

Texas Commission on Environmental Quality
Tier II 401 Certification Questionnaire and Alternatives Analysis

I. Water quality impacts

A. Describe BMPs to control short-term and long-term turbidity and suspended solids in the waters being dredged and/or filled. Please refer to the TCEQ approved list of BMPs. Also, describe the type of sediment (sand, clay, etc.) that will be dredged or used for fill. Note: the return water from the upland placement of hydraulically dredged material will be required to meet the permit limit of 300 mg/L total suspended solids.

BMPs would be implemented during construction to prevent or minimize impacts to water quality resulting from construction activities. BMPs to control sedimentation of water in the Raymondville Drain would include silt fencing, sediment control logs, and the revegetation of disturbed ground. Soils located within the study corridor mainly consist of sandy loams with some sandy clay loams and clay loams. The proposed typical section of the new channel and the channel improvements would include a right of way (ROW) 350-450 feet in width consisting of 10-foot-wide vegetative buffers and 20-foot-wide access roads on both sides; a 100-foot-wide spoil bank comprised of excavated soil would be located in the ROW on the right-hand side of the drain (when facing downstream) in select locations.

B. Describe measures that will be used to stabilize disturbed soil areas, i.e., dredge material mounds, recently constructed levees or berms, and construction sites, during and after construction. Special construction techniques intended to minimize soil or sediment disruption should also be described.

Disturbed areas would be seeded following the completion of construction activities to stabilize the soil on the banks of the Raymondville Drain and to suppress the spread and/or establishment of invasive plant species such as Giant Reed (*Arundo donax*), and to minimize potential sedimentation of the channel and prevent excess sediment from being transported to the Laguna Madre. The RDP is not anticipated to result in any direct changes to the shoreline or to the frequency or intensity of storm surges.

C. Describe any methods used to test the sediments for contamination, especially when dredging will occur in areas with a potential to be contaminated i.e., downstream of wastewater outfalls, waterbodies listed for contaminated sediments in the CWA 303(d) list, or within an Area of Concern of a Superfund site.

Water quality provisions have been included in the RDP construction specifications, consistent with the HCDD1 2020 Standard Specifications Section 02241 (Care and Control of Water), to prevent contamination to surface water resulting from construction activities. Sediment that is dredged or excavated from areas adjacent to wastewater treatment plants or other potential hazardous materials sites would be tested using methods approved by ASTM International and the US Environmental Protection Agency prior to being used to construct the proposed spoil bank. Sediment which tests positive for contamination by hazardous, toxic, or radioactive waste

(HTRW) would be treated, if practicable, before being used to construct the proposed spoil bank; contaminated sediment which cannot be treated would be safely contained and transported to a permitted facility.

The existing drainage network in Hidalgo and Willacy Counties (Segment 2491C) is identified in the 2024 Texas 303(d) List as an waterbody impaired for recreational use due to the level of bacteria in the water.

II. Disposal of Waste Materials

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

Materials recovered from the removal or destruction of existing structures in the project right-of-way, if any, would be assessed for potential contamination by HTRW. Materials that may contain HTRW would be tested using methods approved by ASTM International and the US Environmental Protection Agency. Recovered materials which test positive for the presence of HTRW would be safely contained and transported to approved facilities for treatment and disposal; recovered materials that do not contain HTRW would be transported to a permitted solid waste landfill.

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.

No sewage would be generated by the expansion of the existing Raymondville Drain, the excavation of the new location channels, or the construction of the proposed detention basin.

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.

N/A

Tier II Alternatives Analysis

I. Alternatives

A. How could the project purpose be achieved without impacting surface water in the State?

The purpose of the proposed project is to:

- reduce flood damages to residential, commercial, and agricultural properties in the study area;
- minimize floodwater disruption to roadways that provide local, regional, national, and international access to goods and services (including emergency services); and
- support community resilience and economic growth in an economically disadvantaged region.

This purpose could not be achieved without impacting surface waters, as the proposed project must expand the existing Raymondville Drain in length and width in order to achieve the purpose of the proposed project.

B. How could the project layout onsite be designed to avoid and minimize impacts to surface water in the State?

To the extent practicable, the alignment of the proposed project has been shifted within the established 600-foot-wide study corridor to avoid impacts to potentially jurisdictional wetlands.

C. How could the project footprint be reduced to avoid and minimize impacts to surface water in the State?

The RDP has been sized to the minimum width necessary to achieve the purpose of the proposed project. The proposed spoil bank would not be constructed in areas of wetlands or streams.

D. What offsite locations were considered as an alternative for the project site?

Preliminary Alternatives considered for the proposed project that would entail construction include Alternative PA1.a, Alternative PA1.b, Alternative PA2, Alternative PA3, and Alternative PA4 (see Appendix A-3, Exhibit 5 – Preliminary Alternatives). The Final Alternatives currently under consideration consist of two potential alignments of Alternative PA3. Alternative PA2 would be located generally along the same alignment as the Final Alternatives but would only include the existing Raymondville Drain.

Alternatives PA1.a, PA1.b, and PA4 are offsite locations considered. Alternative PA1.a would expand the North Main Drain (south of the RDP) from Edinburg Lake to the Laguna Madre, while Alternative PA1.b would construct improvements to the North Main Drain from Edinburg Lake to a point north of the city of La Villa. Alternative PA4 would construct a new drainage bypass to the north of the existing Raymondville Drain; the project limits of Alternative PA4 would begin at

Edinburg Lake and end at a point along the existing Raymondville Drain located approximately 2.0 miles north of State Highway 186.

E. What are the consequences of not building the project (no-build alternative)?

The proposed project is needed due to the significant and widespread damage to communities, infrastructure, and the economy in the study area caused by storm and flood events. The no-build alternative would not reduce flood damage to residents and businesses in Hidalgo and Willacy Counties, thereby impeding economic growth and impairing community resilience in a disadvantaged region.

II. Comparison of Alternatives

A. How do the costs compare for each alternative?

Estimated costs for each Preliminary Alternative are as follows:

- Alternative PA1.a: \$748.5 million for construction, \$15.0 million annually for operation, maintenance, replacement, and rehabilitation (OMRR&R)
- Alternative PA1.b: \$719.0 million for construction, \$14.4 million annually for OMRR&R
- Alternative PA2: \$493.5 million for construction, \$9.9 million annually for OMRR&R
- Alternative PA3: \$832.5 million for construction, \$16.7 million annually for OMRR&R
- Alternative PA4: \$919.5 million for construction, \$18.4 million annually for OMRR&R

B. What are the logistical (location, access, transportation, etc.) limitations for each alternative?

Logistical limitations for the Preliminary Alternatives generally consist of the concentration and feasibility of acquiring right-of-way (ROW) for construction.

- Alternative PA1.a would require additional ROW along the entire North Main Drain system from Edinburg Lake to the Laguna Madre.
- Alternative PA1.b would require additional ROW along the westernmost 38 miles of the North Main Drain system, as well as in adjacent areas to construct detention basins.
- Alternative PA2 would require additional ROW only along the existing Raymondville Drain.
- Alternative PA3 would expand the existing Raymondville Drain and construct a new channel and detention basin, requiring additional ROW from Edinburg Lake to a point approximately 2.0 miles north of SH 186 near Port Mansfield.
- Alternative PA4 would consist almost entirely of new channels, requiring the acquisition of the greatest amount of ROW of all the Preliminary Alternatives.

C. What are the technological limitations for each alternative?

All Preliminary Alternatives would be technologically feasible.

- Alternatives PA1.a and PA1.b would each benefit approximately 35,000 structures.
- Alternative PA2 would benefit approximately 3,300 structures.

- Alternatives PA3 and PA4 would each benefit approximately 38,000 structures in different locations.

D. Are there other reasons why an alternative was not considered feasible?

Preliminary Alternatives were evaluated according to the anticipated level of support that they would receive from the public.

- Alternatives PA1.a and PA1.b were anticipated to attract similar levels of public support. Alternative PA1.b may have encountered opposition from local landowners depending on the location of detention basins associated with the plan.
- Alternatives PA2 and PA3 were anticipated to receive the highest levels of public support as their proximity to local communities would make it easy for residents to understand the flood reduction benefits that would be provided.
- Alternative PA4 was anticipated to encounter low levels of public support as its distance from developed areas would make it difficult for the community to understand how this alternative would provide flood reduction benefits.

E. Please provide a comparison of each alternative considered using each of the criteria above.

Alternatives PA1.a, PA1.b, and PA2 were determined to provide flood reduction benefits only to certain limited areas. Alternative PA4 was determined to be the most expensive alternative, had the greatest logistical difficulties associated with its implementation, and was not anticipated to receive significant public support. Compared to the other Preliminary Alternatives, Alternative PA3 would provide the greatest benefits in comparison to its logistical, technological, and other limitations. The Final Alternatives that are currently under consideration, designated as Alternative 1 and Alternative 2, were therefore developed using Alternative PA3 as a basis.

F. Please explain how the preferred alternative is the least damaging practicable alternative.

Alternative PA3 would have a moderate level of environmental impact as most of the study corridor associated with this Preliminary Alternative consists of farmland that does not include wetlands or other surface waters in the State.

G. If all impacts to jurisdictional surface water in the State cannot be avoided, please explain how the remaining impacts will be minimized.

The locations and sizes of jurisdictional surface waters within the 600-foot-wide study corridor were identified during wetland delineation activities. A total of 3.87 acres of adverse impacts to potentially jurisdictional wetland areas were avoided by shifting the alignment of the RDP laterally within the study corridor. By ending approximately 2.0 miles north of SH 186, Alternative PA3 would avoid impacting coastal wetlands closer to the Laguna Madre. Impacts to non-wetland surface waters (i.e., drainage ditches) are not anticipated to result in any loss of physical, biological, or chemical function as the proposed project consists of the construction and expansion of a drainageway which would convey a relatively permanent flow of water to the Laguna Madre.