WAC 197-11-960 Environmental checklist.

ENVIRONMENTAL CHECKLIST

Purpose of checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:
Schneider Habitat Enhancement Project on Cowiche Creek

2. Name of applicant:
North Yakima Conservation District
Washington Department of Fish and Wildlife

3. Address and phone number of applicant and contact person:

Applicant	Contact
Mike Tobin-NYCD	Jennifer Scott-WDFW
1606 Perry Street	1701 S. 24th Avenue
Yakima, WA 98902	Yakima, WA 98902
(509) 454-5736 x122	(509) 457-9307
mike-tobin@wa.nacdnet.org	scottjls@dfw.wa.gov

4. Date checklist prepared:
April 20, 2007

5. Agency requesting checklist:
WDFW

6. Proposed timing or schedule (including phasing, if applicable):

This project will be constructed between July 15 and August 15, 2007

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Monitoring of new structures and maintenance of newly planted native vegetation to ensure high survival.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Biological Assessment for ESA Section 7 consultation with USFWS

Habitat Improvement Program Biological Opinion Consistency Form (NOAA Fisheries ESA consult through BPA)

"An Archaeological Survey and Inventory of Irrigation Improvements to Cowiche Creek Farmland, and In-stream Habitat Improvement Areas, Yakima County, Washington" report authored by Christopher A. Landreau of Reiss-Landreau Research, RLR Report 2007-79-03.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

HPA from WDFW for work within the ordinary high water marks
CWA Section 404 from USACOE for dredging (digging) within the ordinary high water marks
CWA Section 401 from WDOE for water quality certification
SMA from Yakima County for fish habitat enhancement work within a shoreline of Yakima County
CAO from Yakima County for fish habitat enhancement work within a critical area of Yakima County
ESA Section 7 concurrence from USFWS and NOAA Fisheries
NHPA Section 106 concurrence from SHPO and THPO

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The North Yakima Conservation District, through the Yakima Tributary Access and Habitat Program (YTAHP), proposes to enhance fish habitat through the installation of rootwads and log vanes to stabilize vertical and eroding banks as well as provide instream complexity, install livestock exclusionary fencing around Cowiche Creek to limit the negative impact free ranging livestock have on the stream banks and water quality, and enhance the riparian buffer through the planting and maintenance of native woody vegetation. This project is a component of the larger, watershed based restoration strategy for the Cowiche Basin. Efforts are currently underway to conserve over 7 cfs in trust water through a water wheeling agreement between a group of irrigators and the Yakima Tieton Irrigation District. The additional instream water, in association with the proposed physical habitat improvements will greatly benefit fish resources in the Cowiche Watershed. Additionally, the Cowiche Canyon Conservancy owns land surrounding roughly 1.5 miles of Cowiche Creek about 1 mile downstream from the project site. This enhancement project will compliment the other restoration efforts in the basin designed to benefit fish and wildlife resources.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

1. **910 Weikel Road Yakima, WA 98908**
2. **Parcel Numbers and Owners:17130234002 (Schneider), 17130234404 (Green), 17130231004 (Wilkinson)**
3. **Township 13 N, Range 17 E, Section 2 SE ¼**
4. **46 38' 16.37" N, 120 40' 6.2" W**
5. **WRIA 38 (Cowiche Creek within the Naches River Basin)**

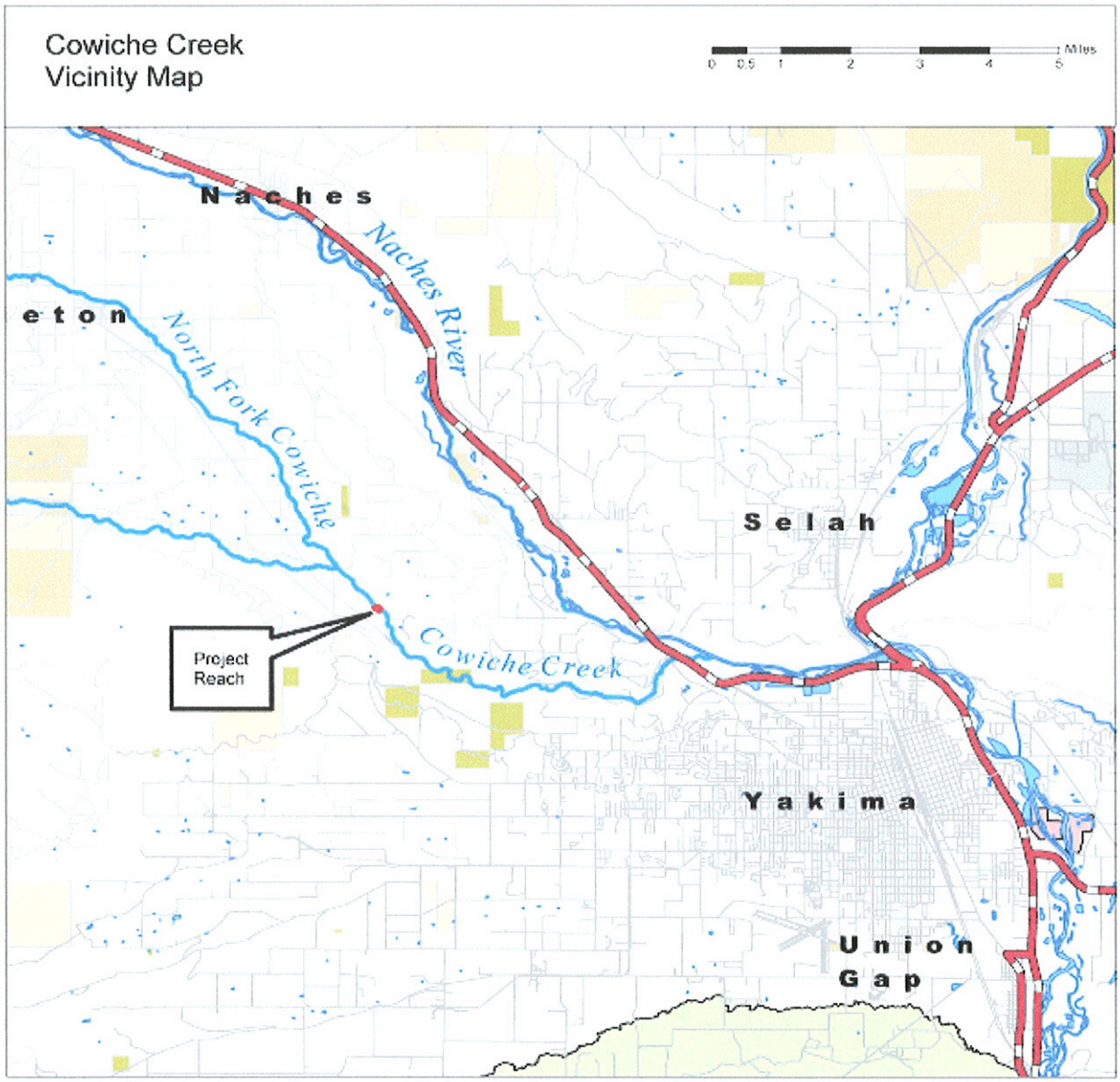


Figure 1. Vicinity map of proposed habitat enhancement project on Cowiche Creek, Yakima County, Washington.

Figure 2. Aerial photo detailing the three parcels in which the proposed project will occur. Of note is the lack of riparian vegetation surrounding Cowiche Creek throughout this reach.

TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

B. ENVIRONMENTAL ELEMENTS

1. **Earth**

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other . . . . . .

Generally flat, basalt rock outcropping in one parcel is very steep

b. What is the steepest slope on the site (approximate percent slope)?

In most cases, the grade does not exceed 4%, the rock outcropping has a steep grade of about 30%. There will be no construction on the steep slope; all project components occur within the relatively flat, agricultural land.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Wenas silt loam, Esquatzel silt loam, Tieton loam

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None known

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

A total of 16 rootwads and 8 log vanes are proposed for the habitat enhancement in this section of Cowiche Creek. Excavation will be required to properly key these structures into the bank according to the Integrated Streambank Protection Guidelines published by the Washington State Aquatic Habitat Guidelines Program. The total volume excavated for this project will be roughly 380 cubic yards, total fill used for bank stabilization: ~235 cubic yards, the total fill used waterward of the ordinary high water mark will be less than 200 cubic yards of material (rock and soil). Banks will be reshaped in areas to aid in stabilization and the establishment of riparian vegetation. All sources of fill will be obtained from local sources when possible.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, some erosion could occur as a result of construction activities within the ordinary high water mark of Cowiche Creek. Using best management practices and applying strict conservation measures will minimize erosion. Project completion will result in increased bank stabilization, and reduced erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

None

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Every effort will be made to reduce erosion and the resulting sedimentation during and after construction. Work within the ordinary high water mark will occur during the approved instream work window, during low flows and temporary flow deflectors will be used to isolate the work areas from fast flowing water. In addition, straw bales or a similar type of sediment fence will be placed downstream of the immediate work area to trap and settle suspended sediments. The banks will be protected with erosion control fabric and reseeded with native grasses for short-term erosion control. Other native shrubs and trees will be planted to provide more long-term bank stability in addition to livestock control fencing to prevent livestock from eroding the bank.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Diesel exhaust from excavator, generator, and trucks moving materials to and from the site will be the main source of emissions. Dust from excavation and vehicular traffic is expected to be minimal during construction.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Construction equipment emissions will meet all federal, state and local regulations. In addition, all equipment will be shut off when not in use.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, all work will occur in and adjacent to Cowiche Creek, a tributary to the Naches River.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes, all work will occur within 200 feet of the ordinary high water mark of Cowiche Creek. The work includes installing rootwads, log vanes, log toes, reshaping banks, planting native vegetation, and construction of livestock control fencing. Design drawings are attached at the end of this document.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

There will be an estimated 47 cubic yards of soil fill dredged and replaced waterward of the ordinary high water mark and about 84 cubic yards of rock placed waterward of the ordinary high water mark. Spoils that are not used to fill in the keyways will be disposed of in an approved upland site, outside of the 100-year floodplain. Some of the keyways are within streambank wetland areas, and their disturbance will be minimized as much as possible, total fill amounts include the wetland areas. Upon completion of the project, protecting the riparian buffer and allowing the re-establishment of native vegetation will enhance these wetland areas.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No. The landowners currently divert irrigation water from Cowiche Creek with NOAA Fisheries and WDFW compliant fish screens attached to their intake hoses. There will be no alterations to their current diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Construction activities will likely result in slightly increased turbidity for short durations during construction, but there will be no discharges of waste material into surface waters.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Not Applicable

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Precipitation will be the main source of stormwater runoff. The instream construction portion will occur during the dry, summer season with low instream flows, so impacts from stormwater are expected to be minimal.

2) Could waste materials enter ground or surface waters? If so, generally describe.

During construction, accidental spills of materials and fuels are a possibility. However, spill prevention techniques, containment of accidental spills, and other best management practices will reduce the risk of ground and surface water contamination.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Erosion control measures will help control impacts due to runoff, in addition to working during the approved work windows. The contractor will be responsible for providing spill containment materials.

4. **Plants**

a. Check or circle types of vegetation found on the site:

———— deciduous tree: alder, maple, aspen, other **Pacific Willow**

———— evergreen tree: fir, cedar, pine, other

———— shrubs

———— **grass**

———— **pasture**

———— **crop** or grain

———— wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other **canary reed grass**

———— water plants: water lily, eelgrass, milfoil, other

———— other types of vegetation **invasive weeds**

b. What kind and amount of vegetation will be removed or altered?

The current vegetation consists mainly of nonnative grasses and weeds within the project area. Disturbance to any native species will be minimized as much as possible.

c. List threatened or endangered species known to be on or near the site.

None known

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The proposed project includes plans to plant 1000 native trees, shrubs, and plants throughout the project area. In addition, disturbed areas will be reseeded with native grasses to prevent erosion in the short-term. New plantings will occur between the newly constructed fence and Cowiche Creek to prevent livestock damage to the new vegetation. Irrigation systems will be set up such that the vegetation will become established quickly and successfully. The new average buffer width will be approximately 35 feet.

5. **Animals**

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: **hawk**, **heron**, eagle, **songbirds**, other: **kestrels**
mammals: **deer**, bear, elk, beaver, other: **coyotes**

fish: bass, salmon, trout, herring, shellfish, other: cyprinids, cottids, catostomids, lamprey

b. List any threatened or endangered species known to be on or near the site.

Middle Columbia River Steelhead
Essential Fish Habitat for Coho and Spring Chinook Salmon
Columbia River Bull Trout

c. Is the site part of a migration route? If so, explain.

Yes, both steelhead may migrate through this reach to spawn in upstream reaches. Migratory birds also likely use the Naches River Basin as a migratory corridor.

d. Proposed measures to preserve or enhance wildlife, if any:

The proposed project is designed such that it will enhance fish and wildlife habitat. Stabilizing the streambanks and adding instream complexity will enhance instream habitat. Livestock exclusionary fencing will keep livestock from freely grazing along the creek and further degrading the streambanks and water quality by providing an average buffer width of 35 feet. The establishment of native vegetation and a functional riparian buffer will enhance water quality as well as provide cover for fish and wildlife over time.

6. **Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Not Applicable

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Not Applicable

7. **Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

The use of petroleum based fuels and lubricants are necessary for equipment operation. Accidental spills and/or ignition of these materials are a possibility. Using best management practices will reduce these risks.

1) Describe special emergency services that might be required.

In the event of an emergency, respondents may include Yakima County Sheriff's Department and local fire district. The Department of Ecology may respond to an accidental spill.

2) Proposed measures to reduce or control environmental health hazards, if any:

Safety practices required by federal, state, and local regulations will apply to all construction work.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Noise associated with the county roads and agricultural equipment exist in the area, but are not expected to effect the project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Temporary noise impacts due to construction equipment such as excavators, large trucks, and generators are expected during daylight hours. Upon project completion, noise levels will return to the existing conditions.

3) Proposed measures to reduce or control noise impacts, if any:

All equipment will be shut down when not in use.

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties?

The project area is in a rural area of Yakima County. There are some homes and agricultural related buildings near the project area. The surrounding land is currently irrigated for hay production and livestock pasture.

b. Has the site been used for agriculture? If so, describe.

Yes, the property adjacent to Cowiche Creek within the project area is currently used as livestock pasture and hay production.

c. Describe any structures on the site.

There are two houses and two barns within the three parcels in which the project will occur. Irrigation infrastructure is present in the fields as well. None of the structures will be impacted by the proposed project.

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Agriculture

f. What is the current comprehensive plan designation of the site?

Agricultural Resource

g. If applicable, what is the current shoreline master program designation of the site?

Rural

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Floodway, Type 1 stream

i. Approximately how many people would reside or work in the completed project?

Not Applicable

j. Approximately how many people would the completed project displace?

Not Applicable

k. Proposed measures to avoid or reduce displacement impacts, if any:

Not Applicable

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project has been reviewed by local and state regulatory agencies to ensure compliance with existing land uses and plans.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

None

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Native cottonwood trees will be the tallest objects within the project area.

b. What views in the immediate vicinity would be altered or obstructed?

The establishment of a healthy and functional riparian buffer may reduce the sight distance across the pastures for the landowners.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The proposed project will result in increased native vegetation and likely increased wildlife use. The landowners are active participants in project planning and are supportive of the plans.

11. **Light and glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Not Applicable

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

Not Applicable

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Cowiche Canyon Conservancy owns land just downstream of the proposed project area that includes a nature trail along the creek. This is a popular outdoor recreation area for residents in the Yakima area.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

We do not anticipate any impacts on recreation caused by this proposal.

13. **Historic and cultural preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None within one mile of the project area

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

There are several rockshelters, caves, pictographs, and glyptic records in the Cowiche Canyon, southeast of the project area.

c. Proposed measures to reduce or control impacts, if any:

In the case of an inadvertent find during construction activities, work will halt in the immediate area and the appropriate local, state, and/or tribal authorities will be contacted.

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

From Yakima, go west on Summitview Road. From Summitview, turn right on Weikel Road and continue around a hairpin corner for approximately ½ mile. The downstream boundary to the project reach begins just after Weikel Road crosses Cowiche Creek.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, public transit service stops at least 10 miles from the proposed project location.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Not Applicable

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No, preexisting farm access roads and trails will be used for site access as much as possible.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

No change

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. **Public services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. **Utilities**

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

All utilities are currently available to the residences near Cowiche Creek. Pump stations for the landowners' irrigation diversions exist within the project reach (electricity).

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity, which might be needed.

No new utilities

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

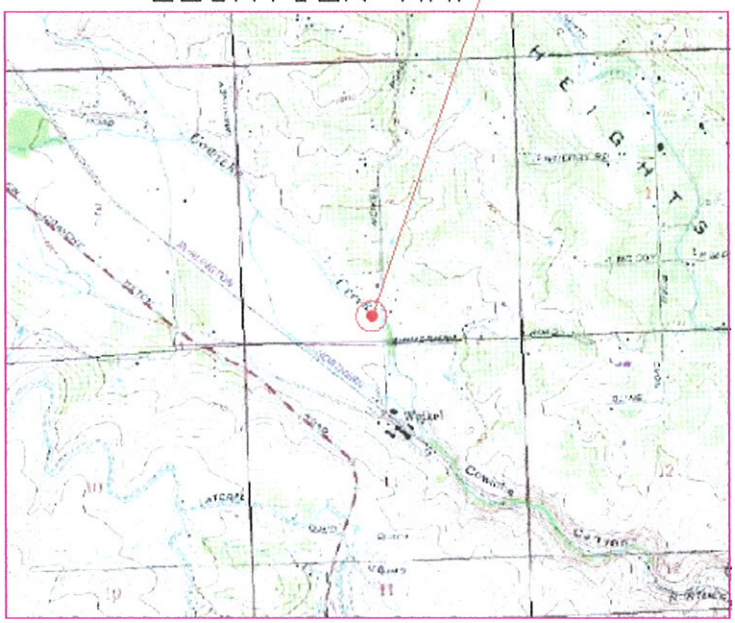
Signature: Michael S Tobin (Tobin)

Signature: Jennifer L Scott (Scott)

Date Submitted: 23 April 2007

Attachment 1: Design Drawings for the Schneider Habitat Enhancement Project

LOCATION MAP



USGS Naches Wa.

Location of activity site:

Latitude: 46-38'-16.37" N

Longitude: 120-40'-6.2" W

Location: Sec 2, T 13 N, R 17 E, W.M.

River Mile: 6.0

Nearest waterbody: Cowiche Creek

Immediate tributary: Naches River

Landmark name and location: Wiekel 1/2 MI South

Political jurisdiction: Yakima County, WA.

Name of and distance to nearest town: Welkel

distance to town: 1/2 mile south

Vicinity map source: USGS Naches, WA

Total excavation for project = 377 CY

Total fill used for bank stabilization= 133 CY Soil

Total fill used for bank stabilization= 102 CY Rock

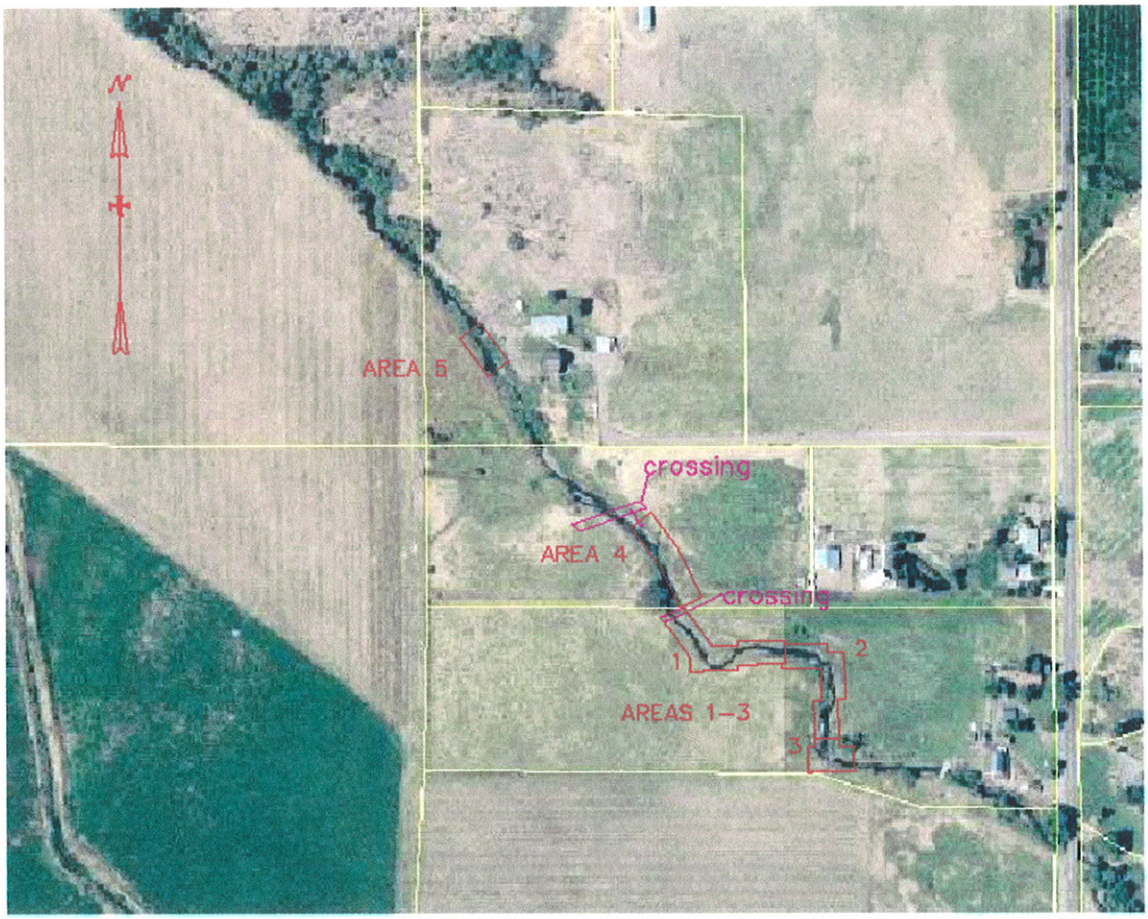
Total fill waterward of OHWM used for bank stabilization= 47 CY Soil

Total fill waterward of OHWM used for bank stabilization= 84 CY Rock

Total length of project in which work will occur waterward of OHWM. = 870 FT

Note. Preliminary drawings for permit use only.

Schneider_Wilkenson_Green CHANNEL STABILIZATION HABITAT ENHANCEMENT PROJECT VICINITY MAP	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 1 OF 9	Designed PHC 12/06 Drawn PHC, KAE 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA CO, WA		



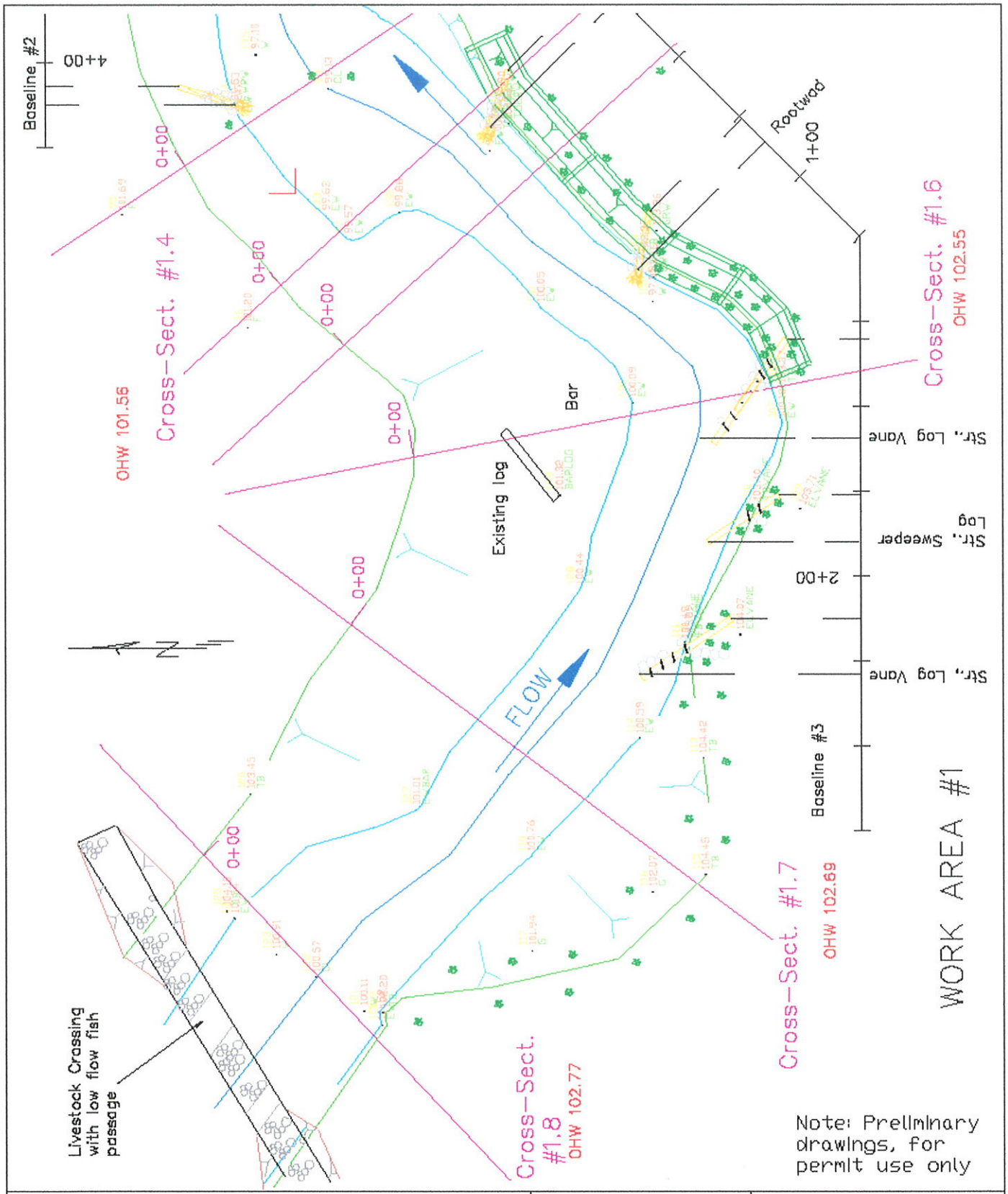
SCALE:

0 1,000 FT

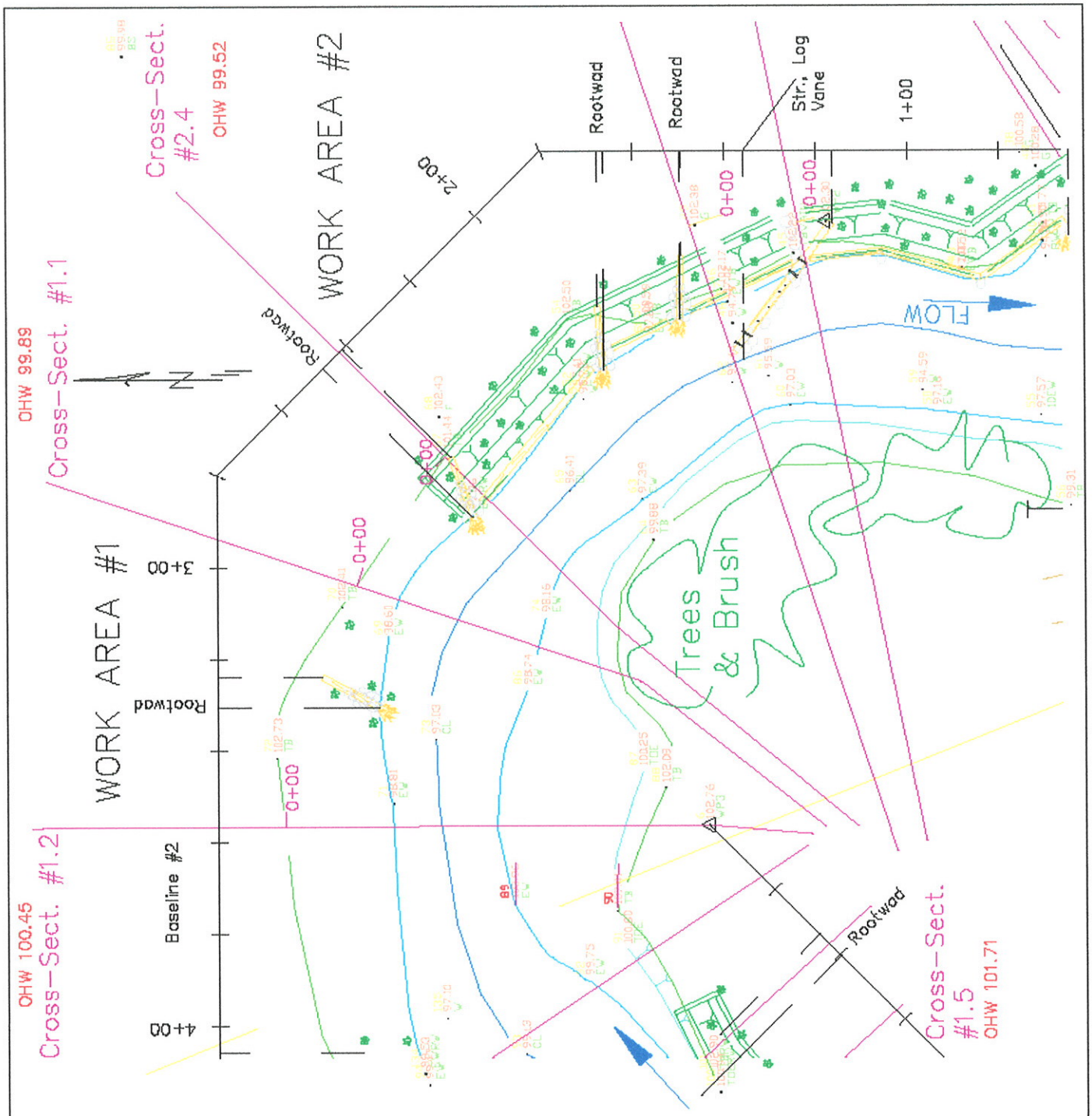
Area	Restoration Technique (No.)
1	Log vanes (3), Rootwads (4), Bank reshaping & Reinforced earth (105 ft.), Livestock crossing (1), Native plantings (200).
2	Log vanes (1), Rootwads (4), Bank reshaping with log toe & reinforced earth (170 ft.), Native plantings (400).
3	Log vane (1), Rootwads (2) & Native plantings (100).
4	Rootwads (4), Log Vanes (2), Bank reshaping with sweeper log (145 ft.), Livestock crossing (1), Native plantings (200).
5	Log vanes (1), Rootwads (2), Bank reshaping with log toe & reinforced earth (65 ft.), Native plantings (100).

Note: Preliminary drawings, for permit use only

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT SITE MAP	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 2 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA CO, WA		

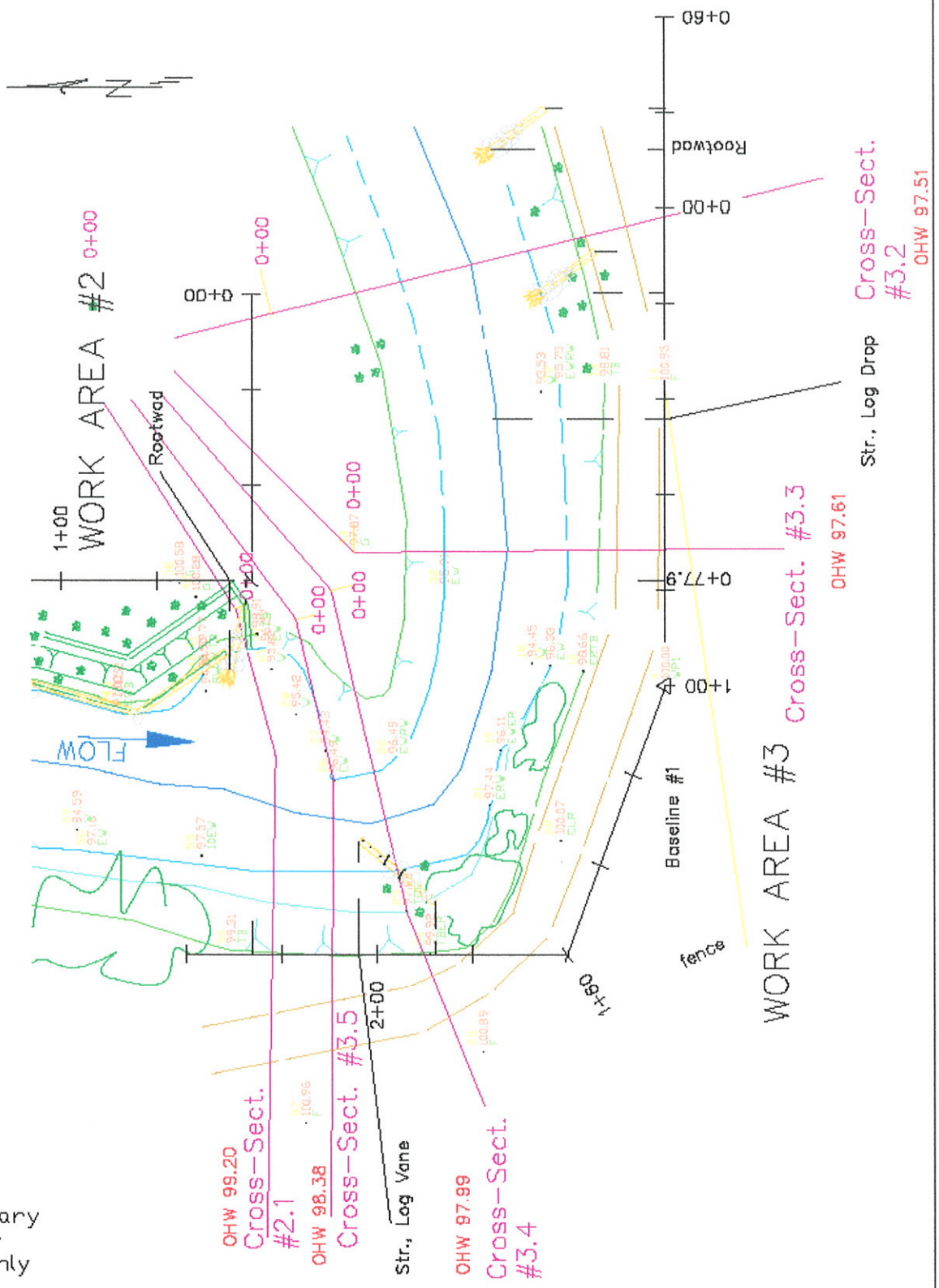


Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT WORK AREA 1 SITE MAP	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 3 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA CO. WA.		



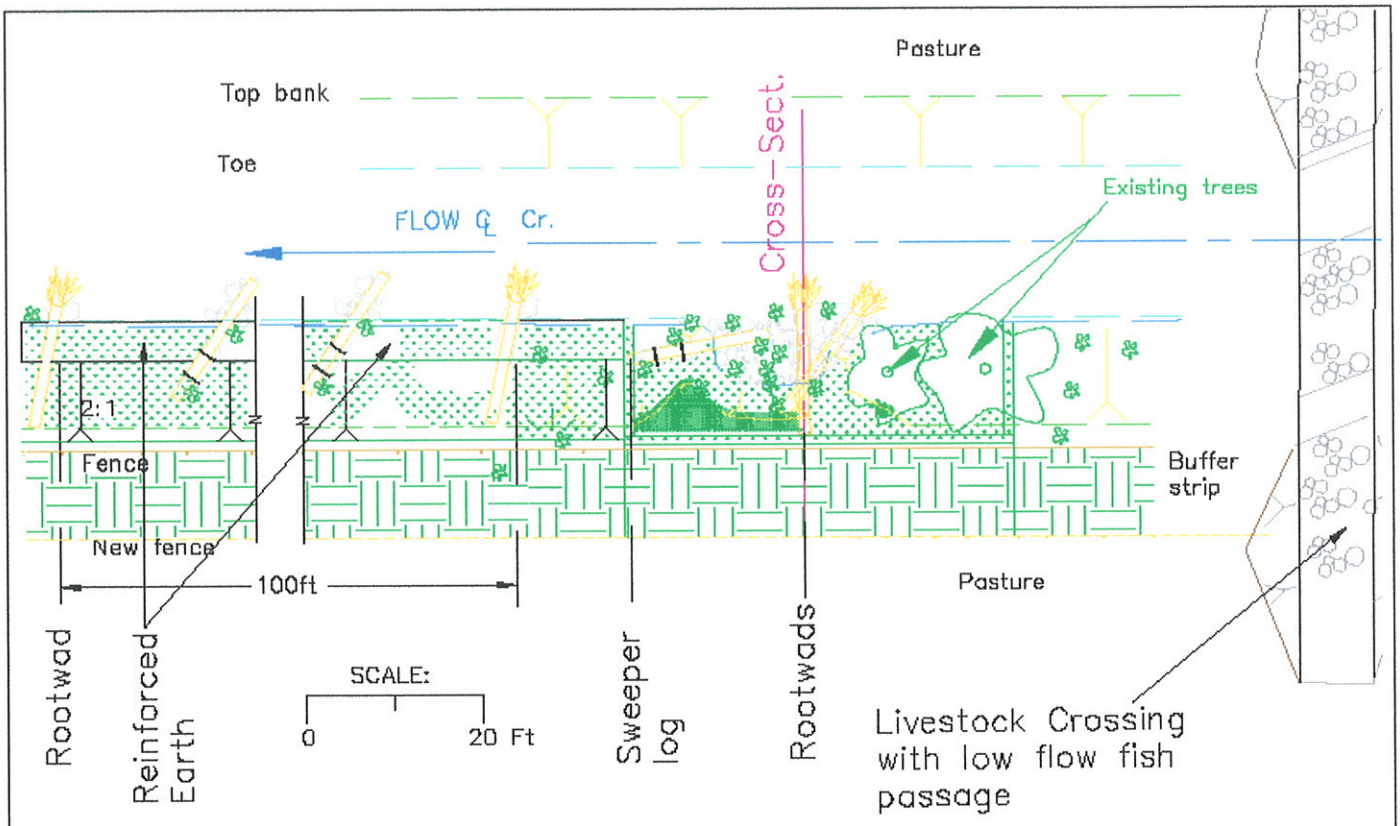
Note: Preliminary drawings, for permit use only

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT WORK AREA 2 SITE MAP	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 4 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA CO. WA.		

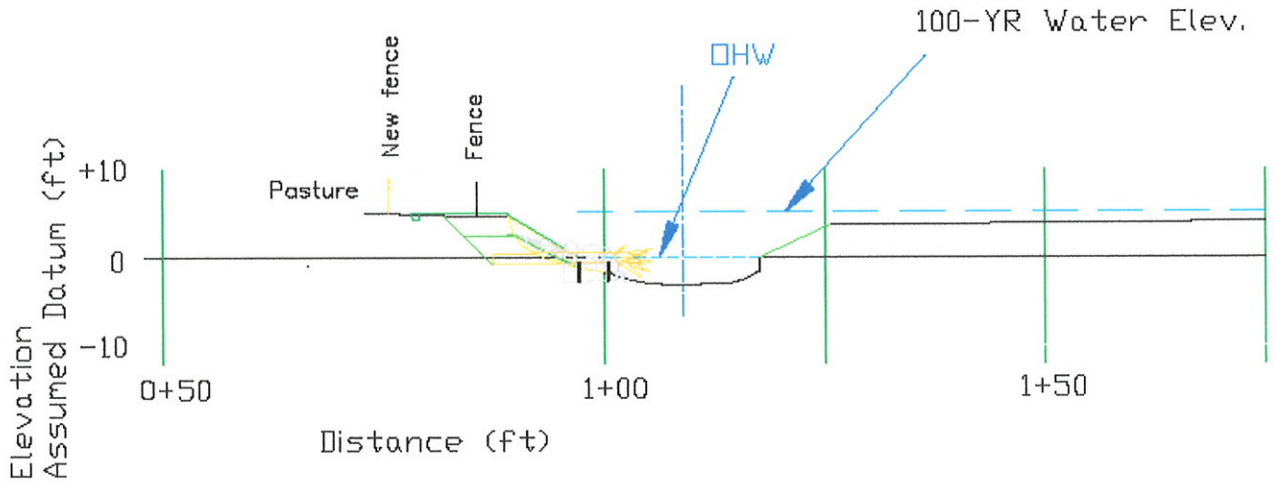


Note: Preliminary drawings, for permit use only

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT WORK AREA 3 SITE MAP	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 5 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA CO. WA.		



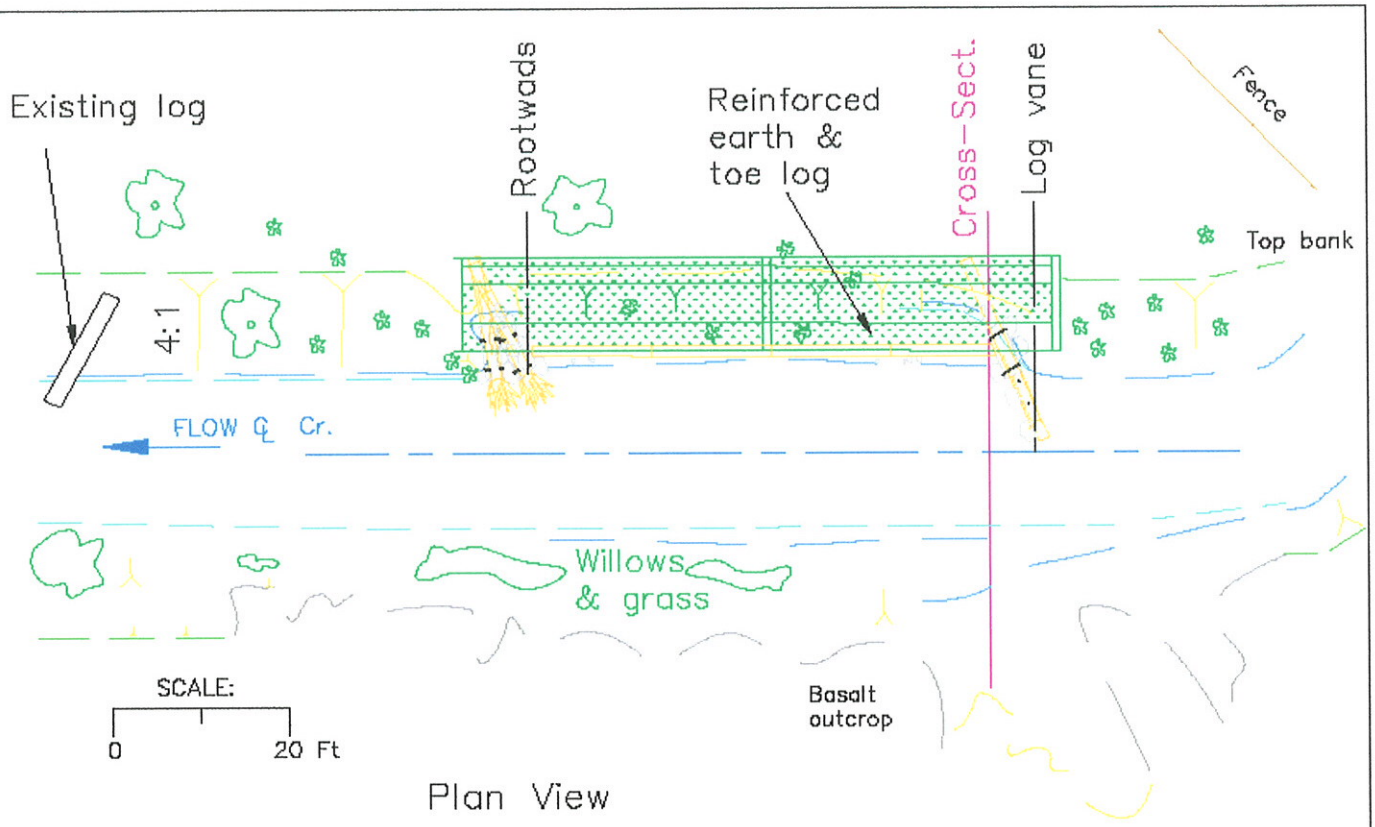
Plan View



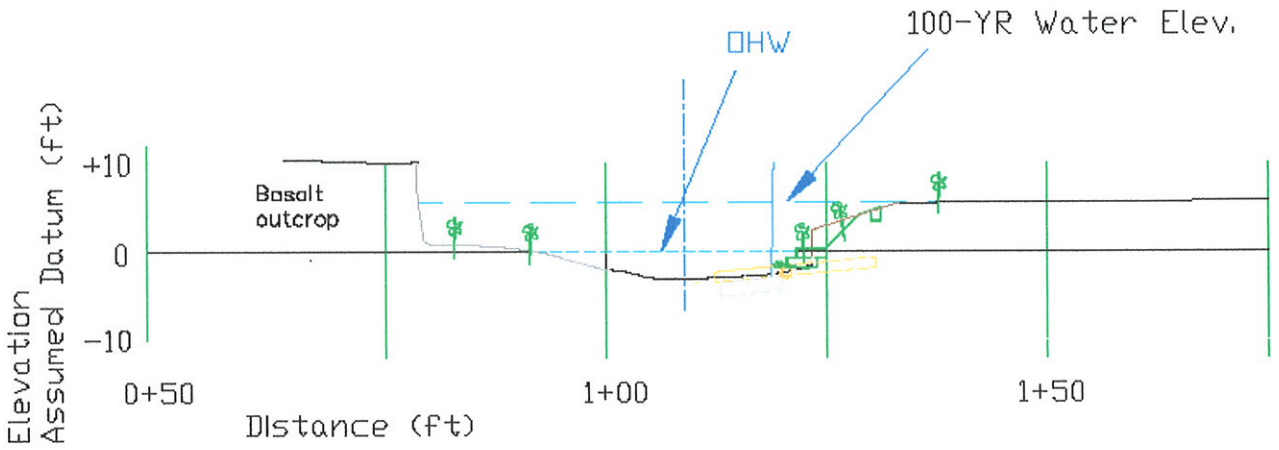
Cross-Section
Looking Downstream

Note: Preliminary drawings, for permit use only

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT WORK AREA #4	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 6 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA COUNTY, WA		



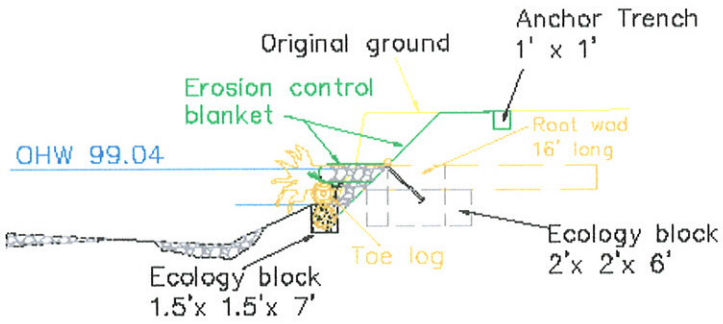
Plan View



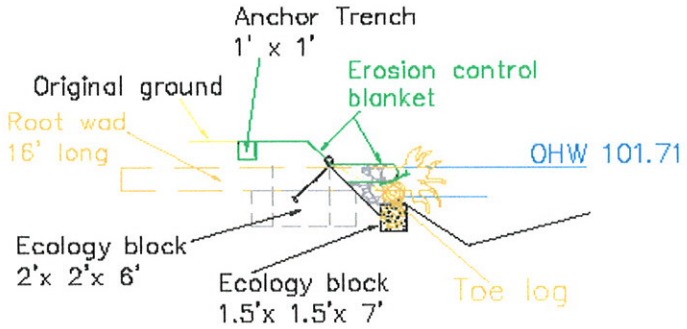
Cross-Section
Looking Downstream

Note: Preliminary drawings, for permit use only

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT WORK AREA #5	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 7 OF 9	Designed PHC 1/07 Drawn PHC, RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA COUNTY, WA		



Section 2.3
Typical Area 2 Bank Work



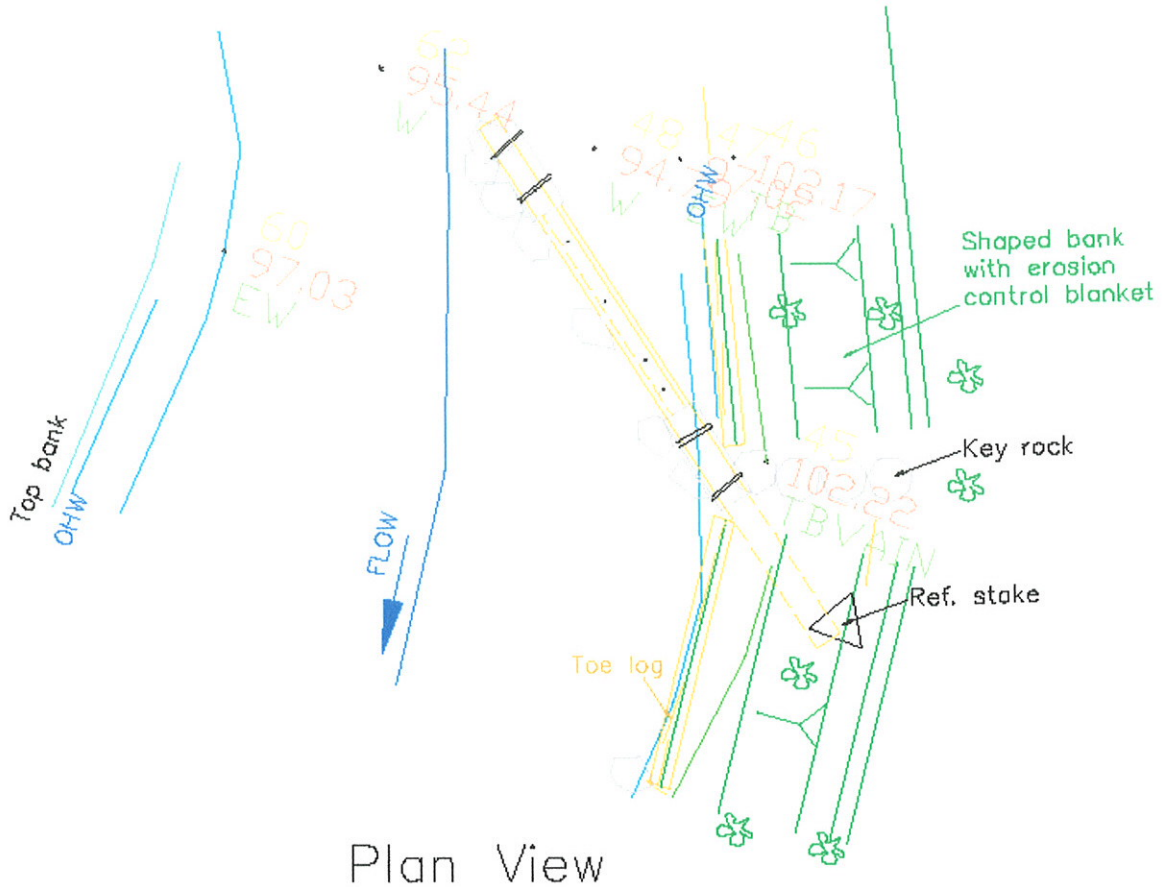
Section 1.5
Typical Area 3 Bank Work

SCALE:

0 10

Note. Preliminary drawings for permit use only.

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT ROOTWAD/TOE LOGS TYPICALS NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA COUNTY, WA	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 8 OF 9	Designed PHC 1/07 Drawn RMH 3/07 Checked PHC 3/07 Approved



Plan View

Cross–Section

SCALE:

0 10

Note. Preliminary drawings for permit use only.

Elevations from assumed datum

Schneider_Wilkenson_Green STREAM CHANNEL AND RIPARIAN RESTORATION PROJECT LOG VANE TYPICAL	CAD FILE NO. Schneiderwilkinsongreen.dwg DRAWING NO. SHEET 9 OF 9	Designed PHC 1/07 Drawn RMH 3/07 Checked PHC 3/07 Approved
NORTH YAKIMA CONSERVATION DISTRICT, YAKIMA COUNTY, WA		

Attachment 2: Photos of the Project Area

Photo 1. Photo taken in April 2004 of area 1 in the restoration plan. This photo illustrates the vertical banks, uncontrolled livestock access, and lack of native, woody riparian vegetation throughout the project reach.

Photo 2. Photo taken in April 2007, illustrates vertical bank failure and the lack of woody vegetation to provide stability and instream complexity.

Photo 3. Photo taken in February 2007 of the upstream bend in area 2 of the restoration plan. This corner is heavily armored with non-native material and riprap to ensure the creek does not avulse.

Photo 4. Most downstream section of the project reach, area 3. This photo was taken in April 2004.

Photo 5. This is the site of the most downstream livestock-crossing site in area 1. The fenceline indicates the property boundary between two landowners and the area break between areas 1 and 4 in the restoration plan.