>Primarily near rivers and large lakes; nests in tall</u>	No	No Effect**
Henslow's sparrow (Wintering)	<i>Ammodramus henslowii</i>	--		Weedy fields, fields with bunch grass, vines, and brambles; needs bare ground	No	No Impact
Interior least tern	<i>Sterna antillarum athalassos</i>	E	LE	Nests on sand and gravel bars in braided streams and rivers	No	No Effect
Peregrine falcon	<i>Falco peregrinus</i>	T	DL	Potential migrant, <u>resident breeder in west Texas; nest in tall structures, cliffs</u>	No	No Impact
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	LE	Nests in 60+ year pine and forages in 30+ year pine	No	No Effect
Red knot	<i>Calidris canutus rufa</i>		T	Migrates long distances in flocks. Habitats primarily on seacoasts on tidal flats and beaches, herbaceous wetland, and tidal flat/shore	No	No Impact
Sprague's pipit	<i>Anthus spragueii</i>	--	C	<u>Only in Texas during migration and winter; diurnal migrant; strongly tied to native upland prairie; common locally in coastal grasses; avoids edges</u>	No	No Effect
White-faced ibis	<i>Plegadis chihi</i>	T		<u>Prefers freshwater marshes and irrigated rice fields; but will attend brackish and salt habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats</u>	No	No Impact

**Table 13: State and Federal-listed Threatened and Endangered Species
(Grimes County)**

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Potential Habitat Present?	Potential Effect/Impact*
Whooping crane	<i>Grus americana</i>	E	LE	Potential migrant; <u>winters in coastal marshes of Aransas, Calhoun, and Refugio Counties</u>	No	No Effect
Wood stork	<i>Mycteria americana</i>	T		<u>Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow water, including salt water; roosts communally in tall snags; formerly nested in Texas but no breeding record since 1960</u>	No	No Impact
Fishes						
Blue sucker	<i>Cycleptus elongatus</i>	T		Moderate to swift flowing channels with bedrock or gravel bottom	No	No Impact
Sharpnose shiner	<i>Notropis oxyrhyinchus</i>	--	LE	Large turbid river, sand, gravel, and clay-mud bottom	No	No Effect
Mammals						
Louisiana black bear	<i>Ursus americanus luteolus</i>	T	LT	Bottomland hardwoods and large, undisturbed forested areas	No	No Effect
Plains spotted skunk	<i>Spilogale putorius interrupta</i>	--		Open fields, prairies, croplands, fence rows, farm yards, brushy areas, and tall grass prairies	Yes	No Impact
Red wolf	<i>Canis rugus</i>	E	LE	Extirpated, brushy, forested areas and coastal prairies	No	No Effect
Southeastern myotis bat	<i>Myotis austroriparius</i>	--		Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures	Yes	No Impact
Mollusks						
False spike mussel	<i>Quadrula mitchelli</i>	T		Cobble and mud substrate with water lilies present	No	No Impact
Smooth pimpleback	<i>Quadrula houstonensis</i>	T	C	Mixed mud, sand, and fine gravel; tolerates slow to moderate flow rates	No	No Effect

**Table 13: State and Federal-listed Threatened and Endangered Species
(Grimes County)**

Common Name	Scientific Name	State Status	Federal Status	Habitat Description	Potential Habitat Present?	Potential Effect/Impact*
Texas fawnsfoot	<i>Truncilla macrodon</i>	T	C	Creeks, rivers, and reservoirs; sandy substrates; and slight to moderate flows along banks in slower currents	No	No Effect
Reptiles						
Alligator snapping turtle	<i>Macrochelys temminckii</i>	T		Deep water of rivers and canals.	No	No Impact
Texas horned lizard	<i>Phrynosoma cornutum</i>	T		Open, semi-arid regions with bunch grass	No	No Impact
Timber/canebrake rattlesnake	<i>Crotalus horridus</i>	T		Swamps/floodplains of hardwood/upland pine	Yes	No Impact
Plants						
Branched gay-feather	<i>Liatris cymosa</i>	--		Barren grassland openings in post oak woodlands, as well as tight clayey, chalky, or gravelly soils	No	No Impact
Navasota false foxglove	<i>Agalinis navasotensis</i>	--		Sparsely vegetated, shallow sandy soil on calcareous sandstone	No	No Impact
Navasota ladies'-tresses	<i>Spiranthes parksii</i>	E	LE	Post oak savannah along the upper stream banks of intermittent streams	No	No Effect
Texas meadow-rue	<i>Thalictrum texanum</i>	--		Woodlands and woodland margins on sandy loam, pimple mounds, and clay pan savannah	No	No Impact

Source: TPWD 2015.

Notes: The following federal and state status codes are presented in the table above. A "blank cell" indicates a rare species that does not have a federal regulatory listing status.

Federal codes: LE, LT = Federal Listed Endangered/Threatened; PE, PT = Federal Proposed Endangered/Threatened; SAE, SAT = Federal Listed Endangered/Threatened by Similarity of Appearance; C = Federal Candidate for Listing (formerly Category 1 Candidate); DL, PDL = Federally Delisted/Proposed for Delisting; NL = Not Federally Listed.

State codes: E, T = State-Listed Endangered/Threatened; NT = Not tracked or no longer tracked by the state; -- = Species of Greatest Conservation Need (SGCN).

* Impact call made for the 76 percent of the ROW that has been surveyed. The additional 24 percent of ROW where right of entry was not obtained will have to be surveyed when the ROW is acquired and prior to being cleared.

** Delisted federal species that are still protected by federal laws (such as Bald and Golden Eagle Protection Act) are still listed as "no effect."

Since the release of the Draft EIS, field investigations/surveys were conducted along the Selected Alternative Alignment to determine if the listed species would occur within the proposed SH 249 Extension study area. It should also be noted that two new species were

added to the Montgomery County threatened and endangered list, the southern crawfish frog and the red knot, while the four species of mollusks and the Louisiana pine snake were removed from the list. The red knot was also added to the Grimes County threatened and endangered list, but the Louisiana pine snake was removed. Right-of-entry access to properties along the proposed ROW was received for approximately 77 percent of the ROW. No threatened or endangered species, or their habitat, were identified during the field surveys or through coordination with the regulatory agencies. The additional 23 percent of ROW where right of entry was not obtained will have to be surveyed when the ROW is acquired and prior to being cleared.

4.11.1 Birds

The **Red-cockaded Woodpecker** is federally and State listed as endangered in Montgomery County. According to the USFWS, the Red-cockaded Woodpecker resides in mature pine forests. Longleaf pines (*Pinus palustris*) are commonly preferred habitat, but other species of southern pine are also acceptable to the woodpecker. While other woodpeckers bore out cavities in dead trees where the wood is rotten and soft, the Red-cockaded Woodpecker is the only woodpecker that excavates cavities exclusively in living pine trees. Cavities are excavated in mature pines, generally over 80 years old. The aggregate of cavity trees is called a cluster and may include 1 to 20 (or more) cavity trees on 3 to 60 acres. The average cluster is about 10 acres. Cavity trees that are being actively used have numerous and small resin wells that exude sap. The typical territory for a group ranges from about 125 to 200 acres, but observers have reported territories running from a low of around 60 acres to an upper extreme of more than 600 acres. The size of a particular territory is related to both habitat suitability and population density.

As a result of timber harvesting and production activities in the study area, there is little old-growth forest remaining that would offer preferred habitat for the red-cockaded woodpecker. Previous population counts in 1993 indicated that more than 80 percent of the red-cockaded woodpeckers were found on state and federal lands within Texas. The remainder of the population resided on private land. A search of the Texas Natural Diversity Database (TxNDD) (conducted in November 2013) noted 15 sightings of the woodpecker approximately 4 to 5 miles from the study area. The latest sightings were dated 1990. There is also a rookery listed at approximately the same location, with a last sighting in 1993. There were no sightings listed on the TxNDD for the study area. After field surveys were conducted for the Selected Alternative Alignment, it was determined that the Selected Alternative Alignment would have no effect.

4.11.1.1 Migratory Bird Treaty Act

The forested, wetland, and rangeland landscapes of the study area all provide potential habitat for migratory birds protected under the Migratory Bird Treaty Act. The areas would all provide nesting habitat for migratory birds.

In accordance with the Migratory Bird Treaty Act, no vegetation would be removed containing nests, eggs, or young. Additionally, to avoid impacts, any active breeding areas found during the survey would be avoided entirely during the breeding season of any migratory birds identified within the study area. If there are active nests, removal is prohibited until the nests become inactive, which is usually between October 1 and February 15.

4.11.1.2 Bald and Golden Eagle Protection Act

Although the bald eagle was delisted from the U.S. Fish and Wildlife Service (USFWS) threatened and endangered species list on August 8, 2007, the USFWS continued to work with state wildlife agencies to monitor eagles for the last 5 years, where at that time the USFWS could propose to relist the species if it appears that the bald eagle would need further protection under the Endangered Species Act. While the bald eagle is no longer protected under the Endangered Species Act, the bird is currently protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. In addition, the bald eagle currently retains its status as a state-threatened species on the Texas Park and Wildlife's (TPWD's) annotated list of rare, threatened, and endangered species.

While no confirmed sightings of bald eagles or nests are known within the proposed SH 249 Extension study area according to the TxNDD database, the bald eagle could nest along the riparian corridor of Mill Creek. Increases in traffic and construction noise may elevate stress levels for any potential breeding eagles, possibly causing the birds to flee or fail at breeding attempts. Construction outside of the breeding season may be considered to reduce stress levels on any eagles that might occur in the study area. A more detailed study was conducted, and it was determined that the Selected Alternative Alignment would have no effect on the bird.

4.11.2 Amphibians

The **southern crawfish frog** is State listed as rare but with no regulatory listing status for Montgomery County. Although the proposed project area habitat includes shallow water, herbaceous wetlands, grassland/herbaceous vegetation, and woodland-conifer vegetation, the proposed project area does not include riparian, temporary pools, cropland/hedgerow, or suburban/orchard habitats. Since some suitable habitat does exist, the southern crawfish frog could occur within the proposed project area. However, there are no confirmed sightings of the southern crawfish frog (per the NDD) in the vicinity of the proposed project, and the southern crawfish frog was not observed while conducting on-site surveys. In addition, it is likely that any frogs would leave the proposed project area because of the disturbance from construction to avoid being harmed. No impacts are anticipated for the southern crawfish frog.

4.11.3 Fishes

The **creek chubsucker** is State listed as threatened for Montgomery County. Habitat for the creek chubsucker includes tributaries of the Red, Sabine, Neches, Trinity, and San Jacinto rivers. It also includes small rivers and creeks of various types. The creek chubsucker's

preferred habitat is headwaters. Although creeks that are tributaries of the San Jacinto River exist within the proposed project area, these creeks are not at headwaters. There are no confirmed sightings of the creek chubsucker (per the NDD) in the vicinity of the proposed project, and the creek chubsucker was not observed while conducting on-site surveys. In addition, the design and construction of the Build Alternative would include construction and post-construction Best Management Practice (BMPs) to manage stormwater runoff and control sediments and fish. These efforts would protect any potential creek chubsucker habitat. Based on the above-referenced information, the creek chubsucker is not expected to occur within the proposed project area, and no impacts are anticipated for this species.

4.11.4 Insects

A **mayfly** (*Tricorythodes curvatus* and *Plauditus gloveri*) is State listed as rare but with no regulatory listing status for Montgomery County. Mayflies are distinguished by the aquatic larval stage, and the adult stage is generally found in bankside vegetation. Due to the proposed project containing bankside vegetation from various creeks, a mayfly (*Tricorythodes curvatus* and *Plauditus gloveri*) could occur within the proposed project area. However, there are no confirmed sightings (NDD) of a mayfly (*Tricorythodes curvatus* and *Plauditus gloveri*) in the vicinity of the proposed project, and a mayfly (*Tricorythodes curvatus* and *Plauditus gloveri*) was not observed while conducting on-site surveys. In addition, the design and construction of the Build Alternative would include construction and post-construction BMPs to manage stormwater runoff and control sediments. These efforts would protect any potential larvae habitat.

The **Gulf Coast clubtail** is State listed as rare but with no regulatory listing status for Montgomery County. Habitat includes medium rivers with moderate gradients and streams with silty sand or rocky bottoms; adults forage in trees, males perch near riffles to wait for females, larvae pass the winter; flight season is late April through late June. Since the proposed project area contains streams with silty sand and rocky bottoms, the Gulf Coast clubtail could occur within the proposed project area. However, there are no confirmed sightings of the Gulf Coast clubtail (per the NDD) in the vicinity of the proposed project, and the insect was not observed while conducting on-site surveys. In addition, the design and construction of the Build Alternative would include construction and post-construction BMPs to manage stormwater runoff and control sediments. These efforts would protect any potential larvae habitat.

The **Texas emerald dragonfly** is State listed as rare but with no regulatory listing status for Montgomery County. Although the proposed project area includes East Texas Pineywoods habitat, it does not include spring-fed creeks and bogs or small sandy forested streams with moderate currents. Since the proposed project area is located in the East Texas Pineywoods, the Texas emerald dragonfly could occur within the proposed project area. However, there are no confirmed sightings of the Texas emerald dragonfly (per the NDD) in the vicinity of the proposed project, and the Texas emerald dragonfly was not observed while conducting on-site surveys. In addition, the design and construction of the Build Alternative would include

construction and post-construction BMPs to manage stormwater runoff and control sediments. These efforts would protect any potential larvae habitat

4.11.5 Mammals

The **plains spotted skunk** is State listed as rare but with no regulatory listing status in Montgomery County. The plains spotted skunk is nocturnal. Although the proposed project area contains fencerows located along the subdivisions and woodlands habitat, it does not include crops, farmyards, forest edges, or preferred woody, brushy areas, and tallgrass prairies (Of note, the wooded areas within the proposed project area are very dense and are not considered to be brushy areas). Because the proposed project area contains some suitable habitat, the plains spotted skunk could occur within the area. However, there are no confirmed sightings of the plains spotted skunk (NDD) in the project vicinity and none were found during field surveys. Based on the above-referenced information, no impacts are anticipated for the plains spotted skunk.

The **Rafinesque's big-eared bat** is State listed as threatened for Montgomery County. The Rafinesque's big-eared bat is nocturnal. The proposed project area includes concrete culverts and abandoned man-made structures habitat, but does not include bottomland hardwoods habitat. Since the proposed project area contains some suitable habitat, the Rafinesque's big-eared bat could occur within the area. However, there are no confirmed sightings of the Rafinesque's big-eared bat (NDD) in the project vicinity area and none were observed during field surveys. Based on the above-referenced information, no impacts are anticipated for the Rafinesque's big-eared bat.

The **southeastern myotis bat** is State listed as rare but with no regulatory listing status for Montgomery County. The southeastern myotis bat is nocturnal. The proposed project area includes concrete culverts and abandoned man-made structures habitat, but the area does not include bottomland hardwoods habitat. Since the proposed project area contains some suitable habitat, the southeastern myotis bat could occur within the proposed project area. However, there are no confirmed sightings of the southern myotis bat (NDD) in the vicinity area and none were observed during field surveys. Based on the above-referenced information, no impacts are anticipated for the southeastern myotis bat.

4.11.6 Mollusks

The sandbank pocketbook and Texas pigtoe are state-listed species known to occur within the San Jacinto River basin. Since the Selected Alternative Alignment would be located within the San Jacinto River basin, the mollusks have the potential to occur within the study area. However, TxDOT conducted freshwater mussel surveys at all Mill Creek and associated tributary crossings. No state-listed species were identified within the study area; therefore, impacts to the species are not anticipated. A copy of this study is available for review at TxDOT.

4.11.7 Reptiles

The **timber rattlesnake** is State listed as threatened for Montgomery County. Although the proposed project area habitat includes floodplains, upland pine and deciduous woodlands, and sandy soils, the proposed project area habitat does not include swamps, riparian zones, abandoned farmlands, limestone bluffs, black clay, or the preferred habitat of dense ground cover (i.e., grapevines or palmetto, which exist in some detention pond locations but do not dominate within each site's total coverage). Since some suitable habitat does exist, the timber rattlesnake could occur within the proposed project area. However, there are no confirmed sightings of the timber rattlesnake (per the NDD) in the vicinity of the proposed project, and the timber rattlesnake was not observed while conducting on-site surveys. In addition, it is likely that any snakes would leave the proposed project area because of the disturbance from construction to avoid being harmed. No impacts are anticipated for the timber rattlesnake.

4.11.8 Plants

The **bristle nailwort** is State listed as rare but with no regulatory listing status for Montgomery County. The proposed project habitat includes the eastern south-central Texas region and sandy soils, and because suitable habitat does exist, the bristle nailwort could occur within the proposed project area. However, there are no confirmed sightings of the bristle nailwort (per the NDD) in the vicinity of the proposed project, and the bristle nailwort was not observed while conducting on-site surveys. Based on the above-referenced information, the bristle nailwort is not expected to occur within the proposed project area, and no impacts are anticipated for this species.

The **Correll's false dragon-head** is State listed as rare but with no regulatory listing status for Montgomery County. Habitat within the proposed project area does include wet, silty clay loams on stream sides, in creek beds, and in roadside drainage ditches, but habitat does not include irrigation channels or seepy, mucky, gravelly soils along riverbanks or small islands in the Rio Grande Basin or as underlain by Austin Chalk limestone along gently flowing spring-fed creeks in central Texas. The Correll's false dragon-head flowers from May through September. Since some suitable habitat does exist, the Correll's false dragon-head could occur within the proposed project area. However, there are no confirmed sightings of the Correll's false dragon-head (per the NDD) in the vicinity of the proposed project, and the Correll's false dragon-head was not observed while conducting on-site surveys. Based on the above-referenced information, the Correll's false dragon-head is not expected to occur within the proposed project area, and no impacts are anticipated for this species.

4.12 FLOODPLAINS

Floodplain impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that the detention ponds are not within the floodplain. Therefore, there are no changes to the floodplain impacts beyond what was presented in

Section 4.12 Floodplains in the Draft EIS. Once design is finalized, floodplain coordination would be conducted.

4.13 WILD AND SCENIC RIVERS

Wild and scenic river impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that the detention ponds do not impact any wild and scenic rivers. Therefore, there are no changes to the wild and scenic rivers impacts beyond what was presented in *Section 4.13* of the Draft EIS.

4.14 COASTAL BARRIERS

Coastal barrier impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and consideration of public comment, it was determined that the detention ponds do not impact any coastal barriers. Therefore, there are no changes to the coastal barrier impacts beyond what was presented in *Section 4.14* of the Draft EIS.

4.15 COASTAL ZONE MANAGEMENT PLAN AND ESSENTIAL FISH HABITAT

The coastal zone management plan and essential fish habitat impacts were reassessed for the Selected Alternative Alignment due to the inclusion of the detention ponds after the release of the Draft EIS. Per this assessment and public comment, it was determined that the detention ponds do not impact any coastal zone management area or essential fish habitat. Therefore, there are no changes to the coastal zone management plan and essential fish habitat impacts beyond what was presented in *Section 4.15* of the Draft EIS.

4.16 CULTURAL RESOURCES

4.16.1 Archeological Resources

Since the release of the Draft EIS, field studies were conducted for the Selected Alternative Alignment. The results of these field surveys were coordinated with the Texas Historical Commission (THC). Deep mechanical trenching was not performed due to dense vegetation; therefore, only pedestrian surveys and shovel-testing were performed. The results of the survey concluded that 4.7 miles of the area of potential effect (APE) did not warrant any survey based on archival background studies, and no further archeological investigations would be required for the 127 acres (or 2.8 miles) of the proposed ROW surveyed. This leaves approximately 7.4 miles of the APE that would require intensive survey once ROW has been acquired and cleared of dense vegetation. Four Archeological sites were recorded during the archeological investigations. Three sites are low-density scatters of Native American lithic artifacts and the fourth site is a historic house site probably dating to the mid twentieth century. The eligibility of these four sites for inclusion in the National Register of Historic Places (NRHP) and designation as State Antiquities Landmarks is considered undetermined, pending completion of the survey

and inventory of sites that will be affected by the project, which will be completed after ROW has been acquired.

The THC has concurred with the draft archeological findings and the commitment to survey the remaining APE once ROW is acquired (see *Appendix B* for THC Coordination).

4.16.2 Historical Non-Archeological Properties

Since the release of the Draft EIS, field studies were conducted for the Selected Alternative Alignment. Between 2002 and 2013, TxDOT conducted several background and literature searches for the proposed SH 249 Extension study area to help develop alternative alignments and avoid known historic properties. It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the APE for the Selected Alternative Alignment would be 300 feet from the proposed ROW. A review of the NRHP, the list of State Antiquities Landmarks (SAL), and the list of Recorded Texas Historic Landmarks for the Selected Alternative Alignment identified one previously documented resource, a cemetery known variously as the Pine Grove Cemetery, Missionary Church Cemetery, and unnamed cemetery #5. However, due to poor condition and compromised setting, this cemetery, and associated church, is not eligible for the National Register. In addition, TxDOT's consultant contacted the County Historical Commissions for both Montgomery County and Grimes County. The Montgomery Commission responded that it knew of no historic properties in the study area.

The reconnaissance survey of the APE identified 47 historic-age resources. Based on historic map research and evaluation of these properties, it has been determined that all 47 resources are not eligible for listing in the NRHP because of the lack of significance and compromised integrity. Because some properties within the APE did not have right-of-entry, determination of eligibility for the noted properties was supplemented by historic map research, aerial photographs, and discussions with a local historian.

Pursuant to Stipulation VI, Appendix 4 "Undertakings Not Required SHPO Review" of the First Amended Statewide Programmatic Agreement for Cultural Resources among FHWA, the SHPO, the Advisory Council on Historic Preservation, TxDOT, and the Memorandum of Understanding, it has been determined that there are no historic properties in the APE and that individual project coordination with the SHPO is not required (See *Appendix B* for TxDOT Coordination Memo).

4.17 HAZARDOUS MATERIALS

Hazardous materials impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.17* of the Draft EIS would not change under the Selected Alternative Alignment.

4.18 VISUAL AND AESTHETIC

Visual and aesthetic impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.18* of the Draft EIS would not change under the Selected Alternative Alignment.

4.19 ENERGY

Energy impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.19* of the Draft EIS would not change under the Selected Alternative Alignment.

4.20 CONSTRUCTION IMPACTS

Construction impacts were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.20* of the Draft EIS would not change under the Selected Alternative Alignment.

4.21 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

The relationship between local and short-term uses versus long-term productivity was reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.21* of the Draft EIS would not change under the Selected Alternative Alignment.

4.22 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible and irretrievable commitments of resources were reassessed for the Selected Alternative Alignment. Per this reanalysis and public comment, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 4.22* of the Draft EIS would not change under the Selected Alternative Alignment.

4.23 INDIRECT AND CUMULATIVE IMPACT ANALYSIS

4.23.1 Indirect Impacts

Indirect impacts were reassessed for the Selected Alternative Alignment. As a result of the comments received on the Draft EIS, input from other resource agencies and additional data collected due to obtaining right of entry, it was determined that no updated factual corrections or revisions were necessary. As such, the results of the analysis presented in *Section 5* of the Draft EIS would not change under the Selected Alternative Alignment.

Indirect impacts include alteration of the rate and type of development within the Area of Influence (AOI). In particular, new access points at major intersections (FM 149, FM 1488, FM 1486, and FM 1774) would favor more densely developed commercial/retail properties near the new access points, in lieu of landscaped residential parcels.

Regional Indirect Effects of Tolling Facilities and Managed Lanes

Since the release of the Draft EIS, the H-GAC *2040 RTP* has been approved and as such there are revisions to the indirect effect of the regional tolling. As noted throughout, the majority of the proposed SH 249 Extension (12.18 miles) is included in financially constrained H-GAC's *2040 RTP* (MPO long-range plan). Approximately 2.6 miles of the proposed SH 249 Extension would be located within Grimes County. Grimes County is not a part of the MPO's (H-GAC's) 13-county region for inclusion in the plan; however because the Grimes County portion is consistent with the Montgomery County project, the Grimes County segment is listed in the *2040 RTP*.

The *2040 RTP* presents a responsible guide for maintaining and improving the current transportation system and identifies priority transportation investments needed to maintain mobility in the Houston-Galveston Region over the next 25 years. The plan identifies five goals (1. Improve safety, 2. Manage and mitigate congestion, 3. Ensure strong asset management and operations, 4. Strengthen regional economic competitiveness, and 5. Conserve and protect natural and cultural resources) to help direct regional investments and work toward the transportation network envisioned in the *2040 RTP*. It also serves as a guide for implementing multi-modal transportation improvements, policies, and programs through the year 2040.

The expansion of the roadway network as envisioned in the *2040 RTP*, including toll and managed lane facilities, may cause indirect and cumulative impacts to the region. Because of the regional nature of these impacts, the proposed impacts are discussed in the cumulative effects section of this document.

4.23.2 Cumulative Impacts Analysis

Section 6 of the Draft EIS presented the cumulative impact analysis conducted for the proposed SH 249 Extension and the No-Build Alternative. At the time the Draft EIS was released, right of entry was limited; therefore a commitment was stated in the DIES that the resource study areas (RSA) would be reevaluated in the Final EIS once field investigations were conducted in accordance with the *Revised Guidance on Preparing Indirect and Cumulative Impact Analyses* (TxDOT 2010) and the *TxDOT Toolkit* (TxDOT 2015b). Resources that would not directly or indirectly be affected by the proposed SH 249 Extension were not considered in the cumulative impact analysis. In addition, resources that are currently not in poor or declining health or at risk were also not included in the cumulative impact analysis. Therefore, the following resources were not evaluated: socioeconomics, EJ, farmlands, geology and soils, air quality, noise, wild

and scenic rivers, coastal barriers, the coastal zone management zone, floodplains, essential fish habitat, threatened and endangered species, cultural resources, and hazardous materials.

The Council on Environmental Quality (CEQ) defines cumulative impacts as:

The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 Code of Federal Regulations [CFR] 1508.7).

To assess cumulative impacts, consideration is given to (1) the degree to which the proposed action would affect public health or safety, (2) the unique characteristics of the geographic area, (3) the degree to which the impacts on the quality of the human environment would likely be highly controversial, (4) the degree to which the possible effects on the human environment would be highly uncertain or involve unique or unknown risks, and (5) whether the action would be related to other actions with individually insignificant, but cumulatively significant, impacts on the environment.

Cumulative impacts can result from different activities, such as adding materials to the environment from multiple sources, repeated removal of materials or organisms from the environment, or repeated environmental changes over large areas or long periods. More complicated cumulative impacts occur when stressors of different impacts combine to produce a single impact or suite of impacts. Cumulative impacts may also occur when the timing of disturbances is so close that the effect of one disturbance has not dissipated before the next occurs or when timing is so close in space that the effects overlap.

The cumulative impact analysis considers the magnitude of cumulative impacts on the resource health, where health refers to the overall condition, stability, or vitality of the resource and the trend of that condition. Laws, regulations, policies, or other factors that may change or sustain the resource trend were considered when determining if more or less stress on the resource is likely in the foreseeable future. Opportunities to mitigate adverse cumulative impacts on a stressed resource, or a resource that would continue to be stressed, are also discussed.

Methodology

The following eight steps serve as guidelines for identifying and assessing cumulative impacts.

1. Identify the Resources to Consider in the Analysis
2. Define the Study Area for Each Resource
3. Describe the Current Status/Viability and Historical Context for Each Resource;

4. Identify Direct and Indirect Impacts of the Project that Might Contribute to a Cumulative Impact
5. Identify Other Reasonably Foreseeable Future Effects
6. Identify and Assess Cumulative Impacts
7. Report the Results
8. Assess the Need for Mitigation

4.23.2.1 Step 1: Identify the Resources to Consider in the Analysis

Step 1 identifies the resources to consider for evaluation. The cumulative impact analysis is to focus only on resources substantially impacted by a proposed action (even if the impacts are relatively small) and/or resources currently in poor or declining health or at risk. The resources identified for the cumulative impact analysis are vegetation and water resources. None of the remaining resources were included, as each is either not substantially impacted by the proposed SH 249 Extension, or is currently not in poor or declining health or at risk. The resources carried forward and evaluated in the following section are shown in *Table 14*.

Table 14: Resources Carried Forward in Cumulative Impacts

Current Health of Resource	Direct Impacts	Indirect Impacts
Vegetation		
<p>Declining: The amount of vegetated areas remaining within the Resource Study Area (RSA) is declining as undeveloped land is converted to primarily residential use.</p>	<p>Direct impacts to vegetation from the proposed SH 249 Extension would include approximately 825 acres of impacts to vegetated habitats.</p>	<p>Dominant vegetation types within the indirect impacts' AOI are farmland, rangeland, and forested vacant land. Indirect impacts to these vegetation types would include clearing for development and fragmentation of habitats. In particular, new access at major intersections (FM 149, FM 1488, FM 1486, and FM 1774) would favor more densely developed commercial/retail properties near the new access points, in lieu of landscaped residential parcels.</p>
Water Resources: Water Quality		
<p>Declining: The proposed SH 249 Extension would cross one stream, Mill Creek and its associated tributaries, which is located within 5 miles upstream of Spring Creek, Segment 1008. Segment 1008 is on the TCEQ's 2012 303(d) list with concerns for depressed dissolved oxygen.</p>	<p>During construction, exposed soil could runoff into streams, which would increase turbidity and sediment loading downstream. The use of best management practices (BMPs) would minimize any impact to water quality.</p>	<p>The indirect impacts of induced development could increase stormwater runoff velocities and pollutant loads, which would cause water quality impacts. Construction activities could also contribute to soil erosion and the introduction of chemicals in the stormwater runoff. The impacts would cause siltation, turbidity, and contamination that could adversely impact vegetation and wildlife habitats, particularly in the area of the discharge. Stormwater detention and retention facilities (constructed as part of future development) and other stormwater management practices implemented to manage stormwater flows would reduce pollutant loads entering into receiving waters.</p>
Water Resources: Waters of the U.S., including Wetlands		
<p>Declining: Waters of the U.S., including wetlands, are declining because of changes in land use (primarily residential development).</p>	<p>Direct impacts would include up to 19,206 linear feet of waters of the U.S. (stream crossings) and up to 8.52 acres of impacts to wetlands. The waters of the U.S., including wetlands, would be impacted by the construction of bridges and culverts and the additional fill materials on a new location and for the proposed detention facilities.</p>	<p>Indirect impacts to waters of the U.S., including wetlands, would occur as development within the AOI accelerates. These impacts would be offset by federal requirements of the Clean Water Act as regulated by the U.S. Army Corps of Engineers (USACE).</p>

Source: The Proposed SH 249 Extension Study Team; the Proposed SH 249 Extension Draft EIS.

4.23.2.2 Step 2: Define the Study Area for Each Resource

The cumulative impact analysis considers both geographic and temporal study limits where applicable. A Resource Study Area (RSA) is defined to characterize the health condition and trend for the resources under analysis. The RSA for potential impacts to water resources and vegetation is three sub-watersheds of the Spring Watershed within the proposed SH 249 Extension corridor. These three sub-watersheds are Hurricane Creek, Kachel Lake, and Decker Branch (*Exhibit 4-4*). The water resources and vegetation RSA is approximately 48,060 acres in size. Within the RSA, approximately 9,811 acres in Montgomery County and 4,719 acres in Grimes County, or 30 percent of the RSA, are currently developed. While the study area has seen elements of new residential growth, the RSA is currently over 70 percent undeveloped.

The temporal period for the land use analysis ranges from 1970 to 2040. The timeframe captures the population and residential migration outside of the greater metropolitan area, when land development began to increase. The timeframe also helps to explain known projected growth in the area for residential and transportation infrastructure.

4.23.2.3 Step 3: Describe the Current Status/Viability and Historical Context for Each Resource

The historical context and health of each evaluated resource in the RSA are important for establishing the baseline condition and trend in order to estimate the magnitude of impact on a particular resource. The historical context is described initially to explain the factors that have led to the current health of the resource. Past actions represent the projects or activities in the area that have collectively caused the current status, health, vitality, and trend for a particular resource. Existing development within the RSA is shown on *Exhibit 4-5*.

Vegetation

Native vegetation areas in the greater Houston metropolitan area have been lost because of the conversion of natural areas to agricultural production, livestock grazing, and development. Continued urbanization and industrialization of Montgomery County will continue to pressure remaining habitats and ecosystems. Since the early to mid-1990s, Montgomery County has experienced an increase in land development projects. The increase in residential development has led to the development of retail centers and other businesses providing goods and services to local residents. Grimes County development has historically been for residential and agricultural uses, with small and centralized urban areas. These land development activities, and others, have led to the conversation of native vegetation throughout the RSA.

The proposed SH 249 Extension would be located in East Texas within a forested vegetation zone. According to the TPWD, and confirmed with field studies, the proposed tollway would be situated within the pine-hardwood forest and young forest/grassland regions of Texas (TPWD 1984). Other than urbanized areas, the proposed SH 249 Extension would be consistent with

the regional description. Currently, approximately 33,528 acres of undeveloped land exist within the RSA. The loblolly pine-oak forest association is the dominant vegetation community and vegetation type to be impacted by the proposed tollway, followed by mixed hardwoods. Loblolly pine-oak forest habitat areas within Montgomery County and Grimes County are currently under development pressure from residential development within the RSA. The proposed SH 249 Extension would lead to a loss of habitat along the boundaries of habitat already fragmented by construction of surrounding subdivisions, other residential development, and utilities.

Water Resources

To some degree, pollution has affected all of Texas' 15 inland river basins, eight coastal basins, several of its reservoirs, and all of its estuaries, coastal wetlands, and bays (TCEQ 2002). Since the late 1980s, watershed organizations, tribes, and federal and state agencies have moved toward managing water quality by using a watershed approach (EPA 2005). The TCEQ assesses the water quality of each water body in Texas and reports on the water bodies that meet water quality standards to the EPA. In Texas, TCEQ manages the Water Pollution Control Program, which is the primary regulatory program that maintains, restores, and enhances water quality by watershed (TCEQ 2002).

Roughly 20 percent of the assessed water bodies were designated as impaired or did not meet one of the designated water quality uses. While overall river and stream water quality improved slightly between 1996 and 2002 as the number of miles not meeting designated water quality uses fell from 4,290 to 3,568 miles, many miles of streams and rivers did not have sufficient data to determine if they met state water quality standards. In fact, TCEQ identified hundreds of miles of streams and rivers with water quality "concerns," but the agency had insufficient data to meet its methodology for calling a stream or river "impaired."

Between 1994 and 2002, overall use support in reservoirs declined from 98 to 70 percent, indicating a substantial decline in reservoir water quality (Alam 2007). The decline in overall use was likely caused by mercury deposition in reservoirs from atmospheric deposition, low levels of dissolved oxygen, higher levels of metals and organic substances, either high or low levels of pH, elevated levels of chloride, and high levels of total dissolved solids. Consumption advisories and aquatic life closures by the Texas Department of Health (several of which were related to mercury deposition) increased the number of reservoirs that were determined to yield fish that could not be safely consumed. More than 360,000 acres of reservoirs were covered by fish-consumption advisories, while some 12,000 acres of reservoirs were determined to yield fish unsafe for consumption and were subject to aquatic life closures.

The RSA is located within the sub-watersheds of Hurricane Creek, Kachel Lake, and Decker Branch, which are all sub-watersheds of the Spring Watershed. The proposed SH 249 Extension would cross one major stream, Mill Creek, which has several tributaries located within the RSA. While Mill Creek and its tributaries are not listed as impaired on TCEQ's 2012 303(d) list, each flows into Spring Creek (Segment 1008), which is within 5 miles of the proposed SH

249 Extension. Spring Creek is on TCEQ's 2012 303(d) list because it does not meet the criteria for dissolved oxygen. Under TCEQ's *Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)*, some of the streams within the RSA are in heavily urbanized areas and receive treated domestic and industrial wastewater as well as agricultural and urban runoff. The decentralization of Houston during the 1980s brought jobs and development to Montgomery County, which contributed to the decrease in water quality primarily due to agricultural practices, oil and gas production, and the conversion of undeveloped land to an urban environment. In agricultural practices, the use of herbicides, pesticides, and concentrated animal waste contributes to water quality concerns. Oil and gas exploration creates additional concerns with the possibility of spills. Urbanization has introduced additional potential contaminants into the area via household chemicals, domestic pet waste, and pollutants from automobiles.

Currently, approximately 925 acres of NWI-mapped wetlands and 989,500 linear feet of named and unnamed streams are located within the water resource RSA (Texas Natural Resources Information System 2013). There have been substantial losses of wetlands, other critical habitat, and subsequent wildlife habitat diversity since the 1970s, and the continued urbanization and industrialization of the greater Houston metropolitan area, which influences growth in the RSA, would continue to pressure the habitat and ecosystem.

Despite the decline of wetland acreage, various factors have contributed to improving wetland vitality and limiting the overall wetland loss rate. The factors have included implementation and enforcement of wetland protection measures and elimination of some incentives for wetland drainage. Public education and outreach regarding the value and functions of wetlands, private land initiatives, coastal monitoring and protection programs, and wetland restoration and creation actions have also helped reduce overall wetland losses (EPA 2013).

4.23.2.4 Step 4: Identify Direct and Indirect Impacts of the Project that Might Contribute to a Cumulative Impact

Step 4 identifies the direct and indirect effects that could result from the proposed SH 249 Extension and potentially contribute to a cumulative effect when added to non-project-related effects. The following sections summarize the direct and indirect impacts of the proposed tollway.

Vegetation

The majority of direct and indirect vegetation impacts would be to loblolly pine-oak forests and mixed hardwoods. Natural (not maintained) vegetation that is primarily forested would need to be cleared for the construction, operation, and maintenance of the proposed SH 249 Extension. Direct impacts to vegetation from the proposed SH 249 Extension would include approximately 825 acres of vegetated habitats (the proposed SH 249 Extension Study Team; TPWD 2014). *Table 11* lists the total amount of direct vegetation impacts, by habitat type, for the Selected Alternative Alignment. The indirect effects of additional development could continue to fragment

contiguous habitat, sever riparian forest corridors, and potentially modify hydrologic and nutrient cycling and transfer processes, all of which would potentially affect natural communities.

Water Resources

Various existing and planned developments in the area have and would have a cumulative water quality impact on receiving waters because of wastewater discharges and urban runoff. Surface water quality impacts from new development include point source and non-point source discharges. Point source discharges are regulated by the TPDES, which is administered by the TCEQ to protect the quality of the receiving waters. Runoff from developed sites is a major contributor of non-point source discharges. The discharges are regulated under the TPDES stormwater program for construction and industrial multi-sector activities. In accordance with stormwater regulations, impacts from runoff are generally mitigated by best management practices (BMPs) used to the extent practicable.

The proposed SH 249 Extension could dictate the type of development in locations where new access would be provided. Under the No-Build Alternative, the RSA would likely consist of residential development. Because the proposed tollway is a controlled-access tollway, development indirectly influenced by the proposed SH 249 Extension would likely be contained only to adjacent areas at new interchanges with major roadways, and more than likely that development would be commercial/retail. Commercial/retail development could include gas stations with above or underground storage tanks, restaurants with grease traps, and other development that could result in discharges of pollutants into groundwater or local surface watercourses.

Impervious cover would increase because of development. The increase in impervious cover would lead to higher runoff volumes and higher peak runoff rates. Increased stormwater runoff and urban discharges would be directed to receiving waters in the RSA that would potentially affect the water quality of the receiving waters.

While water quality impacts would likely occur during construction of the proposed SH 249 Extension, the impacts would be temporary and localized. Similar activities for other projects in the region could have similar temporary and localized effects on water quality, wetlands, and floodplains. In Texas, the TPDES program implements the National Pollution Discharge Elimination System program. The TCEQ administers Phase I stormwater permits for construction projects disturbing more than 5 acres of land. Therefore, any project that disturbs more than 5 acres would require a TPDES CGP and an NOI. Additionally, the discharge of dredged or fill material into waters of the U.S., including wetlands, would require a Section 401 Water Quality Certification by the TCEQ. Executive Order 11990 directs federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Construction of the proposed SH 249 Extension could result in impacts to waters of the U.S., including wetlands. Up to 19,206 linear feet of open waters of the U.S. (stream crossings) and up to 8.52 acres of NWI-mapped wetlands may be directly impacted by the proposed SH 249 Extension. The most common direct and indirect impacts to waters and wetlands of the U.S. are conversion from wetlands to other uses, primarily urban/developed land. As a result, stresses on wetlands may include water quality impacts, changes in water levels, and overall impacts from urban development and agricultural activities. However, wetland and waters of the U.S. impacts from construction and associated indirect development would be limited based on the current regulations and the fact that the U.S. Army Corps of Engineers (USACE) regulates all wetland impacts, including jurisdictional waters. As a result of the federal mandate with regard to "no net loss" of wetlands, impacts from future proposed land uses are not anticipated.

4.23.2.5 Step 5: Identify Other Reasonably Foreseeable Future Effect

Cumulative and indirect impact analyses require consideration of past, present, and reasonably foreseeable future actions. The approach used for the cumulative impact analysis included an assessment of past, present, and future actions for the purpose of characterizing the types of actions that are representative of past, present, and future development in the RSA (see *Table 15* and *Table 16*). The approach provides a context for development projects that have caused the current health of each resource and the trends each resource experiences. It also provides insight as to the effect of development on future resource stress and trends.

The past, present, and reasonably foreseeable development was based on information obtained from current aerial photography, available geographic information system (GIS) and parcel data (Texas GIS Data 2015), H-GAC's 2015 Existing Land Use, H-GAC's 2040 Land Use plan, H-GAC's 2040 RTP (H-GAC 2015), the City of Magnolia (Mendes 2015), the City of Magnolia's 20-Year Comprehensive Plan (City of Magnolia 2013), and phone interviews with local developers and an economic development board. The present and reasonably foreseeable developments and transportation projects are listed in *Table 15* and *Table 16*.

Table 15: Reasonably Foreseeable Future Development Effects

Name of Tract Development	Acres*	Status of Development
Primewood Investments	2395	Proposed with no information on what type of development will occur on the site
Legacy Trust	1121	Master Planned Community and commercial development
Axe EM Investments	25	Proposed with no information on what type of development will occur on the site
Schoessow Tract	80	Proposed with no information on what type of development will occur on the site
Rhodes	209	Proposed with no information on what type of development will occur on the site
Mill Ridge	595	Proposed with no information on what type of development will occur on the site
Crown Ranch Development	3078	Proposed for a Master Planned Community
Timbers at Mill Creek	5852	Proposed for a Master Planned Community
Devon Oil and Gas	833	Proposed with no information on what type of development will occur on the site
Treaty Oaks Development	170	Residential Development Planned
Sheldon Tract	585	Proposed with no information on what type of development will occur on the site
Unnamed Tracts (FM 1774, west of FM 1486)	387	Proposed Residential Development

Source: The Proposed SH 249 Extension Study Team.

*Acreage is approximated, based on parcel maps, developer websites, and interviews.

Table 16: Reasonably Foreseeable Future Transportation Effects

Sponsor	Facility	From	To	Project Description	Date
Montgomery County	Crockett Martin Road	SH 105	FM 2090	Rebuild	2023
City of Conroe	Drennan Road East	Proposed Plantation Drive	North Frazier Road	Construct 4-Lane Divided, Raised Median	2016
TxDOT Houston District	FM 1774	Waller County Line	0.109 mile north of FM 1488	Widen To 4-Lane Divided Rural With Railroad Grade Separation	2017
TxDOT Houston District	FM 1774	0.027 mile north of FM 1488	0.045 Mile South of West Lost Creek Blvd	Restripe To Widen To 4-Lane Divided Rural	2017
TxDOT Houston District	FM 2854	Loop 336	IH 45	Widen To 4-Lane Divided Curb & Gutter	2017

Table 16: Reasonably Foreseeable Future Transportation Effects

Sponsor	Facility	From	To	Project Description	Date
TxDOT Houston District	FM 2978	FM 1488	South Of Dry Creek	Widen From 2 To 4-Lanes	2015
TxDOT Houston District	FM 2978	South Of Dry Creek	Conroe Huffsmith Road	Widen From 2 To 4-Lanes	2019
Montgomery County	Ford Road	US 59	West Lake Houston Parkway	Reconstruct 2-Lane Undivided	2023
TxDOT Houston District	FM 1774	Grimes County Line	Montgomery County Line	Widen To 4-Lane Divided Rural	2017
Montgomery County	Honea Egypt Road/ Sendera Ranch Drive/ Fish Creek Thoroughfare / Mccaleb Road	SH 105	FM 1488	Widen To 4-Lanes	2022

Source: H-GAC 2040 RTP, 2015.

Based upon the projected growth within the RSA, approximately 18,898 acres of new development (primarily residential developments) could occur within the RSA by 2040, largely within the Montgomery County area of the RSA. The total reasonable foreseeable future developed area would be approximately 40 percent of the RSA. The quantifications represent an estimated maximum potential effect from forecasted development through 2040. The projected trend is toward continued development in the Montgomery County region (H-GAC 2015). Reasonably foreseeable development within the RSA is shown on *Exhibit 4-6*.

Vegetation

Approximately 34,000 acres of pine-hardwood forests, 5,300 acres of young forest/grassland, 280 acres of crops, and 8,400 acres designed as “other” vegetation by the TPWD are within the vegetation RSA. Based upon reasonably foreseeable projected growth, impacts to vegetation would be approximately 18,989 acres. The reasonably foreseeable impacts by vegetation type are shown in *Table 17*.

Water Resources

Approximately 925 acres of NWI-mapped wetlands and 989,500 linear feet of waters of the U.S. are within the water resources RSA. Approximately 221 acres of mapped-NWI and 464,304 linear feet of waters of the U.S. within this area have been identified for reasonably foreseeable development. Reasonable foreseeable future impacts to water resources may also occur from placement of fill within waters and wetlands of the U.S. Given the variability of the reasonable

foreseeable development, the total amount of impervious cover cannot be precisely quantified. Reasonable foreseeable future impacts to water resources may occur because of additional impervious cover from the proposed tollway and potential development and redevelopment within the RSA causing increased runoff into water resources.

4.23.2.6 Step 6: Identify and Assess Cumulative Impacts and Step 7: Report the Results

The cumulative impact analysis has so far considered the health and trend of the resource, the direct and indirect effects of the proposed SH 249 Extension, and reasonably foreseeable future projects. The magnitude of a cumulative impact is then determined by comparing the past, present, and reasonably foreseeable future projects.

Table 17 summarizes the total cumulative impacts based on the past, present, and reasonably foreseeable future development for the Selected Alternative Alignment, as depicted on *Exhibits 4-5* and *4-6*.

Table 17: Cumulative Effects from Past, Present, and Future Development

Type	Past (Existing Development)	Present (Direct Impacts)	Future (Reasonably Foreseeable)	Total (Cumulative Impact)
Development within the RSA	14,531 acres	825 acres	18,989 acres	34,345 acres
VEGETATION RESOURCES				
Barren	44.09	1.98	21.77	67.84
Blackland Prairie: Disturbance or Tame Grassland	245.98			245.98
Grass Farm	2.59			2.59
Gulf Coast: Coastal Prairie	162.99		26.85	189.84
Gulf Coast: Coastal Prairie Pondshore	1.6			1.6
Marsh	7.63		4.87	12.5
Native Invasive: Deciduous Shrubland	3.7		1.84	5.54
Native Invasive: Deciduous Woodland	64.44	8.51	73.01	145.96
Open Water	0.4		36.07	36.47
Pine Plantation > 3 meters tall	77.99		377.31	455.3
Pine Plantation 1 to 3 meters tall	6.53	3.2	2.17	11.9
Pineywoods: Disturbance or Tame Grassland	2,766.23	13.97	865.11	3645.31
Pineywoods: Dry Pine - Hardwood Forest or Plantation	0.27		0.47	0.74
Pineywoods: Dry Pine Forest or Plantation			0.77	0.77
Pineywoods: Hardwood Flatwoods	33.92	8.25	76.73	118.9

Table 17: Cumulative Effects from Past, Present, and Future Development

Type	Past (Existing Development)	Present (Direct Impacts)	Future (Reasonably Foreseeable)	Total (Cumulative Impact)
Pineywoods: Herbaceous Flatwoods Pond	5.02		6.12	11.14
Pineywoods: Longleaf or Loblolly Pine - Hardwood Flatwoods or Plantation	8.98		7.22	16.2
Pineywoods: Longleaf or Loblolly Pine Flatwoods or Plantation	21.42		15.88	37.3
Pineywoods: Pine - Hardwood Forest or Plantation	945.67	113.21	2086.98	3145.86
Pineywoods: Pine Forest or Plantation	1,997.60	253.52	6393.91	8645.03
Pineywoods: Sandhill Oak Woodland			1.2	1.2
Pineywoods: Small Stream and Riparian Herbaceous Wetland	1.89		1.74	3.63
Pineywoods: Small Stream and Riparian Seasonally Flooded Hardwood Forest	1.06		18.23	19.29
Pineywoods: Small Stream and Riparian Temporarily Flooded Hardwood Forest	0.52	19.33	1265.67	1285.52
Pineywoods: Small Stream and Riparian Temporarily Flooded Mixed Forest	517.31		137.28	654.59
Pineywoods: Small Stream and Riparian Wet Prairie	31.04		46.45	77.49
Pineywoods: Southern Mesic Hardwood Forest	4.12		1.7	5.82
Pineywoods: Southern Mesic Pine - Hardwood Forest	0.76		1.28	2.04
Pineywoods: Upland Hardwood Forest	5,917.08	363.13	7179.44	13459.65
Post Oak Savanna: Post Oak - Redcedar Motte and Woodland	12.37		3.62	15.99
Post Oak Savanna: Post Oak Motte and Woodland	12.6		2.25	14.85
Post Oak Savanna: Savanna Grassland	57.58			57.58
Urban High Intensity		9.32	20.55	29.87
Urban Low Intensity		29.7	312.42	342.12
WATER RESOURCES				
Waters of the U.S.	261,985 linear feet	19,206 linear feet	464,304 linear feet	745,495 linear feet
Wetlands	252 acres	8.52 acres	221 acres	482 acres

Source: TPWD 2013, SH 249 Study Team

Vegetation

Based upon the past, present, and projected growth within the RSA, the cumulative impact to vegetation would be approximately 18,989 acres vegetated habitats. The quantifications represent an estimated maximum potential effect to 70 percent of the vegetation RSA from past, present and reasonably foreseeable development through 2040.

Cumulative impacts to vegetation would result in the incremental permanent conversion of the vegetation communities and associated habitats to suburban or urban developed conditions. Existing habitats may be fragmented from other similar habitat over time, as the RSA becomes more developed.

Water Resources

Cumulative impacts to water resources may occur because of additional impervious cover from the proposed tollway and potential development and redevelopment within the RSA. Any new development directly or indirectly caused by the proposed SH 249 Extension would result in more impervious cover and larger volumes of runoff during storm events. New residential development would also result in additional municipal discharges from sewage treatment and stormwater runoff from new off-system roadways (e.g., city streets and county roads).

Future development within the RSA could create additional point and non-point pollution sources (e.g., contamination from household chemicals, domestic pet waste, and pollutants from automobiles). Commercial development could include gas stations with above or underground storage tanks, restaurants with grease traps, or other development that could discharge pollutants into groundwater or local surface waters. Construction could impact water quality on a temporary basis by allowing exposed soil to runoff into streams. Runoff could increase turbidity and sediment loading downstream. The proposed tollway and rehabilitation of other roadways within the RSA would add impervious cover that would increase water runoff that could contain oil and other lubricants that might be carried to waters beyond the study area or the RSA.

Of the approximately 925 acres of NWI-mapped wetlands and 989,500 linear feet of waters of the U.S. within the water resources RSA, the past, present and reasonably foreseeable development may impact up to 482 acres of NWI-mapped wetlands and 745,495 linear feet of waters of the U.S. Because of the net conversion of undeveloped land (which includes wetlands) to structures, impervious cover, and maintained open spaces, water resource impacts within the RSA are expected.

While impacts to non-jurisdictional waters and wetlands are not regulated and could be realized with future developments, the future total impacts to these resources would be regulated and limited by the USACE and EPA for jurisdictional wetlands and waters of the U.S.

Under most development conditions, including the construction of the proposed tollway, stream or tributary crossings would likely be bridged or placed in culverts. Construction activities could temporarily affect water quality in area streams, and an increase in suspended sediments could occur at or near the construction site. However, BMPs would be used during construction to minimize any impact to the immediate construction area.

4.23.2.7 Step 8: Assess the Need for Mitigation

While mitigation of adverse impacts is discussed for each applicable resource, mitigation efforts for cumulative impacts are not measures that TxDOT would, or has the authority to, implement. Rather, mitigation is intended to disclose steps or actions that could be taken by local, state, and other federal agencies and organizations to minimize the potential cumulative impact on each resource's health and trend.

Vegetation

Direct land use impacts would be mitigated through avoidance and minimization. Although the proposed SH 249 Extension would result in cumulative impacts to the reduction of forest and other vegetative communities, mitigation would minimize the impacts to these habitats through minimizing devegetation of the construction area wherever possible. Indirect and cumulative impacts to vegetation would be similar to the direct impacts, but would occur throughout the RSA. Because TxDOT and FHWA do not have the authority to implement zoning or planning regulations, vegetation mitigation on a larger scale would require the collaborative efforts of the public, private developers, and local, county, and regional planners. All parties have a stake in the ultimate landscape in which they reside, and only proactive, cooperative interactions would enhance the optimum blend of natural and developed communities.

Water Resources

Potential impacts to water resources would be mitigated through development and implementation of a SW3P that would address measures to prevent or correct erosion that may occur during construction. BMPs for temporary and permanent soil erosion and sedimentation controls would be implemented along with measures to prevent/control hazardous material spills during construction. Stormwater detention areas or vegetated open drainage ways with culverts would collect stormwater discharges, promote settling of suspended solids, and reduce potential pollutant concentrations.

To a large extent, impacts to wetlands would be avoided, minimized, or mitigated by compliance with existing federal statutes that apply to private and government interests. The USACE (under Section 404 of the Clean Water Act) has legislative mandates to reduce or avoid significant and adverse impacts to protected resources on an individual and cumulative basis. The regulations are intended to minimize adverse effects on protected water resources as a cumulative consequence of development

Wetland impacts, whether direct, indirect, or cumulative, would be regulated through the USACE Section 404 permit process. Natural resource agencies (including the TPWD, USFWS, USACE, EPA, and TCEQ) would be party to decisions regarding appropriate mitigation (if required), as well as wetland type, function, location, and size. Mitigation is required and would be applied based on the USACE 2008 mitigation rule regarding compensatory mitigation for losses of aquatic resources. A mitigation plan would be included in the USACE individual permit and approved by the USACE. Possible mitigation alternatives may be wetland habitat restoration, enhancement, creation, or preservation. Preference would be given to potential mitigation within the San Jacinto River Basin for direct impacts to wetlands and waters of the U.S. Additional mitigation options that may be considered for impacts to water resources either by TxDOT or local agencies may include:

- Roadway design (using bridge crossings instead of filled embankment);
- Decreasing the amount of fill placement;
- Implementing BMPs, such as an erosion and sedimentation control plan;
- The use of detention/retention basins and revegetated swales to minimize runoff, sedimentation, turbidity, leaching of soil nutrients, and leaching of chemicals from petroleum products, pavement, and waste material; and
- Maintaining flow patterns to ensure wetland hydrology is tied with roadway design requirements.

4.23.3 Cumulative Regional Effects of Tolled Facilities and Managed Lanes

To assess the significance of regional impacts to air quality and environmental justice populations, and to address the potential need for mitigation as a result of the *2040 RTP* regional priced facilities network (2040 Build Network), H-GAC prepared the *Regional Cumulative and Indirect Effects of Toll Facilities* for the 8-county Houston-Galveston region (Brazoria, Chambers, Ft. Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties). H-GAC's *Regional Cumulative and Indirect Effects of Toll Facilities* can be found on H-GAC's website at www.h-gac.com. The document provides the context of the transportation network and an analysis of the potential cumulative effects to air quality and environmental justice populations as a result of the planned improvements.

4.23.3.1 Methodology

The *Regional Cumulative and Indirect Effects of Toll Facilities* evaluates the potential cumulative effects of the 2040 Build Network on air quality and environmental justice populations.

The *Regional Cumulative and Indirect Effects of Toll Facilities* analyzes the accessibility of tolled facilities by examining the impacts of the 2040 Build Network and the 2040 No-Build Network on travel time of travelers residing in EJ and non-EJ traffic analysis zones (TAZs). The 2040 Build

Network consists of all 2040 RTP recommended roadway (including toll and managed lanes) and transit facilities. The 2040 No-Build Network consists of all 2040 RTP roadway and transit facilities and priced facilities open prior to 2016. Table 18 summarizes the potential cumulative effects of implementing the 2040 Build Network and is discussed further in the *Regional Cumulative and Indirect Effects of Toll Facilities* analysis.

Table 18: Analysis of Potential Cumulative Effects

Analysis	Results
Air Quality	The introduction of the 2040 Build Network would not cause any cumulative impacts to air quality. A regional priced roadway system would provide additional travel capacity to the roadway network which allowing a greater flow of traffic throughout the region, thus decreasing the amount of cars traveling at lower speeds or idling conditions, resulting in less fuel combustion and lower emissions including mobile source air toxics (MSATs), carbon monoxide (CO), and ozone. Furthermore, EPA's vehicle and fuel regulations, coupled with fleet turnover, are expected to result in substantial reductions of on-road emissions, including MSATs, CO and ozone precursors.
Environmental Justice	
Home Based Work (HBW) Trips	Mid-day average trip lengths (ATL) for travelers using the toll path or free path option would be shorter for both EJ and Non-EJ zones under the 2040 Build Network compared to the 2040 No-Build Network.
Home Based Non-Work (HBNW) Trips	Mid-day average trip lengths (ATL) for travelers using the toll path or free path option would be shorter for both EJ and Non-EJ zones under the 2040 Build Network compared to the 2040 No-Build Network.
Vehicle Miles Traveled (VMT)	Daily VMT is reduced by approximately 3.3 million miles and AM VMT is reduced by approximately 1.4 million miles for the 2040 Build Network compared to the 2040 No-Build Network.
Vehicle Hours Traveled (VHT)	Daily VHT is reduced by approximately 784,434 miles for the 2040 Build Network compared to the 2040 No-Build Network.
Public Transit	A significant amount of future public transit is proposed within EJ zones, this will improve ATLs for the EJ populations within these zones as access to public facilities is increased.
Annual Toll Costs	While EJ populations will experience an increase in annual spending on toll facilities, the entire region will experience an increase in spending on toll usage as the toll and managed lane system expands. The annual cost to utilize the toll facilities for HBW trips under the 2040 Build Network would be approximately \$1,661 per year, in the year 2040.
Regional Congestion	The 2040 Build Network would increase regional congestion levels; however, severely congested VMT levels would be reduced from 45% to 20% compared to the 2040 No-Build Network.

Results from the analysis show that EJ communities would experience shorter HBW and HBNW trip ATLS when utilizing the toll facilities under the 2040 Build Network as compared to the 2040 No-Build Network. Furthermore, under the 2040 Build Network, HBW and HBNW trip ATLS would be shorter for those travelers (EJ populations included) that would choose the free facility, as compared to the 2040 No-Build Network. The 2040 Build Network would operate at better traffic conditions by adding capacity to the roadway network, thus relieving congestion and improving mobility.

While EJ populations will experience an increase in annual spending on toll facilities, the entire region will experience an increase in spending on toll usage as the toll and managed lane system expands. The annual cost to utilize the toll facilities for HBW trips under the 2040 Build Network is estimated at \$1,661 per year in the 2040. Based on the analysis, the 2040 network would result in a fair distribution of impacts and benefits among the regional, including environmental justice, communities. The network would not cause disproportionately high and adverse impacts on any minority or low-income populations as per Executive Order 12898 regarding environmental justice. Therefore, no regional mitigation measures are proposed.

The 2040 Build Network would help reduce congestion, improve air quality, and improve ATLS of both the toll and free facility options. It is also anticipated that the 2040 Build Network would facilitate the regional economy, as freight is a vital component of the region's economy. Additionally, revenues accrued from the toll facilities of the 2040 Build Network will help finance improvements of both toll and non-toll facilities throughout the region.

4.23.3.2 Conclusion

Based on the analysis provided in the *Regional Cumulative and Indirect Effects of Toll Facilities*, the 2040 Build Network would cause minor, but not significant regional cumulative impacts to air quality and environmental justice populations. Therefore, no regional mitigation measures are required; however, H-GAC provides regional mitigation approaches to air quality and environmental justice populations in the *2040 RTP*.

The *Regional Cumulative and Indirect Effects of Toll Facilities* is based on the most recent policies, programs and projects included in the *2040 RTP*. Changes to tolling and managed lane policies could necessitate the *Regional Cumulative and Indirect Effects of Toll Facilities* be revised to reflect those policy changes. H-GAC assures that the development of the *2040 RTP* was consistent with Title VI of the Civil Rights Act of 1964 and Executive Order 12898 on environmental justice.

SECTION 5: PUBLIC AND AGENCY COORDINATION

5.1 PREVIOUS PUBLIC INVOLVEMENT

5.1.1 Corridor Feasibility Study

During the initial stages of the MIS process, names of area citizens and businesses; local, state, and federal governmental officials; community coalition representatives; and media contacts were collected and recorded for distribution of newsletters and public meeting notices. Over the course of the MIS process, three public meetings were held to notify the public of the study's progress and to provide a general forum for public input. In addition, information was distributed via newsletters and a website set up on TxDOT's website.

A steering committee was also formed at the beginning of the MIS with team members at the TxDOT Houston District to offer policy decisions and guide the technical development of the MIS. Members included representatives from local, state, and federal agencies; representatives from Montgomery, Grimes, and Waller counties; and individuals from the communities within the study area for the MIS. Three meetings were held throughout the MIS process, and all comments and suggestions from the steering committee representatives provided valuable information and aided in developing the MIS.

5.1.2 Public Meetings

In September 2003, an NOI to prepare an EIS was published in the Federal Register and the Texas State Register. Publication of the NOI began the formal scoping process for the proposed SH 249 Extension in accordance with NEPA. A copy of both NOIs is included in *Appendix G* of the Draft EIS. The mailing list initiated under the MIS was carried forward and continually updated throughout the Draft EIS process. As discussed in *Section 7.2.5* of the Draft EIS, four public meetings were held between 2003 and 2013 to inform the public of the alternative alignments and to receive public input on the alternative alignments and the proposed SH 249 Extension. The meetings were held on:

- December 15, 2003
- June 17, 2004
- November 18, 2004
- October 3, 2013

5.1.3 Public Hearing

On January 23, 2015, a Notice of Availability of the Draft EIS was published in the State and Federal Register. A public hearing was conducted on February 18, 2015. The open house was held in the commons area at the Magnolia West High School in the City of Magnolia. This was

followed by the formal public hearing with a presentation and comment session. The purpose of the public hearing was to present the recommendation of the Preferred Alternative for the proposed SH 249 Extension and to discuss the results of the Draft EIS.

Public hearing notices were published in the *Houston Chronicle*, *La Voz*, and the *Magnolia Potpourri*. The Notice of Availability was published in the Federal and Texas registers. In addition, the Draft EIS and the public hearing notice was posted on the proposed SH 249 Extension website at: <http://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

There was a total of 246 people in attendance, which included seven elected officials. A total of 42 public comments were received. Of those comments, eight were provided orally during the public hearing, 30 comments were written, and four were transcribed from comments provided to the court reporter in the commons area. A copy of the public hearing summary report, including all comments and responses is included in *Appendix C*.

5.2 AGENCY COORDINATION

5.2.1 Contact with Agencies

As part of the development process for the proposed SH 249 Extension, local, federal, and state agencies were consulted prior to and during the preparation of the Draft EIS. On January 21, 2014 FHWA sent a letter requesting that the U.S. Department of the Interior, EPA, NRCS, USACE, and USFWS participate in the Draft and Final EIS as a Cooperating Agency (See *Appendix B*). The following agencies were requested, by correspondence, to provide input on the proposed tollway and invited to attend the proposed SH 249 Extension information meetings. In addition, the Draft EIS was circulated to the agencies listed below for comment.

Federal Government Agencies

- Federal Highway Administration (FHWA)
- National Resources Conservation Service (NRCS)
- U.S. Army Corps of Engineers (USACE) – Accepted invitation as a Cooperating Agency
- U.S. Department of the Interior – Accepted invitation as a Cooperating Agency
- U.S. Environmental Protection Agency (EPA) – Accepted invitation as a Cooperating Agency
- U.S. Fish and Wildlife Service (USFWS)

State Government Agencies

- Texas Department of Transportation (TxDOT)
- Texas Historical Commission (THC)
- Texas Parks and Wildlife Department (TPWD)
- Texas Commission on Environmental Quality (TCEQ)

Texas General Land Office
Texas Transportation Commission
Texas Department of Public Safety Hazard Mitigation

Local Government Agencies

Montgomery County
Montgomery County Historical Commissioner Chair
Grimes County
Grimes County Commissioners Court
Grimes County Historical Commissioner Chair
Magnolia Area Chamber of Commerce
Magnolia Independent School District (ISD)
City of Magnolia
City of Todd Mission
Houston-Galveston Area Council (H-GAC)

SECTION 6: PERMITS, COMMITMENTS, AND MITIGATION

6.1 INTRODUCTION

Efforts have been made in the planning process to avoid adverse impacts to the natural and human environment. When impacts are unavoidable, steps are taken to minimize and mitigate impacts, as required under NEPA, FHWA, and TxDOT guidelines. According to CEQ regulations (40 CFR 1508.20), mitigation efforts may be defined as:

- Avoiding an impact altogether;
- Minimizing the impact;
- Limiting the degree or magnitude of the action;
- Rectifying the impact;
- Repairing, rehabilitating, or restoring the resource;
- Reducing or eliminating the impact over time;
- Implementing preservation and maintenance activities;
- Compensating for the impact; and/or
- Replacing or providing substitutes to the impacted resource.

Efforts were made when selecting and analyzing the alternative alignments and when identifying the Preferred Alternative to avoid or minimize adverse effects wherever possible. Where impacts to resources would require coordination and permitting, processes in accordance with state and federal regulations would be followed with the appropriate jurisdictional agency.

As discussed in *Section 3* and *Section 4* of the Draft EIS and *Section 4* of this Final EIS, several resources either do not occur within the proposed SH 249 Extension study area, or would not be adversely impacted as a result of constructing the Selected Alternative Alignment. In those cases, permitting or mitigation would not be proposed. The following is a list of the resources that would not be adversely impacted based on information available at the time the Final EIS was prepared.

- Land Use;
- Geology, soils, and farmlands;
- Minority or low-income (EJ) populations;
- Limited English proficiency populations;
- Economics;
- Pedestrian and bicycle accommodations;
- Navigable Waterways;

- Wild and scenic rivers;
- Coastal barriers;
- Historic non-archeological resources; and
- Energy.

The following sections describe resources that occur within the proposed SH 249 Extension study area and/or efforts to avoid, minimize, or mitigate adverse impacts from the Selected Alternative Alignment.

6.2 SOCIAL CHARACTERISTICS

6.2.1 Neighborhoods and Community Cohesion

When evaluating and selecting the alternative alignments, efforts were made to minimize adverse impacts to neighborhoods and community cohesion. Single-family communities and residents living in rural areas would be impacted by residential displacements, loss of property, a potential increase in traffic noise, visual and aesthetic impacts, and short-term construction impacts. However, development of the Selected Alternative Alignment could benefit adjacent neighborhoods and communities by improving mobility and accessibility within the overall proposed SH 249 Extension study area. As discussed, where feasible and reasonable, noise barriers would be proposed to abate traffic noise impacts to adjacent areas, and relocation assistance would be offered to all landowners affected by residential displacements.

6.2.2 Displacements and Relocations

When evaluating and selecting the alternative alignments, efforts were made to minimize adverse impacts and avoid or minimize displacements. However, the Selected Alternative Alignment would potentially require the displacement of six single-family residences and one church with an associated daycare. Because of comparable available housing, commercial space, and vacant land within the proposed SH 249 Extension study area to accommodate residential and business relocations, affected properties would likely relocate within the study area, most likely within Montgomery County or Grimes County.

TxDOT's acquisition and relocation assistance program would provide assistance to residences and businesses that are required to relocate. The relocation assistance program is conducted in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources are available, without discrimination, to all residents and businesses required to relocate as a result of the Selected Alternative Alignment. No person would be displaced by the Selected Alternative Alignment unless and until adequate replacement housing has already been provided or is in place. Replacement housing would be fair housing and would be offered to all displaced persons regardless of race, color, religion, sex, or national origin. All replacement housing would be decent, safe, and sanitary, without

causing undue financial hardship. An adequate supply of housing meeting this description is anticipated either through existing home sales or new home sites in the study area.

Public meetings and additional one-on-one meetings have been held, as needed, during the environmental process to discuss specific displacements and/or relocation concerns prior to selection and construction of the Selected Alternative Alignment. Existing roadways used for property access that may be split by the Selected Alternative Alignment would be re-aligned in accordance with TxDOT policies to accommodate the property owner's access needs.

6.3 AIR QUALITY

The proposed project is located within Montgomery County, which is within the Houston area's financially constrained *2040 RTP Update* and fiscal year *2015-2018 TIP*. Both H-GAC's *2040 RTP Update* and the *2015-2018 TIP*, as amended were found to conform to the SIP by FHWA and the EPA on September 11, 2015, and September 25, 2015, respectively. Approximately 2.6 miles of the proposed SH 249 Extension would be within Grimes County, which is not a part of the MPO's (H-GAC's) 13-county region for inclusion in the plan. However, because the Grimes County segment would be consistent with the Montgomery County segment, the Grimes County segment is also listed in the *2040 RTP*.

The proposed congestion management strategies in the vicinity of the project, included in the *2040 RTP Update*, that are anticipated to have an effect on the level of mobility are listed in *Table 5*. The proposed project is not anticipated to have any long-term impacts on air quality in the region. During the construction phase of the project, temporary impacts on air quality would include additional dust generated from construction activities. Efforts would be made to mitigate for temporary air quality impacts during construction, including minimizing or eliminating unnecessary idling of construction vehicles and employing a combination of watering, chemical stabilization, and vehicle speed reduction techniques.

The contractor would be required to adhere strictly to dust control measures as outlined in the current TxDOT standard specifications, which would help minimize air quality impacts. Following the standard procedures, efficient dust control measures would be implemented in areas where fugitive dust control is a problem. Any debris material not disposed of in a landfill would be mulched. Open burning of waste such as vegetative material would not be allowed.

6.4 NOISE

As indicated in *Table 7* of the Final EIS, the Selected Alternative Alignment would result in traffic noise impacts. Noise abatement measures (i.e., traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone, and the construction of noise barriers) were considered at the affected locations. Of the impacted receivers, noise barriers were found to be feasible and reasonable for all of listed receivers in *Table 8* and would, therefore, be proposed for incorporation into the Selected Alternative Alignment.

Any subsequent project design changes may require a reevaluation of the noise barrier proposal. The final decision to construct the proposed noise barrier would not be made until after the completion of the proposed SH 249 Extension design, utility evaluation, and polling of adjacent property owners.

To avoid noise impacts that may result from future development of properties adjacent to the Selected Alternative Alignment, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along or within the predicted (2040) noise impact contours listed in *Table 9*.

Noise associated with the construction of the Selected Alternative Alignment is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures, such as work-hour controls and proper maintenance of muffler systems. A copy of this traffic noise analysis will be made available to local officials to ensure, to the maximum extent possible, future developments are planned, designed, and programmed in a manner that would avoid traffic noise impacts. On the date of approval of the Final EIS (Date of Public Knowledge), Montgomery County, Grimes County, and TxDOT are no longer responsible for providing noise abatement for any new development adjacent to the Selected Alternative Alignment.

6.5 WATER QUALITY

6.5.1 Surface Water

Water quality impacts from the Selected Alternative Alignment would include highway and bridge runoff, construction-related impacts, and maintenance-related impacts. Long-term operational effects on surface water quality would alter the volume of stormwater runoff and constituents carried in the runoff. Runoff from the Selected Alternative Alignment could contain sediment or pollutants in quantities that could impact water quality. To offset potential adverse impacts, stormwater BMPs (e.g., grass-lined swales and detention/retention facilities) would be implemented to mitigate the changes in stormwater runoff. The combination of BMPs implemented for the Selected Alternative Alignment would minimize adverse effects of stormwater runoff to surface water quality.

The Selected Alternative Alignment would disturb more than 1 acre of land, thereby requiring the preparation of a SW3P. In addition, because the Selected Alternative Alignment would disturb more than 5 acres, an NOI for coverage under the TPDES CGP would also be required. Once construction has been completed, a Notice of Termination would be filed per permit

requirements. Guidance documents, such as TxDOT's *Storm Water Management Guidelines for Construction Activities*, discuss temporary erosion control measures to be implemented to minimize impacts to water quality during construction.

The contractor would take appropriate measures to prevent or minimize harm and control hazardous material spills in the construction assembly area. Removal and disposal of all waste materials by the contractor would be in compliance with applicable federal and state guidelines and laws.

Discharges of dredged or fill material into waters of the U.S. regulated by the USACE would require authorization through evaluation of a Department of the Army permit. Under Section 401 of the Clean Water Act, the TCEQ regulates water quality for waters of the state. Permit applications for USACE-regulated waters are a joint application with the TCEQ for evaluation of project impacts to water quality. Therefore, potential impacts to water quality would be reviewed by the TCEQ during evaluation of the Department of the Army permit submitted to the USACE for the Selected Alternative Alignment.

6.5.2 Groundwater

During final design of the Selected Alternative Alignment, measures, such as minor alignment shifts to minimize or avoid impacts to public or private water wells would be evaluated. Water wells directly impacted by the Selected Alternative Alignment would be plugged and abandoned according to TCEQ regulations. A stormwater management plan would be developed to reduce the risk of contaminating local aquifers. Stormwater BMPs would also be implemented during construction and operation of the Selected Alternative Alignment to minimize the potential introduction of erosion and sedimentation materials, particulates, and contaminants from affecting regional groundwater resources.

6.5.3 Public Drinking Water Systems

As stated above, water wells within the Selected Alternative Alignment ROW would be plugged and abandoned according to TCEQ regulations in order to eliminate potential impacts to groundwater resources. Implementation of a stormwater management plan and BMPs for construction and operation of the Selected Alternative Alignment would avoid stormwater runoff from entering groundwater aquifers at wellheads.

6.6 WETLANDS AND OTHER WATERS OF THE U.S.

6.6.1 Waters of the U.S., including Wetlands

When evaluating and selecting the alternative alignments, efforts were made to avoid impacts to waters of the U.S. Based on the current design, approximately 9.02 acres of wetlands and 19,206 linear feet of streams would be impacted by the Selected Alternative Alignment.

Such discharges would require authorization from the USACE and U.S. Coast Guard, as appropriate. An assessment of impacts to jurisdictional waters of the U.S., including wetlands, from stream and drainageway crossings and fill and grading activities has been conducted for the Selected Alternative Alignment. A USACE individual permit has been submitted to the USACE, which included a mitigation plan to compensate for unavoidable adverse impacts to jurisdictional waters of the U.S., including wetlands. The USACE's stream assessment procedure was used to identify stream functions and services, which served as the basis to develop compensatory mitigation to be considered as part of the permit evaluation. Mitigation for stream impacts would likely be accomplished through the purchase of stream credits from an approved mitigation bank. Natural resource agencies would be involved in the review of the permit application and the proposed compensatory mitigation plan. Water quality certification, as required by Section 401 of the Clean Water Act, would be assessed by the TCEQ as part of the Department of the Army permit review process.

6.7 VEGETATION AND WILDLIFE

6.7.1 Vegetation

Construction of the Selected Alternative Alignment would unavoidably impact vegetative communities. An analysis of the vegetation types as mapped by the TPWD's Ecological Mapping Systems of Texas (EMST) revealed that discrepancies exist between the EMST-mapped vegetation types and vegetation directly observed or interpreted from aerial photography within the Selected Alternative Alignment ROW. Based on the reclassified vegetation types, impacts would occur primarily to pine-hardwood forests and young forest/grassland, as these communities comprise approximately 95 percent of the vegetation within the Selected Alternative Alignment ROW. Construction activities would permanently remove these vegetation communities and replace each with impervious surface and maintained herbaceous species. A Tier II Site Assessment, as required by the TxDOT/TPWD 2013 MOU, has been conducted for the Selected Alternative Alignment for approximately 76 percent of the ROW. TPWD's review of the Final EIS would serve as the Administrated Coordination with TPWD for the proposed SH 249 Extension.

During construction, areas of exposed soil within the Selected Alternative Alignment ROW would be revegetated with herbaceous species to minimize the introduction of eroded materials into receiving waters. Following construction, landscaping of the Selected Alternative Alignment would be in accordance with Executive Order 13112 on invasive species and the Executive Memorandum on beneficial landscaping. Vegetation within the Selected Alternative Alignment ROW would be maintained according to standard TxDOT practices.

6.7.2 Wildlife

Construction of the Selected Alternative Alignment would unavoidably impact vegetative communities that provide habitat for wildlife. Wildlife displaced from the construction area is

expected to move to similar habitat outside the Selected Alternative Alignment ROW. The influx of additional individuals of wildlife species into nearby similar habitat may stress existing food sources and other resources. The increased stress on limited habitat resources could result in mortality of some wildlife when a carrying capacity equilibrium is being established.

Potential impacts to wildlife would be mitigated through the construction of bridge structures over streams and drainageways or the installation of culverts to provide wildlife the opportunity to travel under the Selected Alternative Alignment, rather than pass over the roadway and be exposed to possible predation or vehicle collisions. Landscaping the Selected Alternative Alignment with native vegetation and developing a maintenance mowing schedule that would allow for the reseeding of native species would benefit wildlife that use the herbaceous habitat outside the paved areas of the Selected Alternative Alignment ROW.

Impacts to wildlife and habitat resources can be minimized through the use of a combination of any of the following generally recommended methods or other BMPs not specifically identified below, but that may be appropriate to address unanticipated site conditions.

- Minimize the crossing of flowing streams and use bridge spans to the greatest extent practicable (as opposed to fill) to minimize impacts on riparian and aquatic communities.
- Design and construction of the Build Alternative would include construction and post-construction BMPs to manage stormwater runoff and control sediments.
- Survey the 24 percent of the ROW once acquired to identify significant wildlife areas, high-quality vegetation, and sensitive features, such as caves, springs, and colonial nesting areas.
- Limit the use of herbicides and other chemicals for ROW maintenance.
- In accordance with Executive Order 13112 on invasive species and the Executive Memorandum on beneficial landscaping, seed and/or plant the ROW with native species of grasses, shrubs, or trees. Soil disturbance would be minimized to ensure invasive species do not establish in the ROW.
- Schedule mowing for ROW maintenance to facilitate the natural reseeding of indigenous spring and autumnal herbaceous communities.
- Because of safety requirements, do not leave any trees within 30 feet of the roadway without roadside protection. Trees outside the safety zone that are not affected by construction would be preserved.
- If nesting or wintering migratory bird species or rookeries are identified on or along the ROW, defer especially loud or noisy activities in the adjacent areas until after the birds have left the area to reduce negative impacts to the species.

A Tier II Site Assessment, as required by the TxDOT/TPWD 2013 MOU, has been conducted for the Selected Alternative Alignment to assess potential impacts to wildlife species or loss of habitat associated with the Selected Alternative Alignment. TPWD review of the Final EIS would serve as Administrated Coordination with TPWD for the proposed SH 249 Extension.

6.8 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act of 1918 states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, or egg in part or in whole, without a federal permit issued in accordance with the act's policies and regulations. A Tier II Site Assessment, as required by the TxDOT/TPWD 2013 MOU, has been conducted for the Selected Alternative Alignment to assess if suitable migratory bird habitat would occur within the Selected Alternative Alignment ROW. TPWD's review of the Final EIS would serve as Administrated Coordination with TPWD for the proposed SH 249 Extension. Once right-of-entry is obtained, a cursory nest survey would be conducted by qualified personnel prior to construction. To avoid impacts to migratory birds, any active breeding areas found during the cursory survey would be avoided entirely during the breeding season of any migratory birds identified within the study area. In accordance with the Migratory Bird Treaty Act, no vegetation would be removed containing nests, eggs, or young should clearing occur during the nesting and breeding season. If a nest, eggs, or young of a ground-dwelling bird is observed before or during construction, the participating agencies would be notified, and steps would be taken to avoid impacts to the bird and nest. Every effort will be made to prevent migratory birds from nesting in the study area during the breeding season.

6.9 THREATENED AND ENDANGERED SPECIES

According to TPWD's TXNDD, there are no listed threatened or endangered species or SGCN recorded as potentially occurring within 1.5 miles of the Selected Alternative Alignment. Potential habitat for the southern crawfish frog, Creek chubsucker, mayfly, gulf coast clubtail, Texas emerald dragonfly, plains-spotted skunk, southeastern myotis bat, Sandbank pocketbook, Texas pigtoe, Timber/Canebrake, Bristle nailwort, and Correll's false dragonhead is located within the proposed SH 249 Extension study area; however, field studies did not identify the presence of these species. Therefore, it is not anticipated that the Selected Alternative Alignment would impact these species.

No other recorded occurrences of federal or state-listed species have been documented in close proximity to the Selected Alternative Alignment ROW. No impacts to threatened or endangered species are anticipated. A Tier II Site Assessment, as required by the TxDOT/TPWD 2013 MOU, was conducted along 76 percent of the Selected Alternative Alignment where ROW was available to assess potential impacts to threatened and endangered species or loss of habitat associated with the Selected Alternative Alignment ROW. Additional field studies would be conducted for the remaining 24 percent of the ROW once the ROW is acquired and prior to construction. TPWD's review of the Final EIS would serve as

Administrated Coordination with TPWD for the proposed SH 249 Extension. Should a listed species be identified within the Selected Alternative Alignment ROW, coordination with the USFWS and TPWD would be initiated, and species-specific mitigation strategies would be developed to avoid, minimize, and/or compensate for potential impacts to a threatened or endangered species.

6.10 FLOODPLAINS

The Selected Alternative Alignment would traverse areas mapped by the Federal Emergency Management Agency (FEMA) as special flood hazard areas (i.e., floodways, 100-year floodplains, and 500-year floodplains). A detailed hydraulic study would be performed for the Selected Alternative Alignment during final design to determine areas where bridges, culverts, or other cross-drainage structures would be required. Federal, state, and local authorities would have the opportunity to review the hydraulic study to verify that appropriate measures have been identified so as not to increase the flood risk to adjacent properties. Bridges, culverts, and cross-drainage structures would be designed to FHWA and TxDOT standards to accommodate the 100-year storm event, periods of high flows, and sheetflow without impacting upstream or downstream areas. BMPs, such as the construction of grass-lined swales and detention/retention facilities, would be incorporated into the final design of the Selected Alternative Alignment to offset increased flows from areas of impervious surface. Hydraulic design features incorporated into the Selected Alternative Alignment would be in accordance with current FHWA and TxDOT design policies and standards. Construction of the Selected Alternative Alignment would also be in compliance with county and local floodplain guidelines and policies.

Additionally, the proposed tollway design will not increase the base flood elevation to a level that would violate applicable floodplain regulations and ordinances. The hydraulic design will be in accordance with current TxDOT and FHWA policies and standards and will be coordinated once final design is complete. The proposed SH 249 Extension will permit the conveyance of the 100-year flood (inundation of the tollway being acceptable) without causing substantial damage to the proposed tollway or other property.

6.11 ARCHEOLOGICAL

Only 2.8 miles of the Selected Alternative Alignment ROW was available for examination of archeological resources due to dense vegetation. Of the 2.8 miles of the APE examined for cultural resources, no further archaeological work is recommended for the area surveyed. In addition, the survey concluded that another 4.7 miles of the APE did not warrant any survey based on archival background studies. However, investigation should still occur in the portions of the study area where right-of-entry was not granted prior to construction (approximately 7.4 miles). Additionally, once the state has taken ownership of the Selected Alternative Alignment ROW, backhoe work should be conducted within the areas the Potential Archeological Liability Map (PALM) model recommends for deep reconnaissance.

If archeological materials or human remains are identified within the proposed ROW of the Selected Alternative Alignment during construction or within a Department-designated material source, all construction and related activities must cease. The discovery will be reported to the TxDOT project inspector or the area engineer in accordance with TxDOT's Emergency Discovery Guidelines. If archeological materials or human remains are introduced into the Selected Alternative Alignment ROW or easements in materials obtained from a material source under option to the contractor, all use of materials from this source must cease and the discovery reported to the TxDOT project inspector or the area engineer in accordance with TxDOT's Emergency Discovery Guidelines.

The archeological survey report has been coordinated with the SHPO and THC, who have agreed with the findings and the commitment to conduct surveys on the remaining APE once ROW is acquired. TxDOT will be obligated to complete the survey and coordinate the results with THC once the remainder of the Selected Alternative Alignment ROW has been acquired.

6.12 HAZARDOUS MATERIALS

Construction of the Selected Alternative Alignment could have additional impacts on potential hazardous material sites. However, risks can be minimized by conducting a Phase I and II Environmental Site Assessment in accordance with the American Society for Testing and Materials (ASTM) standards to identify, avoid, and mitigate hazardous material sites. It is anticipated that a Phase II Environmental Site Assessment would be required for each location identified in *Section 4.17* of the Draft EIS, as well as for any high or moderate risk sites that would be adjacent to the Selected Alternative Alignment ROW identified in *Section 4.17* of the Draft EIS. If hazardous materials are found during the construction phase, TxDOT standard guidelines would be followed.

Asbestos and lead-based paint investigations for all structures impacted by the Selected Alternative Alignment would be addressed during the ROW acquisition process prior to construction. If suspect material is encountered, a mitigation plan for the removal and disposal of materials containing hazardous materials would be developed in accordance with federal, state, and local regulations. The Selected Alternative Alignment's plans, specifications, and estimates would disclose areas of asbestos and lead-based paint that would likely be disturbed. Special provisions will be developed for asbestos-related activities, notifications, required licenses, and monitoring.

Documented federal or state-regulated hazardous material sites, as defined by the ASTM, were identified within the Selected Alternative Alignment ROW. The hazardous materials sources identified reflect the results of regulatory database queries provided by GeoSearch in 2015. The regulatory databases are maintained in electronic storage formats by federal and state agencies and contain geo-coded (geographic information system capable) information pertaining to a variety of hazardous material releases or potential releases. The databases include the EPA, TCEQ, and Railroad Commission of Texas listings of sites where hazardous materials are

suspected to have been stored, used, and/or released into the environment. The federal and state databases that were reviewed are described in *Section 3.18* of the Draft EIS. If an undocumented site is encountered during construction, a detailed evaluation would need to occur. Mitigation, if warranted, would depend on the type, size, and location of the encountered hazardous materials.

Additional environmental investigations may be necessary for any active oil and gas wells found within the proposed ROW. These investigations are recommended within the proposed ROW, prior to construction, to determine the potential of encountering hazardous materials contamination. The additional investigations would confirm the presence or absence of soil and/or groundwater contamination that could be encountered during construction. Additional studies may also be warranted within the existing or proposed TxDOT ROW, adjacent to the areas identified during the visual survey, to determine the potential for offsite migration of contaminants onto TxDOT ROW. If contamination exists, TxDOT would develop appropriate soils and/or groundwater management plans for activities within the identified areas.

6.13 VISUAL AND AESTHETIC QUALITIES

Construction of the Selected Alternative Alignment would introduce a new visual element into the landscape, altering the rural setting in the areas where the Selected Alternative Alignment would not follow existing roadways and areas where the Selected Alternative Alignment would be constructed adjacent to existing residential development. Visual and aesthetic changes would likely be most pronounced near intersections of the Selected Alternative Alignment and other existing roadways, where structures and associated lighting may be constructed. As currently proposed, lighting for the Selected Alternative Alignment would be restricted to on-ramps and off-ramps and mainlane toll gantries. The lighting system would consist of low-impact, downward directional lighting. However, development outside the Selected Alternative Alignment ROW would likely result in incremental and localized increases in ambient light levels, glare, and nightglow.

In addition to vegetated medians, visual and aesthetic measures that could be incorporated into the design of the Selected Alternative Alignment may include design specifications to blend with the surrounding landscape and the use of native plant species and wildflower plantings along the ROW to improve aesthetics and to control the introduction of invasive species.

6.14 CONSTRUCTION IMPACTS

The contractor would be required to take every reasonable step and follow mitigation procedures in accordance with state and local governing regulations to avoid or minimize construction impacts as detailed in *Table 19*. During the construction phase, short-term effects related to noise and dust would be minimized. Traffic delays would be minimized through coordination between TxDOT, contractors, and affected neighborhoods or landowners (in the areas immediately adjacent to the proposed ROW) and by developing a construction schedule

that would allow for a minimum delay of movement across the proposed ROW. Efforts would also be made to provide appropriate construction detours, informative signage, and maintenance of access to residences, farms, businesses, and community facilities where practicable. Potential development associated with the construction of the Selected Alternative Alignment could have additional impacts on potential hazardous material sites.

Storage and use of hazardous materials would be necessary during construction of the Selected Alternative Alignment. Temporary aboveground storage tanks containing oil and diesel are typically used to provide fuels for the equipment and vehicles used for construction. The aboveground storage tanks would be regulated and would require control measures for spills and leaks. Potential impacts could occur from small spills and leaks related to fueling and maintenance of the equipment and vehicles. The impacts would likely be minimal and would not pose a substantial impact to the environment. Every effort would be taken to reduce related impacts during construction. Activities dealing with the use and storage of hazardous materials during construction would be required to conform to TxDOT standards for spill containment and control strategies.

Table 19: Measures Required to Avoid or Minimize Construction Impacts

Construction Related Impact	Contractor Mitigation Measure(s)
Air quality	Implementing dust control measures, such as the use of water sprinklers and prohibiting open burning except in accordance with applicable laws and regulations would minimize impacts to air quality.
Water quality	Preparation of a SWP3 pursuant to TxDOT guidelines would include berms, dikes, temporary seeding, sodding, sediment traps, geotextile fiber mats, silt fences, hay bales, slope drains, mulches, and crushed stone (TxDOT 2002). An emergency spill control pollution prevention plan would be developed and coordinated with local officials prior to construction. Avoidance measures would include spanning major drainages along the Selected Alternative Alignment. A Section 404 individual permit application would be submitted to USACE following the Final EIS or Record of Decision (ROD) for the Proposed SH 249 Extension during the design phase of the Selected Alternative Alignment. A Section 401 Water Quality Certification would be coordinated with the TCEQ as a part of the USACE permit process. The contractor would be required to follow the permit conditions.
Noise	Timing of construction will take into account neighboring properties and appropriate "noise tolerant" periods. Mufflers would be used on construction equipment near residential areas.
Maintenance and control of traffic	Construction in a single geographic area would be limited to avoid inundating the adjacent communities with construction zones.
Health and safety	The contractor would comply with all federal, state, and local laws, including the Occupational Safety and Health Administration regulations governing safety, health, and sanitation of construction personnel and the general public.
Hazardous materials	If hazardous materials are discovered during the construction phase, TxDOT standard guidelines would be followed.

Table 19: Measures Required to Avoid or Minimize Construction Impacts

Construction Related Impact	Contractor Mitigation Measure(s)
Pollution control on haul roads, borrow/material pits, and waste material disposal areas	The contractor would implement a combination of erosion and pollution control measures listed under the air and water quality control categories.

Source: The Proposed SH 249 Extension Study Team.

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Exhibits

Exhibit 3-1 Preliminary Reasonable Alternative Alignments

Exhibit 3-2 Draft EIS Reasonable Alternative Alignments

Exhibit 3-3 Final EIS Selected Alternative Alignment

Exhibit 4-1 Soils

Exhibit 4-2 Noise Receptor Map

Exhibit 4-3 Wetlands Map

Exhibit 4-4 Waters and Vegetation Resource Study Area (RSA)

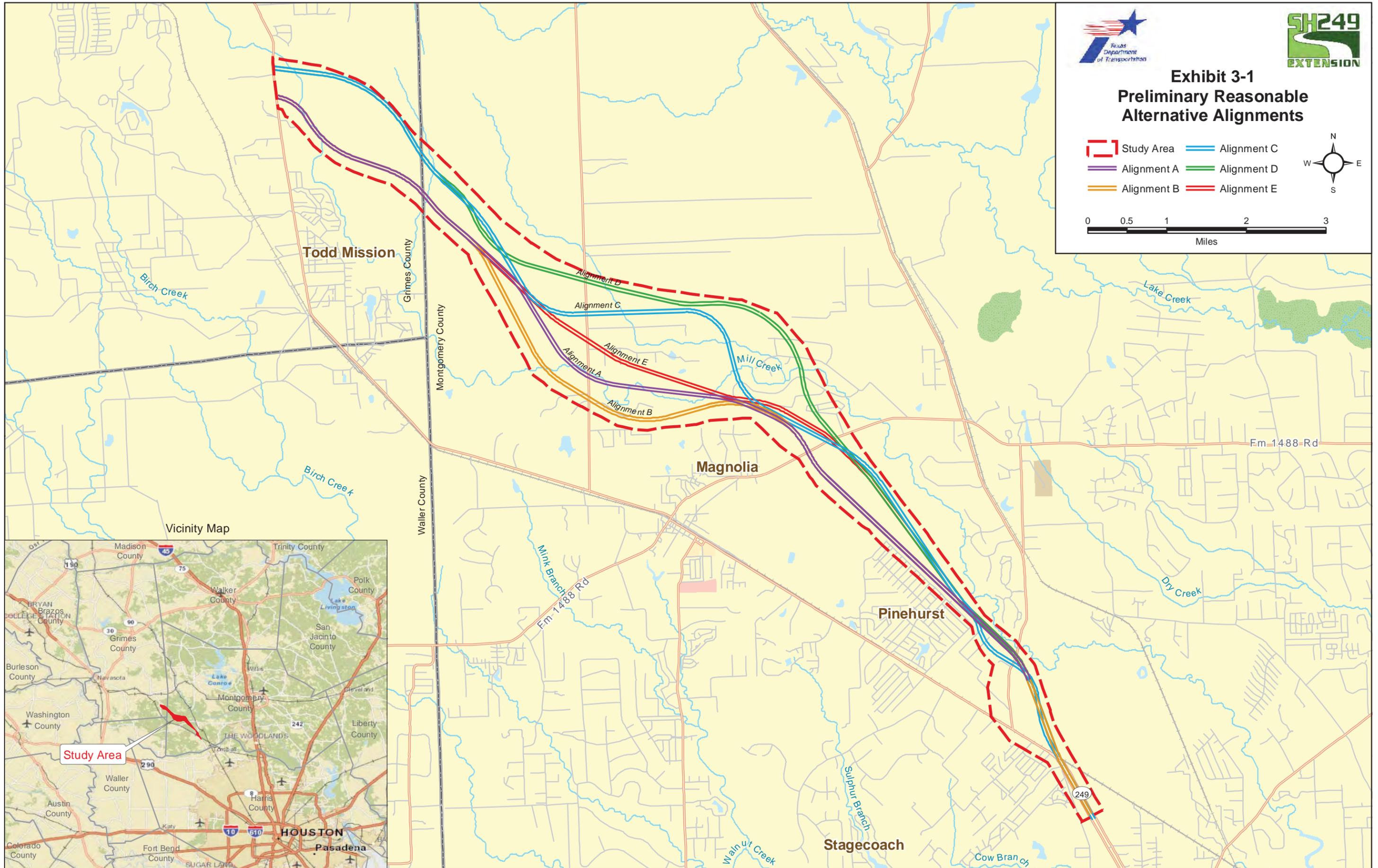
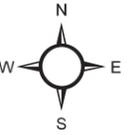
Exhibit 4-5 Past and Present Development within Resource Study Area (RSA)

Exhibit 4-6 Reasonable Foreseeable Development within Resource Study Area (RSA)



Exhibit 3-1 Preliminary Reasonable Alternative Alignments

- Study Area
- Alignment C
- Alignment A
- Alignment D
- Alignment B
- Alignment E



Vicinity Map

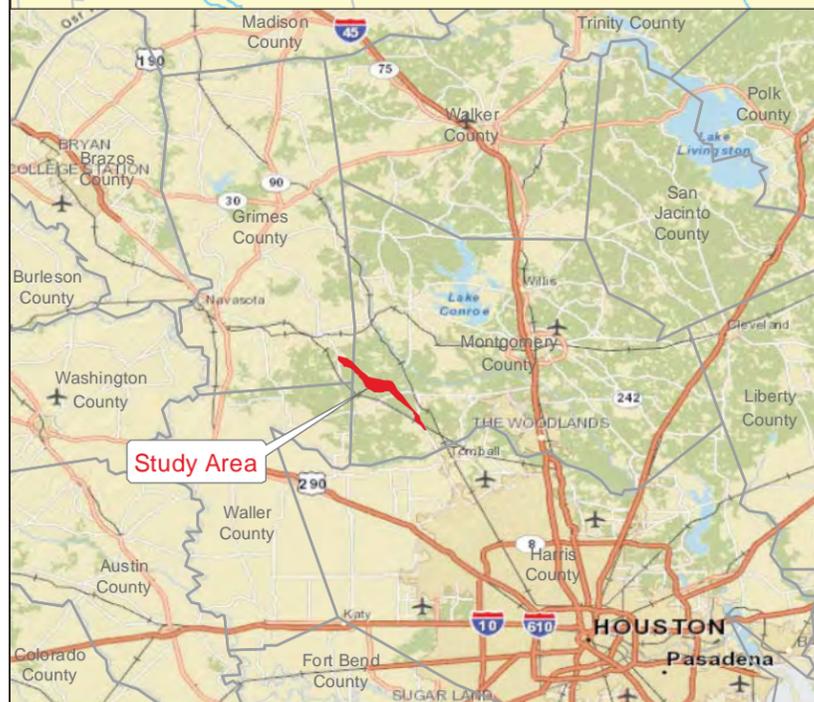
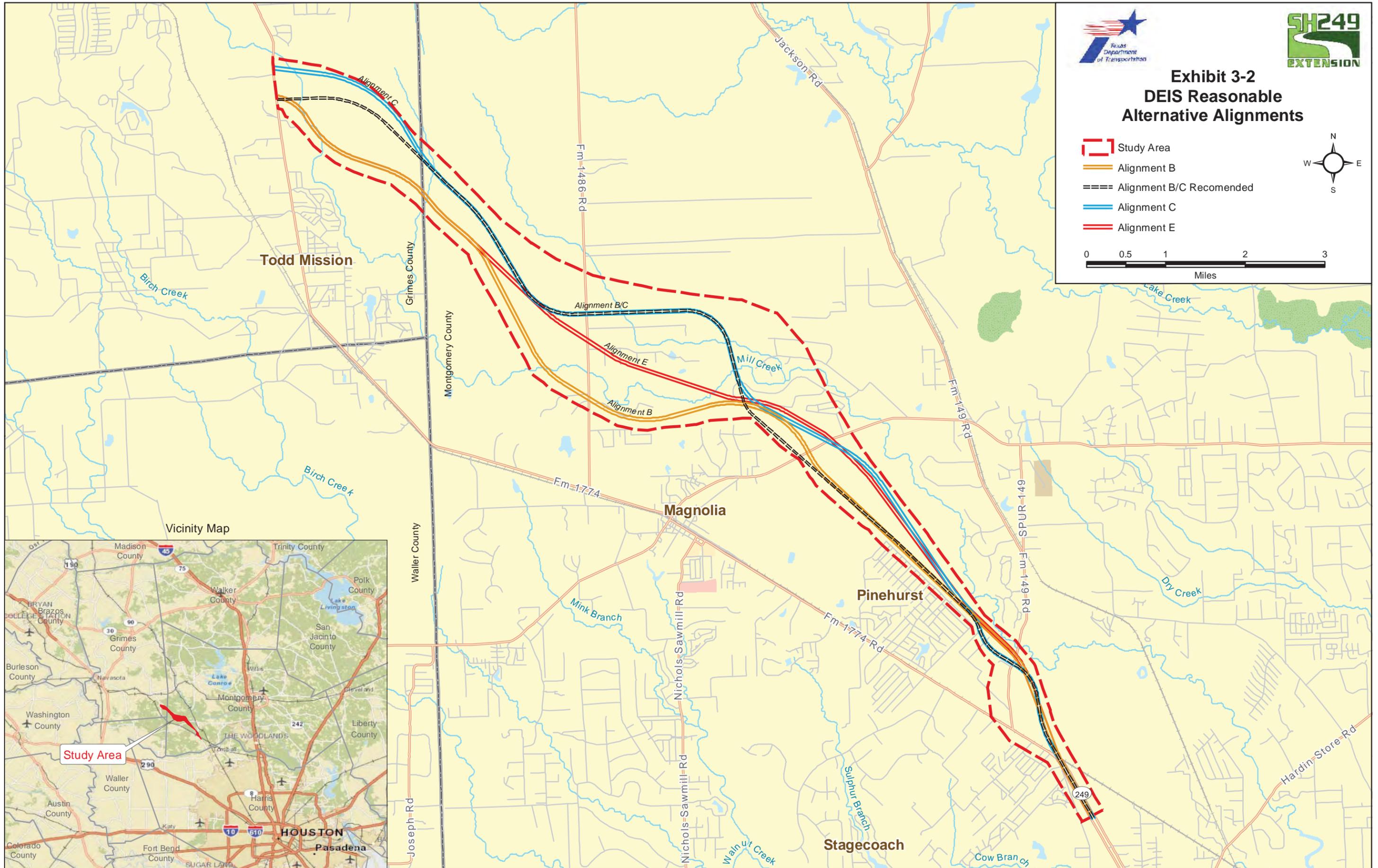
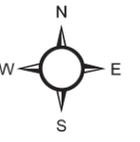




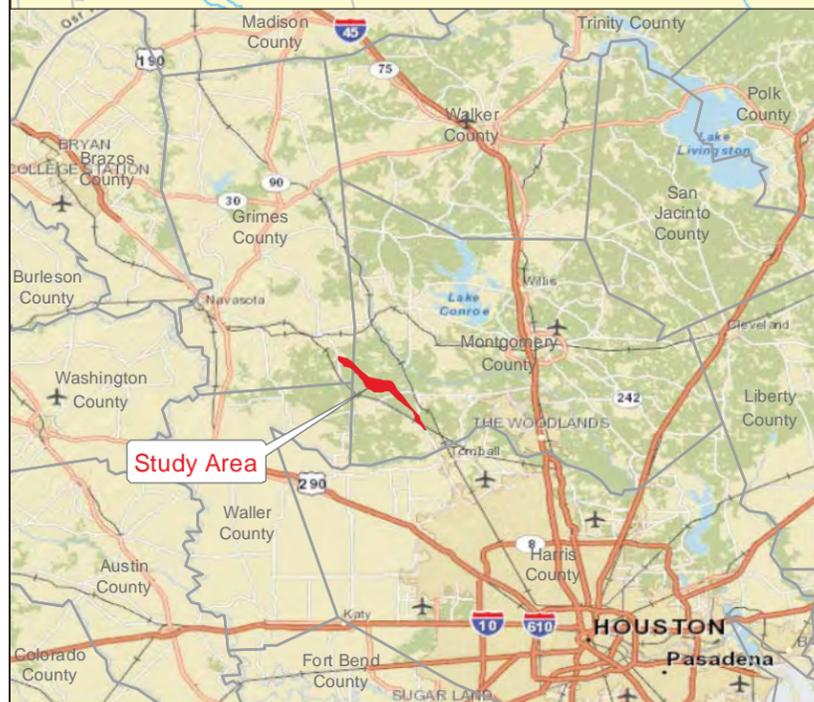
Exhibit 3-2 DEIS Reasonable Alternative Alignments

-  Study Area
-  Alignment B
-  Alignment B/C Recommended
-  Alignment C
-  Alignment E

0 0.5 1 2 3
Miles



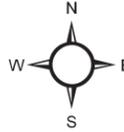
Vicinity Map

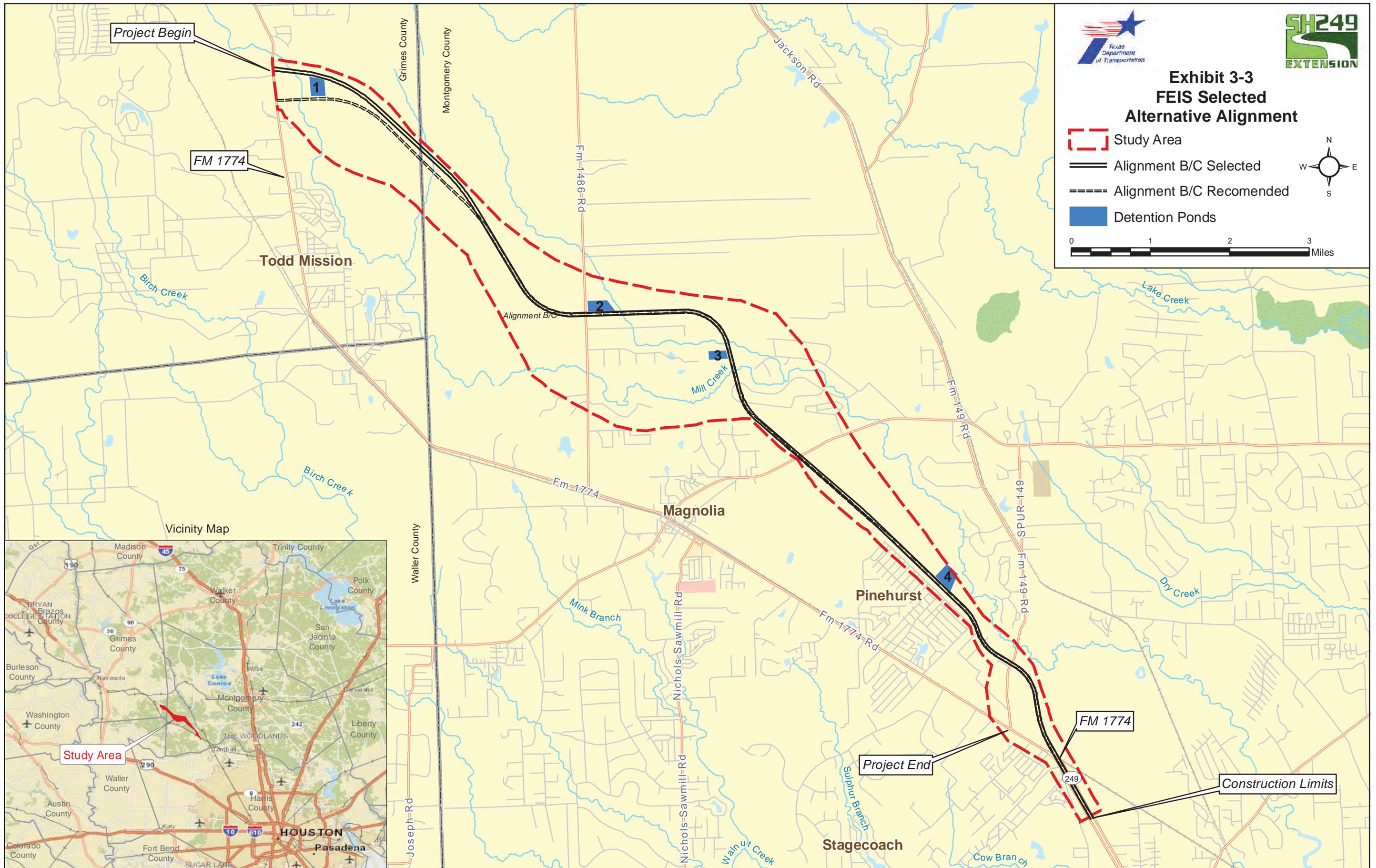




**Exhibit 3-3
FEIS Selected
Alternative Alignment**

 Study Area
 Alignment B/C Selected
 Alignment B/C Recommended
 Detention Ponds


 0 1 2 3 Miles



Vicinity Map

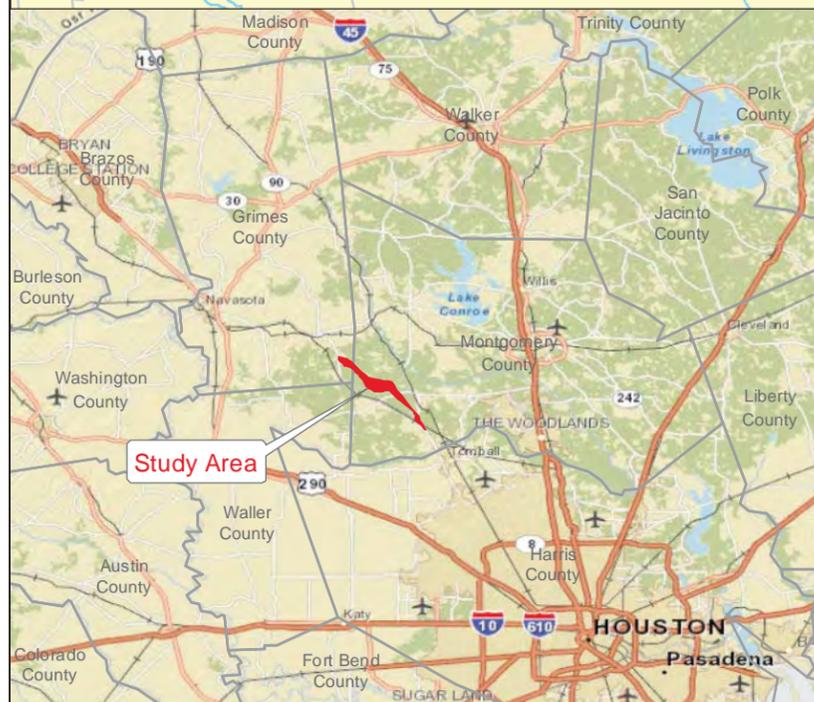
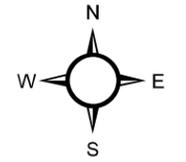




Exhibit 4-1 Soils

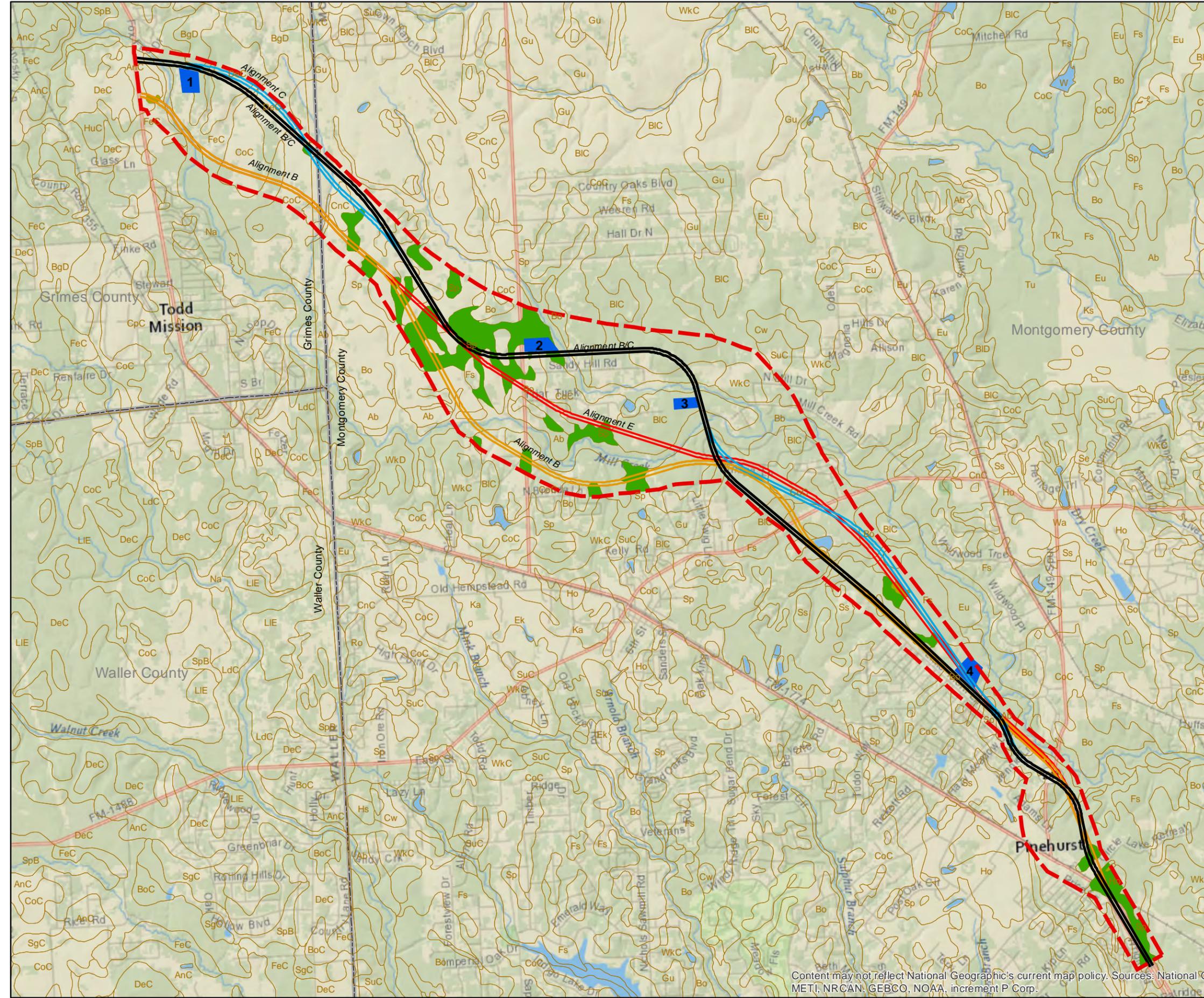
- Study Area
- Alignment B/C*
- Alignment B
- Alignment C
- Alignment E
- Detention Ponds
- Prime Farmland Soil
- Prime Farm Soil (if artificially drained)
- Soils



*Selected Alternative
 Soil Data Source: Natural Resources Conservation Service (NRCS),
 United States Department of Agriculture (USDA),
 2004 Soil Survey Geographic (SSURGO) Database

Study Area Soils

- ### Montgomery County
- Ab - Landman fine sand
 - Bb - Bibb soils, frequently flooded
 - BIC - Betis fine sand, 0 to 5% slopes
 - BID - Betis fine sand, 5 to 12% slopes
 - Bo - Boy fine sand
 - CnC - Conroe gravelly loamy fine sand, 0 to 5% slopes
 - CoC - Conroe loamy fine sand, 0 to 5% slopes
 - Cw - Crowley fine sandy loam
 - Eu - Betis loamy fine sand
 - Fs - Libert loamy fine sand
 - Ho - Hockley fine sandy loam
 - Ro - Kirbyville fine sandy loam
 - So - Sorter silt loam
 - Sp - Splendora fine sandy loam
 - Ss - Conroe soils
 - SuC - Woodville fine sandy loam, 1 to 5% slopes
 - SuD - Woodville fine sandy loam, 5 to 12% slopes
 - Tk - Aris loam, heavy substratum
 - W - Water
 - Wa - Waller loam
 - We - Waller soils, ponded
 - WkC - Fetzler loamy fine sand, 1 to 5% slopes
- ### Grimes County
- AnC - Annona fine sandy loam, 1 to 5% slopes
 - BgD - Boy fine sand, 1 to 8% slopes
 - CoC - Conroe loamy fine sand, 1 to 5% slopes
 - CpC - Conroe gravelly loamy fine sand, graded, 1 to 5% slopes
 - DeC - Depcor loamy fine sand, 1 to 5% slopes
 - DeD - Depcor loamy fine sand, 5 to 8% slopes
 - FeC - Fetzler loamy fine sand, 1 to 5% slopes
 - LaC - Landman loamy fine sand, 1 to 5% slopes
 - Na - Nahatche clay loam, frequently flooded
 - SpB - Splendora fine sandy loam, 0 to 3% slopes
 - Wa - Waller loam, 0 to 1% slopes



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)

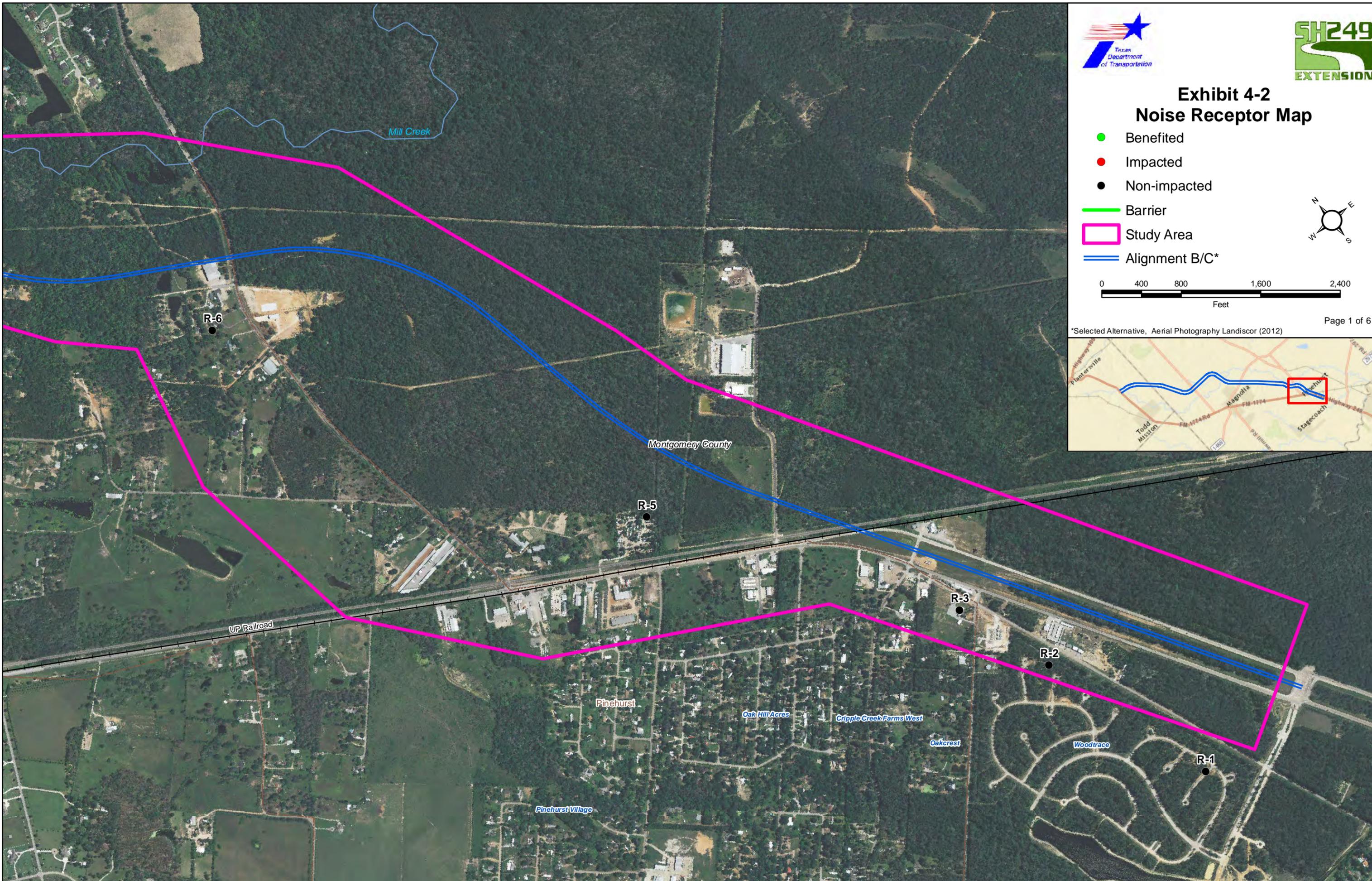
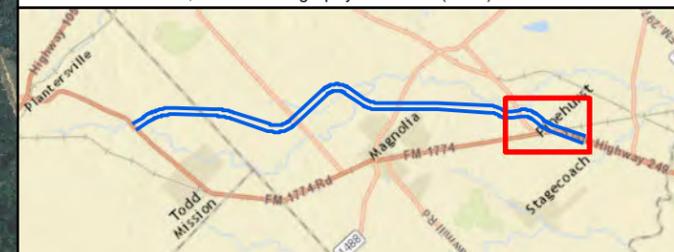
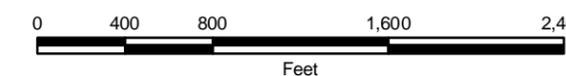
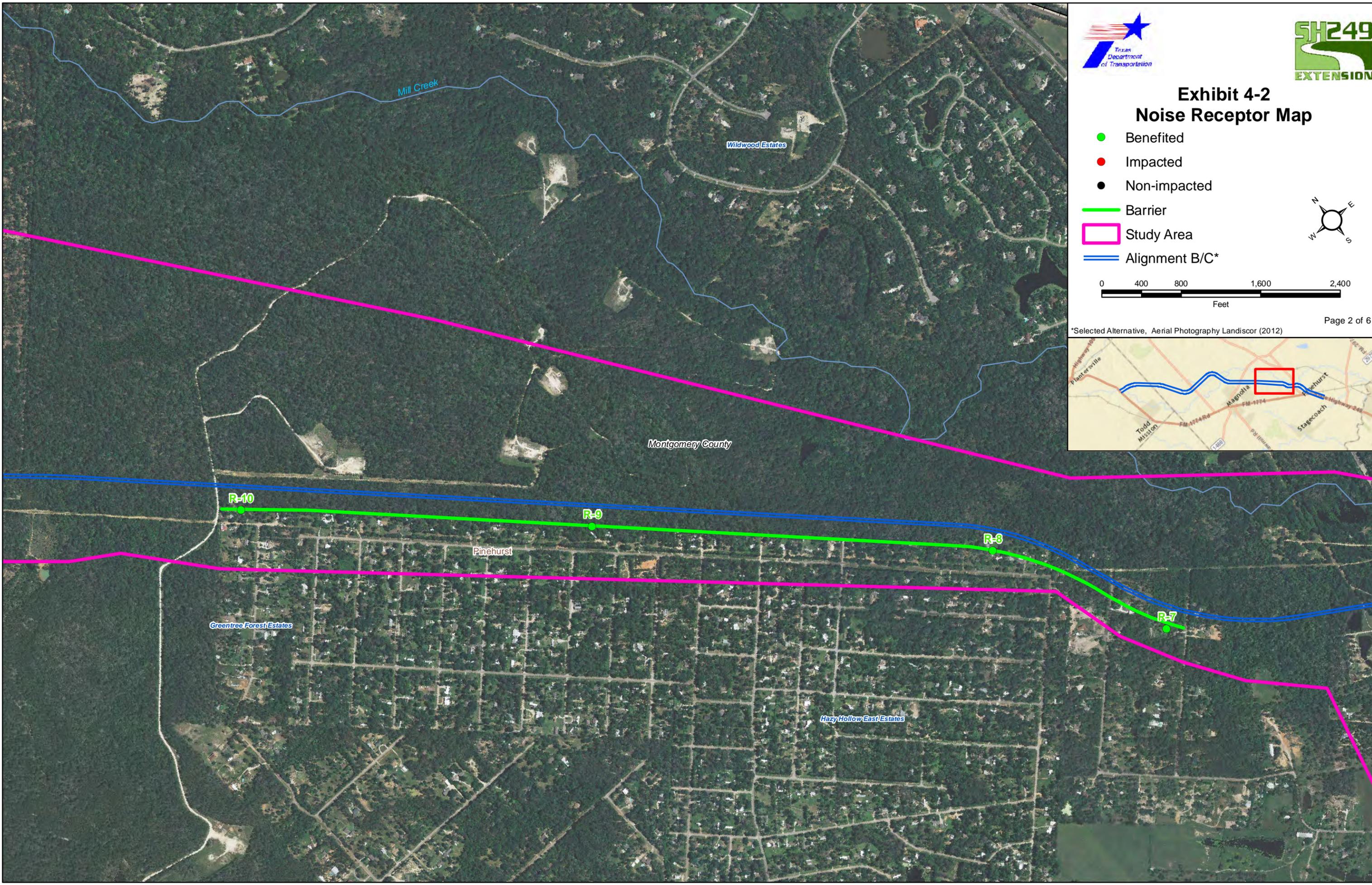
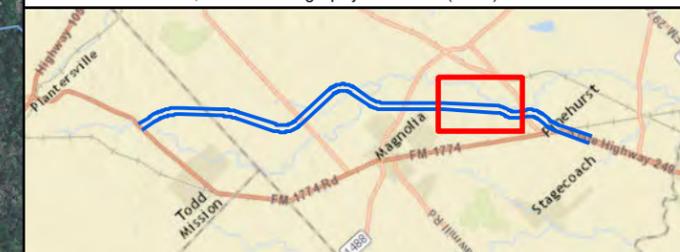


Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)

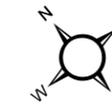


Magnolia Hills



Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)

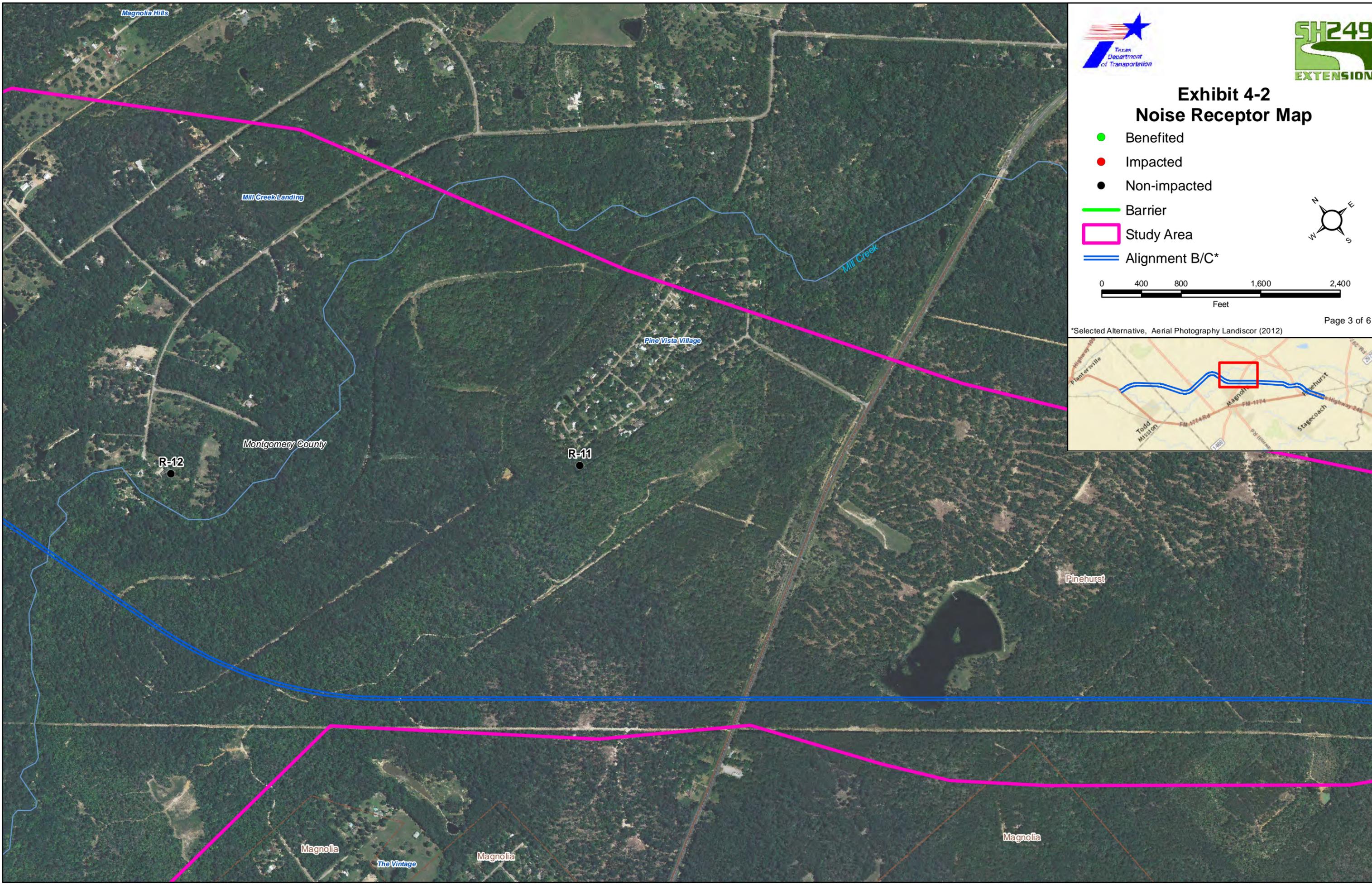
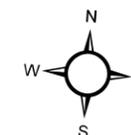
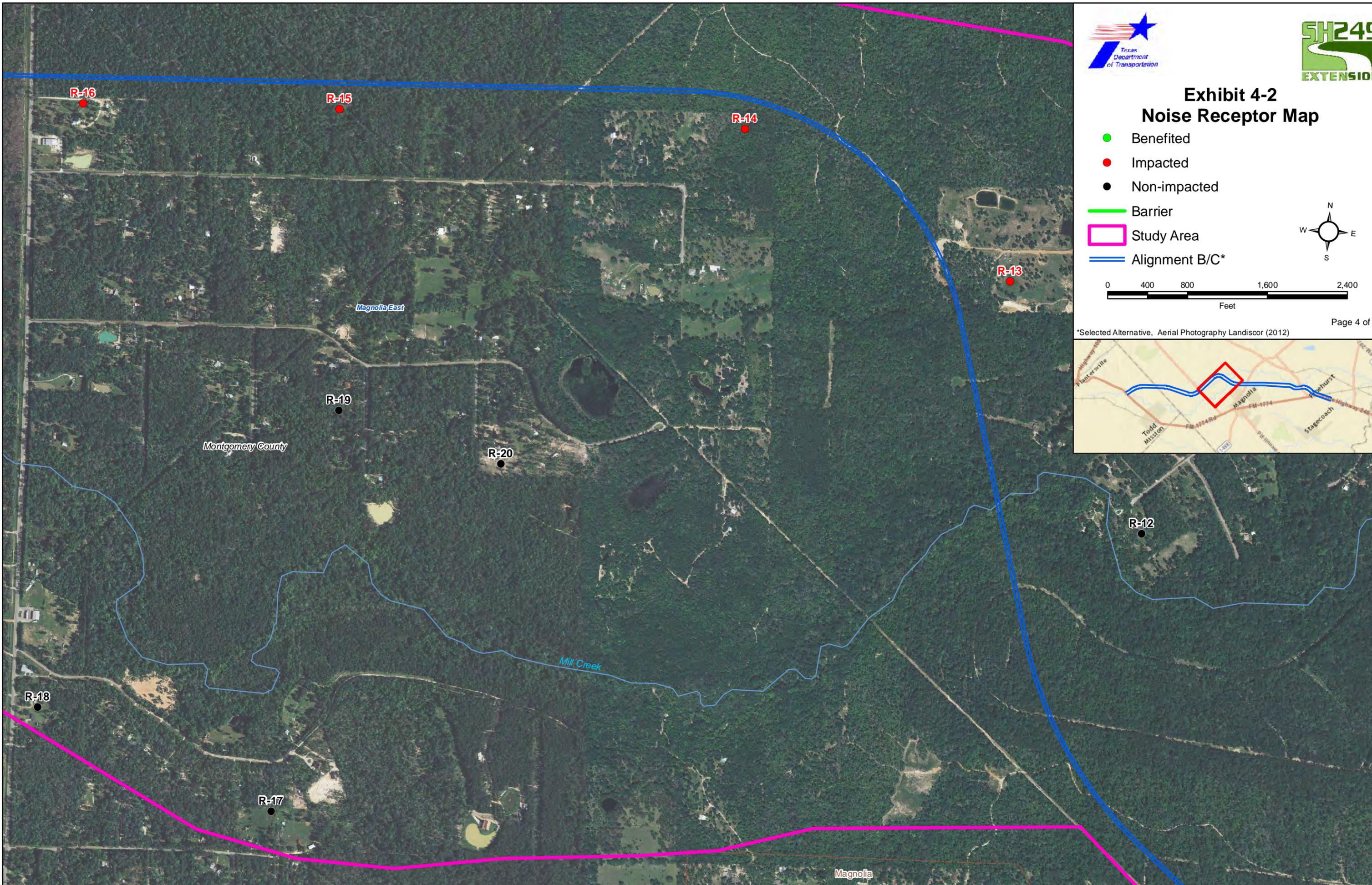


Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)



R-16

R-15

R-14

R-13

R-19

R-20

R-12

R-18

R-17

Magnolia East

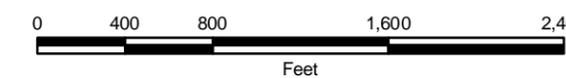
Montgomery County

Mill Creek

Magnolia

Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)

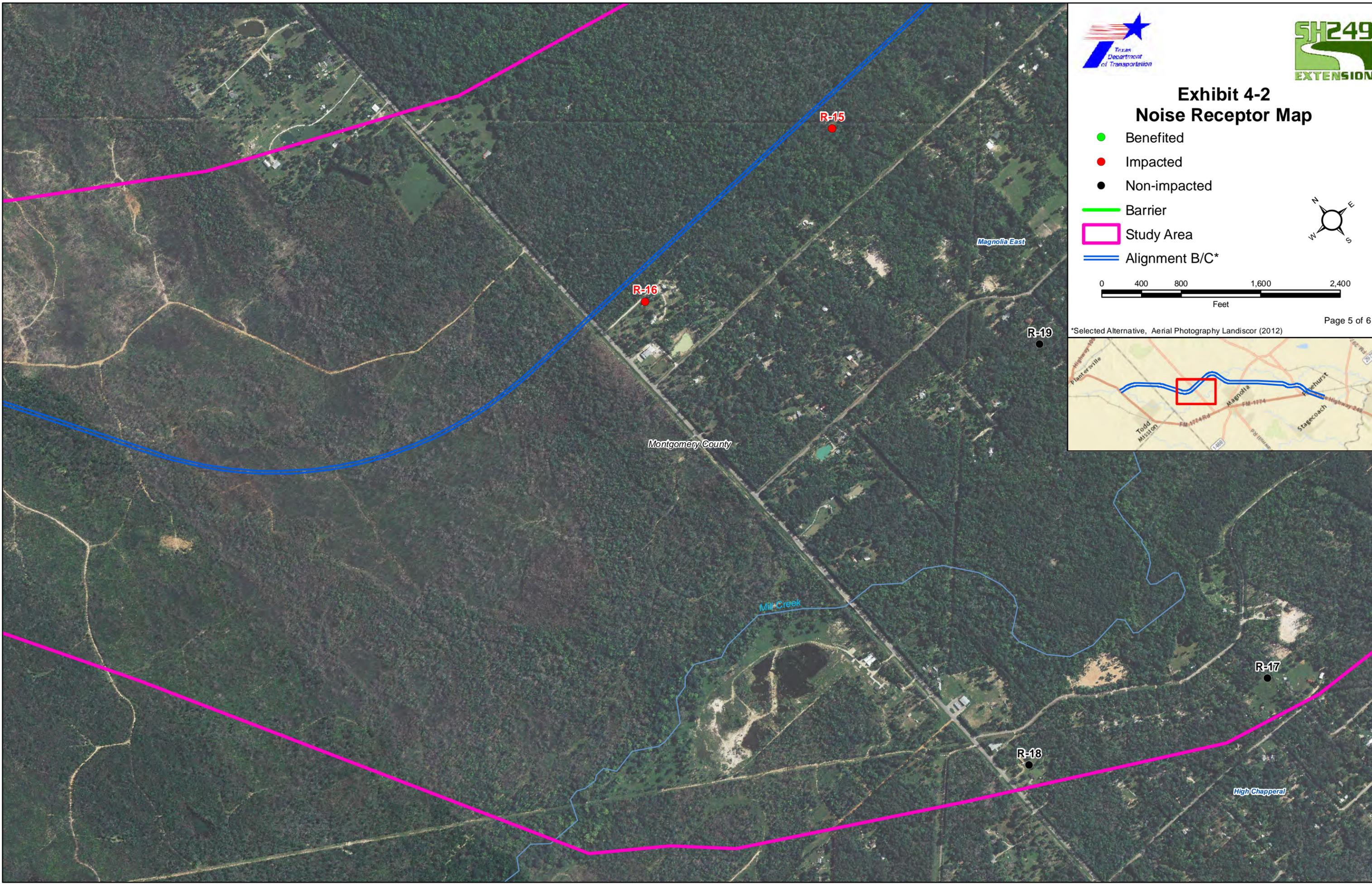
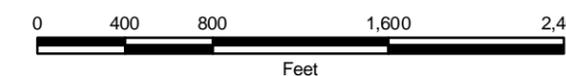


Exhibit 4-2 Noise Receptor Map

- Benefited
- Impacted
- Non-impacted
- Barrier
- Study Area
- Alignment B/C*



*Selected Alternative, Aerial Photography LandisCor (2012)

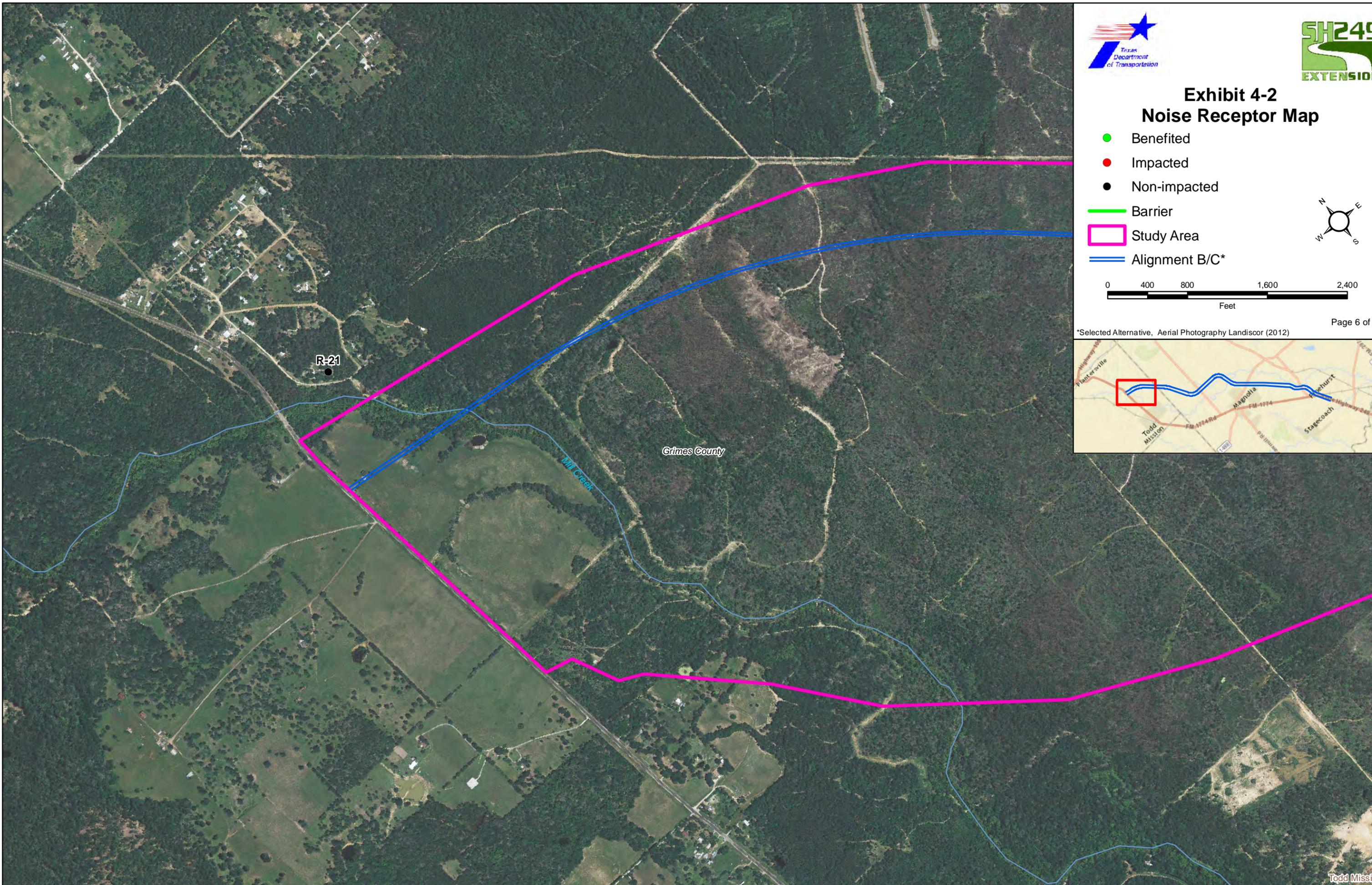
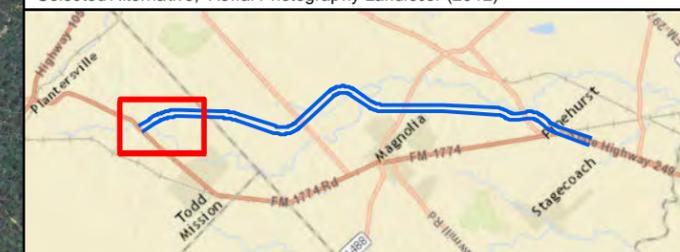


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

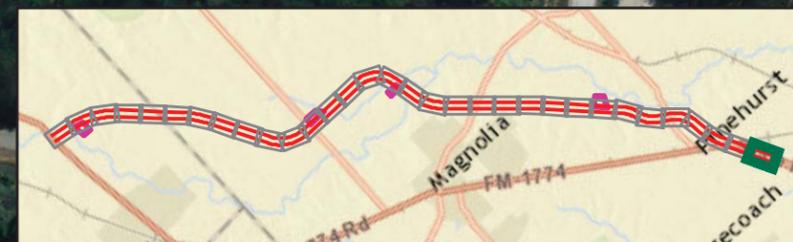
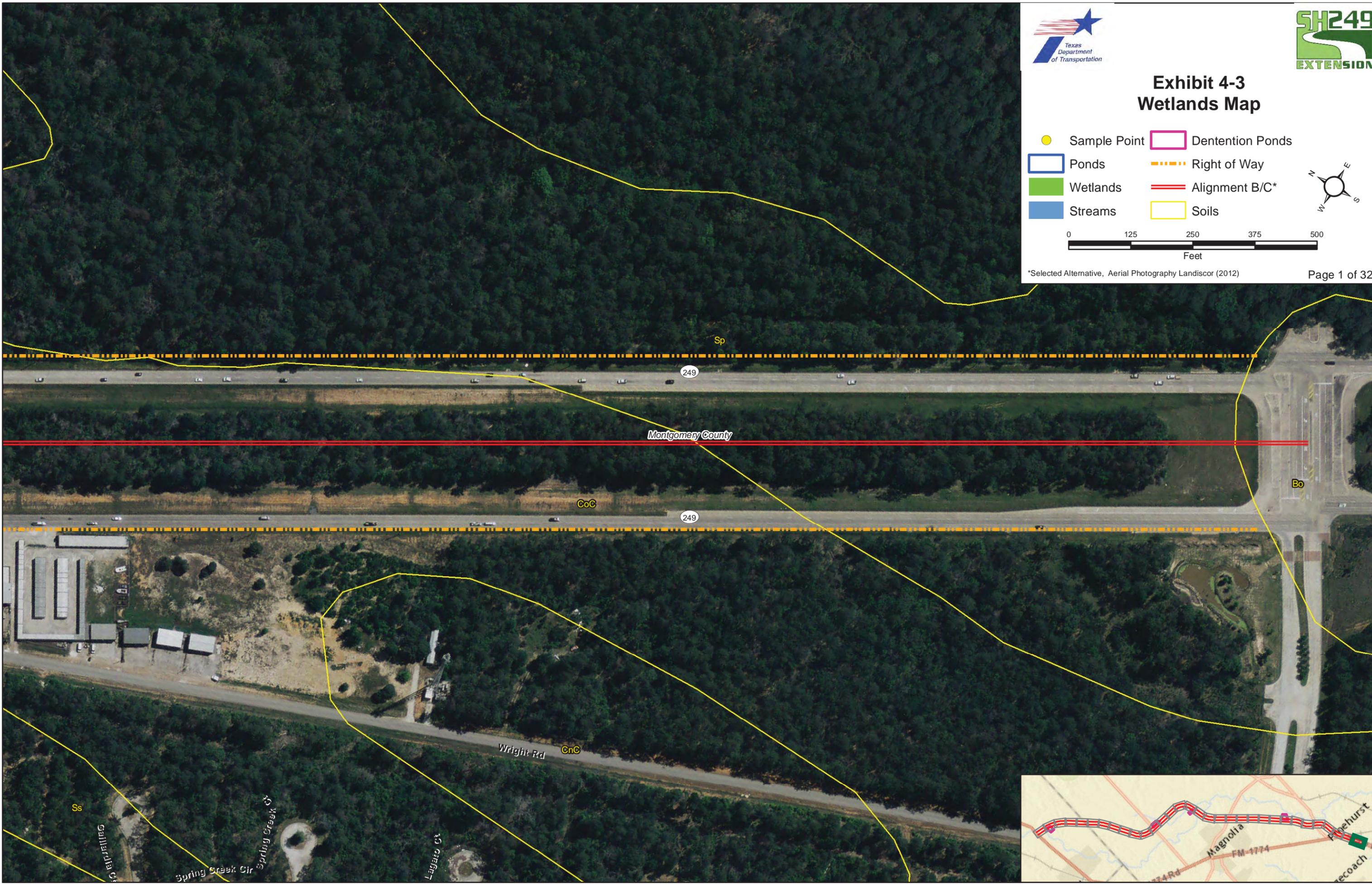
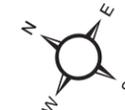


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

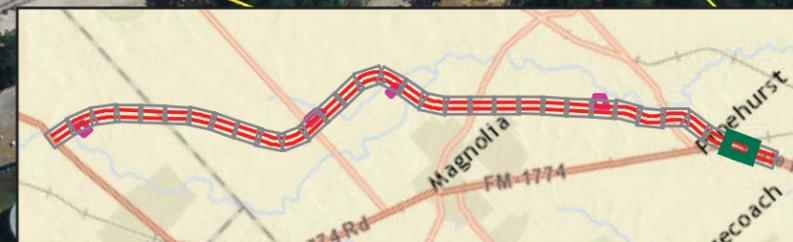
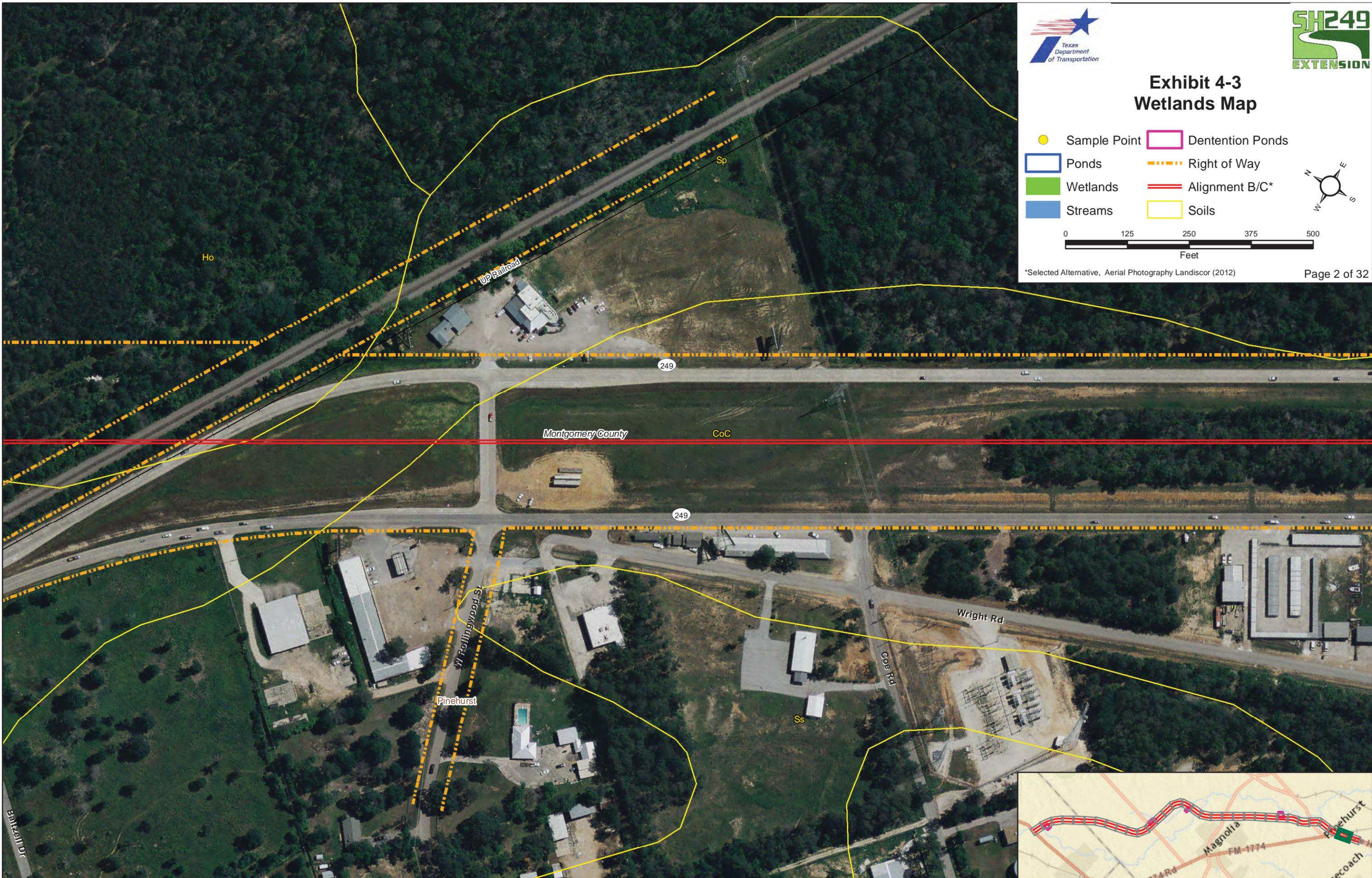


Exhibit 4-3 Wetlands Map

- Sample Point
- Ponds
- Wetlands
- Streams
- Detention Ponds
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

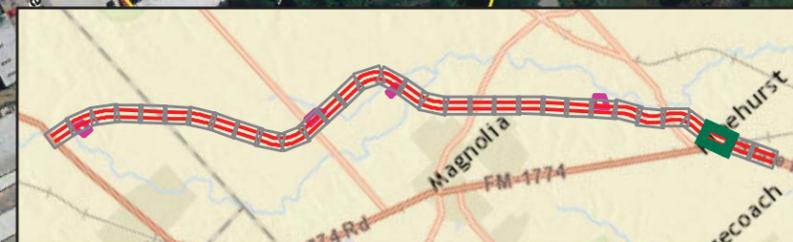
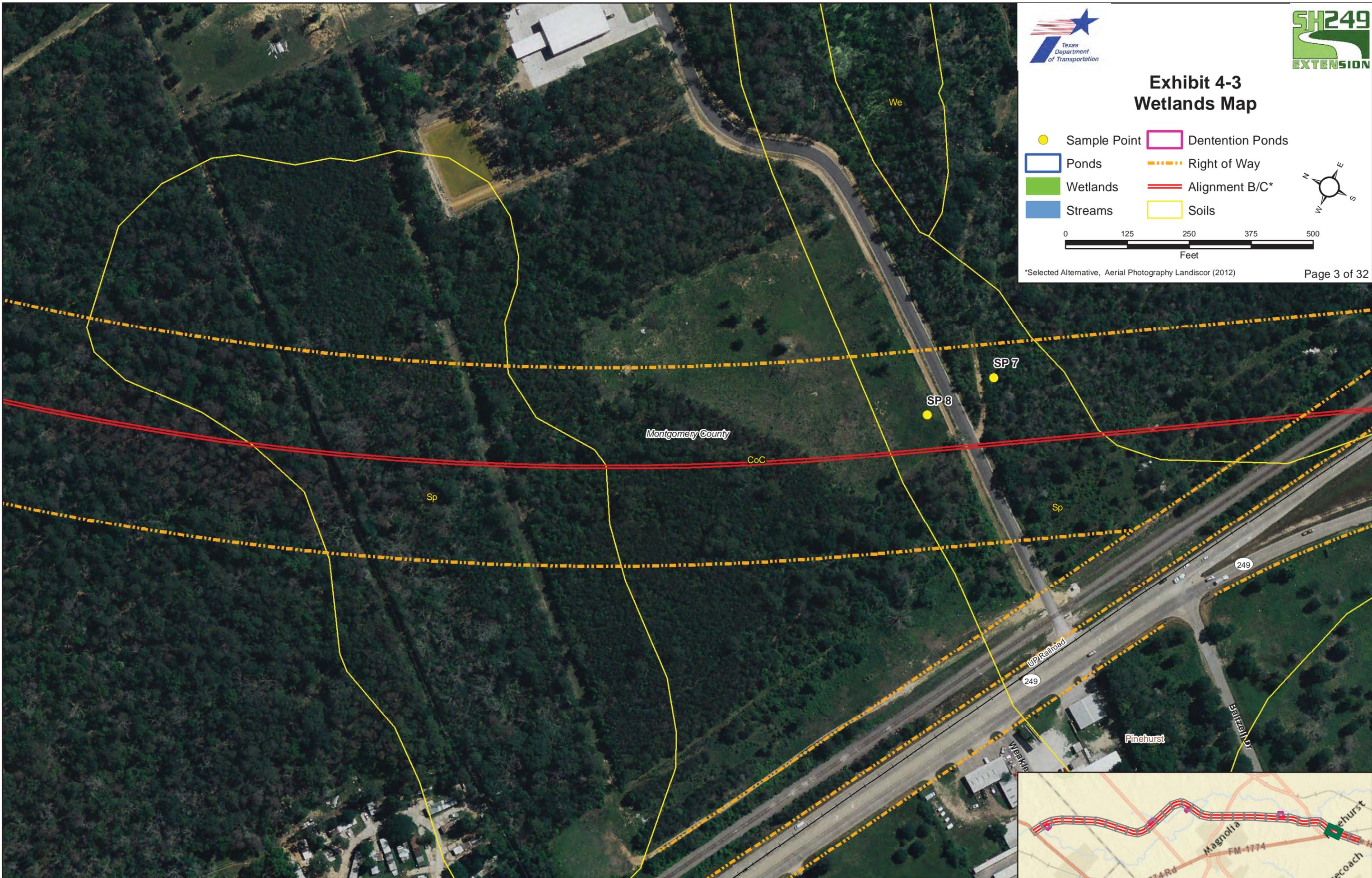
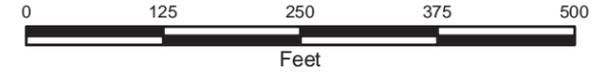
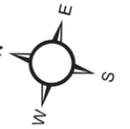


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

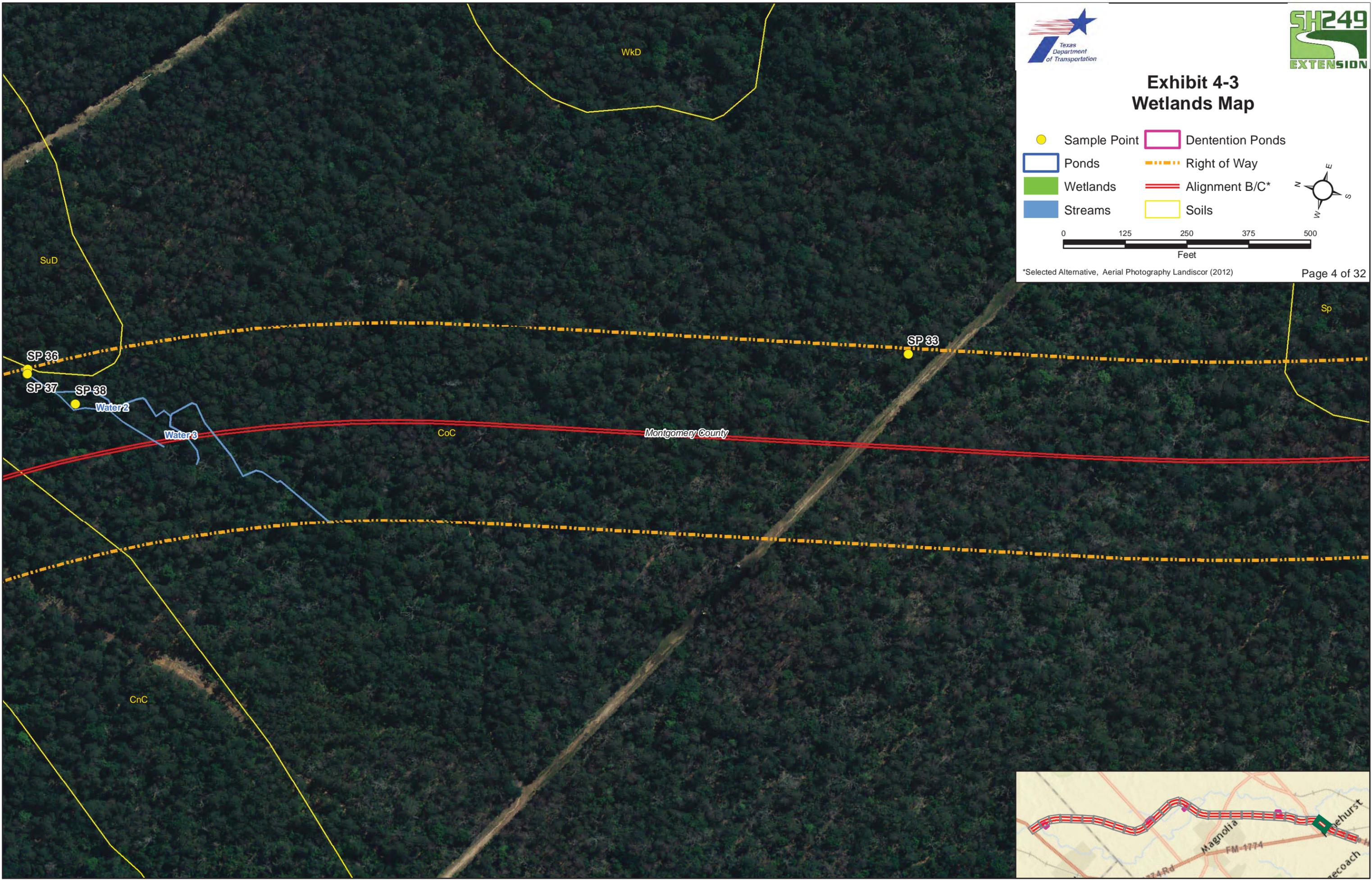


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

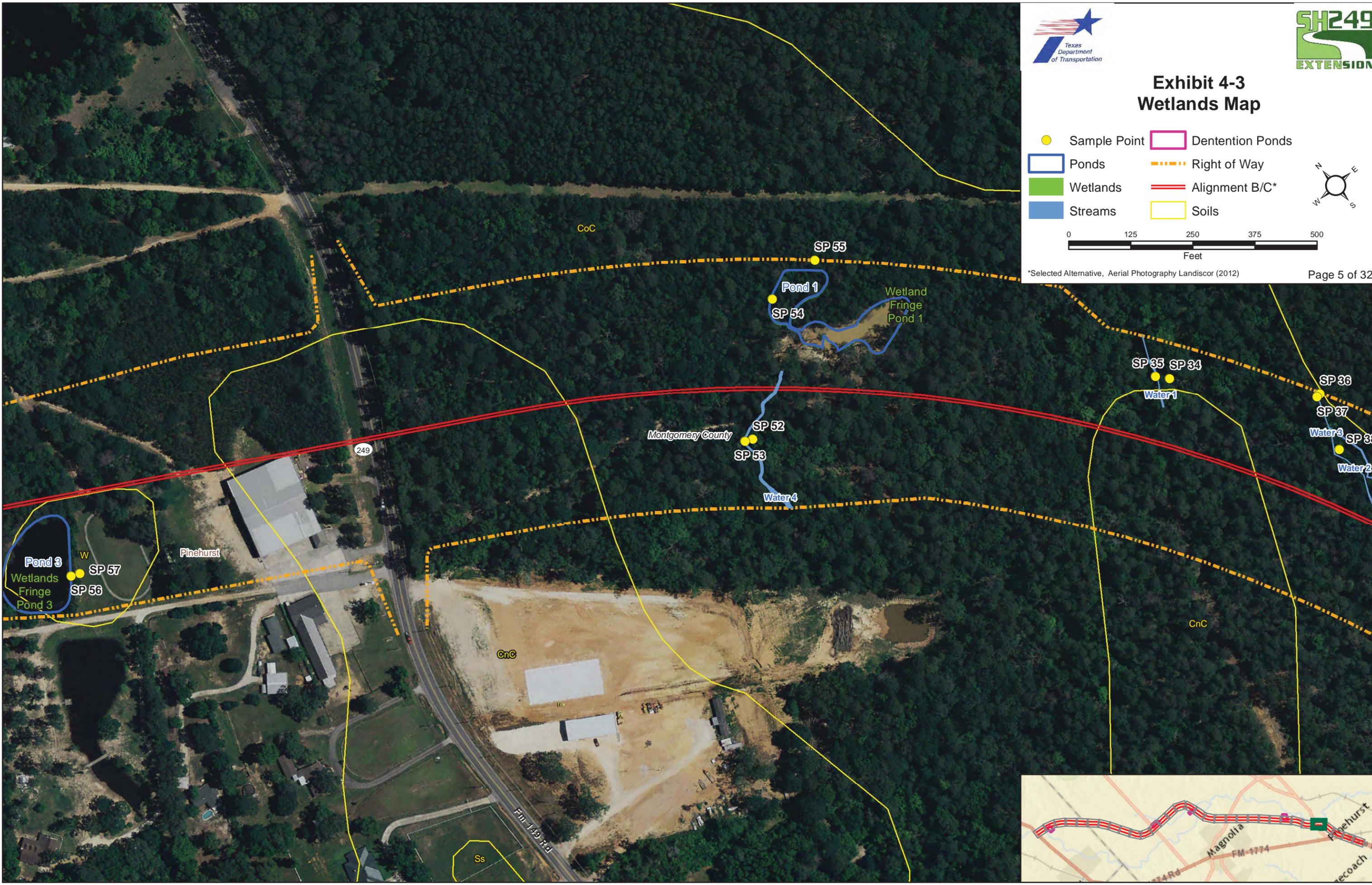


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

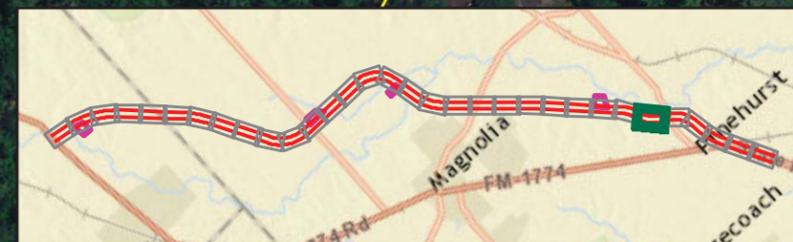
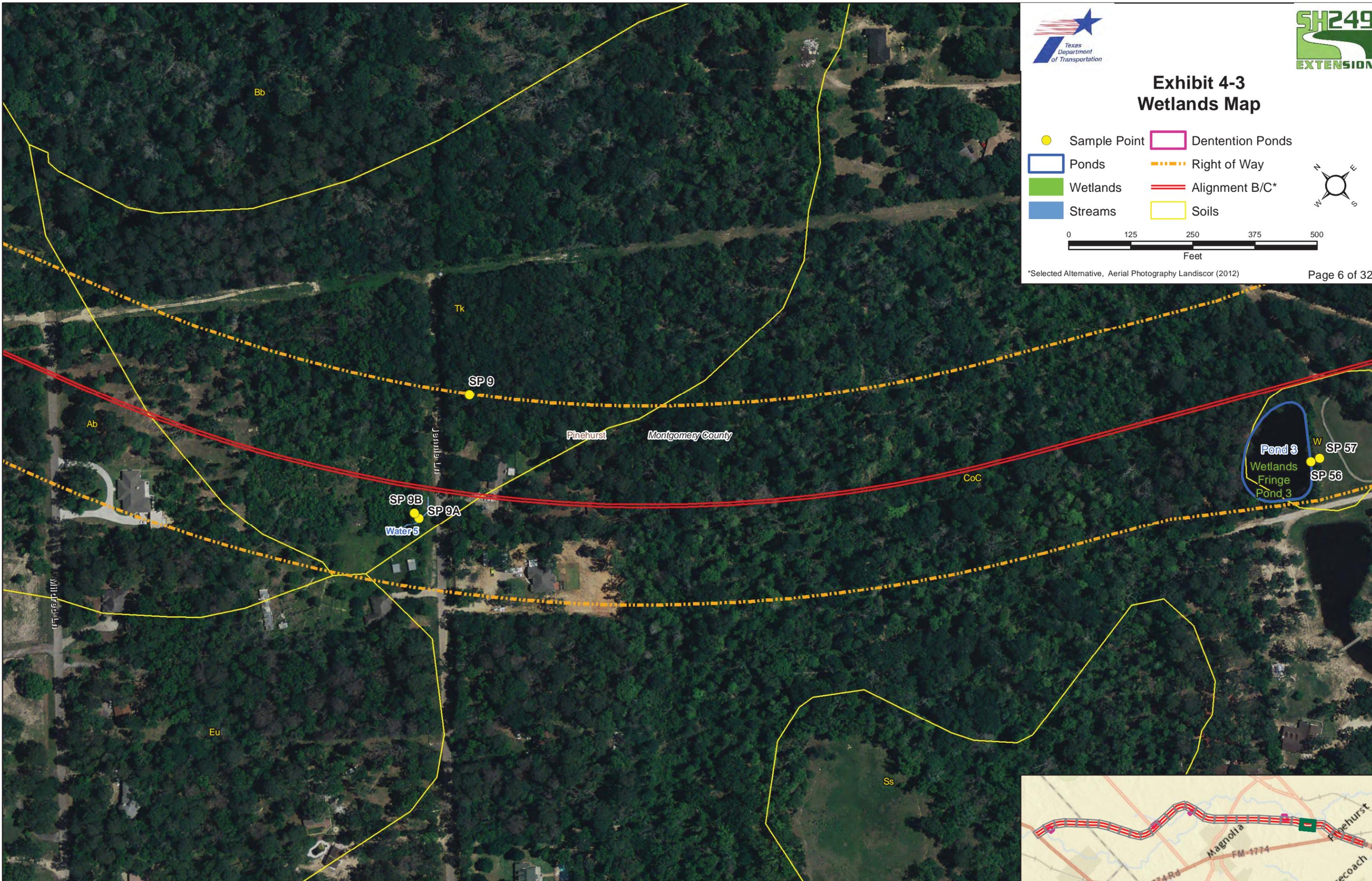


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

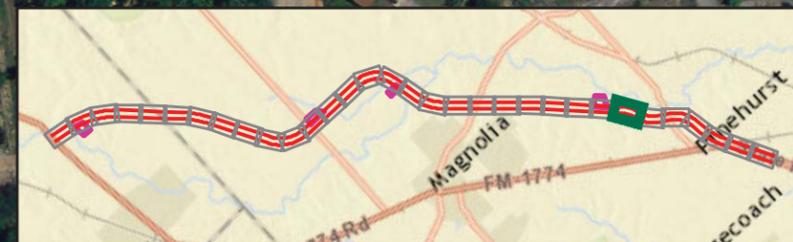
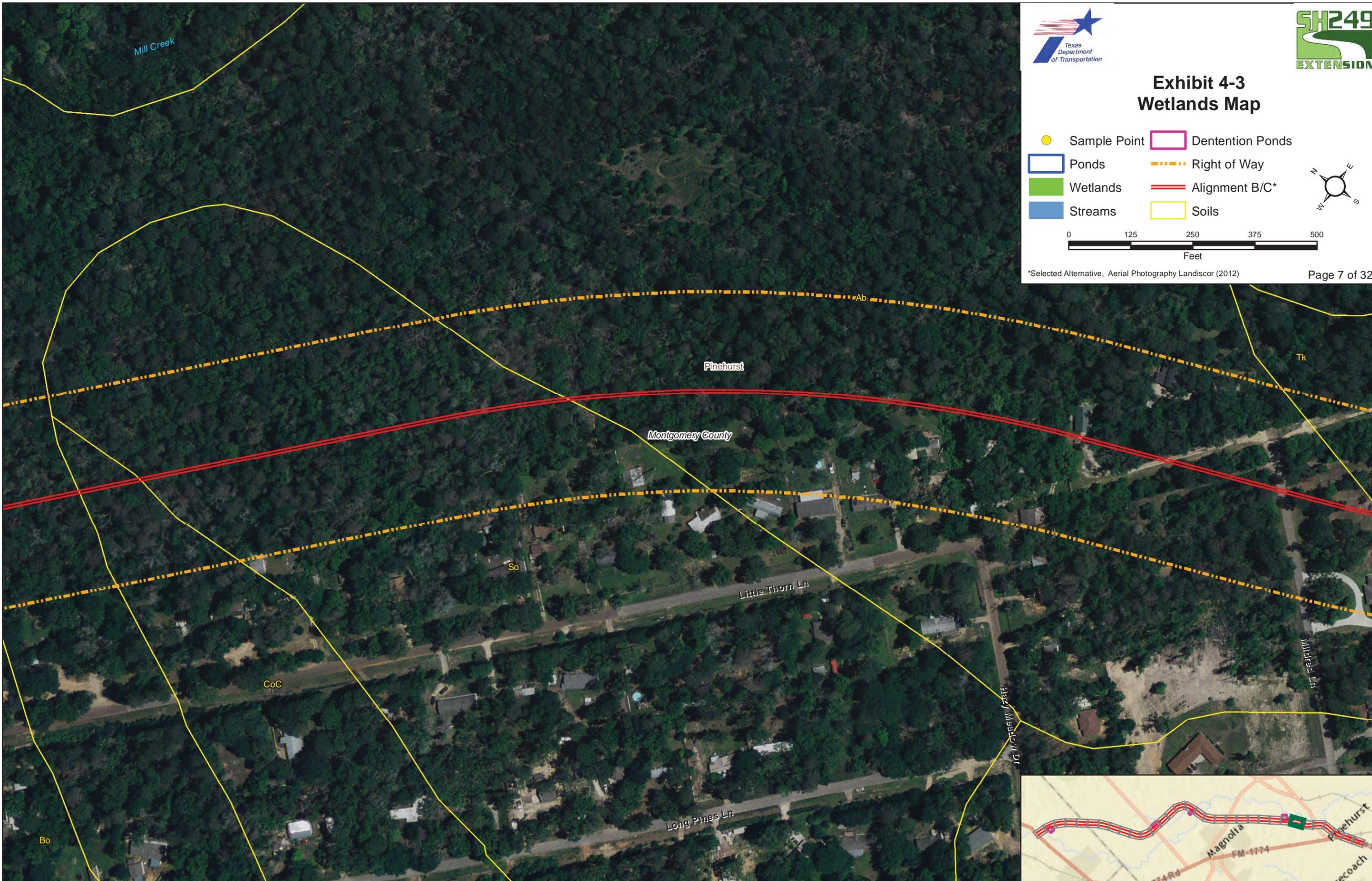


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

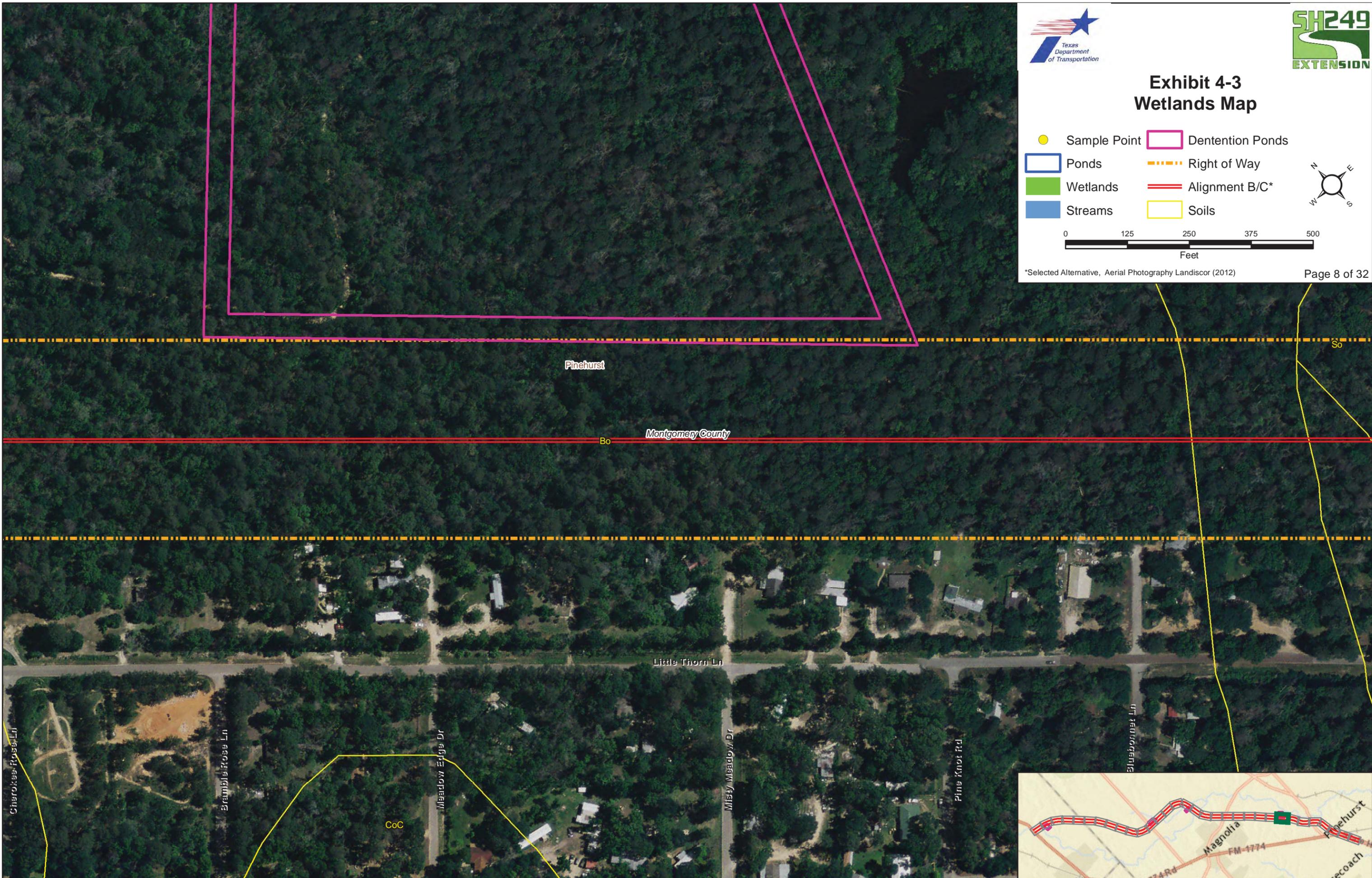


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

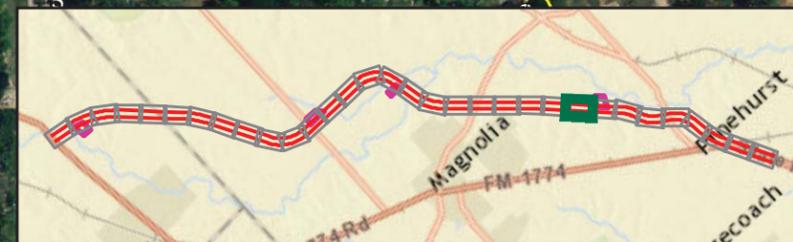
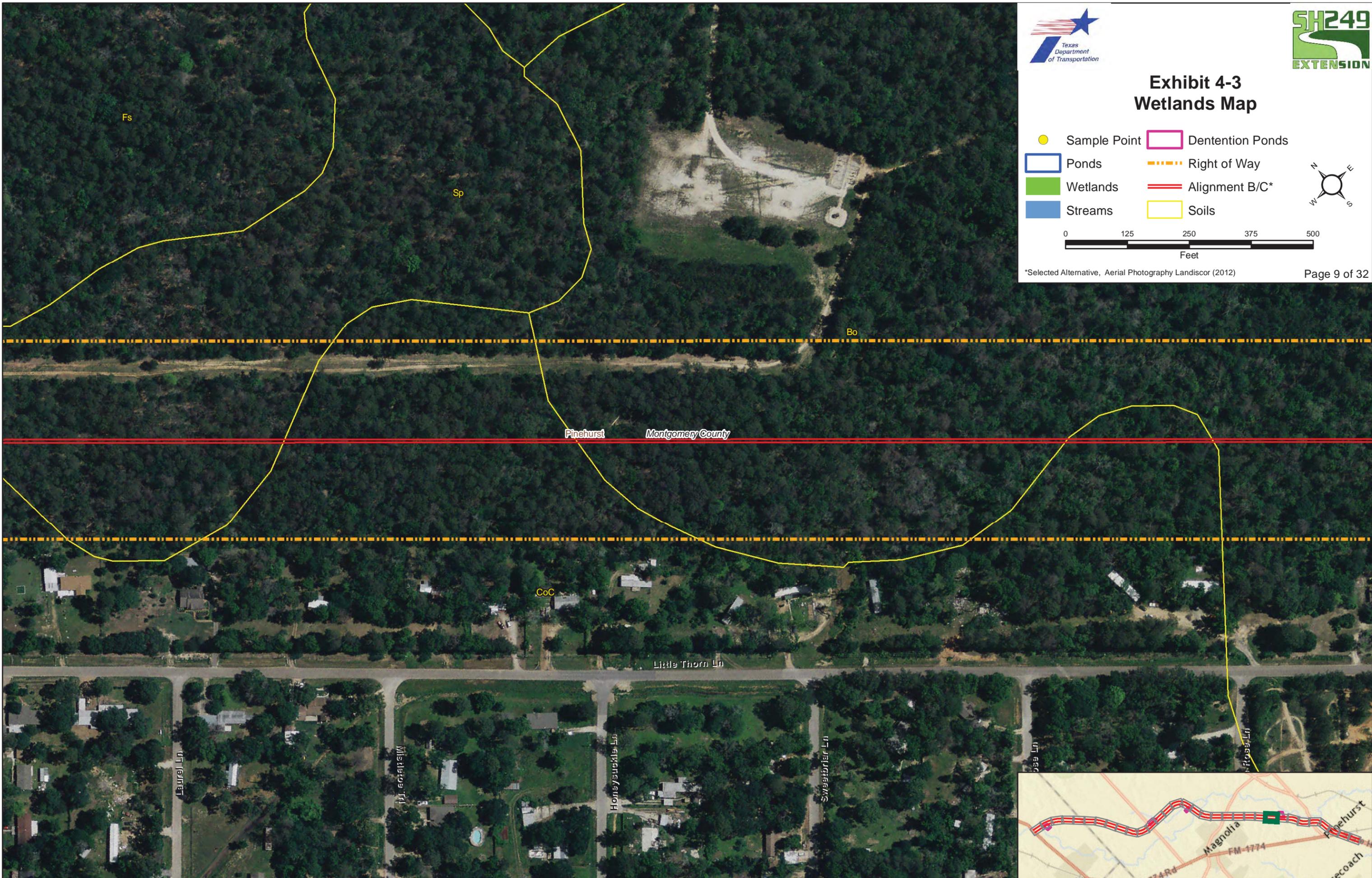
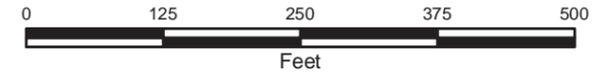


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

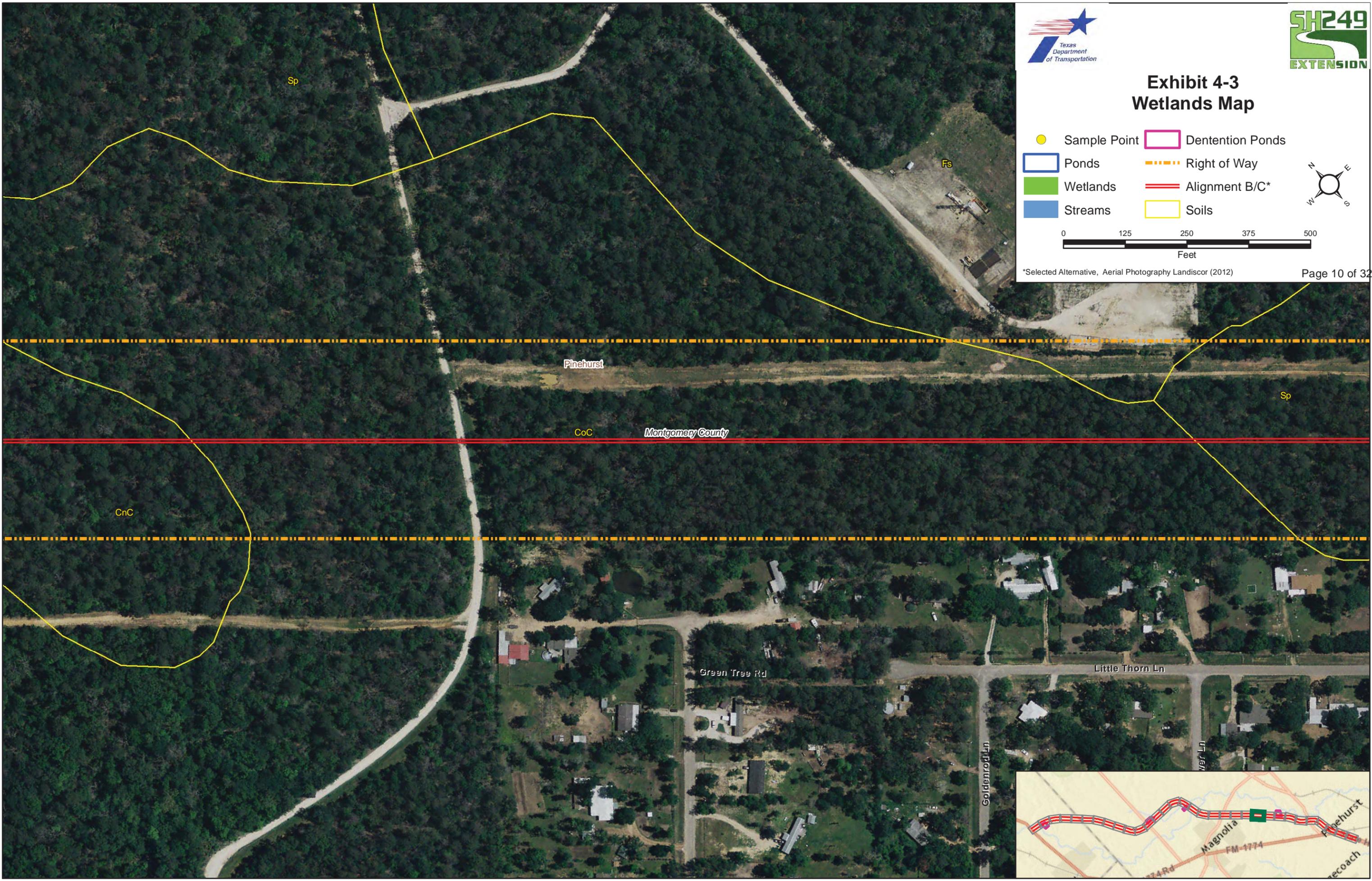


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

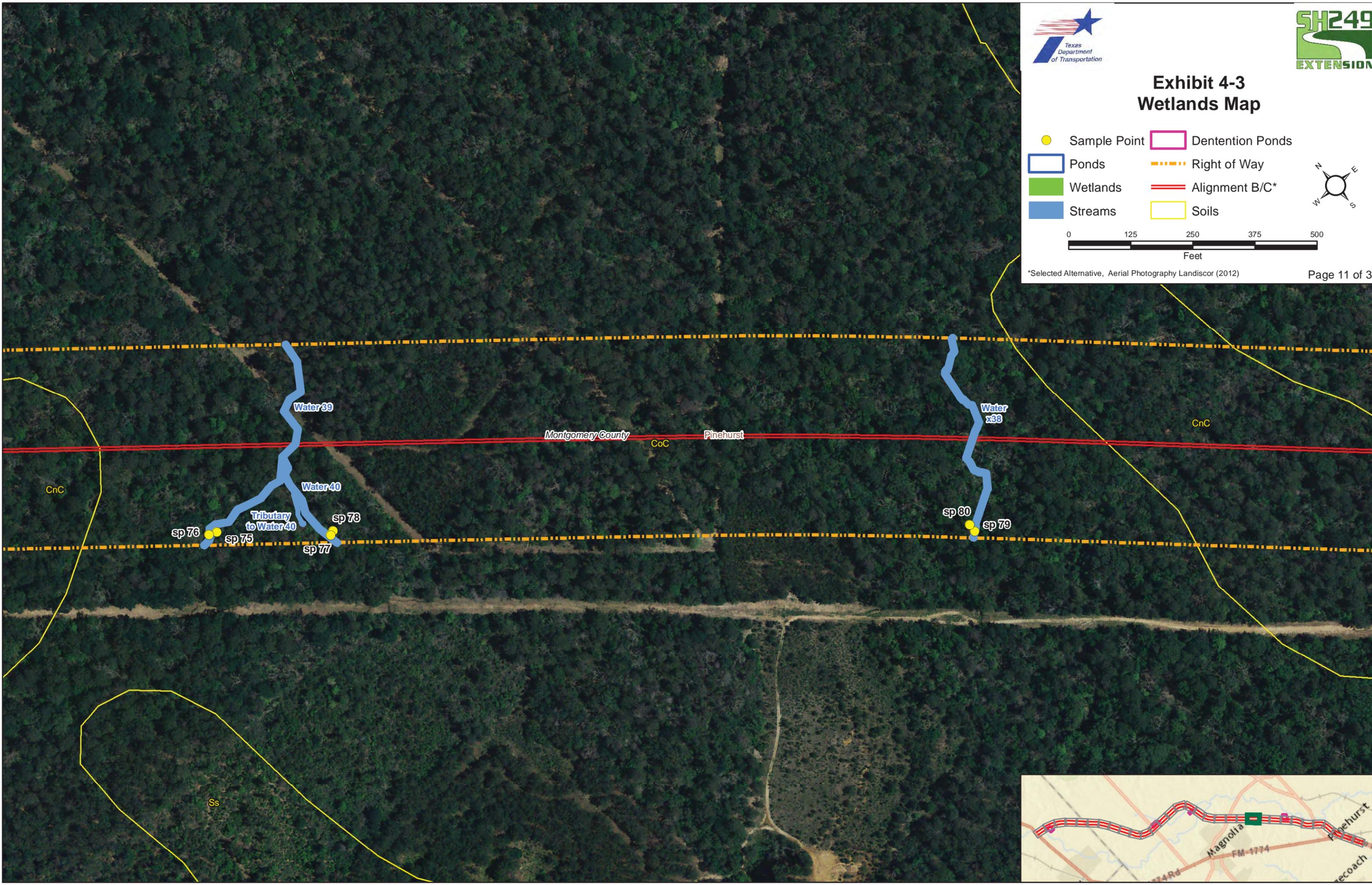
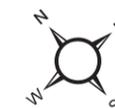


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

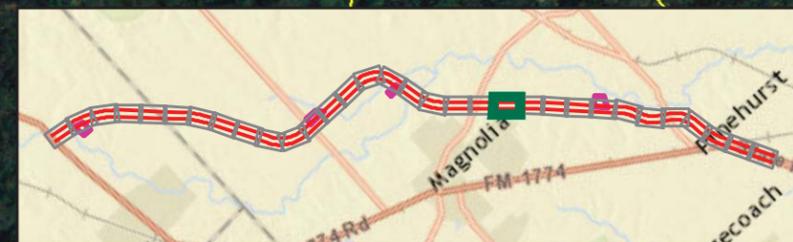
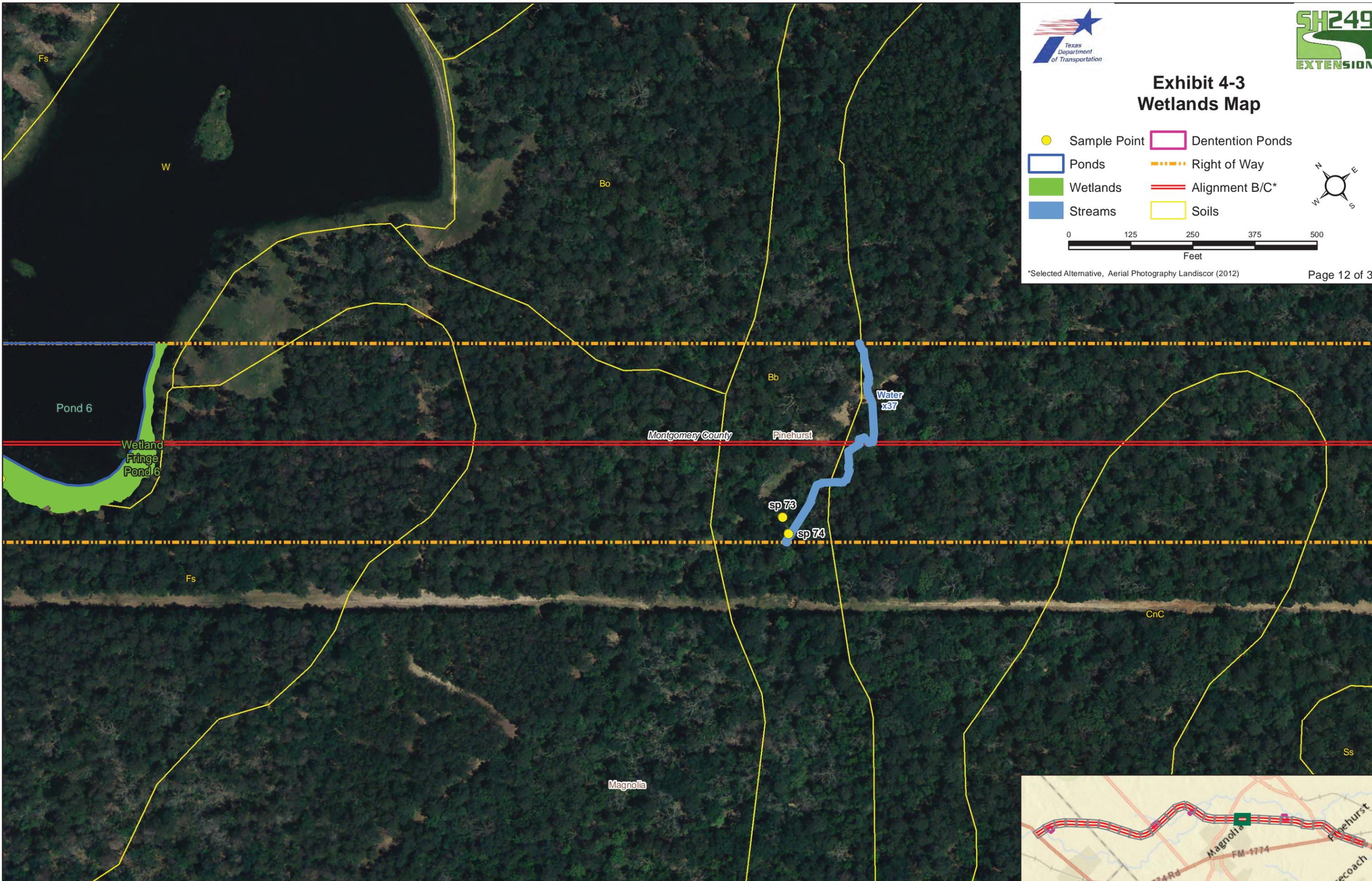
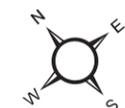


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

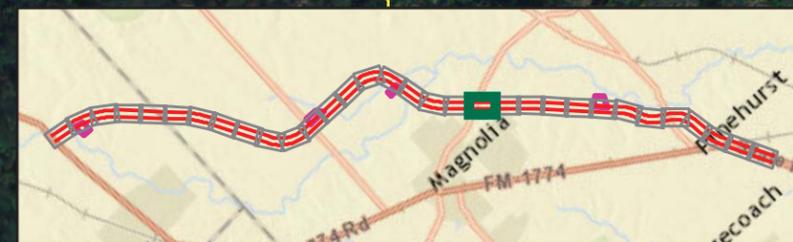
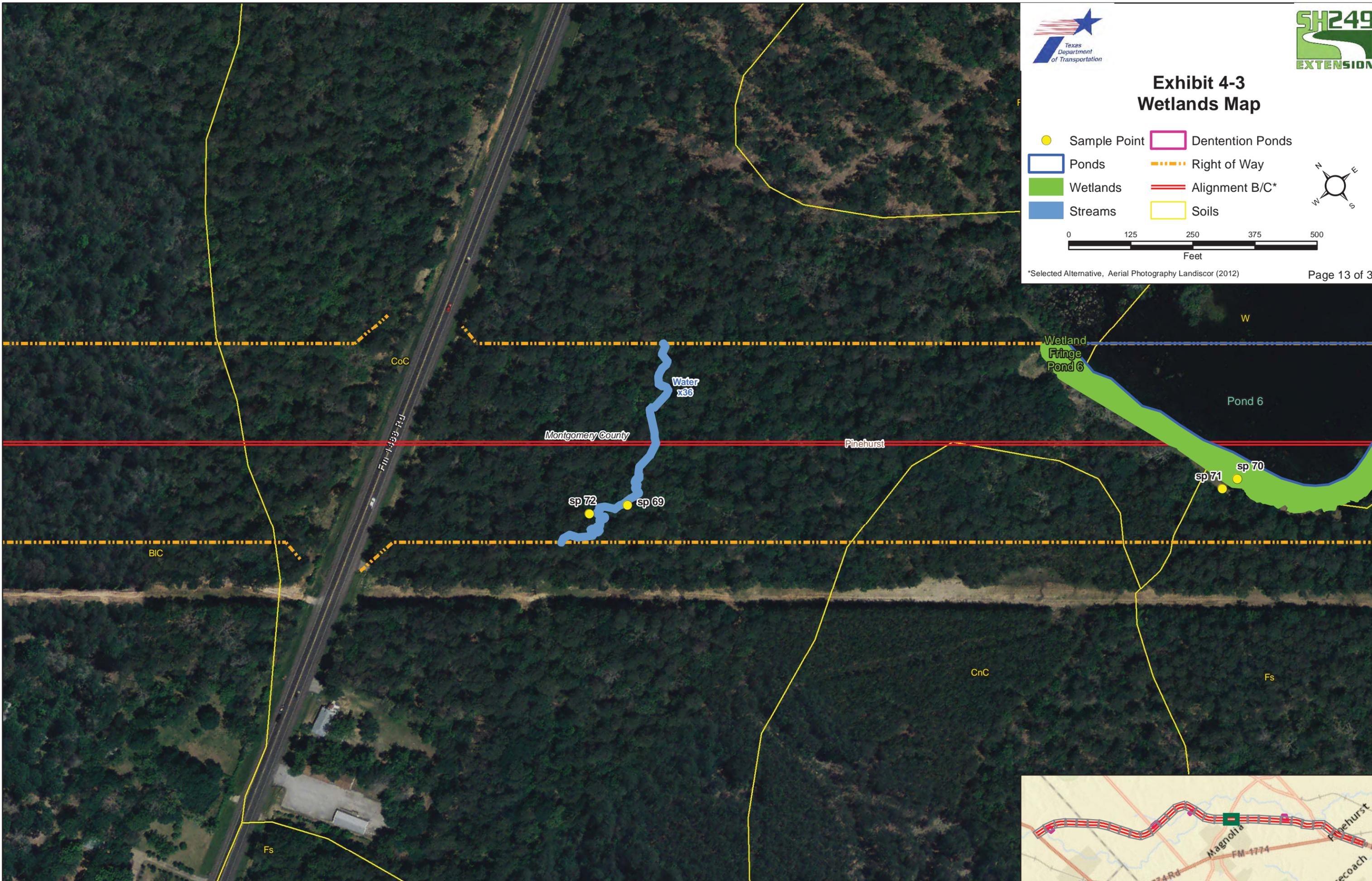
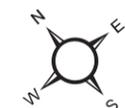
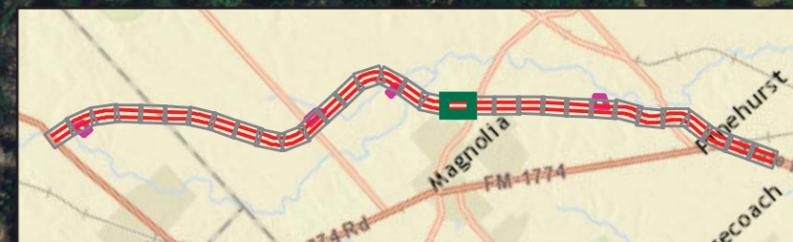
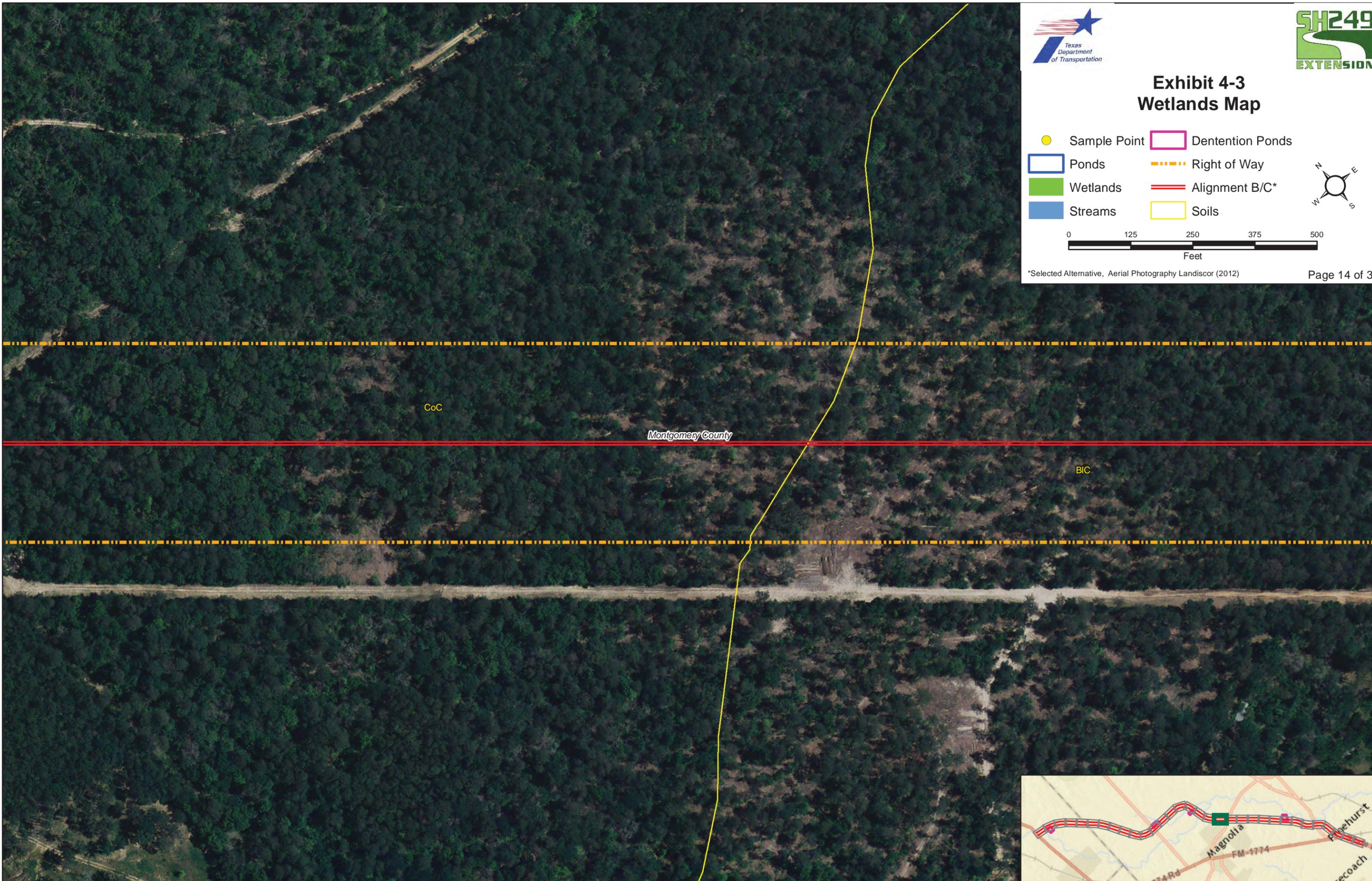


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Right of Way
- Wetlands
- Alignment B/C*
- Streams
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)



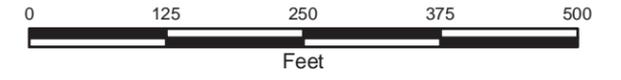
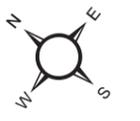
Bb

Bridge Ln



Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



*Selected Alternative, Aerial Photography LandisCor (2012)

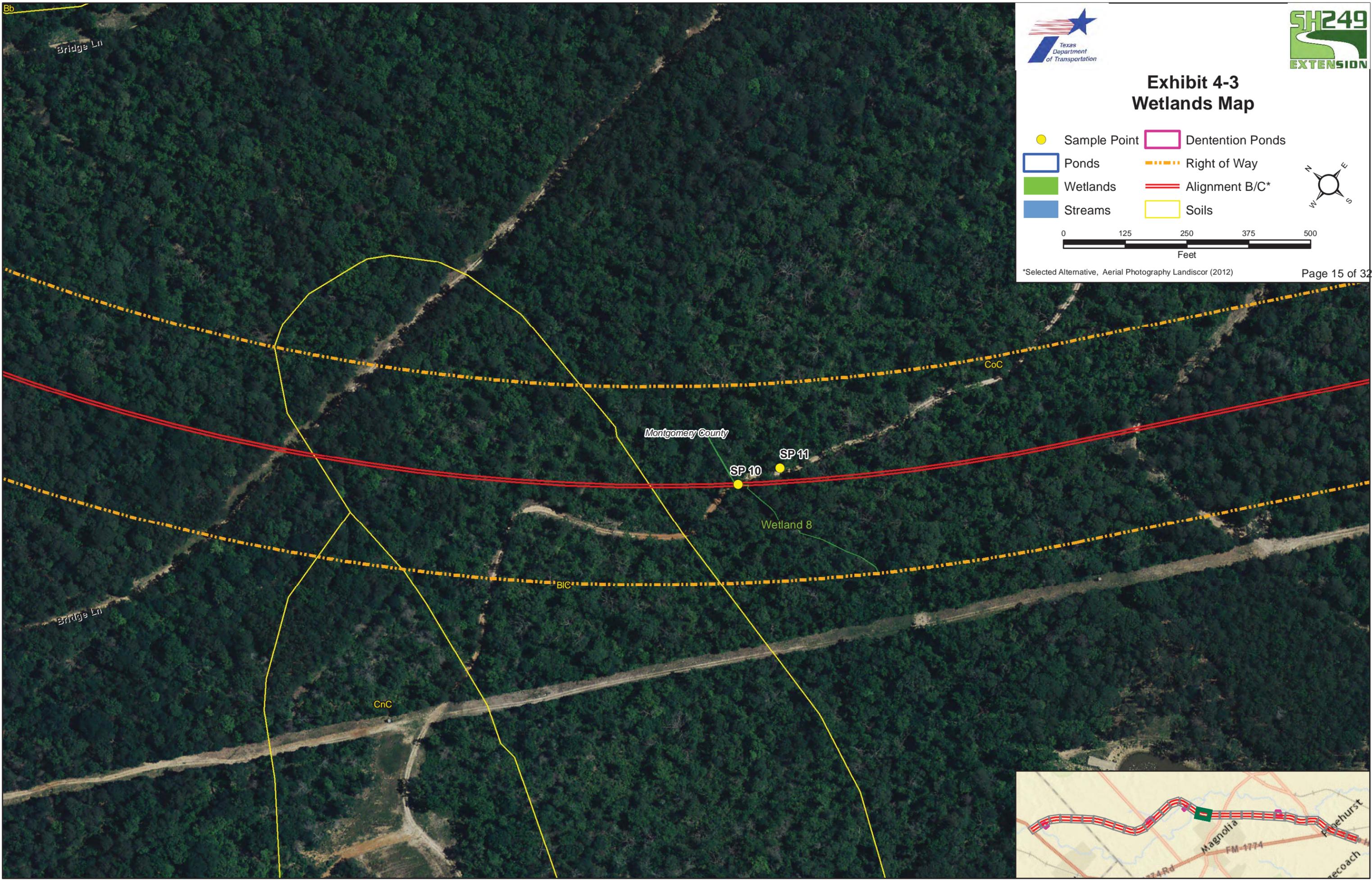
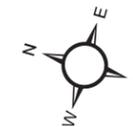


Exhibit 4-3 Wetlands Map

- Sample Point
- Detention Ponds
- Ponds
- Wetlands
- Streams
- Right of Way
- Alignment B/C*
- Soils



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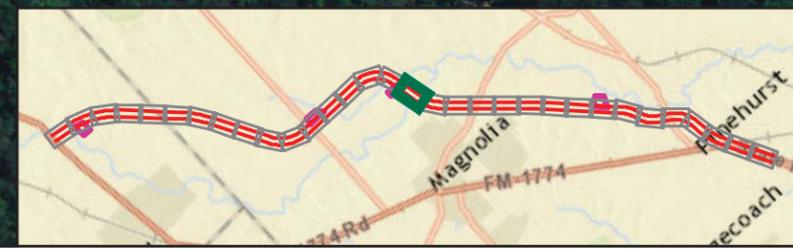
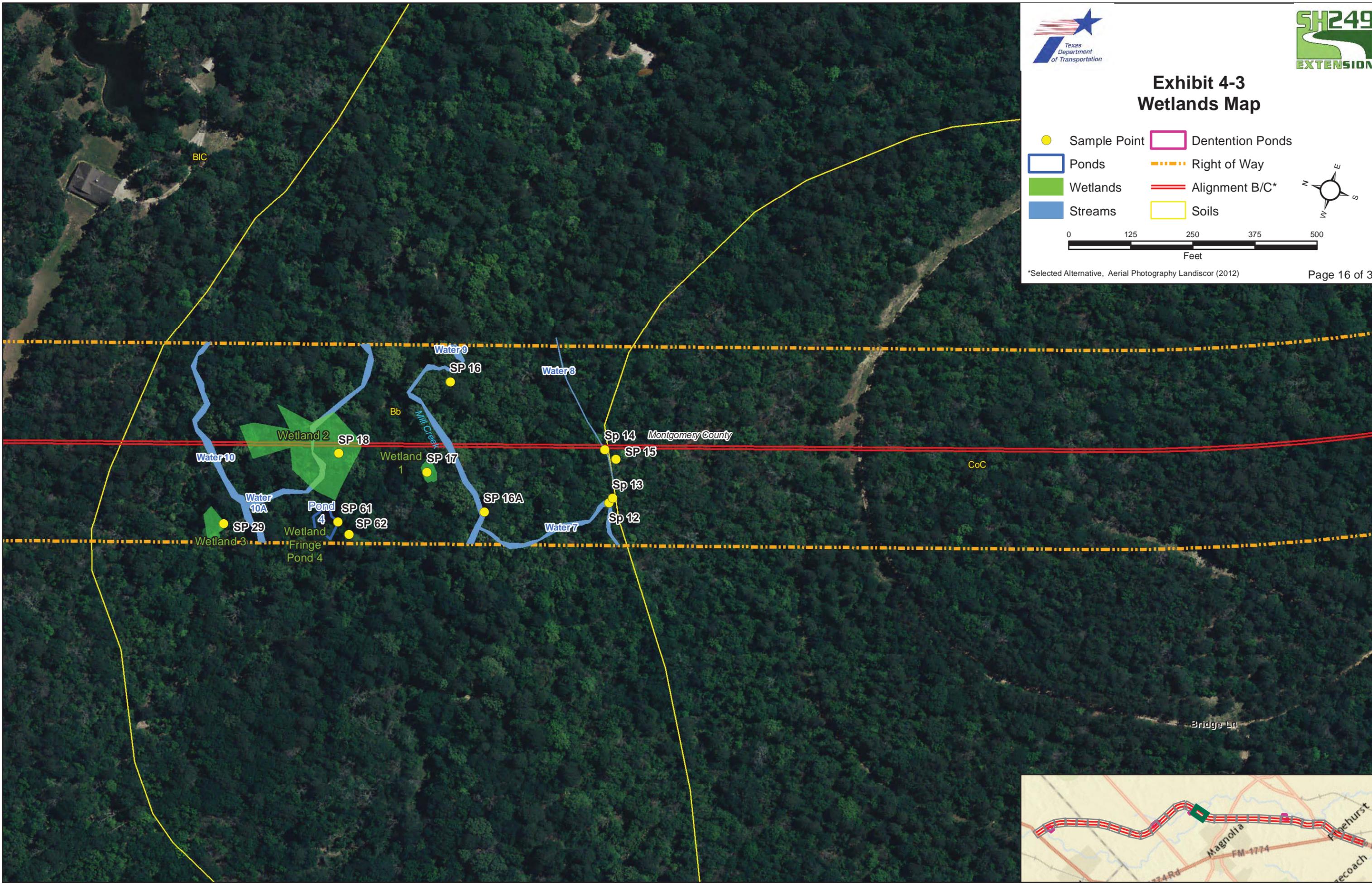
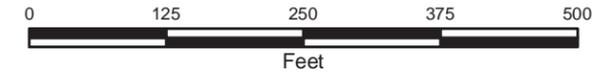
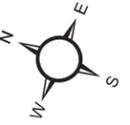


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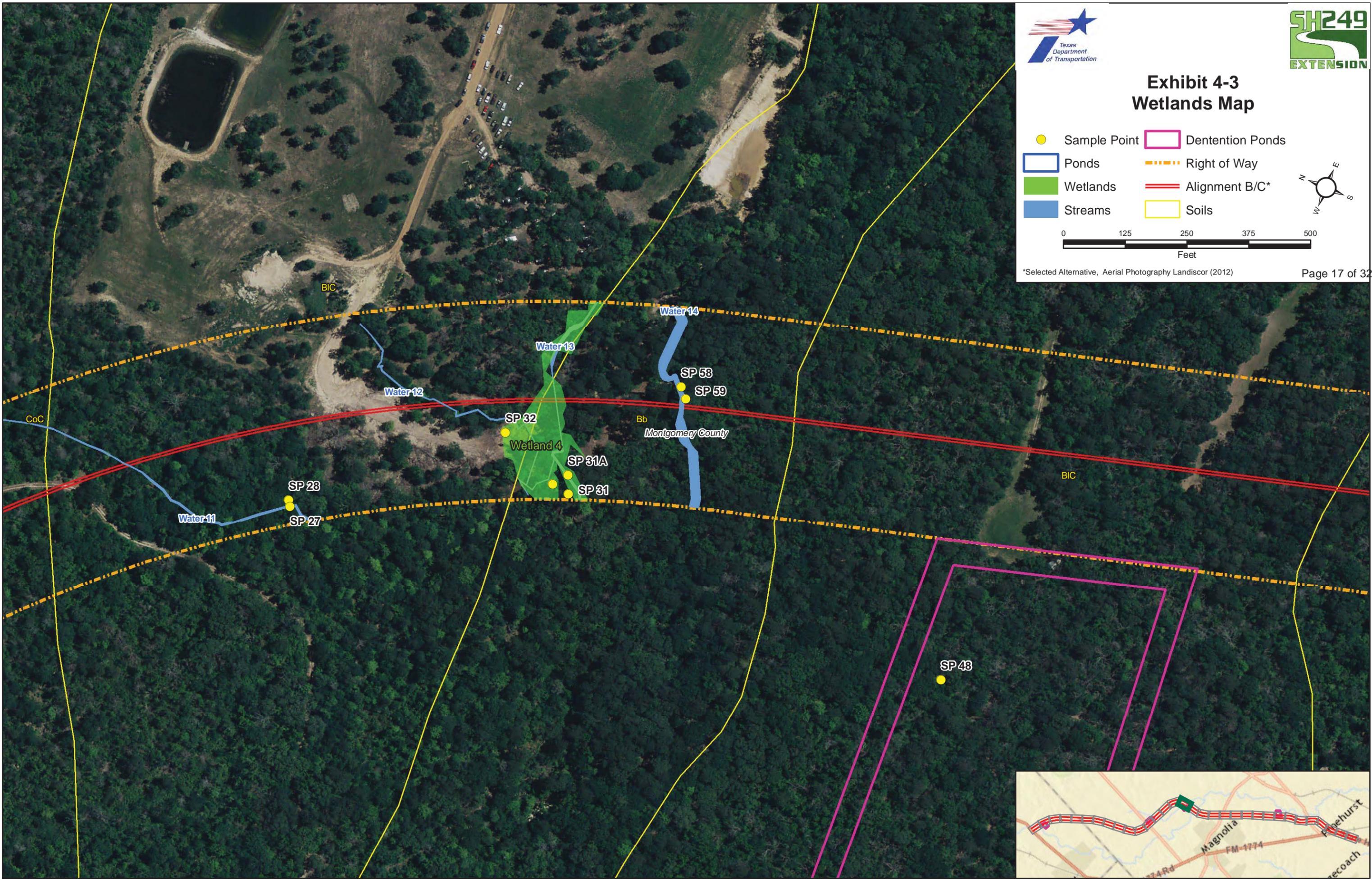
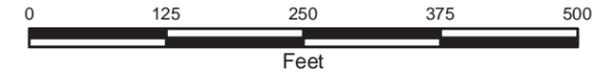
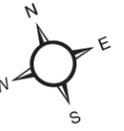


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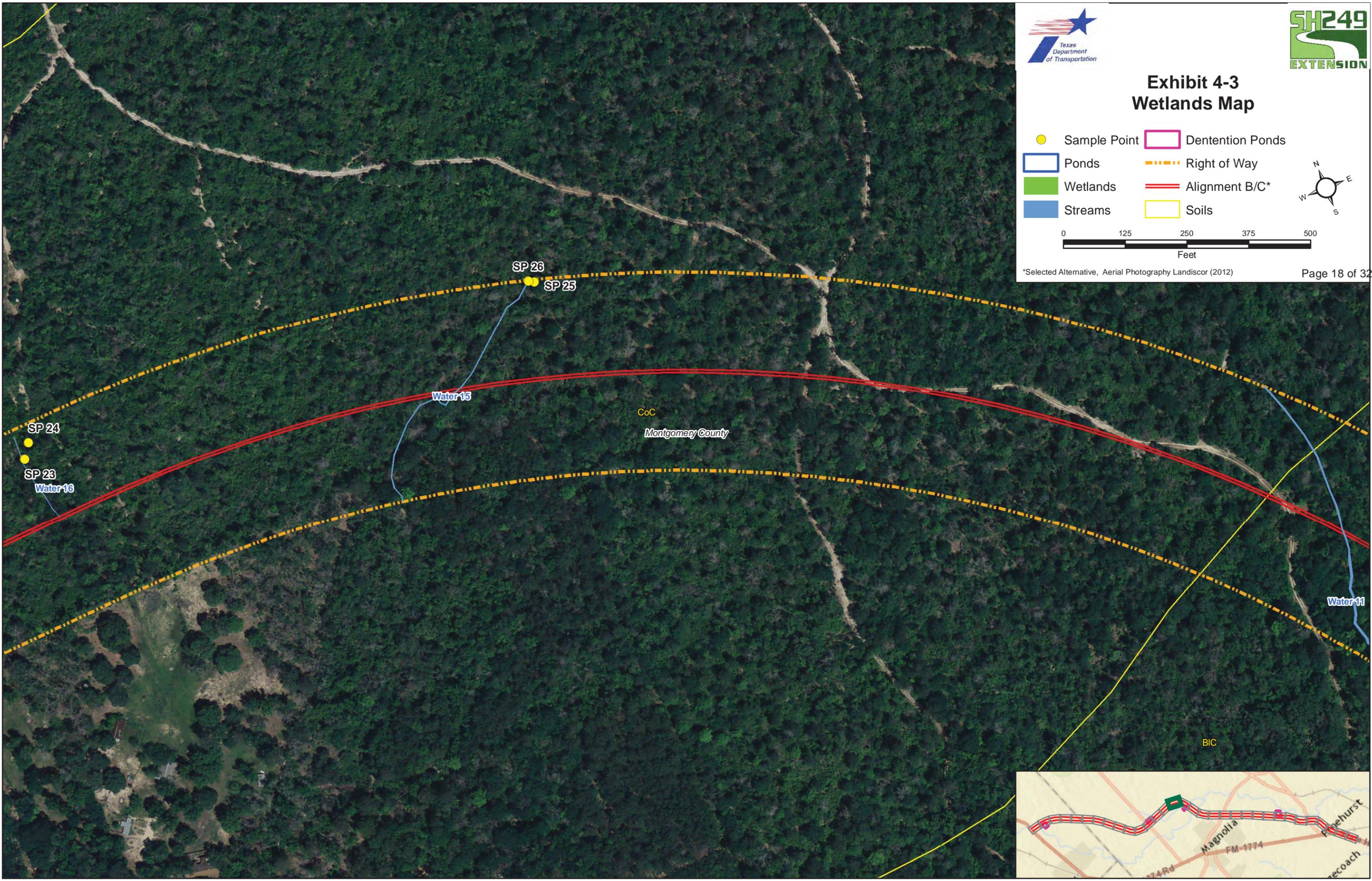
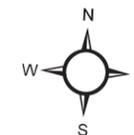
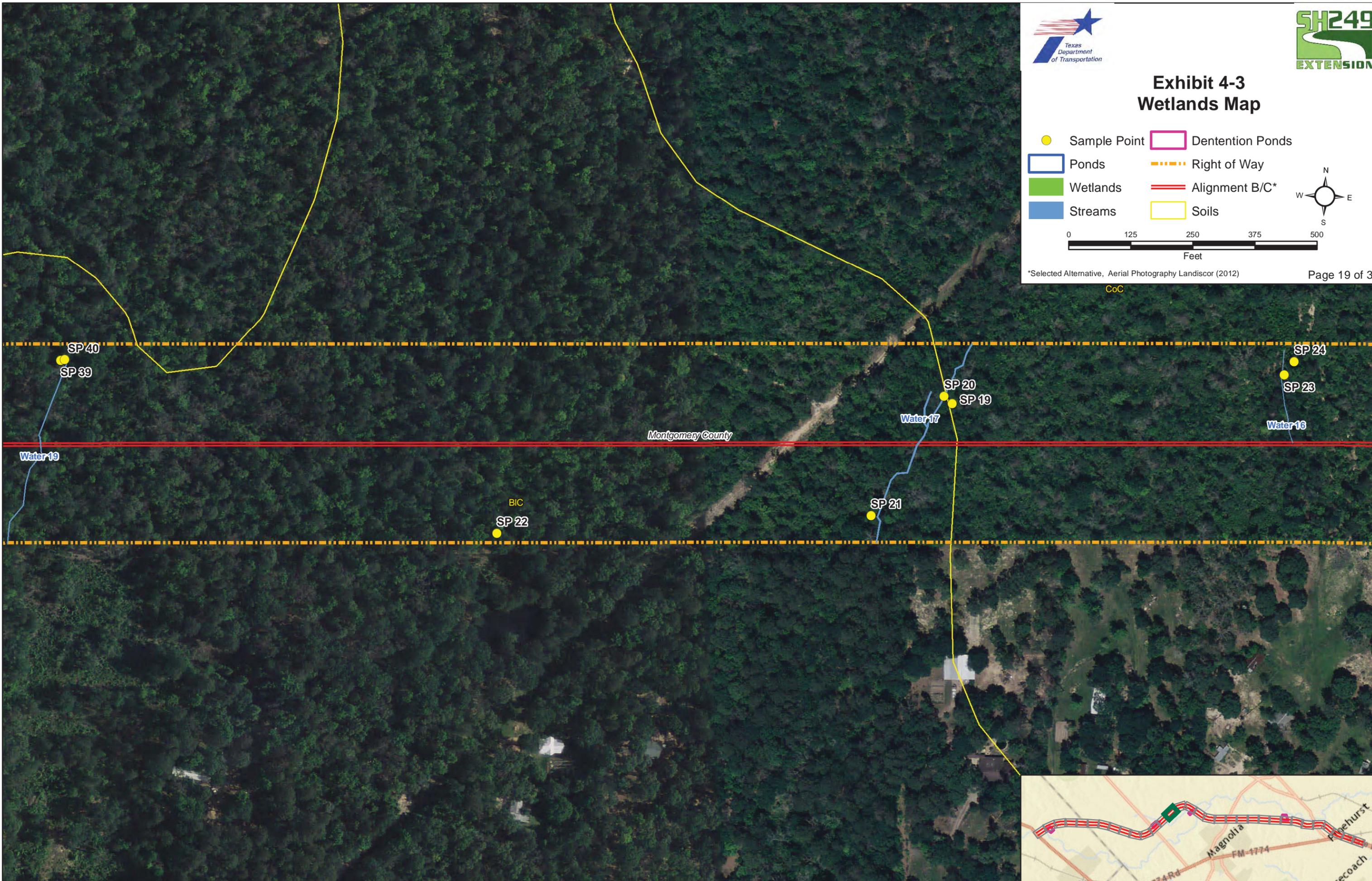


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CoC

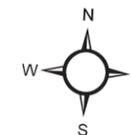
Montgomery County

BIC



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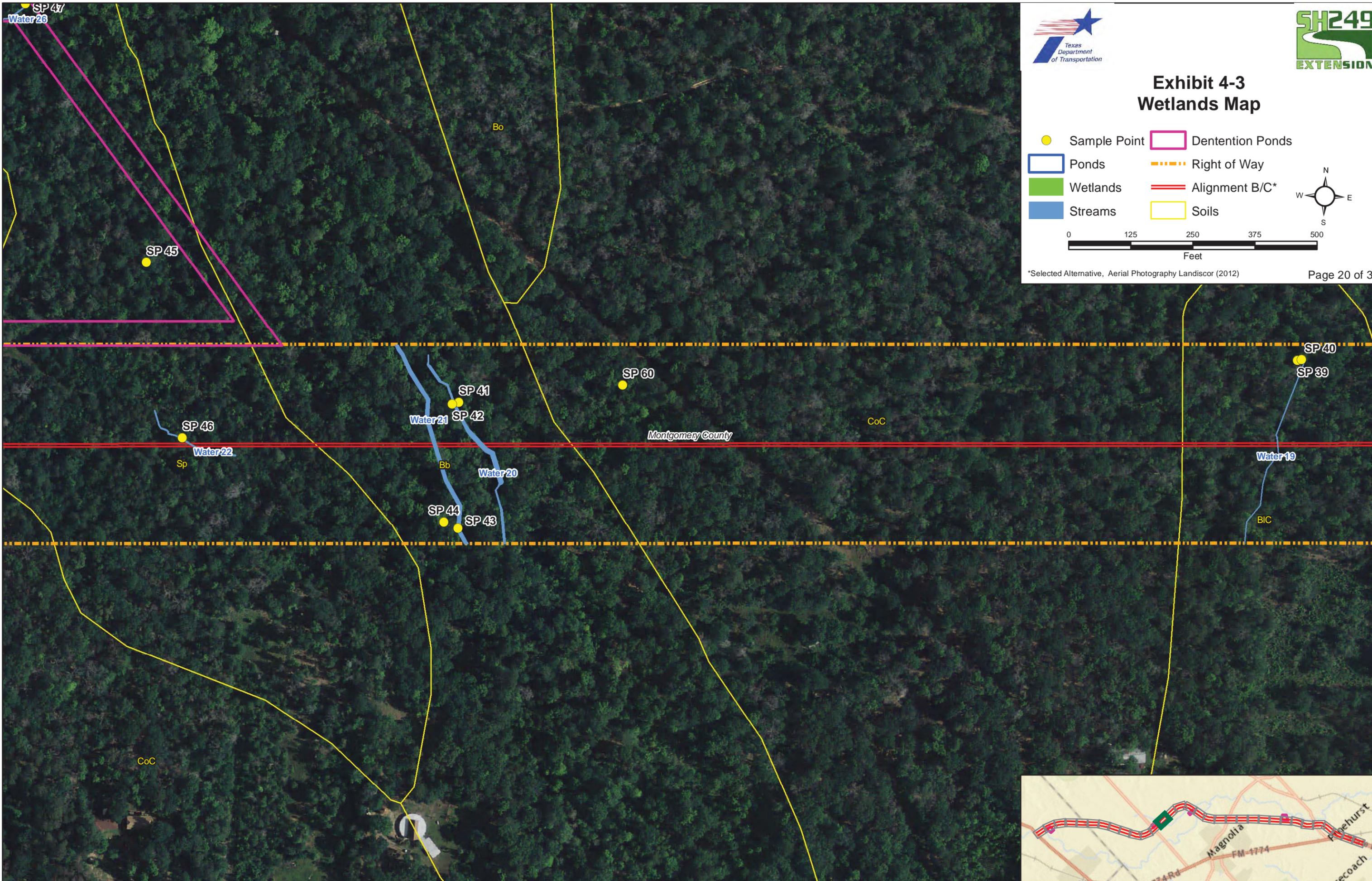
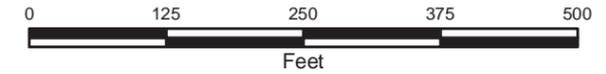
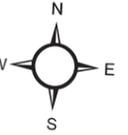


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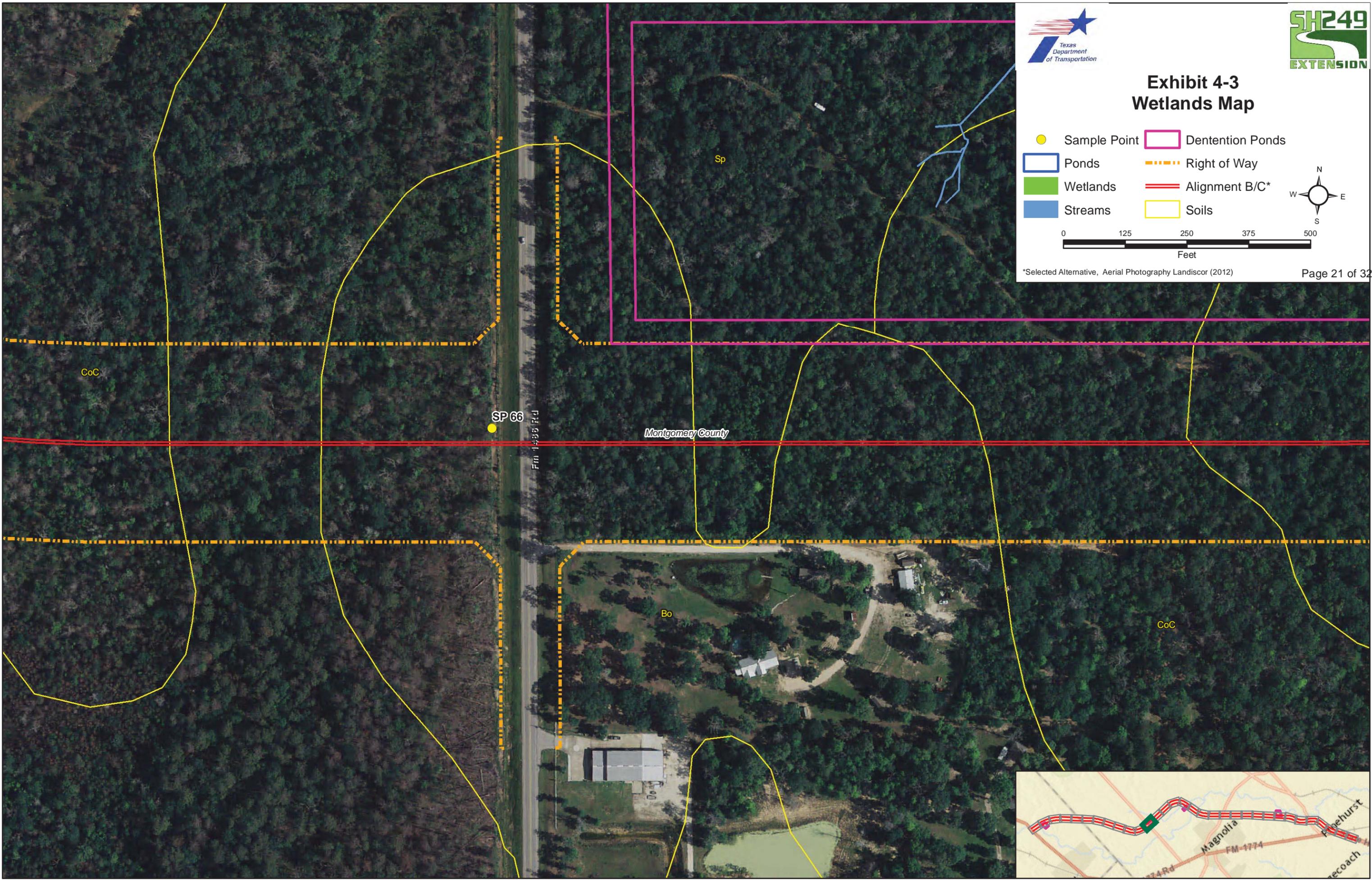
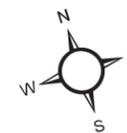


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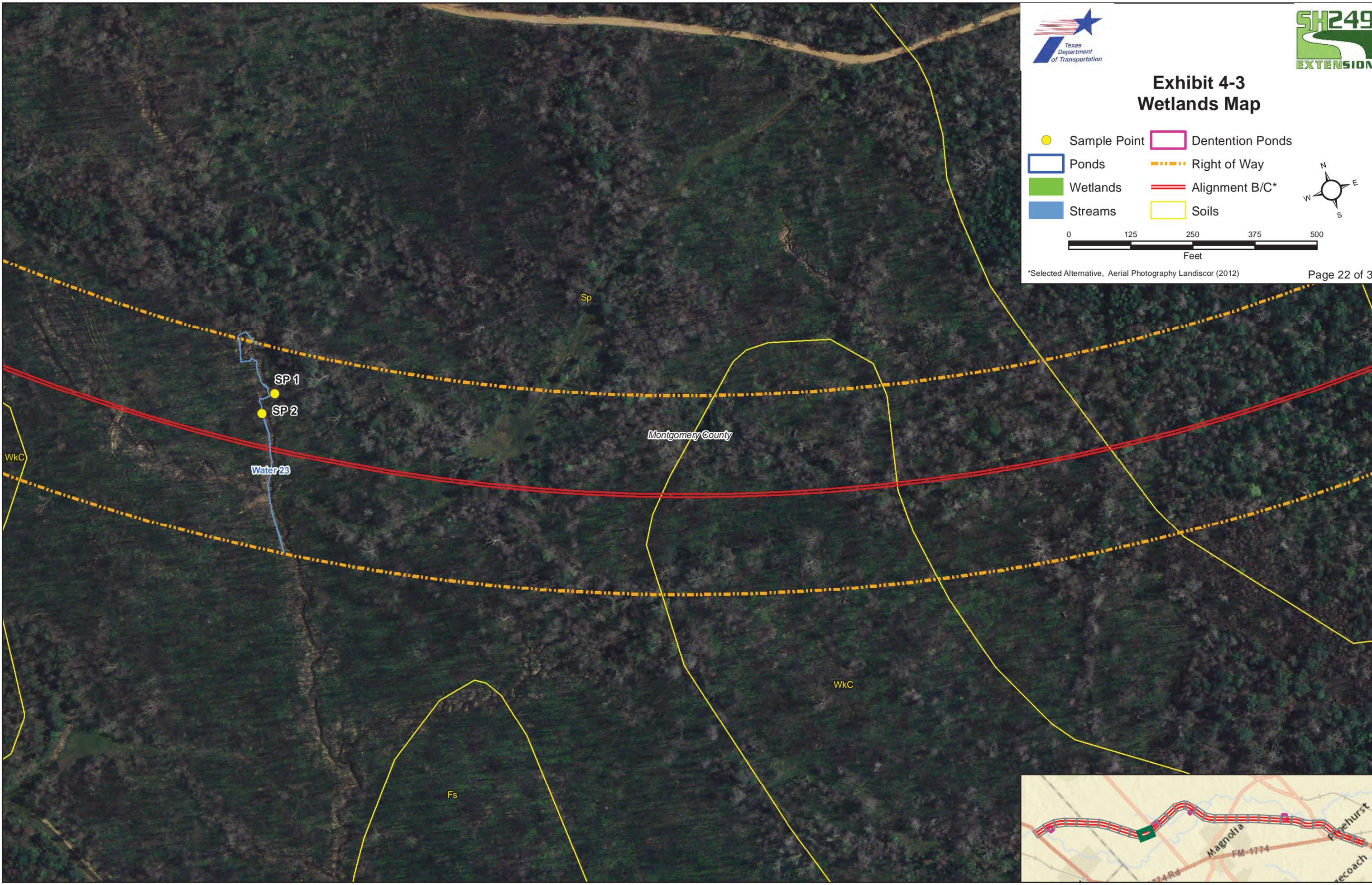
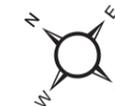


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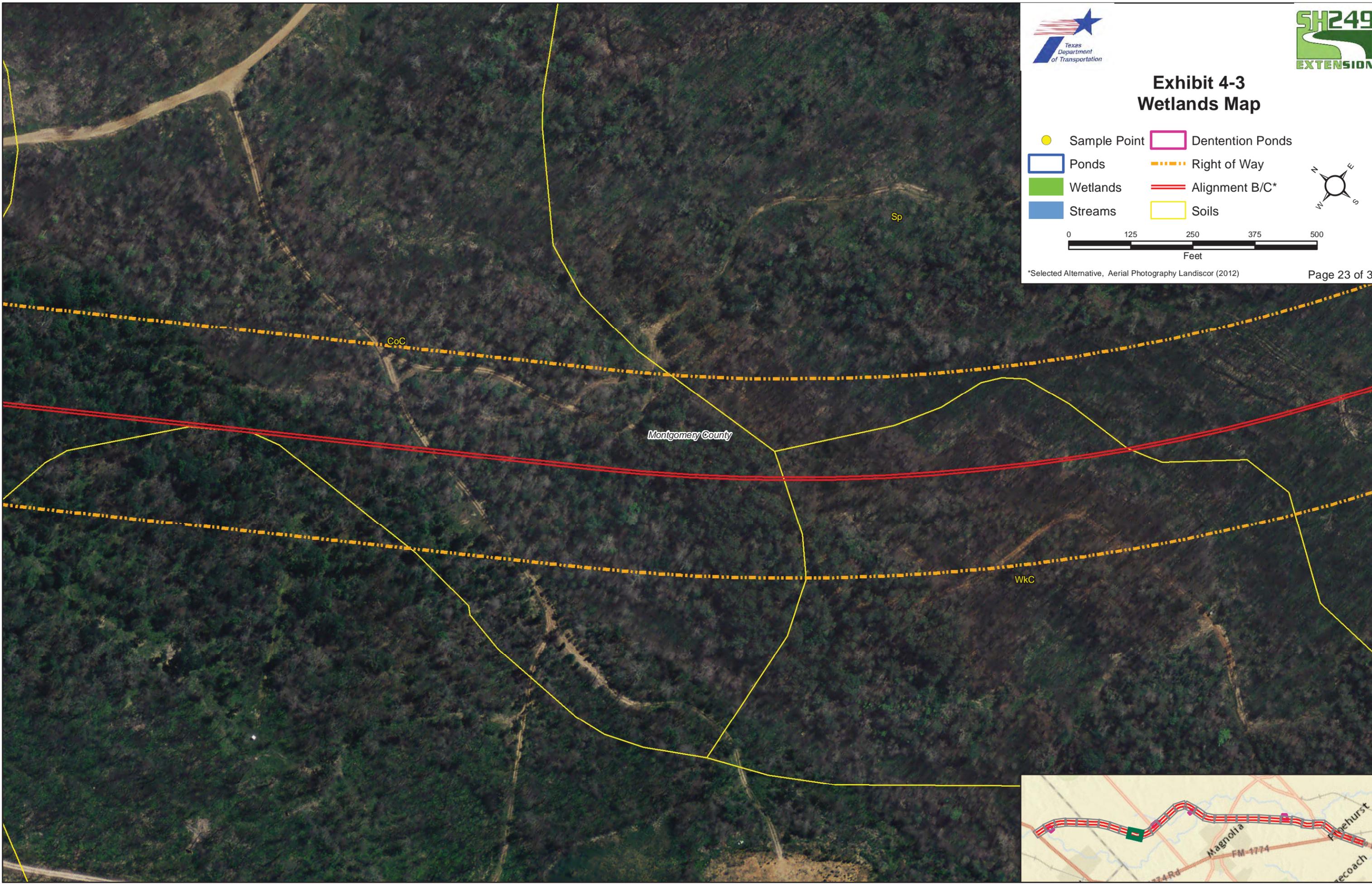


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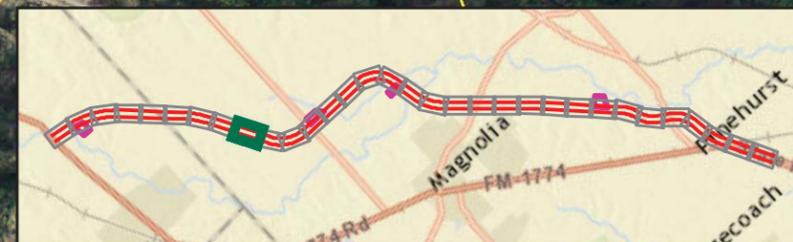
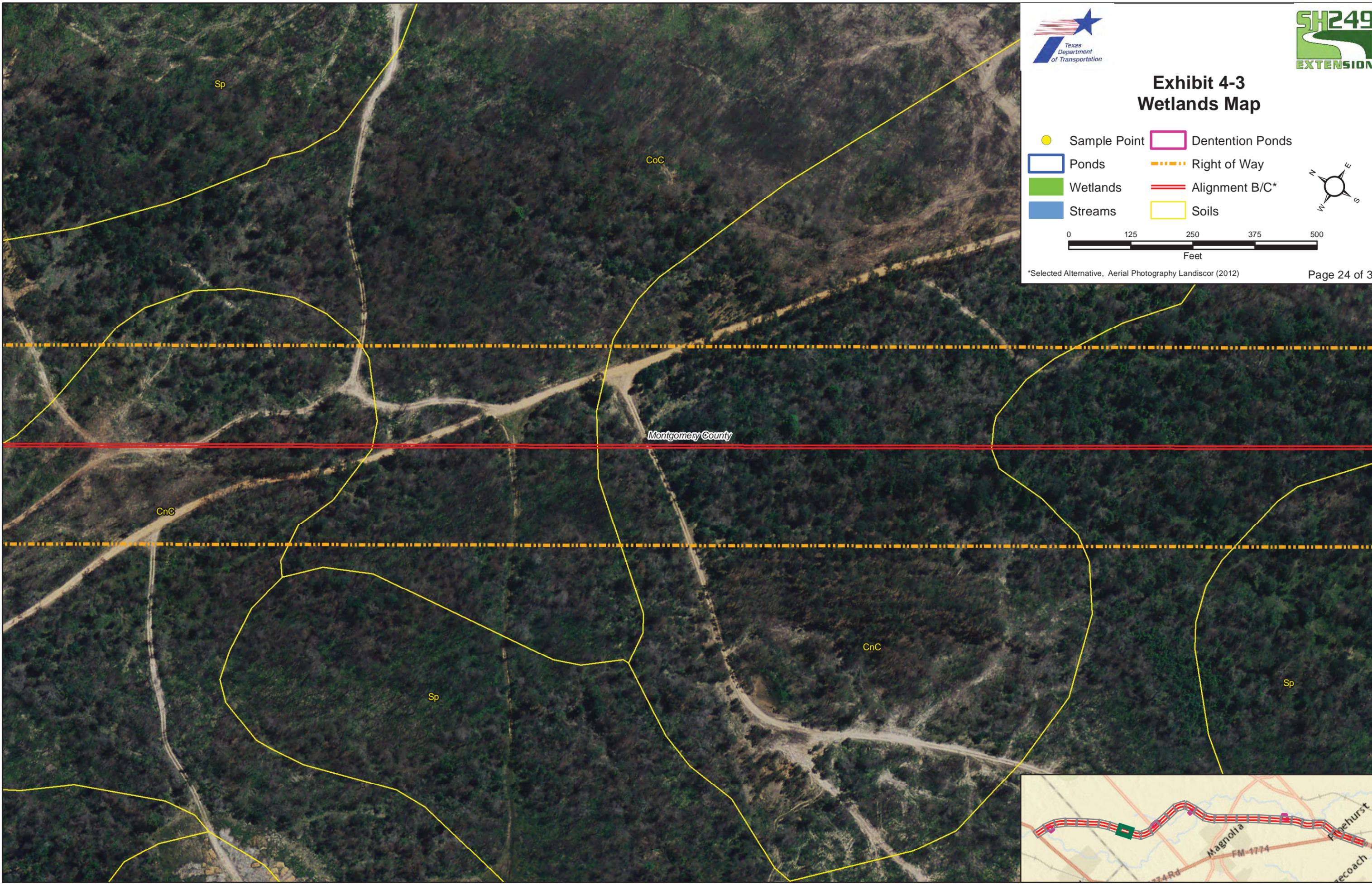
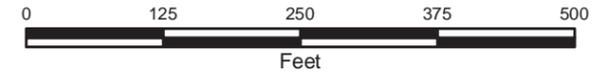
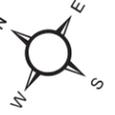


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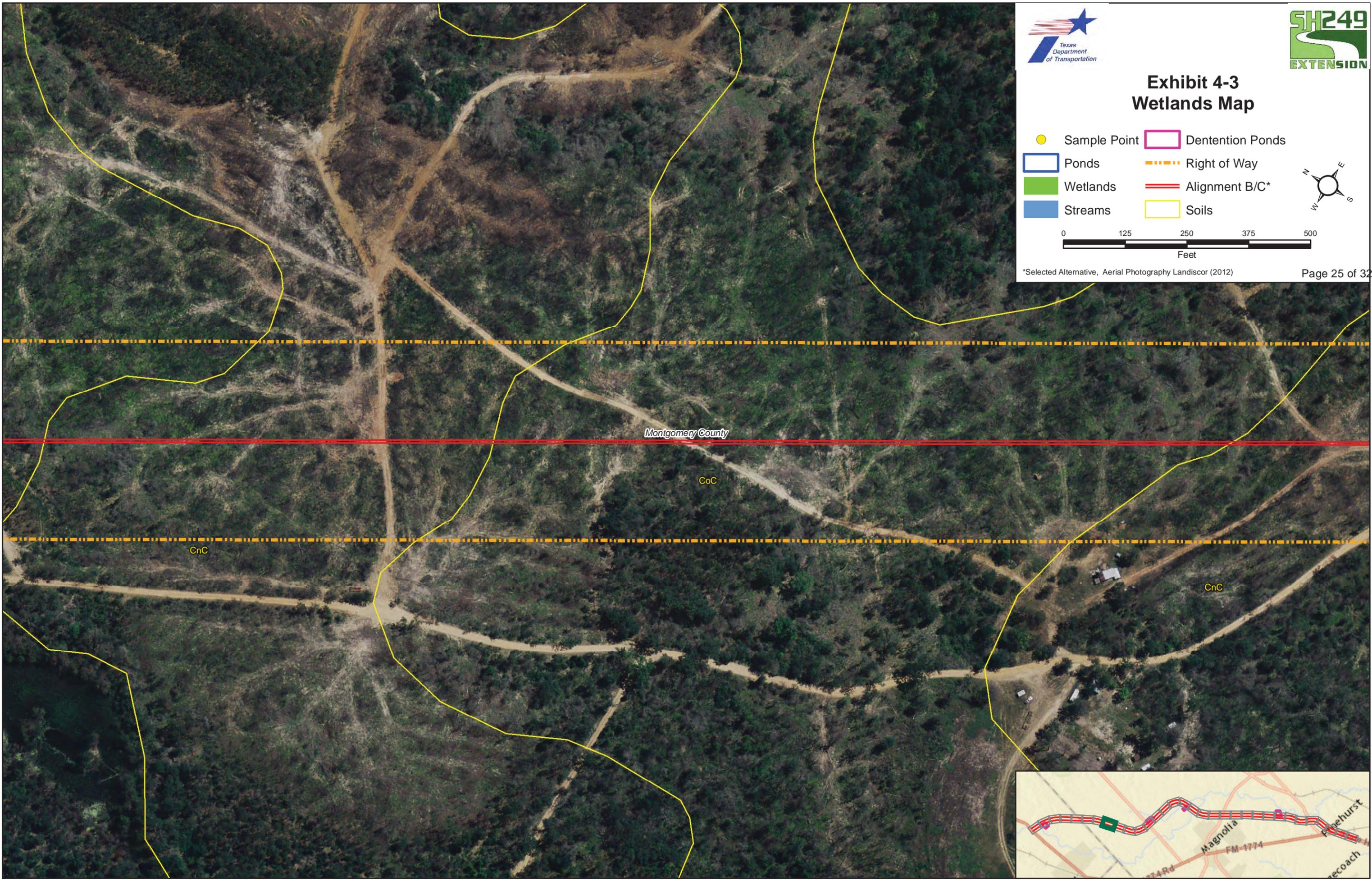


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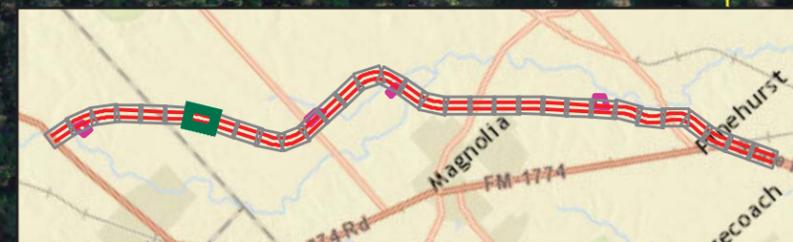
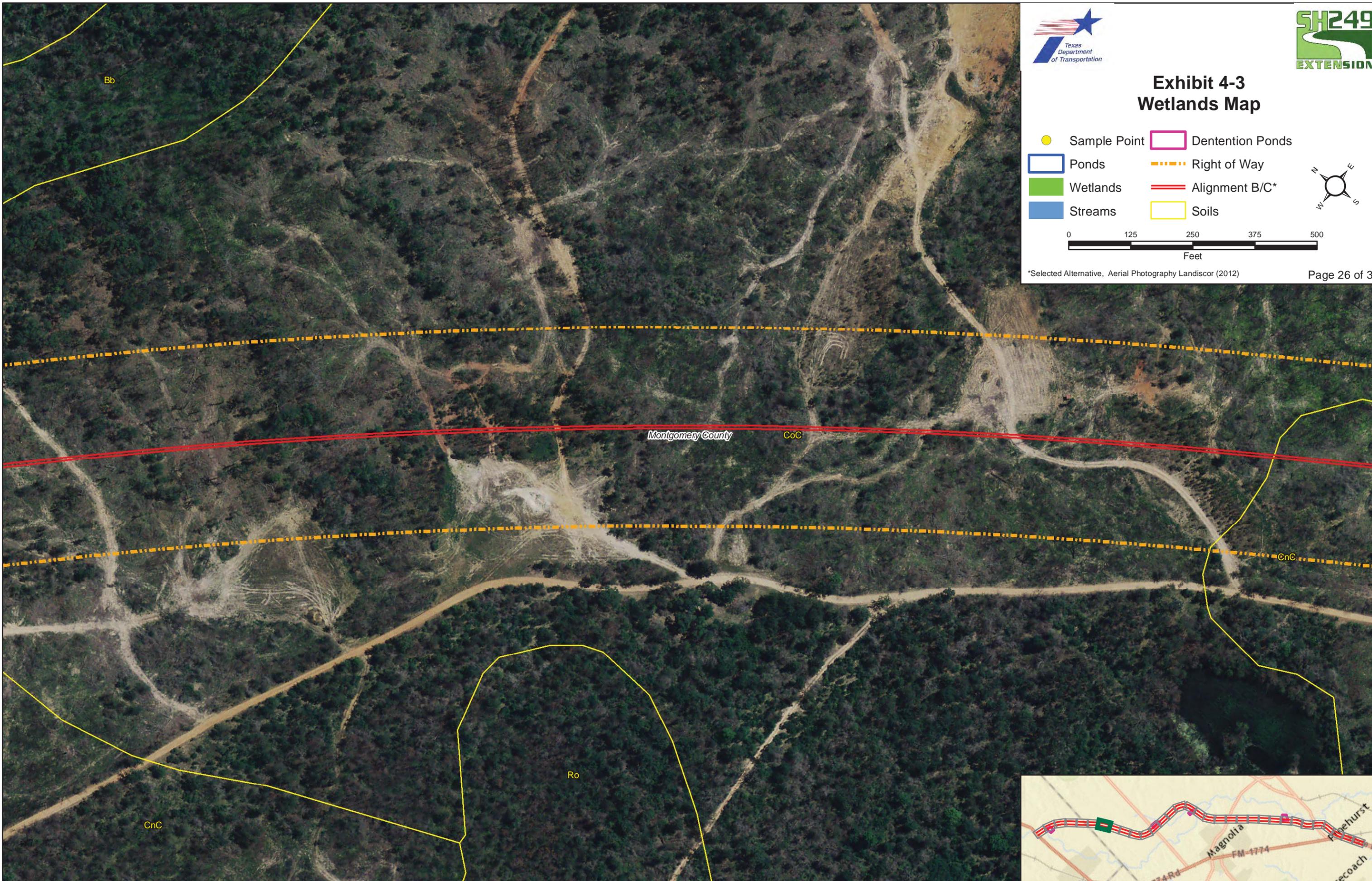


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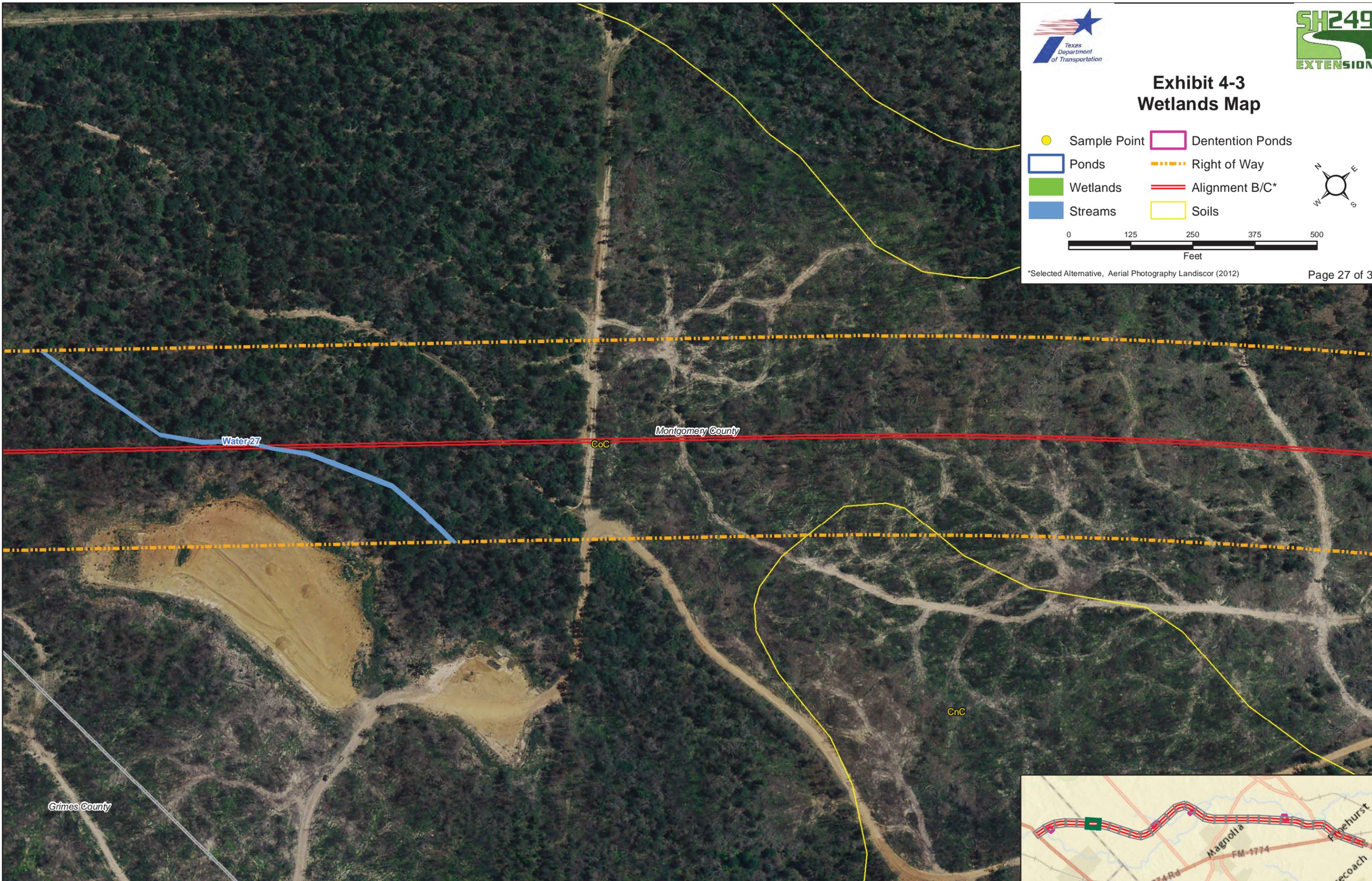
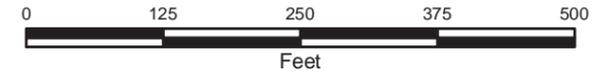


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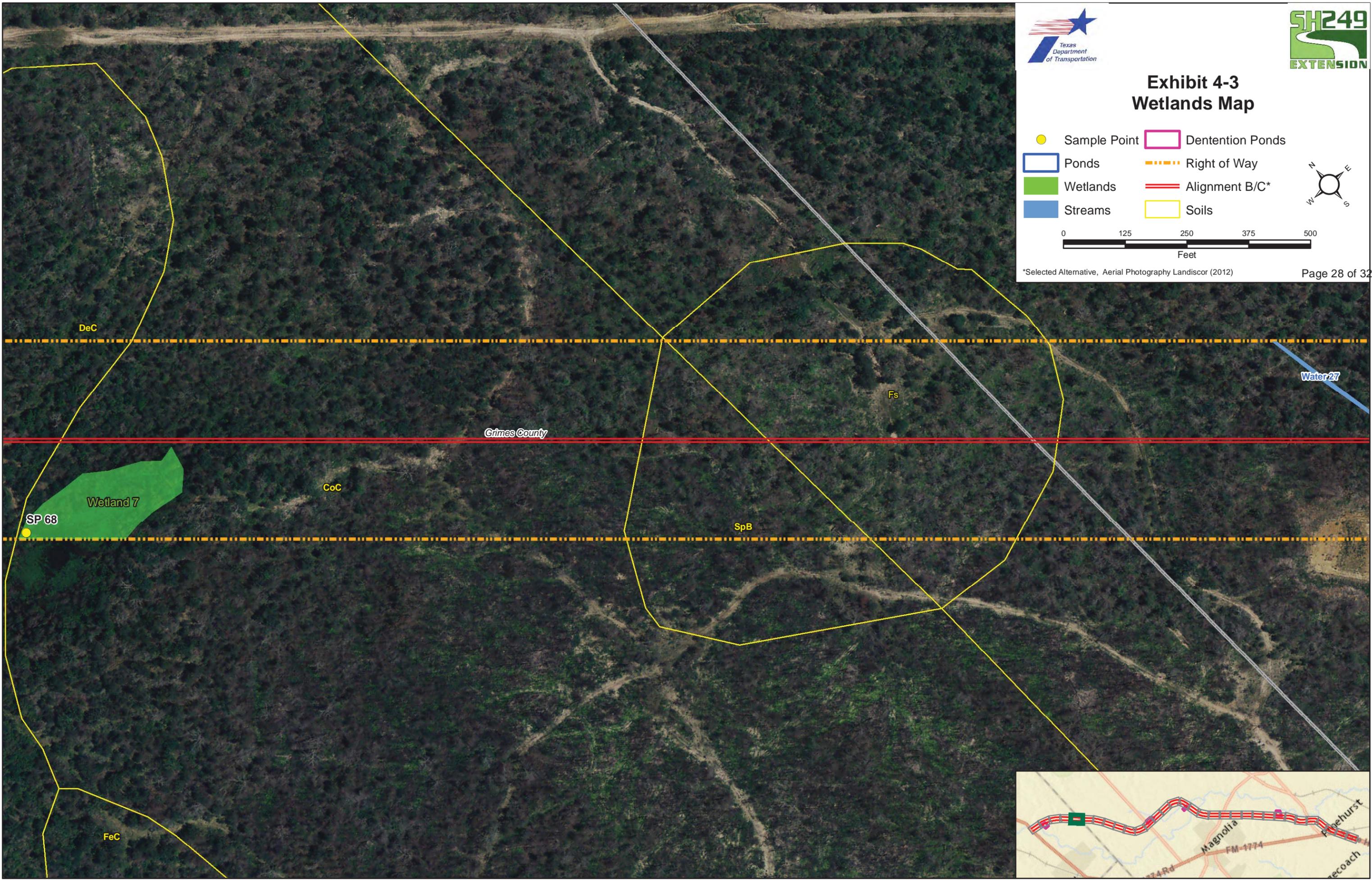


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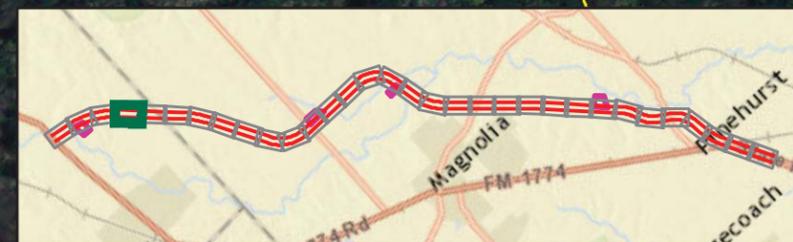
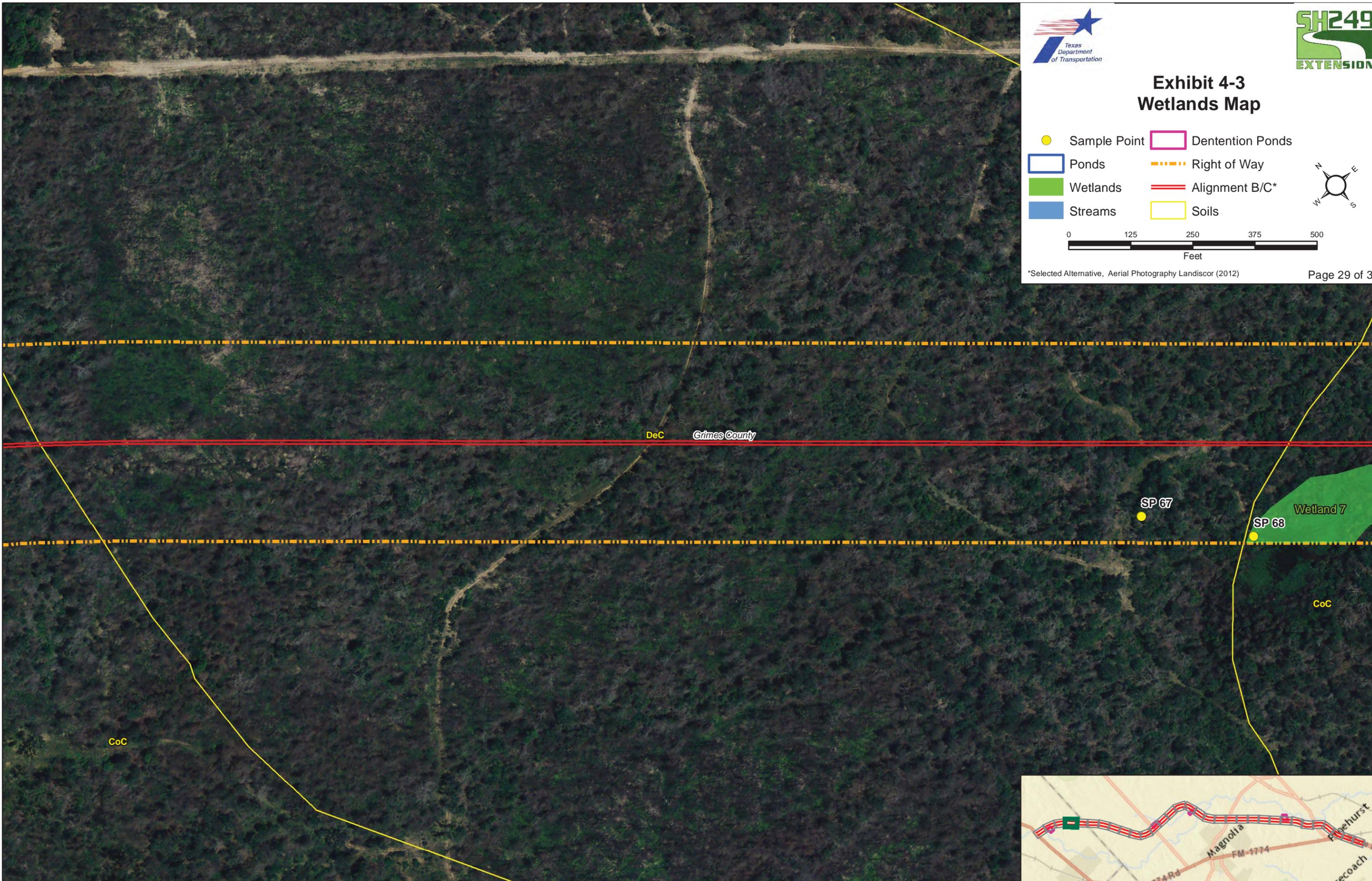


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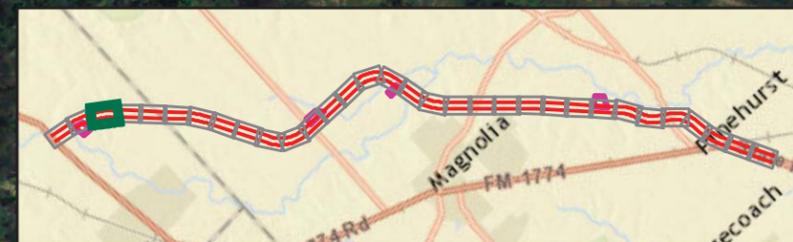
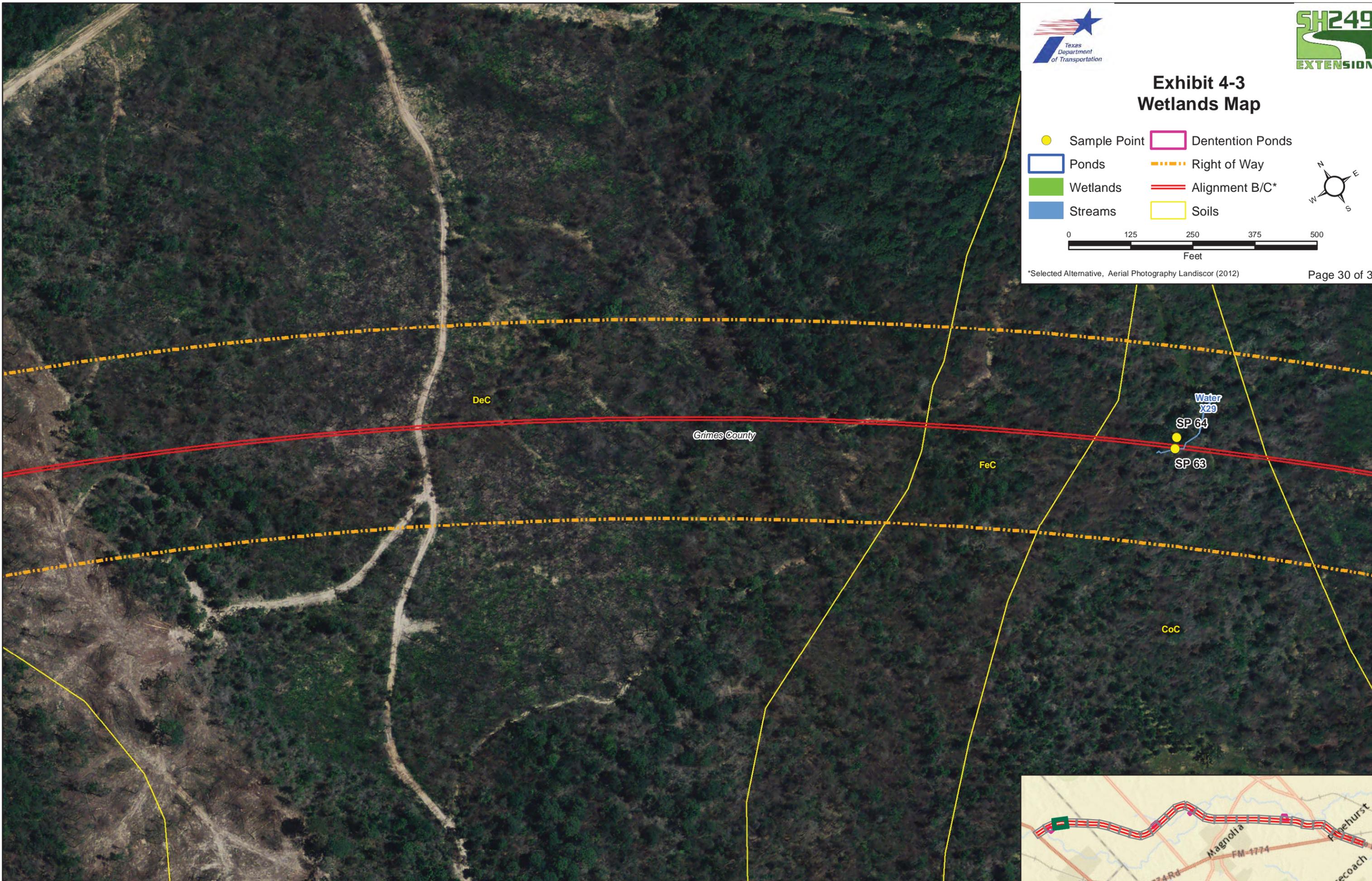
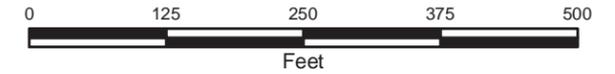
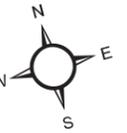


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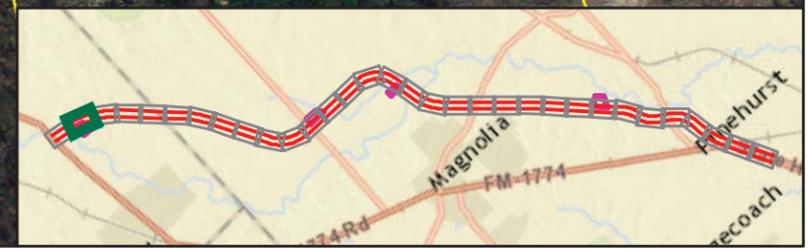
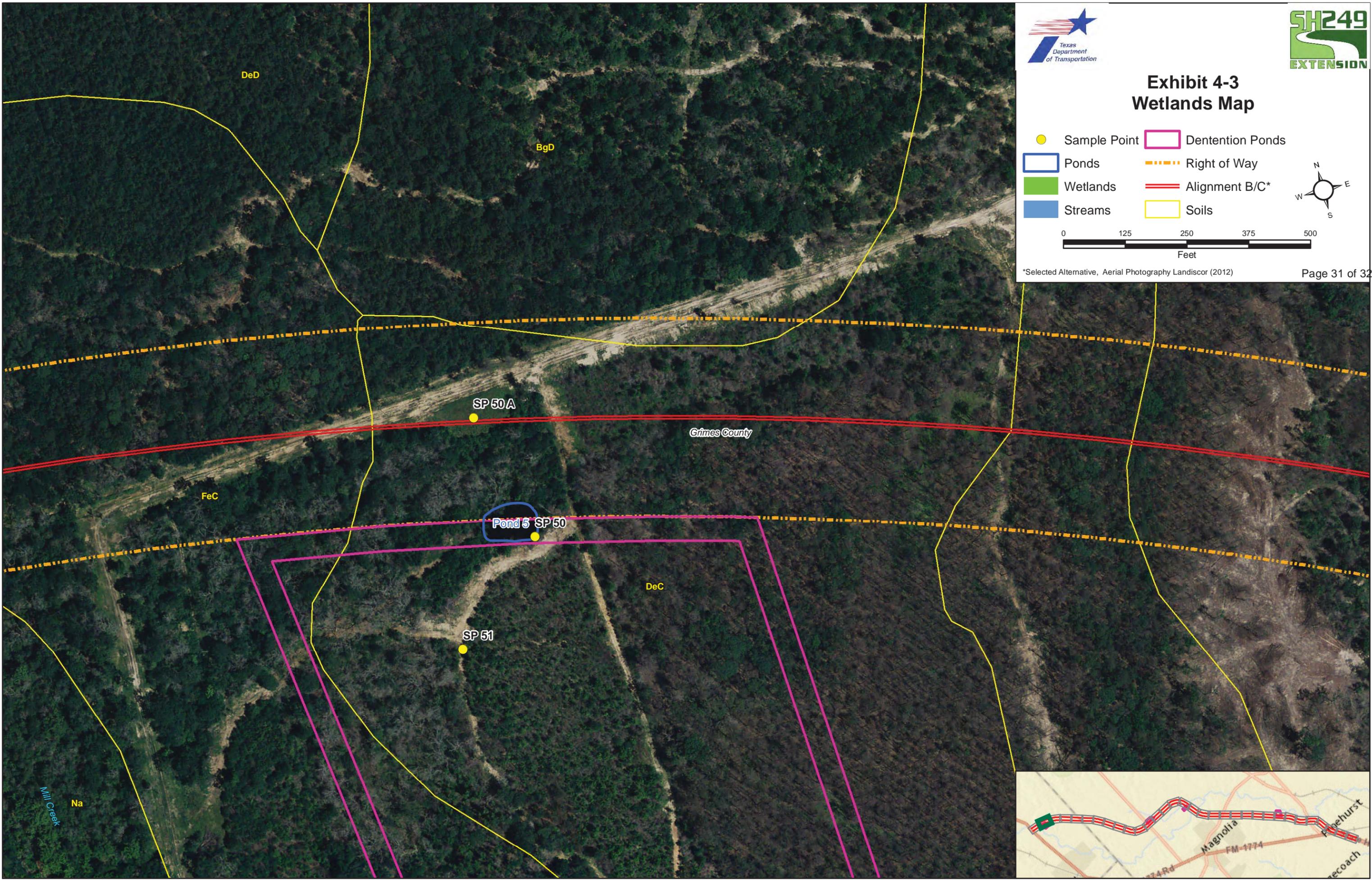
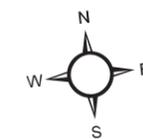


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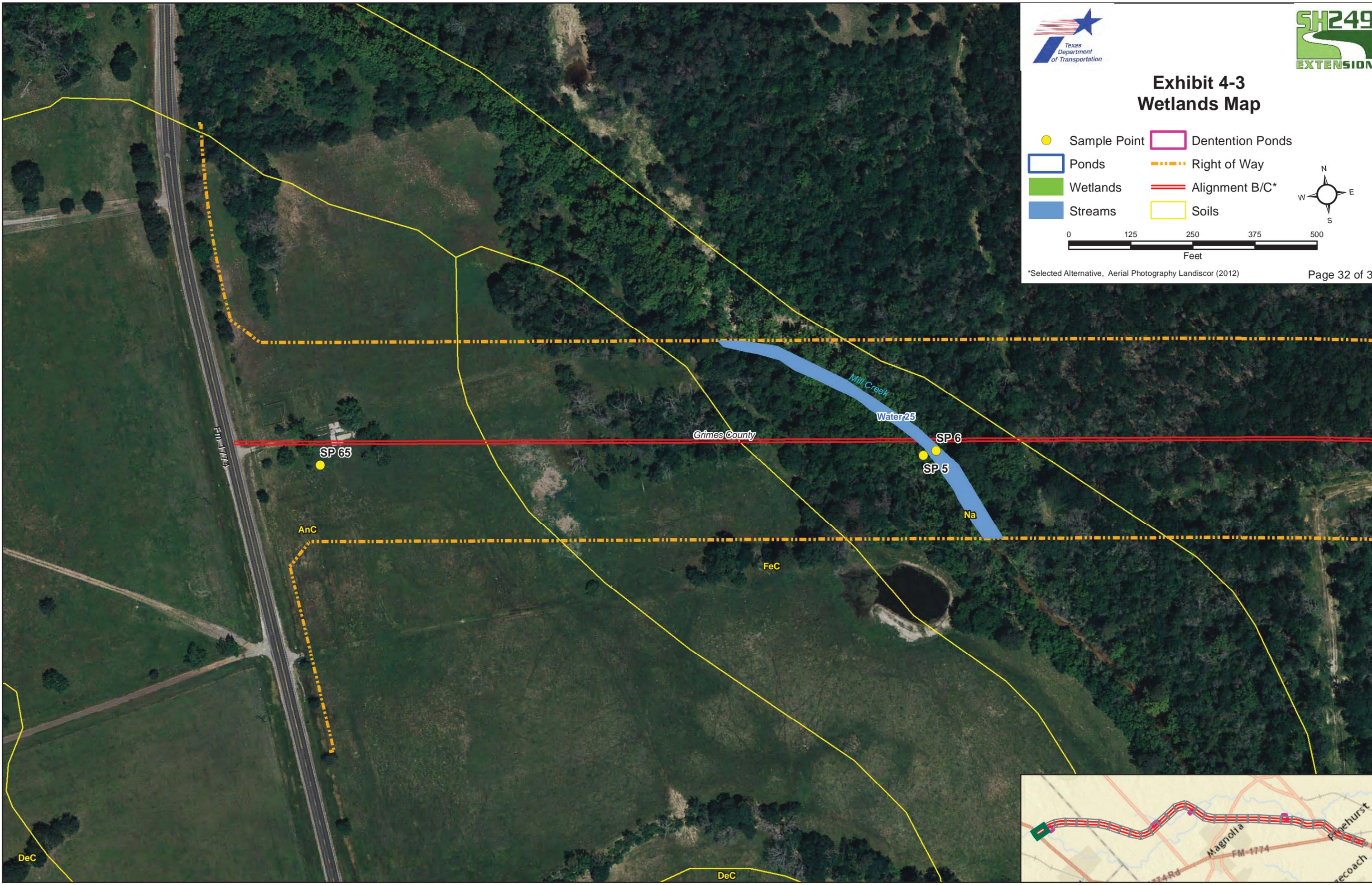
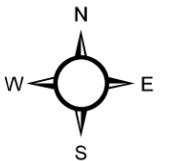
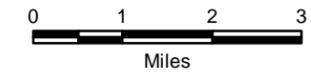




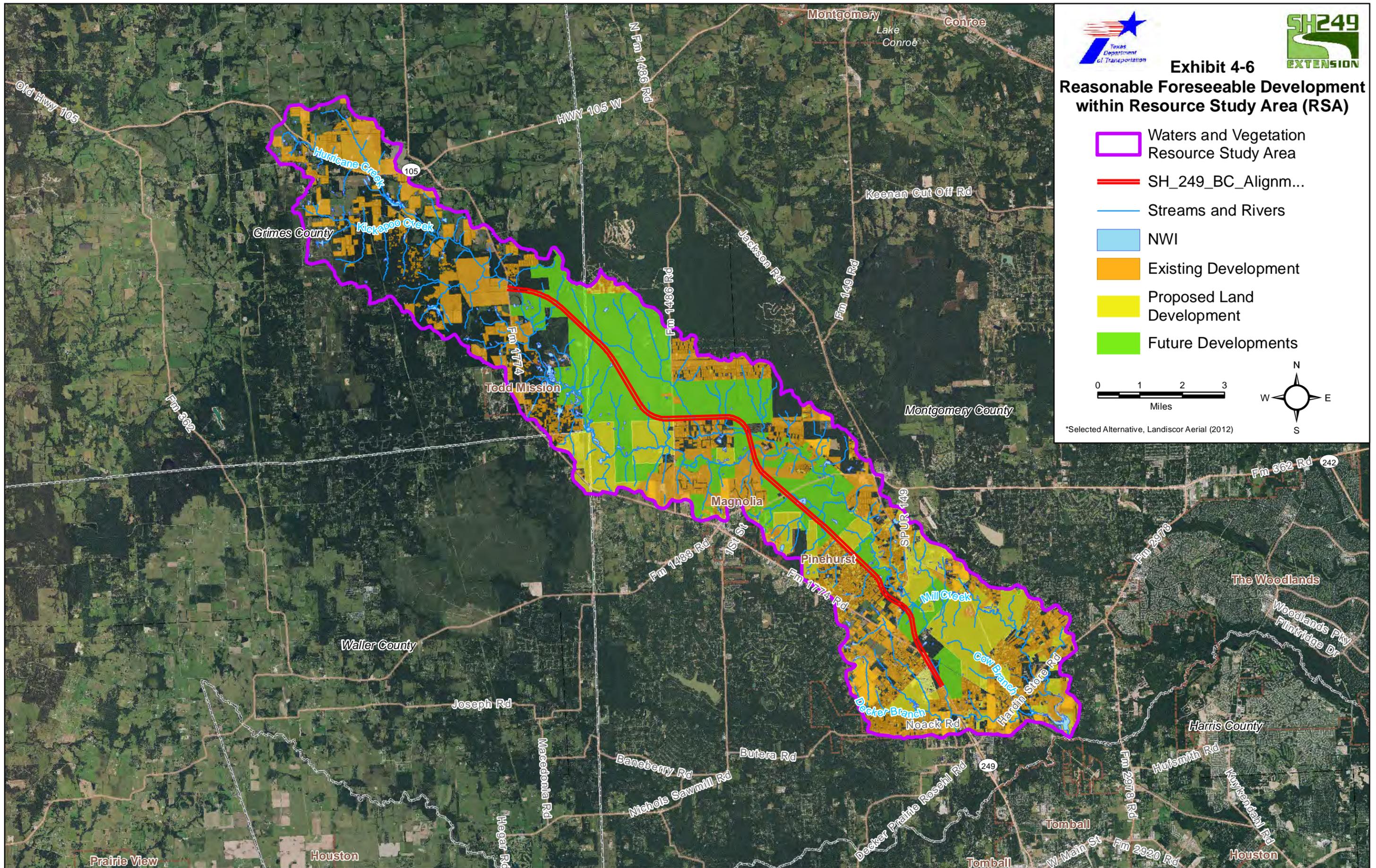
Exhibit 4-6

Reasonable Foreseeable Development within Resource Study Area (RSA)

-  Waters and Vegetation Resource Study Area
-  SH_249_BC_Align...
-  Streams and Rivers
-  NWI
-  Existing Development
-  Proposed Land Development
-  Future Developments



*Selected Alternative, LandisCor Aerial (2012)



Appendices

Appendix A HGAC 2040 RTP

Appendix B Coordination

Appendix C Public Hearing Summary Report with Comment Response Matrix

Appendix A HGAC 2040 RTP

CORRIDOR-BASED MAJOR INVESTMENTS

MPOID	CSJ	County	Facility	From	To	Description	Length (mi)	Main Lanes	Frontage Lanes	Fiscal Year	Analysis Year	Total Project
												Cost (M, YOE)
SH 146 (CONT'D)												
139	0389-05-088	Harris	SH 146	RED BLUFF RD	NASA I	WIDEN TO 8-LANES, GS AT MAJOR INTERSECTIONS AND 2 2-LANE FRONTAGE ROADS	1.75	(4,8)	(0,4)	2017	2025	\$ 69.26
14632	0389-05-116	Harris	SH 146	NASA RD I	GALVESTON/HARRIS CL	WIDEN TO 6-LANE ARTERIAL WITH 4-LANE EXPRESS LANES	1.00	(4,6)	(0,4)	2018	2025	\$ 79.70
536	0389-13-039	Harris	SH 146	AT BS 146E	FERRY RD	CONSTRUCT 4 MAINLANES AND GRADE SEPARATION	0.87	(0,4)	(6,6)	2020	2025	\$ 47.09
7521		Harris	SH 146	SH 146 SB	SOUTHERN ACCESS RD	CONSTRUCT DIRECT CONNECTOR FROM SB LANES OF SH 146	0.53	(0,2)	n/a	2020	EREA (2025)	\$ 13.92
SH 249												
14524	0720-02-072	Grimes	SH 249	FM 1774 IN TODD MISSION	MONTGOMERY COUNTY LINE	**INFORMATION ONLY** PROJECT CONSISTENT WITH MONTGOMERY CO. PROJECT IN PLAN (MPOID 11570). CONSTRUCT 4-LANE TOLLWAY (GRIMES CO.)	2.41	(0,4)	n/a	2016	2025	n/a
339	0720-03-074	Harris	SH 249	MONTGOMERY C/L	BROWN RD	CONSTRUCT TWO 3-LANE FRONTAGE ROADS	1.14	(6,6)	(0,6)	2016	2025	\$ 35.17
913	0720-03-123	Harris	SH 249	MONTGOMERY C/L	BROWN RD	CONSTRUCT 6-LANE TOLLWAY WITH GRADE SEPARATIONS AT BROWN, BAKER AND ZION ROADS	1.18	(0,6)	(6,6)	2016	2025	\$ 165.00
11570	0720-02-073	Montgomery	SH 249	GRIMES COUNTY LINE	FM 1774/FM 149 IN PINEHURST	CONSTRUCT 4-LANE TOLLWAY IN SECTIONS	12.18	(0,4)	n/a	2016	2025	\$ 271.31
914	0720-02-074	Montgomery	SH 249	FM 1774/FM 149 IN PINEHURST	SPRING CREEK/HARRIS C/L	CONSTRUCT 6-LANE TOLLWAY WITH GRADE SEPARATIONS AT STAGECOACH RD AND WOODLANDS PARKWAY	3.60	(0,6)	(4,4)	2016	2025	\$ 129.93
SH 288												
495	0111-03-031	Fort Bend	FM 521	HARRIS C/L	S OF FM 2234	WIDEN TO 4-LANE DIVIDED	0.30	(2,4)	n/a	2015	2025	\$ 3.05
534	0111-01-067	Harris	FM 521	BW 8	FORT BEND C/L	WIDEN TO 4-LANE DIVIDED SECTION AND CONSTRUCT GRADE SEPARATION AT UPRR (DOT# 447 969Y)	0.60	(2,4)	n/a	2015	2025	\$ 38.52
13765	0598-02-092	Brazoria	SH 288	HARRIS C/L	CR 58	CONSTRUCT 4 TOLL LANES WITH GRADE SEPARATIONS	5.04	(0,4)	n/a	2015	2025	\$ 196.44
13767	0598-02-093	Brazoria	SH 288	CR 58	SH 99	CONSTRUCT 4 TOLL LANES WITH GRADE SEPARATIONS	8.23	(0,4)	n/a	2032	2035	\$ 261.00

Projects shaded in GRAY are exempt from or are not considered regionally significant under H-GAC regional emissions analysis.

Amendment #15

Reconcile 2015-2018 TIP with the adopted 2040 Regional Transportation Plan - Part 1, Major Amendment Actions

Action	Project Details						Proposed Changes	
	MPOID	CSJ	Fiscal Year	Sponsor	Description	Funding	Change	Comments
Freeway and Tollway Projects								
Add	16296		2016	HCTRA	Facility: BW 8 From: IH 10 To: SH 225 Description: WIDEN FROM 4 TO 8-LANES INCLUDING BRIDGE ACROSS HOUSTON SHIP CHANNEL	Federal: \$0 State: \$0 Local: \$175,000,000 Categories: 3-TOLL	Add to TIP.	
Add	14229	3256-04-070	2017	HCTRA	Facility: BW 8 From: SH 225 To: IH 45 Description: WIDEN FROM 4 TO 8-MAIN LANES IN SECTIONS	Federal: \$0 State: \$0 Local: \$200,000,000 Categories: 3-TOLL	Add to TIP.	
Add	16080	1258-03-046	2018	FBCTRA	Facility: FM 1093 From: AT SH 99 To: Description: WESTPARK TOLL ROAD EB-NB DIRECT CONNECTOR CONSTRUCTION	Federal: \$0 State: \$0 Local: \$17,000,000 Categories: 3-TOLL	Add to TIP.	Project delayed from previous TIP.
Add	15587		2015	HCTRA	Facility: HARDY TOLL RD From: SH 99 To: FM 1960 Description: WIDEN FROM 4 TO 6 LANES	Federal: \$0 State: \$0 Local: \$60,000,000 Categories: 3-TOLL	Add to TIP.	
Modify	15571	0271-07-305	2015	TXDOT HOUSTON DISTRICT	Facility: IH 10 W From: W OF SH 6 To: BW 8 Description: INTERSECTION IMPROVEMENTS AND RESTRIPE FOR OPERATIONAL RECONFIGURATION (WIDEN FROM 10 TO 12 LANES)	Federal: \$2,400,000 State: \$600,000 Local: \$0 Categories: 7-STP-MM	Modify description as follows: Description: RESTRIPE IN SECTIONS TO ADD LANES TO PROVIDE 10 MAIN LANES THROUGHOUT THE PROJECT	
Add	16077	0271-17-163	2017	UPTOWN HOUSTON DISTRICT	Facility: IH 610 From: NORTHWEST TRANSIT CENTER To: POST OAK BLVD Description: FIXED GUIDEWAY CONNECTION TO NORTHWEST TRANSIT CENTER	Federal: \$0 State: \$25,000,000 Local: \$20,000,000 Categories: 3-TMF, 3-LOCAL TRANSIT	Add to TIP and Modify Sponsor to TxDOT Houston District.	\$25M from TxDOT (TMF) programmed in 2015 UTP, \$20M local commitment from Uptown Houston.
Add	11570	0720-02-073	2016	TXDOT HOUSTON DISTRICT	Facility: SH 249 From: GRIMES COUNTY LINE To: FM 1774/FM 149 IN PINEHURST Description: CONSTRUCT 4-LANE TOLLWAY IN SECTIONS	Federal: \$154,400,000 State: \$116,910,000 Local: \$0 Categories: 12-STRATEGIC, 3-TOLL	Add to TIP.	

Appendix B Coordination

SH 249 Extension Cooperating and Participating Agencies List

Cooperating Agencies	Participating Agencies
U.S. Army Corps of Engineers	Texas Parks and Wildlife Department
U.S. Department of Interior	City of Navasota
U.S. Environmental Protection Agency	Montgomery County



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Mr. Salvador Salinas
State Conservationist
Natural Resources Conservation Service
U. S. Department of Agriculture
101 South Main Street
Temple, Texas 76501

Dear Mr. Salinas :

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, we extend your agency an invitation to become a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

FHWA also requests the participation of the U.S. Department of Agriculture, Natural Resources Conservation Service as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

Pursuant to Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Cooperating Agencies are similar to Participating Agencies, but have a higher degree of authority, responsibility, and involvement in the environmental review process. As a Cooperating Agency, your special expertise permits you, as requested by the Lead Agency, to develop information and prepare environmental analyses for the EIS. As a Participating Agency responsibilities include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

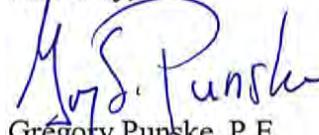
- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

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Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Mr. Ron Curry
Regional Administrator, Region 6
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2783

Dear Mr. Curry:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, we extend your agency an invitation to become a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

FHWA also requests the participation of the U.S. Environmental Protection Agency as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

Pursuant to Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Cooperating Agencies are similar to Participating Agencies, but have a higher degree of authority, responsibility, and involvement in the environmental review process. As a Cooperating Agency, your special expertise permits you, as requested by the Lead Agency, to develop information and prepare environmental analyses for the EIS. As a Participating Agency responsibilities include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

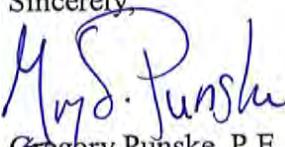
Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,

Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Mr. Adam Zerrenner
Field Supervisor, Austin
Ecological Services Office
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, Texas 78758

Dear Mr. Zerrenner:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

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FHWA also requests the participation of the U.S. Fish and Wildlife Service as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

Pursuant to Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Cooperating Agencies are similar to Participating Agencies, but have a higher degree of authority, responsibility, and involvement in the environmental review process. As a Cooperating Agency, your special expertise permits you, as requested by the Lead Agency, to develop information and prepare environmental analyses for the EIS. As a Participating Agency responsibilities include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

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Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

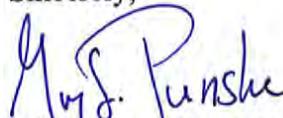
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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,


Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Ms. Edith Erfling, Supervisor
Houston Ecological Services Office
U.S. Fish and Wildlife Service
17629 El Camino Real, Suite 211
Houston, Texas 77058

Dear Ms. Erfling:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, we extend your agency an invitation to become a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

FHWA also requests the participation of the U.S. Fish and Wildlife Service as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

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Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

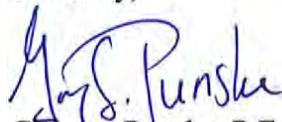
- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,


Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Willie R. Taylor, Ph.D., Director
Office of Environmental Policy and Compliance
U.S. Department of the Interior
Main Interior Building (MS 2462)
1849 C. Street, N.W.
Washington, D.C. 20240

Dear Dr. Taylor:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, we extend your agency an invitation to become a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

FHWA also requests the participation of the U.S. Department of the Interior as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

Pursuant to Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Cooperating Agencies are similar to Participating Agencies, but have a higher degree of authority, responsibility, and involvement in the environmental review process. As a Cooperating Agency, your special expertise permits you, as requested by the Lead Agency, to develop information and prepare environmental analyses for the EIS. As a Participating Agency responsibilities include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

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Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

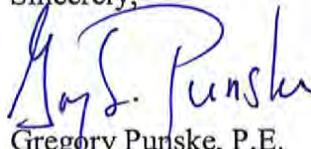
- Has no jurisdiction or authority with respect to the proposed project;
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- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

January 31, 2014

300 E. 8th Street, Room 826
Austin, TX 78701-3255
Tel (512) 536-5901
Fax (512) 536-5990
texas.fhwa@dot.gov

In Reply Refer To:
HB-TX

Ms. Kimberly McLaughlin
Acting Chief
Regulatory Branch – Galveston District
U. S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553

Dear Ms. McLaughlin:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, we extend your agency an invitation to continue as a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

FHWA also requests the continued participation of the U. S. Army Corps of Engineers as a Cooperating Agency in the preparation of the DEIS and FEIS, in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

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Again, FHWA is inviting the U. S. Army Corps of Engineers to serve as both a Participating Agency and a Cooperating Agency. Please respond to FHWA in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

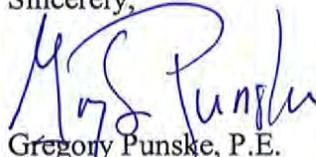
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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact:

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Gregory Punske, P.E.
District Engineer

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Melissa Neeley, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Carter Smith
Executive Director
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744-3291

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Smith:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

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Again, TxDOT, on behalf of FHWA, is inviting Texas Parks and Wildlife Department to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Ms. Rebecca Hensley
Regional Director
Science & Policy Resources
Texas Parks and Wildlife Department
1502 FM 517 East
Dickinson, TX 77539

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Ms. Hensley:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

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Again, TxDOT, on behalf of FHWA, is inviting Texas Parks and Wildlife Department to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

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Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
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(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Ms. Ashley Wadick
Regional Director
Region 12, Houston
Texas Commission on Environmental Quality
5425 Polk St., Ste. H
Houston, TX 77023-1452

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Ms. Wadick:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

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Again, TxDOT, on behalf of FHWA, is inviting Texas Commission on Environmental Quality to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please

state the reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Wolfe:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Texas Historical Commission to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Pat Mercado-Allinger
Division Director
Regional Archeology
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Mercado-Allinger:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Texas Historical Commission to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Milton Rister
Executive Director
Texas Railroad Commission
P.O. Box 12967
Austin, TX 78711-2967

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Rister:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Texas Railroad Commission to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Jeffrey Davis
Field Office Director
La Porte Field Office
Texas General Land Office
11811 N. D. Street
LaPorte, TX 77571

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Davis:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Texas General Land Office to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the

reason/reasons for declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Bob Cochrane
Road and Bridge Engineer
Engineering
Grimes County
P.O. Box 593
Anderson, TX 77830

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Cochrane:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Grimes County to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Randy Krueger
Commissioner
Road Development and Maintenance
Grimes County
8512 C.R. 204
Plantersville, Texas 77363

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Krueger:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Grimes County to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Mark Bosma
Director of Infrastructure Services
Infrastructure Department
Montgomery County
501 North Thompson, Suit 404
Conroe, TX 77301

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Bosma:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting Montgomery County to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Mike Meador
Commissioner
Road Development and Maintenance
Montgomery County
1130 Pruitt Road
Spring, Texas 77380

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Meador:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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Again, TxDOT, on behalf of FHWA, is inviting Montgomery County to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Mark Mooney, P.E.
County Engineer
Engineering
Montgomery County
501 North Thompson, Suit 103
Conroe, TX 77301

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Mooney:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

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Again, TxDOT, on behalf of FHWA, is inviting Montgomery County to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Scott Taylor
Director of Infrastructure Services
Planning & Development
City of Conroe
300 W. Davis St.
Conroe, TX 77301

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Taylor:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- 1: Provide meaningful and early input on the purpose and need and the alternatives analysis.
- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting City of Conroe to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Ms. Lori Duncan
Administrative Assistant
Planning & Development
City of Navasota
P.O. Box 910
Navasota, TX 77868

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Ms. Duncan:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

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Again, TxDOT, on behalf of FHWA, is inviting City of Navasota to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

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If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Brad Stafford
City Manager
City of Navasota
200 E. McAlpine Street
Navasota, TX 77868

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Stafford:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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- Does not intend to submit comments on the proposed project.

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Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Paul Mendes
City Administrator
City of Magnolia
18111 Buddy Riley Blvd.
Magnolia, TX 77354

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Mendes:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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Again, TxDOT, on behalf of FHWA, is inviting City of Magnolia to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

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- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Ms. Tana Ross
Economic Development Coordinator
City of Magnolia
18111 Buddy Riley Blvd.
Magnolia, TX 77354

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Ms. Ross:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

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- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting City of Magnolia to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

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- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



June 17, 2014

Mr. Joe Parkhurst
City Administrator
City of Pinehurst
2497 Martin Luther King Jr. Dr.
Orange, TX 77630

Re: SH 249 Participating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Parkhurst:

The Federal Highway Administration (FHWA), in cooperation with the Texas Department of Transportation (TxDOT) is initiating an Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County (CSJs 0720-02-072 and 0720-02-073). The purpose of the proposed SH 249 Extension is to efficiently link the suburban communities and major roadways, enhance mobility and safety, and respond to economic growth in Montgomery and Grimes counties.

Your agency has been identified as an agency that may have an interest in the proposed project due to the potential resource impacts of the proposed SH 249 Extension. With this letter, TxDOT, on behalf of FHWA, extends your agency an invitation to be a Participating Agency with the FHWA in the development of the EIS for the subject project. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the proposed project.

Responsibilities of a Participating Agency include identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

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- 2: Participate in coordination meetings and joint field reviews as appropriate.
- 3: Timely review and comment on the pre-draft or pre-final environmental documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Again, TxDOT, on behalf of FHWA, is inviting City of Pinehurst to serve as a Participating Agency. Please respond to TxDOT in writing with an acceptance or denial of each invitation within two weeks from receipt of this letter. If your agency declines either invitation; in the response please state the reason/reasons for

declining one or both of the invitations. If you choose to decline, please specifically state in your response that your agency:

- Has no jurisdiction or authority with respect to the proposed project;
- Has no expertise or information relevant to the proposed project; or
- Does not intend to submit comments on the proposed project.

If you have any questions or would like to discuss in more detail the proposed SH 249 Extension or your agencies' respective roles and responsibilities during the preparation of this EIS, please contact either:

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483
(512) 416-2734

OR

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233
(512) 536-5959

Thank you for your cooperation and interest in this proposed project.

Sincerely,



Carlos Swonke, P.G.
Director of TxDOT Environmental Affairs

cc: Mr. Pat Henry, P.E., TxDOT Houston District
Ms. Julia Ragsdale, TxDOT Environmental Affairs Division
Ms. Callie Barnes, TxDOT Houston District
Mr. Daniel Mott, Federal Highway Administration, Texas Division
Ms. Lisa De La Cruz, Project Manager, Jacobs Engineering Group, Inc.



Re: HB-TX

United States Department of the Interior

Office of the Secretary
Washington, D.C. 20240

FEB 11 2014

Mr. Daniel Mott, Houston Major Projects Engineer
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, Texas 78701-3233

Dear Mr. Mott:

In response to your letter of January 31, 2014, the Department of the Interior accepts your request to become a cooperating agency in the preparation of an environmental impact statement for the proposed extension of SH 249 in Texas.

Please include Mr. Stephen Spencer, U.S. Department of the Interior, Office of Environmental Policy and Compliance, 1001 Indian School Road NW, Suite 348, Albuquerque, NM 87104, Stephen_Spencer@ios.doi.gov, (505) 563-3572 of my staff as an additional point of contact for this project.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

United States Department of Agriculture



Natural Resources Conservation Service
101 South Main Street
Temple, Texas 76501-7602
Telephone: 254-742-9800 Fax: 254-742-9819

February 12, 2014

Texas Department of Transportation
300 E 8th Street
Room 826
Austin, Texas 78701

Attention: Daniel Mott

Subject: LNU-Farmland Protection
Proposed SH 249 Extension
Montgomery and Grimes Counties, Texas

We have reviewed the request to be a Participating and/or Cooperating Agency in the development of the Environmental Impact Statement (EIS) for the proposed SH 249 project in Montgomery and Grimes Counties, Texas.

NRCS does not intend to submit comments on the proposed project. When the exact location of the proposed SH 249 project is known, NRCS will respond to any Farmland Protection Policy Act request and provide the necessary information regarding the Food Security Act of 1985, Part 12, Highly Erodible Land and Wetland Conservation.

Thank you for considering NRCS as a Participating and/or Cooperating Agency in the Environmental Impact Statement for the proposed SH 249 project.

If you have any questions, please contact the State Soil Scientist at (254) 742-9856, Fax (254) 742-9859.

Sincerely,

A handwritten signature in black ink that reads "Drew Kinney". The signature is written in a cursive, flowing style.

Drew Kinney
NRCS GIS Specialist

Attachment

Helping People Help the Land

An Equal Opportunity Provider and Employer

United States Department of Agriculture



Natural Resources Conservation Service

101 S. Main Street
Temple, TX 76501-6624
Phone: 254-742-9960
FAX: 254-742-9859

For Informational Purposes

To Whom It May Concern:

The official source for current soil survey information is Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov>. Enclosed is a pamphlet about the website.

Farmland Classification maps can be obtained by following the steps below:

Delineate your area of interest (AOI) and create an AOI, or create an AOI from a zipped shape file. Go to the Soil Data Explorer tab, then the Suitability's and Limitations for Use tab, and then under the Land Classifications list of reports, run the Farmland Classification report. Print or save the report to a file, or add it to the shopping cart and produce a Custom Soil Resource Report to submit to us electronically, or print it out for mailing.

NRCS Farmland Policy Protection Act Form AD-1006 or NRCS-CPA-106 can be obtained at the following URL's respectively:

<http://www.usda.gov/rus/water/ees/pdf/ad1006.pdf>

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045395.pdf

NRCS Conservation Easements for Texas can be obtained at the following URL to determine if your project overlaps with any conservation easements:

<http://www.tx.nrcs.usda.gov/easements.html>

NRCS Conservation Easements by state can be obtained at the following URL:<http://datagateway.nrcs.usda.gov/GDGOrder.aspx>

If you have any questions, please contact the Texas State Soil Scientist at (254) 742-9863.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

FEB 19 2014

RECEIVED ON

FEB 24 2014

TEXAS DIVISION
FHWA

Gregory Punske, P.E.
District Engineer
Texas Division
Federal Highway Administration
300 E. 8th Street, Suite 826
Austin, TX 78701-3233

Dear Mr. Punske:

This letter is in response to the Federal Highway Administration (FHWA) request, dated January 31, 2014, for the Environmental Protection Agency (EPA) to be a Cooperating Agency in the development of a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) for the proposed extension of SH 249 on new location for approximately 14-15 miles. The project limits are from FM 1774 in Pinehurst, Texas in Montgomery County, to FM 1774 in Todd Mission, Texas in Grimes County. The EIS will analyze the impacts of the proposed project to the human and natural environment.

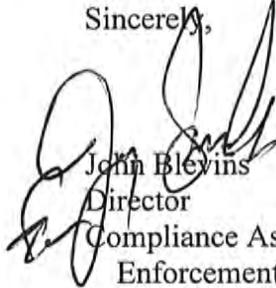
The EPA agrees to participate in this proposed project as a Cooperating Agency. As a Cooperating Agency, the EPA will:

- provide expertise on NEPA compliance and other subject matter such as wetlands, water quality, air quality, and environmental justice, during EIS planning and development;
- provide timely technical reviews and comments on preliminary documents, reports, analyses, and sections of the Draft EIS;
- participate in meetings and provide information as requested by FHWA, as resources allow;
- provide sources for information or support in the analysis of such information, when known, during preparation of the Draft EIS in areas in which EPA has expertise;
- review and comment on the Draft EIS pursuant to EPA's regulatory responsibilities under Section 309 of the Clean Air Act.

Re: Cooperating Agency Request
SH-249 Extension

The EPA anticipates that a cooperative team approach will streamline the environmental process and result in a high quality EIS. We look forward to continued involvement and cooperation in the EIS development for the project. If you have any further questions, please contact Rhonda Smith at (214) 665-8006 or smith.rhonda@epa.gov.

Sincerely,



John Blevins
Director
Compliance Assurance and
Enforcement Division



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON, TEXAS 77553-1229

RECEIVED ON

MAR 28 2014

TEXAS DIVISION
F 110

MAR 25 2014

Policy Analysis Section

SUBJECT: SWG-2014-00105, Participating/Cooperating Agency Request for Proposed Extension on SH 249, Montgomery County, Texas

Mr. Daniel Mott
Federal Highway Administration
300 East 8th Street, Suite 826
Austin, Texas 78701-3233

Dear Mr. Mott:

This concerns the United States Army Corps of Engineers, Galveston District (Corps) preliminary review, as a participating agency, of the proposed improvements to State Highway (SH) 249 extending from Pinehurst to Todd Mission, in Montgomery County, Texas. The Federal Highway Administration (FHWA) is the lead Federal agency in preparation of the Environmental Assessment (EA).

As you are aware, the proposed project may require a Department of the Army (DA) permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The proposed project will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the Corps, and other pertinent laws, regulations and executive orders. The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered. We recommend the EA provide information and analysis of the proposed facility's effect on the following issues: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural resources, fish and wildlife values including threatened and endangered species and essential fish habitat, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, cumulative impacts, and air quality. As we participate in the EA process, additional factors and issues under our regulatory authority may be identified at a later date that will require further analyses and evaluation.

In addition, we recommend the EA evaluate alternatives including geographic alternatives, changes in location and other site-specific variables, and functional alternatives, e.g. project substitutes and design modifications. The EA should include analysis of proposed mitigation for impacts to wetlands and aquatic habitats and insure that sequencing of avoidance, minimization, and compensation has been fully integrated into the selection of the preferred alternative. Any proposed mitigation should include a functional assessment of impacted wetlands and demonstrate mitigation provides replacement of lost wetland functions.

In order to determine the applicable DA permit requirements, and to initiate coordination with the appropriate resource agencies, we request the applicant submit the following information within their DA permit application.

a. A wetland delineation per the 1987 Corps of Engineers Wetland Delineation Manual, including a wetland delineation map per the October 2003 Standard Operating Procedure for Recording Jurisdictional Delineations Using Global Positioning Systems.

- The Atlantic and Gulf Coastal Plain Supplement went into effect on January 4, 2009. Therefore, any data collected after January 4, 2009, must use the Atlantic and Gulf Coastal Plain Supplement where appropriate.

b. A completed Engineer Form 4345.

c. A completed Texas Coastal Management Program Form.

d. A mitigation plan, including a functional assessment, that shows full compensation for all impacts associated with the proposed project have been made.

e. Drawings associated with the permit application must be clear and concise, showing all impacts to waters of the United States (U.S.), including the acreage of the proposed impacts, on 8½- by 11-inch white paper with black ink. Drawings with an aerial photo background will not be accepted.

f. For activities involving discharges of fill material into waters of the U.S., the application must include a statement describing how impacts to waters of the U.S. were avoided and minimized.

g. A Threatened and Endangered species survey report of the proposed project area.

h. A Historic Properties Survey of the proposed project area.

We understand that under Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) your agency is required to develop a Draft Coordination Plan that identifies specific time frames to provide agency comments on the scoping process and draft environmental impact statement. We will do our best to provide comments within the allotted timelines; however, we understand that our permit process has its own timeline requirements. This is contingent on a determination of our jurisdiction, which should be identified early in the process to aid in addressing alternatives.

Mr. Dwayne Johnson will be your project manager and can be contacted at the letterhead address, by telephone at 409-766-6353, or by email at Dwayne.Johnson@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'Casey Cutler', written in a cursive style.

Casey Cutler
Chief, Policy Analysis Section



Send all mail to:
P.O. Box 910
Navasota, TX 77868

www.NavasotaTX.gov

June 24, 2014

Carlos Swonke, Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483

Re: 249 Participating Agency

Dear Mr. Swonke;

The City of Navasota received two invitations to become 249 Participating Agency members. We agree to serve as such regarding the proposed SH 249 Extension. We agree to provide input, participate in meetings and field reviews, and review and comment on documents associated with the project.

Please feel free to contact my office at 936-825-6408 if you have any questions or concerns.

Thank you and have a nice day.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brad Stafford".

Brad Stafford
City Manager

City Hall is located at 200 East McAlpine, Navasota, Texas.

| City Hall: (936) 825-6475 | Economic Development Corporation: (936) 825-2961 | Tourism: (936) 825-7055 | Fire Department: (936) 825-7388 |
| Library: (936) 825-6744 | Parks & Recreation/Navasota Center: (936) 825-2241 | Police Department: (936) 825-6124 | Public Works: (936) 825-6450 |



Mark J. Mooney, P.E.
County Engineer

June 24, 2014

Mr. Carlos Swonke, P.G., Director
TxDOT Environmental Affairs Division
125 E. 11th Street
Austin, Texas 78701-2483

Re: SH 249 Partipating Agency
CSJ: 0720-02-072 and 0720-02-073

Dear Mr. Swonke:

Montgomery County gladly accepts the invitation to serve as a participating agency in the development of SH 249.

Please notify this office when meetings are scheduled, so that that we may provide a representative.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark J. Mooney", is written over the typed name and title.

Mark J. Mooney, P.E.
County Engineer

MJM/mmh

cc: Craig Doyal, Commissioner Precinct 2
Bobby Adams, Half Associates, Inc.

Callie Barnes

From: Amy Turner <Amy.Turner@tpwd.texas.gov>
Sent: Wednesday, July 02, 2014 12:54 PM
To: Callie Barnes; Julia Ragsdale
Cc: Julie Wicker
Subject: SH 249 - Early Coordination and Invitation to Participate.
Attachments: WL32125TxDOTSH249MontgomeryandGrimesC12-3-13.pdf

Importance: High

Callie & Julia,

We have received the Early Coordination request and the Invitation to be a Participating Agency with FHWA in the development of the EIS. This email serves to inform TxDOT that TPWD does intend to be a Participating Agency. In addition, TPWD provided scoping comments on this project on December 3, 2013, March 20, 2006, and April 21, 2005. In the December 3, 2013 correspondence (attached) TPWD requested that TxDOT utilize the recommendations provided in all three correspondences and provide TPWD with an opportunity to review the DEIS.

Due to the level of involvement with this project and the complexity, TPWD does not feel that this project can be thoroughly evaluated under Early Coordination and requests that this draft EIS be coordinated under Administrated Coordination.

If you have any questions please let me know.

Amy

Amy Turner, Ph.D.
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
2805 N. Navarro, Suite 600-B
Victoria, Texas

o-361-576-0022 x 223

f- 361-578-4155



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Ron Curry
Regional Administrator
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dear Mr. Curry:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT. If you have any questions, you may contact me at (512) 416-2734.

Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Jon Blevins
Director
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dear Mr. Blevins:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Rhonda Smith
Chief, Planning and Coordination Section
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

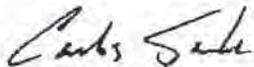
Dear Ms. Smith:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,



Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Barbara Britton
Regional Environmental Officer
Fort Worth Regional Office
U.S. Department of Housing and Urban Development
801 Cherry Street, Unit 45, Suite 2500
Fort Worth, TX 76102

Dear Ms. Britton:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT. If you have any questions, you may contact me at (512) 416-2734.

Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Kimberly McLaughlin
Acting Chief, Regulatory Branch
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Dear Ms. McLaughlin:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Casey Cutler
Chief, Policy Analysis Section
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Dear Mr. Cutler:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Dwayne Johnson
Regulatory Project Manager
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Dear Mr. Johnson:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Salvador Salinas
State Conservationist
U.S. Department of Agriculture, Natural Resources Conservation Service
101 South Main
Temple, TX 76501

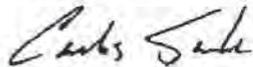
Dear Mr. Salinas:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,



Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Edith Erfling
Supervisor
Houston Ecological Services Office
U.S. Fish and Wildlife Service
17629 El Camino Real, Suite 211
Houston, TX 77058

Dear Ms. Erfling:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Adam Zerrenner
Field Supervisor
Austin Ecological Services Office
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, TX 78758

Dear Mr. Zerrenner:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Darren LaBlanc
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, TX 78758

Dear Mr. LaBlanc:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Sir or Madam
Federal Railroad Administration
Region 5 - Ft. Worth, TX
4100 International Plaza, Suite 450
Fort Worth, TX 76102

Dear Sir or Madam:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Colonel Richard P. Pannell
District Engineer and Commanding Officer
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, TX 77553-1229

Dear Colonel Pannell:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Willie R. Taylor
Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
Main Interior Building (MS 2462)
1849 C Street, NW
Washington, DC 20240

Dear Mr. Taylor:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Stephen Spencer
Regional Environmental Officer
Office of Environmental Policy and Compliance
U.S. Department of the Interior
P.O. Box 649
Albuquerque, NM 87103

Dear Mr. Spencer:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT. If you have any questions, you may contact me at (512) 416-2734.

Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

125 EAST 11TH STREET | AUSTIN, TEXAS 78701-2483 | (512) 416-3001 | WWW.TXDOT.GOV

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Mark Wolfe
Executive Director
Texas Historical Commission
Attention: Linda Henderson
P.O. Box 12276
Austin, TX 78711

Dear Mr. Wolfe:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Kate McGrath
Deputy Director
Governor's Office of Budget, Planning and Policy
P.O. Box 12873
Austin, TX 78711-2873

Dear Ms. McGrath:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Richard Hyde, P.E.
Executive Director
Texas Commission on Environmental Quality
Attention: Mike Hoke
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Hyde, P.E.:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. David Galindo
Director of Water Quality
Texas Commission on Environmental Quality
Attention: Mike Hoke
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Galindo:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT. If you have any questions, you may contact me at (512) 416-2734.

Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



125 EAST 11TH STREET | AUSTIN, TEXAS 78701-2483 | (512) 416-3001 | WWW.TXDOT.GOV

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. David Brymer
Director of Air Quality
Texas Commission on Environmental Quality
Attention: Mike Hoke
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Brymer:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

Information regarding the SH 249 Extension is available online at <https://www.txdot.gov/inside-txdot/projects/studies/houston/sh249-extension.html>.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Carter P. Smith
Executive Director
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, TX 78744

Dear Mr. Smith:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT. If you have any questions, you may contact me at (512) 416-2734.

Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Bob Gottfried
Texas Natural Diversity Database
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, TX 78744

Dear Mr. Gottfried:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Michael Warriner
Nongame and Rare Species Program Supervisor
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, TX 78744

Dear Mr. Warriner:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Amy Turner, Ph.D.
Habitat Assessment Biologist
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, TX 78744

Dear Dr. Turner:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



125 EAST 11TH STREET | AUSTIN, TEXAS 78701-2483 | (512) 416-3001 | WWW.TXDOT.GOV

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Hal Croft
Deputy Commissioner
Texas General Land Office
Attention: Amy Nunez
P.O. Box 12873
Austin, TX 78711-2873

Dear Mr. Croft:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Milton Rister
Executive Director
Railroad Commission of Texas
1701 North Congress
Austin, TX 78701

Dear Mr. Rister:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Lisa Mitchell
Texas Department of Transportation
Environmental Affairs Division
125 E. 11th Street
Austin, TX 78701-2483

Dear Ms. Mitchell:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Callie Barnes
Texas Department of Transportation
Houston District Office
7600 Washington Ave
Houston, TX 77007

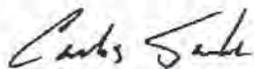
Dear Ms. Barnes:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,



Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



125 EAST 11TH STREET | AUSTIN, TEXAS 78701-2483 | (512) 416-3001 | WWW.TXDOT.GOV

March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Mr. Bob Appleton
Texas Department of Transportation
Bryan District Office
2591 North Earl Rudder Freeway
Bryan, TX 77803-5190

Dear Mr. Appleton:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



Texas Department of Transportation

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March 02, 2015

Montgomery and Grimes Counties
SH 249: FM 1774 in Pinehurst to FM 1774 North of Todd Mission
Control 0720-02-072 and 0720-02-073

Ms. Julie Wicker
Texas Parks & Wildlife Department
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744

Dear Ms. Wicker:

As you are aware, a public hearing was held on February 18, 2015 for the SH 249 Extension project, from FM 1774 in Pinehurst to FM 1774 north of Todd Mission. This letter is to inform you that in the next phase of the environmental clearance process for the SH 249 Extension, the Texas Department of Transportation (TxDOT) intends to issue a combined Final Environmental Impact Statement (Final EIS) and Record of Decision (ROD) as opposed to issuing the documents separately. The combined issuance is encouraged pursuant to Section 1319(b) "Single Final EIS and ROD Document" of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Accelerated Decision-making in Environmental Reviews.

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Sincerely,

Carlos Swonke, P.G.
Director of Environmental Affairs Division

cc: Pat Henry, P.E., Director of Project Development, Houston District
Callie Barnes, Environmental Specialist
Lisa De La Cruz, Jacobs Environmental Project Manager



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6

1445 Ross Avenue, Suite 1200

Dallas, TX 75202-2733

March 9, 2015

Texas Department of Transportation
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

Dear Mr. Henry:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Texas Department of Transportation (TXDOT) Draft Environmental Impact Statement (DEIS) for the State Highway 249 Extension (SH249). The purpose of this DEIS is to evaluate the social, economic, and environmental effects of the proposed SH249 tollway.

EPA's review identified a number of potential adverse impacts to aquatic resources, threatened and endangered species, archeological resources, and wetlands. In addition, the DEIS does not contain enough information to fully consider aquatic resources, noise, threatened and endangered species, historical and archeological resources, wetlands, indirect and cumulative effects, and greenhouse gas emissions. For these reasons we have rated the DEIS as "Environmental Concerns – Insufficient Information" (EC-2). The EPA's Rating System Criteria can be found at <http://www.epa.gov/compliance/nepa/comments/ratings.html>. EPA requests that these issues be addressed prior to releasing the Final EIS (FEIS). We have enclosed detailed comments which clarify our concerns.

EPA appreciates the opportunity to review the DEIS. Please send our office one copy of the FEIS when it is electronically filed. This letter will be published on the EPA website, <http://www.epa.gov/compliance/nepa/eisdata.html>, according to our responsibility under Section 309 of the CAA to inform the public of our views on the proposed Federal action. If you have any questions or concerns, I can be reached at stucky.marie@epa.gov or 214-665-7560, or contact Keith Hayden of my staff at hayden.keith@epa.gov or 214-665-2133.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie Stucky".

Marie Stucky
Chief, Office of Planning
and Coordination

Enclosure

**DETAILED COMMENTS ON THE
TEXAS DEPARTMENT OF TRANSPORTATION
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE STATE HIGHWAY 249 EXTENSION**

BACKGROUND: The proposed SH 249 controlled-access tollway extension project would extend from just south of the State Highway (SH) 249/Farm-to-Market (FM) 1774/FM 149 interchange in the City of Pinehurst to a new SH 249/FM 1774 interchange north of the City of Todd Mission. The proposed SH 249 Extension would be developed on a new location and would be approximately 14 to 15 miles in length. It would cross the southwest portion of Montgomery County and extend into the southeast portion of Grimes County.

DISPLACEMENTS

Table 4-5, on page 4-8, indicates 2 residential houses will potentially be displaced, while table 4-6, on page 4-12 indicates 6 residences that will be displaced.

Recommendation: Clarify how many residential displacements will occur as a result of the project. Discuss the reason for the displacement, such as, construction of the road, noise, or other factor.

Per the DEIS, all communities near the SH 249 Extension will be impacted. There will be displaced and relocated residents as well as the Believers Fellowship Baptist Church and school that will be impacted.

Recommendation: There should be a continuous communication and public participation plan for this project that includes town hall meetings and listening sessions in regards to impacts to the parks, homes, churches, etc. Submit the public participation plan to EPA for review.

NOISE

Page 4-47 of the DEIS states "Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at an impacted receptor by at least 5 dB(A) at greater than 50 percent of first row impacted receivers, and to be "reasonable," it must not exceed the cost-effectiveness criterion of \$25,000 for each receiver that would benefit by a reduction of at least 5 dB(A) and at least one first row receiver must achieve the noise reduction design goal of at least 7 dB(A)". Page ES-9 states noise barriers would only be feasible and reasonable for 66 impacted receivers under Alternative Alignment B/C. What is not stated is what will occur for the residential noise sensitive receptors (NSR) who will be impacted by traffic noise as a result of the tollway, for which noise abatement was not deemed feasible or

reasonable. There are 19 residential NSR's identified in table 4-16 that will be affected by the tollway. Some of the residences will experience increases of 20 dB(A) or more. Information on displacements and potential buyouts of adversely affected residences is lacking in the DEIS.

Recommendation: Please clarify exactly what will happen to the 19 residences adversely affected by noise, for which no abatement or mitigation is proposed. Are they included in displacement or buyout totals? Explain any methods used to compensate the residences for their loss in property values.

THREATENED AND ENDANGERED SPECIES

Pages 4-59 through 4-62 detail potential impacts to threatened and endangered species (T&E). There has currently been minimal field surveys conducted to determine impacts to T&E species. For T&E species determinations other than "no impact"; consultation with the United States Fish and Wildlife Service (USFWS) is required.

Recommendation: Complete consultation with the USFWS on any T&E species that has not previously received a "no effect" determination. For state listed T&E species complete consultation with the Texas Parks and Wildlife Department (TPWD). EPA requests this consultation be completed prior to the release of the FEIS.

ARCHEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCES

Several areas of the DEIS indicate the potential to discover archeological resources as "high". Page 4-65 indicates there is potential for 2 or more archeological resources to occur in the project area. Appendix E contains several recommendations for identification and protection of archeological, cultural, and historical resources.

Recommendation: Continue to consult with the Texas State Historic Preservation Officer (SHPO) to determine and prevent impacts to archeological, cultural, and historical resources. Also, identify specific tribes to consult for potential impacts to tribal resources, or areas where tribes were historically present. EPA recommends adhering to all recommendations made in the constraints analysis in Appendix E. EPA requests this consultation be completed prior to the release of the FEIS.

GREENHOUSE GASES AND CLIMATE CHANGE

Climate change and Greenhouse gas (GHG) were not mentioned or analyzed in the DEIS.

Recommendation: EPA recommends that climate change issues be analyzed consistent with the Council on Environmental Quality's (CEQ) December 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts when conducting environmental reviews under NEPA. Accordingly, we

recommend the FEIS include an estimate of the GHG emissions associated with the project, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions. More specifics on those elements are provided below. In addition, we recommend that the NEPA analysis address the appropriateness of considering changes to the design of the proposal to incorporate GHG reduction measures and resilience to foreseeable climate change. The FEIS should make clear whether commitments have been made to ensure implementation of design or other measures to reduce GHG emissions or to adapt to climate change impacts.

Include in the “Affected Environment” section of the FEIS a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program¹ assessments, to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts.

Estimate the GHG emissions associated with the proposal and its alternatives. Example tools for estimating and quantifying GHG emissions can be found on CEQ’s NEPA.gov website². For actions which are likely to have less than 25,000 metric tons of CO₂-e emissions/year, provide a qualitative estimate unless quantification is easily accomplished.³

The estimated GHG emissions can serve as a reasonable proxy for climate change impacts when comparing the proposal and alternatives. In disclosing the potential impacts of the proposal and reasonable alternatives, consideration should be given to whether and to what extent the impacts may be exacerbated by expected climate change in the action area, as discussed in the “affected environment” section.

Describe measures to reduce GHG emissions associated with the project, including reasonable alternatives or other practicable mitigation opportunities and disclose the estimated GHG reductions associated with such measures. The alternatives analysis should, as appropriate, consider practicable changes to the proposal to make it more resilient to anticipated climate change. EPA further recommends that the FEIS commits to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

¹ <http://www.globalchange.gov/>

² https://ceq.doe.gov/current_developments/GHG_accounting_methods_7Jan2015.html

³ Recognizing that climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, we do not recommend comparing GHG emissions from a proposed action to global emissions. As noted by the CEQ revised draft guidance, “[t]his approach does not reveal anything beyond the nature of the climate change challenge itself: [t]he fact that diverse individual sources of emissions each make relatively small additions to global atmospheric GHG concentrations that collectively have huge impact.”

WETLANDS, WATERS OF THE U.S., AND VEGETATION

Field Surveys and Functional Assessments

Statements made in Section 3.9 conflict with statements made in the Executive Summary (ES), section 3.9.2. The ES indicates that field surveys have not yet been conducted, and that analysis so far has been based on National Wetland Inventory (NWI) maps. However, in this section there is a reference to field site visits for the purpose of preliminary jurisdictional determination. While this statement raises questions regarding consistency, overall, the indication seems to be that field site visits either did not occur, or were very limited, and if they did occur, no field site data has been provided. Rather than relying on NWI maps, actual field surveys should have been conducted for wetlands and stream crossings being proposed. Wetlands and other waters of the U.S. (WUS) that would be impacted by each alternative should have been described and mapped, and photographs provided. Functional assessment of wetlands and other WUS that would be impacted, should have been conducted and provided for review. Although stream crossings may constitute a majority of the proposed projects impacts to WUS; there is no description of stream habitat that would be impacted.

Recommendation: Conduct field surveys and functional assessment of wetlands and other waters of the U.S. that would be impacted by the various alternatives being considered, and especially the preferred alternative, as soon as possible, and provide results in the FEIS. Provide maps, descriptions, photographs, data, etc.

Statements made in the ES section 3.11.1 indicate field surveys to identify and quantify impacts to special habitat features, including bottomland hardwoods and riparian areas, have not been conducted. Field surveys should have been conducted previously and the results included in this DEIS.

Recommendation: Conduct field surveys to identify and quantify impacts to special habitat features, including bottomland hardwoods and riparian areas, as soon as possible, and include the results in the FEIS.

Jurisdictional Determination/Wetland Delineation; Section 3.10.1 and 4.9.2

Jurisdictional determination/wetland delineation should have been conducted and results provided as part of the DEIS. Somewhat conflicting statements regarding whether or not jurisdictional determination/wetland delineation has been conducted or not, exist in several places in the document.

Recommendation: Clarify whether or not preliminary jurisdictional determination/wetland delineation has been conducted. If not, complete draft jurisdictional determination/wetland delineation and provide the results in the FEIS.

Mitigation Plan; Section 3.9 and 4.9.2

A draft mitigation plan for impacts to wetlands and other waters of the U.S. should have been provided as part of the DEIS for review and comment.

Recommendation: If an alternative that completely avoids impacts to wetlands and other waters of the U.S. cannot be considered, then we recommend a draft mitigation plan to compensate for impacts to wetlands and other waters of the U.S. be completed and provided in the FEIS.

Indirect and Cumulative Impacts; Section ES-4, 5.7.3, and 6.3.3

Indirect effects associated with the proposed SH 249 Extension would include encroachment alteration effects to wetlands and other waters of the U.S. The DEIS appears to reflect an underestimation of the impacts of future jurisdictional wetland and stream impacts due to induced development. The DEIS assumes that all impacts to jurisdictional wetlands and streams will be fully mitigated for. Also, the DEIS appears to downplay the significance of cumulative impacts on wetlands and other waters of the U.S. in the Houston area in general, as well as in the project area.

Recommendation: Revise the text to explicitly state that indirect effects of the proposed project include encroachment alteration and induced development effects to wetlands and other waters of the U.S. Acknowledge that the potential cumulative impacts due to continued urbanization of this area include impacts to wetlands and other waters of the U.S.

ALTERNATIVES ANALYSIS

While we realize there are numerous factors and criteria to take into consideration in the development and analysis of alternatives for a project such as this, it appears that the selection of the study area, and all alternatives considered, did not include consideration of areas farther away from the Mill Creek floodplain, where there might be fewer wetlands and streams that would be impacted.

Recommendation: Consider expanding the study area to include areas away from Mill Creek and its tributaries, or add additional alternative alignments in this area away from Mill Creek. If necessary, revise this section to incorporate changes to impacts to wetlands and other waters of the U.S. (e.g. Mill Creek and tributaries) as a result of additional alternatives.

CONSULTATION AND COORDINATION

Coordination with several local, state, and national agencies concerning environmental laws and executive orders is ongoing. There are also a number of permits referenced in the DEIS that will need to be acquired prior to project construction commencing.

Recommendation: EPA recommends that TXDOT include all correspondence with resource agencies mentioned in the DEIS in a dedicated section or appendix of the FEIS, and not release the FEIS until all consultations required for the project have been completed.

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 5, 2015

Doug Booher
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701
Via: Doug.Booher@txdot.gov

Re: TCEQ NEPA Request #2015-009, Draft Environmental Impact Statement for SH 249 Extension FHWA-TA-EIS-06-01-D CSJ: 0720-02-072 and 0720-02-07, Montgomery and Grimes Counties.

Dear Mr. Booher:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and offers the following comments:

This project is in an area of Texas classified by the United States Environmental Protection Agency as severe nonattainment for the 1997 ozone National Ambient Air Quality Standard (NAAQS) and marginal nonattainment for the 2008 ozone NAAQS. Air Quality staff has reviewed the document in accordance with transportation and general conformity regulations codified in 40 Code of Federal Regulations Part 93 Subparts A and B. We concur with TxDOT's assessment.

The management of industrial and hazardous waste at the site including waste treatment, processing, and/or disposal is subject to state and federal regulations. Construction and Demolition waste must be sent for recycling or disposal at a facility authorized by the TCEQ. Special waste authorization may be required for the disposal of asbestos containing material.

Thank you for the opportunity to review this project. If you have any questions, please contact Ms. Elizabeth McKeefer, CAPM, NEPA Coordinator, at (512) 239-2779 or NEPA@tceq.texas.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Hagle".

Steve Hagle, P.E., Deputy Director
Office of Air



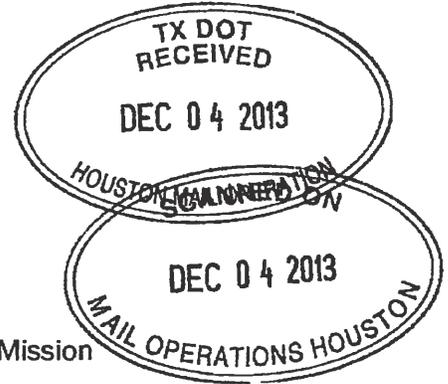
Texas Department of Transportation[®]

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November 12, 2013

Mr. Larry Foerster
Montgomery County Historical Commission Chair
1663 White Oak Creek Dr.
Conroe, Texas 77304

RE: Draft Environmental Impact Statement
Montgomery and Grimes Counties
SH 249: From FM 1774 in Pinehurst to FM 1774 in Todd Mission
Control 0912-00-144



Dear Mr. Foerster:

The Texas Department of Transportation (TxDOT) is proposing the extension of SH 249 on new location for approximately 15 miles, from FM 1774 in Pinehurst, Montgomery County to FM 1774 in Todd Mission, Grimes County. The proposed SH 249 Extension is planned as a four mainlane controlled access toll road, with intermittent frontage roads, located within a typical 400 foot right-of-way. TxDOT is facilitating environmental reviews required under the National Environmental Policy Act.

A Major Investment Study for the proposed project was completed in 2002. A Notice of Intent was published in the Federal Register on October 30, 2003, and again in the Texas Register on October 31, 2003, announcing the intent of the Federal Highway Administration and TxDOT to prepare an Environmental Impact Statement (EIS) for the subject project. The EIS is authorized pursuant to the Texas Transportation Commission Minute Order No. 104908 issued January 26, 1995. The Draft EIS would evaluate the No Build Alternative and four Build Alternative Alignments, including the Recommended B/C Alternative Alignment, depicted in Figure 1.

If you have information concerning the location of any historically or archaeologically significant properties within the subject area, which might be eligible for inclusion in, or under nomination to, the *National Register of Historic Places*, it would be appreciated to have that information for addressing impacts for the proposed project. If the project area under consideration contains no known historical or archaeological sites, your signature below will be sufficient verification.

If you should need further information concerning this project, please contact James A. Roscher at (713) 802-5246.

Sincerely,



Pat Henry, P.E.
Director of Project Development
Houston District

Attachments

cc: Mr. Jim Roscher, Project Manager, Texas Department of Transportation
Ms. Lisa De La Cruz, Project Manager, Jacobs


Montgomery County Historical Commissioner

11-24-2013
Date



MEMO

November 18, 2014

To: ENV Administrative Record
From: Rebekah Dobrasko *RWD*
Historic Preservation Specialist
Subject: Section 106 Coordination

District: Houston
County: Grimes and Montgomery
CSJ#: 0720-02-072; 0720-02-073; 0912-00-144
Let Date: February 2016
Highways: SH 249
Limits: From FM 1774 to south of Pinehurst, TX

Project Description: Stipulation VI, Appendix 4: Construct new highway/tollway. 676 acres new ROW. No effect to historic properties.

Proposed Project:

The Houston District proposes to extend the existing State Highway 249 from its current terminus south of Pinehurst in Montgomery County to FM 1774 in Grimes County. This extension will be 14.9 miles long. The proposed project consists of the construction of a four-lane, controlled-access toll road with auxiliary lanes. The project has a typical right-of-way (ROW) width of 400 feet, and encompasses c. 720 acres, of which approximately 1 mile (44 acres) is existing highway and railroad ROW. The project may also require up to 98 additional acres for as many as four runoff detention ponds. TxDOT is preparing an Environmental Impact Statement (EIS) to study this project.

Identification of Historic Properties:

Between 2002 and 2013, TxDOT conducted several background and literature searches on this project in order to narrow the project alternatives and avoid known historic properties. It has been determined through consultation with the State Historic Preservation Officer (SHPO) that the Area of Potential Effect (APE) for the proposed project is 300 feet from the proposed ROW. A review of the National Register of Historic Places (NRHP), the list of State Antiquities Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) for the preferred alternative identified one previously documented resource, a cemetery known variously as the Piney Grove Cemetery, Missionary Church Cemetery, and unnamed cemetery #5. In addition, TxDOT's consultant contacted the County Historical Commissions of both Grimes and Montgomery Counties. The Montgomery CHC responded that it knew of no historic properties in the project area.

TxDOT conducted a reconnaissance survey of the project's APE in May and July 2014. As a result of this survey, TxDOT identified 41 historic-age resources. Based on historic map research and the evaluation of these properties, TxDOT has determined that all 41 resources are not eligible for listing in the NRHP due to lack of significance and compromised integrity. TxDOT was unable to obtain right-of-entry (ROE) to several

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properties within the project's APE. Per the survey, determinations of eligibility for these properties were supplemented by historic map research, aerial photographs, and discussions with a local historian.

Resource 2a-e is a complex of buildings that is first shown on a 1939 highway map. This property is a tenant farm dating to the 1920s and is set back approximately 1,300 feet from FM 1774 and the western terminus of this project. By 1940, the farm had a large sawmill on the property. Aerial photographs show additions made to the historic-age buildings. While this property is indicative of the agricultural and lumber economies in the project area, none of the agricultural fields or lumber tracts are still extant on the parcel. The historic-age resources are outside the APE and the ROW. The portion of the tract within the APE would not contribute to any historic property, as only the historic-age buildings have the potential for significance.

Resource 11a-b is a complex of historic-age and modern buildings known locally as the Yon Complex. Historic map research indicated that the buildings on this property were constructed after 1939, and the owners of the property were absentee and lived in Houston. The Yon family moved to Magnolia in the 1970s and constructed a new house and outbuildings on their property at that time. Research indicates no known historic significance to the property or to the Yon family. The buildings are approximately 3,500 feet from the project ROW. The portion of the parcel that contains Resource 11a-b is forested and would not contribute to any historic property.

Resources 13, 20a-b, 21, 25, and 26 are all part of a c. 1960s and 1970s subdivision to the south of the proposed project area. The buildings in this subdivision that were able to be photographed and surveyed indicate a working-class neighborhood with small residences, including mobile homes and ranch houses. The neighborhood is not significant and it is unlikely, based on research, aerial photographs, and adjacent properties, that any homes within the neighborhood will be eligible for the NRHP.

Determination of Effects/Conclusion:

Pursuant to Stipulation VI, Appendix 4 "Undertakings Not Requiring SHPO Review" of the First Amended Statewide Programmatic Agreement for Cultural Resources, (PA-TU) between the Federal Highway Administration (FHWA), the Texas State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and the Texas Department of Transportation (TxDOT) and the Memorandum of Understanding (MOU), TxDOT historians have determined that there are no historic properties in the APE and that individual project coordination with SHPO is not required.

Lead Reviewer Mario L. Sanchez for TxDOT 12/1/2014
Mario L. Sanchez Date
Approved by Bruce Jensen for TxDOT 12-4-14
Bruce Jensen Date



December 15, 2014

Section 106/Antiquities Code of Texas: Review and Comments (Permit #6798)
State Highway (SH) 249 Extension (CSJ #0912-00-144, 0720-02-072, 0720-02-073)
Houston District; Montgomery and Grimes Counties

Ms. Pat Mercado-Allinger
State Archeologist
Department of Antiquities Protection
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Dear Ms. Mercado-Allinger:

The proposed project will be undertaken with Federal funding. In accordance with Section 106 and the First Amended Programmatic Agreement among the Texas Department of Transportation (TxDOT), the Texas State Historical Preservation Officer (TSHPO), the Federal Highway Administration (FHWA), and the Advisory Council on Historic Preservation and the Antiquities Code of Texas and the Memorandum of Understanding between the Texas Historical Commission (THC) and TxDOT, this letter initiates consultation for the proposed undertaking.

The proposed project would improve SH 249 between the existing SH 249 just southeast of Pinehurst in Montgomery County and FM 1774 approximately 1.8 miles north of Todd Mission in Grimes County. The proposed 14.9 mile long project would extend the existing four-lane divided rural roadway with open ditches. The proposed road extension would be constructed within 400-feet of new right-of-way (ROW), approximately 676 acres of new ROW would be acquired for this proposed project. The proposed project would include the construction of six grade separations at FM 1774, the Missouri-Pacific Railroad ROW, Circle lane Drive, FM 149, FM 1488, and FM 1486, six bridges at Clear Creek, Mill Creek, and four Mill Creek tributaries, service road bridges at a second Mill Creek crossing, at least three culverts, and four detention ponds. The area of potential effect (APE) is defined as the project length, the existing and proposed ROW (720 acres), ROW width (400-feet) and the depth of construction impacts (usually 3-feet and as much as 30-feet in depth for the detention ponds and 40-feet for the bridges and grade separations).

Prewitt and Associates, Inc. (PAI) was subcontracted by Jacobs Engineering Group, Inc. to perform an archeological investigation of the proposed project APE on behalf of TxDOT's Houston District Office. The intensive survey was completed in May 2014 under Texas Antiquities Permit #6798. Four archeological sites were recorded, 41GM464, 41MQ319, 41MQ320 (all low density, prehistoric lithic scatters) and 41GM465 (a mid-20th century historic house site). Eligibility is undetermined at this time until completion of the archeological investigations. The archeological investigation consisted of pedestrian survey and shovel-testing. Deep mechanical trenching was not performed at any of the locations within the APE where deep investigation would be needed due to right-of-entry (ROE) or access issues. Approximately 127 acres or 2.8 miles of new ROW was surveyed. 7.8 miles of proposed ROW

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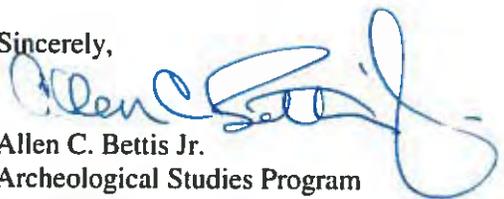
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were inaccessible due to vegetation and 4.3 acres were denied ROE. Approximately 4.7 miles of the APE did not warrant any survey based on archival background study. This left approximately 7.4 miles of the APE remaining that needs intensive survey. PAI recommended that no further archeological investigations were warranted in the 7.5 miles of the APE that was surveyed or determined to not warrant a survey and the remainder needed intensive survey once ROE was granted and access to areas with dense vegetation had been cleared. TxDOT archeologists agree with the archeological subcontractor and request your office's concurrence that the portion of the APE that has been archeologically investigated is clear and does not warrant any further archeological investigations. TxDOT archeologist further request your concurrence that the remainder of the archeological investigation be deferred and the NEPA process allowed to continue, once access to the unsurveyed areas have been acquired, TxDOT is obligated to complete the archeological investigation of the APE. No construction in the unsurveyed portion of the APE may commence until all archeological investigations are complete and coordinated with your office. All sites determined to warrant eligibility testing would be investigated separately from the ongoing investigation at a later date.

Please find attached for your review and comments the PAI revised draft report; *Archaeological Survey for the Proposed Extension of State Highway 249 n Montgomery and Gimes Counties, Texas, CSJ 0720-02-072 and CSJ 0720-02-073*. TxDOT recommends that the draft report is satisfactory and acceptable. If you concur with the above recommendations and have no objections to or comments on this draft report and find it acceptable, please sign below to indicate your concurrence and stamp the draft cover as acceptable.

Thank you for your consideration in this matter. If you have any questions or further need of assistance, please contact Allen Bettis of the TxDOT Archeological Studies Program at (512) 416-2747.

Sincerely,


Allen C. Bettis Jr.
Archeological Studies Program
Environmental Affairs Division

cc w/o attachments: Ross Fields – Prewitt and Associates, Inc. - Austin
Christine Bergren – Houston District APD
ACB JVL PA File


Concurrence:
for Mark S. Wolfe, State Historic Preservation Officer

12-18-14
Date:

ARCHEOLOGICAL SURVEY FOR THE PROPOSED EXTENSION OF
STATE HIGHWAY 249 IN MONTGOMERY AND GRIMES COUNTIES,
TEXAS, CSJ 0720-02-072 AND CSJ 0720-02-073

by

Ross C. Fields

and

Damon Burden

Principal Investigator: Ross C. Fields

LETTER REPORT NO. 891

submitted to

Jacobs Engineering Group, Inc.
Houston, Texas

and

Texas Department of Transportation
Houston District

by

Prewitt and Associates
Cultural Resources Services
Austin, Texas

DRAFT REPORT ACCEPTABLE	
by	
for	Mark Wolfe
Executive Director, THC	
Date	12-18-14
Track#	

PAI No. 213010

July 2014

TEXAS ANTIQUITIES PERMIT NO. 6798



Natural Resources
Conservation Service

State Office

101 S. Main Street
Temple, TX 76501
Voice 254.742.9800
Fax 254.742.9819

September 15, 2015

Jacobs

5995 Rogerdale Road
Houston, TX 77072

Attention: Lisa De La Cruz

Subject: LNU-Farmland Protection
Proposed SH 249 Extension Final Environmental Impact Statement
(FEIS) from FM 1774 in Pinehurst to FM 1774 North of Todd Mission, in
Montgomery County, Texas.

We have reviewed the information provided in your correspondence dated June 22, 2015 concerning the Proposed SH 249 Extension Final Environmental Impact Statement (FEIS) from FM 1774 in Pinehurst to FM 1774 North of Todd Mission, in Montgomery County, Texas. This review is part of the National Environmental Policy Act (NEPA) evaluation for TxDOT/FHWA. We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

The proposed project does contain soils that are classified as Prime Farmland. We developed a composite rating of all the soils on the site. The total points in Part VII of the AD-1006 form for the travel stop is 93. The site will require no additional consideration since the rating score is less than 160. We know of no adverse environmental impact from this project. I have attached the completed Farmland Conversion Impact Rating (Form AD-1006) for this project.

If you have any questions, please contact me at (254) 742-9826 or by email at micki.yoder@tx.usda.gov.

Sincerely,

Micki Yoder
NRCS Soil Conservationist

Attachment

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 6/22/15	4. Sheet 1 of 2
1. Name of Project SH 249		5. Federal Agency Involved TxDOT/FHWA	
2. Type of Project Extension of SH 249 on new location		6. County and State Montgomery and Grimes Counties	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form Micki Yoder
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated Average Farm Size 1,188 97	
5. Major Crop(s) corn	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %	
8. Name Of Land Evaluation System Used LESA	9. Name of Local Site Assessment System NA	10. Date Land Evaluation Returned by NRCS 9/15/15	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	726			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	726			

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	70.3			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	70			

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)				
	42			

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use	15	11			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	5			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	1			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	10			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	9			
TOTAL CORRIDOR ASSESSMENT POINTS	160	51	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	42	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	51	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	93	0	0	0

1. Corridor Selected: Corridor A	2. Total Acres of Farmlands to be Converted by Project: 726	3. Date Of Selection: 6/22/15	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
-------------------------------------	--	----------------------------------	---

5. Reason For Selection:
Note: Corridor A is the Selected Alternative Alignment B/C

Signature of Person Completing this Part:  DATE 6/22/15

NOTE: Complete a form for each segment with more than one Alternate Corridor

July 9, 2015

Mr. Wayne Gabriel
Natural Resource Conservation Services
101 South Main Street
Temple, Texas 76501-7602

Reference: State Highway 249: From SH 249 (Existing) in Pinehurst to FM 1774 in Todd
Mission/Grimes County
Location: Montgomery and Grimes Counties, Texas

Dear Mr. Gabriel:

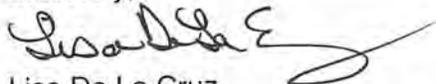
The proposed State Highway (SH) 249 facility would include the construction of approximately 15 miles on new location within the above-referenced limits. The proposed project would extend SH 249 on new location northwest to Todd Mission in Grimes County as a four-lane controlled access toll road with auxiliary lanes between on-ramps and off-ramps where appropriate, within a typical 400-foot wide right-of-way (ROW). The Texas Department of Transportation (TxDOT) is facilitating environmental reviews required under the National Environmental Policy Act.

A public hearing was held February 18, 2015 for the Draft EIS and the Selected Alternative for the Final EIS now contains detention facilities that were not included in our original coordination efforts. Jacobs is currently preparing a Final Environmental Impact Statement to determine the significance of potential environmental impacts, which may result from the implementation of the proposed project. Since the Final EIS contains these new detention facilities, we are requesting your input and any comments pertaining to potential impacts to prime farmland and natural resources in the new proposed project area.

Enclosed please find a Farmland Conversion Impact Rating Form CPA-106 for your review. This form is being submitted to inform you of the selected alternative for the proposed SH 249 facility. In addition, web soil survey information for the proposed project study area is enclosed for your review.

If you need additional information, please contact me at 281-575-2649.

Sincerely,



Lisa De La Cruz
Environmental Project Manager

Enclosures
CB700904



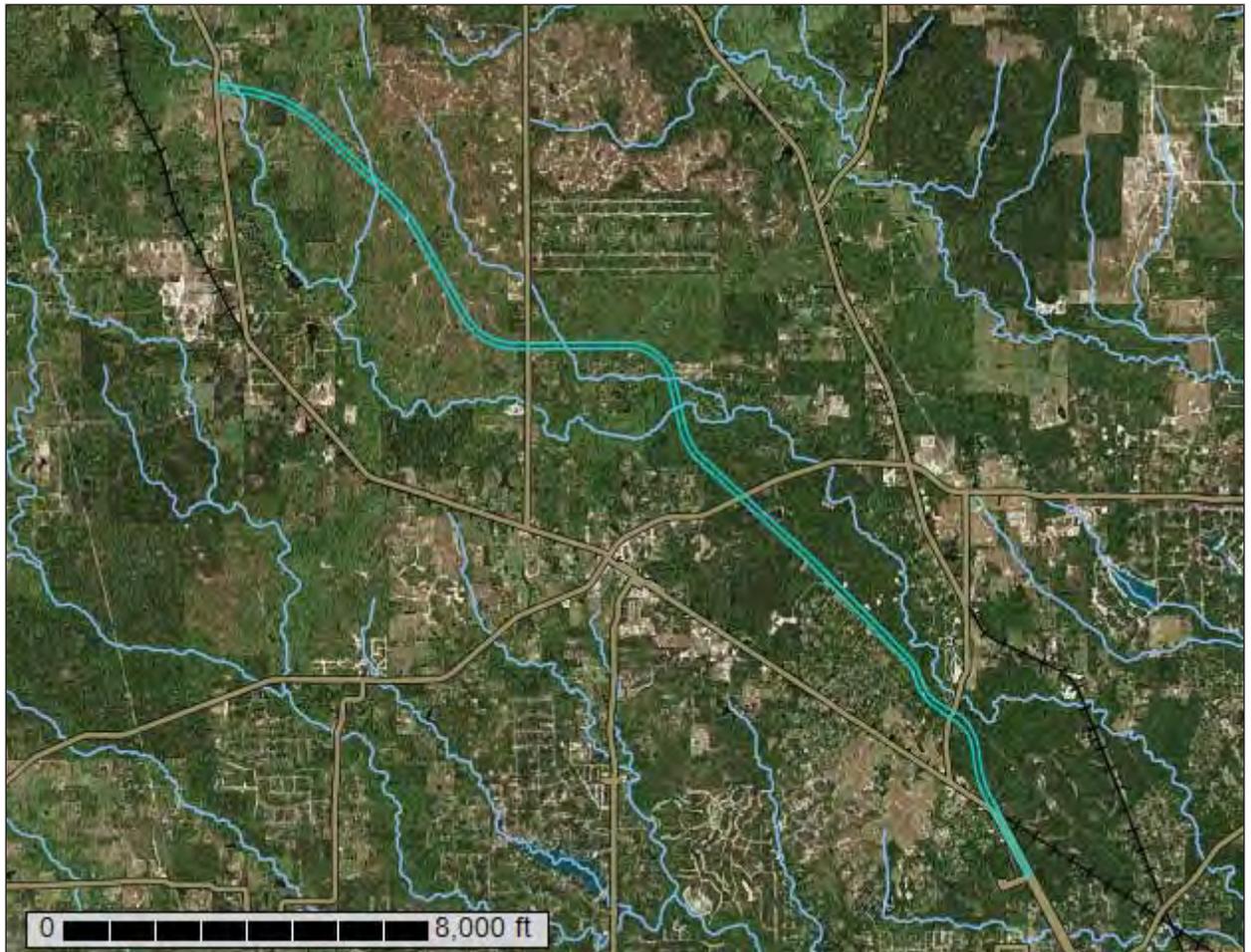
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Grimes County, Texas, and Montgomery County, Texas



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

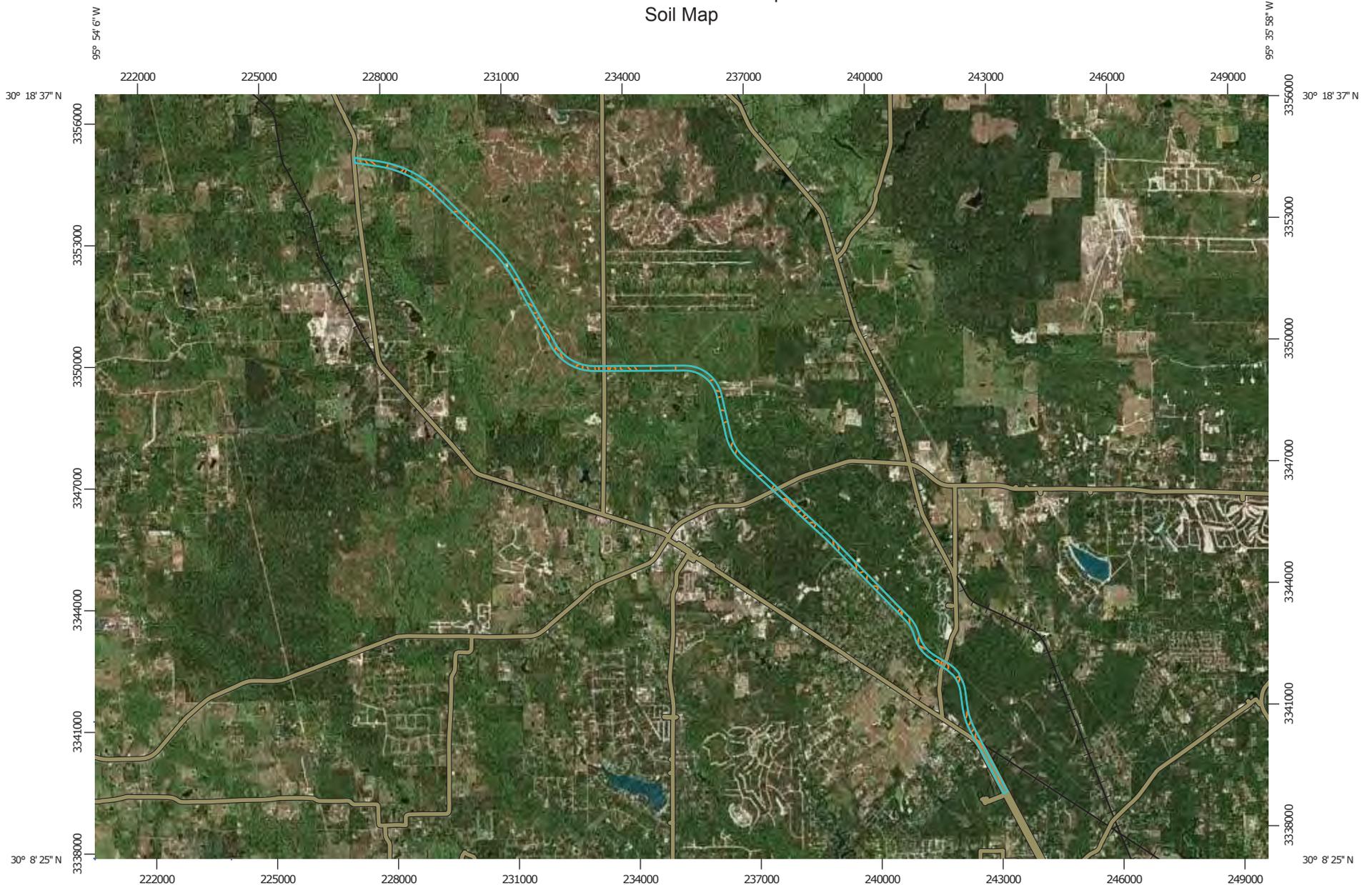
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:133,000 if printed on A landscape (11" x 8.5") sheet.

0 1500 3000 6000 9000 Meters

0 5000 10000 20000 30000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Grimes County, Texas
 Survey Area Data: Version 9, Sep 29, 2014

Soil Survey Area: Montgomery County, Texas
 Survey Area Data: Version 11, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 26, 2011—Jan 28, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Grimes County, Texas (TX185)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AnC	Annona fine sandy loam, 1 to 5 percent slopes	4.3	0.6%
BgD	Boy loamy fine sand, 1 to 5 percent slopes	0.6	0.1%
CoC	Conroe loamy fine sand, 1 to 5 percent slopes	14.1	1.9%
DeC	Depcor loamy fine sand, 1 to 5 percent slopes	53.1	7.3%
FeC	Fetzer loamy fine sand, 1 to 5 percent slopes	21.2	2.9%
Na	Nahatche clay loam, frequently flooded	5.0	0.7%
SpB	Splendora fine sandy loam, 0 to 2 percent slopes	2.4	0.3%
Subtotals for Soil Survey Area		100.6	13.9%
Totals for Area of Interest		726.2	100.0%

Montgomery County, Texas (TX339)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ab	Landman fine sand	17.8	2.4%
Bb	Bibb soils, frequently flooded	20.7	2.8%
BisA	Bissonnet loam, 0 to 1 percent slopes	6.3	0.9%
BIC	Betis fine sand, 0 to 5 percent slopes	56.8	7.8%
BoyC	Boy loamy fine sand, 1 to 5 percent slopes	43.1	5.9%
CnC	Conroe gravelly loamy fine sand, 0 to 5 percent slopes	42.0	5.8%
CoC	Conroe loamy fine sand, 0 to 5 percent slopes	335.7	46.2%
Eu	Betis loamy fine sand	0.0	0.0%
Fs	Lilbert loamy fine sand	12.0	1.7%
Ho	Hockley loamy fine sand, 1 to 3 percent slopes	5.3	0.7%
SolA	Sorter silt loam, 0 to 1 percent slopes	8.2	1.1%
SplB	Splendora fine sandy loam, 0 to 2 percent slopes	62.6	8.6%
SuD	Woodville fine sandy loam, 5 to 12 percent slopes	0.1	0.0%
W	Water	5.0	0.7%

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Montgomery County, Texas (TX339)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
WkC	Fetzer loamy fine sand, 1 to 5 percent slopes	10.2	1.4%
Subtotals for Soil Survey Area		625.6	86.1%
Totals for Area of Interest		726.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

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Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Grimes County, Texas

AnC—Annona fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: d9lw
Elevation: 200 to 500 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 64 to 68 degrees F
Frost-free period: 230 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Annona and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Annona

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 27 inches: clay
H3 - 27 to 65 inches: clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D

BgD—Boy loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2s0wk
Elevation: 30 to 150 feet
Mean annual precipitation: 48 to 58 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Boy and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boy

Setting

Landform: Interfluves
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium

Typical profile

A - 0 to 7 inches: fine sand
E1 - 7 to 31 inches: fine sand
E2 - 31 to 49 inches: fine sand
Bt1 - 49 to 73 inches: fine sandy loam
Bt2 - 73 to 80 inches: fine sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 4 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

Minor Components

Sorter

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

CoC—Conroe loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: d9mp
Elevation: 50 to 500 feet
Mean annual precipitation: 41 to 48 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 238 to 283 days
Farmland classification: Not prime farmland

Map Unit Composition

Conroe and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conroe

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 24 inches: loamy fine sand
H2 - 24 to 40 inches: clay
H3 - 40 to 74 inches: clay

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B

DeC—Depcor loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: d9mw
Elevation: 150 to 450 feet
Mean annual precipitation: 40 to 45 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 260 to 283 days
Farmland classification: Not prime farmland

Map Unit Composition

Depcor, affr >30, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Depcor, Affr >30

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 28 inches: loamy fine sand
H2 - 28 to 60 inches: sandy clay loam
H3 - 60 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: Pinus taeda-Pinus echinata/Callicarpa americana/Schizachyrium scoparium var. divergens (F133BY003TX)

FeC—Fetzer loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: d9n3
Elevation: 100 to 450 feet
Mean annual precipitation: 41 to 46 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 260 to 285 days
Farmland classification: Not prime farmland

Map Unit Composition

Fetzer and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fetzer

Setting

Landform: Interfluves
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 25 inches: loamy fine sand
H2 - 25 to 34 inches: clay loam
H3 - 34 to 75 inches: clay

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Na—Nahatche clay loam, frequently flooded

Map Unit Setting

National map unit symbol: d9p4
Elevation: 100 to 400 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 235 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Nahatche and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nahatche

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium of holocene age derived from mixed sources

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 60 inches: stratified loam to silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: Quercus phellos/Justicia ovata (F133BY009TX)

Minor Components

Unnamed, hydric

Percent of map unit: 10 percent

Custom Soil Resource Report

Landform: Flood plains

SpB—Splendora fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: f763

Elevation: 80 to 400 feet

Mean annual precipitation: 48 to 58 inches

Mean annual air temperature: 67 to 68 degrees F

Frost-free period: 240 to 300 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Splendora and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Splendora

Setting

Landform: Flatwoods

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loamy fluviomarine deposits of early pleistocene age

Typical profile

A - 0 to 6 inches: fine sandy loam

E - 6 to 15 inches: fine sandy loam

Bt/E - 15 to 28 inches: loam

Bt - 28 to 70 inches: loam

Btg - 70 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 10 to 32 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: D

Minor Components

Waller

Percent of map unit: 7 percent

Landform: Flats

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Segno

Percent of map unit: 3 percent

Landform: Interfluves

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Montgomery County, Texas

Ab—Landman fine sand

Map Unit Setting

National map unit symbol: m9xm
Elevation: 170 to 350 feet
Mean annual precipitation: 42 to 52 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 240 to 285 days
Farmland classification: Not prime farmland

Map Unit Composition

Landman, affr >30, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Landman, Affr >30

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium and/or sandy alluvium

Typical profile

H1 - 0 to 47 inches: fine sand
H2 - 47 to 83 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

Bb—Bibb soils, frequently flooded

Map Unit Setting

National map unit symbol: m9xp
Elevation: 50 to 450 feet

Custom Soil Resource Report

Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 59 to 72 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Bibb and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bibb

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium

Typical profile

H1 - 0 to 10 inches: fine sandy loam
H2 - 10 to 63 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 6 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D

Minor Components

Unnamed

Percent of map unit: 5 percent

BisA—Bissonnet loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: f779
Elevation: 10 to 100 feet
Mean annual precipitation: 48 to 60 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 240 to 300 days

Custom Soil Resource Report

Farmland classification: All areas are prime farmland

Map Unit Composition

Bissonnet and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bissonnet

Setting

Landform: Flats

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Parent material: Loamy fluviomarine deposits

Typical profile

A - 0 to 13 inches: loam

Btg1 - 13 to 34 inches: silty clay loam

Btg2 - 34 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 6.0

Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Other vegetative classification: Unnamed (G152BT000TX)

Minor Components

Bevil

Percent of map unit: 5 percent

Landform: Depressions

Landform position (three-dimensional): Dip

Microfeatures of landform position: Gilgai

Down-slope shape: Concave

Across-slope shape: Concave

Other vegetative classification: Unnamed (G152BT000TX)

Aldine

Percent of map unit: 5 percent

Landform: Flats

Landform position (three-dimensional): Rise

Microfeatures of landform position: Pimple mounds

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Convex

BIC—Betis fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: m9xq
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Betis and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Betis

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits

Typical profile

H1 - 0 to 10 inches: fine sand
H2 - 10 to 48 inches: fine sand
H3 - 48 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Pinus echinata-Quercus incana/Sassafras albidum/Schizachyrium scoparium-Cnidocolus texanus (F133BY002TX)

BoyC—Boy loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2s0wk
Elevation: 30 to 150 feet
Mean annual precipitation: 48 to 58 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Boy and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boy

Setting

Landform: Interfluves
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium

Typical profile

A - 0 to 7 inches: fine sand
E1 - 7 to 31 inches: fine sand
E2 - 31 to 49 inches: fine sand
Bt1 - 49 to 73 inches: fine sandy loam
Bt2 - 73 to 80 inches: fine sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 4 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

Minor Components

Sorter

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

CnC—Conroe gravelly loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: m9xx
Elevation: 50 to 500 feet
Mean annual precipitation: 41 to 48 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 238 to 283 days
Farmland classification: Not prime farmland

Map Unit Composition

Conroe and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conroe

Setting

Landform: Interfluves
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Clayey marine deposits

Typical profile

H1 - 0 to 25 inches: gravelly loamy fine sand
H2 - 25 to 31 inches: sandy clay loam
H3 - 31 to 78 inches: clay
H4 - 78 to 80 inches: sandy clay

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.2 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: B

CoC—Conroe loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: m9xy

Elevation: 50 to 500 feet

Mean annual precipitation: 41 to 48 inches

Mean annual air temperature: 66 to 70 degrees F

Frost-free period: 238 to 283 days

Farmland classification: Not prime farmland

Map Unit Composition

Conroe and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conroe

Setting

Landform: Interfluves

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Clayey marine deposits

Typical profile

H1 - 0 to 25 inches: loamy fine sand

H2 - 25 to 31 inches: sandy clay loam

H3 - 31 to 78 inches: clay

H4 - 78 to 80 inches: sandy clay

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 24 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: B

Eu—Betis loamy fine sand

Map Unit Setting

National map unit symbol: m9y3
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Betis and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Betis

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits

Typical profile

H1 - 0 to 17 inches: loamy fine sand
H2 - 17 to 63 inches: loamy fine sand
H3 - 63 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Pinus echinata-Quercus incana/Sassafras albidum/Schizachyrium scoparium-Cnidocolus texanus (F133BY002TX)

Fs—Lilbert loamy fine sand

Map Unit Setting

National map unit symbol: m9y7
Elevation: 350 to 600 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 240 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Lilbert and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lilbert

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy marine deposits

Typical profile

H1 - 0 to 4 inches: loamy fine sand
H2 - 4 to 23 inches: loamy fine sand
H3 - 23 to 48 inches: sandy clay loam
H4 - 48 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B
Ecological site: Pinus echinata-Quercus marilandica/Vaccinium arboreum/
Schizachyrium scoparium (F133BY013TX)

Ho—Hockley loamy fine sand, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2v39d
Elevation: 200 to 300 feet
Mean annual precipitation: 41 to 49 inches
Mean annual air temperature: 67 to 70 degrees F
Frost-free period: 240 to 300 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hockley and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hockley

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Late pliocene to early pleistocene age loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

A1 - 0 to 8 inches: loamy fine sand
A2 - 8 to 22 inches: fine sandy loam
Bt - 22 to 35 inches: sandy clay loam
Btcv - 35 to 57 inches: sandy clay loam
B't - 57 to 80 inches: sandy clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 40 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Custom Soil Resource Report

Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

Minor Components

Wockley

Percent of map unit: 10 percent

Landform: Flats

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy Prairie 44-56" PZ (R150AY741TX)

SolA—Sorter silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: f761

Elevation: 80 to 150 feet

Mean annual precipitation: 48 to 58 inches

Mean annual air temperature: 67 to 69 degrees F

Frost-free period: 240 to 300 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Sorter and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sorter

Setting

Landform: Flats

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 8 inches: silt loam

Bg - 8 to 18 inches: silt loam

Btg/E1 - 18 to 75 inches: silt loam

Btg/E2 - 75 to 80 inches: loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 0 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.3 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D

Minor Components

Dallardsville

Percent of map unit: 10 percent
Landform: Flats
Landform position (three-dimensional): Rise
Microfeatures of landform position: Pimple mounds
Down-slope shape: Convex
Across-slope shape: Convex

SplB—Splendora fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: f763
Elevation: 80 to 400 feet
Mean annual precipitation: 48 to 58 inches
Mean annual air temperature: 67 to 68 degrees F
Frost-free period: 240 to 300 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Splendora and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Splendora

Setting

Landform: Flatwoods
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits of early pleistocene age

Typical profile

A - 0 to 6 inches: fine sandy loam
E - 6 to 15 inches: fine sandy loam
Bt/E - 15 to 28 inches: loam
Bt - 28 to 70 inches: loam
Btg - 70 to 80 inches: sandy clay loam

Custom Soil Resource Report

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 10 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D

Minor Components

Waller

Percent of map unit: 7 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

Segno

Percent of map unit: 3 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex

SuD—Woodville fine sandy loam, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: m9yy
Elevation: 150 to 450 feet
Mean annual precipitation: 46 to 58 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 230 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodville and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodville

Setting

Landform: Interfluves
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Clayey marine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 48 inches: clay
H3 - 48 to 80 inches: clay

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: Pinus echinata-Quercus stellata/Callicarpa americana/
Chasmanthium sessiliflorum (F133BY025TX)

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

WkC—Fetzer loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: m9z6
Elevation: 100 to 450 feet
Mean annual precipitation: 41 to 46 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 260 to 285 days
Farmland classification: Not prime farmland

Map Unit Composition

Fetzer and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fetzer

Setting

Landform: Interfluves

Down-slope shape: Linear

Across-slope shape: Concave

Parent material: Clayey marine deposits and/or loamy marine deposits

Typical profile

H1 - 0 to 29 inches: loamy fine sand

H2 - 29 to 35 inches: sandy clay loam

H3 - 35 to 80 inches: clay

Properties and qualities

Slope: 1 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

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