TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Tier II 401 Certification Questionnaire

Applicant Information:

Name: Union Pacific Railroad

Address: 1400 Douglas Street, STOP 0910
Omaha, NE 68179

Authorized Agent Information:

Name: Ricky Wilson
Company: HDR Engineering, Inc.
Email: Richard.Wilson@hdrinc.com

Address: 613 NW Loop 410, Suite 700
San Antonio, TX 78216
Phone: (210) 841-2870

I. Impacts to surface water in the State, including wetlands

A. What is the area of surface water in the State, including wetlands that will be disturbed, altered or destroyed by the proposed activity?

The proposed activity is anticipated to permanently impact approximately 5.07 acres of palustrine forested wetland, 0.41 acre of palustrine emergent wetland, and 0.18 acre of ephemeral excavated drainage. The proposed activity is anticipated to temporarily impact approximately 0.95 acre of palustrine forested wetland, 0.28 acre of palustrine emergent wetland, and 0.35 acre of stream. With the exception of 0.76 acre of naturally developed forested wetland, all permanent impacts occur to ephemeral drainages or wetland features which have formed as a result of excavation for or erosion from stormwater runoff associated with the railroad.

B. Is compensatory mitigation proposed? If yes, submit a copy of the mitigation plan. If no, explain why not.

Compensatory mitigation is proposed for the project. Compensatory mitigation would include purchase of credits from an approved mitigation bank. See the provided compensatory mitigation plan for information on the determination of proposed credits to be purchased.

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C. Please complete the attached Alternatives Analysis Checklist.

Please see attached Alternatives Analysis Checklist

II. Disposal of waste materials

A. Describe the methods for disposing of materials recovered from the removal or destruction of existing structures.

The proposed project consists of replacing five bridge structures. All materials will be disposed of by the construction contractor in accordance with local, state, and federal regulations.

B. Describe the methods for disposing of sewage generated during construction. If the proposed work establishes a business or a subdivision, describe the method for disposing of sewage after completing the project.

Sewage generated during construction will be contained and disposed of via a port-o-let or similar temporary sewage containment and disposal service. No permanent facilities with sewage are being constructed, so no post-construction sewage disposal is necessary.

C. For marinas, describe plans for collecting and disposing of sewage from marine sanitation devices. Also, discuss provisions for the disposing of sewage generated from day-to-day activities.

The proposed project is not a marina so plans associated with marine sanitation are not applicable.

III. Water quality impacts

A. Describe the methods to minimize the short-term and long-term turbidity and suspended solids in the waters being dredged and/or filled. Also, describe the type of sediment (sand, clay, etc.) that will be dredged or used for fill.

Clean earthen material, sub-ballast (gravel), and rock (ballast and riprap) material will be used as fill for the proposed project. During construction activities, erosion and siltation will be minimized through the use of silt fences, hay bales, or other siltation control devices in order to protect water quality in and around the site. Timber mats and/or other measures will be used by heavy equipment working in wetlands to the

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extent practicable. Reseeding or sodding will be initiated in other impacted areas to minimize impacts to water quality from potential erosion.

B. Describe measures that will be used to stabilize disturbed soil areas, including: dredge material mounds, new levees or berms, building sites, and construction work areas. The description should address both short-term (construction related) and long-term (normal operation or maintenance) measures. Typical measures might include containment structures, drainage modifications, sediment fences, or vegetative cover. Special construction techniques intended to minimize soil or sediment disruption should also be described.

Silt fences will be used to minimize sediment runoff and to stabilize disturbed soil areas within the project site during construction. Vegetated areas or other Best Management Practices (BMPs) will be used post-construction to control sediment runoff and other impacts to waters of the State.

C. Discuss how hydraulically dredged materials will be handled to ensure maximum settling of solids before discharging the decant water. Plans should include a calculation of minimum settling times with supporting data (Reference: Technical Report, DS- 7810, Dredge Material Research Program, GUIDELINES FOR DESIGNING, OPERATING, AND MAINTAINING DREDGED MATERIAL CONTAINMENT
AREAS). If future maintenance dredging will be required, the disposal site should be designed to accommodate additional dredged materials. If not, please include plans for periodically removing the dried sediments from the disposal area.

The proposed project does not require dredging; therefore, plans associated with dredge material are not applicable.

D. Describe any methods used to test the sediments for contamination, especially when dredging in an area known or likely to be contaminated, such as downstream of municipal or industrial wastewater discharges.

No sediment testing is planned for the proposed project since no dredging in potentially contaminated areas will occur.

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Tier II
Alternatives Analysis Checklist

I. Alternatives

A. How could you satisfy your needs in ways which do not affect surface water in the State?

The proposed project is the least environmentally damaging practicable alternative that meets the purpose and need for the project. The proposed project will support UPRR's need for improved logistics at a current bottleneck in the railroad system east of Houston in order to serve expanding business development and increasing interstate commerce traffic on the railroad network in Texas. The proposed project could not be constructed without impacting surface water in the State.

B. How could the project be re-designed to fit the site without affecting surface water in the State?

The project has been designed to avoid and minimize impacts to surface waters to the extent practicable; however, impacts to surface water in the State could not be entirely avoided.

C. How could the project be made smaller and still meet your needs?

To meet the need and purpose of the project, which is to support UPRR's need for improved logistics in order to serve expanding business development and increasing interstate commerce traffic, the railway must be designed to accommodate a second track within the project limits. The project could not be made smaller and still meet the project needs.

D. What other sites were considered?

1. What geographical area was searched for alternative sites?

An evaluation of practicability for alternative sites were considered for the proposed project; however, the purpose and need requires the second main track be constructed along the existing railroad between Crosby and Dayton. No alternative locations (i.e., off-site alternatives) were further evaluated because the proposed location along the existing railroad alignment between Crosby and Dayton is the only

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location that satisfies the need for the project by adding a second mainline track between the two existing sidings. An alternative to move the proposed project to a different location away from the existing railroad is not practicable due to logistical constraints for the railroad operations. Furthermore, an offsite location is likely to have higher impacts to waters of the U.S. due to lower development and presence of aquatic features.

2. How did you determine whether other non-wetland sites are available for development in the area?

   An alternative to move the proposed project to a different location away from the existing railroad is not practicable due to logistical constraints for the railroad operations. Furthermore, an offsite location is likely to have higher impacts to wetlands due to lower development and presence of aquatic features. The proposed site was the only site available (wetland or non-wetland sites) that met the purpose and need of the project due to need to maximize use of existing infrastructure to minimize effects.

3. In recent years, have you sold or leased any lands located within the vicinity of the project? If so, why were they unsuitable for the project?

   UPRR has not sold or leased any lands within the vicinity of the project that would be suitable for the proposed project.

E. What are the consequences of not building the project?

If the project is not built then the need and purpose will not be met, and UPRR will not be able to provide the increased capacity and operational efficiencies needed to handle the increased demand for interstate commerce to alleviate the main bottleneck in the railroad system east of Houston

II. Comparison of alternatives

A. How do the costs compare for the alternatives considered above?

No alternative locations (i.e., off-site alternatives) were further evaluated because the proposed location along the existing railroad alignment between Crosby and Dayton is the only location that satisfies the need for the project. An alternative to move the proposed project to a different location away from the existing railroad is not practicable and the costs of constructing and operating off-site would be significantly higher and considered cost prohibitive.

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B. Are there logistical (location, access, transportation, etc.) reasons that limit the alternatives considered?

An alternative to move the proposed project to a different location away from the existing railroad is not practicable due to logistical constraints for the railroad operations and existing infrastructure. An alternative with closer track centers or steeper embankment slopes for a narrow project footprint would not meet the current design criteria for the safety and operations requirements, so that is not a practicable alternative. An alternative alignment on the opposite side of the existing track is closer to U.S. Highway 90, and thus not practicable from a safety standpoint to prevent reducing distance from the highway intersections. Furthermore, an alternative on the other side of the existing track is not practicable due to the alignment of existing sidings, in order to avoid unnecessary curves which minimizes maintenance costs and other rail operational and safety issues.

C. Are there technological limitations for the alternatives considered?

There are no known technological limitations for the alternatives considered.

D. Are there other reasons certain alternatives are not feasible?

An alternative with wider track centers and/or wider embankment would be more damaging to potential waters of the State and wetlands based on the location and nature of the features, so it is not considered feasible. As mentioned above an alternative alignment on the opposite side of the existing track is closer to U.S. Highway 90 is not feasible from a safety and operational standpoint. Overall, the proposed project site and design plan is the least environmentally damaging practicable alternative that meets the purpose and need for the project.

III. If you have not chosen an alternative which would avoid impacts to surface water in the State, please explain:

To meet the need and purpose of the project, the project must be designed to accommodate a second track within the project limits. The proposed project could not be constructed without impacting surface water in the State based on the design, safety, and operational requirements while meeting the need and purpose.

A. Why your alternative was selected, and

The selected alternative was the only practicable location and design that met the projects purpose and need will minimizing impacts to waters of the State.

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B. What you plan to do to minimize adverse effects on the surface water in the State impacted.

TCEQ BMPs such as silt fence and hay bales will be implemented to minimize adverse impacts to surface water in the State. A compensatory mitigation plan for impacts to jurisdictional features (including surface water in the State) will be implemented as part of USACE permitting.

IV. Please provide a comparison of each criteria (from Part II) for each site evaluation in the alternatives analysis.

Alternatives	Practicable	Environmental Impacts	Meets Project Purpose and Need	Accept/Reject
No Action	N/A	Low	No	Reject
Offsite	No	High	No	Reject
Proposed Design	Yes	Moderate	Yes	Accept
Alternate Design for Wider Footprint	Yes	High	Yes	Reject
Alternate Design for Narrower Footprint	No	Low	Yes	Reject
Alternate Design on Other Side of Existing Track (near US 90)	No	Moderate	Yes	Reject