Wetlands

Studies and Coordination

Field studies covering the entire project area were conducted on April 13 and 14, 1993, to determine the presence of wetlands. On-site wetland determinations were evaluated using both the 1987 U.S. Army Corps of Engineers (Corps) *Wetlands Delineation Manual* and the 1989 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. Wetland sizes and locations were estimated, and wetlands were classified according to the U.S. Fish and Wildlife Service (USFWS) Classification Scheme (Cowardin et al. 1979).

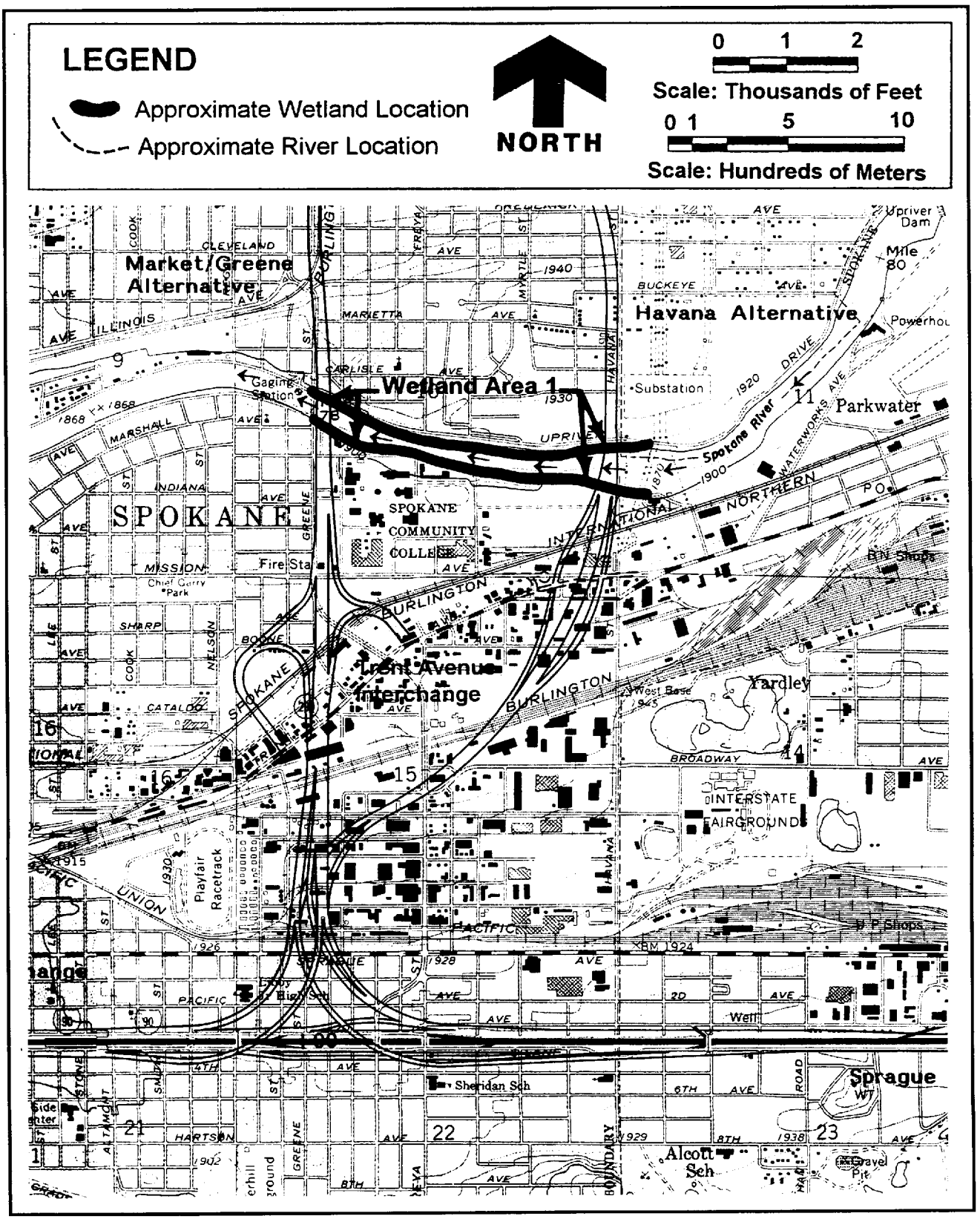
Pertinent literature and information regarding wetlands were provided by several sources, including: the Eastern Washington University Wetland Inventory, prepared for the city of Spokane (1992); the National Wetland Inventory, Spokane Quadrangles, from the USFWS (1987); Ecology Wetland Regulations Guidebook (State Department of Ecology, 1988); Washington Hydric Soils List, U.S. Department of Agriculture, Soil Conservation Service (SCS, 1990); Classification of Wetlands and Deep Water Habitats of the United States (Cowardin et. al. 1979); U.S Geological Survey topographical maps (USGS, 1973); and aerial photographs of the project alignment and vicinity provided by the NIES Mapping Group (1990) and Washington State Department of Transportation (WSDOT, 1990 and 1992).

Agencies having jurisdiction over on-site wetlands include the city of Spokane, the Washington State Department of Ecology (Ecology), the Corps of Engineers (Corps), Environmental Protection Agency (EPA), and the Washington Department of Fish and Wildlife (WDFW). The following wetland-related regulations would apply to the project:

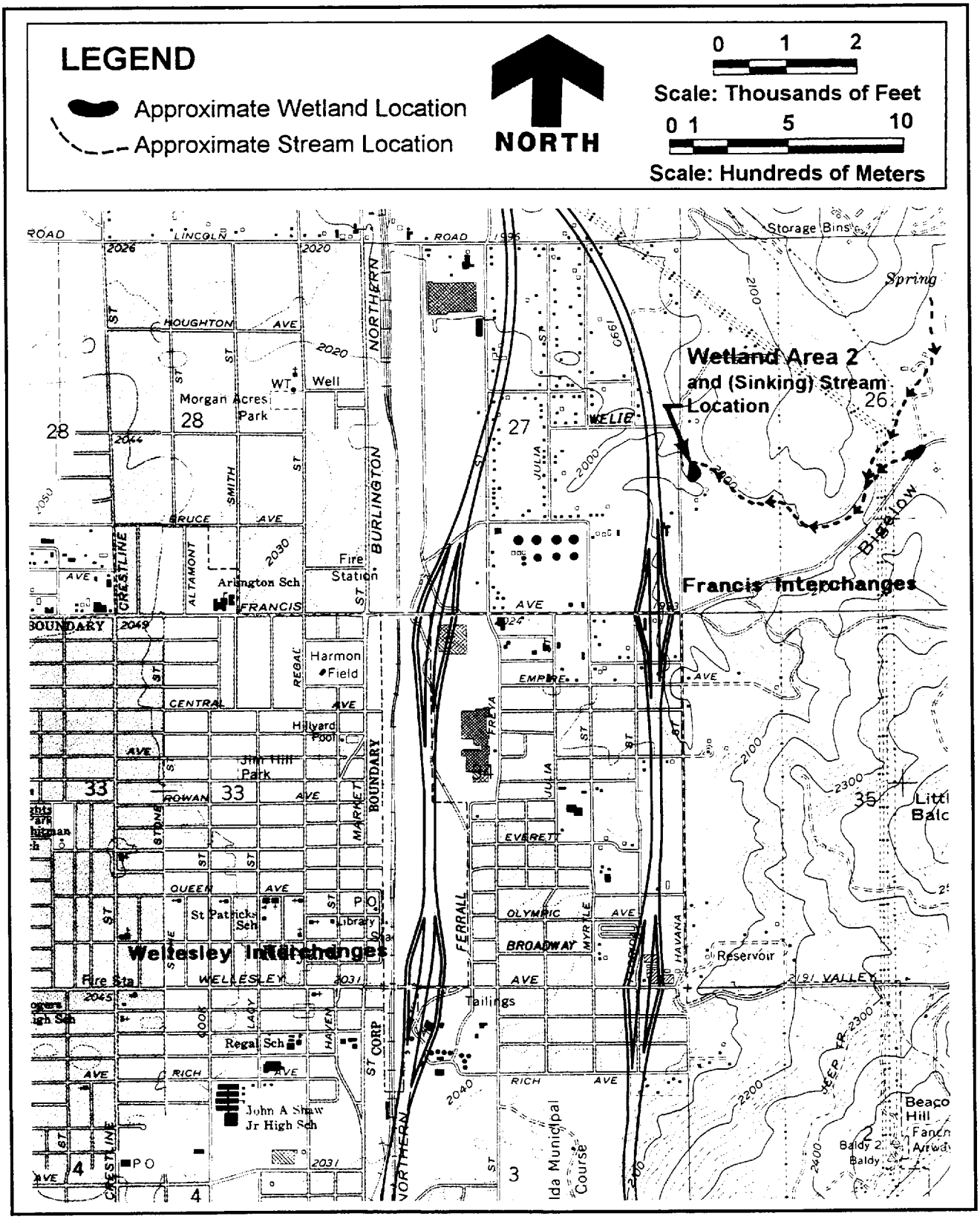
- City of Spokane Shoreline Management Program (under the Shoreline Management Act, Chapter 90.58 RCW). Permits are issued by the city and reviewed by Ecology.
- Water Quality Certification (under Section 401 of the Federal Clean Water Act), issued by Ecology with notification to the Corps when required.
- 404 Permit Nationwide Permit numbers 13 & 15 (under Section 404 of the Federal Clean Water Act), issued by the Corps.
- Hydraulic Project Approval (HPA, under Chapter 75.20 RCW), issued by WDFW.

See the Public and Agency Coordination section of this EIS for further information on coordination.

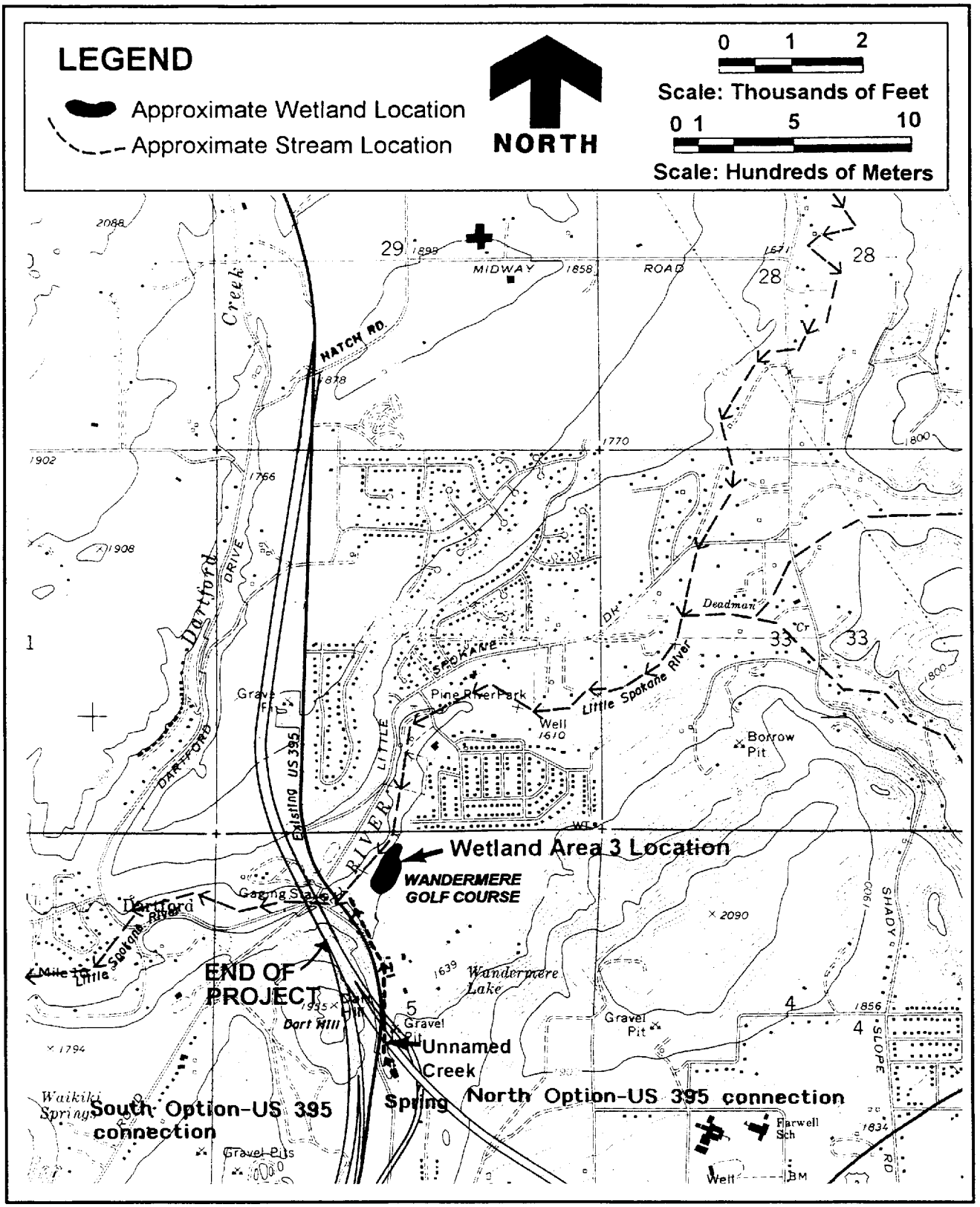
A Stormwater Site Plan will be developed for each phase of the NSF project. The Stormwater Site Plan will also cover the requirements of NPDES.



Market/Greene (Preferred Alternative) and Havana Alternative Wetland Locations — Area 1
Figure 4-20



Market/Greene (Preferred Alternative) and Havana Alternative Wetland Locations — Area 2
Figure 4-21



North Option (Preferred Alternative) and South Option Wetland Locations — Area 4
Figure 4-22

Affected Environment

One wetland area was identified within the project limits (Wetland Area 1, Figure 4-20). Two additional wetland areas occur in the vicinity of the proposed alternatives but outside the project limits (Wetland Areas 2 and 4, Figures 4-21 and 4-22). All proposed North Spokane Freeway (NSF) routes fall within urban areas.

Market/Greene (Preferred Alternative) and Havana Alternative

Wetland Area 1 falls within both the Market/Greene and Havana Alternatives. This area consists of two thin bands of Category II wetland along the north and south banks of the Spokane River. In the USFWS Classification Scheme, this wetland habitat would be classified as palustrine forested and palustrine scrub-shrub.

Those portions of Wetland Area 1 within the Market/Greene Alternative and Havana Alternative total 0.12 hectare (0.3 acre) and 0.20 hectare (0.5 acre) respectively (proximity of the existing Greene Street structure to the proposed structure reduces the area for the Market/Greene Alternative). The wetland area is located at the base of steep river banks, and the surrounding land is highly developed. Wetland Area 1 is included in the city of Spokane 1991 Wetland Inventory, which is part of the Spokane Wetland Protection Program Phase 1 Report, and is described as follows:

- Dominant wetland canopy cover includes willow and black cottonwood. The shrub community is mostly willow and black cottonwood, Douglas hawthorn, common snowberry, and wild rose.
- These narrow bands of wetland are influenced by river level fluctuations (frequently flooding the area during the growing season), as well as surface water runoff from the surrounding impervious surfaces. The soil in this area has been mapped by the Soil Conservation Service (SCS) as Riverwash and is described as long, narrow areas of sand, gravel, and stones along channels of the larger streams (SCS, 1990). The SCS does not list this soil as hydric. However, it meets both the 1987 and 1989 federal manual hydric soil criteria.
- The functions of Wetland Area 1 are wildlife habitat and shoreline anchoring. Wetland areas are a source of food, shelter, and nesting sites for wildlife. These narrow bands of wetland are most important in stabilizing the shoreline by facilitating the binding of shoreline sediments with root systems, and preventing undercutting of the riverbank. Other wetland functions, such as flood storage, water purification, and groundwater recharge/discharge potential are limited, due to the steep riverbanks, channelized nature, and small size of the wetland areas.
- The river banks in the vicinity of the Market/Greene Alternative are already artificially stabilized, up- and downstream from the existing Greene Street Bridge.

Wetland Area 2 is a small wetland east of Havana Street between Francis Avenue and Weile Avenue. It is 150 to 240 meters (500 to 800 feet) outside the proposed project limits. In the USFWS Classification Scheme, the small wetland habitat would be classified as palustrine emergent. This wetland is identified in the city of Spokane 1991 Wetland Inventory.

North Option (Preferred Alternative) and South Option

There are no wetlands within the North or South Options.

Wetland Area 3 is located east of US 395 and south of the Little Spokane River, within the Wandermere Golf Course property. This places the wetland approximately 180 to 240 meters (600 to 800 feet) northeast of the North Option project terminus. In the USFWS Classification Scheme, the wetland habitat would be classified as palustrine forested, scrub-shrub, and emergent, in equal proportions. This wetland is in the city of Spokane 1991 Wetland Inventory.

In addition to Wetland Area 3, an unnamed small creek parallels the east side of the existing US 395 alignment, approximately 90 meters (300 feet) east of the newly realigned portion of US 395 presently being constructed (the NSF North/South Option will tie into this new section of US 395). The creek originates from underground springs just southeast of Dart Hill and flows north. Eight hundred feet from its beginning, the unnamed creek passes through approximately 120 meters (400 feet) of culvert pipe, emerging near the Wandermere Golf Course clubhouse and continuing north until it reaches the Little Spokane River. Surface water from the unnamed creek has no direct association with Wetland 3.

I-90 Collector/Distributor (C/D) System (part of the Preferred Alternative)

There are no wetlands within the proposed I-90 C/D alignment.

Impacts

(For discussion of construction activity impacts, see the Construction Activity Impacts section of this EIS, under Wetlands.)

Evaluating impacts on wetlands includes considering the extent of encroachment upon wetlands for each alternative, and the potential impacts of this encroachment on wetland functions and values. All proposed NSF routes fall within urban areas, with even the least developed areas being heavily impacted by human activities (e.g., past clearing, pasturing, farming, frequent traversing by vehicles, illegal dumping, and close proximity to developing areas). No unique wildlife, migration route, habitat, or plant community was determined to exist within any of the wetlands near or within the proposed NSF routes.

No impact to any wetland within or in the vicinity of the NSF is expected.

Stormwater best management practices (BMPs) are detailed in the WSDOT *Highway Runoff Manual* and the Water Quality Study for Waters of the State of Washington, WAC 173-201A. A Stormwater Site Plan covering both temporary and permanent BMPs will be developed for each NSF phase project. The site plan will cover the requirements of NPDES.

Stormwater discharge to surface water bodies will be avoided by use of properly maintained permanent water quality/quantity treatment areas and infiltration BMPs (within their design parameters).

Properly maintaining permanent erosion and sediment control measures (BMPs) (within their design parameters) will ensure that wetland filling and river/creek contamination with sediment does not occur.

A properly maintained drainage system will move highway stormwater runoff away from wetlands, rivers, and streams.

No-Build Alternative

The No-Build Alternative would not alter or cause impacts to the existing conditions of wetlands in the project area.

Market/Greene (Preferred Alternative) and Havana Alternative

The proposed structure over the Spokane River will fully span Wetland Area 1. No direct impacts from excavation or filling will take place within wetlands.

The design of the bridge is unknown at this time, but it is assumed that standard approved design techniques would be used. The conceptual distance from the bridge to surface of the Spokane River is approximately 20 meters (70 feet); final determination will be made when bridge design begins.

The proposed bridge would shade the wetland. However, due to the small size of the shaded area, the height of the structure, the north/south orientation of the structure, and the heavy urban-industrial nature of the vicinity, the overall function of Wetland Area 1 would not be reduced and no direct impact is expected. Riparian vegetation along the Spokane River will still be monitored within the project areas. Maintenance and/or replacement of any lost vegetation within these areas will be a part of freeway operations if required.

Any increase in stormwater runoff will be handled by water quality/quantity BMPs. No indirect impacts to Wetland Area 1 are expected within either the proposed Market/Greene or Havana Alternatives at their Spokane River crossings. Refer to the Water Quality section of this EIS for further information.

There would be no direct impact on Wetland Area 2 (east of the Havana Alternative), due to its location outside the project limits. Indirect impacts will be avoided by use of water quality/quantity BMPs.

North Option (Preferred Alternative) and South Option

There are expected to be no wetland impacts along these routes.

Wetland Area 3, and a small unnamed creek, would not be impacted by the proposed project, due to their location outside the project limits. Indirect impacts will be avoided by use of water quality/quantity BMPs.

With the North Option, the route passes over that portion of the unnamed creek within the existing 122 meter (400 foot) culvert. No impact to the creek is expected, since the route will pass over it by way of a bridge structure.

I-90 Collector/Distributor (C/D) System (part of the Preferred Alternative)

There are no wetlands along this route; therefore, no wetland impacts are expected.

Mitigation

No mitigation is proposed.

Wildlife, Fisheries, and Vegetation

Studies and Coordination

Field studies covering vegetation, fisheries, wildlife, and habitat were conducted during November 1991 and March 1993. The areas studied encompassed each of the proposed North Spokane Freeway (NSF) alignment options. The study covered species observed, current land use, and quality of plant community and wildlife habitat. Field data and pertinent literature and information were used to determine existing conditions and whether species or habitat within the proposed NSF routes were threatened or endangered.

Pertinent literature and information were provided by several public and private agencies, including: the Washington Department of Fish and Wildlife (WDFW), the Washington Department of Natural Resources (WDNR), the United States Department of the Interior Fish and Wildlife Service (USFWS), the Federal Emergency Management Agency (FEMA), the National Marine Fisheries Service (NMFS), the American Fisheries Society, and the Washington Water Power Company (WWP). Information provided was specific to the study areas whenever possible.

A Project Hydraulic Approval Permit (HPA) will be required for each phase of the NSF Project from WDFW.

Affected Environment

The study area is in the transition zone between the Okanogan Highlands to the north and the Columbia Basin to the south. The area is also in a vegetation transitional zone between ponderosa pine forests and grass steppe.

All the proposed NSF routes fall within urban areas that include residential, - commercial, recreational, mining (sand and gravel), and industrial sites.

Field surveys of vegetation were conducted at various locations along the proposed NSF routes in nonresidential areas. Plants were identified using a standard field guide (Hitchcock and Cronquist, 1984).

Reports received from WDNR and WDFW Nongame Data System list no threatened or endangered plant species near any of the proposed NSF routes. The WDNR Natural Heritage Information System revealed one special-status plant — Nuttall's Pussytoes — in the general vicinity; however, it is known only from historical records dating to the 1930s. Field investigations found no threatened or endangered plant species within any NSF route.

Site observation and information from WDNR indicate no critical or unique plant communities existing within the locations being studied for the NSF.

Ponderosa pine is the dominant tree species for most of the forested areas. Other tree species are either isolated specimens in open grasslands or along the edge between the ponderosa pine stands and other types of vegetative cover. Very few of the grass and forb species located were native and none of the native plants were the dominant species in the areas where they were found. The dominant grass and forbs are introduced species, many of which are considered noxious weeds. All areas examined were heavily impacted by human activity.

The Market/Greene Alternative (Preferred Alternative)

This alternative traverses the most urban of the study areas, including residential, commercial, vacant railroad right of way, and industrial areas. The vacant railroad right of way contains mainly introduced forbs and grasses. The dominant vegetative species in the less developed areas include sweet clover and knapweed, while the only tree species are isolated elms.

The Havana Alternative

North of Francis Avenue, this study area contains an alfalfa field and vacant or unkempt pasture lands. The dominant vegetative species here include alfalfa, quackgrass, knapweed, and kochia, with ponderosa pine as the dominant tree. The remainder of the alignment south of Francis Avenue contains mixed land use including residential, commercial, industrial, and recreational land. Commercial/industrial sites include junk yards and a tire dump located between Esmeralda Golf Course and Lincoln Road.

North Option (Preferred Alternative) and South Option

Both of these study areas show accelerated residential development and increased commercial development west of US 2. Commercial development includes the Wandermere Mall, Pine Acres Golf Course, and Wandermere Golf Course. The dominant vegetation consists of introduced species, with ponderosa pine as the dominant tree.

East of US 2, both options pass through the Kaiser Aluminum industrial buffer zone. The Kaiser Aluminum and Chemical Corporation (KACC) industrial buffer areas appear relatively undisturbed from a distance; however, a closer look reveals frequent human disturbance. Other areas east of US 2 also show similar human disturbance, such as heavy off-road activity and frequent use for illegal dumping. Dominant vegetative species for both options include cheat grass, Idaho fescue, spotted knapweed, and horsetail, with ponderosa pine as the dominant tree.

Areas of the North Option (east and west of US 2) have been mined for sand and gravel. Sand pit operations are still active in the area. In areas disturbed for mining, dominant vegetative species are sweet clover, spotted knapweed, Russian thistle, and horsetail.

I-90 Collector/Distributor (C/D) System (part of the Preferred Alternative)

Between Liberty Park and the Sprague Avenue Interchange (all residential), the study area includes mainly introduced deciduous trees, perennial grasses, and shrubs, with no native vegetation.

Wildlife

Wildlife species expected to use habitat along the proposed NSF routes would include small mammals such as rodents, rabbits, raccoons, and porcupines; occasional deer and coyotes; and a variety of bird species.

The WDFW Nongame Data System lists two butterfly species of concern in the general vicinity of the southeast end of the C/D System (along I-90). Both species — Compton tortoiseshell and thicket hairstreak — have been observed in the Dishman Hills Natural Area, approximately 1.93 kilometers (1.2 miles) outside the proposed project limits. Due to the absence of suitable habitat for these species, it is unlikely that they currently exist in or even use habitat in the proposed project areas.

The USFWS reports no endangered or threatened species in any of the proposed NSF routes, and none were observed during on-site surveys.

There is no USFWS critical wildlife habitat in any of the proposed routes for the NSF.

The least developed urban areas that fall within proposed NSF routes show heavy human disturbance. These past and present activities tend to limit most wildlife use of what habitat is available in the vicinity (Market/Greene Alternative, Havana Alternative, North and South Options). The areas least disturbed by human activity are select areas of the Esmeralda Golf Course and Minnehaha Park (Havana Alignment). There are also small areas of agricultural and unused pasture land northeast of the intersection of Havana and Francis streets that are suitable for small mammal habitat.

Field site surveys observed no mammals and only three species of birds. Reports of mammals using the North and South Options from Kaiser Aluminum and Chemical Corporation (KACC) employees include sightings of cottontail rabbit, coyote, raccoon, and mule deer.

Migrations of wildlife across the proposed alignments are limited, since all the alignments are within an urban environment. Farmlands and forested areas are, for the most part, east of the proposed routes, except for small areas northeast of Francis Avenue. Migration between the forest/farmland to the east and urban areas would be limited.

The Market/Greene Alternative (Preferred Alternative)

This study area contains vacant railroad right of way with mainly introduced forbs and grasses. This vacant railroad right of way (R/W) is also bordered by heavy commercial and residential development, which limits its use as wildlife habitat. South of the Spokane River (and railroad R/W) there is heavy commercial, industrial, and residential development.

The Havana Alternative

This study area contains small areas of agricultural land, pasture land, vacant land, and ponderosa pine forest north of Francis Avenue, with a few commercial/industrial sites. South of Francis Avenue there are a public golf course, a city park, and heavy residential, commercial, and industrial development.

North Option (Preferred Alternative) and South Option

In and near the Kaiser Aluminum industrial buffer zone of the North and South Options, wildlife habitats vary from ponderosa pine forest to open savanna to

grassland. Development around the Kaiser buffer zone and east of US 2 is on the increase, which is rapidly decreasing existing undeveloped areas.

I-90 Collector/Distributor (C/D) System (part of the Preferred Alternative)

Liberty Park is the only area adjacent to the C/D System containing any type of wildlife habitat; however, the wildlife population is very minimal.

Fisheries

There are no known critical aquatic habitats in the Spokane River within the sites being studied for the NSF. The areas of impact are already highly modified by the various effects of urbanization, including some cement embankments.

No endangered or threatened species of fish are known to exist in the Spokane River or the Little Spokane River according to the USFWS and WDFW. However, the bull trout, known to exist in the Spokane River, is a federal candidate for listing under the Threatened and Endangered Species Act.

Market/Greene (Preferred Alternative) and Havana Alternative

The Market/Greene Alternative crosses the Spokane River at approximately FEMA Kilometer 126 (Mile 78), northwest of Spokane Community College, while the Havana Alternative crosses the river farther east at approximately FEMA Kilometer 127 (Mile 79). Fish present in the Spokane River include species of trout, bass, carp, pike, walleye, whitefish, perch, and several non-game fish.

The proposed Spokane River crossings for both the Market/Greene and Havana Alternatives are located in areas not suitable to the needs of the bull trout. The river crossing areas are wide, with slower moving water; bull trout require fast moving, cold, and highly oxygenated water.

North Option (Preferred Alternative) and South Option

There are no aquatic habitats within the North and South Option study areas. The Little Spokane River, while outside the project area, is adjacent to the northern section of the South/ North Option. According to USFWS and WDFW, the Little Spokane River provides sensitive spawning habitat for rainbow and eastern brook trout.

I-90 Collector/Distributor (C/D) System (part of the Preferred Alternative)

There are no aquatic habitats within the C/D system study area.

Impacts

(For discussion of construction activity impacts, see the Construction Activity Impacts section of this EIS.)

The No-Build Alternative

This alternative would not create additional impacts to wildlife, fish, or vegetation in the designated project areas. No mitigation is required.

"Build" Alternatives

Wildlife

The overall development generated by this project will have minimal impact on area wildlife.

The study shows no significant/critical wildlife habitat or endangered/threatened species of wildlife will be isolated by any proposed project route.

Wetlands along the Spokane River will be spanned by the proposed structure, thus avoiding direct impacts to the adjoining wildlife habitat.

No endangered or threatened wildlife or fish were found (known, recorded, or observed). Also, no known, recorded, or observed wildlife migratory route or fish feeding route was found within any of the proposed NSF alignments.

Species sensitive to the impacts of human activities/urbanization have been previously displaced or are in the final process of being displaced by increased development. This development has been occurring for many years (prior to the NSF project) and is continuing along each of the proposed NSF routes.

With minimal wildlife presently in or near the proposed NSF routes, and no known migration or feeding routes in the vicinity, it is unlikely that roadkill will increase. The access control/right of way line fencing should be maintained to help reduce access to the freeway by wildlife and domestic animals. Roadkill that might occur would come from bird and small mammal species (mostly domestic) that are able to circumvent the access control fencing.

Vegetation

The vegetation types in the affected areas are common or introduced species, and any plant losses are not considered to be substantial. However, maintenance of riparian vegetation along the Spokane River is essential. Wetlands along the Spokane River will be spanned by the proposed structure, thus avoiding direct impacts to the shoreline vegetation. Maintenance and/or replacement of any lost vegetation within the immediate area of the structure will help minimize any effects of freeway operations. The approximately 21 meter (70 foot) height and the north/south orientation of the structure will diminish shading impacts.

Management of the roadsides will ensure adequate sight distance and help maintain healthy vegetation. Vegetation planted in the right of way would be sustainable native species that are fast growing, provide the best erosion control, and are aesthetically pleasing.

Fisheries

Fish habitat should not be lost, but may be temporarily degraded. Excessive sediment due to erosion during spawning times could affect egg development and deplete insects and other food sources. This will be avoided by use of BMPs.

Stormwater runoff will need to be directed away from rivers, creeks, and wetlands. Discharge to surface water bodies will be avoided by use of both temporary and permanent water quality/quantity treatment areas and infiltration BMPs (within their design parameters). Stormwater management BMPs are detailed in the WSDOT Highway Runoff Manual and the Water Quality Study for Waters of the State of

Washington, WAC 173-201A. These practices will be adhered to during all phases of design and construction, and maintained thereafter. A Stormwater Site Plan covering both temporary and permanent BMPs will be developed for each NSF project phase. The site plan will cover the requirements of the NPDES.

Mitigation

~~No mitigation is proposed.~~

There are no anadromous fish in the Spokane River. Resident species will be protected by utilizing best management practices and timing of work in the water in accordance with a Hydraulic Project Approval administered by Washington State Department of Fish and Wildlife.

Social/Economic Impacts

Farmland

Studies and Coordination

Information for this report came from the Spokane County Soils Survey and the U.S. Department of Agriculture Soil Conservation Service (SCS) Important Farmlands of Spokane County Map; the city of Spokane and Spokane County planning and zoning maps; and by land use survey. Coordination was conducted with SCS to comply with the Farmland Protection Policy Act (FPPA) (see Table 4-24).

The SCS has determined that the FPPA applies to this project. The FPPA requires that each corridor under study be evaluated to determine impacts and the resultant conversion of identified farmlands. An impact rating has been determined for each corridor, using Form AD 1006. If the corridor receives a total rating of less than 160 points, it is given a minimal level of consideration for protection and no additional sites will be evaluated. If the corridor receives more than 160 points, it will receive higher levels of consideration for protection, and additional alternatives must be evaluated. These are the guidelines and criteria for assessing impact ratings under 7 CFR Part 658.4 and 658.5.

Affected Environment

Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum input of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland includes land that possesses the above characteristics but is being currently used to produce livestock or timber. It does not include land already in or committed to urban development or water storage.

See Figure 4-23 for prime farmland located in and along each alternative route.