3.8 WETLANDS

What's in Section 3.8?

3.8 Wetlands
- 3.8.1 Affected Environment
- 3.8.2 Environmental Consequences
  - 3.8.2.1 No-Action Alternative
  - 3.8.2.2 Package A
  - 3.8.2.3 Package B
  - 3.8.2.3 Preferred Alternative
  - 3.8.2.4 Indirect Impacts Common All Packages
  - 3.8.2.5 Wetland Functional Values
- 3.8.3 Mitigation Measures

In recognition of the importance of clean water and the ecological value of wetlands, in 1977 the U.S. Congress passed the Clean Water Act (CWA) to protect the physical, biological, and chemical quality of waters of the U.S., including adjacent wetlands. Section 404 of the CWA defines waters of the U.S. as all traditional navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. The US Army Corps of Engineers (USACE) Regulatory Program administers, and the Environmental Protection Agency (EPA) enforces, Section 404 of the CWA.

The definition of waters of the U.S. under USACE jurisdiction does not include wetlands that lack a surface connection to, and therefore are isolated from, regulated waters. In projects with federal funding or oversight, a second piece of legislation, Executive Order 11990 Protection of Wetlands, directs the lead federal agencies, in this instance Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), to protect isolated wetlands by avoiding direct or indirect support of construction in wetlands when a practicable alternative is available. For the purpose of this wetlands Section 3.8, here after, Waters of the U.S. will be referred to as jurisdictional open waters. Consultation with USACE, EPA, Colorado Department of Wildlife (CDOW), and US Fish and Wildlife Service (USFWS) has occurred and is documented in **Appendix B** *Agency Coordination*.

The North I-25 project is being conducted using the National Environmental Policy Act (NEPA)/404 merger process. The NEPA/404 merger process is guided by and supports the requirements of Section 404 of the CWA, United States Environmental Protection Agency (USEPA) regulations, and the Memorandum of Agreement among the USACE, FHWA, and COOT. The NEPA/404 merger agreement requires consultation on four key points: (1) Project Purpose and Need, (2) Alternatives Selected for Detailed Evaluation, (3) the Preferred Alternative, and (4) Compensatory Mitigation.

3.8.1 Affected Environment

Wetlands are ecosystems where soils are saturated with water for long periods during the growing season and therefore generally support plant species adapted for very wet environments. In Colorado, wetland areas cover approximately 2 percent of the land surface but provide a wide variety of economically and ecologically important functions. Wetlands provide water quality improvement, groundwater recharge/ discharge, bank stabilization, flood protection, food chain support, fish and wildlife habitat, rare species habitat, education and research, and recreation.

Big Thompson River

Wetlands in the project area were delineated during late spring through the early fall seasons of 2005 and 2006 (Ecotone, 2006). Wetland determinations were based on documenting the presence of diagnostic environmental characteristics for vegetation, hydrology, and soils as outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987).

Typical Roadside Ditch

As the accompanying photos depict, wetlands in the project area generally occur along streams, roadside ditches, irrigation ditches and canals, and at pond margins. Major streams in the project area are Big Dry Creek, Big Thompson River, Box Elder Creek, Cache la Poudre River, Clear Creek, Fossil Creek, Little Dry Creek, Little Thompson River, St. Vrain Creek, South Platte River, and Spring Creek. These water resources are shown in **Figure 3.8-1.**

Wetlands are the transition zone between aquatic and upland habitats and are defined by the USACE as, "those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Based on the classifications of waters and wetlands developed by Cowardin and others (USFWS, 1979), wetland types present include palustrine emergent systems with persistent vegetation and palustrine scrub-shrub systems with broad-leaved deciduous shrubs. Common wetland species include cattail (*Typha sp.*), reed canarygrass (*Phalaris arundinacea*), sedges (*Carex sp.*), rushes (*Juncus sp.*), and narrowleaf willow (*Salix exigua*).

Typical Irrigation Canal

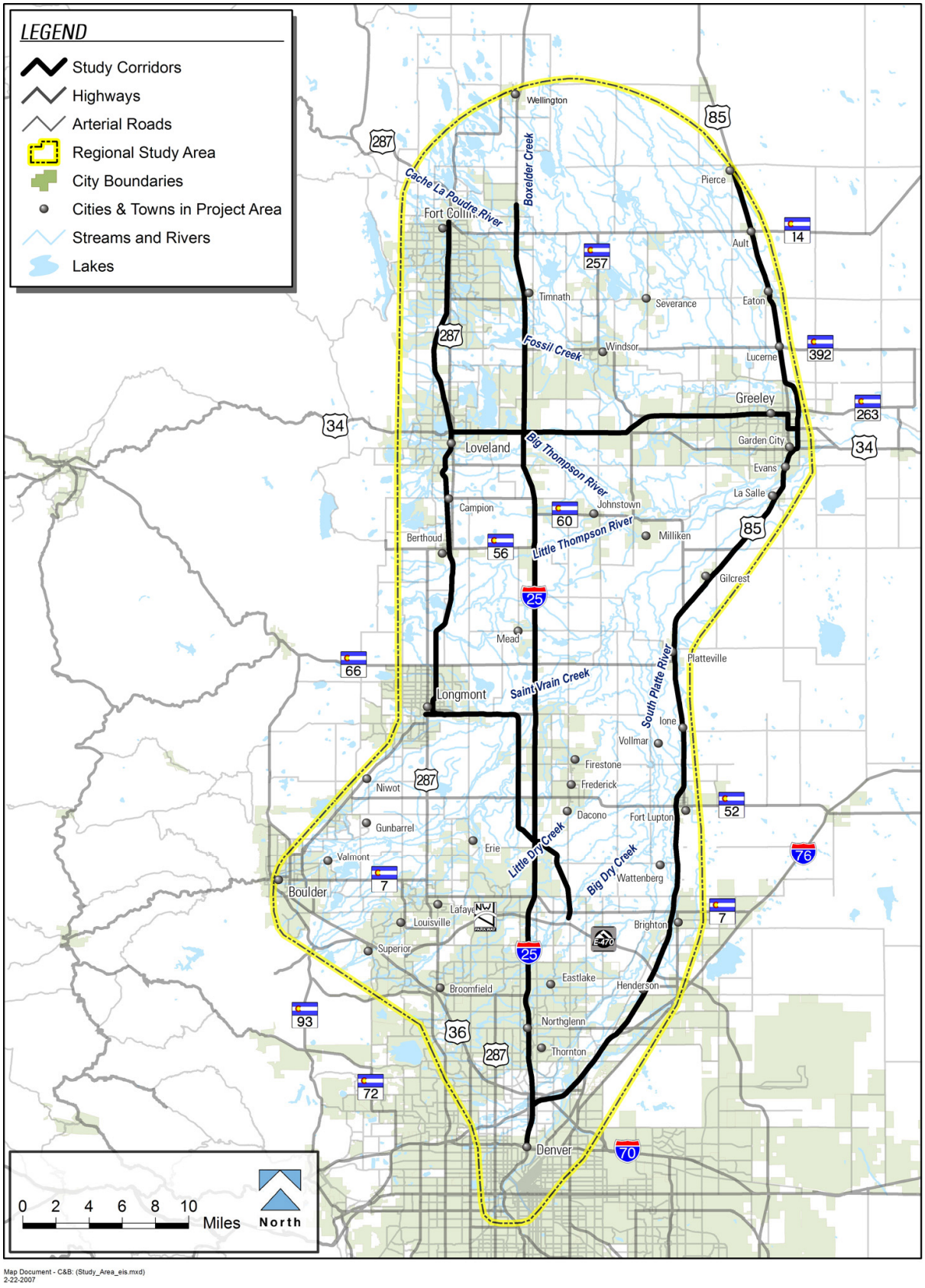
Typical Ponded Area

A Wetland Assessment Form was used to rate wetland functions (Jacobs, 2006). Wetland functions typically include water quality improvement, groundwater recharge/discharge, bank stabilization, flood protection, food chain support, and/or wildlife habitat.

Wetland acreage and type is summarized below. Detailed information on wetland types, locations, functions, and jurisdictional status is provided in the *North I-25 Wetland and Waters of the U.S. Technical Report* (Jacobs, 2008b) and the *Technical Memorandum Addendum: Wetlands and Other Waters of the U.S* (Jacobs, 2011d).

1 **Figure 3.8-1 Water Resources in the Project Area**

2



Results of the wetland inventory within the project area are summarized in **Table 3.8-1**.

Table 3.8-1 Total Wetland Acreage Existing within the North I-25 Project Area

Wetland Type	Existing Acreage
Palustrine Scrub/Shrub	139.37
Palustrine Emergent	394.67
Open Waters*	140.83
Total Wetlands and Jurisdictional Open Waters	**674.87**

* For the purpose of this document, open waters are defined as perennial and intermittent waterways, or bodies of water including irrigation canals, ponds, lakes, and reservoirs.

Wetland Jurisdiction

On June 5, 2007, the EPA and USACE issued agency guidance, effective immediately, regarding jurisdiction of the CWA following the Supreme Court decision in *Rapanos vs. United States*. The guidance has been issued to ensure that jurisdictional determinations under the CWA are consistent with the *Rapanos* decision and provide efficient protection for the nation's water resources. Further information regarding jurisdictional and non-jurisdictional wetlands and jurisdictional open water is presented in the *North I-25 Wetland and Waters of the U.S.Technical Report* (Jacobs, 2008b) and in the *Technical Memorandum Addendum: Wetlands and Other Waters of the U.S* (Jacobs, 2011d).

Existing acreage for wetlands and jurisdictional open waters has been confirmed by the USACE, and confirmation letters can be found in Appendix A of the *Technical Memorandum Addendum: Wetlands and Other Waters of the U.S* (Jacobs, 2011d). On November 4, 2008, the USACE Denver Regulatory Office issued a Preliminary Jurisdictional Determination for wetlands and jurisdictional open waters along the I-25 highway corridor. On March 20, 2009, USACE provided a Preliminary Jurisdictional Determination for wetlands and jurisdictional open waters along the commuter rail corridor. A Preliminary Jurisdictional Determination assumes all wetlands and open waters are jurisdictional for determining impacts and compensatory mitigation requirements.

Typical wetland vegetation occurring in emergent wetlands in the project area include cattail species, common threesquare (*Schoenoplectus pungens*), arctic rush (*Juncus arcticus*), reed canarygrass, Emory's sedge (*Carex emoryi*), smooth horsetail (*Equisetum laevigata*), bluejoint (*Calamagrostis candadensis*), clustered field sedge (*Carex praegracilis*), foxtail barley (*Hordeum jubatum*), and curly dock (*Rumex crispus*).

Typical vegetation occurring in scrub-shrub wetlands in the project area include various mixes of emergent wetland vegetation in the understory and an overstory primarily dominated in part or combination of narrowleaf willow, boxelder (*Acer negundo*), green ash (*Fraxinus pennslyvanica*), crack willow (*Salix fragilis*), and plains cottonwood saplings (*Populus deltoides ssp. monilifera*).

Riparian zones/buffers are present next to a majority of wetlands occurring along streams, irrigation ditches and canals, and at pond margins. These riparian zones provide important ecological assistance to the existing wetlands and surrounding ecosystem. Typical roles associated with riparian zones include soil/floodplain stability, sediment trap, pollutant filter, wildlife habitat and migration corridors, and water quality improvement.

Typical vegetation occurring in riparian zones along wetlands in the project area include silver maple (*Acer saccharinum*), Woods' rose (*Rosa woodsii*), showy milkweed (*Asclepias speciosa*), Siberian elm (*Ulmus pumila*), Russian olive (*Elaeagnus angustifolia*), smooth brome (*Bromus inermis*), crack willow (*Salix fragilis*), boxelder, narrowleaf willow, green ash, and a mixture of various emergent wetland vegetation.

3.8.2 Environmental Consequences

Environmental consequences include impacts to wetlands and jurisdictional open waters from all improvements within an alternative (e.g. interchanges, structural improvements, safety upgrades, feeder bus, and maintenance facilities). Impacts for each build alternative are summarized below. For further discussion of components for these Packages, see the North I-25 *Wetlands and Waters of the U.S. Technical Report* (Jacobs, 2008b) and the *Technical Memorandum Addendum: Wetlands and Other Waters of the U.S* (Jacobs, 2011d). Potential effects on wetlands were evaluated according to:

- Direct impacts (acreage) by project alternatives and component
- Indirect impacts
- Changes in wetland functions and values

While each resource is assessed for impacts related to all improvements within an alternative (e.g. interchanges, structural improvements, safety upgrades, carpool lots, feeder bus, maintenance facilities), only those areas where impacts would occur are discussed. As a result, not every element of an alternative is discussed. Mitigation measures are also described.

3.8.2.1 No-Action Alternative

The No-Action Alternative includes major and minor structure rehabilitation, replacement or rehabilitation of existing pavement, and minor safety modifications by 2035. These actions would take place regardless of whether any of the proposed improvements in Package A, Package B, or the Preferred Alternative occur. The No-Action Alternative is described in detail in **Chapter 2** *Alternatives*.

The No-Action Alternative would generally not affect existing wetland resources, except those associated with development activities and rehabilitation of major and minor structures. Existing conditions, described in **Section 3.8.1**, would continue. With increasing traffic volumes and continuing commercial and residential development in the project area, some effects to wetland resources would be expected. Effects from existing or increasing development volumes on wetland resources could result in wetland loss to permanent fill areas, increased sedimentation, waterway channelization, wetland habitat fragmentation, and mortality from vehicle collisions with wildlife species utilizing wetland habitats.

3.8.2.2 Package A

Components of Package A include safety improvements, construction of additional general purpose lanes on I-25, structure upgrades, and the implementation of commuter rail and commuter bus service. Development of these components would result in impacts totaling an estimated 18.33 acres of wetlands, and 3.54 acres of jurisidictional open waters (see **Table 3.8-2**).

Table 3.8-2 Direct Impacts to Wetlands and Jurisdictional Open Water from Package A Components

Package A		PEM (acres)	PSS (acres)	Jurisdictional Open Waters* (acres)	Totals (acres)
Component	**Location**				
I-25 Safety Improvements					
A-H1	SH 1 to SH 14	0	0	0	0
I-25 General Purpose Lanes					
A-H2	SH 14 to SH 60	7.10	2.09	1.42	10.61
A-H3	SH 60 to E-470	3.97	0.89	0.42	5.28
I-25 Structure Upgrades					
A-H4	E-470 to US 36	0	0	0	0
Commuter Rail					
A-T1	Ft. Collins to Longmont	0.70	0.18	0.27	1.15
A-T2	Longmont to North Metro Denver	1.69	1.71	1.43	4.83
Commuter Bus					
A-T3	Greeley to North Metro Denver	0	0	0	0
A-T4	Greeley to DIA	0	0	0	0
Commuter Rail Stations		0	0	0	0
Maintenance Facilities		0	0	0	0
Package A Totals:		**13.46**	**4.87**	**3.54**	**21.87**

PEM ....Palustrine emergent wetland
PSS.....Palustrine scrub-shrub wetland
*For the purpose of this document, jurisdictional open waters are defined as perennial and intermittent waterways, or bodies of water including irrigation canals, ponds, lakes, and reservoirs.

Safety Improvements

Safety improvements proposed in Package A would have no direct or indirect impacts on wetlands or jurisdictional open waters.

General Purpose Lanes

Under Package A, one additional northbound and one additional southbound general purpose lane would be constructed between SH 14 and SH 60 (A-H2) and SH 60 and E-470 (A-H3). Implementation of the general purpose lanes for Package A would affect 15.89 acres of wetlands and jurisdictional open water. The majority of impacts associated with this component would be associated with construction activities requiring clearing, grading, or vegetation removal adjacent to and in the floodplains of perennial waterways. Impacts are primarily anticipated to occur along Big Dry Creek, Big Thompson River, Cache la Poudre River, Fossil Creek, Little Dry Creek, Little Thompson River, South Platte River, and St. Vrain Creek. Wetland types that would be impacted are palustrine scrub/shrub and palustrine emergent wetland communities with associated riparian buffers.

The construction of general purpose lanes proposed under Package A would have direct impacts to wetlands and jurisdictional open water within the alternative footprint as a result of fill placement caused by construction of transportation improvements, such as roadway widening

and realignment, new alignments, and intersection improvements. Wetland types that would be impacted are palustrine scrub/shrub and palustrine emergent wetland communities with associated riparian buffers.

Structure Upgrades

Package A would provide structural upgrades between E-470 and US 36. Due to a lack of wetlands within construction areas, the proposed structure upgrades under Package A would have no direct or indirect impacts on wetlands or jurisdictional open water.

Commuter Rail

Package A includes the construction of a commuter rail line from Fort Collins to Longmont, continuing from Longmont to FasTracks North Metro Corridor. Commuter rail installations and stations associated with components A-T1 and A-T2 would have direct impacts to 5.98 acres of wetlands and jurisdictional open water within the alternative footprint as a result of fill placement caused by construction of railway components, such as track installation and alignment, maintenance facilities, and station locations. The great majority of these impacts would occur as a result of component A-T2.

The majority of impacts for these components would occur along Big Thompson River, Boulder Creek, Cache la Poudre River, Fossil Creek, Little Thompson River, St. Vrain Creek, and Big Thompson River. Wetland types that would be impacted are palustrine scrub/shrub and palustrine emergent wetland communities with associated riparian buffers.

Commuter Bus

Package A includes the addition of commuter bus service and associated stations between Greeley, Denver, and Denver International Airport (DIA). The commuter bus lines would operate on existing roadways and would have no direct or indirect impacts to wetlands or jurisdictional open water. Stations are immediately adjacent to the roadway and would have no direct or indirect impacts to wetlands or jurisdictional open water.

3.8.2.3 PACKAGE B

Components of Package B include safety improvements, construction of tolled express lanes on I-25, and the implementation of bus rapid transit (BRT) service and associated stations. Development of these components would result in impacts totaling 19.01 acres of wetlands, and 2.28 acres of jurisdictional open water (**Table 3.8-3**).

Table 3.8-3 Direct Impacts to Wetlands and Jurisdictional Open Water from Package B Components

Package B Component	Location	PEM (acres)	PSS (acres)	Jurisdictional Open Waters* (acres)	Totals (acres)
I-25 Safety Improvements					
BH-1	SH 1 to SH 14	0	0	0	0
I-25 Tolled Express Lanes					
BH-2	SH 14 to SH 60	9.67	2.84	1.76	14.27
BH-3	SH 60 to E-470	4.15	0.95	0.43	5.53
BH-4	E-470 to US 36	0.52	0.36	0.09	0.97
Bus Rapid Transit					
B-T1	Ft. Collins/Greeley to North Metro Denver	0	0	0	0
B-T2	Ft. Collins to DIA	0	0	0	0
BRT Stations					
	Ft. Collins to Greeley	0.52	0	0	0.52
	Ft. Collins to North Metro Denver	0	0	0	0
	Metro Denver to DIA	0	0	0	0
Maintenance Facilities		0	0	0	0
Package B Totals:		**14.86**	**4.15**	**2.28**	**21.29**

PEM ....Palustrine emergent wetland

PSS.....Palustrine scrub-shrub wetland

*For the purpose of this document, jurisdictional open waters are defined as perennial and intermittent waterways, or bodies of water including irrigation canals, ponds, lakes, and reservoirs.

Safety Improvements

Safety improvements proposed in Package B would have no direct or indirect impacts on wetlands or jurisdictional open water.

Tolled Express Lanes

Under Package B, a northbound and southbound tolled express lane would be constructed from SH 14 to SH 60 (B-H2), SH 60 to E-470 (B-H3), and E-470 to US 36 (B-H4), except between Harmony Road and SH 60 where two tolled express lanes would be added in each direction. The construction of tolled express lanes would affect 20.77 acres of wetlands and jurisdictional open water. The majority of impacts associated with this component would be associated with construction activities requiring clearing, grading, or vegetation removal adjacent to and in the floodplains of perennial waterways. Impacts are primarily anticipated to occur along Big Dry Creek, Big Thompson River, Cache la Poudre River, Fossil Creek, Little Dry Creek, Little Thompson River, South Platte River, and St. Vrain Creek. Wetland types that would be impacted are palustrine scrub/shrub and palustrine emergent wetland communities with associated riparian buffers.

Bus Rapid Transit

Package B includes the addition of BRT from Fort Collins and Greeley to Denver and to DIA. BRT would operate on existing roadways or share the tolled express lanes and would not result in direct or indirect impacts on existing wetland resources; however, installation of BRT stations would impact 0.52 acre of emergent wetland.

The proposed BRT project activity would have direct impacts to wetlands within the alternative footprint as a result of fill placement caused by construction of BRT stations. Impacts for this component would be associated with two minor, stand-alone depressional areas. Wetland types that would be impacted are palustrine emergent wetland communities.

3.8.2.4 PREFERRED ALTERNATIVE

Construction of the Preferred Alternative, which combines elements of both Package A and Package B, would result in direct impacts totaling 15.31 acres of wetlands and 2.87 acres of jurisdictional open waters. **Table 3.8-4** summarizes impacts by design components and component impacts are described below.

Table 3.8-4 Direct Impacts to Wetlands and Jurisdictional Open Waters from Preferred Alternative Components

Preferred Alternative	PEM (acres)	PSS (acres)	Jurisdictional Open Waters* (acres)	Totals (acres)
Commuter Rail	1.82	1.69	1.42	4.93
I-25 Highway Improvements	9.05	2.75	1.45	13.25
I-25 Express Bus	0	0	0	0
US 85 Commuter Bus	0	0	0	0
Preferred Alternative Totals:	**10.87**	**4.44**	**2.87**	**18.18**

PEM ....Palustrine emergent wetland

PSS.....Palustrine scrub-shrub wetland

*For the purpose of this document, jurisdictional open waters are defined as perennial and intermittent waterways, or bodies of water including irrigation canals, ponds, lakes, and reservoirs.

Commuter Rail

The Preferred Alternative includes the construction of a commuter rail line from Fort Collins to Longmont, continuing from Longmont to FasTracks North Metro Corridor. The commuter rail will operate as a single track rail line with segments of passing track where feasible.

The commuter rail component would have direct impacts to wetlands and other waters within the Preferred Alternative footprint as a result of fill placement caused by construction of railway components, such as track installation and alignment, maintenance facilities, and station locations. Similar to Package A, the majority of impacts for this component would occur along the Big Thompson River, Cache la Poudre River, Fossil Creek, Little Thompson River, and St. Vrain Creek. Commuter rail and its associated stations would affect 4.93 acres of wetlands and jurisdictional open waters.

I-25 Highway Improvements

The Preferred Alternative includes buffer-separated tolled express lanes in each direction of I-25. In addition, one additional general purpose lane would be added in each direction of I-25 from SH 14 to SH 66, and 13 existing interchanges would be reconstructed/upgraded. These improvements would impact 13.25 acres of wetlands and jurisdictional open waters. Impacts would occur as a result of construction activities requiring clearing, grading, or vegetation removal adjacent to and in the floodplains of perennial waterways. Impacts are primarily anticipated to occur along Big Dry Creek, Big Thompson River, Cache la Poudre River, Fossil Creek, Little Dry Creek, Little Thompson River, South Platte River, and St. Vrain Creek.

I-25 Express Bus

The Preferred Alternative would add express bus service with 13 stations along I-25, US 34 and Harmony Road. I-25 express bus service would use the proposed tolled express lanes included in the highway improvements and would not result in any additional impacts on existing wetlands and jurisdictional open waters.

US 85 Commuter Bus

The Preferred Alternative would add commuter bus service and 8 stations along US 85 between Greeley and downtown Denver. The commuter bus lines would operate on existing roadways and would have no direct or indirect impacts to wetlands and jurisdictional open waters. Similarly, the stations would be located immediately adjacent to the roadway and would have no direct or indirect impacts to wetlands or jurisdictional open waters.

3.8.2.5 Indirect Impacts Common to All Packages

Package A, Package B, and the Preferred Alternative would cause indirect effects to wetlands located within and adjacent to areas of construction. The following indirect effects are common to build components for general purpose lanes, commuter rail, commuter rail stations, commuter bus, tolled express lanes, BRT stations, and maintenance facilities.

Most indirect effects would result from the increase in impervious surfaces caused by additional lanes or added road shoulders. The greater area of impervious surfaces would be expected to increase roadway and new bus/train station runoff, surface flows in adjacent streams, erosion, and the creation of channels in wetlands that were previously free of channelization. New flows could contain pollutants associated with roadway runoff. Sediment from winter sanding operations, especially with additional roadway lanes, would likely accumulate in wetlands and drainages. De-icers, such as magnesium chloride, petroleum products, and other chemicals, would likely degrade water quality, thus impacting wetland plants and wildlife. Additional sediment and erosion would be expected during and after construction until exposed fill and cut slopes could be successfully re-vegetated.

Other indirect wetland effects include the decrease or elimination of upland tree and/or shrub buffers between the proposed roadway/rail corridor and wetlands adjacent to other aquatic sites. Buffers filter pollutants before they reach wetlands, streams, and lakes as well as provide habitat for wildlife.

Because proposed roadway and/or rail alignments primarily follow existing lines, many wetlands currently receive indirect effects from general activity and maintenance practices. However, the magnitude of indirect effects would increase with increased area of roadway and rail corridors.

Indirect impacts resulting from project induced growth, transit oriented development, and carpool lots are discussed within **Section 3.1.5.2** *Land Use and Zoning Environmental Consequences* of this Final EIS.

3.8.2.6 WETLAND FUNCTIONAL VALUES

Functions and values of wetlands located within the North I-25 project area include wildlife habitat and travel corridors, production of export/food chain support, sediment/nutrient removal and retention, streambank stabilization, flood flow attenuation and storage, water quality improvement, ground water discharge/recharge, and recreation/education potential.

Wetland functions are addressed in detail within the North I-25 Wetland and Waters of the U.S. Technical Report (Jacobs, 2008d). In general, loss of functions in wetlands would be greater for wetlands occurring along perennial streams and established water bodies in comparison to wetlands occurring along roadside ditches, due to perennial and established water bodies containing more naturally occurring conditions.

Wetland locations with higher functions and values are located along the banks and within floodplains of perennial waterways such as the Cache la Poudre River, Little Thompson River, Big Thompson River, and St. Vrain Creek. The majority of these high value wetlands are located adjacent to I-25 and would be impacted with package elements that require the widening of I-25.

3.8.2.7 REGULATORY IMPLICATIONS

Several federal, state, and local regulations can apply to wetlands. Agencies having jurisdiction over wetlands include the USACE, the CDOW, and the USFWS. Wetland determinations are subject to verification and approval by agencies. Wetland regulatory decisions and permitting determinations can only be made by the regulatory agencies.

The USACE regulates the discharge of dredge and fill material into wetlands and jurisdictional open water through Section 404 of the CWA as amended in 1977. If a proposed project involves temporary or permanent filling of wetlands or other water bodies, which can include intermittent drainages, a USACE Section 404 permit may be required. The USACE makes the final determination as to whether the area meets the definition of a jurisdictional wetland and whether the wetland is “isolated” from or “adjacent” to other water bodies. The USACE and EPA have amended their permit regulations defining discharges of dredged material and fill material (58 FR 45008, August 25, 1993). The regulations now include excavations of wetlands where incidental discharge occurs.

The USACE has established two types of permit programs under Section 404 of the CWA which apply to wetland fill proposals – nationwide permit or individual permit (IP) – in accordance with the nature of the proposed fill activity and the amount of impact. The NEPA/404 merger process shall be required when a project is expected to be processed using an EIS and an IP, which is the case with this project.

A Section 401 Water Quality Certification is required in conjunction with an Individual 404 Permit (dredge and fill permit) for any transportation construction project or maintenance activity where work occurs below the ordinary high-water line or adjacent to wetlands. The

401 Certification must be obtained from the Water Quality Control Division of the Colorado Department of Public Health and Environment. If a 404 Nationwide or General Permit is issued for the project, a 401 Certification is not required.

A Senate Bill (SB) 40 Certification would be required by CDOW for the crossing of streams or adjacent streambanks to avoid adverse effects to waterways, streambanks, or associated tributaries. This legislation is designed to protect fishing waters and to recognize the importance of the entire stream ecosystem, including wetland and riparian areas. As required by SB 40, an SB 40 wildlife certification application would be submitted to CDOW prior to 60 days before construction.

Wetlands occurring on private land are subject to the same federal and state jurisdictional authorities as those within public land.

3.8.3 Avoidance and Minimization Measures

Impacts to wetlands and jurisdictional open waters will be avoided and minimized to the greatest extent possible during preliminary and final design through the use of established and approved best management practices (BMPs). During this conceptual design phase, roadway improvements, rail alignments, and retaining walls were located to reduce fill in wetlands where practicable. **Appendix B** of the Technical Memorandum Addendum: *Wetlands and Other Waters of the U.S*. (Jacobs, 2011d) includes detailed information on avoidance and minimization measures that have been incorporated into the project throughout the EIS process, including median designs incorporated into the highway components that resulted in a smaller impact footprint, and the use of single tracking for the commuter rail component of the Preferred Alternative.

During construction, BMPs will be used to avoid indirect construction impacts to wetlands and other waters of the U.S. Material and equipment will be stored outside of wetland areas and drainages that could carry toxic materials into wetlands. Construction fencing will be used to mark wetland boundaries and sensitive habitats during construction.

EPA Section 404(b)(1) guidelines require that impacts to wetlands be avoided and minimized to the greatest extent practicable.

3.8.4 Mitigation Measures

Per Section 404 of the Clean Water Act, impacts to wetlands and other waters of the U.S. must be avoided, minimized, and mitigated. Although the Act requires compensatory mitigation only for jurisdictional waters of the U.S., including wetlands, it is FHWA and CDOT policy to mitigate all wetlands impacts (jurisdictional and non-jurisdictional) at a minimum of a 1:1 ratio. On June 9, 2008, USACE and Environmental Protection Agency (EPA) issued a new Mitigation Rule, which replaced all previous USACE mitigation guidance and established a preference for a watershed-based mitigation approach, which requires measurable and enforceable standards of performance to strengthen documentation of mitigation success.

Acceptance of mitigation bank credit as compensation for impacts depends on the banks' ability to replace the impacted wetland functions and agreement from regulatory agencies, primarily the Omaha District of the USACE and EPA.

There are three wetland mitigation banks in the North I-25 EIS Regional study area that could serve the project. They are Mile High Wetland Mitigation Bank, Middle South Platte River Wetland Bank, and the Riverdale Wetland Mitigation Bank. Impacts south of SH 66 are within these banks' primary service areas and can provide mitigation credit at a 1:1 ratio. Project impacts north of SH 66 are generally within the secondary service area and would require mitigation credit at a higher ratio.

CDOT and FHWA are working with the Omaha District of the USACE and EPA to determine how impacts within the project area watersheds can be best mitigated. Currently proposed mitigation will consist of fee arrangements for off-site wetland creation or restoration, and the purchase of wetland credits at USACE-approved mitigation banks.

All impacted wetlands and jurisdictional open waters would be mitigated in accordance with the USACE mitigation policies, and the conditions of the USACE Section 404 Permit. All mitigation plans would be developed in coordination with the USACE and other appropriate agencies during the Section 404 permitting process. In addition, all mitigation for the wetlands as a result of the North I-25 project would be done in accordance with CDOT and FHWA (23 CFR 777).