General Information

Project Title

East Fork Lewis River Schriber Riparian Reforestation Project

Project Short Description

This project will plant trees and shrubs on 12.25 acres of county-owned property stretching nearly 4000 feet along the south bank of the East Fork Lewis River. Portions of the southern bank have a mature Oregon ash component, but the understory is dominated by Reed Canary Grass. Conifer presence is limited, and there are significant open areas. The proposed planting area is identified by the Lower Columbia Fish Recovery Board's EFLR Habitat Conservation Plan as having significant shade deficit.

Project Long Description

The East Fork Lewis River (EFLR) watershed is located primarily within Clark County in southwest Washington. The EFLR extends from the confluence with the North Fork Lewis River to the Gifford Pinchot National Forest near river mile (RM) 32. The watershed is located within WRIA 27. The headwaters of the EFLR are located in the western crest of the Cascade Mountain range, and the river flows west until reaching its confluence with the North Fork Lewis River. The upper watershed is primarily timber land. Throughout the middle and lower watersheds, land use changes to a more mixed-used landscape of forest, agriculture, developed, and residential areas. The towns of La Center and Yacolt are located within the watershed, and Battle Ground and Ridgefield are at its boundaries.

Washington State's Department of Ecology (DOE) selected the EFLR for a water quality improvement project in 2004 because segments of the river and its tributaries are impaired by heat (measured as temperature), as listed in the Clean Water Act Section 303(d) lists. These exceedances were identified based on multiple sampling collections conducted by Ecology, Clark County, and other entities. The EFLR Water Cleanup Plan (TMDL Alternative) which has been developed through the East Fork Lewis River Partnership, recommends continuing to add native vegetation plantings on stream banks in order to increase riparian shade. Restoration projects, such as reforestation will be critical for reducing water temperature to better support habitat for anadromous fish populations in the EFLR watershed.

East Fork Lewis River Schriber reforestation project is designed to revegetate approximately 3,500 lineal feet and 12.25 acres of EF Lewis River mainstem south east of La Center. Results from shade analyses showed that the average current effective shade for the lower mainstem is only 8%. The average for the system potential shade analysis was 35%, which demonstrates that there is still a shade deficit that could be improved for this area (Ecology 2018). The 2005 East Fork Lewis River Basin Habitat Assessment prepared for the Lower Columbia Fish Recovery Board, identifies the Scriber reforestation project area as having 0-20% shade rating.

General Information

The Schriber reforestation project will help increase shading of the EFLR. The Schriber project will be completed in two phases, the first to be completed in the fall of 2020, the second in the fall of 2021, with the overarching goal of lowering stream temperatures on the EFLR by shading the mainstem from direct solar radiation.

Since the project seeks to revegetate the southern bank of the mainstem, this would greatly increase the shade rating for the proposed area following plant establishment. Planting a mix of fast growing species with longer lived species will accelerate the time it takes to provide relief from direct solar radiation, but also provide long lasting effects.

Site preparation activities will include treating of Reed Canary Grass (RCG) and invasive blackberry species to be followed by the seeding of a native grass mix. Monoculture stands of RCG have already been controlled for the phase I site. Areas where RCG has been controlled with herbicide will be seeded with a mix of native grasses.

Plant installation will begin in fall of 2020. Elevation within the area generally increases from the south along the wetland margin north to the banks of the EFLR, ranging from 12-18 feet. To promote bank stabilization, the bank will be planted with willow stakes. The upper bank will be planted with the designated plant mix, but black cottonwood and/or Western red-cedar will be planted as close to the bank as possible without risk of eroding into the river. These taller species will provide the most shade for the river, with cottonwood growing rapidly in the full sun zones, while cedar establishes under the existing mature Oregon ash canopy. The remainder of the area will be planted according to the planting plan.

Total Cost $249,281.98

Total Eligible Cost $226,752.41

Effective Date 7/1/2020

Expiration Date 7/1/2023

Project Category

✔ Nonpoint Source Pollution
On-Site Sewage Systems
Stormwater Activity0

	Stormwater Facility Wastewater
Will Environmental Monitoring Data be collected?	No
Ecology Program	Water Quality
Overall Goal	The overall goal of the Schriber reforestation project is to support reduction of water temperatures in the East Fork Lewis River in areas where large shade deficits exist. This project intends to improve habitat along approximately 4000 lineal feet of the EF Lewis River. This goal will be achieved by replacing invasive species with native plant communities to provide high quality riparian habitat to help lower stream temperatures on the EF Lewis River by shading the mainstem from direct solar radiation. This project support recommendations from the 2018 East Fork Lewis River Watershed Bacteria and Temperature Source Assessment Report. This project supports the East Fork Lewis River Water Cleanup Plan (TMDL Alternative) and is one of numerous watershed-scale strategies to improve water quality and in-stream conditions in the East Fork Lewis River.

Project Characterization

Project Themes

Select a primary and secondary theme that best describes the work to be achieved during this project.

Primary Theme:	Nonpoint Source Pollution
Secondary Theme(s):	TMDL Support
	Riparian/Wetland Restoration
	Watershed Management Plans

Project Website

If your project has a website, please enter the web address below. After entering a website and saving, another blank row will appear. Up to three websites may be provided.

Website Title/Name	Web Address

Recipient Contacts

Project Manager

Chad Hoxeng

Contact Information

Chad Hoxeng
Natural Resource Specialist III
1300 Franklin St
Vancouver, Washington 98660
(360) 397-6118
(360) 397-6051
chad.hoxeng@clark.wa.gov

Authorized Signatory

Ahmad Qayoumi

Contact Information

Ahmad Qayoumi
Director / County Engineer
1300 Franklin St
Vancouver, Washington 98660
(360) 397-6118
(360) 397-6051
ahmad.qayoumi@clark.wa.gov

Billing Contact

Andrea Logue

Contact Information

Andrea Logue
Program Assistant

Washington

Recipient Contacts

andrea.logue@clark.wa.gov

Other recipient signatures on printed agreement

Name	Title

Total Eligible Cost: $226,752

Grant Request: $170,064

Match Required: $56,688

IMPORTANT NOTICE. Grants for nonpoint projects require a 25% match. Projects with cash-only match are eligible for up to $500,000 in grant. Projects with a mix of funds for match are eligible for up to $250,000 in grant. Cash match includes any eligible project costs paid for directly by the recipient that are not reimbursed by the Ecology grant or another third party. Donations that become the long-term property of the recipient are considered cash match. Loan money provided through the CWSRF is also considered cash match. In-kind contributions are considered non-cash match. More information on match requirements can be found in the Water Quality Combined Financial Assistance Guidelines which are available for download on the Application Menu.

Will your match be cash-only? ✔ Yes No

Are you requesting or will you accept loan funds for part or all of the eligible project costs or to meet your match requirement? Yes ✔ No

Do you want your project to be considered for GPR subsidy under the CWSRF program? Yes ✔ No

NOTE: Projects are only eligible if they meet EPA's GPR criteria, and applicants accept a CWSRF loan.

Do you have any secured funds committed to this project? ✔ Yes No

If Yes, complete the Secured Funds Table, and include any secured matching funds if known.

Source	Type	Amount Committed
State/Federal agency:		
State/Federal agency:		
State/Federal agency:		
Interlocal contributions:		

Interlocal contributions:		
Interlocal contributions:		
Local agency: Clark County Clean Water Division	Cash	$56,688.11
Local agency:		
Local agency:		
In-kind contributions:		
In-kind contributions:		
In-kind contributions:		
Other		
Other		
Other		

Task Number 1

Task Title Project Administration/Management

Task Cost $12,569.70

IMPORTANT NOTICE. The cost of this task should not exceed 15% of the Total Eligible Costs you entered on the General Information form.

Task Description

A. The RECIPIENT shall carry out all work necessary to meet ECOLOGY grant or loan administration requirements. Responsibilities include, but are not limited to: Maintenance of project records; submittal of requests for reimbursement and corresponding backup documentation; progress reports; the EAGL (Ecology Administration of Grants and Loans) recipient closeout report; and a two-page outcome summary report (including photos, if applicable). In the event that the RECIPIENT elects to use a contractor to complete project elements, the RECIPIENT shall retain responsibility for the oversight and management of this funding agreement.

B. The RECIPIENT shall keep documentation that demonstrates the project is in compliance with applicable procurement, contracting, and interlocal agreement requirements; permitting requirements, including application for, receipt of, and compliance with all required permits, licenses, easements, or property rights necessary for the project; and submittal of required performance items. This documentation shall be available upon request.

C. The RECIPIENT shall maintain effective communication with ECOLOGY and maintain up-to-date staff contact information in the EAGL system. The RECIPIENT shall carry out this project in accordance with any completion dates outlined in this agreement.

Task Goal Statement

Properly managed and fully documented project that meets ECOLOGY's grant or loan administrative requirements.

Task Expected Outcomes

* Timely and complete submittal of requests for reimbursement, quarterly progress reports, Recipient Closeout Report, and two-page outcome summary report.
* Properly maintained project documentation.

Recipient Task Coordinator Chad Hoxeng

Deliverable #	Description	Due Date	Received? (ECY Use Only)	EIM Study ID	Latitude (expressed in decimals)	Longitude (expressed in decimals)	Location Address
1.1	Progress Reports that include descriptions of work accomplished, project challenges or changes in the project schedule. Submitted at least quarterly.	10/31/2020					
1.2	Recipient Closeout Report (EAGL Form)	7/1/2023					
1.3	Two-page Outcome Summary Report	7/1/2023					

How many tasks do you want to appear?

Task #: 2

Task Title: Permitting and Design

Task Cost: $42,000.00

Expected Start Date: 7/1/2020

Expected Finish Date: 10/31/2020

Describe the work that will be billed to this task. (char 3,500)

Clark County will complete the following tasks:

A. Coordinate the preparation and submittal of State Environmental Policy Act (SEPA) documentation.

B. Apply for and comply with all required local, state, tribal and federal permits, licenses, easements, or property rights necessary for the project.

C. Comply with Executive Order (05-05) cultural resources review requirements. To initiate cultural resources review the following will be completed:

1. Submit Ecology's ECY 05-05/106 form, or a cultural resources survey or assessment completed by a licensed archaeologist to ECOLOGY.

2. Develop and submit an Inadvertent Discovery Plan (IDP) to ECOLOGY.

D. Clark County owns the project site and will consult Legacy Lands for approval of final designs.

E. Develop a project design including BMP plan, planting plan and vegetation maintenance plan. Project will be reviewed and accepted in writing by ECOLOGY to be eligible for reimbursement.

F. Submit one hard copy and one digital copy of the items listed below to ECOLOGY for acceptance. Design figures will be reduced to 11x17 inches in size and will be legible.

1. Design Report. At a minimum, this package will include 90 percent plans, specifications, engineer's opinion of cost which includes a schedule of eligible costs, and project construction schedule.

G. Respond to ECOLOGY comments.

1. Receive an Ecology Design Report Acceptance Letter prior to proceeding to 90 Percent design.

2. Receive an Ecology 90 Percent Design Acceptance Letter prior to proceeding to project advertisement for bid and construction.

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
SEPA determination, ECY 05-05/106 form, and IDP	7/31/2020	$12,000.00
List of permits acquired, and environmental review documents	10/31/2020	$30,000.00

Total Deliverable Budget: $42,000
Total Task Costs:

Task #: 3

Task Title: 2020 Phase 1 Riparian Planting

Task Cost: $69,617.11

Expected Start Date: 7/1/2020

Expected Finish Date: 12/31/2020

Describe the work that will be billed to this task. (char 3,500)
Clark County will complete the following tasks:

A Complete Phase 1 planting project in accordance with ECOLOGY- accepted plans and specifications.
B. Control Reed Canary Grass (RCG) and invasive blackberry species to prep for native vegetation replanting

C. Oversee implementation of the planting plan. 6.03 acres will be planted with native vegetation.
D. A minimum of a 100-foot wide buffer will be installed along 2,800 linear feet of the project site. There will be approximately 290 native trees, 1,603 large native shrub, and 6,233 small native shrubs.

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
Site prep and control of non native vegetation	9/30/2020	$5,902.27
Planting	12/31/2020	$63,714.84
		Total Deliverable Budget: $69,617.11

Task #: 4

Task Title: 2021 Phase 2 Riparian Planting

Task Cost: $81,359.55

Expected Start Date: 1/1/2021

Expected Finish Date: 12/31/2021

Describe the work that will be billed to this task. (char 3,500)

Clark County will complete the following tasks:

A Complete Phase 1 planting project in accordance with ECOLOGY- accepted plans and specifications.
B. Control Reed Canary Grass (RCG) and invasive blackberry species to prep for native vegetation replanting
C. Oversee implementation of the planting plan. 6.21 acres will be planted with native vegetation.
D. A minimum of a 100-foot wide buffer will be installed along 1,200 linear feet of the project site. There will be approximately 268 native trees, 2,595 large native shrub, and 7,585 small native shrubs.

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
Site prep and control of non-native vegetation	9/30/2021	$4,244.49
Planting	12/31/2021	$77,115.06
		Total Deliverable Budget: $81,359.55

Task #: 5

Task Title: 2022 Plant establishment and replanting

Task Cost: $21,206.05

Expected Start Date: 1/1/2022

Expected Finish Date: 12/31/2022

Describe the work that will be billed to this task. (char 3,500)
Clark County will complete the following tasks:

A Complete Phase 1 planting project in accordance with ECOLOGY- accepted plans and specifications.
B. Control Reed Canary Grass (RCG) and invasive blackberry species to prep for native vegetation replanting
C. Oversee implementation of the planting plan.
D. Up to 56 native trees, 420 large native shrub, and 1,383 small native shrubs will be installed to replace non-surviving plants in Phase 1 and Phase 2.

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
control of non native vegetation	7/1/2022	$3,394.86
Replanting as needed	12/31/2022	$17,811.19
		Total Deliverable Budget: $21,206.05

Task #: 6

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget

Total Deliverable Budget: $0

Task #: 7

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget

Total Deliverable Budget: $0

Task #: 8

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row
Enter a deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes

When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget

Total Deliverable Budget: $0

Task #: 9

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row
Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row
In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables

should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget

Total Deliverable Budget: $0

Total Task Costs: $226,752

Scope of Work Summary

Task Title	Task Cost
Project Administration/Management	$12,569.70
Total	$0

Total Eligible Costs
(from the General Information Form)
$0

Describe the process used to estimate the cost of the project. If your process included reviewing similar projects, describe how this review affected your estimate.

Clark County designs, plans, and implements many riparian and wetland planting projects as part of its environmental programs and as mitigation for county road projects.

Labor costs are estimated based on recent salary and benefit data, and staff hours required for each task were estimated by the technical professionals who routinely develop cost estimates for county projects.

Plant types and associated costs are driven by the overall planting plan and current plant prices from typical county suppliers. The planting plan was developed by specialists who design, review, and approve viable plans for a variety of county projects. Planting densities, plant types, and costs reflect current material rates, professional judgment, and many years of experience developing successful planting projects in Clark County.

Has the proposed project been demonstrated to be the lowest cost solution to the problem?

If the proposed project is not the lowest cost, describe the other benefits or considerations such as feasibility, community acceptance, or coordination with other projects that influenced the decision making process.

The county's professional biologists and vegetation management specialists are well-versed in reforestation and riparian habitat projects. Staff are equipped to design projects that maximize the value of public investments. The project site is linear and located entirely on county property, which will allow for scalability in the event of unexpected cost increases.

Planting plans and plant lists for the Schriber project were developed based on knowledge gained from numerous past projects and mitigation efforts, and reflect the county's most updated cost estimates and design knowledge.

When feasible, the county prefers to incorporate volunteer teams in planting projects. Unfortunately, the Schriber site is difficult to access and not suitable for a volunteer planting team. Therefore, this project will utilize county staff at a somewhat higher cost than for a volunteer effort. The increased cost is modest and the decision was made in keeping with the county's priority to ensure the safety of volunteers.

Upload a detailed budget for the project and any supporting documentation, including engineers estimates, cost analysis, etc.

Upload Documents

Click the Browse button

Select your file
Click Save, your file will appear in the List of uploaded documents
Repeat for each file
To Delete a file, select the Delete checkbox next to the file and click SAVE

https://ecyeagl/IntelliGrants_BASE/_Upload/125029_914117_2-SchriberBudget.xlsx	Schriber Reforestation Budget
https://ecyeagl/IntelliGrants_BASE/_Upload/125029_914117_2-EastForkLewisRiverReforestationplantlists.pdf	Species Plant List
https://ecyeagl/IntelliGrants_BASE/_Upload/125029_914117_3-EastForkLewisRiverReforestationestimate.pdf	Schriber Reforestation Preliminary Estimate

Fill out the following table to describe your Project Team, including staff, contractors, and partner agencies:

Team Member Name/and or Title	Agency/ Company Name	Key Responsibilities	Qualifications/ Experience	Estimated Total Hours Devoted to the Project	Who will take over the person's responsibilities if they are unable to work on the project?
Chad Hoxeng/Grant Administrator	Clark County/Clean Water Division	Chad will be responsible for administering the grant and preparing all related reports and reimbursement requests. Chad will serve as a liaison between the Project Manager and Department of Ecology.	Chad has over 12 years of experience in the field of environmental science and currently serves a lead role in the Assessment and Monitoring section of Clean Water. Chad holds a BS degree in Biology/Env Science and a MS degree in Zoology	50.00	Jeff Schnabel, Stormwater Infrastructure Manager
Jennifer Taylor/Environmental Permitting Specialist	Clark County/Public Works	Jennifer will complete all relevant environmental reviews and permitting.	Jennifer has over 20 years working in the environmental field including solid waste, spill response, and remediation, as well as her current focus on obtaining environmental approvals for transportation related projects. She is a certified Project Management Professional (PMP) with a Master's Certificate in GIS Analysis and B.S. in Environmental Science & Regional Planning.	100.00	Pam Schense, permitting specialist
Julie Christian/Wetland		Julie will complete the	Julie has 20-years of	200.0	Pam Schense, permitting

Project Team

specialist		wetland analysis and planting design for the project. Julie will also support and oversee the planting work throughout construction and continuing into the post-construction monitoring phase.	experience in design, construction, and management of native plant communities.	0	specialist
Blaine Kisler/Vegetation Mgmt Technician	Clark County/Public Works	Blaine will oversee field crews, perform site preparation, and have overall responsibility for field implementation..	Blaine has eight years field experience as a restoration ecologist performing both invasive species control and native plant installation in natural areas. Blaine has a B.S. in Forest Management from Oregon State with an Ecosystem Science option.	1540.00	Harris Kidd, Vegetation Management Technician

Describe similar projects that your project team or organization has completed. Note any deviations from the original proposal in scope, budget, or schedule and briefly describe project success and lessons learned. If the project was funded by Ecology, include the Ecology grant or loan number.

1. Turtle Pond Enhancement and Reforestation
This project removed invasive plants and installed native vegetation on approximately 3 acres of county property surrounding a pond located just upstream of the Salmon Creek mainstem in the Salmon Creek Greenway. The project increases shade, encourages wildlife use, and beautifies a heavily used recreational site along a salmon-bearing stream.

2. Whipple Creek Stream Restoration
This project constructed a series of rock structures and 15 valley-spanning log jams to arrest a large headcut, provide grade control, and reconnect the stream to its floodplain in the headwaters of Whipple Creek. Invasive vegetation was removed and native vegetation replanted in the riparian buffers. Over 350 logs, 800 tons of rock, and 7500 plants were installed over a 5-acre project area. The project was designed by Interfluve, Inc.. The $825,000 project was funded by Clark County and a $412,000 grant from the American Recovery and Reinvestment Act.

3. Curtin Creek Enhancement Area:
This 35 acre multi-benefit watershed project provided stormwater and wetland mitigation for two important road safety projects as well as additional flood plain, wetland, stream channel and riparian habitat improvements. The existing ditch was replaced with a meandering stream and a new flood plain bench was excavated to “reconnect the stream to its flood plain”. The project established a well-functioning stream and riparian environment in what had been a ditched and degraded agricultural reach of Curtin Creek.
The project was designated “2010 Environmental Project of the Year” by Washington APWA and has been used extensively to educate and promote the benefits of stream and watershed improvements to various groups within the Clark County community. The project was Clark County’s first attempt at constructing a large project with the potential to achieve significant regional watershed benefits . Although the riparian planting is successfully established, some lessons were learned in evaluating soil and hydrologic conditions to select the most suitable plant communities. That knowledge has been applied successfully to other county projects.

Project Start Date 7/1/2020
The date the actual work will start, or if interim refinance, the date the work started.

List and describe the criteria you used to determine the value and feasibility of the project.
Examples: useful life, installation cost, site suitability, and environmental justice.
The East Fork Lewis River Schriber Reforestation project is currently the highest priority project in Clark County's efforts to rehabilitate native forest and riparian cover on county-owned properties. The project was selected by a team of county staff made up of habitat and wetland specialists, mitigation experts, vegetation management technicians, and program managers.

Factors influencing the selection included the significant acreage available, existing county ownership of the land, the location and orientation of the project site for long-term shade production, and the status of the East Fork Lewis River as a critical fish-recovery stream with an ongoing process to develop an Ecology Water Cleanup Plan for temperature.

The project offers a rare opportunity to rehabilitate the riparian zone along a 3/4 mile south-bank reach of a significant mainstem river. Ecology modeling indicates a nearly total shade deficit currently in this reach, but a system potential shade of approximately 35%. Long-term shade production along the mainstem is critical to protecting temperature reduction achieved along the tributaries; low summer flows in the East Fork leave the river susceptible to rapid temperature increases along un-shaded mainstem reaches. While the project will immediately provide habitat benefits and near-shore shade improvements due to the inclusion of fast-growing species, the most pronounced benefit will be the long-term shade produced by mature vegetation. This long-term benefit provides substantial value toward meeting Ecology's TMDL targets and state fish-recovery goals in the East Fork system.

Clark County is highly experienced in implementing riparian habitat and restoration plantings. Projects are often associated with roadway improvements and serve as mitigation for environmental impacts. High survivability and long-term viability of plantings are mandatory for mitigation-related projects, and the county brings the same high standards into all reforestation projects.

The Schriber project is a particularly good value for state funding due to the level of site preparation already under way by the county . Invasive reed-canary grass is being controlled in preparation for Phase I planting, and a native seed mix has been applied to help control re-growth. The county is also committed to providing additional re-planting along with plant establishment past the end of the grant term until long-term viability of the project is assured.

Due to the location and groundwater elevations, watering costs are expected to be very low. Beaver predation is expected to be very limited as the mainstem East Fork is not conducive to beaver colonization in this reach.

Briefly describe all project alternatives (including the preferred alternative) considered, and explain how each alternative met or failed to meet the criteria listed above.

Use one line for each alternative and click “save” to enter additional alternatives.

Description of Alternative	Criteria
Alternative 1: No-build alternative	the no-build alternative eliminates all benefits of this project and does nothing to further temperature reduction goals.
Alternative 1: Build alternative	the build alternative is highly beneficial and was selected due to the factors described above. A scaled-back planting would be feasible at reduced benefit.

List project stakeholders and provide documentation showing key stakeholders have been identified and will support the project.

Primary stakeholders are Clark County Legacy Lands, the Department of Ecology, and the East Fork Lewis River Partnership. The project additionally supports the objectives and priorities of the county's Stormwater Management Program, overseen by the Clark County Council. Public support and input is provided through an appointed, 9-member Clean Water Commission.

Clark County Legacy Lands owns the project site and was consulted in developing this application and the associated planting plans. The Clean Water division routinely coordinates with Legacy Lands on reforestation efforts, stormwater planning, property maintenance, and potential property purchases.

The primary beneficiaries of this project will be the Department of Ecology and the East Fork Lewis River Partnership. Ecology is responsible for developing a Water Cleanup Plan for temperature in the East Fork, with the East Fork Lewis River Partnership playing a key role in developing and implementing solutions. The Partnership was initiated by Ecology and includes multiple local, state, and federal agencies along with non-profits and businesses with an interest in improving water quality conditions in the East Fork. Clean Water is an active member of the Partnership and is excited to support this group with meaningful projects like the Schriber Reforestation.

The Clark County Council approves all grant applications and has offered their support and approval for the Schriber project through approval of a staff report . Clark County has an ongoing interest in improving and rehabilitating water resources and maintaining county land in support of

regional fish recovery objectives. Projects like the Schriber reforestation support the goals of the county's Stormwater Management Program and capital planning efforts. Clean Water has a goal of reforesting at least 30 acres of county-owned property by 2024. This project addresses 12 of those acres.

Describe the steps you have taken to be ready to start the project by May 1, 2021. Provide detailed information and documentation on project elements such as status of designs, permits, interlocal agreements, landowner agreements, easements, other secured funding, staff, or agency approvals.

The project will be well under way by May 1, 2021. Phase 1 planting will be completed in 2020, and Phase 2 planting in 2021.

Site preparation was initiated in summer 2019 using county staff and funding, including treatment of reed canary grass and application of native seed planting mix. Preparation will continue through spring and summer 2020 prior to the grant period, and the site will be ready for Phase 1 planting (~6 acres) in late 2020.

Preliminary plant lists and planting plans are included with this application. We anticipate limited modification to these plans prior to implementation.

Clark County Cultural resources review will be initiated upon finalization of the grant agreement and will be completed prior to the start of phase 1 of the reforestation project.

Clark County owns the project site and is completing the work. No interlocal agreements, landowner agreements, or access easements are needed.

Clark County Public Works Clean Water Division is funded by the Clean Water Fee charged annually to property owners in unincorporated Clark County. Annual Clean Water funding is secure. Clean Water is also an enterprise fund with all funding dedicated to division activities; funds may not be diverted to other county departments. Clean Water has sufficient revenue available and budgeted to complete the project and provide the required match.

County staff have already been assigned to the project for site preparation, planting plan development, and implementation. Clark County has numerous staff experienced in reforestation and other planting projects, and any unforeseen changes in staff availability will be easily remedied by substituting other qualified staff.

Upload a project schedule that includes all tasks necessary to complete the project, including tasks that are not part of the funding request.

Upload any other supporting documentation.

Upload Documents

https://ecyeagl/IntelliGrants_BASE/_Upload/126939_914135_1-SchriberSchedule.xlsx	Schriber reforestation project schedule

To go to the Water Quality Atlas, follow this link: https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx.

Name the specific water body(ies) this project will improve or protect.
The project improves and protects East Fork Lewis River which is subject to an East Fork Lewis River Water Cleanup Plan (TMDL Alternative), being developed through the East Fork Lewis River Partnership. Clark County addresses TMDLs and TMDL Alternatives through implementation of the Stormwater Management Plan, including land acquisition and capital projects, and is an engaged stakeholder on local TMDL implementation teams. This reforestation and habitat enhancement project located on approximately 3,500 to 4,000 feet of the southern bank of the EFLR mainstem will greatly increase the shade rating for the proposed area and will decrease stream temperature.

Local planning efforts concerning the East Fork Lewis River have spanned two decades and included the Stormwater Needs Assessment Program, capital planning exercises, and numerous monitoring efforts reflected in the 2010 Stream Health Report and other analytical products. Ecology and Clark County have cooperated on a number of monitoring efforts and evaluations intended to identify opportunities for watershed improvement.

The Schriber Restoration and Riparian Habitat Project directly supports recommendations found in several of these plans and reports including the East Fork Lewis River Watershed Bacteria and Temperature Source Assessment Report (Page 12).

Is the project planning, implementation, or a combination?
Planning
✔ Implementation
Planning/Implementation

If implementation or planning/implementation, complete the Action Table.
To add multiple implementation actions:
Enter the implementation action and plan reference.
When done, click the **SAVE** button.
After SAVE a new row will appear.
Repeat these steps for each implementation action.

Action	Reference the document that describe the action, including page numbers and where a copy can be obtained
Continue to add native vegetation plantings on stream banks in order to increase riparian shade. Focus	East Fork Lewis River Watershed Bacteria and Temperature Source Assessment Report. Page 12. A copy can be obtained here

restoration work in areas with large shade deficits, as determined through the shade analysis.

https://fortress.wa.gov/ecy/publications/SummaryPages/1803019.html

What type of plan or regulatory requirement does this project address?

- ✔ TMDL/TMDL Alternative (approved or in development)/Straight to Implementation
- Wastewater Engineering Report/Sewer Plan
- Permit
- ✔ Salmon Recovery Plan
- Watershed Plan
- Shoreline Master Plan
- Administrative Order or Other Legal Action
- Capital Improvement Plan
- Puget Sound Action Plan
- Mitigation
- Other
- Not Applicable

If your project is addressing a TMDL, select at least one from the dropdown list.
To select multiple TMDLs, hold down the control key as you select
TMDL Name

East Fork Lewis River TMDL Alternative (In Development)

Did you discuss this project with Ecology staff? If yes, provide the name of the staff and the last date of contact.
Yes. The project was discussed with Devan Rostorfer at the SW regional Ecology office in summer 2019. Leanne Whitesell at the Ecology Headquarters office was also contacted through a Notice of Intent to apply and through subsequent discussions during summer and fall 2019.

Describe how the project drainage area connects to the water body.
Examples: surface flow, ditch, pipe, groundwater, infiltration, and path/distance to outfall/discharge.
The Schriber reforestation project area is located on the southern bank of the East Fork Lewis River and is within the rivers floodplain. Any drainage from the project area will either surface flow to the East Fork Lewis River, infiltrate and recharge ground water, or drain to wetland area within the flood plain of the East Fork Lewis River.

The next three questions will assist Ecology Evaluators in assessing the project value.

Describe the measure and method that will be used to determine the water quality benefit and overall success of the project.
If you need help determining a water quality metric, please refer to the Funding Guidelines for suggested metrics by project type.
The East Fork Lewis River Schriber reforestation project will enhance riparian areas along almost 4000 linear feet of the EFLR. The enhanced riparian buffer will be at least 100 feet in width and will be comprised of a mix of fast growing species along with longer lived species in four different planting zones within the riparian buffer. These zones include shade tolerant upper elevation, shade tolerant lower elevation, full sun upper elevation and full sun lower elevation. Breaking the riparian buffer into these four zones will reduce the time it takes to provide relief from direct solar radiation of the EFLR and also provide long lasting effects.

One other notable characteristic of the project is its ability to naturally regenerate native vegetation in the absence of reed canary grass. Following the initial round of site preparation for the Cedar Creek offsite mitigation immediately adjacent the project area , as well as on reed canary grass control test plots located near the site, native species such as elderberry, red-osier dogwood, spirea, Oregon ash, pacific willow, and black cottonwood readily volunteer. Therefore, in addition to the proposed plant installation numbers, overall plant establishment numbers could be much higher if reed canary grass is prevented from recolonizing the site.

Additionally, a majority of this pre-existing canopy of this project site consists of pure stands of mature Oregon ash. With the advance of Emerald Ash Borer, it is uncertain whether the current canopy will persist. So, not only will this project establish canopy for areas that are lacking, it will establish an understory that can replace Oregon ash in the event Emerald Ash Borer extends its current range to the west coast . Planting a mix of fast growing species with longer lived species will reduce the time it takes to provide relief from direct solar radiation, but also provide long lasting effects.

Using the method described above, estimate the water quality and public health benefits that will be achieved by the project.
The East Fork Lewis River Schriber reforestation project highlights the amount of shade this planting could provide the mainstem in the long term 20 years from now for the full sun planting zones. Cottonwoods on site planted in the late 90's are around 70-90 feet in height. Using an average cottonwood height of 80 feet at 20 years old and a sun angle at noon on summer solstice (worst case scenario) of about 23 degrees, an 80 foot cottonwood on the southern bank of the EFLR would shade nearly 34 feet into the river (tan(23o)=x/80). Thus this project will provide noteworthy shade benefits to the EFLR where the 2005 East Fork Lewis River Basin Habitat Assessment prepared for the Lower Columbia Fish Recovery Board, identifies the Schriber reforestation project area as having 0-20% shade rating.

How long will the project provide benefits after the funding assistance ends? Who will be responsible for maintaining the benefits during its useful life?
The project area is entirely owned by Clark County. Water quality, wetland and other watershed benefits will be provided in perpetuity.

How will greenhouse gas emissions be reduced or mitigated under this project? And what policies or measures has your organization put in place to reduce greenhouse gas emissions apart from this project?
The entire project area will be revegetated with a mix of native vegetation following completion of the removal of non-native vegetation (Reed Canary Grass and Himalayan Blackberry).

The Clark County Transportation Division is active in completing signaliztion improvement and synchronization projects to reduce traffic congestion.

The Clark County car fleet is primarily made up of hybrid gas/electric cars.
Clark County provides free parking, bus passes, bicycle lockers and other incentives to encourage trip reduction.

The Clark County Office building is LEED-certified.

Clark County has developed an early concept for a default “sustainable roadway grid” (roundabout corridor/green street) that will reduce energy usage and greenhouse gas emissions in addition to helping provide more sustainable watershed management. Recent roadway projects have included elements of this strategy, and the county is considering further applications of this strategy in our ongoing roadway designs.

Upload a map that shows an aerial view of the project area, an estimated direction of flow for the project area, potential locations for the proposed facility or activity, and how the project connects to the water body named above.
The map does not need to be precise, but it should help reviewers with a general understanding of the area. If access to GIS software is not available, screen shots or snips from Google Maps with arrows and text added using a paint program may be used.

Upload Documents
Click the Browse button
Select your file
Click Save, your file will appear in the List of uploaded documents
Repeat for each file
To Delete a file, select the Delete checkbox next to the file and click SAVE

https://ecyeagl/IntelliGrants_BASE/_Upload/124580_914131-EastForkLewisRiverReforestationplantingplans.pdf

If you have a wastewater or stormwater facility project, and you are applying for or have received a loan from the CWSRF, when applicable upload the following documents.

SEPA Checklist
SEPA Threshold Determination
Affidavit of Publication of SEPA Threshold Determination
Public Meeting Documents
SERP Coversheet
SERP Checklist
SERP Determination
Other SERP/SEPA Documentation
Cultural Review Final Determination
DAHP Letter of Concurrence
Completed activity/location specific Inadvertent Discovery Plan (IDP). An IDP is not associated with consultation and is required in the event of a discovery during ground disturbance.

In addition to the above documents, if you are required to prepare a federal cross cutter report, when applicable upload the following documents.

Cross Cutter Report
Cross Cutter Checklist
Cross Cutter Final Determination

If you have a stormwater facility project, and you are applying for or have received funding via SFAP but not CWSRF, when applicable upload the following documents.

SEPA Checklist
SEPA Threshold Determination
Affidavit of Publication of SEPA Threshold Determination
Cultural Review Final Determination (No sensitive information allowed)
DAHP Letter of Concurrence
Completed activity/location specific Inadvertent Discovery Plan (IDP). An IDP is not associated with consultation and is required in the event of a discovery during ground disturbance.

If you have a nonpoint activity, an onsite sewage system, or a stormwater activity project, regardless of the funding source, when applicable upload the following documents.

- ✔ Cultural Review Final Determination (No sensitive information allowed)
- ✔ DAHP Letter of Concurrence
- ✔ Completed activity/location specific Inadvertent Discovery Plan (IDP). An IDP is not associated with consultation and is required in the event of a discovery during ground disturbance.

Upload Documents

Click the Browse button
Select your file
Click Save, your file will appear in the List of uploaded documents
Repeat for each file
To Delete a file, select the Delete checkbox next to the file and click SAVE

Description

Uploads

Description	Attachments
Schriber Property Map	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884773-SchriberMap.jpg
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884825-FullSunUplandPI1.JPG
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884823-IMG_0161Y.JPG
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884823_2-IMG_0163Y.JPG
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884823_3-IMG_0165Y.JPG
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884823_4-IMG_0172Y.JPG
Schriber Property planting opportunity	https://ecyeagl/IntelliGrants_BASE/_Upload/128168_884823_5-PhaseIIEastY.JPG