Habitat Management Plan

Proposed TJ Meenach Swales Spokane, Washington

City of Spokane Engineering Services Department

March 18, 2021

for



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Table of Contents

1.0	INTRODUCTION	1
1.1. 1.2.	Project Location Project Description	1 1
1.3. 1.4.	Regulatory Background Scope of Services	1 1
2.0	METHODS	2
2.1. 2.2.	Review of Design Plans Records Research	2 2
	 2.2.1. USFWS - Information for Planning and Consultation 2.2.2. WDFW - Priority Species and Habitats 	2 2
	 2.2.3. Natural Resource Conservation Service - Soil Survey 2.2.4. National Wetland Inventory Map 	2 3
2 2.3.	2.2.5. City of Spokane – Shoreline Municipal Code Field Reconnaissance	3 3
3.0	PROPOSED ACTION	3
3.1. 3	Change Over Existing Conditions	4 4
	3.1.2. Site Drainage 3.1.3. Shoreline Setback 3.1.4. Operation, Noise, Light, and Aesthetics	4 5 5
4.0	SPECIES AND HABITAT MANAGEMENT	6
4.1.	No Net Loss and Species Protection 1.1.1. Federally Listed Species 1.1.2. Priority Species and Habitats	6 6 7
4.2.	Habitat Conditions I.2.1. Operational Activities I.2.2. Enhancement Opportunities	8 .0 .1
5.0	CONCLUSIONS	.1
5.1. 5.2. 5.3.	Anticipated Impacts	.1 .1 .2
6.0	REFERENCES1	.2

LIST OF FIGURES

Figure 1. Vicinity Map Figure 2. NRCS Soil Survey Map Figure 3. NWI Map Figure 4. Location of OHWM, Shoreline Buffer, and RHA Boundaries Figure 5. Proposed Site Layout Figure 6. Conceptual Planting Layout

APPENDICES

Appendix A. USFWS Species Response Data Appendix B. Site Photographs Figures B-1 through B-5—Site Photographs



1.0 INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) completed this Habitat Management Plan (HMP) on behalf of the City of Spokane (City) for the proposed TJ Meenach Swales project in Spokane, Washington (site). This HMP was prepared in accordance with Spokane Municipal Code (Chapter 17E.020.090 and 17E.020.050), which is required as part of the overall development plans. This HMP provides a review of the specific design details that could potentially impact habitat from the proposed development.

1.1. Project Location

The proposed TJ Meenach Swales are located within Downriver Park near river mile (RM) 70 along the Spokane River (Figure 1, Vicinity Map). The site is located within tax parcel 25111.0062 and is owned by the City of Spokane. Surrounding property uses are primarily parkland and public streets/parking. The site is located within Township 25 North, Range 42 East, Section 11 of the Willamette Meridian.

1.2. Project Description

Spokane River downstream of the Cochran Basin outfall is considered impaired due to low dissolved oxygen levels. This impairment is directly caused by the introduction of the pollutants that are carried in the stormwater runoff. To mitigate the impairment to the river, stormwater facilities will be constructed to divert natural flow of stormwater runoff from Cochran Basin for treatment, minimizing the pollutant loading in the river. This flow will be treated at the facilities utilizing natural bioretention and infiltration into the ground. The City is proposing a stormwater treatment facility known as the TJ Meenach Swales, at Downriver Park. The project will also incorporate improved river access and parking for recreational uses including rafting, fishing, kayaking, disc golf, hiking, and biking.

1.3. Regulatory Background

Spokane Municipal Code (SMC) 17E.020.090 requires the preparation of an HMP for proposed uses or activities that are: (1) located within fish and wildlife habitat conservation areas; or (2) that would impact priority species or habitat (including Shoreline Management Areas [SMA] and Riparian Habitat Areas [RHA]). The City is further required to use the HMP to evaluate use or activities impacts for the purpose of determining mitigation measures (if needed) and/or developing management plan recommendations (SMC 17E.020.050).

1.4. Scope of Services

The primary focus of this HMP is to evaluate potential impacts to the proposed project on federally listed Threatened and Endangered (T&E) species; as well as state-listed priority species and/or habitat located within the project boundary. This report provides quantification and maps of existing habitat conditions within the site-specific footprint and discusses potential impacts from proposed development actions. It also includes mitigation concepts to enhance habitat conditions with the project boundary.



2.0 METHODS

2.1. Review of Design Plans

GeoEngineers reviewed conceptual and preliminary plans provided by the City for the proposed construction. Potential impacts to habitat were then quantified based on these plans. We assumed the level of detail provided in the design plans is sufficient to quantify potential foreseeable impacts.

2.2. Records Research

GeoEngineers reviewed publicly available records from the U.S. Fish and Wildlife Service (USFWS); Washington Department of Fish and Wildlife (WDFW); National Wetlands Inventory (NWI); U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS), Washington Department of Natural Resources (DNR), and City of Spokane records.

2.2.1. USFWS - Information for Planning and Consultation

A species list was obtained from the USFWS (2021a) Information for Planning and Consultation (IPaC), Washington Fish and Wildlife Office and was used to evaluate species utilization and occurrence of habitat at the site. The official species list (Consultation Code: 01EWFW00-2021-SLI-0735) is included in Appendix A, USFWS Species Response Data. The species list requested from USFWS identified federally listed species that may inhabit the project site and species or critical habitats that could be affected by the project.

The USFWS species list contained Yellow-billed Cuckoo (*Coccyzus americanus*); Bull Trout (*Salvelinus confluentus*), and water howellia (*Howellia aquatilis*). Each of these species are listed as threatened under the Endangered Species Act (ESA).

2.2.2. WDFW – State Priority Species and Habitats

Priority habitats are habitat types or elements with unique or significant value to a diverse assemblage of species. Priority habitat may consist of a unique vegetation type, a dominant plant species, a described successional stage, or a specific habitat feature.

The WDFW Priority Habitat and Species (PHS) program maintains a statewide list and species distribution for Spokane County (WDFW 2021). A review of the PHS database indicated there were occurrences for rainbow trout (*Oncorhynchus mykiss*), northwest white-tailed deer (*Odocoileus virginianus ochrourus*), mule deer (*O. hemionus hemionus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and big brown bat (*Eptesicus fuscus*). In addition, the site includes part of the Spokane and Little Spokane Biodiversity Area.

2.2.3. Natural Resource Conservation Service - Soil Survey

The U.S. Department of Agriculture (USDA) NRCS Web Soil Survey was reviewed for the site (NRCS 2021; Figure 2, NRCS Soil Survey Map). The review identified Springdale gravelly ashy coarse sandy loam (8 to 15 percent slopes) across the eastern 2/3 of the site and Spens very gravelly loamy coarse sand (30 to 65 percent slopes) across the western 1/3 of the site. Neither soil type is rated as a hydric soil.

The Springdale gravelly ashy coarse sandy loam is described as sandy and gravelly glaciofluvial deposits with minor amounts of volcanic ash and loess in the upper part. Typical soil profiles include gravelly ashy coarse sandy loam transitioning to very gravelly loamy coarse sand and cobbly coarse sand within the upper 60 inches.



The Spens very gravelly loam coarse sand is described as sandy and gravelly glaciofluvial deposits formed in outwash terraces. Typical soil profiles within the upper 60 inches includes very gravelly silty coarse sand with decreasing silt content with increasing depth.

2.2.4. National Wetland Inventory Map

The USFWS NWI map was reviewed to identify mapped wetland features at the project site. Based on this review, Riverine (R3UBH) and Freshwater Forested/Shrub (PF01C) Wetlands are mapped along the Spokane River (USFWS 2021b; Figure 3, NWI Map). These mapped wetlands are roughly adjacent to the south boundary of the site.

2.2.5. City of Spokane – Shoreline Municipal Code

The SMC (Section 17E.060.050) indicates shoreline jurisdiction is established at 200 feet landward on a horizontal plane from the edge of the ordinary-high-water mark (OHWM) of the Spokane River within the Spokane city limits. The site is partially located within this 200-foot shoreline designation (Figure 4, Location of OHWM, Shoreline Buffer, and RHA Boundaries).

The Spokane Municipal Code (SMC Section 17E.020.050) identifies zone numbers for the Spokane River and restrictions associated with RHAs in each zone. The site lies within Zone 3 between the confluence with Latah Creek and the T.J. Meenach Bridge. The RHA within Zone 3 is defined as the outer edge of 100-year floodplain, the channel migration zone, or 250 feet, whichever is greater. Based on this, 250 feet from the OHWM would be the appropriate RHA buffer for the site. Approximately 90 percent of the site lies within the 250-foot RHA buffer.

2.3. Field Reconnaissance

A field reconnaissance was completed by a GeoEngineers biologist to photograph existing conditions and habitat types within the footprint of, and generally adjacent to, the project area. Site photographs are presented in Figures B-1 through B-5 of Appendix B, Site Photographs.

The site is largely situated within an upland vegetative community dominated by a Ponderosa pine (*Pinus ponderosa*) overstory and a manicured grass/quackgrass (*Elymus repens*)/cheatgrass (*Bromus tectorum*) understory. The riparian area adjacent to the south of the site is largely comprised of deciduous trees and shrubs, including black cottonwood (*Populus trichocarpa*), black locust (*Robinia pseudoacacia*), western serviceberry (*Amelanchier alnifolia*), and willow (*Salix spp*). A complete list of species observed during the site visit is provided in Table 1. Bare ground was also noted throughout the understory, and former unpaved driveways and walking paths were observed interspersed across the site.

3.0 PROPOSED ACTION

The City proposes to construct stormwater facilities to divert natural flow of stormwater runoff from Cochran Basin for treatment, minimizing the pollutant loading in the river. This flow will be treated at the facilities utilizing natural bioretention and infiltration into the ground with a large swale/retention basin. The City is proposing a stormwater treatment facility, known as the TJ Meenach Swales, at Downriver Park. The project will also incorporate improved river access and parking for recreational uses including rafting, fishing, kayaking, disc golf, hiking, and biking.



3.1. Change Over Existing Conditions

The footprint of the site is approximately 4.57 acres. Within this area, the existing paved parking area will be removed and replaced with a new parking area with 42 stalls. In addition, a paved driveway will be constructed from the east at the North Pettet Drive intersection with West Downriver Drive. A 4-foot-wide paved walkway will also be constructed along the southern portion of the site, which will partially follow a former unpaved, bare ground driveway/walking path that accessed the river.

Stormwater from the Cochran Basin, that is currently discharging untreated into the Spokane River through the outfall located at the southwest corner of the basin near the TJ Meenach Drive Bridge will be re-routed to an on-site swale. The new vegetated swale will be approximately 2.35 acres and will minimize pollutant loading from stormwater to the Spokane River (Figure 5, Proposed Site Layout). This flow will be treated at the facilities utilizing natural bioretention and subsequent infiltration into the ground.

Vegetation will be modified through a combination of removal and replanting following construction. Native plantings will be completed where possible to enhance natural ecological features of the site.

3.1.1. Vegetation and Habitat

The Vegetation Replacement Plan within Chapter 17 E.060 of the SMC requires a 2:1 replacement ratio for native evergreen trees over 6-inch caliper. Within the disturbance area, it is anticipated up to 58 trees with 6-inch caliper or greater will be removed. However, at this time, approximately 155 new replacement trees and shrubs are anticipated to be planted at the site (Figure 6, Conceptual Planting Layout). The new trees are expected to include native coniferous (e.g., Ponderosa pine) and deciduous species. Typical deciduous trees and shrubs to be planted within and along the perimeter of the swale could include box elder (*Acer negundo*), quaking aspen (*Populus tremuloides*), western serviceberry, ninebark (*Physiocarpus capitatus*), nootka rose (*Rosa nootkana*), and snowberry (*Symphiocarpus albus*). The understory of the biofiltration swale will be vegetated with native grasses, such as tufted hairgrass (*Deschampsia cespitosa*). However, the specific quantity and species will be determined by the Spokane Parks Department based on ecological function, site capacity, and City ordinance requirements.

Project developments will result in approximately 1.02 acres of new hardscape (0.76 acres of new parking, 0.20 acres of new driveway, and 0.06 acres of new pedestrian pathway). However, the existing paved parking area will be removed and incorporated into the new swale. The new swale and perimeter areas will be revegetated with native species as prescribed above, replacing non-native shrubs, understory species, and bare ground currently present at the site. Moreover, the new pedestrian pathway will largely follow an existing informal unvegetated path, limiting impacts, vehicle access and directing/consolidating foot traffic within the RHA buffer.

3.1.2. Site Drainage

Impervious surfaces within the disturbance area will increase because of the development. Currently, impervious surfaces represent about 0.47 acres, or 10 percent of the project area. After development, impervious surfaces will cover about 1.02 acres, or 22 percent of the project area. As such, the percentage of impervious surface at the site will increase by approximately 12 percent (0.55 acres) under the proposed action.



Stormwater runoff generated from the site currently infiltrates into the ground or drains directly into the Spokane River. Stormwater in the greater Cochran Basin upgradient from the site comprises approximately 60 percent of the City's municipal separate stormwater system and is the largest in the City with a collection of surface water runoff from approximately 5,160 acres. Currently, stormwater generated from the Cochran Basin is conveyed in a 48-inch pipe and discharges untreated runoff directly to the Spokane River immediately upstream from the site. Under this proposal, stormwater generated from the Cochran Basin and the site itself will infiltrate in a newly developed 2.35-acre (approximately 25,000,000 cubic feet (ft³) of untreated stormwater from the Cochran Basin to the Spokane River. This will significantly reduce the City's untreated stormwater runoff by eliminating direct outfall and pollutant loading into the Spokane River (Figure 5).

3.1.3. Shoreline Setback

Shoreline jurisdiction within the site falls under the SMC (Chapter 17 E.060 - Shoreline Regulations). Under the Washington State SMA of 1971, Chapter 90.58, Revised Code of Washington (RCW), the City developed a Shoreline Master Program (SMP) with a distinct environmental orientation applicable to shorelines within the City. The SMP designates the site within the Downriver Shoreline District and the Shoreline Environment Designation is Urban Conservancy Environment (UCE). The purpose of the UCE is to protect and restore ecological functions of open space, floodplain, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.

Shoreline buffers are designated to filter pollutants and sediment from runoff; prevent shoreline erosion; preserve fish and wildlife habitat; screen noise; preserve aesthetic values; and achieve no net loss of shoreline ecological functions. The SMP (Map SMP 6) identifies a 200-foot shoreline buffer for the site, while Table 17E.020-4 indicates the maximum RHA width is 250 feet from the OHWM. The Spokane River is also considered a Type S stream under the Spokane Critical Areas Ordinance (CAO) with a 250-foot buffer (Figure 4).

As previously mentioned, approximately 90 percent of the site is within the 250-foot horizontal buffer from the OHWM (Figure 4). The remainder of the site outside the RHA is upland habitat adjacent to West Downriver Drive. The shoreline within 250 feet of the river is currently impacted by paved parking and driveways; former unpaved driveways and walking paths; heavy recreational use; and encroachment of non-native vegetation. The SMC 17E.020.050(B)(h) allows for invasive vegetation removal within the RHA. Much of the understory and shrub vegetation that would be removed within this section of the RHA, which are not native to Washington State and/or are listed as noxious weeds by the state.

Initial loss of approximately 0.78 acres of habitat in the RHA buffer, which is partially comprised of non-native vegetation and bare ground, will be mitigated with the addition of landscaping and native seeding in the understory. This will achieve greater species diversity at the site. In addition, the proposed biofiltration swale will be vegetated with native grasses (e.g., tufted hairgrass) and shrubs/trees endemic to the region. Moreover, the existing paved parking area that is entirely within the RHA will be removed and the new parking area will be set back further away from the river than the existing parking lot.

3.1.4. Operation, Noise, Light, and Aesthetics

Public use of this area may increase after project completion with the additional parking and access. Pedestrian and bicycle traffic could intensify due to development of the new path adjacent to the riparian



area along the river. However, pedestrian and bicycle traffic will be focused/directed to the new pathway, which will limit impacts to newly planted native species.

Noise and light levels are not expected to increase appreciably following development. Light and noise levels generated during operation of these facilities will be typical of a recreational area/park and are not expected to have a substantial impact to species and/or their habitats. The development will incorporate landscaping with native species that will contribute to aesthetic appeal.

4.0 SPECIES AND HABITAT MANAGEMENT

The objective of this HMP is to identify potential impacts to existing habitat conditions, specifically:

- Provide no-net loss of species and habitat.
- Develop conceptual design details in redevelopment areas that ensure operational activities do not negatively impact onsite species or critical areas.
- Provide enhancement opportunities where possible to increase buffer functions.
- Provide mitigation, as needed, for unavoidable impacts to the Spokane River habitat and/or buffers/setbacks.

4.1. No Net Loss and Species Protection

According to the USFWS (2021a) species list, there is no mapped critical habitat for federally listed species at the site. However, federally threatened yellow-billed cuckoo, bull trout, and water howellia were identified on the species list for the project footprint. In addition, the PHS mapper identified several state species and habitats, which are discussed below.

4.1.1. Federally Listed Species

4.1.1.1. Yellow-Billed Cuckoo

The western distinct population segment of the yellow-billed cuckoo prefers large patches of multilayered riparian gallery forest comprised of cottonwoods (*Populus sp.*) and willows (*Salix sp.*) and an understory of dense, shrubby vegetation (Hughes 1999). This habitat type does not exist currently at the site and, therefore, does not provide the structural complexity or patch size adequate for yellow-billed cuckoo nesting. Moreover, no confirmed detections of yellow-billed cuckoo have occurred in Spokane County (Wiles and Kalasz 2017). Based on this, no impact to yellow-billed cuckoo is anticipated from the proposed project at this time.

4.1.1.2. Bull Trout

Bull trout are mapped in the Spokane River downstream as far as the Sandifur Memorial Bridge, which is approximately 2.75 miles upstream from the site (StreamNet 2020). As discussed, no bull trout spawning habitat or designated critical habitat is mapped near the site. Project construction will minimize and control sediment runoff with best management practices (BMPs) and the purpose of the project is to eliminate untreated stormwater pollutant discharge directly to the Spokane River. Therefore, no negative impacts are anticipated to affect bull trout from the proposed project at this time.



4.1.1.3. Water Howellia

In eastern Washington, water howellia occurs in wetlands associated with forested channel scablands (USFWS 2020c). Sites for water howellia in eastern Washington are, in most cases, semi-permanent ponds that are at least partially surrounded by deciduous trees and shrubs such as quaking aspen (*Populus tremuloides*), snowberry (*Symphoricarpos albus*), and red osier dogwood (*Cornus stolonifera*) (BLM 2015). No vernal pools, river oxbows or other ponding aquatic features that may provide suitable habitat exist at the site. Based on this, water howellia is not suspected to occur at the site at this time.

4.1.2. Priority Species and Habitats

Available information from the Washington PHS identified rainbow trout, northwest white-tailed deer, mule deer, Townsend's big-eared bat, big brown bat, and the Spokane and Little Spokane Biodiversity Area at the site.

4.1.2.1. Rainbow Trout

Rainbow trout migration habitat is mapped in the Spokane River near the site (StreamNet 2021). Rainbow trout are not listed as threatened, endangered, or as a candidate species at the state level. Moreover, project construction will minimize and control sediment runoff with BMPs. Furthermore, a project goal is to improve water quality in the Spokane River by eliminating significant untreated stormwater discharge directly to the river through the development of retention infiltration swales. Therefore, no negative impacts are anticipated to affect rainbow trout from the proposed project at this time.

4.1.2.2. Mule Deer

The PHS report indicates the site is mapped within range of the Lincoln-Spokane mule deer herd. A regular concentration of mule deer is reported in winter in areas with shrub habitat. Mule deer are not identified as threatened, endangered, or as a candidate species by the state of Washington.

Significant habitat loss for mule deer is not anticipated from this project. It is possible construction activities may temporarily displace or flush mule deer along the Spokane River corridor. However, long-term displacement is not anticipated since vehicular traffic patterns will not see an appreciable increase and surrounding land uses will not change. Furthermore, replacement of existing non-native cheatgrass-dominated understory with native forbs will likely be beneficial to ungulate species.

4.1.2.3. Northwest White-Tailed Deer

The PHS report identified the site as part of the Lake Roosevelt White-tailed deer winter range. Northwest white-tailed deer are not identified as threatened, endangered, or as a candidate species by the state of Washington.

Significant habitat loss for white-tailed deer is not anticipated from this project. It is possible construction activities may temporarily displace or flush white-tailed deer along the Spokane River corridor. However, long-term displacement is not anticipated since vehicular traffic patterns will not see an appreciable increase and surrounding land uses will not change. Similarly to mule deer, replacement of existing non-native cheatgrass-dominated understory with native forbs will likely be beneficial to ungulate species.

4.1.2.4. Townsend's Big-Eared Bat

The PHS report for the site identified Townsend's big-eared bat, a state-listed candidate species in the project vicinity. This species uses caves, mines, hollow trees, and built structures for roosting. Snags and



large trees may be important roosts for Townsend's big-eared bats (Woodruff and Ferguson 2010). Based on this, suitable habitat may be present within the general area adjacent to the site.

If large Ponderosa pines trees or snags are removed as part of the project, there may be a loss of suitable habitat for Townsend's big-eared bats. However, removal of a modest number of trees relative to the overall available habitat within the Downriver Park area would likely be negligible and is not considered a significant impact to the overall bat population at this time.

4.1.2.5. Big Brown Bat

The PHS report also identified big brown bats in the project vicinity, although they are not listed as a state threatened, endangered, or candidate species. Big brown bats are associated with riparian areas and use trees and snags for roosting (BLM 2016). As such, suitable habitat may be present within the general area adjacent to the site.

If large Ponderosa pines trees or snags are removed as part of the project, there may be a loss of suitable habitat for big brown bats. However, removal of a modest number of trees relative to the overall available habitat within the Downriver Park area would likely be negligible and is not considered a significant impact to the overall bat population at this time.

4.1.2.6. Spokane and Little Spokane Biodiversity Area

The PHS report indicated the site is located within the Spokane and Little Spokane Biodiversity Area. These areas were noted to contain nesting and brooding areas for waterfowl, western grebes, wintering bald eagle (*Haliaeetus leucocephalus*), cavity-nesting ducks, pileated woodpecker (*Dryocopus pileatus*), great blue heron (*Ardea herodias*) rookeries, beaver (*Castor canadensis*), otter (*Lontra canadensis*), mink (*Neovison vison*), moose (*Alces alces*), deer, and cougar (*Puma concolor*).

In general, the limited scope of the project and removal of up to 58 trees is not expected to have significant deleterious impact to the abovementioned species and habitats. Additional parking and a modest increase in use is not expected to have detrimental effects on the Spokane and Little Spokane Biodiversity Area. Removal of non-native species and noxious weeds along with addition of native grasses, forbs, and trees should benefit the site and overall habitat quality.

4.2. Habitat Conditions

The vegetation community within this reach of the Spokane River is dominated by drier Ponderosa pine upland communities. A relatively narrow corridor of Black cottonwood and willow communities are well established along the Spokane River adjacent to the south project boundary. Herbaceous layers often contain poison oak, Oregon grape (Mahonia aquifolium), arrowleaf balsamroot (*Balsamorhiza sagittata*), common tansy (*Tanacetum vulgare*), and spotted knapweed (*Centaurea biebersteinii*) (SCCD 2005).

Vegetation and habitat conditions were documented during the site visit on March 11, 2021. A species list compiled during the visit is provided in Table 1 below.



TABLE 1. SPECIES OBSERVED AT THE SITE

Common Name	Scientific Name	Noxious Weed Class ¹
	Trees	
Ponderosa pine	Pinus ponderosa	-
black locust	Robinia pseudoacacia	-
black cottonwood	Populus trichocarpa	-
maple	Acer spp.	-
	Shrubs	
willow	Salix spp.	-
bladder senna	Colutea arborescens	Monitor
alder	Alnus spp.	-
Western serviceberry	Amelanchier alnifolia	-
rose	Rosa spp.	-
	Herbaceous Layer	
cheatgrass	bromus tectorum	-
knapweed	Centaurea spp.	-
crested wheatgrass	Agropyron cristatum	-
oatgrass	Danthonia unispicata	-
Viper's bluegloss	Echium vulgare	Class B
knotweed	Polygonum spp.	-
quackgrass	Elymus repens	-
common tansy	Tanacetum vulgare	Class C
Oregon grape	Mahonia aquifolium	-
Reed canary grass	Phalaris arundinacea	Class C
bluegrass	Poa spp.	-
campion	Lychnis spp.	-
houndstongue	Cynoglossum officinale	Class B
stickseed	Hackelia spp.	-
St. Johnswort	Hypericum perforatum	Class C
chickory	Cichorium intybus	-
thistle	Cirsium spp.	-

Notes:

¹ Class A noxious weeds are non-native species whose distribution in Washington state is still limited. Class B noxious weeds are nonnative species whose distribution is limited to portions of Washington state. Class C noxious weeds are widespread in Washington or are of special interest to the agricultural industry. The purpose of the monitor list is to gather more information on suspect weeds, as well as monitor for occurrence or spread. There is no legal or regulatory aspect to this list. Plants on the monitor list are not listed noxious weeds in Washington.

As discussed, the dominant overstory component at the site includes Ponderosa pine, with interspersed deciduous trees (maple, black locust, and cottonwood). The understory is dominated by non-native species, some of which are identified in Table 1 by the Washington State Noxious Weed Control Board (WSNWCB 2020).

The overstory component will be altered by the removal of up to 58 trees and replacement with approximately 155 native trees and shrub species. The understory will be altered by removing non-native and noxious weeds with native forbs endemic to the region. Moreover, a biofiltration swale will be developed on site featuring native grasses, shrubs, and trees. Wildlife utilizing the site may include synanthropic species, those adapted to live near or associate with human environments, as well as ungulates, squirrels, and songbirds. Temporary impacts to these species may occur during construction; however; these impacts are anticipated to be relatively brief and self-mitigating after redevelopment.

Based on current designs, the collective hardscape across the project area will increase by about 12 percent (0.55 acres). However, native vegetation and a greater variety of species will be incorporated, and bare ground within the understory will be seeded. Furthermore, an overall ecological benefit is anticipated from the project, as it will eliminate approximately 25,000,000 ft³ of untreated stormwater direct discharge of from the Cochran Basin to the Spokane River annually. Therefore, the project will minimize pollutant loading to the Spokane River, while increasing diversity of native vegetation and numbers of trees within the RHA.

4.2.1. Operational Activities

Noise levels will temporarily increase during construction activities. A temporary increase in construction noise is expected due to heavy equipment and potential increase of traffic volume by contractors. Conservation measures should be incorporated to reduce noise impacts to adjacent neighbors and wildlife. Typical noise conservation measures may include minimizing and consolidating heavy equipment use as much as possible and/or using equipment within approved work hours typically between 7:00 AM to 6:00 PM. After construction, a modest increase in vehicular traffic may occur from additional parking spaces available. However, noise levels are generally expected to be comparable to current levels exhibited from traffic and recreational uses.

No disturbance is anticipated to waterways or aquatic habitats at the site. Appropriate erosion controls and proper BMP management will be implemented to reduce runoff and turbidity around construction areas. An Erosion Sediment Control (ESC) Plan and a Spill Prevention, Control and Counter Measure (SPCC) Plan will be implemented for construction activities and should be designed and monitored by a Certified Erosion and Sediment Control Lead (CESCL). Due to these erosion control efforts, turbidity resulting from construction activities is not anticipated to result in substantial negative impacts to water quality and/or the adjacent aquatic environment associated the Spokane river system.

There is potential for accidental releases from contaminants such as fuel or hydraulic fluids from on-site construction, maintenance, or refueling activities. BMPs will be implemented as part of construction and regular maintenance and operation activities and included as part of the contractor's Stormwater Pollution Prevention Plan (SWPPP). If appropriate, BMPs are installed and properly maintained, risk impacts can be attenuated.

4.2.2. Enhancement Opportunities

The proposed project will benefit the Spokane River by rerouting current untreated direct discharge of stormwater from the Spokane River to an on-site biofiltration swale. As such, the project will improve water quality in the Spokane River by allowing stormwater to infiltrate on site, allowing for natural bioretention and subsequent infiltration into subsurface groundwater.

The site is largely dominated in the understory by non-native, and WSNWCB-listed noxious weeds. There is an opportunity to remove these plants and replace them with species endemic to the region which will enhance habitat conditions and provide native forbs for local wildlife.

In addition, the site contains numerous areas with bare ground and scattered, informal trails previously developed from vehicle and foot traffic. The proposed paved walking path on the southern portion of the site will eliminate vehicle access and focus pedestrian traffic to a consolidated location along the new trail, which will limit impacts to newly established native vegetation. The new pedestrian pathway will largely follow an existing informal unvegetated path, further reducing impacts within the RHA buffer.

The collective hardscape will increase by about 12 percent (0.55 acres). Approximately 2.35 acres will be seeded during the project, primarily within the new swale. There will also be a net increase of up to approximately 97 endemic coniferous and deciduous trees/shrubs.

5.0 CONCLUSIONS

5.1. Anticipated Impacts

Unavoidable impacts that result from the proposed trail development activities include:

- Loss of up to a combination of 58 coniferous and deciduous trees.
- Addition of about 0.55 acres of impervious surface.
- Loss of approximately 0.78 acres of habitat in the RHA buffer, which is partially comprised of non-native understory/shrub vegetation and bare ground.
- Temporary increases in noise during the construction period.
- Temporary increase in potential erosion and impermeable areas during construction.

5.2. Anticipated Enhancement

Enhancement/self-mitigating actions, resulting from the proposed trail development activities include:

- Planting up to approximately 155 native trees and shrubs, which represents an increase of approximately 97 trees over existing conditions, exceeding the 2:1 replacement ratio outlined in the SMC.
- Pathway development on the southern portion of the site, which will reduce impacts to herbaceous vegetation by eliminating unwarranted vehicle access and focusing pedestrian traffic in one area.
- Reduced conveyance of non-native and noxious weed species off site by consolidation of pedestrian traffic to the paved pathway.



- Replacement of non-native species in the RHA buffer with native forbs and shrubs.
- Eliminating direct discharge of approximately 25,000,000 ft³ of untreated stormwater from the Cochran Basin to the Spokane River annually. Thus, a significant source of untreated stormwater runoff in the City will be infiltrated on site, minimizing pollutant loading in the river.
- The existing paved parking area that is entirely within the RHA will be removed and the new parking area will be set back farther from the river.
- The new pedestrian pathway will largely follow an existing informal unvegetated path, which will further limit impacts within the RHA buffer.

5.3. Summary

Based on design information obtained from the City, the proposed development concepts for the TJ Meenach Swales are not expected to substantially impact the size, function and/or value of the existing site habitat. Currently, understory habitat contains non-native and noxious weed species. These species will be removed and replaced with native forbs endemic to the region.

There will be a net gain of trees, including a combination of approximately 97 new coniferous and deciduous species endemic to the region. Approximately 2.35 acres of the site will be seeded (primarily within the swale). Total hardscape will increase by about 12 percent (0.55 acres), but the quality of understory vegetation will improve appreciably over existing conditions. Moreover, the new pedestrian pathway will largely follow an existing informal unvegetated path, limiting current activities and further impacts within the RHA buffer.

The RHA buffer (approximately 0.78 acres) will be impacted by the project. This will include removal non-native understory and shrub species. After construction, this area will be replanted with native species endemic to the region.

All construction activities are considered temporary and self-mitigating through proper BMPs. Additional mitigation for these projects is not anticipated if the projects are constructed as currently proposed.

An overall ecological benefit will be accomplished by eliminating a direct untreated stormwater discharge totaling approximately 25,000,000 ft³ from the Cochran Basin to the Spokane River annually. Thus, a significant source of untreated stormwater runoff in the City will be infiltrated onsite, minimizing pollutant loading to the Spokane River.

Initial loss of vegetation and noxious weeds during construction will be augmented by a net gain in trees (evergreen and deciduous); establishment of native, drought-tolerant vegetation; and increased species diversity. In addition, the new parking area will be established farther away from the Spokane River. Based on the current project design the proposed development of the TJ Meenach Swales provides sufficient habitat mitigation and improved water quality treatment to offset potential impacts.

6.0 REFERENCES

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GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Soil Data from USDA, https://websoilsurvey.sc.egov.usda.gov/ ESRI Imagery. Streets from Spokane County.

Projection: NAD 1983 UTM Zone 11N



NRCS Soil Classification

3141: Springdale gravelly ashy coarse sandy loam, 8 to 15 percent slopes 3143: Spens very gravelly loamy coarse sand, 30 to 65 percent slopes



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Figure 2









Legend

- Approximate RHA Boundary (250 ft)
- · · -Approximate Project Boundary
- Approximate Ordinary High Water Mark (OHWM)
- Approximate Shoreline Buffer (200 ft)

Notes:

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- 1. The locations of all features shown are approximate.
- 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.



Notes:

 The locations of all features shown are approximate.
 This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source:

Projection: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet





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APPENDIX A USFWS Species Response Data



United States Department of the Interior

FISH AND WILDLIFE SERVICE Washington Fish And Wildlife Office 510 Desmond Drive Se, Suite 102 Lacey, WA 98503-1263 Phone: (360) 753-9440 Fax: (360) 753-9405 http://www.fws.gov/wafwo/



In Reply Refer To: Consultation Code: 01EWFW00-2021-SLI-0735 Event Code: 01EWFW00-2021-E-01445 Project Name: TJ Meenach Swales

March 03, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: <u>http://wdfw.wa.gov/mapping/phs/</u> or at our office website: <u>http://www.fws.gov/wafwo/species_new.html</u>. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <u>http://www.fws.gov/pacific/</u> <u>eagle/for</u> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (<u>http://www.fws.gov/windenergy/</u> <u>eagle_guidance.html</u>). Additionally, wind energy projects should follow the wind energy guidelines (<u>http://www.fws.gov/windenergy/</u>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <u>http://www.nmfs.noaa.gov/pr/laws/mmpa/</u>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service: <u>http://www.nwr.noaa.gov/protected_species_list/</u> <u>species_lists.html</u>

Attachment(s):

Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office

510 Desmond Drive Se, Suite 102 Lacey, WA 98503-1263 (360) 753-9440

Project Summary

Consultation Code:01EWFW00-2021-SLI-0735Event Code:01EWFW00-2021-E-01445Project Name:TJ Meenach SwalesProject Type:** OTHER **Project Description:Stormwater Swale DevelopmentProject Location:**

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@47.681284500000004,-117.45478702475862,14z</u>



Counties: Spokane County, Washington

Endangered Species Act Species

No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7090</u>

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1.	NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an
	office of the National Oceanic and Atmospheric Administration within the Department of
	Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus	Threatened
Population: Western U.S. DPS	
There is proposed critical habitat for this species. The location of the critical habitat is not available.	
Species profile: <u>https://ecos.fws.gov/ecp/species/3911</u>	
Fishes	
NAME	STATUS
Bull Trout Salvelinus confluentus	Threatened
	1 m catched
Population: U.S.A., conterminous, lower 48 states	
Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. The location of the critical habitat is not available.	
Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8212</u>	
Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8212</u>	
Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: <u>https://ecos.fws.gov/ecp/species/8212</u> Flowering Plants NAME	STATUS

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.





Photograph 1. View east across the site in typical upland habitat



Photograph 2. Typical upland habitat on the eastern section of the site



Photograph 3. Crested wheatgrass on the eastern section of the site



Photograph 4. Typical Ponderosa pine overstory at the site





Photograph 5. Black locust trees on the eastern section of the site



Photograph 7. Quackgrass on the western section of the site



Photograph 6. Knapweed on the eastern portion of the site



Photograph 8.Viper's blugloss on the southwestern portion of the site

Site Photographs

Proposed TJ Meenach Swales Spokane, Washington

GEOENGINEERS

Figure B-2



Photograph 9. Cottonwood tree on the western section of the site



Photograph 10. Driveway and boulders on the western section of the site



Photograph 11. Paved parking area on the northern section of the site



Photograph 12. Cheatgrass on the western portion of the site





Photograph 13. Central section of the site (proposed swale area)



Photograph 14. Western serviceberry on the southwest section of the site



Photograph 15. Bladder senna on the eastern section of the site



Photograph 16. Rose bush on the eastern portion of the site





Photograph 17. Oregon grape in the riparian area south of the site



Photograph 18. Riparian vegetation south of the site



Photograph 19. Common tansy in the riparian area south of the site



Photograph 20. Transition between upland (left) and riparian (right) vegetation south of the site

Site Photographs

Proposed TJ Meenach Swales Spokane, Washington

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