

# FEIS Comments

SH 99: SH 288 to IH 45 South  
(Grand Parkway Segment B)



## Comments and Responses

Comment Number	Comment	Main Idea	Response
<p>1</p> <p>Deaglen Subshot Hendershot</p>	<p>Based on what I saw on the schematics, I came up with some revisions<sup>1</sup> that can cut some costs a little bit and can save money. For example, on the section at the Galveston-Temple rail line, I would suggest to make the existing underpass the main lanes, but overpass the frontage roads. The frontage roads will then go to an elevated House St. Also, I am recommending to move the Eastern section of Segment B to a more north alignment with fewer road crossings. The two road crossings that should be built are for future potential Pearland Pkwy extension and Bay Area Blvd. More would be built in the future. I would recommend the cross roads in this section to fly over the main road, and end segment B into an interchange between League City Pkwy and FM 646, instead of at 646. Also, I would recommend a different design of interchange at 288. These schematics I made will show.</p>	<p>Specific design revisions be considered.</p>	<p>Comments noted and reviewed; however, the proposed design changes have access issues and do not meet TxDOT design criteria.</p>
<p>2</p> <p>Margo Fendrich</p>	<p>I am strongly against the proposed route<sup>1</sup> for Segment B. Especially considering how much so many of us Houston residents went through with all of the flooding<sup>2</sup> in the past year, I do not believe that the little wetlands<sup>3</sup> we have left should be removed and covered with concrete and asphalt. I do not believe that there is an overwhelming need to build highways<sup>4</sup> in the Segment B area-especially not enough to justify making all of Houston even that much more flood prone<sup>5</sup>. We all suffer the consequences, not just "the environment." I urge whoever has the authority to: reconsider the long term consequences<sup>6</sup> of constructing Segment B and ultimately abandon the project straight through the wetlands<sup>7</sup>.</p>		<p>1 and 4 -The Need and Purpose sections (Sections 1.1.1 and 1.1.2 of the Final Environmental Impact Statement [FEIS] were prepared in accordance with Federal Highway Administration (FHWA) Technical Advisory T 6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents (FHWA 1987), FHWA's memorandum titled, Need and Purpose in Environmental Documents (FHWA 1990), FHWA and Federal Transit Administration (FTA) joint memorandum titled Integration of Planning and National Environmental Policy Act (NEPA) Processes (FHWA and FTA 2005), and Texas Department of Transportation (TxDOT) memorandum titled, Guidance on Need and Purpose (TxDOT 2001). FHWA indicates that the need for and</p>

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			<p>purpose of a project may, and should, evolve during the project development process as information is gathered and more is learned (FHWA 1990). Studies conducted for the proposed State Highway (SH) 99 Segment B included substantial interaction with stakeholders, including the general public, local businesses and landowners, local officials and community leaders, regulatory agencies, FHWA, and TxDOT.</p> <p>2 and 5 - Drainage for the Preferred Alternative was evaluated during the development and preparation of the Final Environmental Impact Statement (FEIS) for Segment B. Refer to Section 4.12 of the Final Environmental Impact Statement (FEIS). Final design of the Preferred Alternative will include final drainage and mitigation analyses, which will be reviewed by regulatory agencies to confirm that adequate measures have been taken to ensure that the project does not increase the risk of flooding to adjacent property. All structures will be designed according to Federal Highway Administration (FHWA) and Texas Department of Transportation (TxDOT) standards. In accordance with these standards, the roadway would be designed such that there is a</p>

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			<p>net zero effect on existing drainage patterns and systems. Any impacts to existing storm water detention areas would need to be offset by compensatory mitigation somewhere else, possibly within the limits of the proposed right-of-way (ROW). Mitigation of impacts includes best management practices (BMPs) during construction and detention facilities to offset increased flows. Existing canals will be accommodated and incorporated into the design of the Preferred Alternative.</p> <p>3 and 7 -Avoidance and minimization of known natural resources was conducted during the alternatives evaluation process. Field surveys for wetlands and other waters of the United States will be performed for the proposed right-of-way (ROW) of the Preferred Alternative. Refer to Section 4.9 of the Final Environmental Impact Statement (FEIS).</p> <p>6 - Indirect and cumulative impacts analyses are provided in Sections 5 and 6 of the FEIS. The indirect and cumulative impacts sections were prepared in accordance with the requirements of NEPA and other related federal and state laws, rules, and regulations.</p>

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<p>3</p> <p>Alan Ping</p>	<p>Thank you for the letter dated June 6, 2016, with the Notice of Availability for the FEIS on Segment B. The letter was not delivered until mid-June, which leaves little time to review the 975 pages of the FEIS prior to the deadline for Comment.</p> <p>I continue to oppose construction of Segments B and C<sup>1</sup> of this tollway. Segment B and C will damage the rural areas<sup>2</sup> of Brazoria and Fort Bend Counties by increasing urban sprawl<sup>3</sup>, especially south of Alvin and south of Richmond and Sugar Land. Segment B will result in increased traffic volume<sup>4</sup> in the areas south of Alvin by adding a new east-west route between SH 288 and IH 45 through rural lands. In my opinion, the tollway will bring additional pollution<sup>5</sup>, demands on local emergency services<sup>6</sup> and access for criminal to our area<sup>7</sup>. Evidence from formerly constructed segments of the Grand Parkway have shown that flooding<sup>8</sup> danger will also increase.</p> <p>I do support infrastructure spending on more cost effective projects. Transportation spending should focus on maintaining and improving existing assets, not creating more pavement which will require additional upkeep in the future<sup>9</sup>. SH 288 is a major artery to the Houston Central Business District that requires constant maintenance and upgrades to eliminate crossover intersections and improve safety. SH 35 has needed safety improvements for years from Pearland to the south. SH 6 needs pavement reconstruction west of Alvin. Citizens of Brazoria County support improvements for our existing highways much more than building a tollway across our country and farmlands.</p> <p>Segment B of this tollway is not needed or wanted by the residents<sup>10</sup> of our area. It will affect our way of life and environment in many negative ways.</p>		<p>1 and 10 - The Need and Purpose sections (Sections 1.1.1 and 1.1.2 of the Final Environmental Impact Statement [FEIS] were prepared in accordance with Federal Highway Administration (FHWA) Technical Advisory T 6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents (FHWA 1987), FHWA's memorandum titled, Need and Purpose in Environmental Documents (FHWA 1990), FHWA and Federal Transit Administration (FTA) joint memorandum titled Integration of Planning and National Environmental Policy Act (NEPA) Processes (FHWA and FTA 2005), and Texas Department of Transportation (TxDOT) memorandum titled, Guidance on Need and Purpose (TxDOT 2001). FHWA indicates that the need for and purpose of a project may, and should, evolve during the project development process as information is gathered and more is learned (FHWA 1990). Studies conducted for the proposed State Highway (SH) 99 Segment B included substantial interaction with stakeholders, including the general public, local businesses and landowners, local officials and community leaders, regulatory agencies, FHWA, and TxDOT.</p>

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			<p>2, 3 and 4 - Development of the Build alternatives would be expected to result in an approximately three percent increase in developed acreage within the study area compared to the No Build alternative. The predicted land use changes would be expected to occur in areas of existing population concentrations and would include the development of residential and commercial areas that are near or adjacent to the proposed State Highway (SH) 99 Segment B or in the vicinity of an intersection of the proposed Segment B and a major roadway. A discussion of indirect and cumulative effects that could influence quality of life in the project area is presented in Sections 5 and 6 in Volume I of the DEIS and the FEIS.</p> <p>5 - During the development and preparation of the Final Environmental Impact Statement (FEIS), an air analysis was performed in accordance with Texas Department of Transportation's (TxDOT's) Air Quality Guidelines to identify possible air impacts. As stated in the FEIS Section 4.6 Segment B will not lead to pollutants of either Carbon Monoxide (CO) or Ozone (O<sub>3</sub>). Additionally Mobile Source Air Toxics (MSATs) as a result of the proposed Segment B are not</p>

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			<p>expected to increase overall MSATs in the Houston metropolitan area in future years.</p> <p>6 – Section 4.3.2.3 of the Final Environmental Impact Statement (FEIS) addresses emergency services. As stated in Section 4.3.2.3, “In the long term, the Preferred Alternative would improve access for police, fire and EMS service to rural areas by providing new or improved access to areas that previously had no or limited access because of the absence of major roadways.”</p> <p>7 - Populated areas within the project area are currently accessible by existing roads. The presence of Segment B would not be expected to influence the rate of crime.</p> <p>8 - Drainage for the Preferred Alternative will be evaluated during the development and preparation of the Final Environmental Impact Statement (FEIS) for Segment B. Refer to Section 4.12 of the Final Environmental Impact Statement (FEIS). Final design of the Preferred Alternative will include final drainage and mitigation analyses, which will be reviewed by regulatory agencies to confirm that adequate measures have been taken to ensure that the project does not increase the risk of flooding</p>

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			<p>to adjacent property. All structures will be designed according to Federal Highway Administration (FHWA) and Texas Department of Transportation (TxDOT) standards. In accordance with these standards, the roadway would be designed such that there is a net zero effect on existing drainage patterns and systems. Any impacts to existing storm water detention areas would need to be offset by compensatory mitigation somewhere else, possibly within the limits of the proposed right-of-way (ROW). Mitigation of impacts includes best management practices (BMPs) during construction and detention facilities to offset increased flows. Existing canals will be accommodated and incorporated into the design of the Preferred Alternative.</p> <p>9 – Transportation System Improvement Options, including widening of existing arterials, were included in the Alternatives Analysis in the Final Environmental Impact Statement (FEIS) – Section 2.1. However, due to existing development along the arterials, any transportation improvement alternative that requires additional ROW could result in residential relocations and/or commercial and</p>

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			community facility displacements. In addition, arterials in densely developed areas tend to have lower speeds and more traffic control devices. While widening and realigning one or more of these roadways would increase capacity, improve local mobility, and decrease congestion at certain points within the study area, these improvements would not relieve future regional congestion or provide additional hurricane evacuation capacity.
4  Ivan Langford  Gulf Coast Water Authority	<p>Quite by accident I stumbled across a public notice blurb on the City of League City web site concerning a deadline for public comments on Segment B, ending this day. Going to <a href="http://www.grandpky.com/Segment-B">www.grandpky.com/Segment-B</a>, my staff and I did a quick review of the available drawings online. Much to our dismay, the previous comments Gulf Coast Water Authority expressed to Mr. David Gornet, PE and his staff and consultants on September 10, 2012 appear to be completely ignored.</p> <p>By way of background, Gulf Coast Water Authority (GCWA) is a regional government agency that provides over 150,000,000 gallons per day of raw and treated water across Fort Bend, Brazoria, and Galveston counties to agriculture, petrochemical/refining industries as well as 15 municipalities. We own and operate hundreds of miles of open channel, clay lined canals starting at the Brazos River and ending in Texas City. All of our canals require routine vegetation control and well as regular removal of river silt that builds up along the bottom of the channel. We were adamant in that meeting on September 10 2012 that GCWA would not accept "culvert pipe" in our canals due to the exceptional highway widths. We further stipulated that we required "four corner access" at every Grand Parkway crossing of our canals. For the most part, your drawings show our canal crossings "at grade", again at grade crossings to not afford GCWA the opportunity to adequately maintain its canal system<sup>1</sup> under the proposed highway.</p>		<p>1 and 3 - Comment acknowledged. Requests for revisions to the alignment of the Preferred Alternative will be given full consideration during schematic design activities and detailed design of the proposed project.</p> <p>2 – GP Segment C is a separate project. Comment noted.</p>

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	<p>While this conversation is directed toward Segment B; I will start with Segment C since our concerns are not address there either.</p> <p>Segment C, Schematic Layout Sheet 5 of 5 – GCWA has <b>three</b> main canal crossings on the proposed route between CR 53 and CR 48; none are labeled or shown in the profile view.<sup>2</sup></p> <p>Segment B, Schematic Layout Sheet 1 of 3 - GCWA has <b>four</b> main canal crossings, <b>eight</b> lateral corrugated pipe crossings, <b>two</b> Brunner ditch crossings on the proposed route between SH 288 and Liverpool. (Brunner ditch is occasionally used by GCWA to transfer raw water from our Juliff canal system to the Chocolate Bayou delivery system.) Only Brunner ditch crossings are shown in the profile view; while none of the main canals or laterals appear in the profile view.</p> <p>Segment B, Schematic Layout Sheet 2 of 3 – GCWA has <b>one</b> main canal crossing and is shown on your drawing as Briscoe canal.</p> <p>Segment B, Schematic Layout Sheet 3 of 3 – GCWA has <b>one</b> main canal crossing and is labeled on your drawing as American canal, however it does not appear in the profile view.<sup>3</sup></p> <p>We look forward to meeting with you at your earliest convenience to discuss this important matter in more detail.</p>		
<p>5 EPA Robert Houston Compliance Assurance and Enforcement Division</p>	<p>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, Dallas, Texas has completed its review of the proposed project by Texas Department of Transportation (TxDOT).</p> <p>EPA provided comments on the Draft Environmental Impact Statement (DEIS) on September 21, 2012, in which the DEIS was rated as "EC-2", i.e., EPA has "environmental concerns and requests additional information". EPA continues to have environmental concerns. We offer the following enclosed comments for your consideration and ask they be addressed in the Record of Decision (ROD).</p>		<p>1 – As stated in Section 4.16.1 of the Final Environmental Impact Statement (FEIS), "The tribal consultation comment period ended on July 26, 2013, without any expressions of concern."</p> <p>2 – All residential and commercial displacements will be acquired in accordance with Federal, State and local regulations and guidance. All noise impacts will be evaluated for</p>

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	<p>Thank you for the opportunity to comment on the FEIS. Please send a copy of the ROD to my attention. If you have any questions or concerns, please contact Kimeka Price at (214) 665-7438 or price.kimeka@epa.gov for assistance.</p> <p><b>Consultation and Coordination with Indian Tribes</b> The FEIS states TxDOT initiated consultation with federally recognized Native American tribes whom demonstrated historic interest in the area on February 22, 2008, and the tribal consultation comment period ended on July 26, 2013 without any expressions of concerns. Considering TxDOT made minor alignment adjustments to the Preferred Build Alternative identified in the DEIS, EPA recommends TxDOT continue with open communication and dialogue during this comment period, provide updated information, and fully consider and address any concerns raised.<sup>1</sup></p> <p><b>Environmental Justice and Surrounding Communities</b> The FEIS identifies public scoping meetings and workshops were held on September 26, 2003, October 4, 2003, August 21 and 23, 2012, in an effort to locate, inform, and seek input from interested organizational groups and individuals. Also, it states the Preferred Build Alternative underwent minor alignment adjustments, after the conclusion of the comment period for the DEIS. There would be thirteen (13) business and seventeen (17) residential displacements, thirty-one (31) noise receiver locations that would experience noise impacts, and additional right-of-way needs. EPA recommends TxDOT commits to implementing specific mitigation measures for adverse impacts.<sup>2</sup></p> <p><b>National Historic Preservation Act Section 109 Consultation</b> In Section 3.16.1 Archeological Resources, the FEIS identifies the historic Confederate Cemetery is directly adjacent to the study area near the intersection of SH 35 with Shirley Avenue. Additionally, the records revealed sites within 2 kilometers of the current study area, and there are five pre-historic sites at Camp Mohawk County Park. FEIS indicates further studies are needed when additional right-of-way is secured.<sup>3</sup> EPA recommends describing the distance from cultural resources to the Alternative Alignments.<sup>4</sup> Also, EPA recommends TxDOT incorporate concurrence from Texas State Historic Preservation Officers and Advisory Council on Historic Preservation on the conclusions reached.<sup>5</sup></p>		<p>mitigation and it will be proposed where feasible and reasonable.</p> <p>3 and 5 – As stated in Section 4.16.1 of the Final Environmental Impact Statement (FEIS), “Of the 30 percent of the APE that was examined for cultural resources, no further archaeological work is recommended. However, investigation should still occur in those portions of the study area where right-of- entry was not granted prior to construction. Additionally, once the state has taken ownership of the Preferred Alternative ROW, backhoe work should be conducted within the areas the PALM model recommends for deep reconnaissance.</p> <p>The proposed SH 99 Segment B will be coordinated according to the First Amended PA-TU among the FHWA, TxDOT, the THC, and the ACHP and MOU between TxDOT and the THC (13 TAC 26.14(e)(1) and 43 TAC 2.24(e)(1)) to ensure that any archeological materials associated with proposed SH 99 Segment B construction would be properly evaluated, including any accidental discovery that arises following the archeological field survey. If archeological materials or human remains are identified within the Preferred Alternative ROW during construction, or a department-designated material source, all</p>

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	<p><b>Neighborhoods and Community Cohesion</b> In Section 4.3.1 Neighborhoods and Community Cohesion, the FEIS states there are over 100 existing neighborhoods/subdivisions located within or near the project study area, and all named roadways traversing the Preferred Build Alternative would be bridged or re-routed to accommodate existing traffic. Further, it states that there would be no community cohesion impacts with the implementation of the Preferred Build Alternative. However, the FEIS is not clear in Exhibits 2-10 and 2-11 Preferred Build Alternative and Residential Communities delineation of neighborhood boundaries and transportation infrastructure relating to community cohesion. EPA recommends exhibits that clearly delineate the determination of no community cohesion impacts.<sup>5</sup></p> <p><b>2.0 Alternative Analysis</b> The FEIS states that prior to the August 2012 Public Hearing coordination with stakeholders and review of the South-New Alternative by the design engineers resulted in a revision of the alignment that differed slightly from what was presented in the DEIS. Specifically, in the western portion of the alignment, the radius of the southeastern turn east of SH 288 was minimized to reduce the proposed roadway's impact on the underlying land parcel. In the southwestern portion of the alignment, Brazoria County requested that the proposed alignment be shifted from the north side of Brunner Ditch to the south side so as not to interrupt surface storm water flows moving southward toward the ditch. The revised South-New Alternative alignment was presented at the Public Hearing. After the August 2012 Public Hearing, coordination with the public, stakeholders, adjacent property owners, and the design engineers resulted in slight modifications and a revised alignment for the recommended South-New Alternative to create what is currently the Preferred Alternative. The FEIS states the primary goal for considering alignment revision was to continue to avoid impacts and work with all interested parties to determine the alignment that best fit the purpose and need of the proposed State Highway 99 Segment B, in addition to accommodating current engineering standards. However, the FEIS does not clearly delineate the revisions, discuss avoided or change in impacts, or if there is new information to require further public review and comment.<sup>6</sup> According to 40 CFR 1502.141 (<a href="http://ceq.hss.doe.gov/NEPA/regis/ceq/1502.htm">http://ceq.hss.doe.gov/NEPA/regis/ceq/1502.htm</a>), the Alternatives section</p>		<p>construction and related activities must cease. The find is to 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 Preferred Alternative ROW or easements in materials obtained from a material source under option to the contractor, all use of materials from the source must cease and the find reported to TxDOT project inspector or the area engineer in accordance with TxDOT's Emergency Discovery Guidelines.</p> <p>4 – The study area for archeological sites for the Preferred Alternative in the Final Environmental Impact Statement was in accordance with federal, state and local guidelines.</p> <p>5 – The Neighborhoods and Community Cohesion Section of the Final Environmental Impact Statement (FEIS) is in accordance with all federal, state and local regulations.</p> <p>6 – Changes from the Recommended Alternative to the Preferred Alternative are described in Section 2.3.6 of the Final Environmental Impact Statement (FEIS). Also as stated in Section 2.3.6, "...the currently configured Preferred Alternative has been carried forward into the FEIS for further detailed</p>

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	<p>"should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. FEIS identifies Tables 2-1 Preliminary Alternative Alignment Evaluation Matrix and 2-2 Candidate Alternative Alignment Evaluation Matrix. Within Table 2-1, EPA recommends an explanation of the heading "Community Bisector (No. Affected)." <sup>7</sup> Also, EPA recommends adequate alternative screening analysis, which includes a comparison of alternatives, a clear basis for alternative selection, and substantial and equally detailed treatment to each alternative considered. Table 4-26 should be included in this section <sup>8</sup>. EPA notes that TxDOT ranked low, moderate and high level of risks associated with potential impacts from regulated hazardous material sites in Section 4.17.1 and Table 4-25.</p> <p><b>Farmlands</b> All Alternative Alignments would impact agricultural lands. Converting productive agricultural lands to transportation uses not only directly converts that land from arable land to impervious surfaces, but reduces the amount of food and fiber produced in the region. In Appendix B, FEIS identifies the critical score of 174 for the proposed project. Since the critical score is above 160, U.S. Department of Agriculture (USDA) recommends the alternatives would not convert prime farmland soils, or attempt to minimize the conversion of farmland soils in final project development. Further, the FEIS states coordination with USDA will continue. EPA recommends incorporating USDA concurrence on the conclusions reached and address any issues raised by USDA. <sup>9</sup> Additionally, EPA recommends full disclosure of local and regional economic impacts of converting farmland to transportations uses, including additional conversion by induced development and analysis of farmland access and farm equipment travel time. <sup>10</sup></p> <p><b>3.9.1 Navigable Waters of the United States (U.S.), page 3-42</b> Section 3.9.1 of the FEIS updates the presence of navigable waters of the United States within the study area, which include tidal tributaries to Dickinson Bayou - Bordens Gully (Segment 1103B) and Geisler Bayou (Segment 1103C), and a portion of Chocolate Bayou. Section 4.9.1 of the FEIS states that the only tidal water segment which traverses the Preferred Alternative Right-of-Way (ROW) is Geisler Bayou, as identified by Texas</p>		<p>analysis."</p> <p>7 – Table 2-1 represents Preliminary Alternatives and preliminary environmental and design constraints analysis. The column for "Community Bisector" represents whether the alternative bisected a community. If the alternative did bisect a community, the "No. Affected" indicates the number of communities bisected.</p> <p>8- Selection of the Recommended/Preferred Alternative Alignment is in compliance with regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508), FHWA (23 CFR 771), and the state of Texas (43 TAC Section 2.43), and in accordance with the FHWA Technical Advisory T 6640.8A. FHWA guidance to prepare the DEIS and FEIS was followed. This guidance requires environmental impacts be analyzed and reported accurately as well as consideration of public input on the alignment chosen as the Recommended/Preferred Alternative.</p> <p>9 – TxDOT will continue to coordinate with NRCS and USDA.</p> <p>10 - Acquisition of the right-of-way (ROW) for the Preferred Alternative will permanently remove some farmland from production. See Section 5.4.2 of the Final Environmental Impact</p>

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	<p>Commission of Environmental Quality (TCEQ). However, the FEIS does not specifically discuss potential impacts to these tidal/navigable waters of the U.S. EPA recommends incorporation of potential impacts to these tidal/navigable waters of the U.S. and reconcile any conflicting identification of tidal/navigable waters of the U.S.<sup>11</sup></p> <p>The FEIS anticipates that most impacts to navigable waters would be avoided by constructing a bridge over the bayou crossing. It further states that coordination with the U.S. Army Corp. of Engineers (USACE) may be necessary to authorize bridge construction should the bridge structure require discharges of dredged or fill material into waters regulated by the USACE under Section 10 of the Rivers and Harbors Act. EPA recommends that any impacts associated with such crossing applicable under Clean Water Act Section 404 be addressed.<sup>12</sup></p> <p><b>3.9.3 Wetlands, page 3-42</b></p> <p>The Executive Summary and Section 4.9.3 Wetlands of the FEIS state that right-of-entry was still not granted for approximately 70 percent of the Preferred Alternative ROW. As such, a detailed delineation of waters of the U.S., including wetlands, could not be performed. Instead, USGS 7.5-minute topographic quadrangle maps, recent color aerial photography, and available LiDAR data were reviewed to determine the location of potential wetlands, and observations were made at locations in which right-of-entry was granted to verify desktop findings. According to the FEIS, an estimated 142 wetlands totaling approximately 54.5 acres were identified within the Preferred Alternative ROW. Exhibit 4-5 identifies wetland areas were delineated, transferred to an aerial background image using GIS, and characterized as adjacent (i.e., within the 100-year floodplain and potentially jurisdictional) or isolated.</p> <p>EPA notes that the applicant's interpretation of adjacent and isolated wetlands for the purposes of this analysis will require verification with a USACE approved jurisdictional determination, and therefore the reported acreages of jurisdictional and non-jurisdictional wetlands may require adjustment.</p> <p>In addition, Table 2-2, which includes environmental impacts of the range of alternatives analyzed, continues to indicate 45 acres of total wetland impacts for the Southern-New Alignment (preferred), including 10 acres of forested</p>		<p>Statement (FEIS) for indirect impacts to farmlands. The Farmland section as well as the Indirect and Cumulative sections of the FEIS were prepared in accordance with federal, state and local regulations.</p> <p>11 and 12 – Impacts to the waters of the U.S., including tidal/navigable waters, would be determined at a future date during detailed design. TxDOT will coordinate with USACE and USCG for permits as determined necessary.</p> <p>13 – Per NEPA guidelines, the Recommended Alternative was chosen based on the results of the Draft Environmental Impact Statement (DEIS). Detailed analysis was conducted and reported in the DEIS for each resource, including wetlands and waters (using GIS) per NEPA, for all Candidate Alternative Alignments. The DEIS was approved on 06/06/2012. The Preferred Alternative was carried forward for analysis in the Final Environmental Impact Statement (FEIS).</p> <p>14, 15, 19 and 20 – Comment noted. Field investigations for waters and wetlands were conducted and results reported in the Final Environmental Impact Statement (FEIS) for those properties where right-of-entry was granted. Additional investigations will</p>

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	<p>wetlands and 35 acres of emergent wetlands. EPA recommends conducting similar GIS analysis to more accurately quantify potential wetland impacts for each practicable alternative analyzed for the purposes of NEPA, and include in Table 2-2 to inform the determination of the least-environmentally damaging practicable alternative (LEDPA) for the purposes of the CWA Section 404 (404(b)(1) Guidelines).<sup>13</sup> It appears that other alternatives would have fewer impacts to wetlands and waters of the U.S.</p> <p><b>4.9.3 Wetlands, page 4-64</b></p> <p>The FEIS states that when a field delineation of the Preferred Alternative has been completed a draft jurisdictional determination would be conducted, and the resulting report would be submitted to USACE for verification. Further, the FEIS continues to state that the USACE is the agency to make the final determination as to the jurisdictional status of any wetland. Please see previous comment regarding the role of the EPA in determining the jurisdictional status of a wetland or other water. EPA recommends full site access and field delineations be completed before a draft jurisdictional determination is submitted to USACE.<sup>14</sup></p> <p>The FEIS states that although no site-specific assessments have been conducted it is anticipated that the functions of wetlands occurring within the proposed ROW of the Preferred Alternative would be permanently lost as a result of the Preferred Alternative. Also, it acknowledges that assessing the functions for all waters of the U.S., including streams and wetlands, would require right-of-entry access for the entire Preferred Alternative ROW, and that the results of the assessment would inform mitigation requirements. Applications for other segments of State Highway 99 have been submitted to the USACE prior to obtaining site access and completing field verification/assessment for the majority of the site, which precludes the Corps, the EPA, other agencies and the public from an efficient and complete review of the project's impacts and its compliance with 404(b)(1) Guidelines. The FEIS does not contain draft mitigation proposals, or a CW A Section 404 alternatives analysis that satisfies the 404(b)(1) Guidelines. Therefore, EPA recommends that field verification of all wetlands and field-based functional assessments be completed prior to submitting an application for a 404 permit.<sup>15</sup> This will also aid the applicant in developing an appropriate mitigation plan for unavoidable impacts to waters of the U.S., which should be</p>		<p>be conducted as right-of-entry becomes available or right-of-way is acquired. TxDOT will coordinate with USACE for permits and mitigation as determined necessary.</p> <p>16 – Per NEPA guidelines, the Recommended Alternative was chosen based on the results of the Draft Environmental Impact Statement (DEIS). Detailed analysis was conducted and reported in the DEIS for each resource, including wetlands and waters (using GIS) per NEPA, for all Candidate Alternative Alignments. Per NEPA guidelines, impacts to all resources are considered in the selection of the Recommended Alternative (in the DEIS). The DEIS was approved on 06/06/2012. The Preferred Alternative was carried forward for analysis in the Final Environmental Impact Statement (FEIS).</p> <p>17 - Per NEPA guidelines, the Recommended Alternative was chosen based on the results of the Draft Environmental Impact Statement (DEIS). Detailed analysis was conducted and reported in the DEIS for each resource, including wetlands and waters per NEPA, for all Candidate Alternative Alignments. Per NEPA guidelines, impacts to all resources are considered in the selection of the Recommended Alternative (in the</p>

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	<p>provided for agency and public review, and prevent unnecessary delays in the permitting process.</p> <p><b>Table 4-23 Potential Wetland Impacts Within The Alternative Alignments, page 4-65</b></p> <p>The FEIS states that the planning for the alignment of the Preferred Alternative included efforts to avoid and minimize impacts to wetlands. However, the distribution of wetlands within the Preferred Alternative ROW and the geometric configuration of the proposed highway's design made complete avoidance impractical. Further, the FEIS does not discuss avoidance and minimization of impacts to wetlands through selection of a less damaging practicable alternative. The Guidelines require that the applicant determines the alternative route that avoids and minimizes impacts to wetlands (LEDPA), rather than choosing a preferred alternative and then subsequently determining whether further minimization is possible within the chosen alternative. As stated above, EPA recommends conducting a Section 404(b)(1) alternatives analysis for this project to determine the LEDPA. The LEDPA and the Preferred Alternative may not be the same alternative, which is why the EPA recommends that the LEDPA is identified during the NEPA process.<sup>16</sup></p> <p>Based on Table 2-2, the FEIS identifies several alternatives to the Preferred Alternative (Southern-New) which appear to be less damaging in terms of impacts to waters of the U.S., including wetlands. CWA Section 404 regulations require that a CWA Section 404 permit only be issued for the LEDPA that meets the basic project purpose and complies with the 404(b)(1) Guidelines. The Southern 2 Alignment has the fewest wetland impacts and impacts fewer stream crossings, while the Northern alignment avoids all forested wetland impacts, impacts the second fewest total acres of wetlands, and would impact one fewer stream crossing than the Preferred Alternative. Therefore, based on information provided, it appears that either the Northern alignment or Southern 2 Alignment would likely be the LEDPA for the purposes of the Clean Water Act Section 404. The 404 alternatives analysis will require that the applicant specifically explain why each of these alternatives was found not to be practicable, as opposed to not preferable.<sup>17</sup> Again, Table 2-2 has not been updated to reflect the additional potential wetlands identified in the ROW of the Preferred Alternative through GIS analysis, and the same analysis was not conducted for the other alternatives</p>		<p>DEIS). The DEIS was approved on 06/06/2012. The Preferred Alternative was carried forward for analysis in the Final Environmental Impact Statement (FEIS).</p> <p>18 – Table 2-2 is a table that was brought forward in the Final Environmental Impact Statement (FEIS) as a summary of analysis that was conducted as part of the Draft Environmental Impact Statement (DEIS).</p> <p>Per NEPA guidelines, the Recommended Alternative was chosen based on the results of the Draft Environmental Impact Statement (DEIS). Detailed analysis was conducted and reported in the DEIS for each resource, including wetlands and waters per NEPA, for all Candidate Alternative Alignments. Per NEPA guidelines, impacts to all resources are considered in the selection of the Recommended Alternative (in the DEIS). The DEIS was approved on 06/06/2012. The Preferred Alternative was carried forward for analysis in the Final Environmental Impact Statement (FEIS).</p> <p>21 - Indirect and cumulative impacts analyses are provided in Sections 5 and 6 of the FEIS. The indirect and cumulative impacts sections were prepared in accordance with the</p>

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	<p>that were assessed under NEPA.<sup>18</sup></p> <p>In Table 4-23 of the FEIS, the applicant characterizes the extent of adjacent and isolated wetlands within the Preferred ROW that were delineated using the GIS resources described above. The applicant acknowledges that adjacent wetlands with a significant nexus to downstream Traditional Navigable Waters (TNW) are jurisdictional under the CWA. However, the applicant has made the assumption that all wetlands that lie outside of the FEMA-mapped 100-year floodplain, or 1 % annual flood frequency, are isolated and therefore are non-jurisdictional wetlands. The EPA recommends that an approved jurisdictional determination is obtained for all waters of the U.S. within the project area, to verify the acreages of waters that are jurisdictional and non-jurisdictional under the CWA, regardless the alternative that is selected.<sup>19</sup> Wetlands located outside of the 100-year FEMA floodplain may have a significant nexus to downstream TNWs, through other physical, chemical and/or biological connections to those waters, aside from those resulting from overbank flooding.</p> <p><b>4.10 Permits, page 4-68</b></p> <p>No draft mitigation plans for impacts to waters of the U.S. were prepared prior to the FEIS or made available in the FEIS. In Section 5.4.6, Step 7: Assess Consequences and Consider/Develop Mitigation, the FEIS has a general statement that as part of the USACE permitting process, mitigation would be required to compensate for adverse impacts to wetland and stream resources. Mitigation measures, such as the purchase of credits from an authorized wetland or stream mitigation bank, enhancement of stream/riparian habitat, restoration of wetlands, creation of wetlands, or preservation of existing wetlands would be required to compensate for impacts to jurisdictional streams and wetlands. The EPA generally supports mitigation that restores or enhances wetlands over preservation of existing resources, based on the 2008 Final Mitigation Rule.</p> <p>In Section 7.6.2, the FEIS similarly states that the USACE's stream assessment procedure would be used to identify stream functions and services, which would serve as the basis for the development of compensatory mitigation to be considered as part of permit evaluation. Mitigation for stream impacts</p>		<p>requirements of NEPA and other related federal and state laws, rules, and regulations.</p> <p>22 – Drainage for the Preferred Alternative was evaluated during the development and preparation of the Final Environmental Impact Statement (FEIS) for Segment B. Refer to Section 4.12 of the Final Environmental Impact Statement (FEIS). Indirect and cumulative impacts analyses specific to resource impacts, including floodplains, are provided in Sections 5 and 6 of the FEIS. The indirect and cumulative impacts sections were prepared in accordance with the requirements of NEPA and other related federal and state laws, rules, and regulations.</p> <p>Final design of the Preferred Alternative will include final drainage and mitigation analyses, which will be reviewed by regulatory agencies to confirm that adequate measures have been taken to ensure that the project does not increase the risk of flooding to adjacent property. All structures will be designed according to Federal Highway Administration (FHWA) and Texas Department of Transportation (TxDOT) standards. In accordance with these standards, the roadway would be</p>

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	<p>would likely be accomplished through the purchase of stream credits from an approved mitigation bank. Similarly, the applicant states that The Department of the Army permit application would include proposed mitigation to compensate for the lost functions and services for wetlands. Compensation would likely be accomplished through the purchase of wetlands credits from a mitigation bank approved by the USACE. The applicant did not include any more specific draft proposals or potential mitigation concepts in the FEIS for either wetland or stream resources. While the EPA generally recommends that draft mitigation proposals for impacts to Waters of the U.S. are included in the FEIS, at a minimum, the applicant should develop specific mitigation proposals for unavoidable impacts, prior to submitting its 404 permit application to the USACE.<sup>20</sup></p> <p><b>4.24 Preferred Alternative Recommendation, page 4-95</b></p> <p>The FEIS continues to state that indirect and cumulative impacts among all seven alternative alignments are equal. This statement may not be adequate for the purposes of the Clean Water Act Section 404 alternatives analysis, which requires that indirect and cumulative impacts are specifically analyzed and minimized, along with direct impacts to waters of the U.S. including wetlands. Therefore, EPA recommends indirect and cumulative impacts under each alternative is specifically analyzed, state the correlating impacts, and specific mitigation.<sup>21</sup></p> <p>Step 5 in Section 5.4.6 of the FEIS identifies the proposed project may result in potentially substantial indirect effects, such as encroachment of wetlands that extend beyond the limits of the proposed ROW, and disruptions to wetland hydrology on the down-gradient side of the highway, potentially resulting in conversion of wetlands to uplands or reduction in wetland function. It also identifies induced growth effects, including filling wetlands for development and increased/redirected stormwater flows and non-wetland waters filling and other impacts.</p> <p>Also, this section and Step 6, Analyze Indirect Effects and Evaluate Results, discuss induced growth effects on the floodplain, and state that the construction of the Preferred Alternative will result in increased development and impervious cover within the 100-year floodplain, but that enlarging or realigning channels to improve conveyance, and constructing stormwater detention facilities required by floodplain regulations will prevent an increase in risk of flooding within developments and the surrounding areas. The FEIS</p>		<p>designed such that there is a net zero effect on existing drainage patterns and systems. Any impacts to existing storm water detention areas would need to be offset by compensatory mitigation somewhere else, possibly within the limits of the proposed right-of-way (ROW). Mitigation of impacts includes best management practices (BMPs) during construction and detention facilities to offset increased flows.</p> <p>Existing canals will be accommodated and incorporated into the design of the Preferred Alternative.</p> <p>23, 24, 25, and 26 – FHWA’s Air Quality Guidelines were followed for the analysis of the GP B project and were reviewed and approved by TxDOT. FHWA’s MSAT guidance can be found at the following website: <a href="http://www.fhwa.dot.gov/environment/air_quality/air_toxics/">http://www.fhwa.dot.gov/environment/air_quality/air_toxics/</a>.</p> <p>27 – FHWA’s Air Quality Guidelines were followed for the analysis of the GP B project and were reviewed and approved by TxDOT. The results of the Final Environmental Impact Statement (FEIS) air quality analysis will be summarized in the Record of Decision (ROD). FHWA’s MSAT guidance can be found at the following website: <a href="http://www.fhwa.dot.gov/environment">http://www.fhwa.dot.gov/environment</a></p>

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	<p>further states that as drainage improvements are implemented in developed areas, revisions of the extent and configuration of the mapped 100-year floodplain boundaries would be expected. In Section 6.2.5, the FEIS further acknowledges that stream modifications to reduce flood risk reduce the natural diversity of stream channels and potentially remove riparian habitat. By channelizing or otherwise hydrologically altering streams, channels and other drainage features, the flood frequency and duration of these waters may be altered, which can have a considerable impact on these aquatic features themselves and other adjacent waters such as wetlands whose hydrology will be altered and potentially no longer receive overbank flows after modifications to streams and drainage features, such as those the applicant proposes will likely be used to convey increased stormwater volumes to reduce flood risk to developments.</p> <p>Therefore, the EPA recommends that both direct and indirect impacts of the proposed project on the floodplain, including proposed reductions in the extent of the floodplain and hydrologic modifications within aquatic ecosystems are given serious consideration and analysis, and that the impacts to floodplains and the aquatic features within them are avoided to the maximum possible extent. The 404(b)(1) Guidelines require avoidance and minimization of not only direct impacts to waters of the U.S., but also secondary and cumulative impacts, such as those identified and discussed in this section.<sup>22</sup></p> <p><b>Climate Change</b></p> <p>The FEIS does not include a reasonable consideration of GHG emissions and climate change impacts. EPA recommends that NEPA analyses include an estimate of the direct and indirect greenhouse gas (GHG) emissions caused by the proposal, a discussion of the incremental impacts of the estimated GHGs, and an analysis of reasonable alternatives and/or practicable mitigation measures to avoid, reduce, or compensate for GHG emissions caused by the proposal.<sup>23</sup> In addition, CO<sub>2</sub> emissions have centuries-long impacts, including global scale changes in ocean acidity, sea level, and mean temperature, as well as changes to local drought and precipitation levels. For purposes of informing decisionmakers and the public, EPA recommends this context be provided, and that estimated GHG emissions levels should be used as a general proxy to compare emissions levels from the proposal, alternatives,</p>		<p>/air_quality/air_toxics/.</p> <p>28 and 29 – Comment Noted. The project will be designed per TxDOT and FHWA standards at the time.</p> <p>30 – Comment Noted.</p>

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	<p>and potential mitigation.<sup>24</sup> In other words, higher levels of incremental emissions cause higher levels of incremental impacts and risks.</p> <p><b>Emissions</b> The EPA recommends that EISs estimate the direct and indirect GHG emissions caused by a proposal and its alternatives.<sup>25</sup> Examples of tools for estimating and quantifying GHG emissions can be found on CEQ's website. These emissions levels can serve as a reasonable proxy for climate change impacts when comparing the alternatives and considering appropriate mitigation measures. The EPA recommends that EISs describe measures to reduce GHG emissions associated with the project, including reasonable alternatives and appropriate mitigation, and disclose the estimated GHG reductions.<sup>26</sup> The EPA further recommends that the Record of Decision commit to implementation of reasonable mitigation measures that would reduce project-related GHG emissions.<sup>27</sup></p> <p><b>Climate Change Adaptation</b> We recommend including a summary discussion of climate change and ongoing and reasonably foreseeable effects of climate change relevant to the project and the project study area relevant to the proposal, based on U.S. Global Change Research Program assessments in the EIS's "Affected Environment" section.<sup>28</sup> Future climate scenarios included in the assessments can be useful when considering measures to improve the resiliency of the proposal to the impacts of climate change as well as mitigation for potential impacts of the proposal that will be exacerbated by climate change.</p> <p>The EPA recommends that consistent with federal policy, the proposal's design incorporate measures to improve resiliency to climate change where appropriate.<sup>29</sup> These changes could be informed by the future climate scenarios addressed in the "Affected Environment" section. The EIS's alternatives analysis should, as appropriate, consider practicable changes to the proposal to make it more resilient to anticipated climate change. Changing climate conditions can affect a proposed project, as well as the project's ability to meet the purpose and need presented in the EIS. One such example would be infrastructure located in coastal regions that may be affected by sea level rise.</p>		

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	<p><b>Effects of Climate Change on Project Impacts</b> When considering the potential impacts of the proposal, we recommend Federal agencies consider the future climate scenarios in the "Affected Environment" section to determine whether the environmental impacts of the alternatives would be exacerbated by climate change.<sup>30</sup> If impacts may be exacerbated by climate change, additional mitigation measures may be warranted.</p>		
<p>6  Texas Parks and Wildlife Department  Sue Reilly  Wildlife Division</p>	<p>Texas Parks and Wildlife Department (TPWD) received a preliminary draft of the Final Environmental Impact Statement (FEIS) for the above-referenced project located in Brazoria and Galveston counties, Texas. TPWD reviewed the draft and offers the following information, comments, and recommendations to minimize impacts to fish and wildlife resources and for consideration when finalizing the FEIS.</p> <p>Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found on line at <a href="http://www.statutes.jegis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011">http://www.statutes.jegis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011</a>. For tracking purposes, please refer to TPWD project number 36383 in any return correspondence regarding this project.</p> <p><u>Previous Coordination</u></p> <p>TPWD reviewed the Draft Environmental Impact Statement (DEIS) for this project and provided comments and recommendations on August 14, 2012. In February 2015, TxDOT submitted a request for early coordination under the 2013 Memorandum of Understanding (MOU) and provided a Biological Evaluation Form for review. TPWD determined that coordination could not be completed until the FEIS was provided for review.</p> <p><u>Project Description</u></p> <p>The proposed action would include the expansion of Grand Parkway (SH 99) from SH 288 to Interstate Highway (IH) 45 South through Brazoria and Galveston counties. The proposed Segment B of SH 99 would be a 4-lane</p>		<p>1 - Per NEPA guidelines, the Preferred Alternative was chosen based on the results of the Draft Environmental Impact Statement (DEIS). Detailed analysis was conducted and reported in the DEIS for each resource, per NEPA, for all Candidate Alternative Alignments. Per NEPA guidelines, impacts to all resources are considered in the selection of the Recommended Alternative (in the DEIS). The DEIS was approved on 06/06/2012. The Preferred Alternative was carried forward for analysis in the Final Environmental Impact Statement (FEIS). Approximately 18.7 acres of proposed ROW located near SH 288 were reclassified as Agriculture from Coastal Grassland (0.26 acre), Disturbed Prairie (0.06 acre), Tidal and Salt Marsh (13.76 acres), and Urban (4.61 acres). Fallow fields with obvious berms or furrows from row crops, which are part of normal agricultural practices, were observed either during site visits or review of recent aerial photographs. For this reason, these areas were reclassified as Agriculture, which seems to follow the</p>

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	<p>controlled-access tollway with a 400 foot right of way (ROW). The Preferred Alternative presented in the FEIS would require 1,072 acres of new ROW.</p> <p>The Preferred Alternative selected was the South-New Alternative. As stated in TPWD's comments on the DEIS, this alternative has relatively high impacts to natural resources such as wildlife habitat, wetlands, and waterways compared to the other alternatives. It is the second-longest alternative presented (by 0.01 mile), has the highest impact to non-forested wetlands, and the highest number of stream crossings. TPWD recommends re-evaluating alternatives presented in the draft FEIS and selecting an alternative that better minimizes environmental impacts.<sup>1</sup></p> <p><u>Impacts to Vegetation</u></p> <p>Currently right of entry has not been granted in 70 percent of the ROW; Ecological Mapping Systems of Texas (EMST) data review was conducted where access or observations were possible. Remaining areas were not reviewed to determine consistency with the TPWD EMST vegetation types. In assessed areas, habitats identified by the EMST data as Coastal Grasslands that appeared to be abandoned agricultural fields or overgrown pastures were reclassified as Agriculture, Disturbed Prairie, or Mixed Woodlands and Forest.</p> <p><b>Recommendation:</b> TxDOT has reclassified numerous acres as Agriculture, which should only include active crops, bare ground, or silviculture. Pastures and abandoned agriculture fields should be classified as grasslands, prairie, or woodlands as appropriate.<sup>2</sup></p> <p><b>Recommendation:</b> Exhibit 3-11 is difficult to interpret and symbology should be made clearer. TPWD disagrees with much of the reclassification of habitat as presented in Exhibit 3-11.<sup>3</sup>For example, on Sheet 5, Chocolate Bayou has been reclassified as urban with no riparian buffer, and on Sheet 13 Geisler Bayou is indicated as urban. Additionally, riparian areas should not be reclassified as woodlands as done on Sheet 5. There appears to be an over-estimation of urban habitat type, which should be limited to areas that are dominated by impervious cover or are built up. The presence of homes or structures does not determine that an area is urban. In a suburban or rural environment as presented here, the entire ROW is not necessarily</p>		<p>recommendation that only active crops, bare ground (we assume recently plowed ground), or silviculture qualifies for the Agriculture habitat class.</p> <p>2, 3 and 4- TxDOT reclassified areas within existing right-of-way (ROW) as Urban where the ROW has been previously disturbed for roadway construction and is routinely maintained. These areas include the existing SH 35 ROW associated with Chocolate Bayou and the easternmost crossing of Geisler Bayou. Within these ROW areas, the existing ROW is maintained by mowing and does not have typical forest or shrub riparian vegetation. These conditions were confirmed during site visits. Other areas, such as the proposed ROW south of Chocolate Bayou along SH 35, were classified as Urban because residential or commercial development was present without a large forested component. (The Urban reclassification is consistent with the TCAP WGCP Handbook of 2012 and TPWD Habitat Types 2011, which are areas less than 10 acres with structures.)</p> <p>Of the approximately 34.4 acres of EMST Riparian habitat that were reclassified, approximately 8.9 acres were reclassified as Disturbed Prairie,</p>

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	<p>urban. The extent of riparian habitat was reduced from 73.5 to 39.3 acres, and the reclassification does not seem justifiable. TPWD requests that TxDOT re-assess the EMST as presented in this FEIS, and present a more conservative estimate of habitat types.<sup>4</sup> The current presentation overestimates urban land use and paints an inaccurate picture of the current land types within the proposed ROW.</p> <p><b>Recommendation:</b> TPWD recommends that TxDOT mitigate for impacts to wildlife habitat, particularly riparian habitats and grassland habitats.<sup>5</sup></p> <p><b>Recommendation:</b> To minimize adverse effects, activities should be planned to preserve any mature trees, particularly acorn, nut or berry producing varieties.<sup>6</sup> These types of vegetation are high value to wildlife as food and cover.</p> <p><u>Impacts to Wildlife</u></p> <p>Section 4.10 of the FEIS contains several statements TPWD considers inaccurate. For example, TxDOT states that "Wildlife adapt to the changed conditions [post-construction] have remained within the study area, while wildlife unable to adapt have likely been displaced into areas of similar natural habitats in the region." Areas of similar natural habitats are becoming smaller in the region, and do not have room to accommodate more wildlife displaced from developed areas. TxDOT also states that interruption in riparian corridors is not a unique feature in the landscape (page 4-56, line 24). The fact remains that wildlife benefit from continuous riparian corridors, and each added interruption decreases the quality of the habitat for wildlife. These statements do not reflect the true magnitude of potential impacts of this project. TxDOT should accurately assess the significant impact of the project to wildlife. It is inaccurate to state, as TxDOT does on page 4-62, that "no long-term impacts to wildlife populations would be expected" as a result of construction of the project.<sup>7</sup></p> <p><u>Flooding</u></p> <p>The proposed roadway would add 461 acres of impervious cover in the form of travel lanes, entrance and exit ramps, and frontage roads. In April of 2016, Houston saw record floods that demonstrated the relationship between the</p>		<p>and 19.6 acres were reclassified as Urban. The majority of the reclassification to Urban was because of the presence of development, and areas being situated within existing maintained ROW. Four of the five riparian areas (approximately 4 acres) that were reclassified as Mixed Woodlands and Forest were located over 2,000 feet from a stream (presumably outside the influence of the nearest stream).</p> <p>5 - TxDOT does not intend to offer compensatory mitigation for non-regulated resources such as riparian and grassland habitats. TxDOT does coordinate for regulated resources such as wetlands and waters of the U.S. and other resources as required by federal, state and local regulations.</p> <p>6 – TxDOT follows TxDOT approved Best Management Practices (BMPs) for details design. These BMPs are in accordance with federal, state and local regulations. TxDOT also follows safety design criteria in accordance with federal, state and local regulations.</p> <p>7 - In the context of the FEIS text, the referenced statement refers to wildlife populations that have been subjected to the decades-long conversion of natural grasslands and other habitat types to crops, orchards, pasture, and urban uses. As habitat areas were</p>

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	<p>increase of impervious cover and the increase of flooding in the Houston area. The detention basins required for projects are inadequate in preventing floods. These increased floods negatively impact wildlife, parks, water quality, and people.</p> <p><b>Recommendation:</b> In light of the Spring 2016 floods in Houston, TPWD requests that TxDOT re-evaluate the flood impacts of the proposed Segment B. TPWD recommends exploring options such as elevating the roadway and using permeable pavement to reduce flood impacts on natural resources. Impacts to all wetlands should be avoided where possible;<sup>8</sup> although not regulated, isolated wetlands provide valuable flood detention services.</p> <p><u>Federal Laws</u></p> <p><i>U.S. Department of Transportation Act of 1966 Section 4(f)</i> The project ROW would impact a portion of the entrance to the Camp Mohawk property along SH 35, which is owned and run by Brazoria County. The FEIS states that a Section 4(f) impact will not occur as a result of implementation of the Preferred Alternative.</p> <p><b>Recommendation:</b> TPWD recommends describing impacts to Camp Mohawk in detail and describing how a determination was made that the Preferred Alternative would not result in a Section 4(f) impact. If there would be impacts to Camp Mohawk that could be considered use or taking of a park or recreational land, TPWD recommends proceeding with 4(f) review.<sup>9</sup></p> <p><u>Clean Water Act</u></p> <p>The proposed roadway would include crossings at four larger streams and numerous smaller streams and drainages. An estimated 142 wetlands totaling approximately 54.5 acres were identified in the Preferred Alternative ROW. An individual permit would likely be necessary under Section 404 of the Clean Water Act.</p> <p><b>Recommendation:</b> TPWD recommends that all impacts be covered under a single individual permit and that no Nationwide Permits be used for the project.<sup>10</sup> This approach gives the public a full view of the</p>		<p>converted over time, wildlife able to adapt to the changed conditions either remained in the area or moved into surrounding areas of similar habitat. TxDOT recognizes that as additional habitat areas are converted to other uses, remaining habitat areas available to wildlife become smaller. Habitat fragmentation and reduced habitat areas available to wildlife are discussed in Section 4.10.</p> <p>8 - Final design of the Preferred Alternative will include final drainage and mitigation analyses, which will be reviewed by regulatory agencies. The proposed project will be designed according to Federal Highway Administration (FHWA) and Texas Department of Transportation (TxDOT) standards. In accordance with these standards, the roadway would be designed such that there is a net zero effect on existing drainage patterns and systems by development of storm water detention areas. Best management practices (BMPs) will be utilized during construction and development of detention facilities. During detailed design and permitting, wetland avoidance would be considered.</p> <p>9 - The proposed ROW for the Preferred Alternative may require adjustment of the entrance to Camp Mohawk at SH 35, but the park area</p>

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	<p>impacts to waters in the project area. It also allows for all updates to be made under one permit, which is important for a design-build project where many changes will be made. Individual permit changes are often sent to agencies under interagency coordination notices, which also allow agencies more input on the project.</p> <p><b>Recommendation:</b> For crossings, TPWD recommends that crossings be bridged rather than put in culverts.<sup>11</sup> Bridges allow for wildlife species to cross under them more easily. Culverts restrict water flow and access for terrestrial animals.</p> <p><b>Recommendation:</b> TxDOT has differentiated between isolated and adjacent wetlands in Table 4-23. TPWD recommends assessing all wetlands as jurisdictional and proceeding with avoidance, minimization, and mitigation for all wetlands.<sup>12</sup> Isolated wetlands provide functions that are beneficial for wildlife and people, such as flood detention.</p> <p><b>Recommendation:</b> TPWD recommends that detention basins be placed in previously disturbed areas of low habitat value, and exclusively in uplands.<sup>13</sup></p> <p><u>TxDOT Commitments</u></p> <p>The Biological Evaluation Form and FEIS included some information on Best Management Practices (BMPs) to be implemented in the project. These BMPs include:</p> <ul style="list-style-type: none"> <li>• Bird BMPs as enumerated in the BMP PA between TxDOT and TPWD signed April 17, 2014 (the 2014 BMP PA).</li> <li>• Minimization of impacts to vegetation by limiting disturbance to only that which is necessary to construct the proposed project. The removal of native vegetation, particularly mature native trees and shrubs, would be avoided to the greatest extent practicable. An approved seed mix would be used in the landscaping and revegetation of disturbed areas.</li> </ul> <p><b>Recommendation:</b> The Biological Evaluation Form included as Appendix D with the FEIS includes the application of the Vegetation BMP, including minimization of vegetation clearing and replacement in-kind and on-site of native vegetation. TPWD recommends that on-site in-kind vegetation replacement be implemented.<sup>14</sup></p>		<p>would not be affected; therefore, a Section 4(f) review would not be required. Adjustments to the park entrance would be addressed during final design.</p> <p>10 - Following final design of the Preferred Alternative, unavoidable impacts to jurisdictional waters of the United States will be identified to determine required Department of the Army permitting, which may include the use of nationwide permits. All permits would be obtained in accordance with federal, state and local regulations.</p> <p>11 - TxDOT will determine the appropriate structures for crossings of waterbodies during final design of the Preferred Alternative, which may include culvert crossings. Design will be in accordance with federal, state and local regulations.</p> <p>12 - TxDOT will coordinate with the USACE for a determination of jurisdictional waters of the United States occurring within the Preferred Alternative ROW. Avoidance and minimization of impacts to identified jurisdictional waters will be considered during detailed design. An appropriate compensatory mitigation plan for unavoidable impacts will be prepared and submitted for consideration as part</p>

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	<p>TPWD advises review and implementation of these recommendations. If you have any questions, please contact me at (512) 389-8021 or sue.reilly@tpwd.texas.gov</p>		<p>of USACE permitting activities.</p> <p>13 - Final design of the Preferred Alternative will include final drainage and mitigation analyses, which will be reviewed by regulatory agencies to confirm that adequate measures have been taken to ensure that the project does not increase the risk of flooding to adjacent property. The location and size of required detention determined to be the most effective for the proposed project will be decided during final design. Design of detention will be in accordance with federal, state and local regulations.</p> <p>14 - TxDOT will follow best management practices per TxDOT guidance in accordance with federal, state and local regulations.</p>