



US Army Corps
of Engineers
Seattle District

Public Notice of Application for Permit

US Army Corps of Engineers
Regulatory Branch
Post Office Box 3755
Seattle, WA 98124-3755
Telephone: (206) 316-3360
ATTN: Rory Lee, Project Manager

Public Notice Date: July 7, 2021
Expiration Date: August 6, 2021

Reference No.: NWS-2020-1140
Name: BNSF Railway Company
(White River Restoration Project and
Sumner Staging Tracks)

APPLICANT: BNSF Railway Company
ATTN: Mr. Calvin Nutt
2454 Occidental Avenue South, Suite 2D
Seattle, Washington 98134
Telephone: (817) 550-7137

APPLICANT: City of Sumner
ATTN: Mr. Mike Dahlem
1104 Maple Street, Suite 260
Sumner, Washington 98390
Telephone: (253) 299-5702

AGENT: Jacobs Engineering Group Inc.
ATTN: Ms. Maggie Buckley
1100 112th Avenue Northeast, Suite 500
Bellevue, Washington 98004
Telephone: (425) 233-3117

LOCATION: In the White River, Deieringer Tailrace, regulated ditches and water features at 14802 8TH Street East, near Sumner, Pierce County, Washington.

WORK: BNSF Railway Company proposes to restore White River floodplain processes and improve freight rail operation by dredging up to 19,908 cubic yards (CY) of native material and placement of up to 18,524 CY of fill for channel connections, installation of Engineered log jams (ELJs) and revetment below the ordinary high water mark (OHWM) of the White River. Additional work below the OHWM would include placement of fill in Dieringer Tailrace (32,455 CY), regulated ditch (Ditch 9) (5,554 CY) and landscape water features (former golf course ponds) (76,350 CY).

PURPOSE: Is to restore natural floodplain processes and to improve freight rail operations.

Dredged Material Testing: A Phase I Environmental Site Assessments was completed in August 2020. The sampling results from this effort found no contaminated sediments onsite. Prior to completing our review, the proposed dredged material will be reviewed by Dredged Material Management Program (DMMP). The DMMP evaluation may include both chemical and biological testing of sediments. For this project, the DMMP agencies will determine whether the dredged material is suitable for reuse or must be disposed of at an upland location. The sediment testing data will be available at the Corps, Seattle District, Dredged Material Management Office.

ADDITIONAL INFORMATION: The purpose of the restoration component of the Project is to improve aquatic habitat and water quality and to reduce flood risk by implementing a river corridor restoration project that includes

channel and floodplain reconnection efforts over approximately 203 acres along the lower White River. The purpose of the railroad component of the Project is to improve freight rail operations, accommodate customer demand, and reduce shipping delays at Northwest ports by providing additional staging capacity for BNSF freight trains along its main line network between Tacoma and Everett.

The project would occur over five construction seasons. Elements of the project would be sequenced and phased for each construction season. Areas to be accessed in subsequent construction seasons would be left undisturbed with existing vegetation to limit site disturbance to only what is necessary to complete each construction phase. Additional temporary erosion control measures would be installed and maintained as different Project elements progress.

The northern section of the Project area would be graded for access to the site during all construction phases and for use as a staging and stockpiling areas. In the process of grading this area, approximately 8.21 acres of constructed landscape water features and approximately 1,350 linear feet of drainage ditch would be filled. The primary access locations would be from Stewart Road, 24th Street E on the east side of the river until the 24th Street E crossing is removed, 24th Street E on the west side of the river, 16th Street, and the right-of-way.

A total of four culverts would be extended under the proposed staging tracks. Two of these culverts exist in fish bearing waters: an unnamed jurisdictional ditch and the #9 Ditch. Fish exclusion for these ditches would be necessary and would occur within the approved in-water work window.

A fifth water crossing occurs at the Dieringer Tailrace. Currently, a railroad bridge carries the two existing tracks over the Dieringer Tailrace. The existing bridge is approximately 40 feet wide, 62 feet long, and 17 feet high. The proposed Project would replace the existing Dieringer Tailrace crossing with a number of box culverts that would be designed, configured, and sized to meet a minimum performance standard to preserve and not degrade its necessary carrying capacity for flow. The final configuration and design are still under review and would be subject to review. There would be at least one culvert on each side of the existing bridge center pier to allow for the proposed bypass plan described below. The City would either utilize these culvert extensions for the proposed trail access over the Dieringer Tailrace, or they would construct a clear-spanning bridge west of the end of these culverts. This portion of the Project would require in-water work within the Dieringer Tailrace that would occur within the approved in-water work window. A supersack and/or sheetpile cofferdam would be installed upstream of the in-water work area and a bypass system (gravity flow with pumps for backup as necessary) would be installed to allow water to flow through a portion of the channel width where the box culverts are to be installed. A cofferdam on the downstream side of the in-water work area would be installed to prevent backwater from entering the in-water work area.

Prior to installing the culverts, to aid in soil stabilization, a geotechnical timber pile grid would be driven with an impact hammer. Approximately 7 piles would be driven, one placed every 50 feet for 200 feet from a center pile. The center pile would be driven within ordinary high water, but no in-water pile driving would occur.

Floodplain excavation and grading would occur for the duration of the Project. Excavation would begin with excavators, scrapers, off-road trucks, and dozers. In the first year, approximately 755,000 CY of excavated material would be loaded in trucks or scrapers and brought to the staging tracks location to be used to build the staging tracks embankment and/or stockpiled in the staging and stockpiling area for the forested berm (see Figure 3 of the Biological Evaluation). After the material for the staging tracks and floodplain capacity has been removed, the grading process would begin with any final rough grading for side channels and fine grading to complete side channels, wetland, and habitat features occurring over multiple seasons.

The final grading would add approximately 700,000 CY of floodplain storage in the White River between River

Mile 2.5 and River Mile 4.2. A forested berm along the northern and eastern edge of the floodplain grading area would be constructed and reinforced with an integrated subsurface rock revetment. The forested berm would provide an enduring native forest perimeter around the north, east, and south sides of the restoration site, and reduce the chance of lateral channel migration against rock on the BNSF fill embankment. Approximately 6.2 acres of constructed landscape water features and approximately 2,290 linear feet of drainage ditches would be filled during the floodplain excavation and grading.

Staging tracks construction activities would include installation of a total of 10 tracks ranging in length from 7,700 feet to 9,200 feet each and interrelated site features. Related activities include clearing and grubbing, construction of the embankment, extending a pedestrian trail undercrossing and culverts, placing ballast, installing utility conduits, constructing a 750-square-foot air compressor shed, laying rail ties, and laying track. The bridge carrying the existing BNSF track would also be replaced with multiple box culverts (as described above). Up to 670 CY of excavation would be necessary to remove unsuitable materials and extend/construct culverts to construct the embankment and lay the tracks. Corrugated metal pipe culverts in non-fish bearing ditches would be extended to match the existing culvert widths. Culvert extension details are also discussed above. Approximately 1 million CY of embankment fill and 43,000 CY of subballast fill are necessary to construct the embankment and lay the tracks. The embankment fill would primarily be sourced from the excavated material from the proposed floodplain grading, while subballast fill would be imported from an off-site source. The area would be graded to be level for track placement. Ballast would be placed above the staging tracks fill. Rail ties and rails would be installed after all the ballast is placed. Tracks and ties would be laid following grading. Wood pile (described above) would be used to stabilize subsurface conditions for the culvert foundations. Once sufficient fill has been placed and graded, the fill would be allowed to settle for approximately 1 year. Ballast would be placed on top of the fill and ties and tracks laid after settlement has occurred. The staging tracks are not considered an impervious surface, stormwater would infiltrate into the ballast and fill.

The staging tracks construction would also include an approximately 3.7-acre access road. Road grading would be done with the staging track grading. Gravel would be compacted to form the surface of the road. The road would run along the western edge of the staging tracks. Proposed stormwater conveyance and treatment from this access road would consist of a bioretention facility with an underdrain, which would treat stormwater before it infiltrates into the forested berm. (See permit drawings Pages 25 through 36). To construct the staging tracks, 0.78 acre of constructed landscape water features and 9,450 linear feet of drainage ditches would be filled.

A total of 21 total ELJs and approximately 6,100 linear feet of complex wood revetments are proposed for this Project. These ELJs would be placed in water and in the upland floodplain grading area. The in-water installations would begin during the in-water work window of construction season 1 or 2 and would continue during in-work windows until completed. The features in the floodplain grading area outside existing waters would be installed throughout the grading process when the area is sufficiently graded to allow placement. A total of approximately 41,000 pieces of large woody material (logs with rootwads, logs, and racking logs) and 76,000 CY of slash would be placed within the ELJs and revetments. In addition, 10 rock roughness features totaling up to 100 CY of large rocks would be installed within the OHWM of the White River.

A total of approximately 8 acres of the White River would be isolated for revetment and ELJ installation, though these isolation areas would not all be in place at the same time. An approximate 35-foot radius would be isolated around each in-water ELJ and revetment with additional areas of temporary fill needed for engineered bridge crossings required for construction access. ELJ work areas would take approximately 2 days to isolate. Access and containment structures would be limited to the total acreage below the OHWM presented in this application; however, the specific locations would be adjusted during construction to further minimize in-water impacts.

Twelve Type 1 ELJs would be placed within the White River along both banks. This would require dewatering at

each ELJ location. Before dewatering, fish exclusion would be conducted as described above. Gravel supersacks would be placed using a crane. Sheetpile, if needed, would be installed with a vibratory pile driver. Cofferdam removal is permitted outside of the approved in-water work window provided that no sheetpile is removed using a vibratory pile driver and turbidity impacts are limited to state water quality standards (300 feet downstream) of the in-water work area. Each ELJ would include inclined key member logs that are buried into the channel bank at the back end and are dropped into the channel along the edge of the river. Each ELJ would also have an excavated pool associated with it to provide additional habitat complexity.

The key member logs and racking material would be woven between buried wooden piles to prevent significant lateral movement. The key member logs and piles would be lashed together with cable and steel clamps to ballast the key member log posts against buoyant forces. Galvanized 5/8-inch-diameter steel cables would be tensioned to a minimum of 1,000 pounds and at least four steel clamps would be used to secure each cable. A total of 23, 23-inch-diameter timber piles would be driven to secure each Type 1 ELJ in place. Piles would be driven to a depth of 30 to 50 feet below the substrate. A vibratory pile driver would be used to drive these piles as deep as possible, but some piles may need to be impact driven for part or most of the depth. A total of 656, 23-inch timber piles would be driven for ELJs, with 491 of them below the existing OHWM. All timber piles installed below the existing OHWM would be driven in completely isolated and/or dry conditions. (See permit drawings Page 5 through 9.)

Two types of ELJs would be installed in the floodplain grading area and thus would not require dewatering:

- Four Type 2 ELJs would be installed in the graded floodplain area.
- Five Type 3 ELJs would be placed along the constructed side channels before flow is diverted.

A total of 8, 23-inch-diameter timber piles would be driven to secure each Type 2 ELJ in place. A total of 6, 18-inch-diameter timber piles would be driven for each Type 3 ELJ. A total of 30, 13-inch-diameter timber piles would be driven above the OHWM for ELJs. Timber piles would be driven to a depth of 30 to 50 feet below the ground surface. A vibratory pile driver would be used to drive these timber piles as deep as possible, but some piles may need to be impact driven for part or most of the depth. (See permit drawings Page 5 through 9.)

Two types of revetments would be installed: dolotimber and batterpile revetments. Woody revetments would be installed below the OHWM of the White River and within the floodplain grading area in the upland and/or isolation from the White River. Approximately 6,100 linear feet of complex wood revetments would be installed for this Project with 2,800 linear feet being installed below OHWM in the White River and 3,300 linear feet installed in isolation in the floodplain grading area.

In-water revetments installed below the OHWM would require fish exclusion and isolation. Some revetment isolation areas would be continuous with ELJ and/or channel connection isolation areas. Gravel supersacks would be placed using a crane or excavator. Sheetpile would be installed with a vibratory hammer. Revetments would be constructed with 22- to 26-inch-diameter base logs, 21- to 23-inch-diameter timber piles, dolosse, 6- to 12-inch-diameter racking logs, and thread lashing. Revetment placement areas would be excavated to place the base and racking logs along the bank. Dolosse would be placed and timber piles would be used to secure the revetments in place. A total of 480 dolosse would be placed. Revetments would be secured with 18-inch-diameter timber piles driven using the same method as the ELJ piles. Thread lashing would be used to attach wood to the timber piles. A total of 5 base logs, 5 timber piles, 5 dolosse, and 100 racking logs would be used for every 40-foot section of revetment. A crane, an excavator, an impact hammer, and a vibratory hammer would be used to construct the revetments. A total of 2,388, 18-inch-diameter timber piles would be driven for revetments, with 290 of them below the existing OHWM. Suitable material excavated for the construction of the ELJs would be reused to fill interstitial spaces within the ELJ or on the downstream side to aid in the sediment retention process that these structures are designed to attain. Unsuitable material would be hauled to the staging and stockpiling area for reuse and/or eventual

disposal in an approved location off-site. (See permit drawing plan view sheets on Pages 5 through 9 and detail sheets on Pages 12 through 15.)

Woody revetments installed in the floodplain grading area would be constructed in a similar manner and specification to those installed in water with the exception of the need to isolate the work area from the flow of the White River. Isolation and dewatering may be necessary and would be completed in a manner that utilizes infiltration and/or on-site treatment prior to any off-site discharge, in compliance with the Water Quality Monitoring and Protection Plan (WQMPP). The revetments that cut through the existing Dieringer Tailrace would be installed after the Tailrace has been diverted to its proposed channel, so this work would occur in the dry.

A total of 10 rock features would be placed below the OHWM of the White River. Each feature would be composed of several large rocks that would sit on approximately 135 square feet of substrate and encompass approximately 10 cubic yards. Rocks would be placed from the bank with an excavator. The rocks would be placed as gently as possible to minimize as much sedimentation as possible. A qualified biologist would visually monitor each rock placement to ensure no fish are harmed from the rock placement. All rocks would be placed in the approved in-water work window. Up to 100 cubic yards of rock roughness features would be placed in the White River covering approximately 0.03 acre.

Approximately 12.64 acres of new open-water side channels would be created. The majority of the side channel grading work would occur upland of the existing White River, the Dieringer Tailrace, and the #9 Ditch. Excavators, dozers, and graders would be used to excavate out the proposed side channels, and trucks would deliver the excavated material to be used as fill for the staging tracks and/or storage at the staging and stockpiling area. Each channel would have the bottom lined with either native streambed material or imported streambed materials that meet Washington State Department of Transportation's Standard Specification for Streambed Sediment 9-03.11(1) augmented with Streambed Cobbles 9-03.11(2) sized appropriately for hydraulic conditions anticipated in the new channel. Erosion control best management practices (BMPs) would be put in place prior to water diversion to reduce the risk of sedimentation from the new channels. Side channel connections with the main stem of the White River would be isolated with gravel supersacks and/or sheetpile cofferdams. Before dewatering, fish exclusion will be conducted as described above. Gravel supersacks would be placed using an excavator or a crane. New channel excavation would occur concurrently with the rest of the floodplain excavation and grading. However, filling of the existing Dieringer Tailrace and the #9 Ditch would not occur until water has been diverted to their proposed side channels. Approximately 0.3 acre of the existing #9 Ditch and approximately 1.9 acres of the existing Dieringer Tailrace would be filled.

The #9 Ditch and the Dieringer Tailrace would have electronic fish barriers installed when their channel connections need to be made. Gravel supersacks would be used to isolate the connection areas. Water would be diverted with a pump system in the #9 Ditch. Water would be diverted through the northernmost box culvert in the Dieringer Tailrace. Once channel connections have been excavated and the streambed mix has been placed, water would be diverted to the new channels and the existing #9 Ditch and Dieringer Tailrace would be filled.

The existing Sumner Link Trail will be rerouted along the east perimeter of the restoration site. Some of the existing trail within the Project area would remain. A new 16-foot-wide trail will be paved on the forested bench at the eastern end of the floodplain grading area. The trail would cross the Dieringer Tailrace west of the proposed staging tracks, either on the culverts or on a single-span bridge. The bridge abutments would be installed outside of the existing OHWM. Four, 18-inch-diameter steel pipe piles would be installed at each abutment to secure the bridge abutments. These piles would be driven upland of the OHWM with an impact hammer. A premanufactured grated truss bridge would be placed atop the abutments. The deck would be topped with pedestrian railings. Cranes, concrete trucks, and concrete pumps would be utilized for this construction. Both cranes would be set an appropriate distance from the riverbank so as not to disturb the river or bank soils. The Sumner Link Trail would

connect to the existing trail at the north and south sides of the project.

The bridge at 148th Avenue E that crosses the Dieringer Tailrace would be removed while the filling of the Tailrace is occurring. Debris from this demolition activity would be hauled to the staging and stockpiling area for material salvage and/or disposal.

Additional work would include planting 162 acres of native tree, shrub, and ground cover species.

Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District's web page at <http://www.nws.usace.army.mil/> and under the heading Open Public Comment Periods select Regulatory Public Notices. Recently-issued public notices are listed in chronological order of the date of issuance. Select and view the listing for this project.]

The wetland boundaries and/or location of the ordinary high water marks shown on the project drawings have not yet been verified by the U.S. Army Corps of Engineers (Corps). If the Corps determines the boundaries of the wetland/waters are substantially inaccurate a new public notice may be published.

MITIGATION: The applicant has proposed permittee-responsible compensatory mitigation through on-site enhancement actions. The applicant has provided a permittee-responsible conceptual wetland mitigation plan.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat.

A preliminary determination indicates that the activity will affect endangered or threatened species, or their critical habitat. Consultation under Section 7 of the ESA is required.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

The U.S. Army Corps of Engineers (Corps) has determined that the proposed action will not adversely affect designated EFH for federally managed fisheries in Washington waters. No further EFH consultation is necessary.

CULTURAL RESOURCES: The Corps invites responses to this public notice from Native American Tribes or tribal governments; Federal, State, and local agencies; historical and archeological societies; and other parties likely to have knowledge of or concerns regarding historic properties and sites of religious and cultural significance at or near the project area. After receipt of comments from this public notice, the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the National Historic Preservation Act, as appropriate.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

SOURCE OF FILL MATERIAL: The source of the fill material would be the excavated native material from the floodplain, while sub ballast fill would be imported from an off-site commercial source.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

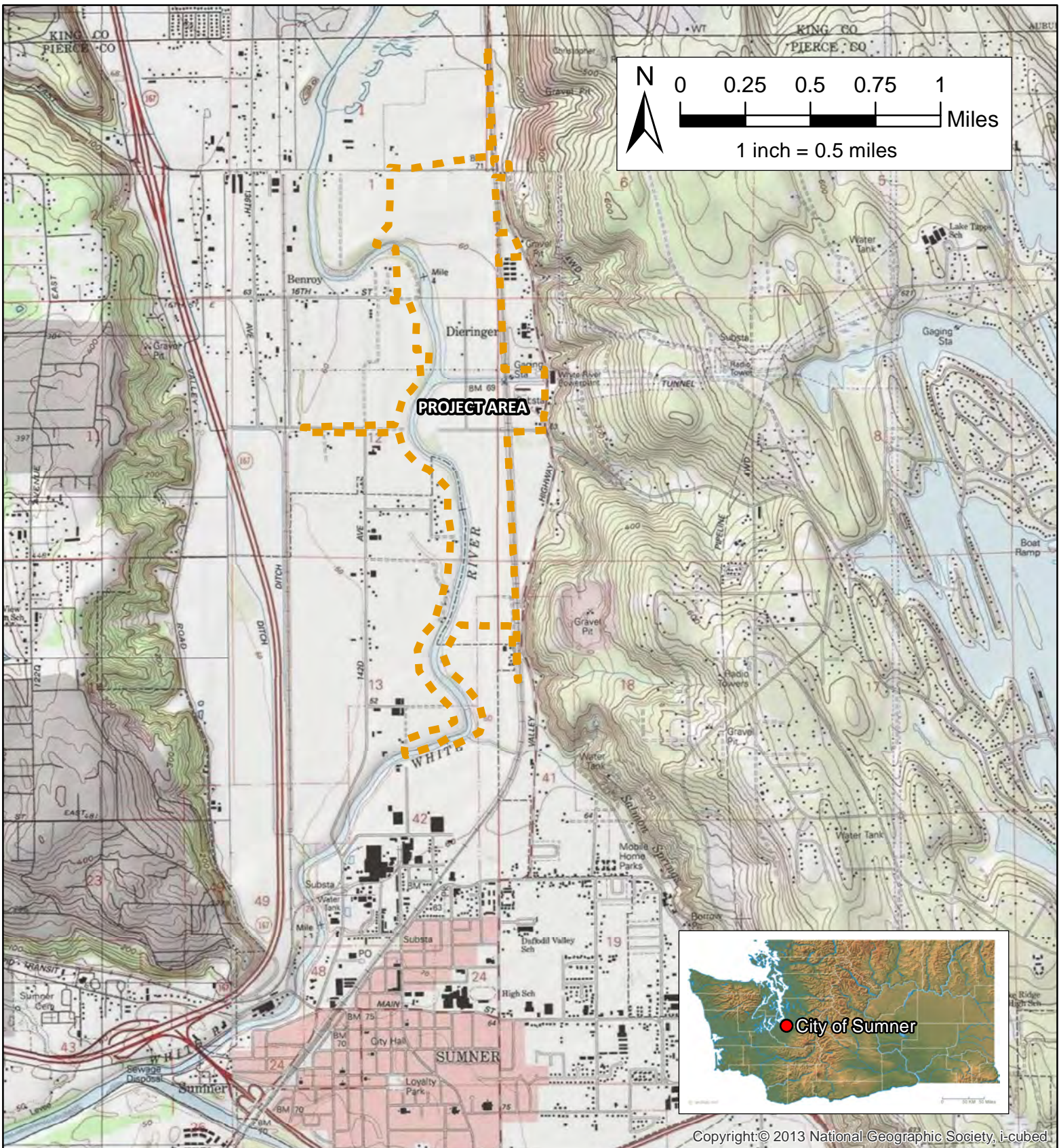
The U.S. Army Corps of Engineers is soliciting comments from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether authorizing the work would not be contrary to the public interest. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. All e-mail comments should be sent to rory.w.lee@usace.army.mil. Conventional mail comments should be sent U.S. Army Corps of Engineers, Regulatory Branch, Post Office Box 3755, Seattle, Washington, 98124-3755. Either conventional mail or e-mail comments must include the permit applicant's name and reference number, as shown below, and the commenter's name, address, and phone number. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration. Please include the following name and reference number:

BNSF Railway Company, NWS-2020-1140

Encl: Figures (48 pages)

VICINITY MAP

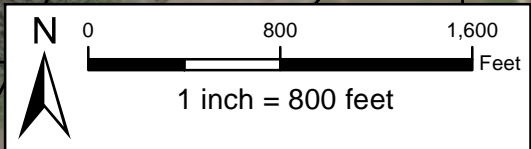


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NEAR/AT: CITY OF SUMNER
COUNTY: PIERCE
STATE: WA
LAT/LONG: 47.236140, -122.231229
LEGAL LOCATION: TOWNSHIP 20 NORTH, RANGE 4 EAST,
 SECTIONS 1, 12, 13, 42, 50 AND RANGE 5 EAST SECTIONS 6, 7, 18, 41
ADJACENT PROPERTY OWNERS: SEE SHEETS V-3 AND V-4
NWS-2020-1140

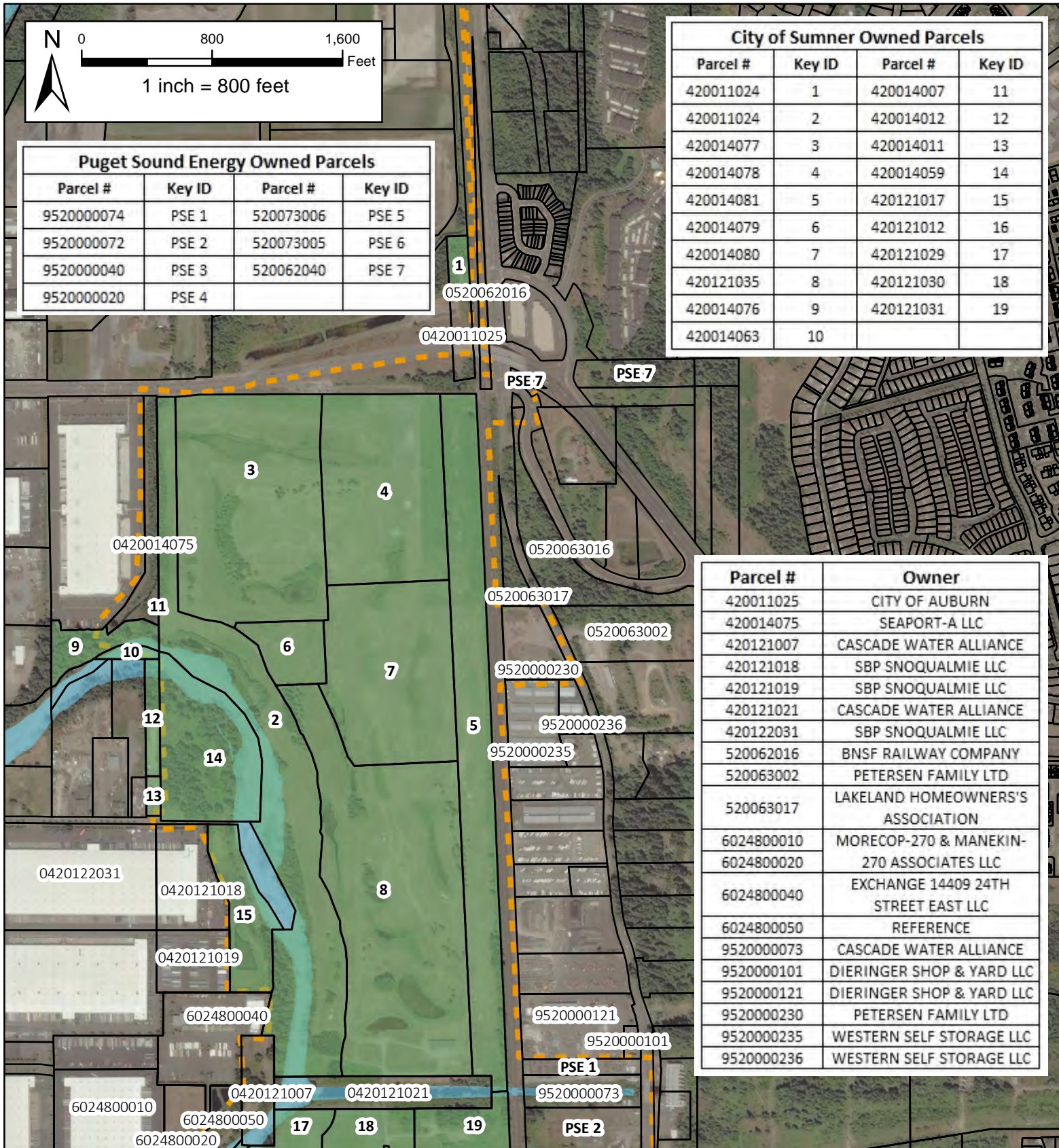
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION
 AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER
 BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: V-1 **PAGE:** 1 OF 48

PARCEL MAP NORTH



Puget Sound Energy Owned Parcels			
Parcel #	Key ID	Parcel #	Key ID
9520000074	PSE 1	520073006	PSE 5
9520000072	PSE 2	520073005	PSE 6
9520000040	PSE 3	520062040	PSE 7
9520000020	PSE 4		

City of Sumner Owned Parcels			
Parcel #	Key ID	Parcel #	Key ID
420011024	1	420014007	11
420011024	2	420014012	12
420014077	3	420014011	13
420014078	4	420014059	14
420014081	5	420121017	15
420014079	6	420121012	16
420014080	7	420121029	17
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420014076	9	420121031	19
420014063	10		

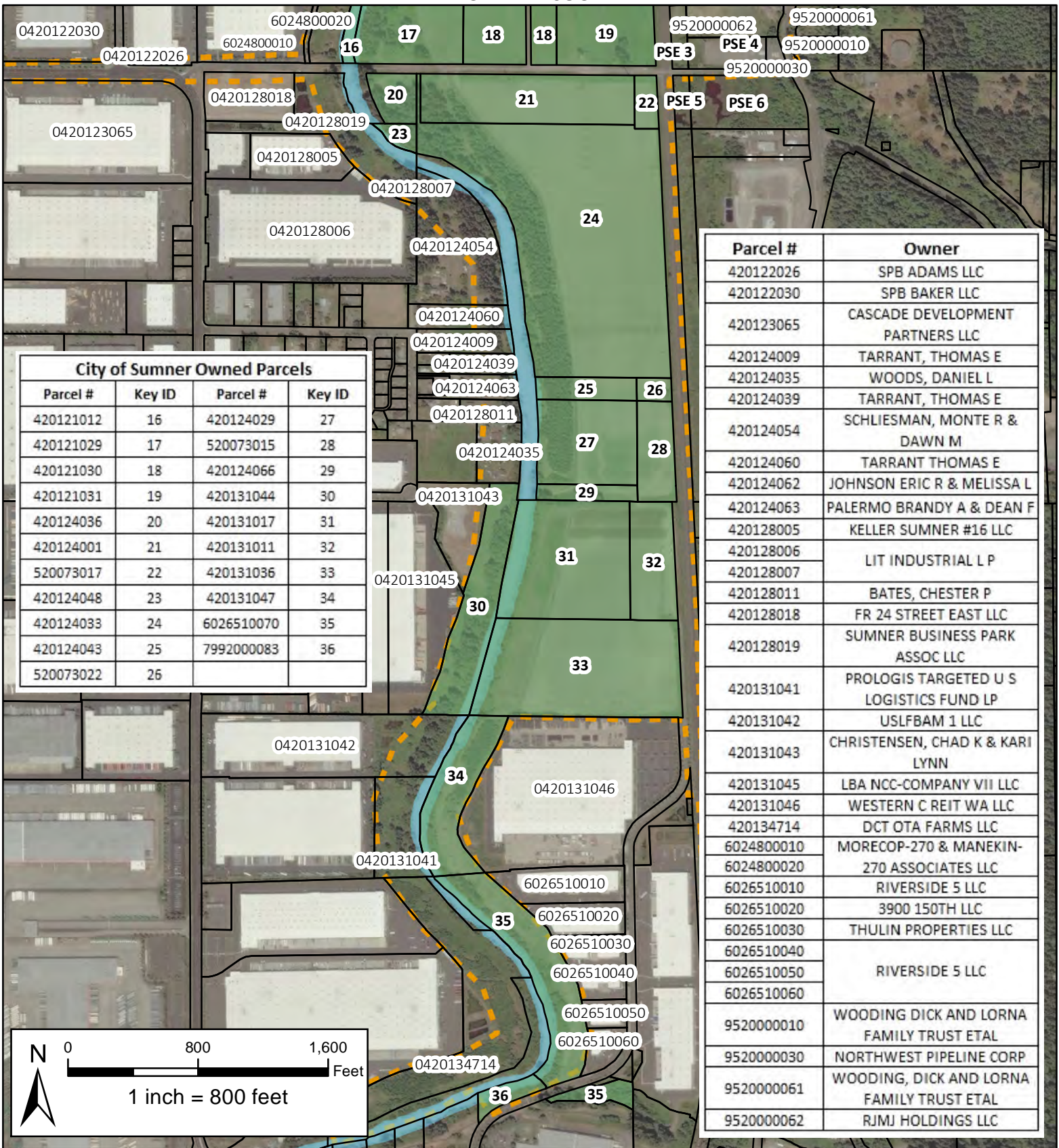


Parcel #	Owner
420011025	CITY OF AUBURN
420014075	SEAPORT-A LLC
420121007	CASCADE WATER ALLIANCE
420121018	SBP SNOQUALMIE LLC
420121019	SBP SNOQUALMIE LLC
420121021	CASCADE WATER ALLIANCE
420122031	SBP SNOQUALMIE LLC
520062016	BNSF RAILWAY COMPANY
520063002	PETERSEN FAMILY LTD
520063017	LAKELAND HOMEOWNERS'S ASSOCIATION
6024800010	MORECOP-270 & MANEKIN-
6024800020	270 ASSOCIATES LLC
6024800040	EXCHANGE 14409 24TH STREET EAST LLC
6024800050	REFERENCE
9520000073	CASCADE WATER ALLIANCE
9520000101	DIERINGER SHOP & YARD LLC
9520000121	DIERINGER SHOP & YARD LLC
9520000230	PETERSEN FAMILY LTD
9520000235	WESTERN SELF STORAGE LLC
9520000236	WESTERN SELF STORAGE LLC

	Parcel Boundaries
	City of Sumner Owned Parcels
	Project Area




REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: V-2 **PAGE:** 2 OF 48

PARCEL MAP SOUTH



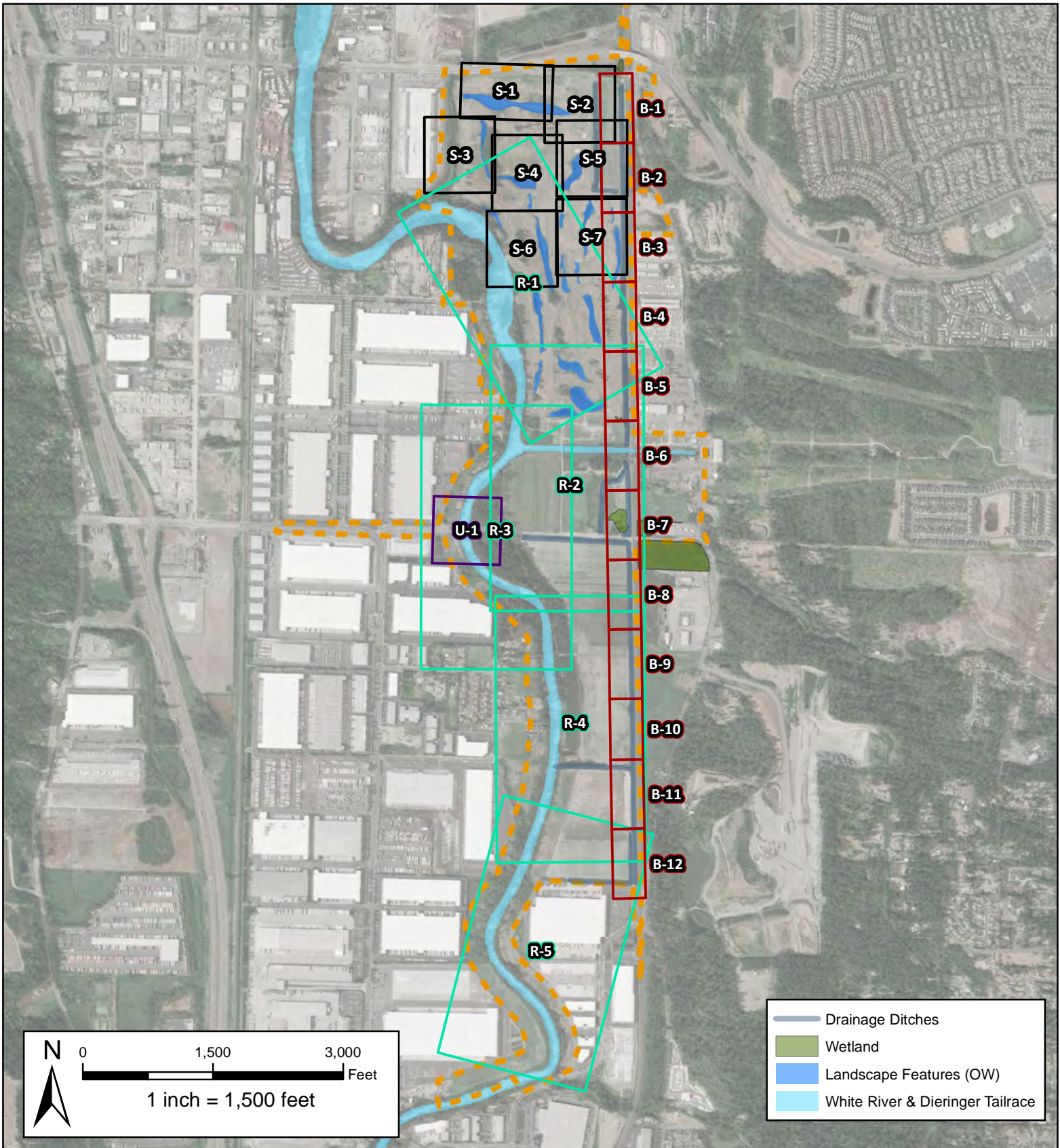
City of Sumner Owned Parcels			
Parcel #	Key ID	Parcel #	Key ID
420121012	16	420124029	27
420121029	17	520073015	28
420121030	18	420124066	29
420121031	19	420131044	30
420124036	20	420131017	31
420124001	21	420131011	32
520073017	22	420131036	33
420124048	23	420131047	34
420124033	24	6026510070	35
420124043	25	7992000083	36
520073022	26		

Parcel #	Owner
420122026	SPB ADAMS LLC
420122030	SPB BAKER LLC
420123065	CASCADE DEVELOPMENT PARTNERS LLC
420124009	TARRANT, THOMAS E
420124035	WOODS, DANIEL L
420124039	TARRANT, THOMAS E
420124054	SCHLIESMAN, MONTE R & DAWN M
420124060	TARRANT THOMAS E
420124062	JOHNSON ERIC R & MELISSA L
420124063	PALERMO BRANDY A & DEAN F
420128005	KELLER SUMNER #16 LLC
420128006	LIT INDUSTRIAL L P
420128007	LIT INDUSTRIAL L P
420128011	BATES, CHESTER P
420128018	FR 24 STREET EAST LLC
420128019	SUMNER BUSINESS PARK ASSOC LLC
420131041	PROLOGIS TARGETED U S LOGISTICS FUND LP
420131042	USLFBAM 1 LLC
420131043	CHRISTENSEN, CHAD K & KARI LYNN
420131045	LBA NCC-COMPANY VII LLC
420131046	WESTERN C REIT WA LLC
420134714	DCT OTA FARMS LLC
6024800010	MORECOP-270 & MANEKIN-270 ASSOCIATES LLC
6024800020	MORECOP-270 & MANEKIN-270 ASSOCIATES LLC
6026510010	RIVERSIDE 5 LLC
6026510020	3900 150TH LLC
6026510030	THULIN PROPERTIES LLC
6026510040	RIVERSIDE 5 LLC
6026510050	RIVERSIDE 5 LLC
6026510060	RIVERSIDE 5 LLC
9520000010	WOODING DICK AND LORNA FAMILY TRUST ETAL
9520000030	NORTHWEST PIPELINE CORP
9520000061	WOODING, DICK AND LORNA FAMILY TRUST ETAL
9520000062	RJMJ HOLDINGS LLC

	Parcel Boundaries
	City of Sumner Owned Parcels
	Project Area

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
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PLAN VIEW INDEX MAP

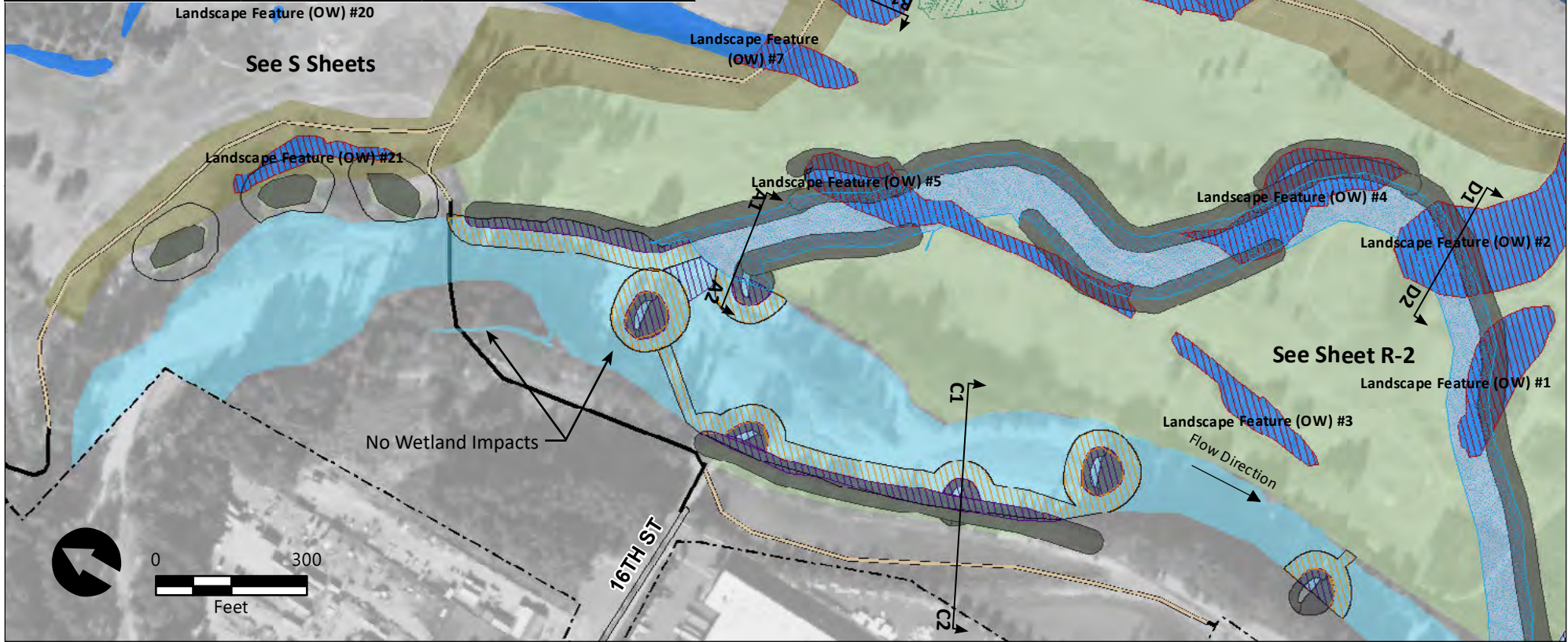


- Lower White River Plan View
- Utility Plan View
- BNSF Staging Tracks Plan View
- Staging and Stockpiling Plan View

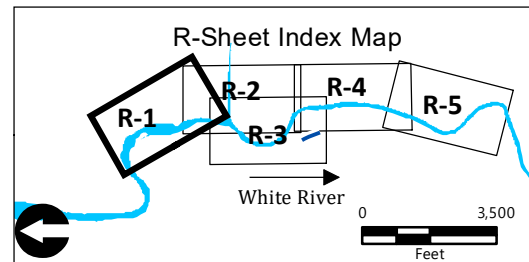
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
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LOWER WHITE RIVER RESTORATION IMPACTS (1 OF 5)

Name	Total Area (AC)	Temporary Impact Area (AC)	Permanent Impact Area (AC)	Fill Volume (CY)
Landscape Feature #21	0.26	0.0	0.26	N/A
Landscape Feature #7	1.24	0.0	0.28	N/A
Landscape Feature #10	0.23	0.0	0.06	N/A
Landscape Feature #8	0.42	0.0	0.26	N/A
Landscape Feature #6	1.04	0.0	1.04	N/A
Landscape Feature #3	0.35	0.0	0.35	N/A
Landscape Feature #5	0.85	0.0	0.85	N/A
Landscape Feature #4	0.86	0.0	0.86	N/A
White River	N/A	1.9	1.19	7713



Date Saved: 10/29/2020, danielle Document Path: C:\Users\danielle\Desktop\JARPA_NSD_PlanViews.mxd



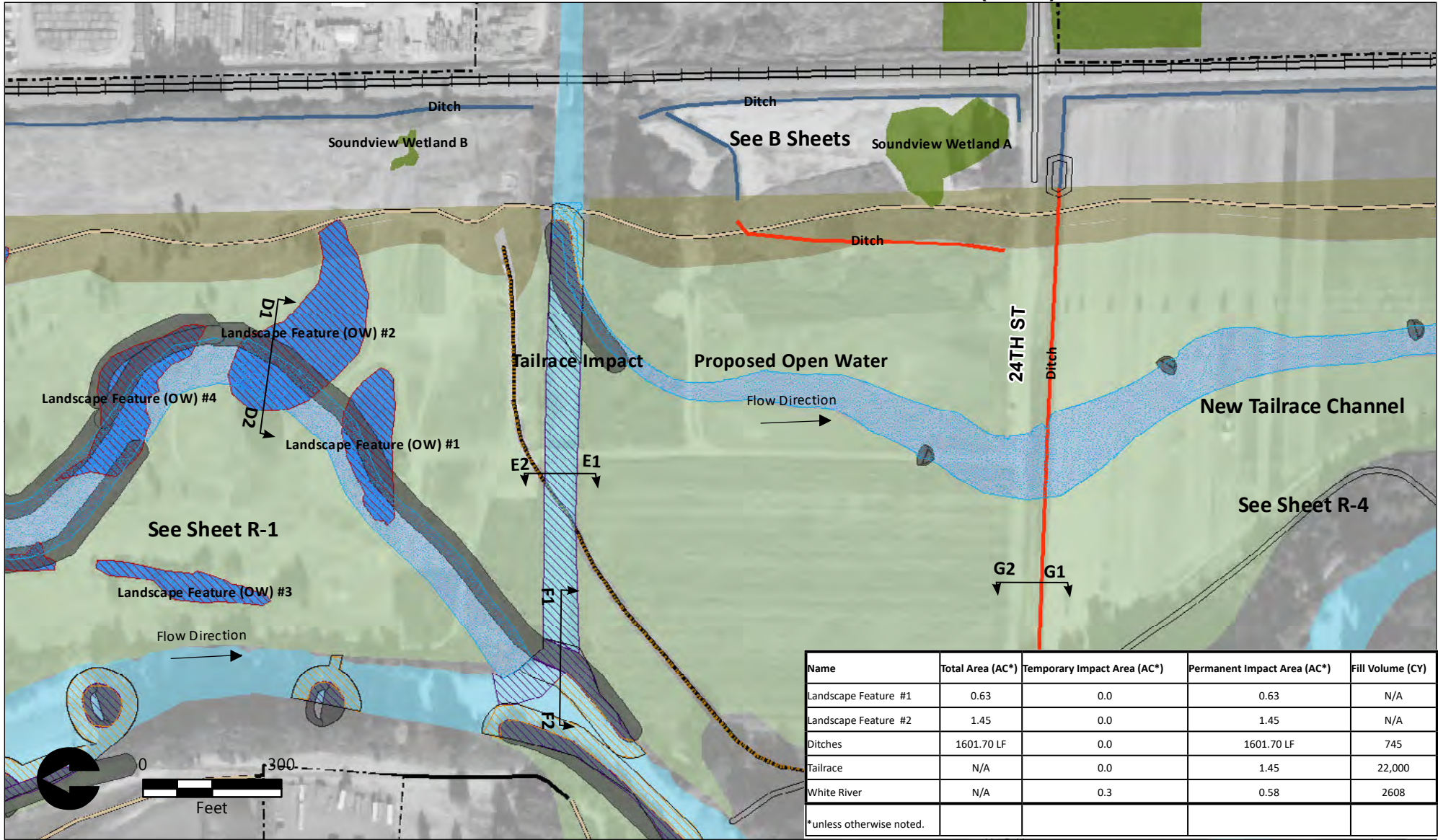
Project Area	Forested Bench	Temporary Impact
BNSF Railroad	Proposed Channels	Ditch
Existing Trail	Temporary Construction Access	Proposed Side Channel
Proposed PSE Maint. Road	Open Water	Proposed Wetland Creation
Proposed Trail	Ordinary High Water	
Proposed Wood Structures	Open Water Impact	
Proposed Grading Areas	White River Impact	
Floodplain	Tailrace Impact	

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
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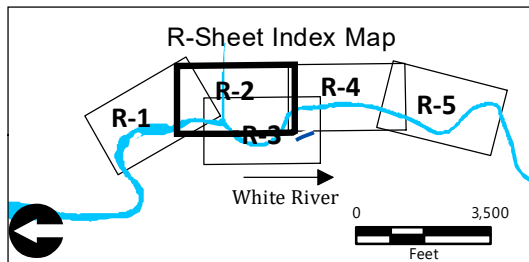
LOWER WHITE RIVER RESTORATION IMPACTS (2 OF 5)

Document Path: C:\Users\danielle\Desktop\JARPA_NSD_PlanViews.mxd
Date Saved: 10/29/2020, danielle



Name	Total Area (AC*)	Temporary Impact Area (AC*)	Permanent Impact Area (AC*)	Fill Volume (CY)
Landscape Feature #1	0.63	0.0	0.63	N/A
Landscape Feature #2	1.45	0.0	1.45	N/A
Ditches	1601.70 LF	0.0	1601.70 LF	745
Tailrace	N/A	0.0	1.45	22,000
White River	N/A	0.3	0.58	2608

*unless otherwise noted.



Project Area	Forested Bench	Tailrace Impact
BNSF Railroad	Proposed Channels	Temporary Impact
Existing Trail	Temporary Construction Access	Ditch
Proposed PSE Maint. Road	Open Water	Ditch Impact
Proposed Trail	Wetland	Proposed Side Channel
Proposed Wood Structures	Ordinary High Water	
Proposed Grading Areas	Open Water Impact	
Floodplain	White River Impact	

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
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LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
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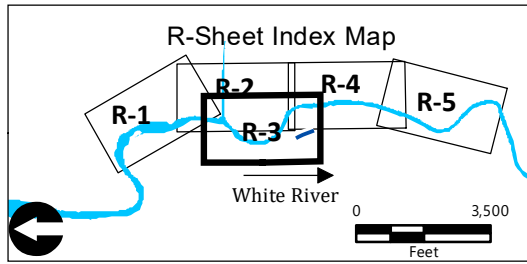
NWS-2020-1140

LOWER WHITE RIVER RESTORATION IMPACTS (3 OF 5)



Name	Total Area (AC)	Temporary Impact Area (AC)	Permanent Impact Area (AC)	Fill Volume (CY)
White River	N/A	1.3	0.88	1057

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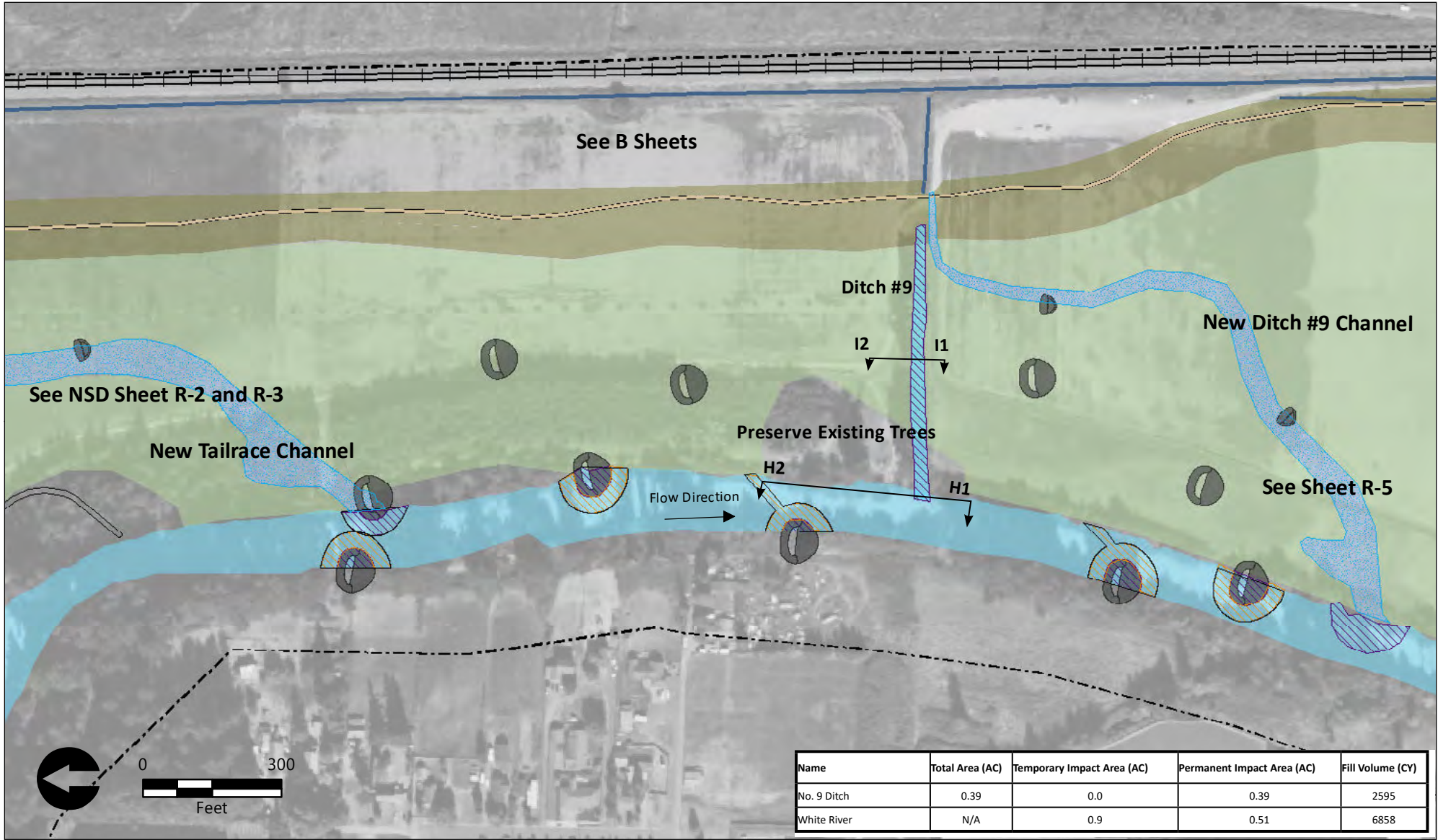
- Project Area
- BNSF Railroad
- Existing Trail
- Proposed PSE Maint. Road
- Proposed Trail
- Proposed Wood Structures
- Proposed Grading Areas**
- Floodplain
- Forested Bench
- Proposed Channels
- Temporary Construction Access
- Open Water
- Ordinary High Water
- Open Water Impact
- White River Impact
- Tailrace Impact
- Temporary Impact
- Ditch Impact
- Proposed Side Channel

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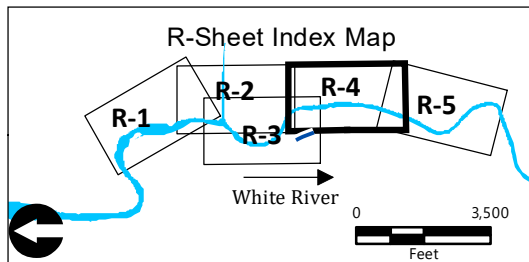
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APPLICANT: CITY OF SUMNER AND BNSF
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LOWER WHITE RIVER RESTORATION IMPACTS (4 OF 5)

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Name	Total Area (AC)	Temporary Impact Area (AC)	Permanent Impact Area (AC)	Fill Volume (CY)
No. 9 Ditch	0.39	0.0	0.39	2595
White River	N/A	0.9	0.51	6858



Legend

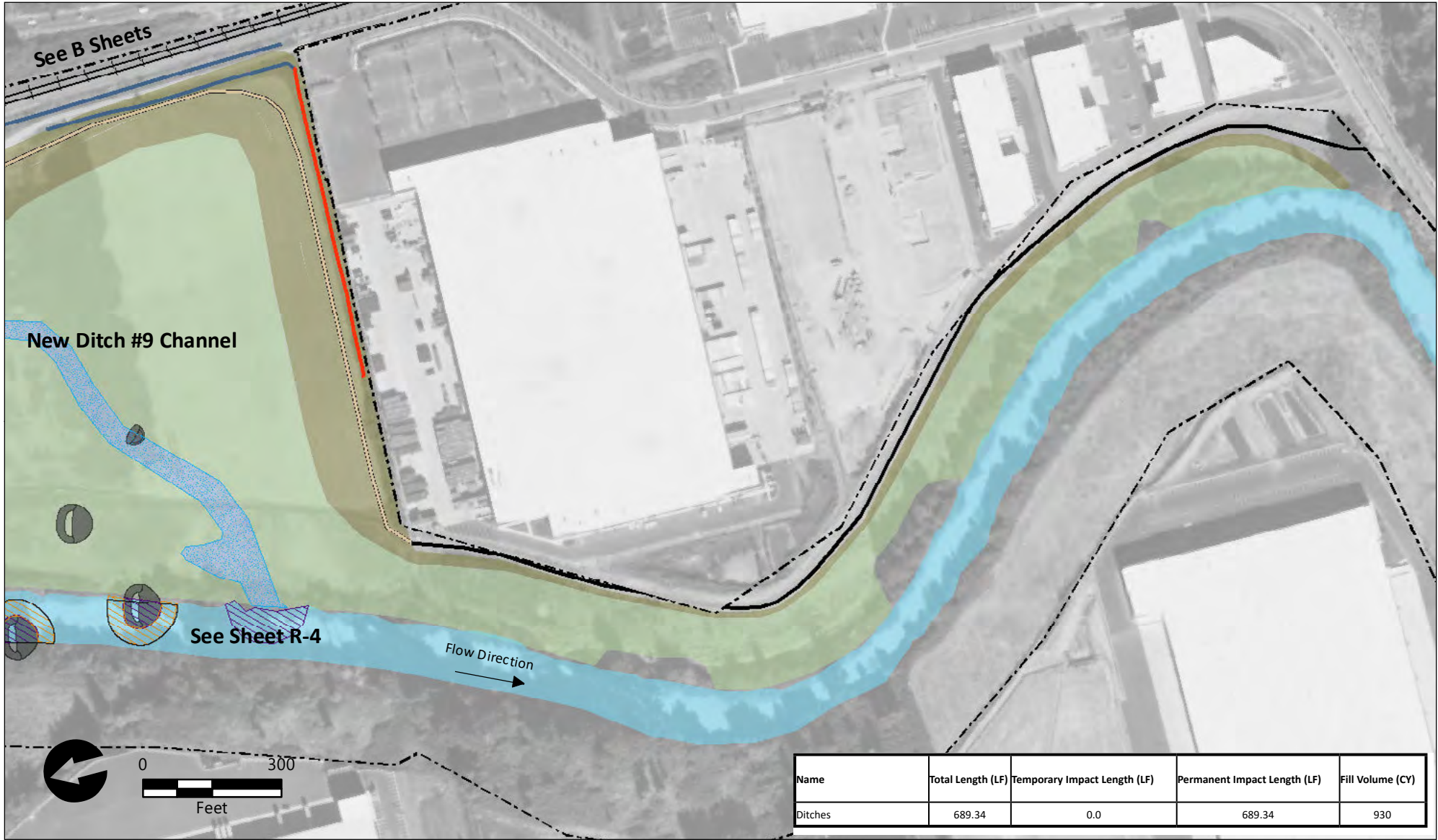
- Project Area
- BNSF Railroad
- Proposed Trail
- Proposed Wood Structures
- Proposed Grading Areas
- Floodplain
- Forested Bench
- Proposed Channels
- Temporary Construction Access
- Ditch
- Ordinary High Water
- Ditch #9 Impact
- White River Impact
- Temporary Impact
- Ditch
- Proposed Side Channel

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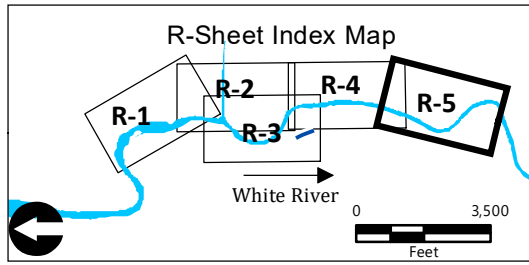
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APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
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LOWER WHITE RIVER RESTORATION IMPACTS (5 OF 5)

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Date Saved: 10/29/2020, danielle



Name	Total Length (LF)	Temporary Impact Length (LF)	Permanent Impact Length (LF)	Fill Volume (CY)
Ditches	689.34	0.0	689.34	930

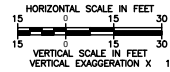
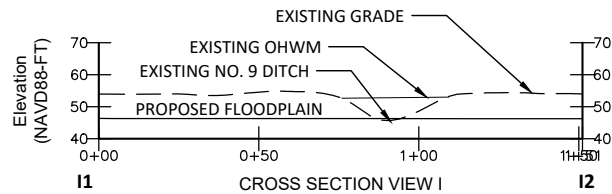
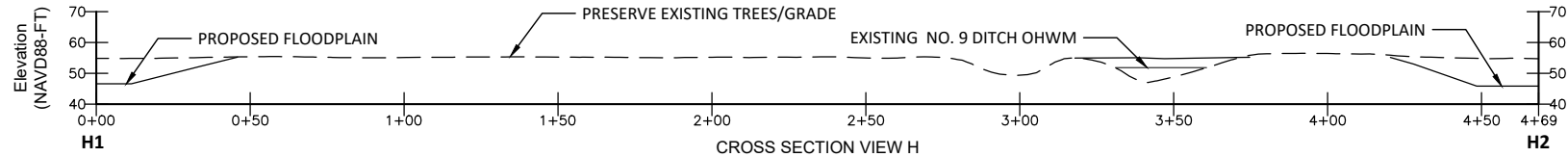
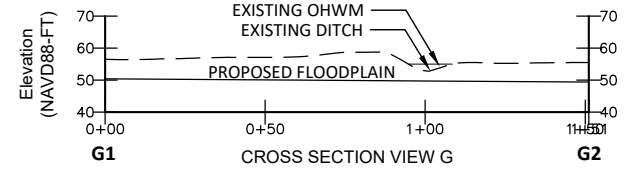
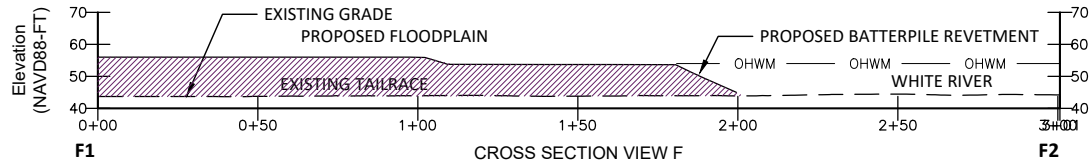
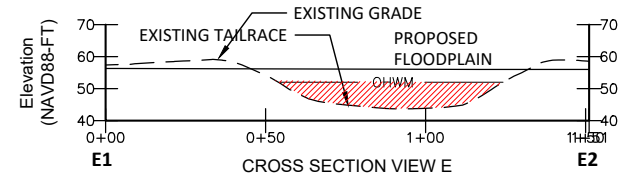
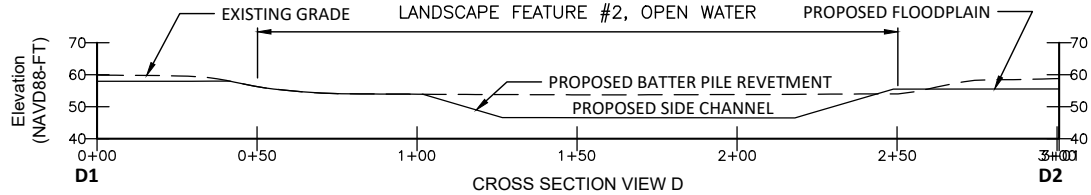
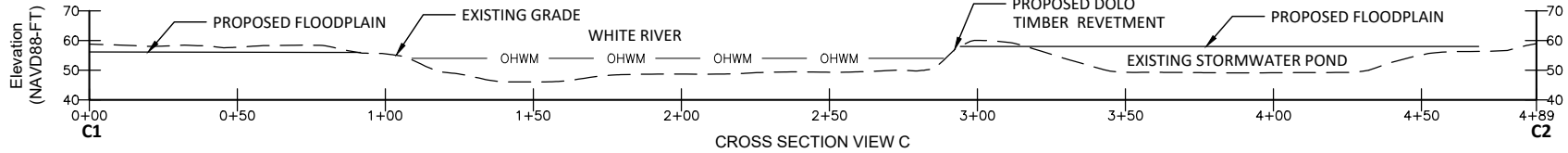
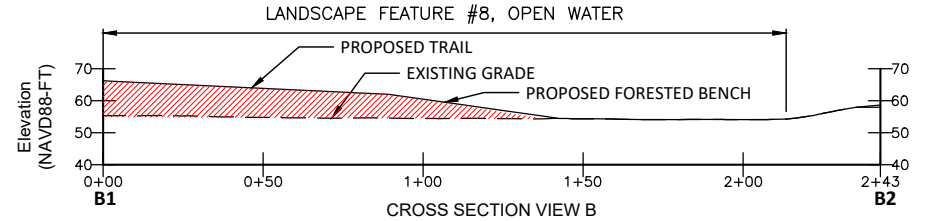
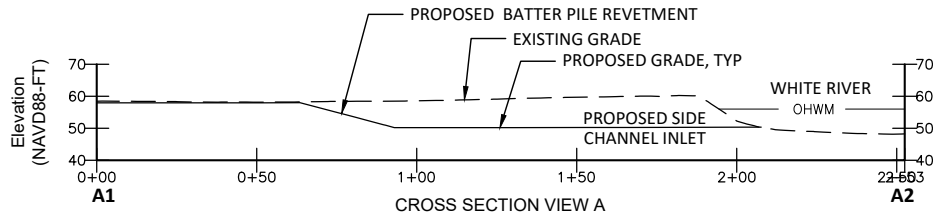


- Project Area
- BNSF Railroad
- Existing Trail
- Proposed Trail
- Proposed Wood Structures
- Proposed Grading Areas**
- Floodplain
- Forested Bench
- Proposed Channels
- Temporary Construction Access
- Ordinary High Water
- White River Impact
- Temporary Impact
- Ditch
- Ditch Impact
- Proposed Side Channel

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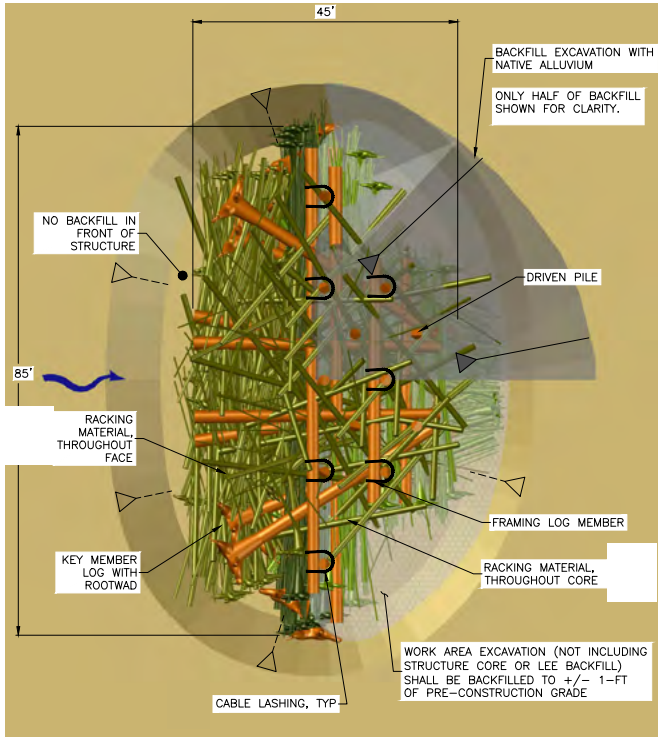
REFERENCE #: NWS-2020-XXX
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DATE: NOVEMBER 2020
SHEET: R-5

LOWER WHITE RIVER RESTORATION CROSS SECTION VIEWS



REFERENCE #: NWS-2020-XXX
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LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
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LOWER WHITE RIVER RESTORATION TYPE 1 ELJ DETAIL VIEWS



TYPE 1 ELJ STRUCTURE NOTES

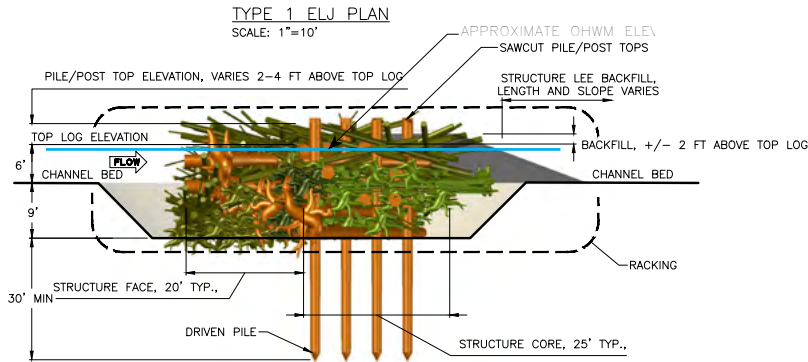
- ALL STRUCTURE LOCATIONS, PILE LOCATIONS, LENGTHS, WIDTHS, EXCAVATION EXTENTS AND ELEVATIONS SHALL BE STAKED BY THE ENGINEER PRIOR TO EXCAVATION, ASSEMBLY AND INSTALLATION OF EACH STRUCTURE
- CONTRACTOR SHALL EXCAVATE TO THE STRUCTURE BOTTOM ELEVATION AND MAINTAIN A Dewatered WORK AREA SO LAYERING AND CONNECTIONS CAN BE MADE PER LAYERING SHEETS.
- EXCAVATION SPOILS SHALL BE STAGED ACCORDING TO THE PERMIT REQUIREMENTS
- CONTRACTOR SHALL DRIVE PILES OR AS THE PRIMARY STRUCTURAL ELEMENT OF THE ELJ. VIBRATORY PILE INSTALLATION IS ALLOWABLE.
- THE WOOD LAYER PLACEMENT IN EACH LOGJAM LAYER SHALL BE FIELD VERIFIED BY ON-SITE OWNER REPRESENTATIVE PRIOR TO BACKFILLING.
- STRUCTURAL CONNECTIONS OF FRAMING MEMBERS TO PILES SHALL BE MADE PER LAYERING PLAN SHEETS.
- RACKING MATERIAL SHALL CONSIST OF APPROXIMATELY WITH 6" - 12" DIA DBH AND A MINIMUM OF 30 FEET LENGTH. 50% OF THE RACKING MATERIAL SHALL BE OF 8" DBH OR GREATER.
- RACKING PLACEMENT SHALL OCCUR WITH EACH LAYER PLACEMENT TO ENSURE RACKING MATERIAL EXTENDS THROUGH STRUCTURE AND PINNED IN PLACE BY SUBSEQUENT LAYERS.
- RACKING MATERIAL SHALL HAVE NO MORE THAN 55% POROSITY (OR APPROXIMATELY 20 RACKING PIECES PER 4'X4'X4' VOLUME)
- THE STRUCTURE FACE SHALL HAVE NO MORE THAN 1-FT OPENING IN ANY DIMENSION.
- THE STRUCTURE FACE SHALL CONTAIN APPROXIMATELY 30% RACKING MATERIAL, 20% ALLUVIUM AND 30% SLASH BY VOLUME
- THE STRUCTURE CORE SHALL CONTAIN APPROXIMATELY 30% RACKING, 40% ALLUVIUM AND 20% SLASH.
- FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.
- BACKFILL EXTENTS MAY VARY AND ARE TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION SPOILS. AT LEAST 30% OF ALL BACKFILL IN THE CORE AND LEE OF THE STRUCTURE SHALL BE OF SLASH AND WOODY MATERIAL. THE TOP 18" OF STRUCTURE CORE AND STRUCTURE LEE BACKFILL SHALL CONTAIN AT LEAST 50% SLASH AND WOODY MATERIAL.
- BACKFILL NOT TO EXCEED TOP ELEVATION. EXCESS BACKFILL TO BE PLACED DOWNSTREAM OF FINISHED ELJ

TYPE 1 ELJ LOG SCHEDULE					
LOG ID	DIA* (INCHES)	LENGTH** (FEET)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE	NOTES
RB-4	22-26	40	Y	9	
B-5	22-26	50	N	2	
B-4	22-26	40	N	15	
RACKING	6-12	30-40	Y/N	500	
SLASH	<6	<30	N	333	MEASURED IN CY
PC-5	21-23	50 MIN	N	12	
* DIAMETER AT BREAST HEIGHT					
** TOTAL LENGTH INCLUDING ROOTWAD					

NOTES

- THE CONTRACTOR SHALL CLEARLY MARK THE LOG ID'S ON ALL MEMBERS AND HAVE VERIFIED BY THE ENGINEER BEFORE PLACEMENT INTO STRUCTURES.
- PILES MUST MEET ASTM D25 SPECIFICATIONS AND PILE DRIVING EQUIPMENT IS TO BE SIZED ACCORDINGLY.

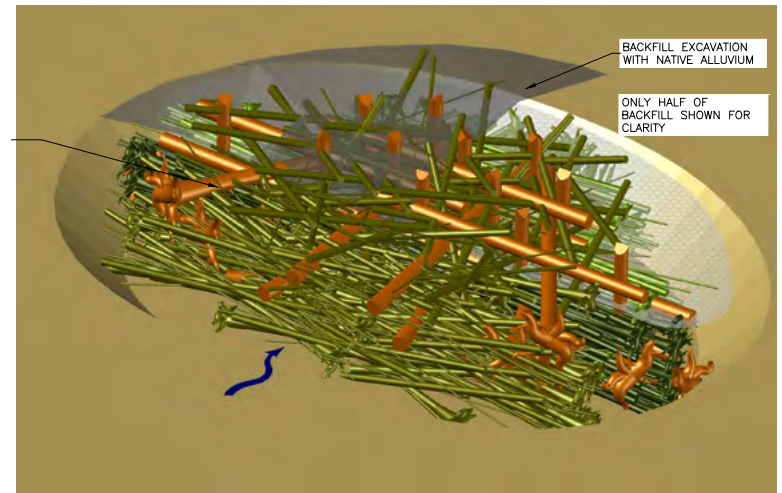
TYPE 1 LOG SCHEDULE 2/7



TYPE 1 ELJ PROFILE
SCALE: 1"=10'

TYPE 1 ELJ 1/7

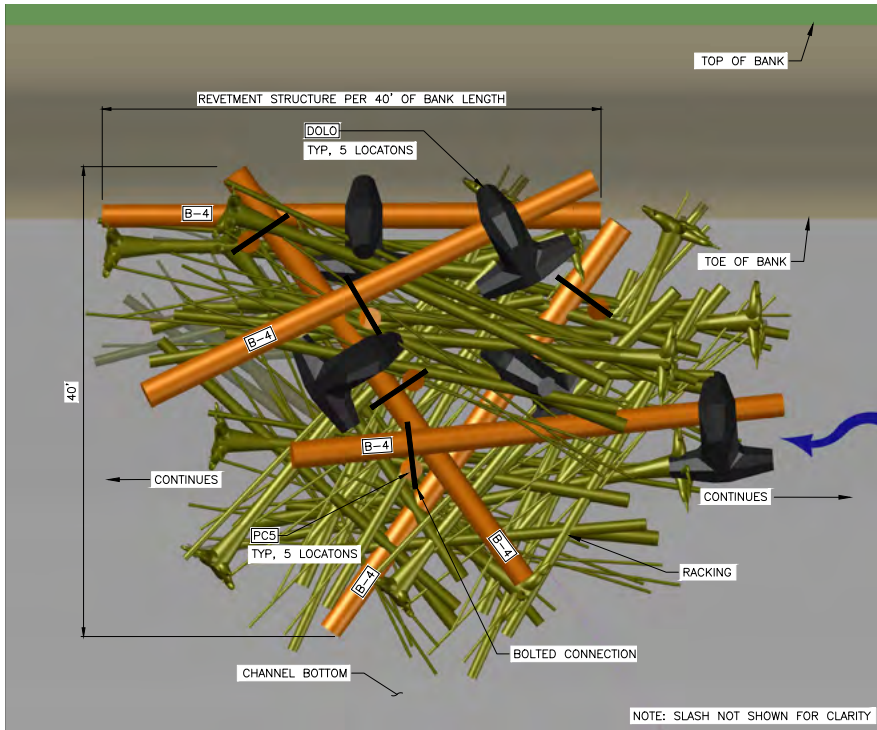
FINISHED ELJ WITH NATURAL APPEARANCE AND ROUGH SURFACE



TYPE 1 ELJ PERSPECTIVE
NOT TO SCALE

REFERENCE #: NWS-2020-XXX
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DATE: NOVEMBER 2020
SHEET: R-7

LOWER WHITE RIVER RESTORATION DOLO TIMBER REVETMENT DETAIL



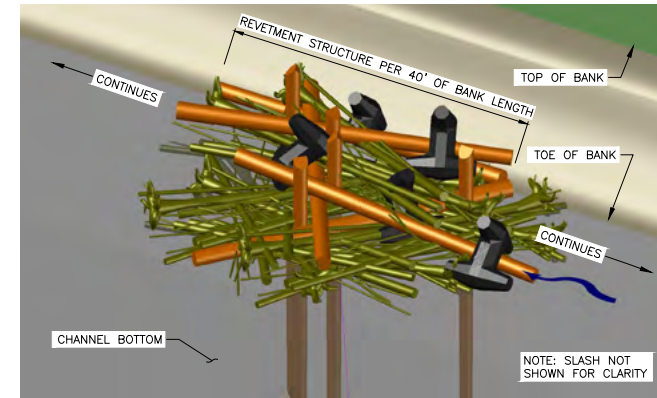
REVETMENT UNIT ELJ PLAN PER 40' OF BANK LENGTH
SCALE: 1" = 5'



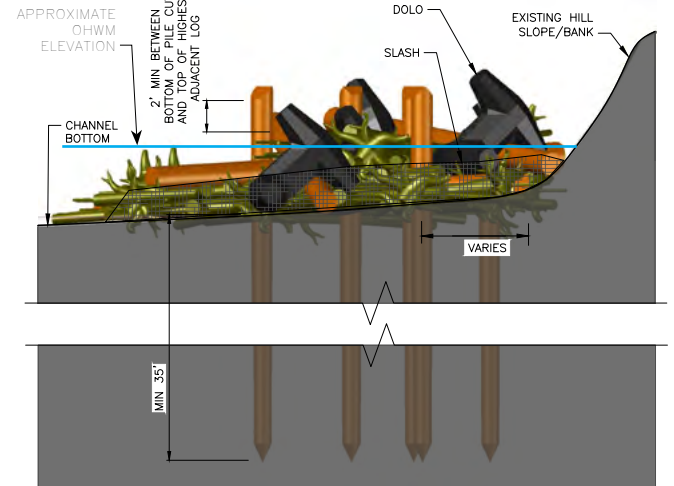
REVETMENT UNIT ELJ SIDE PROFILE
SCALE: 1" = 5'

REVETMENT STRUCTURE NOTES

- EXCAVATION SPOILS SHALL BE STAGED WITHIN THE WORK AREA AND OUTSIDE FLOWING WATER. SPOILS SHALL BE STOCKPILED TO ALLOW LOG LAYER PLACEMENT AND CONSTRUCTION ACCESS.
- BACKFILL EXTENTS VARY AND TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION SPOILS.
- FINAL REVETMENT HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.
- ALL LARGE WOOD DIMENSIONS DO NOT INCLUDE BARK THICKNESS.
- COVER TOP OF BACKFILL AREA AND BASE OF STRUCTURES WITH LOOSE WOOD DEBRIS AND CHIPS. MIX 6 INCHES OF LOOSE WOOD INTO UPPER 2 FT ON BACKFILL.
- RACKING AND SLASH PLACEMENT SHALL OCCUR ACCORDING TO LAYERING PLAN. A MINIMUM OF 100 RACKING LOGS AND 200 CY SLASH MATERIAL PER UNIT PER 40' BANK LENGTH SHALL BE INSTALLED.
- THE CONTRACTOR SHALL FIELD VERIFY WITH THE ENGINEER ALL ROOTWAD POST LOCATIONS, LENGTHS, WIDTHS AND ELEVATIONS PRIOR TO EXCAVATION, ASSEMBLY AND INSTALLATION OF EACH STRUCTURE.
- LOCATIONS FOR ALL STRUCTURE PLACEMENTS WILL BE STAKED IN FIELD BY THE ENGINEER PRIOR TO START OF CONSTRUCTION AT EACH SITE.
- EXCAVATION LIMITS SHALL BE FIELD VERIFIED BY THE ENGINEER PRIOR TO EXCAVATION COMMENCING AND PLACEMENT OF ANY LARGE WOOD.
- WOOD PLACEMENT IN EACH REVETMENT LAYER SHALL BE FIELD VERIFIED BY ENGINEER PRIOR TO BACKFILLING.



REVETMENT UNIT ELJ PERSPECTIVE
NOT TO SCALE



REVETMENT UNIT ELJ END PROFILE
SCALE: NTS

REVETMENT STRUCTURE PER 40' BANK LENGTH					
LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER 40' (EACH)	NOTES
PC-5	21-23	50	N	5	
B-4	22-26	40	N	5	
DOLO	NA	**	N	5	
RACKING	6-12	30-40	Y/N	100	
SLASH	<6	<30	N	200 CY	

* DIAMETER AT BREAST HEIGHT
** SEE DOLO DETAIL

REVETMENT UNIT ELJ $\frac{1}{8}$
SCALE: AS NOTED

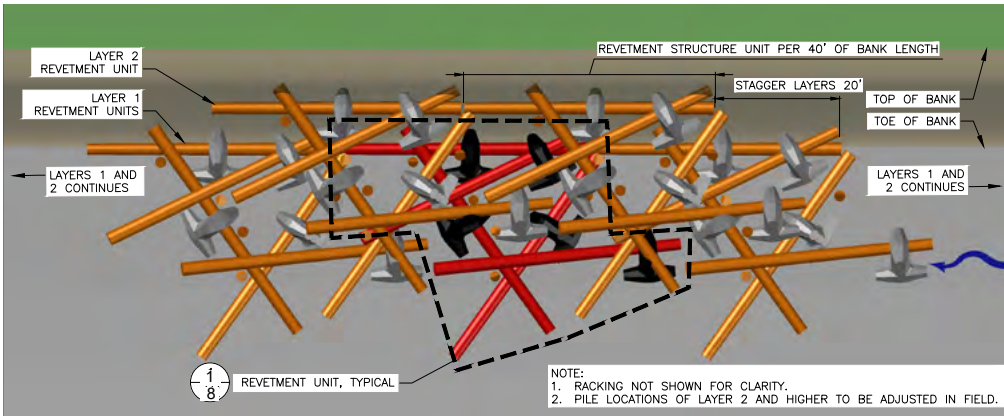
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

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LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

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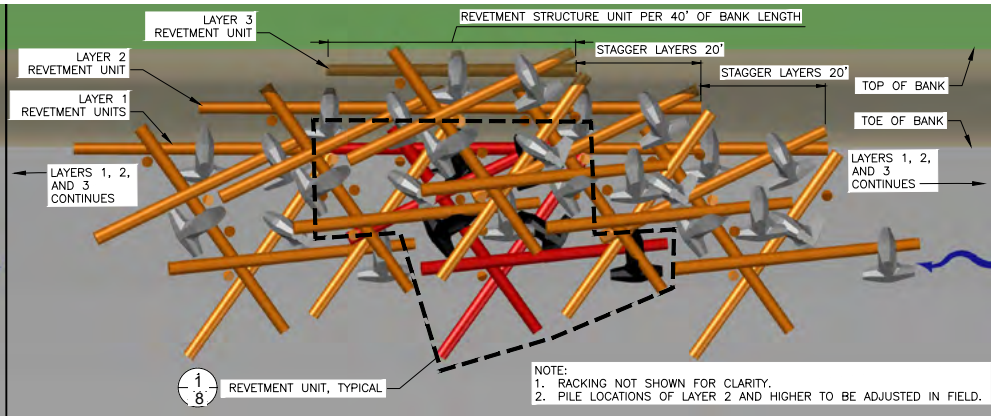
LOWER WHITE RIVER RESTORATION DOLO TIMBER REVETMENT LAYERING DETAIL



2 LEVEL DOLO TIMBER REVETMENT PLAN

SCALE: 1" = 10'

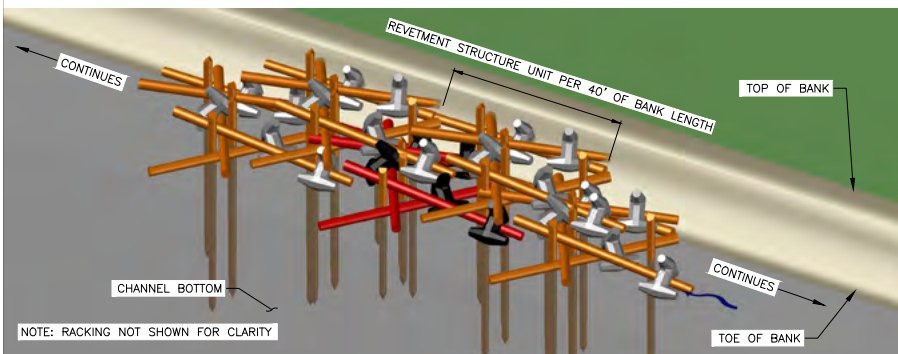
10' 5' 0 10' 20'
SCALE: 1" = 10'-0"



3 LEVEL DOLO TIMBER REVETMENT PLAN

SCALE: 1" = 10'

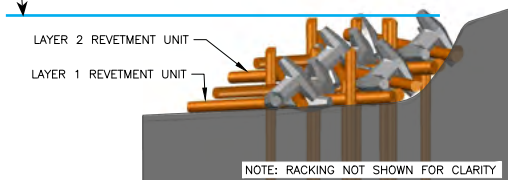
10' 5' 0 10' 20'
SCALE: 1" = 10'-0"



2 LEVEL REVETMENT PERSPECTIVE

NOT TO SCALE

APPROXIMATE
OHWM
ELEVATION



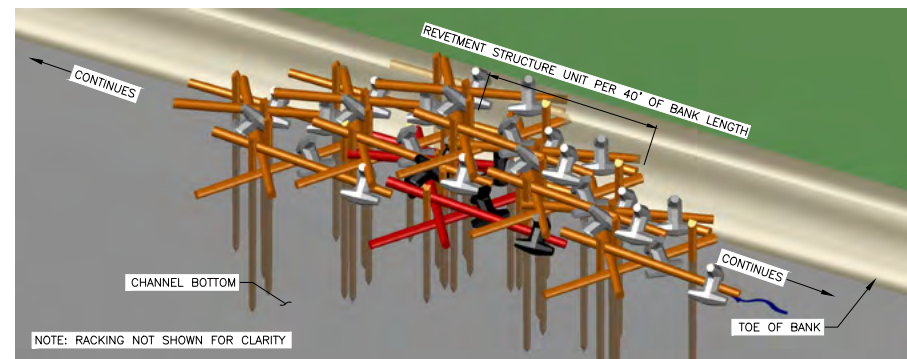
2 LEVEL REVETMENT PROFILE

SCALE: 1" = 10'

2 LEVEL DOLO TIMBER REVETMENT DETAILS

SCALE: AS NOTED

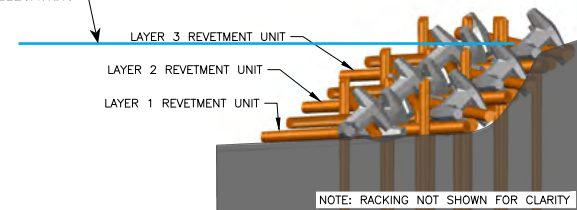
1/9



3 LEVEL REVETMENT PERSPECTIVE

NOT TO SCALE

APPROXIMATE
OHWM
ELEVATION



3 LEVEL REVETMENT PROFILE

SCALE: 1" = 10'

3 LEVEL DOLO TIMBER REVETMENT DETAILS

SCALE: AS NOTED

2/9

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

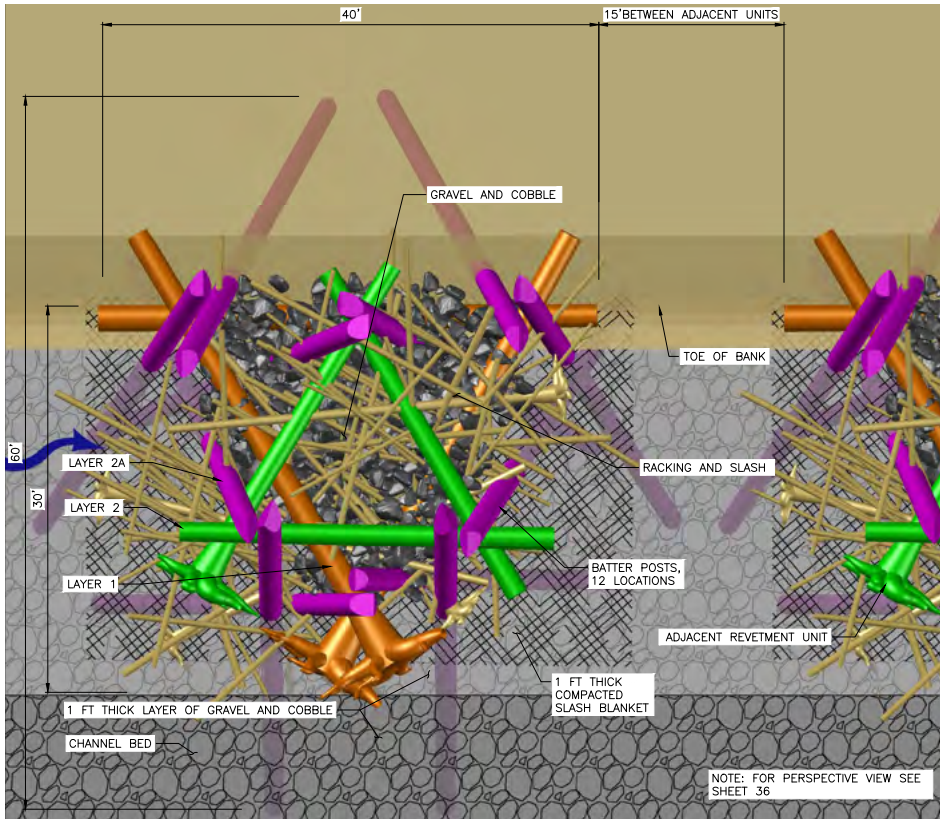
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS

LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

DATE: NOVEMBER 2020
SHEET: R-9

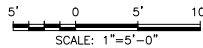
PAGE: 13 OF 48

LOWER WHITE RIVER RESTORATION 1-LEVEL BATTER PILE REVETMENT DETAIL



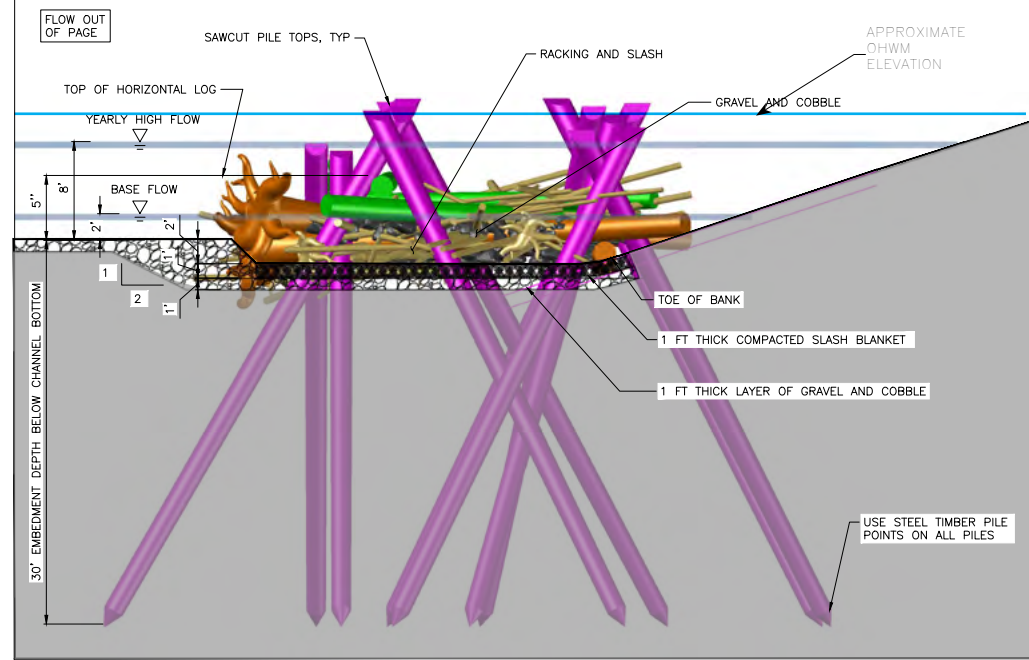
1 LEVEL BATTER PILE REVETMENT UNIT PLAN

SCALE: 1" = 5'



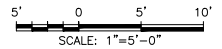
NOTES

- ALL LOGS SHALL BE DOUGLAS FIR OR WESTERN RED CEDAR.
- ALL PILES SHALL BE DOUGLAS FIR. PILES SHALL BE FREE FROM DEFECTS, CRACKS, AND SPLITTING AT THE TIME OF INSTALLATION.
- LOGS WITH OR WITHOUT ROOTWADS SHALL HAVE A DIAMETER AS SHOWN MEASURED AT DBH, DEFINED AS 4.5 FEET ABOVE GROUND WHEN TREE WAS STANDING, AND SHALL BE LASHED AS NEEDED TO BE HELD IN PLACE DURING PILE DRIVING.
- THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON LAYERING PLANS UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
- SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
- RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER AND LENGTH PER THE LOG SCHEDULE. TOTAL NUMBER OF RACKING LOGS PER STRUCTURE SHALL BE PER LOG SCHEDULE. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER PER THE LOG SCHEDULE. TOTAL SLASH MATERIAL QUANTITY SHALL BE PER THE LOG SCHEDULE. SLASH MATERIAL SHALL BE PLACED AS DIRECTED BY THE CONTRACTING OFFICER.
- EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.



1 LEVEL BATTER PILE REVETMENT UNIT PROFILE

SCALE: 1" = 5'



REVETMENT STRUCTURE MATERIAL SCHEDULE PER 40' UNIT LENGTH

SEQUENCE	LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY (EACH)	NOTES
LAYER 0	SLASH	<6	<30	N	150 CY	TRACK COMPACT INTO 1 FT DEEP COMPACTED SLASH BLANKET
LAYER 1	B4	22-26	40	N	1	
LAYER 1	RB4	22-26	40	Y	2	
LAYER 2	RACKING	6-12	30-40	Y/N	100	
LAYER 2	SLASH	<6	<30	N	170 CY	
LAYER 2	D3	18-22	30	N	2	
LAYER 2	RD3	18-22	30	Y	1	
LAYER 2A	PE50	16-18	50	N	12	BATTER PILE, INSTALL AT 20 TO 30 DEGREES FROM VERTICAL. USE STEEL TIMBER PILE POINTS AS DIRECTED BY ENGINEER.
LAYER 2B	GRAVEL AND COBBLE				15 CY	QUANTITY IS FOR GRAVEL AND COBBLE THAT SHALL BE INSTALLED WITHIN EACH REVETMENT UNIT
* MINIMUM DIAMETER AT BREAST HEIGHT						
** TOTAL LENGTH INCLUDING ROOTWAD						

1 LEVEL BATTER PILE REVETMENT UNIT DETAILS

SCALE: AS NOTED

1/10

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

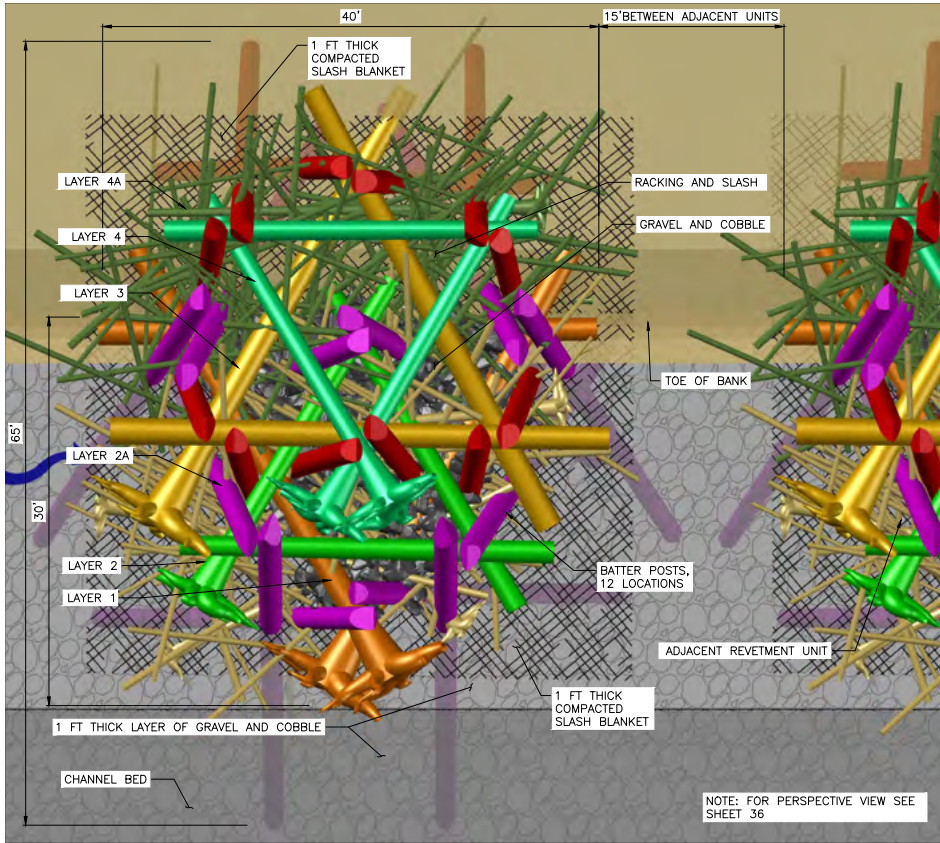
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS

LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

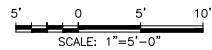
DATE: NOVEMBER 2020
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LOWER WHITE RIVER RESTORATION 2-LEVEL BATTER PILE REVETMENT DETAIL

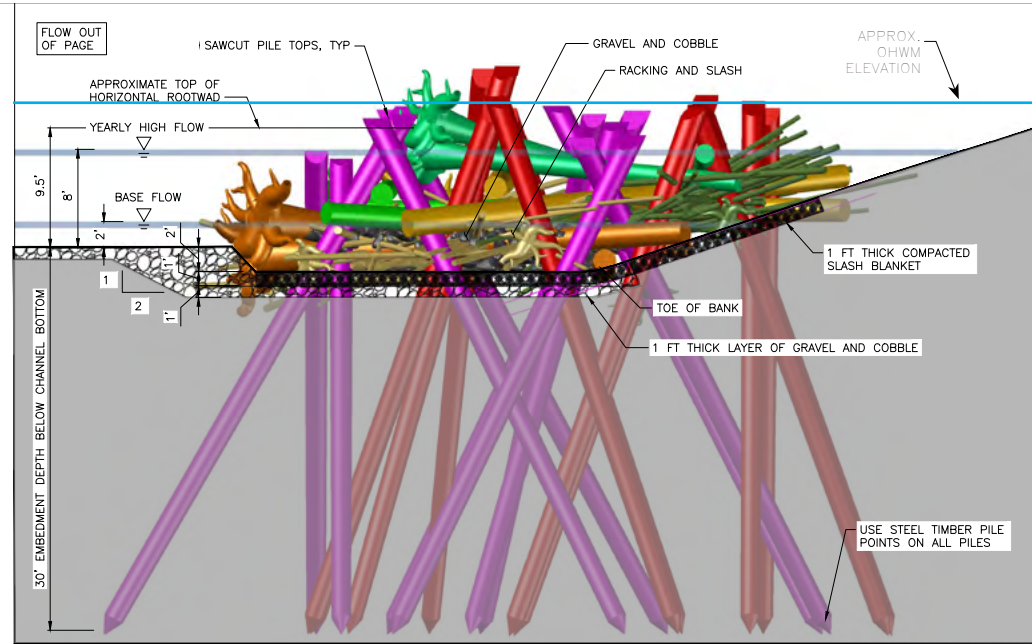


2 LEVEL BATTER PILE REVETMENT UNIT PLAN



NOTES

1. ALL LOGS SHALL BE DOUGLAS FIR OR WESTERN RED CEDAR.
2. ALL PILES SHALL BE DOUGLAS FIR. PILES SHALL BE FREE FROM DEFECTS, CRACKS, AND SPLITTING AT THE TIME OF INSTALLATION.
3. LOGS WITH OR WITHOUT ROOTWADS SHALL HAVE A DIAMETER AS SHOWN MEASURED AT DBH, DEFINED AS 4.5 FEET ABOVE GROUND WHEN TREE WAS STANDING, AND SHALL BE LASHED AS NEEDED TO BE HELD IN PLACE DURING PILE DRIVING.
4. THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON LAYERING PLANS UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
5. SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
6. RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER AND LENGTH PER THE LOG SCHEDULE. TOTAL NUMBER OF RACKING LOGS PER STRUCTURE SHALL BE PER LOG SCHEDULE. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER PER THE LOG SCHEDULE. TOTAL SLASH MATERIAL QUANTITY SHALL BE PER THE LOG SCHEDULE. SLASH MATERIAL SHALL BE PLACED AS DIRECTED BY THE CONTRACTING OFFICER.
7. EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.



2 LEVEL BATTER PILE REVETMENT UNIT PROFILE



REVETMENT STRUCTURE MATERIAL SCHEDULE PER 40' UNIT LENGTH						
SEQUENCE	LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY (EACH)	NOTES
LAYER 0	SLASH	<6	<30	N	150 CY	TRACK COMPACT INTO 1 FT DEEP COMPACTED SLASH BLANKET
LAYER 1	B4	22-26	40	N	1	
LAYER 1	RB4	22-26	40	Y	2	
LAYER 2	RACKING	6-12	30-40	Y/N	100	
LAYER 2	SLASH	<6	<30	N	170 CY	
LAYER 2	D3	18-22	30	N	2	
LAYER 2	RD3	18-22	30	Y	1	
LAYER 2A	PE50	16-18	50	N	12	BATTER PILE, INSTALL AT 20 TO 30 DEGREES FROM VERTICAL. USE STEEL TIMBER PILE POINTS AS DIRECTED BY ENGINEER.
LAYER 2B	GRAVEL AND COBBLE				15 CY	QUANTITY IS FOR GRAVEL AND COBBLE THAT SHALL BE INSTALLED WITHIN EACH REVETMENT UNIT
LAYER 3	RB4	22-26	40	Y	1	
LAYER 4	RACKING	6-12	30-40	Y/N	100	
LAYER 4	SLASH	<6	<30	N	170 CY	
LAYER 4	D3	18-22	30	N	1	
LAYER 4	RD3	18-22	30	Y	2	
LAYER 4A	PE50	16-18	50	N	12	BATTER PILE, INSTALL AT 20 TO 30 DEGREES FROM VERTICAL. USE STEEL TIMBER PILE POINTS AS DIRECTED BY ENGINEER.

* MINIMUM DIAMETER AT BREAST HEIGHT
 ** TOTAL LENGTH INCLUDING ROOTWAD

2 LEVEL BATTER PILE REVETMENT UNIT DETAILS 1/11

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

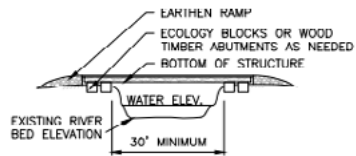
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS

LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

DATE: NOVEMBER 2020
SHEET: R-11

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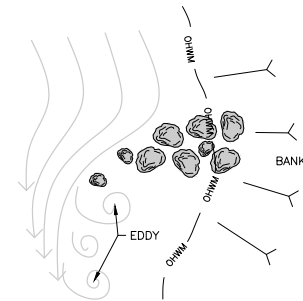
LOWER WHITE RIVER RESTORATION RACKING AND ROCK ROUGHNESS FEATURE DETAILS



NOTES FOR TEMPORARY BRIDGE:

1. CONTRACTOR TO DESIGN TEMPORARY BRIDGE.
2. BRIDGE SHALL BE LOCATED SUCH THAT ONLY ONE SPAN IS USED TO ELIMINATE IMPACTS TO SUBSTRATE OF CHANNEL.
3. END OF BRIDGE SHALL BEAR ON HIGH BANKS WITH SUFFICIENT BEARING CAPACITY TO PREVENT SLOUCHING OR COLLAPSE OF SIDE CHANNEL BANKS.
4. CONCRETE ECOLOGY BLOCKS OR WOOD ABUTMENTS MAY BE USED TO SUPPORT ENDS OF TEMPORARY BRIDGE AS NEEDED.
5. BRIDGES MAY BE CONSTRUCTED FROM LOGS, RAIL CAR BEDS OR APPROVED EQUAL AND DECKED WITH STEEL SHEET, WOOD LAGGING OR APPROVED EQUAL.

TEMPORARY ENGINEERED BRIDGE CROSSING (1)
NOT TO SCALE

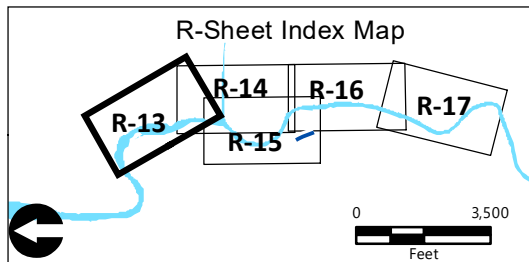
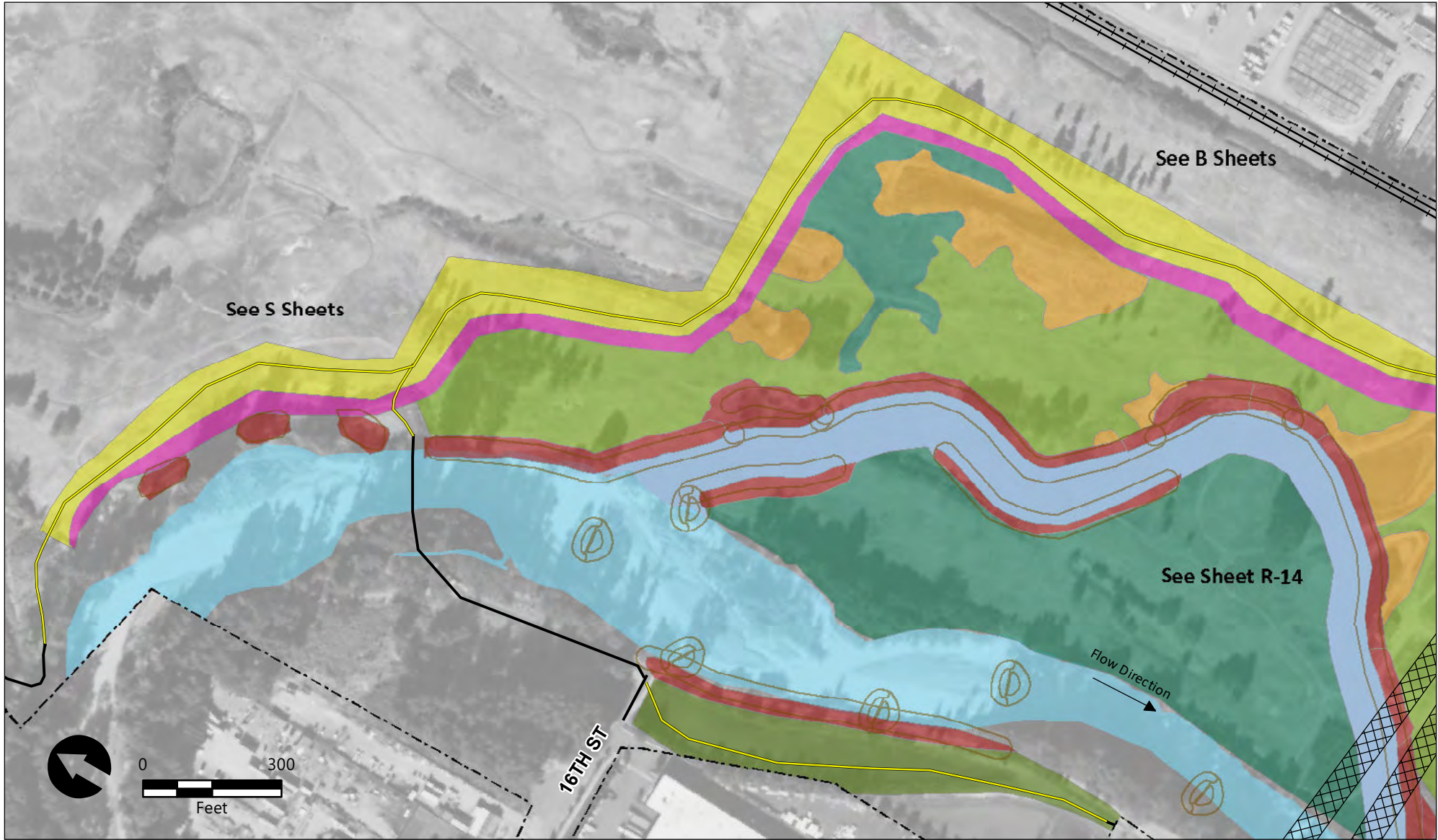


ROCK ROUGHNESS FEATURE (2)
SCALE: NOT TO SCALE

REFERENCE #: NWS-2020-XXX	
APPLICANT: CITY OF SUMNER AND BNSF	
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS	
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.	
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LOWER WHITE RIVER RESTORATION PLANTING PLAN (1 OF 5)

Date Saved: 10/1/2020, danielle Document Path: N:\Projects\City of Sumner\LowerWhite2018\GIS\maps\mxd\ARPA_NSD_Planting.mxd



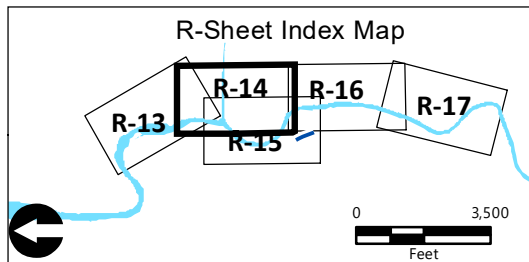
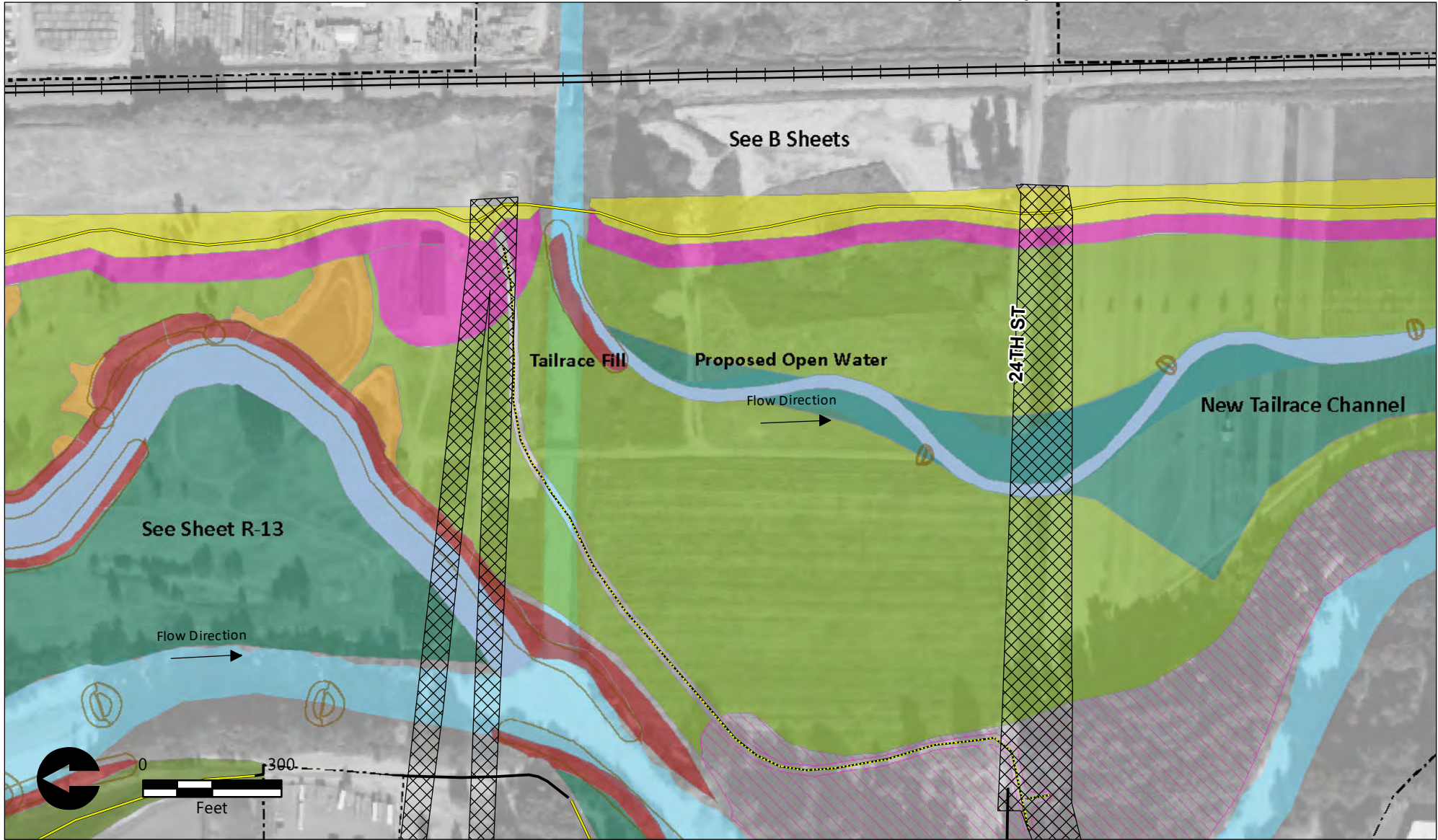
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|---|--------------------------------------|
| Project Area | Upland Forest Plant Community |
| Ordinary High Water | Forested Berm Slope Treatment |
| BNSF Railroad | Scrub-Shrub/Emergent Plant Community |
| Existing Trail | Transitional Forest Plant Community |
| Proposed PSE Maint. Road | Wet Forest Plant Community |
| Proposed Trail | Revetment Treatment Plant Community |
| Proposed Wood Structures | Conifer Forest Plant Community |
| Proposed Channels | |
| Vegetation Management Area - PSE Powerlines | |

NWS-2020-1140

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
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LOWER WHITE RIVER RESTORATION PLANTING PLAN (2 OF 5)

Date Saved: 10/1/2020, danielle Document Path: N:\Projects\City of Sumner\LowerWhite2018\GIS\maps\mxd\VARPA_NSD_Planting.mxd



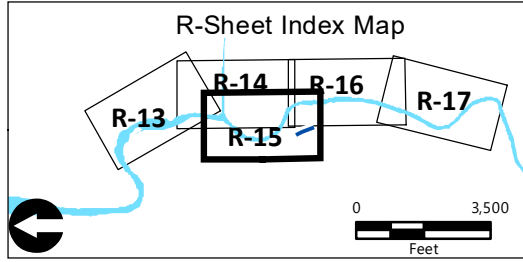
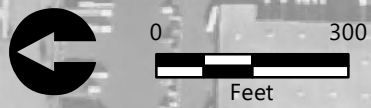
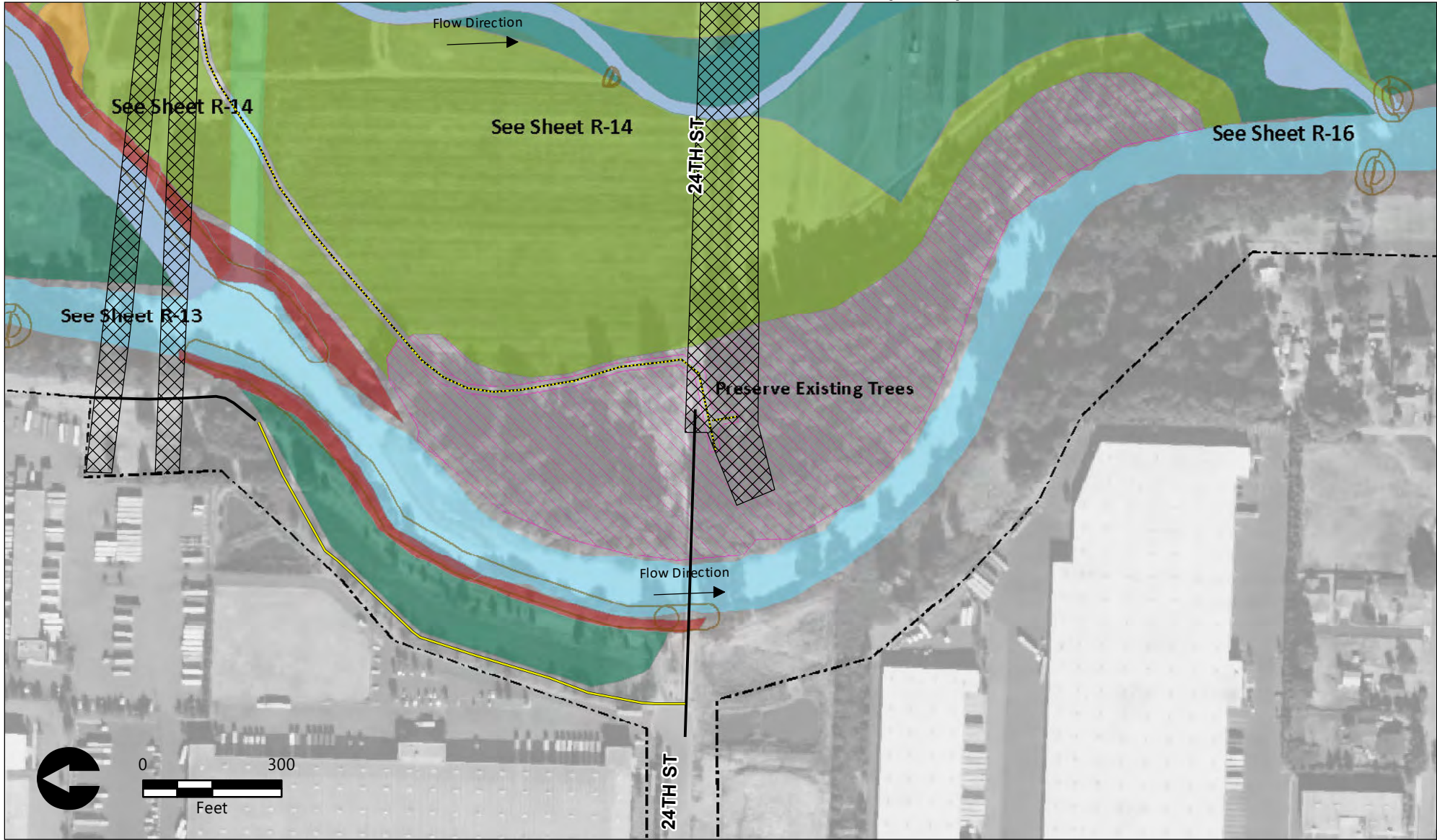
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| <ul style="list-style-type: none"> Project Area Ordinary High Water BNSF Railroad Existing Trail Proposed PSE Maint. Road Proposed Trail Proposed Wood Structures Proposed Channels Vegetation Management Area - PSE Powerlines | <p>Proposed Planting Areas</p> <ul style="list-style-type: none"> Upland Forest Plant Community Forested Berm Slope Treatment Scrub-Shrub/Emergent Plant Community Transitional Forest Plant Community Wet Forest Plant Community Revetment Treatment Plant Community Conifer Forest Plant Community Weed Control and Conifer Underplanting |
|---|--|

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
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LOWER WHITE RIVER RESTORATION PLANTING PLAN (3 OF 5)

Date Saved: 10/1/2020, danielle Document Path: N:\Projects\City of Sumner\LowerWhite2018\GIS\maps\mxd\ARPA_NSD_Planting.mxd



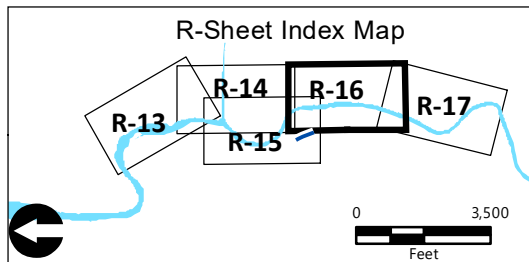
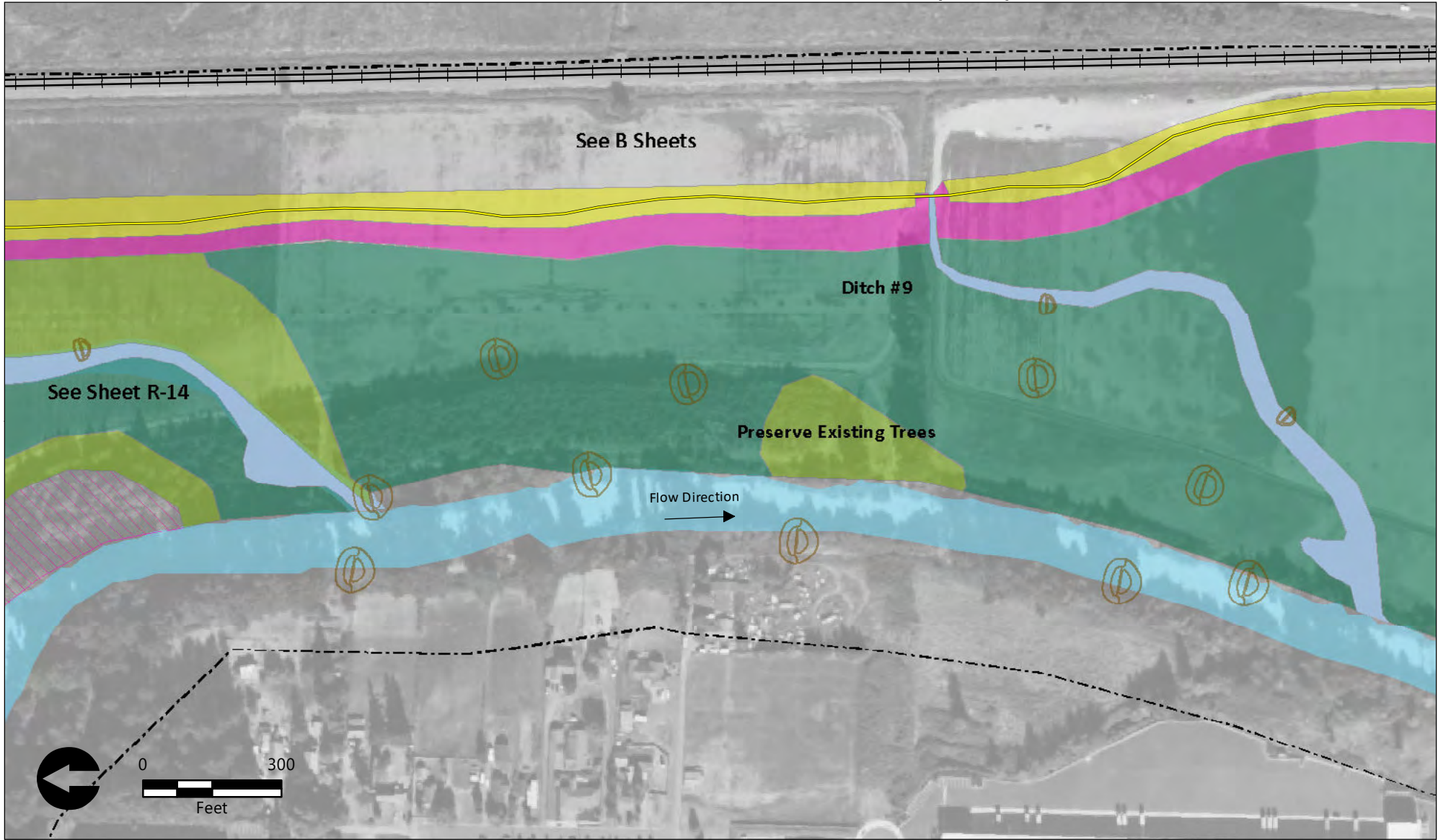
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|---|--|
| Project Area | Proposed Planting Areas |
| Ordinary High Water | Upland Forest Plant Community |
| BNSF Railroad | Forested Berm Slope Treatment |
| Existing Trail | Scrub-Shrub/Emergent Plant Community |
| Proposed PSE Maint. Road | Transitional Forest Plant Community |
| Proposed Trail | Wet Forest Plant Community |
| Proposed Wood Structures | Revetment Treatment Plant Community |
| Proposed Channels | Conifer Forest Plant Community |
| Vegetation Management Area - PSE Powerlines | Weed Control and Conifer Underplanting |

NWS-2020-1140

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
SHEET: R-15 PAGE: 19 OF 48

LOWER WHITE RIVER RESTORATION PLANTING PLAN (4 OF 5)

Date Saved: 10/7/2020, danielle Document Path: N:\Projects\City of Sumner\LowerWhite2018\GIS\maps\mxd\ARPA_NSD_Planting.mxd



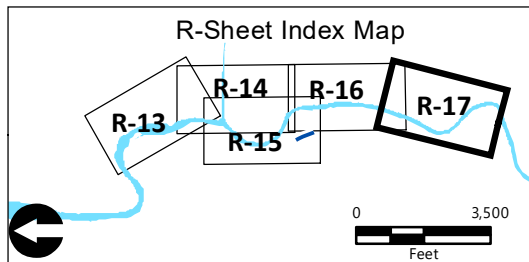
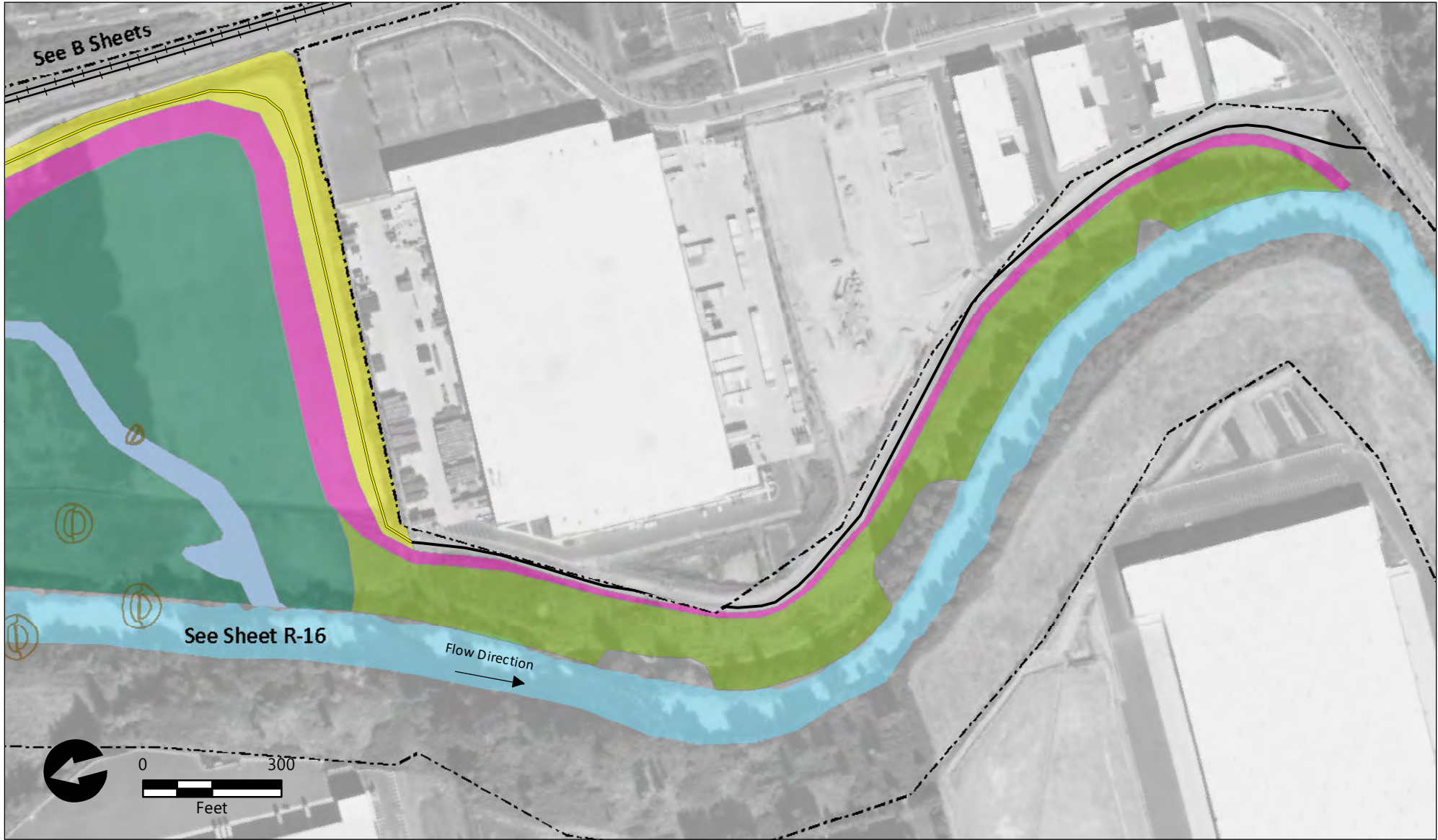
- Project Area
- Ordinary High Water
- BNSF Railroad
- Proposed Trail
- Proposed Wood Structures
- Proposed Channels
- Proposed Planting Areas**
- Upland Forest Plant Community
- Forested Berm Slope Treatment
- Transitional Forest Plant Community
- Wet Forest Plant Community
- Weed Control and Conifer Underplanting

NWS-2020-1140

REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
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LOWER WHITE RIVER RESTORATION PLANTING PLAN (5 OF 5)

Document Path: N:\Projects\City of Sumner\LowerWhite2018\GIS\maps\mxd\VARPA_NSD_Planting.mxd
Date Saved: 10/1/2020, danielle



- | | |
|--------------------------------|-------------------------------------|
| Project Area | Forested Berm Slope Treatment |
| Ordinary High Water | Transitional Forest Plant Community |
| BNSF Railroad | Wet Forest Plant Community |
| Existing Trail | |
| Proposed Trail | |
| Proposed Wood Structures | |
| Proposed Channels | |
| Proposed Planting Areas | |
| Upland Forest Plant Community | |

NWS-2020-1140

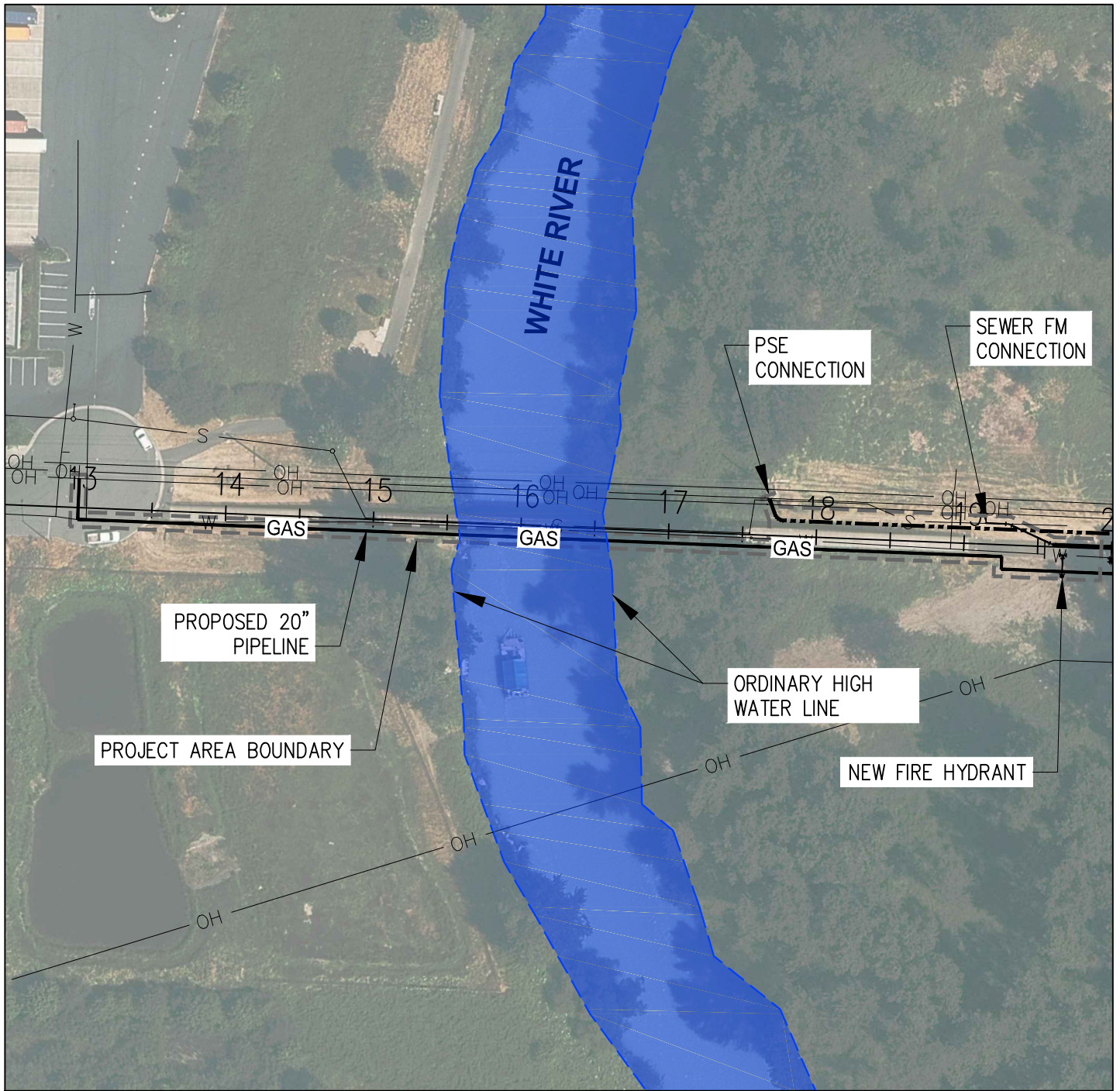
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
SHEET: R-17 PAGE: 21 OF 48

LOWER WHITE RIVER RESTORATION PROPOSED PLANT COMMUNITIES

REVEGETATION PLANT COMMUNITY				286,908 sqft total
	Common Name	Scientific Name	Spacing (on center)	Material Type
TREE	Black Cottonwood	<i>Populus balsamifera</i>	15'	1 gallon
SHRUB	Pacific Willow	<i>Salix lucida ssp. lasiandra</i>	1'-3'	Live Stake
	Scouler's Willow	<i>Salix scouleriana</i>	1'-3'	Live Stake
	Sitka Willow	<i>Salix sitchensis</i>	1'-3'	Live Stake
	Snowberry	<i>Symphoricarpos albus</i>	5'	1 gallon
WET FOREST COMMUNITY				2,045,813 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Cascara	<i>Rhamnus purshiana</i>	15'	1 gallon
	Oregon Ash	<i>Fraxinus latifolia</i>	15'	1 gallon
	Pacific Crabapple	<i>Malus fusca</i>	15'	1 gallon
	Red Alder	<i>Alnus rubra</i>	15'	1 gallon
	Western Red Cedar	<i>Thuja plicata</i>	15'	1 gallon
SHRUB	Black twinberry	<i>Lonicera involucrata</i>	5'	1 gallon
	Swamp Rose	<i>Rosa pisocarpa</i>	5'	1 gallon
	Salmonberry	<i>Rubus spectabilis</i>	5'	1 gallon
	Sitka Willow	<i>Salix sitchensis</i>	5'	Live Stake
GROUND	Slough Sedge	<i>Carex obnupta</i>	3'	10" plug
	Sword Fern	<i>Polystichum munitum</i>	3'	10" plug
	Tufted Hair Grass	<i>Deschampsia cespitosa</i>	3'	10" plug
TRANSITIONAL FOREST COMMUNITY				2,418,679 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Bigleaf Maple	<i>Acer macrophyllum</i>	15'	1 gallon
	Black Cottonwood	<i>Populus balsamifera</i>	15'	1 gallon
	Douglas Fir	<i>Pseudotsuga menziesii</i>	15'	1 gallon
	Oregon Ash	<i>Fraxinus latifolia</i>	15'	1 gallon
	Pacific Crabapple	<i>Malus fusca</i>	15'	1 gallon
	Red Alder	<i>Alnus rubra</i>	15'	1 gallon
	Western Red Cedar	<i>Thuja plicata</i>	15'	1 gallon
SHRUB	Hazelnut	<i>Corylus cornuta</i>	5'	1 gallon
	Nootka Rose	<i>Rosa nutkana</i>	5'	1 gallon
	Oceanspray	<i>Halodiscus discolor</i>	5'	1 gallon
	Red Elderberry	<i>Sambucus racemosa</i>	5'	1 gallon
	Salmonberry	<i>Rubus spectabilis</i>	5'	1 gallon
	Snowberry	<i>Symphoricarpos albus</i>	5'	1 gallon
	Sword Fern	<i>Polystichum munitum</i>	5'	1 gallon
	Thimbleberry	<i>Rubus parviflorus</i>	5'	1 gallon
	Vine Maple	<i>Acer circinatum</i>	5'	1 gallon
CONIFER FOREST COMMUNITY				208,941 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Douglas Fir	<i>Pseudotsuga menziesii</i>	15'	1 gallon
	Red Alder	<i>Alnus rubra</i>	15'	1 gallon
	Western Hemlock	<i>Tsuga heterophylla</i>	15'	1 gallon
SHRUB	Indian Plum	<i>Oemleria cerasiformis</i>	5'	1 gallon
	Nootka Rose	<i>Rosa nutkana</i>	5'	1 gallon
	Oceanspray	<i>Halodiscus discolor</i>	5'	1 gallon
	Salal	<i>Gaultheria shallon</i>	5'	1 gallon
	Snowberry	<i>Symphoricarpos albus</i>	5'	1 gallon
	Vine Maple	<i>Acer circinatum</i>	15'	1 gallon
GROUND	Low Oregon Grape	<i>Mahonia nervosa</i>	5'	1 gallon
	Sword Fern	<i>Polystichum munitum</i>	5'	1 gallon

UPLAND FOREST PLANT COMMUNITY				805,267 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Douglas Fir	<i>Pseudotsuga menziesii</i>	15'	1 gallon
	Red Alder	<i>Alnus rubra</i>	15'	1 gallon
	Western Hemlock	<i>Tsuga heterophylla</i>	15'	1 gallon
SHRUB	Indian Plum	<i>Oemleria cerasiformis</i>	8'	1 gallon
	Nootka Rose	<i>Rosa nutkana</i>	8'	1 gallon
	Oceanspray	<i>Halodiscus discolor</i>	8'	1 gallon
	Salal	<i>Gaultheria shallon</i>	8'	1 gallon
	Snowberry	<i>Symphoricarpos albus</i>	8'	1 gallon
	Vine Maple	<i>Acer circinatum</i>	8'	1 gallon
GROUND	Low Oregon Grape	<i>Mahonia nervosa</i>	3'	1 gallon
	Sword Fern	<i>Polystichum munitum</i>	3'	1 gallon
SCRUB-SHRUB/EMERGENT PLANT COMMUNITY				172,551 sqft total
	Common Name	Scientific Name	Spacing (on center)	
SHRUB	American Mannagrass	<i>Glyceria grandis</i>	3-5'	10" plug
	American Skunk Cabbage	<i>Lysichiton americanum</i>	3-5'	10" plug
	Awlfruit Sedge	<i>Carex stipata</i>	3-5'	10" plug
	Common Spikerush	<i>Eleocharis palustris</i>	3-5'	10" plug
	Hooker's Willow	<i>Salix hookeriana</i>	3-5'	Live Stake
	Scouler's Willow	<i>Salix scouleriana</i>	3-5'	Live Stake
	Sitka Willow	<i>Salix sitchensis</i>	3-5'	Live Stake
	Slough Sedge	<i>Carex obnupta</i>	3-5'	10" plug
	Smallfruited Bulrush	<i>Scirpus microcarpus</i>	3-5'	10" plug
	Tufted Hair Grass	<i>Deschampsia cespitosa</i>	3-5'	10" plug
FORESTED BERM SLOPE TREATMENT				621,834 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Douglas Fir	<i>Pseudotsuga menziesii</i>	15'	1 gallon
	Madrone	<i>Arbutus menziesii</i>	15'	1 gallon
	Red Alder	<i>Alnus rubra</i>	15'	1 gallon
SHRUB	Baldhip Rose	<i>Rosa gymnocarpa</i>	5'	1 gallon
	Oceanspray	<i>Halodiscus discolor</i>	5'	1 gallon
	Red huckleberry	<i>Vaccinium parvifolium</i>	5'	1 gallon
	Salal	<i>Gaultheria shallon</i>	5'	1 gallon
	Snowberry	<i>Symphoricarpos albus</i>	5'	1 gallon
	Sword Fern	<i>Polystichum munitum</i>	5'	1 gallon
WEED CONTROL AND CONIFER UNDERPLANTING TREATMENT				551,854 sqft total
	Common Name	Scientific Name	Spacing (on center)	
TREE	Douglas Fir	<i>Pseudotsuga menziesii</i>	25'	1 gallon
	Western Red Cedar	<i>Thuja plicata</i>	25'	1 gallon

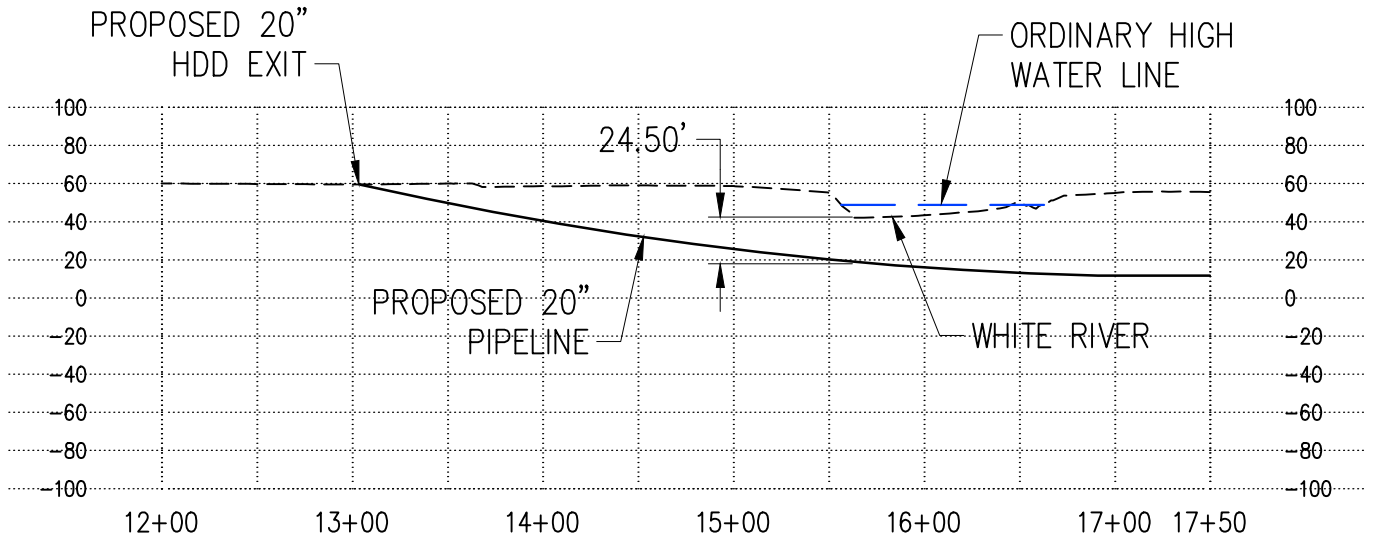
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.
DATE: NOVEMBER 2020
SHEET: R-18 PAGE: 22 OF 48



NOTE:
PROJECT CAUSES NO IMPACT TO WATERS OF THE U.S.



REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020
 SHEET: U-1
 PAGE: 23 OF 48



PROPOSED HORIZONTAL DIRECTIONAL DRILLING PROFILE



REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE
 2.5 AND 4.5
 DATE: OCTOBER 2020
 SHEET: U-2
 PAGE: 24 OF 48

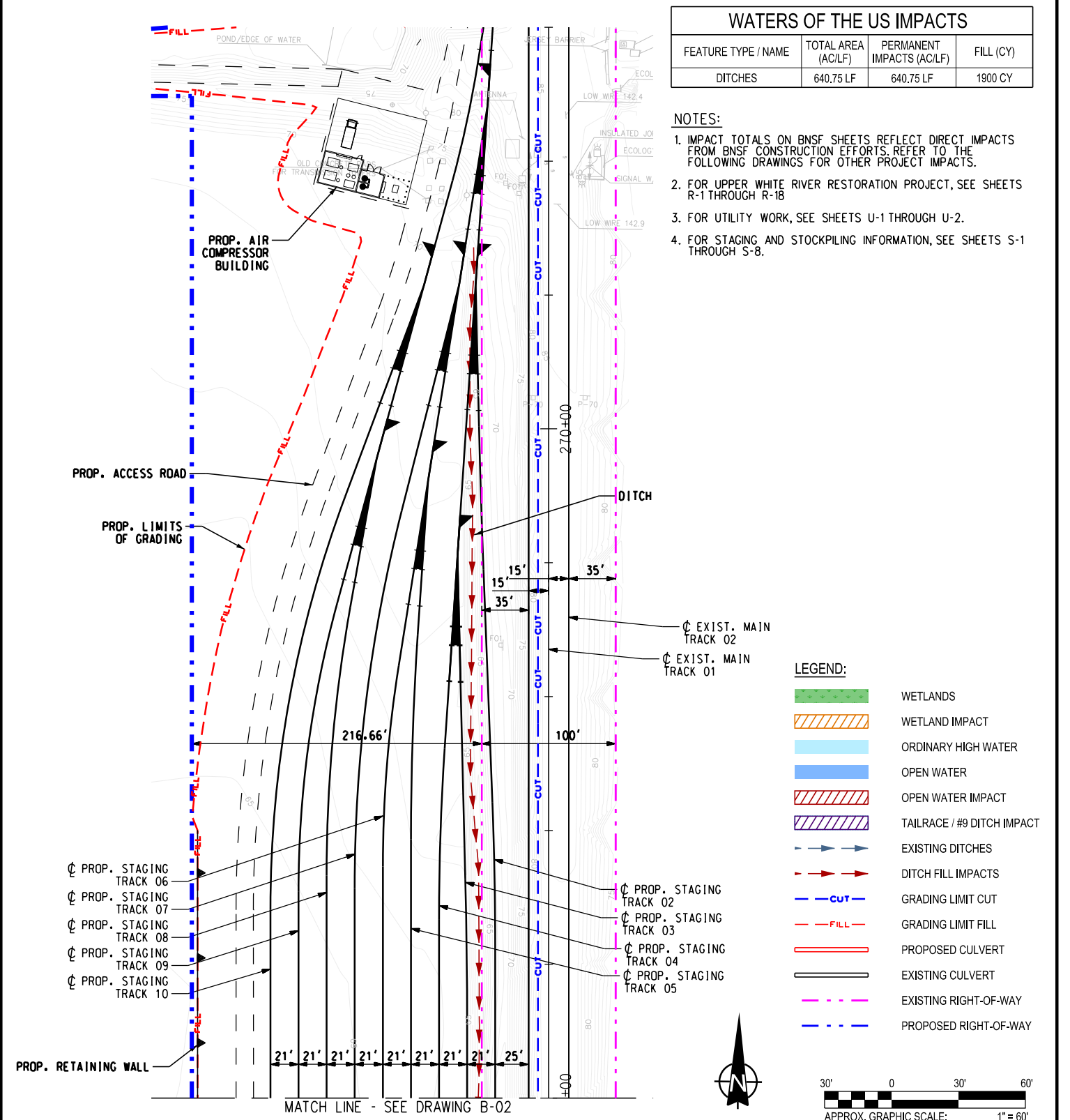
NWS-2020-1140

WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	640.75 LF	640.75 LF	1900 CY

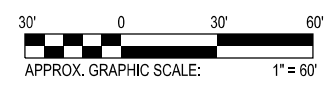
NOTES:

- IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
- FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
- FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
- FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

	WETLANDS
	WETLAND IMPACT
	ORDINARY HIGH WATER
	OPEN WATER
	OPEN WATER IMPACT
	TAILRACE / #9 DITCH IMPACT
	EXISTING DITCHES
	DITCH FILL IMPACTS
	GRADING LIMIT CUT
	GRADING LIMIT FILL
	PROPOSED CULVERT
	EXISTING CULVERT
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY

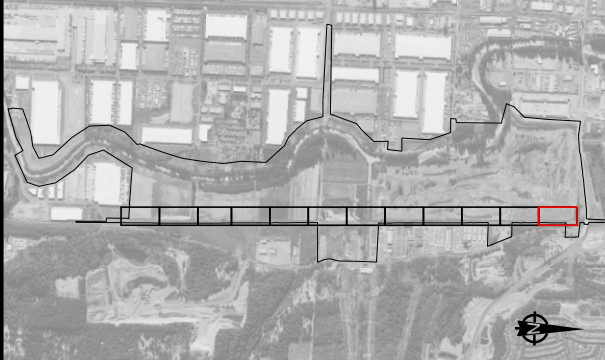


BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

MATCH LINE - SEE DRAWING B-02

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



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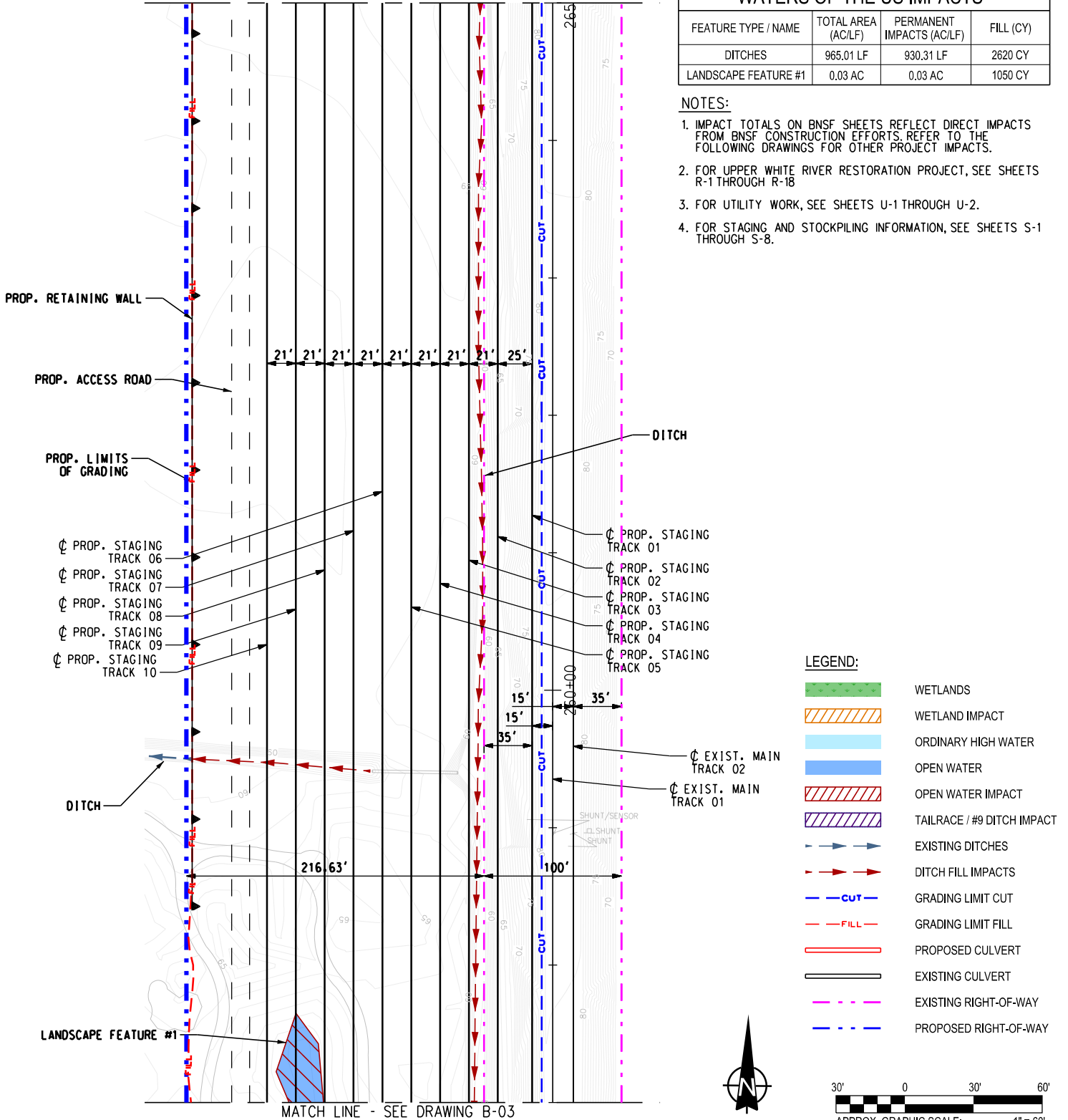
MATCH LINE - SEE DRAWING B-01

WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	965.01 LF	930.31 LF	2620 CY
LANDSCAPE FEATURE #1	0.03 AC	0.03 AC	1050 CY

NOTES:

- IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
- FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
- FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
- FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.

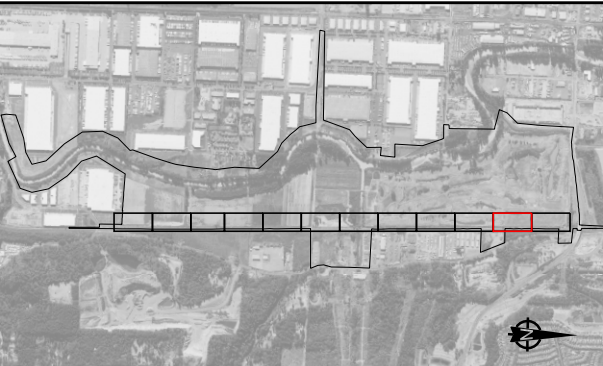


MATCH LINE - SEE DRAWING B-03

BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020

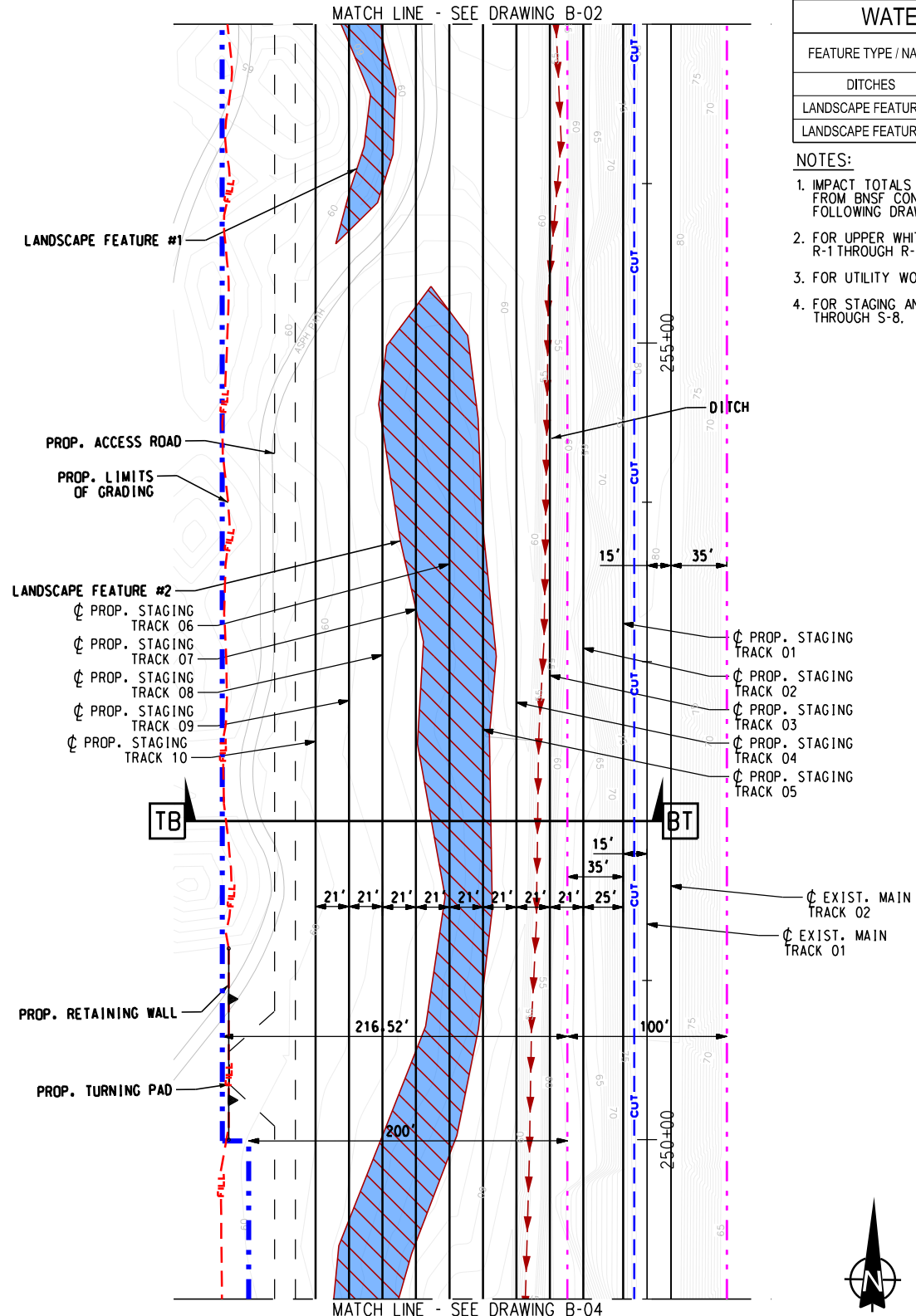


WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	800.65 LF	800.65 LF	2250 CY
LANDSCAPE FEATURE #1	0.06 AC	0.06 AC	1690 CY
LANDSCAPE FEATURE #2	0.64 AC	0.64 AC	19460 CY

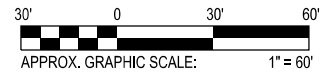
NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-8.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

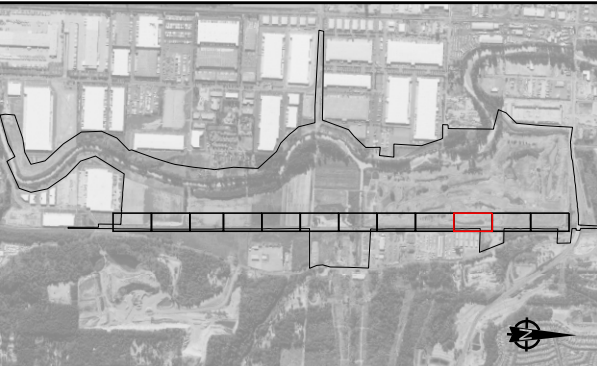
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



NWS-2020-1140
 SHEET NO. B-03

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SCALE

AS SHOWN

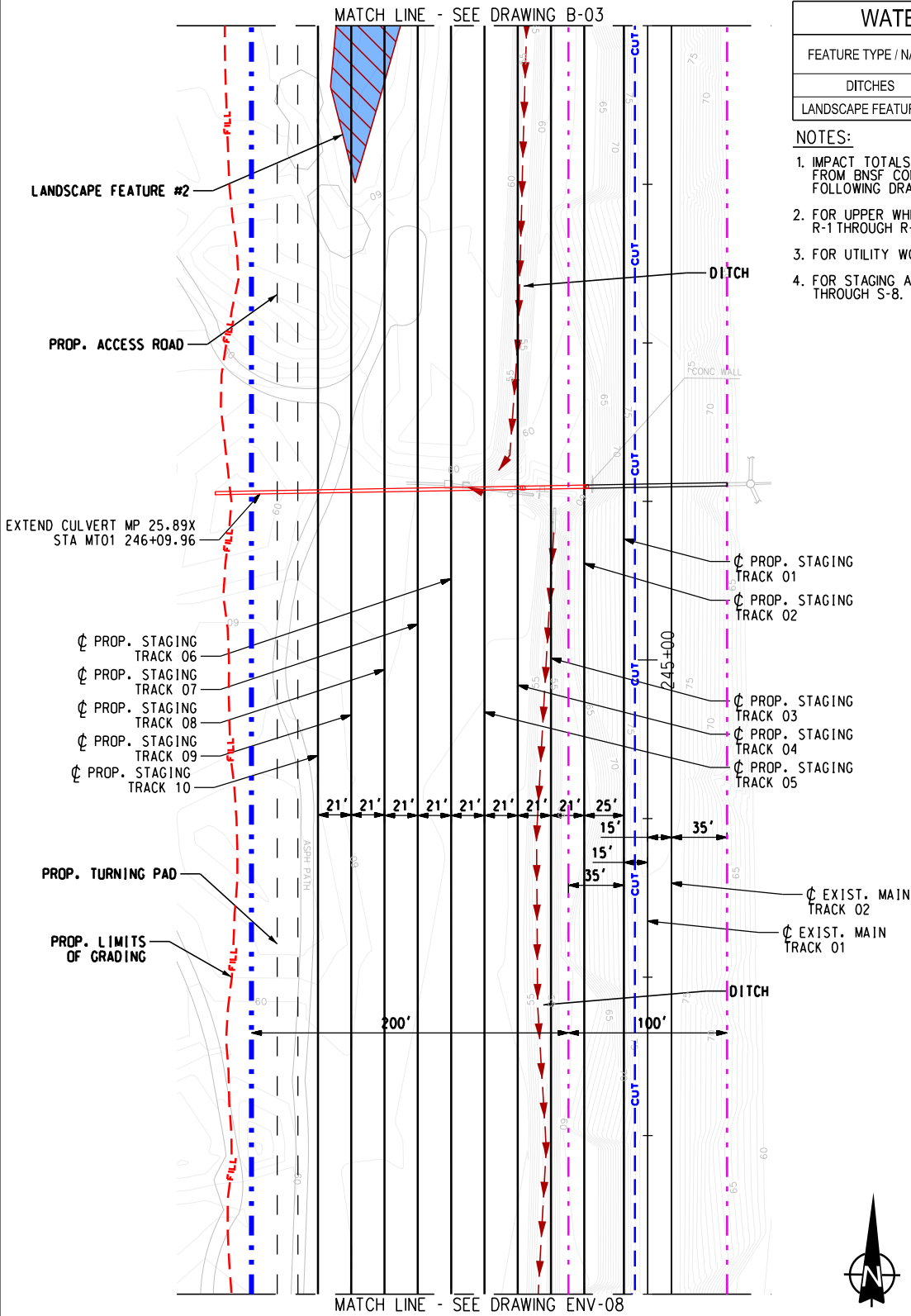
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WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	774.65 LF	774.65 LF	2070 CY
LANDSCAPE FEATURE #2	0.06 AC	0.06 AC	1620 CY

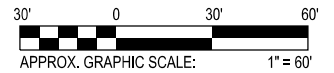
NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

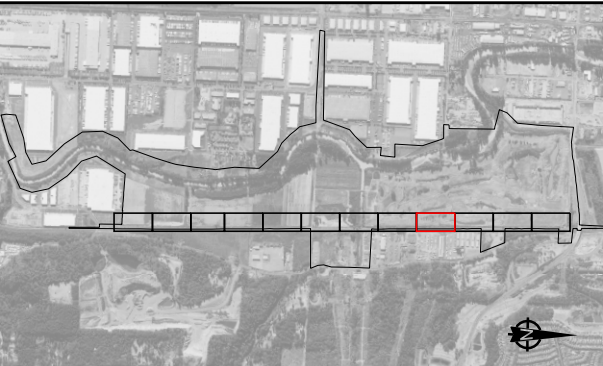
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



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 User: jwarpas

MATCH LINE - SEE DRAWING B-04

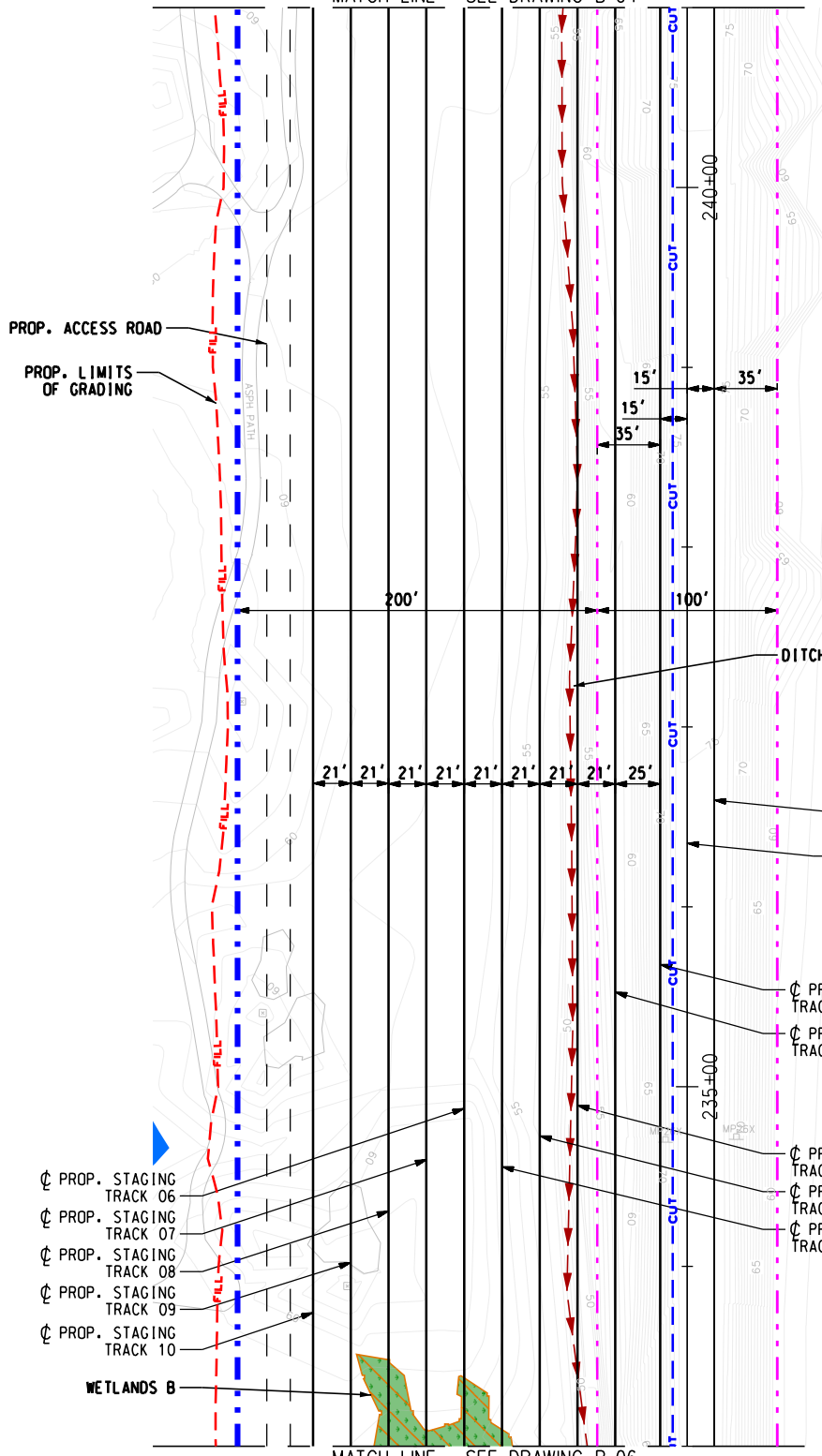
WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	801.14 LF	801.14 LF	2020 CY
SOUNDVIEW WETLANDS B	0.04 AC	0.04 AC	1280 CY

NOTES:

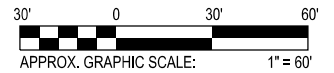
1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.

PROP. ACCESS ROAD
PROP. LIMITS OF GRADING



LEGEND:

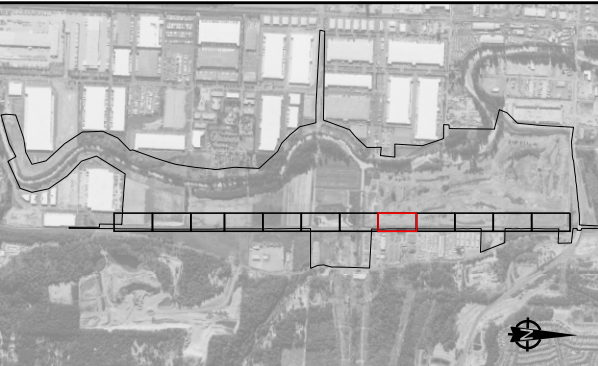
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILTRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



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B-05

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SCALE

AS SHOWN

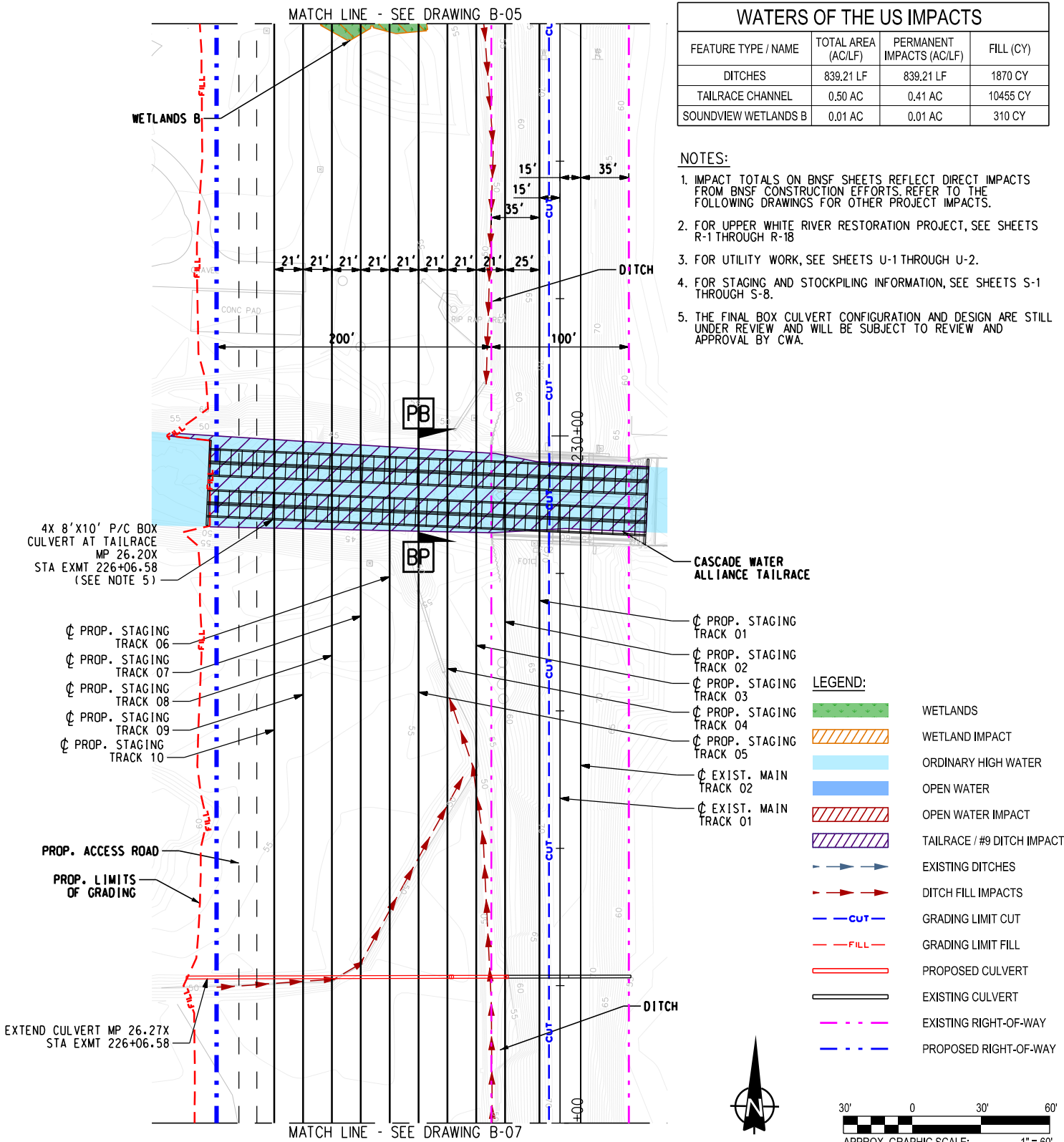
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WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	839.21 LF	839.21 LF	1870 CY
TAILRACE CHANNEL	0.50 AC	0.41 AC	10455 CY
SOUNDVIEW WETLANDS B	0.01 AC	0.01 AC	310 CY

NOTES:

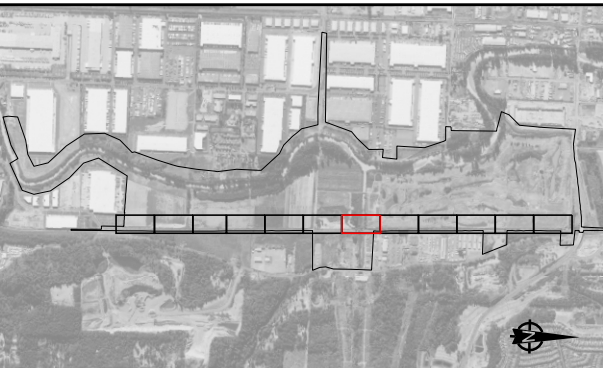
- IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
- FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
- FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
- FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.
- THE FINAL BOX CULVERT CONFIGURATION AND DESIGN ARE STILL UNDER REVIEW AND WILL BE SUBJECT TO REVIEW AND APPROVAL BY CWA.



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020

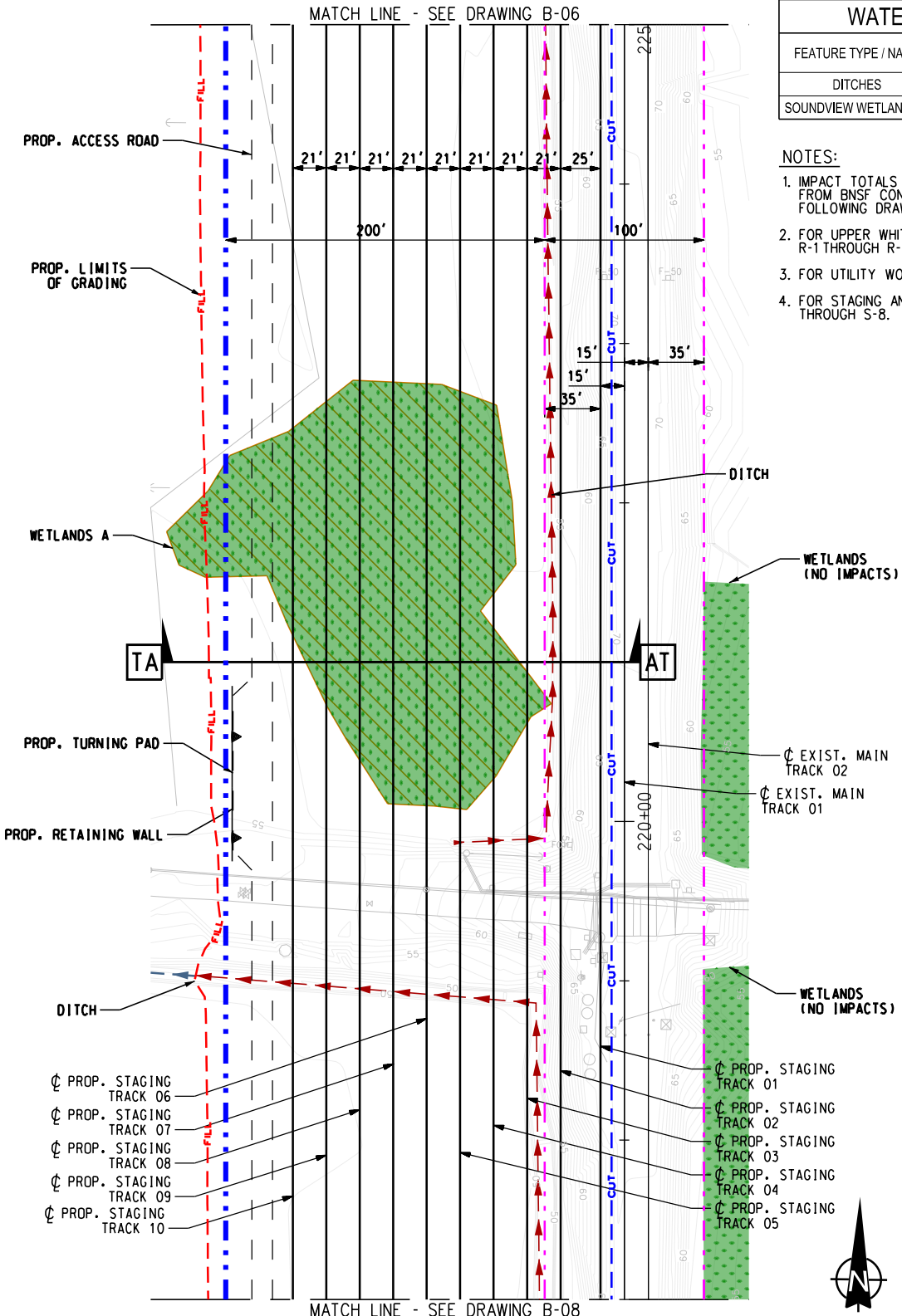


WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	997.00 LF	968.79 LF	2200 CY
SOUNDVIEW WETLANDS A	0.86 AC	0.86 AC	19450 CY

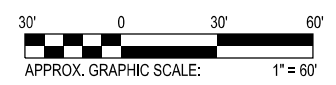
NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

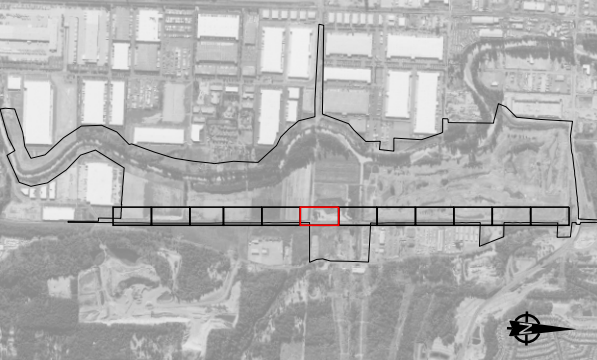
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



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MATCH LINE - SEE DRAWING ENV-06

WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	800.02 LF	800.02 LF	1900 CY

NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.

PROP. ACCESS ROAD

PROP. LIMITS OF GRADING

WETLANDS (NO IMPACT)

215+00

200'

100'

15'

15'

35'

DITCH

Ø EXIST. MAIN TRACK 02

Ø EXIST. MAIN TRACK 01

Ø PROP. STAGING TRACK 01

Ø PROP. STAGING TRACK 02

Ø PROP. STAGING TRACK 03

Ø PROP. STAGING TRACK 04

Ø PROP. STAGING TRACK 05

- Ø PROP. STAGING TRACK 06
- Ø PROP. STAGING TRACK 07
- Ø PROP. STAGING TRACK 08
- Ø PROP. STAGING TRACK 09
- Ø PROP. STAGING TRACK 10

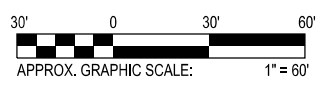
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210+00

MATCH LINE - SEE DRAWING B-09

LEGEND:

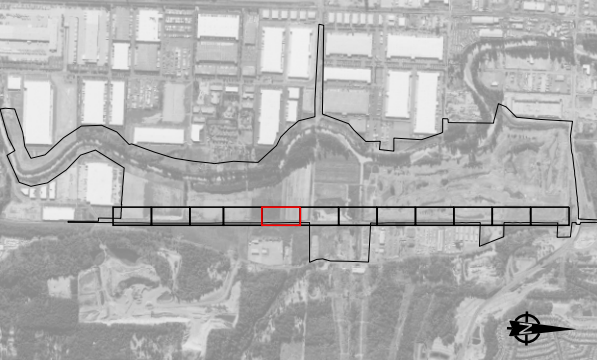
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



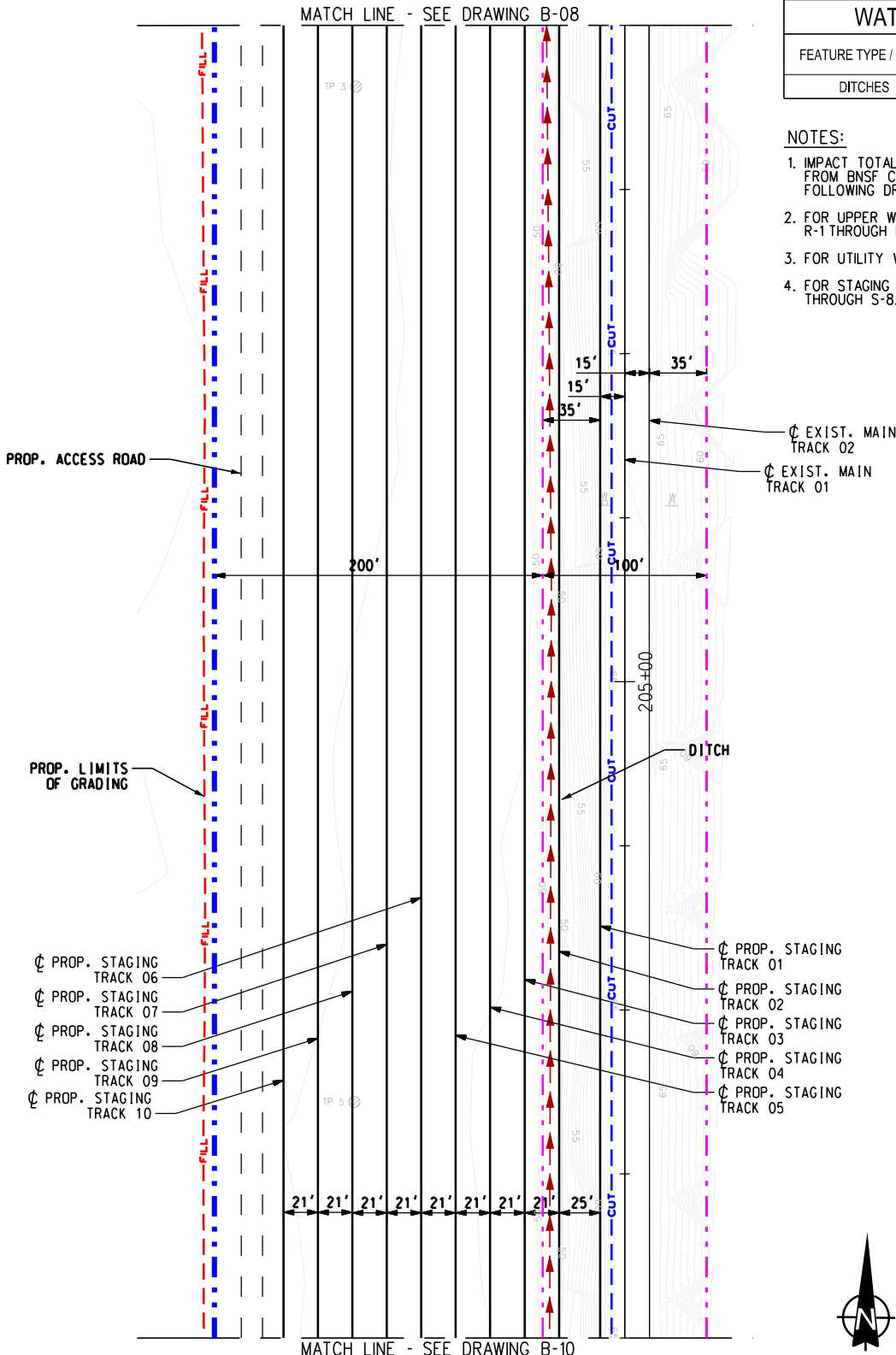
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WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	800.01 LF	800.01 LF	1900 CY

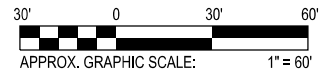
NOTES:

- IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
- FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
- FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
- FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

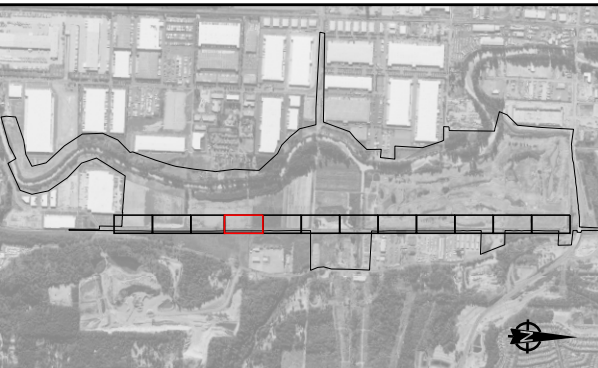
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



SHEET NO. **NWS-2020-1140**
B-09

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SCALE

AS SHOWN

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MATCH LINE - SEE DRAWING B-09

WATERS OF THE US IMPACTS			
FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	744.30 LF	744.30 LF	1790 CY

NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.

PROP. ACCESS ROAD

PROP. LIMITS OF GRADING

- ☉ PROP. STAGING TRACK 06
- ☉ PROP. STAGING TRACK 07
- ☉ PROP. STAGING TRACK 08
- ☉ PROP. STAGING TRACK 09
- ☉ PROP. STAGING TRACK 10

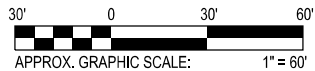
- ☉ EXIST. MAIN TRACK 02
- ☉ EXIST. MAIN TRACK 01

- ☉ PROP. STAGING TRACK 01
- ☉ PROP. STAGING TRACK 02
- ☉ PROP. STAGING TRACK 03
- ☉ PROP. STAGING TRACK 04
- ☉ PROP. STAGING TRACK 05

LEGEND:

- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

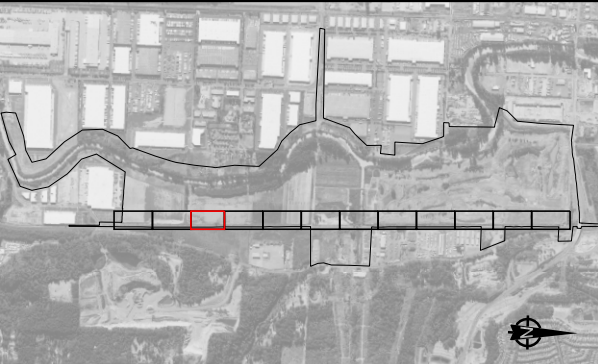
MATCH LINE - SEE DRAWING B-11



BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



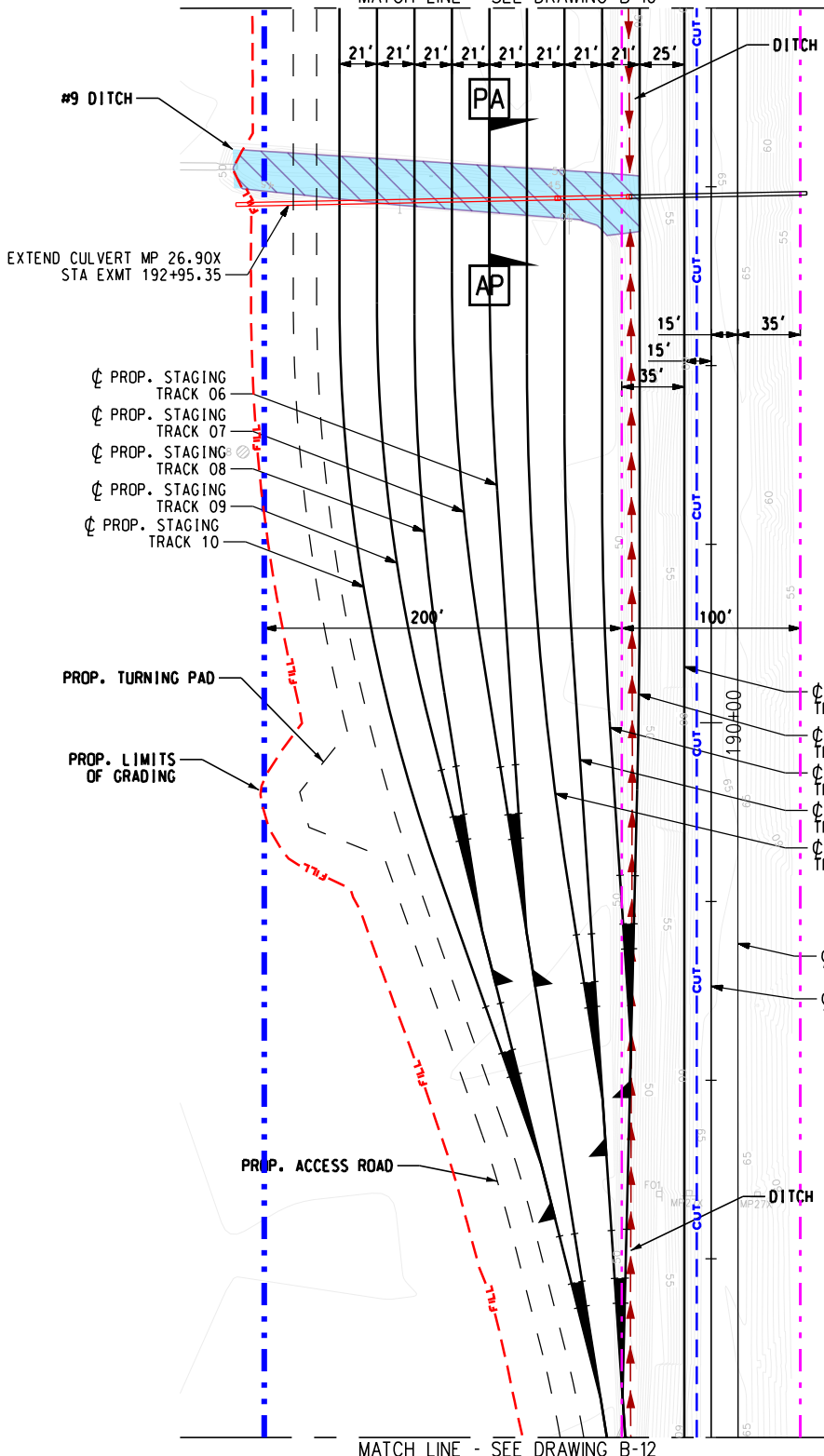
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MATCH LINE - SEE DRAWING B-10

WATERS OF THE US IMPACTS			
FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	768.69 LF	768.69 LF	1830 CY
#9 DITCH	0.1351 AC	0.1339 AC	2960 CY

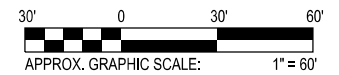
NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

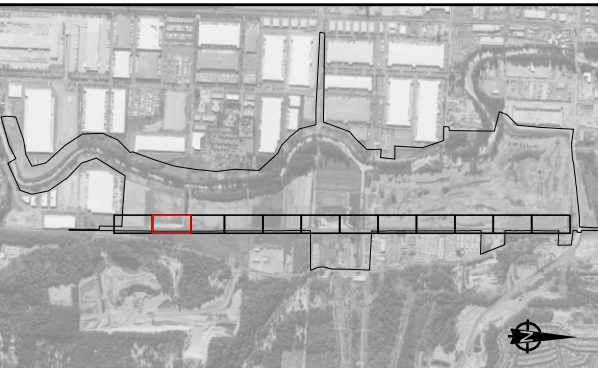


MATCH LINE - SEE DRAWING B-12

BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



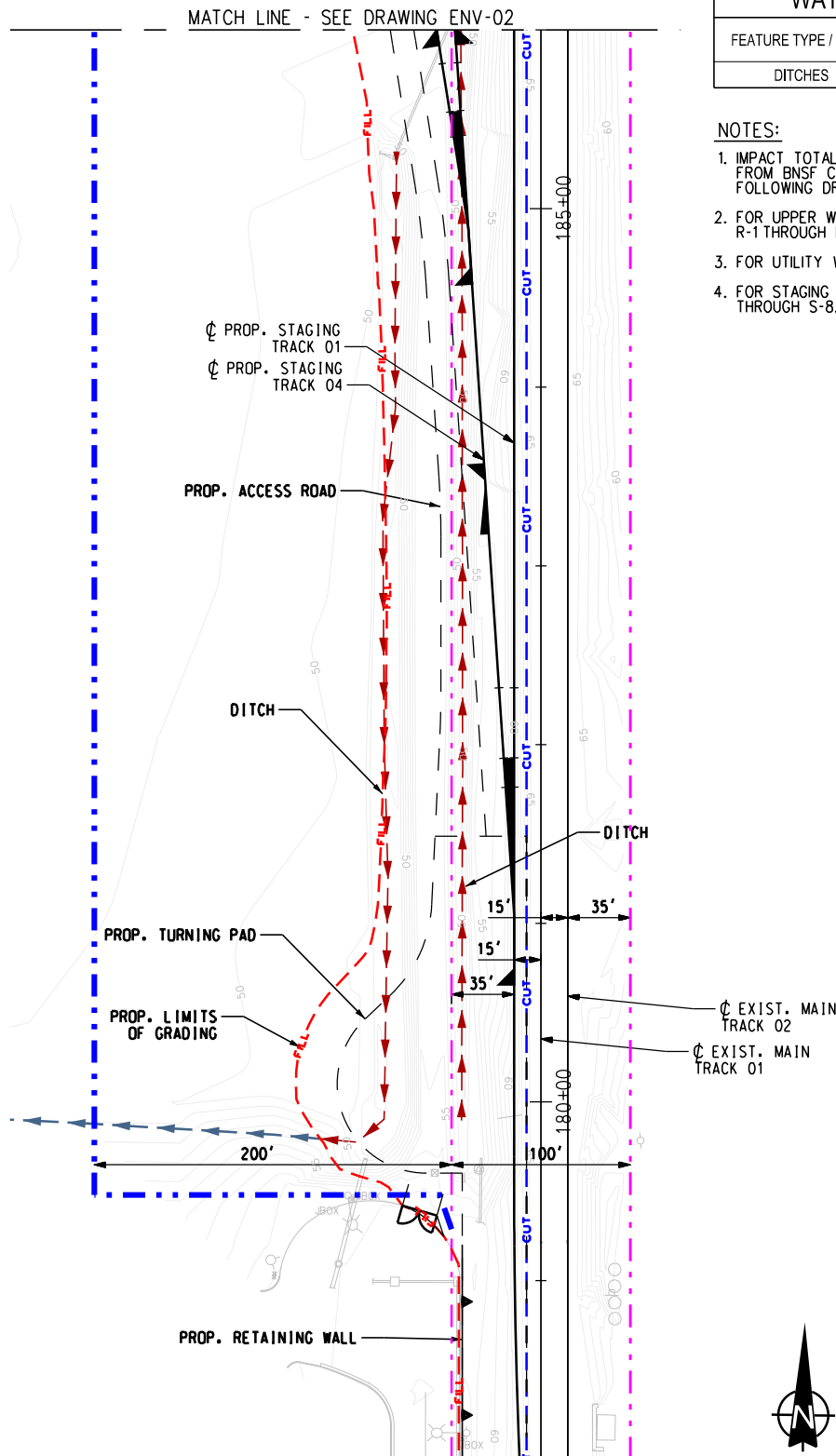
12/24/2020 12:24:28 PM C:\Projects\NWS\Drawings\NWS-2020-1140\Drawings\B-11.dwg

WATERS OF THE US IMPACTS

FEATURE TYPE / NAME	TOTAL AREA (AC/LF)	PERMANENT IMPACTS (AC/LF)	FILL (CY)
DITCHES	1366.98 LF	1192.89 LF	2480 CY

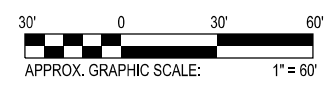
NOTES:

1. IMPACT TOTALS ON BNSF SHEETS REFLECT DIRECT IMPACTS FROM BNSF CONSTRUCTION EFFORTS. REFER TO THE FOLLOWING DRAWINGS FOR OTHER PROJECT IMPACTS.
2. FOR UPPER WHITE RIVER RESTORATION PROJECT, SEE SHEETS R-1 THROUGH R-18
3. FOR UTILITY WORK, SEE SHEETS U-1 THROUGH U-2.
4. FOR STAGING AND STOCKPILING INFORMATION, SEE SHEETS S-1 THROUGH S-8.



LEGEND:

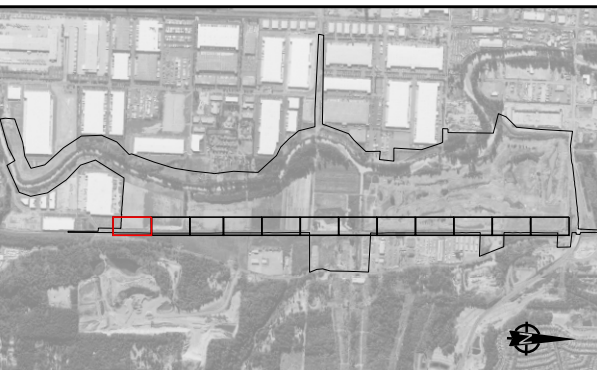
- WETLANDS
- WETLAND IMPACT
- ORDINARY HIGH WATER
- OPEN WATER
- OPEN WATER IMPACT
- TAILRACE / #9 DITCH IMPACT
- EXISTING DITCHES
- DITCH FILL IMPACTS
- GRADING LIMIT CUT
- GRADING LIMIT FILL
- PROPOSED CULVERT
- EXISTING CULVERT
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY



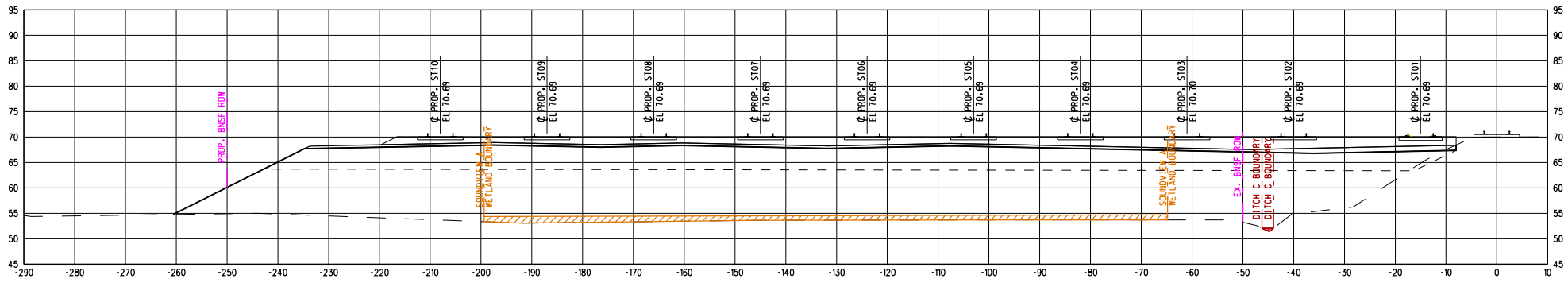
BASED ON: 60% DESIGN BY STV, INC. SEPTEMBER 18TH, 2020

EXISTING / PROPOSED WORK

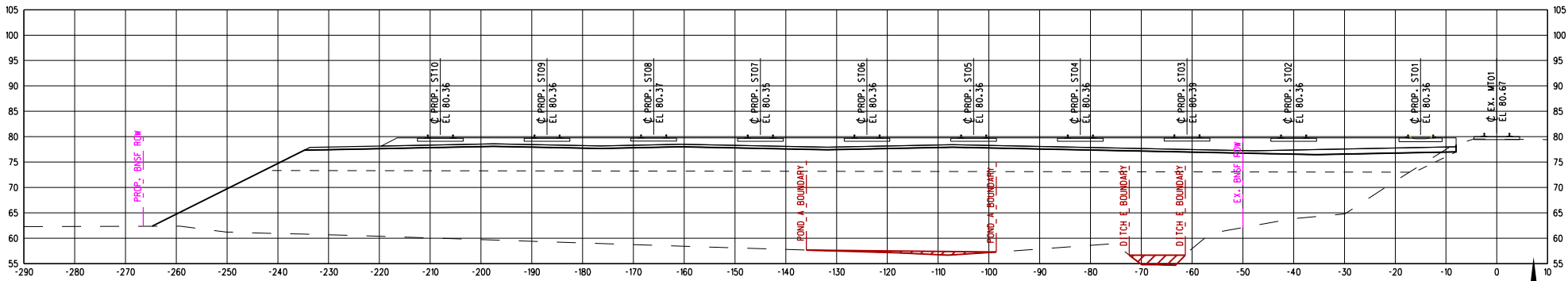
REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020



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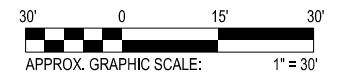


TRANSVERSE CROSS SECTION TA-AT
 TRACK FILL PRISM AT SOUNDVIEW A WETLANDS
 STA MT01 221+00



TRANSVERSE CROSS SECTION TB-BT
 TRACK FILL PRISM AT LANDSCAPE FEATURE #2
 STA MT01 252+00

- LEGEND:
- WETLANDS IMPACT
 - OPEN WATER / DITCH IMPACT
 - TAILRACE / #9 DITCH IMPACT



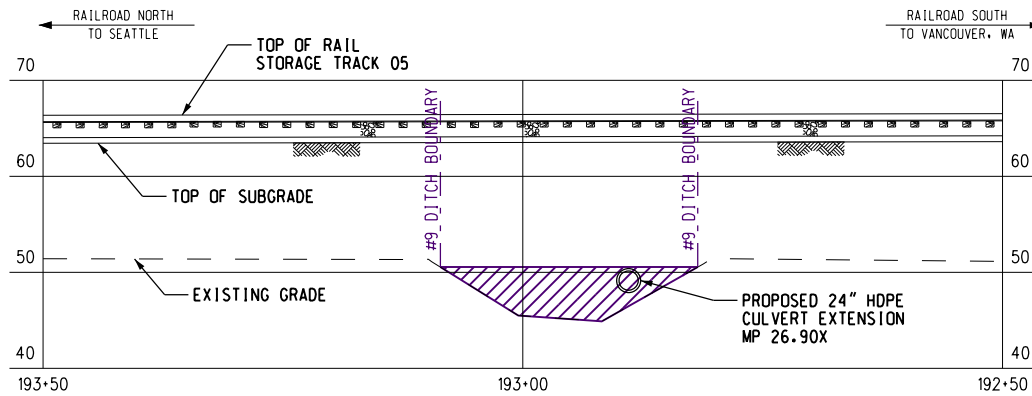
BASED ON: 60% DESIGN BY STV INC. DATED SEPTEMBER 18TH, 2020



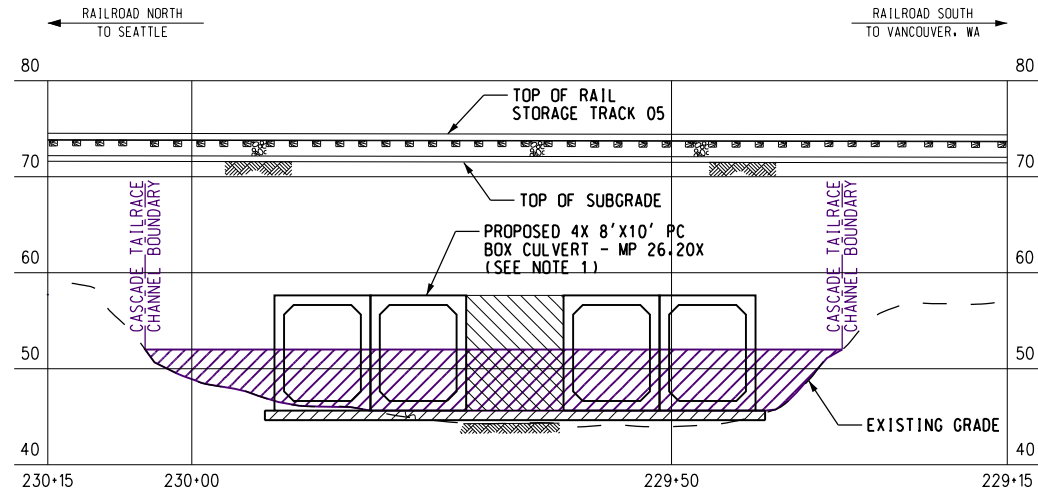
REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020

NOTES:

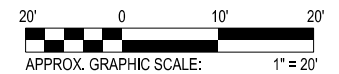
1. THE FINAL BOX CULVERT CONFIGURATION AND DESIGN ARE STILL UNDER REVIEW AND WILL BE SUBJECT TO REVIEW AND APPROVAL BY CWA.
2. DIERINGER TAILRACE IS AN ARTIFICIAL WATERBODY DESIGNED FOR THE PURPOSE OF CONVEYING FLOW FROM LAKE TAPPS. OHWM IS SET AT 20 CFS. THE CHANNEL IS REQUIRED TO ACCOMMODATE A MAXIMUM EMERGENCY FLOW RATE OF 1,500 CFS.



PARALLEL CROSS SECTION PA-AP
AT #9 DITCH / MP 26.90X

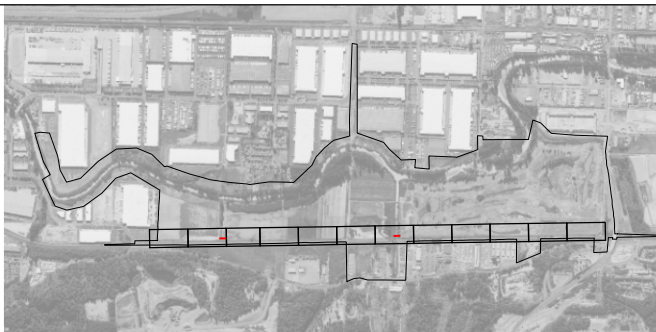


PARALLEL CROSS SECTION PB-BP
AT MP 26.20X TAILRACE BOX CULVERT



- LEGEND:**
- WETLANDS IMPACT
 - OPEN WATER / DITCH IMPACT
 - TAILRACE / #9 DITCH IMPACT

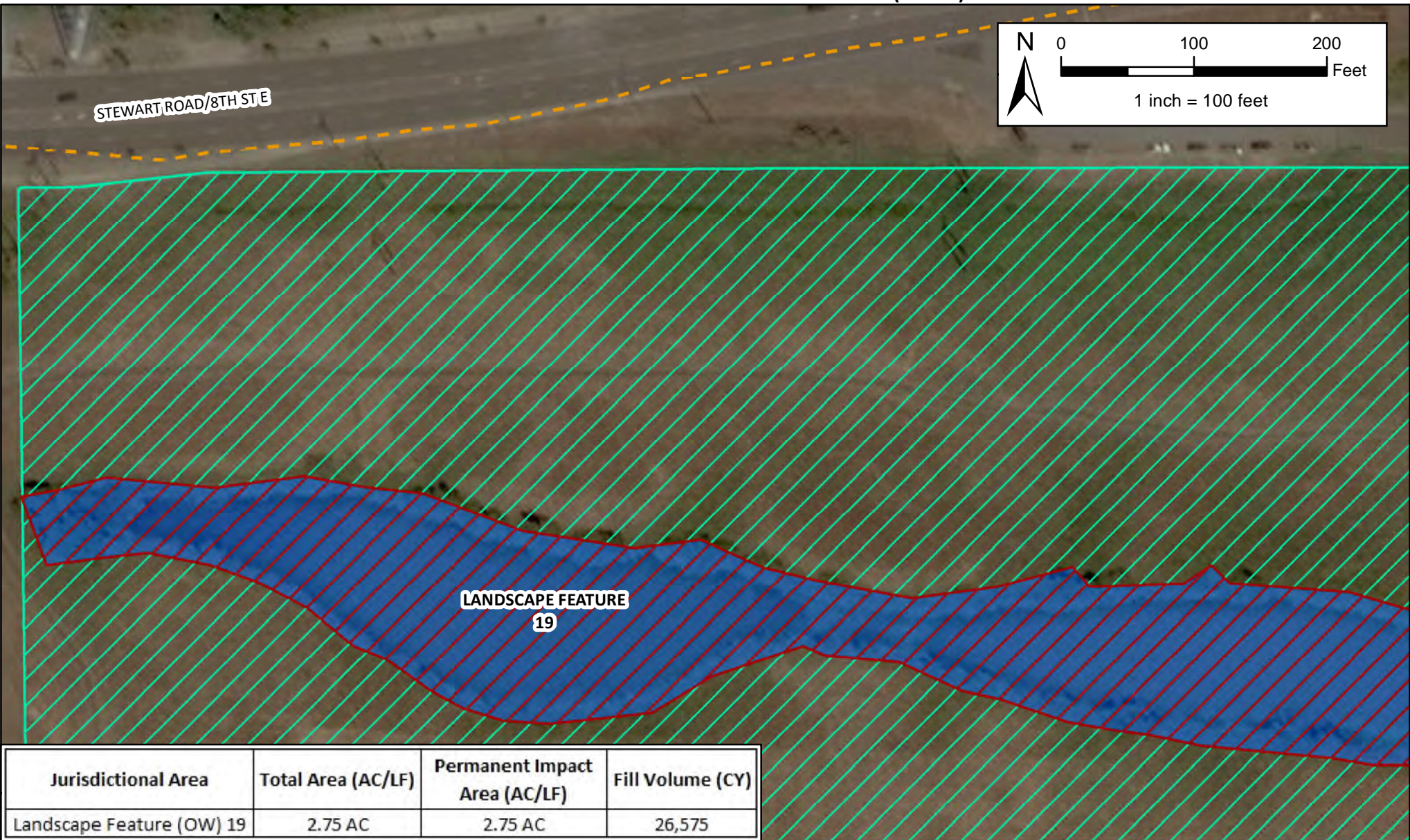
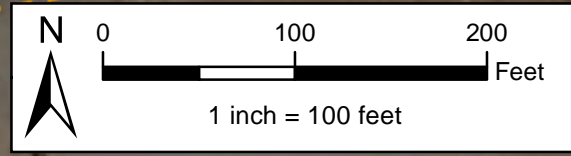
BASED ON: 60% DESIGN BY STV INC. DATED SEPTEMBER 18TH, 2020



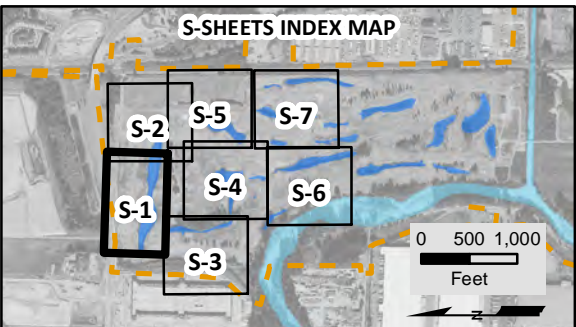
REFERENCE #: NWS-2020-XXX
 APPLICANT: CITY OF SUMNER AND BNSF
 PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
 LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
 DATE: OCTOBER 2020







STAGING AND STOCKPIILING PLAN VIEW SHEETS (1 OF 7)

STEWART ROAD/8TH ST E



Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 19	2.75 AC	2.75 AC	26,575

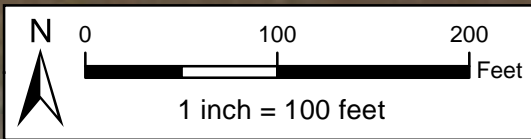


-  Ditch Impact
-  Ditches
-  Open Water Permanent Impact
-  Landscape Features (OW)
-  Staging and Stockpiling Area
-  Project Area

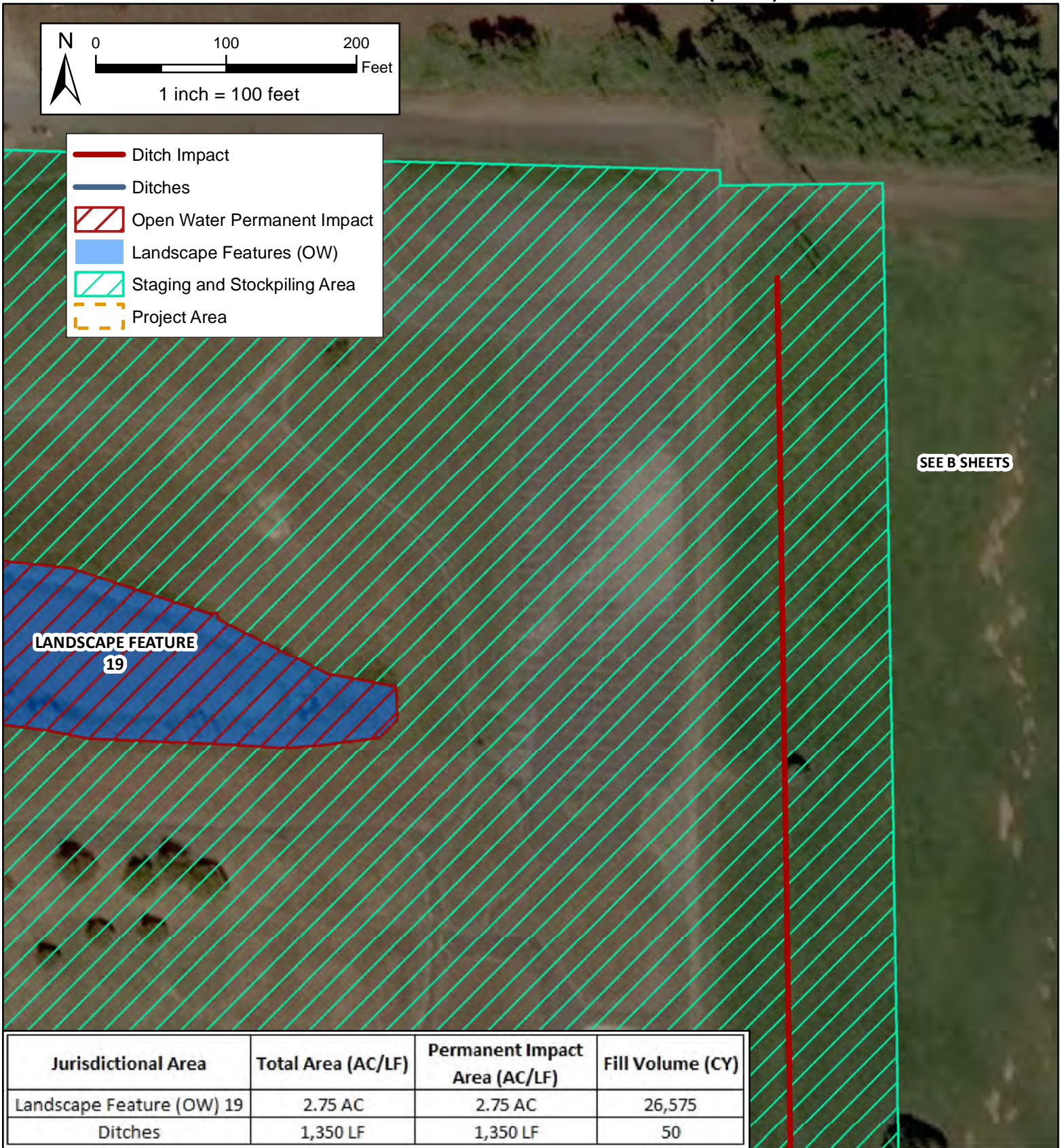
REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-1 **PAGE:** 39 OF 48

NWS-2020-1140

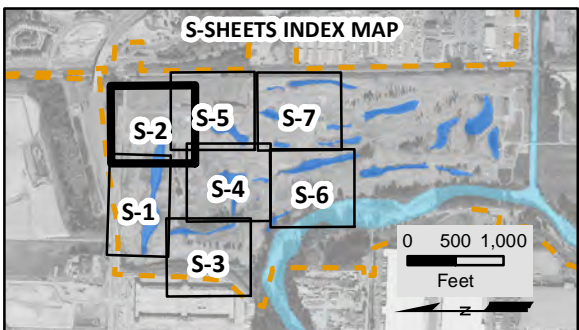
STAGING AND STOCKPILING PLAN VIEW SHEETS (2 OF 7)



- Ditch Impact
- Ditches
- Open Water Permanent Impact
- Landscape Features (OW)
- Staging and Stockpiling Area
- Project Area

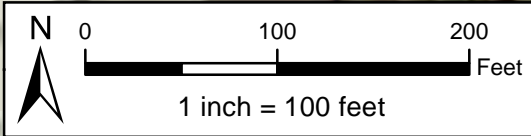


Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 19	2.75 AC	2.75 AC	26,575
Ditches	1,350 LF	1,350 LF	50

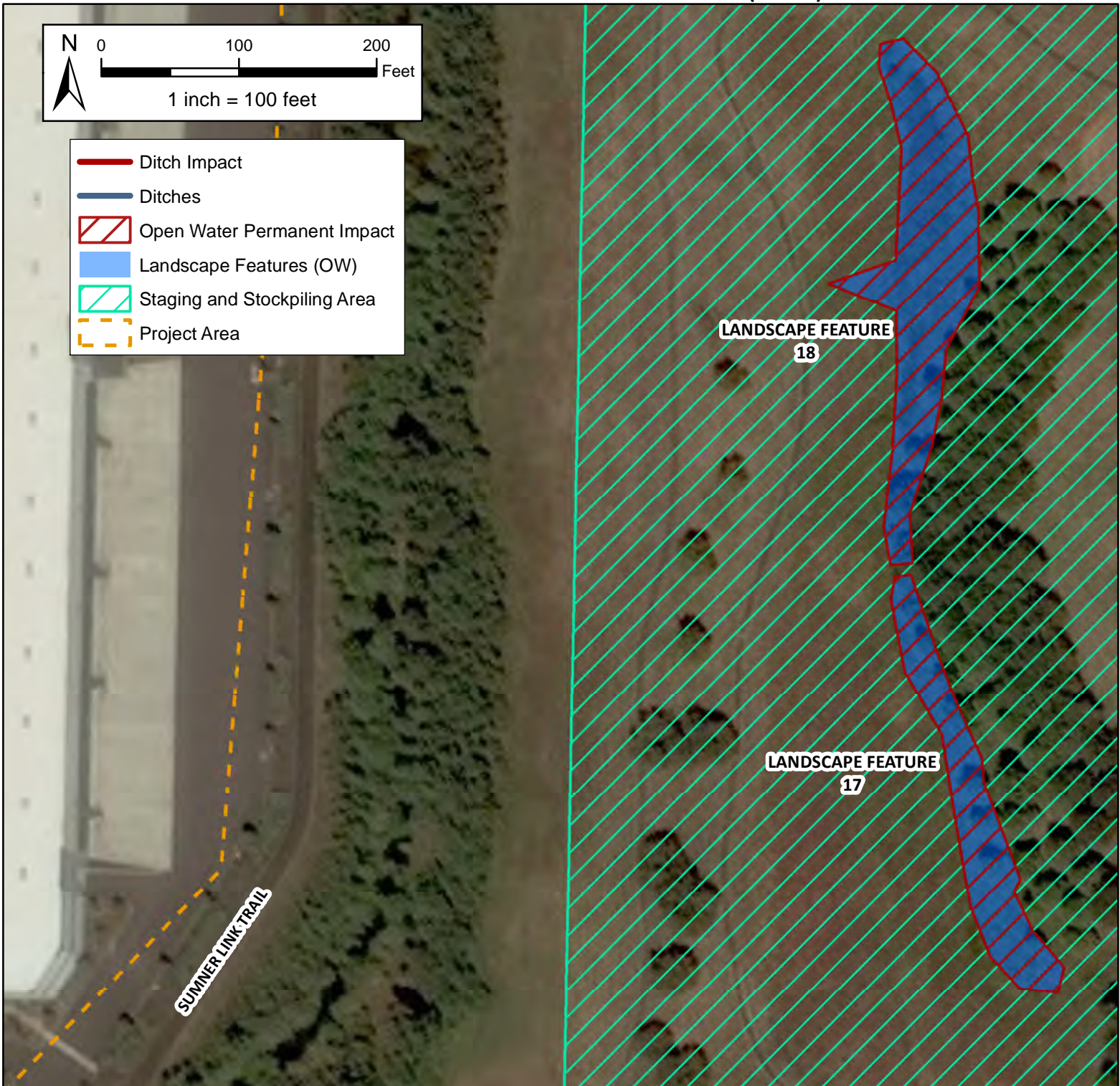


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-2 **PAGE:** 40 OF 48

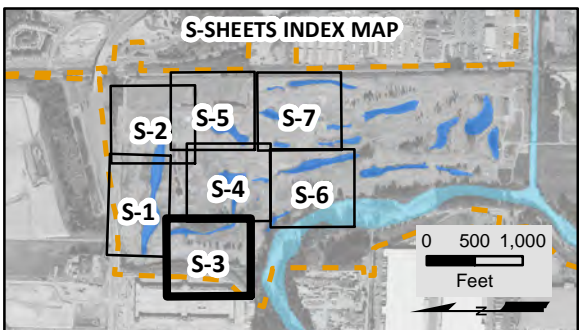
STAGING AND STOCKPILING PLAN VIEW SHEETS (3 OF 7)



- Ditch Impact
- Ditches
- Open Water Permanent Impact
- Landscape Features (OW)
- Staging and Stockpiling Area
- Project Area









Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 17	0.37 AC	0.37 AC	500
Landscape Feature (OW) 18	0.21 AC	0.21 AC	2,700

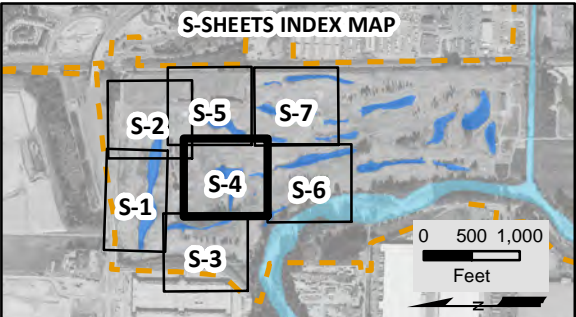
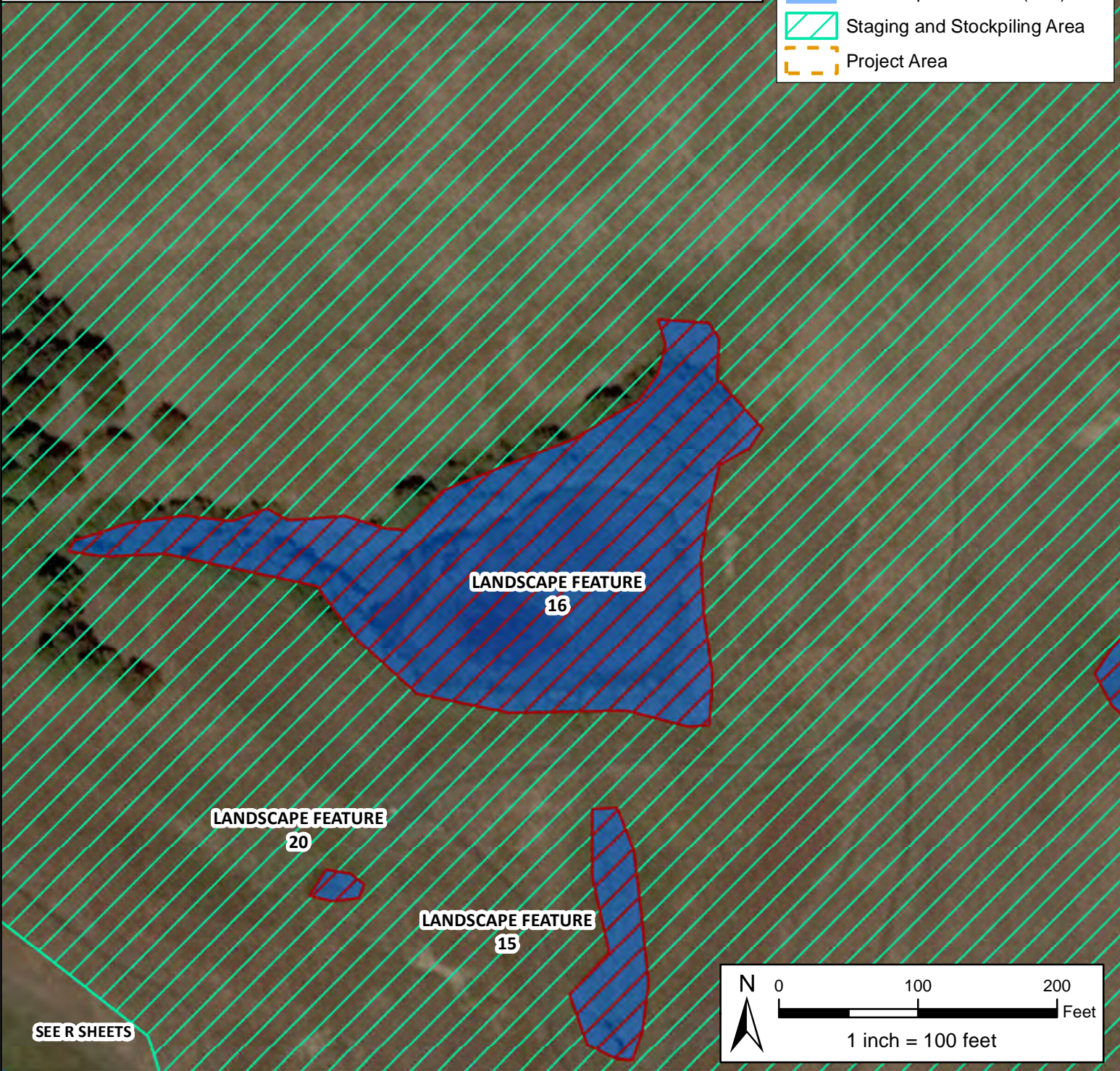


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-3 **PAGE:** 41 OF 48

STAGING AND STOCKPIILING PLAN VIEW SHEETS (4 OF 7)

Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 15	0.14 AC	0.14 AC	340
Landscape Feature (OW) 16	1.29 AC	1.29 AC	9,400
Landscape Feature (OW) 20	1.44 AC	1.44 AC	9,765







-  Ditch Impact
-  Ditches
-  Open Water Permanent Impact
-  Landscape Features (OW)
-  Staging and Stockpiling Area
-  Project Area

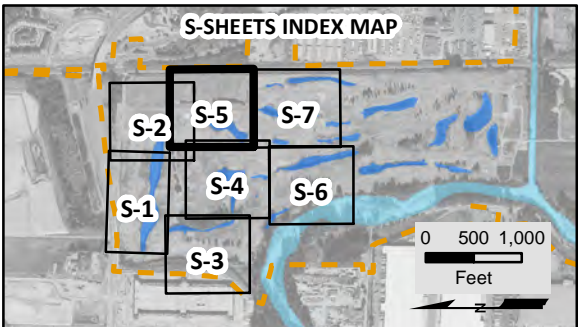
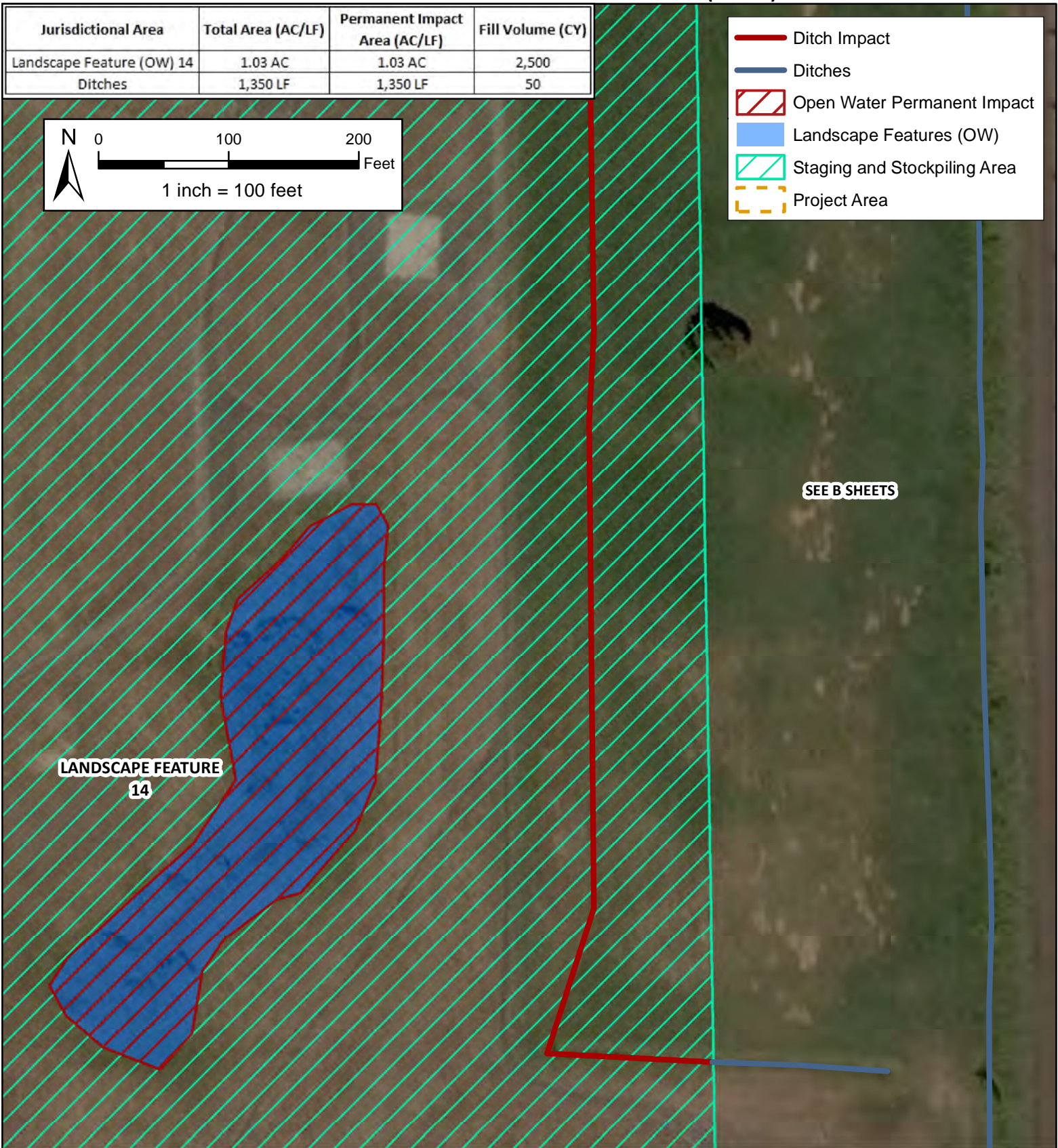
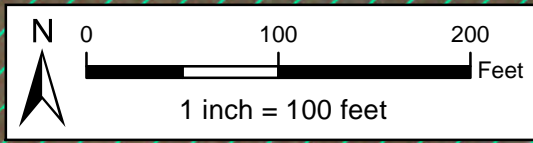


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-4 **PAGE:** 42 OF 48

STAGING AND STOCKPILING PLAN VIEW SHEETS (5 OF 7)

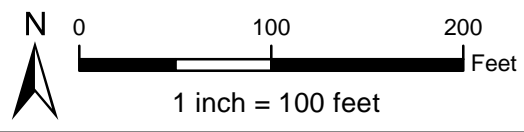
Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 14	1.03 AC	1.03 AC	2,500
Ditches	1,350 LF	1,350 LF	50

-  Ditch Impact
-  Ditches
-  Open Water Permanent Impact
-  Landscape Features (OW)
-  Staging and Stockpiling Area
-  Project Area

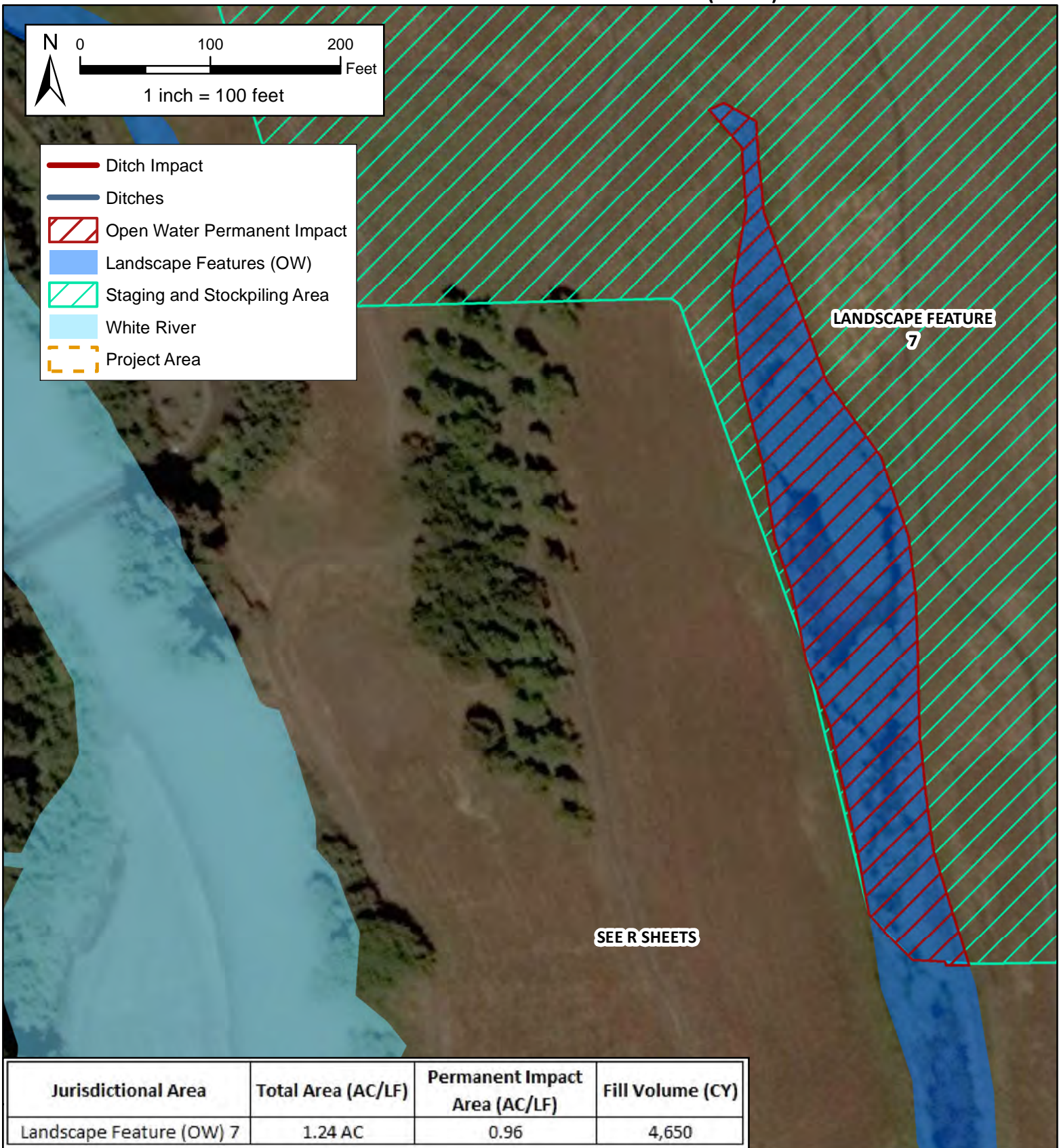


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-5

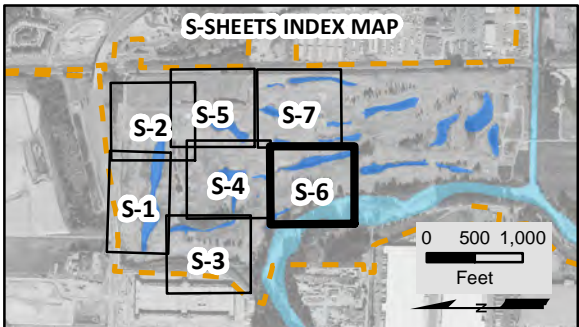
STAGING AND STOCKPILING PLAN VIEW SHEETS (6 OF 7)



- Ditch Impact
- Ditches
- Open Water Permanent Impact
- Landscape Features (OW)
- Staging and Stockpiling Area
- White River
- Project Area

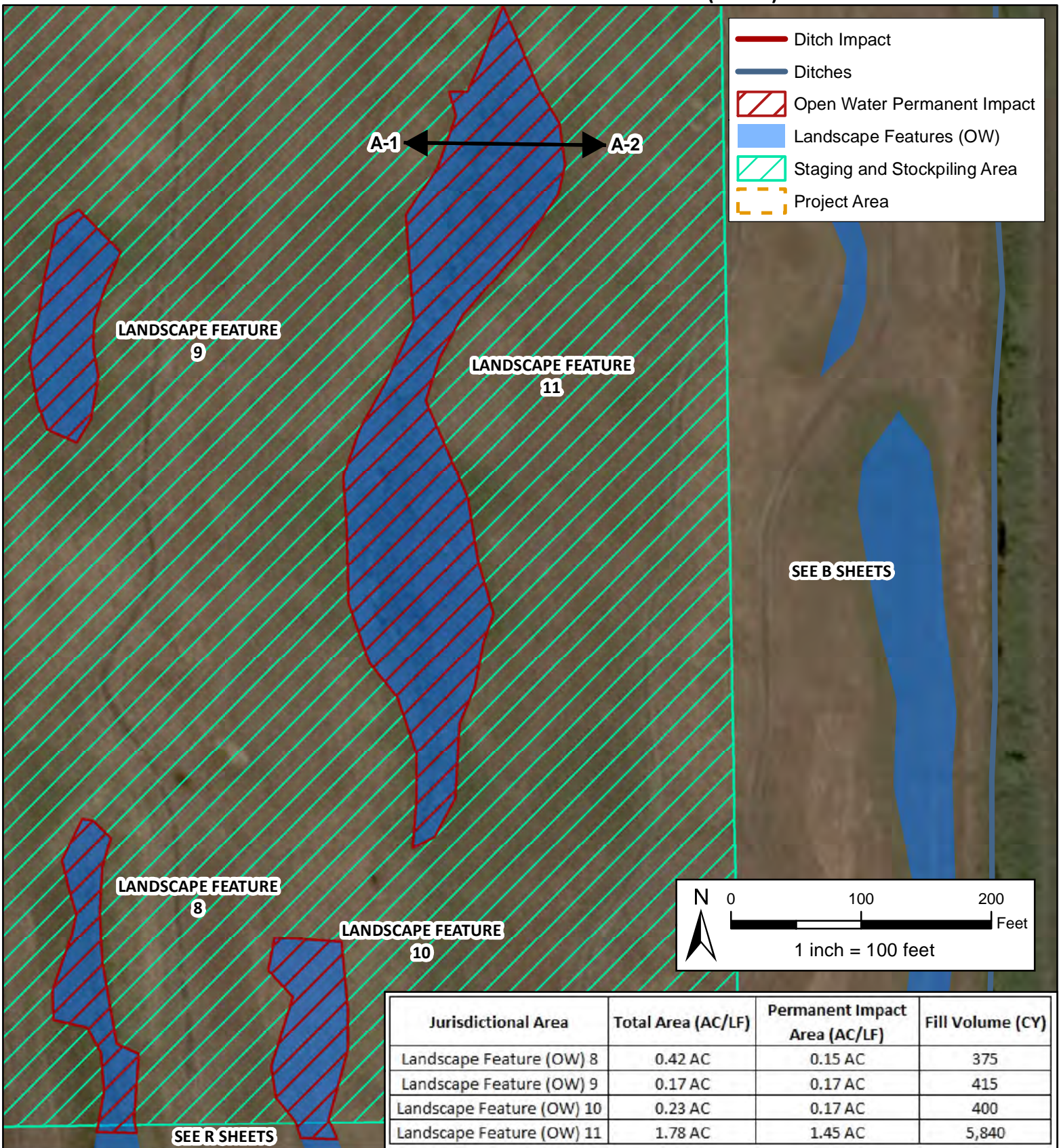


Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 7	1.24 AC	0.96	4,650

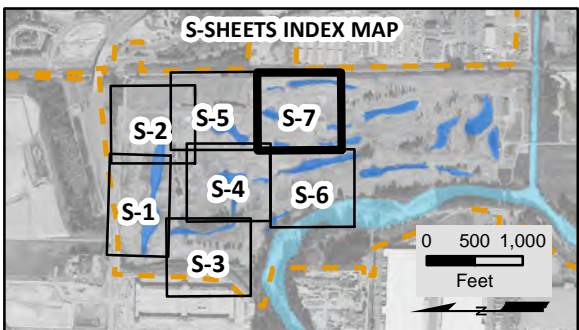


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-6 **PAGE:** 44 OF 48

STAGING AND STOCKPILING PLAN VIEW SHEETS (7 OF 7)

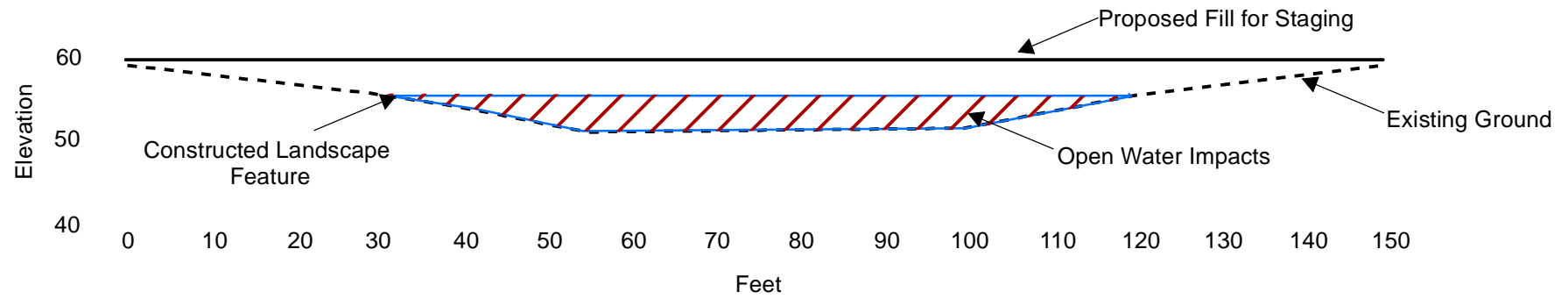


Jurisdictional Area	Total Area (AC/LF)	Permanent Impact Area (AC/LF)	Fill Volume (CY)
Landscape Feature (OW) 8	0.42 AC	0.15 AC	375
Landscape Feature (OW) 9	0.17 AC	0.17 AC	415
Landscape Feature (OW) 10	0.23 AC	0.17 AC	400
Landscape Feature (OW) 11	1.78 AC	1.45 AC	5,840

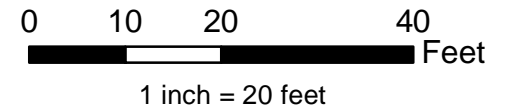


REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF
PROPOSED PROJECT: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS
LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5
DATE: OCTOBER 2020
SHEET: S-7 **PAGE:** 45 OF 48

STAGING AND STOCKPILING CROSS SECTION



Typical Cross Section A-1 to A-2



LOWER WHITE RIVER RESTORATION POST CONSTRUCTION PLAN VIEW



REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

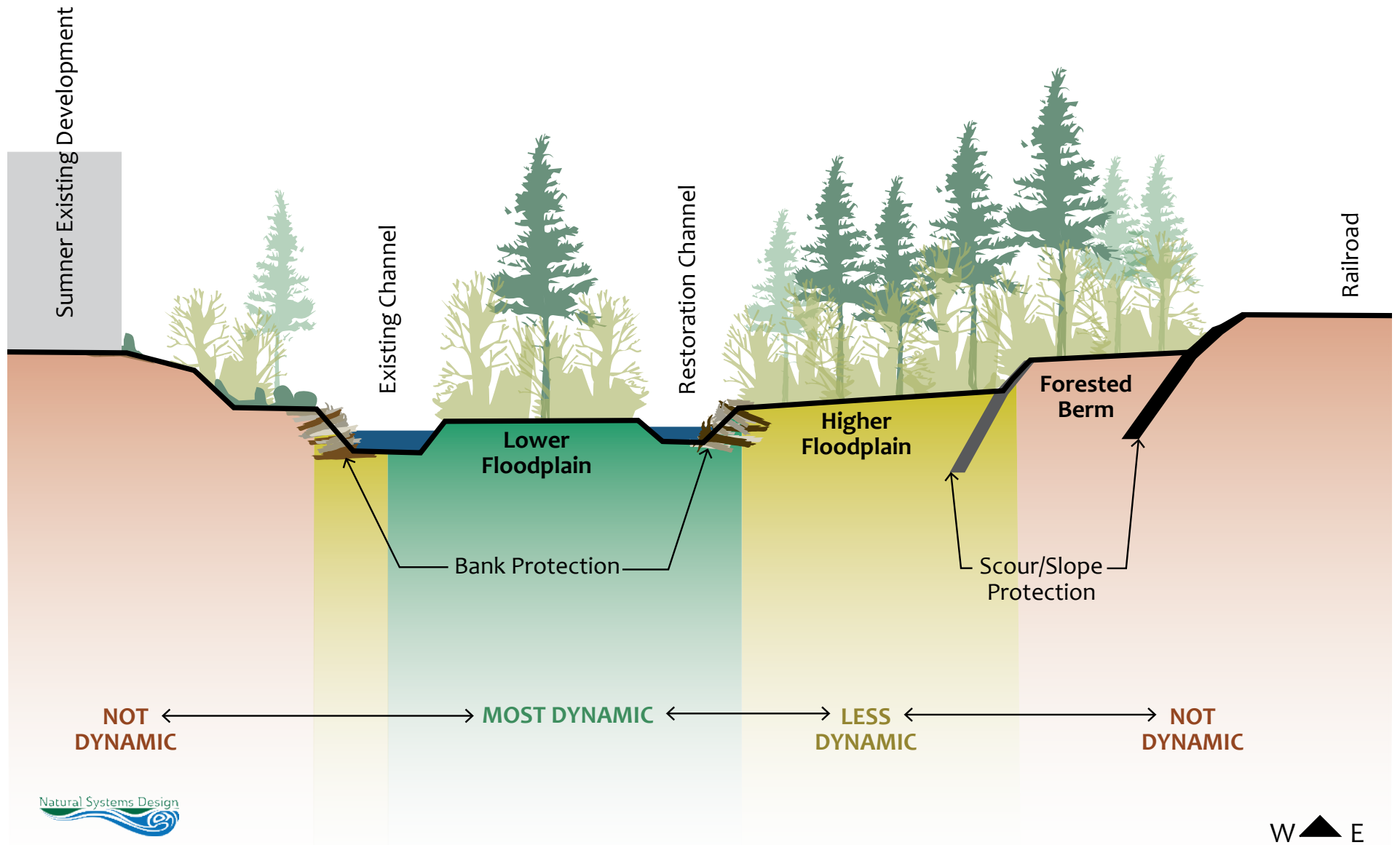
PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS

LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

DATE: NOVEMBER 2020
SHEET: R-19

PAGE: 47 OF 48

LOWER WHITE RIVER RESTORATION POST CONSTRUCTION CROSS SECTION VIEW



REFERENCE #: NWS-2020-XXX
APPLICANT: CITY OF SUMNER AND BNSF

PROPOSED: WHITE RIVER RESTORATION AND SUMNER STAGING TRACKS

LOCATION: CITY OF SUMNER ALONG WHITE RIVER BETWEEN RIVER MILE 2.5 AND 4.5.

DATE: NOVEMBER 2020
SHEET: R-20

PAGE: 48 OF 48