

**KING CONSERVATION DISTRICT
BOARD OF SUPERVISORS MEETING**

July 11th, 2022

5:00 PM – via Teleconference Only Zoom

Link: <https://zoom.us/j/81761288066>

Call In Number: (253) 215-8782

Meeting ID: 817 6128 8066

Meeting Agenda

Call to Order

- | | |
|---|--------------------------|
| 1. Preliminary Matters | 5:00 PM – 5:05 PM |
| a) Introductions | |
| b) Additions or Corrections to the Agenda | |
| c) Adoption of the Board Agenda | |

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|--------------------------|--------------------------|
| 2. Consent Agenda | 5:05 PM – 5:10 PM |
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Items listed below will be enacted by one motion. If separate discussion is desired on an item, that may be removed from the Consent Agenda and placed on the Regular Agenda at the request of a Board Supervisor.

- a) Board Minutes (pgs 2-09)
 - 1) 06/21/22 KCD Board of Supervisors Meeting Need Materials
 - 2) 06/27/22 KCD Grant Subcommittee Meeting
 - 3) 06/27/22 KCD Special BOS Meeting Need Materials
- b) Member Jurisdiction Grant Applications (pgs 10-31)
 - 1) AI 22-048: Town of Yarrow Point- Wetherill Nature Preserve & Yarrow Point Morningside Park - Saavedra
 - 2) AI 22-049: Environmental Science Center - Water Quality Community Project at Arbor Lake (Burien Member Jurisdiction Funds) – Saavedra

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|--------------------------|--------------------------|
| 3. Public Comment | 5:10 PM – 5:15 PM |
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| 4. Board Election | 5:15 PM – 5:30 PM |
| a) Board Chair | |
| b) Board Vice Chair | |

- | | |
|--------------------|--------------------------|
| 5. New Hire | 5:30 PM – 5:40 PM |
| a) Miranda Smith | |

- | | |
|---|-------------------------|
| 6. Reports | 5:40 PM – 5:50PM |
| a) Executive Director – Méndez-Perez Need Materials (pgs 33-34) | |
| b) Board of Supervisors | |
| c) Washington Federation of State Employees (WFSE) | |

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|---|--------------------------|
| 7. Finance | 5:50 PM – 6:05 PM |
| a) AI 22-050: June 2022 Financials – Reed (pgs 36-40) | |
| b) AI 22-051: Reconciliation of Restricted Funds - Draft – Reed (pg 41) | |

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|-------------------------|--------------------------|
| 8. Presentations | 6:05 PM – 6:20 PM |
| a) Envirothon-Wolf | |

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9. New Business

6:20 PM – 7:20 PM

- a) AI 22-052: Washington State Dept of Ecology Washington Conservation Corps Contract For 2022-2023 – Meisinger/Mendez-Perez (pgs 43-53)
- b) AI 22-053: LIP- Zweirs – Riparian Forest Buffer – First Look - Redmond / Mendez-Perez (pgs 54-70)
- c) AI 22-054: LIP- Tesar – Forest Health Management – First Look- Redmond/ Mendez-Perez (pgs 71-93)
- d) AI 22-055: LIP- Cherry Valley Dairy – Waste Storage Facility & Roof Runoff Structure – First Look- Redmond/Mendez-Perez (pgs 94-169)
- e) AI 22-056: LIP – Sullivan-Buffer Fence- First Look- Redmond/ Mendez-Perez (pgs 170-205)
- f) AI 22-057: LIP – Pepka-Stream Crossing – First Look- Redmond/Mendez Mendez-Perez (pgs 206-227)
- g) AI 22-058: LIP – Devaney – Cover Crops – First Look - Redmond/ Mendez-Perez (pgs 228-237)
- h) AI 22-059: Agricultural Drainage Project- Iyer Farm, Enumclaw. Request to award small publics works contract – Stockton (pgs 238-256)
- i) AI 22-060: Agricultural Drainage Project- Cedar Grove Farm. Request to award small public works contract. – Stockton (pgs 257-271)

9. Unfinished Business

7:20 PM – 7:45 PM

- a) AI 22-043: 2021 Annual Report — Dostal (pgs 273-299)
- b) AI 22-045: Cunningham / Cedar Grove– Redmond (pgs 300-325)
- c) AI 22-047: McKittrick – Stream Crossing - Redmond (pgs 326-361)

10. Executive Session

7:45 PM – 8:00 PM

- a) Executive Session: RCW 42.30.110(1)(i) to discuss with legal counsel representing the agency litigation or potential litigation

Consent Agenda

KING CONSERVATION DISTRICT

Board of Supervisors Meeting Minutes

June 21st, 2022

1 **Supervisors Present:** Kirstin Haugen – Chair, Bill Knutsen – Supervisor, Brittney Bush Bollay
2 – Supervisor, Chris Porter – Vice Chair

3 **Supervisors Not Present:** Burr Mosby – Supervisor

4 **Guests Present:** Jean Fike – WSCC, Carmela Ennis – King County Council

5 **Staff Present:** Lorna Miss, Kathryn Lewis, Rosa Méndez-Perez, Jessica Saavedra, Laura
6 Redmond, Maria Chang-Ward, Mike Lasecki, Maya Klem, Ellen Arnstein, Carrie King

7 **Preliminary Matters:**

8 Chair Haugen called the meeting to order at 5:02 PM. All attendees introduced themselves.

9 Chair Haugen asked for any additions or corrections to the agenda.

10 Envirothon presentation will be moved to the July meeting.

11 **Porter moved; Knutsen seconded, passed unanimously a motion to approve the**
12 **amended agenda (4 ayes, 0 nays).**

13 **Bush Bollay moved; Porter seconded, passed unanimously a motion to approve the**
14 **consent agenda (4 ayes, 0 nays).**

15 **Public Comment:** There was no public comment.

16

17 **New Employee Introduction:**

18

19 Executive Director Méndez-Perez introduced new employee Maya Klem, the new Urban
20 Forestry Representative.

21 **Reports:**

22

23 Executive Director Méndez-Perez provided a monthly report to the Board. A detailed letter
24 was provided in the Board packet.

25 Vice Chair Chris Porter gave a WACD Report, including work on DEI and vehicle
26 replacement.

27 **WFSE:** No update provided.

28 **Finance:**

29 Kathryn Lewis presented AI 22-040: April 2022 financials.

30 **Knutsen moved; Porter seconded, passed unanimously a motion to approve AI 22-040:**
31 **April 2022 Financials and Check Register (4 ayes, 0 nays).**

32 **Presentations:**

33 Ellen Arnstein gave a presentation on the Forest Stewardship Program.

34 **New Business:**

35 Kathryn Lewis presented AI 22-041: 2022 Washington State Conservation Commission
36 (WSCC) Conservation Reserve Enhancement Program (CREP) Grant for approval.

37 **Knutsen moved; Bush Bollay seconded, passed unanimously a motion to approve AI**
38 **22-041: 2022 WSCC CREP Grant (4 ayes, 0 nays).**

39 Ellen Arnstein and Liz Stockton presented the 2022 Working Lands Initiative Work Plan.

40 Méndez-Perez presented AI 22-042: Server Room HVAC.

41 **Bush Bollay moved; Knutsen seconded, passed unanimously a motion to approve AI**
42 **22-042: Server Room HVAC (4 ayes, 0 nays).**

43 Méndez-Perez and Mark Dostal presented AI 22-043: 2021 Annual Report for first reading.

44 Mike Lasecki presented AI 22-044: WSCC Natural Resources Inventory (NRI) Program Contract for
45 first reading.

46
47 Laura Redmond presented AI 22-045: Landowner Incentive Program – Cunningham Cedar Grove
48 Project for first reading.

49
50 Redmond presented AI 22-046: Landowner Incentive Program – Hope Forest Health Management
51 Project for first reading.

52
53 Redmond presented AI 22-047: Landowner Incentive Program – McKittrick Stream Crossing Project
54 for first reading.

55
56 **Unfinished Business:**

57
58 Redmond presented four Landowner Incentive Program applications for second reading: AI
59 22-029: Downing – Riparian Forest Buffer, AI 22-030: Iyer – Stream Crossing, AI 22-031:
60 Riojas – Waste Storage Facility, and AI 22-032: Shixu – Riparian Forest Buffer.

61 **Knutsen moved; Porter seconded, passed unanimously a motion to approve the AI 22-**
62 **029: Downing – Riparian Forest Buffer, AI 22-030: Iyer – Stream Crossing, AI 22-031:**

Riojas – Waste Storage Facility, and AI 22-032: Shixu – Riparian Forest Buffer (4 ayes, 0 nays).

There was no more business before the Board.

Porter moved; Bush Bollay seconded, passed unanimously a motion to adjourn the meeting at 6:38 PM (4 ayes, 0 nays).

Authorized Signature

Date

Summary of Motions

KING CONSERVATION DISTRICT

Board of Supervisors

Grant Subcommittee Meeting
Meeting Minutes

June 27th, 2022

1 **Supervisors Present:** Kirstin Haugen – Chair, Bill Knutsen – Supervisor, Brittney Bush Bollay
2 – Supervisor, Burr Mosby – Supervisor, Chris Porter – Vice Chair

3 **Supervisors Not Present:**

4 **Guests Present:** Alan Chapman-WACD

5 **Staff Present:** Lorna Miss, Rosa Méndez-Perez, Jessica Saavedra, Maria Chang-Ward, Mary
6 Embleton.

7 **Preliminary Matters:**

8 Chair Haugen called the meeting to order at 5:01 PM. All attendees introduced themselves.

9 Chair Haugen asked for any additions or corrections to the agenda.

10 **Additions to Agenda:**

11 **Application**

12 Burien Member Jurisdiction Grant Application from Environmental Science Center for the
13 Water Quality Community Project at Arbor Lake.

14 **Amendment:**

15 Neighborhood Farmers Markets – Streamlined Farmers Market Vendor Application and
16 Management Systems (King County Pilot) amendment request to extend the project
17 completion date from 12/31/21 to 12/31/22, decrease the scope of work and reallocate funds
18 in the budget as detailed.

19 **Knutsen moved; Bush Bollay seconded, passed unanimously a motion to approve the**
20 **amended agenda (3 ayes, 0 nays).**

21 **Public Comment:** There was no public comment.

22 **Applications:**
23

24 **Bush Bollay moved; Knutsen seconded, passed unanimously a motion to recommend**
25 **the Member Jurisdiction grant application from the Town of Yarrow Point for the**
26 **Wetherill Nature Preserve & Yarrow Point Morningside Park project (4 ayes, 0 nays).**

Page 2 of 3
Board of Supervisors
Grant Subcommittee Meeting Minutes
June 27th, 2022

Bush Bollay moved; Mosby seconded, passed unanimously a motion to recommend the Burien Member Jurisdiction grant application from the Environmental Science Center-Water Quality Community Project at Arbor Lake (4 ayes, 0 nays).

Amendments:

Mosby moved; Bush Bollay seconded, passed unanimously a motion to approve the amendment request extending the project completion date from 8/31/22 to 1/31/23 from the City of Sammamish for 2021-2022-Stormwater Outreach (4 ayes, 0 nays).

Close-outs:

Knutsen moved; Mosby seconded, passed unanimously a motion to close the Environmental Science Center-Environmental Heroes 2019-2022 grant agreement (4 ayes, 0 nays).

Knutsen moved; Bush Bollay seconded, passed unanimously a motion to close the City of Shoreline-Green Shoreline 2021 grant agreement (4 ayes, 0 nays).

Regional Food System Grant Program Items

Amendments:

Bush Bollay moved; Knutsen seconded, passed unanimously a motion to approve the amendment request from the Common Acre-Community Food Hubs to extend the completion date to 12-31-22, decreasing the scope of work and revising the budget as detailed (4 ayes, 0 nays).

The Neighborhood Farmers Market Streamlined Farmers Market Vendor Application and Management Systems (King County Pilot) grant agreement amendment request to extend the project completion date from 12/31/21 to 12/31/22, decrease the scope of work and reallocate funds in the budget as detailed, was not approved, Mary will reach out to farmers market with several questions from the board and bring the amendment back to next subcommittee meeting

Close-Outs:

Knutsen moved; Mosby seconded, passed unanimously a motion to close the Highline College-Immigrant and Refugee Agriculture Education Tuition Assistance grant agreement (5 ayes, 0 nays).

Page 3 of 3
Board of Supervisors
Grant Subcommittee Meeting Minutes
June 27th, 2022

There was no more business before the Board.

Porter moved; Bush Bollay seconded, passed unanimously a motion to adjourn the meeting at 6:08 PM (5 ayes, 0 nays).

Authorized Signature

Date

Summary of Motions

KING CONSERVATION DISTRICT

Special Board of Supervisors
Meeting Minutes

June 27th, 2022

1 **Supervisors Present:** Kirstin Haugen – Chair, Chris Porter – Vice Chair, Bill Knutsen –
2 Supervisor, Brittney Bush Bollay – Supervisor, Burr Mosby – Supervisor

3 **Supervisors Not Present:**

4 **Guests Present:** Alan Chapman – WACD

5 **Staff Present:** Lorna Miss, Rosa Méndez-Perez, Laura Redmond, Mike Lasecki, Ellen
6 Arnstein

7 **Preliminary Matters:**

8 Chair Haugen called the meeting to order at 6:05 PM. All attendees introduced themselves.

9 Chair Haugen asked for any additions or corrections to the agenda.

10 **Porter moved; Bush Bollay seconded, passed unanimously a motion to approve the**
11 **agenda (5 ayes, 0 nays).**

12 **Public Comment:** There was no public comment.

13 **Unfinished Business:**

14
15 Mike Lasecki presented AI 22-044: Washington State Conservation Commission (WSCC)
16 Natural Resource Inventory (NRI) Program Contract for approval.

17
18 **Knutsen moved; Mosby seconded, passed unanimously a motion to approve AI 22-044:**
19 **WSCC NRI Program Contract (5 ayes, 0 nays).**

20
21 Laura Redmond presented AI 22-046: Landowner Incentive Program (LIP) – Hope Forest
22 Health Management Project for approval.

23
24 **Mosby moved; Bush Bollay seconded, passed unanimously a motion to approve AI 22-**
25 **046: LIP Hope Forest Health Management Project (5 ayes, 0 nays).**

26
27 There was no more business before the Board.

28
29 **Bush Bollay moved; Knutsen seconded, passed unanimously a motion to adjourn the**
30 **meeting at 6:16 PM (5 ayes, 0 nays).**

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Authorized Signature

Date

35

36

Summary of Motions

37

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

SUBJECT: AI 22- 048

- Motion to approve the Member Jurisdiction grant application from the City of Yarrow Point for the Wetherill Nature Preserve & Yarrow Point Morningside Park project

FISCAL IMPACT

- The applicant is requesting \$7,812.00 from KCD-Yarrow Point Member Jurisdiction Funds

POLICY CONSIDERATION

This proposal addresses the following natural resource improvement actions

- Direct Improvement of Natural Resources
- Education and Outreach
- Pilot and Demonstration Projects
- Capacity Building

PRINCIPAL PARTNERS

- Town Park Board & JGM Landscape Architects

BACKGROUND

This proposal was reviewed at the last grant subcommittee meeting on June 27th, 2022. This is an urban forestry and shorelines project that proposes to have volunteers who perform trail maintenance, trail blazing and removal of invasive species at Wetherill Nature Preserve and Yarrow Point Morningside Park.

EFFECTIVE DATE:

- If approved, this Motion becomes effective on the date of approval.
- The grant project proposes to start on 08/01/2022 and end on 08/01/2023

OPTIONS

- Vote in favor or not in favor of approving the consent agenda.
- Request that this item be removed from the consent agenda for discussion.

RECOMMENDATION

The grant subcommittee recommends approval of this grant application.

MOTION

Motion to approve the Member Jurisdiction grant application for \$7,812.00 from KCD-Yarrow Point Member Jurisdiction funds for the City of *Yarrow Point Wetherill Nature Preserve & Yarrow Point Morningside Park project*

Wetherill Nature Preserve & Yarrow Point Morningside Park

Member Jurisdiction Grant Program

Town of Yarrow Point

Ms. Bonnie Ritter
4030 95th Ave NE.
Yarrow Point, WA 98004

depclerk@yarrowpointwa.gov
O: 425-454-6994

Austen Wilcox

4030 95th Ave NE.
Yarrow Point, WA 98004

depclerk@yarrowpointwa.gov
O: 425-454-6994

Application Form

Summary Information

Project Title*

Wetherill Nature Preserve & Yarrow Point Morningside Park

Project Description - Short*

Provide a short, concise description of the project no more than two or three sentences.

These funds would be used for Wetherill Nature Preserve and Yarrow Point Morningside Park. At each location, we have volunteers who perform trail maintenance, trail blazing and removal of invasive species.

Principal Partners (if any)

Town Park Board & JGM Landscape Architects

Amount of KCD Funding Requested*

You will need to upload a detailed budget document before you submit your application. Please make sure the amount requested and total project cost amounts you list here match the amounts in the uploaded budget document.

\$7,812.00

Total Project Cost*

\$10,000.00

Total Matching Funds (optional)

Project Start Date*

08/01/2022

Project End Date*

08/01/2023

Close Date

Project Location*

Address, Parcel #, OR L&L Points, for site specific projects only.

If more than two locations, state "multiple" and explain.

Wetherill Nature Preserve located between Hunts and Yarrow Point, can be entered from the Points Loop Trail connecting the towns of Yarrow Point and Hunt's Point.

Yarrow Point Morningside Park is located at: 4030 95th Ave NE. Yarrow Point, WA. 98004.

Jurisdiction

If the applicant is not a city or jurisdiction, please type in the city or jurisdiction this project is located in.

Is your project on public or private land?*

Public

State Legislative District #*

Click here to find it on the web. If your project resides in more than one district, type in the primary district or type in zero.

1

King County District #*

Click here to find it on the web. If your project resides in more than one district, type in the primary district or type in zero.

48

Narratives, Budget, & Attachments

Project Description - Detailed*

Provide a description of the project that summarizes what you will do, how you will do it, and why you will do it. Describe target audience, outcomes, objectives and general timelines.

Town of Yarrow Point plans to use these funds to maintain Wetherill Nature Preserve and Morningside Park.

Shoreline restoration.
Volunteer maintained.
Remove invasive species.
Trail blazing.
Trail maintenance.

The use of Town hired summer interns paid at \$18.00 per hour will be utilized in Wetherill Nature Preserve.

Project Activities and Measurable Results*

List specific project activities to be completed with KCD grant funds and the associated outcomes or measurable results, and timeline.

Wetherill Nature Preserve:

New trails.

Trail maintenance.

Utilize Earth Corps for invasive specie removal.

Planting of native trees.

Removal of dead or fallen trees.

Remove invasive species.

Continued maintenance and restoration of shoreline.

Yarrow Point Morningside Park

Removal of invasive species such as the Himalayan blackberry and ivy.

Create new walking path down to Yarrow Bay

Project Budget and Expenses*

Fill out and upload separate Application Budget Form also available on the KCD Member Jurisdiction Grant Program website. Budget must be detailed with footnotes, appropriate and reasonable, *meeting state auditor/GAAP guidelines. Please do not use forms from previous applications. Please only upload the form linked above. Thank you!*

Yarrow Point KCD-Member-Jurisdiction-Grant-Program-Application-Budget-Form.xlsx

Member Jurisdiction Authorization Letter

If you are a nonprofit organization seeking Member Jurisdiction funding, you must upload written authorization from the Member Jurisdiction to apply for funding. This can be in the form of a letter or scanned copy of an email.

Additional Attachments

Upload any photos or maps of your project here. Only one file will be accepted. Please combine multiple files into one if possible.

Natural Resource Improvement Actions- Criteria Checklist

You must select at least one natural resource improvement action, otherwise your application is not eligible. However, please only select "yes" below the action that your project **directly** addresses.

Direct Improvement of Natural Resource Conditions*

To improve landscape and natural resource conditions as a result of direct action that enhances water quality, protects and conserves soils, implements ecosystem restoration and preservation projects (*examples include supporting private property owners with land stewardship, water quality, aquatic and wildlife habitat resources, removal of invasive weeds, stewardship on public land*)

Does your project directly address this issue?

Yes

Education and Outreach*

To raise awareness, deepen knowledge, and change behaviors of residents, landowners, and other land managers and organizations to practice exemplary stewardship of natural resources (*examples include education about stormwater management; the value of farmland, local farms and food systems, shorelines, salmon habitat, forests and other ecosystems*)

Does your project directly address this issue?

Yes

Pilot and Demonstration Projects*

To test and/or improve concepts and/or approaches in natural resource management that can be replicated by others (*examples include low impact development or green infrastructure demonstration projects, development of new best management practices, distribution of local farm products, urban agriculture (e.g. farmers markets and backyard food production to promote or support social economic independence and healthy living); technological innovation for natural resource conservation*)

Does your project directly address this issue?

Yes

Capacity Building*

To enhance the ability of organizations, agencies, residential landowners and other land owners and managers to have knowledge, skills, tools, support systems and technical resources to implement exemplary best management practices and deliver natural resource management actions on the ground (*examples include urban agriculture development, assistance to and inclusion of private property owners, preservation, restoration, and/or expansion of urban and/or rural agricultural lands, rural and urban forest lands, riparian restoration and stewardship on private and public lands*)

Does your project directly address this issue?

Yes

Project Type*

Forestry, Urban

Shorelines, Urban

KCD Acknowledgement and Signature

By signing below, the applicant agrees to acknowledge King Conservation District funding by placing the KCD-provided logo on signs, materials, and documents produced as part of the above proposal. In addition, the applicant will notify KCD of public events and activities funded by the KCD.

*

I have read the above paragraph about acknowledging KCD and I will use the provided logo.

Authorized Applicant Electronic Signature*

Please enter your full name to sign and agree to the above.

Auten Wilcox

Title

Town Deputy Clerk

Date*

05/26/2022

File Attachment Summary

Applicant File Uploads

- Yarrow Point KCD-Member-Jurisdiction-Grant-Program-Application-Budget-Form.xlsx



Member Jurisdiction Grant Program

Grant Application Project Budget Form

*Promoting sustainable uses of natural resources
through responsible stewardship*

Project Name	Wetherill Nature Preserve and Yarrow Point Morningside Park		
Applicant	Austen Wilcox, Yarrow Point Deputy Clerk		
Contact	Austen Wilcox, Yarrow Point Deputy Clerk		
Mailing Address	4030 95th Ave NE.		
E-mail	depclerk@yarrowpointwa.gov	Project Start Date:	8/1/2022
Phone	425-454-6994	Project End Date:	Ongoing

Please provide detailed budget information below. Itemize categories such as supplies, contracted services with footnotes and detailed descriptions below

Budget Item	KCD Funds	Other Funds	Other Funds	Total
		<i>(identify source and status of matching funds here ex. Rose Foundation - Pending)</i>	<i>(identify source and status of matching funds here ex. DON Small and Simple - Secured)</i>	
Salaries & Benefits	\$4,500 - Town hired summer interns			\$4,500
Travel/ Meals/ Mileage (for - volunteers, staff)	N/A			\$0
				\$0
				\$0
				\$0
Office Supplies	N/A			\$0
				\$0
				\$0
Field Supplies	N/A			\$0
Contracted/ Professional Services	\$3,312.00 - Earth Corps services			\$3,312
Permits	N/A			\$0
Other: <i>(specify)</i>				\$0
Other: <i>(specify)</i>				\$0
Other: <i>(specify)</i>				\$0
Other: <i>(specify)</i>				\$0
Other: <i>(specify)</i>				\$0
TOTAL	\$7,812	\$0	\$0	\$7,812

Total Project Cost	\$10,000
Total Match	\$0

Amount of KCD Funding Requested	\$7,812
Match Percentage	<i>0%</i>

Footnotes:

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

SUBJECT: AI 22- 049

- Motion to approve the Burien Member Jurisdiction grant application from the Environmental Science Center for the Water Quality Community Project at Arbor Lake project

FISCAL IMPACT

- The applicant is requesting \$4,861.00 from KCD-Burien Member Jurisdiction Funds

POLICY CONSIDERATION

This proposal addresses the following natural resource improvement actions

- Direct Improvement of Natural Resources - Yes
- Education and Outreach - Yes

PRINCIPAL PARTNERS

- City of Burien, Amigos Latinos de Burien

BACKGROUND

This proposal was reviewed at the last grant subcommittee meeting. This stormwater educational project proposes to work with a local community group to train them on water quality monitoring techniques at Arbor Lake Park in Burien. ESC will educate and empower the volunteers to improve the water quality of their local park.

EFFECTIVE DATE:

- If approved, this Motion becomes effective on the date of approval.
- The grant project proposes to start on 07/11/2022 and end on 12/31/2022

OPTIONS

- Vote in favor or not in favor of approving the consent agenda.
- Request that this item be removed from the consent agenda for discussion.

RECOMMENDATION

The grant subcommittee recommends approval of this grant application.

MOTION

Motion to approve the Member Jurisdiction grant application for \$4,861.00 from KCD-Burien Member Jurisdiction funds for the City of *Environmental Science Center Water Quality Community Project at Arbor Lake project*

Water Quality Community Project at Arbor Lake

Member Jurisdiction Grant Program

Environmental Science Center

Joanna Stodden
126 SW 148th Street, Suite C100-90
Burien, WA 98166

joanna@environmentalsciencecenter.org
g
O: 206-248-4266

Kelly Steffen

kelly@environmentalsciencecenter.org

Application Form

Summary Information

Project Title*

Water Quality Community Project at Arbor Lake

Project Description - Short*

Provide a short, concise description of the project no more than two or three sentences.

The Environmental Science Center will work with a local community group to train them on water quality monitoring techniques at Arbor Lake Park in Burien. ESC will educate and empower the volunteers to improve the water quality of their local park.

Principal Partners (if any)

City of Burien, Amigos Latinos de Burien

Amount of KCD Funding Requested*

You will need to upload a detailed budget document before you submit your application. Please make sure the amount requested and total project cost amounts you list here match the amounts in the uploaded budget document.

\$4,861.00

Total Project Cost*

\$7,223.00

Total Matching Funds (optional)

\$2,362.00

Project Start Date*

07/11/2022

Project End Date*

12/31/2022

Close Date

Project Location*

Address, Parcel #, OR L&L Points, for site specific projects only.
If more than two locations, state “multiple” and explain.

Arbor Lake Park, 12380 2nd Ave S, Burien, WA 98168

Jurisdiction

If the applicant is not a city or jurisdiction, please type in the city or jurisdiction this project is located in.

Burien

Is your project on public or private land?*

Public

State Legislative District #*

Click here to find it on the web. If your project resides in more than one district, type in the primary district or type in zero.

34

King County District #*

Click here to find it on the web. If your project resides in more than one district, type in the primary district or type in zero.

8

Narratives, Budget, & Attachments

Project Description - Detailed*

Provide a description of the project that summarizes what you will do, how you will do it, and why you will do it. Describe target audience, outcomes, objectives and general timelines.

A group of Latinx community members who live in the Arbor Lake neighborhood in Burien have a desire to enhance and promote access to their local hidden gem - Arbor Lake Park. This group, Amigos Latinos de Burien, applied and received a Port of Seattle South King County grant to help organize some clean-up activities, do some pathway reinforcements, reforestation stewardship, water quality monitoring, and community engagement. Many of the residents specifically wanted to improve the water quality of the lake

for potential future fish stocks. After consultation with staff at Washington Department of Fish and Wildlife, it was determined that a bi-monthly water sampling was needed during the summer and fall months to get baseline information on the lake health.

The local community members reached out to City of Burien and Environmental Science Center (ESC) to assist with the water quality monitoring. The current health of this lake is unknown and community members want to make sure the lake is healthy as they improve the habitat surrounding the park to increase community use. Environmental Science Center staff have extensive experience teaching water quality testing techniques to all ages. Additionally, we have experience translating these techniques into Spanish to increase access throughout the local community. ESC will draw on this experience to educate local community members and empower them to improve the health of their local park.

ESC plans to purchase the specific water quality testing equipment needed for the water sampling and prepare training materials in Spanish for the community members. ESC staff will then work with these volunteers to train them on how to use the equipment and assist with the bi-monthly water quality measurements. At the recommendation of WDFW staff, ESC will be using equipment to monitor water temperature, dissolved oxygen, and pH at various depths in the lake throughout the summer and fall.

Water Quality Monitoring Objectives:

Local community members will be trained and mentored in water quality monitoring at Arbor Lake to help improve the local habitat. ESC staff will work closely with the community members to translate materials and train them on effective monitoring.

Water Quality Monitoring General Timeline:

- July 2022: ESC staff prep water quality equipment, prepare bilingual training materials, meet with community volunteers for initial training.
- August 2022-October 2022: ESC staff work with community volunteers for two water quality sampling dates each month.
- November 2022-December 2022: ESC staff synthesize data and share with City of Burien and WDFW staff.

Project Activities and Measurable Results*

List specific project activities to be completed with KCD grant funds and the associated outcomes or measurable results, and timeline.

ESC's water quality monitoring project will create bilingual water quality instructions and will train at least 4-6 community volunteers on water quality monitoring of Arbor Lake. ESC staff will work closely with the volunteers to help train them in Spanish on how to properly use the equipment and collect data needed to determine overall lake health.

Proposed Outcome 1:

Water quality training instructions will be translated into Spanish for the local community members.

Measurements: YSI instructions will be adapted for general public use and translated into Spanish for the volunteers.

Proposed Outcome 2:

Local community members will be trained and participate in bi-monthly water quality measuring.

Measurements: At least 4-6 community volunteers will visit Arbor Lake twice a month from July 2022-October 2022 to sample the water alongside ESC staff.

Proposed Outcome 3:

Water quality data will be shared with City of Burien and WDFW staff to assist future work at Arbor Lake Park.

Measurements: Water temperature, dissolved oxygen, and pH data collected from various lake depths throughout the summer and fall will be shared with City of Burien and WDFW.

Program Timeline:

July 2022: ESC staff will purchase and pre water quality equipment for use with the community volunteers. This includes translating instructions into Spanish and preparing a detailed training plan for the volunteers. The first training and sampling day with the volunteers will take place at the end of July.

August 2022: ESC staff will schedule two Saturdays in August to return to Arbor Lake and sample the water with the community volunteers.

September 2022: ESC staff will schedule two Saturdays in September to return to Arbor Lake and sample the water with the community volunteers.

October 2022: ESC staff will schedule two Saturdays in October to return to Arbor Lake and sample the water with the community volunteers.

November 2022-December 2022: ESC staff will synthesize data collected over the previous months and share that data with City of Burien and WDFW staff.

Project Budget and Expenses*

Fill out and upload separate Application Budget Form also available on the KCD Member Jurisdiction Grant Program website. Budget must be detailed with footnotes, appropriate and reasonable, *meeting state auditor/GAAP guidelines*. Please do not use forms from previous applications. Please only upload the form linked above. Thank you!

ESC-KCD-Member-Jurisdiction-Grant-Program-Application-Budget-Form.xlsx

Member Jurisdiction Authorization Letter

If you are a nonprofit organization seeking Member Jurisdiction funding, you must upload written authorization from the Member Jurisdiction to apply for funding. This can be in the form of a letter or scanned copy of an email.

KCD Letter of Support for ESC.pdf

Additional Attachments

Upload any photos or maps of your project here. Only one file will be accepted. Please combine multiple files into one if possible.

Natural Resource Improvement Actions- Criteria Checklist

You must select at least one natural resource improvement action, otherwise your application is not eligible. However, please only select "yes" below the action that your project **directly** addresses.

Direct Improvement of Natural Resource Conditions*

To improve landscape and natural resource conditions as a result of direct action that enhances water quality, protects and conserves soils, implements ecosystem restoration and preservation projects (*examples include supporting private property owners with land stewardship, water quality, aquatic and wildlife habitat resources, removal of invasive weeds, stewardship on public land*)

Does your project directly address this issue?

Yes

Education and Outreach*

To raise awareness, deepen knowledge, and change behaviors of residents, landowners, and other land managers and organizations to practice exemplary stewardship of natural resources (*examples include education about stormwater management; the value of farmland, local farms and food systems, shorelines, salmon habitat, forests and other ecosystems*)

Does your project directly address this issue?

Yes

Pilot and Demonstration Projects*

To test and/or improve concepts and/or approaches in natural resource management that can be replicated by others (*examples include low impact development or green infrastructure demonstration projects, development of new best management practices, distribution of local farm products, urban agriculture (e.g. farmers markets and backyard food production to promote or support social economic independence and healthy living); technological innovation for natural resource conservation*)

Does your project directly address this issue?

No

Capacity Building*

To enhance the ability of organizations, agencies, residential landowners and other land owners and managers to have knowledge, skills, tools, support systems and technical resources to implement exemplary best management practices and deliver natural resource management actions on the ground (*examples include urban agriculture development, assistance to and inclusion of private property owners, preservation, restoration, and/or expansion of urban and/or rural agricultural lands, rural and urban forest lands, riparian restoration and stewardship on private and public lands*)

Does your project directly address this issue?

No

Project Type*

Education
Stormwater

KCD Acknowledgement and Signature

By signing below, the applicant agrees to acknowledge King Conservation District funding by placing the KCD-provided logo on signs, materials, and documents produced as part of the above proposal. In addition, the applicant will notify KCD of public events and activities funded by the KCD.

*

I have read the above paragraph about acknowledging KCD and I will use the provided logo.

Authorized Applicant Electronic Signature*

Please enter your full name to sign and agree to the above.

Kelly Steffen

Title

Grants and Programs Manager

Date*

06/24/2022

File Attachment Summary

Applicant File Uploads

- ESC-KCD-Member-Jurisdiction-Grant-Program-Application-Budget-Form.xlsx
- KCD Letter of Support for ESC.pdf



Member Jurisdiction Grant Program

Grant Application Project Budget Form

*Promoting sustainable uses of natural resources
through responsible stewardship*

Project Name	Water Quality Community Project at Arbor Lake		
Applicant	Environmental Science Center		
Contact	Kelly Steffen		
Mailing Address	126 SW 148th St, Suite C100-90, Burien WA 98166		
E-mail	kelly@environmentalsciencecenter.org	Project Start Date:	7/11/2022
Phone	206-248-4266	Project End Date:	12/31/2022

Please provide detailed budget information below. Itemize categories such as supplies, contracted services with footnotes and detailed descriptions below

Budget Item	KCD Funds	Other Funds	Other Funds	Total
		(in kind: volunteer hours)	(identify source and status of matching funds here ex. DON Small and Simple - Secured)	
Salaries & Benefits	\$2,019	\$2,362		\$4,381
Travel/ Meals/ Mileage (for - volunteers, staff)	\$0			\$0
				\$0
				\$0
				\$0
Office Supplies	\$0			\$0
				\$0
				\$0
Field Supplies	\$2,400			\$2,400
Contracted/ Professional Services	\$0			\$0
Permits	\$0			\$0
Other: (indirect costs)	\$442			\$442
Other: (specify)				\$0
Other: (specify)				\$0
Other: (specify)				\$0
Other: (specify)				\$0
TOTAL	\$4,861	\$2,362	\$0	\$7,223

Total Project Cost	\$7,223
Total Match	\$2,362
Amount of KCD Funding Requested	\$4,861

Match Percentage	33%
------------------	-----

Footnotes:

Salary - Programs Coordinator (25hrs @ \$26.16/hr), Executive Director (8hrs @ 39.37/hr), Bilingual Naturalist (50hrs @ \$21/hr)
Equipment: YSI Pro1020 base and cables/probes/case (\$2400)
Matching - volunteer hours (70hrs @ \$33.75 rate used by Port of Seattle)



City of Burien
400 SW 152nd Street
Suite 300
Burien, WA 98166-1911

P 206.241.4647
F 206.248.5539

burienwa.gov

June 23, 2022

Joanna Stodden, Executive Director
Environmental Science Center
126 SW 148th Street, Suite C100-90
Burien, WA 98166

RE: Letter of Commitment as Partner for the Arbor Lake Water Quality grant

Dear Ms. Stodden:

I am writing to express my support for the Environmental Science Center's King Conservation District's Member Jurisdiction grant application – Water Quality Community Project at Arbor Lake. With the partnership of the Environmental Science Center, we will assist Latino Community Fund of Washington and local community members to enhance and promote Arbor Lake Park.

The city of Burien is authorizing the Environmental Science Center to apply for the member jurisdiction grant. The city of Burien will contribute \$4,861 of its King Conservation District's funding towards the project.

I am excited to support this proposal by the Environmental Science Center and pledge our commitment to work collaboratively toward this project. We believe our support and commitment will help local community members take an active role in improving the water quality of their local lake. We look forward to working with you on this endeavor.

Sincerely,

Casey Stanley

Interim Deputy PaRCS Director

Reports

**KING CONSERVATION DISTRICT
BOARD OF SUPERVISORS MEETING**

TO: BOARD OF SUPERVISORS

FROM: ROSA MENDEZ-PEREZ

SUBJECT: EXECUTIVE DIRECTOR REPORT

DATE: JULY 11, 2022

CC: LORNA MISS

Please find below highlights of King Conservation District's June and early July actions and updates.

- Hiring
 - We welcomed Miranda Smith as our new Community Agriculture Program Coordinator.

Miranda earned her BS in Environmental Science and BA in Spanish at Western Washington University, where she first had the opportunity to work on small farms and to develop her interest in sustainable food systems. After graduation, Miranda served with The Peace Corps in Panama for two years as a Crop Extension Volunteer, and then extended as the Coordinator of the Sustainable Agriculture Program. Most recently, she worked with the local non-profit FareStart on their food recovery team, managing their gleaning work to rescue leftover produce from local farms and farmers markets. She currently serves on the board of directors of the Association of Gleaning Organizations (AGO), a nationwide network of gleaners. She is passionate about empowering people to participate in their food system through growing, gleaning, and foraging.
 - Our new Senior Director of Stewardship Programs will begin on August 2nd.
 - We continue to receive applications for our Chief Administrative Officer role and will be selecting candidates for interviews.
- Finance and Administration
 - Classification and Compensation Study – Compensation Connections provided job match information. These are descriptions of job functions they are using as comparisons for the study. The next deliverable are recommendations on our compensation and classification structure.
 - Strategic Planning: Diversity, Equity, and Inclusion – The anonymous survey draft is complete. Our anticipated timeline is to provide the survey to staff, board

members, and advisory committee members with a due date for responses of July 22nd. The surveys will help us plan the focus of future workshops and trainings.

- Program Updates
 - Project season is picking up – LIP Review Committee recommended approximately \$190,000 for 13 different projects cross programs at the June meeting. The second policy subcommittee meeting will be held in early August.
 - KCD will be tabling the King County Fair July 14-17 for the first time since 2019. Tabling at the King County Fair has historically produced hundreds of direct conversations with community members and potential cooperators. KCD will also be completing our 2022 transmittal to King County with the approval of the 2021 Annual Report and is scheduled to give a presentation to the King County Council July 26th at the Local Services Committee.
 - The Urban Forest program received three letters of interest which we will encourage to develop into full projects: fruit tree maintenance training for BIPOC-owned business in Seattle, forest management plan for 100 acres in Woodinville, implementation of forest management plan in Snoqualmie. In addition, KCD presented at the WA Association of District Employees.
 - KCD has been invited to participate in King County’s launch of their wildfire strategy – which we helped develop. As part of this event, scheduled for July 26, Mike Lasecki will be providing a home wildfire assessment.
 - As part of the regional forester working group, KCD submitted a grant application to support planting climate adapted seedlings on LIP projects.
 - The Education Program has been busy hosting an online webinar for streamside landowners and planning our series of summer tours to highlight KCD stewardship projects. We are also in the process of refilling the Education AmeriCorps placement and are conducting interviews this week. The Education Program Coordinator staff position was posted internally for staff and will be shared externally next week. We are looking forward to upcoming events highlighting the great conservation work done by our cooperators.

Thank you,

Rosa Méndez-Perez

Finance

King Conservation District

MAY FINANCIAL SUMMARY

For the Five Months Ended May 31, 2022

HIGHLIGHTS

Change in Net Assets Positive

The change in Net Assets flipped to positive this month due to the \$3.3M of Rates and Charges receipts in May.

Rates and Charges Income

Rates and Charges income is currently at about 50% of budget for the year. Given that there are usually no receipts in August, this progression makes sense.

Professional Services Spending as of May 2022

Year-to-Date expense categories included in Professional Services as requested by the Board.

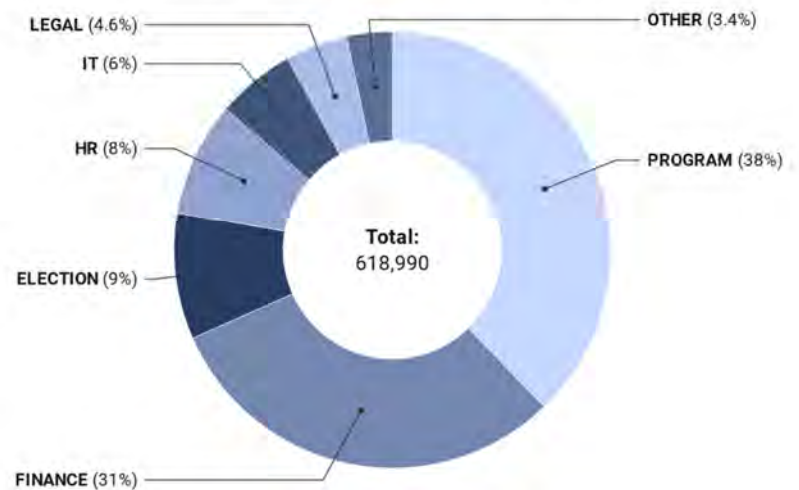


Chart: Erin Claflin Reed, YPTC • Source: QuickBooks • Created with Datawrapper

RECOMMENDATIONS / UPDATES



2021 Net Asset Reconciliation

The Net Asset Reconciliation of restricted and unrestricted funds for the year ended 2021, first review will be at the July board meeting with a potential movement toward approval in August in conjunction with a budget amendment.



June Statements

June statements will include additional reports comparing revenue and spending to specific program budget categories.



Administrative Director Position Posted

Finance staff is participating in the hiring process for the Administrative Director as the AD will be their team leader.

FINANCIAL DISCUSSIONS

- Statement of Financial Position** The Statement of Financial Position is presented on a modified cash basis. Net Assets have increased \$1.7M over the prior year due to the influx of Rates and Charges income in May. Accounts Payable encompasses the Credit Card Payable at month end. Benefits and Taxes Payable include state payroll taxes and insurance, retirement contributions, FSA contributions and union dues payable at month end.
- Statement of Activities** The Statement of Activities details Revenue and Expense by General Ledger Account as compared to current approved 2022 Budget and the full prior year. Percentages show progress against those benchmarks. Revenue and Support is on track with the budget as KCD moves towards completion of the first half of the year. The cash basis budget predicts expenses to increase as invoices are received and paid moving later in the year.
- Statement of Cash Flows** The Statement of Cash Flows shows an increase in cash from Operating Activities from December of \$1,7M. The increase is due to \$3.3M in Rates and Charges Receipts in May.

Please let me know if you have any questions on the attached reports. As always thank you for the opportunity to work with KCD.

ATTACHMENTS

- Page 3 - Comparative Statements of Financial Position – Modified Cash Basis
- Page 4 - Comparative Statements of Activities vs. Budget – Modified Cash Basis
- Page 5 - Statement of Cash

KING CONSERVATION DISTRICT
COMPARATIVE STATEMENTS OF FINANCIAL POSITION - MODIFIED CASH BASIS
As of May 31, 2022 and December 31, 2021

	<u>5/31/2022</u>	<u>12/31/2021</u>	<u>Variance</u>
ASSETS			
CURRENT ASSETS			
Cash and Equivalents	\$ 14,453,096	\$ 12,711,667	\$ 1,741,429
Accounts Receivable	<u>-</u>	<u>-</u>	<u>-</u>
Total Current Assets	14,453,096	12,711,667	1,741,429
 Total Assets	<u>\$ 14,453,096</u>	<u>\$ 12,711,667</u>	<u>\$ 1,741,429</u>
LIABILITIES AND NET ASSETS			
CURRENT LIABILITIES			
Accounts Payable	\$ 8,483	\$ 7,978	\$ 505
Accrued Leave Payable	131,195	117,474	13,721
Benefits and Taxes Payable	<u>44,337</u>	<u>45,592</u>	<u>(1,255)</u>
Total Current Liabilities	184,015	171,044	12,971
 Total Liabilities	<u>184,015</u>	<u>171,044</u>	<u>12,971</u>
 NET ASSETS	<u>14,269,081</u>	<u>12,540,623</u>	<u>1,728,458</u>
 Total Liabilities and Net Assets	<u>\$ 14,453,096</u>	<u>\$ 12,711,667</u>	<u>\$ 1,741,429</u>

KING CONSERVATION DISTRICT
COMPARATIVE STATEMENTS OF ACTIVITIES VS BUDGET - MODIFIED CASH BASIS
For the Five Months Ended May 31, 2022 and the Year Ended December 31, 2021

	05/31/2022	2022 Budget	2021	% of Budget	% of Prior Year
REVENUE AND SUPPORT					
Grants and Contract Revenue	\$ 316,330	\$ 415,285	\$ 526,818	76%	60%
Rates and Charges Receipts	3,986,170	7,959,586	7,944,916	50%	50%
Landowner Cost Share Receipts	11,124	-	-	-	-
Plant Sale Revenue	6,324	120,000	129,359	5%	5%
Interest Income	14,133	108,408	11,405	13%	124%
Other Income	3,031	-	9,058	-	33%
Total Revenue and Support	<u>4,337,112</u>	<u>8,603,279</u>	<u>8,621,556</u>	50%	50%
EXPENSES					
Salaries & Wages	715,487	3,251,364	2,177,315	22%	33%
Benefits	281,559	-	755,982	-	37%
Professional Services	618,990	2,135,624	2,548,079	29%	24%
Member Jurisdiction Payments	279,463	4,440,477	978,778	6%	29%
Cost Share & LIP	58,590	942,087	256,064	6%	23%
Regional Food System Grants	305,258	3,313,296	595,674	9%	51%
Sponsorships & Awards	1,214	54,980	3,879	2%	31%
Occupancy	160,530	410,000	434,638	39%	37%
Field Supplies	88,121	207,106	151,206	43%	58%
Equipment	40,707	42,800	67,222	95%	61%
Insurance	-	46,500	52,054	0%	0%
Office Expense	8,520	46,663	33,937	18%	25%
Soil Testing	8,964	30,000	26,524	30%	34%
Training	971	32,080	24,921	3%	4%
Communications	13,693	29,850	16,430	46%	83%
Travel	1,705	26,171	11,745	7%	15%
Repairs & Maintenance	4,751	17,000	4,974	28%	96%
Advertising	5,919	14,150	6,743	42%	88%
Publications & Subscriptions	8,731	11,500	-	76%	-
Dues & Membership	1,091	8,340	6,217	13%	18%
Fuel	1,948	8,000	6,540	24%	30%
Permits & Fees	557	6,625	15,872	8%	4%
Bank Fees	1,885	-	8,741	-	22%
Interest Expense	-	-	118	-	0%
Total Expenses	<u>2,608,654</u>	<u>15,074,613</u>	<u>8,183,653</u>	17%	32%
Change in Net Assets	1,728,458	(6,471,334)	437,903	-27%	395%
Net Assets, Beginning of Year	<u>12,540,623</u>	<u>12,540,623</u>	<u>12,102,720</u>	100%	104%
Net Assets, End of Year	<u>\$ 14,269,081</u>	<u>\$ 6,069,289</u>	<u>\$ 12,540,623</u>	235%	114%

Unaudited - For Management Use Only

KING CONSERVATION DISTRICT
STATEMENT OF CASH FLOWS
For the Five Months Ended May 31, 2022

OPERATING ACTIVITIES	
Change in Net Assets	\$ 1,728,458
To Adjust for Changes In:	
Accounts Receivable	-
Accounts Payable	505
Leave Payable	13,721
Benefits Payable	(1,255)
Net Cash Provided by Operating Activities	<u>1,741,429</u>
Cash at Beginning of Period	<u>12,711,667</u>
Cash at End of Period	<u><u>\$ 14,453,096</u></u>

King Conservation District
DRAFT - Net Asset Roll Forward - Modified Cash Basis - DRAFT

There will be a tab detailing each funding line item in final report.

	12/31/2020		12/31/2021	
	Beginning Balance	Change in Net Assets	Ending Balance	Notes
Undesignated (Plant Sale & Interest)	390,016	133,250	523,266	<i>Plant Sale Revenue and Interest Income</i>
Contingency Reserve	1,883,803	-	1,883,803	<i>Board Designated</i>
Election Reserve	512,000	(267,448)	244,552	<i>Board Designated - with release in 2021.</i>
All Other Reserve	727,123	(61,053)	666,070	<i>TBD</i>
UNRESTRICTED	3,512,942	(195,251)	3,317,691	
ILA Program Funds	638,480	2,543,554	3,182,034	<i>Elections, Rural Land, Ag Drainage, Community Ag, Riparian Improvement & Stewardship, Wildfire Preparedness, Urban & Small Lot Forest</i>
ILA Member Jurisdiction	3,630,288	(988,207)	2,642,081	
ILA Landowner Incentive Program	1,318,470	(191,021)	1,127,449	
ILA Regional Food	2,304,977	(588,794)	1,716,183	
Working Lands	601,661	(202,454)	399,207	<i>Hammond Funds - AKA R90, R91, R92, R93, R94</i>
Sound Transit	257,057	69,968	327,025	<i>Paid In Advance</i>
WITH FUNDER RESTRICTIONS	8,750,932	643,047	9,393,979	
TOTAL CASH	12,263,875	447,795	12,711,670	
NON CASH ITEMS	(161,118)	(9,926)	(171,044)	
TOTAL NET ASSETS	12,102,757	437,869	12,540,626	

New Business

ACTION ITEM: AI 22-052

SUBJECT:

A motion to authorize the Board Chair to sign the Agreement with the Washington Department of Ecology (WA ECY) for Washington Conservation Corps (WCC) work crew services for WCC Crew-Year 2022 - 2023. WCC crew services are associated with the 2020-2024 ILA 5-year Program of Work.

FISCAL IMPACT

The KCD 2022 work plan and budget includes the cost of the Agreement which secures AmeriCorps work crews and riparian restoration contractors. The Agreement-based costs will be spread across 3 program areas in the 2022 and 2023 budget.

- Costs associated with WA ECY WCC crew are allocated to programs included in the KCD Shoreline and Riparian Habitat Improvement Program Group (e.g., Rural Conservation Projects, Urban Conservation Projects, Wetland Plant Cooperative Nursery, and the Annual Bareroot Plant Sale).

POLICY CONSIDERATION

KCD has a long-standing suite of programs that implement shoreline and riparian habitat improvement projects. Some of these programs go as far back as 1996. These programs depend upon an agreement-based relationship with WA ECY WCC to place work crews at KCD that provide the labor associated with installing projects planned and directly implemented by KCD.

STAKEHOLDER INTERESTS

- Cooperators receiving riparian improvement services through KCD programs
- Shoreline & Riparian Habitat Improvement Program
- Stakeholders party to the development of the KCD proposed 2020-2024 Program of Work

BACKGROUND

King Conservation District Board of Supervisors Meeting

Agenda Action Briefing/Report

Meeting Date: July 11, 2022

History of WCC Crew Services at KCD

KCD has utilized work crews as a regular component of KCD project implementation programs. KCD implementation services have been associated primarily with the shoreline and riparian habitat projects planned and implemented by KCD staff through programs that serve rural agriculture landowners and rural and urban residential homeowners. These programs include Rural Conservation Projects, Urban Conservation Projects, Marine Shoreline Services, the Wetland Plant Cooperative Nursery and the Annual Bareroot Plant Sale.

There are several programs that provide work crew services. These programs have been in operation since the early and mid-1990s. Some of programs provide crews on a project by project basis, some place work crews at sponsoring organization for a specified duration of time. Two well-known work crew programs still in existence and operating in KCD's geography include the WA ECY WCC program and Earth Corps. KCD has utilized work crew services through both programs over the years.

KCD utilization of work crew services began in the mid-1990's and has continued since. From the mid-1990s through the first decade of 2000, KCD secured work crew services on a project by project basis. This approach was pursued primarily due to budget constraints that prevented KCD from securing work crew services for a specified duration of time. Beginning in 2004, KCD's project needs exceeded the project by project approach to securing work crew service, and in an effort to accommodate the demand for project-based services, KCD began prescheduling approximately 2 months of crew service 2 times per year to meet needs associated with peak project season demand in the fall and spring of a calendar year. By 2010, KCD was in a position to secure 1 full time work crew through the WA ECY WCC, and then in 2015 with the launch of the Urban Shorelines Program, KCD graduated to administering 2 full time work crews through the WA ECY WCC.

In 2023, we anticipate a significant increase in the number of acres of new riparian buffer projects and an associated increase in the maintenance needs of existing projects. The amount of anticipated work exceeds the capacity of the Americorps youth crew abilities, as proven by an analysis of work accomplished over the past 6 consecutive crew seasons (2016-2021) and thus, professional restoration contractors will be mobilized to complete a significant amount of the riparian projects in 2023.

For the 2022-2023 Americorps Service year, we are reducing our Americorps crews from 2 to 1 crew and transitioning a significant amount of project implementation work to professional restoration contractors. The Americorps crew will be year-round full-time sponsored by and housed with KCD and professional restoration crews will be contracted on a project by project and activity-based need.

**King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11, 2022**

EFFECTIVE DATE:

If approved, this Motion becomes effective immediately

OPTIONS

None presented

RECOMMENDATION

Staff recommends approval of the motion

MOTION

_____ Moved, _____ Seconded; Passed unanimously a motion authorizing the Board Chair to sign the Agreement with the Washington Department of Ecology Washington Conservation Corps (WCC) work crew services during WCC crew-year 2020 - 2021.

AGREEMENT NO.

AGREEMENT BETWEEN

The State of Washington, Department of ECOLOGY
AND

King Conservation District (SPONSOR)

THIS AGREEMENT is made and entered into by and between the Department of Ecology, hereinafter referred to as "ECOLOGY", and King Conservation District hereinafter referred to as the "SPONSOR."

IT IS THE PURPOSE OF THIS AGREEMENT to provide Washington Conservation Corps (WCC) members to complete environmental or disaster services projects, pursuant to Chapter 43.220 of the Revised Code of Washington.

THEREFORE, IT IS MUTUALLY AGREED THAT:

STATEMENT OF WORK

Both parties agree to do all things necessary for or incidental to the performance of the work set forth in Appendix "A" attached hereto and incorporated herein.

PERIOD OF PERFORMANCE

Subject to its other provisions, the period of performance of this Agreement shall commence on 10/1/2022 and be completed on 9/30/2023 unless terminated sooner as provided herein. The WCC Crew and/or WCC Individual Placement corpsmember specified in this agreement will be available to SPONSOR on the dates set forth on the calendar in Appendix "B" attached hereto and incorporated herein.

COMPENSATION

The parties have determined that the cost of accomplishing the work herein will not exceed \$ 203360. Payment for satisfactory performance of the work shall not exceed this amount unless the parties mutually agree to a higher amount. Compensation for service(s) shall be based on the following established rates:

Provided by ECOLOGY	Reimbursed to ECOLOGY by Sponsor
1 Full-Term WCC Crew	\$203,360
Total SPONSOR Cost	\$203,360
	<i>Above cost not to be exceeded</i>

The costs reimbursed to ECOLOGY by SPONSOR are a cost-share rate. Estimated value of a WCC crew is \$271,146 annually per WCC Crew consisting of five WCC/AmeriCorps Members and one WCC Supervisor and/or \$36,053 annually per WCC Individual Placement. Indirect costs are included in SPONSOR share at a standard rate of 5% of direct costs.

BILLING PROCEDURE

ECOLOGY shall submit invoices monthly to the SPONSOR's designated contact person listed under "Agreement Management" section. Payment to ECOLOGY for approved and completed work will be made by warrant or account transfer by SPONSOR within 30 days of receipt of the invoice. Upon expiration of the Agreement, any claim for payment not already made shall be submitted within 30 days after the expiration date or the end of the fiscal year, whichever is earlier.

AGREEMENT ALTERATIONS AND AMENDMENTS

This Agreement may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

ASSIGNMENT

The work to be provided under this Agreement, and any claim arising thereunder, is not assignable or delegable by either party in whole or in part, without the express prior written consent of the other party, which consent shall not be unreasonably withheld.

ASSURANCES

Parties to this Agreement agree that all activity pursuant to this contract will be in accordance with all the applicable current federal, state and local laws, rules, and regulations.

CONFORMANCE

If any provision of this Agreement violates any statute or rule of law of the state of Washington, it is considered modified to conform to that statute or rule of law.

DISPUTES

If a dispute arises under this Agreement, it shall be determined by a Dispute Board in the following manner: Each party to this Agreement shall appoint one member to the Dispute Board. The members so appointed shall jointly appoint an additional member to the Dispute Board. The Dispute Board shall review the facts, agreement terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Board shall be final and binding on the parties hereto. As an alternative to this process, if SPONSOR is a state agency, either of the parties may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor's process will control.

FUNDING AVAILABILITY

The obligation of the SPONSOR to provide reimbursements is contingent upon appropriation of funds by the SPONSOR's governing body for the specific purpose of funding the project, which is the subject of this Agreement. Upon the failure of such appropriation, the SPONSOR may terminate this Agreement.

ECOLOGY's ability to provide cost-share is contingent on availability of funding. In the event funding from state, federal, or other sources is withdrawn, reduced, or limited in any way after the effective date and prior to completion or expiration date of this Agreement, ECOLOGY, at its sole discretion, may elect to terminate the agreement, in whole or part, for convenience or to renegotiate the agreement subject to new funding limitations and conditions. ECOLOGY may also elect to suspend performance of the agreement until ECOLOGY determines the funding insufficiency is resolved. ECOLOGY may exercise any of these options with no notification restrictions.

GOVERNING LAW AND VENUE

This Agreement is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this Agreement shall be construed to conform to those laws. This Agreement shall be construed and interpreted in accordance with the laws of the state of Washington, and the venue of any action brought hereunder shall be in the Superior Court for Thurston County.

This Agreement is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this Agreement shall be construed to conform to those laws.

INDEPENDENT CAPACITY

The employees or agents of each party who are engaged in the performance of this Agreement shall continue to be employees or agents of that party and shall not be considered for any purpose to be employees or agents of the other party.

INDEMNIFICATION

To the fullest extent permitted by law, each party shall defend, indemnify, and hold harmless the other party, including officials, agents, and employees from and against all claims of third parties, and all associated losses arising out of or resulting from the performance of the contract. "Claim," as used in this contract, means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorney's fees, attributable for bodily injury, sickness, disease, or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Parties waive their immunities under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless the other party and their agencies, officials, agents or employees.

ORDER OF PRECEDENCE

In the event of an inconsistency in the terms of this Agreement, or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order:

1. Applicable federal and state of Washington statutes, regulations, and rules.
2. Mutually agreed written amendments to this Agreement
3. This Agreement
4. Statement of Work and Budget.
5. Any other provisions of this Agreement, including materials incorporated by reference.

RECORDS MAINTENANCE

The parties to this Agreement shall each maintain books, records, documents and other evidence that sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the service(s) described herein. These records shall be subject to inspection, review or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law. All books, records, documents, and other material relevant to this Agreement will be retained for six years after expiration of this Agreement and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

Records and other documents, in any medium, furnished by one party to this Agreement to the other party, will remain the property of the furnishing party, unless otherwise agreed. The receiving party will not disclose or make available this material to any third parties without first giving notice to the furnishing party and giving it a reasonable opportunity to respond. Each party will utilize reasonable security procedures and protections to assure that records and documents provided by the other party are not erroneously disclosed to third parties subject to state public disclosure laws.

RESPONSIBILITIES OF THE PARTIES

Each party of this Agreement hereby assumes responsibility for claims and/or damages to persons and/or property resulting from any act or omissions on the part of itself, its employees, its officers, and its agents. Neither party will be considered the agent of the other party to this Agreement.

RIGHTS IN DATA

Unless otherwise provided, data, which originates from this Agreement shall be "works for hire" as defined by the U.S. Copyright Act of 1976 and shall be jointly owned by ECOLOGY and SPONSOR. Data shall include, but not be limited to, reports, documents, pamphlets, advertisements, books magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

SEVERABILITY

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision, if such remainder conforms to the requirements of applicable law and the fundamental purpose of this agreement, and to this end the provisions of this Agreement are declared to be severable.

TERMINATION FOR CAUSE

If for any cause, either party does not fulfill in a timely and proper manner its obligations under this Agreement, or if either party violates any of these terms and conditions, the aggrieved party will give the other party written notice of such failure or violation. The responsible party will be given the opportunity to correct the violation or failure within 15 working days. If failure or violation is not corrected, this Agreement may be terminated immediately by written notice of the aggrieved party to the other.

TERMINATION FOR CONVENIENCE

Either party may terminate this Agreement upon 30 days prior written notification to the other party. If this Agreement is so terminated, the parties shall be liable only for performance rendered or costs incurred in accordance with the terms of this Agreement prior to the effective date of termination.

WAIVER

A failure by either party to exercise its rights under this Agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

ALL WRITINGS CONTAINED HEREIN

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the parties hereto.

AGREEMENT MANAGEMENT

The program manager for each of the parties shall be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.

The Contract Manager for ECOLOGY is: Travis Weller PO Box 47600 Olympia, WA 98504 (360) 742-8760 travis.weller@ecy.wa.gov	The Contract Manager for SPONSOR is: Debbie Meisinger King Conservation District 800 SW 39th Street #150 Renton WA 98057 debbie.meisinger@kingcd.org ; accounting@kingcd.org
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IN WITNESS WHEREOF, the parties have executed this Agreement.

State of Washington
Department of ECOLOGY

SPONSOR

Signature

Date

Signature

Date

Printed Name, Title

Printed Name, Title

STATEMENT OF WORK

Appendix A

Work summary:

Under direction of SPONSOR, crew(s) will perform restoration activities. Specific tasks could include invasive control, native species installation, plant nursery care, scientific monitoring, and fence installation or repair.

Special terms and conditions:

1. WCC resources (members, supervisors, tools and trucks) will not be utilized to clean public restrooms, clear active or abandoned homeless encampments and/or to clean up hazardous materials including hypodermic needles. If a significant amount of hazardous or unidentifiable material is discovered on a project site, activity will cease until SPONSOR mitigates potential hazards or finds an alternate project site.
2. WCC vehicle is not to be used for heavy hauling; the primary use is for transportation of crew, tools, and safety equipment. In the event that WCC vehicles are requested to tow SPONSOR-provided equipment (including rentals), it will only be on a limited basis and SPONSOR is solely responsible for accidental damages, unless damages are caused by WCC negligence.
3. WCC is not responsible for normal wear and tear when project requires the use of SPONSOR-provided tools, equipment, or safety gear.
4. The assignment of members shall not result in the displacement of currently employed workers, including partial displacement such as reduction in hours of non-overtime work, wages, or other employment benefits. Agencies that participate in the program may not terminate, lay-off, or reduce working hours of any employee for the purpose of using a member with available funds. In circumstances where substantial efficiencies or a public purpose may result, participating agencies may use members to carry out essential agency work or contractual functions without displacing current employees.
5. All state holidays and shutdown weeks are non-working days for members. Shutdown weeks are to be used by WCC staff/supervisors for planning purposes. The WCC standard 40-hour schedule is Monday through Thursday from 7:00am to 5:30pm. An alternate schedule may be arranged with prior approval from the WCC.
6. WCC's cost-share rate is calculated using the full costs of supporting WCC crews and IPs, including time spent training, required community service events, shutdowns, etc. Indirect costs are included in SPONSOR share at a standard rate of 5% of direct costs.
7. If inclement weather makes a project site inaccessible, then the sponsor should reassign the WCC crew or IP to alternative projects in an accessible location.

In inclement weather, WCC crews follow the weather-related guidance (e.g. shut-down, delayed start, early end, etc.) from the regional Ecology office closest to the crew lock-up or IP service location. If the member's assigned location is more than one hour from an Ecology regional office, then WCC follows weather-related guidance of federal, state and local governments. Only WCC can instruct a crew or IP to shut-down due to weather. Sponsors are not charged for WCC-initiated, weather related shut-downs or delays.

If a shut-down is requested by the SPONSOR for any reason, then the sponsor is responsible for crew costs.

ECOLOGY shall:

1. Provide WCC members for the number of weeks specified in this agreement. Full-term crews and Individual Placements are available to SPONSOR for a maximum of 164 days (approximately 41 weeks) during the Federal AmeriCorps program service year (October-September).
2. Enroll members to begin service no sooner than October 3, 2022 and no later than October 17, 2022 to attain a full AmeriCorps scholarship. Member vacancies may be filled with a 1200 hour, three-quarter-term AmeriCorps Education Award beginning January 17, 2023. Any further member enrollment for the remainder of the program year is at the discretion of ECOLOGY and based on availability.
3. In the event of a disaster response deployment, ECOLOGY will make every effort to fulfill SPONSOR needs, including sending additional members, whenever possible. Unless disaster response activities are requested by the sponsor, sponsors are not charged for WCC's emergency and disaster responses.
4. Provide training and development specified in Appendix B: eight days of formal WCC training, aa two to four day Orientation Training, one day dedicated to MLK Community Service, one day of training in noxious weed control, and one day for a debrief meeting near the conclusion of the term. Beyond dates included in Appendix B, Ecology will schedule up to six additional days of Supervisor training during the term. WCC members and supervisors are logging hours on the dates identified for WCC-sanctioned events, but are unavailable to SPONSOR. ECOLOGY will provide a four day Assistant Supervisor training to the designated Assistant Supervisor.
5. Each full-term crew or IP may spend up to two weeks (eight days) with an alternative sponsor during the crew year. These dates will be determined in coordination with their full-term Sponsor.
6. For crews, ECOLOGY agrees to provide a crew of 5 members, a crew supervisor, vehicle, and basic hand tools. Rates are not based on actual attendance, however, invoices will be reduced for member or supervisor vacancies lasting 20 days or more.

SPONSOR shall:

1. Guide completion of appropriate projects for number of weeks specified in this agreement by providing logistical, technical and safety-related support necessary for project completion. Provide site orientation for WCC members, site-specific training, and materials beyond basic hand tools to complete tasks. Obtain and ensure adherence to applicable permits as set by local, state, tribal or federal laws and regulations.
2. Help promote the AmeriCorps and WCC brands, logo, slogans and phrases. WCC will provide camera-ready logo. AmeriCorps is a registered service mark of the Corporation for National and Community Service.
3. For a SPONSOR hosting Individual Placement positions, SPONSOR agrees to provide computer access, email, transportation to and from WCC events (or private mileage reimbursement), and day-to-day direction of activities.
4. For a SPONSOR hosting full-term WCC Crew(s), SPONSOR shall provide a secure site to store tools and park crew vehicles that allows access to potable water and restrooms as well as desk and internet access for the crew supervisor. In the event of theft, vandalism, or loss, the SPONSOR shall provide reimbursement (75 percent sponsor share) of expenditures and deductibles.
5. For a SPONSOR that assigns WCC crew(s) or WCC Individual Placement members to serve with other organizations, SPONSOR shall inform the other organizations of WCC policies, procedures and contract terms.

AmeriCorps Prohibited Activities:

While charging time to the AmeriCorps program, accumulating service or training hours, or otherwise performing activities supported by the AmeriCorps program, staff and members may not engage in the following activities (see 45 CFR § 2520.65):

- A. Attempting to influence legislation;
- B. Organizing or engaging in protests, petitions, boycotts, or strikes;
- C. Assisting, promoting, or deterring union organizing;
- D. Impairing existing contracts for services or collective bargaining agreements;
- E. Engaging in partisan political activities, or other activities designed to influence the outcome of an election to any public office;
- F. Participating in, or endorsing, events or activities that are likely to include advocacy for or against political parties, political platforms, political candidates, proposed legislation, or elected officials;
- G. Engaging in religious instruction, conducting worship services, providing instruction as part of a program that includes mandatory religious instruction or worship, constructing or operating facilities devoted to religious instruction or worship, maintaining facilities primarily or inherently devoted to religious instruction or worship, or engaging in any form of religious proselytization;
- H. Providing a direct benefit to—
 - I. A business organized for profit;
 - II. A labor union;
 - III. A partisan political organization;
 - IV. A nonprofit organization that fails to comply with the restrictions contained in section 501(c)(3) of the Internal Revenue Code of 1986 related to engaging in political activities or substantial amount of lobbying except that nothing in these provisions shall be construed to prevent participants from engaging in advocacy activities undertaken at their own initiative; and
 - V. An organization engaged in the religious activities described in paragraph 3.g. above, unless AmeriCorps assistance is not used to support those religious activities;
- I. Conducting a voter registration drive or using AmeriCorps funds to conduct a voter registration drive;
- J. Providing abortion services or referrals for receipt of such services; and
- K. Census Activities. AmeriCorps members and volunteers associated with AmeriCorps grants may not engage in census activities during service hours. Being a census taker during service hours is categorically prohibited. Census-related activities (e.g., promotion of the Census, education about the importance of the Census) do not align with AmeriCorps State and National objectives.
- L. Election and Polling Activities. AmeriCorps members may not provide services for election or polling locations or in support of such activities
- M. Such other activities as AmeriCorps may prohibit.

AmeriCorps members may not engage in the above activities directly or indirectly by recruiting, training, or managing others for the primary purpose of engaging in one of the activities listed above. Individuals may exercise their rights as private citizens and may participate in the activities listed above on their initiative, on non-AmeriCorps time, and using non-AmeriCorps funds. Individuals should not wear the AmeriCorps logo while doing so.

2022-2023 WCC Events Calendar

October							November							December							January						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
					1	2		1	2	3	4	5	6				1	2	3	4							1
3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	31		23	24	25	26	27	28	29
31																					30	31					

February							March							April							May						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
		1	2	3	4	5			1	2	3	4	5						1	2	1	2	3	4	5	6	7
6	7	8	9	10	11	12	6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28						27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

June							July							August							September						
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
			1	2	3	4						1	2		1	2	3	4	5	6					1	2	3
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	
							31																				

	Holiday (Observed) - Day Off
	Orientation
	Assistant Supervisor Training
	MLK- Sup Holiday, Member Service Day
	Individual Placement Meeting (Virtual)
	Elective Training: 3/6-3/9 & 6/5-6/8
	3/4-Term Member Orientation
	TBD Supervisor Refresher Trainings
	TBD Spike (2 wks on special assignment)

	AmeriCorps Swearing-in (0.5 day - Virtual)
	PDPs Due (July: QT members only)
	eTime: Hours entered
	eTime: Prior pay period approval due
	Payday (10th & 25th, varies on weekends)
	Production (last Thursday of the month)
	Supervisors: Crew interviews
	Noxious Weed Control Workshops

3/23 Olympic; 3/30 Central/E. WA;
4/6 S. Puget Sound; 4/13 N. King County/Snohomish;
4/20 S. King County; 4/27 NW

	Start (FT/Oct. 3QT=10/3, Jan. 3QT=1/17, QT=6/12)
	Exit Paperwork Due 8/17
	End Date (FT/Jan. 3QT/QT=9/7, Oct. 3QT=6/8)
	End-of-year Presentations

8/17 Olympic; 8/24 Central/E. WA & S. Puget Sound;
8/31 S. King County & N. King County/Snohomish; 9/5 NW

Shutdown Weeks:

	Supervisors: Finalize Interviews/Enrollment
	Supervisors: Cross-training
	Supervisors: All staff meeting & prep days

Members' Potential Hours (For general guidance only - hours not guaranteed)

October	170
February	150
June	160
Fullterm: Oct. 3-Sept. 7	1860

FT: 1700-hr min, \$6,495 Ed Award

November	150
March	180
July	160
Oct. 3QT: Oct. 3-June 8	1370

3QT: 1200-hr min, \$4,546.5 Ed Award

December	160
April	160
August	190
Jan. 3QT: Jan. 17-Sept. 7	1300

January	170
May	180
September	30
QT: June 12-Sept. 7	490

QT: 450-hr min, \$1,718.25 Ed Award

WCC standard schedule (40 hours/week) is Monday - Sunday

**King Conservation District Board of Supervisors Meeting 07/11/2022
Agenda Action Briefing/Report AI 22-053**

SUBJECT:

Review for Approval KCD Landowner Incentive Program cost-share application from Brent Zweirs, for a Riparian Forest Buffer, in the amount of \$21,420.00.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$244,060.41
Current Request	\$21,420.00
Balance Remaining	\$222,640.41

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

Brent Zweir's parcel in Fall City has a tributary to Patterson Creek which enters on the south after traveling under SE 40th Street and generally flows to the north where it exits the Zwiers property. Approximately, 2000 ft downstream from the Zwiers property the unnamed tributary creates its confluence with Patterson Creek. The unnamed tributary either has documented presence or is accessible to bull trout, pink salmon (odd year), winter steelhead, fall chum, coho, and fall Chinook. Three parcels to the south there is an active KCD restoration project.

The riparian area on the Zwiers property is mostly devoid of native vegetation other than aging red alder with an understory that is dominated by reed canarygrass (Class C) in the wetter areas and Himalayan blackberry (Class C) in the drier areas with a small patch of knotweed. The proposed project would average an approximately 55 foot riparian buffer on both the east and west sides of the tributary. The western side of the project (weed treatment) is approximately a 35 ft buffer for 0.45 acres and the eastern section (restoration) is approximately a 75 ft buffer for 1.15 acres. It is estimated that 3,200 native plants would achieve density goals.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Brent Zweirs, for a Riparian Forest Buffer in the amount of \$21,420.00.

MOTION

 Moved, Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Brent Zweirs, for a Riparian Forest Buffer, in the amount of \$21,420.00.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Aquatic Area Enhancement Project

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Brent Zwiers		Farm/Business Name:	
Mailing Address: 31530 SE 40th St. Fall City, WA 98024		Project Address: 31530 SE 40th St. Fall City, WA 98024	
Phone (home): (206) 618-9808		Phone (work/mobile):	
Email Address: brent.zwiers@gmail.com		KCD Staff: zachary.bergen@kingcd.org	
Parcel #(s): 0924079030	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 3.00	<input checked="" type="checkbox"/> T.A. <input type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP):	Riparian Forest Buffer
Project Completion Date (month and year): 06/30/2023	
Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: note streams, wetlands, and steep slopes near or within the project area): The potential Zwiers project is located on a tributary to Patterson Creek in the town of Fall City. The unnamed tributary enters the Zwiers property from the south after traveling under SE 40th Street and generally flows to the north where it exits the Zwiers property. Approximately, 2000 ft downstream from the Zwiers property the unnamed tributary creates its confluence with Patterson Creek. The unnamed tributary either has documented presence or is accessible to bull trout, pink salmon (odd year), winter steelhead, fall chum, coho, and fall Chinook. Three parcels to the south there is an active KCD restoration project.	
Project Details (Provide a brief summary of the project. Include acres treated, linear feet of stream enhanced, length of fence, types and numbers of plants, etc.): The proposed project would average a approximately 55 foot riparian buffer on both the east and west sides of a tributary to Patterson Creek. The western side of the project (weed treatment) is approximately a 35 ft buffer for 0.45 acres and the eastern section (restoration) is approximately a 75 ft buffer for 1.15 acres. Depending on plant species availability shrubs that would do well at this site include: Douglas spiraea, swamp rose, Pacific ninebark, red osier dogwood, salmonberry, Sitka willow and snowberry. Trees that would be well adapted for site conditions include: cascara, grand fir, Oregon ash, Pacific willow, red alder, western crab apple and western red cedar. It is estimated that 3200 plants would achieve density goals.	
Maintenance Plan: King CD will maintain the project for 3-5 growing seasons. Activities will include control of invasive species and replanting if survivorship falls below 80%. The landowner is responsible for maintaining the project and providing photos for the remaining 10-12 years of the practice. Photos must be submitted by 9/1 of each year.	

Permits (List all permits required to complete this project): Yes, Aquatic Noxious Weed General Permit has been obtained from the Washington State Department of Ecology and Washington State Department of Agriculture: Permit

Photos: KCD Resource Planner must submit before photos with this application.

Section 3. Cost-share Programs

A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☐ Yes ☐ No
If yes, please list contract number and BMP below:

B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☐ No
Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

KCD will plan and install the Best Management Practice (BMP) on behalf of the Applicant. A detail of the project budget with line items for planning, installation, maintenance and cost-share ratios are attached as Exhibit A. Upon BMP installation, KCD will invoice the Applicant for the Applicant Cost-share listed in the following table. Applicant cost-share is due 30 days after receipt of a KCD invoice.

Program Cost-share	Cost-share Ratio	Amount
King CD Landowner Incentive Program	90%	\$ 21,420.00
King CD Aquatic Area Enhancement Program	%	
Washington State Conservation Commission	%	
Other (specify) -	%	
Other (specify) -	%	
Applicant Cost-share	10%	\$ 2,380.00
TOTAL	100%	\$ 23,800.00

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

A. Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☐ A. I understand the lifetime of the BMP is **15** years.
- ☐ B. I understand KCD will coordinate and conduct maintenance and replanting for the first three years of the lifetime of the BMP. After that, KCD will work with the Applicant to verify proper maintenance of the installed BMP. Verification of maintenance includes a combination of site visits with KCD staff members who will take photos of the project, and annual photo documentation submitted by the applicant for the lifetime listed in Section 6A.
- ☐ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____(Initial Here)

I authorize KCD to secure the applicable local, state and federal permits and to install the BMP on my behalf, and I agree to work cooperatively with KCD to obtain these permits. _____(Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____(Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees or agents which may occur during the course of KCD's performance of the installation of the BMP provided in connection with this Agreement. _____(Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. _____(Initial Here)

I understand that LIP cost-share is contingent upon installing the BMP to the minimum standard planned by KCD, and that KCD will verify and photo document standard compliance through its coordination of BMP installation. _____(Initial Here)

I understand that in cases where I become the recipient of a KCD LIP cost-share reimbursement there may be federal tax liability associated with the reimbursement. When this occurs, KCD will issue a 1099-G for reimbursements made through the LIP. I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements. _____(Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of cost-share reimbursements received through this Agreement. In the event litigation is commenced by KCD to recover a refund of any cost-share reimbursements received through this Agreement, attorney's fees and costs incurred by the prevailing party in such action shall be paid by the non-prevailing party. _____(Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. . _____(Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____(Initial Here)

I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____(Initial Here)

- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable).

Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.)

- b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
- c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
- d. I cancel two cost-share contracts awarded through the KCD Landowner Incentive Program.
- e. I deny KCD staff access to my property to verify BMP maintenance.

I understand KCD will provide two signs, an LIP sign and aquatic area buffer sign, free of charge, and I agree that: _____(Initial Here)

- a. I will select a visible location on my property for display of the LIP sign and will install it.
- b. KCD will install the aquatic area buffer sign adjacent to the installed aquatic area enhancement project.
- c. I will maintain the signs and keep them free of visual barriers for at least five years after installation.
- d. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Signature of applicant

Date

Signature of Landowner *(if applicant if Lessee)*

Date

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)

Date

Approved for Funding (KCD Management)

Date

LIP ID:



ZWIERS Project Budget

Project Manager: Zachary Bergen

Landowner(s): Brent Zwiers

Project Summary: The potential ZWIERS project is located on a tributary to Patterson Creek in the town of Fall City. The unnamed tributary enters the ZWIERS property from the south after traveling under SE 40th Street and generally flows to the north where it exits the ZWIERS property. Approximately, 2000 ft downstream from the ZWIERS property the unnamed tributary creates its confluence with Patterson Creek. The unnamed tributary either has documented presence or is accessible to bull trout, pink salmon (odd year), winter steelhead, fall chum, coho, and fall Chinook. Three parcels to the south there is an active KCD restoration project.

Contract Services	Year	Units	# of Units	Unit Cost	Extended
Site Prep - Backpack Spot or Area Spray	0	ac	2	\$ 300.00	\$ 600.00
Site Prep - Backpack Spot or Area Spray	0	ac	2	\$ 300.00	\$ 600.00
Site Prep - Hand Mow/ Cut	0	ac	2	\$ 1,500.00	\$ 3,000.00
					\$ 4,200.00
Planting - Install Bareroot Plants	1	ea	3200	\$ 4.25	\$ 13,600.00
					\$ 13,600.00
Maintenance - Backpack Spot or Area Spray	1	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	1	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	2	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	2	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	3	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	3	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	4	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	4	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	5	ac	2	\$ 300.00	\$ 600.00
Maintenance - Backpack Spot or Area Spray	5	ac	2	\$ 300.00	\$ 600.00
					\$ 6,000.00
					Installation Total Est. \$ 23,800.00
					Landowner Cost Share Max \$ 2,380.00
KCD Staff Time (Non Cost Share)	Year	Units	# of Units	Unit Cost	Extended
Planning <u>59</u>	1	hr	30	\$ 90.00	\$ 2,700.00
Implementation	1	hr	40	\$ 90.00	\$ 3,600.00
					\$ 6,300.00



7/7/2022

[Insert Project Name] Project Budget - As Built

Project Manager:

Landowner(s):

Project Summary:

	Days/Units/Hours	Cost Per	Subtotals
Crew Days (Cost Share)			
WCC Days: Site Prep		\$ 1,360.00	\$ -
WCC Days: Planting		\$ 1,360.00	\$ -
WCC Days: Mulching		\$ 1,360.00	\$ -
			\$ -
Materials (Cost Share)			
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
			\$ -
Cost Share Installation Total			\$ -
In Kind Materials (Non Cost Share)			
KCD Nursery - Potted Plants		\$ 3.50	\$ -
KCD - Bamboo Stakes		\$ 0.10	\$ -
			\$ -
KCD Staff Time (Non Cost Share)			
Ashley Planning	30	\$ 48.00	\$ 1,440.00
Ashley Implementation	40	\$ 48.00	\$ 1,920.00
			\$ 3,360.00
3 Year Maintenance Est. (Non Cost Share)			
WCC Crew Days <u>60</u>	5	\$ 1,400.00	\$ 7,000.00
Project Management	20	\$ 48.00	\$ 960.00
Materials (estimated)			\$ 222.00



JOB SHEET

Aquatic Area Buffer Planting- Riparian Forest Buffer

Landowner: Brent Zwiers	Lifetime of Practice: 15 Years
-------------------------	--------------------------------

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Create shade to lower or maintain water temperatures to improve habitat for aquatic organisms	<input type="checkbox"/> Improve forest health reducing the potential of damage from pests and moisture stress
<input checked="" type="checkbox"/> Create or improve riparian habitat and provide a source of detritus and large woody debris	<input checked="" type="checkbox"/> Restore natural riparian plant communities
<input type="checkbox"/> Reduce excess amounts of pollutants in surface runoff and reduce excess nutrients and chemicals in shallow groundwater flow	<input checked="" type="checkbox"/> Improve wildlife habitat
<input type="checkbox"/> Reduce pesticide drift entering water body	<input type="checkbox"/> Increase carbon storage in vegetation and soils, and increase biomass in soils

Current Site Conditions *Provide a summary of the resource management problems addressed by the BMP. Also note any other current conditions pertinent to the project (slopes, erosion, flow, drainage)*

The potential Zwiers project is located on a tributary to Patterson Creek in the town of Fall City. The unnamed tributary enters the Zwiers property from the south after traveling under SE 40th Street and generally flows to the north where it exits the Zwiers property. Approximately, 2000 ft downstream from the Zwiers property the unnamed tributary creates its confluence with Patterson Creek. The unnamed tributary either has documented presence or is accessible to bull trout, pink salmon (odd year), winter steelhead, fall chum, coho, and fall Chinook. Three parcels to the south there is an active KCD restoration project.

Riparian Forest Buffer Practice and Details Provide the following:

- 1) a basic description of the proposed planting area
- 2) calculate and record the square footage (acreage) of the planting area, the number of trees and shrubs to be planted, the linear footage of stream enhanced, the average and minimum width of the buffer:
- 3) list any native plant species currently existing on site
- 4) list native trees and shrubs selected for the project
- 5) please attach your proposed planting plan

1) The riparian area on the Zwiers property is mostly devoid of native vegetation other than aging red alder with an understory that is dominated by reed canarygrass (Class C) in the wetter areas and Himalayan blackberry (Class C) in the drier areas with a small patch of knotweed sp.. There is an elevation change across the project area with the western side of the project being at a lower elevation and there being a significant gain in elevation in the eastern side of the project where the elevation gains to the house site.

2) As proposed, the project would average a 55 foot riparian buffer with a 35 ft buffer on the western side of the project and 75 foot buffer on the eastern side of the unnamed tributary of Patterson Creek. This would include approximately 644 linear feet for a 1.60. Approximately, 2000 plants would be planted throughout the designated riparian areas.

3) Native species currently on site include primarily: salmonberry, salal, sword fern, Indian plum, red alder, and Western red cedar.

4) Depending on plant species availability shrubs that would do well at this site include: Douglas spiraea, Indian plum, Nootka rose, Pacific ninebark, red osier dogwood, salmonberry, and snowberry. Trees that would be well

adapted for site conditions include: cascara, Oregon ash, red alder, Pacific willow, Sitka willow, western crab apple, western red cedar, and grand fir.

5) See attached.

Permits *Are there any permits necessary for the project? If so, please list below and include a copy of the permit*

Yes, Aquatic Noxious Weed General Permit has been obtained from the Washington State Department of Ecology and Washington State Department of Agriculture: Permit #WAG993000.

Aquatic Areas:

There may be permits needed to apply herbicide in aquatic areas or their buffers. See the WA State Department of Ecology website for further details: <http://www.ecy.wa.gov/programs/wq/pesticides/>

King County Jurisdiction:

Stream and wetland restoration projects that occur on property within the jurisdiction of King County may require a clearing and grading permit. Contact King County Permitting Office (www.kingcounty.gov/property/permits.aspx)

Type and Source of Plant Material *Will you use potted plants, bareroot plants, b&b plants or a combination? Where will you get the plants from and when?*

Plant material will be native species adapted to the site to minimize maintenance and care.

Washington Conservation Corps crews potted and/or bareroot material that have been sourced from the Puget Sound region. If additional plant material is purchased to augment the initial planting, that material can be bareroot, live stake, or potted nursery stock. There are a number of local native plant nurseries where native trees, shrubs and emergent species can be purchased. Refer to the attached list of native plant nurseries for local King County sources of native plant material as well as sources in the greater Puget Sound region.

Site Preparation *List what method(s) of site preparation will be used, who will be doing the work, when will the work be done.*

Specific weed control prescriptions are detailed below. If brush and debris are removed from the stand, all material will be hauled off-site or masticated /chipped in a staging area. If masticated material is intended for use as mulch on the site, invasive species should not be included in the masticating/chipping process.

Weed Control Prescriptions:

Himalayan & Evergreen Blackberry Control –

- *Manual control:* Mow or cut the blackberry canes to less than 1 foot in height, then grub/dig out the roots attached to the cut canes. Thorough removal of blackberry roots in this manner, while labor intensive can reduce the blackberry population and cover in the prepared area by 90 – 95%. Monitor for re-growth in the following growing seasons; dig up any re-growth.
- *Chemical Control:* An alternative control method includes herbicide. One technique involves cutting/mowing the canes and swabbing the freshly cut canes with an approved herbicide. Foliar spray of blackberry is another effective control method. It is recommended that blackberry is mowed early in the summer and sprayed on the foliar re-growth the next fall (September/October). Do not spray planted seedlings. **Always follow label rates and instructions.**

Reed Canary Grass Control –

- *Manual Control:*
 - 1) Mowing reed canary grass depletes carbohydrate root reserves, and if done repeatedly it will result in the thinning or death of the grass. The ideal time to mow is at or near the flowering stage. The grass should be cut as near to the ground as possible (1 inch or lower). Twice yearly mowing (in early-mid June and early October) has shown increased survivorship of native plants planted into reed canary.
 - 2) Shading is highly effective in reducing reed canary grass stands. A dense planting of conifers, once established, is ideal for shading. Faster growing deciduous trees and shrubs, especially those that develop foliage in the early spring, combined with an under-planting of conifers can be effective. Artificial methods of shading can be used in conjunction with native plantings. Sheets of thick cardboard or landscaping fabric placed around each individual plant should be secured to the ground by long staples or stakes and covered with 5-6 inches of mulch. The combination of sheeting and mulch provides temporary suppression of the grass, allowing the desirable vegetation to thrive without competition. *Not recommended for flood prone areas.*
- *Chemical Control:* Herbicide can be effective in elimination of Reed Canary grass when properly applied. Studies show that spraying Glyphosate (the active ingredient in products such as ®Rodeo) after a stand is mown or when the grass has the minimum available carbohydrate reserves (after flowering) is an effective control method. Follow-up spraying the next year may be necessary to eliminate the remaining grass. **Always follow label rates and instructions.**

Other techniques:

Brushing –

- Brushing prepares an area for planting. To brush an area, mow competing vegetation in a 4-8 foot diameter of the area to be planted. This will limit competition during years of establishment. Maintain this opening for trees until the leader of the tree surpasses the height of the surrounding shrubs.

Holly & Laurel Control-

- *Manual Control:* *Not recommended.* Small plants can be dug up when the soil is moist. Regularly check area for re-growth. For larger plants cut stems and trunks as close to the ground as possible. Roots may be dug out. Be sure to stabilize soil if large quantities are disturbed. If roots are not dug up, break off any new stems as they grow back for multiple growing seasons.
- *Chemical Control:* Large Holly and Laurel trunks should be cut as close to the ground as possible. Immediately (within minutes) treat the cut stump with an application of glyphosate herbicide (such as Rodeo or Roundup). An alternate technique, called frilling, involves incising deep cuts through bark into trunks at a 45 degree angle. Immediately treat the frills by pouring glyphosate herbicide into the cuts. Best results are achieved during periods of active growth and after full leaf expansion. Monitor for re-growth (seedlings and re-sprouting) and treat accordingly. Do not spray herbicide directly holly and laurel leaves, which have a waxy layer that prevents chemicals from being absorbed. **Always follow label rates and instructions.**

Bohemian Knotweed/Japanese Knotweed Control –

- *Chemical Control:* Herbicide can be applied by foliar spray, wick wipe, cut and pour, or stem injection. Please see attached King County Knotweed Best Management Practice Factsheet for full details. **Always follow label rates and instructions.**

Chemical Control: KCD licensed applicators will use aquatic approved herbicides to treat ground ivy during site preparation. Ivy leaves are waxy and difficult to penetrate with herbicides but the right concoction at the right label rate have proven to be about 80-90% effective. KCD will **always follow label rates, instructions and best available science.**

Care and Temporary Storage of Purchased Plant Material *Upon receiving the plant material, where will you store it and how will you care for it?*

All plant material should be stored in a cool location and well-watered prior to planting. In the case of bare root plants, inventory should be held in the source refrigerated facility as long as possible prior to planting. Bare root plants can be stored in the field for up to one to three weeks prior to planting by placing them in a shaded location where they will remain cool. Such a location should prevent freezing as well as exposure to warm temperatures. Additionally, bareroot inventory should be covered with a tarp to prevent drying. Bareroot stock that is expected to emerge from dormancy prior to planting should be “healed” into a soil bed. To heal-in, dig a v-shaped trench to a depth that accommodates covering the seedling roots when back-filled with soil.

Installation *Provide the following details: 1) Plant Installation Prescription: 2) Plant Protection Prescription: 3) Weed Suppression Prescription: 4) Erosion Control Prescription*

1) Plant Installation Prescription:

Live Stake Inventory: Live Stakes and whips should be planted using a planting bar. Stakes and whips are to be 3 to 4 feet long, and a minimum of ½ inch in diameter. Stakes should be stored in a bucket of water until planted. Buds should face up in the bucket. Soaking before planting greatly increases the survival of live stakes and whips. Refer also to the attached planting instructions in *Planting Live Hardwood Stakes*.

Potted & Plug Inventory: Potted plant material should be shovel planted to the same depth that they grew in the pot. Plants will be well watered prior to planting. Prior to digging a hole for the plant, prepare the planting location by removing a grass sod within a 1.5 foot diameter circle, being careful to remove roots as well as above ground portions of the plant. Dig a hole for the container in the center of this cleared circle twice the size of the plant’s pot. Backfill the hole with soil while using care to avoid leaving air pockets in the soil. Refer also to the attached planting instructions in *Planting Container Trees and Shrubs*.

Bareroot Inventory: Bare root seedlings should be shovel planted to the same depth that they grew in the nursery fields. Roots will remain moist once they are removed from the shipping bundles until they are planted. Roots will be placed in a natural position in the soil without being crowded or turned up. Soil will be packed firmly around the root system, leaving no air pockets. Prior to digging a hole for the plant, prepare the planting location by removing all grass sod within a 1.5-foot diameter circle, being careful to remove roots as well as above ground grass. Dig a hole for the bare root plant in the center of this cleared circle. Refer also to the attached planting instructions in *Planting Bare Root Trees and Shrubs*.

Fencing *Is fencing going to be installed? If so, what type, who will install it and when?*

N/A

Planting Project Maintenance and Monitoring *The planting must be inspected periodically and protected from damage so proper function is maintained. The goal for the project is to reach 80% survival after 3 years. Please describe the maintenance and monitoring plan.*

King CD will maintain the project for 3-5 growing seasons. Maintenance activities will include control of invasive species and replanting if survivorship falls below 80%. The landowner is responsible for maintaining the project and providing photo documentation of practice maintenance for the remaining 10-12 years of the practice. Photos must be submitted by 9/1 of each year.

Treatments must be inspected periodically and protected from damage so proper function is maintained and resource damage is minimized, including assessment of insects, disease and other pests, storm damage, and damage by trespass. The results of inspections shall determine the need for additional treatment under this practice.

Replace dead or dying trees and shrubs and control competing vegetation to support successful establishment. Periodic application of mulch may be needed to maintain plant vigor. Periodic harvest of trees and shrubs (thinning and brushing) may be necessary to maintain the health and vigor of the stand and support its development toward more mature stand conditions. Keep large dead and dying trees for cavity nesting wildlife and bird species and as a source of downed wood in the forest understory and in adjacent or interior aquatic habitats.

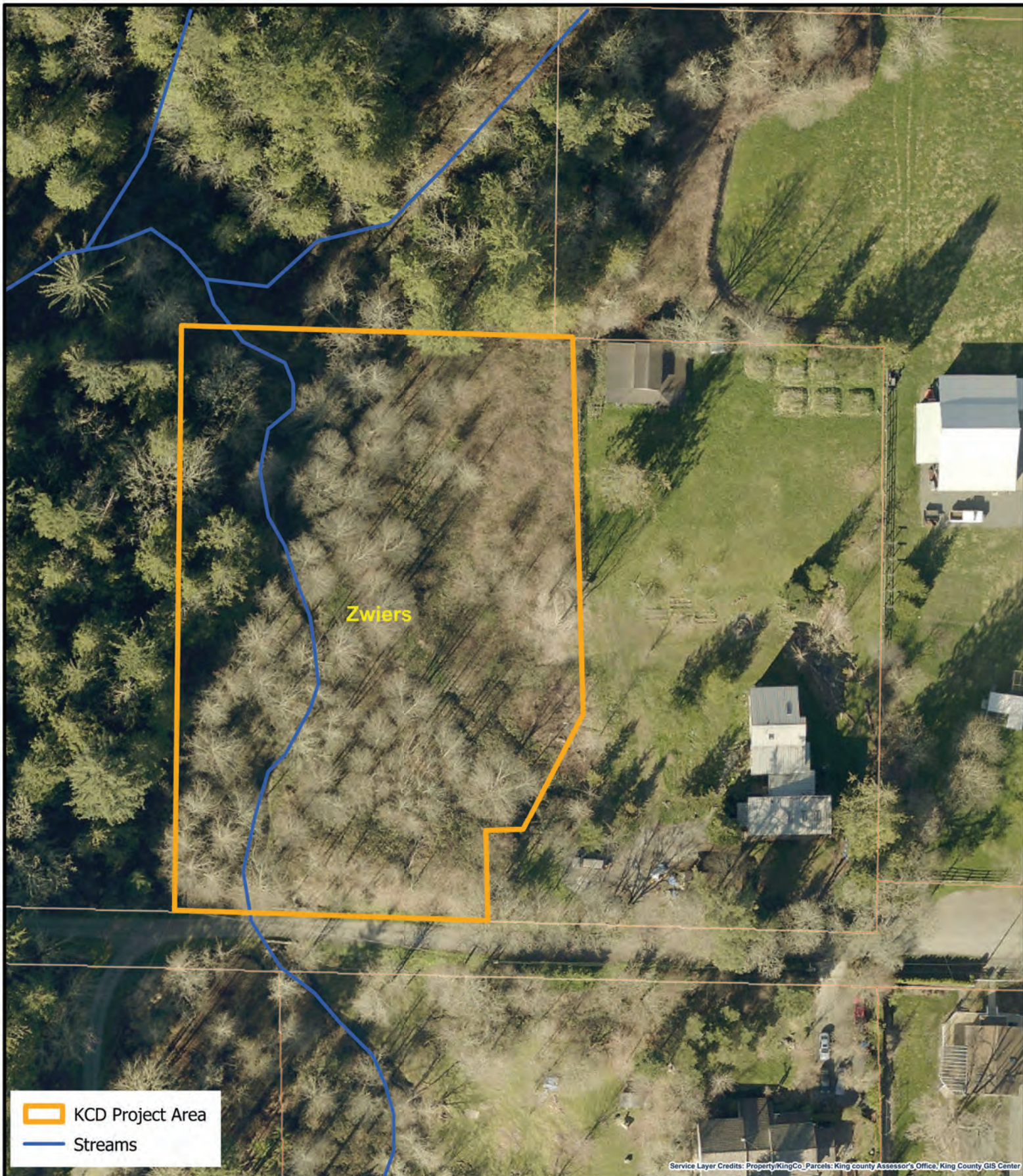
If areas were brushed in order to plant trees, maintain these openings until the leader of the tree surpasses the height of the surrounding vegetation.

Where droughty soils and hot growing conditions are anticipated, supplemental watering is recommended. In such cases the District recommends watering planted nursery stock for a minimum of 3 summers following planting. Young bare root, container, and ball/burlap plants have a reduced root system that hampers their ability to survive during the dry summer months (July through October). Watering a minimum of once every two weeks during the dry summer will promote greater rates of survival. Watering once per week is preferable.

Monitor treatment areas for re-growth of non-native/invasive species and control accordingly. Utilize weed control techniques prescribed in the Site Preparation section of the Job Sheet. Species to monitor include Himalayan blackberry, reed canarygrass and any listed King County Noxious weeds.

All plant protection materials as well as any other non-biodegradable materials installed on-site will be removed within the 3-5 year project maintenance window.

Additional Specifications and Notes:

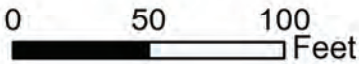


Brent Zwiers
31530 SE 40th Street
Fall City, WA 98024
Parcel ID #092407-9030



66



Scale: 1:851



Planner: Zachary Bergen
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June 02, 2022

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 KCD Project Area
 Streams

Service Layer Credits: Property/KingCo\Parcels: King county Assessor's Office, King County GIS Center



Brent Zwiers
31530 SE 40th Street
Fall City, WA 98024
Parcel ID #092407-9030



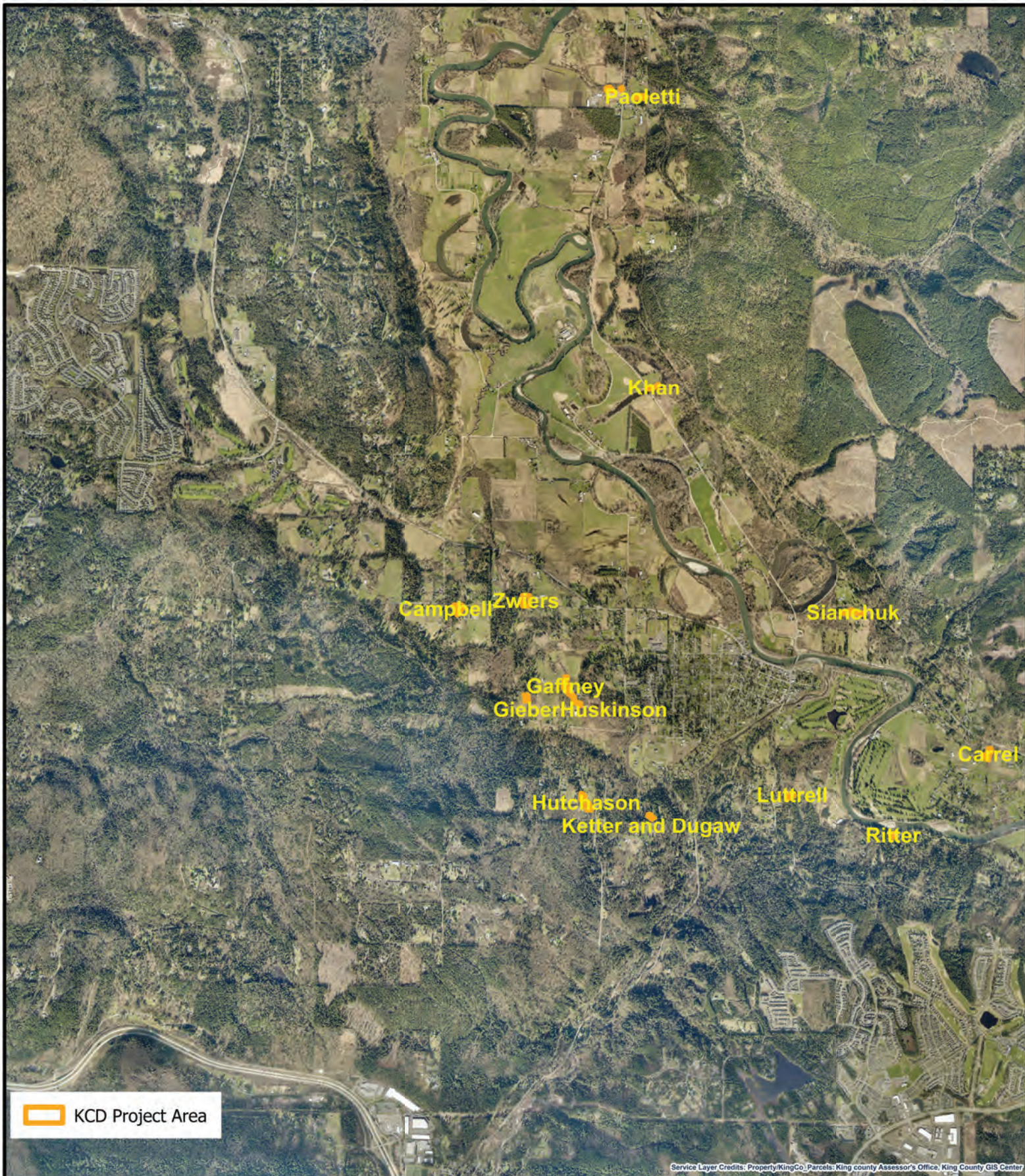
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0 320 640
 Feet

67

Planner: Zachary Bergen
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Service Layer Credits: Property/KingCo; Parcels: King county Assessor's Office; King County GIS Center

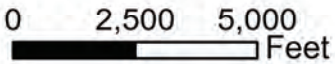


Brent Zwiers
31530 SE 40th Street
Fall City, WA 98024
Parcel ID #092407-9030



68

Scale: 1:47,237



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Planting Plan - Zwiers

Project Description: The proposed project would average a approximately 55 foot riparian buffer on both the east and west side of the tributary to Patterson Creek. The western side of the project (weed treatment) is approximately a 35 ft buffer for 0.45 acres and the eastern section (restoration) is approximately a 75 ft buffer for 1.15 acres. Depending on plant species availability shrubs that would do well at the site include: Douglas spiraea, swamp rose, Pacific ninebark, red osier dogwood, salmonberry, Sitka willow and snowberry. Trees that would be well adapted for site conditions include: cascara, grand fir, Oregon ash, Pacific willow, red alder, western crab apple and western red cedar. It is estimated that 2950 plants would achieve density goals.

Type	Species	Total	Moisture, Sunlight	Source
Trees				
	Cascara (<i>Rhamnus purshiana</i>)	25	Moist, part shade/full sun	
	Oregon Ash (<i>Fraxinus latifolia</i>)	50	Wet/moist, full sun	
	Pacific Crabapple (<i>Malus fusca</i>)	50	Wet/moist, part shade/full sun	
	Western Red Cedar (<i>Thuja plicata</i>)	25	Wet/moist, full shade/part sun	
	Grand Fir (<i>Abies grandis</i>)	50	Moist/Dry, part shade/full sun	
	Willow, Pacific (<i>Salix lasiandra</i>)	50	Wet, full sun	
	Trees Total	250		
Shrubs				
	Black Twinberry (<i>Lonicera involucrata</i>)	200	Wet/moist, part shade/part sun	
	Douglas spiraea (<i>Spiraea douglasii</i>)	200	Wet/moist, part shade/part sun	
	Pacific ninebark (<i>Physocarpus capitatus</i>)	300	Wet/moist, full sun	
	Peafruted Rose (<i>Rosa pisocarpa</i>)	250	Moist, full sun	
	Red Osier Dogwood (<i>Cornus sericea</i>)	400	Wet/moist, part shade/full sun	
	Salmonberry (<i>Rubus spectabilis</i>)	300	Wet/moist, part shade/part sun	
	Willow, Sitka (<i>Salix sitchensis</i>)	300	Wet, full sun	
	Nootka Rose (<i>Rosa nutkana</i>)	200	Moist/dry, full sun	
	Oceanspray (<i>Holodiscus discolor</i>)	200	Dry/Moist, part shade/part sun	
	Red Flowering Current (<i>Ribes sanguineum</i>)	200	Dry/Moist, part shade/full sun	
	Serviceberry (<i>Amelanchier alnifolia</i>)	200	Moist/Dry, full sun	
	Snowberry (<i>Symphoricarpos albus</i>)	200	Moist/dry, part shade/full sun	
	Shrubs Total	2950		

Project Implementation Timeline

Cooperator: Brent Zwiers
31530 SE 40th St
Fall City, WA 98024

Parcel: 924079030

Landowner and KCD Objectives:

The proposed project would average a approximately 55 foot riparian buffer on both the east and west sides of a tributary to Patterson Creek. The western side of the project (weed treatment) is approximately a 35 ft buffer for 0.45 acres and the eastern section (restoration) is approximately a 75 ft buffer for 1.15 acres. Depending on plant species availability shrubs that would do well at this site include: Douglas spiraea, swamp rose, Pacific ninebark, red osier dogwood, salmonberry, Sitka willow and snowberry. Trees that would be well adapted for site conditions include: cascara, grand fir, Oregon ash, Pacific willow, red alder, western crab apple and western red cedar. It is estimated that 1000 plants would achieve density goals.

Other Considerations:

No heavy equipment will be used during the installation of the project. Only hand tools and hand held brushcutters will be used. Washington State Aquatic Herbicide permit will be obtained before any herbicide is sprayed on site.

Land Use: Residential

Management Area/ Acreage	Month/Year	Description of Activities
1.60 Acres	Summer/ Fall 2022	Site Prep - KCD will contract the use of a combination of manual and chemical treatment to treat non-native vegetation. Treatments will include 1 mechanical treatment and 1-2 chemical treatments. Herbicides will applied by State Licensed applicators using aquatically approved herbicides and surfactants.
1.60 Acres	Winter 2022	Planting - KCD will contract the installation of bareroot trees and shrubs according to the planting plan which will specify species. All plant material will be will be sourced from local stock.
1.60 Acres	Summer 2023- 2026	Maintenance - KCD will contract the maintenance of the plantings for 3 to 5 seasons following installation. Maintenance will include the control of non-native vegetation. Chemical, mechanical and manual techniques will be implemented.

King Conservation District Board of Supervisors Meeting 07/11/2022
Agenda Action Briefing/Report AI 22-0 54

SUBJECT:

Review for Approval KCD Landowner Incentive Program cost-share application from Nadya & David Tesar, for Forest Health Management, in the amount of \$10,511.25.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$222,640.41
Current Request	\$10,511.25
Balance Remaining	\$212,129.16

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

The Tesar's own a 3.48 parcel in North Bend. dominant forest type on this property is mature, ~100-year-old bigleaf maple and Sitka spruce canopy with predominately invasive Himalayan blackberry occupying the understory. Aging and declining red alder is also present, primarily along the western edge of the forest. Overstory health is moderately high, with live crown ratios of 70% for Sitka spruce and a slight decline in canopy health for bigleaf maple. Overall forest health, however, is low due to the extent of invasive species infestation, absence of native understory vegetation, and lack of natural tree regeneration occurring.

Invasive species cover is high throughout much of this property, with the majority of the forest understory containing >90% cover of Himalayan blackberry. Other invasive species present include English holly, herb Robert, bull thistle, common tansy, creeping buttercup, English ivy, multiflora rose, English hawthorn, European mountain ash, sweet cherry, and mullein.

2.07 acres of forest will be treated by this project. Primary treatment activities are control of the above invasive species and replanting with native tree species. Native species to be planted include Sitka spruce, western hemlock, western redcedar, and grand fir. Approximately 720 trees will be planted for this project, 240 in Zone A and 480 in Zone B.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Nadya and David Tesar, for Forest Health Management in the amount of \$10,511.25.

King Conservation District Board of Supervisors Meeting 07/11/2022

Agenda Action Briefing/Report AI 22-0

MOTION

_____ Moved, _____ Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Nadya and David Tesar, for Forest Health Management , in the amount of \$10,511.25.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Nadya and David Tesar		Farm/Business Name: N/A	
Mailing Address: 12818 412th Ave SE North Bend, WA 98045		Project Address: Same as mailing	
Phone (home): 425-478-2469		Phone (work/mobile):	
Email Address: nadyatesar@hotmail.com		KCD Staff: Brett Anderson	
Parcel #(s): 1623089081	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 3.48	<input type="checkbox"/> T.A. <input type="checkbox"/> Farm Plan <input checked="" type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Forest Health Management
Project Completion Date (month and year): December 2026
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP; also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The dominant forest type on this property is mature, ~100-year-old bigleaf maple and Sitka spruce canopy with predominately invasive Himalayan blackberry occupying the understory. Aging and declining red alder is also present, primarily along the western edge of the forest. Dominant trees are 30-40" in diameter and spaced 30-40' apart on average. Overstory health is moderately high, with live crown ratios of 70% for Sitka spruce and a slight decline in canopy health for bigleaf maple. Overall forest health, however, is low due to the extent of invasive species infestation, absence of native understory vegetation, and lack of natural tree regeneration occurring.</p> <p>Invasive species cover is high throughout much of this property, with the majority of the forest understory.</p> <p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>2.07 acres of forest will be treated by this project. Primary treatment activities are control of the above invasive species and replanting with native tree species. Zone A, 0.71 acres, is the western treatment zone and contains moderate levels of native understory vegetation mixed with invasive herbaceous and shrub species. Weed control will be a mix of mowing and spraying monocultures and spot treatment to preserve existing native vegetation. Zone B, 1.36 acres, is largely dominated by Himalayan blackberry and also contains lower levels of the invasive species listed above. Blackberry will be mowed then treated with foliar herbicide application, herbaceous species will be foliar sprayed, and larger woody invasives will be treated with a combination of foliar spray, cut stump, basal bark spray, and lance injection as appropriate.</p> <p>Native species to be planted include Sitka spruce, western hemlock, western redcedar, and grand fir.</p> <p>Approximately 700 trees will be planted for this project, 340 in Zone A and 400 in zone B.</p> <p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>The contractor will perform three years of maintenance after the initial site preparation and planting is completed. The landowner will be responsible for the remaining 12 years of project maintenance.</p>

Permits (List all permits required to complete this project):

All activities are a part of an approved Forest Stewardship Plan and would be considered Class 1 Forest Practices, therefore no permit is necessary.

Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

- A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☐ Yes ☒ No
If yes, please list contract number and BMP below:

- B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☒ No
Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant's statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

- ☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☐ A. I understand the lifetime of the BMP is _____ years.
- ☐ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☐ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I agree to ensure that all applicable local, state, and federal permits are obtained for installation of the BMP for which funds are requested. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon installing the BMP to the minimum standard provided by KCD, and that KCD will verify standard compliance. Furthermore, I understand that changes to the installation details (attached *Job Sheet and Map*) must be approved through a *Scope of Work Revision Process*. Unapproved changes will not be eligible for reimbursement. _____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.
_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney’s fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

- I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)
- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
 - b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
 - c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
 - d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
 - e. I deny KCD staff access to my property to verify BMP installation and maintenance.

- I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)
- a. I will select a visible location on my property for display of the sign and will install it.
 - b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
 - c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Nadya and David Tesar

Signature of applicant	Date	Signature of Landowner (if applicant if Lessee)	Date
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FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)	Date	
Approved for Funding (KCD Management)	Date	LIP ID:



Landowner Incentive Program

Applicant Information

Cooperator:

Budget Items	Units	
Zone 1 site prep and planting		\$3,205.00
Zone 2 site prep and planting		\$6,310.00
2023, 2024, and 2025 maintenance		\$4,500.00
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$14,015.00

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$
Units	Project	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WCC) <u>17</u>		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 1.00	0.5	\$ 0.50	Ac.
Aquatic Area Buffer	project	\$ 36,000.00	0.9	\$ 32,400.00	AUE
Buffer Fencing	ft	\$ 14.00	0.75	\$ 10.50	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 24,000.00	0.5	\$ 12,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 48,000.00	0.75	\$ 36,000.00	Project
Brush and Herbacious Weed Control	acre	\$ 333.00	0.75	\$ 249.75	
Cover Crops	acre	\$ 200.00	0.9	\$ 180.00	acre
Cross Fencing	ft	\$ 7.00	0.5	\$ 3.50	
Forest Health Management	project	\$ 36,000.00	0.75	\$ 27,000.00	
Heavy Use Area Protection	AUE	\$ 1,900.00	0.5	\$ 950.00	
Forage and Biomass Planting	acre	\$ 400.00	0.5	\$ 200.00	
Roof Runoff Management	ft	\$ 11.00	0.5	\$ 5.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 25.00	0.5	\$ 12.50	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 2,000.00	0.75	\$ 1,500.00	
Watering Facility	project	\$ 24,000.00	0.5	\$ 12,000.00	



JOB SHEET

Forest Stand Improvement Tree/Shrub Site Prep & Establishment (Forest Management)

Landowner: Nadya Tesar	Lifetime of Practice: 15 Years
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***This Job sheet must be attached to your completed application**

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Site preparation	<input checked="" type="checkbox"/> Tree/Shrub establishment
<input type="checkbox"/> Tree/Shrub stand improvement	<input checked="" type="checkbox"/> Restore native plant communities
<input type="checkbox"/> Long-term erosion control and improvement of water quality	<input type="checkbox"/> Increase the quantity and quality of forest products
<input type="checkbox"/> Wildlife habitat enhancement	<input type="checkbox"/> Other

Forest Management Practice and Details *Provide the following: 1) attach a map delineating prescription area and sub-treatment areas if applicable; provide name and acreage features for treatment areas 2) descriptions of current stand location and conditions, stand treatment plan, plant species to be used, plant spacing, and site preparation; 3) a project management timeline from your approved Forest Stewardship Plan.*

- 1) See attached project map
 Total Project Area: 2.07 acres
 Zone A: 0.71 acres
 Zone B: 1.36 acres
- 2, 3) See attached Scope of Work Document

Permits *Are there any permits necessary for the project? If so, please list below and include a copy of the permit.*

All activities are a part of an approved Forest Stewardship Plan and would be considered Class 1 Forest Practices, therefore no permit is necessary.

Landowner must comply with local, state and federal regulations and permitting requirements.

1) Forest landowners may need a permit from the WA State DNR for forest management activities

<http://www.dnr.wa.gov/businesspermits/forestpractices/Pages/Home.aspx>

Or

From through the Forest Practices Rules, see the King County specifics here:

<http://www.co.king.wa.us/property/permits/info/SiteSpecific/forest.aspx>

2) There may be permits needed to apply herbicide near aquatic areas of their buffer. See the WA State Department of Ecology website for further details: <http://www.ecy.wa.gov/programs/wq/pesticides/>

Type and Source of Plant Material *Will you use potted plants, bareroot plants, b&b plants or a combination? Where will you get the plants from and when?*

Plant material will be native species adapted to the site to minimize maintenance and care.

Timberline Silvics, the contractor, will plant bareroot plants that have been sourced from the Puget Sound. If additional plant material is purchased to augment the Winter 2022 planting, that material can be bareroot, live stake, potted nursery stock or ball and burlap inventory. There are a number of local native plant nurseries where native trees, shrubs and emergents can be purchased. Refer to the attached list of native plant nurseries for local King County sources of native plant material as well as sources in the greater Puget Sound region.

Site Preparation *List what method(s) of site preparation will be used, who will be doing the work, when will the work be done.*

Site preparation will include primarily weed control. Non-native/invasive species control will target Himalayan blackberry, English holly, English laurel, English ivy, English hawthorn, European mountain ash, multiflora rose, and low levels of various herbaceous weeds such as bull thistle, mullein, and common tansy. Specific weed control prescriptions are detailed below. Note: A permit may be required when performing weed control with or without herbicide in or near an aquatic area and its buffer.

**It recommended that landowners work with a professional licensed herbicide applicators for applications in sensitive areas or with difficult to remove species. It may be that some of the following formulations are only available for sale to a licensed applicator.*

Weed Control Prescriptions:

Himalayan & Evergreen Blackberry Control –

- *Manual control:* Mow or cut the blackberry canes to less than 1 foot in height, then grub/dig out the roots attached to the cut canes. Thorough removal of blackberry roots in this manner, while labor intensive can reduce the blackberry population and cover in the prepared area by 90 – 95%. Monitor for re-growth in the following growing seasons; dig up any re-growth.
- *Chemical Control:* An alternative control method includes herbicide. One technique involves cutting/mowing the canes and swabbing the freshly cut canes with an approved herbicide. Foliar spray of blackberry is another effective control method. It is recommended that blackberry is mowed early in the summer and sprayed on the foliar re-growth the next fall (September/October). Do not spray planted seedlings. **Always follow label rates and instructions.**

English Ivy Control –

- *Manual Control:*
- Recommended manual methods include digging and pulling. First, remove any flowering or fruiting portion within reach and bag for removal from the site. Next, hand dig and pull out all accessible portions of plants including roots. Note that all cut stems/roots must be removed from soil contact. If composting on site, use cardboard or wood to create a raised platform. Consider wearing gloves and protective clothing as ivy sap is known to cause a reaction in some individuals. Mulching an area will significantly reduce re-growth of ivy. To properly mulch, apply an 8 inch thick mulch layer. Plants should be cut and removed and then mulched, preferably with a layer of cardboard below the mulch.
- Vertical ivy is controlled by girdling. To girdle vertical vines, cut the ivy vines at shoulder height and slightly above ground level. Remove the cut ivy section from the tree. This eliminates nutrient transport from the roots of ground ivy to the leaves and stems growing into the canopy of the tree. The lower cut section of ivy stems and roots must be pulled at least 6 feet away from tree. Root and stem fragments can re-grow and must be composted in a manner similar to ground ivy.
- *Chemical Control:* Ivy leaves are waxy and difficult to penetrate with herbicides, repeat application may be necessary. **Always follow label rates and instructions.**
 - Foliar Spray: From summer to fall foliar apply a 2-5% solution of triclopyr and a nonionic surfactant, a less desirable alternative is a 2-4% dilution of glyphosate. A mixture of glyphosate and triclopyr has also been found effective (4% glyphosate, 2% triclopyr, and 2% surfactant). A winter application on a sunny day has had even better success; apply 2-5% either glyphosate or triclopyr.

- **Basal Bark and Cut Stump:** Cut vine close to the ground and treat freshly cut surface with 33% solution of triclopyr or glyphosate. For basal bark application, strip leaves from stem near ground level and apply 33% dilution of triclopyr or glyphosate.

Holly, Hawthorn, Laurel and Mountain Ash Control-

- **Manual Control:** *Not recommended*. Small plants can be dug up when the soil is moist. Regularly check area for re-growth. For larger plants cut stems and trunks as close to the ground as possible. Roots may be dug out. Be sure to stabilize soil if large quantities are disturbed. If roots are not dug up, break off any new stems as they grow back for multiple growing seasons.
- **Chemical Control:** Large plant trunks should be cut as close to the ground as possible. Immediately (within minutes) treat the cut stump with an application of triclopyr or imazapyr herbicide. An alternate technique, called frilling, involves incising deep cuts through bark into trunks at a 45 degree angle. Immediately treat the frills by pouring triclopyr or imazapyr herbicide into the cuts. Best results are achieved during periods of active growth and after full leaf expansion. Monitor for re-growth (seedlings and re-sprouting) and treat accordingly. Do not spray herbicide directly holly and laurel leaves without an appropriate surfactant as they have a waxy layer that prevents chemicals from being absorbed. **Always follow label rates and instructions.**

Multiflora Rose –

- **Manual Control:** *Not recommended* – Small plants can be removed via digging or with a weed wrench. Removal is easiest when soil is moist to prevent root and stem breakage. Repeated cuttings over several years may be effective, though plants can resprout multiple times.
- **Chemical Control:** Triclopyr herbicides can be used for spot foliar spray, basal bark, or cut stem treatments. Glyphosate herbicides are effective for spot foliar spray and cut stem treatments. Imazapyr herbicides are most effective for foliar applications. Triclopyr and glyphosate foliar sprays are most effective after leaves are fully expanded, while basal bark, cut stem, and imazapyr foliar applications are best performed in the late summer/fall.

Biomass Management Prescriptions:

When trees and shrubs are managed within the forest, biomass is created. This downed woody material is important to be retained on-site to maintain soil nutrients, wildlife habitat, and suppression of weed seed germination. Project treatment activities should have minimal impact on existing native vegetation.

Native Shrub Retainage –

- At minimum, 15% of existing native shrub cover will be retained during site prep. This may be grouped around retained trees.
- During maintenance: all native shrubs that are not within the 4-foot clearing zone around planted trees, or otherwise not directly competing for light with planted trees will be retained

Standing Dead Wood (Snags) –

- All existing standing dead wood greater than 10 inches (snags) will be left standing onsite unless the tree poses significant hazard to structures or humans.
- Consider topping trees in order to create future snags. As a point of reference: in unmanaged lowland Western WA forests, there are an average of 11 snags per acre.

Downed Dead Wood (greater than 5 inches) –

- There will be a minimum of 6% cover (on the ground) of downed dead wood greater than 5 inches. Some wood may be piled to create habitat piles. This will equal 2 trees at 20 feet long (If feasible, at least 12 inches DBH on small end) per acre or ~2,615 square feet of downed wood. Wildlife experts recommend greater retention, 15-20% if protection of small animals and their predators is a management objective.

Fine Woody Debris (Mulched material or woody material less than 4 inches in diameter) –

- All fine woody debris (that does not include invasive species) will remain on site, either masticated, loped and scattered, or piled for wildlife habitat.
- If sites are not receiving mastication, then at least 40% of fine woody debris will be left on site. For steep slopes, at least 50%.

Care and Temporary Storage of Purchased Plant Material *Upon receiving the plant material, where will you store it and how will you care for it?*

All plant material should be stored in a cool location and well watered prior to planting. In the case of bare root plants, inventory should be held in the source refrigerated facility as long as possible prior to planting. Bare root plants can be stored in the field for up to one to three weeks prior to planting by placing them in a shaded location where they will remain cool. Such a location should prevent freezing as well as exposure to warm temperatures. Additionally, bareroot inventory should be covered with a tarp to prevent drying. Bareroot stock that is expected to emerge from dormancy prior to planting should be “healed” into a soil bed. To heal-in, dig a v-shaped trench to a depth that accommodates covering the seedling roots when back-filled with soil.

Installation *Provide the following details: 1) Plant Installation Prescription: 2) Plant Protection Prescription: 3) Weed Suppression Prescription: 4) Erosion Control Prescription*

1) Plant Installation Prescription:

Live Stake Inventory: Live Stakes and whips should be planted using a planting bar. Stakes and whips are to be 3 to 4 feet long, and a minimum of ½ inch in diameter. Stakes should be stored in a bucket of water until planted. Buds should face up in the bucket. Soaking before planting greatly increases the survival of live stakes and whips. Refer also to the attached planting instructions in *Planting Live Hardwood Stakes*.

Potted & Plug Inventory: Potted plant material should be shovel planted to the same depth that they grew in the pot. Plants will be well watered prior to planting. Prior to digging a hole for the plant, prepare the planting location by removing a grass sod within a 1.5 feet diameter circle, being careful to remove roots as well as above ground portions of the plant. Dig a hole for the container in the center of this cleared circle twice the size of the plant’s pot. Backfill the hole with soil while using care to avoid leaving air pockets in the soil. Refer also to the attached planting instructions in *Planting Container Trees and Shrubs*.

Bareroot Inventory: Bare root seedlings should be shovel planted to the same depth that they grew in the nursery fields. Roots will remain moist once they are removed from the shipping bundles until they are planted. Roots will be placed in a natural position in the soil without being crowded or turned up. Soil will be packed firmly around the root system, leaving no air pockets. Prior to digging a hole for the plant, prepare the planting location by removing all grass sod within a 1.5-foot diameter circle, being careful to remove roots as well as above ground grass. Dig a hole for the bare root plant in the center of this cleared circle. Refer also to the attached planting instructions in *Planting Bare Root Trees and Shrubs*.

2) Plant Protection Prescription:

Tree Protectors (for sites where deer/elk browse is anticipated): Install Plastic Mesh or netted deer sleeves on newly planted Western Red Cedar to protect trees from deer browsing. Weave 6 ft bamboo stakes through each tube and shove at least 8 inches into the ground in order to stabilize the mesh tubes and keep them on trees. The tube must be tall enough to protect terminal bud; be sure that the terminal bud is a couple inches lower than the top of the tube. Each year the tube should be pulled up to cover the terminal bud as the tree grows. Keep tubes on until terminal bud is above the deer browse level, approximately 5 feet tall. Make sure side branches within the tube are positioned vertically to allow for successful growth.

As the trees mature, inspect them periodically for damage from deer rubbing. If rub is occurring, steps must be taken to protect trees. Effective techniques include temporarily fencing trees with woven fencing or chicken wire or installing one or two steel posts next to a tree. Flared bases on posts should be set in-line with the trunk to

reduce root damage when driven in. Posts are especially effective in protecting smaller trees, and light gauge steel types 4 to 6 feet long can be used.

3) Weed Suppression Prescription

No weed suppression prescriptions will be needed for this project.

4) Erosion Control Prescription

Erosion is not a concern for this project.

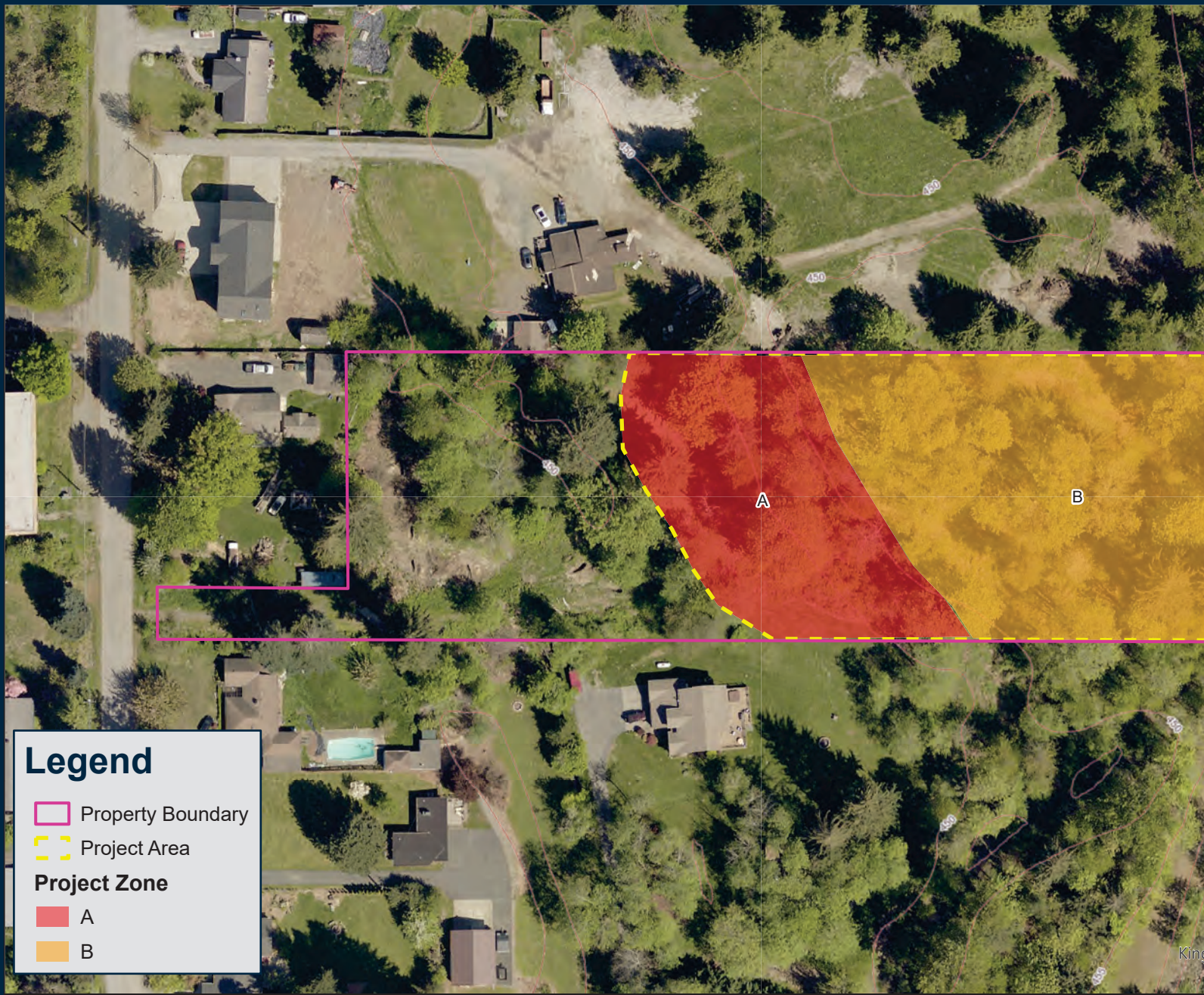
Planting Project Maintenance and Monitoring *The planting must be inspected periodically and protected from damage so proper function is maintained. The goal for the project is to reach 80% survival after 3 years. Please describe the maintenance and monitoring plan.*

Treatments must be inspected periodically and protected from damage so proper function is maintained and resource damage is minimized, including assessment of insects, disease and other pests, storm damage, and damage by trespass. The results of inspections shall determine the need for additional treatment under this practice.

Replace dead or dying trees and shrubs and control competing vegetation to support successful establishment. Periodic application of mulch may be needed to maintain plant vigor. Periodic harvest of trees and shrubs (thinning and brushing) may be necessary to maintain the health and vigor of the stand and support its development toward more mature stand conditions. Keep large dead and dying trees for cavity nesting wildlife and bird species and as a source of downed wood in the forest understory and in adjacent or interior aquatic habitats.

Where droughty soils and hot growing conditions are anticipated, supplemental watering is recommended. In such cases the District recommends watering planted nursery stock for a minimum of 3 summers following planting. Young bare root, container, and ball/burlap plants have a reduced root system that hampers their ability to survive during the dry spring or summer months. Watering a minimum of once every two weeks during the dry summer will promote greater rates of survival. Watering once per week is preferable.

Monitor treatment areas for re-growth of non-native/invasive species and control accordingly. Utilize weed control techniques prescribed in the Site Preparation section of the Job Sheet. Species to monitor include Himalayan blackberry, English ivy, English laurel, English holly, English hawthorn, European mountain ash, multiflora rose, and any listed King County Noxious weeds.



Forest Health Management Project Map
Nadya and David Tesar
12818 412th Ave SE, North Bend, WA 98045



Path: X:\GIS_Data\KCD_GIS_Data\Forestry\MXD\T\Tesar, Nadya\KCD_FST_TesarNadya_2021.aprx

Forest Health Management Project Scope of Work- King Conservation District

Cooperator: Nadya and David Tesar

Date Prepared: 02/24/2022

Project Address: 12818 412th Ave SE, North Bend, WA 98045

Contact Information: nadyatesar@hotmail.com, 425-478-2469

Plan Preparer: Brett Anderson

Project Description: [GENERAL FOREST DESCRIPTION: acreage, canopy species, canopy cover, stocking levels, average size of trees, understory vegetation density]. Nadya and David's property is 3.5 acres in size, 2.07 of which are forested and will receive treatment through this forest health management project. The remaining acreage consists of the homesite, associated landscaping, and access driveway. The dominant forest type on this property is mature, ~100-year-old bigleaf maple and Sitka spruce canopy with predominately invasive Himalayan blackberry occupying the understory. Lower levels of red alder are also present, primarily along the western forest edge. Dominant trees are 30-40" in diameter and spaced 30-40' apart on average. Overstory health is moderately high, with live crown ratios of 70% for Sitka spruce, a slight decline in canopy health for bigleaf maple, and moderate decline for the red alder. Overall forest health, however, is low due to the extent of invasive species infestation, absence of native understory vegetation, and lack of natural tree regeneration occurring.

Zone A consists of the western portion of the project area and consists of an unmapped stream and associated category 3 wetland as determined during the home site plan assessment. Forest health in this zone is moderate, with good native species diversity and cover as well as moderately high invasive species populations. Native understory species present include Snowberry, Indian plum, trailing blackberry, sword fern, skunk cabbage, salmonberry, and red osier dogwood. Invasive species include mainly Himalayan blackberry at 50-75% cover and English ivy at lower levels throughout this zone.

Zone B consists of the eastern half of the project area and consists of Sitka spruce-bigleaf maple upland forest habitat. Forest health in this zone is low due to the extensive invasive species infestations and absence of native understory vegetation. Native understory species present include Indian plum, salmonberry, sword fern, and vine maple, while Himalayan blackberry occupies >90% of the understory in much of this project zone.

[INVASIVE SPECIES: species present, approx. level of infestation, approx. locations]. Invasive species cover is high throughout much of this property, with the majority of the forest understory containing >90% cover of Himalayan blackberry. Other invasive species present include English holly, herb Robert, bull thistle, common tansy, creeping buttercup, English ivy, multiflora rose, English hawthorn, European mountain ash, sweet cherry, and mullein. Bull thistle, common tansy, creeping buttercup, herb Robert, and mullein are found at low levels primarily along the western forest edge and access trail that runs along the northern edge of the forest. English ivy is present growing up the trunks of trees along the southern edge of the forest. English holly, English laurel, English hawthorn, European mountain ash, and sweet cherry are found at low levels in the forest understory. Multiflora rose is present in a dense patch in the southwest corner of the forest.

[PROJECT SUMMARY: Main tasks performed, approx. tree/shrub numbers]. The primary treatment objectives for this project are control of dense invasive species populations and replanting with native conifer species to improve canopy cover and overstory diversity. Approximately 720 trees will be needed for this project, subject to change based on contractor estimates.

Landowners should identify and mark their property boundaries prior to site visits by potential contractors, preferably with solid blue or yellow flagging tape, so contractors are able to provide accurate bids.

Disclaimer: The owner/operator is responsible for obtaining all permits, right of ways, and/or easements that are needed to implement this plan. The owner/operator is responsible for contacting utilities and assuring the work does not harm their facilities. The owner/operator is responsible for compliance with all federal, state, and local laws, ordinances, codes, and regulations. This document should not be construed as a cost-share contract. It is for planning purposes only. Work may not begin until a contract is awarded.

Soil type: Edgewick silt loams, 0-3% slopes				
Zones	Amount	Season and year	Invasive Species Present	Prescription
Project area	2.07 acres	Summer-Fall 2022	<p>English holly, English laurel, English hawthorn, European mountain ash, sweet cherry</p> <p>Himalayan Blackberry</p> <p>English ivy</p> <p>Bull thistle</p> <p>Mullein</p> <p>Multiflora rose</p> <p>Common tansy</p>	<p>Invasive Species Treatment: English holly, English laurel, European mountain ash, English hawthorn, and sweet cherry are all scattered at low levels throughout the forest understory. They can all be treated with herbicide through injection pellets, frill and squirt, or cut and paint methods.</p> <p>Himalayan blackberry occupies >95% of the forest understory throughout the central portion of the property. Blackberry can be cut in the spring, then treated with herbicide through foliar application after sufficient regrowth has occurred. Alternatively, spot foliar treatment of blackberry without mowing or cut and paint of canes can also be used. Fall application is best.</p> <p>English ivy is present at low levels in the understory of zone A and along the southern property boundary growing up the trunks of several trees. Vines can be treated via injection lance if large enough in diameter or cut and painted with herbicide. Ground ivy, if present in large amounts, can be treated via foliar herbicide application. A surfactant is required for sufficient uptake.</p> <p>Bull thistle is present at low levels mainly in the northwest portion of Zone A. Individual plants can be hand-dug or sprayed with a selective herbicide such as triclopyr in the spring before stem elongation or in the fall to control new rosettes.</p> <p>Mullein is present at low levels primarily in the southwest corner of zone A. Individual plants can be hand-dug prior to seed set or treated via postemergence foliar herbicide application from seedling to bolting stage.</p> <p>Multiflora rose is present as an extremely dense thicket in the southwest corner of Zone A. It can be treated via cut-stump or foliar herbicide application. Mowing can improve access and reduce the amount of herbicide needed by allowing the plant to regrow until sufficient vegetation is present.</p> <p>Tansy is present along the northern and southern portions of Zone A. Small infestations can be hand-pulled, taking care to remove as much of the root as possible, while larger patches can be treated via foliar herbicide application in the spring prior to flowering.</p>

Disclaimer: The owner/operator is responsible for obtaining all permits, right of ways, and/or easements that are needed to implement this plan. The owner/operator is responsible for contacting utilities and assuring the work does not harm their facilities. The owner/operator is responsible for compliance with all federal, state, and local laws, ordinances, codes, and regulations. This document should not be construed as a cost-share contract. It is for planning purposes only. Work may not begin until a contract is awarded.

Project Area	2.07 acres	Summers 2023, 2024, 2025		<p>Maintenance:</p> <p>Maintain entire project area to achieve good control of invasive species populations and at least 80% survivorship of planted trees. This may be completed through a variety of methods including manual, mechanical, or herbicide treatments.</p> <p>It is required that the contractor perform maintenance for the first three years after initial planting to achieve the above percentages of seedling survival and invasive control. Each technique should follow King County Noxious Weeds BMPs for appropriate species.</p>
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Disclaimer: The owner/operator is responsible for obtaining all permits, right of ways, and/or easements that are needed to implement this plan. The owner/operator is responsible for contacting utilities and assuring the work does not harm their facilities. The owner/operator is responsible for compliance with all federal, state, and local laws, ordinances, codes, and regulations. This document should not be construed as a cost-share contract. It is for planning purposes only. Work may not begin until a contract is awarded.

Forest Health Management project KCD
Nayda and David Tesar
12818 412th ave se North Bend WA 98045
nadyatesar@hotmail.com
(425)478-2469

Project Area

Zone 1

- Treat all invasive species with best practices possible \$1000
- Mow or hand cut blackberries when needed \$900
- Plant approximately 240 native plant species \$4.50 per bare root
plant \$1080
- Approximately 50 vexar tubes need for Western Red Cedar at \$4.50 tube
installed \$225

Zone 2

- Treat all invasive species with best practices possible \$1600
- Mow Blackberries \$2100
- Plant approximately 480 native plant species \$4.50 per bare root
plant \$2160
- Approximately 100 vexar tubes need for Western Red Cedar at \$4.50 tube
installed \$450

Maintenance

- 2023 \$1500
- 2024 \$1500
- 2025 \$1500



Western edge of Zone A, looking northeast



Western edge of Zone A, looking southeast



Open canopy conditions of Zone B



Understory of Zone B

King Conservation District Board of Supervisors Meeting 07/11/2022**Agenda Action Briefing/Report AI 22-0 55****SUBJECT:**

Review for Approval KCD Landowner Incentive Program cost-share application from Gretchen Garth and AnnMarie Stickney, for a *Waste Storage Facility*, in the amount of \$36,000.00 and a *Roof Runoff Structure* in the amount of \$10,500.00

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$212,640.41
Current Request – Waste Storage	\$36,000.00
Current Request – Roof Runoff	\$10,500.00
Balance Remaining	\$165,629.16

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

Gretchen Garth and AnnMarie Stickney own and manage Cherry Valley Dairy Farm. The farm is located in Duvall and totals over 100 acres. Rassmusen Creek (which is a tributary to the Snoqualmie river) flows south-north along the eastern side of the property dairy plans to improve their overall manure management system. The property slopes in a way that much of the rainwater and dairy manure pools in a central area between the barns. This liquid is currently directed into the lagoon, which also creates a capacity issue. The dairy currently is not able to access the covered area in order to store solids. Curbing and a diversion is also needed to prevent leaching when managing manure. New gutters and outlets are needed to redirect roof water runoff and to prevent water from mixing with manure.

This project will install 1920 linear feet of gutters, downspouts and underground outlets on four barns. Gutter, downspout and outlet sizes are specified in NRCS plans, per each building and roof line. This project will also install three waste transfer slabs, with curbing and a diversion in order to keep manure contained and to prevent leaching when scraping and collecting manure from confinement areas.

This project is in collaboration with NRCS, who is also providing design and cost-share support.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

King Conservation District Board of Supervisors Meeting 07/11/2022

Agenda Action Briefing/Report AI 22-0

Staff seeks Board approval of Landowner Incentive Program cost-share application from Gretchen Garth and AnnMarie Stickney, for a *Waste Storage Facility*, in the amount of \$36,000.00 and a *Roof Runoff Structure* in the amount of \$10,500.00

MOTION

_____ Moved, _____ Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Gretchen Garth and AnnMarie Stickney, for a *Waste Storage Facility*, in the amount of \$36,000.00 and a *Roof Runoff Structure* in the amount of \$10,500.00.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Gretchen Garth, AnnMarie Stickney		Farm/Business Name: Cherry Valley Farms Dairy	
Mailing Address: 27102 NE Cherry Valley Rd Duvall, WA 98019		Project Address: same	
Phone (home): 425-327-5715 (AnnMarie)		Phone (work/mobile):	
Email Address: ajstickney@gmail.com, gretchen@gr		KCD Staff: Megan Weldon	
Parcel #(s): 1226069023	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 104	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Roof Run-off Structure & Waste Storage Facility
Project Completion Date (month and year): 07/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The dairy plans to improve their overall manure management system. The property slopes in a way that much of the rainwater and dairy manure pools in a central area between the barns. This liquid is currently directed into the lagoon, which also creates a capacity issue. The dairy currently is not able to access the covered area in order to store solids. Curbing and a diversion is also needed to prevent leaching when managing manure. New gutters and outlets are needed to redirect roof water runoff and to prevent water from mixing with manure. Rassmusen Creek (which is a tributary to the Snoqualmie river) flows south-north along the eastern side of the property.</p>
<p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>This project will install 1920 linear feet of gutters, downspouts and underground outlets on four barns. Gutter, downspout and outlet sizes are specified in NRCS plans, per each building and roof line. This project will also install three waste transfer slabs, with curbing and a diversion in order to keep manure contained and to prevent leaching when scraping and collecting manure from confinement areas. See NRCS site plan and design.</p>
<p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>Monitor and repair damaged gutters and downspouts when needed. Monitor concrete curbing and slabs for cracks and damage and repair as needed. It is important to repair cracks and damage in order to prevent manure seepage.</p>

Permits <i>(List all permits required to complete this project):</i> N/A
Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

A.

Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)?

☒ Yes
☐ No

If yes, please list contract number and BMP below:

Riparian Forest Buffer- 2015-88

B.

Are you applying for (or received) funding (cost-share or grants) through other agencies or programs?

☐ Yes
☒ No

Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service’s Environmental Quality Incentive Program)

Please list practices and date installed below:

All projects listed on practice codes will be funded by NRCS (outlets, gutters, waste transfer systems, agitator pump). See list on NRCS payment estimator.

3. Other

Please list agency and describe project:

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant’s statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☐ A. I understand the lifetime of the BMP is 15 years.
- ☐ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☐ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I agree to ensure that all applicable local, state, and federal permits are obtained for installation of the BMP for which funds are requested. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon verification by the design engineer of the BMP that the BMP was installed as designed. This verification should be provided as written documentation directly from the design engineer. As this practice is co-funded with Natural Resource Conservation Services (NRCS), a copy of the NRCS reimbursement close-out and practice implementation verification can be utilized in lieu of the design engineer verification. Furthermore, I understand that changes to the installation details (attached Job Sheet and Map) must be approved through a Scope of Work Revision Process. Unapproved changes will not be eligible for reimbursement. _____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.

_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney's fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)

- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
- b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
- c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
- d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
- e. I deny KCD staff access to my property to verify BMP installation and maintenance.

I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)

- a. I will select a visible location on my property for display of the sign and will install it.
- b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
- c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Gretchen Garth, AnnMarie

Signature of applicant

Date

Signature of Landowner (if applicant if Lessee)

Date

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)

Date

Approved for Funding (KCD Management)

Date

LIP ID:



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Roof Runoff Structure

Cooperator: Cherry Valley Dairy	Lifetime of Practice: 15 years
---------------------------------	--------------------------------

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Improve water quality.	<input checked="" type="checkbox"/> Reduce soil erosion.
<input checked="" type="checkbox"/> Increase infiltration.	<input type="checkbox"/> Protect structures.
<input type="checkbox"/> Increase water quantity.	<input type="checkbox"/> Other. Specify:

Size, length, and type of gutters, and downspouts
Total Length of Gutters, Downspouts, and Outlet Piping: 1920 total feet
<u>Barn 1:</u>
Size of building (sq. ft.): 20,000sq. ft.
Size/Type of gutter: 6k gutters
Length of gutter: 420ft.
Size/Type and Number of downspouts: 6- 4" pvc pipes
Length of downspouts: 15ft. per downspout
<u>Roof 6:</u>
Size of building (sq. ft.): 8,000sq. ft.
Size/Type of gutter: 6k gutters
Length of gutter: 252ft.
Size/Type and Number of downspouts: 6- 4" pvc pipes
Length of downspouts: 16ft. per downspout
<u>Roof 8:</u>
Size of building (sq. ft.): 2,000sq. ft.
Size/Type of gutter: 6k gutters
Length of gutter: 55ft.
Downspout protection plan: All downspouts will be located out of areas where animals can access and damage pipes.
Snow/wind load considerations: N/A

Details of Outlet

Outlet Piping (size, type, length):

Barn 1: Two 6" PVC outlets- 520"

Roof 6: Two 6" PVC outlets- 240"

Roof 8: 4" conveyance pipe 48ft.

Outlet piping must be buried at least 1' (12") underground if buried outlet piping

The outer edge of a vegetated flowpath segment must not overlap with other flowpath segments.

Vegetated Flowpath

Describe vegetation around and downslope of outlet: Vegetation around planned outlets is a mix of forage grasses and Himalayan blackberry.

Length of vegetated flowpath: The minimum length for an outlet flowpath is 50ft.

Does this practice meet the design standards set forth in Appendix C: Small Project Drainage Requirements of the King County Surface Water Design Manual for Basic Dispersion? ☐ YES ☒ N/A

Permits. *Are there clearing or grading permits necessary for the project? If so, please list below and include a copy of the permit.*

N/A

Operation and Maintenance

- Repair damaged gutters and downspouts immediately
- Keep discharge areas clear of debris

Additional Specifications and Notes:

- Install screens on gutters to keep debris out. Protect downspouts from livestock and machinery
- Install gutters well enough so they are not sheared off by sliding ice or snow
- Do not allow roof runoff to come in contact with manure or any area where livestock have access
- Maintain a vegetative buffer around the barn, this will act as a natural filter
- Outlet roof water downhill from where livestock are confined or manure is stockpiled
- Contact your local utilities before excavation begins
- Slope outlet pipe at a minimum of 6" for every 100'



Landowner Incentive Program Applicant Budget

Cooperator:

Budget Items	Units	Cost
Roof Runoff	1920 feet	\$21,120.00
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$21,120.00

In-Kind Labor/Machinery	# hours	Cost
Manual labor		\$ -
Person with power equipment (i.e. chainsaw)		\$ -
Small Tractor (up to 40 hp)		\$ -
Medium Tractor (40-70 hp)		\$ -
Large Tractor (71 or above hp)		\$ -
Excavator (up to 100 hp)		\$ -
Excavator (over 100 hp)		\$ -
D-4 Cat or equivalent		\$ -
D-6 Cat or equivalent		\$ -
D-7 Cat or equivalent		\$ -
Backhoe		\$ -
Truck (under 2 tons)		\$ -
Truck (2 tons or over)		\$ -
Bobcat		\$ -
4-wheeler or side-by-side		\$ -
Subtotal	0.00	\$ -

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$ 21,120.00
Units	Linear Feet	1,920.00
Cost/Unit		\$ 11.00

Conservation Practice	select BMP (x)	Cost Share Amount
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WCC)		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		
Bulkhead Removal (Freshwater, Marine)		
Cover Crops		
Cross Fencing		
Forest Health Management		
Heavy Use Area Protection		
Pasture & Hay Planting		
Roof Runoff Management	x	\$ 10,560.00
Stream Crossing		
Subsurface Drain		
Upland Wildlife Habitat Management		
Waste Storage Facility		
Watering Facility		

Amount eligible for reimbursement
(based on 2015 rates)

\$10,560.00

Cherry Valley Dairy Projects

Roof Runoff Project

NRCS cost estimator = \$14,561.56

A 66% reimbursement= \$9,610.63

*KCD amount eligible for reimbursement= \$10,560

**This amount is based on the total linear footage (including downspouts and outlet piping)*

Total reimbursement (NRCS and KCD combined)= **\$20,170.63**

Waste Transfer/Storage Project

NRCS cost estimator = \$8,879.41

A 66% reimbursement= \$5,860.41

*KCD amount eligible for reimbursement= \$36,000

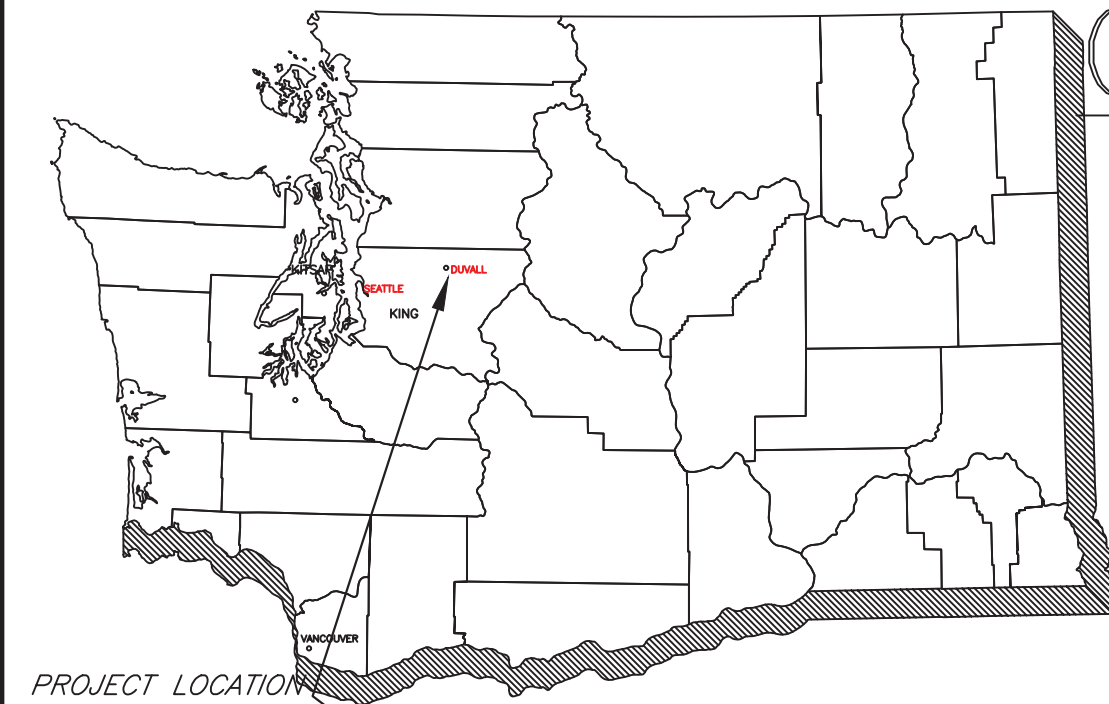
**This amount is based on the animals in operation, with a maximum of 24 cows)*

Total reimbursement (NRCS and KCD combined)= **\$41,860.41**

CHERRY

ROOF

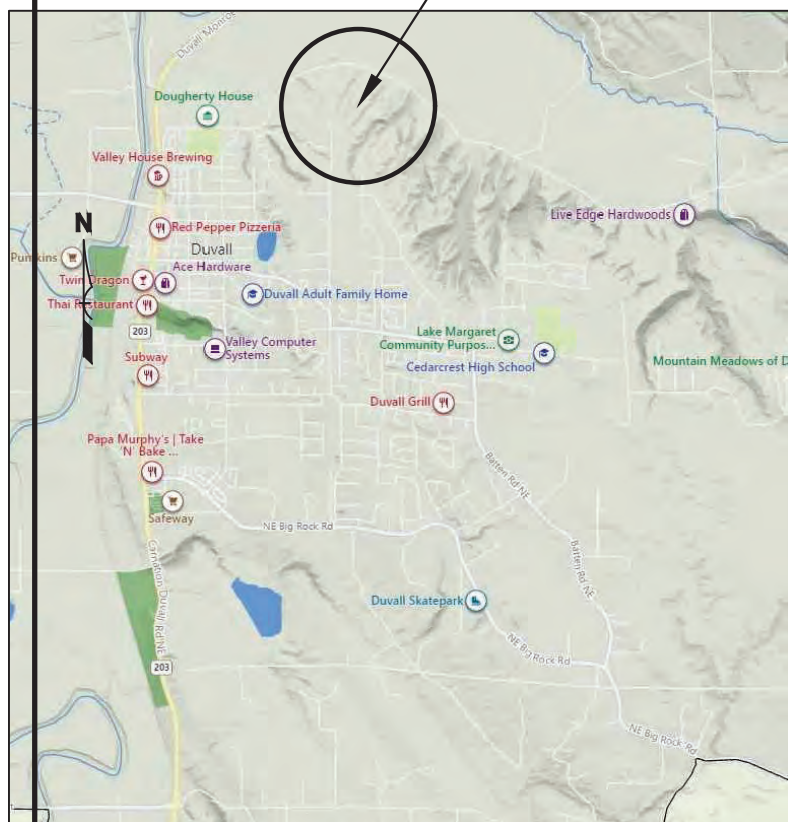
UNITED
NATURAL



PROJECT LOCATION
Sec 12, T26N., R06E

WASHINGTON

PROJECT LOCATION



INDEX OF DRAWINGS

SHEET NO. TITLE

1. COVER SHEET
2. PLAN VIEW
3. LAYOUT

GENERAL NOTES

1. The attached NRCS Construction and Material Specifications are part of this plan and shall govern the installation of this project.
2. This project shall be constructed to the lines and grades shown in the drawings and detailed in the Construction Specifications.
3. The project will be operated and maintained as described in the Operation and Maintenance Plan prepared for this project.

PROJECT LOCATION
26808 Cherry Valley Rd.
Duvall, WA 98019
Parcel Number: 122606923
47.74885/-121.97848

Roof 1

1. Install 6" K-Line Gutters - 420'
2. Install 6 - 4" PVC Downspouts - 90'
3. Install 2 - 6" PVC Underground Outlets - 520'

Barn 1 Slab

Install Waste Transfer Slab - Re-grade - 525 ft²

Barn 8 Slab

Install- Waste Transfer Curb 6" w/ footing
Concrete Speed Bump - 50'

Roof 8 East

- Install 6" K-Line Gutter - 55' (East)
- Install 4" PVC Conveyance Pipe - 48'

Roof 6 West

1. Install 6" K-Line Gutters - 126'
2. Install 3 - 4" PVC Downspouts - 60'
3. Install 4" PVC Conveyance - 25'
4. Install 6" PVC Underground Outlet - Regular Install - 140'
5. Install 6" PVC Underground Outlet - Difficult Install - 100'

Barn 6 Slab

1. Waste Transfer Slab/Re-grade - 425 ft²
2. Waste Transfer Pipe - 4" PVC Pipe - 120' (168lb)
3. Waste Transfer Pipe - Complex Installation - 92' (129lb)

LEGEND

6" K-Line Gutter - - - - -

4" PVC Conveyance Line - - - - -

4" PVC Waste Transfer Pipe - - - - -

6" PVC Underground Outlet Regular Installation - - - - -

6" PVC Underground Outlet Difficult Installation Gravel - - - - -

6" PVC Underground Outlet Difficult Installation Concrete - - - - -

Waste Transfer Concrete Slab or Curb New - - - - -

Waste Transfer Concrete Slab Re-grade - - - - -

Diversion - - - - -

Roof 1
 1. Install 6" K-Line Gutters - 420'
 2. Install 6 - 4" PVC Downspouts - 90'
 3. Install 2 - 6" PVC Underground Outlets - 520'

Barn 1 Waste Transfer Slab
 Install Waste Transfer Slab - Re-grade- 525 ft2










Barn 8 Waste Transfer Curb
 Install- Waste Transfer Curb 6" w/ footing
 Concrete Speed Bump- 50'

Roof 8 East
 Install 6" K-Line Gutter - 55' (East)
 Install 4" PVC Conveyance Pipe - 48'

Roof 6 West
 1. Install 6" K-Line Gutters- 126'
 2. Install 3 - 4" PVC Downspouts - 60'
 3. Install 4" PVC Conveyance - 25'
 4. Install 6" PVC Underground Outlet - Regular Install - 140'
 5. Install 6" PVC Underground Outlet - Complex Install - 100'

Barn 6 Slab
 1. Waste Transfer Slab/Re-grade - 425 ft2
 2. Waste Transfer Pipe- 4" PVC Pipe - 120' (168lb)
 3. Waste Transfer Pipe-Complex Installation - 92' (129lb)

LEGEND

6" K-Line Gutter 
 4" PVC Conveyance Line 
 4" PVC Waste Transfer Pipe 
 6" PVC Underground Outlet Regular Installation 
 6" PVC Underground Outlet Complex Installation Gravel 
 6" PVC Underground Outlet Complex Installation Concrete 
 Waste Transfer Concrete Slab or Curb New 
 Waste Transfer Concrete Slab Re-grade 
 Diversion 

Practice Code	Program	Practice Name	Practice Component	Scenario #	Units	Payment/ Unit	Planned (amount)	Year	DRAFT Max Incentive Dollars	
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	90.0		\$ 587.70	Bar
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	470.0		\$ 3,069.10	Bar
558		Roof Runoff Structure	Roof Gutter, small		Ft	9.01	420.0		\$ 3,784.20	Bar
									\$ -	
									\$ -	
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	35.0		\$ 228.55	Bar
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	45.0		\$ 293.85	Bar
620		Underground Outlet	Outlet Pipe <=6 inch, Complex Install		Ft	7.38	80.0		\$ 590.40	Bar
620		Underground Outlet	Outlet Pipe <=6 inch, Complex Install		Ft	7.38	80.0		\$ 590.40	Bar Cor
558		Roof Runoff Structure	Roof Gutter, small		Ft	9.01	126.0		\$ 1,135.26	Bar
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	35.0		\$ 228.55	Bar
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	60.0		\$ 391.80	Bar
620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	150.0		\$ 979.50	Bar
620		Underground Outlet	Outlet Pipe <=6 inch, Complex Install		Ft	7.38	100.0		\$ 738.00	Bar Cor
558		Roof Runoff Structure	Roof Gutter, small		Ft	9.01	126.0		\$ 1,135.26	Bar
									\$ -	
558		Roof Runoff Structure	Roof Gutter, small		Ft	9.01	55.0		\$ 495.55	Bar

620		Underground Outlet	Outlet Pipe <=6 inch		Ft	6.53	48.0		\$	313.44	Bar
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1920.0

\$ 14,561.56

NRCS reimbursement 66%
\$ 9,610.63

KCD Budget
\$10,560

Total eligible reimbursement=
\$ 20,170.63

634		Waste Transfer	Transfer Slab		SqFt	5.23	420.0		\$	2,196.60	Bar
634		Waste Transfer	Transfer Slab		SqFt	5.23	476.0		\$	2,489.48	Bar
634		Waste Transfer	Transfer Slab		SqFt	5.23	425.0		\$	2,222.75	Bar
634		Waste Transfer	PVC Pipe, less than or equal to 8 in dia, adverse installation conditions		Lb	7.38	140.0		\$	1,033.20	Bar (10
634		Waste Transfer	PVC Pipe, less than or equal to 8 inch dia		Lb	2.41	168.0		\$	404.88	Bar (12
634		Waste Transfer	Transfer curb, 6 inch tall, with footing		Ft	10.65	50.0		\$	532.50	Bar

\$ 8,879.41

NRCS reimbursement 66%
\$ 5,860.41

KCD reimbursemen
\$36,000

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MATERIAL SPECIFICATION
MS-201: “CONCRETE AGGREGATE”

201.1 SCOPE

This specification governs the quality of fine aggregate and coarse aggregate used in Portland cement concrete.

201.2 QUALITY

The coarse and fine aggregate shall conform to the durability and gradation requirements of ASTM Specification C-33.

201.3 REACTIVITY WITH ALKALINES

The potential reactivity of aggregates with the alkalis in cement shall conform to the requirement in ASTM Specification C-33, Appendix A1.

201.4 STORING AND HANDLING

Aggregate of each class and size shall be stored and handled by methods that prevent segregation of particle sizes or contamination by intermixing with other materials.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MATERIAL SPECIFICATION
MS-202: “PORTLAND CEMENT”

202.1 SCOPE

This specification governs the quality of Portland cements.

202.2 QUALITY

Portland cement shall conform to the requirements of ASTM Specification C-150 for the specified types of cement. Type IIA shall be used, unless another type is specified on the drawings.

202.3 STORAGE AT THE CONSTRUCTION SITE

Cement shall be stored so that it is protected from weather, dampness or other destructive agencies. Cement that is partially hydrated or otherwise will be rejected.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MATERIAL SPECIFICATION

MS-203: "CONCRETE"

203.1 SCOPE

This specification governs the quality of concrete mixes.

203.2 QUALITY

Concrete mixes shall be composed of Portland cement, fine and coarse aggregate and water. An air-entraining admixture may be used.

- a. Portland cement shall conform to the requirements of Material Specification MS-202.
- b. Fine and coarse aggregates shall conform to the requirements of Material Specification MS-201. The aggregates shall be handled in a manner to prevent contamination and segregation.
- c. Water shall be clean and free from harmful chemicals (suitable for drinking).
- d. Air-entraining admixtures shall conform to the requirements of ASTM C-260, Air Entraining Admixtures for Concrete.
- e. Class F fly ash meeting ASTM C-618 may be used in the concrete mix to replace not more than 15% of the cement by weight. An independent testing laboratory shall test pozzolanic materials with test results included with the submittal of design mix.
- f. Water-reducing and set-retarding admixtures may be used upon satisfactory submission of test results using a trial mix design and manufacturer's certification of the admixture. The admixtures shall conform to ASTM C-494.
- g. The concrete mix shall indicate evidence of meeting or exceeding the following criteria unless otherwise shown on the drawings.
 - (1) Minimum strength: 3000 lb.
 - (2) Slump: ASTM C-143, 3-5 inches.
 - (3) Cement: ASTM C-150, Type I, IA, II, IIA, V or VA.
Minimum content: 6 sacks per CY concrete (94 lb. sacks).
 - (4) Water: Clean potable and free of foreign matter.
Maximum water-cement ratio; 0.45 - 0.55 (6 gallons per sack of concrete).

- (5) Aggregates: Clean durable and within the grading limits of ASTM C-33.

Coarse Aggregates; maximum size shall be 3/4 inch unless otherwise stated on the drawing.

Fine Aggregates; fineness module shall be greater than 2.3 but less than 3.1.

Fine to Total Aggregate Ratio; greater than 0.35 but less than 0.45.

- (6) If Air Entrained, concrete mixes shall have 5-8% volume of air using an air entraining admixture.

203.3 INSPECTION AND TESTING

The following is a partial listing of the common American Society for Testing and Materials, ASTM, test requirements for concrete that may be used to verify concrete quality:

- a. ASTM C-31, "Making and Curing Concrete Compressive and Flexure Strength Test Specimens in the Field."
- b. ASTM C-33, "Concrete Aggregates."
- c. ASTM C-39, "Compressive Strength of Cylindrical Concrete Specimens."
- d. ASTM C-94, "Ready-Mix Concrete."
- e. ASTM C-143, "Slump of Portland Cement Concrete."
- f. ASTM C-150, "Portland Cement."
- g. ASTM C-172, "Sampling Freshly Mixed Concrete."
- h. ASTM C-231, "Air Content of Freshly Mixed Concrete by the Pressure Method."
- i. ASTM C-260, "Air Entraining Admixtures for Concrete."
- j. ASTM C-494, "Chemical Admixtures for Concrete."

The technical representative shall have free entry to the plant to review the equipment used for mixing, dispersing, weighing, agitating and delivering concrete. Proper facilities shall be provided for inspecting materials, equipment and processes and to obtain samples of the ingredients and concrete. All tests and inspections will be conducted so as not to unnecessarily interfere with the manufacture and delivery of the concrete.

203.4 HANDLING AND MEASURING MATERIALS

Materials shall be stored and handled in a manner that will prevent degradation, segregation, contamination or intermixing of materials before measurement.

Scales for weighing aggregates and cement shall be beam or springless dial type, clean and operating within 1 percent accuracy for cement and 2 percent accuracy for aggregates.

All materials entering into the concrete shall be mechanically measured by weight except the air entraining admixture and water, which may be measured by volume.

203.5 MIXERS AND MIXING

Concrete may be furnished by batch mixing at the work site or by ready-mix methods.

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

**MATERIAL SPECIFICATION
MS-206: “PLASTIC PIPE”**

206.1 SCOPE

This specification governs the quality of plastic pipe and fittings.

206.2 QUALITY

The pipe shall conform to American Society of Testing Material Specification (ASTM) for the manufacture of this pipe.

<u>Material</u>	<u>SDR¹</u> NRCS or ASTM	<u>SCH 40 & 80</u> ASTM	<u>PIP²</u> NRCS
Acrylonitrile-Butadiene- Styrene, ABS	D-2282 430-DD 430EE	D-1527	430-DD 430-EE
Polyethylene, PE	D-2239 D-3035 430-DD 430-EE	D-2104 D-2247	
Polyvinyl Chloride, PVC	D-2241 430-DD 430-EE	D-1785	430-DD

*For pipelines conveying potable water, the material also requires approval of the National Sanitary Foundation, NSF.

¹ SDR, Standard Dimension Ratio

² PIP, Plastic Irrigation Pipe

206.3 FITTINGS

The fittings shall be of a material, size and pressure rating compatible with the pipe materials and withstand a working pressure equal to or greater than the pipe.

206.4 JOINTS

- a. Solvent welding of joints shall be in accordance with the recommendation of the pipe manufacturer.
- b. Rubber gasket joints and the gasket material shall conform to ASTM D-3139.
- c. All joints and connections shall withstand a working pressure equal to or greater than the pipe.

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

**MATERIAL SPECIFICATION
MS-209: “WOVEN AND NON-WOVEN FABRICS”**

209.1 SCOPE

This specification governs the quality of structural woven and non-woven fabrics.

209.2 FABRIC

The fabric material shall be polypropylene material with long chain polymeric filaments or fibers. The material properties are defined in the following tables and the type of material selected is shown on the drawings

a. Table 1, Non-Woven Fabric Material

Property	Test method	Class I	Class II	Class III	Class IV ^{3/}
Tensile strength (lb) ^{1/}	ASTM D 4632 grab test	180 minimum	120 minimum	90 minimum	115 minimum
Elongation at failure (%) ^{1/}	ASTM D 4632	≥ 50	≥ 50	≥ 50	≥ 50
Puncture (pounds)	ASTM D 4833	80 minimum	60 minimum	40 minimum	40 minimum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minimum	70 minimum	70 minimum	70 minimum
Apparent opening size (AOS)	ASTM D 4751	As specified max. #40 ^{2/}	As specified max. #40 ^{2/}	As specified max. #40 ^{2/}	As specified max. #40 ^{2/}
Permittivity sec ⁻¹	ASTM D 4491	0.70 minimum	0.70 minimum	0.70 minimum	0.10 minimum

1/ Minimum average roll value (weakest principal direction).

2/ U.S. standard sieve size.

3/ Heat-bonded or resin-bonded geotextile may be used for classes III and IV. They are particularly well suited to class IV. Needle-punched geotextiles are required for all other classes.

b. Table 2, Woven Fabric Material

Property	Test method	Class I	Class II & III	Class IV
Tensile strength (pounds) ^{1/} grab test	ASTM D 4632 principal direction	200 minimum in any principal direction	120 minimum in any principal direction	180 minimum in any principal direction
Elongation at failure (percent) ^{1/} grab test	ASTM D 4632	<50	<50	<50
Puncture (pounds) ^{1/}	ASTM D 4833	90 minimum	60 minimum	60 minimum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minimum	70 minimum	70 minimum
Apparent opening size (AOS)	ASTM D 4751 no smaller than 0.212 mm (#70) ^{2/}	As specified, but no smaller than 0.212 mm (#70) ^{2/}	As specified, but no smaller than 0.212 mm (#70) ^{2/}	As specified, but
Percent open area (percent)	CWO-02215-86	4.0 minimum	4.0 minimum	1.0 minimum
Permittivity sec ⁻¹	ASTM D 4491	0.10 minimum	0.10 minimum	0.10 minimum

1/ Minimum average roll value (weakest principal direction).

2/ U.S. standard sieve size.

Note: CWO is a USACE reference.

209.3 ENVIROMENTAL RESISTANCE

The fabric shall be inert to commonly encountered chemicals within a pH range of 4 to 10. The ultra-violet light resistance shall not be less than the percentage shown for the specified fabric. The fabric shall also be resistant to mildew, rot and damage caused by rodents.

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

MATERIAL SPECIFICATION

MS-211: “BEDDING”

211.1 SCOPE

This specification governs the quality of bedding material used in the foundation of pipelines, conduits and structures.

211.2 QUALITY

Soil material, fine gravel or coarse gravel specified as bedding material shall be durable, non-compressible and be within the grading limits of the Unified Soil Classification System, USCS. The ASTM specifications for classifying soils are: ASTM D-2487, Classification of Soils for Engineering Purposes, and ASTM D-2488, Standard Practice for Description and Identification of Soils (Visual Manual Procedure).

211.3 GRADATION

The following table lists some general properties of materials suitable for bedding. Gradation is unique for each soil in the USCS. The bedding requirements are site specific and shall be shown on the drawings using an identification symbol of the USCS.

Material	USCS	S.G. (Min.)	Size (Max.)
Soil	SW,SP,SM,SC,ML,CL	1.75	#10 Sieve
Fine Gravel	SW,SP,SM,SC	2.00	3/4-inch
Coarse Gravel	GW,GP,GM,GC	2.40	3-inch
	SW,SP,SM,SC		

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MATERIAL SPECIFICATION

MS-212: "ROCK"

212.1 SCOPE

This specification governs the quality of rock to be used for rock structures or rock surfacing.

212.2 QUALITY

Individual rock fragments shall be dense, sound and free from cracks, seams and other defects conducive to accelerated weathering. The rock fragments shall be angular to sub-rounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment. Rounded river rock is not acceptable for material used as rock riprap.

The rock shall have the following properties:

- a. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
- b. Absorption not more than 2 percent by weight.

The bulk specific gravity and absorption shall be determined by ASTM Method C-127.

Rock that fails to meet these requirements may be accepted only if similar rock from the same source has been demonstrated to be sound after 5 years or more of service under conditions of weather, wetting and drying, and erosive forces similar to those anticipated.

212.3 GRADATION

The rock shall conform to gradation limits shown on the plan.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MATERIAL SPECIFICATION
MS-213: “STEEL REINFORCEMENT”

213.1 SCOPE

This specification governs the quality of steel reinforcement for reinforced concrete.

213.2. QUALITY

Reinforcing steel shall be free from rust, oil grease, paint or other deleterious matter.

Steel bars for concrete reinforcement requiring bends shall be deformed billet-steel bars conforming to ASTM Specification A-615, Grade 40 or Grade 60.

Straight steel bars shall be deformed bars conforming to one of the following specifications:

Deformed Billet-Steel Bars for Concrete Reinforcement (Grade 40 or Grade 60) - ASTM Designation A-615.

Rail-Steel Deformed Bars for Concrete Reinforcement (Grade 50 or Grade 60) - ASTM Designation A-616.

Axle-Steel Deformed Bars for Concrete Reinforcement (Grade 40 or Grade 60) - ASTM Designation A-617.

Fabricated steel bar mats shall conform to the requirements of ASTM Specification A-184.

Welded steel wire fabric reinforcement shall conform to the requirements of ASTM Specification A-185.

Welded deformed steel wire fabric for concrete reinforcement shall conform to the requirements of ASTM Specification A0497.

Cold-drawn steel wire reinforcement shall conform to the requirements of ASTM Specification A-82.

Deformed steel wire for concrete reinforcement shall conform to the requirements of ASTM Specification A-496.

213.3 DIMENSION OF WELDED WIRE FABRIC

Gauges, spacing and arrangement of wires in welded steel wire fabric shall be as defined in ACI Standard 315 of the American Concrete Institute for the specified style designations.

213.4 STORAGE

Steel reinforcement stored at the site of the work shall be stored above the ground surface on platforms, skids, or other supports and shall be protected from mechanical injury and corrosion.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-01: "MOBILIZATION & DEMOBILIZATION"

1.1 SCOPE

The work shall consist of mobilizing equipment, supplies and securing bonds and permits necessary to do the work as stated in the contract and/or agreement and demobilization of excess materials and equipment from the work site.

1.2 FORCES AND EQUIPMENT

Mobilization may include costs for transporting personnel, equipment, operating supplies to the site, establishment of necessary facilities for the contractors operation and any permits, insurance and/or bonds required to do the work.

Demobilization may include the removal of equipment and facilities that were necessary to do the work.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-02: "POLLUTION CONTROL"

2.1 SCOPE

The work shall consist of performing work to control soil erosion, sedimentation, petroleum, dust and smoke from becoming air and/or water pollutants during construction.

2.2 MATERIAL SPECIFICATIONS

All permanent works shall meet the requirements of the applicable Washington Material Specifications. Temporary works which are to be removed may be of a lesser quality.

2.3 EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

In addition to the measures shown on the drawings, erosion and sedimentation shall be controlled at the work site by use of a single or a combination of the following measures:

Staging of Earthwork Activities - The excavation and moving of soil materials shall be scheduled so that the smallest possible areas will be unprotected during construction activities.

Seeding - Seedlings to protect all disturbed areas shall be done in a timely manner in accordance with the methods common to the geographic area.

Mulching - Mulching may be used to provide temporary protection to soil surfaces from erosion.

Diversions - Diversions can be used to divert water away from work areas and/or to collect runoff from work areas for treatment and safe disposition.

Stream Crossings - Culverts or bridges shall be used where equipment is not allowed to ford streams.

Sediment Basins - Sediment basins can be used to collect and store sediment from eroding areas to protect properties and streams down slope from the construction site.

Sediment Filters - Straw bale filters or geotextile sediment fences shall be installed to trap sediment on-site from areas subject to soil erosion. Sediment filters shall be anchored with 2x2 stakes and shall have a minimum burial depth of 6 inches to control erosion under or around them. The sediment filters shall be removed when permanent measures are installed.

Burning - Local and state regulations concerning the burning of brush or slash or disposal of other materials shall be adhered to. Fire prevention measures shall be taken to prevent the start or spreading of fires which result from construction activities.

Dust Control - All public access or haul roads used by the contractor during construction activities project shall be sprinkled or otherwise treated to fully suppress dust.

Staging Equipment - All construction equipment shall be staged in a location and manner to minimize air, soil and water pollution.

Storage of Fuel and Lubricants - All fuel and lubricants shall be stored in containers and areas that are in conformance with the Washington State Department of Ecology and local regulations.

Servicing and Refueling Equipment - All fuel and lubricants used in the servicing of construction equipment shall be done in a manner that avoids spills and over filling. The Washington State Department of Ecology shall be notified immediately of any spill and the operator shall contain the spillage.

Sanitary Facilities - Sanitary facilities such as chemical toilets shall be located to prevent contamination of surface or subsurface water.

2.4 MAINTENANCE, REMOVAL AND RESTORATION

All pollution control measures shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to the original conditions as practicable.

2.5 PERMITS AND REGULATIONS

All pollution control measures shall be consistent with all permits issues for the practice(s) being installed.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-03: "CLEARING"

3.1 SCOPE

The work shall consist of the clearing and disposal of trees, snags, logs, brush, shrubs, stumps, vegetation or other and rubbish from the designated areas.

3.2 REMOVAL

Unless otherwise shown on the drawings, tree stumps and other woody vegetation shall be cut off so that the remains shall not extend more than 12 inches above natural ground surface.

3.3 SALVAGE

Timber to be salvaged shall be cut to planned lengths and hauled to the loading area.

Brush piles for wildlife shall be established as shown on the drawings.

3.4 DISPOSAL

Where brush piles for wildlife are not specified on the drawings, cleared materials shall be disposed of by burning or burying at selected locations approved by the landowner and the technical representative in accordance with all local, state and federal regulations. Materials to be buried shall be placed at least 2 feet below the surrounding ground line and have a minimum of 2 feet of cover with the finished surface free of depressions and graded to drain.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-06: "STRIPPING"

6.1 SCOPE

The work shall consist of removing vegetation, topsoil and other undesirable materials from borrow areas and foundations for structures and earth fills.

6.2 GENERAL

The stripping shall extend to a depth as shown on the drawings. Excavated earth material deemed satisfactory by the technical representative may be used for earth fill. All waste material shall be disposed of in areas shown on the drawings or as approved by the landowner and technical representative. Stripped material suitable for topsoil shall be stockpiled and spread over disturbed areas as shown on the drawings or as approved by the technical representative.

6.3 STRIPPING FOUNDATIONS

All foundations for structures and/or earthfill shall be stripped of vegetation, roots and unconsolidated soil. The technical representative shall approve all stripped foundations prior to placement of earth fill and/or structures. The stripped surfaces shall be reasonably smooth and free of unconsolidated or loose soil. Unless otherwise shown on the drawings, the side slopes for foundations shall be 1:1, or flatter.

6.4 STRIPPING BORROW AREAS

The areas from which borrow is to be taken shall be stripped of vegetation, roots and other unsuitable material to a sufficient depth to expose material suitable for the earth fill.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-13: "EXCAVATION AND BACKFILL OF TRENCHES FOR CONDUITS AND PIPELINES"

13.1 SCOPE

This specification applies when trench excavation is necessary for installation of a conduit and/or pipeline for spillways, irrigation systems, drainage systems, animal waste systems and other installations where liquid is conveyed and discharged in an underground conduit or pipeline.

13.2 EXCAVATION

The bottom width, side slopes, and gradeline of the trench excavation shall be to the dimensions and lines shown on the drawings.

Excavated trenches shall be within state and local laws and regulations for trenching. Trenches shall be supported as necessary to safeguard the work and workers. Trench supports shall prevent sliding or settling of the adjacent ground and avoid damage to improvements. The width of the excavation shall be increased, if necessary, to provide space for sheeting, bracing, shoring, and other supporting installations.

13.3 BACKFILL

- a. The initial backfill shall be select material, placed and compacted around and above the conduit to the specified depth and density, taking care not to displace or damage the conduit or its protective coating.
- b. The final backfill shall be the material from the trench excavation and shall be compacted to the density of the surrounding material.
- c. Backfill material shall contain no frozen soil, sod, brush, roots, or other perishable material.
- d. Rock fragments greater than 3 inches shall not be placed within 2 feet of the pipe.
- e. The minimum depth of cover on all pipelines shall be as shown on the drawings.

13.4 FINAL GRADING

All disturbed areas shall be graded without surface depressions to blend with the surrounding area.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-16: "EARTH FILL, CLASS U"

16.1 SCOPE

The work shall consist of placing of earth fills where compaction other than which results from hauling and placing is not required.

16.2 GENERAL

The fill may contain rocks, woody and vegetative materials, provided they do not cause voids or excessive settlement. Non-organic material is not permitted. Hard objects such as roots, stumps, brush, and rocks shall be buried to a minimum depth of 2 feet below the finished grade.

16.3 FINAL GRADING

The earth fill surface shall be graded, sloped to drain, without surface depressions and blended with the surrounding area.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-21: "DIVERSION"

21.1 SCOPE

The work shall consist of constructing a channel across the slope, with a supporting ridge on the lower side as shown on the drawings, or as staked in the field by the technical representative.

21.2 MATERIAL

The earth material used in constructing the diversion shall be obtained from the diversion channel, designated borrow areas, or other required excavation. The fill matrix shall contain no frozen earth material, rock fragments greater than 4 inches in diameter, sod, brush, or other foreign material.

21.3 CONSTRUCTION

- a. The foundation of all fill sections shall be prepared so that a good bond is obtained between the base and fill material. Heavy sod shall be stripped a minimum 6-inch depth and the area scarified. Existing banks shall be cleared of all debris and sloped to a 1:1 slope or flatter before fill placement. All dead furrows and gullies to be crossed shall be filled and compacted. All old terraces, fence rows, and obstructions that will interfere with the diversion shall be removed. All trees, brush, stumps, and vegetation shall be removed and disposed at sites shown on the drawings or as approved by the technical representative.
- b. Fill material shall be placed in uncompacted layers of 6 inches or less. Each layer shall be compacted by the construction equipment in such a manner that the entire surface of each fill will be traversed by one wheel tread or track of the equipment.
- c. When stated on the drawing, the topsoil shall be removed, stockpiled, and replaced after initial grading.
- d. The top of the constructed ridge shall not be lower at any point than the design elevation plus 20 percent, but not less than 6 inches above the design elevation for settlement.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-41: “REINFORCED CONCRETE”

41.1 SCOPE

The work shall consist of furnishing, forming, placing, finishing, and curing Portland cement concrete. The structures shall be constructed at the location and to the line and grades as shown in the plan.

41.2 MATERIALS

The materials required for reinforced concrete are detailed in material specification MS-201, Concrete Aggregates; MS-202, Portland Cement; MS-203, Concrete; and MS-213, Steel Reinforcement.

41.3 HANDLING AND STORAGE

Materials shall be stored and handled in a manner that will minimize degradation, segregation, contamination or intermixing of materials.

41.4 MIXERS AND MIXING

Mixers shall be capable of thoroughly mixing the concrete ingredients into a uniform mass within the specified mixing time and discharge without segregation. Each mixer or agitator shall bear a manufacturer's rating plate indicating the rated capacity and recommended speeds of rotation, and shall be operated in accordance with the manufacturer's recommendations.

Concrete shall be uniform and thoroughly mixed when placed.

Water in excess of the amount specified in the mix design shall not be permitted. This includes any water added at the site.

41.5 TRUCK-MIXED CONCRETE

When concrete is mixed in a truck mixer loaded to its maximum capacity, the number of revolutions of the drum or blades at mixing speed shall not be less than 70 nor more than 100 RPM.

The resultant concrete mix must produce a dense and durable concrete during curing. The ready-mix concrete shall be mixed and delivered in accordance to ASTM C-94, "Standard Specification for Ready-Mix Concrete".

41.6 SITE PREPARATION

Prior to placement of concrete, the forms, reinforcing steel, and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar, rust or other harmful substances and/or coatings. Rock surfaces shall be cleaned by wire brushing, wet sand-blasting, air water jets or other means satisfactory to the technical representative. Earth surfaces shall be firm and damp before placing concrete. Placement of concrete on mud, dried earth, uncompacted fill or frozen subgrade will not be permitted.

41.7 SUBGRADE PREPARATION

The foundation area shall be cleared of all vegetation, organic material and rocks with a dimension greater than 2 inches. If fill material is required, it shall be placed in horizontal layers with a maximum lift of 4 inches before compaction. The moisture content of the earth fill material shall be controlled so that a firm dense foundation can be achieved. Earth fill sections with a height of 2 feet or greater will be constructed using the compaction requirements of NRCS Construction Specification CS-14, Earth Fill Class A or CS-15, Earth Fill Class S.

41.8 FORMS

Forms shall be wood, plywood, steel or other approved materials and shall be mortar tight. The forms and associated falsework shall be substantial and unyielding conforming to dimensions of the finished grade. Form surfaces shall be smooth and free from holes, dents, sags, or other irregularities. Forms shall be coated with a nonstaining form release agent before being set into place.

All permanently exposed concrete edges shall be chamfered 3/4" unless otherwise indicated on the drawings.

Items to be embedded in concrete shall be positioned accurately and anchored firmly.

Metal ties or anchorages within the forms shall be equipped with cones, she-bolts or other devices that permit their removal without injury to the concrete. Ties designed to break off below the surface of the concrete shall have removable cones.

Steel tying and form construction adjacent to fresh concrete shall not be started until the concrete has cured at least 12 hours.

41.9 STEEL REINFORCEMENT

The steel reinforcement shall be grade 40 deformed steel bars unless otherwise specified on the drawings. The steel shall be securely tied and positioned to prevent movement during the placement of concrete. The reinforcing steel in slabs on grade shall be supported on blocks or

chairs. All blocks shall have a strength equal to or greater than the 28-day compressive strength of the concrete.

The length of splices shall be 30 diameters of the steel bar unless otherwise specified on the drawings. Welded splices are not permitted.

The bends shall be standard bends with the length and radius as specified by the Concrete Reinforcing Steel Institute, CRSI, and/or the Portland Cement Association, PCA.

41.10 CONVEYING

The maximum length of time between introduction of the cement to the aggregates and placement of the concrete in the forms shall not exceed 1-1/2 hours for concrete temperatures below 85°F or 45 minutes for concrete temperatures above 85°F.

Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

41.11 PLACING

Concrete shall not be placed until the subgrade, forms, and steel reinforcement have been inspected and approved by the technical representative.

The person responsible for construction shall have all equipment and materials required for proper consolidation and curing, available at the site ready for use before placement of concrete begins.

The technical representative shall be notified a minimum of 24 hours prior to placement to inspect the reinforcing steel, forms, subgrade, curing preparation, vibrating equipment and plans for placement.

The depositing of concrete shall be regulated so that concrete may be consolidated with a minimum of lateral movement, segregation, laitance, or honey-combing. Hoppers and chutes shall be used as necessary to prevent segregation and the splashing to mortar on the forms and reinforcing steel above the placing level. Temporary stays and braces can be removed when no longer needed.

41.12 LAYERS

Slab concrete shall be placed to design thickness in one continuous layer. Formed concrete in walls and columns shall be placed in horizontal layers not to exceed 20 inches.

Successive layers shall be placed at a fast enough rate to prevent the formation of “cold joints”. If a successive layer cannot be placed in a timely manner, a standard type construction joint shall be used between layers.

41.13 CONSOLIDATION

Each concrete layer shall be completely consolidated by spading, hand tamping, or mechanical

vibrators as necessary to ensure smooth, dense concrete along form surfaces, in corners and around embedded items without segregation or laitance. Vibration shall extend into the previously placed layers of fresh concrete and laterally to ensure effective bond between layers.

The use of vibrators to transport concrete in the forms shall not be permitted.

Vibration shall not be applied directly to the reinforcement steel, forms, or to concrete that has begun to set.

41.14 CONSTRUCTION JOINTS

Construction joints shall be made at locations with the dimensions shown on the drawings.

Surfaces of construction joints shall be cleansed of all unsatisfactory concrete, laitance, coatings, stains, or debris by washing and scrubbing with a wire brush or wire broom and kept moist for at least one hour prior to placement of new concrete.

In addition, the top surfaces of walls and columns shall be immediately and carefully protected from any condition that might adversely affect curing of concrete.

Where lap joints are used on horizontal slabs, the width on each side of the joint shall not be less than 6 inches and the depth shall be equal to one-half the slab thickness.

41.15 EXPANSION AND CONTRACTION JOINTS

Expansion and contraction joints shall be made only at locations shown on the drawings. Exposed edges on these joints shall be carefully tooled, chamfered and free of mortar and concrete spillage.

Preformed expansion joint filler shall be held firmly in the correct position as the concrete is placed and shall be left exposed for its full length with clean and true edges.

41.16 REMOVAL OF FORMS

Forms shall not be removed before the expiration of the following minimum time intervals after placement of the concrete, exclusive of days when the minimum temperature of air adjacent to the concrete is below 40 degrees Fahrenheit.

<u>Element</u>	<u>Time</u>
Beams, arches - supporting forms and shoring	14 days
Conduits, deck slabs - supporting (inside forms) and shoring	7 days
Conduits, (outside forms), side of beams, small structures	24 hours
Columns, walls, spillway riser - with side or vertical load	7 days
Concrete supporting not more than 20 feet of wall in place above it	24 hours

Age of stripped concrete shall be at least 7 days before any load is applied other than the weight of forms, scaffolds and succeeding lifts.

41.17 FINISHING FORMED SURFACES

The following shall be done immediately after removal of forms.

- a. Removal of all fins and other surface irregularities which affect appearance or function.
- b. Removal all form bolts and ties to the depth of their cone.
- c. All cavities, holes and honey-combing shall be thoroughly cleaned, wetted and filled with dry pack mortar.
 1. The area to be patched shall be kept damp for three hours immediately prior to patching.
 2. The patching mortar shall be one part cement to three parts sand passing the number 16 sieve.
- d. The patching mortar shall be compacted to form a dense, well-bonded unit that is free from shrinkage cracks.
- e. All patched areas shall be cured as specified in paragraph 41.19.

41.18 FINISHING UNFORMED SURFACES

All exposed surfaces of the concrete shall be accurately screened to grade and then wood float finished, except slip form lining which is finished by travel of the form.

All exposed concrete edges and joints shall be chamfered or finished with molding tools.

Excessive floating or toweling while the concrete is soft shall not be permitted. The addition of dry cement or water to the surface of the screened concrete shall not be permitted.

41.19 CURING

Concrete shall be prevented from drying for a period of at least 7 days after placement.

Exposed surfaces shall be kept continuously moist for the entire period or until curing compound is applied. Formed surfaces shall be kept wet until patching or repairs are made. Curing compound shall not be used on areas that are to be bonded to other concrete or mortar. Curing compound when used shall be sprayed on the moist concrete structure as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs, and finishing of that surface are completed.

Curing compound shall meet the minimum requirements of ASTM C-309, Type 2, unless otherwise specified on the drawing.

The curing compound shall be thoroughly mixed immediately before applying, and shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface. It shall form a uniform, continuous, adherent film over the entire surface.

Curing compound shall not be applied to surfaces requiring bond with concrete remaining to be placed, construction joints, reinforcing steel, and embedded items. These areas shall be wet cured.

Concrete surfaces subjected to heavy rainfall, running water and/or other moisture damage within 3 hours after curing compound has been applied shall receive a second application.

41.20 REMOVAL OR REPAIR

Concrete that is honeycombed, damaged, or otherwise defective, shall be removed or repaired and approved by the technical representative.

41.21 CONCRETING IN HOT WEATHER

The temperature of the concrete shall be less than 90°F during mixing, conveying and placing. Concrete surfaces exposed to the air shall be kept continuously wet for the first 24 hours of the curing period, or until curing compound is applied. White pigmented coloring compound shall be used when the air temperature exceeds 90°F.

41.22 CONCRETING IN COLD WEATHER

- a. Prior to placement of concrete, all ice, snow and frost shall be completely removed from all surfaces to be in contact with the concrete.
- b. The temperature of the concrete at the time of placement shall not be less than 50°F, nor more than 90°F. Heated water of 140°F, or less may be used when cement is added to the mix.
- c. The use of antifreeze or accelerator compounds is not allowed.
- d. When the daily minimum ambient air temperature at the site is less than 40°F, the concrete shall be protected for a minimum of three days following placement with insulated blankets or housing and heating.

41.23 DELIVERY TICKETS

The delivery tickets for the mix delivered to the site shall identify all ingredients by weight except water and admixtures which may be measured by volume.

Delivery Tickets for each load of Ready-Mix concrete shall be furnished to the technical representative.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-42: “REINFORCED CONCRETE FOR MINOR STRUCTURES”

42.1 SCOPE

The work shall consist of proportioning, forming, placing, finishing, and curing Portland cement concrete for minor structures. A minor structure is defined as one of low hazard where strength control is not critical for function and safety.

The structures shall be constructed to the line and grades as shown in the plan.

42.2 MATERIALS

Cement shall be Type II or Type IIA Portland cement. Cement that is partially hydrated or otherwise damaged shall not be used.

Concrete aggregate is defined in Material Specification, MS-201. Fine aggregate shall be between 35 and 45 percent and coarse aggregate shall be between 55 and 65 percent of the total aggregate volume by weight. The aggregate shall not contain more than 1 percent clay lumps and a total of 4 percent of material smaller than the 200 sieve.

Maximum size of the coarse aggregate shall not exceed:

- 1 inch - Concrete thickness of 4 inches or less
- 1-1/2 inch - Concrete thickness of 4 inches or more

Reinforcing steel shall be woven wire fabric or deformed steel bars as described in Material Specification MS 213, Steel Reinforcement.

Water shall be of a potable quality free from harmful chemicals.

42.3 DESIGN OF CONCRETE MIX

The person in charge of construction shall be responsible for designing a high quality concrete mix conforming to this specification. The technical representative prior to placement shall approve the concrete mix.

The mix shall contain no more than 6 gallons of water per 94 pound bag of cement, and at least 6 bags of cement per cubic yard of concrete.

The air entrainment shall be between 4 and 7 percent by volume, and the slump shall be between 3 and 5 inches.

The following table is a guide for developing a satisfactory mix intended to produce approximately 3000 PSI compressive strength for air entrained concrete.

Max. Size Aggregate Inches	Gal. Water per sack of cement	Cement per CY Sacks	Pounds Fine Aggregate per Sack Cement	Pounds Coarse Aggregate per Sack Cement
1	6.0	6.0	190-200	300-310
1-1/2	6.0	6.0	180-190	330-340

Measurement of materials shall be by weight where suitable scales are available. Volume measurements may be used provided volume-weight relationships are carefully determined. Admixtures including calcium chloride or antifreeze compounds shall not be used.

42.4 FORMS

Forms shall be made of wood, plywood, or metal. The form surfaces are to be clean and free from holes and other irregularities. The type, size, shape, quality and strength of forms will be subject to approval by the technical representative. The forms shall be moist when the concrete is placed. Forms shall be mortar tight and non-yielding. All form work shall be in place for at least 24 hours after concrete placement.

Metal ties that break off below the surface of the concrete shall have removable cones that permit their removal without damage to the concrete.

42.5 REINFORCING STEEL

The reinforcement shall be the size and grade shown on the drawings and securely fastened in place to prevent movement during placement of the concrete. The reinforcing steel in slabs on grade shall be supported on blocks or chairs. all blocks shall have a strength equal to or greater than the 28-day compressive strength of the concrete.

42.6 PLACING CONCRETE

The technical representative shall be notified a minimum of 24 hours prior to the placement of concrete to inspect the reinforcing steel, forms, subgrade, preparation for curing, and vibrating equipment.

Concrete shall be placed in final position within one and one-half hours after mixing with cement. Concrete may be consolidated by either hand spading and tamping or mechanical vibration.

All concrete placed on earth shall be placed on clean, damp surface, free of frost, ice, or running water.

Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

Uniformed exposed surfaces in the completed work shall have a wood float or broomed finish. Concrete edges shall be chamfered 3/4 inch or finished with molding tools.

42.7 CURING CONCRETE

The air temperature shall be between 40 and 90°F. During the curing period, the concrete shall be kept moist or covered for at least 7 days after placement.

An approved curing compound may be used provided it is applied by pressure sprayer at a uniform rate of not less than 150 sq. ft per gallon.

42.8 DEFECTIVE CONCRETE

Honeycombed areas and other voids in concrete will be promptly repaired with mortar patching immediately upon discovery.

Concrete subjected to damage and/or other violations of this specification will be rejected.

42.9 DELIVERY TICKETS

The delivery tickets for the mix delivered to the site shall identify all ingredients by weight except water and admixtures that may be measured by volume.

Delivery Tickets for each load of Ready-Mix concrete shall be furnished to the technical representative.

42.10 ACCEPTANCE

The acceptance of concrete made under this specification will depend upon adherence to the procedures set forth herein and the appearance of the finished structure.

UNITED STATES DEPARTMENT OF AGRICULTURE
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CONSTRUCTION SPECIFICATION
CS-52: “CONDUITS AND PIPELINES”

52.1 SCOPE

The work shall consist of furnishing and placing circular, arched or elliptical pipe and necessary appurtenances.

52.2 MATERIALS

Pipe and fittings shall conform to the requirements of the applicable NRCS Material Specifications for the type and grade of material being used. Where connecting bands are used, they shall withstand the internal pressure of the installation without leakage.

52.3 MATERIAL HANDLING

The material shall be delivered and handled in a manner that will not damage or reduce its strength or damage the coating. All special handling requirements of the manufacturer shall be adhered to. When handling and placing coated or plastic pipe, care shall be taken to prevent damage resulting from metal surfaces or rocks.

52.4 LAYING AND BEDDING

Unless otherwise specified, the pipe shall be installed in accordance with the manufacturer's recommendations. The pipe shall be laid with bells or the outside laps of circumferential joints pointing upstream.

Perforated pipe shall be laid with the perforations down and oriented symmetrically about a vertical center line. Perforations shall be clear of any obstructions at the time the pipe is laid.

Elliptical pipe and pipe with elliptical or quadrant reinforcement shall be laid so that the vertical axis, as indicated by markings on the pipe, is in the vertical position.

During backfilling the pipe shall be sufficiently loaded around the sides to prevent its separation from the bedding. The pipe shall be laid so the pipeline barrel is uniformly supported, which may require special excavation for bells and/or couplings.

52.5 STRUTTING

When required, struts or horizontal support ties shall be installed as specified on the drawings. Struts and ties shall remain in place until the backfill has been placed to a height of 5 feet above the top of the pipe, or has been completed if the finished height is less.

52.6 JOINTS

Pipe joints shall conform to the details prescribed by the manufacturer and shown on the drawings. Pipe joints shall be sound and watertight at the pressure specified on the drawings. The joints shall be made in a manner so that the inside of the pipe is free from obstructions.

52.7 COATINGS

All coatings shall be inspected after final placement and just prior to backfill. Any pinholes and/or damage shall be repaired with a material that is recommended by the manufacturer.

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CONSTRUCTION SPECIFICATION
CS-57: "ROCK SURFACING"

57.1 SCOPE

The work shall consist of furnishing and installing loose rock surfacing at the locations shown on the drawings.

57.2 SITE PREPARATION

The site shall be prepared by removing all vegetative matter to minimum depth of 6 inches from the surface. When specified, a drainage system shall be installed.

57.3 FOUNDATION

The foundation shall be firm and be able to support the design loads without consolidation or yielding. Where the foundation material is to be removed and replaced, the material shall be compacted to the density specified on the drawings.

57.4 INSTALLATION

The rock surfacing shall be of the material, gradation and be installed to the dimensions shown on the drawings.

UNITED STATES DEPARTMENT OF AGRICULTURE
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CONSTRUCTION SPECIFICATION

CS-62: "PUMP"

62.1 SCOPE

The work shall consist of installing the pump, motor and power connections as per the manufacturer's instructions.

62.2 MATERIALS

The materials used in the manufacturer of the pump shall be compatible. Special material requirements, where applicable shall be shown on the drawings.

62.3 ELECTRICAL REQUIREMENTS

All electrical service, installation and connections shall be in compliance with the National Electrical Code (NEC) and all local codes or regulations for installation of electrical equipment. All electrical equipment including electrical motors and panels shall be grounded.

62.4 PERFORMANCE

The pump shall be within the rated performance of the manufacturer. The performance shall include; suction head, discharge volume and pressure. The drawings shall specify the discharge and pressure rating at the location of the pump station. A copy of the manufacturer's performance curve for the pump shall be submitted to the technical representative.

62.5 FOUNDATION

The pump platform or foundation shall be of the materials and to the dimensions shown on the drawings. The anchor bolts shall be spaced to securely hold the pumping plant in place without excessive vibration.

62.6 PIPE CONNECTIONS

The inlet and discharge connection shall be sized for pump and be installed to minimize losses through bends, valves and transitions. The pumping schematic shall be reviewed by the technical representative prior to installation.

62.7 POWER SOURCES

The power sources may be internal combustion engines, electrical motors or power takeoffs. The shields or guard from the drive units shall be in place and properly secured. All electrical operated units shall be properly grounded.

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CONSTRUCTION SPECIFICATION
CS-65: "DRAINAGE FILTER"

65.1 SCOPE

The work shall consist of furnishing and installing drainage filter of the location and dimensions shown on the drawings.

65.2 SITE PREPARATION

The site shall be prepared by removing all material that will restrict or reduce the ability of the drainage filter to function.

65.3 INSTALLATION

- (1) Fabric Filters: The foundation shall be unyielding to prevent forces that will elongate, tear or puncture the fabric. All splices shall overlap a minimum of 6 inches unless otherwise shown on the drawings.
- (2) Aggregate Filters: The methods of installation shall prevent segregation and any single layer placement shall not exceed 12 inches.

UNITED STATES DEPARTMENT OF AGRICULTURE
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CONSTRUCTION SPECIFICATION
CS-67: "CONSTRUCTION FABRICS"

67.1 SCOPE

This construction specification is applicable for furnishing and installation of woven and non-woven construction fabrics to the lines and grades as shown in the drawings.

67.2 MATERIALS

The materials will conform to the type specified on the drawings and shall meet or exceed material specification, MS-209, for the type of fabric to be installed. The bedding and covering shall be of the material quality and depth as shown on the drawing.

67.3 SITE PREPARATION

The final grading of the earthwork shall be completed before installation. The site shall be free from depressions, ridges and rocks greater than 1 inch. The area shall be free from all sharp objects and foreign material such as wood, wire and metal. Bedding shall be in place prior to the installation of fabric material.

67.4 INSTALLATION

If bedding is shown on the drawing, it shall be installed prior to placement of the fabric. In channels, the fabric shall be installed in the direction of flow. On slopes, the fabric may be installed across the slope or perpendicular to the slope. The ends and edges shall be overlapped or shingled a minimum of 4 inches in the direction of flow and anchored. The fabric shall be covered, seeded and/or fertilized as shown on the drawings.

67.5 ANCHORING

Unless otherwise shown on the drawings, the upper and lower ends of fabric on slopes that exceed 5:1 shall be anchored by burial in a twelve-inch deep trench and covered and/or stapled. If the fabric is not covered, it shall be secured by stapling in a diamond pattern with a minimum of two staples per square yard which includes all edges and ends stapled at a maximum spacing of four foot on center.

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CONSTRUCTION SPECIFICATION
CS-70: "CONTRACTOR QUALITY CONTROL"

70.1 SCOPE

The work consists of developing, implementing, and maintaining a quality control system to ensure that the specified quality is achieved for all materials and work performed.

70.2 EQUIPMENT AND MATERIALS

Equipment and material used for quality control shall be of the quality and condition required to meet the test specifications. Testing equipment shall be properly adjusted and calibrated at the start of operations and the calibration maintained at the frequency specified. Records of equipment calibration tests shall be available to the technical representative at all times. Equipment shall be operated and maintained by qualified operators as prescribed in the manufacturer's operating instructions.

All equipment and materials shall be handled and operated in a safe and proper manner and shall comply with all applicable regulations pertaining to their use, operation, handling, storage, and transportation.

70.3 QUALITY CONTROL SYSTEM

The contractor shall develop, implement, and maintain a system adequate to achieve the specified quality of all work performed, material incorporated, and equipment furnished before use. The system established shall be documented in a written plan developed by the contractor. The system activities shall include the material testing and inspection needed to verify the adequacy of completed work and procedures to be followed when corrective action is required. Daily records to substantiate the conduct of the system shall be maintained by the contractor.

The quality control system shall include, but not be limited to, a rigorous examination of construction material, processes, and operation, including testing of material and examination of manufacturer's certifications as required, to verify that work meets contract requirements and is performed in a competent manner.

70.4 QUALITY CONTROL PERSONNEL

Quality control activities shall be accomplished by competent personnel who are separate and apart from line supervision and who report directly to management. A competent person is one who is experienced and capable of identifying, evaluating, and documenting that material and processes being used will result in work that complies with the contract, and who has authorization to take prompt action to remove, replace, or correct such work or products not in

compliance. Offsite testing laboratories shall be certified or inspected by a nationally recognized entity. The contractor shall make available to the technical representative the names, qualifications, authorities, certifications, and availability of the competent personnel who will perform the quality control activities.

70.5 RECORDS

The contractor's quality control records shall document both acceptable and deficient features of the work and corrective actions taken. All records shall be on forms approved by the contracting officer, be legible, and be dated and signed by the competent person creating the record.

Records shall include:

- a. Documentation of shop drawings including date submitted to and date approved by the contracting officer, results of examinations, any need for changes or modifications, manufacturer's recommendations and certifications, if any, and signature of the authorized examiner.
- b. Documentation of material delivered including quantity, storage location, and results of quality control examinations and tests.
- c. Type, number, date, time, and name of individual performing quality control activities.
- d. The material or item inspected and tested, the location and extent of such material or item, and a description of conditions observed and test results obtained during the quality control activity.
- e. The determination that the material or item met the contract provisions and documentation that the engineer was notified.
- f. For deficient work, the nature of the defects, specifications not met, corrective action taken, and results of quality control activities on the corrected material or item.

70.6 REPORTING RESULTS

The results of contractor quality control inspections and tests shall be made available to the technical representative upon request.

70.7 ACCESS

The technical representative shall be given free access to all testing equipment, facilities, sites, and related records.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

CS-71: "Roof Gutters and Downspouts"

71.1 SCOPE

The work shall consist of furnishing and installation of roof gutters and downspouts on existing buildings as shown on the drawings.

71.2 MATERIAL

Roof gutters and downspouts may be made of aluminum or galvanized steel. Aluminum gutters shall have a minimum nominal thickness of 0.027 inches. Aluminum downspouts shall have a minimum nominal thickness of 0.020 inches. Galvanized steel gutters and downspouts shall be at least 28 gage. Dissimilar metals shall not be in contact with each other.

Downspouts may also be made of plastic pipe. Plastic downspouts shall be Schedule 40 PVC, ASTM D-1785, and painted if exposed to direct sunlight.

No used materials shall be installed in this project.

71.3 SUPPORTS

Gutters shall be supported at a maximum spacing of 48 inches for galvanized steel or 32 inches for aluminum.

Gutters supported by spikes and ferrules shall be installed only where the existing rafters and fascia boards are sound and free from rotten wood.

Unsound fascia boards shall be replaced. If unsound wood exists in existing rafters, gussets made from new lumber may be attached to the existing rafters for supporting new fascia boards and the gutters.

Gutters shall be attached by means of hangers if sufficient backing is not available for the use of spikes and ferrules.

Downspouts shall be securely fastened at the top and bottom with intermediate supports that are a maximum of 10 feet apart.

71.4 INSTALLATION

Gutters shall be installed with the minimum fall specified on the drawings. If the minimum fall is not specified on the drawings, gutters shall be installed with sufficient slope so they drain to the downspouts.

Gutters shall have the minimum cross section dimensions as shown on the drawings.

The opening in the gutter into the downspout shall equal the minimum downspout size shown on the drawings.

Where applicable, the connection between the downspouts and underground outlets will prevent contaminated surface water from entering outlet.

71.5 PROTECTION

Gutters and downspouts shall be installed so that they are protected from damage by livestock and equipment.



OPERATION AND MAINTENANCE PLAN

“DRAINAGE DITCH”Landowner/Operator: Cherry Valley Dairy Date: 02/2022Address: 26808 Cherry Valley Rd
Duvall, WA 98019Legal description of practice location: SEC 12 T 26N R 06E**OVERVIEW**

A properly operated and maintained drainage ditch is an asset to your farm. This drainage ditch was designed and installed to remove and safely convey runoff water. The performance life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Maintain cross section and gradient by controlling channel erosion and sloughing.
- Immediately remove silt deposits, obstructions, or blockage of the drainage system that includes channel spillways, trash racks, inlets, or outlets.
- Control the growth of vegetative materials by the use of herbicides and/or mowing. Avoid direct drainage water contact with herbicides.
- Remove all foreign debris that hinders system operation.
- Install and maintain fences to control livestock access when adjacent fields are used for pasture.
- Replace weathered or displaced rock riprap to constructed grade.
- Immediately repair any vandalism, vehicular, or livestock damage.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE



OPERATION AND MAINTENANCE PLAN

“MANURE TRANSFER”

Landowner/Operator: Cherry Valley Dairy **Date:** 02/2022

Address: 26808 Cherry Valley Rd
Duvall, WA 98019

Legal description of practice location: SEC 12 T 26N R 06E

OVERVIEW

A properly operated and maintained waste transfer system is an asset to your farm. This waste transfer system is designed and installed to move wastes from the collection area to storage, treatment or disposal. The performance life of this installation can be assured and will be increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Maintain all pumps, agitators, piping, valves, and electrical and mechanical equipment in good operating condition following the manufacture's recommendations.
- Maintain grounding rods and wiring of all electrical equipment in good working condition.
- Maintain all safety shields on pumps, motors, and electrical or mechanical equipment.
- All fencing railings and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.
- Immediately repair any vandalism, vehicular or livestock damage to the system.
- It is advisable to flush the system with clean water after each use.
- Drain all system components in areas that are subject to freezing. If parts of the system cannot be drained, a non-corrosive anti-freeze solution shall be added
- Repair spalls, cracks and weathered areas in concrete surfaces.
- Repair or replace rusted or damaged metal and paint,
- Apply insecticides for insect control as per the manufactures recommendations and precautions, as needed.
- Operate system in a manner that minimizes odor and air drift

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

[illegible]

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.

OPERATION AND MAINTENANCE PLAN

“PUMPING PLANT FOR WATER CONTROL”

Landowner/Operator: Cherry Valley Dairy **Date:** 02/2022

Address: 26808 Cherry Valley Rd
Duvall, WA 98019

Legal description of practice location: SEC 12 T 26N R 06E

OVERVIEW

A properly operated and maintained pumping plant is an asset to your farm. This pumping plant was designed and installed to convey water in a pipeline where it can be distributed for use. The performance life of the structure can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Maintain all pumps, agitators, piping, valves and other electrical and mechanical equipment in good operating condition following the manufacture's recommendations.
- Maintain grounding rods and wiring of all electrical equipment in good working condition.
- Maintain all safety shields on pumps, motors, or other electrical or mechanical equipment.
- Check all pump bases and mountings for durability and ability to hold the pump in place without vibration, repair when necessary.
- Replace, repack or tighten the seals when leakage is in excess of manufacturer's recommendations.
- Drain all pumps and piping including valves that are subject to freezing. If parts of the system cannot be drained, a noncorrosive anti-freeze solution shall be added.
- Replace weathered or displaced rock riprap to constructed grade.
- Do not allow the operation of any equipment that exceeds the design limit on or within twenty feet of the structure.
- Maintain surface drainage around the pumping plant to avoid ponding of water.
- Immediately repair any vandalism, vehicular or livestock damage to the structure, earthen areas surrounding the structure, or any appurtenances.

- Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their-activity.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.

OPERATION AND MAINTENANCE PLAN

“ROOF RUNOFF MANAGEMENT”

Landowner/Operator: Cherry Valley Dairy **Date:** 02/2022

Address: 26808 Cherry Valley Rd
Duvall, WA 98019

Legal description of practice location: SEC 12 T 26N R 06E

OVERVIEW

A properly operated and maintained roof runoff management system is an asset to your farm. This system was designed and installed to divert roof runoff water before becoming in contact with agriculture wastes. The performance life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Maintain all gutters and downspouts free from foreign material that reduces their ability to function.
- Maintain all fasteners to securely hold all gutters and downspouts in place.
- Maintain all underground conveyance lines free from debris and obstructions.
- Maintain all screens and strainers in place and in good working condition.
- Maintain all gutters and downspouts in good working condition and promptly repair if damaged.
- Remove any trees or branches that deposit debris and reduce the capacity of the system.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE



OPERATION AND MAINTENANCE PLAN

“UNDERGROUND OUTLET”

Landowner/Operator: Cherry Valley Dairy **Date:** 02/2022

Address: 26808 Cherry Valley Rd
Duvall, WA 98019

Legal description of practice location: SEC 12 T 26N R 06E

OVERVIEW

A properly operated and maintained underground outlet for water is an asset to your farm. This outlet was designed and installed to convey water in a pipeline where it can be released without causing erosion. The performance life of the practice can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Check all above ground connections, valves, gates, trash racks, screens, rodent guards, inlets and outlets and repair, if needed, to make sure they are functioning properly.
- Maintain design depth of cover on all pipelines and structures.
- Avoid operation of tillage and subsoiling equipment that could damage any component of the system
- Remove all foreign debris that hinders system operation.
- Limit traffic over pipeline to designated sections that were designed for traffic loads.
- Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity.
- Immediately repair any vandalism, vehicular or livestock damage.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

[illegible]

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.





















King Conservation District Board of Supervisors Meeting 07/11/2022**Agenda Action Briefing/Report AI 22-0 56****SUBJECT:**

Review for Approval KCD Landowner Incentive Program cost-share application from Austin Sullivan, for Buffer Fence, in the amount of \$27,405.00.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$154,829.16
Current Request	\$27,405.00
Balance Remaining	\$127,424.16

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

Austin Sullivan owns horse boarding facility in Enumclaw. The property is approximately 20 acres and a creek which is a tributary of the White River runs through the pastures and farmstead. The tributary flows seasonally and dries out in the late spring and summer. Currently part of the creek is fenced but not at the recommended distance from the creek, and part of the creek is unfenced. There is potential for sediments and nutrients and pathogens to get into the creek from horse access. The tributary is listed on the Department of Ecology's 303d list of impaired waters for low pH and seasonally low dissolved oxygen. The White River is listed for high bacteria levels.

This project will build approximately 2,810 feet of fencing along both sides of the creek. Fence shall be installed at 25 feet away from the high-water mark.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Austin Sullivan, for a Buffer Fence in the amount of \$27,405.00.

MOTION

_____ Moved, _____ Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Austin Sullivan, for Buffer Fence, in the amount of \$27,405.00.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Dallas Sullivan		Farm/Business Name:	
Mailing Address: 42012 192nd PI Enumclaw, WA 98022		Project Address: 42012 192nd PI Enumclaw, WA 98022	
Phone (home):		Phone (work/mobile): 425-417-8855	
Email Address: forthickory@yahoo.com		KCD Staff: Mirro	
Parcel #(s): 182006-9073 & -9066	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 19.9	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Buffer Fencing
Project Completion Date (month and year): 8/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The farm is a horse boarding facility. A tributary of the White River runs through the the pastures and farmstead. It flows seasonally and it dries out in the late spring and summer. Part of the creek is fenced and part in not. Livestock have access to creek in certain areas. There is potential for sediments, nutrients and pathogens to get into creek. The tributary is listed on the Department of Ecology's 303d list of impaired waters for low pH and seasonally low dissolved oxygen. The White River is listed for high bacteria.</p>
<p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>Plan is to build about 2,810 feet of fencing along the both sides of the creek. Fence shall be installed at least 25' away from the high water mark. Fencing in the crossing area will be set as far away from creek as possible. The north section and crossing section of the fence will be 3 rail fence, build with pressure treated 4" x 6" posts and pressure treated 2"x6" rails.</p> <p>The south side will be non climb fence with a top rail, with 6" round pressure treated round posts and a 2"x6" pressure treated top rail.</p> <p>Please Note: Due to budget, north side might same as as south side) This will be determine after LIP award, while Dallas is getting quotes for materials.</p>
<p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>Fence will be monitored monthly and repaired as needed.</p>

Permits <i>(List all permits required to complete this project):</i> No
Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

- A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☒ Yes ☐ No

If yes, please list contract number and BMP below:

2016-74 Buffer Fence & 2016-75 Cross Fence

- B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☒ Yes ☐ No

Please describe below:

1. King County Cost-share

Please list practices and date installed below:

Landowner is looking to get additional funding from King County for this fence project.

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant's statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

- ☒ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☐ A. I understand the lifetime of the BMP is _____ years.
- ☐ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☐ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I agree to ensure that all applicable local, state, and federal permits are obtained for installation of the BMP for which funds are requested. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon installing the BMP to the minimum standard provided by KCD, and that KCD will verify standard compliance. Furthermore, I understand that changes to the installation details (attached *Job Sheet and Map*) must be approved through a *Scope of Work Revision Process*. Unapproved changes will not be eligible for reimbursement. _____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.
_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney’s fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

- I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)
- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
 - b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
 - c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
 - d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
 - e. I deny KCD staff access to my property to verify BMP installation and maintenance.

- I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)
- a. I will select a visible location on my property for display of the sign and will install it.
 - b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
 - c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Dallas Sullivan

Signature of applicant	Date	Signature of Landowner (if applicant if Lessee)	Date
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FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)	Date	
Approved for Funding (KCD Management)	Date	LIP ID:



Landowner Incentive Program

Applicant Information

Cooperator:

Budget Items	Units	
Buffer Fence	2,610.00	\$36,540
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$36,540

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$
Units	Linear Feet	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WCA)		\$75
Buffer Fencing	X	\$
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 1.00	0.5	\$ 0.50	Ac.
Aquatic Area Buffer	project	\$ 36,000.00	0.9	\$ 32,400.00	AUE
Buffer Fencing	ft	\$ 14.00	0.75	\$ 10.50	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 50,000.00	0.5	\$ 25,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 40,000.00	0.75	\$ 30,000.00	Project
Cover Crops	acre	\$ 200.00	0.9	\$ 180.00	acre
Cross Fencing	ft	\$ 7.00	0.5	\$ 3.50	
Forest Health Management	project	\$ 30,000.00	0.75	\$ 22,500.00	
Heavy Use Area Protection	AUE	\$ 1,900.00	0.5	\$ 950.00	
Pasture & Hay Planting	acre	\$ 400.00	0.5	\$ 200.00	
Roof Runoff Management	ft	\$ 11.00	0.5	\$ 5.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 25.00	0.5	\$ 12.50	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 200.00	0.75	\$ 150.00	
Watering Facility	project	\$ 50,000.00	0.5	\$ 25,000.00	



Cooperator: Sullivan	Lifetime of Practice: 20 years
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Purpose		
<input type="checkbox"/> Divide pasture for rotational grazing.	<input checked="" type="checkbox"/> Fence livestock out of a riparian area.	<input type="checkbox"/> Perimeter fencing.
<input type="checkbox"/> Heavy use area fence.	<input type="checkbox"/> Animal trail fencing.	

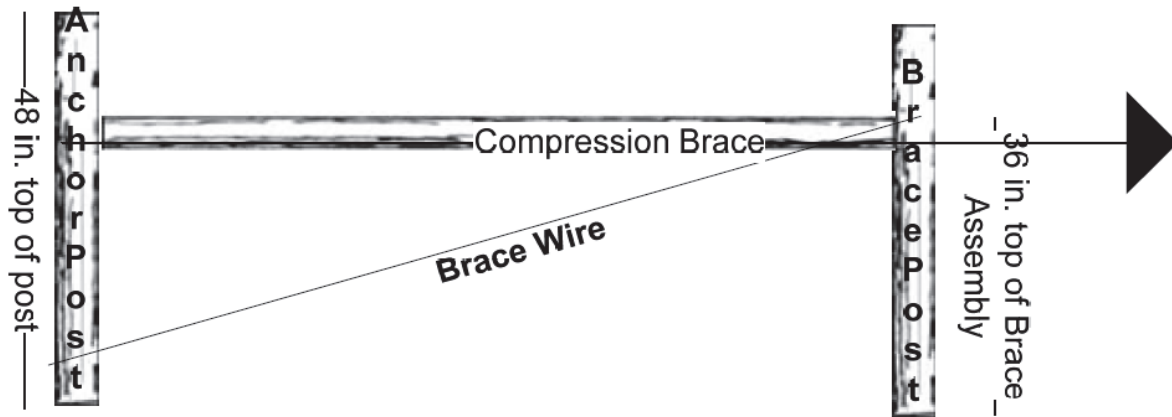
Type of fencing material to be used <i>[please include animal type(s)]</i>
About 1310 feet of 3-rail fence. About 1300 feet of no-climb fence with a top tail. – Horses Please note: Landowner might install all 2610 feet of fence as no-climb due to budget.

Length of Fence
Buffer: 2610 ft

Operation and Maintenance
<ul style="list-style-type: none">• Regularly inspect fences for damage and natural wear as part of an on-going management system.• Maintenance and repairs will be performed as needed to facilitate the intended use of the installed fence.• Fence repairs should be made with materials that equal or exceed the quality of the original materials.• Electric fences need to be inspected periodically to remove grasses and tree limbs that are touching the wire.

Additional Specifications and Notes:
<p><i>Note: LIP fences must be constructed to a 20-year lifetime standard. KCD will require maintenance inspections for the 5-year lifespan of the Pasture and Forage Health Management practice.</i></p> <p>H-Brace</p> <p>H-Brace shall be constructed on segment ends, locations to support gates and corners with angles larger than 20°. Angles between 20° and 60° require a 4-post, double H-brace that does not share a common post. Corners with angles over 60° can use a 3-post double H-Brace. H-brace anchor and brace posts shall be treated wood, minimum 5" to 6" diameter, 8' long, and set 3' into the ground. Concrete is not required. Tamp to compact backfill soil around post in 4" lifts. Compression post shall be treated wood post, minimum 4" to 5" diameter and at least 8' long. Connect via brace pin or 12" galvanized nail. It is recommended not to notch wood, as this reduces structural integrity. Brace wire shall be two loops of 9-gauge smooth wire or 12.5-gauge high-tensile wire. Twist brace wire with twitch stick or use</p>

line strainer or L-shape joint clamp to add tension to H-brace. Wire shall be installed from the bottom of the anchor post to the top of the brace post.



Woven Wire

Inline posts shall be treated wood posts, minimum 3.5" diameter, at least 6' long and set a minimum of 24" deep into the ground. Standard T-posts may be used as line posts; T-posts must be at least 1.25 pounds per foot exclusive of anchor plates, a minimum of 5.5' tall, and set 18" deep; T-posts must be galvanized or painted. Posts shall be spaced a maximum of 15' apart. If metal posts are used, substitute a minimum 3.5" diameter treated wood posts every 50' to 75'. For long runs of fence, install H-braces every 330'. Follow details in fence standard for stapling of wire into post. See standard for more details about H-braces.

Top and bottom wires should be 10 gauge, with 12.5 gauge intermediate and stay wires. Fence should be at least 4' high with wire spacing not more than 6" apart in standard woven wire fence or not greater than 2" by 4" spacing in no-climb fencing.

Woven wire fences should have h-braces at end of runs, gates and corners as described standard. Fences with continuous top rails don't require h-braces.

Barbed Wire, Smooth Wire, or Similar

Install a combination of wooden and metal line posts. Use pressure-treated wood posts on segment ends, at gates, and every 50' to 75' as line posts. Wood posts must be at least 6' long and set a minimum of 24" deep. Standard T-posts may be used as line posts; T-posts must be at least 1.25 pounds per foot exclusive of anchor plates, a minimum of 5.5', and set 18" deep; T-posts must be galvanized or painted. For long runs of fence, install H-braces every 330'.

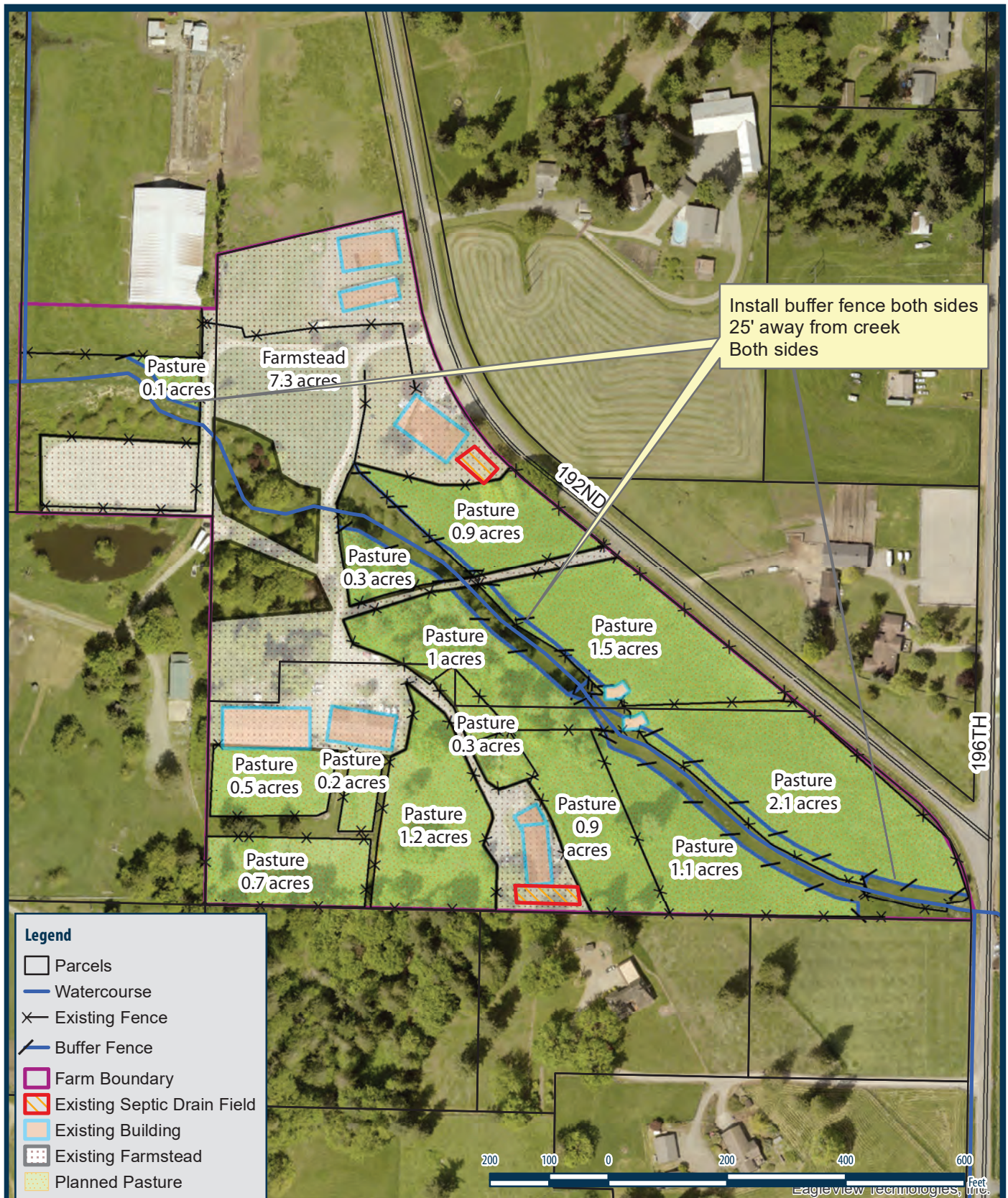
Four-strand fences may have a maximum line post interval of 20' without stays, 25' with one stay mid-way between line posts, or 30' with two stays at equal intervals between posts. Stays must be wood and at least 2.5" in diameter. Stays must be at least 2" taller than the fence height.

Use standard galvanized double strand barbed wire, a minimum size of 12.5 gauge with 14 gauge or heavier two-point barbs spaced not more than 5" apart. Strand breaking strength must be at least 950 pounds or 70,000 pounds per square inch.

Set wires at above ground heights of 14", 22", 32", and 42".

Post and Rail

Install 4" by 6" pressure-treated wood posts, set 2.5' to 3' into the ground. Concrete is not required. Tamp to compact backfill soil around post in 4" lifts. Posts shall be spaced 8' to 10' on center. Connect posts with at least three 2" by 6" pressure-treated wood rails. Galvanized screws are ideal to prevent boards from being pushed out.



Landowner Name: Dallas Sullivan		Map Type: LIP Buffer Fence Cost Share Map	Directional: NE
Address: 42015 192nd Pl		KCD Staff Name: Jay Mirro	Section: 18
Enumclaw, WA 98022		Map Date: June 13, 2022	Township: 20
Acres: 19.9	Parcel #(s): 182006-9073 & 9066		Range: 06



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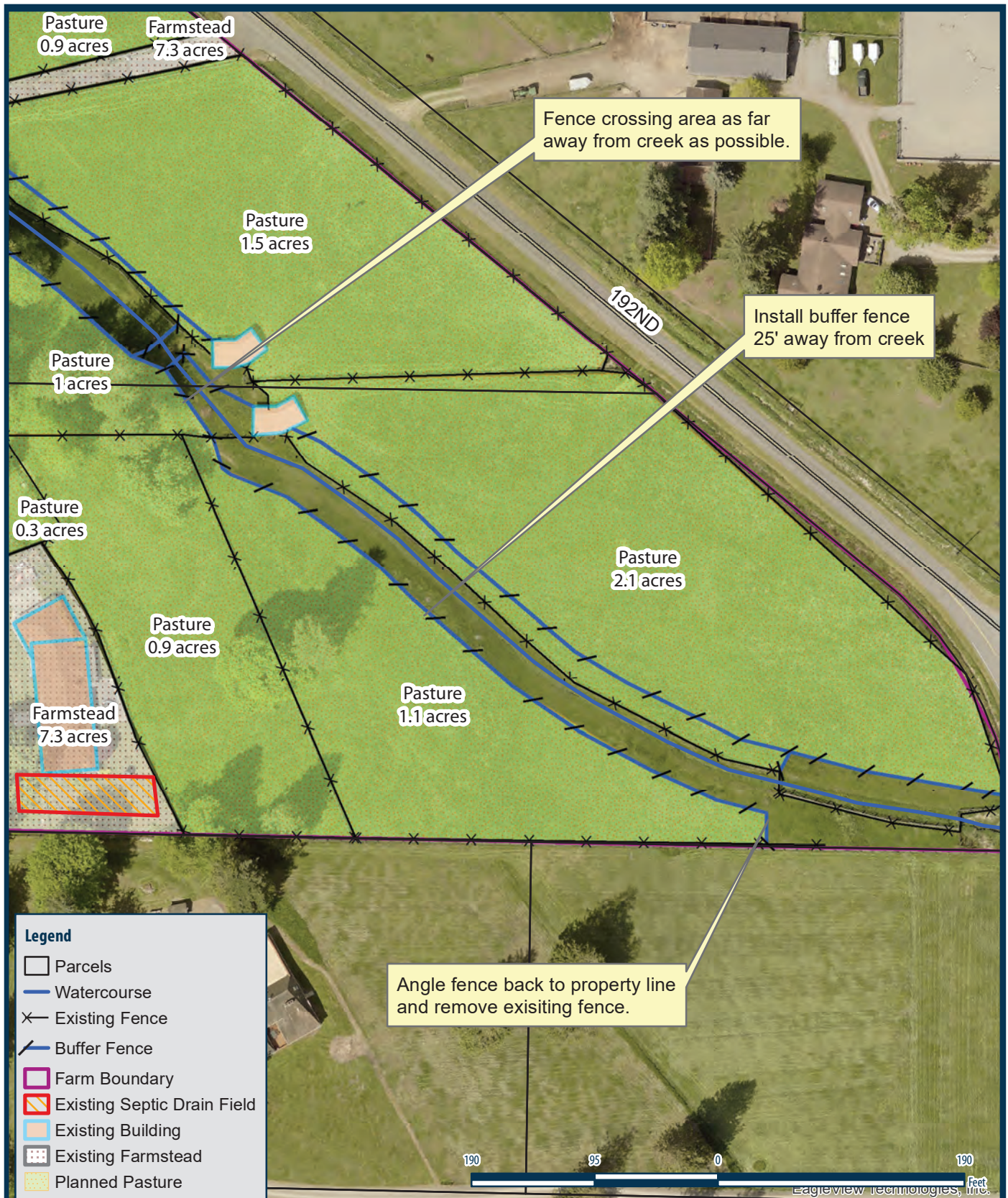
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179



1:2,790



Landowner Name: **Dallas Sullivan**

Address: **42015 192nd Pl**

Enumclaw, WA 98022

Acres: **19.9**

Parcel #(s): **182006-9073 & 9066**

Map Type: **LIP Buffer Fence CS Zoom Map**

KCD Staff Name: **Jay Mirro**

Map Date: **June 13, 2022**

Directional: **NE**

Section: **18**

Township: **20**

Range: **06**



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180



1:1,275

Fence

Woven Wire

Conservation Practice Job Sheet

RI- 382(b)



Definition

A constructed barrier to livestock, wildlife or people.

Purpose

This job sheet is provided as a component of a resource conservation plan. This practice may be applied to contain and control livestock and wildlife movement, facilitate a prescribed grazing system, protect sensitive areas from grazing livestock, and to eliminate access to unsafe areas.

Conditions where practice applies

This practice may be used on any area

where a fence is needed to control access, movement and containment of livestock and wildlife and where people safety and movement is of concern. This job sheet is provided as a component of a resource conservation plan. Conservation plan maps showing the approximate fence location, complementary conservation practices, grazing schedule, other relevant information, and additional specifications may be included.

General Criteria and Specifications

All fence construction shall comply with federal, state, and local fencing codes. **Practice Lifespan is 20 years.**

Fence line clearing

Fence lines will be cleared of brush and trees; gullies and steep banks may require grading. Clearing along stream banks will be held to a minimum and no vegetation may be removed within the buffer area, except as required for stream crossings.

Fencing materials shall be of a quality and durability that meets the intended management objectives. Construction shall be performed in a manner that meets the intended management objective. Wire and hardware will be new, galvanized material.

Line post

Maximum spacing between posts is 16.5 feet. All wooden line posts shall be set at least 30 inches into the ground.

Suitable line posts

3½" in diameter wooden posts of black locust, red cedar (mostly heartwood), redwood, and pressure treated pine or other wood of equal life and strength. Pressure treatment shall meet the requirements for ground contact.

Steel posts must be new and be painted or galvanized and weigh a minimum of 1.25 pounds per one foot of length. Post will be driven 18" inches in the ground or as specified by manufacturer. Every 50 feet or 4th post will be wooden.

The following steel posts are acceptable for line posts:

Style 1 – "T" Section 1- 3/8" x 1-3/8" x 1/8" thick

Style 2 – "U" Section 2" x 1-1/4" x 3/32"

Style 3 – "L" Section 2" x 2" x 1/4"

Lightweight stamped-steel posts are not allowed.

Brace post: Posts shall be set and maintained in a vertical position. All wooden brace posts are to be 5" minimum diameter and set 3 feet into the ground. Horizontal rail brace posts are to be 4" minimum diameter by 8 ft. long and be installed 8" – 12" below the top of the vertical brace post.

Corners and braces: Refer to drawings on pages 7-9 for fence brace configurations and spacing.

Single H Braces: Single H Brace corners and end braces may only be installed at the ends of straight fence spans of 165 feet or less.

Double H Braces: All corners, fence line ends and gate openings require Double H Brace assemblies, except that Single H Braces may be substituted in straight fence spans of 165 feet or less.

Double H Brace Pull Assemblies: Double H Brace pull assemblies are required in straight fence spans at a maximum spacing of 660 feet.

Brace wire shall be high tensile, galvanized steel, or 9 gauge soft wire.

Adjoining Fences: A fence adjoining an existing fence must terminate in a brace assembly as required above.

Corners: A bend in the fence tighter than 20 degrees is considered a corner and not a "straight" pull brace. (In an 8-foot long brace section, 20 degrees is approx. 3 feet off the straight line. Refer to drawings). The above H brace rules apply to corners considering each wire-pull direction from the corner post. Combination single and double H corners are permitted.

If hand set, all backfilled material shall be thoroughly tamped in 4" layers. Post holes shall be at least 6" larger than the diameter or side dimension of the posts. Synthetic posts are to be installed as specified by the manufacturer.

If concrete backfill is used, the concrete must be pre-mixed, and worked into place up to the ground surface. No stress shall be applied to posts set in concrete for at least 24 hours after the concrete has set.

Wire

Wire shall have a minimum Class 3 zinc coating and shall meet the requirements of ASTM A116 or Class I zinc coating with 0.27 ounces of zinc per ft² meeting the requirements of ASTM A116.

For Cattle, fencing shall be 1047 woven wire, which has 10 line wires, with stays (the vertical wires) on 9" spacing. Top and Bottom line wires shall be at least 10 gauge (medium weight) and the filler wires (the remainder of the fence wires) will be a minimum of 12½ gauge.

For Horses, use “square knot mesh” which has 2” horizontal by 4” vertical openings, or “V-mesh” (diamond mesh) style horse fencing with triangular openings 2” wide by 4” tall. The mesh must be fastened by wire wrapping with no sharp wire ends. Horse fences should be 47” to 50” high. Horizontal wires must be 12½ gauge steel, or 14 gauge high tensile. Vertical wires are to be at least 14 gauge steel.

For other Animals, a mesh and fence height that is appropriate to the species as recommended by the manufacturer.

High tensile woven wire 12½ gauge may be used for all animals as specified by manufacturer.

Welded mesh is prone to failure, and therefore is not recommended or allowed.

Fence top Deterrent

Barbed wire: At least one strand of barbed wire is to be placed no more than 6” above the woven wire. Additional strands may be added above the first at the same spacing. The barbed wire shall consist of 2 strands of wire with class 3 galvanized 4-point barbs spaced not more than 5” apart. Galvanized barbed wire shall be fabricated from 12½ gauge class 1 galvanized or high tensile class 3 barbed 15 ½ gauge galvanized strand wire or meeting the requirements of ASTM A121.

Barbed wire should not be electrified.

Electrified Wire: In lieu of barbed wire, the same number of 12½ gauge galvanized wires may be installed electrified on the spacing needed for barbed wire. The wire must be mounted and energized as required by the high tensile electric fence job sheet. Electric and barbed wire fence top deterrents may not be combined.

Wood Rail: A wood top rail may be installed no more than 6” above the woven wire to strengthen the fence in lieu of top wires, or a single electric wire with stand-off insulators may be included. The fencing may be stapled to the rail for added stiffness. With top rails, no post bracing assemblies are needed, but gate posts must be 5” in diameter and be set 3 feet in the ground.

Wire placement

Fencing and top deterrent (barb wire) should be installed according to Figure 3.

Stretching wire

Woven wire shall be stretched tight with no sags or waves in the material when viewed along the fence line. Wire at the end posts and corner posts shall be wrapped and attached to itself with 3 twists.

For barbed wire at the fence top, pull taut. A stretch of 100 feet (prior to attachment to posts) should sag no more than in the middle 4” in warm weather and not more than 2” in cold weather.

Attaching fencing to post

The fencing wire shall be placed on the livestock side of line posts and on the outside of corners and posts in bends and braces in bends.

Woven wire fencing shall be attached to post on alternate horizontal strands as a minimum. Each strand of barbed wire used shall be attached to each post using a 9-gauge galvanized 1½” staple driven diagonally with the grain of the wood and at a slight downward angle (except in dips). Staples shall be driven tight to the post.

Fasten fencing to steel line post with either two turns of 14 gauge galvanized steel wire or the post manufacturer’s special wire clips.

Wire shall be spliced with a figure-eight knot, or twisted with 8 wraps of each end about the other (western union splice), or by suitable splice sleeves applied with a tool designed for the purpose.

Other Considerations

Fences across gullies or streams require special braces and design. Breakaway fences or swinging water gaps allow debris and water to flow past the fence line without destroying the adjacent fence.

Any permanent fencing for grazing livestock should allow flexibility to facilitate implementation of the grazing plan and permit land management activities such as nutrient application, pest control, forage harvest, and other appropriate practices.

Follow all manufacturers' safety precautions for handling and installing fencing materials.

Locate fences to facilitate maintenance. Where applicable, clear right of ways should be established and maintained to facilitate fence construction and maintenance.

When possible, install fences across slopes to improve grazing distribution, rainfall infiltration, and reduce soil erosion.

Locate fences to facilitate livestock management, handling, watering, and feeding.

Consider placing permanent riparian stream fencing at the edge of the protected buffer or at least 2 times the active channel width from the top of the stream bank but never less than 10 feet. It is recommended that the stream fence have a maintenance gate installed. Woven wire fencing is not recommended for use in riparian areas due to flooding damage.

Approved alternative fence systems include "Common Sense Fence" or equivalent. Other fencing systems may be approved by an NRCS Resource Conservationist (RC), and installed to manufacturer's recommendation as approved by NRCS Resource Conservationist (RC).

Alternative fencing and bracing systems: Alternative fencing and bracing systems must be pre-approved by an NRCS Resource Conservationist (RC), and must be installed according to manufacturer's recommendations as approved by NRCS Resource Conservationist (RC).

Specifications Worksheet

Site-specific requirements are listed on the specifications sheet. Additional provisions may be contained in the conservation plan or other acceptable form of documentation. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See Conservation Practice Standard *Fence* (382)

Client:	Farm #:
Field(s):	Tract #:
Planned By:	Location:
Date:	Length of Fence:
Landowner Objectives:	

Purpose (check all that apply)	
<input type="checkbox"/> Reduce erosion and improve water quality by controlling livestock access to streams, springs, wetlands, and ponds.	<input type="checkbox"/> Protect sensitive environmental areas and the flora from vehicular, pedestrian, or animal traffic use.
<input type="checkbox"/> Protect newly planted areas from disturbance until established.	<input type="checkbox"/> Protect the safety of people, livestock, and wildlife by limiting or denying access to hazardous areas.
<input type="checkbox"/> Facilitate handling, movement, and feeding of livestock in the pasture environment.	<input type="checkbox"/> Improve distribution and timing of livestock grazing.
<input type="checkbox"/> Other (specify) _____	

Type of Fence - Woven Wire	
Fence Height: _____ inches	Number of wire: _____
Wire spacing: _____ inches	
Woven Wire Type: _____	
Top Deterrent Type: _____	

Posts		
Type Black Locust OR Eastern red cedar OR pressure treated pine or other preservative treated wood OR standard steel line posts w/4 th post being a wooden post	Size Line posts are wood 8 feet or longer 4" minimum diameter OR Standard steel line post 1 ³ / ₈ " x 1 ³ / ₈ " x 1 ¹ / ₈ " with anchor plate	Spacing Wood line posts spaced a maximum of 16½ feet apart set 2.5 feet deep minimum OR Steel line posts spaced a maximum of 16½ feet apart set to top of anchor plate or 18"

Braces	
Wooden Braces (8 feet minimum length) 4" diameter at small end	Brace Wire High Tensile, Galvanized Steel, 9 Gauge OR 12½ Gauge High Tensile, Galvanized, Double Wrapped

Operation and Maintenance

Inspections and maintenance are required to achieve the intended function, benefits, and life of the practice. The landowner/operator is responsible to establish and implement an inspection and maintenance program. Regular inspection of fences should be part of an ongoing maintenance program. Items to inspect and maintain during the 20-year design life of the practice include, but are not limited to, the following:

1. Inspection of fences after storm events is necessary to ensure the continued proper function of the fence. Promptly repair or replace damaged or broken fencing.
2. Retain and properly discard all broken fencing material and hardware to prevent ingestion by animals or injury to equipment, people, or animals.
3. Remove debris collected in the fencing.
4. Clear the brush from fence lines to reduce voltage loss. Vegetative control can be achieved by herbicides applied per the manufacturer's label.
5. Remove fallen limbs and maintain proper tension on the fence wires. Overhanging trees and limbs should be trimmed or removed as needed.
6. Maintain proper tension on the fence wires.
7. Follow your grazing plan, where appropriate.
8. All necessary precautions should be taken to ensure the safety of construction and maintenance crews.

Other:

For information regarding this practice contact:

_____ at _____.

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Specification Guide Sheet for Fencing 382 (b)

STRAIGHT FENCES ON FLAT LAND

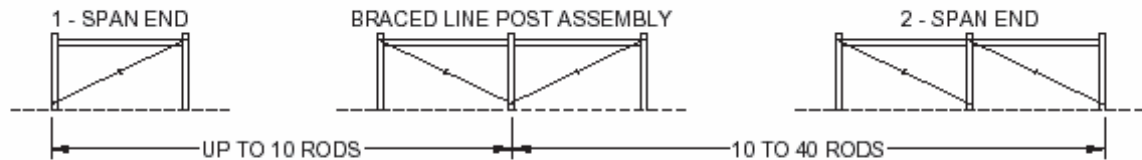
(a)



(b)

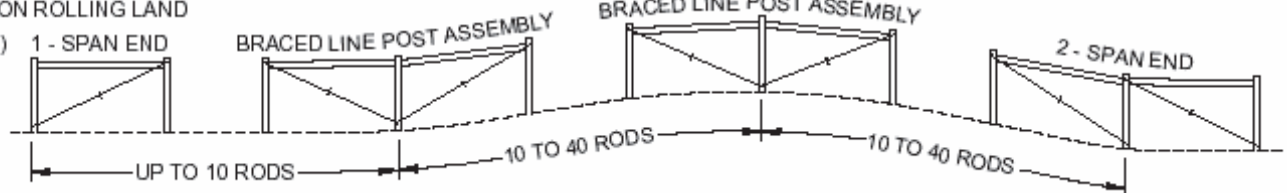


(c)



STRAIGHT FENCES ON ROLLING LAND

(d)



CURVED FENCES

(e)



Types of anchor and brace assemblies and where to locate them: (a) For fence lengths of 10 rods (165 feet) or less, use single-span end construction. (b) For fence lengths of 10 to 40 rods (165 to 660 feet), use double span end construction. (c) For fences more than 40 rods (660 feet) long use a braced-line-post assembly to divide the fence lengths. (d) On rolling land, fence stretching is easier if braced line-post assemblies are located at the foot and top of each hill. (e) Contour fences, more than 20 rods (330 feet) long, should have a braced-line-post assembly installed to keep the stretches to 20 rods (330 feet) or less. Install in straight section at least one post span away from a curve. Do not install on a curve.

Note: One rod equals 16½ feet.

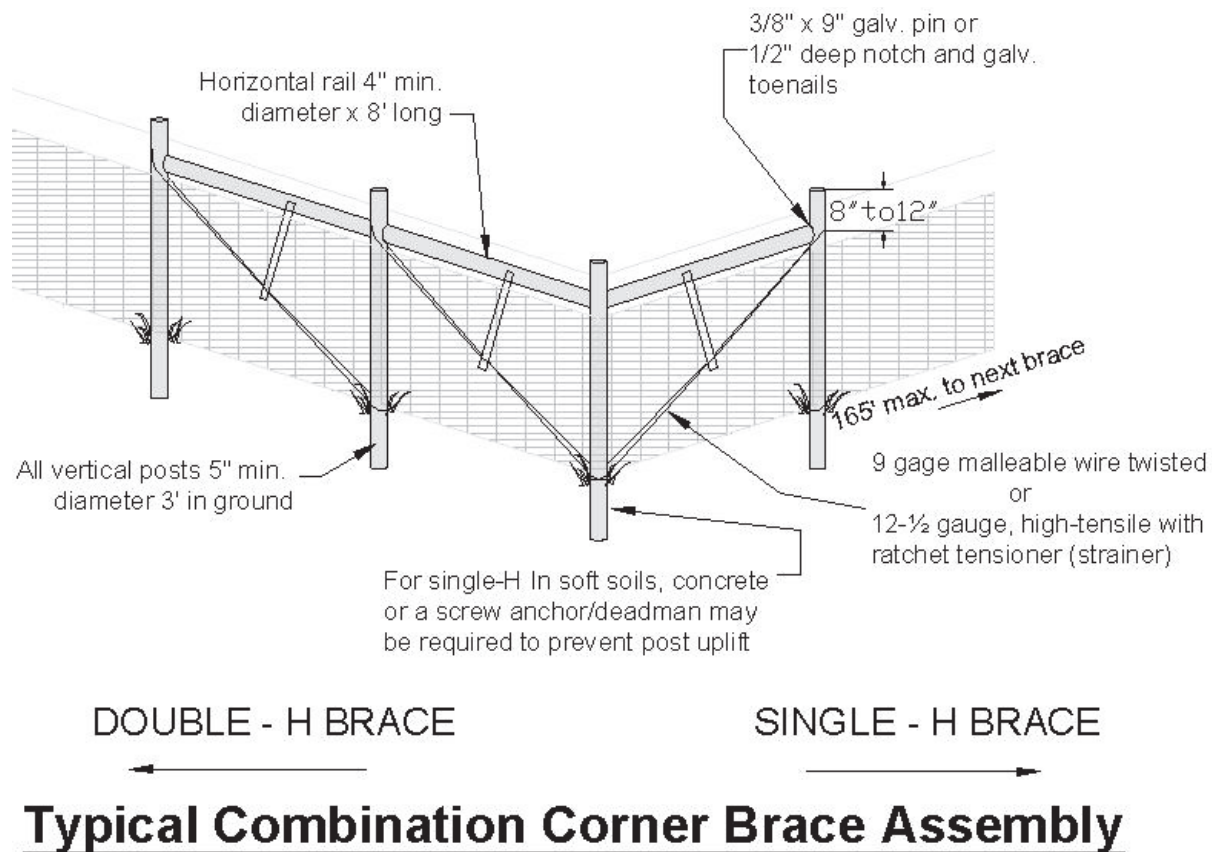


Figure 1

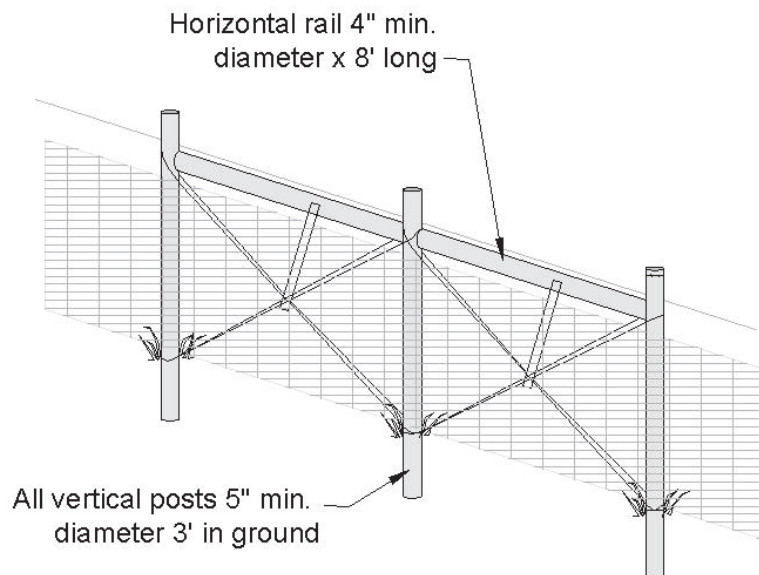


Figure 2

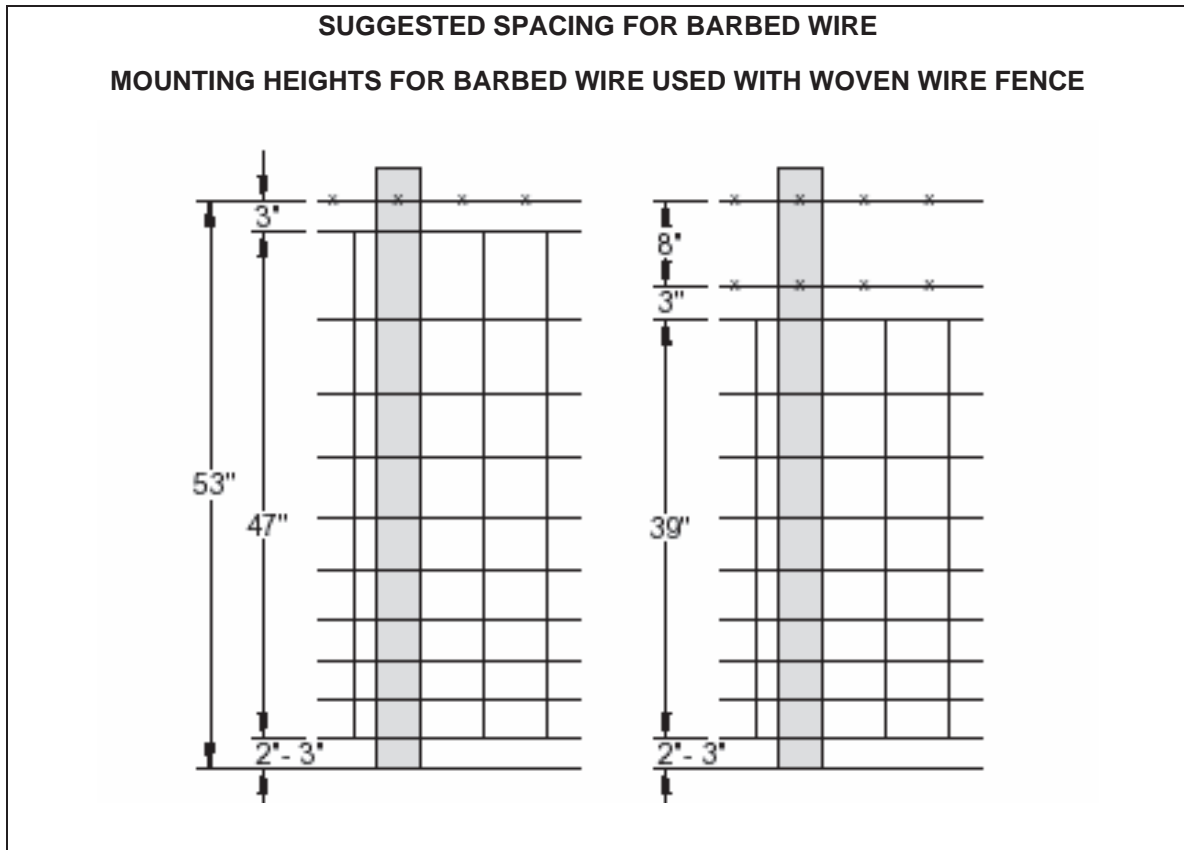
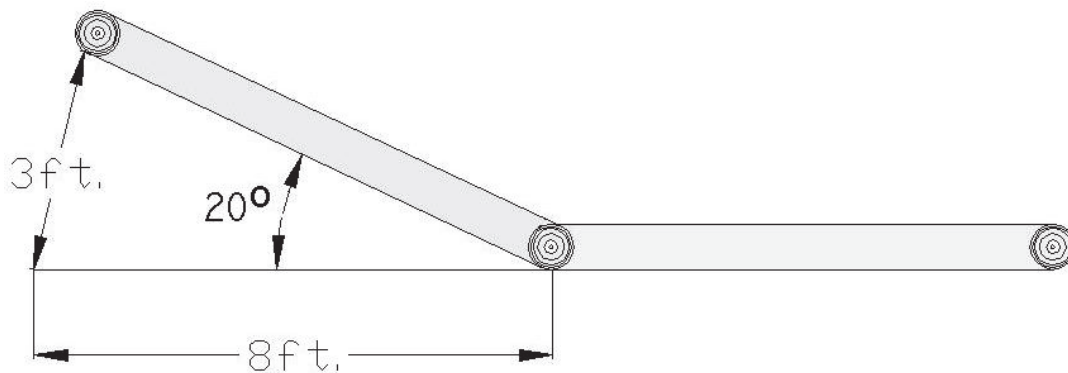


Figure 3

The first barbed wire above woven wire fence should be within 3" of top line wire. This reduces the possibility of animals getting their head between woven wire and barbed wire, and mashing down the fence.



**Top View of Fence Brace Showing
Minimum Angle to be Considered a Corner**

Figure 4

RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD FENCE (382)

Criteria

ction must meet the minimum requirements for controlling specific animal types.

Fence type	Purpose of Fence				Spacing Inches above ground level ww fences start 2-3 " above the ground
	Perimeter (boundary) prohibited areas	Access lanes & stream crossings	Interior subdivision	Stream exclusion	
	Minimum Criteria				Inches
	NO	NO	Meets	Meets	18, 30, 42
	NO	Meets	Exceeds	Exceeds	16 to 48 evenly spaced
	Meets	Exceeds	Exceeds	Exceeds	14 to 48 evenly spaced
ire high tensile smooth			Exceeds	Meets	12 to 42 evenly spaced
ire high tensile smooth	No	Meets	Exceeds	Exceeds	12 to 44 evenly spaced
ire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 44 evenly spaced
gh tensile smooth	NO	NO	Meets	NO	32
gh tensile smooth	NO	Meets	Exceeds	Meets	20, 32
gh tensile smooth	NO	Exceeds	Exceeds	Exceeds	18, 30, 42
gh tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 42 evenly spaced
gh tensile smooth	Exceeds	Exceeds	Exceeds	Exceeds	12 to 44 evenly spaced
polywire or Polytape (1hot wire)	NO	NO	Meets	NO	32
polywire or Polytape (2 hot wires)	NO	Meets	Exceeds	Meets	20, 32
one or more top wire	Exceeds	Exceeds	Exceeds	Exceeds	47 min, 6 max between top wires
sition boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	6 , 6, 8, 10 between boards
plus one or more top wires	Exceeds	Exceeds	Exceeds	Exceeds	47 min, 6 max between top wires
	NO	NO	Meets	Meets	6 to 32 evenly spaced
	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced
	Meets	Exceeds	Exceeds	Exceeds	6 to 48 evenly spaced
ire high tensile smooth	NO	NO	Meets	Meets	6 to 32 evenly spaced
ire high tensile smooth	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced
ire high tensile smooth	Meets	Exceeds	Exceeds	Exceeds	6 to 42 evenly spaced
gh tensile smooth	NO	NO	Meets	Meets	8, 18, 30
gh tensile smooth	NO	Meets	Exceeds	Exceeds	6 to 36 evenly spaced
gh tensile smooth	Meets	Exceeds	Exceeds	Exceeds	6 to 38 evenly spaced
one or more top wire	Exceeds	Exceeds	Exceeds	Exceeds	32 min, 6" max between top wires
sition boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	6, 6, 8, 10 between boards
plus one or more top wires	Exceeds	Exceeds	Exceeds	Exceeds	35 min, 6" max between top wires

re)

Fence type	Purpose of Fence				Spacing Inches above ground level ww fences start 2-3 " above the ground
	Perimeter (boundary) prohibited areas	Access lanes & stream crossings	Interior subdivision	Stream exclusion	
	Minimum Criteria				Inches
High tensile smooth	NO	Meets	Meets	Meets	28, 38
High tensile smooth	NO	Exceeds	Exceeds	Exceeds	28, 38, 48
High tensile smooth	Meets	Exceeds	Exceeds	Exceeds	18 to 54 evenly spaced
High tensile smooth	Exceeds	Exceeds	Exceeds	Exceeds	18 to 54 evenly spaced
Polywire or Polytape	NO	NO	Meets	NO	34
Polywire or Polytape	NO	Meets	Meets	Meets	28, 48
Wire HT on top	Exceeds	Exceeds	Exceeds	Exceeds	48 + HT at 54
2"x4" spacing	Exceeds	Exceeds	Exceeds	Exceeds	48 + HT at 54"
Position boards (6" wide)	Exceeds	Exceeds	Exceeds	Exceeds	18 min. 12 max. between boards
High tensile smooth	NO	NO	Meets	Meets	8, 16
High tensile smooth	NO	Meets	Exceeds	Exceeds	8, 16, 24
w/ 1 wire barb or HT	Exceeds	Exceeds	Exceeds	Exceeds	32 + barb or HT at 38
w/ 1 Ht electric inside	Meets	Meets	Meets	Meets	32 + 1 electric wire 8 off ground, 8 inside of fence.
tall w/2 strands of smooth wire	Meets	Meets	Meets	Meets	96" w/smooth wire at 9' and 10'
High tensile smooth	NO	NO	Meets	Meets	16 to 42 evenly spaced
High tensile smooth	NO	Meets	Exceeds	Exceeds	16 to 48 evenly spaced
High tensile smooth	Meets	Exceeds	Exceeds	Exceeds	12 to 52 evenly spaced
4" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72
6" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72
2"x4" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72
6"x6" 1 wire HT or barb above	Exceeds	Exceeds	Exceeds	Exceeds	72
	Meets	Preferred option			60 with 1 barb above
	Meets				12 to 60 evenly spaced
Each plus 1 or 2 barbed wires or HT	Meets				47 min. HT or barb at 6 spacing to 48. HT may be electrified

may be approved by the Resource Conservationist, i.e. *common sense fence, horseguard or equivalent*.

Fencing – Job sheet

RI - JS 382

Practice Installation Guidelines

It shall be the responsibility of the landowner to obtain all necessary permits and/or rights, and to comply with all ordinances and laws pertaining to this installation.

Practice designs and specifications shall be reviewed by NRCS planner with the landowner prior to start of work for practice installation.

Contact the NRCS planner _____ at 401- _____ prior to installation. Keep NRCS planner updated throughout the installation process.

Contact the NRCS planner _____ at 401- _____ upon completion of practice.

Practice specifications and special requirements

Installation shall be in accordance with the following specifications and special requirements.

NO CHANGES ARE TO BE MADE IN THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE NRCS.

1. Use Practice Specifications: **Fencing specifications worksheet**
Specification Guide Sheet for Fencing (382)

The landowner/operator acknowledges that:

A) He/she has received a copy of the practice specifications, and Operation and Maintenance plan, and that he/she has an understanding of the contents and the requirements.

B) He/she has or will obtain all of the necessary permits prior to construction.

C) No changes will be made in the installation of the job without prior concurrence of the NRCS technician.

D) This practice has a lifespan of 20 years.

E) Adherence to the Operation and Maintenance plan of the installed work is necessary for proper performance during the practice lifespan.

F) NRCS planner shall be contacted prior to installation for a review of the practice installation and at completion for practice certification.

Accepted by :

Date:

Address :

Practice design approval

Lead Discipline for this practice: **Biological Conservation Sciences Division**

Job Classification:

☐ No design changes were made. ☐ Design changes were approved and are included

Design approved by:

Date:

Practice certification

I have made an on-site inspection and have determined that the practice has been installed according to practice standard and specifications.

Certified by:

Date:

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION**

FENCE

(feet)

CODE 382

WOVEN WIRE FENCE

SCOPE

This specification establishes the technical details, workmanship, quality and extent of materials required to install the line assemblies in accordance with the Conservation Practice Standard. Specifications for braces and other line assemblies are contained in separate documents.

The NRCS Washington Jobsheet for Woven Wire Fence shall be used to document the site-specific requirements for installing, operating, and maintaining the practice on a specific field or treatment unit. The work shall consist of furnishing materials and installing materials for the specified design at the location(s) shown on the plan map, drawings, or as staked in the field.

Fencing includes brace assemblies, line assemblies, gates, cattle guards, and other components required for meeting site conditions and achieving the objectives of the practice application. Other documents (worksheets, maps, drawings, and narrative statements in the conservation plan) may be used to document site specifications, plan or design the practice. If a fence is being planned that is not provided for in the following specifications, contact the Washington State Range Management Specialist for approval at the beginning of the planning process and prior to construction.

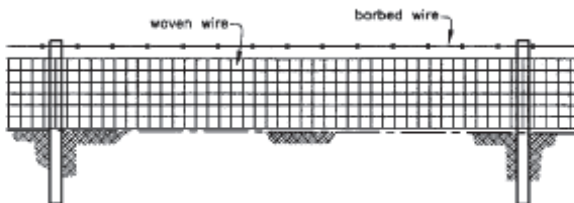
The fence will be installed in accordance with proper safety procedures. The completed job shall be workmanlike and present a good appearance.

If brush or rock clearing, grading or other land work is to be done in conjunction with the fence installation, appropriate grading and erosion control measures shall be undertaken or installed. Specifications for all measures to be installed in conjunction with the fence should be attached to the Jobsheet.

TYPE OF FENCES

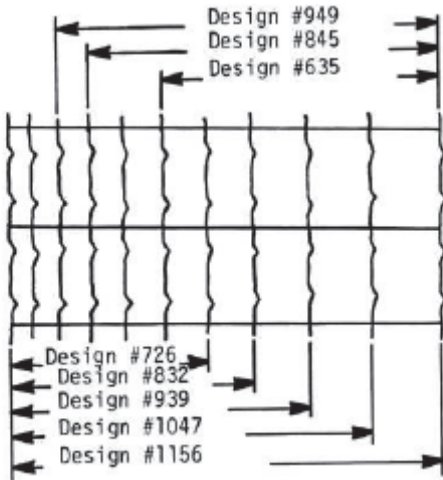
Woven-wire

Woven-wire fence is best used in areas where tight control is necessary: sheep, goats, horses, hogs, people, wildlife depredation, or predator control. Woven-wire fences consist of woven-wire stretched between line posts. The spacing of the mesh of the woven-wire differs, depending on the kind of animals the fence is designed to control. Woven-wire fences can be adapted to most terrain, but are not well suited to areas of heavy snow loads or subject to frequent ponding and flooding.



Each woven-wire fence type has a fence tag with a design number that accurately describes the configuration of the fencing material. In the "Design No."

- first one or two numbers relate the number of line wires;
- next two numbers to the right specify the height of the wire in inches;
- next to last number grouping (either the number 6 or the number 12) identifies the spacing of vertical stay wires; and
- the final one or two numbers give the gauge of intermediate wires.

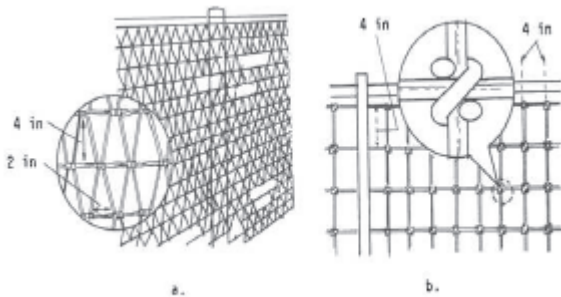


For example, woven wire with "Design No. 726-12-11", has 7 line wires, is 26 inches high, the vertical stays are spaced 12 inches apart, and the intermediate wires are No. 11 gauge. Intermediate or filler wires include the horizontal line wires and all the vertical stay wires between the top and bottom wires.

Woven wire is not safe for wildlife.

Mesh Fence

Mesh fences, such as horse-no-climb, is used for confinement fencing-corral, feed lots, and small acreage areas. No-Climb types of configurations are used for camelids and horses to prevent fence damage and potential injury to the animal.



MATERIAL SPECIFICATIONS

All materials used in the construction of fences shall have a minimum life expectancy of ten (10) years. Fences will be constructed that equal or exceed the strength and durability of one built in accordance with the materials specifications in the following tables.

If a fence is to have improved longevity and reduced maintenance use one of more of the following concepts:

- a. Larger diameter wooden posts or heavier weight line posts (1.33 lb/ft. instead of 1.25 lb/ft.)
- b. Deeper setting of longer posts
- c. Closer spacing of posts and braces, and/or
- d. Using a stronger line post periodically.

Line Posts

Steel line posts can be used in moderate to low snowfall areas, or in rocky areas where posts must be pounded or drilled to be set. One main disadvantage of using steel posts is that they are likely to be bent or forced out of line by livestock or heavy weed pressure. Wooden posts are preferred for use in areas with high snowfall, high livestock pressure (e.g., intensive grazing systems, riparian fences, or areas adjacent to cropland with high expected weed loads). Using wood posts every 50 to 75 feet can help keep steel posts from bending and improve the strength of the fence. A combination of wood and steel line posts (e.g., 1 in 3 or 1 in 5 posts being wood) can significantly increase the strength of the fence but even as few as (1 in 7 or 1 in 10) can be helpful.

Wood line posts do not need to be new materials (Railroad Ties and Power Poles are adequate); however, all posts shall meet the minimum criteria for durability and protective coating. Wood posts need to be sound and free from decay, with all limbs trimmed substantially flush with the body. Post shall be sufficient length to meet buried depth, fence height requirement plus 3 inches. Lengths listed below are based on a 42-inch top wire height.

Line posts set in muck, peat, or soils on which water stands, shall be wooden - 8 ft long and set a minimum of 4 ft. deep.

Table 1 Line Post Requirements

LINE POST TYPE	MINIMUM DIAMETER	MINIMUM SETTING DEPTHS	MINIMUM LENGTHS	MINIMUM PROTECTIVE COATING, OTHER
Wood-juniper, cedar	3-1/2 inches	24 inches	6 feet	None
Wood other than above	3-1/2 inches	24 inches	6 feet	Complete penetration of the sapwood with approved treatment materials. Pressure-treated, entire length of post. See note below.
Standard "T", "Y" or "U" section steel rolled with high carbon steel and studded, embossed, or punched for wire attachment with anchor plate.	1.25 pounds per foot of length, exclusive of anchor plates	18 inches Top of the spade + 2 knobs – minimum of 18"	5.5 feet	The coating may be either galvanized by the hot dip process or painted in accordance with Commercial Standard 184 with one or more coats of high-grade, weather-resistant steel paint or enamel applied and baked.
Live trees	6 inches at top wire	Wire not wrapped or stapled directly to tree. A wood slat is nailed to the side of the tree and the wires stapled to the slat.		

NOTE: Chromated Copper Arsenate (CCA)-treated wood posts should not be used where treated wood may come into contact with water sources (wetlands, streams, high water tables, etc.). Other chemically-treated and pressure-treated wood posts may be used in these areas. (EPA 2002)

Figure 1 Standard Metal Posts

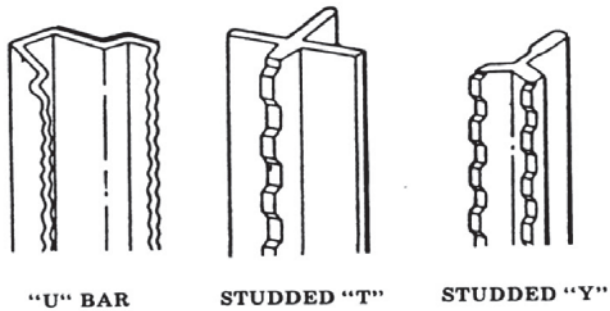
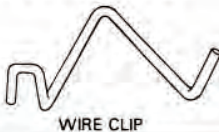


Table 2 Wire Type and Size

Wire Type	Minimum Wire Size	Minimum Protective Coating	Strand-breaking strength	Other
Standard Woven Wire	Top & Bottom wires: 10 gauge. Intermediate & Stay Wires: 12-1/2 gauge	Class I zinc coating or greater	32 inches minimum to 42-inch maximum height with 6 inch spacing between stay wires.	The label shall indicate the wire meets ASTM A-116 or ASTM A-584 standards.
High Tensile Woven Wire	14 1/2 gauge	Class III zinc coating or equivalent	32 inches minimum to 42-inch maximum height with 6 inch spacing between stay wires.	
Mesh Wire; such as Horse-No-Climb	Top & Bottom wires: 10 gauge. Intermediate & Stay Wires: 12-1/2 gauge	Class I zinc coating or greater.	At least 48 inch high, less than or equal to 2 inch x 4-inch mesh spacing.	

At least one strand of barbed or other wire will be added at the top spaced 2-6 inches above the woven wire.

STAPLES AND FASTENER MATERIAL REQUIREMENTS



U-shaped staple, conventional wire: No. 9 gauge galvanized wire or bright hard wire; at least 1 and 3/4-inch long.

L-shaped deformed shank staple: No. 9 gauge galvanized wire or bright hard wire; at least 1 and 1/2-inch long.

Fence wire shall be fastened to steel posts using steel clips manufactured for the purpose of attaching wires, or 9 gauge smooth wires.

Other post types will use fasteners and methods recommended by the manufacturer.

INSTALLATION SPECIFICATIONS

LINE POST SPACING AND SETTING

All posts shall be placed to the required depth and shall be firmly embedded. Posts shall be set to the minimum depths listed in **TABLE 1–Line Post Requirements**.

Wood posts shall be driven or set in holes and backfilled with compacted earth or poured concrete. Where postholes are dug, the holes shall be at least six (6) inches larger than the diameter of side dimensions of the posts. Earth backfill around posts shall be thoroughly tamped in layers not thicker than 4 inches and shall completely fill the posthole to the ground surface. Concrete backfill around posts shall be rodded into place in layers not thicker than 12 inches and shall completely fill the posthole to ground surface. Backfill, either earth or concrete shall be crowned up around posts at the ground surface.

Concrete shall be class 3000 in accordance with Washington NRCS Construction Specification CS-42, Concrete for Minor Structures. Concrete shall be allowed to set for ten days before tension is applied to the line assemblies through tightening of wire.

Steel line posts shall be driven solidly into the ground until the plate is covered plus 2 knobs, minimum of 18 inches. If soil conditions prevent firmly settling line posts in the ground, Figure-4 (WA-Standard Drawing Isk-260) or wire cribs (WA-Standard Drawing Isk-253) may be used.

Post spacing in areas shallow to rock may vary based on availability of post sites. Probe with a rock probe to determine desirable post sites. Steel pipe and steel post are recommended to use in cracks between rocks. Concrete in the post where possible. Rock bits are available in some areas for drilling rock. Use stays to maintain wire spacing. A post set in a 5 gallon bucket of concrete may be used as a line post. Bury bucket as deep as possible.

Where rock occur within the required embedment depth for posts, a hole of a diameter slightly larger than the largest dimension of the post shall be drilled in the rock and the post grouted in. The depth of post embedment shown on the Jobsheet will not be required and the post may be shortened as necessary, provided the line post is embedded within the rock for a minimum depth of 12 inches or the required embedment depth of the post is attained. Grouting will be required on the portion of the post in solid rock.

Where solid rock is encountered without an overburden of soil, line posts shall be set into the solid rock a minimum depth of 12 inches. The posts shall be cut before installation to lengths which give the required height of post above ground.

After the post is set and plumbed, the hole shall be filled with grout consisting of one part Portland cement and three parts clean, well graded sand. The grout shall be thoroughly worked into the hole so as to leave no voids. The grout shall be crowned to carry water from the post.

FENCE HEIGHT and WIRE SPACING

Fence height is measured from the ground at post locations

Wire Type	Minimum Wire Size	Minimum Protective Coating	Strand-breaking strength	Other
Standard Woven Wire	Top & Bottom wires: 10 gauge Intermediate & Stay Wires: 12-1/2 gauge	Class I zinc coating or equivalent	meets ASTM A-116 or ASTM A-584 standards.	At least one strand of barbed or other wire will be added at the top spaced 2-6 inches above the woven wire.
High Tensile Woven Wire	14 1/2 gauge	Class III zinc coating or equivalent		
Mesh Wire; such as Horse-No-Climb	Top & Bottom wires: 10 gauge Intermediate & Stay Wires: 12-1/2 gauge At least 48 inch high, less than or equal to 2 inch x 4-inch mesh spacing.	Class I zinc coating or equivalent	.	

Provisions must be made for identified crossings for wildlife movement; both over and under the fence.

These areas will not exceed 1/4-mile apart and there must be a minimum of one per fence. The fence in these designated crossing locations will not exceed 42 inches at the top wire and must include a minimum of one alternative to allow for wildlife movement (*see Range Technical Note 102 - Riparian And Other Tight Fence - Wildlife Considerations).

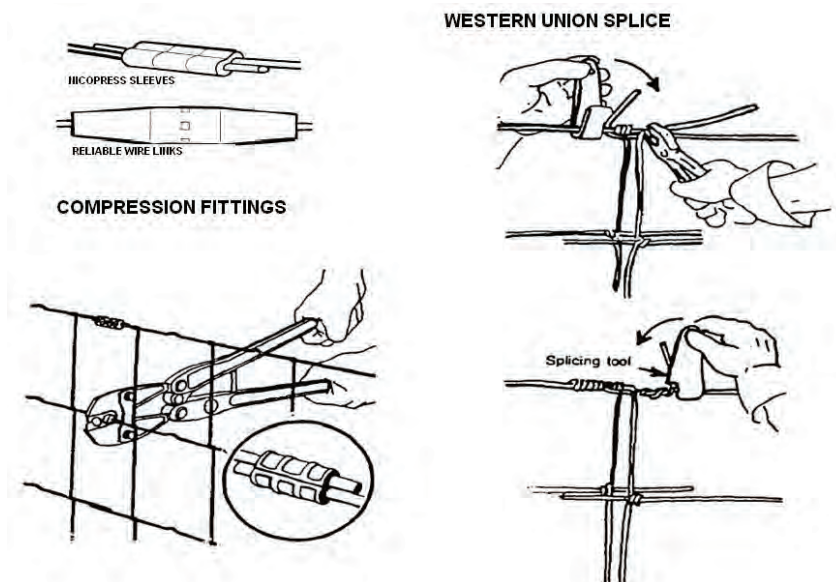
SPLICING INSTALLATION REQUIREMENTS

Non-High Tensile Wire

When splicing of wire is necessary use "Western Union" splice or compression fittings.

High Tensile Wire

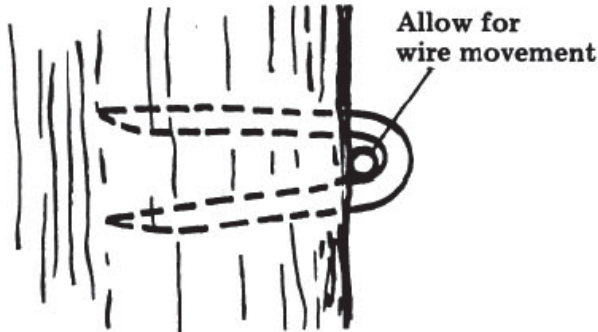
When splicing of wire is necessary, use compression fittings.



STAPLES AND FASTENER INSTALLATION REQUIREMENTS

Staples shall be driven into the post at a 45-degree angle. Staples shall be driven just deep enough to snug the line wire without bending it.

* Reference Standard Drawing LSK-0001 Staples and Wire Attachment

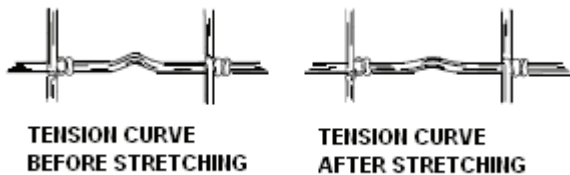


Staples should hold wire close to fence, but allow for expansion and movement of the wire.

FENCE WIRE TENSION

Woven Wire

Temperature variations must be considered when setting the tension on line wires (wire will tighten in cold weather and expand in hot weather). All line wires shall be dead-ended on gate, corner, or the anchor posts (pull posts) of in-line brace units.



To attach woven-wire to posts at wire end points, first determine the approximate length of wire that is needed to wrap the wire around the post two times. Remove enough vertical stay wires to provide the needed amount of line wire. Cut the vertical stay wires between the horizontal line wires. If the woven-wire has hinge joints, loosen the hinge joints and slip them off the end of line wires. Wire ends are then double wrapped around the anchor posts or (pull posts), stapled, and twisted back on the stretched line wire with at least six tight wraps. A spring action is built into most woven-wire by using tension curves configured as a "U"-shaped crimp in the line wire. Stretch woven-wire so that about one-third of the wire tension curve is removed.

Mesh Wire

Per Manufacturer's recommendations

CORNER, BRACE AND GATE POSTS

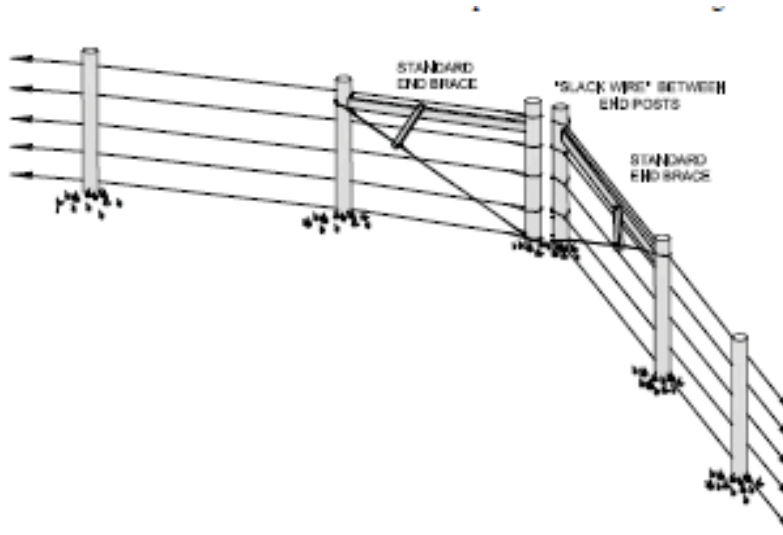
BRACING AND ALIGNMENT

Bracing is the key determinant to the structural soundness and longevity of wire fences. In straight sections on moderate terrain, in-line brace units are required at intervals not to exceed 330 feet but spacing shall be such as to use standard rolls of wire mesh with a minimum of cutting and waste.

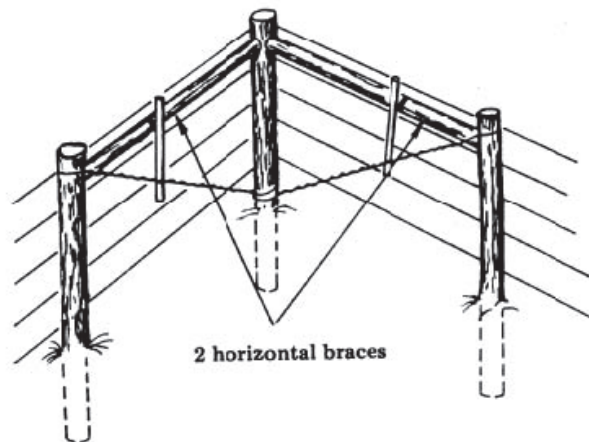
Brace posts shall not be set in muck, peat, or soils on which water stands.

Braces are required at all end corners, gates and definite angles of change (horizontal and vertical) greater than 5 degrees if bearing on a metal line posts, greater than 20 degrees if bearing on a sound wood post a minimum of 4 inches in diameter and embedded a minimum of 3 feet.

- Between 20 and 60 degrees angle of change use a 4 post brace (which is a double H that does not share a common post like the 3 post Standard H-brace) or a double diagonal floating or steel diagonal brace

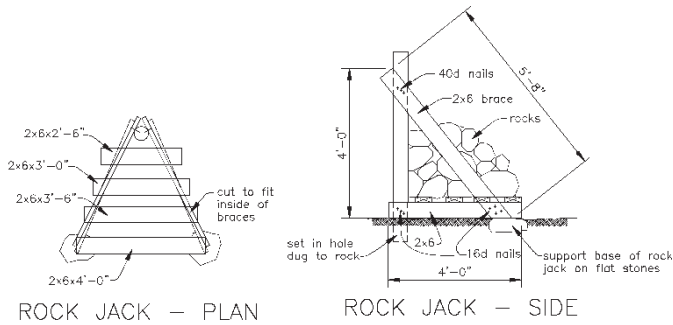


- Greater than 60 degrees angle of change a 3 post brace – horizontal (Standard H-brace) or a diagonal brace may be used

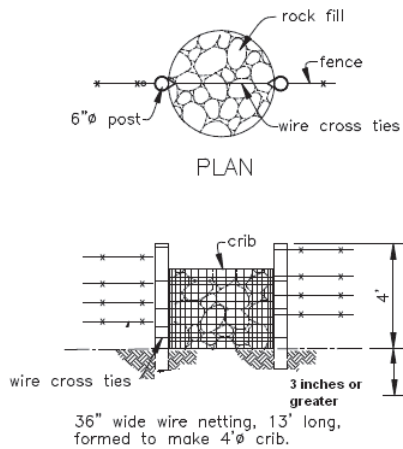


At any angle of change the following alternatives may also be used:

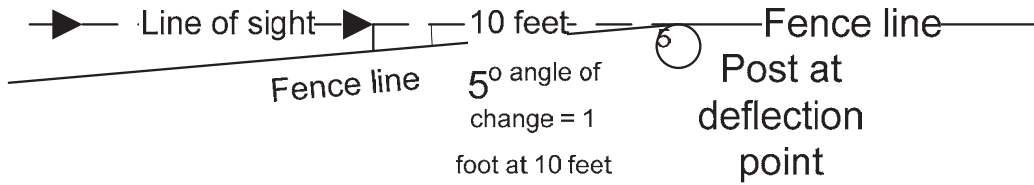
- Standard H-Brace
- Diagonal Steel Brace
- Diagonal Floating Brace
- Rock Cribs –see NRCS-WA Standard Drawing Isk-0253



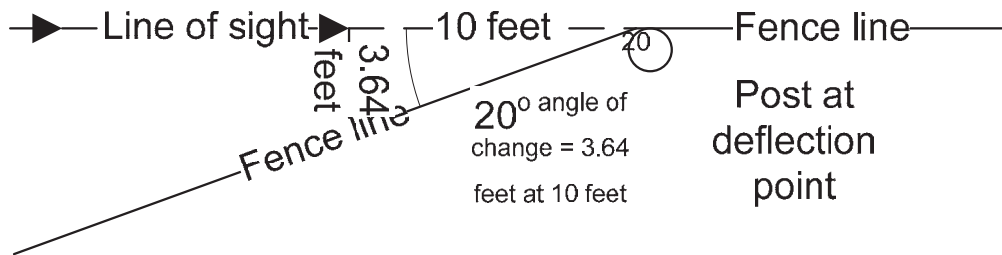
- Rock jack – see NRCS-WA Standard Drawing Isk-0260



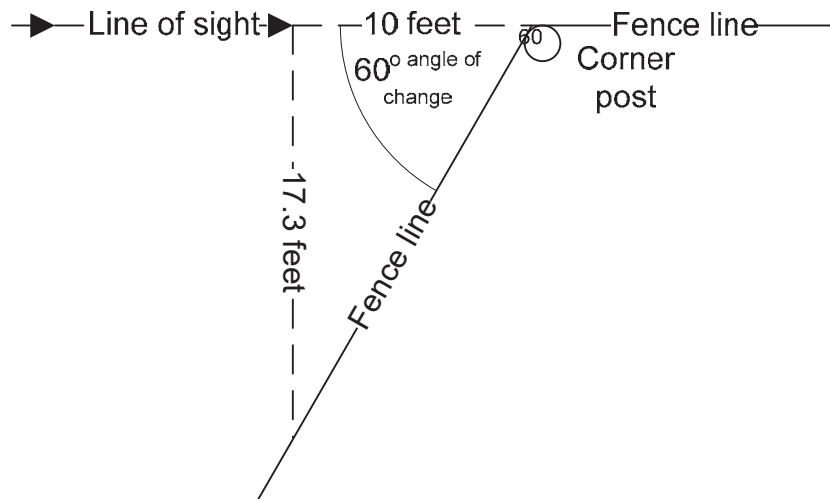
How to estimate a 5° angle

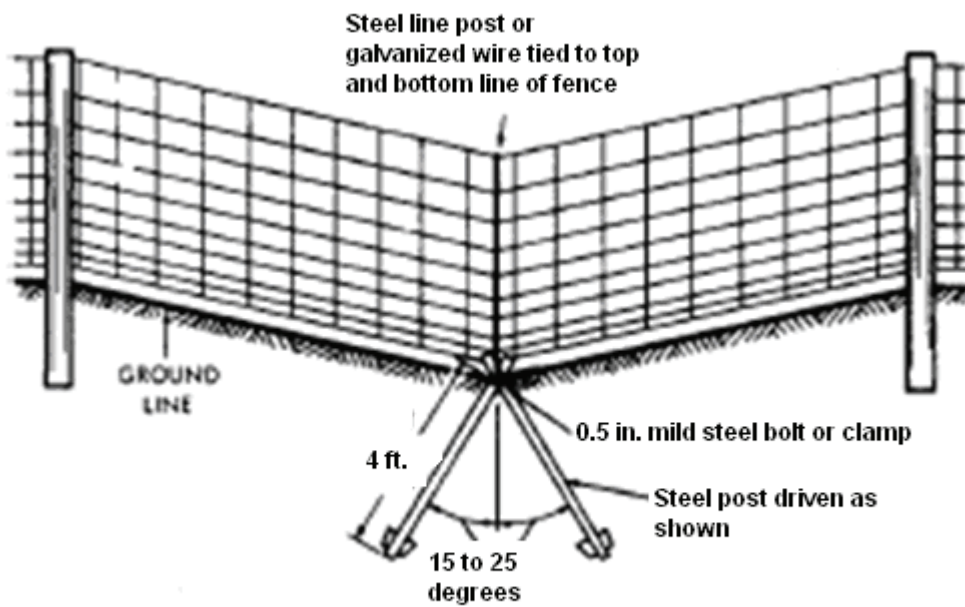


How to estimate a 20° angle

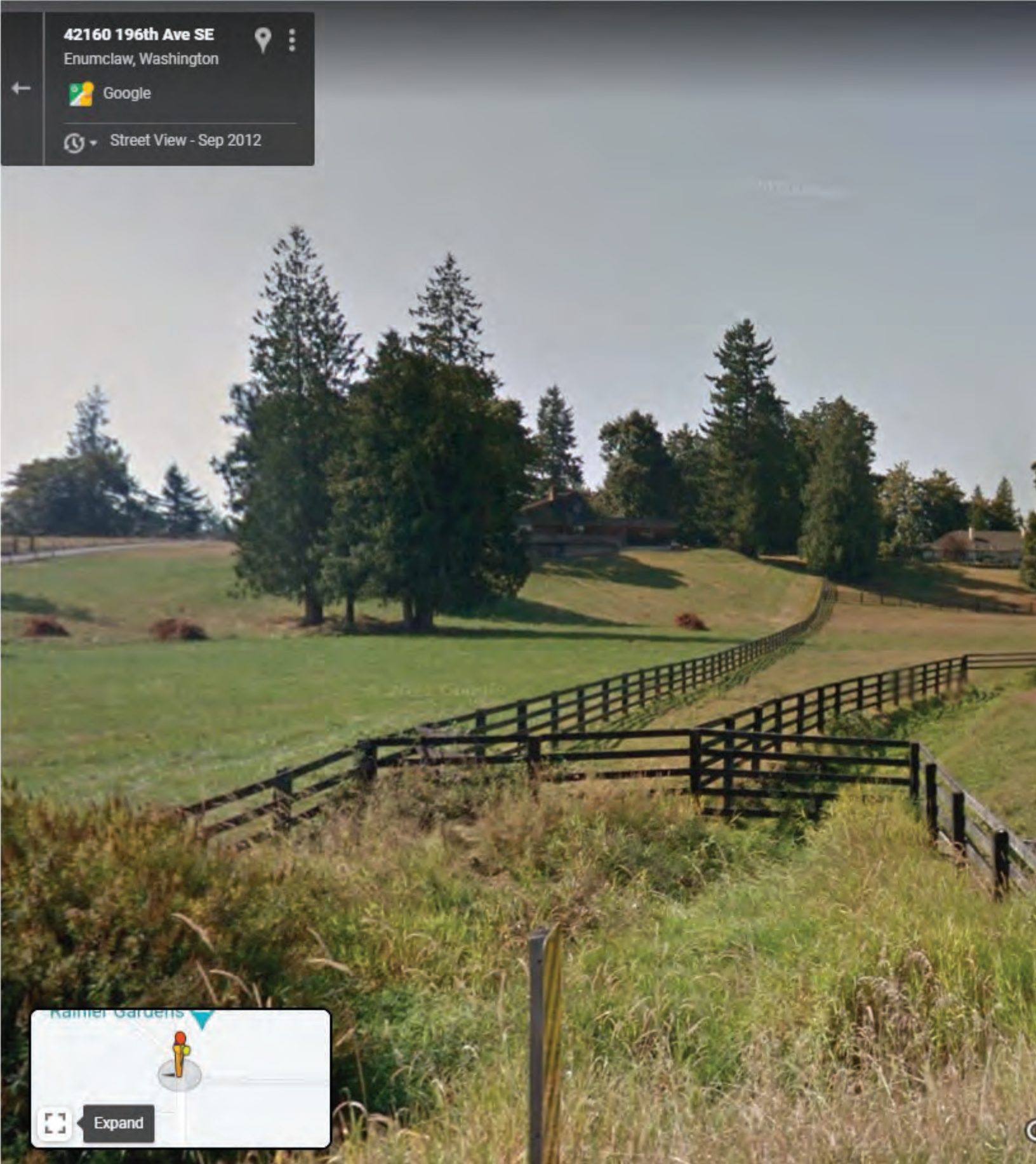


How to estimate a 60° angle





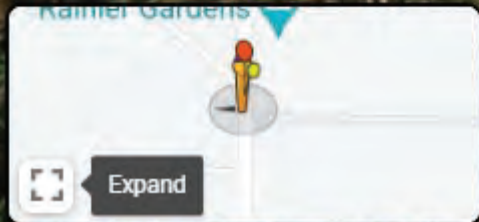
Assembly at change in vertical alignment



42160 196th Ave SE
Enumclaw, Washington



Street View - Sep 2012





King Conservation District Board of Supervisors Meeting 07/11/2022
Agenda Action Briefing/Report AI 22-0 ⁵⁷

SUBJECT:

Review for Approval KCD Landowner Incentive Program cost-share application from Robert Pepka, for Stream Crossing, in the amount of \$36,000.00.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$127,424.16
Current Request	\$36,000.00
Balance Remaining	\$91,424.16

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

Robert Pepka owns a 28 acre property in Duvall which they purchased around 2018 with the intention to farm. Since purchasing their property it has experienced significant flooding due to an avulsion in Cherry Creek in 2018 which flooded theirs and neighboring fields. The avulsion was repaired in 2020, however a partially crushed culvert is acting as a fish passage barrier and continually becomes blocked with debris and sediment both naturally and from beavers, and flooding is continuing to be an issue in their fields. The culvert occurs along a drive-way that the Pepka's use to bring farm equipment to their fields, this historic farm access driveway acts as an artificial barrier to downstream flow and has rendered the pastures unusable.

This project will replace the old, partially crushed culvert with a bridge that will allow for more surface water to flow and reduce the beaver activity. The goal is to reduce ponding and flooding around the farm access road and in associated fields.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Robert Pepka, for a Stream Crossing, in the amount of \$36,000.00.

MOTION

 Moved, Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Robert Pepka, for Stream Crossing, in the amount of \$36,000.00.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Robert Pepka		Farm/Business Name: Pepka Farm	
Mailing Address: 28716 NE Cherry Valley Rd Duvall, WA 98019		Project Address: 28716 NE Cherry Valley Rd Duvall, WA 98019	
Phone (home):		Phone (work/mobile):	
Email Address: pepkaro@gmail.com		KCD Staff: pepkaro@gmail.com	
Parcel #(s): 072607-9005	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 28.1	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Stream Crossings
Project Completion Date (month and year): 08/08/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The proposed bridge project will include removal of a fish passage barrier that is a partially crushed 24" culvert. This watercourse had ADAP done in 2016 where salmonids were captured and released including Coho and some ESA listed Chinook (listed as 'threatened'). Other resource concerns are that heavy rainfall running downhill from southern slopes is filled with sediment and clogs the already undersized culvert quickly. This cooperators and his neighbors have been continually cleaning this culvert to remove sediment and debris that is dangerous for them in high flow times. Significant amount of surface water flow has caused scouring at the outlet of the culvert and erosion of ditch banks. Additionally, beavers are continuously drawn to this culvert because it easy to dam up. In 2021, WCC crew helped to remove 5 dams around this culvert during an emergency flood event. The culvert</p>
<p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>The Cherry Valley in Duvall is notorious for extensive seasonal flooding that can last between October through April. This situation became more serious in 2018 after Cherry creek experienced an avulsion and significant amounts of surface water poured over several farms in the valley for two winters. The Pepkas purchased this property in 2018 from the Hartley family. ADAP recently completed a project in 2016 to support the Hartley family where KCD staff worked with ADAP to purchase a bridge at that time. The bridge was not ordered correctly in 2016 and was not installed. Since then, the farm went up for sale for two years and new cooperators moved in. The Pepkas are very much interested in working their pastures but have been unable to do so due to extensive flooding. By removing this undersized culvert, surface water should not pool around this site as much or for as long as it currently does. If surface water has a wider opening to pass through, then less scouring and erosion will occur when water has less velocity. When surface water slows down, this reduces stress on fish where they can now</p>
<p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>The farm owners and/or managers will need to review the bridge annually for structural integrity.</p>

Permits <i>(List all permits required to complete this project):</i> HPA in progress through King County ADAP
Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)?

☒ Yes
☐ No

If yes, please list contract number and BMP below:

LIP Contract 2020-15 Sub-surface drain. Did not use as there was a change in project design. In process of cancellation to allow for new application.

B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs?

☐ Yes
☒ No

Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service’s Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

KCD's Agricultural drainage program will be cost-sharing on ditch maintenance project for up to \$36,000.

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant’s statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☒ A. I understand the lifetime of the BMP is 10 years.
- ☒ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☒ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I understand that all applicable local, state, and federal permits must be obtained for installation of the BMP for which funds are requested, and I agree to work cooperatively to obtain these permits. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details.
_____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon verification that the BMP was installed as designed. This verification should be provided as written documentation from the design engineer. The design engineer may provide in writing for another authorized individual to provide the verification. Furthermore, I understand that changes to the installation details (attached Job Sheet and Map) must be approved through a Scope of Work Revision Process. Unapproved changes will not be eligible for reimbursement.
_____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.
_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney’s fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

- I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)
- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
 - b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
 - c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
 - d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
 - e. I deny KCD staff access to my property to verify BMP installation and maintenance.

- I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)
- a. I will select a visible location on my property for display of the sign and will install it.
 - b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
 - c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Robert Pepka

Signature of applicant	Date	Signature of Landowner (if applicant if Lessee)	Date
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FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)	Date	
Approved for Funding (KCD Management)	Date	LIP ID:

I understand that if my property is approved for funding that the installation of this Stream Crossing BMP will be coordinated by KCD staff. _____ (Initial Here)



Landowner Incentive Program

Applicant Information

Cooperator:

Budget Items	Units	
Stream Crossing bridge	20.00	\$65,473
Approach entrance of bridge	5.00	
Approach exit bridge	5.00	
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$65,473

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$
Units	Linear Feet	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WC2) 1		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 0.75	0.5	\$ 0.38	Ac.
Aquatic Area Buffer	project	\$ 30,000.00	0.9	\$ 27,000.00	AUE
Buffer Fencing	ft	\$ 12.00	0.75	\$ 9.00	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 50,000.00	0.5	\$ 25,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 40,000.00	0.75	\$ 30,000.00	Project
Cover Crops	acre	\$ 150.00	0.9	\$ 135.00	acre
Cross Fencing	ft	\$ 6.00	0.5	\$ 3.00	
Forest Health Management	project	\$ 30,000.00	0.75	\$ 22,500.00	
Heavy Use Area Protection	AUE	\$ 1,400.00	0.5	\$ 700.00	
Pasture & Hay Planting	acre	\$ 325.00	0.5	\$ 162.50	
Roof Runoff Management	ft	\$ 7.00	0.5	\$ 3.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 20.00	0.5	\$ 10.00	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 1,000.00	0.75	\$ 750.00	
Watering Facility	project	\$ 50,000.00	0.5	\$ 25,000.00	



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Stream Crossing

Cooperator: Pepka	Lifetime of Practice: 10 years
-------------------	--------------------------------

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Reduce streambank and streambed erosion.	<input checked="" type="checkbox"/> Provide crossing for access to another land unit.
<input checked="" type="checkbox"/> Improve water quality by reducing sediment, nutrient, organic, and inorganic loading of the stream.	<input checked="" type="checkbox"/> Remove a fish passage barrier in combination with installing fish passable crossing structure.

Summarize the Project Proposal. *Provide the following: 1) describe project activities, including permitting, site prep, installation, and maintenance and monitoring; 2) describe the anticipated project outcome (e.g. fish and wildlife benefits, other environmental benefits); and 3) outline the project implementation timeline.*

1) This project is part of KC ADAP project from 2016 where a bridge was scheduled to be installed but the wrong bridge size was ordered and then the farm went up for sale. There will be no dredging of the modified ag ditch as a part of this project. The original 5 year HPA has expired and an extension HPA application has been submitted. Project activities will include removing and replacing a partially crushed 24" concrete structure that is blocking conveyance of surface water and impeding fish passage. During the 2016 ADAP project, captured and released salmonid included coho and ESA listed Chinook. A new 12' x 20' long concrete bridge will be installed with concrete block abutments. Maintenance and monitoring of this bridge is recommended annually or as needed on private property.

2) The bridge replacement is necessary because the current bridge is undersized and is causing significant fish passage issues. During seasonal flooding or heavy rain, this modified ditch carries all surface water from adjacent steep slopes and is forced through a partially crushed 24" culvert which has caused extensive scouring of the ditch and prolonged flooding of adjacent pastures. Flood waters are also dispersing out and around the bridge and washing out the farm road. The recent avulsion project helped to reduce overland flooding of pastures to the northeast but upland surface flows continue to increase in sediment load as development of upland properties continues. Removal of this fish barrier will help to slow the velocity of this watercourse and improve salmonid health as well as provide access to more spawning areas upstream. Removal of this culvert will also reduce beaver dams that have been sighted as blocking fish passage as well. This system received a native buffer planting in 2017 as part of the original ADAP project. Additional plants will be installed if any damage occurs to the existing buffer.

3) This project is currently waiting for approval by WDFW for HPA extension from 2016 ADAP. The bridge structure will be delivered to the site by September 2022. Two coffer dams will be placed on upstream and downstream ends of the existing culvert, water will be pumped down, fish will be removed, and the existing culvert will be removed. All work below the OHWM will be completed by Sept. 30th, 2022. Bridge decking work can continue past this deadline if anything else needs to be done.

Describe Project Area. *Provide the following: 1) extent of project area above and below ordinary high water mark; 2) dimensions of site; and 3) briefly describe the existing vegetation and habitat conditions.*

- 1) All work to remove the fish barrier culvert will be done below the OHWM. Bridge Decking work will be out of the OHWM.
- 2) The new bridge will be 12' wide by 20' long concrete slab that is a part of an existing farm access road.
- 3) Existing vegetation consists mostly native trees and shrubs that were planted in 2017.

Name and type (S, F or N, wetland I, II, or III) of waterway to be crossed.

This modified ag ditch is a salmon bearing watercourse.

Land Uses and Associated Impacts. *Provide the following: 1) describe how the property is used (e.g., residential, commercial, recreational); 2) describe adjacent properties, including land uses and any potential adverse impacts to adjacent properties associated with the proposed project.*

- 1) This property is used as farmland primarily.
- 2) Adjacent properties include horse boarding operation and two hobby farms. Current loss of farmland is estimated at 40 acres of pasture due to prolonged flooding from the avulsion and this blocked culvert. The farm access road is also a barrier for surface water that prevented surface water from draining in a timely manner.

List the intended use (people, livestock, equipment, or vehicles). *Also include the stream crossing dimensions and project materials. Please attach an engineer approved design.*

Livestock, cars, trucks, tractors. This bridge is load-rated as HL-93 ('HL stand for Highway load via AASHTO) Concrete bridge will be 45'x12'. Footing will be made of Redi-blocks that are concrete.

Grading and Demolition Activities. *Describe the plan to remove structures (failing culvert, etc.) and grade project areas, including specific construction methods and equipment to be used.*

An excavator will remove old culvert after site is dewatered and defished. New concrete abutments will be installed as footings. Bridge entrance and exit will be graded per engineer's plans. Excavator with thumb implement will pick up bridge decking to be placed and attached to abutments using rebar. Livestock guardrails will be installed.

Habitat Restoration Activities. *Provide the following that apply: 1) describe site preparation activities (e.g. weed control, substrate to be applied, soil amendment to used); 2) identify the type and source of plant materials (e.g. potted, bareroot, ball and burlap and native plant nurseries providing plant material; 3) describe the care and temporary storage of plant materials; 4) describe installation plan (e.g. planting plan, installation techniques, sheet mulching, etc.); 5) describe maintenance and monitoring plan (e.g. number of years to be conducted, survival data collection, etc.).*

1) Restoring habitat will be removing the partially crushed 24" culvert. The ADAP buffer planting was already installed in 2017. Any damaged plants in the buffer will be replaced and maintained accordingly.

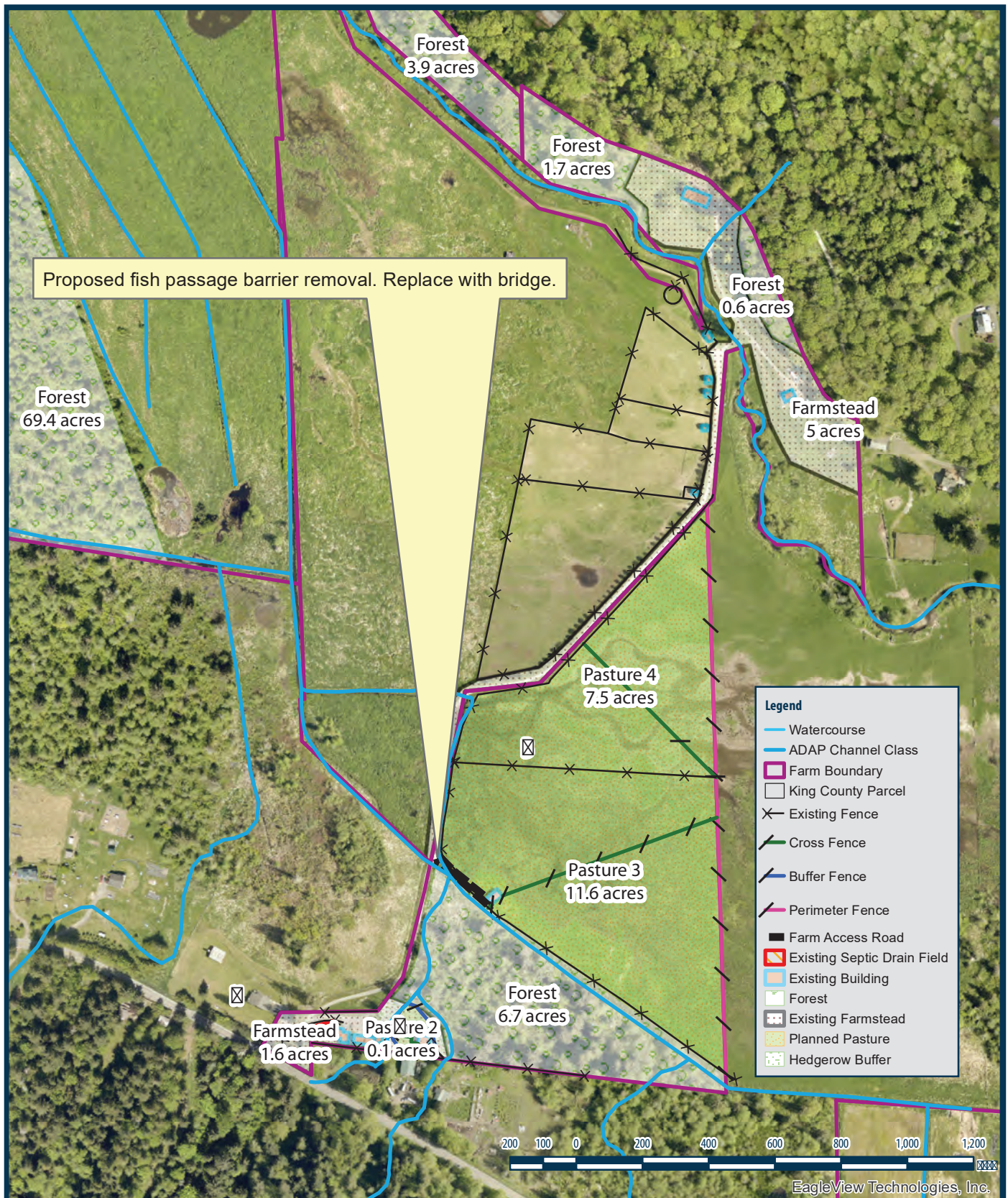
Permits. *Provide the following: 1) a list of all permits necessary for approval of project; 2) copies of all permits secured to date.*

1. HPA in process 2) none

Operation and Maintenance. *According to the following Washington State laws, WAC 220-110-070 and RCW 77.55.060, the owner of a road culvert, or ford that is a fish passage facility is responsible for maintaining its fish passage functions as well as maintenance of the structure. For example, The stream crossing, appurtenances, and associated fence should be inspected after each major storm event, with repairs made as needed.*

KCD recommends annual inspection or inspection after high flow events of the bridge by cooperators to look for any structural damage or build up of material in the watercourse underneath the structure.

Additional Specifications and Notes:



Bobby & Alayna Pepka		LIP Map for Stream Crossing Practice		SE
28716 NE Cherry Valley Rd		Stockton		07
Duvall, WA 98019		June 16, 2022		26
28.1	072607-9005			07

2022 1107 130 98057 425-282-1900

Document Path: \\KING-FS1\gis-data\GIS_Data\KCD_GIS_Data\Farm\MXDs\Projects\Farm_Pepka_7072\KCD_FRM_Pepka_7072_SC.mxd



King Conservation District - Pepka Bridge Project

Install 12' x 20' Slab Bridge (w/29° Lt-Ah skew)

Cost Estimate 1/13/21 (Standard Wages)

Item	Units	Qty	Rate	Cost
Materials				
12' x 20' Slab Bridge (Rapid-Span)	LS			\$ 21,500
Redi-Rock Blocks (60" Base Blocks)	Each	10	\$120	\$ 1,200
60" 1/2-base block	Each	4	\$65	\$ 260
41" Mid block	Each	22	\$99	\$ 2,178
23" Flat-Top	Each	8	\$85	\$ 680
Freight	Each	2	\$850	\$ 1,700
Ballast/pit-run (delivered)	CY	60	\$35.00	\$ 2,100
Abutment Bedding (5/8" delivered)	CY	12	\$55.00	\$ 660
Base Reinforcement (light rip-rap)	CY	20	\$50.00	\$ 1,000
Surfacing (1 1/4" delivered)	CY	60	\$55.00	\$ 3,300
Rip-Rap	CY	0	\$0.00	\$ -
Materials Sub-Total				\$ 34,578
WSST				8.6% \$ 2,974
Total Estimated Material Cost				\$ 37,552
Installation				
Clear & Grub (inc waste area)	ac	0.1	\$2,000	\$ 200
Sediment Control & Water Bypass	LS			\$ 5,000
Bridge Installation				
Labor	5 days x 3 men	15	\$440	\$ 6,600
Excavator (300 size)	1 @ 4 days	2	\$1,376	\$ 2,752
Excavator (200 size)	1 @ 4 days	0.5	\$1,376	\$ 688
Waste truck (<100 cy)	1 x 1 days	1	\$920	\$ 920
Spread Cat	1/2 days	0.5	\$920	\$ 460
Welder	1 days	1	\$920	\$ 920
Misc				
Misc. Equipment (compactors, pumps, etc)	LS			\$ 2,000
Hydroseeding (Seed & Mulch)	LS			\$ 500
Mobilization & Travel	LS			\$ 4,500
Misc Materials (rebar, fasteners, etc.)	LS			\$ 250
Contractor Materials Mark-up		12%		\$ 920
Labor Sub-Total				\$ 25,710
WSST				8.6% \$ 2,211
Estimated Installation Cost				\$ 27,921
Total Estimated Project Cost (non-prevailing wages)				\$ 65,473
KCD Supplied Materials				\$ 29,885
Contractor Est Bid				\$ 35,588

PEPKA BRIDGE PROJECT
KING CONSERVATION DISTRICT (ADAP)

PLAN VIEW

EXISTING
ROAD EDGE

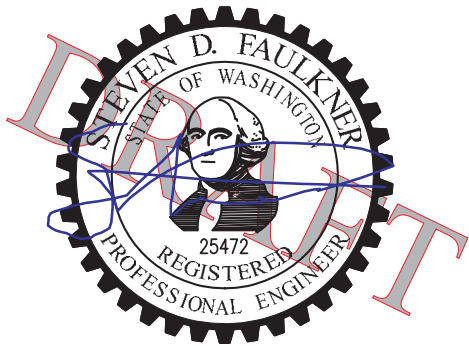


EXISTING
FENCE

INDEX TO SHEETS	
PLAN VIEW	1
PROFILE VIEWS	2
ABUTMENT DETAIL	3
DECK DETAIL	4
STAKING DETAIL	5

STA. 0+41.3 - 0+61.3
ED 12' x 20' CONCRETE SLAB BRIDGE
w/30° LT-AH SKEW @ 0%

CALL BEFORE YOU DIG
1-800-424-5555 (or 811)



EXISTING 12" CPP
UPSTREAM PT 2322±)

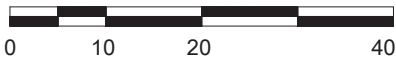
PROJECT AREA

LATITUDE: N 47.747372°
LONGITUDE: W 121.953325°

KING CO TAX PARCEL
0726079005

2-17-22

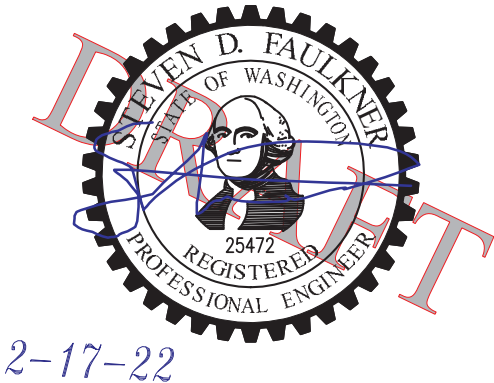
NG RESTORED UPSTREAM
CHANNEL @ 0.1%
(CBW=7'+)



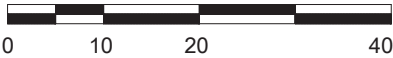
PEPKA BRIDGE PROJECT		
KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM		
DATE FEBRUARY 17, 2022	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV
SCALE 1" = 20'	29318 NE CHERRY VALLEY RD DUVAL, WASHINGTON 98019	SHEET 1 of 5

PEPKA BRIDGE PROJECT
KING CONSERVATION DISTRICT (ADAP)

PROFILE VIEWS



"READI-ROCK" CONCRETE BLOCK ABUTMENTS



TO BE CROWNED AT 2%.

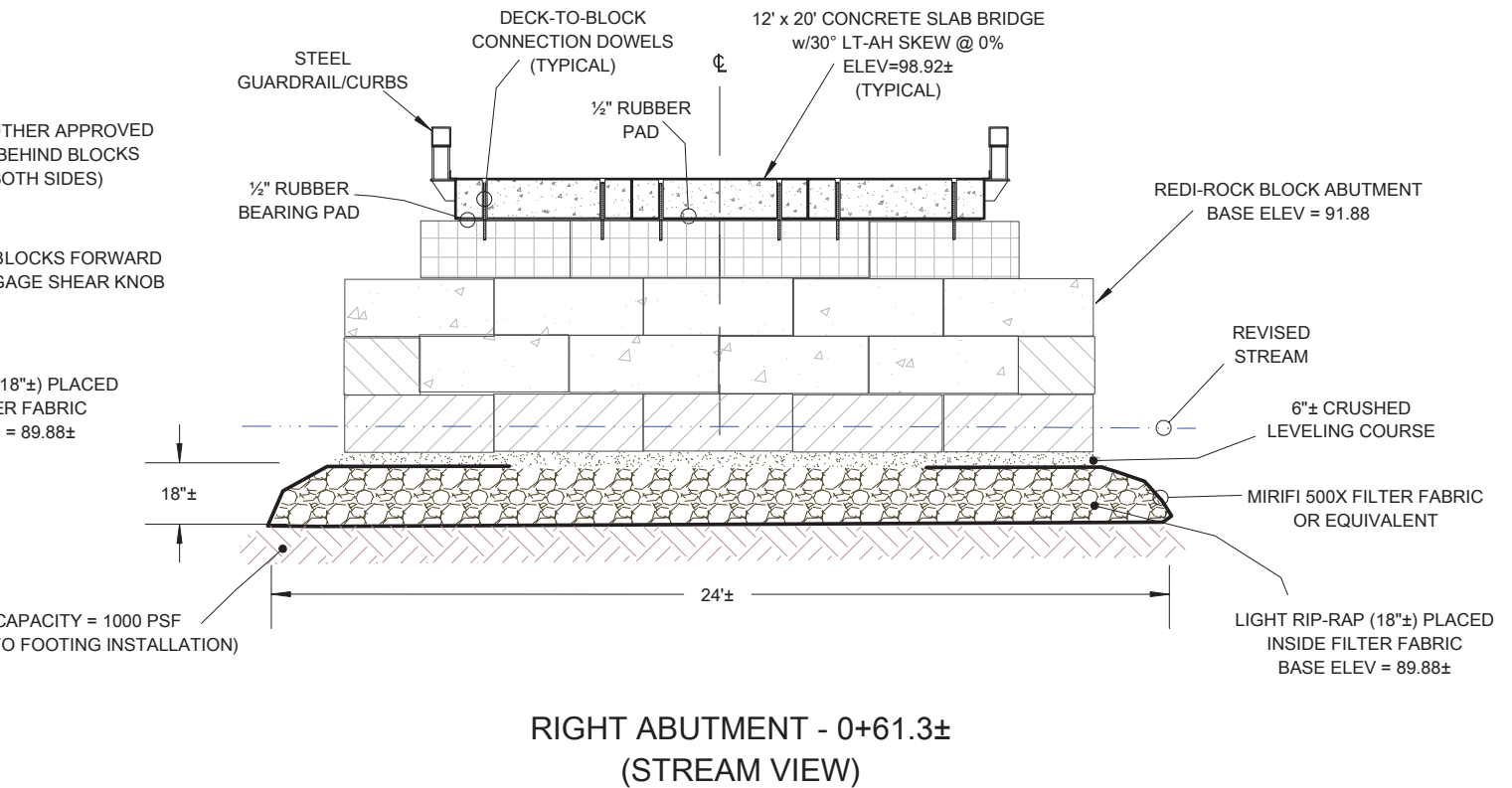
BE COMPACTED WITH CONSTRUCTION EQUIPMENT.

LOCAL SUPPLIERS.

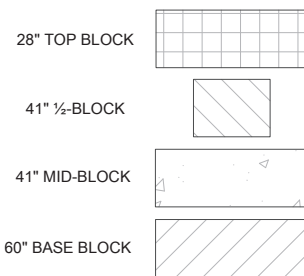
AND 8.1' (STREAMSTATS, BIEGER, ET AL, 2015).

PEPKA BRIDGE PROJECT		
KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM		
DATE FEBRUARY 17, 2022	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV
SCALE 1" = 20'	29318 NE CHERRY VALLEY RD DUVAL, WASHINGTON 98019	SHEET 2 of 5

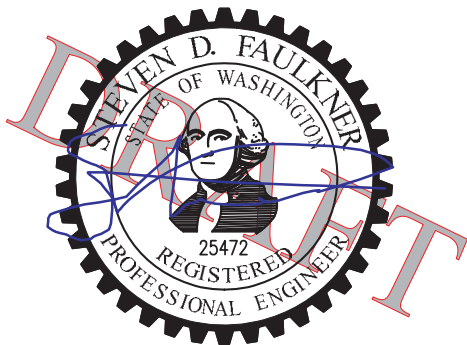
PEP PROJECT N DISTRICT (ADAP)



INSTALLATION DETAILS



TYPICAL REDI-ROCK BLOCKS



2-17-22



PEPKA BRIDGE PROJECT

KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

DATE FEBRUARY 17, 2022	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV
SCALE 1" = 5'	29318 NE CHERRY VALLEY RD DUVAL, WASHINGTON 98019	SHEET 3 of 5

PEPKA BRIDGE PROJECT KING CONSERVATION DISTRICT (ADAP) DECK/GUARDRAIL INSTALLATION DETAILS

LIGHT RIP-RAP (18"±) PLACED
INSIDE FILTER FABRIC EXTENDS
2'+ OUTSIDE OF BASE BLOCKS
(TYPICAL)

GENERAL INSTALLATION NOTES

- 1) DECK IS COMPOSED OF THREE 4.0-FOOT WIDE x 20-FOOT LONG SKEWED PANELS, EACH WEIGHING APPROXIMATELY 12,000 LBS. LIFTING POINTS ARE CONFIGURED FOR STANDARD LIFTING CLUTCHES.
- 2) ½-INCH RUBBER PAD TO BE PLACED BETWEEN TOP BLOCK AND DECK SLABS.
- 3) HOLE SHALL BE DRILLED INTO TOP BLOCK SO THAT 1-INCH DOWEL (OR THREADED ROD) CAN BE EPOXIED INTO TOP BLOCK FOR USE AS DECK-TO-BLOCK CONNECTION. NO FASTENER ON TOP IS REQUIRED.
- 4) DOWELS/RODS TO BE GROUTED TO SLAB.
- 5) STEEL GUARDRAIL/CURB TO BE BOLTED TO EDGES OF OUTSIDE DECK PANELS AS SHOWN IN MANUFACTURER'S PLANS.
- 6) CAULKING (I.E., SIKAFLEX) SHALL BE PLACED BETWEEN STEEL ANGLE (CURB) AND DECK PANEL.
- 7) LIGHT RIP-RAP REINFORCEMENT INSTALLED BENEATH ABUTMENTS AS SHOWN ON SHEET 3.



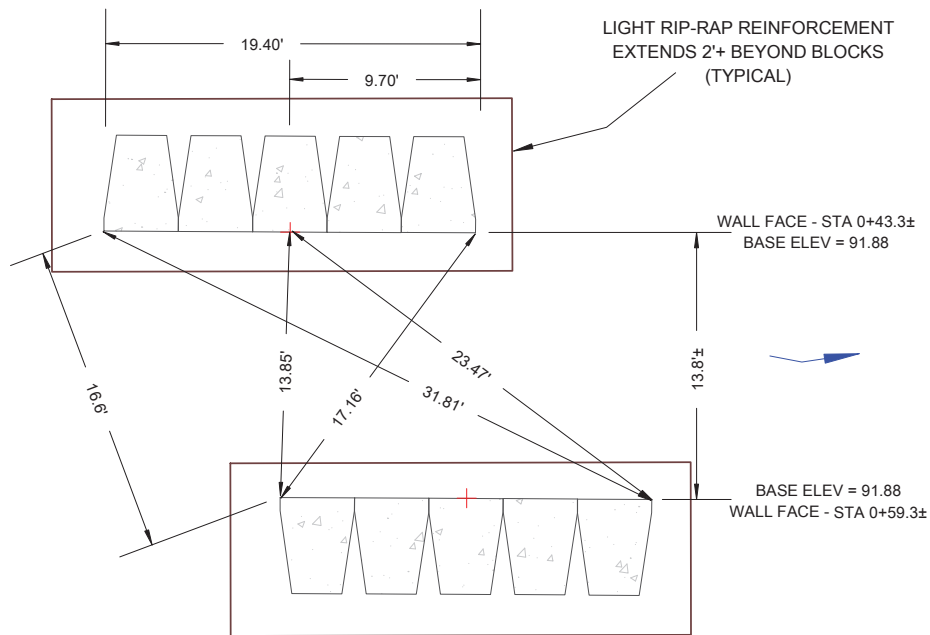
PEPKA BRIDGE PROJECT

KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

DATE FEBRUARY 17, 2022	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV
SCALE 1" = 5'	29318 NE CHERRY VALLEY RD DUVAL, WASHINGTON 98019	SHEET 4 of 5

PEPKA BRIDGE PROJECT KING CONSERVATION DISTRICT (ADAP)

STAKE-OUT DETAIL



BLOCK STAKE-OUT SKETCH
FACE CL POINTS

NOTE:
ABUTMENT CENTERS ARE NOT ON ROAD CENTERLINE
LEFT ABUT CL IS 7½" UPSTREAM OF ROAD CL
RIGHT ABUT CL IS 7½" DOWNSTREAM OF ROAD CL



PEPKA BRIDGE PROJECT

KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

DATE FEBRUARY 17, 2022	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV
SCALE 1" = 10'	29318 NE CHERRY VALLEY RD DUVAL, WASHINGTON 98019	SHEET 5 of 5

Pepka (Laird) Block Bridge

Bridge Footing Loads

Soil Bearing Capacity:	1.000 ksf
Less DL	0.523 ksf
LL Available	0.477 ksf

Loadings:

HS 20-44	Use eccentric loading @	100%
DL + LL =	109.36 +	33.68
	=	143.04 k
	Soil Bearing =	684 psf
	FS =	1.46

HS 25-44	Use eccentric loading @	100%
DL + LL =	109.36 +	42.11
	=	151.47 k
	Soil Bearing =	725 psf
	FS =	1.38

U-80	Use eccentric loading @	100%	(centered)
DL + LL =	109.36 +	66.21	
	=	175.57 k	
	Soil Bearing =	840 psf	
	FS =	1.19	

L-50	Use eccentric loading @	100%	(centered)
DL + LL =	109.36 +	65.79	
	=	175.15 k	
	Soil Bearing =	838 psf	
	FS =	1.19	



2-14-22

Pepka (Laird) Block Bridge

Bridge Live Load Calcs

Bridge Length: 20 ft

Clearspan: 19 ft

U-80 Loading:

 $R_1 \triangleleft \leftarrow \quad 19 \rightarrow \triangle R_2$

HS 25-44 Loading:

 $R_1 \triangleleft \leftarrow \quad 19 \rightarrow \triangle R_2$

HS 20-44 Loading:

 $R_1 \triangleleft \leftarrow \quad 19 \rightarrow \triangle R_2$

L-50 Loading:

 $R_1 \triangleleft \leftarrow \quad 13 \rightarrow \triangle R_2$

U-80 $R_1 = \sum M_1 / \text{Clearspan} = 37(4.5+18.5)/CS = 44.79 \text{ Kips}$
 $R_2 = 74 \text{ k} = R_1$ $R_2 = 66.21 \text{ Kips}$

L-50 $R_1 = \sum M_1 / \text{Clearspan} = 100(13/2)/CS = 34.21 \text{ Kips}$
 $R_2 = 100 \text{ k} = R_1$ $R_2 = 65.79 \text{ Kips}$

HS 25-44 $R_1 = \sum M_1 / \text{Clearspan} = (20(4+14+18))/CS = 37.89 \text{ Kips}$
 $R_2 = 40 \text{ k} = R_1$ $R_2 = 42.11 \text{ Kips}$

HS 20-44 $R_1 = \sum M_1 / \text{Clearspan} = (16(4+14+18))/CS = 30.32 \text{ Kips}$
 $R_2 = 32 \text{ k} = R_1$ $R_2 = 33.68 \text{ Kips}$

Pepka (Laird) Block Bridge Bridge Dead Load Calcs

Assumptions:

	Total wt (k)	One side	Wt / end (k)
Bridge	24.588		12.294
Deck	0		0
Backwall			0
Bent/Sill		45.233	45.233
Soil		15.22	15.22
24 " Reinforcement		36.6096	36.6096
Total Dead Load			109.36 k 0.52 k/ft²

Footing Size: (Base Block)

ht = 6 ft
width = 19.22 ft
depth = 5 ft

Area (each block)= 15.06 ft² each

Total pieces per end 5

75.30 ft² per end

Soil Load on Footing:

Max Area = 22.9 ft² (# blocks x A diff)

Soil height = 5.54 ft (top -> base block)

Effective volume 126.9 cft per end

Soil wt/ft² 0.12 k/ft²

Total soil Load on Footing

15.22 k
0.20 k/ft²





King Conservation District Board of Supervisors Meeting 07/11/2022
Agenda Action Briefing/Report AI 22-0 58

SUBJECT:

Review for Approval KCD Landowner Incentive Program cost-share application from Jake Devaney, for Cover Crops, in the amount of \$10,800.00.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$165,629.16
Current Request	\$10,800.00
Balance Remaining	\$154,829.16

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

Jake Devaney will be planting corn on the Ritter Dairy farm in Enumclaw. The dairy rotates corn with grass. For the next three years they will plant corn, and a cover crop will be planted in the winter to protect the soil from erosion and nutrient runoff. The corn fields will be terminated in early to mid -September, depending on weather. This project will support planting cover crop after the corn termination on 20 acres for the next three years. The field this project is cost-sharing on has two ditches that drain into the White River.

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION


Staff seeks Board approval of Landowner Incentive Program cost-share application from Jake Devaney, for Cover Crops in the amount of \$10,800.00.

MOTION

_____ Moved, _____ Seconded; Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Jake Devaney, for Cover Crops, in the amount of \$10,800.00.

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Jake Devaney		Farm/Business Name: Ritter Dairy	
Mailing Address: 42923 212th Ave SE Enumclaw, WA 98022		Project Address: Ritter Dairy 19916 SE 436TH ST. Enumclaw, WA 98022 	
Phone (home): 206-550-2787		Phone (work/mobile): same	
Email Address: jdevaney.enterprises@gmail.com		KCD Staff: Megan Weldon	
Parcel #(s): 2020069011	<input checked="" type="checkbox"/> Incorporated <input type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 20 acres	<input checked="" type="checkbox"/> T.A. <input type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Cover Crops
Project Completion Date (month and year): 10/2024
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>All of these fields are currently growing corn which will be terminated in early/mid September. The exact corn termination date depends on seasonal weather patterns. Triticale will be planted after termination as a cover crop to protect from soil erosion and nutrient runoff during the winter. This dairy rotates fields with corn and grass. While these fields are in corn a cover crop will be planted to protect soil health in the winter. There are ditches along the southwest and north side of the 13 acre field. These ditches drain into the White River.</p>
<p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>Jake will be planting triticale as a cover crop over 20 acres of corn for the next three years. It will then be chopped and converted back to corn in the following summer. Jake Devaney will be doing all of the field prep, conversion, planting and harvesting.</p> <p>Jake Devaney is the primary point of contact for this project. Jim Ritter is the owner of the property.</p>
<p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>Ensure seed is planted in early fall, no later than October 15th. Avoid applying fertilizer before large rain events to prevent nutrient runoff and do not apply fertilizer after October 31st or prior to April 1st. If spreading manure, abide by setback requirements.</p>

Permits <i>(List all permits required to complete this project):</i> No
Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☒ Yes ☐ No
 If yes, please list contract number and BMP below:
 Cover Crops 2019-19, 2019-23

B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☒ No
 Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant's statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☐ A. I understand the lifetime of the BMP is 1 years.
- ☐ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☐ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I agree to ensure that all applicable local, state, and federal permits are obtained for installation of the BMP for which funds are requested. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon installing the BMP to the minimum standard provided by KCD, and that KCD will verify standard compliance. Furthermore, I understand that changes to the installation details (attached *Job Sheet and Map*) must be approved through a *Scope of Work Revision Process*. Unapproved changes will not be eligible for reimbursement. _____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.

_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney's fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)

- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
- b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
- c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
- d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
- e. I deny KCD staff access to my property to verify BMP installation and maintenance.

I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)

- a. I will select a visible location on my property for display of the sign and will install it.
- b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
- c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Jake Devaney

Signature of applicant

Date

Signature of Landowner (if applicant if Lessee)

Date

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)

Date

Approved for Funding (KCD Management)

Date

LIP ID:



Landowner Incentive Program Applicant Budget

Cooperator: Devaney

Budget Items	Units	Cost
Cover Crops 2022	20 acres	\$4,000.00
Cover Crops 2023	20 acres	\$4,000.00
Cover Crops 2024	20 acres	\$4,000.00
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$12,000.00

In-Kind Labor/Machinery	# hours	Cost
Manual labor		\$ -
Person with power equipment (i.e. chainsaw)		\$ -
Small Tractor (up to 40 hp)		\$ -
Medium Tractor (40-70 hp)		\$ -
Large Tractor (71 or above hp)		\$ -
Excavator (up to 100 hp)		\$ -
Excavator (over 100 hp)		\$ -
D-4 Cat or equivalent		\$ -
D-6 Cat or equivalent		\$ -
D-7 Cat or equivalent		\$ -
Backhoe		\$ -
Truck (under 2 tons)		\$ -
Truck (2 tons or over)		\$ -
Bobcat		\$ -
4-wheeler or side-by-side		\$ -
Subtotal	0.00	\$ -

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$ 12,000.00
Units	Acres	60.00
Cost/Unit		\$ 200.00

Conservation Practice	select BMP (x)	Cost Share Amount
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WCC)		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		
Bulkhead Removal (Freshwater, Marine)		
Cover Crops	x	\$ 10,800.00
Cross Fencing		
Forest Health Management		
Heavy Use Area Protection		
Pasture & Hay Planting		
Roof Runoff Management		
Stream Crossing		
Subsurface Drain		
Upland Wildlife Habitat Management		
Waste Storage Facility		
Watering Facility		

Amount eligible for reimbursement
(based on 2015 rates)

\$10,800.00



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Winter Cover Crop

Cooperator: Jake Devaney	Lifetime of Practice: 1 year
--------------------------	------------------------------

Primary Purpose (at least one must apply)	
<input checked="" type="checkbox"/> Reduce erosion from wind and water.	<input checked="" type="checkbox"/> Increase soil organic matter content.
<input checked="" type="checkbox"/> Capture and recycle or redistribute nutrients in the soil profile.	<input type="checkbox"/> Promote biological nitrogen fixation and reduce energy use.
Secondary Purpose (check all that apply)	
<input type="checkbox"/> Increase biodiversity.	<input checked="" type="checkbox"/> Suppress Weeds.
<input checked="" type="checkbox"/> Manage soil moisture.	<input checked="" type="checkbox"/> Minimize and reduce soil compaction.

Plans and Specifications
Acres: 20 acres Species: Triticale Application Technique (broadcast, drill, etc.) & Establishment Procedure (soil amendments, seedbed preparation etc.): Seed drill (wheel drill) Seeding Rate: 100lbs per acre Seeding Date (no later than Oct. 15th): October 15th Planned Termination Date: Triticale is grazed through mid-April and then terminated before corn is planted in late April/mid May

Management Considerations:
Ensure that seed is planted in early fall to allow for adequate seed germination before winter. Minimize the window of when fields are with bare soil to prevent soil erosion. If fertilizing fields prior to or at start of seeding, do not spread before large rain events, to prevent nutrient runoff. Follow setback requirements for fertilizing fields.

Operation and Maintenance:

Additional Specifications and Notes:



Legend

- Parcels
- Planned Cover Crop
- Previous Cover Crop Projects

Crop 4
3.9 acres

Crop Ritter
10.2 acres

Crop Ritter
13.1 acres

200 100 0 200

Pictometry, King

XXXXXXXXXXXX Jake Devaney	XXXXXXXX Cover Crop LIP Map	XXXXXXXXXXXX Megan Weldon
XXXXXX 42923 SE 212th St., Enumclaw, WA 98022		XXXXXX May 09, 2022



XXXXXXXXXXXX2022 XXXXXXXXXXXXXXXXXXXXXXX800 X 39XXXXXXXX150 XXXXXXXX X98057 X425-282-1900 XXXXXXXXXXXXXXX
Document Path: X:\GIS_Data\KCD_GIS_Data\Farm\MXDs\Projects\Farm_Plan_Maps\Devaney_7239\KCD_FRM_Devaney_7239_LIP_CC.mxd



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King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

AI 22-059

SUBJECT:

A motion to approve a small public works contract for the Agricultural Drainage Project on the Iyer Farm (Ayeko Farm) in Enumclaw

BACKGROUND:

The purpose of King CD's Agricultural Drainage Program is to help farmers and farm managers navigate the complexities of maintaining drainage systems on farmland and implement drainage projects through the KCD Ag Drainage cost share program. King CD works with King County's Agricultural Drainage Assistance Program (ADAP) to implement these programs. Typically, funding for the construction costs associated with drainage projects comes from an annual grant via the King County Flood Control District. However, the 2022 construction season will fund projects through a combination of KCD Working Lands funds, KCD Landowner Incentive Program, and KCD Ag Drainage funding supported through the Interlocal Agreement with King County.

The first project of the 2022 season will take place with the Iyer family on the Ayeko farm. Their goals are based around building space for community to thrive as they grow and share knowledge of cultivating culturally relevant crops. KCD is working with the Iyer Family in Enumclaw to complete a drainage maintenance project that will include maintenance on approx. 1500 linear feet of a modified agricultural ditch and replacing one fish passage barrier with a concrete livestock bridge. The project will improve farming for livestock and hay production. Plans and permits are in place to complete the project.

The Iyer family has also been approved to use LIP funding to install a new farm bridge for a maximum reimbursement of \$36,000. The Iyer family is also under contract to receive CREP after ADAP is complete. This farm includes a portion of Newaukum Creek along the western border that is set to receive a 50' buffer planting via CREP. Newaukum Creek is of high importance to salmon recovery efforts in this area and other agencies including King County, NRCS, and WDFW are supportive of KCD's project scope.

The request for bids was submitted through the Small Public Works competitive bidding process using the website 'Builders Exchange.' A pre-bid site meeting was held and attended by four contractors. The lowest bid was submitted by Southworth & Sons at \$37,966.68. We have worked with this contractor in the past and they have done a good job.

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

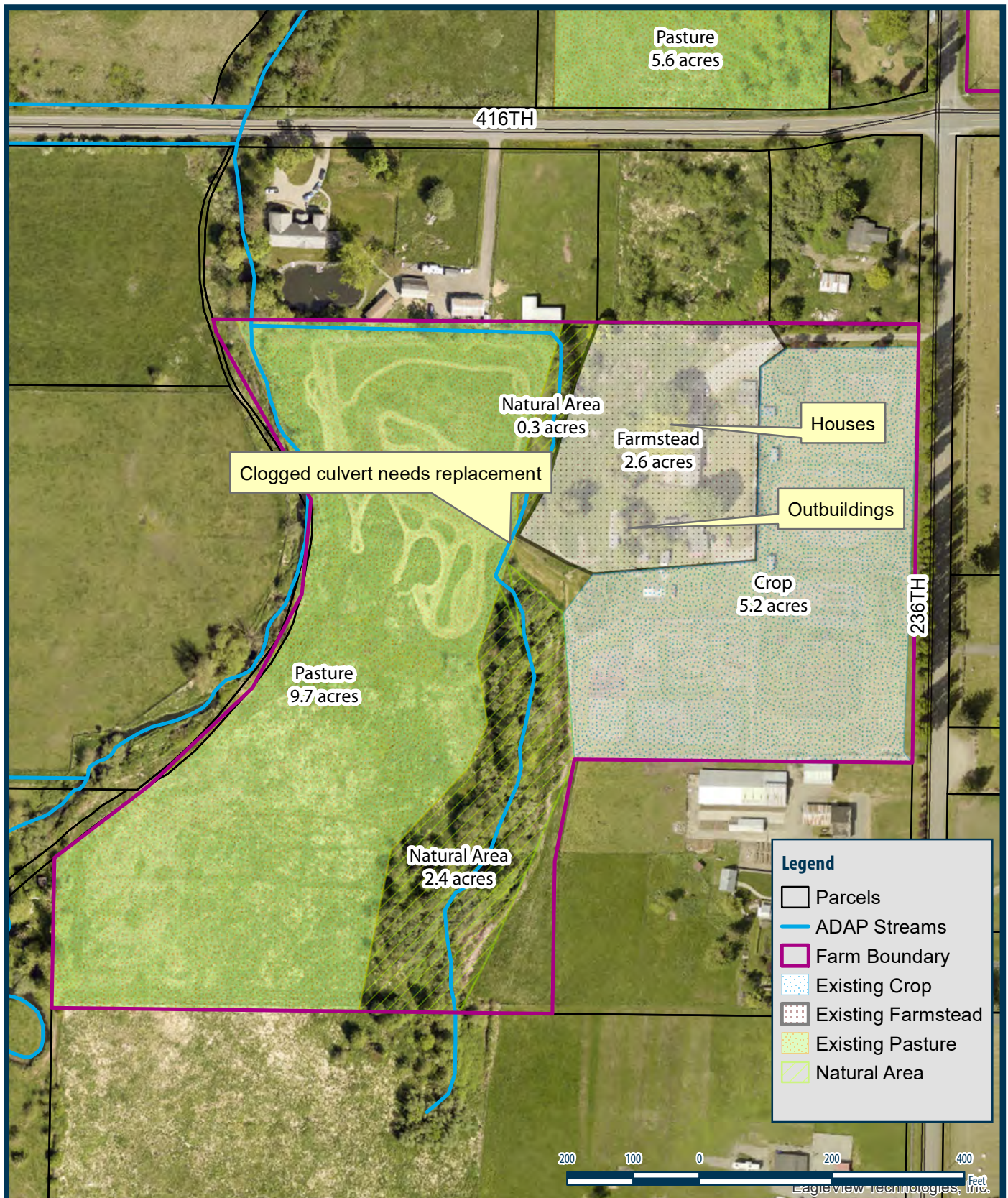
RECOMMENDATION:

District staff recommends that Board approve and sign a Contract with Southworth & Sons to allow work to proceed this season.

<u>ALTERNATIVES NOT SELECTED</u>	REASON
Do not approve and sign contract, Do not complete this project.	Project is of high value to all goals – benefit to multiple farmers, bringing food production acreage back to production, cost to acreage is lower than average, Landowner, Tenants, and ADAP are invested in completing the project

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022





Landowner Name: Iyer Farm		Map Type: Existing Conditions Map	Directional: NW
Address: 41633 236th Ave SE		KCD Staff Name: Liz Stockton	Section: 15
Enumclaw, WA 98022		Map Date: October 18, 2021	Township: 20
Acres: 21.3	Parcel #(s): 152006-9036		Range: 6

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241



1:2,500

Bid Results For Iyer Drainage Project 2022

Contractor	Bid result
Southworth	\$ 37,966.60
Carbon River Constr.	\$ 46,047.39
Talaki	\$ 97,347.70
Wheeler	\$ 41,833.20

1.04 BIDDER INFORMATION

Proper Name of Bidder: SOUTHWORTH & SONS, INC.
 Mailing Address: 50620 EVUMCIAW. CHINOOK HWY, EVUMCIAW 9802
 Contractor's License No.: SOUTHIX2125D UBI No: 600 313 802
 City of [***] Business License No.: _____
 Phone Number: 360 663 2215 Fax Number: 360 663 2571
 Email Address: southworth_rose@msn.com

SCHEDULE OF UNIT PRICES

Description	Est. Quantity	Unit	Unit Price	Extension
Mobilization	1	LS	3500-	3500-
Site Preparation- Clearing & Grubbing	1	LS	2400-	2400-
Dredging sediment from an agricultural ditch	1,521	LF	3 ⁹⁵	6007 ⁹⁵
Relocation of bridge decking and abutments from off-load site to bridge site	1	LS	1200-	1200-
Temporary stream diversion & Dewatering	1	LS	3000-	3000-
Bridge installation	1	LS	4600-	4600-
Timber curbs (Guardrails) (4x10x20')	2	EA	2000-	2000-
Concrete (3000 psi)	1.5	CY	2350-	3525-
High-Strength Grout (4± cf)	15	SACK	55-	825-
Ballast/pit run (delivered)	180	CY	30-	5400-
Abutment Bedding (5/8" delivered)	10	CY	35	350-
Base Reinforcement (light rip-rap)	15	CY	60-	900-
Surfacing (1 1/4" delivered)	20	CY	36-	720-
Rip-rap (1 1/4" delivered)	0	CY	60-	0-
Re-Seeding	1	AC	500-	500-
WA Tax	1	LS	3038 ⁷³	3038 ⁷³

BASE BID Subtotal 34,927.95
W.S.S.T (8.7%) 3,038.73
BASE BID TOTAL (Subtotal with Sales Tax) 37,966.68

ACK. ADD #1

1.05 BID SUMMARY

Amount Bid

Washington State Sales Tax @ [8.7]%

GRAND TOTAL in figures, including tax

GRAND TOTAL in words, including tax

By: 

Signature

JOHN SOUTHWORTH

Printed

PROJECT MANAGER

Title

Public Bidding Crimes Certification / Explanation

Instructions to Bidders: check the appropriate box

☒ The undersigned certifies that the Bidder has not been convicted of a crime involving bidding on a public works contract.

☐ Alternatively, the undersigned confirms that the Bidder has been convicted of a crime involving bidding on a public works contract.

If the Bidder has been convicted of a public bidding crime as discussed above, provide a written explanation of the conviction(s) in which the Bidder was involved, identifying the parties, court, case number, status of case, and judgment and penalties, if appropriate.

04.22.22
(Date)

SOUTHWORTH & SONS, INC
(Proper Name of Bidder)

Rosamark Southworth
(Signature)

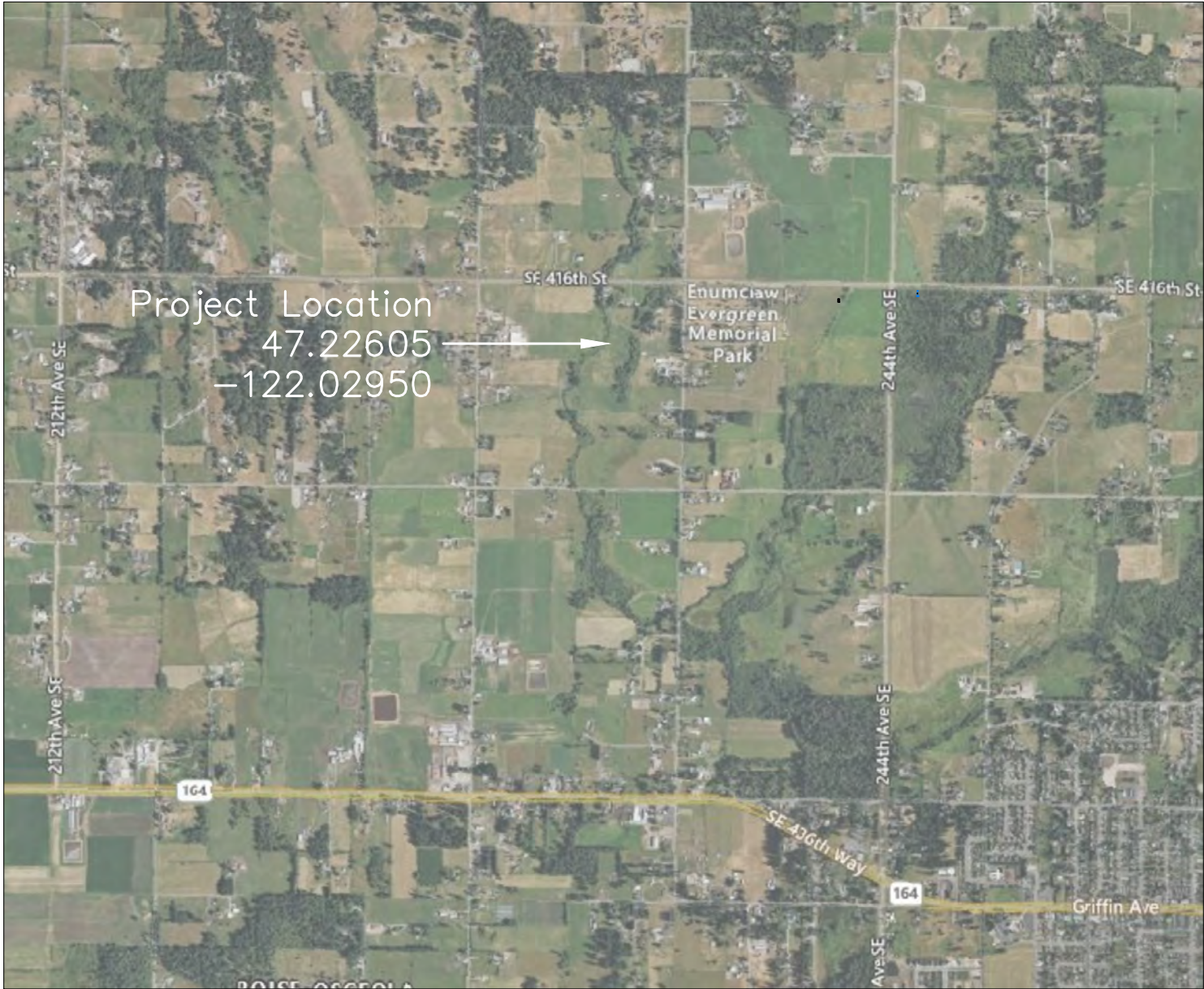
ROSEMARK SOUTHWORTH
(Printed Name)

SECRETARY
(Title)

IYER AGRICULTURAL WATERWAY MAINTENANCE PLAN
KING COUNTY AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

VICINITY MAP

INDEX



SHEET TITLE

SHEET NUMBER

Cover Page
Notes
Plan Map
Profile View
Section View
Planting Plan

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2-3
4
5
6
7

FIELD BOOK: _____					APPROVED: _____	 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	COVER PAGE Iyer ADAP 41633 236th Ave SE Enumclaw, WA 98022	SHEET 1 OF 7 SHEETS 2/16/22
SURVEYED: <u>FLB</u>	<u>MAR 2021</u>				PROJECT MANAGER: _____				
SURVEY BASE MAP: _____					DESIGNED: _____				
CHECKED: _____					DRAINAGE INVESTIGATION NO.: _____				
		NUM.	REVISION	BY	DATE				

Notes:

Total maintenance length to be included in this project is the entire length of the channel from the junction with Newaukum Creek on the Iyer property. The majority of the proposed work for this project will be as follows:

Waterway Classification	Length	Note
Low Modified	1,521	Includes replacment of an existing culvert with a farm bridge at approximately station 7+94.

A Bridge is specified to replace one existing culvert. The bridge design and plan is being provided by Pacific Forest Resources and is refered to as the "Bridge Plan". Work specified in the Bridge Plan is considered to be part of this ADAP maintenance plan.

Follow up spot dredging, vegetation removal and beaver dam removal may need to occur after the dredging and planting is complete. .

Actual length may be more or less than total listed, and will be based on assessments made onsite at the time of excavation. The landowner is under no obligation to perform the work shown in this plan in part or whole, except for that portion of planting that is required once dredging is performed.

1. Estimated dredge volume: approximately 1,050 cubic yards (yd³)
2. All work shall be performed in accordance with King County’s agreement for best management practices for maintenance of agricultural waterways (BMPs), the Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA), and the King Conservation District (KCD) farm plan.
3. In–channel work will occur within the time frame allowed by the HPA.
4. Spoils may be spread on farm fields to a depth no greater than 6 inches or removed from the site and disposed of in a legal manner.
5. Fish relocation may be performed by King County, at the direction of the KC ADAP representative and with coordination by the maintenance contractor or landowner. Staffing shortages, health restrictions and other conditions may extend the timeline the county can reasonably provide resources.
6. A 1–hour pre–construction meeting, including the landowner or landowner’s representative, the maintenance contractor and a King County ADAP employee, is required prior to the start of any maintenance activities.
7. It is the contractor’s responsibility to monitor excavation elevations and ensure that maintenance dredging does not exceed historical–channel extents.
8. Native vegetation should be protected to the extent practicable. Some vegation will be removed to facilitate excavator access along the waterway bank.
9. The landowner is responsible for protecting the installed planting from livestock grazing and all farm activities.
10. No utilities have been located. It is the responsibility of the excavator contractor (or landowner, if no contractor is used) to locate utilities.

Legend

Plan Views

- ADAP Channel Class (CL)
- Low Modified
- Moderate Modified
- Agricultural Waterway (Class not shown)
- Farm Road
- Proposed Bridge
- Overbank Flood Extent
- T/DO Sample Site (approx.)
- Turbidity Sample Site (approx.)
- Turbidity Sample Site Offset to Distance (approx.)
- Fish Relocation Release Site (approx.)
- Parcel Boundary (KC GIS Data)

Profile and Section Views

- Existing Ground
- Existing Farm Road
- Existing Culvert
- Water Surface (3/3/2021)
- Approximate Dredge Extent
- Proposed Farm Road
- Proposed Culvert
- NOTE: Items specific to one sheet may not be included on this legend. See sheet specific legend

FIELD BOOK: _____		APPROVED: _____		<div><p>Know what's below. Call before you dig.</p></div>	<div><p>King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i></p></div>	Notes (1 of 3)	SHEET 2 OF 7 SHEETS	
SURVEYED: <u>FLB</u> <u>MAR 2021</u>		PROJECT MANAGER: _____						Iyer ADAP 41633 236th Ave SE Enumclaw, WA 98022
SURVEY BASE MAP: _____		DESIGNED: _____						
CHECKED: _____		DRAINAGE INVESTIGATION NO.: _____						
NUM.	REVISION	BY	DATE					

Site History: The Agricultural Drainage Assistance Program does not have any prior knowledge of past maintenance activities that have occurred at this site.

Fish Relocation: Fish relocation generally occurs in these locations, listed in order of preference:upstream (of project), adjacent tributary, nearby stream, river, downstream. For this project, it is not expected that the upstream area will be hospitable to fish, as the waterway ends a bit further beyond the property line, nor is there a nearby adjacent tributary and downstream of the project is Newaukum Creek. In consideration of these site characteristics, the proposed release location for all fish captured will be in Newuakum Creek.

FISH RELEASE SITES	
Site	Description
1	Newaukum Creek above Channel Confluence

Excavation Strategy:

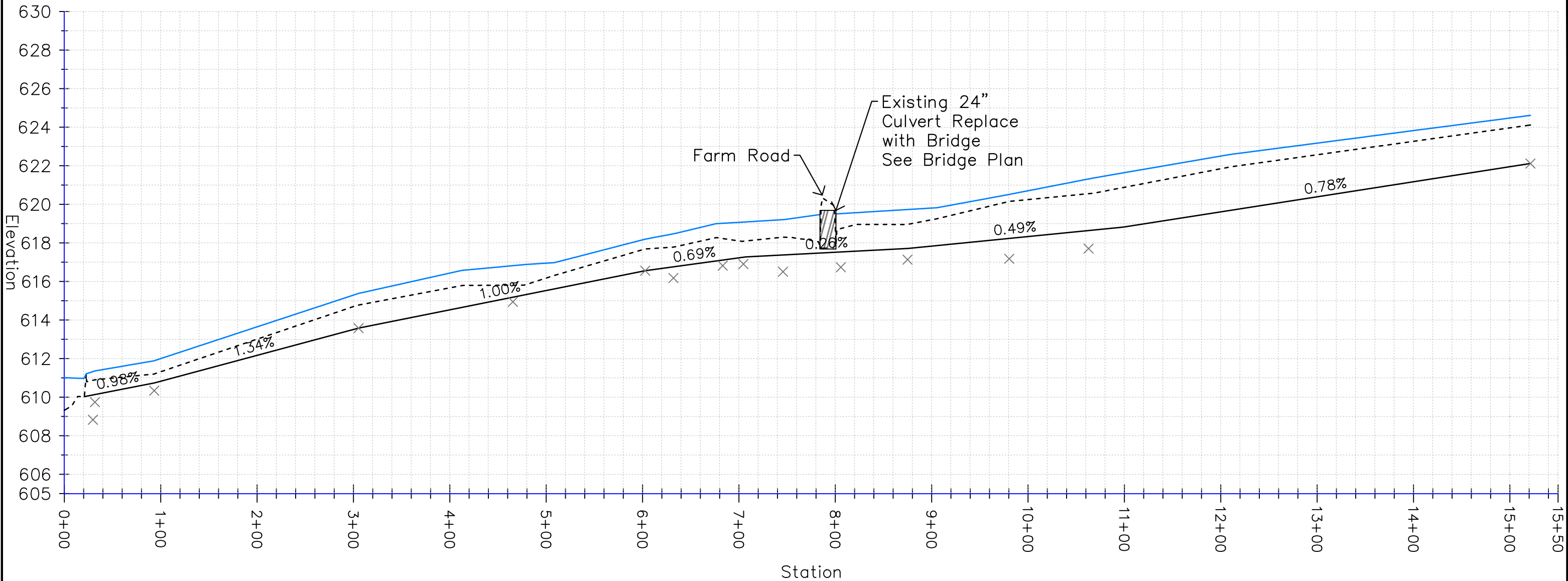
1. The first year of excavation activities will focus on: opening the channel from Newaukum Creek up to the property boundary.
2. Monitor periodically to identify any new beaver activity
3. Remove any beaver dams that are subsequently constructed on the maintained channel for the life of the permit. Mechanized removal of beaver dams, during the allowable work window, removes any anchor wood and the associated mud sill.
4. If a beaver moves into the channel, consider trapping and relocating prior to lethal removal. Dam notching can become a daily task if a beaver remains onsite. Outside of the HPA approved fish window, removal of a dam will be with hand tools only unless otherwise allowed by the WDFW habitat biologist. During the fish window, removal with an excavator using the ADAP excavation bmps is allowable. All additional beaver dam removals still requires giving notice to the WDFW habitat biologist in accordance with the requirements of the HPA.
4. After the initial work, monitor the channel for additional high points and/or vegetation accumulation that impact drainage
5. Maintenance of waterways not explicitly identified for maintenance in this plan can be evaluated for future projects. Contact the King County ADAP program manager for further coordination.

Expected Hydrology

Segment	Length (ft)	DRY?	Hydrology	Mapped Classification	Expected Fish Use
Channel	1,521	no	Flow is low year round. Water source is mostly toe-of-slope seepage.	Low Modified	Fish use is expected to be low, depending on summertime dissolved oxygen and temperature conditions. There is no overland source of water into this channel during the summer which may perpetuate low DO levels.

FIELD BOOK: _____						APPROVED: _____	 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	Notes (2 of 3) lyer ADAP 41633 236th Ave SE Enumclaw, WA 98022	SHEET 3 OF 7 SHEETS 2/16/22
SURVEYED: <u>FLB</u>	MAR 2021					PROJECT MANAGER: _____				
SURVEY BASE MAP: _____						DESIGNED: _____				
CHECKED: _____						DRAINAGE INVESTIGATION NO.: _____				
		NUM.	REVISION	BY	DATE					

channel Profile



- - - - Existing Channel Bottom
 ———— Approximate Dredge Extents
 ———— Water Surface (3/3/2021)
 X Sediment depth

FIELD BOOK: _____		APPROVED: _____	
SURVEYED: <u>FLB</u> <u>MAR 2021</u>		PROJECT MANAGER: _____	
SURVEY BASE MAP: _____		DESIGNED: _____	
CHECKED: _____		DRAINAGE INVESTIGATION NO.: _____	
NUM.	REVISION	BY	DATE



**Know what's below.
Call before you dig.**



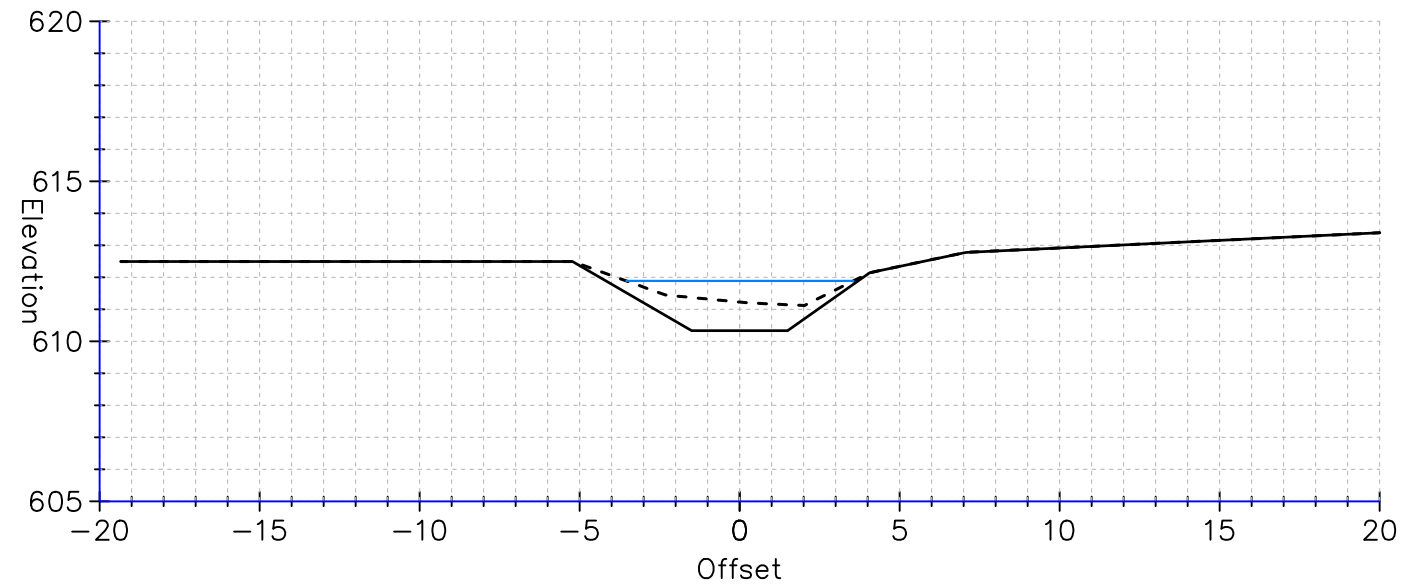
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Stormwater Services Section
Christie True, Director

PROFILE VIEW

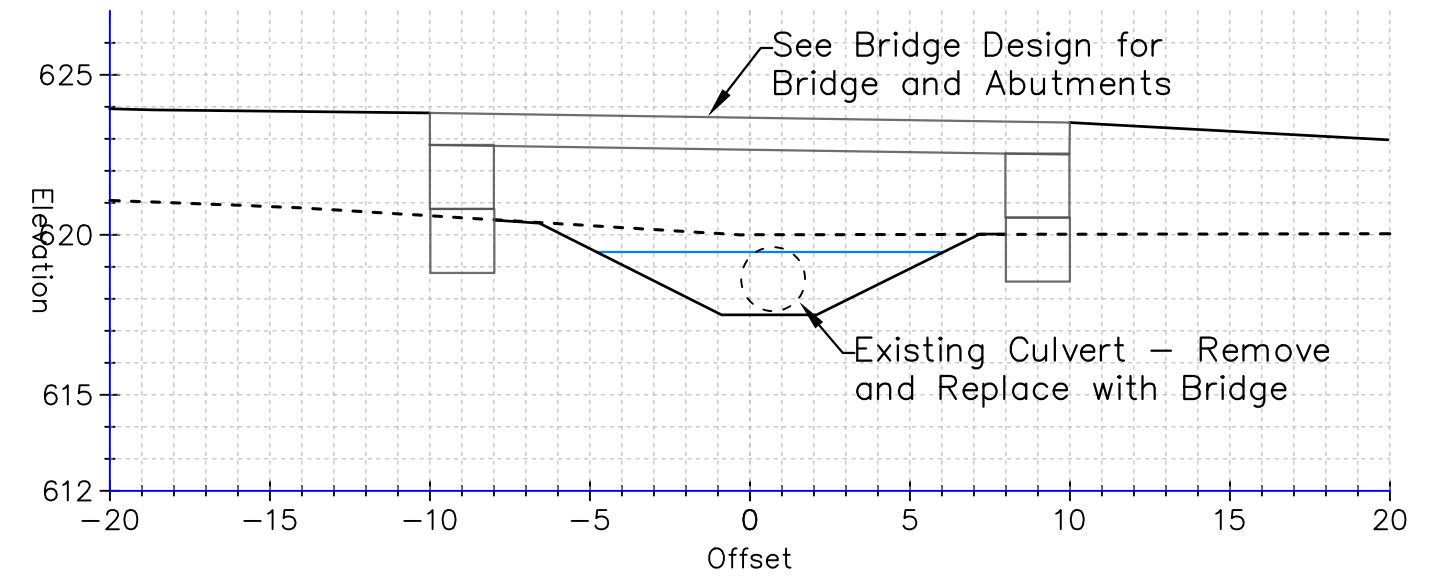
Iyer ADAP
41633 236th Ave SE
Enumclaw, WA 98022

SHEET
5
OF
7
SHEETS
2/16/22

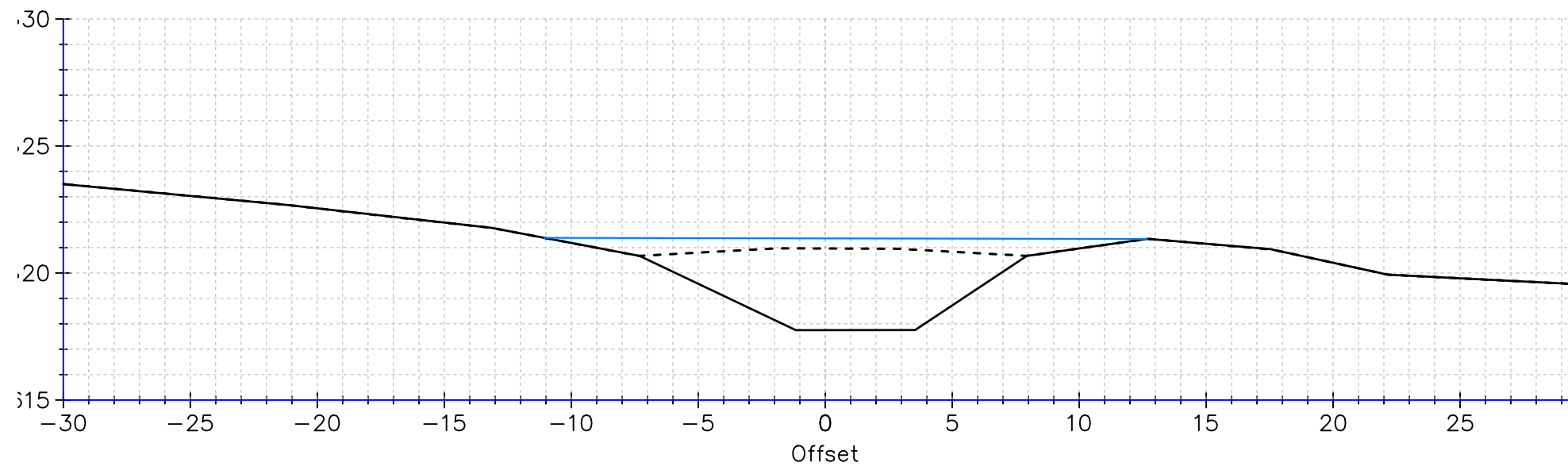
channel Section 1 (0+93)



channel Section 2 (7+94)



channel Section 3 (10+69)



----- Existing Ground and Channel Bottom
 ———— Approximate Dredge Extents
 ———— Water Surface (3/3/2021)

FIELD BOOK: _____		APPROVED: _____		 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	SECTION VIEW Iyer ADAP 41633 236th Ave SE Enumclaw, WA 98022	SHEET 6 OF 7 SHEETS 2/16/22
SURVEYED: FLB MAR 2021		PROJECT MANAGER: _____					
SURVEY BASE MAP: _____		DESIGNED: _____					
CHECKED: _____		DRAINAGE INVESTIGATION NO.: _____					
NUM.	REVISION	BY	DATE				

IYER/236TH FARM CROSSING PROJECT
KING CONSERVATION DISTRICT (ADAP)

PLAN VIEW

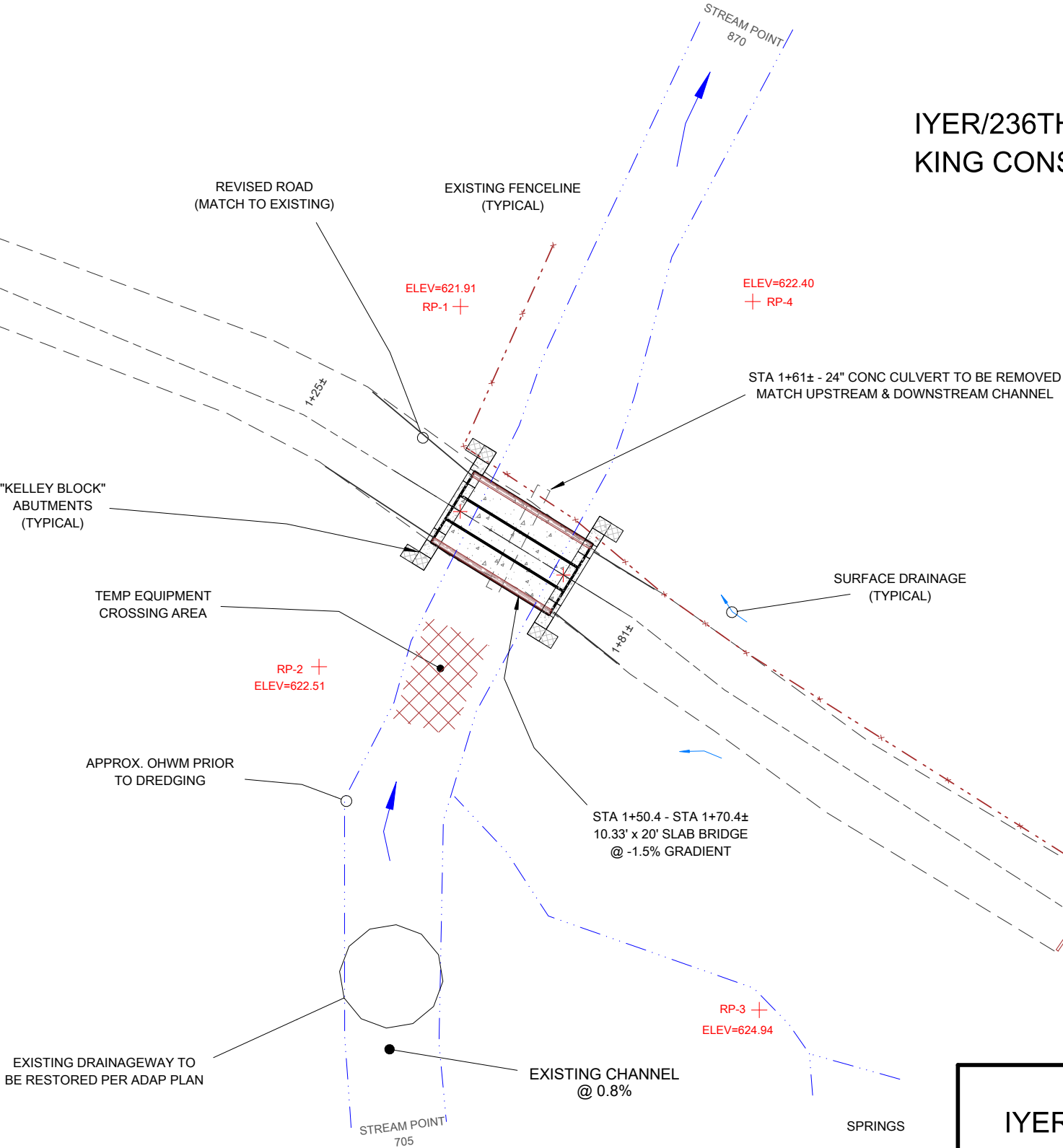
INDEX TO SHEETS	
PLAN VIEW	1
PROFILE VIEWS	2
BLOCK DETAIL	3
STAKING DETAIL	4



PROJECT AREA

LATITUDE: N 47.226422°
LONGITUDE: W 122.029142°

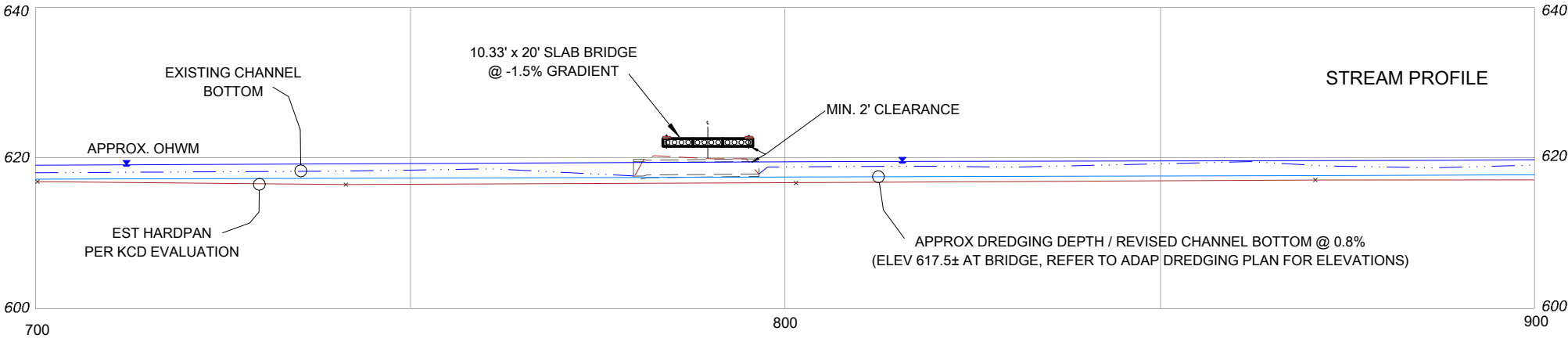
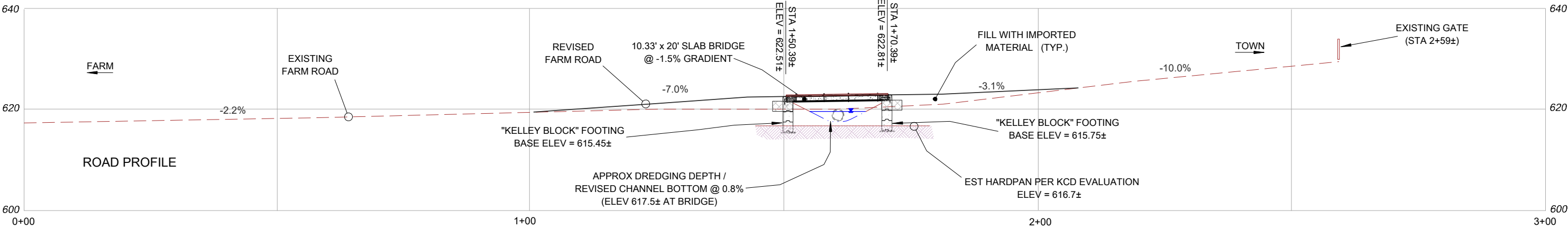
GENERAL NOTES:
SURVEY INFORMATION BASED ON COMPASS AND LASER SURVEY; MERIDIAN
AND ELEVATION PROVIDED BY KING COUNTY ADAP.
CHANNEL DESIGN BY KING COUNTY ADAP.



IYER / 236th FARM BRIDGE PROJECT			
KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM (ADAP)			
DATE	APRIL 29, 2021	DRAWN	PACIFIC FOREST RESOURCES ENUMCLAW, WA
SCALE	1" = 20'	REV	2/9/2022
		SHEET	1 of 4

IYER/236TH FARM CROSSING PROJECT
KING CONSERVATION DISTRICT (ADAP)

PROFILE VIEWS



12-20-21

GENERAL CONSTRUCTION NOTES

- 1) THE PROPOSED 10.33' WIDE x 20' LONG BRIDGE IS LOAD-RATED FOR HS-20 VEHICLES AND SHALL HAVE A CONCRETE SURFACE, TRACKED VEHICLES OVER 40,000 LBS. SHALL UTILIZE A TEMPORARY STREAM CROSSING SIMILAR TO AS SHOWN. THE BRIDGE IS TO BE FOUNDED ON "KELLEY-BLOCK" CONCRETE BLOCK ABUTMENTS SIMILAR TO AS SHOWN. REFER TO SHEET 3 FOR ADDITIONAL INSTALLATION AND ASSEMBLY DETAILS.
- 2) BRIDGE STRUCTURE CONSISTS OF 3 PRECAST CONCRETE PANELS MANUFACTURED BY CONCRETE TECHNOLOGY CORP, EACH 4' X 20', WEIGHING 6800± LBS. REFER TO SHEET 3 AND MANUFACTURER'S PLANS (SHEET H-1) FOR CONNECTION DETAILS.
- 3) WHERE AN EQUIPMENT CROSSING IS REQUIRED OVER STREAM, LOGS (12"+) OR OTHER SUITABLE DUNNAGE SHALL BE USED FOR EQUIPMENT CROSSING TO PROTECT CHANNEL BED.
- 4) STREAM CHANNEL TO BE MODIFIED PER ADAP'S DRAINAGEWAY RESTORATION PLAN (REFER TO PLAN FOR STREAM ELEVATIONS/DETAILS). STREAMFLOW DIVERSION, DEWATERING AND DE-FISHING TO BE BASED ON BMP'S OUTLINED IN THE ADAP RESTORATION PLAN.
- 5) REVISED ROAD WIDTH THROUGH PROJECT AREA SHALL TAPER TO MATCH EXISTING ROAD SIMILAR TO AS SHOWN; FILLSLOPES SHALL NOT EXCEED 2:1; ROAD TO BE CROWNED AT 2%.
- 6) ALL WORK SHALL BE IN ACCORDANCE WITH APPROVED HPA FOR THE PROJECT.
- 7) MATERIAL SELECTED FOR ROAD FILL SHALL BE APPROVED BY ENGINEER PRIOR TO PLACEMENT. ROAD FILL MATERIAL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT.
- 8) ALL DISTURBED SOILS (INCLUDING WASTE AREAS) SHALL BE PROTECTED AS OUTLINED IN THE ADAP PLAN FOR THE DRAINAGEWAY RESTORATION.
- 9) 100-YEAR FLOW (OHWM) ELEVATION PER THE KING COUNTY ADAP PLAN.



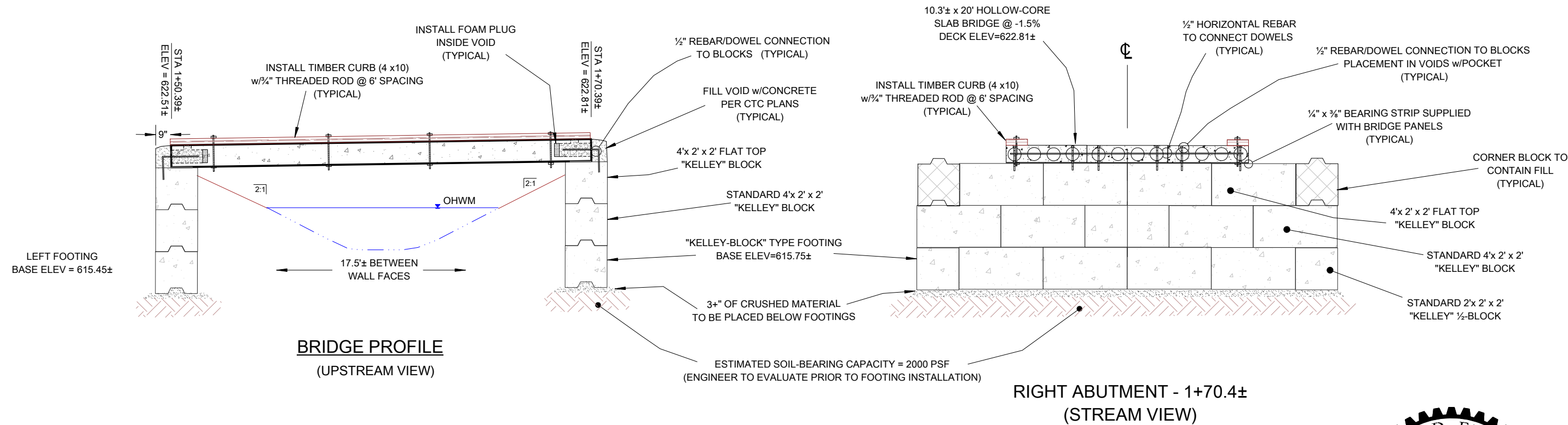
IYER / 236th FARM BRIDGE PROJECT

KING CONSERVATION DISTRICT
AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM (ADAP)

DATE APRIL 29, 2021	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 12/20/2021
SCALE 1" = 20'	41633 236th SE ENUMCLAW, WASHINGTON 98022	SHEET 2 of 4

IYER/236TH FARM CROSSING PROJECT
KING CONSERVATION DISTRICT (ADAP)

ABUTMENT INSTALLATION DETAIL



DECK & ABUTMENT INSTALLATION NOTES

- 1) LEFT ABUTMENT (STA 1+50.4±) IS SIMILAR TO RIGHT AS SHOWN. BASE ELEVATION OF LEFT ABUTMENT IS 615.45± AND DECK ELEVATION IS 622.51.
- 2) ENGINEER SHALL EVALUATE BASE FOUNDATION MATERIAL PRIOR TO FOOTING INSTALLATION. ADDITIONAL REINFORCEMENT MAY BE REQUIRED BEFORE PLACEMENT OF BASE BLOCKS.
- 3) BOTTOM BLOCK TO BE PLACED ON AT LEAST 3-INCHES OF CRUSHED ROCK (5/8" MINUS RECOMMENDED) PLACED BELOW ABUTMENT FOOTING AS LEVELING COURSE AND COMPACTED TO 90% STANDARD DENSITY (OR AS APPROVED BY ENGINEER).
- 4) DECK IS COMPOSED OF THREE 4-FOOT WIDE x 20-FOOT LONG HOLLOW-CORE PANELS, EACH WEIGHING APPROXIMATELY 6800 LBS. LIFTING APPARATUS MAY BE RENTED FROM CTC, SUCH ARRANGEMENTS SHALL BE MADE BY THE CONTRACTOR.
- 5) HOLES SHALL BE DRILLED INTO TOP BLOCKS TO FACILITATE ATTACHMENT OF REBAR SIMILAR TO AS SHOWN.
- 6) REBAR CONNECTIONS TO BE PLACED IN DECK VOIDS WITH POURS SLOTS (MINIMUM 1 PER PANEL).
- 7) CONCRETE TO FILL VOIDS SHALL BE MINIMUM 3000 PSI.
- 8) REFER TO ATTACHED SHEET H-1 (MANUFACTURER'S PLANS) FOR ADDITIONAL DECK AND GUIDERAIL INSTALLATION DETAILS/GUIDELINES.
- 9) THE 4"x10" CURB AS SHOWN IS INTENDED AS A SEDIMENT CURB FOR SURFACE DRAINAGE. CURB SHALL BE THROUGH-BOLTED TO DECK WITH 3/4"-INCH THREADED ROD AND BOLTS. AN ADDITIONAL HANDRAIL/GUIDERAIL SYSTEM MAY BE INSTALLED AT LANDOWNERS DISCRETION.
- 10) STAKING AS SHOWN ON SHEET 4 IS TO CL FACE OF ABUTMENTS.



12-20-21

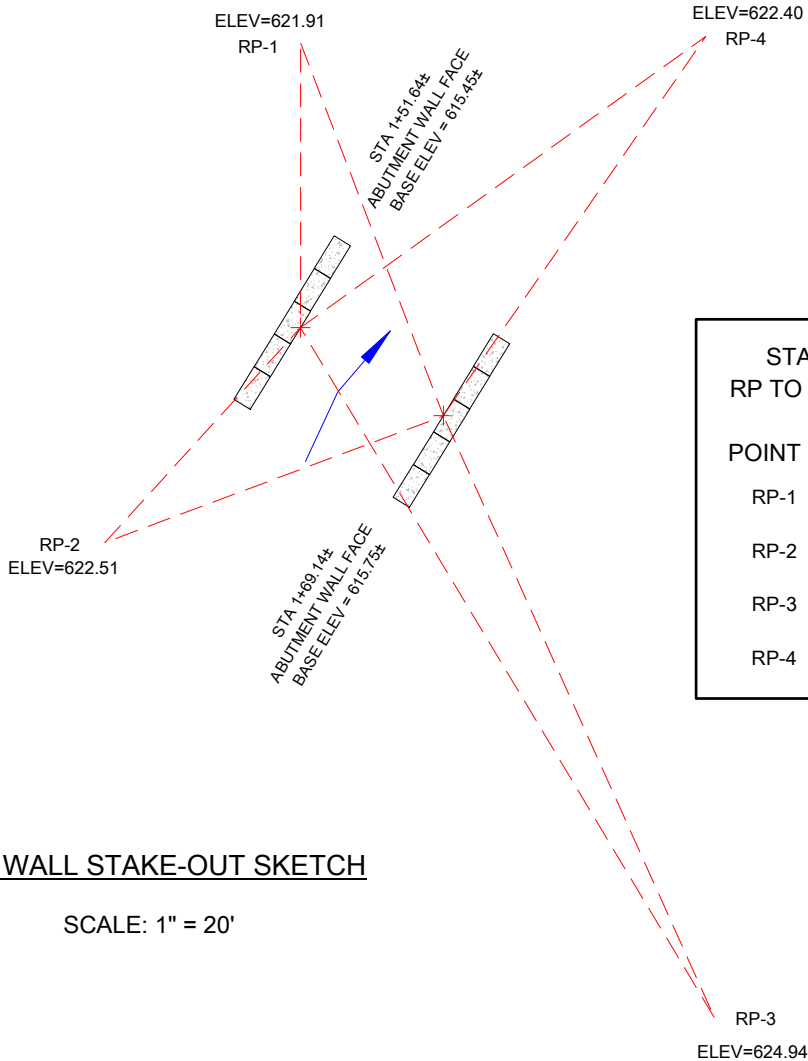
IYER / 236th FARM BRIDGE PROJECT

KING CONSERVATION DISTRICT
AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM (ADAP)

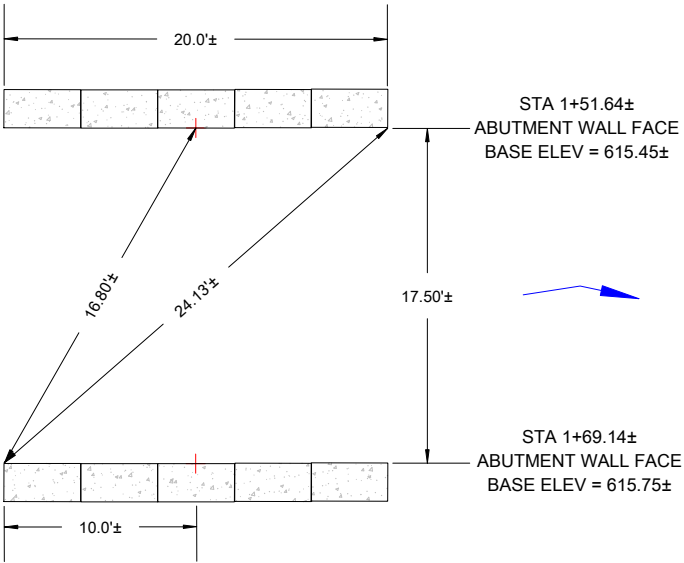
DATE APRIL 29, 2021	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 12/20/2021
SCALE 1" = 5'	41633 236th SE ENUMCLAW, WASHINGTON 98022	SHEET 3 of 4

IYER/236TH FARM CROSSING PROJECT
KING CONSERVATION DISTRICT (ADAP)

STAKE-OUT DETAIL



STAKE-OUT TABLE RP TO CL OF WALL FACE		
POINT	1+51.6±	1+69.1±
RP-1	29.62'	41.55'
RP-2	30.33'	37.72'
RP-3	84.00'	68.94'
RP-4	52.02'	48.06'



ESTIMATE OF QUANTITIES:	
FILL REMOVAL (BANK-RUN)	85± CY
IMPORTED FILL / BALLAST	180± CY
¾" LEVELING ROCK	10± CY
BASE REINFORCEMENT	15± CY
4x10x20' CURBS	2
TAR PAPER	40± FT²
MISC ½" REBAR	40± FT
TIMBER FASTENERS	8
CONCRETE (3000 PSI)	1.4± CY
HIGH STRENGTH GROUT	4± CF
NOTE: THIS QUANTITY LIST IS INTENDED MERELY AS A TOOL FOR ESTIMATING PURPOSES AND SHOULD NOT BE CONSIDERED EXACT. PROSPECTIVE BIDDERS ARE ENCOURAGED TO VERIFY QUANTITIES.	

MATERIAL HANDLING WEIGHTS	
DECK PANELS (3 PIECES)	6800± LBS EACH
TOP BLOCKS (8)	2400± LBS EACH
STANDARD BLOCKS (22)	2400± LBS EACH
½-BLOCKS (4)	1200± LBS EACH

ABUT WALL STAKE-OUT SKETCH

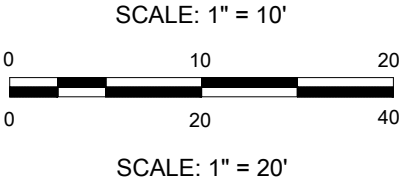
SCALE: 1" = 20'

BASE BLOCK ALIGNMENT

SCALE: 1" = 10'



12-20-21



NOTE: ALL DIMENSIONS ARE HORIZONTAL.

IYER / 236th FARM BRIDGE PROJECT		
KING CONSERVATION DISTRICT AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM (ADAP)		
DATE APRIL 29, 2021	DRAWN PACIFIC FOREST RESOURCES ENUMCLAW, WA	REV 12/20/2021
SCALE AS SHOWN	41633 236th SE ENUMCLAW, WASHINGTON 98022	SHEET 4 of 4

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

AI 22-060

SUBJECT:

A motion to approve a small public works contract for the Agricultural Drainage Project on the Cedar Grove Compost farm (Cunningham ADAP) in the Sammamish Valley

BACKGROUND:

The purpose of King CD's Agricultural Drainage Program is to help farmers and farm managers navigate the complexities of maintaining drainage systems on farmland and implement drainage projects through the KCD Ag Drainage cost share program. King CD works with King County's Agricultural Drainage Assistance Program (ADAP) to implement these programs. Typically, funding for the construction costs associated with drainage projects comes from an annual grant via the King County Flood Control District. However, the 2022 construction season will fund projects through a combination of KCD Working Lands funds, KCD Landowner Incentive Program, and KCD Ag Drainage funding supported through the Interlocal Agreement with King County.

A drainage project is proposed to take place on the Cedar Grove Compost farm (Cunningham ADAP/ Sound Sustainable Farms) this 2022 construction season. Cedar Grove via Sound Sustainable farms began leasing the property in 2017 and immediately began growing sustainable produce on roughly 60 acres here. The farm became organically certified via the WSDA in 2018 and has been producing crops ever since. The site manager, Chris Cunningham, approached KCD in 2018 to inquire about drainage assistance, but the owner of the farm did not wish to pursue a project at the time. Instead, KCD assisted the neighbors at JB Lawns where about 2500' of drainage was maintained downstream of Cedar Grove. The current proposed project will include about 1200' of drainage maintenance and the replacement of three failing culverts with 48" fish passable culverts. Currently, the loss of farmland is around 20 acres due to poor drainage. With assistance from KCD and ADAP, Cedar Grove plans on rehabilitating their farmland and producing more local organic crops.

The Cedar Grove farm has also applied to use LIP funding to replace the three existing culverts is awaiting confirmation from that program with the hope to receive a maximum reimbursement of \$20,250. This farm will also receive a ten foot buffer planting along the modified agricultural ditch in the spring of 2023 as part of the drainage project.

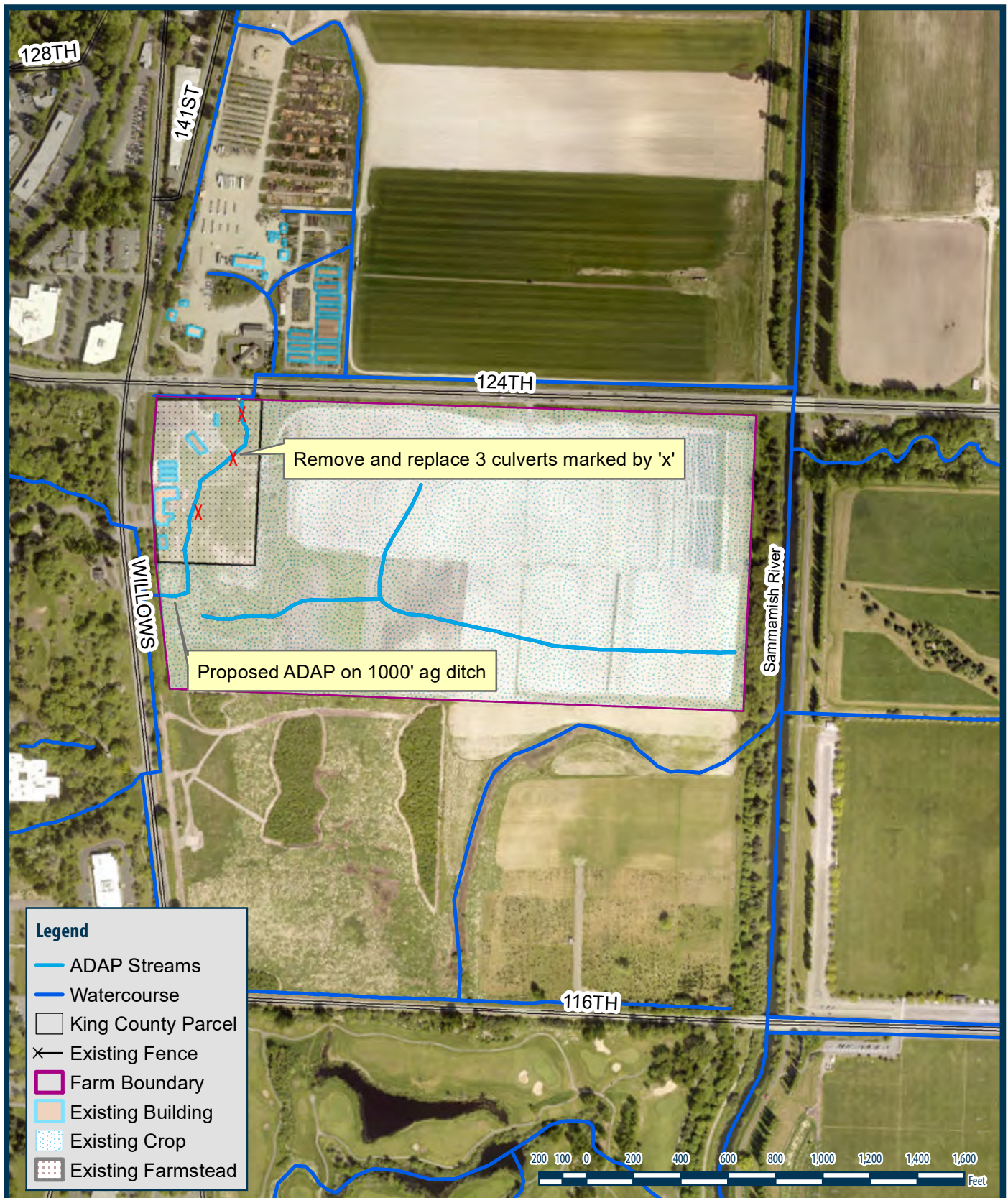
The request for bids was submitted through the Small Public Works informal bidding process where request for bids was emailed to five contractors from the MRSC Small Public Works Roster. Only one bid was received by Southworth & Sons at \$37,778.69. We have worked with this contractor in the past and they have done a good job.

King Conservation District Board of Supervisors Meeting
Agenda Action Briefing/Report
Meeting Date: July 11th, 2022

RECOMMENDATION:

District staff recommends that Board approve and sign a Contract with Southworth & Sons to allow work to proceed this season.

<u>ALTERNATIVES NOT SELECTED</u>	REASON
Do not approve and sign contract, Do not complete this project.	Project is of high value to all goals – benefit to multiple farmers, bringing food production acreage back to production, cost to acreage is lower than average, Landowner, Tenants, and ADAP are invested in completing the project



Landowner Name: Caspian-Cedar Grove Farm		Map Type: LIP Map- Culvert Install Proposal	Directional: SE
Address: 12210 Willows Rd		KCD Staff Name: Liz Stockton	Section: 27
Redmond, WA 98052		Map Date: May 31, 2022	Township: 26
Acres: 72.7	Parcel #(s): Multiple		Range: 05

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259



1:7,000

SMALL PUBLIC WORKS BID PROPOSAL

PROJECT NAME: KCD Drainage Maintenance Cedar Grove 2022

BID SUBMITTAL DEADLINE: May 30th, 2022 by 5pm

ATTENTION: Liz Stockton

PART 1 - GENERAL

1.01 Bids should be emailed to:

Email: Liz.stockton@kingcd.org

Copies of Bids in a PDF file format can be emailed to the email address listed above.

1.02 PROPOSAL

The undersigned Bidder hereby certifies that the Bidder has examined the location and construction details of work, is familiar with the local conditions at the place where the work is to be done, and has read and thoroughly understands the Project Documents governing the work and the method by which payment will be made for said work and hereby propose to undertake and complete the work in accordance with said Project Documents and that the Bidder will take in full payment therefor the sums set forth in the following Bid Schedule.

1.03 BIDDER INFORMATION

Proper Name of Bidder: SOUTHWORTH & SONS, INC.
Mailing Address: 50620 EUNICIAW. CHANOOK & WY. EUNICIAW 98072
Contractor's License No.: SOUTHIX212JD UBI No: 600313802
City of [***] Business License No.: _____
Phone Number: 360 663 2215 Fax Number: 360 663 2571
Email Address: southworth_rose@msn.com

SCHEDULE OF UNIT PRICES

Description	Est. Quantity	Unit	Unit Price	Extension
Mobilization	1	LS	1500-	1500-
Site Preparation	1	LS	2000-	2000-
Dewatering ditch & Dredging sediment from an agricultural ditch	800	LF	6 ²⁰	4960-

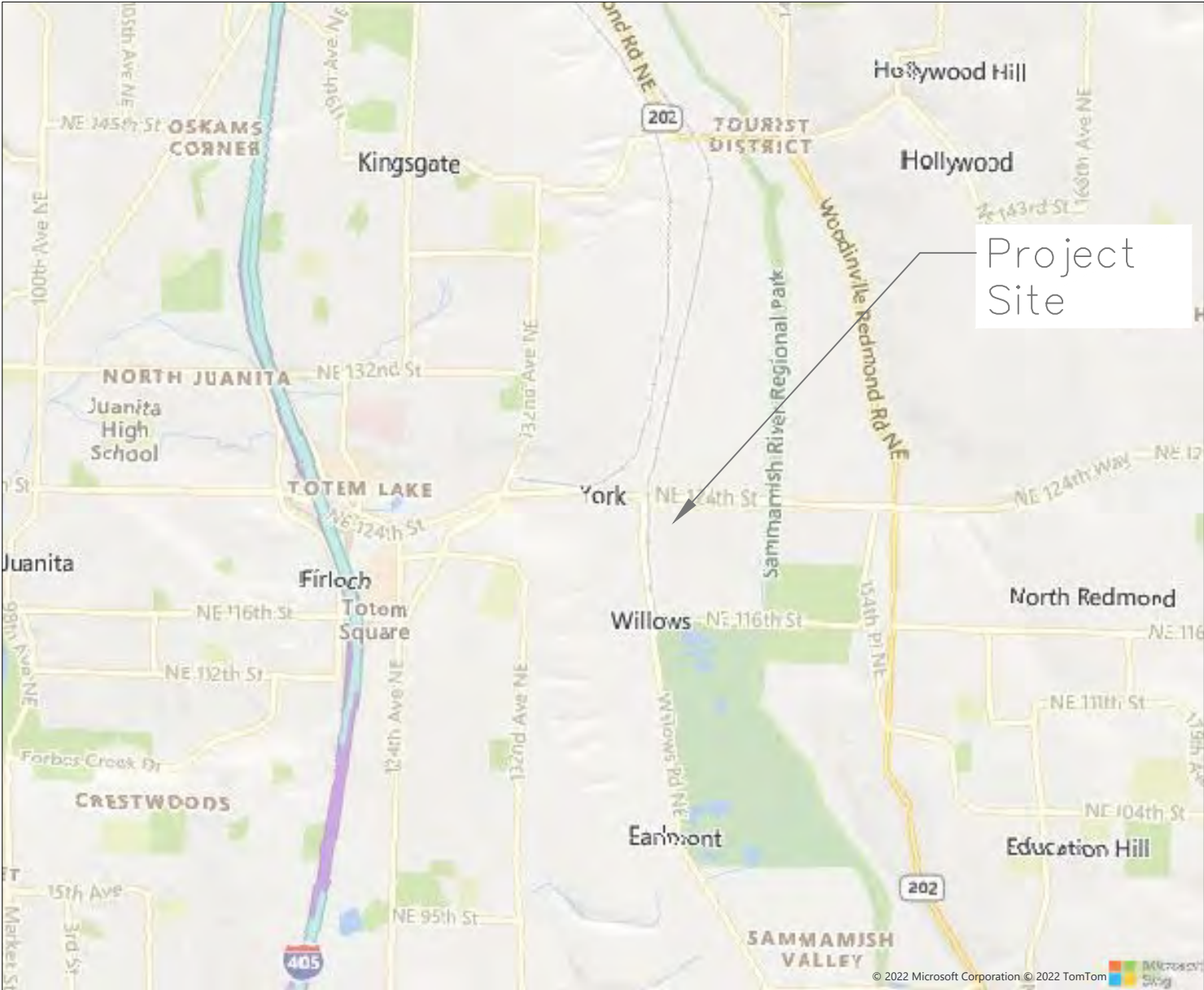
Dewatering & excavating new culvert sites	300	LF	12-	3600-
Removal of 24" concrete culverts	3	EA	525-	1575-
Purchase and delivery of 48" x 20' LCPE	3	EA	2640-	7920-
Install 48: x 20' LCPE	3	EA	3900-	11700-
Demobilization	1	LS	1500-	1500-
Wa State Tax (King County 8.7%)		LS	3023 ⁶⁹	3023 ⁶⁹

BASE BID Subtotal 34755-
 W.S.S.T (8.6%) 3023⁶⁹
 BASE BID TOTAL (Subtotal with Sales Tax) 37778.69

CUNNINGHAM AGRICULTURAL WATERWAY MAINTENANCE PLAN
KING COUNTY AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

VICINITY MAP

INDEX



SHEET TITLE

SHEET NUMBER

Cover Page	1
Notes	2–3
Plan Map	4
Profile View	5
Section View	6
Planting Plan	7–9
Culvert Replacement Plan	10

FIELD BOOK:					APPROVED: L. Beck	 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	COVER PAGE Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052	SHEET 1 OF 10 SHEETS 5/6/2022
SURVEYED: ELD	FEB 2018				PROJECT MANAGER: E. Dightman				
SURVEY BASE MAP:					DESIGNED: E. Dightman				
CHECKED:					DRAINAGE INVESTIGATION NO.: 2017–0916				
NUM.	REVISION	BY	DATE						

Notes:

Total maintenance length to be included in this project is from STA 0+00 to STA 10+70. This 1,070 feet of dredging will take place in a waterway classified as High Modified. Follow up spot dredging and vegetation removal may occur within the timing limitations of the HPA.

Actual length may be more or less than total listed, and will be based on assessments made onsite at the time of excavation. The landowner is under no obligation to perform the work shown in this plan in part or whole, however any dredged reaches of channel must be planted as shown in the plans.

- 1. Estimated dredge volume: approximately 1,000 cubic yards (yd³).
- 2. Four culverts will be replaced. These culverts are not listed in WDFW’s Fish Passage Inventory (<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html>), however, two of the existing culverts are smaller than 36” diameter and likely to be partial barriers to fish passage due to their size. The twin CMP culverts at STA 2+90 are nearing the end of their useful lives and may be partial fish passage barriers.
- 3. All work shall be performed in accordance with King County’s agreement for best management practices for maintenance of agricultural waterways (BMPs), the Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA), and the King Conservation District (KCD) farm plan.
- 4. Dredging activity may not widen the channel except existing banks may be sloped at up to 2:1 to increase stability and decrease erosion potential.
- 5. In–channel work will occur within the time frame allowed by the HPA.
- 6. Spoils may be spread on farm fields to a depth no greater than 6 inches or removed from the site and disposed of in a legal manner.
- 7. Fish relocation may be performed by King County, at the direction of the KC ADAP representative and with coordination by the maintenance contractor or landowner. Staffing shortages, health restrictions and other conditions may extend the timeline the county can reasonably provide resources.
- 8. A 1–hour pre–construction meeting, including the landowner or landowner’s representative, the maintenance contractor and a King County ADAP employee, is required prior to the start of any maintenance activities.
- 9. It is the contractor’s responsibility to monitor excavation elevations and ensure that maintenance dredging does not exceed historical–channel extents.
- 10. Native vegetation should be protected to the extent practicable.
- 11. The landowner is responsible for protecting the installed planting from livestock grazing and all farm activities.
- 12. No utilities have been located. It is the responsibility of the excavator contractor (or landowner, if no contractor is used) to locate utilities.

Legend

Plan Views

-  High Modified
-  Existing Farm Road
-  Existing Bridge
-  T/DO Sample Site (approx.)
-  Turbidity Sample Site (approx.)
-  Fish Relocation Release Site (approx.)

NOTE: Items specific to one sheet may not be included on this legend. See sheet specific legend

FIELD BOOK: _____		APPROVED: <u>L. Beck</u>		 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	Notes (1 of 2) Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052	SHEET 2 OF 10 SHEETS 5/6/2022
SURVEYED: <u>ELD</u>		PROJECT MANAGER: <u>E. Dightman</u>					
SURVEY BASE MAP: _____		DESIGNED: <u>E. Dightman</u>					
CHECKED: _____		DRAINAGE INVESTIGATION NO.: <u>2017–0916</u>					
NUM.	REVISION	BY	DATE				

Site History: King County ADAP has no record of performing waterway maintenance in this location. The reach of the channel from STA 0+00 to ±1200’ downstream was most recently dredged in 2019.

Fish Relocation: Relocated fish are planned to be released under the NE 124th Bridge, just downstream of STA 0+00. The upstream reach of the channel is steep and the

depth of water is expected to be low during dredging. Resilient fish species, such as Stickleback and Sculpin, may be captured and released into conditions that would not be deemed acceptable for capture/release of salmonids, with oversight by the ADAP fish relocation lead fish expert.

During the 2019 channel maintenance project downstream of the project site, 114 Stickleback and 44 salamander were relocated during the defishing process.

Expected Hydrology

Segment	Length (ft)	Dry?	Hydrology	Mapped Classification	Expected Fish Use
Tributary 1	1,070	No	Expected to have continuous flow year-round	Low Modified	No salmonids were defished during the 2019 channel maintenance project. The upstream end of the 2019 project is at the same location as the downstream end of this project. Based on this information, the likelihood of salmonid presence during maintenance is considered "Low" according to Figure 3 of "A Salmon-based Classification to Guide Best Management Practices for Agricultural Waterways Maintenance".

Culvert Design Notes (see also Sheet 10):

1. Please note that all three culverts in this project have the same design parameters and the same culvert specifications.
2. Both the No-Slope and Hydraulic Design Methodologies described in the 2013 WDFW Water Crossing Design Guidelines (WCDG) were evaluated for the crossings. The regression equation in Appendix C of the WCDG yielded a bankfull channel width of 5.5’. Based on this, the no-slope culvert diameter is calculated to be ~7’ for the three crossings. The Hydraulic method determined a 36” lined corrugated polyethylene pipe (LCPE) was adequate with a May flow velocity of 0.60 fps and a January flow velocity of 0.85 fps.
3. A 48” LCPE was selected for the crossings based on this reasoning:

3.1. The 48” LCPE is larger than needed to meet the requirements of the hydraulic design method.

3.2. The channel has been heavily modified from its natural state. The bankfull width of the existing channel is not useful for determining the size of the no-slope culvert.

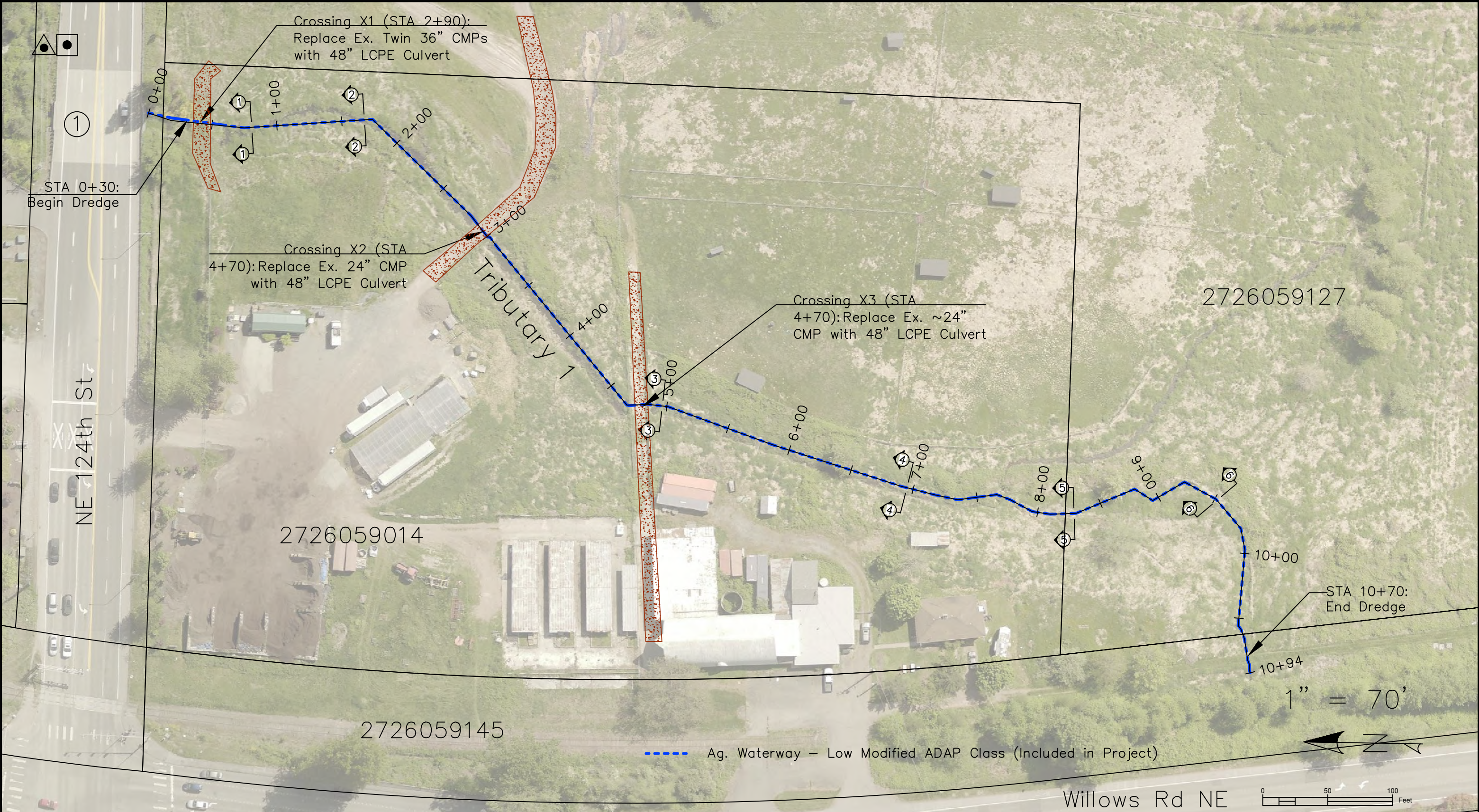
3.3. The regression equation From Appendix C of the WCDG was used to determine the bankfull width. According to the WCDG, this equation was developed by using 53 high gradient (>2%), coarse bedded streams in western Washington.

3.4. The proposed culverts will be installed in a nearly flat (0.01%) channel with bed material almost entirely composed of fines (particle size less than 0.075 mm (#200 sieve)).

3.5. The proposed culvert diameter is 4 feet, set a grade matching the channel slope (0.1%). The culvert will be countersunk 20% such that the channel width inside the culvert will be

- slightly wider than the existing channel width of ±3 feet. The proposed culvert size of 48” results in fish passage design velocities of 1.0 ft/s or less making it very conservative with respect to fish passage. The proposed culvert is two standard pipe sizes larger than the 36” required by the hydraulic design process.
4. Approach length is based on an assumed cover depth of 24 inches.
5. Headwater values given assume that the channel topography is capable of containing this headwater depth without overtopping, Overtopping is not expected during the January or May design flow rates. Overtopping is expected for the 100-year event. The ground surface to the east of the channel bank in the vicinity of the culverts is lower than the channel bank. Flow rates approaching the 100-year event will overtop this bank and flow to the eastern field before moving downstream.

FIELD BOOK: _____						APPROVED: L. Beck	 Know what's below. Call before you dig.	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	Notes (2 of 2) Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052	SHEET 3 OF 10 SHEETS 5/6/2022
SURVEYED: ELD	FEB 2018					PROJECT MANAGER: E. Dightman				
SURVEY BASE MAP: _____						DESIGNED: E. Dightman				
CHECKED: _____						DRAINAGE INVESTIGATION NO.: 2017-0916				
		NUM.	REVISION	BY	DATE					



FIELD BOOK:					
SURVEYED: ELD	FEB 2018				
SURVEY BASE MAP:					
CHECKED:					
NUM.	REVISION	BY	DATE		

APPROVED: L. Beck
PROJECT MANAGER: E. Dightman
DESIGNED: E. Dightman
DRAINAGE INVESTIGATION NO.: 2017-0916



Know what's below.
Call before you dig.

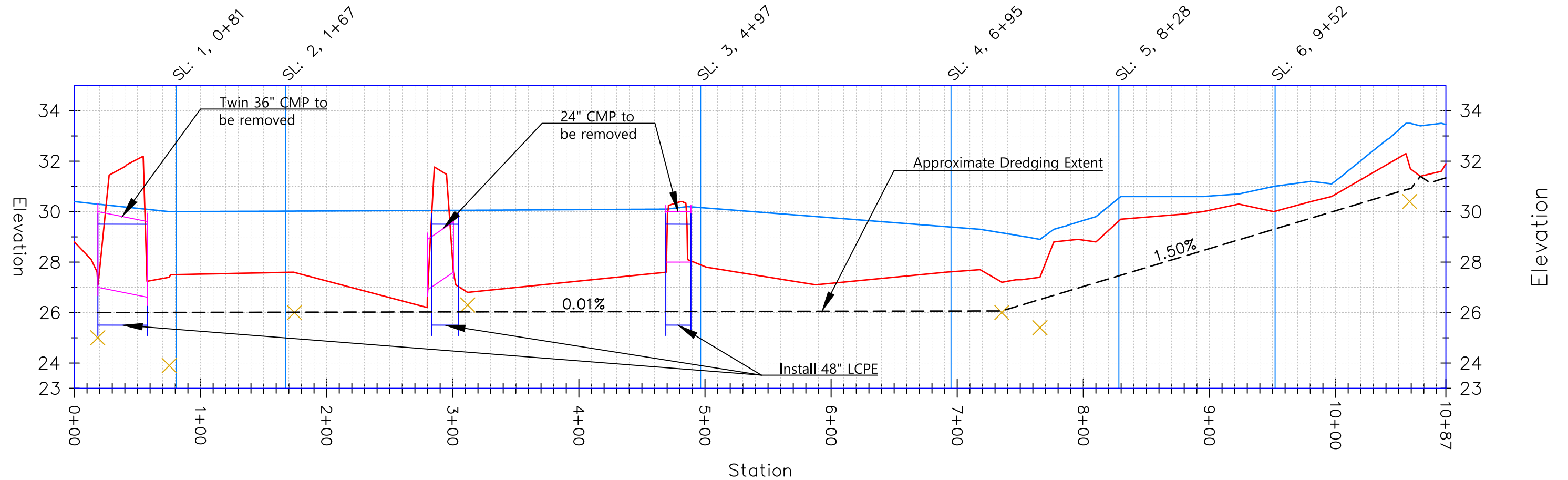


King County
Department of Natural Resources and Parks
Water and Land Resources Division
Stormwater Services Section
Christie True, Director

PLAN MAP
Cunningham ADAP
Sound Sustainable Farms
14017 NE 124th St
Redmond, WA 98052

SHEET	4
OF	10
SHEETS	
5/6/2022	

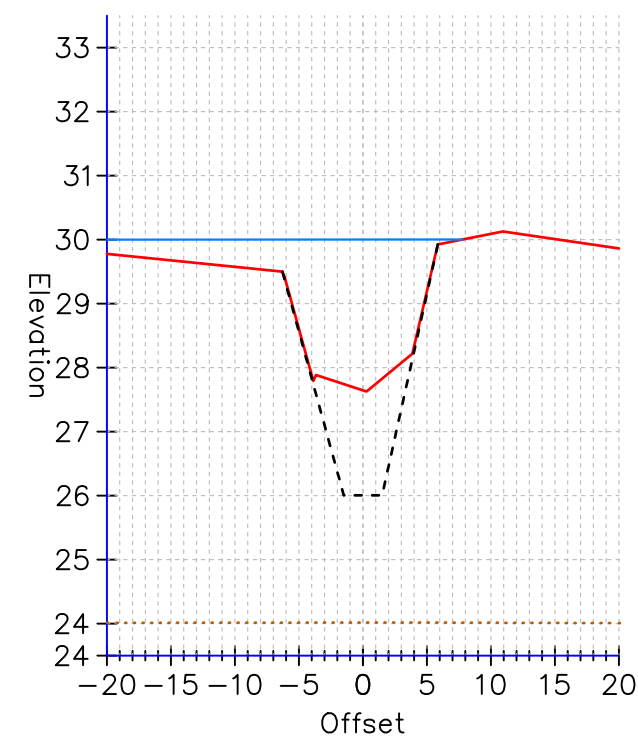
Tributary 1 Profile



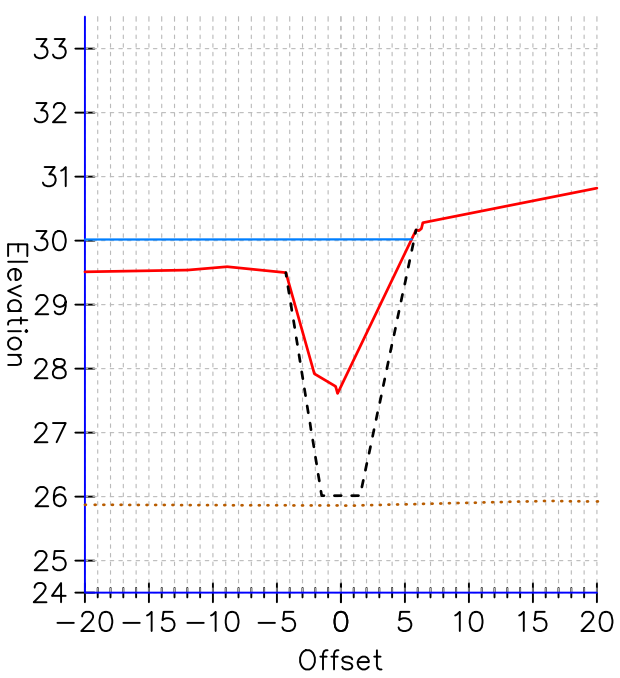
- Existing Channel Bottom
- Approximate Dredge Extents
- Water Surface (2018/02/01–2018/02/16)
- Sediment depth at probe resistance

FIELD BOOK: _____					APPROVED: _____	 <p>Know what's below. Call before you dig.</p>	 <p>King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i></p>	<p>PROFILE VIEW</p> <p>Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052</p>	<p>SHEET 5 OF 10 SHEETS</p>
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: _____				
SURVEY BASE MAP: _____					DESIGNED: _____				
CHECKED: _____					DRAINAGE INVESTIGATION NO.: _____				
		NUM.	REVISION	BY	DATE				5/6/2022

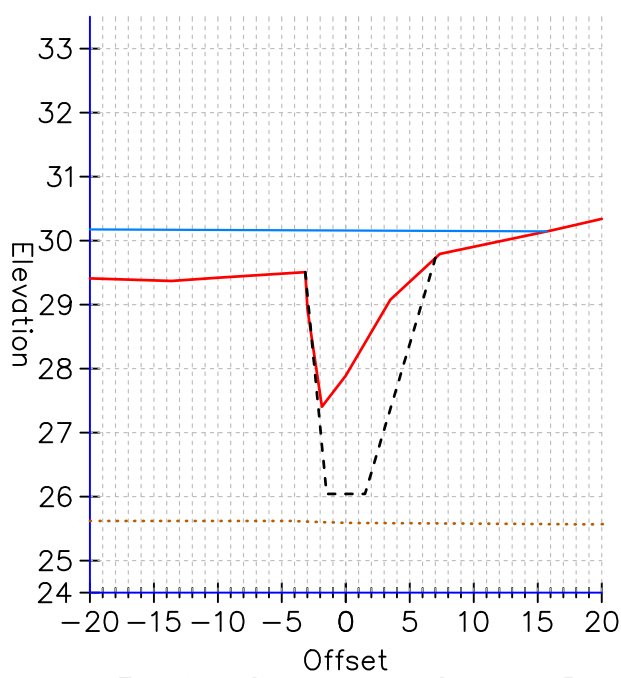
Tributary 1 X-Section SL1 (0+81)



Tributary 1 X-Section SL2 (1+67)

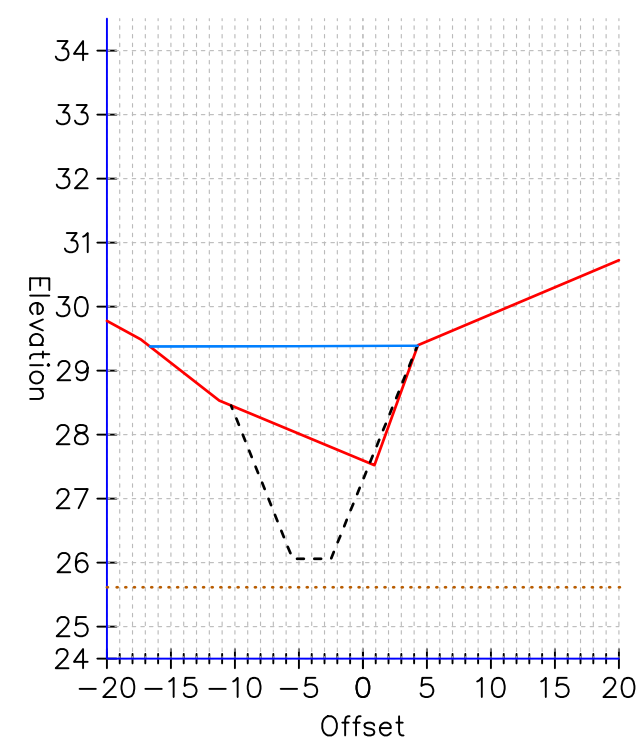


Tributary 1 X-Section SL3 (4+97)

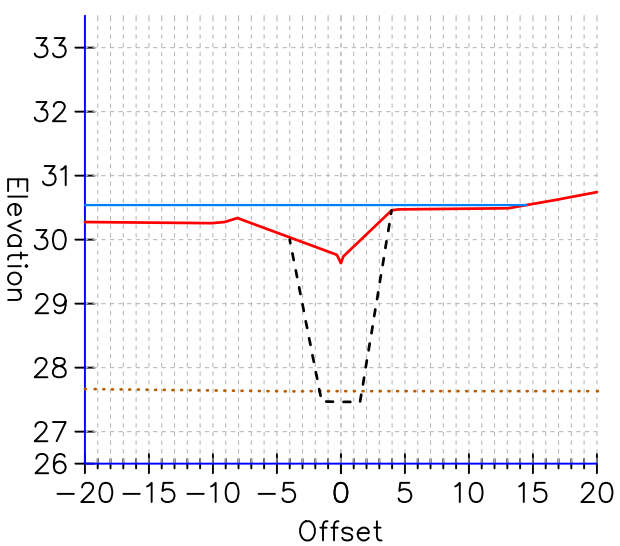


- Existing Ground and Channel Bottom
- Approximate Dredge Extents
- Water Surface (2018/02/01–2018/02/16)
- Sediment At Resistance

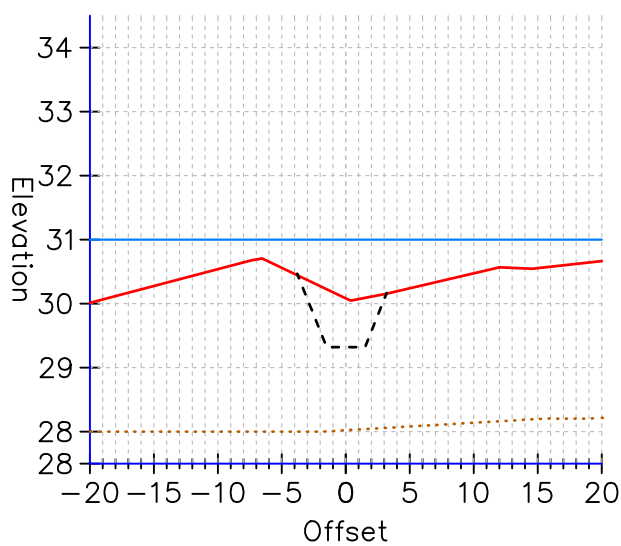
Tributary 1 X-Section SL4 (6+95)



Tributary 1 X-Section SL5 (8+28)



Tributary 1 X-Section SL6 (9+52)



1" = 15'

FIELD BOOK:					
SURVEYED: ELD	FEB 2018				
SURVEY BASE MAP:					
CHECKED:					
NUM.	REVISION	BY	DATE		

APPROVED: L. Beck
PROJECT MANAGER: E. Dightman
DESIGNED: E. Dightman
DRAINAGE INVESTIGATION NO.: 2017-0916



King County
Department of Natural Resources and Parks
Water and Land Resources Division
Stormwater Services Section
Christie True, Director

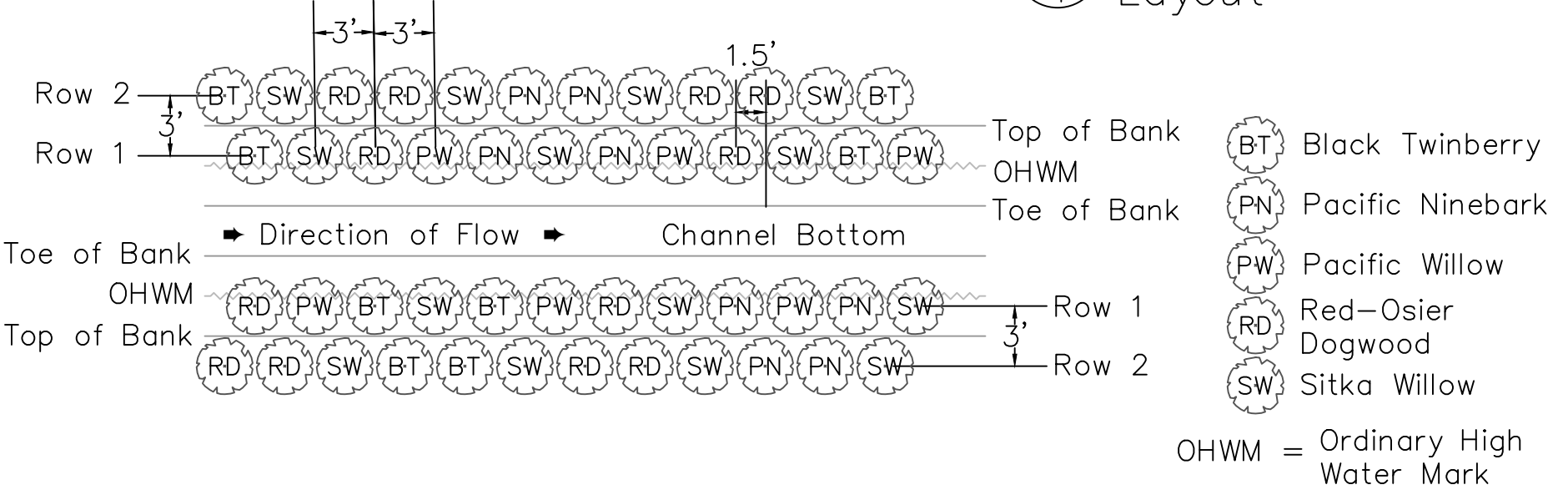
SECTION VIEWS	SHEET 6 OF 10 SHEETS
Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052	5/6/2022

- Notes:
- 1. Prior to planting, install cardboard sheeting as shown on detail 1/2.
 - 2. As stated on page 24 of the King County ADAP BMP Manual, the number of rows required is based on the channel classification at the time of construction (see table below). If the channel is reclassified during construction, the number of rows of plantings will be updated accordingly.

Required Plantings by Waterway Class	
Channel Classification	Required Rows of Plantings
High Modified	3
Moderate Modified, Low Modified, and High Artificial	2
Moderate Artificial	1
Low Artificial	0

- 3. Planting layout and species may be modified by ADAP engineer to better suit site conditions. However, the plant count required by ADAP BMP Manual shall be maintained unless otherwise approved by WDFW.
- 4. For plant installation specifications see 1/3 and 2/3.

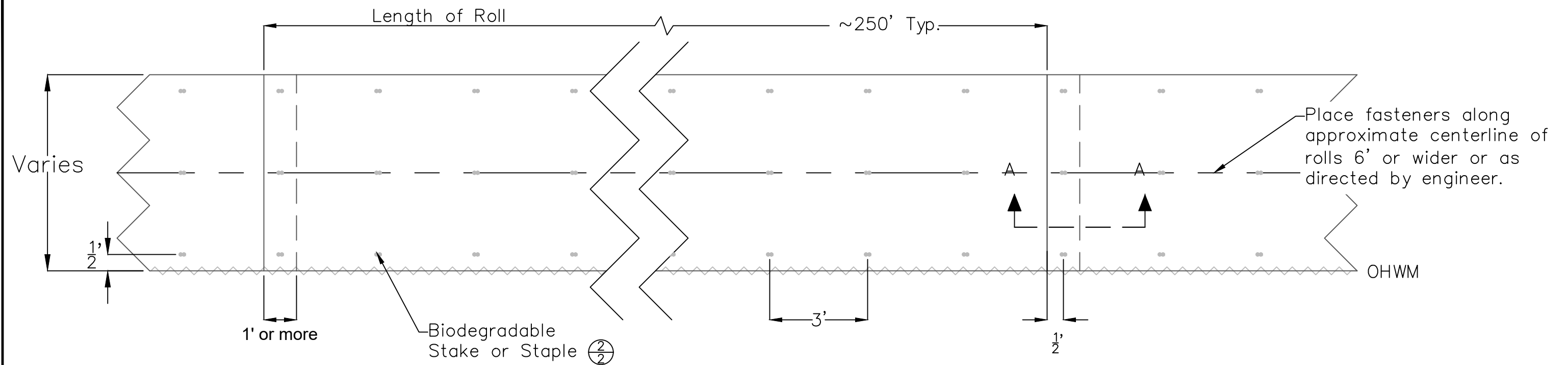
1 Willow Planting Layout



Planting Table

Plant Species	Count	Size
Black Twinberry	236	1 gal
Pacific Ninebark	236	1 gal
Pacific Willow	178	≥ 6' stake
Red-osier	356	≥ 6' stake
Sitka Willow	416	≥ 6' stake

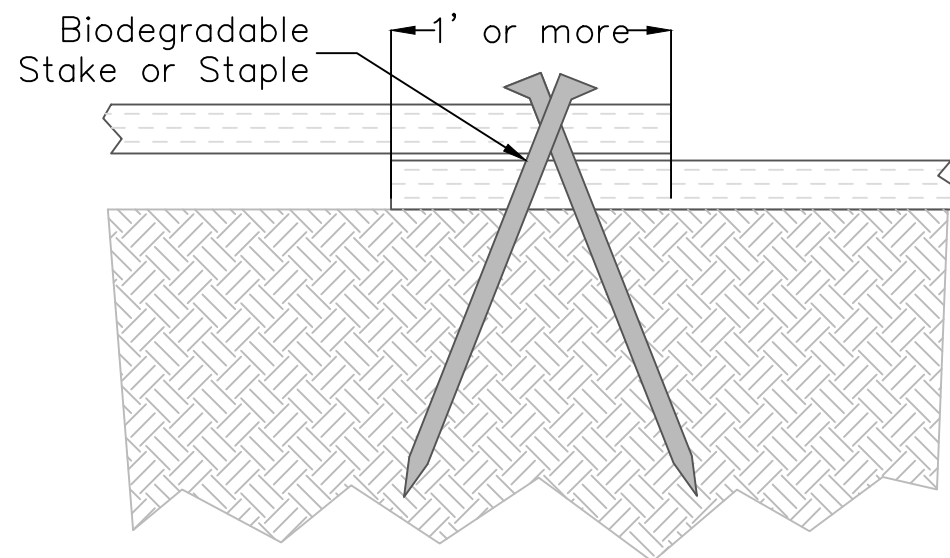
Planting Length	1,070
Sides of Channel (1 or 2)	2
Geosynthetic Fabric Length	
Waste Factor	10%
Width	6'
Minimum Length	2,354
Biodegradable Fastener Quantity	
Waste Factor	10%
Minimum Quantity	2,596




① Typical Geosynthetic Fabric Weed Barrier Installation
② for One to Three Rows of Plantings (NTS)

Notes:

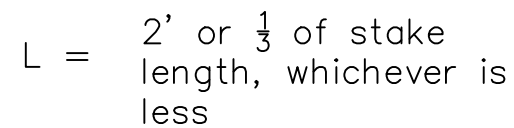
1. Stakes must be composed entirely of wood. Other biodegradable materials may be used if approved by the engineer. The head of the stake must be wider than the shaft. The width and shape of the head must be sufficient to prevent the stake from moving when the fabric adjacent to the stake is walked upon.
2. At each staking location, two staples or stakes are driven at opposite angles until the head is just above the fabric but not puncturing it or as directed by engineer.



② Fabric Installation Cross Section
A-A (NTS)

FIELD BOOK: <u>n/a</u>		ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>	FED. AID No. _____	CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5555 <small>(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)</small>	 Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section Christie True, Director	Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052 Weed Barrier Layout	SHEET 8 OF 10 SHEETS 5/6/2022
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>		PROJECT MANAGER: <u>E. Dightman</u>	PROJECT No. _____					
SURVEY BASE MAP: <u>n/a</u>			DESIGNED: <u>E. Dightman</u>	2022.05.06 SURVEY No. _____					
CHECKED: <u>n/a</u>			DESIGN ENTERED: <u>—</u>	MAINTENANCE DIVISION No. <u>269</u>					
NUM.	REVISION	BY	DATE						


1. In hard ground, use steel bar, star drill, or similar to prepare pilot holes for stakes. Pilot hole shall be slightly smaller than the diameter of stake.
2. Plant stakes by hand.
3. Backfill voids around stake with a slurry of native soil and water. Collapse air pockets near all cuttings by tapping soil around the cutting base with boot.
4. Along the first row, slightly angle stakes toward the channel.
5. Try to plant stake within 24 hours of taking cutting; keep beveled end moist until planted.

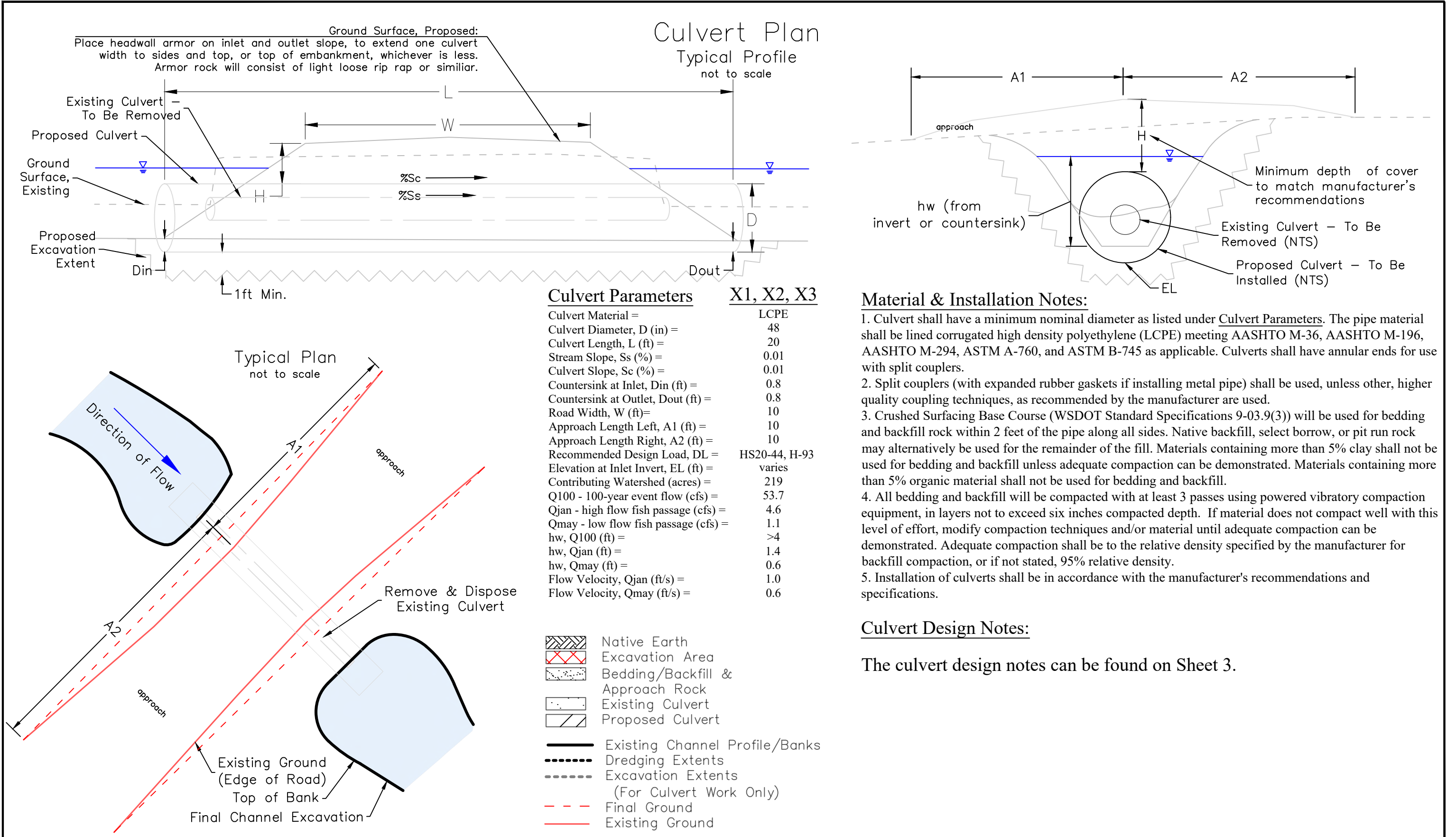


① Typical Live Stake Planting
N.T.S.

1. Fill hole with water and allow to drain.
2. Loosen bound roots and shake off excess potting soil (not in the planting hole).
3. Gently spread roots over the soil mound. Roots should not circle the hole.
4. Place the plant so that the root flare (where the roots join the stem) is about $\frac{1}{2}$ " above the surrounding surface.
5. Backfill with native soil so it fills the space between the roots.
6. Water generously, and add more soil to fill the hole up to $\frac{1}{2}$ " below the root flare.
7. Create a soil berm around the planting hole to retain moisture.



		-	-	ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>		FED. AID No. _____	CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5555 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)	 King County Department of Natural Resources and Parks Water and Land Resources Division Stormwater Services Section <i>Christie True, Director</i>	Cunningham ADAP Sound Sustainable Farms 14017 NE 124th St Redmond, WA 98052 Planting Details	SHEET 9 OF 10 SHEETS 5/6/2022
FIELD BOOK: <u>n/a</u>						PROJECT MANAGER: <u>E. Dightman</u>		PROJECT No. _____				
SURVEYED: <u>ELD</u>	FEB 2018					DESIGNED: <u>E. Dightman</u>	2022.05.06	SURVEY No. _____				
<u>-</u>						<u>-</u>						
SURVEY BASE MAP: <u>n/a</u>								MAINTENANCE DIVISION No. <u>270</u>				
CHECKED: <u>n/a</u>						DESIGN ENTERED: <u>-</u>						
		NUM.	REVISION	BY	DATE							



Material & Installation Notes:

- 1. Culvert shall have a minimum nominal diameter as listed under Culvert Parameters. The pipe material shall be lined corrugated high density polyethylene (LCPE) meeting AASHTO M-36, AASHTO M-196, AASHTO M-294, ASTM A-760, and ASTM B-745 as applicable. Culverts shall have annular ends for use with split couplers.
- 2. Split couplers (with expanded rubber gaskets if installing metal pipe) shall be used, unless other, higher quality coupling techniques, as recommended by the manufacturer are used.
- 3. Crushed Surfacing Base Course (WSDOT Standard Specifications 9-03.9(3)) will be used for bedding and backfill rock within 2 feet of the pipe along all sides. Native backfill, select borrow, or pit run rock may alternatively be used for the remainder of the fill. Materials containing more than 5% clay shall not be used for bedding and backfill unless adequate compaction can be demonstrated. Materials containing more than 5% organic material shall not be used for bedding and backfill.
- 4. All bedding and backfill will be compacted with at least 3 passes using powered vibratory compaction equipment, in layers not to exceed six inches compacted depth. If material does not compact well with this level of effort, modify compaction techniques and/or material until adequate compaction can be demonstrated. Adequate compaction shall be to the relative density specified by the manufacturer for backfill compaction, or if not stated, 95% relative density.
- 5. Installation of culverts shall be in accordance with the manufacturer's recommendations and specifications.

Culvert Design Notes:

The culvert design notes can be found on Sheet 3.

Unfinished Business



King Conservation District

2021 ANNUAL REPORT

Local Food • Healthy Forests • Clean Water • Better Ground



WHO WE ARE, HOW WE WORK

King Conservation District is a nonregulatory, special purpose district funded mostly through rates and charges with a mission to promote the sustainable use of natural resources through voluntary stewardship in King County. We provide education, technical assistance, and cost-sharing to private residents in forest management, farm conservation planning, wildfire preparedness, and streamside and shoreline enhancement. We also provide grants and work with cities and other organizations to support community gardens, urban forest canopy, and local food systems.

KCD provides direct assistance to private residents to manage their natural resources for the collective benefit. The cumulative effect of these efforts improves water quality, soil health, forest canopy, and local food systems that benefit all of us through healthier ecosystems, abundant wildlife, and access to healthy, local food.

KCD achieves natural resource improvements by providing outreach to connect with people ready to take action, education to train individuals to better steward their natural resources, technical assistance to provide access to natural resource technicians, and cost-share to overcome financial barriers. KCD also provides grants to cities and nonprofits.

KCD's work is guided by science-based standards and Best Management Practices (BMPs) set by the Natural Resources Conservation Service (NRCS). Our operations are overseen by our board of supervisors and the Washington State Conservation Commission (WSCC). The KCD Advisory Committee brings together regional stakeholders to provide input and guidance on our programming and efforts.

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PLANNING FOR THE FUTURE

Letter from the Executive Director and Board Chair

2021 was a big year for KCD. Rosa came on as our new executive director after more than a year of interim leadership, KCD underwent a significant restructuring to reduce overhead and streamline services, and KCD completed our 6-year, 2015-2021, strategic plan — all while successfully navigating the second year of COVID-19.

Like many organizations, KCD's second year of navigating COVID-19 saw us greatly improve how staff worked from home, completed site visits out in the field, and offered educational workshops online.

2021 also saw the launch of no less than three strategic initiatives. The Poverty Bay-Vashon Island Septic Maintenance Rebate Program is a partnership with Public Health Seattle & King County to incentivize septic maintenance to reduce fecal pollution. Shore Friendly King County was launched in collaboration with Mid Sound Fisheries Enhancement Group, King County, WRIA 8, and WRIA 9 to offer conservation resources to marine shoreline owners. Trees for Rail was launched in partnership with the City of Shoreline and Sound Transit to re-green the Lynnwood Link Lightrail corridor.

For the second year, KCD worked to expand participation in our Board Elections by offering online ballot

access and mailing out over 800,000 postcards to voting households. KCD also worked to bring a reform bill before the WA state legislature to modernize how conservation district elections are held. Unfortunately, no reform bill made it out of committee, but KCD is committed to continuing to push for election improvements.

KCD's 2015-2021 strategic plan set goals and guidelines for our work over the last 6 years. The plan focused on expanding KCD's programming and reach in response to essential regional priorities identified by the 2014 Conservation Panel, Task Force, and KCD Advisory Committee. Thanks to those guiding priorities, KCD expanded our programming adding four new programs and moving two additional programs to permanent funding. This expansion has seen a dramatic increase in services KCD offers to urban residents. We've grown our relationships, partnerships, and investments in equity-focused programming, urban programming, and local food systems.

We are proud of the hard work and dedication our staff have shown during the last year, and excited for the amazing work we get to plan and execute in the upcoming years.



Kirstin Haugen
2021-2022
Board Chair



Rosa Méndez-Perez
Executive Director

KCD 6-YEAR STRATEGIC PLAN EXPANDED SERVICES + EQUITY

KCD's 2015-2021 Strategic Plan set guiding priorities for how KCD helped people steward natural resources over the last six years. The plan included growing KCD's services, outreach, and partnerships to respond to changing needs in King County while maintaining our core programming of education, technical assistance, and cost-share for riparian (shoreline) restoration, farm conservation planning, and forest health services.

As King County has developed, the natural resource needs of our region have shifted. In response, KCD launched four new programs in 2015. Community (Urban) Agriculture, Urban Forest Stewardship, and Urban Freshwater Shoreline Enhancement recognize the unique challenges of stewarding forest, water, and soil health in urban environments. The Regional Food System program was created in response to needs expressed by the King County Local Food Initiative and the Puget Sound Regional Food Policy Council. Two additional programs, Agriculture Drainage Assistance and Wildfire Preparedness, were moved to permanent funding in 2020 in response to strong community interest.

Engagement and Education

KCD has dramatically expanded our communications channels - updating our website and social media presence and releasing our educational offerings



Nature Stewards volunteer at the KCD Native Plant Nursery tending plants that will go into riparian restoration projects.

as online video to improve awareness and reduce barriers for our conservation programming. KCD's innovative outreach efforts have included co-building an award-winning show garden at the 2020 Northwest Flower and Garden Festival to educate the more than 60,000 attendees on native plants and practices and turning our education workshops into self-guided learning modules to allow people to learn to be better stewards on their own time and at their own pace.

Healthy Forests

KCD set out to increase the number of small forest landowners we engage, increase our investment in urban forests, and work to improve the health of our region's tree canopy. KCD expanded our reach by partnering with Washington State University Cooperative Extension to offer Coached Forest Stewardship courses each year in forest health management which educated over 1,000 people in 2021 alone.

Our Urban Forest Stewardship Program has invested \$150,000 each year into projects that improve tree canopy through partnership with member cities. In 2018, KCD was able to complete a tree canopy assessment for fifteen south King County cities to establish baselines of urban tree canopy, provide tools and resources for cities to take proactive steps for improvement, and increase tree canopy equity in King county.

Finally, in response to changes in climate and land use that have increased the risk of wildfire in King County, KCD secured funding to make our Wildfire Preparedness program permanent. Since 2019, this program has already worked with dozens of at-risk communities to prepare their homes to reduce the likelihood and severity of wildfire.

Clean Water

To increase the reach of our clean water efforts, KCD worked to grow our farm conservation planning and rural services while expanding our shoreline restoration work into urban areas. KCD's expansion

into cities through our urban shorelines program and urban shoreline education workshops has been incredibly well-received. Since 2015, KCD has doubled the annual number of shoreline restoration projects, completing roughly 10 urban shoreline projects each year on top of roughly 10 rural shoreline projects also being undertaken each year. This expansion has also helped KCD build deeper relationships with cities and their planners. In 2021, KCD collaborated with local partners to launch Shore Friendly King County – bringing this popular marine shoreline program to residents of King County.

KCD's rural services have always been focused heavily on helping farmers and rural properties develop farm conservation plans and install best management practices to improve water quality. Since 2015, KCD's Landowner Incentive Program invested over \$1 million in cost-sharing farm best management practices to reduce excessive nutrient runoff and improve water quality.

Local Food

KCD's commitment to local food over the last six years was to expand services to urban agriculture and invest in our local food system to improve its sustainability, equitability, and resilience.

In 2015, KCD started a Community Agriculture program to focus on urban agriculture in King County with an explicit focus on underserved communities in South King County. In the last six years, this program helped fledgling gardens get started and thrive by providing small seed grants and equipment. It has supplied dozens of gardens with over 1,000 yards of free compost, 500 pounds of cover crop seeds, and more than 3,000 culturally relevant seed starts for immigrant and refugee communities.

KCD's Regional Food System Program, also launched in 2015, has invested more than \$5.5 million dollars into our local food economy, leveraging \$2 million of matching funds, and \$1 million of in-kind contributions on projects that increase production, expand demand for local food products, and broaden access to locally grown foods by front-line communities. In the program's first year, none of the grant recipients were led by BIPOC communities, but by working with partners, and changing program marketing and selection criteria, 25% of grant recipients were led by



In 2019, KCD supported the Asian Counseling And Referral Service (ACRS) with a \$75,000 grant to revitalize Seattle Community Farm.

BIPOC communities in 2020.

Since 2014, KCD has partnered with King County's Department of Natural Resources and Parks to support the restoration and maintenance of agricultural drainage ditches in key areas of the county. These ditches are essential for the proper draining of working fields. In six years, the program has been able to improve or restore production on over 1,500 acres of farmland. In response to the popular demand, KCD moved the program to permanent funding in 2020.

Member Jurisdiction Grants

KCD has awarded more than \$7.5 million in member jurisdiction grants over the last six years to member cities and King County to improve natural resources. Starting in 2017, KCD proudly worked with the City of Seattle to incorporate Seattle's Equity and Environment Agenda Goals ensuring that their grants also support projects that are co-created by, led by, and benefit people most impacted by environmental and climate issues: Black, Indigenous, People of Color, immigrants, refugees, people with low incomes, youth and elders.

What's Next?

KCD will build out our next strategic plan in 2022. With help from The Athena Group, we will be reaching out to partners and cooperators to gather feedback to inform our priorities for upcoming years. This work will be undertaken with an explicit focus on the diversity, equity, and inclusion of our programming to ensure that KCD is best serving the people of our district and addressing conservation priorities brought on by climate change and other changes to our region.

Learn more about the strategic planning at kingcd.org.

At King Conservation District, we're all about better ground. Better ground means taking important stewardship actions at home and in our communities to create healthy soil and water, to provide healthy food, and to conserve land, water, forests, wildlife and related natural resources. And you don't have to go it alone. You have a partner, your local conservation district.

2021 ACCOMPLISHMENTS



KCD PROGRAM AREAS

KCD has eleven main program areas laid out in our 2020-2024 Interlocal Agreement with King County that establishes the majority of our work planning. Along with these main programs, KCD has support programs that facilitate successful conservation projects including Engagement, Education, Landowner Incentive Program, Operations, and Finance.

Member Jurisdiction Grants

Sets aside \$1.2 million of rates and charges each year to fund conservation projects selected by member jurisdictions and implemented by the jurisdiction or a partnering organization.

Riparian Land Stewardship

Provides education and technical assistance to residents with marine and freshwater resources to allow individuals to better steward their natural resources.

Rural Land Stewardship & Farm Conservation Planning

Provides education, natural resource technical assessments, recommendations, farm conservation planning services, farm equipment, and cost-sharing to farm and livestock owners to improve water quality, soil health, and wildlife habitat.

Riparian Restoration/Improvement

Provides technical assistance, cost share, and work crews to help landowners implement best management practices such as removal of invasive species, planting natives, and installing buffers.

Wildfire Preparedness

Provides workshops, wildfire risk assessments, fuels reduction assistance, home hardening, and fire-adapted community planning to residents and homeowners associations to mitigate the likelihood and impact of wildfires on forested properties.

Urban Forest Stewardship

Partners with cities to identify, develop, and fund projects that maintain and improve urban tree canopy on public and private property.

Small Lot Forest Stewardship

Partners with small acreage forested properties to improve forest health and increase canopy cover by providing education, technical assistance, stewardship planning assistance, and cost-share to implement best management practices.

Regional Food System

Provides competitive and strategic initiative grants to grow the local food economy and increase access to local food based on goals and strategies of the King County Local Food Initiative.

Agricultural Drainage Assistance

Assists farmers with maintaining and improving agricultural drainage systems to increase field drainage to improve and restore crop production.

Community Agriculture

Develops urban food production and conservation practices by providing seed grants, tools, compost, culturally relevant seed starts, and technical assistance to community gardens.



OUTREACH AND EDUCATION

KCD Outreach and Education Programs work to empower King County residents to become better stewards of their natural resources by building awareness of beneficial conservation practices and connecting people with KCD programs and resources. COVID-19 continued to disrupt planned Outreach and Education events in 2021. However, KCD staff were able to retool and refocus efforts to accommodate COVID-19 protocols. Education programs were offered as online workshops and a new virtual learning tool was implemented. Outdoor Farm Tours and volunteer opportunities were offered in the fall to connect King County residents to KCD programs and project sites. And, Orca Recovery Day volunteer event was successfully held with COVID-19 safety protocols.

2021 Accomplishments

15 Events

500+ Stewards Educated

31 Volunteers Contributed

122 Volunteer Hours

Orca Recovery Day

In 2021, Conservation Districts spearheaded the Fourth Annual Orca Recovery Day. KCD staff coordinated an amazing group of 24 volunteers that planted 417 native plants along a tributary to Covington Creek. Volunteers planted native trees and shrubs that will grow and help provide the stream with shade, reduce

erosion, and help protect water quality. Both the tributary and Covington Creek are historic salmon supporting streams. Improving water quality will help salmon. And more salmon means more food for our struggling Orca populations.

Long time KCD volunteer, Fong Li, brought out a group of her family and friends to the Orca Recovery Day volunteer planting event in October 2021. Fong Li has coordinated an annual volunteer event with KCD for the last 10+ years, starting after she attended a planting event with her child's school group. We appreciate the dedication of this wonderful group of family and friends in supporting KCD riparian restoration projects.

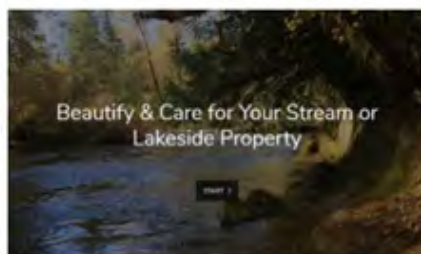


Native Plant Sale

The 2021 Bareroot Native Plant Sale provided over 65,000 native trees and shrubs to King County residents to improve habitat. KCD was able to hold the 2021 sale despite COVID-19 by adapting our distribution method to a socially-distanced drive-through model. Customers received their plants safely, and often in record time.

Education Workshops and Tours

KCD education programs include classes, workshops, tours and other field-based learning opportunities that focus on water quality protection, soil conservation, livestock management, shoreline habitat improvement, and fish and wildlife habitat enhancement. Audiences served by KCD education programs include livestock owners, agriculture operators, forested property residents, streamside and marine shoreline owners, and rural, urban, and suburban residents, as well as youth and children. KCD also funds educational offerings through WSU Extension for Coached Forest Stewardship planning.



Going Online

KCD's Education team launched our online learning tool in 2021 to help King County residents learn more about stewardship topics related to KCD's programs and services on their own time and at their own pace. Topics include marine shoreline management, freshwater shoreline enhancement, and native plants.

KCD also increased the number of our workshops recorded and put online.



2021 WA State Envirothon participants.

Envirothon

Envirothon is a nationwide environmental literacy competition for high school youth. KCD participates in the Washington State Envirothon program by recruiting high school teams from King County to participate in the Northwest regional, state, and national Envirothon competitions. Teams from across Washington State, including several King County teams, competed to test their knowledge on natural resource topics.

In 2021, KCD education team staff and AmeriCorps members participated in planning and facilitating the Washington State Envirothon competition. KCD is proud to share that Education AmeriCorps Member, Rosie McGoldrick, applied for and secured the NCF Envirothon Diversity Grant to benefit all Envirothon regions across Washington State. The grant included funding to build out inclusive recruitment materials to identify racially diverse schools and create study bins for students related to the natural resource topics covered in the competition.

Volunteer

KCD's Volunteer Program supports engagement activities as well as implementation of conservation efforts. It increases public awareness of all KCD programs and services and offers volunteers knowledge about local natural resource management, such as restoration of watershed functions, and hands-on experience implementing practices to address those concerns. Program goals focus on recruiting and connecting new volunteers to project-based learning opportunities and building partnerships with agencies and organizations to address mutual service-learning goals. KCD's volunteer program was on pause throughout spring and summer of 2021 due to the COVID-19 pandemic but was able to support the Orca Recovery Day event in October 2021.



MEMBER JURISDICTION GRANTS

KCD sets aside \$1.2 million each year of collected rates and charges funds for our 35 member jurisdictions. A portion of those funds are available for each jurisdiction based on the number of parcels collected from within that city. Jurisdictions may elect to apply for a grant to implement projects or to contract directly with KCD to deliver project services. Jurisdictions may also authorize a partnering nonprofit to apply for a grant from that city's funds. Jurisdictions may accrue funds from year-to-year in order to support larger projects, and they may also partner with each other to leverage resources to implement conservation projects. Activities eligible for funding through this program include the direct improvement of natural resource conditions, education and outreach, pilot and demonstration projects, and projects that build capacity. Seattle Grants have an explicit focus on funding projects that are led by, or in deep partnership with, communities disproportionately impacted by environmental injustice and systematic racism. The Seattle grant round was not held in 2021. Instead, the funds will be combined with the 2022 grant round. Also in 2022, the program will engage with the KCD Advisory Committee to update the member jurisdiction application form to include equity and evaluation considerations.

Program Accomplishments for 2021

In 2021, KCD awarded \$638,327 for 14 new projects in 12 jurisdictions. We continued to be a flexible funding partner with grantees, extending completion timelines and approving technology purchases to support new

methods of community engagement necessary due to ongoing COVID-19 challenges.

\$638,327 Awarded

14 New Projects

12 Jurisdictions

Program Outcomes for 2021

Grant program staff conduct a thorough review of every grant project to determine outcomes accomplished and challenges faced in the implementation of the projects. In 2021, KCD reviewed 11 closed grants (25% of total grants closed in 2020).

KCD staff contacted some grantees with follow-up questions about the short-term impacts of their projects. The program evaluation team found that:

- Due to the COVID pandemic, grantees conducting outreach and education had to convert their activities from in-person to virtual. Grantees were able to deliver their programming in creative new ways, and they appreciated KCD's flexibility with revisions and timeline extensions as well as funding technology purchases that enabled grantees to reach their community audiences.
- Most grantees report anecdotal evidence that project participants had positive learning experiences. However, most grantees did not have systems to track quantifiable data.

2021 Grants Awarded

Auburn - \$15,113

White River Valley Museum - 2021 Farm Program and Project Support of Mary Olson Farm

Auburn - \$15,000

Auburn International Farmers Market - Marketing and Demonstrations

Beaux Arts Village - \$2,210

Academy Path and Adjacent Woods Restoration

Bellevue - \$30,000

Bellevue City Tree Giveaway

Bellevue - \$35,000

Overlake Blueberry Farm Spiraea douglasii (Hardhack) Treatment

Burien - \$40,266

Anchor QEA – Seahurst Park Phase II
Post-Construction Eelgrass Survey 2021

Clyde Hill - \$1,774

2019 Arbor Day Celebration

Des Moines - \$14,000

Des Moines Waterfront Farmers Market - Low Income Senior Healthy Eating Initiative

Maple Valley - \$93,641

Jenkins Creek Fish Passage Culvert Monitoring

Mercer Island - \$90,000

Luther Burbank Park South Shoreline Restoration

Newcastle - \$4,534

Adopt a Drain City Program

Normandy Park - \$38,000

Restoration Analytics and Design - Normandy Park
Community Forester Stewardship Program

Shoreline - \$58,100

Green Shoreline Partnership

Sammamish - \$30,600

Triangle Associates - 2021-2022 Stormwater Outreach

King County - \$172,300

King County Agriculture Program - 2021 Keeping Farmers Farming



2021 RAINIER BEACH ACTION COALITION FARM STAND FELLOW

“Personally, the farm stand project has impacted me in a multitude of ways. It has deepened my connection with the neighborhood I was raised in, improved my communication and problem-solving skills, and broadened my understanding of how large of an issue food-insecurity really is.

From seeing dedicated community members lined up 2 hours before we open, to having to coordinate up to 8 produce deliveries in one week, I realized how many people benefit from our program and the work required behind the scenes to make it all happen.”



RIPARIAN LAND STEWARDSHIP

The Riparian Land Stewardship program works to educate and empower residents through workshops, one-on-one education, and technical assistance to better steward streams, lakes, and marine shorelines. KCD's education prioritizes residents across King County whose properties include or abut water bodies that are important to the health of Puget Sound and salmon. Workshops are structured to empower farmers, marine shoreline, streamside and lakeside residents in both urban and rural areas to take actions that create cooler, cleaner streams and thriving shorelines. These individual actions lead to collective impacts that benefit all of us through improved habitats for fish and other wildlife. In 2021, KCD continued to provide freshwater and marine shoreline workshops online due to COVID-19. While KCD was new at administering online courses, we were thrilled

with the turnout, and saw an increase in attendance from 2020.

Program Accomplishments for 2021

91 People Provided Technical Assistance

86 Marine Shoreline Residents Educated

104 Stream and Lakeside Residents Educated

ONLINE LEARNING MODULES

As KCD continued to navigate COVID-19 pandemic, we developed online, self-guided learning modules to allow residents to learn at their own pace when it's convenient for them. Each course allows you to start, stop, and pick up where you left off whenever you like. Courses include our popular marine shoreline workshop *Where the Water Begins*, stream and lakeside workshop *Beautify and Care for Your Streamside Property*, and KCD's *Guide to Native Planting* to understand the valuable role native plants play in promoting healthy ecosystems.

RURAL LAND STEWARDSHIP

KCD's Rural Land Stewardship Program provides natural resource technical assessments, recommendations, and farm conservation services to farmers, livestock owners, and other rural residents. Resource planners look at changes that can be made to improve farm productivity and reduce impacts on natural resources through implementing best management practices (BMPs). Farm best management practices funded in 2021 include buffer fencing, roof runoff structures, stream crossings, and waste storage facilities. These BMPs are developed by the Natural Resource Conservation Service (NRCS), based on scientific field research. Resource planners also offer technical assistance on questions such as what grasses to plant, how to design heavy use areas to manage mud in the winter, and even how to plan and implement waste storage facilities for manure composting. In addition to farm conservation planning, the program offers free soil testing, equipment rentals, dairy nutrient planning, and farm tours.

King County has roughly 42,000 acres of farmland and 3,200 producers. Of those farms, 94% are under 50 acres. Farmers in King County face a variety of economic, resource, and regulatory hurdles. Through education, technical assistance, and cost-share, KCD helps rural land stewards improve water quality, reduce negative environmental impacts, and achieve their land use goals. Collectively, this has a significant, positive impact on soil health and water quality, and on our local food economy.



KCD Senior Farm Planner Jay Mirro leads a Farm Tour on a horse property outside Enumclaw.

Program Accomplishments for 2021

79 People Educated on Agricultural Topics

194 People Provided Technical Assistance

61 Farm Conservation Plans Written

\$163,812 Cost-share Awarded to Support 24 BMPs

60 Farm Equipment Loans

Program Outcomes for 2021

Program outcomes look at the long-term impacts our work has creating behavior changes in our cooperators and leaving a lasting benefit for the environment. In 2021, KCD received 80 surveys from cooperators who have received farm plans from 2015-2020.

- 84% of respondents reported that they implemented at least one Best Management Practice (BMP) prescribed in their farm plan.
- Cooperators cited time and cost of materials/contractors as the most common reasons for not implementing any or additional BMPs.
- 36% of respondents utilized the Landowner Incentive Program cost-share assistance to help implement BMPs.
- 70% of respondents reported improvements to their farm

RIPARIAN RESTORATION/IMPROVEMENT

Rivers, creeks, lakes, wetlands, and the marine shoreline are critical features of King County's landscape. These aquatic areas and their vegetated riparian corridors provide cool, clean water for fish and other aquatic wildlife and habitat for insects, birds, and other animals. Throughout King County, these areas are impacted by a variety of land uses and increasing development, and the ever-increasing threat of invasive species.

KCD's Riparian Restoration Program offers aquatic area enhancement services to help protect and improve the health of our watersheds by restoring natural shorelines and riparian buffers on privately held land. KCD's services include education, technical and financial assistance, and project design and implementation services. Our riparian habitat enhancement projects are funded through a combination of State and Federal grants and KCD cost-share. These funds provide for labor and materials associated with controlling invasive and noxious weeds and replacing them with beneficial native trees and shrubs. Riparian Restoration best management practice funds awarded in 2021 were allocated towards aquatic area hedgerows, riparian forest buffers, and a bulkhead removal/soft shoreline enhancement project. In addition to project installation, KCD also provides three to five years of maintenance and monitoring for each project installed to ensure project success standards are achieved.

In 2021, the Riparian Restoration Program installed projects in unincorporated areas of King County (including around Covington, Enumclaw, Fall City, Maple Valley, and Snoqualmie) and within urban areas



WCC Crews installing a riparian buffer.

(including the cities of Auburn, Kent, Lake Forest Park, Medina, Redmond, Sammamish, and Normandy Park). KCD's Urban Riparian Program launched in 2015 and maintains a steady backlog of projects due in part to successful community engagement, word-of-mouth, and a high level of interest from streamside residents.

Program Accomplishments for 2021

17 Projects Implemented

9 Projects Planned For Future

1+ Miles of Shoreline Improved

6+ Acres of Shoreline Improved

9,837 Native Plants Planted

\$161,337 LIP Cost-share Awarded to Implement 14 BMPs

\$109,735 Additional Cost-share to Implement BMPs

Program Outcomes for 2021

Program outcomes look at the long-term impacts our work has creating behavior changes in our cooperators leading to lasting benefits for the environment. A 2021 survey of 16 past project owners showed:

- 63% of respondents said they were unlikely or very unlikely to implement a riparian restoration project on their own.
- 81% of respondents reported conservation improvements to their property.
- For 5th year projects, 89% met Native Cover Benchmark, 83% met Invasive Cover Benchmark, and 89% met Density Benchmark. Projects not meeting benchmarks will continue to receive maintenance and adaptive management until they reach program benchmarks.



FUNDING PARTNERSHIP WILL RESTORE CRITICAL HABITAT

In 2021, KCD received Natural Resources Investment (NRI) funding from the Washington State Conservation Commission for the establishment of a 50-foot wide, 4.5 acre, riparian forest buffer along a half mile of the Snoqualmie River on a farm near Duvall. This project will protect critical fish habitat through restoration efforts by creating shade, reducing erosion through stream bank stabilization, protecting water quality, and creating general habitat and refuge for fish and wildlife.

This project is located next to the King County Tolt Pipeline Protection Project and the connectivity of the two projects will result in almost 1 mile of shoreline buffer enhancement. In addition, this project is also located directly across the river from a KCD implemented Conservation Reserve Enhancement Program (CREP) project which restored 8 acres, and over half a mile of shoreline.

The NRI funding for this project will be matched with cost-share funding from KCD's Landowner Incentive Program, creating a unique state, local and private partnership.



PARTNERING FOR WILDFIRE AWARENESS

As part of Wildfire Resiliency services, KCD coordinates closely with partners such as East Side Fire and Rescue, King County Department of Emergency Management, WA Department of Natural Resources, and city governments throughout the wildland-urban interface. In 2021, KCD had a unique opportunity to assist in the development of King County's Wildfire Strategy. Strategy meetings were kicked off with a well-publicized press event where our Wildfire Resiliency Coordinator was filmed offering a wildfire home assessment. KCD participated in a series of strategy development discussions as part of the forest health and wildfire preparedness working groups. The county-wide groups reviewed the overarching goals for the strategy, developed a working list of potential actions, and identified draft criteria for evaluating and prioritizing those actions. Key partners and timelines for each action item were also determined. The full strategy will be released by King County in July 2022 and KCD looks forward to taking on our part to advise and fund home hardening and forest health management projects.

WILDFIRE PREPAREDNESS

As climate change and population growth pressures mount, Pacific Northwest forests are threatened. KCD is able to support individual jurisdictions and agencies by mobilizing private landowners to protect our forests. Meeting the demand to train and support owners of small forest properties to safeguard our regional forest resources is critical.

Collectively, small properties comprise over 40,000 forested acres in King County. KCD provides wildfire safety evaluations and fire-adapted planning services to small residential forest landowners and neighborhoods or HOA communities. After the risk planning evaluation, cooperators can engage with KCD to develop a Community Wildfire Action Plan to implement wildfire risk reduction projects focused on reducing ground and ladder fuels in home ignition zones and around other infrastructure assets.

Program Accomplishments for 2021

**12 Wildfire Workshops Educating
363 Residents**

62 Home Safety Evaluations

**211 Acres covered by Wildfire
Safety Evaluations**

**15 Communities Partnered With
to Reduce Wildfire Risks**

URBAN FOREST STEWARDSHIP

Urban forests' contribution to health, economic and social well-being is now well-documented. Healthy urban forests also provide resilience and mitigate the impacts of severe weather in the face of climate change. A regional approach to expanding tree canopy across King County's urban landscapes is critical, especially in south King County where a dramatic lack of canopy coincides with the county's highest levels of pollution and illness. KCD's Urban Forest Health Program partners with member jurisdictions to fund and provide technical support to projects in backyards, public easements, parks and open spaces in incorporated King County.

2021 New Urban Forestry Projects

Beaux Arts – Street Tree Inventory

Develop a tree inventory with work-tracking system. Individual street trees will be tagged, mapped, and assessed for health and potential hazards.

Burien – Volunteer Program Coordinator and Crew Stipends

Expanding Burien's park stewardship program to three additional parks through hiring a consultant to manage the City's volunteer stewardship program and providing stipends to volunteer work crews.

Kenmore and Kirkland – Yard Tree Giveaways

KCD will purchase roughly 400 trees, develop educational and promotional materials (in English, Spanish, and Chinese) and provide event support.

Tukwila - Urban Forest Carbon Credit and Impact Certification Pilot Program

Advance canopy coverage targets and Equity Policy goals by utilizing City Forest Credits, a nonprofit carbon registry and impact certification organization that certifies and markets urban forest projects to potential funders.

Kenmore, Kirkland, North Bend, Tukwila– PlanIt Geo Tree Canopy Assessment

Map current tree canopy and possible planting areas, quantify changes in canopy in Kenmore and Tukwila, and prioritize planting areas based on diversity and equity concerns in Kirkland.

Program Accomplishments for 2021

8 Acres Urban Forest Invasive Species Removed

1137 Trees Planted

5 Projects Continued

11 Cities Partnered With



TREES FOR RAIL

In 2021, KCD launched Trees for Rail in collaboration with Sound Transit and the City of Shoreline. This unique program is working to re-green portions of the Lynnwood Link Light Rail corridor with native trees and shrubs as it passes through the City of Shoreline. Leveraging Sound Transit Resources and KCD's Urban Forest Stewardship Program, the effort works to establish native vegetation and tree canopy to reduce the impact on corridor-adjacent homeowners. Roughly 275 properties have been engaged with the program thus far and 47 households signed up to receive services. In 2022, the program will continue, and looks to expand to additional affected properties in the area.



MATSUDA HEIRS CONTINUE CONSERVATION PARTNERSHIP

The Matsuda Family have been stewarding property on Vashon Island since they acquired an apple orchard there in the 1930s and have been partnering with KCD since at least 1957 when Yoneichi Matsuda was recognized as KCD's Conservation Farmer of the Year. Since then, the Matsuda legacy has included a KCD grant to support redevelopment of 12 acres of the original farm to establish a now-flourishing farm-to-school program and a 35-foot native plant buffer around the farm's irrigation pond.

In 2007, reforestation efforts were undertaken on five acres of land stewarded by Ray Gruenewald, a Matsuda heir, through community planting efforts. More than 2000 native trees were planted, including western red cedar, shore pine, madrone, Sitka spruce, western white pine, western hemlock, and Douglas-fir. By 2020, the trees grew dense enough that Ray reached out to KCD to help with thinning and maintenance of the now flourishing forest. By working with KCD forest health technicians, Ray was able to develop and implement a plan, funded by KCD's Landowner Incentive Program, that will keep the forest healthy and resilient for years to come.

SMALL LOT FOREST STEWARDSHIP

KCD's Small Lot Forest Stewardship program partners with small-acreage private forest landowners to improve forest health and increase canopy cover. Through education, technical assistance, and cost-share assistance, the program empowers landowners to become knowledgeable and successful stewards of their forests. Forest Stewardship best management practice cost-share awarded in 2021 includes forest health management to remove invasive weeds, thin understories, and plant native plants. Over 42,000 forested acres in King County are held by owners of woods smaller than five acres. Collectively, these acres represent a vast resource that, through forest stewardship programming, contributes to the overall health of our community and offers a timely opportunity to proactively engage private landowners in stewardship.

Program Accomplishments for 2021

980 Educated Through WSU Extension Partnership

219 People Provided Technical Assistance

97 Forestry Assessments Completed

7 Forest Stewardship Plans

10.5 Acres of Forest Treated

1,018 Native Plants Planted

\$98,275 Cost-share Awarded to Implement **7 BMPs**

Program Outcomes for 2021

Program outcomes look at the long-term impacts our work has creating behavior changes in our cooperators and leaving a lasting benefit for the environment.

- After receiving technical assistance from KCD forestry staff, 88% of survey respondents took an action, like controlling for invasive plants, improving wildlife habitat, thinning trees, and planting native trees.



REGIONAL FOOD SYSTEM

KCD's Regional Food Systems (RFS) Program works to strengthen our local food economy by bridging the gap between producers and consumers and serving as a catalyst in making local food production both environmentally and economically sustainable.

RFS grants are based on goals and strategies of the King County Local Food Initiative and input from regional food system participants. The program funds projects with demonstrated public benefit that contribute to the economic viability of local farmers, encourage new farmers, expand acreage in food production, improve food access, or increase demand for, and sales of, King County farm products.

Strategic initiative grants provide longer-term, sustained investments in areas of key food system concerns. Currently, these include working farmland access, farm business support and technical assistance, institutional purchasing, and infrastructure support.

In 2021, KCD awarded \$741,352 in competitive grants and strategic initiatives to innovative and diverse projects across King County.

Increasing Equity

KCD's Regional Food Systems Program launched in 2015. From 2015 to 2020, the program invested \$4.7 million into our local food system, leveraging an additional \$3.7 million in cash and in-kind support through 81 competitive and strategic initiative grants.

In 2015, none of the grant recipients were led by BIPOC communities. KCD made changes to program marketing and selection criteria and in 2020 25% of grant recipients were led by BIPOC communities. By 2021, 50% of grant applicants were led by BIPOC communities. We look forward to continuing to improve the program through our next strategic planning process.

2021 Competitive Grants Awarded

21 Acres - \$20,000

Sammamish Valley Sustainable Ag Tool Library

African Community Housing & Development - \$20,000

Delridge Farmers Market Year Two

Black Farmers Collective - \$20,000

Expanding Food Sovereignty at Yes Farm

Black Food Sovereignty Coalition - \$20,000

Back to the Root: PNW BIPOC Food Network Development

Black Star Food Collective

(Sustainable Seattle Fiscal Sponsor) - \$20,000

New Holly Rockery Market Garden Reactivation

Carnation Farms - \$14,300

Energy Efficiency in Aggregating Local Produce

Duwamish Valley Sustainability Association (Sustainable Seattle Fiscal Sponsor) - \$20,000

Transformando Nuestra Tierra: Biofuel

Farmstand Local Foods - \$19,000

Demystifying Local Food Pricing for Farmers and Chefs in Preparation for New Overtime Rules in Agriculture

Feed 7 Generations- \$20,000

Generating Engaged Native Growers (GEN-G)

Gathering Roots Wellness - \$20,000

Greenhouse Infrastructure for BIPOC Farmers Co-op

International Rescue Committee - \$20,000

BIPOC Growers of South King County Aggregation Project

New Day Cooperative Distribution - \$2,000

BIPOC and LGBTQ Farmer CSA Pickup Site

SnoValley Tilth - \$19,052

Greenhouse Propagation Infrastructure and Training for New, Beginning, and Small-Scale Farmers



The Common Acre - \$20,000

Community Food Hubs

Wakulima USA - \$12,000

Youth Farmer Project

New Start Community Garden (Weed Warriors Fiscal Sponsor) - \$20,000

School Garden Infrastructure and Classes

White Center Food Bank - \$20,000

Dispersed Food Bank Farm

HARVEST AGAINST HUNGER KING COUNTY FARMERS SHARE

The rapid spread of COVID-19 throughout King County highlighted the importance of supporting physical health among disadvantaged populations to support long-term health equity. Efforts to mitigate the spread of COVID-19 highlighted the interconnectedness of the local food economy, as closed restaurants and farmers markets left many King County farmers without anticipated early-season income. Closed schools and places of employment increased demand for emergency food assistance, with supply lagging behind in the early months of the pandemic. KCD RFS Strategic Initiative funding allowed King County Farmers Share's 31 cohort agencies (food banks, senior centers, hunger prevention organizations, teen services, churches, etc.) to expand distribution of supplies including grocery bags and PPE (e.g. masks and gloves), and increase purchasing from 57 King County farm partners to over \$139,000. Ultimately, the broader food system impacts of supporting direct connections between local farmers and food access efforts are numerous and interdisciplinary, including improved nutrient density from freshly harvested produce, cultural familiarity, reduced food waste and greenhouse gas emissions, and sustained financial viability support for farmers.

2021 Strategic Initiatives

KCD is currently funding three strategic initiatives:

Washington Farmland Trust's Working Farmland Partnership - \$150,000

Partnership with Washington Farmland Trust and the Working Farmland Partnership Facilitating Matches to Bring More Land Into Production and Increase The Number of Farmers in King County

Business Impact Northwest's Farm Business Support and Technical Assistance - \$150,000

Farm Business Support and Technical Assistance Coordination - such as agronomic, business planning, access to capital, marketing, conservation, education coordination, and food safety for King County farmers and food businesses.

King County DNRP's Immigrant/Refugee Farmer Outreach Coordinator - \$125,000

Support the position of Immigrant/Refugee Farmer Outreach Coordinator position within King County Department Natural Resources and Parks Farmland Lease Program to provide greater support for BIPOC farmers, especially from immigrant and refugee communities on King County owned farmland. The position supports farmland management, farmland lease outreach and support, and landowner engagement.

AGRICULTURAL DRAINAGE ASSISTANCE

Over the past few decades, much of the county's most productive farmland has become impacted by poor field drainage. This threat has been compounded by climate change causing an increase of flooding in the winter due to changes in rainfall (from more severe and frequent rainstorms) and rapid urbanization, which promotes increased stormwater runoff.

KCD provides comprehensive services to assist farmers with maintaining and improving agricultural drainage systems. Our aim is to enable more farmers to participate in the King County Agricultural Drainage Assistance Program (ADAP) through a combination of technical assistance and matching grants.

Improved field drainage will increase productivity by extending the growing season, enabling the planting of higher value crops, and expanding grazing for livestock. Improved drainage will also provide an opportunity for increased agricultural employment, enhance local food production, and contribute to the continued growth, vitality, and resilience of local agriculture.

Program Outcomes for 2021

Program outcomes look at the long-term impacts our work has creating behavior changes in our cooperators and leaving a lasting benefit for our community. KCD completed 3 drainage projects in 2020. A 2021 review of 2 of those completed projects found

- Both cooperators noticed a large reduction in flooding to their fields during the winter season.
- Cooperators report that neighboring properties who also received ditch maintenance support noted further improvement of drainage on their property.
- Clogged ditches on neighboring properties caused a reduction in benefits for cooperators

Program Accomplishments for 2021

15 Projects Completed

20 Farms Supported

3.68 Miles of Ditch Cleared

100 Acres of Farmland Improved

197 Acres of Farmland Restored



DRAIN TILE REPLACEMENT

In 2021, KCD collaborated with the Snoqualmie Valley Watershed Improvement District and Ducks Unlimited to install drain tiles on two farms. Additionally, a complete survey and engineer design was created for maintenance of drain tiles for one Enumclaw dairy. In total, 12,000 feet of drain tiles were replaced. As part of our goal to improve water quality and storage, each tile with an outlet to a watercourse was fitted with a water control structure device called an 'agri-drain.' A total of six agri-drain structures were attached to replacement tiles, which will allow cooperators to convey surface waters off their fields during seasonal flooding and store water on their fields for irrigation during the dry season.



GREEN PATHWAYS FELLOWSHIP (END OF PILOT PROGRAM)

KCD was a host organization for the Green Pathways Program from 2019-2021. KCD's Community Agriculture Program Coordinator position was held by the Green Pathways Fellow, Cly Samson. The Green Pathways Fellowship program was formed through a partnership with RVC and Got Green to "create a pathway for future leaders of color in the green sector while providing a living wage, entry-level positions with benefits in the environmental justice movement."

Through this program, KCD also worked with a consultant to develop an internal KCD Racial Equity Change Team. The consultant worked with KCD staff to build out and train the team, start the process of learning about ways to drive thoughtful and dedicated improvements in KCD's work, while providing an institutional mechanism for expanding KCD's equity focus.

COMMUNITY AGRICULTURE

An equitable and resilient local food economy includes urban food production. Urban farmers and gardeners have unique needs for land stewardship guidance to ensure a viable, diverse local food system that cares for our soils and waters. Existing urban agricultural organizations frequently lack access to land, funds, and technical support to meet the demand for sustainable urban small-lot food production for low-income and immigrant populations, who benefit most from expanded urban agricultural opportunities. A healthy local food system requires developing opportunities to grow fresh food in dense urban neighborhoods, especially in communities that are transit-dependent, low-income, or comprised of primarily immigrant populations.

KCD's Community Agriculture program provides community gardens with resources to get started, or expand, through technical assistance, education, materials, and small grants. In 2021, the program provided materials assistance to help three new community garden projects get started: Got Green, FAACT, and Brown Egg Garden.

Program Accomplishments for 2021

1,819 Soil Nutrient Tests for Farmers and Gardeners

5 Existing Community Gardens Provided Technical Assistance

3 New Community Gardens Engaged

150+ Culturally Relevant Seed Starts Given to Immigrant Farmers

160 Pounds of Cover Crop Seed Provided to **11** Community Gardens

335 Cubic Yards of GroCo™ Compost Distributed to **43** Gardens



LANDOWNER INCENTIVE PROGRAM

KCD's Landowner Incentive Program (LIP) promotes stewardship of natural resources on private property by providing cost-share funding to help landowners overcome financial barriers and implement natural resource best management practices (BMPs).

The Landowner Incentive Program's goal is to promote the implementation of natural resource management practices detailed in KCD prepared technical assistance and management plans such as Farm Conservation Plans and Forest Health Management Plans. The programs that offer cost-share for project implementation are the Rural Land Stewardship, Riparian Restoration, and Small Lot Forest Stewardship Programs. KCD reimburses between 50%-90% of approved projects depending on the natural resource BMP.

Program Highlights for 2021

In 2021, the Landowner Incentive Program awarded 45 new contracts totaling \$423,539 to implement BMPs on private property including riparian buffer planting, bulkhead removal, rural forest health stewardship, and farm heavy use protection area installation.

OPERATIONS

KCD's Operations Program supports program functions across KCD.

General Overhead

KCD's Annual Budget includes expenses for general overhead. They provide the operational infrastructure and support for KCD staff to implement on-the-ground work. The largest expenses in this category are rent, utilities, office equipment, information technology, and vehicles.

Finance

KCD's Finance team consists of a cross-functional working group that provides all accounting related functions for the organization.

Human Resources

Human Resources recommends strategies for employee recruitment, development, growth and retention. KCD currently contracts Human Resources services.

Legal and Related

KCD's Executive Director oversees the day-to-day contracting and regulatory interpretation as well as respond to and monitor all legal actions that impact the organization. KCD maintains outside legal counsel to handle issues that arise.

2021 BUDGET + SPENDING

KCD revenue and spending for 2021 are shown below. Spending is separated into KCD Priority Areas information found on page 22 as a table broken out into KCD Priority Areas (Clean Water, Forest Stewardship, and Agriculture & Local Foods) and select overhead and special program areas. KCD is undertaking systems improvement around budgeting and financial reporting. We expect this work to change and improve how we share our financials in future years to give a more thorough picture of how we fund the conservation work that we do.

King Conservation District Revenue and Spending for 2021

	2021 Actual	2021 Budget	Budget to Actual
Revenue by Source			
Rates & Charges Receipts	\$ 7,944,916	\$ 7,774,578	\$(170,338)
Grants & Contract Revenue	526,818	437,886	(88,932)
Plant Sale	129,359	120,000	(9,359)
Interest Earnings	11,405	212,250	200,845
Other	9,058	750	(8,308)
Total Revenue	\$ 8,621,554	\$ 8,545,464	\$ (76,089)

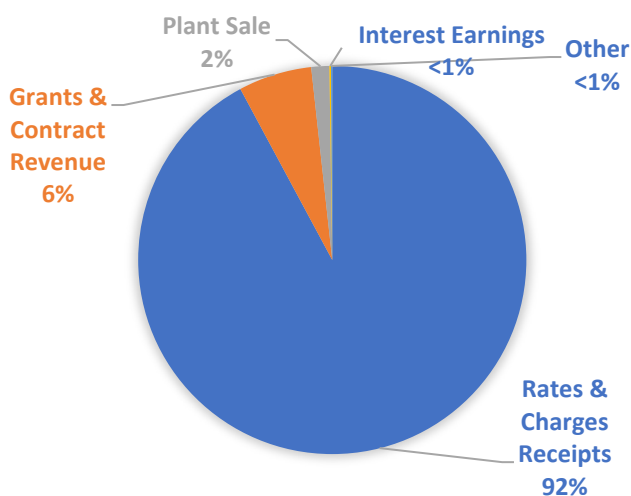
*Portions of both the 2021 and 2022 Board Elections expenditures were made in 2021.

Spending by Program Area

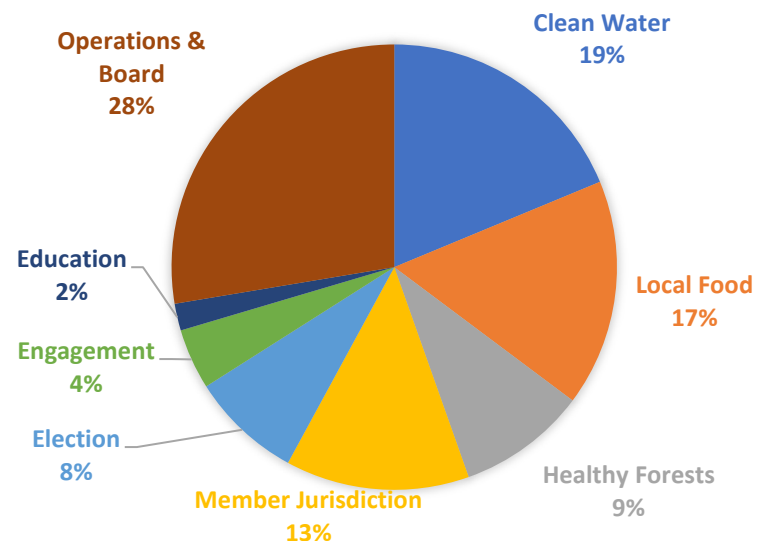
Clean Water	\$ 1,533,867	\$ 1,956,406	\$ 422,540
Local Food	1,348,366	1,633,180	284,814
Healthy Forests	765,665	1,075,676	310,012
Member Jurisdiction	1,092,186	1,276,983	184,797
Election*	661,557	239,061	(422,496)
Engagement	360,705	500,289	139,584
Education	159,973	145,012	(14,962)
Operations & Board**	2,261,333	1,718,857	(542,476)
Total Spending	\$ 8,183,651	\$ 8,545,464	\$ 361,812

** KCD underwent a major reorganization in 2021 and had an interim executive director for most of the year. During this transitional period, KCD had the need to hire multiple contracted services. These costs were categorized as operations costs.

2021 Revenue by Source (Actual)



2021 Spending by Program Area (Actual)



BOARD OF SUPERVISORS

King Conservation District is led by an all-volunteer, five-member board of supervisors. Three of the members are elected while the other two are appointed by the Washington State Conservation Commission, an agency created to assist and guide conservation district activities in Washington State. By statute, KCD elections occur annually during the first quarter of each year. Elections are conducted pursuant to guidelines established by RCW 89.08 with oversight from the Washington State Conservation Commission. Board members contribute local perspectives on important natural resource management and conservation issues, seek feedback about conservation programs from residents, set policy, and direct KCD's work plan and budget.

KCD Board Elections

In 2020, KCD worked to increase participation in our annual board election by partnering with King County Elections and Democracy Live to offer residents online ballot access for our election. In 2021, KCD continued to work towards greater election participation by mailing out over 800,000 postcards to registered voting households to raise awareness of the election and KCD programs and services.

2021-2022 KCD Board

Kirstin Haugen, Chair

Chris Porter, Vice-Chair

Bill Knutsen, Supervisor

Burr Mosby, Supervisor

Brittney Bush Bollay, Supervisor

ADVISORY COMMITTEE

KCD's Advisory Committee is composed of elected officials and senior staff from cities, the County, and organizations across King County, as well as their alternates. King County, the Sound Cities Association and KCD each have responsibility to fill certain seats with appropriate and effective representatives. The Advisory Committee extends KCD's reach into its broad community of stakeholders by bringing diverse and expanded perspectives back to KCD's Board of Supervisors. The Advisory Committee deliberates on policy issues and forwards its recommendations to the Board.

Members

Kirstin Haugen, KCD Chair

Dow Constantine, King County Executive

Jake Tracy, King County Council Staff

Tahmina Martelly, World Relieve Seattle

Sharon Lerman, Seattle Office of Sustainability and Environment

John Stokes, City of Bellevue Councilmember

Brenda Fincher, City of Kent Councilmember

Mark Phillips, City of Lake Forest Park Councilmember

Amy McHenry, City of Duvall Councilmember

Jeff Boyce, King County Rural Forest Commission

Paul Pink, King County Agriculture Commission

Howard Langeveld, Rural Resident

Rachel Perlot, Urban Resident

Alternates

Chris Porter, KCD Vice-Chair

Mike Lufkin, King County Executive

Victoria Hunt, City of Issaquah Councilmember

Vanessa Kritzer City of Redmond Councilmember

Kelli Curtis, City of Kirkland Councilmember

Mari Knutsen, King County Rural Forest Commission

Lily Gottlieb-McHale, King County Agriculture Commission

Sarah Reyneveld, Urban Resident

ILA BENCHMARKS

KCD is meeting or exceeding most benchmarks set out in the 2020-2024 Interlocal Agreement with King County. As we pull out of COVID-19, we anticipate making up lost ground on programs that fell behind their benchmarks over the last several years.

However, several benchmarks that were set may be unrealistic. Agricultural Drainage Assistance set an annual target of 300 acres of farmland restored/improved. While 297 acres restored/improved was achieved in 2021, this year reflects a level of program work that is not likely to be duplicated in following years. The benchmark for Riparian Land Stewardship of 19 Engaged Landowners Take Action seeks to track landowners that take a conservation action either through KCD or on their own. KCD has had difficulty getting survey responses to track actions taken outside of KCD programming.

Priority	Program	Annual Benchmarks	2020 Actual	2021 Actual
Local Food	Regional Food	\$900,000 Awarded 20% Existing Awards Evaluated	\$858,406 20%	\$741,352 100%
	Agricultural Drainage	2.5 Miles Drainage Ditches Cleared 300 Acres Restored/Improved 25% of Projects Evaluated	1.88 95 25%	3.68 297 66%
	Community Agriculture	3 New Community Gardens Assisted 5-7 Existing Gardens Provided Support	3 7	3 5
Clean Water	Riparian Land Stewardship	192 Landowners Engaged 19 Engaged Landowners Take Action	166 6	281 5
	Rural Land Stewardship	144 Landowners Engaged 38 New Farm Plans 38 Farm Plans Reviewed & Evaluated \$243,750 LIP Cost Share Awarded	247 44 23 \$117,432	273 63 80 \$163,812
	Riparian Restoration/Improvement	18 Projects 10 Acres Impacted or 1.5 Miles Impacted 20 Projects Evaluated \$112,500 LIP Cost Share Awarded	22 12.15 2.02 39 \$104,376	16 6.2 1.07 31 \$161,337
Healthy Forests	Wildfire Preparedness	3-4 Communities Receive Assistance	7	15
	Urban Forest Stewardship	3 Cities Receive Funding Support \$150,000 Awarded	0 0	7 \$285,833
	Small Lot Forest Stewardship	100 Landowners Engaged 80-100 Landowners Receive Assistance 10 Existing Project Plans Evaluated	966 116 10	1199 219 25
	Member Jurisdiction Grants	35 Jurisdictions Engaged 25% Develop Grant Proposals 25% Existing/Historic Projects Evaluated	35 57% 25%	13 60% 25%
	Board Elections	Paper Ballots Received at Drop Boxes Electronic Balloting System Interactive Online Voter Guide Promotion on King County Elections Website	Yes Yes Yes Yes	Yes Yes Yes Yes

Front Cover Photos

Top Center: KCD Staff plant native trees and shrubs for KCD's Trees for Rail program in Shoreline.

Bottom Left: Farmers walk through produce on Horseneck Farm in South King County during Highline College's Immigrant and Refugee Ag Education and Tuition Assistance. Partners included Wakulima USA, Congolese Integration Network, Food Innovation Network, International Rescue Committee, and Living Well Kent. Funded in part by KCD Regional Food Grants. Funded in part by KCD Regional Food Grants.

Bottom Right: Volunteers get instruction on planting a riparian buffer during Orca Recovery Day.

Get Involved

**IT STARTS WITH YOU,
KCD CAN HELP**

kingcd.org

P 425-282-1900

district@kingcd.org

800 SW 39th Street, Suite 150
Renton, WA 98057



CONSERVATION DISTRICTS
OF WASHINGTON STATE
your window to healthy lands



Local Food, Healthy Forests, Clean Water, Better Ground

**King Conservation District Board of Supervisors Meeting 06/21/2022 & 07/11/2022
Agenda Action Briefing/Report AI 22-045**

SUBJECT:

Review for Approval KCD Landowner Incentive Program cost-share application from Chris Cunningham, for a Stream Crossing, in the amount of \$20,250.00.

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$301,290.51
Current Request	\$20,250.00
Balance Remaining	\$281,040.51

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

The Cedar Grove Farm is located in the Sammamish River and drains into the Sammamish River that runs along its eastern boundary line. There is one modified drainage ditch that flows from the western hillside down to the property and turns north and then east to drain into the Sammamish River. There are three undersized culverts identified for removal and replacement as the ditch moves through Cedar Grove farm. This ditch is considered salmon bearing but previous projects on neighboring properties have not recovered any salmonid species. During seasonally wet conditions, the crossings cause water to flow out into the croplands and farmstead and inundate the surrounding area. Potential water resource concerns include excess water is flooding the cropland and farmstead for a period of the year due do poorly managed drainage system. Also, there is potential for water temperatures to be elevated in drainage ditch due to lack of stream bank vegetation. Lastly, undersized and blocked culverts make it impossible for spawning fish to make their way upstream.

The three culverts will be replaced with three 48" LCPE culverts. This Stream Crossing BMP is part of a larger ADAP project. Final engineer plans are being worked on now to include detail about size of the third culvert. Draft plans call for removal of this culvert now but farm owners would like a new crossing to be installed. Part of the ADAP agreement with WDFW is that all modified watercourses will receive a native hedgerow buffer with up to three rows of plants. This ag ditch will receive a hedgerow buffer by spring of 2023.

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

The LIP Stream Crossing BMP budget is currently calculated through a unit maximum of cost per linear foot. The cost to install larger crossings such as bridges and larger culverts, has dramatically increased largely in part because of increased demand and prices for materials used to remove and replace fish passage barriers. Because of this, the cost per foot unit maximum utilized to calculate budget for Stream Crossings is not able to account for the variance in the cost to install larger crossings as oppose to smaller culvert replacements. The Cedar Grove Farm crossings number of linear feet could utilize the maximum allowable cost-share reimbursement of \$36,000.00, however, this project is installing smaller culverts and the bid from the contractor to perform the work came back with a lower project budget and a cost-share reimbursement of approximately \$20,250.00.

King Conservation District Board of Supervisors Meeting 06/21/2022 & 07/11/2022

Agenda Action Briefing/Report AI 22-045

For LIP BMPs that have highly variable site conditions, project requirements and install costs LIP utilized bids instead of cost per units, such as with Rural Forest Stewardship, Riparian Buffers, Bulkhead Removal and Hedgerow BMPs. These practices still adhere to their cost share ratio for match and practice maximum reimbursable amounts.

As Mr. Cunningham's project does not require the full amount of allowable cost-share to be implemented, staff are proposing utilizing the bid system and cost-share ratio to calculate the project budget. Utilizing the bid would avoid over encumbering project funding, allowing the additional funding to be allocated to other cooperators and projects to implement BMPs. Mr. Cunningham would still be eligible to apply for funding up to the practice maximum, given the number of feet, at a later date if the cost of the install increases. .

Due to time constraints of project timelines staff have not had time to develop a full policy revision proposal for Stream Crossing rate calculations prior to this application being submitted but are continuing to work on these efforts. This project would set a precedent for considering bids for Stream Crossings in calculating the cost-share budget. Staff will continue to evaluate circumstances where bids are available at the time of application for Stream Crossings, and the bid amount combined with the cost-share ratio does not align with project budget calculated utilizing the unit maximum up and until the practice maximum for reimbursement of \$36,000.00. As with other LIP BMP's that utilize bids, all other cost-share policies and rules would apply, including the cost-share rate for matching funds and the practice cap for reimbursement per cooperator for the Stream Crossing BMP of \$36,000.00

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Chris Cunningham, for Stream Crossing in the amount of \$20,250.00.

MOTION

 Moved, Seconded; *Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Chris Cunningham, for Stream Crossing, in the amount of \$20,250.00.*

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Chris Cunningham/ Caspian Holdings		Farm/Business Name: Cedar Grove, LLC	
Mailing Address: 12210 Willows Rd NE Redmond, WA 98052		Project Address: 12210 Willows Rd NE Redmond, WA 98052	
Phone (home): (206) 437-5700		Phone (work/mobile): (206) 437-5700	
Email Address: chrisc@cgcompost.com		KCD Staff: Liz Stockton	
Parcel #(s): 272605-9014 & 9127	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 7.6 & 65.2 acres	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Stream Crossings
Project Completion Date (month and year): 07/11/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The Cedar Grove Farm is located in the Sammamish River sub-basin of Cedar / Sammamish / Lake Washington Watershed, or WRIA 8. This property drains into the Sammamish River that runs along its eastern boundary line. There is one modified drainage ditch that flows from the western hillside down to the property and turns north towards 124th St. This ditch crosses under 124th St and then turns east to drain into the Sammamish River. On the attached farm map, there are three undersized culverts identified for removal and replacement as the ditch moves through Cedar Grove farm. This ditch is considered salmon bearing but previous projects on neighboring properties have not recovered any salmonid species. The three culverts will be replaced with three 48" LCPE culverts. During seasonally wet conditions, the crossings cause water to flow out into the croplands and farmstead.</p> <p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>The Cedar Grove farm is owned by Caspian Holdings, LLC and operated by Cedar Grove Farms under a lease agreement. Chris Cunningham is the farm manager. This farm was purchased in 2013 by Caspian Holdings and has an agricultural easement through FPP since 2017. The farm is certified organic through the WSDA and is strongly committed to working the land to provide our community with a variety of seasonal crops. An ADAP project took place at the neighboring property of JB Lawns in 2019 where approx. 900' of this ditch was maintained. This scheduled ADAP project is a completion from 2019 that will help Cedar Grove remove conveyance barriers and allow surface water to move out to the Sammamish River. Scheduled to be removed are two 12" concrete culverts and one 24" concrete culvert. They will all be replaced with 48" wide culverts. All three lengths will be 20' spans. It is estimated that at least 20 acres of lost cropland will be brought back into production. Cedar Grove has been unable to use about 20 acres since 2018 and will eventually decide to move on to other farmland if this farmland cannot be salvaged.</p> <p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>The farm owners and/or managers will need to review the culverts annually for sediment accumulation and/or structural integrity. The HPA permit is a 5 year permit that will allow removal of sediment from the ditch as needed as long as all BMP's are followed.</p>

Permits (List all permits required to complete this project):

HPA in progress

Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

- A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☐ Yes ☒ No

If yes, please list contract number and BMP below:

NO

- B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☒ No

Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

KCD's Agricultural drainage program will be cost-sharing on ditch maintenance project for up to \$30,000.

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant's statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

- ☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☒ A. I understand the lifetime of the BMP is 10 years.
- ☒ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☒ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I understand that all applicable local, state, and federal permits must be obtained for installation of the BMP for which funds are requested, and I agree to work cooperatively to obtain these permits. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon verification that the BMP was installed as designed. This verification should be provided as written documentation from the design engineer. The design engineer may provide in writing for another authorized individual to provide the verification. Furthermore, I understand that changes to the installation details (attached Job Sheet and Map) must be approved through a Scope of Work Revision Process. Unapproved changes will not be eligible for reimbursement. (Initial Here) _____

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.

_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney’s fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

- I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)
- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
 - b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
 - c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
 - d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
 - e. I deny KCD staff access to my property to verify BMP installation and maintenance.

- I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)
- a. I will select a visible location on my property for display of the sign and will install it.
 - b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
 - c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Chris Cunningham/ Caspi

Signature of applicant	Date	Signature of Landowner (if applicant if Lessee)	Date
------------------------	------	---	------

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)	Date	
Approved for Funding (KCD Management)	Date	LIP ID:



Landowner Incentive Program

Applicant Information

Cooperator: Running

Budget Items	Units	
Stream Crossing culvert	20.00	\$9,000.00
Stream Crossing culvert	20.00	\$9,000.00
Stream Crossing culvert	20.00	\$9,000.00
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$27,000.00

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$27,000.00
Units	Linear Feet	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WC306)		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 0.75	0.5	\$ 0.38	Ac.
Aquatic Area Buffer	project	\$ 30,000.00	0.9	\$ 27,000.00	AUE
Buffer Fencing	ft	\$ 12.00	0.75	\$ 9.00	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 50,000.00	0.5	\$ 25,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 40,000.00	0.75	\$ 30,000.00	Project
Cover Crops	acre	\$ 150.00	0.9	\$ 135.00	acre
Cross Fencing	ft	\$ 6.00	0.5	\$ 3.00	
Forest Health Management	project	\$ 30,000.00	0.75	\$ 22,500.00	
Heavy Use Area Protection	AUE	\$ 1,400.00	0.5	\$ 700.00	
Pasture & Hay Planting	acre	\$ 325.00	0.5	\$ 162.50	
Roof Runoff Management	ft	\$ 7.00	0.5	\$ 3.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 20.00	0.5	\$ 10.00	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 1,000.00	0.75	\$ 750.00	
Watering Facility	project	\$ 50,000.00	0.5	\$ 25,000.00	



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Stream Crossing

Cooperator: Caspian/ Cunningham- Cedar Grove Farm

Lifetime of Practice: 10 years

Purpose (check all that apply)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Reduce streambank and streambed erosion. | <input checked="" type="checkbox"/> Provide crossing for access to another land unit. |
| <input checked="" type="checkbox"/> Improve water quality by reducing sediment, nutrient, organic, and inorganic loading of the stream. | <input checked="" type="checkbox"/> Remove a fish passage barrier in combination with installing fish passable crossing structure. |

Summarize the Project Proposal. *Provide the following: 1) describe project activities, including permitting, site prep, installation, and maintenance and monitoring; 2) describe the anticipated project outcome (e.g. fish and wildlife benefits, other environmental benefits); and 3) outline the project implementation timeline.*

- 1) This is part of a King County ADAP project started on the neighboring property at JB Lawns in 2019. King county engineers will submit for HPA permit in May 2022 and expect to receive a permit by June 2022. There is approx.. 1000' of ag modified watercourse that will be maintained thru ADAP to include the removal of 3 fish passage barriers. All three are currently undersized concrete culverts. All three will be replaced with 48" wide culverts. They will all be 20' long. All BMPs will be completed according to ADAP agreement with WDFW. There will be a native hedgerow buffer installed by spring of 2023. Installation will include dewatering and defishing before barrier removal and replacement. All engineer plans will be followed by contractor. Erosion control measures will be in place. Maintenance of the crossing will be the responsibility of the property owners to visually inspect for sediment accumulation and structural integrity.
- 2) The outcome intended is to bring back 20 acres of cropland into production on a working farm without causing any adverse effects to aquatic life that may be residing in the ag ditch. A planted hedgerow buffer will shade the ditch to lower water temps and reduce reed canary grass distribution along the ditch banks.
- 3) This project will likely begin in August of 2022 and take about one week for completion. The native hedgerow buffer will be planted by spring of 2023 that will include three years of maintenance by King County DNRP.

Describe Project Area. *Provide the following: 1) extent of project area above and below ordinary high water mark; 2) dimensions of site; and 3) briefly describe the existing vegetation and habitat conditions.*

- 1) This project will happen below the OHWM to remove fish passage barrier and install wider passages.
- 2) This farmland covers two parcels totaling approx. 73 acres. The three stream crossings will be 48" x 20'. The modified ag ditch maintenance will cover approx. 1000'.
- 3) Currently, much of the streambank is overgrown with reed canary grass and Himalayan blackberries. This vegetation is choking the ag ditch along with accumulated sediment flowing from the western hillside.

Construction and development happening since 2020 directly adjacent to the farmland on the western hillside is causing more sediment to flow into this system.

Name and type (S, F or N, wetland I, II, or III) of waterway to be crossed.

This is classified as fish bearing and highly modified through the King County ADAP program.

Land Uses and Associated Impacts. *Provide the following: 1) describe how the property is used (e.g., residential, commercial, recreational); 2) describe adjacent properties, including land uses and any potential adverse impacts to adjacent properties associated with the proposed project.*

- 1) This is protected farmland through KC FPP.
- 2) The adjacent property to the west is under construction for new residential buildings. Properties to the north, south and east are all ag properties. There are no adverse impacts to adjacent properties.

List the intended use (people, livestock, equipment, or vehicles). *Also include the stream crossing dimensions and project materials. Please attach an engineer approved design.*

This property to be used for cultivating organic crops and distributing organic compost. The three stream crossings will be 48" x 20' LCPE (high density polyethylene). The modified ag ditch maintenance will cover approx. 1000'. The final engineer plans are included.

Grading and Demolition Activities. *Describe the plan to remove structures (failing culvert, etc.) and grade project areas, including specific construction methods and equipment to be used.*

The project sites will be dewatered, defished and barriers will be removed. Crushed surfacing rock bedding will be placed to support the structures as detailed in engineer's plan. Excavators will be onsite to perform work along with gravel trucks to haul materials to site. Culverts will be placed to match elevations and approaches will be graded to meet specs.

Habitat Restoration Activities. *Provide the following that apply: 1) describe site preparation activities (e.g. weed control, substrate to be applied, soil amendment to be used); 2) identify the type and source of plant materials (e.g. potted, bareroot, ball and burlap and native plant nurseries providing plant material; 3) describe the care and temporary storage of plant materials; 4) describe installation plan (e.g. planting plan, installation techniques, sheet mulching, etc.); 5) describe maintenance and monitoring plan (e.g. number of years to be conducted, survival data collection, etc.).*

- 1) Excavator will remove all invasive weeds along streambank.

- 2) Hedgerow buffers will be native species with a mix of bareroot and potted plants for installation.
- 3) This is a KC planting and I do not know where plants are stored.
- 4) Plants will be installed in 3 feet rows on both sides of the ditch at 2' off center. Weed fabric will be installed prior to planting
- 5) Planting will be monitored and maintained for 3 years by KC ADAP/ERES.

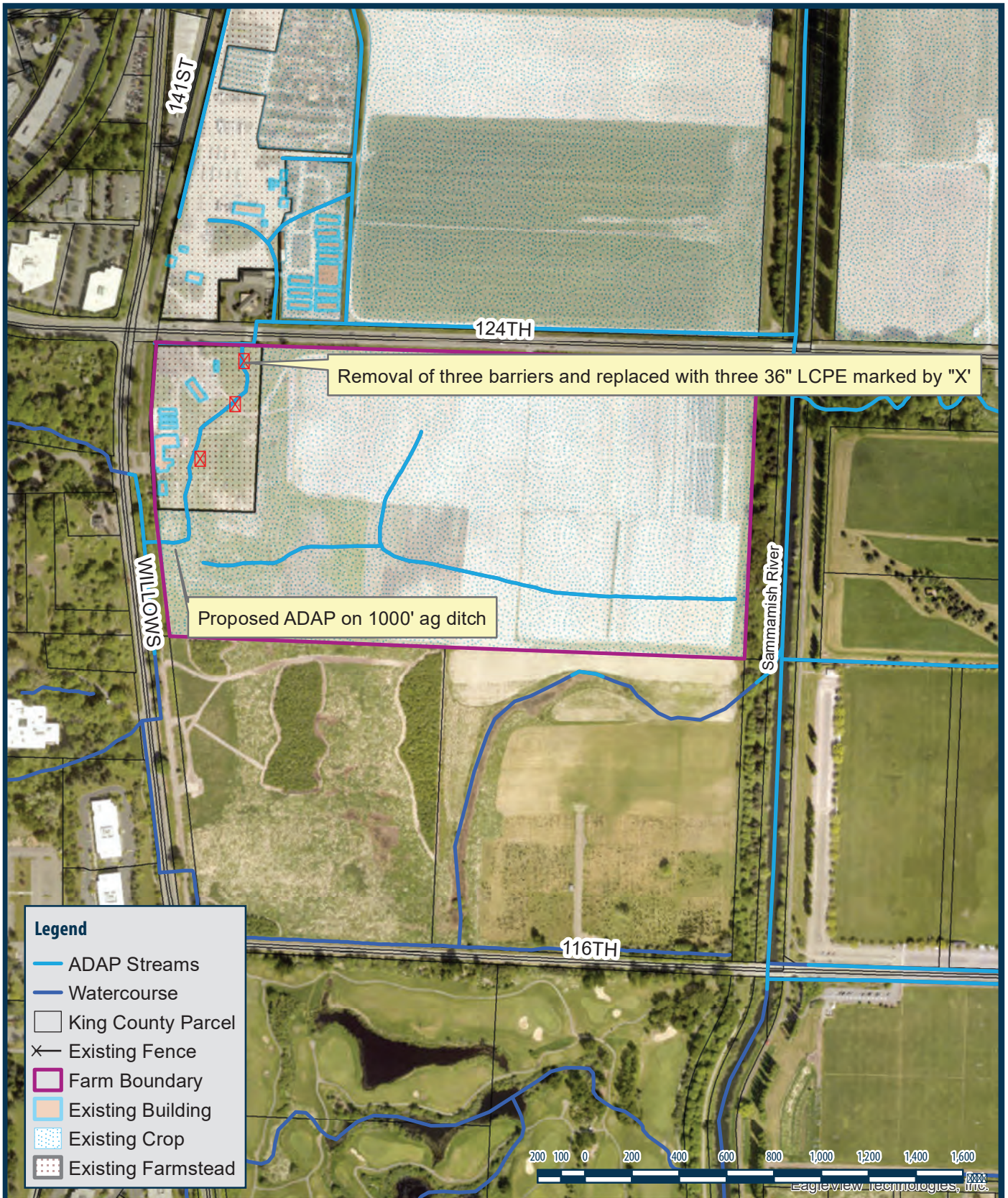
Permits. *Provide the following: 1) a list of all permits necessary for approval of project; 2) copies of all permits secured to date.*

One HPA permit will be applied for in May 2022 and received by June 2022.

Operation and Maintenance. *According to the following Washington State laws, WAC 220-110-070 and RCW 77.55.060, the owner of a road culvert, or ford that is a fish passage facility is responsible for maintaining its fish passage functions as well as maintenance of the structure. For example, The stream crossing, appurtenances, and associated fence should be inspected after each major storm event, with repairs made as needed.*

The farm owners and/or managers will need to review the culverts annually for sediment accumulation and/or structural integrity. The HPA permit is a 5 year permit that will allow removal of sediment form the ditch as needed as long as all BMP's are followed.

Additional Specifications and Notes:



Caspian-Cedar Grove Farm		LIP Map- Culvert Install Proposal	SE
12210 Willows Rd		Liz Stockton	27
Redmond, WA 98052		May 03, 2022	26
72.7	(X): Multiple		05

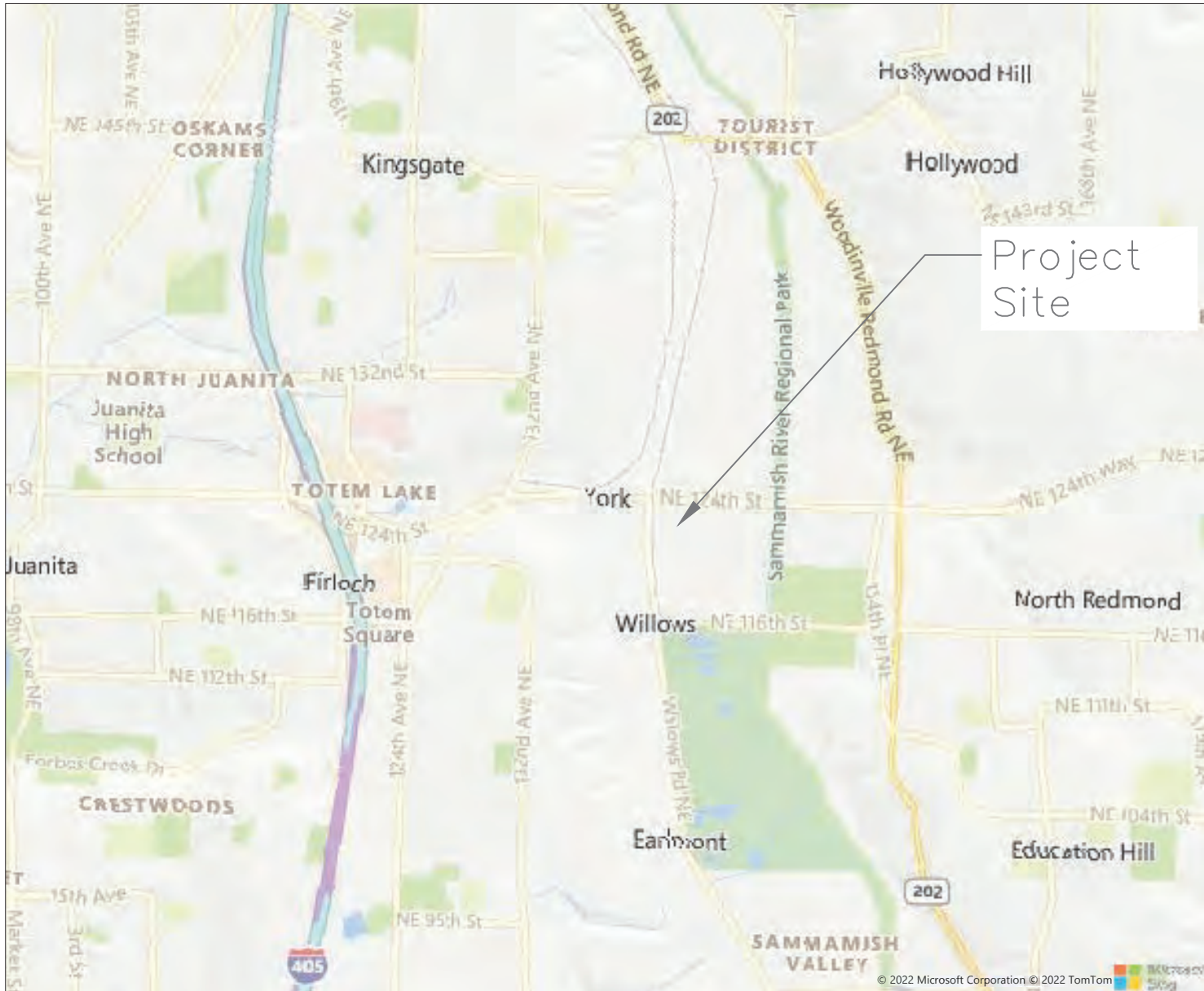
2022 3900 3900 150 98057 425-282-1900

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CUNNINGHAM AGRICULTURAL KING COUNTY AGRICULTURAL

VICINITY MAP



FIELD BOOK:					APPROVED: <u>L. Beck</u>
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: <u>E. Dightman</u>
SURVEY BASE MAP:					DESIGNED: <u>E. Dightman</u>
CHECKED:					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>
		NUM.	REVISION	BY	DATE

Know
C

Notes:

Total maintenance length to be included in this project is from STA 0+00 to STA 1+00. Dredging will take place in a waterway classified as High Modified. Follow up spot dredging and removal may occur within the timing limitations of the HPA.

Actual length may be more or less than total listed, and will be based on assessment of time of excavation. The landowner is under no obligation to perform the work shown on the plan, however, any dredged reaches of channel must be planted as shown in the plan.

1. Estimated dredge volume: approximately 1,000 cubic yards (yd³).
2. Four culverts will be replaced. These culverts are not listed in WDFW's Fish Passage Inventory (<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html>), however, two are smaller than 36" diameter and likely to be partial barriers to fish passage. The twin CMP culverts at STA 2+90 are nearing the end of their useful lives and are likely to be passage barriers.
3. All work shall be performed in accordance with King County's agreement for agricultural waterways (BMPs), the Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA), and the King Conservation Plan.
4. Dredging activity may not widen the channel except existing banks may be stabilized to increase stability and decrease erosion potential.
5. In-channel work will occur within the time frame allowed by the HPA.
6. Spoils may be spread on farm fields to a depth no greater than 6 inches on average and disposed of in a legal manner.
7. Fish relocation may be performed by King County, at the direction of the King County with coordination by the maintenance contractor or landowner. Staffing shortfalls and other conditions may extend the timeline the county can reasonably provide.
8. A 1-hour pre-construction meeting, including the landowner or landowner's representative, maintenance contractor and a King County ADAP employee, is required prior to any maintenance activities.
9. It is the contractor's responsibility to monitor excavation elevations and ensure that dredging does not exceed historical-channel extents.
10. Native vegetation should be protected to the extent practicable.
11. The landowner is responsible for protecting the installed planting from livestock activities.
12. No utilities have been located. It is the responsibility of the excavator contractor (if contractor is used) to locate utilities.

FIELD BOOK: _____						APPROVED: <u>L. Beck</u>	Know C
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>					PROJECT MANAGER: <u>E. Dightman</u>	
SURVEY BASE MAP: _____						DESIGNED: <u>E. Dightman</u>	
CHECKED: _____						DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>	
		NUM.	REVISION	BY	DATE		

Site History: King County ADAP has no record of performing waterway maintenance in this location. The reach of the channel from STA 0+00 to $\pm 1200'$ downstream was most recently dredged in 2019.

Fish Relocation: Relocated fish are planned to be released under the NE 124th Bridge, just downstream of STA 0+00. The upstream reach of the channel is steep and the

Expected Hydrology

Segment	Length (ft)	Dry?	Hydrology
Tributary 1	1,070	No	Expected to have continuous flow year-round

Culvert Design Notes (see also Sheet 10):

- Please note that all three culverts in this project have the same design parameters and the same culvert specifications.
- Both the No-Slope and Hydraulic Design Methodologies described in the 2013 WDFW Water Crossing Design Guidelines (WCDG) were evaluated for the crossings. The regression equation in Appendix C of the WCDG yielded a bankfull channel width of 5.5'. Based on this, the no-slope culvert diameter is calculated to be $\sim 7'$ for the three crossings. The Hydraulic method determined a 36" lined corrugated polyethylene pipe (LCPE) was adequate with a May flow velocity of 0.60 fps and a January flow velocity of 0.85 fps.
- A 48" LCPE was selected for the crossings based on this reasoning:
 - The 48" LCPE is larger than needed to meet the requirements of the hydraulic design method.
 - The channel has been heavily modified from its natural state. The bankfull width of the existing channel is not useful for determining the size of the no-slope culvert.
 - The regression equation From Appendix C of the WCDG was used to determine the bankfull width. According to the WCDG, this equation was developed by using 53 high gradient ($>2\%$), coarse bedded streams in western Washington.
 - The proposed culverts will be installed in a nearly flat (0.01%) channel with bed material almost entirely composed of fines (particle size less than 0.075 mm (#200 sieve)).
 - The proposed culvert diameter is 4 feet, set a grade matching the channel slope (0.1%). The culvert will be countersunk 20% such that the channel width inside the culvert will be

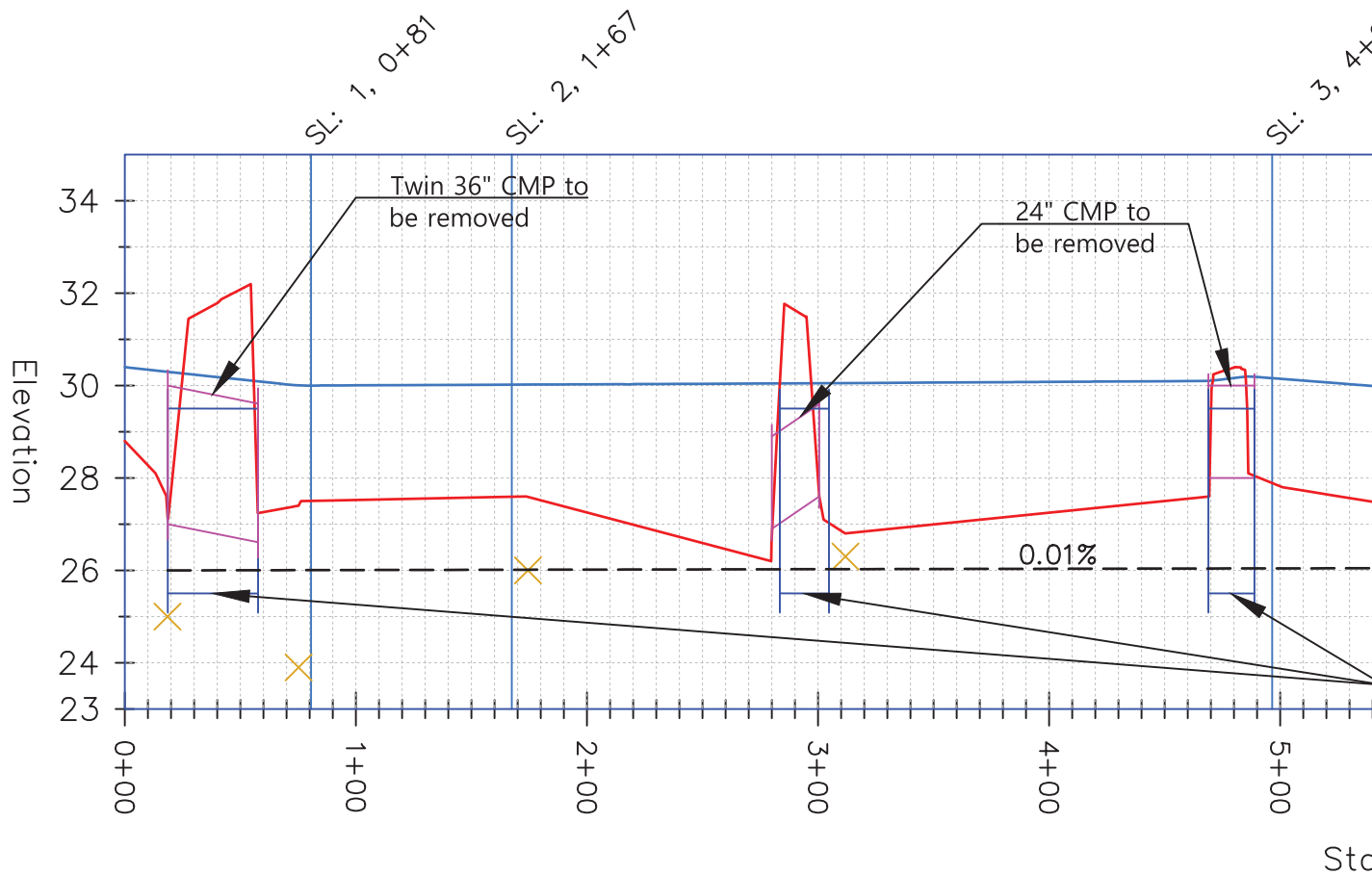
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SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: <u>E. Dightman</u>	
SURVEY BASE MAP: _____					DESIGNED: <u>E. Dightman</u>	
CHECKED: _____					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>	
		NUM.	REVISION	BY	DATE	



FIELD BOOK:						APPROVED: L. Beck
SURVEYED: ELD	FEB 2018					PROJECT MANAGER: E. Dightman
SURVEY BASE MAP:						DESIGNED: E. Dightman
CHECKED:						DRAINAGE INVESTIGATION NO.: 2017-0916
		NUM.	REVISION	BY	DATE	

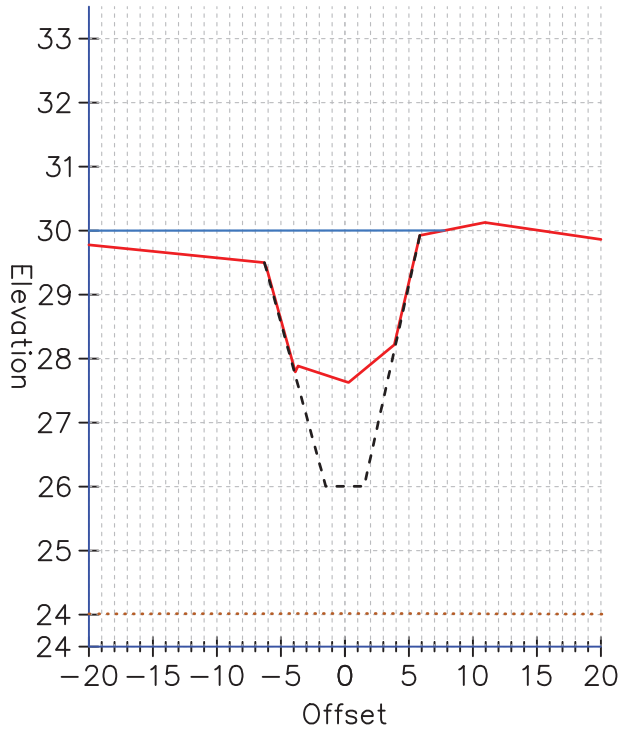
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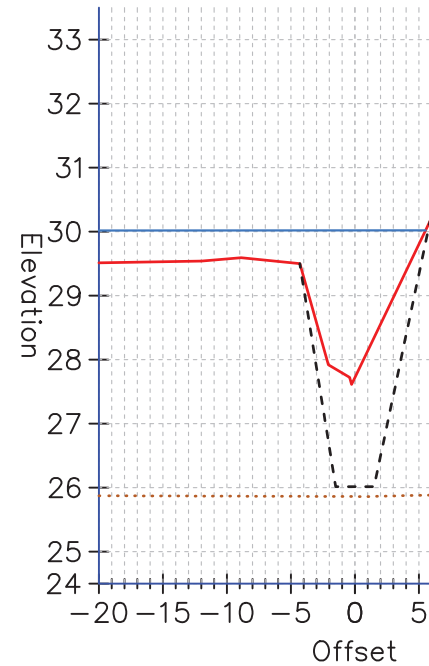


FIELD BOOK: _____						APPROVED: _____
SURVEYED: ELD	FEB 2018					PROJECT MANAGER: _____
SURVEY BASE MAP: _____						DESIGNED: _____
CHECKED: _____						DRAINAGE INVESTIGATION NO.: _____
		NUM.	REVISION	BY	DATE	

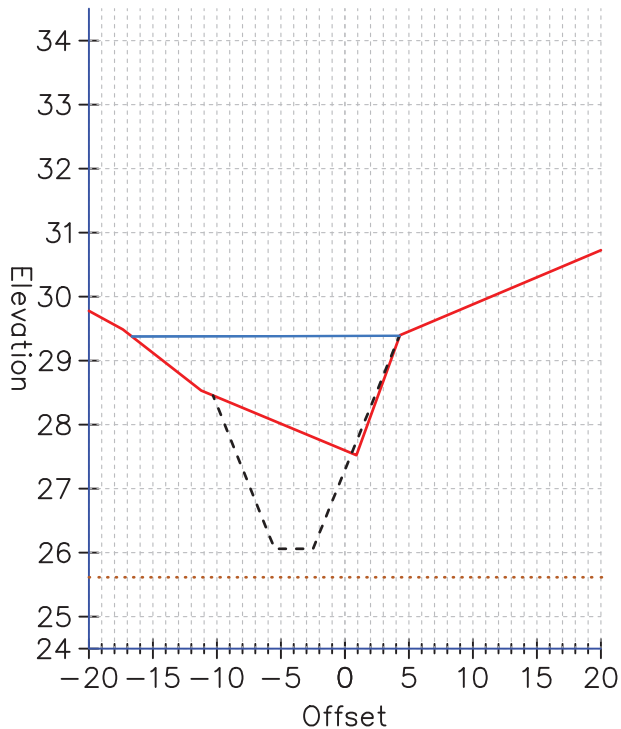
Tributary 1 X-Section SL1 (0+81)



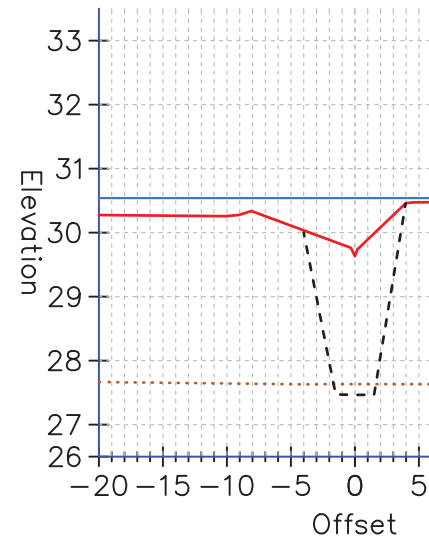
Tributary 1 X-Section



Tributary 1 X-Section SL4 (6+95)



Tributary 1 X-Section



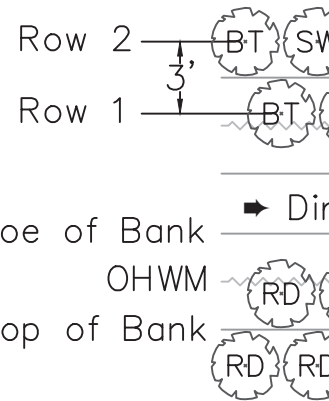
FIELD BOOK: _____					APPROVED: <u>L. Beck</u>	Know C
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: <u>E. Dightman</u>	
SURVEY BASE MAP: _____					DESIGNED: <u>E. Dightman</u>	
CHECKED: _____					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>	
		NUM.	REVISION	BY	DATE	

Notes:

1. Prior to planting, install cardboard sheeting as shown on detail $\frac{1}{2}$.
2. As stated on page 24 of the King County ADAP BMP Manual, the number of rows required is based on the channel classification at the time of construction (see table below). If the channel is reclassified during construction, the number of rows of plantings will be updated accordingly.

Required Plantings by Waterway Class	
Channel Classification	Required Rows of Plantings
High Modified	3
Moderate Modified, Low Modified, and High Artificial	2
Moderate Artificial	1
Low Artificial	0

3. Planting layout and species may be modified by ADAP engineer to better suit site conditions. However, the plant count required by ADAP BMP Manual shall be maintained unless otherwise approved by WDFW.
4. For plant installation specifications see $\frac{1}{3}$ and $\frac{2}{3}$.

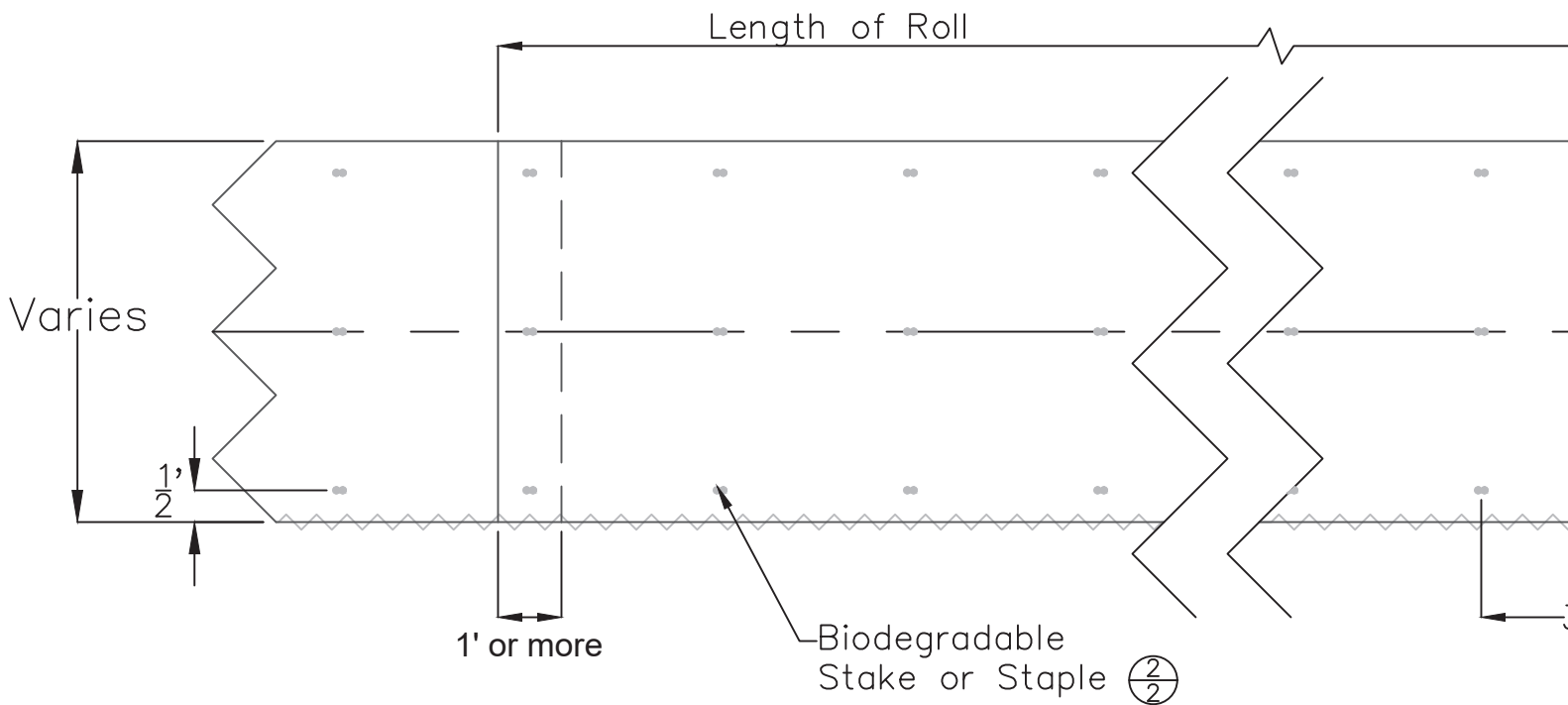


Planting Table

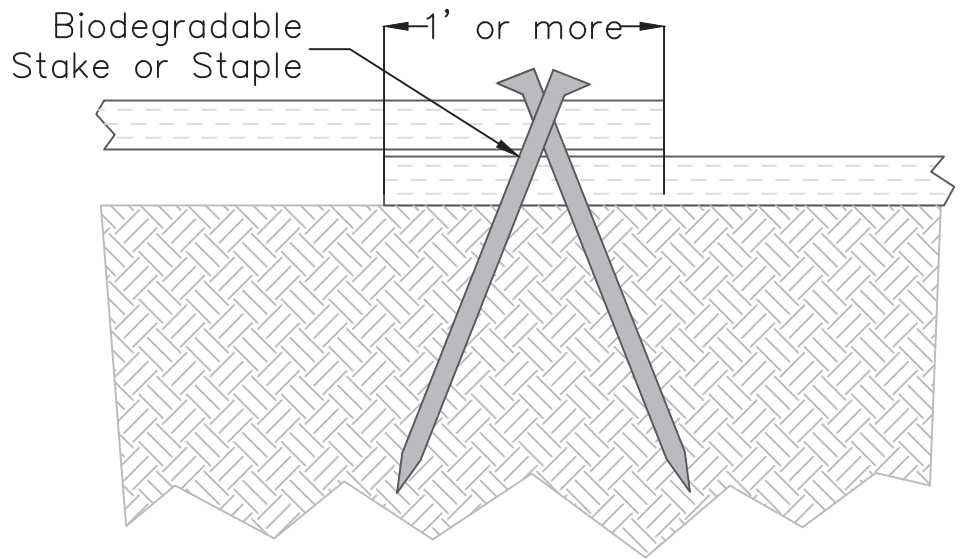
Plant Species
Black Twinberry
Pacific Ninebark
Pacific Willow
Red-osier
Sitka Willow

Planting Length
Sides of Channel
Geosynthetic Liner
Waste
Width
Minimum
Biodegradable Liner
Waste
Minimum

FIELD BOOK: <u>n/a</u>		—	—	ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>	—	FED. AID No. _____
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>					PROJECT MANAGER: <u>E. Dightman</u>	—	PROJECT No. _____
—						DESIGNED: <u>E. Dightman</u>	<u>2022.05.06</u>	SURVEY No. _____
SURVEY BASE MAP: <u>n/a</u>						—	—	MAINTENANCE DIVISION No. _____
CHECKED: <u>n/a</u>						DESIGN ENTERED: <u>—</u>	—	
		NUM.	REVISION	BY	DATE			



① Typical Geosynthetic Fabric Wee
② for One to Three Rows of Plan

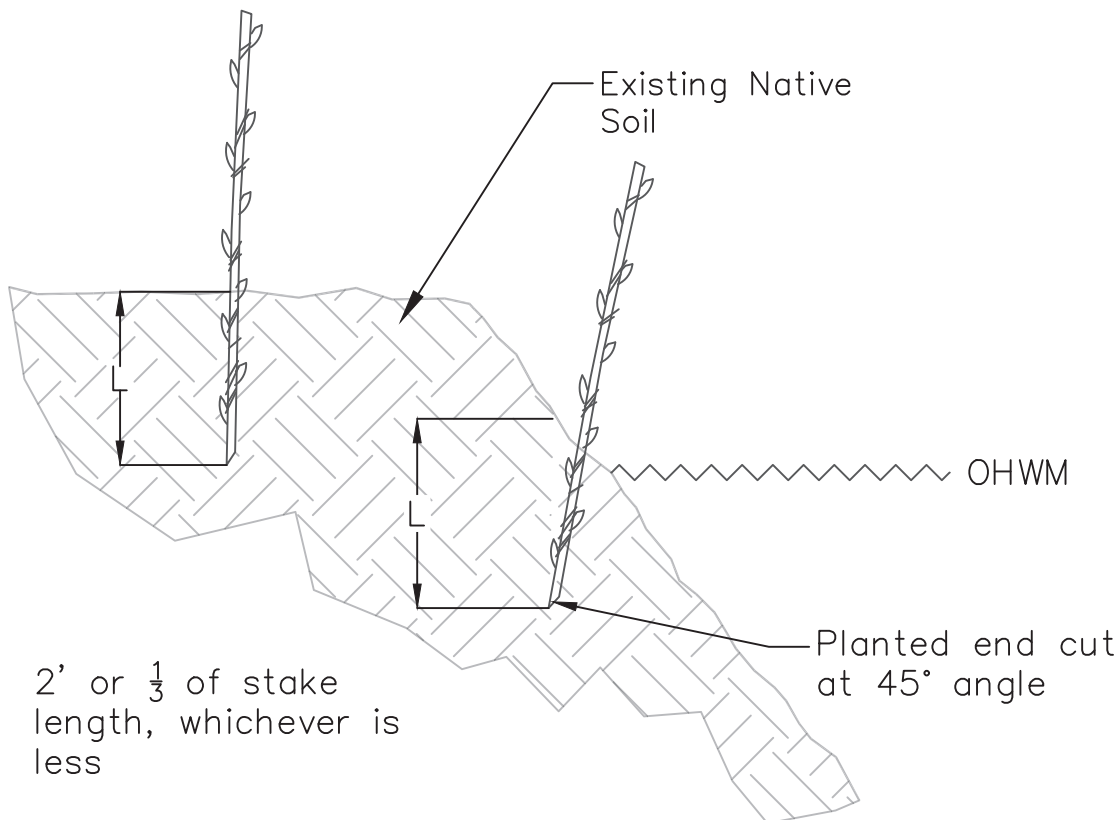


② Fabric Installation Cross Section
A-A (NTS)

FIELD BOOK: <u>n/a</u>		ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>		FED. AID No. _____
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>			PROJECT MANAGER: <u>E. Dightman</u>		PROJECT No. _____
SURVEY BASE MAP: <u>n/a</u>				DESIGNED: <u>E. Dightman</u>	<u>2022.05.06</u>	SURVEY No. _____
CHECKED: <u>n/a</u>						MAINTENANCE DIVISION No. _____
NUM.	REVISION	BY	DATE	DESIGN ENTERED: _____		
			<u>319</u>			

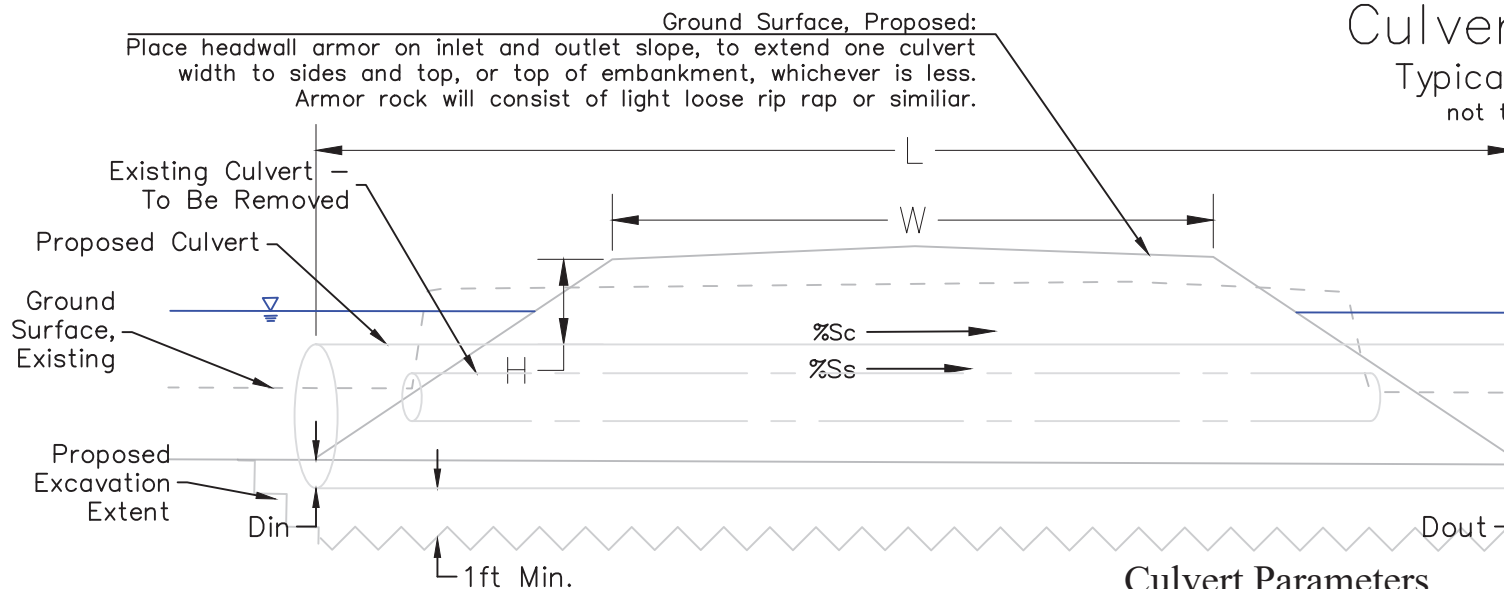
Planting Instructions:

1. In hard ground, use steel bar, star drill, or similar to prepare pilot holes for stakes. Pilot hole shall be slightly smaller than the diameter of stake.
2. Plant stakes by hand.
3. Backfill voids around stake with a slurry of native soil and water. Collapse air pockets near all cuttings by tapping soil around the cutting base with boot.
4. Along the first row, slightly angle stakes toward the channel.
5. Try to plant stake within 24 hours of taking cutting; keep beveled end moist until planted.

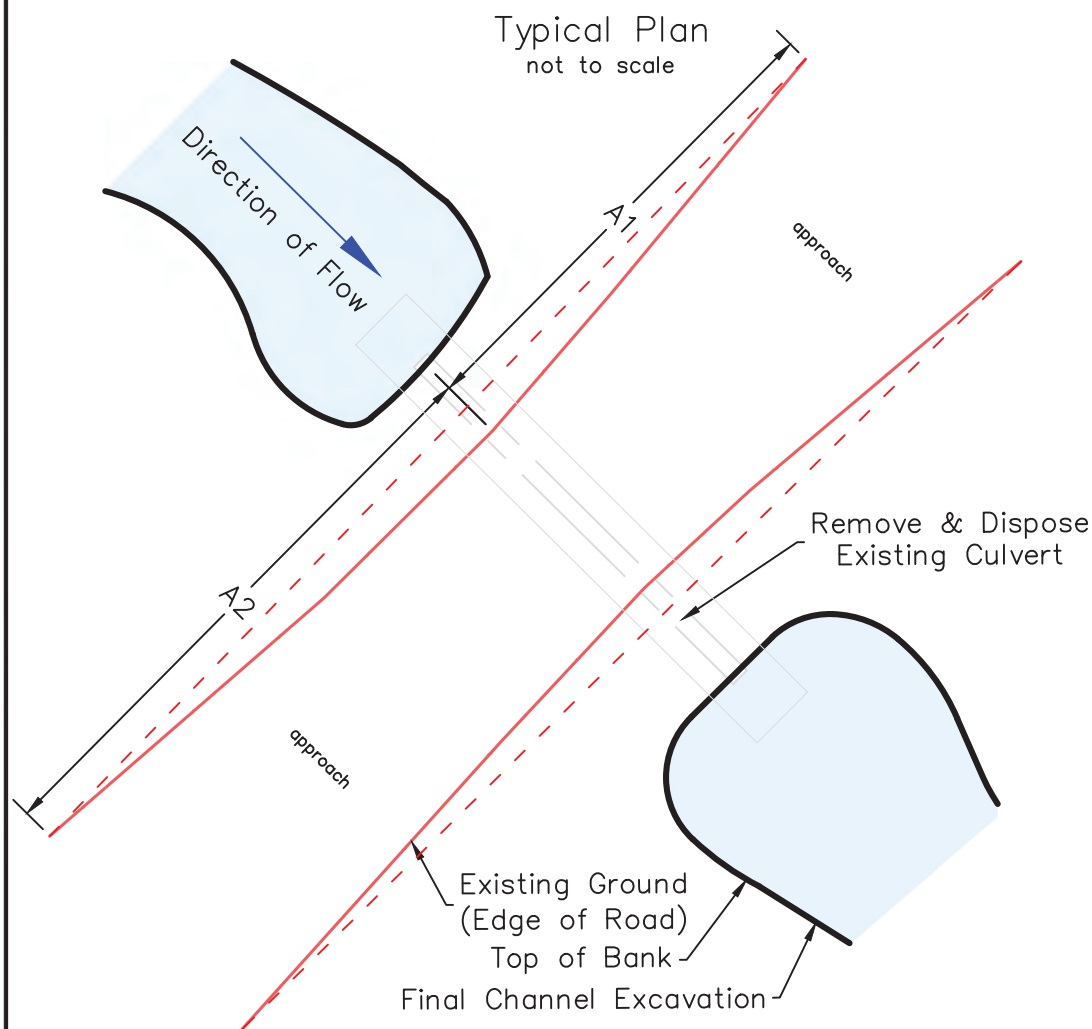


1
3 Typical Live Stake Planting
N.T.S.

FIELD BOOK: <u>n/a</u>		ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>		FED. AID No. _____
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>			PROJECT MANAGER: <u>E. Dightman</u>		PROJECT No. _____
SURVEY BASE MAP: <u>n/a</u>				DESIGNED: <u>E. Dightman</u>	<u>2022.05.06</u>	SURVEY No. _____
CHECKED: <u>n/a</u>				DESIGN ENTERED: _____		MAINTENANCE DIVISION No. _____
NUM.	REVISION	BY	DATE			



Culvert Parameters

[illegible]









King Conservation District Board of Supervisors Meeting 06/21/2022 & 07/11/2022**Agenda Action Briefing/Report AI 22- 047****SUBJECT:**

Review for Approval KCD Landowner Incentive Program cost-share application from Todd McKittrick, for Stream Crossing in the amount of \$36,000.00

FISCAL IMPACT

The current balance of cost-share funding for KCD LIP 2022 is summarized in the following table:

2022 LIP Cost-share Available	\$353,392.86
Current Request	\$36,000.00
Balance Remaining	\$317,392.86

POLICY CONSIDERATION

This proposed cost-share contract has been vetted through a staff approval committee and meets NRCS standards for the applicable best management practice (BMP). The application has been advanced for due pass by the Board of Supervisors.

STAKEHOLDER INTERESTS

- District cooperators working with District farm management, forestry and aquatic area enhancement programs
- King CD Board members and staff
- NRCS

BACKGROUND

The McKittrick Infiniti Ranch is located in the Snoqualmie sub-basin and the Snoqualmie River makes up the western property line of the property. Griffin Creek also bisects the farm, flowing from south to north. Some wetlands are on the property and are currently being mapped by a private consultant. Griffin creek is part of an alluvial fan system that was dredged regularly in the past to maintain adjacent farmlands. An avulsion in Griffin started at least four years ago and has caused the loss of productive farmland, nutrients in surface water from livestock manure, and outflowing of migrating salmonids into pastures. The adjacent pastures are severely degraded from compaction, invasive reed canary grass, and over-grazing. The landowners have not had enough time in between flood seasons to restore the pastures due to the avulsion in Griffin. The existing bridge structure is exacerbating these issues by impeding flow downstream to the Snoqualmie River. The current bridge girders are undersized and misplaced. As a result, surface water is scouring the creek bed at the bridge site as the water is forced through too small of a space. Water is forced to go around and outside of the creek bed that in turn causes the road to washout and bridge decking to buckle. Many fish biologists from local tribes, WDFW, and SVWID agree that this is causing a serious salmonid loss as the creek pours into the adjacent pastures.

This project will install a stream crossing provides access to a pasture for livestock where there is fencing to restrict livestock from accessing watercourses. The bridge was not set high enough or long enough over the creek initially. The new bridge has been designed at 35' long and 12'. It is made of concrete panels and will sit on Eco-blocks.

This Stream Crossing BMP is part of a larger project to address drainage concerns on the McKittrick property and neighboring farms. The neighboring Full Circle farm just to the south has lost over 15 acres of high value organic crop production as a result of the ongoing avulsion. The Infiniti farm is close to 50 acres with approx. 20 acres unusable right now due to the avulsion. Because Griffin Creek is identified as a Shoreline of the State, streamlined KC ADAP cannot be applied to this project. The landowner is also allowing a 50' wide buffer along their length of Griffin creek.

King Conservation District Board of Supervisors Meeting 06/21/2022 & 07/11/2022
Agenda Action Briefing/Report AI 22- 047

EFFECTIVE DATE

The cost-share award will become effective upon approval by the Board of Supervisors and the LIP contract will become effective upon signature by a Board representative.

RECOMMENDATION

Staff seeks Board approval of Landowner Incentive Program cost-share application from Todd McKittrick, for Stream Crossing in the amount of \$36,000.00.

MOTION

_____ Moved, _____ Seconded; *Passed a motion to Approve KCD Landowner Incentive Program cost-share application from Todd McKittrick, for Stream Crossing, in the amount of \$36,000.00.*

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Todd McKittrick		Farm/Business Name: Infiniti Ranch	
Mailing Address: 31919 NE 16th St Carnation, WA 98014		Project Address: 31919 NE 16th St Carnation WA 98014	
Phone (home): (206)571-8080 		Phone (work/mobile): 206-571-8080	
Email Address: todd@millenialbuilders.com		KCD Staff: Liz Stockton	
Parcel #(s): 2825079022	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 49.8	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Stream Crossings
Project Completion Date (month and year): 07/11/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The Infiniti Ranch is located in the Snoqualmie River sub-basin of the Snoqualmie River watershed, WRIA 7. The Snoqualmie River makes up the western property line of the property. Griffin Creek also bisects the farm, flowing from south to north. Some wetlands are on the property and are currently being mapped by a private consultant. Griffin creek is part of an alluvial fan system that was dredged regularly in the past to maintain adjacent farmlands. An avulsion in Griffin started at least four years ago and has caused the loss of productive farmland, nutrients in surface water from livestock manure, and outflowing of migrating salmonids into pastures. The adjacent pastures are severely degraded from compaction, invasive reed canary grass, and over-grazing. The landowners have not had enough time in between flood seasons to restore the pastures due to the avulsion in</p>
<p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>Project planning started in 2021 after a new owner bought this property and was eager to help the farmland recover from poor management and extensive damage from the Griffin creek avulsion. The neighboring Full Circle farm just to the south has lost over 15 acres of high value organic crop production as a result of the ongoing avulsion. The Infiniti farm is close to 50 acres with approx. 20 acres unusable right now due to the avulsion. Because Griffin Creek is identified as a Shoreline of the State, streamlined KC ADAP cannot be applied to this project.</p> <p>The existing bridge structure is proposed to be removed because it is impeding the flow of griffin creek. This bridge was not sized correctly and as a result, its main supports (girders) are blocking creek flow and causing the creek to be pushed through a narrow channel under the bridge. This has caused scouring of the creek bed and the bridge is starting to fall apart from the velocity of the water hitting the girders and bridge decking. The bridge was not set high enough and was crushed over the creek initially. The new bridge has been designed at 25' long and 10' high. It is</p>
<p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>The farm owners and/or managers will need to review the bridge annually structural integrity.</p>

Permits <i>(List all permits required to complete this project):</i> HPA, KC Clearing and Grading, KC Floodplain Hazard checklist (all in progress)
Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☐ Yes ☒ No
If yes, please list contract number and BMP below:

B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☒ No
Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service’s Environmental Quality Incentive Program

Please list practices and date installed below:

3. Other

Please list agency and describe project:

KCD's Agricultural drainage program will be cost-sharing on ditch maintenance project for up to \$36,000.

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant’s statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☒ A. I understand the lifetime of the BMP is 10 years.
- ☒ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☒ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I understand that all applicable local, state, and federal permits must be obtained for installation of the BMP for which funds are requested, and I agree to work cooperatively to obtain these permits. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details.
_____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon verification that the BMP was installed as designed. This verification should be provided as written documentation from the design engineer. The design engineer may provide in writing for another authorized individual to provide the verification. Furthermore, I understand that changes to the installation details (attached Job Sheet and Map) must be approved through a Scope of Work Revision Process. Unapproved changes will not be eligible for reimbursement.
_____ (Initial Here)

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.

_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney's fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)

- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
- b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
- c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
- d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
- e. I deny KCD staff access to my property to verify BMP installation and maintenance.

I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)

- a. I will select a visible location on my property for display of the sign and will install it.
- b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
- c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Todd McKittrick

Signature of applicant

Date

Signature of Landowner (if applicant if Lessee)

Date

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)

Date

Approved for Funding (KCD Management)

Date

LIP ID:



Landowner Incentive Program

Applicant Information

Cooperator:

Budget Items	Units	
Stream Crossing bridge	45.00	\$65,000
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$65,000

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$
Units	Linear Feet	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WC332)		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 0.75	0.5	\$ 0.38	Ac.
Aquatic Area Buffer	project	\$ 30,000.00	0.9	\$ 27,000.00	AUE
Buffer Fencing	ft	\$ 12.00	0.75	\$ 9.00	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 50,000.00	0.5	\$ 25,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 40,000.00	0.75	\$ 30,000.00	Project
Cover Crops	acre	\$ 150.00	0.9	\$ 135.00	acre
Cross Fencing	ft	\$ 6.00	0.5	\$ 3.00	
Forest Health Management	project	\$ 30,000.00	0.75	\$ 22,500.00	
Heavy Use Area Protection	AUE	\$ 1,400.00	0.5	\$ 700.00	
Pasture & Hay Planting	acre	\$ 325.00	0.5	\$ 162.50	
Roof Runoff Management	ft	\$ 7.00	0.5	\$ 3.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 20.00	0.5	\$ 10.00	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 1,000.00	0.75	\$ 750.00	
Watering Facility	project	\$ 50,000.00	0.5	\$ 25,000.00	



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Stream Crossing

Cooperator: McKinntrick/ Infinity Ranch	Lifetime of Practice: 10 years
---	--------------------------------

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Reduce streambank and streambed erosion.	<input checked="" type="checkbox"/> Provide crossing for access to another land unit.
<input checked="" type="checkbox"/> Improve water quality by reducing sediment, nutrient, organic, and inorganic loading of the stream.	<input checked="" type="checkbox"/> Remove a fish passage barrier in combination with installing fish passable crossing structure.

Summarize the Project Proposal. *Provide the following: 1) describe project activities, including permitting, site prep, installation, and maintenance and monitoring; 2) describe the anticipated project outcome (e.g. fish and wildlife benefits, other environmental benefits); and 3) outline the project implementation timeline.*

1) This project is part of KC ADAP and new KC IDP (Integrated Drainage Program) services. This is not a streamlined ADAP project. This is part of a project to repair an avulsion of Griffin Creek that has been flooding three ag properties for over four years. Project activities associated with this LIP cost-share contract will include removing and replacing a bridge structure that is blocking conveyance of surface water and is no longer safe for farm equipment or livestock to use. The overall project will also include the removal of gravel from Griffin creek, and a large buffer planting. Permits required for this project and that are underway are WDFW HPA, KC Clearing & Grading, and KC Floodplain Development permit. A new 45'x12' concrete bridge will be installed with concrete block abutments. Maintenance and monitoring of this bridge is recommended annually or as needed on private property.

2) The bridge replacement is a necessary because the current bridge is undersized and is blocking the flow path of Griffin creek. During seasonal flooding or heavy rain, Griffin creek is forced through a small opening under the bridge and has severely scoured out the creek. Flood waters are also dispersing out and around the bridge and washing out the farm road. The avulsion project will stop the outflow of several hundred migrating juvenile salmonid per year into the pasture where they become stuck and eventually die. Several observations have been documented by local tribes, WDFW, and SVWID fish biologists that account for these significant losses of mostly juvenile Coho found in the pasture. Also, after the avulsion is repaired, a 50' native buffer will be planted along griffin creek as well as several pieces of large woody debris in the creek for increased salmon habitat.

3) Griffin creek is classified as a modified ag ditch by King County in the section starting at Snoqualmie river all the way to Rte 203. It is also considered a shoreline of the state and therefore; cannot go thru regular ADAP. Permitting is being handled by KC ADAP Stormwater services with work scheduled to begin in September 2022. The bridge structure will be delivered to the site by September 2022. The avulsion project will begin first and then the bridge will be installed. All work below the OHWM will be complete by Sept. 30th, 2022. Bridge decking work can continue past this deadline if anything else needs to be done. Buffer plantings to be installed by spring of 2023.

Describe Project Area. *Provide the following: 1) extent of project area above and below ordinary high water mark; 2) dimensions of site; and 3) briefly describe the existing vegetation and habitat conditions.*

- 1) All dredging work and bridge footing work will be done below the OHWM. Bridge Decking work will be out of the OHWM.
- 2) The new bridge will be 45' x 12' concrete slab and will connect the farm to 20 acres of pasture to the west.
- 3) Existing vegetation consists mostly of Reed canary grass with habitat extremely wet and compacted from hooves and equipment.

Name and type (S, F or N, wetland I, II, or III) of waterway to be crossed.

Griffin Creek is a salmon bearing watercourse. King county classifies this stretch of Griffin from the Snoqualmie river to rte 203 as a modified ag ditch.

Land Uses and Associated Impacts. *Provide the following: 1) describe how the property is used (e.g., residential, commercial, recreational); 2) describe adjacent properties, including land uses and any potential adverse impacts to adjacent properties associated with the proposed project.*

- 1) This property is used as farmland primarily.
- 2) Adjacent properties include Full Circle Farm that is certified organic since 2003. Full Circle farm has continually lost acreage to the Griffin Creek avulsion for several years. Current loss of farmland is estimated at 15 acres of high value organic crop production. Another property is a residence that could receive flood waters in 2023 if this project is not completed.

List the intended use (people, livestock, equipment, or vehicles). *Also include the stream crossing dimensions and project materials. Please attach an engineer approved design.*

Livestock pasture. Concrete bridge will be 45'x12'. Footing will be made of Eco-blocks that are concrete.

Grading and Demolition Activities. *Describe the plan to remove structures (failing culvert, etc.) and grade project areas, including specific construction methods and equipment to be used.*

An excavator will remove old bridge after site is dewatered and defished. New concrete abutments will be installed as footings. Bridge entrance and exit will be graded per engineer's plans. Excavator with thumb implement will pick up bridge decking to be placed and attached to abutments using rebar. Livestock guardrails will be installed.

Habitat Restoration Activities. *Provide the following that apply: 1) describe site preparation activities (e.g. weed control, substrate to be applied, soil amendment to used); 2) identify the type and source of plant materials (e.g. potted, bareroot, ball and burlap and native plant nurseries providing plant material; 3) describe the care and temporary storage of plant materials; 4) describe installation plan (e.g. planting plan, installation techniques, sheet mulching, etc.); 5) describe maintenance and monitoring plan (e.g. number of years to be conducted, survival data collection, etc.).*

- 1) Excavator will remove all invasives along griffin where access is needed to remove gravels. Weed fabric will be placed down along griffin after dredging is complete.
- 2) Native hedgerow buffer will be installed at 50'. This will be a mix of bareroot and potted native plants.
- 3) KC ERES/ADAP will lead planting be responsible for the storage of plant materials
- 4) Planting plans will include a 50' buffer with each plant at 2' off center. Plants will be placed into weed fabric barrier.
- 5) Maintenance and monitoring will be for 3 years.

Permits. *Provide the following: 1) a list of all permits necessary for approval of project; 2) copies of all permits secured to date.*

1. WDFW HPA, KC Clearing & Grading, and KC Floodplain Development permit (all in process)
2. No permits secured yet

Operation and Maintenance. *According to the following Washington State laws, WAC 220-110-070 and RCW 77.55.060, the owner of a road culvert, or ford that is a fish passage facility is responsible for maintaining its fish passage functions as well as maintenance of the structure. For example, The stream crossing, appurtenances, and associated fence should be inspected after each major storm event, with repairs made as needed.*

Maintenance of the crossing will be the responsibility of the property owners to visually inspect for sediment accumulation and structural integrity.

Additional Specifications and Notes:

KING CONSERVATION DISTRICT (KCD) LANDOWNER INCENTIVE PROGRAM APPLICATION

Section 1. Applicant (If applicant is not the landowner, then landowner must also sign the agreement)

Applicant Name: Chris Cunningham/ Caspian Holdings		Farm/Business Name: Cedar Grove, LLC	
Mailing Address: 12210 Willows Rd NE Redmond, WA 98052		Project Address: 12210 Willows Rd NE Redmond, WA 98052	
Phone (home): (206) 437-5700		Phone (work/mobile): (206) 437-5700	
Email Address: chrisc@cgcompost.com		KCD Staff: Liz Stockton	
Parcel #(s): 272605-9014 & 9127	<input type="checkbox"/> Incorporated <input checked="" type="checkbox"/> Unincorporated	Total Farm/Land Acreage: 7.6 & 65.2 acres	<input type="checkbox"/> T.A. <input checked="" type="checkbox"/> Farm Plan <input type="checkbox"/> Forest Plan
Is email an acceptable primary form of communication?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Would you like to be added to our newsletter list?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Section 2. Project Information

Best Management Practice (BMP): Stream Crossings
Project Completion Date (month and year): 07/11/2023
<p>Current Site Conditions (Provide a brief summary of resource management problem addressed by BMP: also note if streams, wetlands, and steep slopes are near or within the project area):</p> <p>The Cedar Grove Farm is located in the Sammamish River sub-basin of Cedar / Sammamish / Lake Washington Watershed, or WRIA 8. This property drains into the Sammamish River that runs along its eastern boundary line. There is one modified drainage ditch that flows from the western hillside down to the property and turns north towards 124th St. This ditch crosses under 124th St and then turns east to drain into the Sammamish River. On the attached farm map, there are three undersized culverts identified for removal and replacement as the ditch moves through Cedar Grove farm. This ditch is considered salmon bearing but previous projects on neighboring properties have not recovered any salmonid species. The three culverts will be replaced with three 48" LCPE culverts. During seasonally wet conditions, the crossings cause water to flow out into the croplands and farmstead.</p> <p>Project Details (Provide a brief summary of the project. Include acres treated, length of fence, dimensions of compost bin, types and numbers of plants, etc.):</p> <p>The Cedar Grove farm is owned by Caspian Holdings, LLC and operated by Cedar Grove Farms under a lease agreement. Chris Cunningham is the farm manager. This farm was purchased in 2013 by Caspian Holdings and has an agricultural easement through FPP since 2017. The farm is certified organic through the WSDA and is strongly committed to working the land to provide our community with a variety of seasonal crops. An ADAP project took place at the neighboring property of JB Lawns in 2019 where approx. 900' of this ditch was maintained. This scheduled ADAP project is a completion from 2019 that will help Cedar Grove remove conveyance barriers and allow surface water to move out to the Sammamish River. Scheduled to be removed are two 12" concrete culverts and one 24" concrete culvert. They will all be replaced with 48" wide culverts. All three lengths will be 20' spans. It is estimated that at least 20 acres of lost cropland will be brought back into production. Cedar Grove has been unable to use about 20 acres since 2018 and will eventually decide move on to other farmland if this farmland cannot be salvaged.</p> <p>Maintenance Plan (Summarize your plan to maintain the practice. Include frequency and scope of inspections, repairs anticipated, etc.):</p> <p>The farm owners and/or managers will need to review the culverts annually for sediment accumulation and/or structural integrity. The HPA permit is a 5 year permit that will allow removal of sediment from the ditch as needed as long as all BMP's are followed.</p>

Permits (List all permits required to complete this project):

HPA in progress

Photos: Before photos must be submitted with this application.

Section 3. Cost-share Programs

- A. Have you previously applied for cost-share through the KCD Landowner Incentive Program (LIP)? ☐ Yes ☒ No

If yes, please list contract number and BMP below:

NO

- B. Are you applying for (or received) funding (cost-share or grants) through other agencies or programs? ☐ Yes ☒ No

Please describe below:

1. King County Cost-share

Please list practices and date installed below:

2. NRCS EQIP (Natural Resources Conservation Service's Environmental Quality Incentive Program)

Please list practices and date installed below:

3. Other

Please list agency and describe project:

KCD's Agricultural drainage program will be cost-sharing on ditch maintenance project for up to \$30,000.

Other Cost-Share History/Notes:

Section 4. Budget (attached as Exhibit A)

The cost-share application budget is the applicant's statement for how the KCD cost-share funds will be spent. Use the attached Excel document to detail the budget for the project. Reimbursement values are restricted by unit maximums as well as practice maximums. KCD will be unable to provide a budget that exceeds either maximum. The cost differential for practices installed at a higher standard or cost shall be the responsibility of the applicant. In cases where a budget for a cost-share award needs to be updated, submit a budget revision request for approval. In the absence of an approved budget revision, the cost differential shall be the responsibility of the applicant. Furthermore, receiving financial assistance for an approved Best Management Practices will be subject to inspection by KCD planners. Approval for reimbursement will be based on the satisfactory completion of the project to the minimum specifications detailed in this application.

Partial reimbursements are available on a limited basis and must be requested in advance. They will only be considered when the installation of a project can be phased to achieve the standard described in the attached job sheet when reimbursement is requested.

- ☐ Select this box if you intend to request partial reimbursement as the project is installed.

Section 5. Education and Outreach

KCD encourages public education through demonstration projects. Demonstration projects are used to educate other landowners about innovative ways to address natural resource concerns. A demonstration project may be showcased in a guided tour, or featured in presentations or written fact sheets.

- Will you consider becoming a demonstration project?

☐ Yes ☐ No

Section 6. Maintenance and Monitoring Expectations

The applicant is responsible to maintain the Best Management Practice (BMP) to standard as detailed in the attached Job Sheet for the lifetime of the BMP.

- ☒ A. I understand the lifetime of the BMP is 10 years.
- ☒ B. I understand KCD will work with me to verify proper maintenance of the installed BMP, which will include a combination of site visits with KCD staff and/or annual photo documentation submitted by me for the lifetime listed in Section 7A.
- ☒ C. I understand I am obligated to maintain and monitor the BMP **for the lifetime listed in Section 6A.**

Section 7. Application and Agreement

I request financial assistance (cost-share) under the KCD LIP to install the Best Management Practice (BMP) described in this application and detailed in the attached *Job Sheet and Map*. This practice is needed to solve the natural resource problems described in Section 2 of this application. This Agreement expires if the project is not completed by the specified completion date in Section 2 or in an approved timeline revision request. _____ (Initial Here)

I understand that all applicable local, state, and federal permits must be obtained for installation of the BMP for which funds are requested, and I agree to work cooperatively to obtain these permits. Furthermore, I understand that KCD must receive a copy of any applicable permit to process my cost-share reimbursement. _____ (Initial Here)

I agree to work cooperatively with KCD to ensure the funded BMP is maintained consistent with the design life identified in the attached Job Sheet and in Section 6 of this application. _____ (Initial Here)

I agree to indemnify, defend, and hold harmless KCD, its elected or appointed officials, employees and agents, from all claims, alleged liability, damages, losses to or death of person or damage to property allegedly resulting from the negligent or intentional acts of the applicant or any of its employees, agents, contractors or subcontractors in connection with this Agreement. _____ (Initial Here)

I represent that the information provided in Section 3 of this application is a full disclosure of all other natural resource financial cost-share relationships in which I have or am participating. Furthermore, I agree to disclose if I am applying for or receive funding (cost-share or grants) for the BMP described in this application through other agencies or programs and to provide KCD with written documentation detailing this funding support. This may include copies of reimbursement checks or letters showing value of provided contribution. I understand that I must provide proof of reimbursement for alternate funding prior to receiving reimbursement through the KCD LIP. I acknowledge that KCD LIP funds cannot be used in combination with other funding sources to exceed 100% of project costs. I agree to allow communication between KCD and any other agency regarding the details of the project as well as funding details. _____ (Initial Here)

I understand that LIP cost-share reimbursement is contingent upon verification that the BMP was installed as designed. This verification should be provided as written documentation from the design engineer. The design engineer may provide in writing for another authorized individual to provide the verification. Furthermore, I understand that changes to the installation details (attached Job Sheet and Map) must be approved through a Scope of Work Revision Process. Unapproved changes will not be eligible for reimbursement. (Initial Here) _____

I understand that there may be federal tax liability associated with a LIP cost-share reimbursement, and that KCD will issue a 1099-G for reimbursements made through the LIP. Furthermore, I understand that KCD cannot provide advice with respect to the tax liability associated with LIP cost-share reimbursements and that I have been advised to consult with my own tax professional.
_____ (Initial Here)

I understand that I am applying for public funding and am responsible for notifying a buyer upon sale or loss of the property of the installed BMP. If I sell or lose control of the property covered by this Agreement and the new owner or transferee does not assume responsibility for maintaining the installed BMP as required by this Agreement, I may be required to refund all or a portion of the cost-share received through this Agreement. In the event of litigation arising from or related to this Agreement, attorney’s fees and costs incurred by the prevailing party shall be paid by the non-prevailing party. _____ (Initial Here)

I give permission to KCD to photograph my property to document the site conditions and/or the implementation and maintenance of the funded practice. In the event that I or any of my family members or dependents choose to be photographed in a setting that reflects the assistance provided by KCD, I give KCD permission to publish such photographs in KCD promotional literature, advertising, social media, and other public displays. The photographs will be the property of KCD and may be used by KCD at any time, in the manner described above, without my additional consent. _____ (Initial Here)

I understand that this Agreement is subject to disclosure under the Public Records Act, Chapter 42.56 RCW. _____ (Initial Here)

- I understand that I will no longer be eligible for KCD cost-share funds if one or more of the following occurs: _____ (Initial Here)
- a. The KCD funded BMP fails within its design life due to circumstances within my control (e.g., neglect, failure to maintain the BMP, destruction of the BMP before expiration of the design life, or other actions which cause the KCD funded BMP to become non-viable). *Note: Landowners are not responsible for BMP failure caused by circumstances beyond their control (e.g. fire, flood, storm damage, etc.).*
 - b. I relinquish or lose ownership of equipment purchased with KCD cost-share.
 - c. The KCD funded BMP is not being used for the intended purpose (e.g. cross fencing purchased with KCD funding, but no animals on property).
 - d. I cancel 2 cost-share contracts awarded through the KCD Landowner Incentive Program.
 - e. I deny KCD staff access to my property to verify BMP installation and maintenance.

- I understand KCD will provide a sign free of charge after completion of a project, and I agree that: _____ (Initial Here)
- a. I will select a visible location on my property for display of the sign and will install it.
 - b. I will maintain the sign and keep it free of visual barriers for at least five years after installation.
 - c. I am not responsible for damage to the sign that is beyond my control (e.g. auto accident, storm damage, vandalism, etc.)

Chris Cunningham/ Caspi

Signature of applicant	Date	Signature of Landowner (if applicant if Lessee)	Date
------------------------	------	---	------

FOR KCD OFFICE USE

Approved for Award (KCD LIP Coordinator)	Date	
Approved for Funding (KCD Management)	Date	LIP ID:



Landowner Incentive Program

Applicant Information

Cooperator: Cunningham

Budget Items	Units	
Stream Crossing culvert	20.00	\$9,000.00
Stream Crossing culvert	20.00	\$9,000.00
Stream Crossing culvert	20.00	\$9,000.00
Machinery Rental (not personally owned equipment)		\$0.00
	Subtotal	\$27,000.00

In-Kind Labor/Machinery	# hours	
Manual labor		\$
Person with power equipment (i.e. chainsaw)		\$
Small Tractor (up to 40 hp)		\$
Medium Tractor (40-70 hp)		\$
Large Tractor (71 or above hp)		\$
Excavator (up to 100 hp)		\$
Excavator (over 100 hp)		\$
D-4 Cat or equivalent		\$
D-6 Cat or equivalent		\$
D-7 Cat or equivalent		\$
Backhoe		\$
Truck (under 2 tons)		\$
Truck (2 tons or over)		\$
Bobcat		\$
4-wheeler or side-by-side		\$
Subtotal	0.00	\$

Project Totals		
Total Cost (Budget Items + In Kind Labor/Machinery)		\$27,000.00
Units	Linear Feet	
Cost/Unit		\$

Conservation Practice	select BMP (x)	Cost
Animal Trails & Walkways		
Aquatic Area Buffer		
Aquatic Area Buffer (WC342)		
Buffer Fencing		
Building Relocation for Aquatic Area/Buffer		

BMPs	Units	cost/unit	%	reimbursement rate	
Animal Trails & Walkways	sq ft	\$ 0.75	0.5	\$ 0.38	Ac.
Aquatic Area Buffer	project	\$ 30,000.00	0.9	\$ 27,000.00	AUE
Buffer Fencing	ft	\$ 12.00	0.75	\$ 9.00	Ft.
Building Relocation for Aquatic Area/Buffer	project	\$ 50,000.00	0.5	\$ 25,000.00	Sq. Ft.
Bulkhead Removal (Freshwater, Marine)	project	\$ 40,000.00	0.75	\$ 30,000.00	Project
Cover Crops	acre	\$ 150.00	0.9	\$ 135.00	acre
Cross Fencing	ft	\$ 6.00	0.5	\$ 3.00	
Forest Health Management	project	\$ 30,000.00	0.75	\$ 22,500.00	
Heavy Use Area Protection	AUE	\$ 1,400.00	0.5	\$ 700.00	
Pasture & Hay Planting	acre	\$ 325.00	0.5	\$ 162.50	
Roof Runoff Management	ft	\$ 7.00	0.5	\$ 3.50	
Stream Crossing	ft	\$ 1,800.00	0.75	\$ 1,350.00	
Subsurface Drain	ft	\$ 20.00	0.5	\$ 10.00	
Upland Wildlife Habitat Management	project	\$ 20,000.00	0.75	\$ 15,000.00	
Waste Storage Facility	AUE	\$ 1,000.00	0.75	\$ 750.00	
Watering Facility	project	\$ 50,000.00	0.5	\$ 25,000.00	



Local Food
Healthy Forests
Clean Water
Better Ground

Job Sheet

Stream Crossing

Cooperator: Caspian/ Cunningham- Cedar Grove Farm	Lifetime of Practice: 10 years
---	--------------------------------

Purpose (check all that apply)	
<input checked="" type="checkbox"/> Reduce streambank and streambed erosion.	<input checked="" type="checkbox"/> Provide crossing for access to another land unit.
<input checked="" type="checkbox"/> Improve water quality by reducing sediment, nutrient, organic, and inorganic loading of the stream.	<input checked="" type="checkbox"/> Remove a fish passage barrier in combination with installing fish passable crossing structure.

Summarize the Project Proposal. *Provide the following: 1) describe project activities, including permitting, site prep, installation, and maintenance and monitoring; 2) describe the anticipated project outcome (e.g. fish and wildlife benefits, other environmental benefits); and 3) outline the project implementation timeline.*

1) This is part of a King County ADAP project started on the neighboring property at JB Lawns in 2019. King county engineers will submit for HPA permit in May 2022 and expect to receive a permit by June 2022. There is approx.. 1000' of ag modified watercourse that will be maintained thru ADAP to include the removal of 3 fish passage barriers. All three are currently undersized concrete culverts. All three will be replaced with 48" wide culverts. They will all be 20' long. All BMPs will be completed according to ADAP agreement with WDFW. There will be a native hedgerow buffer installed by spring of 2023. Installation will include dewatering and defishing before barrier removal and replacement. All engineer plans will be followed by contractor. Erosion control measures will be in place. Maintenance of the crossing will be the responsibility of the property owners to visually inspect for sediment accumulation and structural integrity.

2) The outcome intended is to bring back 20 acres of cropland into production on a working farm without causing any adverse effects to aquatic life that may be residing in the ag ditch. A planted hedgerow buffer will shade the ditch to lower water temps and reduce reed canary grass distribution along the ditch banks.

3) This project will likely begin in August of 2022 and take about one week for completion. The native hedgerow buffer will be planted by spring of 2023 that will include three years of maintenance by King County DNRP.

Describe Project Area. *Provide the following: 1) extent of project area above and below ordinary high water mark; 2) dimensions of site; and 3) briefly describe the existing vegetation and habitat conditions.*

1) This project will happen below the OHWM to remove fish passage barrier and install wider passages.

2) This farmland covers two parcels totaling approx. 73 acres. The three stream crossings will be 48" x 20'. The modified ag ditch maintenance will cover approx. 1000'.

3) Currently, much of the streambank is overgrown with reed canary grass and Himalayan blackberries. This vegetation is choking the ag ditch along with accumulated sediment flowing from the western hillside.

Construction and development happening since 2020 directly adjacent to the farmland on the western hillside is causing more sediment to flow into this system.

Name and type (S, F or N, wetland I, II, or III) of waterway to be crossed.

This is classified as fish bearing and highly modified through the King County ADAP program.

Land Uses and Associated Impacts. *Provide the following: 1) describe how the property is used (e.g., residential, commercial, recreational); 2) describe adjacent properties, including land uses and any potential adverse impacts to adjacent properties associated with the proposed project.*

- 1) This is protected farmland through KC FPP.
- 2) The adjacent property to the west is under construction for new residential buildings. Properties to the north, south and east are all ag properties. There are no adverse impacts to adjacent properties.

List the intended use (people, livestock, equipment, or vehicles). *Also include the stream crossing dimensions and project materials. Please attach an engineer approved design.*

This property to be used for cultivating organic crops and distributing organic compost. The three stream crossings will be 48" x 20' LCPE (high density polyethylene). The modified ag ditch maintenance will cover approx. 1000'. The final engineer plans are included.

Grading and Demolition Activities. *Describe the plan to remove structures (failing culvert, etc.) and grade project areas, including specific construction methods and equipment to be used.*

The project sites will be dewatered, defished and barriers will be removed. Crushed surfacing rock bedding will be placed to support the structures as detailed in engineer's plan. Excavators will be onsite to perform work along with gravel trucks to haul materials to site. Culverts will be placed to match elevations and approaches will be graded to meet specs.

Habitat Restoration Activities. *Provide the following that apply: 1) describe site preparation activities (e.g. weed control, substrate to be applied, soil amendment to be used); 2) identify the type and source of plant materials (e.g. potted, bareroot, ball and burlap and native plant nurseries providing plant material; 3) describe the care and temporary storage of plant materials; 4) describe installation plan (e.g. planting plan, installation techniques, sheet mulching, etc.); 5) describe maintenance and monitoring plan (e.g. number of years to be conducted, survival data collection, etc.).*

- 1) Excavator will remove all invasive weeds along streambank.

- 2) Hedgerow buffers will be native species with a mix of bareroot and potted plants for installation.
- 3) This is a KC planting and I do not know where plants are stored.
- 4) Plants will be installed in 3 feet rows on both sides of the ditch at 2' off center. Weed fabric will be installed prior to planting
- 5) Planting will be monitored and maintained for 3 years by KC ADAP/ERES.

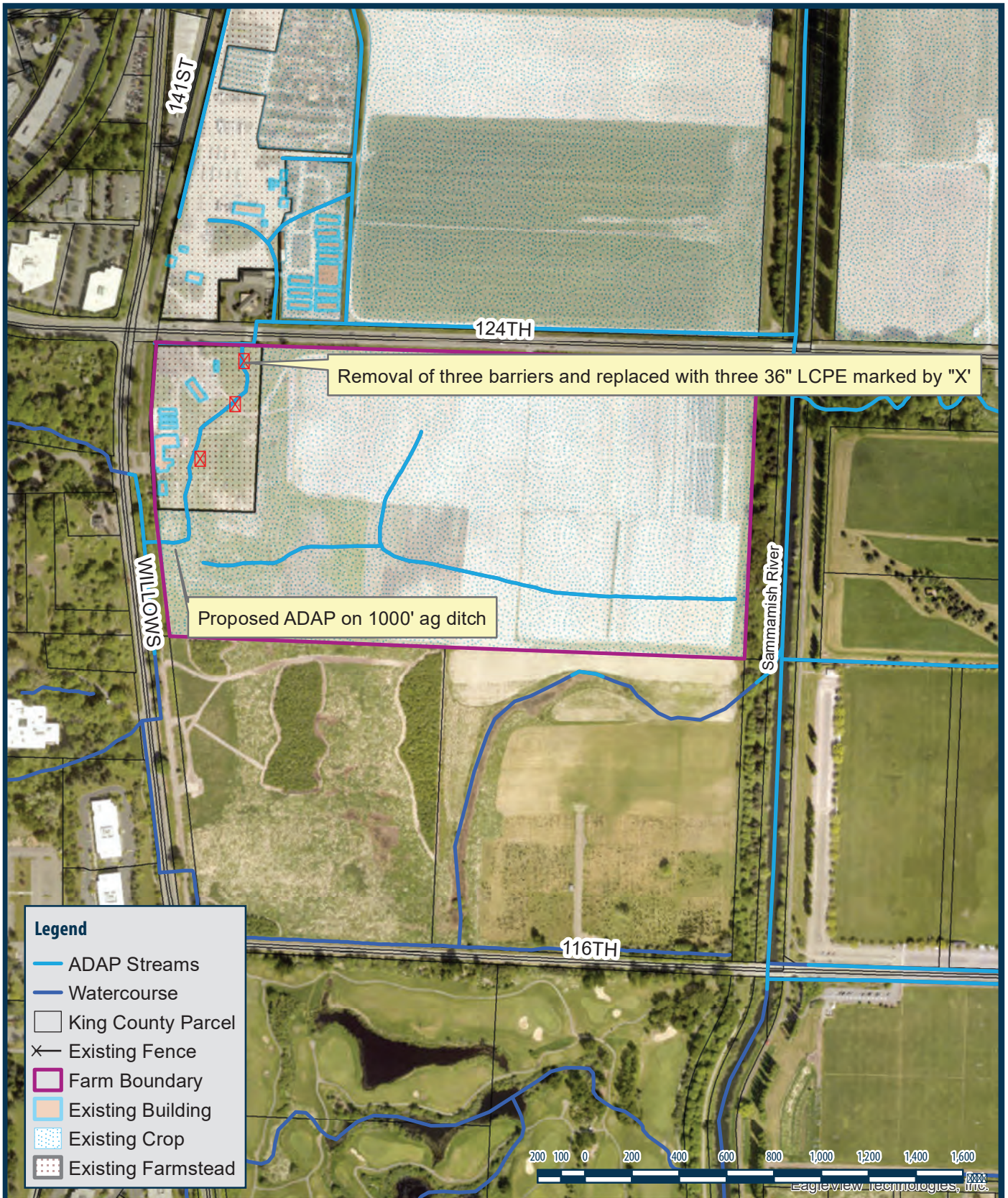
Permits. *Provide the following: 1) a list of all permits necessary for approval of project; 2) copies of all permits secured to date.*

One HPA permit will be applied for in May 2022 and received by June 2022.

Operation and Maintenance. *According to the following Washington State laws, WAC 220-110-070 and RCW 77.55.060, the owner of a road culvert, or ford that is a fish passage facility is responsible for maintaining its fish passage functions as well as maintenance of the structure. For example, The stream crossing, appurtenances, and associated fence should be inspected after each major storm event, with repairs made as needed.*

The farm owners and/or managers will need to review the culverts annually for sediment accumulation and/or structural integrity. The HPA permit is a 5 year permit that will allow removal of sediment form the ditch as needed as long as all BMP's are followed.

Additional Specifications and Notes:



Caspian-Cedar Grove Farm		LIP Map- Culvert Install Proposal	SE
12210 Willows Rd		Liz Stockton	27
Redmond, WA 98052		May 03, 2022	26
72.7	(X): Multiple		05

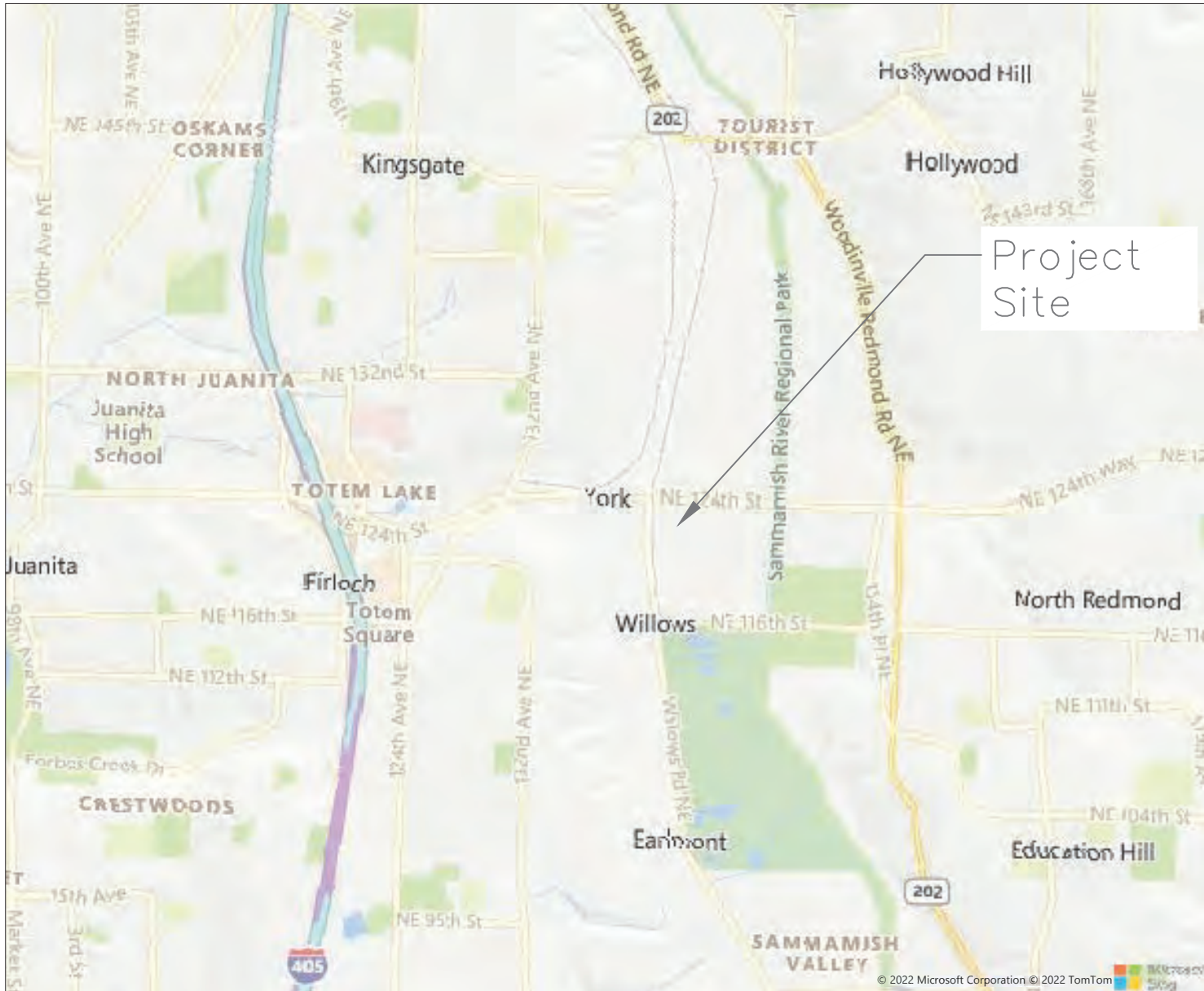
2022 3900 3900 150 98057 425-282-1900

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CUNNINGHAM AGRICULTURAL KING COUNTY AGRICULTURAL

VICINITY MAP



FIELD BOOK:					APPROVED: <u>L. Beck</u>
SURVEYED: ELD	FEB 2018				PROJECT MANAGER: <u>E. Dightman</u>
SURVEY BASE MAP:					DESIGNED: <u>E. Dightman</u>
CHECKED:					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>
		NUM.	REVISION	BY	DATE

Notes:

Total maintenance length to be included in this project is from STA 0+00 to STA 1+00. Dredging will take place in a waterway classified as High Modified. Follow up spot dredging and removal may occur within the timing limitations of the HPA.

Actual length may be more or less than total listed, and will be based on assessment of time of excavation. The landowner is under no obligation to perform the work shown on the whole, however any dredged reaches of channel must be planted as shown in the plan.

1. Estimated dredge volume: approximately 1,000 cubic yards (yd³).
2. Four culverts will be replaced. These culverts are not listed in WDFW's Fish Passage Inventory (<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html>), however, two are smaller than 36" diameter and likely to be partial barriers to fish passage. The twin CMP culverts at STA 2+90 are nearing the end of their useful lives and are likely to be passage barriers.
3. All work shall be performed in accordance with King County's agreement for agricultural waterways (BMPs), the Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA), and the King Conservation Lands Agreement.
4. Dredging activity may not widen the channel except existing banks may be stabilized to increase stability and decrease erosion potential.
5. In-channel work will occur within the time frame allowed by the HPA.
6. Spoils may be spread on farm fields to a depth no greater than 6 inches on average and disposed of in a legal manner.
7. Fish relocation may be performed by King County, at the direction of the King County with coordination by the maintenance contractor or landowner. Staffing shortfalls and other conditions may extend the timeline the county can reasonably provide.
8. A 1-hour pre-construction meeting, including the landowner or landowner's representative, maintenance contractor and a King County ADAP employee, is required prior to any maintenance activities.
9. It is the contractor's responsibility to monitor excavation elevations and ensure that dredging does not exceed historical-channel extents.
10. Native vegetation should be protected to the extent practicable.
11. The landowner is responsible for protecting the installed planting from livestock and other activities.
12. No utilities have been located. It is the responsibility of the excavator contractor (if contractor is used) to locate utilities.

FIELD BOOK: _____						APPROVED: <u>L. Beck</u>	Know C
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>					PROJECT MANAGER: <u>E. Dightman</u>	
SURVEY BASE MAP: _____						DESIGNED: <u>E. Dightman</u>	
CHECKED: _____						DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>	
		NUM.	REVISION	BY	DATE		

Site History: King County ADAP has no record of performing waterway maintenance in this location. The reach of the channel from STA 0+00 to $\pm 1200'$ downstream was most recently dredged in 2019.

Fish Relocation: Relocated fish are planned to be released under the NE 124th Bridge, just downstream of STA 0+00. The upstream reach of the channel is steep and the

Expected Hydrology

Segment	Length (ft)	Dry?	Hydrology
Tributary 1	1,070	No	Expected to have continuous flow year-round

Culvert Design Notes (see also Sheet 10):

- Please note that all three culverts in this project have the same design parameters and the same culvert specifications.
- Both the No-Slope and Hydraulic Design Methodologies described in the 2013 WDFW Water Crossing Design Guidelines (WCDG) were evaluated for the crossings. The regression equation in Appendix C of the WCDG yielded a bankfull channel width of 5.5'. Based on this, the no-slope culvert diameter is calculated to be $\sim 7'$ for the three crossings. The Hydraulic method determined a 36" lined corrugated polyethylene pipe (LCPE) was adequate with a May flow velocity of 0.60 fps and a January flow velocity of 0.85 fps.
- A 48" LCPE was selected for the crossings based on this reasoning:
 - The 48" LCPE is larger than needed to meet the requirements of the hydraulic design method.
 - The channel has been heavily modified from its natural state. The bankfull width of the existing channel is not useful for determining the size of the no-slope culvert.
 - The regression equation From Appendix C of the WCDG was used to determine the bankfull width. According to the WCDG, this equation was developed by using 53 high gradient ($>2\%$), coarse bedded streams in western Washington.
 - The proposed culverts will be installed in a nearly flat (0.01%) channel with bed material almost entirely composed of fines (particle size less than 0.075 mm (#200 sieve)).
 - The proposed culvert diameter is 4 feet, set a grade matching the channel slope (0.1%). The culvert will be countersunk 20% such that the channel width inside the culvert will be

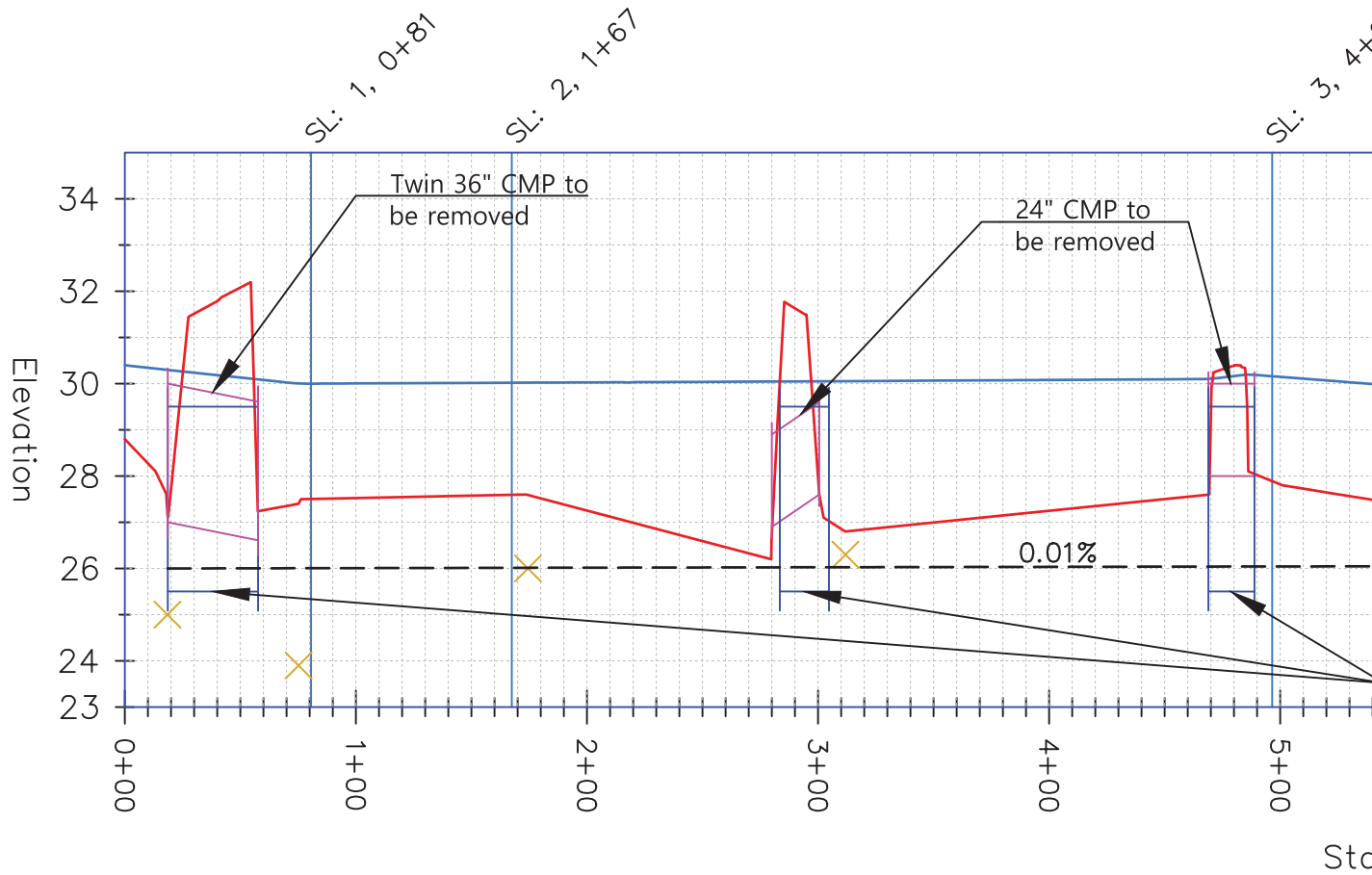
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SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: <u>E. Dightman</u>	
SURVEY BASE MAP: _____					DESIGNED: <u>E. Dightman</u>	
CHECKED: _____					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>	
		NUM.	REVISION	BY	DATE	



FIELD BOOK:						APPROVED: L. Beck
SURVEYED: ELD	FEB 2018					PROJECT MANAGER: E. Dightman
SURVEY BASE MAP:						DESIGNED: E. Dightman
CHECKED:						DRAINAGE INVESTIGATION NO.: 2017-0916
		NUM.	REVISION	BY	DATE	

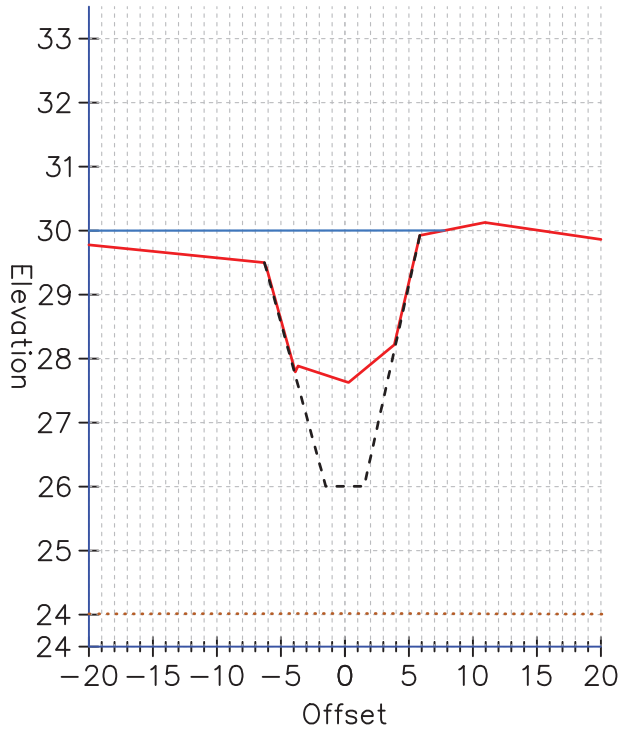
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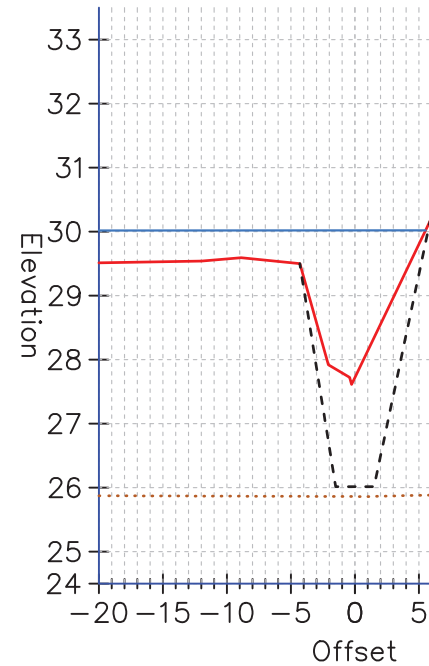


FIELD BOOK: _____	FEB 2018					APPROVED: _____
SURVEYED: ELD						PROJECT MANAGER: _____
SURVEY BASE MAP: _____						DESIGNED: _____
CHECKED: _____						DRAINAGE INVESTIGATION NO.: _____
		NUM.	REVISION	BY	DATE	

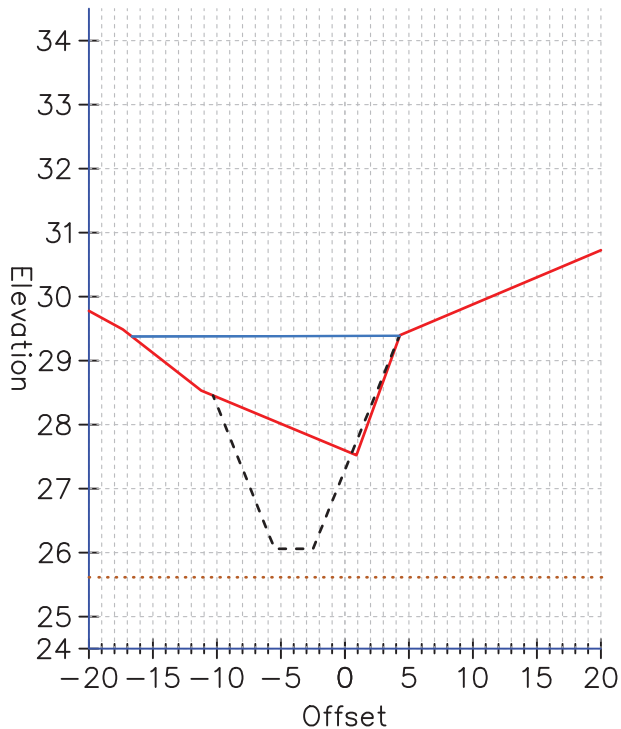
Tributary 1 X-Section SL1 (0+81)



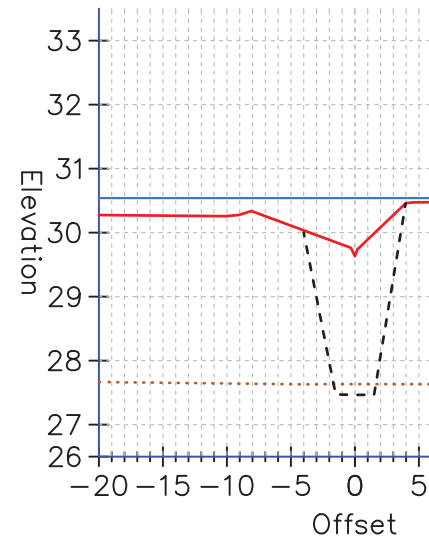
Tributary 1 X-Section



Tributary 1 X-Section SL4 (6+95)



Tributary 1 X-Section



FIELD BOOK: _____					APPROVED: <u>L. Beck</u>
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>				PROJECT MANAGER: <u>E. Dightman</u>
SURVEY BASE MAP: _____					DESIGNED: <u>E. Dightman</u>
CHECKED: _____					DRAINAGE INVESTIGATION NO.: <u>2017-0916</u>
		NUM.	REVISION	BY	DATE

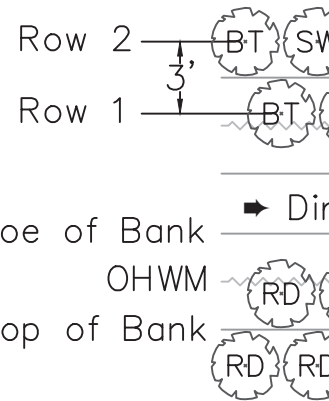
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Notes:

1. Prior to planting, install cardboard sheeting as shown on detail $\frac{1}{2}$.
2. As stated on page 24 of the King County ADAP BMP Manual, the number of rows required is based on the channel classification at the time of construction (see table below). If the channel is reclassified during construction, the number of rows of plantings will be updated accordingly.

Required Plantings by Waterway Class	
Channel Classification	Required Rows of Plantings
High Modified	3
Moderate Modified, Low Modified, and High Artificial	2
Moderate Artificial	1
Low Artificial	0

3. Planting layout and species may be modified by ADAP engineer to better suit site conditions. However, the plant count required by ADAP BMP Manual shall be maintained unless otherwise approved by WDFW.
4. For plant installation specifications see $\frac{1}{3}$ and $\frac{2}{3}$.



Planting Table

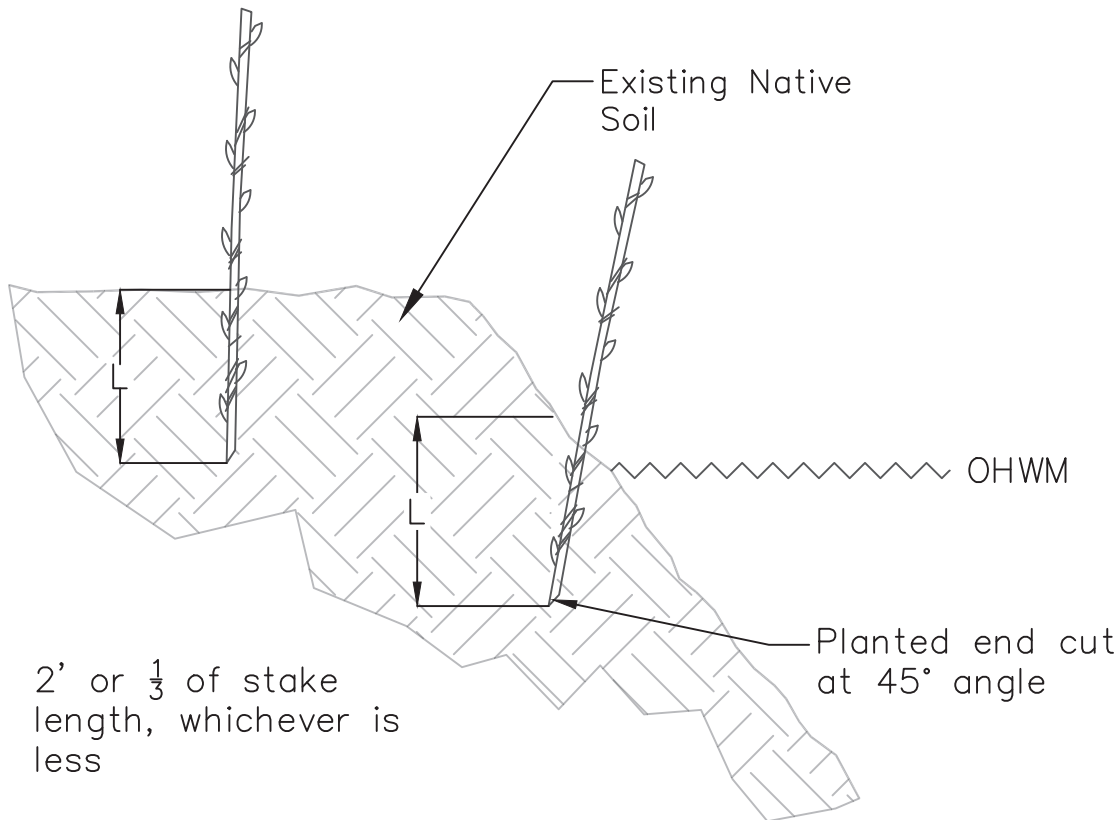
Plant Species
Black Twinberry
Pacific Ninebark
Pacific Willow
Red-osier
Sitka Willow

Planting Length
Sides of Channel
Geosynthetic Linings
Waste Management
Width
Minimum
Biodegradable Linings
Waste Management
Minimum

FIELD BOOK: <u>n/a</u>		ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>		FED. AID No. _____
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>			PROJECT MANAGER: <u>E. Dightman</u>		PROJECT No. _____
SURVEY BASE MAP: <u>n/a</u>				DESIGNED: <u>E. Dightman</u>	<u>2022.05.06</u>	SURVEY No. _____
CHECKED: <u>n/a</u>						MAINTENANCE DIVISION No. _____
		NUM.	REVISION	BY	DATE	
					<u>354</u>	

Planting Instructions:

1. In hard ground, use steel bar, star drill, or similar to prepare pilot holes for stakes. Pilot hole shall be slightly smaller than the diameter of stake.
2. Plant stakes by hand.
3. Backfill voids around stake with a slurry of native soil and water. Collapse air pockets near all cuttings by tapping soil around the cutting base with boot.
4. Along the first row, slightly angle stakes toward the channel.
5. Try to plant stake within 24 hours of taking cutting; keep beveled end moist until planted.



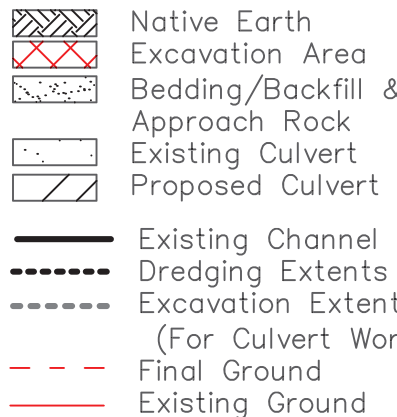
① Typical Live Stake Planting
N.T.S.

FIELD BOOK: <u>n/a</u>		ED	YYYY.MM.DD	APPROVED: <u>L. Beck</u>		FED. AID No. _____
SURVEYED: <u>ELD</u>	<u>FEB 2018</u>			PROJECT MANAGER: <u>E. Dightman</u>		PROJECT No. _____
SURVEY BASE MAP: <u>n/a</u>				DESIGNED: <u>E. Dightman</u>	<u>2022.05.06</u>	SURVEY No. _____
CHECKED: <u>n/a</u>				DESIGN ENTERED: _____		MAINTENANCE DIVISION No. _____
NUM.	REVISION	BY	DATE			

not t



Culvert Material =
 Culvert Diameter, D (in) =
 Culvert Length, L (ft) =
 Stream Slope, Ss (%) =
 Culvert Slope, Sc (%) =
 Countersink at Inlet, Din (ft) =
 Countersink at Outlet, Dout (ft) =
 Road Width, W (ft) =
 Approach Length Left, A1 (ft) =
 Approach Length Right, A2 (ft) =
 Recommended Design Load, DL =
 Elevation at Inlet Invert, EL (ft) =
 Contributing Watershed (acres) =
 Q100 - 100-year event flow (cfs) =
 Qjan - high flow fish passage (cfs) =
 Qmay - low flow fish passage (cfs) =
 hw, Q100 (ft) =
 hw, Qjan (ft) =
 hw, Qmay (ft) =
 Flow Velocity, Qjan (ft/s) =
 Flow Velocity, Qmay (ft/s) =



Know what you are doing
Can you afford to fail?
(UNDERGROUND UTILITY)







