



5.11 Floodplains

Floodplains are a vital part of the river or stream ecosystem. They are important because they act as flood buffers, water filters, nurseries, and are major centers of biological life in the river or stream ecosystem. They are important for maintenance of water quality as they provide fresh water to wetlands and backwaters, dilute salts and nutrients, and improve the overall health of the habitat of many species of birds, fish, and plants. They are important biologically as they represent areas where many species reproduce and are important for breeding and regeneration cycles.

Projects that directly cross or are adjacent to a stream or river will have some kind of floodplain encroachment. All of the alternatives will have floodplain encroachments. Impacts to floodplains require various permits, which are described in Section 5.17, Permits.

The approximate linear feet of each floodplain crossed by each of the alternatives was derived from measuring the approximate length of floodplain crossed by that alternative. In addition, each floodplain encroachment within the alternatives was analyzed to identify the potential amount of acres that may be impacted. For this analysis, an interim version of the Indiana Department of Natural Resources Division of Water Digital Flood Insurance Rate Maps (DFIRM) was used to determine potential floodplain impacts. The purpose of this interim digital data is to provide much of the same information that is provided on the paper copies of the Federal Emergency Management Agency (FEMA) FIRM. Hard copies of the FEMA FIRM's were also checked for floodplain impacts. The four alternatives were compared using the IDNR digital floodplain data for 1) floodplain encroachments measured in linear feet and, 2) potential floodplain acres to be impacted. Table 5.11.39 shows the results of the analysis. Figure 5.11.52 shows a map of the alternatives and floodplain impacts.

The results of this analysis show that floodplains associated with Yellow River, Shidler-Hoffman/Bunch Ditch and Philips Ditch will be crossed by the proposed alternatives. All alternatives will cross the floodplain of the Yellow River along existing US 31. It is possible that US 31 may need to be widened in this area and the existing bridge replaced. Thus, impacts to the Yellow River Floodplain (1,100 feet and 8.0 acres) are included for each alternative. Alternatives Cs and Es have the least amount of potential floodplain impacts with 1,400 and 1,450 feet in length of impacts, respectively, and 10.3 and 9.9 acres in area. Alternative G-Cs will have the potential to have the highest amount of floodplain impacts in regards to floodplain area with 11.4 acres, and is second highest in length with 1,995 feet. Preferred Alternative G-Es will result in the largest impacts in regards to length of floodplain impact with 2,045 feet, and second highest in regards to area with 11.0 acres. The No-Build Alternative would have no impacts on floodplains. The length and area results in this document are different than those presented in the DEIS because of refinements of the alternatives during the development of the project.

Floodplain Name	Alternative Cs	Alternative Es	Alternative G-Cs	Alternative G-Es (Preferred)
Yellow River	1,100 feet	1,100 feet	1,100 feet	1,100 feet
Shidler-Hoffman / Bunch Ditch	0	0	595 feet	595 feet
Philips Ditch	300 feet	350 feet	300 feet	350 feet
Total Feet	1,400 feet	1,450 feet	1,995 feet	2,045 feet
Total Acres	10.3 acres	9.9 acres	11.4 acres	11.0 acres

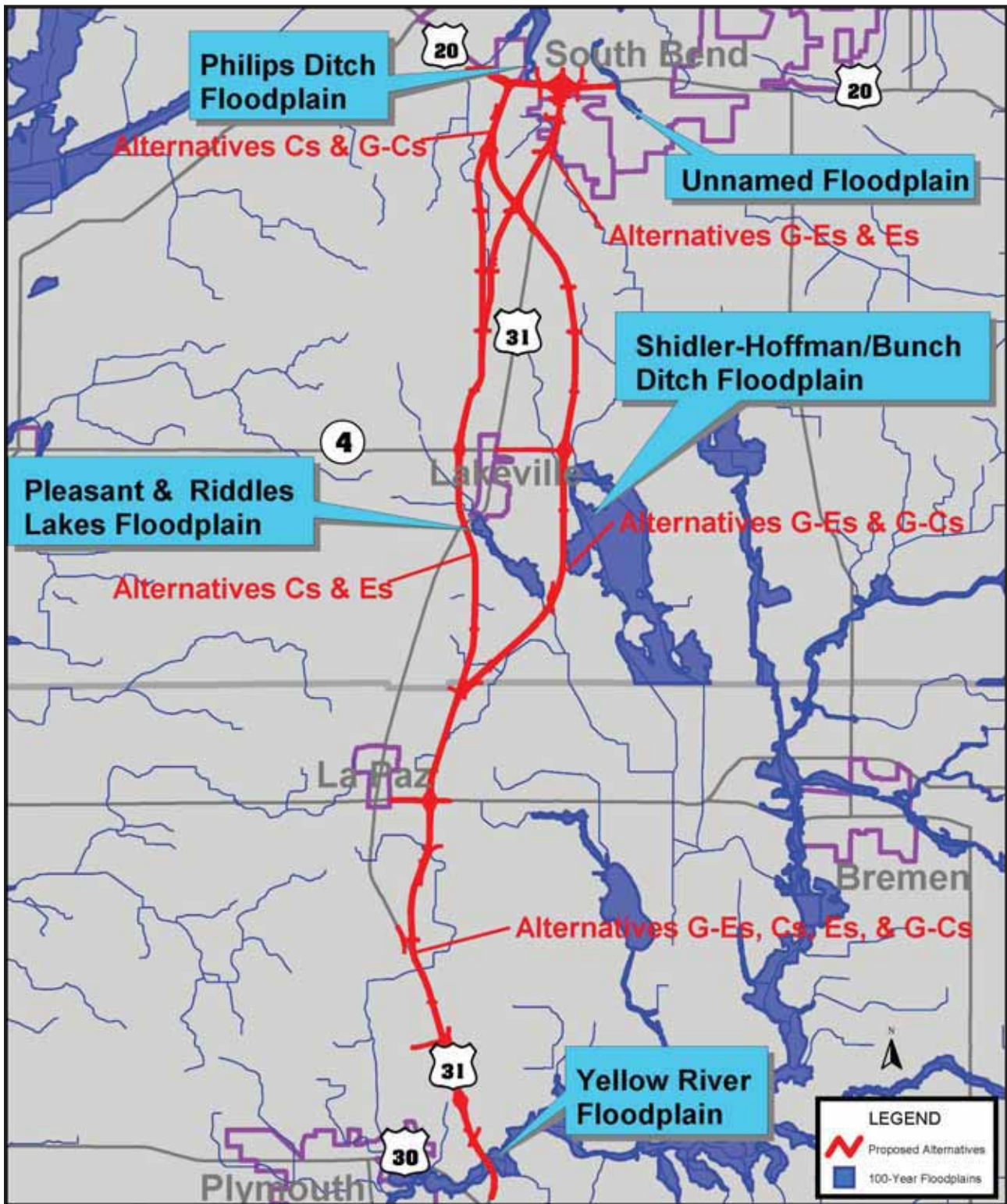


Figure 5.11.52: Floodplain Map



Floodplain Risk Assessment forms for Preferred Alternative G-Es can be found in Appendix U. There will be no significant impacts on natural and beneficial floodplain values; no significant change in flood risks; and no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this will be included with the Field Check Plans and also in the Design Summary.

Mitigating impacts to floodplains may be completed by bridging the entire floodplains of streams or rivers impacted by the particular alternative. In addition, efforts will be made throughout the development of the final chosen alternative to avoid and minimize impacts on floodplains. Where floodplain impacts cannot be avoided, they will be minimized and mitigated by designing the project to ensure that waterway openings of structures crossing the floodplain provide sufficient capacity for floodwaters. All structures constructed as part of this project will be designed to accommodate, at a minimum, a 100-year flood volume, in accordance with standard design practices. After the Record of Decision (ROD) and during design, permits will be obtained from appropriate resource agencies.